

Embroidermodder

2.0.0 alpha

Generated by Doxygen 1.9.6

---

<b>1 Embroidermodder 2</b>	<b>1</b>
<b>2 embedded</b>	<b>2</b>
2.1 Embroiderbot and Libembroidery on Embedded Systems . . . . .	2
2.1.1 Compatible Boards . . . . .	2
2.1.2 Arduino Considerations . . . . .	2
2.1.3 Space . . . . .	2
2.1.4 Tables . . . . .	2
2.1.5 Current Pattern Memory Management . . . . .	3
2.1.6 Special Notes . . . . .	3
2.1.7 The Assembly Split . . . . .	3
<b>3 embroider_cli</b>	<b>3</b>
3.1 The <tt>embroider</tt> Command Line Program . . . . .	3
3.1.1 Embroider pipeline . . . . .	3
3.1.2 embroider CLI . . . . .	4
<b>4 Geometry and Algorithms</b>	<b>4</b>
4.1 To Do . . . . .	4
4.2 Development . . . . .	4
4.3 Testing . . . . .	4
4.4 Contributing . . . . .	5
4.4.1 Funding . . . . .	5
4.4.2 Programming and Engineering . . . . .	5
4.4.3 Writing . . . . .	5
4.5 Embroidermodder Project Coding Standards . . . . .	5
4.5.1 Where Code Goes . . . . .	5
4.5.2 Where Non-compiled Files Go . . . . .	6
4.5.3 Ways in which we break style on purpose . . . . .	6
4.5.4 Naming Conventions . . . . .	6
4.6 Code Style . . . . .	6
4.6.1 Braces . . . . .	6
4.7 Version Control . . . . .	7
4.8 Donations . . . . .	7
4.8.1 Format Support . . . . .	7
4.9 Embroidermodder Project Coding Standards . . . . .	7
4.9.1 Naming Conventions . . . . .	7
4.10 Code Style . . . . .	7
4.10.1 Braces . . . . .	8
4.10.2 Version Control . . . . .	8
4.10.3 Comments . . . . .	8
4.11 Ideas . . . . .	9
4.11.1 Why this document . . . . .	9

4.11.2 googletests . . . . .	9
4.11.3 Qt and dependencies . . . . .	9
4.11.4 Documentation . . . . .	9
4.11.5 Social Platform . . . . .	9
4.11.6 Identify the meaning of these TODO items . . . . .	9
4.11.7 Progress Chart . . . . .	9
4.11.8 Style . . . . .	10
4.11.9 Standard . . . . .	10
4.11.10 Image Fitting . . . . .	10
4.11.11 To Place . . . . .	10
4.11.12 To Do . . . . .	11
4.11.13 Basic features . . . . .	11
4.11.14 Code quality and user friendliness . . . . .	11
4.11.15 Documentation . . . . .	12
4.11.16 GUI . . . . .	12
4.12 Electronics development . . . . .	12
4.13 Development . . . . .	12
4.13.1 Contributing . . . . .	12
4.13.2 Debug . . . . .	13
4.13.3 Binary download . . . . .	13
<b>5 Formats</b> . . . . .	<b>13</b>
5.1 Overview . . . . .	13
5.2 Read/Write Support Levels . . . . .	13
5.2.1 Test Support Levels . . . . .	13
5.2.2 Documentation Support Levels . . . . .	14
5.2.3 Overall Support . . . . .	14
5.2.4 Table of Format Support Levels . . . . .	14
5.3 Toyota Embroidery Format (.100) . . . . .	15
5.3.1 Toyota Embroidery Format (.10o) . . . . .	16
5.4 Bernina Embroidery Format (.art) . . . . .	16
5.5 Bitmap Cache Embroidery Format (.bmc) . . . . .	16
5.6 Bits and Volts Embroidery Format (.bro) . . . . .	16
5.7 Melco Embroidery Format (.cnd) . . . . .	16
5.8 Embroidery Thread Color Format (.col) . . . . .	17
5.8.1 Example . . . . .	17
5.9 Singer Embroidery Format (.csd) . . . . .	17
5.10 Comma Separated Values (.csv) . . . . .	17
5.10.1 Embroidermodder 2.0 CSV Dialect . . . . .	17
5.10.2 EmBird CSV Dialect . . . . .	17
5.11 Barudan Embroidery Format (.dat) . . . . .	18
5.12 Melco Embroidery Format (.dem) . . . . .	18

---

5.13 Barudan Embroidery Format (.dsb) . . . . .	18
5.14 Tajima Embroidery Format (.dst) . . . . .	18
5.14.1 Header . . . . .	18
5.14.2 Stitch Data . . . . .	19
5.15 ZSK USA Embroidery Format (.dsz) . . . . .	20
5.16 Drawing Exchange Format (.dxf) . . . . .	20
<b>6 Contributor Covenant Code of Conduct</b>	<b>20</b>
6.1 Our Pledge . . . . .	20
6.2 Our Standards . . . . .	20
6.3 Enforcement Responsibilities . . . . .	21
6.4 Scope . . . . .	21
6.5 Enforcement . . . . .	21
6.6 Enforcement Guidelines . . . . .	21
6.6.1 1. Correction . . . . .	21
6.6.2 2. Warning . . . . .	21
6.6.3 3. Temporary Ban . . . . .	22
6.6.4 4. Permanent Ban . . . . .	22
6.7 Attribution . . . . .	22
<b>7 Privacy Policy for Embroidery Viewer</b>	<b>22</b>
7.0.1 CONTACT US . . . . .	23
<b>8 Todo List</b>	<b>23</b>
<b>9 Bug List</b>	<b>34</b>
<b>10 Hierarchical Index</b>	<b>34</b>
10.1 Class Hierarchy . . . . .	34
<b>11 Class Index</b>	<b>38</b>
11.1 Class List . . . . .	38
<b>12 File Index</b>	<b>41</b>
12.1 File List . . . . .	41
<b>13 Class Documentation</b>	<b>47</b>
13.1 <code>_bcf_directory</code> Struct Reference . . . . .	47
13.1.1 Detailed Description . . . . .	47
13.1.2 Member Data Documentation . . . . .	47
13.2 <code>_bcf_directory_entry</code> Struct Reference . . . . .	47
13.2.1 Member Data Documentation . . . . .	48
13.3 <code>_bcf_file</code> Struct Reference . . . . .	49
13.3.1 Member Data Documentation . . . . .	49
13.4 <code>_bcf_file_difat</code> Struct Reference . . . . .	50

13.4.1 Member Data Documentation . . . . .	50
13.5 _bcf_file_fat Struct Reference . . . . .	50
13.5.1 Member Data Documentation . . . . .	51
13.6 _bcf_file_header Struct Reference . . . . .	51
13.6.1 Detailed Description . . . . .	52
13.6.2 Member Data Documentation . . . . .	52
13.7 _vp3Hoop Struct Reference . . . . .	53
13.7.1 Member Data Documentation . . . . .	54
13.8 Application Class Reference . . . . .	56
13.8.1 Constructor & Destructor Documentation . . . . .	56
13.8.2 Member Function Documentation . . . . .	57
13.8.3 Member Data Documentation . . . . .	57
13.9 ArcObject Class Reference . . . . .	57
13.9.1 Member Enumeration Documentation . . . . .	60
13.9.2 Constructor & Destructor Documentation . . . . .	60
13.9.3 Member Function Documentation . . . . .	61
13.9.4 Member Data Documentation . . . . .	65
13.10 BaseObject Class Reference . . . . .	66
13.10.1 Member Enumeration Documentation . . . . .	67
13.10.2 Constructor & Destructor Documentation . . . . .	67
13.10.3 Member Function Documentation . . . . .	67
13.10.4 Member Data Documentation . . . . .	72
13.11 CircleObject Class Reference . . . . .	72
13.11.1 Member Enumeration Documentation . . . . .	74
13.11.2 Constructor & Destructor Documentation . . . . .	75
13.11.3 Member Function Documentation . . . . .	75
13.12 CmdPrompt Class Reference . . . . .	78
13.12.1 Constructor & Destructor Documentation . . . . .	80
13.12.2 Member Function Documentation . . . . .	80
13.12.3 Member Data Documentation . . . . .	86
13.13 CmdPromptHandle Class Reference . . . . .	87
13.13.1 Constructor & Destructor Documentation . . . . .	88
13.13.2 Member Function Documentation . . . . .	88
13.13.3 Member Data Documentation . . . . .	89
13.14 CmdPromptHistory Class Reference . . . . .	89
13.14.1 Constructor & Destructor Documentation . . . . .	90
13.14.2 Member Function Documentation . . . . .	90
13.14.3 Member Data Documentation . . . . .	91
13.15 CmdPromptInput Class Reference . . . . .	91
13.15.1 Constructor & Destructor Documentation . . . . .	93
13.15.2 Member Function Documentation . . . . .	93
13.15.3 Member Data Documentation . . . . .	98

---

13.16 CmdPromptSplitter Class Reference . . . . .	99
13.16.1 Constructor & Destructor Documentation . . . . .	99
13.16.2 Member Function Documentation . . . . .	99
13.17 Compress Struct Reference . . . . .	100
13.17.1 Member Data Documentation . . . . .	100
13.18 Dictionary_ Struct Reference . . . . .	101
13.18.1 Member Data Documentation . . . . .	101
13.19 DictionaryEntry_ Struct Reference . . . . .	102
13.19.1 Member Data Documentation . . . . .	102
13.20 DimLeaderObject Class Reference . . . . .	102
13.20.1 Member Enumeration Documentation . . . . .	104
13.20.2 Constructor & Destructor Documentation . . . . .	105
13.20.3 Member Function Documentation . . . . .	106
13.20.4 Member Data Documentation . . . . .	109
13.21 EllipseObject Class Reference . . . . .	110
13.21.1 Member Enumeration Documentation . . . . .	112
13.21.2 Constructor & Destructor Documentation . . . . .	112
13.21.3 Member Function Documentation . . . . .	112
13.22 EmbAlignedDim_ Struct Reference . . . . .	116
13.22.1 Member Data Documentation . . . . .	116
13.23 EmbAngularDim_ Struct Reference . . . . .	116
13.23.1 Member Data Documentation . . . . .	117
13.24 EmbArc_ Struct Reference . . . . .	117
13.24.1 Detailed Description . . . . .	117
13.24.2 Member Data Documentation . . . . .	117
13.25 EmbArcLengthDim_ Struct Reference . . . . .	118
13.25.1 Member Data Documentation . . . . .	118
13.26 EmbArray_ Struct Reference . . . . .	118
13.26.1 Member Data Documentation . . . . .	118
13.27 EmbBezier_ Struct Reference . . . . .	119
13.27.1 Member Data Documentation . . . . .	119
13.28 EmbBlock_ Struct Reference . . . . .	120
13.28.1 Member Data Documentation . . . . .	120
13.29 EmbCircle_ Struct Reference . . . . .	120
13.29.1 Member Data Documentation . . . . .	120
13.30 EmbColor_ Struct Reference . . . . .	121
13.30.1 Detailed Description . . . . .	121
13.30.2 Member Data Documentation . . . . .	121
13.31 EmbDetailsDialog Class Reference . . . . .	121
13.31.1 Constructor & Destructor Documentation . . . . .	122
13.31.2 Member Function Documentation . . . . .	122
13.31.3 Member Data Documentation . . . . .	123

13.32 EmbDiameterDim_ Struct Reference . . . . .	124
13.32.1 Member Data Documentation . . . . .	124
13.33 EmbEllipse_ Struct Reference . . . . .	124
13.33.1 Member Data Documentation . . . . .	124
13.34 EmbFormatList_ Struct Reference . . . . .	125
13.34.1 Member Data Documentation . . . . .	125
13.35 EmbGeometry_ Struct Reference . . . . .	126
13.35.1 Member Data Documentation . . . . .	126
13.36 EmbImage_ Struct Reference . . . . .	128
13.36.1 Member Data Documentation . . . . .	128
13.37 EmbInfiniteLine_ Struct Reference . . . . .	129
13.37.1 Member Data Documentation . . . . .	129
13.38 EmbLayer_ Struct Reference . . . . .	129
13.38.1 Member Data Documentation . . . . .	130
13.39 EmbLeaderDim_ Struct Reference . . . . .	130
13.39.1 Member Data Documentation . . . . .	130
13.40 EmbLine_ Struct Reference . . . . .	130
13.40.1 Member Data Documentation . . . . .	131
13.41 EmbLinearDim_ Struct Reference . . . . .	131
13.41.1 Member Data Documentation . . . . .	131
13.42 EmbOrdinateDim_ Struct Reference . . . . .	132
13.42.1 Member Data Documentation . . . . .	132
13.43 EmbPath_ Struct Reference . . . . .	132
13.43.1 Member Data Documentation . . . . .	132
13.44 EmbPattern_ Struct Reference . . . . .	133
13.44.1 Member Data Documentation . . . . .	133
13.45 EmbPoint_ Struct Reference . . . . .	134
13.45.1 Member Data Documentation . . . . .	134
13.46 EmbRadiusDim_ Struct Reference . . . . .	135
13.46.1 Member Data Documentation . . . . .	135
13.47 EmbRay_ Struct Reference . . . . .	135
13.47.1 Member Data Documentation . . . . .	135
13.48 EmbRect_ Struct Reference . . . . .	135
13.48.1 Member Data Documentation . . . . .	136
13.49 EmbSatinOutline_ Struct Reference . . . . .	136
13.49.1 Member Data Documentation . . . . .	137
13.50 EmbSpline_ Struct Reference . . . . .	137
13.50.1 Member Data Documentation . . . . .	137
13.51 EmbStitch_ Struct Reference . . . . .	138
13.51.1 Member Data Documentation . . . . .	138
13.52 EmbTextMulti_ Struct Reference . . . . .	138
13.52.1 Member Data Documentation . . . . .	139

---

13.53 EmbTextSingle_ Struct Reference . . . . .	139
13.53.1 Member Data Documentation . . . . .	139
13.54 EmbThread_ Struct Reference . . . . .	139
13.54.1 Member Data Documentation . . . . .	140
13.55 EmbTime_ Struct Reference . . . . .	140
13.55.1 Member Data Documentation . . . . .	140
13.56 EmbVector_ Struct Reference . . . . .	141
13.56.1 Detailed Description . . . . .	141
13.56.2 Member Data Documentation . . . . .	141
13.57 hoop_padding Struct Reference . . . . .	142
13.57.1 Member Data Documentation . . . . .	142
13.58 Huffman Struct Reference . . . . .	142
13.58.1 Member Data Documentation . . . . .	143
13.59 ImageObject Class Reference . . . . .	143
13.59.1 Member Enumeration Documentation . . . . .	145
13.59.2 Constructor & Destructor Documentation . . . . .	145
13.59.3 Member Function Documentation . . . . .	146
13.60 ImageWidget Class Reference . . . . .	148
13.60.1 Constructor & Destructor Documentation . . . . .	148
13.60.2 Member Function Documentation . . . . .	149
13.60.3 Member Data Documentation . . . . .	149
13.61 Index_ Struct Reference . . . . .	149
13.61.1 Detailed Description . . . . .	149
13.61.2 Member Data Documentation . . . . .	149
13.62 IndexEntry_ Struct Reference . . . . .	150
13.62.1 Detailed Description . . . . .	150
13.62.2 Member Data Documentation . . . . .	150
13.63 LayerManager Class Reference . . . . .	150
13.63.1 Constructor & Destructor Documentation . . . . .	151
13.63.2 Member Function Documentation . . . . .	151
13.63.3 Member Data Documentation . . . . .	151
13.64 LineObject Class Reference . . . . .	152
13.64.1 Member Enumeration Documentation . . . . .	154
13.64.2 Constructor & Destructor Documentation . . . . .	154
13.64.3 Member Function Documentation . . . . .	154
13.65 LSYSTEM Struct Reference . . . . .	157
13.65.1 Member Data Documentation . . . . .	158
13.66 MainWindow Class Reference . . . . .	158
13.66.1 Constructor & Destructor Documentation . . . . .	171
13.66.2 Member Function Documentation . . . . .	171
13.66.3 Member Data Documentation . . . . .	220
13.67 MdiArea Class Reference . . . . .	234

13.67.1 Constructor & Destructor Documentation . . . . .	235
13.67.2 Member Function Documentation . . . . .	236
13.67.3 Member Data Documentation . . . . .	237
13.68 MdiWindow Class Reference . . . . .	238
13.68.1 Constructor & Destructor Documentation . . . . .	239
13.68.2 Member Function Documentation . . . . .	239
13.68.3 Member Data Documentation . . . . .	243
13.69 PathObject Class Reference . . . . .	245
13.69.1 Member Enumeration Documentation . . . . .	247
13.69.2 Constructor & Destructor Documentation . . . . .	247
13.69.3 Member Function Documentation . . . . .	247
13.69.4 Member Data Documentation . . . . .	250
13.70 PointObject Class Reference . . . . .	250
13.70.1 Member Enumeration Documentation . . . . .	252
13.70.2 Constructor & Destructor Documentation . . . . .	252
13.70.3 Member Function Documentation . . . . .	252
13.71 PolygonObject Class Reference . . . . .	254
13.71.1 Member Enumeration Documentation . . . . .	256
13.71.2 Constructor & Destructor Documentation . . . . .	256
13.71.3 Member Function Documentation . . . . .	257
13.71.4 Member Data Documentation . . . . .	259
13.72 PolylineObject Class Reference . . . . .	259
13.72.1 Member Enumeration Documentation . . . . .	261
13.72.2 Constructor & Destructor Documentation . . . . .	261
13.72.3 Member Function Documentation . . . . .	262
13.72.4 Member Data Documentation . . . . .	264
13.73 PreviewDialog Class Reference . . . . .	264
13.73.1 Constructor & Destructor Documentation . . . . .	265
13.73.2 Member Data Documentation . . . . .	265
13.74 PropertyEditor Class Reference . . . . .	265
13.74.1 Constructor & Destructor Documentation . . . . .	272
13.74.2 Member Function Documentation . . . . .	272
13.74.3 Member Data Documentation . . . . .	278
13.75 RectObject Class Reference . . . . .	303
13.75.1 Member Enumeration Documentation . . . . .	305
13.75.2 Constructor & Destructor Documentation . . . . .	305
13.75.3 Member Function Documentation . . . . .	305
13.76 SaveObject Class Reference . . . . .	308
13.76.1 Constructor & Destructor Documentation . . . . .	308
13.76.2 Member Function Documentation . . . . .	309
13.76.3 Member Data Documentation . . . . .	313
13.77 SelectBox Class Reference . . . . .	313

---

13.77.1 Constructor & Destructor Documentation . . . . .	314
13.77.2 Member Function Documentation . . . . .	314
13.77.3 Member Data Documentation . . . . .	315
13.78 Settings_Struct Reference . . . . .	316
13.78.1 Detailed Description . . . . .	318
13.78.2 Member Data Documentation . . . . .	318
13.79 Settings_Dialog Class Reference . . . . .	330
13.79.1 Constructor & Destructor Documentation . . . . .	335
13.79.2 Member Function Documentation . . . . .	336
13.79.3 Member Data Documentation . . . . .	348
13.80 StatusBar Class Reference . . . . .	361
13.80.1 Constructor & Destructor Documentation . . . . .	361
13.80.2 Member Function Documentation . . . . .	361
13.80.3 Member Data Documentation . . . . .	361
13.81 StatusBarButton Class Reference . . . . .	362
13.81.1 Constructor & Destructor Documentation . . . . .	363
13.81.2 Member Function Documentation . . . . .	363
13.81.3 Member Data Documentation . . . . .	366
13.82 StxThread_Struct Reference . . . . .	366
13.82.1 Member Data Documentation . . . . .	366
13.83 SubDescriptor_Struct Reference . . . . .	367
13.83.1 Member Data Documentation . . . . .	367
13.84 SvgAttribute_Struct Reference . . . . .	368
13.84.1 Member Data Documentation . . . . .	368
13.85 TextSingleObject Class Reference . . . . .	368
13.85.1 Member Enumeration Documentation . . . . .	371
13.85.2 Constructor & Destructor Documentation . . . . .	371
13.85.3 Member Function Documentation . . . . .	372
13.85.4 Member Data Documentation . . . . .	376
13.86 thread_color_Struct Reference . . . . .	377
13.86.1 Member Data Documentation . . . . .	377
13.87 ThredExtension_Struct Reference . . . . .	378
13.87.1 Member Data Documentation . . . . .	378
13.88 ThredHeader_Struct Reference . . . . .	379
13.88.1 Member Data Documentation . . . . .	379
13.89 UiObject_Struct Reference . . . . .	380
13.89.1 Detailed Description . . . . .	380
13.89.2 Member Data Documentation . . . . .	381
13.90 UndoableAddCommand Class Reference . . . . .	383
13.90.1 Constructor & Destructor Documentation . . . . .	384
13.90.2 Member Function Documentation . . . . .	384
13.90.3 Member Data Documentation . . . . .	384

---

13.91 UndoableDeleteCommand Class Reference . . . . .	384
13.91.1 Constructor & Destructor Documentation . . . . .	385
13.91.2 Member Function Documentation . . . . .	385
13.91.3 Member Data Documentation . . . . .	385
13.92 UndoableGripEditCommand Class Reference . . . . .	385
13.92.1 Constructor & Destructor Documentation . . . . .	386
13.92.2 Member Function Documentation . . . . .	386
13.92.3 Member Data Documentation . . . . .	386
13.93 UndoableMirrorCommand Class Reference . . . . .	387
13.93.1 Constructor & Destructor Documentation . . . . .	387
13.93.2 Member Function Documentation . . . . .	388
13.93.3 Member Data Documentation . . . . .	388
13.94 UndoableMoveCommand Class Reference . . . . .	388
13.94.1 Constructor & Destructor Documentation . . . . .	389
13.94.2 Member Function Documentation . . . . .	389
13.94.3 Member Data Documentation . . . . .	389
13.95 UndoableNavCommand Class Reference . . . . .	390
13.95.1 Constructor & Destructor Documentation . . . . .	390
13.95.2 Member Function Documentation . . . . .	390
13.95.3 Member Data Documentation . . . . .	391
13.96 UndoableRotateCommand Class Reference . . . . .	392
13.96.1 Constructor & Destructor Documentation . . . . .	392
13.96.2 Member Function Documentation . . . . .	392
13.96.3 Member Data Documentation . . . . .	393
13.97 UndoableScaleCommand Class Reference . . . . .	394
13.97.1 Constructor & Destructor Documentation . . . . .	394
13.97.2 Member Function Documentation . . . . .	394
13.97.3 Member Data Documentation . . . . .	394
13.98 UndoEditor Class Reference . . . . .	395
13.98.1 Constructor & Destructor Documentation . . . . .	396
13.98.2 Member Function Documentation . . . . .	396
13.98.3 Member Data Documentation . . . . .	397
13.99 UndoHistory_ Struct Reference . . . . .	397
13.99.1 Detailed Description . . . . .	398
13.99.2 Member Data Documentation . . . . .	398
13.100 View Class Reference . . . . .	398
13.100.1 Constructor & Destructor Documentation . . . . .	402
13.100.2 Member Function Documentation . . . . .	402
13.100.3 Member Data Documentation . . . . .	412
13.101 View_ Struct Reference . . . . .	417
13.101.1 Detailed Description . . . . .	418
13.101.2 Views . . . . .	418

---

13.101.3 Member Data Documentation . . . . .	418
13.102 VipHeader_ Struct Reference . . . . .	421
13.102.1 Member Data Documentation . . . . .	421
<b>14 File Documentation</b>	<b>423</b>
14.1 CODE_OF_CONDUCT.md File Reference . . . . .	423
14.2 embroidermodder2/application.cpp File Reference . . . . .	423
14.3 embroidermodder2/application.h File Reference . . . . .	423
14.4 application.h . . . . .	423
14.5 embroidermodder2/cmdprompt.cpp File Reference . . . . .	423
14.6 embroidermodder2/cmdprompt.h File Reference . . . . .	424
14.7 cmdprompt.h . . . . .	424
14.8 embroidermodder2/embdetails-dialog.cpp File Reference . . . . .	427
14.9 embroidermodder2/embdetails-dialog.h File Reference . . . . .	427
14.10 embdetails-dialog.h . . . . .	428
14.11 embroidermodder2/gui_backend.cpp File Reference . . . . .	428
14.11.1 Function Documentation . . . . .	430
14.11.2 Variable Documentation . . . . .	439
14.12 embroidermodder2/gui_backend.h File Reference . . . . .	439
14.12.1 Typedef Documentation . . . . .	441
14.12.2 Function Documentation . . . . .	441
14.13 gui_backend.h . . . . .	451
14.14 embroidermodder2/imagewidget.cpp File Reference . . . . .	452
14.15 embroidermodder2/imagewidget.h File Reference . . . . .	453
14.16 imagewidget.h . . . . .	453
14.17 embroidermodder2/imgui_main.c File Reference . . . . .	453
14.17.1 Macro Definition Documentation . . . . .	473
14.17.2 Typedef Documentation . . . . .	493
14.17.3 Views . . . . .	495
14.17.4 Enumeration Type Documentation . . . . .	495
14.17.5 Function Documentation . . . . .	495
14.17.6 Variable Documentation . . . . .	574
14.18 embroidermodder2/layer-manager.cpp File Reference . . . . .	576
14.19 embroidermodder2/layer-manager.h File Reference . . . . .	576
14.20 layer-manager.h . . . . .	577
14.21 embroidermodder2/main.cpp File Reference . . . . .	577
14.21.1 Function Documentation . . . . .	578
14.21.2 Variable Documentation . . . . .	578
14.22 embroidermodder2/mainwindow-actions.cpp File Reference . . . . .	578
14.23 embroidermodder2/mainwindow-actions.h File Reference . . . . .	579
14.23.1 Enumeration Type Documentation . . . . .	579
14.24 mainwindow-actions.h . . . . .	581

---

14.25 embroidermodder2/mainwindow-commands.cpp File Reference . . . . .	582
14.26 embroidermodder2/mainwindow-menus.cpp File Reference . . . . .	583
14.27 embroidermodder2/mainwindow-settings.cpp File Reference . . . . .	583
14.28 embroidermodder2/mainwindow-toolbars.cpp File Reference . . . . .	583
14.29 embroidermodder2/mainwindow.cpp File Reference . . . . .	583
14.30 embroidermodder2/mainwindow.h File Reference . . . . .	584
14.31 mainwindow.h . . . . .	584
14.32 embroidermodder2/mdiarea.cpp File Reference . . . . .	596
14.33 embroidermodder2/mdiarea.h File Reference . . . . .	596
14.34 mdiarea.h . . . . .	596
14.35 embroidermodder2/mdiwindow.cpp File Reference . . . . .	597
14.36 embroidermodder2/mdiwindow.h File Reference . . . . .	598
14.37 mdiwindow.h . . . . .	598
14.38 embroidermodder2/native-scripting.cpp File Reference . . . . .	599
14.38.1 Function Documentation . . . . .	600
14.38.2 Variable Documentation . . . . .	600
14.39 embroidermodder2/native-scripting.h File Reference . . . . .	600
14.39.1 Function Documentation . . . . .	600
14.40 native-scripting.h . . . . .	601
14.41 embroidermodder2/object-arc.cpp File Reference . . . . .	601
14.42 embroidermodder2/object-arc.h File Reference . . . . .	601
14.43 object-arc.h . . . . .	601
14.44 embroidermodder2/object-base.cpp File Reference . . . . .	602
14.45 embroidermodder2/object-base.h File Reference . . . . .	602
14.46 object-base.h . . . . .	603
14.47 embroidermodder2/object-circle.cpp File Reference . . . . .	604
14.48 embroidermodder2/object-circle.h File Reference . . . . .	604
14.49 object-circle.h . . . . .	604
14.50 embroidermodder2/object-data.h File Reference . . . . .	605
14.50.1 Enumeration Type Documentation . . . . .	607
14.50.2 Variable Documentation . . . . .	611
14.51 object-data.h . . . . .	615
14.52 embroidermodder2/object-dimleader.cpp File Reference . . . . .	618
14.53 embroidermodder2/object-dimleader.h File Reference . . . . .	618
14.54 object-dimleader.h . . . . .	618
14.55 embroidermodder2/object-ellipse.cpp File Reference . . . . .	619
14.56 embroidermodder2/object-ellipse.h File Reference . . . . .	619
14.57 object-ellipse.h . . . . .	620
14.58 embroidermodder2/object-image.cpp File Reference . . . . .	620
14.59 embroidermodder2/object-image.h File Reference . . . . .	620
14.60 object-image.h . . . . .	621
14.61 embroidermodder2/object-line.cpp File Reference . . . . .	621

---

14.62 embroidermodder2/object-line.h File Reference . . . . .	621
14.63 object-line.h . . . . .	622
14.64 embroidermodder2/object-path.cpp File Reference . . . . .	622
14.65 embroidermodder2/object-path.h File Reference . . . . .	622
14.66 object-path.h . . . . .	623
14.67 embroidermodder2/object-point.cpp File Reference . . . . .	623
14.68 embroidermodder2/object-point.h File Reference . . . . .	623
14.69 object-point.h . . . . .	624
14.70 embroidermodder2/object-polygon.cpp File Reference . . . . .	624
14.71 embroidermodder2/object-polygon.h File Reference . . . . .	624
14.72 object-polygon.h . . . . .	625
14.73 embroidermodder2/object-polyline.cpp File Reference . . . . .	625
14.74 embroidermodder2/object-polyline.h File Reference . . . . .	625
14.75 object-polyline.h . . . . .	626
14.76 embroidermodder2/object-rect.cpp File Reference . . . . .	626
14.77 embroidermodder2/object-rect.h File Reference . . . . .	626
14.78 object-rect.h . . . . .	627
14.79 embroidermodder2/object-save.cpp File Reference . . . . .	627
14.80 embroidermodder2/object-save.h File Reference . . . . .	627
14.81 object-save.h . . . . .	628
14.82 embroidermodder2/object-textsingle.cpp File Reference . . . . .	629
14.83 embroidermodder2/object-textsingle.h File Reference . . . . .	629
14.84 object-textsingle.h . . . . .	629
14.85 embroidermodder2/preview-dialog.cpp File Reference . . . . .	630
14.86 embroidermodder2/preview-dialog.h File Reference . . . . .	630
14.87 preview-dialog.h . . . . .	630
14.88 embroidermodder2/property-editor.cpp File Reference . . . . .	631
14.89 embroidermodder2/property-editor.h File Reference . . . . .	631
14.90 property-editor.h . . . . .	632
14.91 embroidermodder2/README.md File Reference . . . . .	638
14.92 embroidermodder2/selectbox.cpp File Reference . . . . .	638
14.93 embroidermodder2/selectbox.h File Reference . . . . .	638
14.94 selectbox.h . . . . .	638
14.95 embroidermodder2/settings-dialog.cpp File Reference . . . . .	639
14.96 embroidermodder2/settings-dialog.h File Reference . . . . .	639
14.97 settings-dialog.h . . . . .	639
14.98 embroidermodder2/statusbar-button.cpp File Reference . . . . .	643
14.99 embroidermodder2/statusbar-button.h File Reference . . . . .	643
14.100 statusbar-button.h . . . . .	643
14.101 embroidermodder2/statusbar.cpp File Reference . . . . .	644
14.102 embroidermodder2/statusbar.h File Reference . . . . .	644
14.103 statusbar.h . . . . .	644

14.104	embroidermodder2/undo-commands.cpp	File Reference	645
14.105	embroidermodder2/undo-commands.h	File Reference	645
14.106	undo-commands.h		646
14.107	embroidermodder2/undo-editor.cpp	File Reference	647
14.108	embroidermodder2/undo-editor.h	File Reference	648
14.109	undo-editor.h		648
14.110	embroidermodder2/view.cpp	File Reference	648
14.111	embroidermodder2/view.h	File Reference	649
14.112	view.h		649
14.113	extern/libembroidery/src/array.c	File Reference	652
	14.113.1	Function Documentation	652
14.114	extern/libembroidery/src/compress.c	File Reference	657
	14.114.1	Function Documentation	658
	14.114.2	Variable Documentation	662
14.115	extern/libembroidery/src/embedded.md	File Reference	662
14.116	extern/libembroidery/src/embroider_cli.md	File Reference	662
14.117	extern/libembroidery/src/embroidery.h	File Reference	662
	14.117.1	Macro Definition Documentation	669
	14.117.2	Typedef Documentation	681
	14.117.3	Function Documentation	685
	14.117.4	Variable Documentation	714
14.118	embroidery.h		716
14.119	extern/libembroidery/src/embroidery_internal.h	File Reference	723
	14.119.1	Macro Definition Documentation	731
	14.119.2	Typedef Documentation	743
	14.119.3	Enumeration Type Documentation	744
	14.119.4	Function Documentation	745
	14.119.5	Variable Documentation	781
14.120	embroidery_internal.h		782
14.121	extern/libembroidery/src/encoding.c	File Reference	789
	14.121.1	Function Documentation	789
14.122	extern/libembroidery/src/fill.c	File Reference	794
	14.122.1	Function Documentation	794
	14.122.2	Variable Documentation	802
14.123	extern/libembroidery/src/formats.c	File Reference	802
	14.123.1	Function Documentation	803
	14.123.2	Variable Documentation	808
14.124	extern/libembroidery/src/formats/format_100.c	File Reference	809
	14.124.1	Function Documentation	809
14.125	extern/libembroidery/src/formats/format_10o.c	File Reference	809
	14.125.1	Function Documentation	810
14.126	extern/libembroidery/src/formats/format_art.c	File Reference	810

---

14.126.1 Function Documentation . . . . .	810
14.127 extern/libembroidery/src/formats/format_bmc.c File Reference . . . . .	811
14.127.1 Function Documentation . . . . .	811
14.128 extern/libembroidery/src/formats/format_bro.c File Reference . . . . .	811
14.128.1 Function Documentation . . . . .	811
14.129 extern/libembroidery/src/formats/format_cnd.c File Reference . . . . .	812
14.129.1 Function Documentation . . . . .	812
14.130 extern/libembroidery/src/formats/format_col.c File Reference . . . . .	812
14.130.1 Function Documentation . . . . .	812
14.131 extern/libembroidery/src/formats/format_csd.c File Reference . . . . .	813
14.131.1 Macro Definition Documentation . . . . .	813
14.131.2 Function Documentation . . . . .	814
14.131.3 Variable Documentation . . . . .	814
14.132 extern/libembroidery/src/formats/format_csv.c File Reference . . . . .	815
14.132.1 Function Documentation . . . . .	815
14.133 extern/libembroidery/src/formats/format_dat.c File Reference . . . . .	815
14.133.1 Function Documentation . . . . .	816
14.134 extern/libembroidery/src/formats/format_dem.c File Reference . . . . .	816
14.134.1 Function Documentation . . . . .	816
14.135 extern/libembroidery/src/formats/format_dsb.c File Reference . . . . .	817
14.135.1 Function Documentation . . . . .	817
14.136 extern/libembroidery/src/formats/format_dst.c File Reference . . . . .	817
14.136.1 Macro Definition Documentation . . . . .	818
14.136.2 Function Documentation . . . . .	818
14.137 extern/libembroidery/src/formats/format_dsz.c File Reference . . . . .	818
14.137.1 Function Documentation . . . . .	819
14.138 extern/libembroidery/src/formats/format_dxf.c File Reference . . . . .	819
14.138.1 Function Documentation . . . . .	819
14.139 extern/libembroidery/src/formats/format_edr.c File Reference . . . . .	820
14.139.1 Function Documentation . . . . .	820
14.140 extern/libembroidery/src/formats/format_emd.c File Reference . . . . .	820
14.140.1 Function Documentation . . . . .	821
14.141 extern/libembroidery/src/formats/format_exp.c File Reference . . . . .	821
14.141.1 Function Documentation . . . . .	821
14.142 extern/libembroidery/src/formats/format_exy.c File Reference . . . . .	822
14.142.1 Function Documentation . . . . .	822
14.143 extern/libembroidery/src/formats/format_eyc.c File Reference . . . . .	822
14.143.1 Function Documentation . . . . .	823
14.144 extern/libembroidery/src/formats/format_fxy.c File Reference . . . . .	823
14.144.1 Function Documentation . . . . .	823
14.145 extern/libembroidery/src/formats/format_gcc.c File Reference . . . . .	823
14.145.1 Function Documentation . . . . .	824

---

14.146 extern/libembroidery/src/formats/format_gnc.c File Reference . . . . .	824
14.146.1 Function Documentation . . . . .	824
14.147 extern/libembroidery/src/formats/format_gt.c File Reference . . . . .	825
14.147.1 Function Documentation . . . . .	825
14.148 extern/libembroidery/src/formats/format_hus.c File Reference . . . . .	825
14.148.1 Function Documentation . . . . .	826
14.149 extern/libembroidery/src/formats/format_inb.c File Reference . . . . .	827
14.149.1 Function Documentation . . . . .	827
14.150 extern/libembroidery/src/formats/format_inf.c File Reference . . . . .	827
14.150.1 Function Documentation . . . . .	827
14.151 extern/libembroidery/src/formats/format_jef.c File Reference . . . . .	828
14.151.1 Function Documentation . . . . .	828
14.152 extern/libembroidery/src/formats/format_ksm.c File Reference . . . . .	829
14.152.1 Function Documentation . . . . .	829
14.153 extern/libembroidery/src/formats/format_max.c File Reference . . . . .	830
14.153.1 Function Documentation . . . . .	830
14.153.2 Variable Documentation . . . . .	830
14.154 extern/libembroidery/src/formats/format_mit.c File Reference . . . . .	831
14.154.1 Function Documentation . . . . .	831
14.155 extern/libembroidery/src/formats/format_new.c File Reference . . . . .	831
14.155.1 Function Documentation . . . . .	832
14.156 extern/libembroidery/src/formats/format_ofm.c File Reference . . . . .	832
14.156.1 Function Documentation . . . . .	832
14.157 extern/libembroidery/src/formats/format_pcd.c File Reference . . . . .	833
14.157.1 Function Documentation . . . . .	834
14.158 extern/libembroidery/src/formats/format_pcm.c File Reference . . . . .	834
14.158.1 Function Documentation . . . . .	834
14.159 extern/libembroidery/src/formats/format_pcq.c File Reference . . . . .	835
14.159.1 Function Documentation . . . . .	835
14.160 extern/libembroidery/src/formats/format_pcs.c File Reference . . . . .	835
14.160.1 Function Documentation . . . . .	835
14.161 extern/libembroidery/src/formats/format_pec.c File Reference . . . . .	836
14.161.1 Function Documentation . . . . .	836
14.162 extern/libembroidery/src/formats/format_pel.c File Reference . . . . .	837
14.162.1 Function Documentation . . . . .	838
14.163 extern/libembroidery/src/formats/format_pem.c File Reference . . . . .	838
14.163.1 Function Documentation . . . . .	838
14.164 extern/libembroidery/src/formats/format_pes.c File Reference . . . . .	839
14.164.1 Function Documentation . . . . .	839
14.164.2 Variable Documentation . . . . .	841
14.165 extern/libembroidery/src/formats/format_phb.c File Reference . . . . .	842
14.165.1 Function Documentation . . . . .	842

---

14.166 extern/libembroidery/src/formats/format_phc.c File Reference . . . . .	842
14.166.1 Function Documentation . . . . .	843
14.167 extern/libembroidery/src/formats/format_plt.c File Reference . . . . .	843
14.167.1 Function Documentation . . . . .	843
14.168 extern/libembroidery/src/formats/format_rgb.c File Reference . . . . .	844
14.168.1 Function Documentation . . . . .	844
14.169 extern/libembroidery/src/formats/format_sew.c File Reference . . . . .	844
14.169.1 Function Documentation . . . . .	844
14.170 extern/libembroidery/src/formats/format_shv.c File Reference . . . . .	845
14.170.1 Function Documentation . . . . .	845
14.171 extern/libembroidery/src/formats/format_sst.c File Reference . . . . .	846
14.171.1 Function Documentation . . . . .	846
14.172 extern/libembroidery/src/formats/format_stx.c File Reference . . . . .	846
14.172.1 Function Documentation . . . . .	847
14.173 extern/libembroidery/src/formats/format_svg.c File Reference . . . . .	847
14.173.1 Function Documentation . . . . .	848
14.173.2 Variable Documentation . . . . .	848
14.174 extern/libembroidery/src/formats/format_t01.c File Reference . . . . .	849
14.174.1 Function Documentation . . . . .	849
14.175 extern/libembroidery/src/formats/format_t09.c File Reference . . . . .	849
14.175.1 Function Documentation . . . . .	850
14.176 extern/libembroidery/src/formats/format.tap.c File Reference . . . . .	850
14.176.1 Function Documentation . . . . .	850
14.177 extern/libembroidery/src/formats/format_thr.c File Reference . . . . .	851
14.177.1 Function Documentation . . . . .	851
14.178 extern/libembroidery/src/formats/format.txt.c File Reference . . . . .	851
14.178.1 Function Documentation . . . . .	852
14.179 extern/libembroidery/src/formats/format_u00.c File Reference . . . . .	852
14.179.1 Function Documentation . . . . .	852
14.180 extern/libembroidery/src/formats/format_u01.c File Reference . . . . .	853
14.180.1 Function Documentation . . . . .	853
14.181 extern/libembroidery/src/formats/format_vip.c File Reference . . . . .	853
14.181.1 Function Documentation . . . . .	854
14.181.2 Variable Documentation . . . . .	855
14.182 extern/libembroidery/src/formats/format_vp3.c File Reference . . . . .	855
14.182.1 Function Documentation . . . . .	856
14.183 extern/libembroidery/src/formats/format_xxx.c File Reference . . . . .	857
14.183.1 Function Documentation . . . . .	857
14.184 extern/libembroidery/src/formats/format_zsk.c File Reference . . . . .	858
14.184.1 Function Documentation . . . . .	858
14.185 extern/libembroidery/src/formats/format.md File Reference . . . . .	858
14.186 extern/libembroidery/src/geometry.c File Reference . . . . .	858

14.186.1 Function Documentation . . . . .	859
14.187 extern/libembroidery/src/geometry/arc.c File Reference . . . . .	860
14.187.1 Function Documentation . . . . .	861
14.188 extern/libembroidery/src/geometry/circle.c File Reference . . . . .	866
14.188.1 Function Documentation . . . . .	866
14.189 extern/libembroidery/src/geometry/ellipse.c File Reference . . . . .	867
14.189.1 Function Documentation . . . . .	867
14.190 extern/libembroidery/src/geometry/functions.c File Reference . . . . .	869
14.190.1 Function Documentation . . . . .	869
14.191 extern/libembroidery/src/geometry/geometry.md File Reference . . . . .	870
14.192 extern/libembroidery/src/geometry/line.c File Reference . . . . .	870
14.192.1 Function Documentation . . . . .	870
14.193 extern/libembroidery/src/geometry/path.c File Reference . . . . .	871
14.194 extern/libembroidery/src/geometry/polygon.c File Reference . . . . .	871
14.195 extern/libembroidery/src/geometry/polyline.c File Reference . . . . .	871
14.196 extern/libembroidery/src/geometry/rect.c File Reference . . . . .	871
14.196.1 Function Documentation . . . . .	871
14.197 extern/libembroidery/src/geometry/text.c File Reference . . . . .	872
14.197.1 Function Documentation . . . . .	872
14.198 extern/libembroidery/src/geometry/vector.c File Reference . . . . .	874
14.198.1 Function Documentation . . . . .	874
14.199 extern/libembroidery/src/image.c File Reference . . . . .	877
14.199.1 Function Documentation . . . . .	877
14.200 extern/libembroidery/src/main.c File Reference . . . . .	878
14.200.1 Detailed Description . . . . .	880
14.200.2 Macro Definition Documentation . . . . .	880
14.200.3 Function Documentation . . . . .	883
14.200.4 Variable Documentation . . . . .	892
14.201 extern/libembroidery/src/pattern.c File Reference . . . . .	893
14.201.1 Function Documentation . . . . .	894
14.202 extern/libembroidery/src/thread-color.c File Reference . . . . .	898
14.202.1 Function Documentation . . . . .	898
14.202.2 Variable Documentation . . . . .	899
14.203 privacy_policy.md File Reference . . . . .	900
<b>Bibliography</b>	901
<b>Index</b>	903

# 1 Embroidermodder 2

This folder contains the GUI and application code for Embroidermodder 2.

## 2 embedded

### 2.1 Embroiderbot and Libembroidery on Embedded Systems

The libembroidery library is designed to support embedded environments, so it can be used in CNC applications.

#### 2.1.1 Compatible Boards

We recommend using an Arduino\index{Arduino} Mega 2560 or another board with equal or greater specs. That being said, we have had success using an Arduino Uno R3 but this will likely require further optimization and other improvements to ensure continued compatibility with the Uno. See below for more information.

#### 2.1.2 Arduino Considerations

There are two main concerns here: Flash Storage and SRAM.

libembroidery continually outgrows the 32KB of Flash storage on the Arduino Uno and every time this occurs, a decision has to be made as to what capabilities should be included or omitted. While reading files is the main focus on arduino, writing files may also play a bigger role in the future. Long term, it would be most practical to handle the inclusion or omission of any feature via a single configuration header file that the user can modify to suit their needs.

SRAM is in extremely limited supply and it will deplete quickly so any dynamic allocation should occur early during the setup phase of the sketch and sparingly or not at all later in the sketch. To help minimize SRAM consumption on Arduino and ensure libembroidery can be used in any way the sketch creator desires, it is required that any sketch using libembroidery must implement event handlers. See the ino-event source and header files for more information.

There is also an excellent article by Bill Earl on the Adafruit Learning System which covers these topics in more depth: <http://learn.adafruit.com/memories-of-an-arduino?view=all>.

#### 2.1.3 Space

Since a stitch takes 3 bytes of storage and many patterns use more than 10k stitches, we can't assume that the pattern will fit in memory. Therefore we will need to buffer the current pattern on and off storage in small chunks. By the same reasoning, we can't load all of one struct before looping so we will need functions similar to binaryRead←Int16 for each struct.

This means the EmbArray approach won't work since we need to load each element and dynamic memory management is unnecessary because the arrays lie in storage.

**Todo** Replace EmbArray functions with embPattern load functions.

#### 2.1.4 Tables

All thread tables and large text blocks are too big to compile directly into the source code. Instead we can package the library with a data packet that is compiled from an assembly program in raw format so the specific padding can be controlled.

In the user section above we will make it clear that this file needs to be loaded on the pattern USB/SD card or the program won't function.

**Todo** Start file with a list of offsets to data with a corresponding table to load into with macro constants for each label needed.

### 2.1.5 Current Pattern Memory Management

It will be simpler to make one file per EmbArray so we keep an EmbFile\* and a length, so no malloc call is necessary. So there needs to be a consistent tmpfile naming scheme.

**Todo** For each pattern generate a random string of hexadecimal and append it to the filenames like `stitch↔List\_A16F.dat`. Need to check for a file which indicates that this string has been used already.

### 2.1.6 Special Notes

Due to historical reasons and to remain compatible with the Arduino 1.0 IDE, this folder must be called ``utility''. Refer to the arduino build process for more info: <https://arduino.github.io/arduino-cli/0.19/sketch-build-process/>.

libembroidery relies on the Arduino SD library for reading files. See the ino-file source and header files for more information.

### 2.1.7 The Assembly Split

One problem to the problem of supporting both systems with abundant memory (such as a 2010s or later desktop) and with scarce memory (such as embedded systems) is that they don't share the same assembly language. To deal with this: there will be two equivalent software which are hand engineered to be similar but one will be in C and the other in the assembly dialects we support.

All assembly will be intended for embedded systems only, since a slightly smaller set of features will be supported. However, we will write a x86 version since that can be tested.

That way the work that has been done to simplify the C code can be applied to the assembly versions.

## 3 embroider\_cli

### 3.1 The <tt>embroider</tt> Command Line Program

**Todo** Move back to libembroidery now we have the combined docs build.

#### 3.1.1 Embroider pipeline

Adjectives apply to every following noun so

```
embroider --satin 0.3,0.6 --thickness 2 --circle 10,20,5 \
--border 3 --disc 30,40,10 --arc 30,50,10,60 output.pes
```

Creates:

- a circle with properties: thickness 2, satin 0.3,0.6
- a disc with properties:
- an arc with properties:

in that order then writes them to the output file `output.pes`.

### 3.1.2 embroider CLI

- Make `-circle` flag to add a circle to the current pattern.
- Make `-rect` flag to add a rectangle to the current pattern.
- Make `-fill` flag to set the current satin fill algorithm for the current geometry. (for example `-fill crosses -circle 11,13,10` fills a circle with center 11mm, 13mm with radius 10mm with crosses).
- Make `-ellipse` flag to add an ellipse to the current pattern.
- Make `-bezier` flag to add a bezier curve to the current pattern.

## 4 Geometry and Algorithms

### 4.1 To Do

**Todo** (Arduino) Fix emb-outline files

**Todo** (Arduino) Fix thread-color files

**Todo** (Arduino) Logging of Last Stitch Location to External USB Storage(commonly available and easily replaced)  
...wait until TRE is available to avoid rework

**Todo** (Arduino) inotool.org - seems like the logical solution for Nightly/CI builds

**Todo** (Arduino) Smoothieboard experiments

**Todo** (testing) looping test that reads 10 times while running valgrind. See \texttt{embPattern\\_loadExternalColorFile()}\ Arduino leak note for more info.

### 4.2 Development

If you wish to develop with us you can chat via the contact email on the [website]\url{ <https://libembroidery.org>} or in the issues tab on the [github page]\url{ <https://github.com/libembroidermodder/Embroidermodder/issues>}. People have been polite and friendly in these conversations and I (Robin) have really enjoyed them. If we do have any arguments please note we have a [Code of Conduct] [CODE\\_OF\\_CONDUCT.md](#) so there is a consistent policy to enforce when dealing with these arguments.

The first thing you should try is building from source using the [build advice](build) above. Then read some of the [manual] \url{ [https://libembroidery.org/embroidermodder\\_2.0\\_manual.pdf](https://libembroidery.org/embroidermodder_2.0_manual.pdf)} to get the general layout of the source code and what we are currently planning.

### 4.3 Testing

To find unfixed errors run the tests by launching from the command line with:

```
$ embroidermodder --test
```

then dig through the output. It's currently not worth reporting the errors, since there are so many but if you can fix anything reported here you can submit a PR.

## 4.4 Contributing

### 4.4.1 Funding

The easiest way to help is to fund development (see the Donate button above), since we can't afford to spend a lot of time developing and only have limited kit to test out libembroidery on.

### 4.4.2 Programming and Engineering

Should you want to get into the code itself:

- Low level C developers are needed for the base library `libembroidery`.
- Low level assembly programmers are needed for translating some of `libembroidery` to Embroider← Bot.
- Hardware Engineers to help design our own kitbashed embroidery machine EmbroiderBot, one of the original project aims in 2013.
- Scheme developers and C/SDL developers to help build the GUI.
- Scheme developers to help add designs for generating of custom stitch-filled emblems like the heart or dolphin. Note that this happens in Embroidermodder not `libembroidery` (which assumes that you already have a function available).

### 4.4.3 Writing

We also need people familiar with the software and the general machine embroidery ecosystem to contribute to the [documentation](#).

We need researchers to find references for the documentation: colour tables, machine specifications etc. The history is murky and often very poorly maintained so if you know anything from working in the industry that you can share: it'd be appreciated!

## 4.5 Embroidermodder Project Coding Standards

A basic set of guidelines to use when submitting code.

Code structure is more important than style, so first we advise you read "Design" and experimenting before getting into the specifics of code style.

### 4.5.1 Where Code Goes

Anything that deals with the specifics of embroidery file formats, threads, rendering to images, embroidery machinery or command line interfaces should go in `libembroidery` not here.

Should your idea pass this test:

- A new kind of GUI structure it goes in `src/ui.c`.
- If it's something the user can do, make a section of the `actuator` function (which lives in `src/actuator.c`) using the guide "The Actuator's Behaviour".
- Potentially variable data that is global goes in `src/data.c`.
- If the data will not vary declare it as a compiler definition using the "Compiler definitions" section and put it in `src/em2.h`.
- All other C code goes in `src/em2.c`.

### 4.5.2 Where Non-compiled Files Go

**Todo** Like most user interfaces Embroidermodder is mostly data, so here we will have a list describing where each CSV goes.

### 4.5.3 Ways in which we break style on purpose

Most style guides advise you to keep functions short. We make a few pointed exceptions to this where the overall health and functionality of the source code should benefit.

The `actuator` function will always be a mess and it should be: we're keeping the total source lines of code down by encoding all user action into a discrete sequence of strings that are all below `\texttt{STRING_LENGTH}` in length. See the section on the actuator (TODO) describing why any other solution we could think here would mean more code without a payoff in speed of execution or clarity.

### 4.5.4 Naming Conventions

Name variables and functions intelligently to minimize the need for comments. It should be immediately obvious what information it represents. Short names such as `\texttt{x}` and `\texttt{y}` are fine when referring to coordinates. Short names such as `\texttt{i}` and `\texttt{j}` are fine when doing loops.

Variable names should be `camelCase`, starting with a lowercase word followed by uppercase word(s). C Functions that attempt to simulate namespacing, should be `\texttt{nameSpace_camelCase}`.

All files and directories shall be lowercase and contain no spaces.

## 4.6 Code Style

Tabs should not be used when indenting. Setup your IDE or text editor to use 4 spaces.

### 4.6.1 Braces

For functions: please put each brace on a new line.

```
void function_definition(int argument)
{
    /* code block */
}
```

For control statements: please put the first brace on the same line.

```
if (condition) {
    /* code block */
}
```

Use exceptions sparingly.

Do not use ternary operator `(?:)` in place of if/else.

Do not repeat a variable name that already occurs in an outer scope.

## 4.7 Version Control

Being an open source project, developers can grab the latest code at any time and attempt to build it themselves. We try our best to ensure that it will build smoothly at any time, although occasionally we do break the build. In these instances, please provide a patch, pull request which fixes the issue or open an issue and notify us of the problem, as we may not be aware of it and we can build fine.

Try to group commits based on what they are related to: features/bugs/comments/graphics/commands/etc...

## 4.8 Donations

Creating software that interfaces with hardware is costly. A summary of some of the costs involved:

- Developer time for 2 core developers
- Computer equipment and parts
- Embroidery machinery
- Various electronics for kitbashing Embroiderbot
- Consumable materials (thread, fabric, stabilizer, etc...)

If you have found our software useful, please consider funding further development by donating to the project on Open Collective (<https://opencollective.com/embroidermodder>).

### 4.8.1 Format Support

Support for Singer FHE, CHE (Compucon) formats?

## 4.9 Embroidermodder Project Coding Standards

A basic set of guidelines to use when submitting code.

### 4.9.1 Naming Conventions

Name variables and functions intelligently to minimize the need for comments. It should be immediately obvious what information it represents. Short names such as x and y are fine when referring to coordinates. Short names such as i and j are fine when doing loops.

Variable names should be "camelCase", starting with a lowercase word followed by uppercase word(s). C++ Class Names should be "CamelCase", using all uppercase word(s). C Functions that attempt to simulate namespacing, should be "nameSpace\\_camelCase".

All files and directories shall be lowercase and contain no spaces.

## 4.10 Code Style

Tabs should not be used when indenting. Setup your IDE or text editor to use 4 spaces.

#### 4.10.1 Braces

For functions: please put each brace on a new line.

```
void function_definition(int argument)
{
}
```

For control statements: please put the first brace on the same line.

```
if (condition) {
}
```

Use exceptions sparingly.

Do not use ternary operator (?:) in place of if/else.

Do not repeat a variable name that already occurs in an outer scope.

#### 4.10.2 Version Control

Being an open source project, developers can grab the latest code at any time and attempt to build it themselves. We try our best to ensure that it will build smoothly at any time, although occasionally we do break the build. In these instances, please provide a patch, pull request which fixes the issue or open an issue and notify us of the problem, as we may not be aware of it and we can build fine.

Try to group commits based on what they are related to: features/bugs/comments/graphics/commands/etc...

#### 4.10.3 Comments

When writing code, sometimes there are items that we know can be improved, incomplete or need special clarification. In these cases, use the types of comments shown below. They are pretty standard and are highlighted by many editors to make reviewing code easier. We also use shell scripts to parse the code to find all of these occurrences so someone wanting to go on a bug hunt will be able to easily see which areas of the code need more love.

libembroidery and Embroidermodder are written in C and adheres to C89 standards. This means that any C99 or C++ comments will show up as errors when compiling with gcc. In any C code, you must use:

```
/* Use C Style Comments within code blocks. */

/**
 * Use Doxygen style code blocks to place todo items like this:
 * \todo EXAMPLE: This code clearly needs more work or further review.
 */

/**
 * BUG: This code is definitely wrong. It needs fixed.
 */

/**
 * HACK: This code shouldn't be written this way or I don't feel right about it. There may a better solution
 */

/**
 * WARNING: Think twice (or more times) before changing this code. I put this here for a good reason.
 */

/**
 * NOTE: This comment is much more important than lesser comments.
*/
```

## 4.11 Ideas

### 4.11.1 Why this document

I've been trying to make this document indirectly through the Github issues page and the website we're building but I think a straightforward, plain-text file needs to be the ultimate backup for this. Then I can have a printout while I'm working on the project.

### 4.11.2 googletests

gtest are non-essential, testing is for developers not users so we can choose our own framework. I think the in-built testing for libembroidery was good and I want to re-instate it.

### 4.11.3 Qt and dependencies

I'm switching to SDL2 (which is a whole other conversation) which means we can ship it with the source code package meaning only a basic build environment is necessary to build it.

### 4.11.4 Documentation

Can we treat the website being a duplicate of the docs a non-starter? I'd be happier with tex/pdf only and (I know this is counter-intuitive) one per project.

### 4.11.5 Social Platform

So... all the issues and project boards etc. being on Github is all well and good assuming that we have our own copies. But we don't if Github goes down or some other major player takes over the space and we have to move (again, since this started on SourceForge).

This file is a backup for that which is why I'm repeating myself between them.

### 4.11.6 Identify the meaning of these TODO items

- Saving CSV/SVG (rt) + CSV read/write UNKNOWN interpreted as COLOR bug #179
- Lego Mindstorms NXT/EV3 ports and/or commands

### 4.11.7 Progress Chart

The chart of successful from-to conversions (previously a separate issue) is something that should appear in the README.

#### 4.11.8 Style

Rather than maintain our own standard for style, please defer to the Python's PEP 7 [[pep7](#)] for C style. If it passes the linters for that we consider it well styled for a pull request.

As for other languages we have no house style other than whatever "major" styles exist, for example Java in Google style [[google\\_java](#)] would be acceptable. We'll elect specific standards if it becomes an issue.

#### 4.11.9 Standard

The criteria for a good Pull Request from an outside developer has these properties, from most to least important:

- No regressions on testing.
- Add a feature, bug fix or documentation that is already agreed on through GitHub issues or some other way with a core developer.
- No GUI specific code should be in libembroidery, that's for Embroidermodder.
- Pedantic/ansi C unless there's a good reason to use another language.
- Meet the style above (i.e. [PEP 7](#), [Code Lay-out](#)). We'll just fix the style if the code's good and it's not a lot of work.
- `embroider` should be in POSIX style as a command line program.
- No dependancies that aren't "standard", i.e. use only the C Standard Library.

#### 4.11.10 Image Fitting

A currently unsolved problem in development that warrants further research is the scenario where a user wants to feed `embroider` an image that can then be .

#### 4.11.11 To Place

A *right-handed coordinate system* is one where up is positive and right is positive. Left-handed is up is positive, left is positive. Screens often use down is positive, right is positive, including the OpenGL standard so when switching between graphics formats and stitch formats we need to use a vertical flip (`embPattern\_flip`).

`0x20` is the space symbol, so when padding either 0 or space is preferred and in the case of space use the literal '`'`.

### 4.11.12 To Do

We currently need help with:

- Thorough descriptions of each embroidery format.
- Finding resources for each of the branded thread libraries (along with a full citation for documentation).
- Finding resources for each geometric algorithm used (along with a full citation for documentation).
- Completing the full `--full-test-suite` with no segfaults and at least a clear error message (for example not implemented yet).
- Identifying best guesses for filling in missing information when going from, say `.csv` to a late `.pes` version. What should the default be when the data doesn't clarify?
- Improving the written documentation.
- Funding, see the Sponsor button above. We can treat this as work and put far more hours in with broad support in small donations from people who want specific features.

Beyond this the development targets are categories sorted into:

- Basic Features
- Code quality and user friendliness
- embroider CLI
- Documentation
- GUI
- electronics development

### 4.11.13 Basic features

- Incorporate `#if 0ed` parts of `libembroidery.c`.
- Interpret how to write formats that have a read mode from the source code and vice versa.
- Document the specifics of the file formats here for embroidery machine specific formats. Find websites and other sources that break down the binary formats we currently don't understand.
- Find more and better documentation of the structure of the headers for the formats we do understand.

### 4.11.14 Code quality and user friendliness

- Document all structs, macros and functions (will contribute directly on the web version).
- Incorporate experimental code, improve support for language bindings.
- Make stitch x, y into an EmbVector.

#### 4.11.15 Documentation

- Create csv data files for thread tables.
- Convert tex to markdown, make tex an output of `build.bash`.
- Run `sloccount` on `extern/` and `.` (and `)` so we know the current scale of the project, aim to get this number low. Report the total as part of the documentation.
- Try to get as much of the source code that we maintain into C as possible so new developers don't need to learn multiple languages to have an effect. This bars the embedded parts of the code.

#### 4.11.16 GUI

- Make EmbroideryMobile (Android) also backend to `libembroidery` with a Java wrapper.
- Make EmbroideryMobile (iOS) also backend to `libembroidery` with a Swift wrapper.
- Share some of the MobileViewer and iMobileViewer layout with the main EM2. Perhaps combine those 3 into the Embroidermodder repository so there are 4 repositories total.
- Convert layout data to JSON format and use cJSON for parsing.

### 4.12 Electronics development

- Currently experimenting with Fritzing[8](8), upload netlists to embroiderbot when they can run simulations using the `asm` in `libembroidery`.
- Create a common assembly for data that is the same across chipsets `libembroidery\_\_data\_\_internal.s`.
- Make the defines part of `embroidery.h` all systems and the function list `c code only`. That way we can share some development between assembly and C versions.

### 4.13 Development

#### 4.13.1 Contributing

If you're interested in getting involved, here's some guidance for new developers. Currently The Embroidermodder Team is all hobbyists with an interest in making embroidery machines more open and user friendly. If you'd like to support us in some other way you can donate to our Open Collective page (click the Donate button) so we can spend more time working on the project.

All code written for `libembroidery` should be ANSI C89 compliant if it is C. Using other languages should only be used where necessary to support bindings.

### 4.13.2 Debug

If you wish to help with development, run this debug script and send us the error log.

```
#!/bin/bash

rm -fr libembroidery-debug

git clone http://github.com/embroidermodder/libembroidery libembroidery-debug
cd libembroidery-debug

cmake -DCMAKE_BUILD_TYPE=DEBUG .
cmake --build . --config=DEBUG

valgrind ./embroider --full-test-suite
```

While we will attempt to maintain good results from this script as part of normal development it should be the first point of failure on any system we haven't tested or format we understand less.

### 4.13.3 Binary download

We need a current `embroider` command line program download, so people can update without building.

## 5 Formats

### 5.1 Overview

### 5.2 Read/Write Support Levels

The table of read/write format support levels uses the status levels described here:

Status Label	Description
<code>rw-none</code>	Either the format produces no output, reporting an error. Or it produces a Tajima dst file as an alternative.
<code>rw-poor</code>	A file somewhat similar to our examples is produced. We don't know how well it runs on machines in practice as we don't have any user reports or personal tests.
<code>rw-basic</code>	Simple files in this format run well on machines that use this format.
<code>rw-standard</code>	Files with non-standard features work on machines and we have good documentation on the format.
<code>rw-reliable</code>	All known features don't cause crashes. Almost all work as expected.
<code>rw-complete</code>	All known features of the format work on machines that use this format. Translations from and to this format preserve all features present in both.

These can be split into `r-basic w-none`, for example, if they don't match.

So all formats can, in principle, have good read and good write support, because it's defined in relation to files that we have described the formats for.

#### 5.2.1 Test Support Levels

Status Label	Description
test-none	No tests have been written to test the specifics of the format.
test-basic	Stitch Lists and/or colors have read/write tests.
test-thorough	All features of that format has at least one test.
test-fuzz	Can test the format for uses of features that we haven't thought of by feeding in nonsense that is designed to push possibly dangerous weaknesses to reveal themselves.
test-complete	Both thorough and fuzz testing is covered.

So all formats can, in principle, have complete testing support, because it's defined in relation to files that we have described the formats for.

### 5.2.2 Documentation Support Levels

Status Label	Description
doc-none	We haven't researched this beyond finding example files.
doc-basic	We have a rough sketch of the size and contents of the header if there is one. We know the basic stitch encoding (if there is one), but not necessarily all stitch features.
doc-standard	We know some good sources and/or have tested all the features that appear to exist. They mostly work the way we have described.
doc-good	All features that were described somewhere have been covered here or we have thoroughly tested our ideas against other softwares and hardwares and they work as expected.
doc-complete	There is a known official description and our description covers all the same features.

Not all formats can have complete documentation because it's based on what information is publically available. So the total score is reported in the table below based on what level we think is available.

### 5.2.3 Overall Support

Since the overall support level is the combination of these 4 factors, but rather than summing up their values it's an issue of the minimum support of the 4.

Status Label	Description
read-only	If write support is none and read support is not none.
write-only	If read support is none and write support is not none.
unstable	If both read and write support are not none but testing or documentation is none.
basic	If all ratings are better than none.
reliable	If all ratings are better than basic.
complete	If all ratings could not reasonably be better (for example any improvements rely on information that we may never have access to). This is the only status that can be revoked, since if the format changes or new documentation is released it is no longer complete.
experimental	For all other scenarios.

### 5.2.4 Table of Format Support Levels

Overview of documentation support by format.

Format	Ratings	Score
Toyota Embroidery Format (.100)	rw-basic doc-none test-none	unstable
Toyota Embroidery Format (.10o)	rw-basic doc-none test-none	unstable
Bernina Embroidery Format (.art)	rw-none doc-none test-none	experimental
Bitmap Cache Embroidery Format (.bmc)	r-basic w-none doc-none test-none	unstable
Bits and Volts Embroidery Format (.bro)	rw-none doc-none test-none	experimental
Melco Embroidery Format (.cnd)	rw-none doc-none test-none	experimental
Embroidery Thread Color Format (.col)	rw-basic doc-none test-none	experimental
Singer Embroidery Format (.csd)	rw-none doc-none test-none	experimental
Comma Separated Values (.csv)	rw-none doc-none test-none	experimental

| Barudan Embroidery Format (.dat) | rw-none doc-none test-none | experimental | Melco Embroidery Format (.dem)  
| rw-none doc-none test-none | experimental | | Barudan Embroidery Format (.dsb) | rw-none doc-none test-none  
| experimental | | Tajima Embroidery Format (.dst) | rw-none doc-none test-none | experimental | | ZSK USA Em-  
broidery Format (.dsz) | rw-none doc-none test-none | experimental | | Drawing Exchange Format (.dxf) | rw-none  
doc-none test-none | experimental | | Embird Embroidery Format (.edr) | rw-none doc-none test-none | experimental  
| | Elna Embroidery Format (.emd) | rw-none doc-none test-none | experimental | | Melco Embroidery Format (.exp)  
| rw-none doc-none test-none | experimental | | Eltac Embroidery Format (.exy) | rw-none doc-none test-none |  
experimental | | Sierra Expanded Embroidery Format (.eys) | rw-none doc-none test-none | experimental | | Fortron  
Embroidery Format (.fxy) | rw-none doc-none test-none | experimental | | Smoothie G-Code Embroidery Format  
(.gc) | rw-none doc-none test-none | experimental | | Great Notions Embroidery Format (.gnc) | rw-none doc-none  
test-none | experimental | | Gold Thread Embroidery Format (.gt) | rw-none doc-none test-none | experimental |  
| Husqvarna Viking Embroidery Format (.hus) | rw-none doc-none test-none | experimental | | Inbro Embroidery  
Format (.inb) | rw-none doc-none test-none | experimental | | Embroidery Color Format (.inf) | rw-none doc-none  
test-none | experimental | | Janome Embroidery Format (.jef) | rw-none doc-none test-none | experimental | | Pfaff  
Embroidery Format (.ksm) | rw-none doc-none test-none | experimental | | Pfaff Embroidery Format (.max) | rw-none  
doc-none test-none | experimental | | Mitsubishi Embroidery Format (.mit) | rw-none doc-none test-none | experimental  
| | Ameco Embroidery Format (.new) | rw-none doc-none test-none | experimental | | Melco Em-  
broidery Format (.ofm) | rw-none doc-none test-none | experimental | | Pfaff Embroidery Format (.pcd) | rw-none  
doc-none test-none | experimental | | Pfaff Embroidery Format (.pcm) | rw-none doc-none test-none | experimental  
| | Pfaff Embroidery Format (.pcq) | rw-none doc-none test-none | experimental | | Pfaff Embroidery Format (.pcs)  
| rw-none doc-none test-none | experimental | | Brother Embroidery Format (.pec) | rw-none doc-none test-none |  
experimental | | Brother Embroidery Format (.pel) | rw-none doc-none test-none | experimental | | Brother Embro-  
dery Format (.pem) | rw-none doc-none test-none | experimental | | Brother Embroidery Format (.pes) | rw-none  
doc-none test-none | experimental | | Brother Embroidery Format (.phb) | rw-none doc-none test-none | experimen-  
tal | | Brother Embroidery Format (.phc) | rw-none doc-none test-none | experimental | | AutoCAD Embroidery  
Format (.plt) | rw-none doc-none test-none | experimental | | RGB Embroidery Format (.rgb) | rw-none doc-none  
test-none | experimental | | Janome Embroidery Format (.sew) | rw-none doc-none test-none | experimental | |  
Husqvarna Viking Embroidery Format (.shv) | rw-none doc-none test-none | experimental | | Sunstar Embroidery  
Format (.sst) | rw-none doc-none test-none | experimental | | Data Stitch Embroidery Format (.stx) | rw-none doc-  
none test-none | experimental | | Scalable Vector Graphics (.svg) | rw-none doc-none test-none | experimental |  
| Pfaff Embroidery Format (.t01) | rw-none doc-none test-none | experimental | | Pfaff Embroidery Format (.t09)  
| rw-none doc-none test-none | experimental | | Happy Embroidery Format (.tap) | rw-none doc-none test-none |  
experimental | | ThredWorks Embroidery Format (.thr) | rw-none doc-none test-none | experimental | | Text File  
(.txt) | rw-none doc-none test-none | experimental | | Barudan Embroidery Format (.u00) | rw-none doc-none test-  
none | experimental | | Barudan Embroidery Format (.u01) | rw-none doc-none test-none | experimental | | Pfaff  
Embroidery Format (.vip) | rw-none doc-none test-none | experimental | | Pfaff Embroidery Format (.vp3) | rw-none  
doc-none test-none | experimental | | Singer Embroidery Format (.xxx) | rw-none doc-none test-none | experimental  
| | ZSK USA Embroidery Format (.zsk) | rw-none doc-none test-none | experimental

### 5.3 Toyota Embroidery Format (.100)

\index{100}\index{Toyota}

The Toyota 100 format is a stitch-only format that uses an external color file.

The stitch encoding is in 4 byte chunks.

### 5.3.1 Toyota Embroidery Format (.10o)

\index{10o}\index{Toyota}

The Toyota 10o format is a stitch-only format that uses an external color file.

The stitch encoding is in 3 byte chunks.

## 5.4 Bernina Embroidery Format (.art)

\index{art}\index{Bernina}

We don't know much about this format.

**Todo** Find a source.

## 5.5 Bitmap Cache Embroidery Format (.bmc)

\index{bmc}\index{Bitmap Cache}

We don't know much about this format.

**Todo** Find a source.

## 5.6 Bits and Volts Embroidery Format (.bro)

\index{bro}\index{Bits and Volts}

The Bits and Volts bro format is a stitch-only format that uses an external color file.

The header is 256 bytes. There's a series of unknown variables in the header.

The stitch list uses a variable length encoding which is 2 bytes for any stitch

## 5.7 Melco Embroidery Format (.cnd)

\index{cnd}\index{Melco}

The Melco cnd format is a stitch-only format.

We don't know much about this format.

**Todo** Find a source.

## 5.8 Embroidery Thread Color Format (.col)

\index{col}

An external color file format for formats that do not record their own colors.

It is a human-readable format that has a header that is a single line containing only the number of threads in decimal followed by the windows line break `textbackslash{}r\textbackslash{}n`.

Then the rest of the file is a comma separated value list of all threads with 4 values per line: the index of the thread then the red, green and blue channels of the color in that order.

### 5.8.1 Example

If we had a pattern called "example" with four colors: black, red, magenta and cyan in that order then the file is (with the white space written out):

example.col

```
4\r\n
0,0,0,0\r\n
1,255,0,0\r\n
2,0,255,0\r\n
3,0,0,255\r\n
```

## 5.9 Singer Embroidery Format (.csd)

\index{csd} \index{Singer}

Stitch Only Format

## 5.10 Comma Separated Values (.csv)

\index{csv}

Comma Separated Values files aren't a universal system, here we aim to offer a broad support. The dialect is detected based on the opening lines, as each manufacturer should label their CSV files there.

### 5.10.1 Embroidermodder 2.0 CSV Dialect

Our own version has the identifier comment line:

```
| Control Symbol | Type | Description | ——| # | COMMENT | | | > | VARIABLE | To store records of a pattern's
width, height etc. This means that data stored in the header of say a .dst file is preserved. | | $ | THREAD | | | *
| STITCH | | | * | JUMP | | | * | COLOR | To change a color: used for trim as well | | * | END | To end a pattern. | | *
| UNKNOWN | For any feature that we can't identify.
```

### 5.10.2 EmBird CSV Dialect

\index{Embird}

## 5.11 Barudan Embroidery Format (.dat)

\index{dat}\index{Barudan}

Stitch Only Format

## 5.12 Melco Embroidery Format (.dem)

\index{dem}\index{Melco}

Stitch Only Format

## 5.13 Barudan Embroidery Format (.dsb)

\index{dsb}\index{Barudan}

- Stitch Only Format.
- [X] Basic Read Support
- [o] Basic Write Support
- [o] Well Tested Read
- [o] Well Tested Write

## 5.14 Tajima Embroidery Format (.dst)

\index{dst}\index{Tajima}

- Stitch Only Format.
- [X] Basic Read Support
- [X] Basic Write Support
- [ ] Well Tested Read
- [ ] Well Tested Write

.DST (Tajima) embroidery file read/write routines Format comments are thanks to [tspilman@dalcoathletic.com](mailto:tspilman@dalcoathletic.com) who's notes appeared at <http://www.wotsit.org> under Tajima Format.

Other references: [\[kde\\_tajima\]](#), [\[acatina\]](#).

### 5.14.1 Header

The header contains general information about the design. It is in lines of ASCII, so if you open a DST file as a text file, it's the only part that's easy to read. The line ending symbol is `0x0D}. The header is necessary for the file to be read by most softwares and hardwares.

The header is 125 bytes of data followed by padding spaces to make it 512 bytes in total.

The lines are as follows.

<b>Label</b>	<b>Size</b>	<b>Description</b>	<b>Example</b>
LA:	17	The design name with no path or extension. The space reserved is 16 characters, but the name must not be longer than 8 and be padded to 16 with spaces (0x20).	"LA:Star "
ST:	8	<p>The stitch count. An integer in the format \%07d}, that is: a 7 digit number padded by leading zeros. This is the total across all possible stitch flags.</p> <p>\ilinebr &lt;/td&gt; &lt;td class="markdownTableBody&lt;br&gt;None"&gt; \ilinebr &lt;/td&gt; &lt;/tr&gt;&lt;/table&gt;  CO:  4  </p> <p>The number of color changes (not to be confused with thread count, an all black design we would have the record \textbf{000}). An integer in the format%03d}, that is: a 3 digit number padded by leading zeros.</p> <p>   +X:   6   The extent of the pattern in the positive x direction in millimeters. An integer in the format \%05d}, that is: a 5 digit number padded by leading zeros.    -X:   6   The extent of the pattern in the negative x direction in millimeters. An integer in the format%05d}, that is: a 5 digit integer padded by leading zeros.    +Y:   6   The extent of the pattern in the positive y direction in millimeters. An integer in the format \%05d}, that is: a 5 digit integer padded by leading zeros.    -Y:   6   The extent of the pattern in the negative y direction in millimeters. An integer in the format%05d}, that is: a 5 digit integer padded by leading zeros.    AX:   7   The difference of the end from the start in the x direction in 0.1mm, the first char should be the sign, followed by an integer in the format %05d, that is: a 5 digit integer padded by leading zeros.    AY:   7   The difference of the end from the start in the y direction in 0.1mm, the first char should be the sign, followed by an integer in the format %05d, that is: a 5 digit integer padded by leading zeros.    MX:   7   The x co-ordinate of the last point in the previous file should the design span multiple files. Like AX, it is the sign, followed by a 5 digit integer. If we have a one file design set it to zero.    MY:   7   The y co-ordinate of the last point in the previous file should the design span multiple files. Like AY, it is the sign, followed by a 5 digit integer. If we have a one file design set it to zero.    PD:   10   Information about multivolume designs.</p>	

### 5.14.2 Stitch Data

Uses 3 byte per stitch encoding with the format as follows:

<b>Bit</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
Byte 0	y+1	y-1	y+9	y-9	x-9	x+9	x-1	x+1
Byte 1	y+3	y-3	y+27	y-27	x-27	x+27	x-3	x+3
Byte 2	jump	color change	y+81	y-81	x-81	x+81	set	set

T01 and Tap appear to use Tajima Ternary.

Where the stitch type is determined as:

- Normal Stitch 0b00000011 0x03

- Jump Stitch 0b10000011 0x83
- Stop/Change Color 0b11000011 0xC3
- End Design 0b11110011 0xF3

Inclusive or'ed with the last byte.

Note that the max stitch length is the largest sum of  $1+3+9+27+81=121$  where the unit length is 0.1mm so 12.1mm. The coordinate system is right handed.

## 5.15 ZSK USA Embroidery Format (.dsz)

\index{dsz}\index{ZSK USA}

The ZSK USA dsz format is stitch-only.

## 5.16 Drawing Exchange Format (.dxf)

\index{dxf}\index{AutoCAD}\index{AutoDesk}

Graphics format for drawing files designed and used by AutoDesk for their AutoCAD program.

# 6 Contributor Covenant Code of Conduct

## 6.1 Our Pledge

We as members, contributors, and leaders pledge to make participation in our community a harassment-free experience for everyone, regardless of age, body size, visible or invisible disability, ethnicity, sex characteristics, gender identity and expression, level of experience, education, socio-economic status, nationality, personal appearance, race, religion, or sexual identity and orientation.

We pledge to act and interact in ways that contribute to an open, welcoming, diverse, inclusive, and healthy community.

## 6.2 Our Standards

Examples of behavior that contributes to a positive environment for our community include:

- Demonstrating empathy and kindness toward other people
- Being respectful of differing opinions, viewpoints, and experiences
- Giving and gracefully accepting constructive feedback
- Accepting responsibility and apologizing to those affected by our mistakes, and learning from the experience
- Focusing on what is best not just for us as individuals, but for the overall community

Examples of unacceptable behavior include:

- The use of sexualized language or imagery, and sexual attention or advances of any kind
- Trolling, insulting or derogatory comments, and personal or political attacks
- Public or private harassment
- Publishing others' private information, such as a physical or email address, without their explicit permission
- Other conduct which could reasonably be considered inappropriate in a professional setting

### 6.3 Enforcement Responsibilities

Community leaders are responsible for clarifying and enforcing our standards of acceptable behavior and will take appropriate and fair corrective action in response to any behavior that they deem inappropriate, threatening, offensive, or harmful.

Community leaders have the right and responsibility to remove, edit, or reject comments, commits, code, wiki edits, issues, and other contributions that are not aligned to this Code of Conduct, and will communicate reasons for moderation decisions when appropriate.

### 6.4 Scope

This Code of Conduct applies within all community spaces, and also applies when an individual is officially representing the community in public spaces. Examples of representing our community include using an official e-mail address, posting via an official social media account, or acting as an appointed representative at an online or offline event.

### 6.5 Enforcement

Instances of abusive, harassing, or otherwise unacceptable behavior may be reported to the community leaders responsible for enforcement at [embroidermodder@gmail.com](mailto:embroidermodder@gmail.com). All complaints will be reviewed and investigated promptly and fairly.

All community leaders are obligated to respect the privacy and security of the reporter of any incident.

### 6.6 Enforcement Guidelines

Community leaders will follow these Community Impact Guidelines in determining the consequences for any action they deem in violation of this Code of Conduct:

#### 6.6.1 1. Correction

**Community Impact:** Use of inappropriate language or other behavior deemed unprofessional or unwelcome in the community.

**Consequence:** A private, written warning from community leaders, providing clarity around the nature of the violation and an explanation of why the behavior was inappropriate. A public apology may be requested.

#### 6.6.2 2. Warning

**Community Impact:** A violation through a single incident or series of actions.

**Consequence:** A warning with consequences for continued behavior. No interaction with the people involved, including unsolicited interaction with those enforcing the Code of Conduct, for a specified period of time. This includes avoiding interactions in community spaces as well as external channels like social media. Violating these terms may lead to a temporary or permanent ban.

### 6.6.3 3. Temporary Ban

**Community Impact:** A serious violation of community standards, including sustained inappropriate behavior.

**Consequence:** A temporary ban from any sort of interaction or public communication with the community for a specified period of time. No public or private interaction with the people involved, including unsolicited interaction with those enforcing the Code of Conduct, is allowed during this period. Violating these terms may lead to a permanent ban.

### 6.6.4 4. Permanent Ban

**Community Impact:** Demonstrating a pattern of violation of community standards, including sustained inappropriate behavior, harassment of an individual, or aggression toward or disparagement of classes of individuals.

**Consequence:** A permanent ban from any sort of public interaction within the community.

## 6.7 Attribution

This Code of Conduct is adapted from the [Contributor Covenant](https://www.contributor-covenant.org/version/2/0/code_of_conduct.html), version 2.0, available at [https://www.contributor-covenant.org/version/2/0/code\\_of\\_conduct.html](https://www.contributor-covenant.org/version/2/0/code_of_conduct.html).

Community Impact Guidelines were inspired by Mozilla's code of conduct enforcement ladder.

For answers to common questions about this code of conduct, see the FAQ at <https://www.contributor-covenant.org/faq>. Translations are available at <https://www.contributor-covenant.org/translations>.

## 7 Privacy Policy for Embroidery Viewer

Last updated December 15, 2021

Embroidermodder (“we” or “us” or “our”) respects the privacy of our users (“user” or “you”). This Privacy Policy explains how we collect, use, disclose, and safeguard your information when you visit our mobile application (the “Application”). Please read this Privacy Policy carefully. IF YOU DO NOT AGREE WITH THE TERMS OF THIS PRIVACY POLICY, PLEASE DO NOT ACCESS THE APPLICATION.

We reserve the right to make changes to this Privacy Policy at any time and for any reason. We will alert you about any changes by updating the “Last updated” date of this Privacy Policy. You are encouraged to periodically review this Privacy Policy to stay informed of updates. You will be deemed to have been made aware of, will be subject to, and will be deemed to have accepted the changes in any revised Privacy Policy by your continued use of the Application after the date such revised Privacy Policy is posted.

This Privacy Policy does not apply to the third-party online/mobile store from which you install the Application or make payments. We are not responsible for any of the data collected by any such third party.

We do not knowingly collect information from anyone other than what is already provided by the app store. If you become aware of any data we have collected, please contact us using the contact information provided below.

### 7.0.1 CONTACT US

If you have questions or comments about this Privacy Policy, please contact us at:

[Embroidermodder@gmail.com](mailto:Embroidermodder@gmail.com)

## 8 Todo List

### Member `actuator` (`char command_line[200]`)

Make day vision color settings.

check-for-updates should create a dialog.

These should be part of init\_view rulerMetric = settings.ruler\_metric; rulerColor = EmbColor(settings.ruler\_color); rulerPixelSize = settings.ruler\_pixel\_size;

changelog

Make night vision color settings.

### Member `add_point_action` (`void`)

document this.

### Member `add_regular_polygon` (`EmbReal centerX, EmbReal centerY, int sides, int mode, EmbReal rad, EmbReal rot, bool fill`)

finish add\_regular\_polygon.

### Member `add_rubber_action` (`void`)

handle arc type

handle block type

handle DimAligned type

handle DimAngular rubber action.

handle DimArcLength rubber action.

handle DimDiameter rubber action.

handle ellipse arc type

handle hatch type

handle image type

handle infinite line type

handle path type

handle point type

handle this type break; } case EMB\_RECT: { addRectangle(mx, my, mx, my, 0, 0, OBJ\_RUBBER\_ON); break; } case EMB\_SPLINE: {

handle this type break; } case EMB\_TEXTMULTI: {

handle this type break; } case EMB\_TEXTSINGLE: { addTextSingle("", mx, my, 0, false, OBJ\_RUBBER\_ON); break; } default: break; }

handle dim radius type

handle dim ordinate type

handle dim linear type

### Member `add_slot_action` (`void`)

Use [UndoableAddCommand](#) for slots

slot fill

**Member `add_text_single` (const char \*str, EmbReal x, EmbReal y, EmbReal rot, bool fill, int rubberMode)**  
single line text fill

**Member `allow_rubber` (void)**  
the rubberRoomList size check should be removed later.

**Member `background_color_action` (void)**  
document this.

**Member `bcf_directory`**  
possibly add a directory tree in the future.

**Member `bcf_file_header`**  
CLSID should be a separate type.

**Member `binaryWriteInt` (FILE \*f, int data)**  
replace with emblnt\_read

**Member `binaryWriteIntBE` (FILE \*f, int data)**  
replace with emblnt\_read

**Member `binaryWriteShort` (FILE \*f, short data)**  
replace with emblnt\_read

**Member `binaryWriteUInt` (FILE \*f, unsigned int data)**  
replace with emblnt\_read

**Member `binaryWriteUIntBE` (FILE \*f, unsigned int data)**  
replace with emblnt\_read

**Member `binaryWriteUShort` (FILE \*f, unsigned short data)**  
replace with emblnt\_read

**Member `binaryWriteUShortBE` (FILE \*f, unsigned short data)**  
replace with emblnt\_read

**Member `button_tip_of_the_day_clicked` (int button)**  
document this.

**Member `calculate_angle` (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)**  
finish CalculateAngle.

**Member `calculate_angle_action` (void)**  
Get mouse point.

**Member `calculate_distance_action` (void)**  
Get mouse point.

**Member `checkForUpdates` (void)**  
Check website for new versions, commands, etc...

**Member `circle_action` (void)**  
circle fill

**Member `clear_rubber` (void)**  
document this.

**Member `clearRubberRoom` (void)**  
document this.

**Member `close_action` (void)**  
finish copy\_action

**Member `close_event` (int \*event)**  
need close\_view\_event and close\_window\_event? or action

**Member CmdPromptInput::processInput (const QChar &rapidChar=QChar())**

```
sort Qt::Return if(rapidChar == Qt::Key_Enter || rapidChar == Qt::Key_Return) { emit appendHistory(curText, prefix.length()); emit runCommand(curCmd, "RAPID_ENTER"); curText.clear(); clear(); return; } else if(rapidChar == Qt::Key_Space) { updateCurrentText(curText + " "); emit runCommand(curCmd, cmdtxt + " "); return; } else { emit runCommand(curCmd, cmdtxt); return; }
```

**Member colorSelectorIndexChanged (int index)**

Handle ByLayer and ByBlock and Other...

**Member context\_menu\_event (void)**

document this.

**Member copy (void)**

Prompt to select objects if nothing is preselected.

**Member copy\_action (void)**

finish copy\_action

**Member copy\_selected (void)**

Get mouse point/move

**Member copy\_trim (char const \*s)**

description

**Member cornerButtonClicked (void)**

document this.

**Member create\_group\_box\_block (int id, EmbBlock \*obj)**

editors for blocks.

**Member create\_group\_box\_dim\_aligned (int id, EmbAlignedDim \*obj)**

editors for aligned dimension.

**Member create\_group\_box\_dim\_linear (int id, EmbLinearDim \*obj)**

editors for linear dimension.

**Member create\_group\_box\_dim\_ordinate (int id, EmbOrdinateDim \*obj)**

editors for linear dimension.

**Member create\_group\_box\_dim\_radius (int id, EmbRadiusDim \*dim\_radius)**

editors for radius dimension.

**Member create\_tab\_lineweight (void)**

finish this

**Member createAllActions (void)**

SCENE\_QSNAP\_POINT for each scene

Finish All Commands ... <. <

Set What's This Context Help to statusTip for now so there is some infos there. Make custom whats this context help popup with more descriptive help than just the status bar/tip one liner(short but not real long) with a hyperlink in the custom popup at the bottom to open full help file description. Ex: like wxPython AGW's SuperToolTip.

**Member createGridIso (void)**

document this.

**Member createGridPolar (void)**

document this.

**Member createGridRect (void)**

document this.

**Member [createObjectList](#) (EmbArray \*list)**

cut/copy blocks  
cut/copy elliptical arcs  
cut/copy images  
cut/copy infinite lines  
cut/copy linear dimensions  
cut/copy ordinate dimensions  
cut/copy radius dimensions  
cut/copy aligned dimensions

**Member [createOrigin](#) (void)**

Make Origin Customizable

**Member [crosshair\\_color\\_action](#) (void)**

document this.

**Member [cut](#) (void)**

document this.

**Member [cut\\_action](#) (void)**

finish cut\_action

**Member [cut\\_selected](#) (void)**

Get mouse point/move

**Member [delete\\_pressed](#) (void)**

document this.

**Member [delete\\_selected](#) (void)**

document this.

**Member [details\\_dialog](#) (void)**

Color Histogram

Move majority of the calculation code into libembroidery

Stitch Distribution Histogram

**Member [dim\\_leader\\_action](#) (void)**

Finish dim\_leader\_action.

**Member [disable\\_move\\_rapid\\_fire](#) (void)**

document this.

**Member [disablePromptRapidFire](#) (void)**

document this.

**Member [draw\\_grid](#) (void)**

document this.

**Member [draw\\_rulers](#) (void)**

labels for measurements.

**Member [emb\\_clamp](#) (EmbReal lower, EmbReal x, EmbReal upper)**

Move to libembroidery.

**Member [embArc\\_print](#) (EmbArc arc)**

move to arc.c

**Page [embedded](#)**

For each pattern generate a random string of hexadecimal and append it to the filenames like stitchList\←\_A16F.dat. Need to check for a file which indicates that this string has been used already.

Start file with a list of offsets to data with a corresponding table to load into with macro constants for each label needed.

Replace EmbArray functions with embPattern load functions.

**Member `embGeometry_vulcanize (EmbGeometry *obj)`**

Review. This could be controlled by a simple flag.

**Member `embPattern_stitchEllipse (EmbPattern *p, EmbEllipse ellipse, int thread_index, int style)`**

finish stitchEllipse

**Member `embPattern_stitchPath (EmbPattern *p, EmbPath path, int thread_index, int style)`**

finish stitch path

**Member `embPattern_stitchPolygon (EmbPattern *p, EmbPolygon polygon, int thread_index, int style)`**

finish stitch polygon

**Member `embPattern_stitchPolyline (EmbPattern *p, EmbPolyline polyline, int thread_index, int style)`**

finish stitch polyline

**Page `embroider_cli`**

Move back to libembroidery now we have the combined docs build.

**Member `embVector_multiply (EmbVector vector, EmbReal magnitude, EmbVector *result)`**

make result return argument.

**Member `embVector_normalize (EmbVector vector, EmbVector *result)`**

make result return argument.

**Member `enableMoveRapidFire (void)`**

document this.

**Member `enablePromptRapidFire (void)`**

document this.

**Member `end_command (void)`**

document this.

**Member `enter_event (int *event)`**

document this.

**Member `escape_pressed (void)`**

document this.

**Member `exit_action (void)`**

document this.

**Page `Formats`**

Find a source.

Find a source.

Find a source.

**Member `formatTable [numberOfFormats]`**

This list needs reviewed in case some stitch formats also can contain object data (EMBFORMAT\_↔ STCHANDOBJ). \*

**Member `fread_int32_be (FILE *)`**

replace with emblnt\_read

**Member `fread_uint16 (FILE *)`**

replace with emblnt\_read

**Member `generate_dragon_curve (char *state, int iterations)`**

find citation for paper folding method

**Page Geometry and Algorithms**

(Arduino) Logging of Last Stitch Location to External USB Storage(commonly available and easily replaced)  
...wait until TRE is available to avoid rework

(Arduino) Fix emb-outline files

(Arduino)Fix thread-color files

(Arduino) inotool.org - seems like the logical solution for Nightly/CI builds

(Arduino) Smoothieboard experiments

Like most user interfaces Embroidermodder is mostly data, so here we will have a list describing where each CSV goes.

(testing) looping test that reads 10 times while running valgrind. See \texttt{embPattern\\_loadExternalColorFile()}\br/>Arduino leak note for more info.

**Member `getCurrentColor (void)`**

return color ByLayer

**Member `grid_color_action (void)`**

document this.

**Member `heart_init (void)`**

document this.

**Member `Help (void)`**

document this.

**Member `horizontal_dimension_action (void)`**

document this.

**Member `image_action (void)`**

finish image\_action.

**Member `Index`**

document this.

**Member `IndexEntry`**

document this.

**Member `infinite_line_action (void)`**

document this.

**Member `init_command (void)`**

document this.

**Member `init_view (void)`**

Dropping files onto dock on Mac to open them?

Originally, EM2 allowed for multiple views of the same file, we can allow for this, but currently means we have multiple pattern pointers. So we'd need to set the memory locations to be the same place.

automatically maximises, but it could allow for multiple views, panes and windows.

**Member `just_opened`**

Move to the settings struct.

**Member `languages [20]`**

this should be loaded from configuration.

**Member `layer_manager (View *view)`**

document this.

**Member `layerManager (void)`**

document this.

**Member `layerPrevious (void)`**

document this.

**Member `line_action` (void)**

document this.

**Member `load_formats` (void)**

document this.

**Member `log_debug` (const char \*msg)**

log current time and process id alongside all debug information.

**Member `main` (int argc, char \*argv[])**

add icons and shortcut prompts to menus.

detail all possible error return values here.

**Member `MainWindow` (void)**

Prevent memory leaks by deleting any unpasted objects.

**Member `messagebox_action` (void)**

document this.

**Member `mirror_selected_action` (EmbLine line)**

document this.

**Member `move_main` (void)**

Prompt to select objects if nothing is preselected

**Member `move_selected_action` (void)**

Get mouse point/move

**Member `new_file_action` (void)**

document this.

**Member `on_window_activated` (void)**

document this.

**Member `open_file_action` (int argc, char argv[10][200])**

warn user of too many open tabs.

**Member `open_recent_file` (void)**

document this.

**Member `pan_action` (const char \*mode)**

Undo records for pan action.

**Member `paste` (void)**

document this.

**Member `paste_action` (void)**

document this.

**Member `paste_selected` (void)**

Get mouse point/move

**Member `pattern_view` (void)**

document this.

**Member `pickAddModeToggled` (void)**

document this.

**Member `polygon_action` (void)**

finish polygon\_action.

**Member `polyline_action` (EmbVector start, EmbPath \*p, int rubberMode)**

finish polyline\_action.

**Member [preview\\_dialog](#) (void)**

connect the currentChanged signal to update the preview imgWidget.

make thumbnail size adjustable thru settings dialog

get actual thumbnail image from file, lets also use a size of 128x128 for now...

**Member [preview\\_off](#) (void)**

document this.

**Member [preview\\_on\\_action](#) (void)**

document this.

**Member [print\\_action](#) (void)**

document this.

**Member [print\\_area\\_action](#) (void)**

document this.

**Member [PrintArea](#) (EmbReal x, EmbReal y, EmbReal w, EmbReal h)**

Print Setup Stuff

**Member [promptInputNext](#) (void)**

document this.

**Member [promptInputPrevious](#) (void)**

document this.

**Member [property\\_editor](#) (void)**

Load precisionAngle from settings and provide function for updating from settings

Load precisionLength from settings and provide function for updating from settings

**Member [property\\_editor\\_hideAllGroups](#) (void)**

document this.

**Member [property\\_editor\\_togglePickAddMode](#) (void)**

document this.

**Member [quicleader\\_main](#) (void)**

Adding the text is not complete yet.

**Member [random\\_uniform](#) (void)**

move to libembroidery.

**Member [ray\\_action](#) (void)**

document this.

**Member [recentMenuAboutToShow](#) (void)**

document this.

**Member [rectangle\\_action](#) (void)**

rect fill for rectangle\_action

**Member [redo\\_action](#) (void)**

document this.

**Member [redo\\_navigation](#) (void)**

document this.

**Member [repeat\\_action](#) (void)**

document this.

**Member [resize\\_event](#) (void)**

document this.

**Member [RGB\\_MODE\\_BACKGROUND](#)**

document this.

**Member `rotate_main (void)`**

Prompt to select objects if nothing is preselected

**Member `rotate_selected_action (void)`**

document this.

**Member `rotateAction (void)`**

document this.

**Member `rounded_rectangle_action (void)`**

document this.

**Member `rubber_point_action (void)`**

document this.

**Member `rubber_text_action (void)`**

document this.

**Member `save_bmc (void)`**

Save a Brother PEL image (An 8bpp, 130x113 pixel monochromatic? bitmap image) Why 8bpp when only 1bpp is needed?

Should BMC be limited to ~32KB or is this a mix up with Bitmap Cache?

Is there/should there be other embedded data in the bitmap besides the image itself?

Make BMC background into it's own setting?

figure out how to center the image, right now it just plops it to the left side.

**Member `save_save (const char *fileName)`**

Before saving to a stitch only format, Embroidermodder needs to calculate the optimal path to minimize jump stitches. Also based upon which layer needs to be stitched first, the path to the next object needs to be hidden beneath fills that will come later. When finding the optimal path, we need to take into account the color of the thread, as we do not want to try to hide dark colored stitches beneath light colored fills.

handle EMBFORMAT\_STCHANDOBJ also

handle all objects like this

check the embLog for errors and if any exist, report them.

**Member `save_toPolyline (EmbPattern *pattern, EmbVector objPos, EmbPath objPath, const char *layer, EmbColor color, const char *lineType, const char *lineWeight)`**

proper lineType

**Member `SaveObject::save (const QString &fileName)`**

Before saving to a stitch only format, Embroidermodder needs to calculate the optimal path to minimize jump stitches. Also based upon which layer needs to be stitched first, the path to the next object needs to be hidden beneath fills that will come later. When finding the optimal path, we need to take into account the color of the thread, as we do not want to try to hide dark colored stitches beneath light colored fills.

**Member `scale_main (void)`**

document this.

**Member `scale_redo (void)`**

document this.

**Member `scale_selected_action (void)`**

Get mouse point/move

**Member `scale_undo (void)`**

document this.

**Member `scaleAction (void)`**

document this.

**Member `selectbox_SelectBox (void)`**

document this.

**Member [selection\\_changed](#) (void)**

document this.

**Member [set\\_cursor\\_shape\\_action](#) (int shape)**

Uses the CURSOR\_SHAPE\_ defines.

**Member [set\\_mouse\\_coord](#) (EmbVector pos)**

set format from settings (Architectural, Decimal, Engineering, Fractional, Scientific)

use precision from unit settings

**Member [set\\_prompt\\_prefix](#) (const char \*msg)**

finish set\_prompt\_prefix

**Member [setCornerButton](#) (void)**

document this.

**Member [settings\\_dialog\\_acceptChanges](#) (void)**

document this.

**Member [settings\\_dialog\\_addColorsToComboBox](#) (int \*comboBox)**

Add Other... so the user can select custom colors

**Member [settings\\_dialog\\_buttonCustomFilterClearAllClicked](#) (void)**

document this.

**Member [settings\\_dialog\\_buttonCustomFilterSelectAllClicked](#) (void)**

document this.

**Member [settings\\_dialog\\_buttonQSnapSelectAllClicked](#) (void)**

document this.

**Member [settings\\_dialog\\_chooseGeneralMdiBackgroundTexture](#) (void)**

document this.

**Member [settings\\_dialog\\_chooseGridColor](#) (void)**

document this.

**Member [settings\\_dialog\\_chooseRulerColor](#) (void)**

document this.

**Member [settings\\_dialog\\_combobox\\_selectionCoolGripColorCurrentIndexChanged](#) (int index)**

Alert user if color matched the display bg color

**Member [settings\\_dialog\\_combobox\\_selectionHotGripColorCurrentIndexChanged](#) (int index)**

Alert user if color matched the display bg color

**Member [settings\\_dialog\\_comboBoxQSnapLocatorColorCurrentIndexChanged](#) (int index)**

Figure out how to abstract the slot in a way that it can be used for comboBoxes in general Currently comboBoxQSnapLocatorColorCurrentIndexChanged(int index) comboBoxSelectionCoolGripColorCurrentIndexChanged(int index) comboBoxSelectionHotGripColorCurrentIndexChanged(int index) are all similar except the dialog. variable being worked on and the QVariant.

**Member [settings\\_dialog\\_rejectChanges](#) (void)**

inform the user if they have changed settings

document this.

**Member [single\\_line\\_text\\_main](#) (void)**

document this.

**Member [single\\_line\\_text\\_prompt](#) (UiObject \*global, const char \*str)**

Rather than ending the command, calculate where the next line would be and modify the x/y to the new point  
} else { global.text = str; setRubberText("TEXT\_RAPID", global.text); }

**Member [snowflake\\_main](#) ()**

document this.

**Member `spare_rubber_action` (void)**

ClearRubber(); function

**Member `stub_testing_action` (void)**

document this.

**Member `SubDescriptor_::colorCode`**

better variable naming

**Member `SubDescriptor_::someInt`**

better variable naming

**Member `SubDescriptor_::someOtherInt`**

better variable naming

**Member `text_multi_action` (void)**

document this.

**Member `text_single_action` (void)**

document this.

**Member `textSizeSelectorIndexChanged` (int index)**

check that the toReal() conversion is ok

**Member `tip_of_the_day_dialog` (void)**

Add icons to buttons by using wizardTipOfTheDay->setButton(CustomButton1, buttonNext)

Add icons to buttons by using wizardTipOfTheDay->setButton(CustomButton1, buttonPrevious)

Add icons to buttons by using wizardTipOfTheDay->setButton(CustomButton1, buttonClose)

**Member `TipOfTheDay` (void)**

document this.

**Member `translate` (const char \*string)**

check for translation\_table loaded and use it.

**Member `triangle_action` (void)**

document this.

**Member `undo_action` (void)**

document this.

**Member `undo_history_viewer` (void)**

document this.

**Member `undo_navigation` (void)**

document this.

**Member `UndoHistory`**

document this.

**Member `update_menu_toolbar_statusbar` (void)**

document this.

**Member `updateAllViewCrossHairColors` (unsigned int color)**

document this.

**Member `updateAllViewGridColors` (unsigned int color)**

document this.

**Member `updateAllViewscrollbars` (bool val)**

document this.

**Member `updateAllViewSelectBoxColors` (unsigned int colorL, unsigned int fillL, unsigned int colorR, unsigned int fillR, int alpha)**

document this.

**Member [vertical\\_dimension\\_action \(void\)](#)**

document this.

**Member [View\\_\\_ \(void\)](#)**

Review OpenGL direct calls (rather than via GLFW).

panDistance needs a setting.

load toggleReal from file, else settings with default being true.

**Member [view\\_empty\\_double\\_click \(void\)](#)**

document this.

**Member [view\\_empty\\_paint\\_event \(View \\*view, int \\*event\)](#)**

document this.

**Member [vulcanize\\_action \(void\)](#)**

document this.

**Member [whats\\_this\\_context\\_help\\_action \(void\)](#)**

document this.

**Member [window\\_menu\\_about\\_to\\_show \(void\)](#)**

document this.

**Member [zoom\\_action \(const char \\*arg\)](#)**

Implement zoomDynamic.

Implement zoomScale.

Implement zoomPrevious.

Implement zoomRealtime.

Implement zoomCenter.

**Member [zoom\\_extents\\_all\\_subviews \(void\)](#)**

document this.

## 9 Bug List

**Member [create\\_group\\_box\\_circle \(int id, EmbCircle \\*circle\)](#)**

When the user selects multiple entries across different circles then edits the program throws an error.

## 10 Hierarchical Index

### 10.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

<a href="#">_bcf_directory</a>	<a href="#">47</a>
<a href="#">_bcf_directory_entry</a>	<a href="#">47</a>
<a href="#">_bcf_file</a>	<a href="#">49</a>
<a href="#">_bcf_file_difat</a>	<a href="#">50</a>
<a href="#">_bcf_file_fat</a>	<a href="#">50</a>

<a href="#">_bcf_file_header</a>	51
<a href="#">_vp3Hoop</a>	53
<a href="#">Compress</a>	100
<a href="#">Dictionary_</a>	101
<a href="#">DictionaryEntry_</a>	102
<a href="#">EmbAlignedDim_</a>	116
<a href="#">EmbAngularDim_</a>	116
<a href="#">EmbArc_</a>	117
<a href="#">EmbArcLengthDim_</a>	118
<a href="#">EmbArray_</a>	118
<a href="#">EmbBezier_</a>	119
<a href="#">EmbBlock_</a>	120
<a href="#">EmbCircle_</a>	120
<a href="#">EmbColor_</a>	121
<a href="#">EmbDiameterDim_</a>	124
<a href="#">EmbEllipse_</a>	124
<a href="#">EmbFormatList_</a>	125
<a href="#">EmbGeometry_</a>	126
<a href="#">EmblImage_</a>	128
<a href="#">EmblInfiniteLine_</a>	129
<a href="#">EmbLayer_</a>	129
<a href="#">EmbLeaderDim_</a>	130
<a href="#">EmbLine_</a>	130
<a href="#">EmbLinearDim_</a>	131
<a href="#">EmbOrdinateDim_</a>	132
<a href="#">EmbPath_</a>	132
<a href="#">EmbPattern_</a>	133
<a href="#">EmbPoint_</a>	134
<a href="#">EmbRadiusDim_</a>	135
<a href="#">EmbRay_</a>	135
<a href="#">EmbRect_</a>	135
<a href="#">EmbSatinOutline_</a>	136

<b>EmbSpline_</b>	137
<b>EmbStitch_</b>	138
<b>EmbTextMulti_</b>	138
<b>EmbTextSingle_</b>	139
<b>EmbThread_</b>	139
<b>EmbTime_</b>	140
<b>EmbVector_</b>	141
<b>hoop_padding</b>	142
<b>Huffman</b>	142
<b>Index_</b>	149
<b>IndexEntry_</b>	150
<b>LSYSTEM</b>	157
QApplication	
<b>Application</b>	56
QDialog	
<b>EmbDetailsDialog</b>	121
<b>LayerManager</b>	150
<b>Settings_Dialog</b>	330
QDockWidget	
<b>PropertyEditor</b>	265
<b>UndoEditor</b>	395
QFileDialog	
<b>PreviewDialog</b>	264
QGraphicsPathItem	
<b>BaseObject</b>	66
<b>ArcObject</b>	57
<b>CircleObject</b>	72
<b>DimLeaderObject</b>	102
<b>EllipseObject</b>	110
<b>ImageObject</b>	143
<b>LineObject</b>	152
<b>PathObject</b>	245
<b>PointObject</b>	250
<b>PolygonObject</b>	254

<b>PolylineObject</b>	259
<b>RectObject</b>	303
<b>TextSingleObject</b>	368
QGraphicsView	
<b>View</b>	398
QLineEdit	
<b>CmdPromptInput</b>	91
QMainWindow	
<b>MainWindow</b>	158
QMdiArea	
<b>MdiArea</b>	234
QMdiSubWindow	
<b>MdiWindow</b>	238
QObject	
<b>SaveObject</b>	308
QRubberBand	
<b>SelectBox</b>	313
QSplitter	
<b>CmdPromptSplitter</b>	99
QSplitterHandle	
<b>CmdPromptHandle</b>	87
QStatusBar	
<b>StatusBar</b>	361
QTextBrowser	
<b>CmdPromptHistory</b>	89
QToolButton	
<b>StatusBarButton</b>	362
QUndoCommand	
<b>UndoableAddCommand</b>	383
<b>UndoableDeleteCommand</b>	384
<b>UndoableGripEditCommand</b>	385
<b>UndoableMirrorCommand</b>	387
<b>UndoableMoveCommand</b>	388
<b>UndoableNavCommand</b>	390
<b>UndoableRotateCommand</b>	392
<b>UndoableScaleCommand</b>	394
QWidget	
<b>CmdPrompt</b>	78

<b>ImageWidget</b>	<b>148</b>
<b>Settings_</b>	<b>316</b>
<b>StxThread_</b>	<b>366</b>
<b>SubDescriptor_</b>	<b>367</b>
<b>SvgAttribute_</b>	<b>368</b>
<b>thread_color_</b>	<b>377</b>
<b>ThredExtension_</b>	<b>378</b>
<b>ThredHeader_</b>	<b>379</b>
<b>UiObject_</b>	<b>380</b>
<b>UndoHistory_</b>	<b>397</b>
<b>View_</b>	<b>417</b>
<b>VipHeader_</b>	<b>421</b>

## 11 Class Index

### 11.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

<b>_bcf_directory</b>	<b>47</b>
<b>_bcf_directory_entry</b>	<b>47</b>
<b>_bcf_file</b>	<b>49</b>
<b>_bcf_file_difat</b>	<b>50</b>
<b>_bcf_file_fat</b>	<b>50</b>
<b>_bcf_file_header</b>	<b>51</b>
<b>_vp3Hoop</b>	<b>53</b>
<b>Application</b>	<b>56</b>
<b>ArcObject</b>	<b>57</b>
<b>BaseObject</b>	<b>66</b>
<b>CircleObject</b>	<b>72</b>
<b>CmdPrompt</b>	<b>78</b>
<b>CmdPromptHandle</b>	<b>87</b>
<b>CmdPromptHistory</b>	<b>89</b>
<b>CmdPromptInput</b>	<b>91</b>

<a href="#">CmdPromptSplitter</a>	99
<a href="#">Compress</a>	100
<a href="#">Dictionary_</a>	101
<a href="#">DictionaryEntry_</a>	102
<a href="#">DimLeaderObject</a>	102
<a href="#">EllipseObject</a>	110
<a href="#">EmbAlignedDim_</a>	116
<a href="#">EmbAngularDim_</a>	116
<a href="#">EmbArc_</a>	
Absolute position (not relative)	117
<a href="#">EmbArcLengthDim_</a>	118
<a href="#">EmbArray_</a>	118
<a href="#">EmbBezier_</a>	119
<a href="#">EmbBlock_</a>	120
<a href="#">EmbCircle_</a>	120
<a href="#">EmbColor_</a>	121
<a href="#">EmbDetailsDialog</a>	121
<a href="#">EmbDiameterDim_</a>	124
<a href="#">EmbEllipse_</a>	124
<a href="#">EmbFormatList_</a>	125
<a href="#">EmbGeometry_</a>	126
<a href="#">EmblImage_</a>	128
<a href="#">EmblInfiniteLine_</a>	129
<a href="#">EmbLayer_</a>	129
<a href="#">EmbLeaderDim_</a>	130
<a href="#">EmbLine_</a>	130
<a href="#">EmbLinearDim_</a>	131
<a href="#">EmbOrdinateDim_</a>	132
<a href="#">EmbPath_</a>	132
<a href="#">EmbPattern_</a>	133
<a href="#">EmbPoint_</a>	134
<a href="#">EmbRadiusDim_</a>	135

<b>EmbRay_</b>	135
<b>EmbRect_</b>	135
<b>EmbSatinOutline_</b>	136
<b>EmbSpline_</b>	137
<b>EmbStitch_</b>	138
<b>EmbTextMulti_</b>	138
<b>EmbTextSingle_</b>	139
<b>EmbThread_</b>	139
<b>EmbTime_</b>	140
<b>EmbVector_</b>	141
<b>hoop_padding</b>	142
<b>Huffman</b>	142
<b>ImageObject</b>	143
<b>ImageWidget</b>	148
<b>Index_</b>	149
<b>IndexEntry_</b>	150
<b>LayerManager</b>	150
<b>LineObject</b>	152
<b>LSYSTEM</b>	157
<b>MainWindow</b>	158
<b>MdiArea</b>	234
<b>MdiWindow</b>	238
<b>PathObject</b>	245
<b>PointObject</b>	250
<b>PolygonObject</b>	254
<b>PolylineObject</b>	259
<b>PreviewDialog</b>	264
<b>PropertyEditor</b>	265
<b>RectObject</b>	303
<b>SaveObject</b>	308
<b>SelectBox</b>	313

<b>Settings_</b>	
<b>Settings System</b>	316
<b>Settings_Dialog</b>	330
<b>StatusBar</b>	361
<b>StatusBarButton</b>	362
<b>StxThread_</b>	366
<b>SubDescriptor_</b>	367
<b>SvgAttribute_</b>	368
<b>TextSingleObject</b>	368
<b>thread_color_</b>	377
<b>ThredExtension_</b>	378
<b>ThredHeader_</b>	379
<b>UiObject_</b>	
This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events	380
<b>UndoableAddCommand</b>	383
<b>UndoableDeleteCommand</b>	384
<b>UndoableGripEditCommand</b>	385
<b>UndoableMirrorCommand</b>	387
<b>UndoableMoveCommand</b>	388
<b>UndoableNavCommand</b>	390
<b>UndoableRotateCommand</b>	392
<b>UndoableScaleCommand</b>	394
<b>UndoEditor</b>	395
<b>UndoHistory_</b>	397
<b>View</b>	398
<b>View_</b>	417
<b>VipHeader_</b>	421

## 12 File Index

### 12.1 File List

Here is a list of all files with brief descriptions:

<a href="#">embroidermodder2/application.cpp</a>	423
<a href="#">embroidermodder2/application.h</a>	423
<a href="#">embroidermodder2/cmdprompt.cpp</a>	423
<a href="#">embroidermodder2/cmdprompt.h</a>	424
<a href="#">embroidermodder2/embdetails-dialog.cpp</a>	427
<a href="#">embroidermodder2/embdetails-dialog.h</a>	427
<a href="#">embroidermodder2/gui_backend.cpp</a>	428
<a href="#">embroidermodder2/gui_backend.h</a>	439
<a href="#">embroidermodder2/imagewidget.cpp</a>	452
<a href="#">embroidermodder2/imagewidget.h</a>	453
<a href="#">embroidermodder2/imgui_main.c</a>	453
<a href="#">embroidermodder2/layer-manager.cpp</a>	576
<a href="#">embroidermodder2/layer-manager.h</a>	576
<a href="#">embroidermodder2/main.cpp</a>	577
<a href="#">embroidermodder2/mainwindow-actions.cpp</a>	578
<a href="#">embroidermodder2/mainwindow-actions.h</a>	579
<a href="#">embroidermodder2/mainwindow-commands.cpp</a>	582
<a href="#">embroidermodder2/mainwindow-menus.cpp</a>	583
<a href="#">embroidermodder2/mainwindow-settings.cpp</a>	583
<a href="#">embroidermodder2/mainwindow-toolbars.cpp</a>	583
<a href="#">embroidermodder2/mainwindow.cpp</a>	583
<a href="#">embroidermodder2/mainwindow.h</a>	584
<a href="#">embroidermodder2/mdiarea.cpp</a>	596
<a href="#">embroidermodder2/mdiarea.h</a>	596
<a href="#">embroidermodder2 mdiwindow.cpp</a>	597
<a href="#">embroidermodder2 mdiwindow.h</a>	598
<a href="#">embroidermodder2/native-scripting.cpp</a>	599
<a href="#">embroidermodder2/native-scripting.h</a>	600
<a href="#">embroidermodder2/object-arc.cpp</a>	601
<a href="#">embroidermodder2/object-arc.h</a>	601
<a href="#">embroidermodder2/object-base.cpp</a>	602
<a href="#">embroidermodder2/object-base.h</a>	602

<b>embroidermodder2/object-circle.cpp</b>	604
<b>embroidermodder2/object-circle.h</b>	604
<b>embroidermodder2/object-data.h</b>	605
<b>embroidermodder2/object-dimleader.cpp</b>	618
<b>embroidermodder2/object-dimleader.h</b>	618
<b>embroidermodder2/object-ellipse.cpp</b>	619
<b>embroidermodder2/object-ellipse.h</b>	619
<b>embroidermodder2/object-image.cpp</b>	620
<b>embroidermodder2/object-image.h</b>	620
<b>embroidermodder2/object-line.cpp</b>	621
<b>embroidermodder2/object-line.h</b>	621
<b>embroidermodder2/object-path.cpp</b>	622
<b>embroidermodder2/object-path.h</b>	622
<b>embroidermodder2/object-point.cpp</b>	623
<b>embroidermodder2/object-point.h</b>	623
<b>embroidermodder2/object-polygon.cpp</b>	624
<b>embroidermodder2/object-polygon.h</b>	624
<b>embroidermodder2/object-polyline.cpp</b>	625
<b>embroidermodder2/object-polyline.h</b>	625
<b>embroidermodder2/object-rect.cpp</b>	626
<b>embroidermodder2/object-rect.h</b>	626
<b>embroidermodder2/object-save.cpp</b>	627
<b>embroidermodder2/object-save.h</b>	627
<b>embroidermodder2/object-textsingle.cpp</b>	629
<b>embroidermodder2/object-textsingle.h</b>	629
<b>embroidermodder2/preview-dialog.cpp</b>	630
<b>embroidermodder2/preview-dialog.h</b>	630
<b>embroidermodder2/property-editor.cpp</b>	631
<b>embroidermodder2/property-editor.h</b>	631
<b>embroidermodder2/selectbox.cpp</b>	638
<b>embroidermodder2/selectbox.h</b>	638
<b>embroidermodder2/settings-dialog.cpp</b>	639

<b>embroidermodder2/settings-dialog.h</b>	<b>639</b>
<b>embroidermodder2/statusbar-button.cpp</b>	<b>643</b>
<b>embroidermodder2/statusbar-button.h</b>	<b>643</b>
<b>embroidermodder2/statusbar.cpp</b>	<b>644</b>
<b>embroidermodder2/statusbar.h</b>	<b>644</b>
<b>embroidermodder2/undo-commands.cpp</b>	<b>645</b>
<b>embroidermodder2/undo-commands.h</b>	<b>645</b>
<b>embroidermodder2/undo-editor.cpp</b>	<b>647</b>
<b>embroidermodder2/undo-editor.h</b>	<b>648</b>
<b>embroidermodder2/view.cpp</b>	<b>648</b>
<b>embroidermodder2/view.h</b>	<b>649</b>
<b>extern/libembroidery/src/array.c</b>	<b>652</b>
<b>extern/libembroidery/src/compress.c</b>	<b>657</b>
<b>extern/libembroidery/src/embroidery.h</b>	<b>662</b>
<b>extern/libembroidery/src/embroidery_internal.h</b>	<b>723</b>
<b>extern/libembroidery/src/encoding.c</b>	<b>789</b>
<b>extern/libembroidery/src/fill.c</b>	<b>794</b>
<b>extern/libembroidery/src/formats.c</b>	<b>802</b>
<b>extern/libembroidery/src/geometry.c</b>	<b>858</b>
<b>extern/libembroidery/src/image.c</b>	<b>877</b>
<b>extern/libembroidery/src/main.c</b>	
As much of the code as possible, to keep the structure simple and in a procedural style	<b>878</b>
<b>extern/libembroidery/src/pattern.c</b>	<b>893</b>
<b>extern/libembroidery/src/thread-color.c</b>	<b>898</b>
<b>extern/libembroidery/src/formats/format_100.c</b>	<b>809</b>
<b>extern/libembroidery/src/formats/format_10o.c</b>	<b>809</b>
<b>extern/libembroidery/src/formats/format_art.c</b>	<b>810</b>
<b>extern/libembroidery/src/formats/format_bmc.c</b>	<b>811</b>
<b>extern/libembroidery/src/formats/format_bro.c</b>	<b>811</b>
<b>extern/libembroidery/src/formats/format_cnd.c</b>	<b>812</b>
<b>extern/libembroidery/src/formats/format_col.c</b>	<b>812</b>
<b>extern/libembroidery/src/formats/format_csd.c</b>	<b>813</b>

extern/libembroidery/src/formats/format_csv.c	815
extern/libembroidery/src/formats/format_dat.c	815
extern/libembroidery/src/formats/format_dem.c	816
extern/libembroidery/src/formats/format_dsb.c	817
extern/libembroidery/src/formats/format_dst.c	817
extern/libembroidery/src/formats/format_dsz.c	818
extern/libembroidery/src/formats/format_dxf.c	819
extern/libembroidery/src/formats/format_edr.c	820
extern/libembroidery/src/formats/format_emd.c	820
extern/libembroidery/src/formats/format_exp.c	821
extern/libembroidery/src/formats/format_exy.c	822
extern/libembroidery/src/formats/format_eyc.c	822
extern/libembroidery/src/formats/format_fxy.c	823
extern/libembroidery/src/formats/format_gc.c	823
extern/libembroidery/src/formats/format_gnc.c	824
extern/libembroidery/src/formats/format_gt.c	825
extern/libembroidery/src/formats/format_hus.c	825
extern/libembroidery/src/formats/format_inb.c	827
extern/libembroidery/src/formats/format_inf.c	827
extern/libembroidery/src/formats/format_jef.c	828
extern/libembroidery/src/formats/format_ksm.c	829
extern/libembroidery/src/formats/format_max.c	830
extern/libembroidery/src/formats/format_mit.c	831
extern/libembroidery/src/formats/format_new.c	831
extern/libembroidery/src/formats/format_ofm.c	832
extern/libembroidery/src/formats/format_pcd.c	833
extern/libembroidery/src/formats/format_pcm.c	834
extern/libembroidery/src/formats/format_pcq.c	835
extern/libembroidery/src/formats/format_pcs.c	835
extern/libembroidery/src/formats/format_pec.c	836
extern/libembroidery/src/formats/format_pel.c	837
extern/libembroidery/src/formats/format_pem.c	838

extern/libembroidery/src/formats/ <a href="#">format_pes.c</a>	839
extern/libembroidery/src/formats/ <a href="#">format_phb.c</a>	842
extern/libembroidery/src/formats/ <a href="#">format_phc.c</a>	842
extern/libembroidery/src/formats/ <a href="#">format_plt.c</a>	843
extern/libembroidery/src/formats/ <a href="#">format_rgb.c</a>	844
extern/libembroidery/src/formats/ <a href="#">format_sew.c</a>	844
extern/libembroidery/src/formats/ <a href="#">format_shv.c</a>	845
extern/libembroidery/src/formats/ <a href="#">format_sst.c</a>	846
extern/libembroidery/src/formats/ <a href="#">format_stx.c</a>	846
extern/libembroidery/src/formats/ <a href="#">format_svg.c</a>	847
extern/libembroidery/src/formats/ <a href="#">format_t01.c</a>	849
extern/libembroidery/src/formats/ <a href="#">format_t09.c</a>	849
extern/libembroidery/src/formats/ <a href="#">format_tap.c</a>	850
extern/libembroidery/src/formats/ <a href="#">format_thr.c</a>	851
extern/libembroidery/src/formats/ <a href="#">format_txt.c</a>	851
extern/libembroidery/src/formats/ <a href="#">format_u00.c</a>	852
extern/libembroidery/src/formats/ <a href="#">format_u01.c</a>	853
extern/libembroidery/src/formats/ <a href="#">format_vip.c</a>	853
extern/libembroidery/src/formats/ <a href="#">format_vp3.c</a>	855
extern/libembroidery/src/formats/ <a href="#">format_xxx.c</a>	857
extern/libembroidery/src/formats/ <a href="#">format_zsk.c</a>	858
extern/libembroidery/src/geometry/ <a href="#">arc.c</a>	860
extern/libembroidery/src/geometry/ <a href="#">circle.c</a>	866
extern/libembroidery/src/geometry/ <a href="#">ellipse.c</a>	867
extern/libembroidery/src/geometry/ <a href="#">functions.c</a>	869
extern/libembroidery/src/geometry/ <a href="#">line.c</a>	870
extern/libembroidery/src/geometry/ <a href="#">path.c</a>	871
extern/libembroidery/src/geometry/ <a href="#">polygon.c</a>	871
extern/libembroidery/src/geometry/ <a href="#">polyline.c</a>	871
extern/libembroidery/src/geometry/ <a href="#">rect.c</a>	871
extern/libembroidery/src/geometry/ <a href="#">text.c</a>	872
extern/libembroidery/src/geometry/ <a href="#">vector.c</a>	874

## 13 Class Documentation

### 13.1 \_bcf\_directory Struct Reference

```
#include <embroidery_internal.h>
```

#### Public Attributes

- `bcf_directory_entry * dirEntries`
- `unsigned int maxNumberOfDirectoryEntries`

#### 13.1.1 Detailed Description

**Todo** possibly add a directory tree in the future.

#### 13.1.2 Member Data Documentation

##### 13.1.2.1 `dirEntries` `bcf_directory_entry* dirEntries`

##### 13.1.2.2 `maxNumberOfDirectoryEntries` `unsigned int maxNumberOfDirectoryEntries`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery_internal.h`

### 13.2 \_bcf\_directory\_entry Struct Reference

```
#include <embroidery_internal.h>
```

#### Public Attributes

- `char directoryEntryName [32]`
- `unsigned short directoryEntryNameLength`
- `unsigned char objectType`
- `unsigned char colorFlag`
- `unsigned int leftSiblingId`
- `unsigned int rightSiblingId`
- `unsigned int childId`
- `unsigned char CLSID [16]`
- `unsigned int stateBits`
- `EmbTime creationTime`
- `EmbTime modifiedTime`
- `unsigned int startingSectorLocation`
- `unsigned long streamSize`
- `unsigned int streamSizeHigh`
- `struct _bcf_directory_entry * next`

### 13.2.1 Member Data Documentation

**13.2.1.1 childId** unsigned int childId

**13.2.1.2 CLSID** unsigned char CLSID[16]

**13.2.1.3 colorFlag** unsigned char colorFlag

**13.2.1.4 creationTime** [EmbTime](#) creationTime

**13.2.1.5 directoryEntryName** char directoryEntryName[32]

**13.2.1.6 directoryEntryNameLength** unsigned short directoryEntryNameLength

**13.2.1.7 leftSiblingId** unsigned int leftSiblingId

**13.2.1.8 modifiedTime** [EmbTime](#) modifiedTime

**13.2.1.9 next** struct [\\_bcf\\_directory\\_entry](#)\* next

**13.2.1.10 objectType** unsigned char objectType

**13.2.1.11 rightSiblingId** unsigned int rightSiblingId

**13.2.1.12 startingSectorLocation** unsigned int startingSectorLocation

**13.2.1.13 stateBits** unsigned int stateBits

**13.2.1.14 streamSize** unsigned long streamSize

**13.2.1.15 streamSizeHigh** unsigned int streamSizeHigh

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery\\_internal.h](#)

## 13.3 \_bcf\_file Struct Reference

```
#include <embroidery_internal.h>
```

### Public Attributes

- [bcf\\_file\\_header header](#)
- [bcf\\_file\\_difat \\* difat](#)
- [bcf\\_file\\_fat \\* fat](#)
- [bcf\\_directory \\* directory](#)

### 13.3.1 Member Data Documentation

**13.3.1.1 difat** [bcf\\_file\\_difat\\*](#) difat

The header for the CompoundFile

**13.3.1.2 directory** [bcf\\_directory\\*](#) directory

The File Allocation Table for the Compound File

**13.3.1.3 fat** `bcf_file_fat*` **fat**

The "Double Indirect FAT" for the CompoundFile

**13.3.1.4 header** `bcf_file_header` **header**

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery_internal.h`

**13.4 \_bcf\_file\_difat Struct Reference**

```
#include <embroidery_internal.h>
```

**Public Attributes**

- `unsigned int fatSectorCount`
- `unsigned int fatSectorEntries [109]`
- `unsigned int sectorSize`

**13.4.1 Member Data Documentation****13.4.1.1 fatSectorCount** `unsigned int fatSectorCount`**13.4.1.2 fatSectorEntries** `unsigned int fatSectorEntries[109]`**13.4.1.3 sectorSize** `unsigned int sectorSize`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery_internal.h`

**13.5 \_bcf\_file\_fat Struct Reference**

```
#include <embroidery_internal.h>
```

**Public Attributes**

- int **fatEntryCount**
- unsigned int **fatEntries** [255]
- unsigned int **numberOfEntriesInFatSector**

**13.5.1 Member Data Documentation****13.5.1.1 fatEntries** unsigned int fatEntries[255]**13.5.1.2 fatEntryCount** int fatEntryCount**13.5.1.3 numberOfEntriesInFatSector** unsigned int numberOfEntriesInFatSector

The documentation for this struct was generated from the following file:

- extern/libembroidery/src/[embroidery\\_internal.h](#)

**13.6 \_bcf\_file\_header Struct Reference**

#include &lt;embroidery\_internal.h&gt;

**Public Attributes**

- unsigned char **signature** [8]
- unsigned char **CLSID** [16]
- unsigned short **minorVersion**
- unsigned short **majorVersion**
- unsigned short **byteOrder**
- unsigned short **sectorShift**
- unsigned short **miniSectorShift**
- unsigned short **reserved1**
- unsigned int **reserved2**
- unsigned int **numberOfDirectorySectors**
- unsigned int **numberOfFATSectors**
- unsigned int **firstDirectorySectorLocation**
- unsigned int **transactionSignatureNumber**
- unsigned int **miniStreamCutoffSize**
- unsigned int **firstMiniFATSectorLocation**
- unsigned int **numberOfMiniFatSectors**
- unsigned int **firstDifatSectorLocation**
- unsigned int **numberOfDifatSectors**

### 13.6.1 Detailed Description

**Todo** CLSID should be a separate type.

### 13.6.2 Member Data Documentation

**13.6.2.1 byteOrder** unsigned short byteOrder

**13.6.2.2 CLSID** unsigned char CLSID[16]

**13.6.2.3 firstDifatSectorLocation** unsigned int firstDifatSectorLocation

**13.6.2.4 firstDirectorySectorLocation** unsigned int firstDirectorySectorLocation

**13.6.2.5 firstMiniFATSectorLocation** unsigned int firstMiniFATSectorLocation

**13.6.2.6 majorVersion** unsigned short majorVersion

**13.6.2.7 miniSectorShift** unsigned short miniSectorShift

**13.6.2.8 miniStreamCutoffSize** unsigned int miniStreamCutoffSize

**13.6.2.9 minorVersion** unsigned short minorVersion

**13.6.2.10 numberOfDifatSectors** unsigned int numberOfDifatSectors

**13.6.2.11 numberOfDirectorySectors** unsigned int numberOfDirectorySectors

**13.6.2.12 numberOfFATSectors** unsigned int numberOfFATSectors

**13.6.2.13 numberOfMiniFatSectors** unsigned int numberOfMiniFatSectors

**13.6.2.14 reserved1** unsigned short reserved1

**13.6.2.15 reserved2** unsigned int reserved2

**13.6.2.16 sectorShift** unsigned short sectorShift

**13.6.2.17 signature** unsigned char signature[8]

**13.6.2.18 transactionSignatureNumber** unsigned int transactionSignatureNumber

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery\\_internal.h](#)

## 13.7 \_vp3Hoop Struct Reference

```
#include <embroidery_internal.h>
```

## Public Attributes

- int `right`
- int `bottom`
- int `left`
- int `top`
- int `threadLength`
- char `unknown2`
- unsigned char `numberOfColors`
- unsigned short `unknown3`
- int `unknown4`
- int `numberOfBytesRemaining`
- int `xOffset`
- int `yOffset`
- unsigned char `byte1`
- unsigned char `byte2`
- unsigned char `byte3`
- int `right2`
- int `left2`
- int `bottom2`
- int `top2`
- int `width`
- int `height`

### 13.7.1 Member Data Documentation

**13.7.1.1 bottom** int `bottom`

**13.7.1.2 bottom2** int `bottom2`

**13.7.1.3 byte1** unsigned char `byte1`

**13.7.1.4 byte2** unsigned char `byte2`

**13.7.1.5 byte3** unsigned char `byte3`

**13.7.1.6 height** int height

**13.7.1.7 left** int left

**13.7.1.8 left2** int left2

**13.7.1.9 numberOfBytesRemaining** int numberOfBytesRemaining

**13.7.1.10 numberOfColors** unsigned char numberOfColors

**13.7.1.11 right** int right

**13.7.1.12 right2** int right2

**13.7.1.13 threadLength** int threadLength

**13.7.1.14 top** int top

**13.7.1.15 top2** int top2

**13.7.1.16 unknown2** char unknown2

**13.7.1.17 unknown3** unsigned short unknown3

**13.7.1.18 unknown4** int unknown4

**13.7.1.19 width** int width

**13.7.1.20 xOffset** int xOffset

**13.7.1.21 yOffset** int yOffset

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery\\_internal.h](#)

## 13.8 Application Class Reference

```
#include <application.h>
```

### Public Member Functions

- [Application](#) (int argc, char \*\*argv)
- void [setMainWin](#) (MainWindow \*mainWin)

### Protected Member Functions

- virtual bool [event](#) (QEvent \*e)

### Private Attributes

- [MainWindow \\* \\_mainWin](#)

#### 13.8.1 Constructor & Destructor Documentation

```
13.8.1.1 Application() Application (
    int argc,
    char ** argv )
```

### 13.8.2 Member Function Documentation

```
13.8.2.1 event() bool event (
    QEvent * e ) [protected], [virtual]
```

```
13.8.2.2 setMainWin() void setMainWin (
    MainWindow * mainWin ) [inline]
```

### 13.8.3 Member Data Documentation

```
13.8.3.1 _mainWin MainWindow* _mainWin [private]
```

The documentation for this class was generated from the following files:

- embroiderydermodder2/[application.h](#)
- embroiderydermodder2/[application.cpp](#)

## 13.9 ArcObject Class Reference

```
#include <object-arc.h>
```

### Public Types

- enum { [Type](#) = OBJ\_TYPE\_ARC }

### Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ\_TYPE\_BASE }

## Public Member Functions

- `ArcObject` (qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, QRgb rgb, QGraphicsItem \*parent=0)
- `ArcObject (ArcObject *obj, QGraphicsItem *parent=0)`
- `~ArcObject ()`
- virtual int `type () const`
- `QPointF objectCenter () const`
- `qreal objectCenterX () const`
- `qreal objectCenterY () const`
- `qreal objectRadius () const`
- `qreal objectStartAngle () const`
- `qreal objectEndAngle () const`
- `QPointF objectStartPoint () const`
- `qreal objectStartX () const`
- `qreal objectStartY () const`
- `QPointF objectMidPoint () const`
- `qreal objectMidX () const`
- `qreal objectMidY () const`
- `QPointF objectEndPoint () const`
- `qreal objectEndX () const`
- `qreal objectEndY () const`
- `qreal objectArea () const`
- `qreal objectArcLength () const`
- `qreal objectChord () const`
- `qreal objectIncludedAngle () const`
- `bool objectClockwise () const`
- `void setObjectCenter (const QPointF &point)`
- `void setObjectCenter (qreal pointX, qreal pointY)`
- `void setObjectCenterX (qreal pointX)`
- `void setObjectCenterY (qreal pointY)`
- `void setObjectRadius (qreal radius)`
- `void setObjectStartAngle (qreal angle)`
- `void setObjectEndAngle (qreal angle)`
- `void setObjectStartPoint (const QPointF &point)`
- `void setObjectStartPoint (qreal pointX, qreal pointY)`
- `void setObjectMidPoint (const QPointF &point)`
- `void setObjectMidPoint (qreal pointX, qreal pointY)`
- `void setObjectEndPoint (const QPointF &point)`
- `void setObjectEndPoint (qreal pointX, qreal pointY)`
- `void updateRubber ( QPainter *painter=0 )`
- virtual void `vulcanize ()`
- virtual `QPointF mouseSnapPoint (const QPointF &mousePoint)`
- virtual `QList< QPointF > allGripPoints ()`
- virtual void `gripEdit (const QPointF &before, const QPointF &after)`

**Public Member Functions inherited from [BaseObject](#)**

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

**Protected Member Functions**

- void [paint](#) (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

**Protected Member Functions inherited from [BaseObject](#)**

- QPen [lineWeightPen](#) () const
- qreal [pi](#) () const
- qreal [radians](#) (qreal degree) const
- qreal [degrees](#) (qreal radian) const
- void [realRender](#) (QPainter \*painter, const QPainterPath &renderPath)

## Private Member Functions

- void [init](#) (qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) ()
- void [calculateArcData](#) (qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY)
- void [updateArcRect](#) (qreal radius)

## Private Attributes

- QPointF [arcStartPoint](#)
- QPointF [arcMidPoint](#)
- QPointF [arcEndPoint](#)

### 13.9.1 Member Enumeration Documentation

#### 13.9.1.1 anonymous enum anonymous enum

Enumerator

Type	<input type="button" value=""/>
------	---------------------------------

### 13.9.2 Constructor & Destructor Documentation

13.9.2.1 **ArcObject()** [1/2] [ArcObject](#) (

```
    qreal startX,
    qreal startY,
    qreal midX,
    qreal midY,
    qreal endX,
    qreal endY,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

13.9.2.2 **ArcObject()** [2/2] [ArcObject](#) (

```
    ArcObject * obj,
    QGraphicsItem * parent = 0 )
```

13.9.2.3 **~ArcObject()** [~ArcObject](#) ( )

### 13.9.3 Member Function Documentation

**13.9.3.1 allGripPoints()** `QList< QPointF > allGripPoints ( ) [virtual]`

Implements [BaseObject](#).

**13.9.3.2 calculateArcData()** `void calculateArcData (`  
    `qreal startX,`  
    `qreal startY,`  
    `qreal midX,`  
    `qreal midY,`  
    `qreal endX,`  
    `qreal endY ) [private]`

**13.9.3.3 gripEdit()** `void gripEdit (`  
    `const QPointF & before,`  
    `const QPointF & after ) [virtual]`

Implements [BaseObject](#).

**13.9.3.4 init()** `void init (`  
    `qreal startX,`  
    `qreal startY,`  
    `qreal midX,`  
    `qreal midY,`  
    `qreal endX,`  
    `qreal endY,`  
    `QRgb rgb,`  
    `Qt::PenStyle lineType ) [private]`

**13.9.3.5 mouseSnapPoint()** `QPointF mouseSnapPoint (`  
    `const QPointF & mousePoint ) [virtual]`

Implements [BaseObject](#).

**13.9.3.6 objectArcLength()** `qreal objectArcLength ( ) const`

**13.9.3.7 `objectArea()`** qreal objectArea ( ) const

**13.9.3.8 `objectCenter()`** QPointF objectCenter ( ) const [inline]

**13.9.3.9 `objectCenterX()`** qreal objectCenterX ( ) const [inline]

**13.9.3.10 `objectCenterY()`** qreal objectCenterY ( ) const [inline]

**13.9.3.11 `objectChord()`** qreal objectChord ( ) const

**13.9.3.12 `objectClockwise()`** bool objectClockwise ( ) const

**13.9.3.13 `objectEndAngle()`** qreal objectEndAngle ( ) const

**13.9.3.14 `objectEndPoint()`** QPointF objectEndPoint ( ) const

**13.9.3.15 `objectEndX()`** qreal objectEndX ( ) const

**13.9.3.16 `objectEndY()`** qreal objectEndY ( ) const

**13.9.3.17 `objectIncludedAngle()`** qreal objectIncludedAngle ( ) const

**13.9.3.18 objectMidPoint()** QPointF objectMidPoint ( ) const

**13.9.3.19 objectMidX()** qreal objectMidX ( ) const

**13.9.3.20 objectMidY()** qreal objectMidY ( ) const

**13.9.3.21 objectRadius()** qreal objectRadius ( ) const [inline]

**13.9.3.22 objectStartAngle()** qreal objectStartAngle ( ) const

**13.9.3.23 objectStartPoint()** QPointF objectStartPoint ( ) const

**13.9.3.24 objectStartX()** qreal objectStartX ( ) const

**13.9.3.25 objectStartY()** qreal objectStartY ( ) const

**13.9.3.26 paint()** void paint (   
     QPainter \* painter,  
     const QStyleOptionGraphicsItem \* option,  
     QWidget \* ) [protected]

**13.9.3.27 setObjectCenter() [1/2]** void setObjectCenter (   
     const QPointF & point )

**13.9.3.28 setObjectCenter() [2/2]** void setObjectCenter ( qreal pointX, qreal pointY )

**13.9.3.29 setObjectCenterX()** void setObjectCenterX ( qreal pointX )

**13.9.3.30 setObjectCenterY()** void setObjectCenterY ( qreal pointY )

**13.9.3.31 setObjectEndAngle()** void setObjectEndAngle ( qreal angle )

**13.9.3.32 setObjectEndPoint()** [1/2] void setObjectEndPoint ( const QPointF & point )

**13.9.3.33 setObjectEndPoint()** [2/2] void setObjectEndPoint ( qreal pointX, qreal pointY )

**13.9.3.34 setObjectMidPoint()** [1/2] void setObjectMidPoint ( const QPointF & point )

**13.9.3.35 setObjectMidPoint()** [2/2] void setObjectMidPoint ( qreal pointX, qreal pointY )

**13.9.3.36 setObjectRadius()** void setObjectRadius ( qreal radius )

**13.9.3.37 setObjectStartAngle()** void setObjectStartAngle ( qreal angle )

**13.9.3.38 setObjectStartPoint() [1/2]** void setObjectStartPoint ( const QPointF & point )

**13.9.3.39 setObjectStartPoint() [2/2]** void setObjectStartPoint ( qreal pointX, qreal pointY )

**13.9.3.40 type()** virtual int type ( ) const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.9.3.41 updateArcRect()** void updateArcRect ( qreal radius ) [private]

**13.9.3.42 updatePath()** void updatePath ( ) [private]

**13.9.3.43 updateRubber()** void updateRubber ( QPainter \* painter = 0 )

**13.9.3.44 vulcanize()** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

#### 13.9.4 Member Data Documentation

**13.9.4.1 arcEndPoint** QPointF arcEndPoint [private]

**13.9.4.2 arcMidPoint** QPointF arcMidPoint [private]**13.9.4.3 arcStartPoint** QPointF arcStartPoint [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/object-arc.h](#)
- [embroidermodder2/object-arc.cpp](#)

## 13.10 BaseObject Class Reference

```
#include <object-base.h>
```

### Public Types

- enum { [Type](#) = OBJ\_TYPE\_BASE }

### Public Member Functions

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- QPen `lineWeightPen () const`
- qreal `pi () const`
- qreal `radians (qreal degree) const`
- qreal `degrees (qreal radian) const`
- void `realRender (QPainter *painter, const QPainterPath &renderPath)`

### Private Attributes

- QPen `objPen`
- QPen `lwtPen`
- QLineF `objLine`
- int `objRubberMode`
- QHash<QString, QPointF> `objRubberPoints`
- QHash<QString, QString> `objRubberTexts`
- qint64 `objID`

#### 13.10.1 Member Enumeration Documentation

##### 13.10.1.1 anonymous enum anonymous enum

###### Enumerator

Type	<input type="button" value=""/>
------	---------------------------------

#### 13.10.2 Constructor & Destructor Documentation

##### 13.10.2.1 BaseObject() `BaseObject (` `QGraphicsItem * parent = 0 )`

##### 13.10.2.2 ~BaseObject() `~BaseObject ( ) [virtual]`

#### 13.10.3 Member Function Documentation

**13.10.3.1 allGripPoints()** virtual QList< QPointF > allGripPoints ( ) [pure virtual]

Implemented in [ArcObject](#), [CircleObject](#), [DimLeaderObject](#), [EllipseObject](#), [ImageObject](#), [LineObject](#), [PathObject](#), [PointObject](#), [PolygonObject](#), [PolylineObject](#), [RectObject](#), and [TextSingleObject](#).

**13.10.3.2 boundingRect()** QRectF boundingRect ( ) const [virtual]

**13.10.3.3 degrees()** qreal degrees ( qreal radian ) const [inline], [protected]

**13.10.3.4 drawRubberLine()** void drawRubberLine ( const QLineF & rubLine, QPainter \* painter = 0, const char \* colorFromScene = 0 )

**13.10.3.5 gripEdit()** virtual void gripEdit ( const QPointF & before, const QPointF & after ) [pure virtual]

Implemented in [ArcObject](#), [CircleObject](#), [DimLeaderObject](#), [EllipseObject](#), [ImageObject](#), [LineObject](#), [PathObject](#), [PointObject](#), [PolygonObject](#), [PolylineObject](#), [RectObject](#), and [TextSingleObject](#).

**13.10.3.6 line()** QLineF line ( ) const [inline]

**13.10.3.7 lineWeightPen()** QPen lineWeightPen ( ) const [inline], [protected]

**13.10.3.8 mouseSnapPoint()** virtual QPointF mouseSnapPoint ( const QPointF & mousePoint ) [pure virtual]

Implemented in [ArcObject](#), [CircleObject](#), [DimLeaderObject](#), [EllipseObject](#), [ImageObject](#), [LineObject](#), [PathObject](#), [PointObject](#), [PolygonObject](#), [PolylineObject](#), [RectObject](#), and [TextSingleObject](#).

**13.10.3.9 objectColor()** QColor objectColor () const [inline]

**13.10.3.10 objectColorRGB()** QRgb objectColorRGB () const [inline]

**13.10.3.11 objectID()** qint64 objectID () const [inline]

**13.10.3.12 objectLineType()** Qt::PenStyle objectLineType () const [inline]

**13.10.3.13 objectLineWidth()** qreal objectLineWidth () const [inline]

**13.10.3.14 objectPath()** QPainterPath objectPath () const [inline]

**13.10.3.15 objectPen()** QPen objectPen () const [inline]

**13.10.3.16 objectRubberMode()** int objectRubberMode () const [inline]

**13.10.3.17 objectRubberPoint()** QPointF objectRubberPoint (const QString & key) const

**13.10.3.18 objectRubberText()** QString objectRubberText (const QString & key) const

**13.10.3.19 pi()** qreal pi () const [inline], [protected]

```
13.10.3.20 radians() qreal radians (
    qreal degree ) const [inline], [protected]
```

```
13.10.3.21 realRender() void realRender (
    QPainter * painter,
    const QPainterPath & renderPath ) [protected]
```

```
13.10.3.22 rect() QRectF rect ( ) const [inline]
```

```
13.10.3.23 setLine() [1/2] void setLine (
    const QLineF & li ) [inline]
```

```
13.10.3.24 setLine() [2/2] void setLine (
    qreal x1,
    qreal y1,
    qreal x2,
    qreal y2 ) [inline]
```

```
13.10.3.25 setObjectColor() void setObjectColor (
    const QColor & color )
```

```
13.10.3.26 setObjectColorRGB() void setObjectColorRGB (
    QRgb rgb )
```

```
13.10.3.27 setObjectLineType() void setObjectLineType (
    Qt::PenStyle lineType )
```

```
13.10.3.28 setObjectLineWeight() void setObjectLineWeight (
    qreal lineWeight )
```

**13.10.3.29 `setObjectPath()`** void setObjectPath ( const QPainterPath & *p* ) [inline]

**13.10.3.30 `setObjectRubberMode()`** void setObjectRubberMode ( int *mode* ) [inline]

**13.10.3.31 `setObjectRubberPoint()`** void setObjectRubberPoint ( const QString & *key*, const QPointF & *point* ) [inline]

**13.10.3.32 `setObjectRubberText()`** void setObjectRubberText ( const QString & *key*, const QString & *txt* ) [inline]

**13.10.3.33 `setRect()` [1/2]** void setRect ( const QRectF & *r* ) [inline]

**13.10.3.34 `setRect()` [2/2]** void setRect ( qreal *x*, qreal *y*, qreal *w*, qreal *h* ) [inline]

**13.10.3.35 `shape()`** virtual QPainterPath shape ( ) const [inline], [virtual]

**13.10.3.36 `type()`** virtual int type ( ) const [inline], [virtual]

Reimplemented in [ArcObject](#), [CircleObject](#), [DimLeaderObject](#), [EllipseObject](#), [ImageObject](#), [LineObject](#), [PathObject](#), [PointObject](#), [PolygonObject](#), [PolylineObject](#), [RectObject](#), and [TextSingleObject](#).

**13.10.3.37 `vulcanize()`** virtual void vulcanize ( ) [pure virtual]

Implemented in [ArcObject](#), [CircleObject](#), [DimLeaderObject](#), [EllipseObject](#), [ImageObject](#), [LineObject](#), [PathObject](#), [PointObject](#), [PolygonObject](#), [PolylineObject](#), [RectObject](#), and [TextSingleObject](#).

### 13.10.4 Member Data Documentation

**13.10.4.1 lwtPen** QPen lwtPen [private]

**13.10.4.2 objID** qint64 objID [private]

**13.10.4.3 objLine** QLineF objLine [private]

**13.10.4.4 objPen** QPen objPen [private]

**13.10.4.5 objRubberMode** int objRubberMode [private]

**13.10.4.6 objRubberPoints** QHash<QString, QPointF> objRubberPoints [private]

**13.10.4.7 objRubberTexts** QHash<QString, QString> objRubberTexts [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/object-base.h](#)
- [embroidermodder2/object-base.cpp](#)

## 13.11 CircleObject Class Reference

```
#include <object-circle.h>
```

### Public Types

- enum { [Type](#) = OBJ\_TYPE\_CIRCLE }

### Public Types inherited from BaseObject

- enum { `Type` = `OBJ_TYPE_BASE` }

### Public Member Functions

- `CircleObject` (qreal centerX, qreal centerY, qreal radius, QRgb rgb, QGraphicsItem \*parent=0)
- `CircleObject` (`CircleObject` \*obj, QGraphicsItem \*parent=0)
- `~CircleObject` ()
- virtual int `type` () const
- QPainterPath `objectSavePath` () const
- QPointF `objectCenter` () const
- qreal `objectCenterX` () const
- qreal `objectCenterY` () const
- qreal `objectRadius` () const
- qreal `objectDiameter` () const
- qreal `objectArea` () const
- qreal `objectCircumference` () const
- QPointF `objectQuadrant0` () const
- QPointF `objectQuadrant90` () const
- QPointF `objectQuadrant180` () const
- QPointF `objectQuadrant270` () const
- void `setObjectCenter` (const QPointF &center)
- void `setObjectCenter` (qreal centerX, qreal centerY)
- void `setObjectCenterX` (qreal centerX)
- void `setObjectCenterY` (qreal centerY)
- void `setObjectRadius` (qreal radius)
- void `setObjectDiameter` (qreal diameter)
- void `setObjectArea` (qreal area)
- void `setObjectCircumference` (qreal circumference)
- void `updateRubber` (QPainter \*painter=0)
- virtual void `vulcanize` ()
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)
- virtual QList< QPointF > `allGripPoints` ()
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)

### Public Member Functions inherited from BaseObject

- `BaseObject` (QGraphicsItem \*parent=0)
- virtual `~BaseObject` ()
- virtual int `type` () const
- qint64 `objectID` () const
- QPen `objectPen` () const
- QColor `objectColor` () const
- QRgb `objectColorRGB` () const
- Qt::PenStyle `objectLineType` () const
- qreal `objectLineWidth` () const
- QPainterPath `objectPath` () const
- int `objectRubberMode` () const
- QPointF `objectRubberPoint` (const QString &key) const
- QString `objectRubberText` (const QString &key) const
- QRectF `rect` () const

- void `setRect` (const QRectF &r)
- void `setRect` (qreal x, qreal y, qreal w, qreal h)
- QLineF `line` () const
- void `setLine` (const QLineF &li)
- void `setLine` (qreal x1, qreal y1, qreal x2, qreal y2)
- void `setObjectColor` (const QColor &color)
- void `setObjectColorRGB` (QRgb rgb)
- void `setObjectLineType` (Qt::PenStyle lineType)
- void `setObjectLineWeight` (qreal lineWeight)
- void `setObjectPath` (const QPainterPath &p)
- void `setObjectRubberMode` (int mode)
- void `setObjectRubberPoint` (const QString &key, const QPointF &point)
- void `setObjectRubberText` (const QString &key, const QString &txt)
- virtual QRectF `boundingRect` () const
- virtual QPainterPath `shape` () const
- void `drawRubberLine` (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void `vulcanize` ()=0
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)=0
- virtual QList<QPointF> `allGripPoints` ()=0
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void `paint` (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from `BaseObject`

- QPen `lineWeightPen` () const
- qreal `pi` () const
- qreal `radians` (qreal degree) const
- qreal `degrees` (qreal radian) const
- void `realRender` (QPainter \*painter, const QPainterPath &renderPath)

### Private Member Functions

- void `init` (qreal centerX, qreal centerY, qreal radius, QRgb rgb, Qt::PenStyle lineType)
- void `updatePath` ()

### 13.11.1 Member Enumeration Documentation

#### 13.11.1.1 anonymous enum anonymous enum

##### Enumerator

Type	<input type="button" value=""/>
------	---------------------------------

### 13.11.2 Constructor & Destructor Documentation

#### 13.11.2.1 **CircleObject()** [1/2] `CircleObject (`

```
    qreal centerX,  
    qreal centerY,  
    qreal radius,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

#### 13.11.2.2 **CircleObject()** [2/2] `CircleObject (`

```
    CircleObject * obj,  
    QGraphicsItem * parent = 0 )
```

#### 13.11.2.3 **~CircleObject()** `~CircleObject ( )`

### 13.11.3 Member Function Documentation

#### 13.11.3.1 **allGripPoints()** `QList< QPointF > allGripPoints ( ) [virtual]`

Implements [BaseObject](#).

#### 13.11.3.2 **gripEdit()** `void gripEdit (`

```
    const QPointF & before,  
    const QPointF & after ) [virtual]
```

Implements [BaseObject](#).

#### 13.11.3.3 **init()** `void init (`

```
    qreal centerX,  
    qreal centerY,  
    qreal radius,  
    QRgb rgb,  
    Qt::PenStyle lineType ) [private]
```

**13.11.3.4 mouseSnapPoint()** QPointF mouseSnapPoint ( const QPointF & *mousePoint* ) [virtual]

Implements [BaseObject](#).

**13.11.3.5 objectArea()** qreal objectArea ( ) const [inline]

**13.11.3.6 objectCenter()** QPointF objectCenter ( ) const [inline]

**13.11.3.7 objectCenterX()** qreal objectCenterX ( ) const [inline]

**13.11.3.8 objectCenterY()** qreal objectCenterY ( ) const [inline]

**13.11.3.9 objectCircumference()** qreal objectCircumference ( ) const [inline]

**13.11.3.10 objectDiameter()** qreal objectDiameter ( ) const [inline]

**13.11.3.11 objectQuadrant0()** QPointF objectQuadrant0 ( ) const [inline]

**13.11.3.12 objectQuadrant180()** QPointF objectQuadrant180 ( ) const [inline]

**13.11.3.13 objectQuadrant270()** QPointF objectQuadrant270 ( ) const [inline]

**13.11.3.14 objectQuadrant90()** QPointF objectQuadrant90 ( ) const [inline]

**13.11.3.15 `objectRadius()`** `qreal objectRadius ( ) const [inline]`

**13.11.3.16 `objectSavePath()`** `QPainterPath objectSavePath ( ) const`

**13.11.3.17 `paint()`** `void paint (`  
    `QPainter * painter,`  
    `const QStyleOptionGraphicsItem * option,`  
    `QWidget * ) [protected]`

**13.11.3.18 `setObjectArea()`** `void setObjectArea (`  
    `qreal area )`

**13.11.3.19 `setObjectCenter()` [1/2]** `void setObjectCenter (`  
    `const QPointF & center )`

**13.11.3.20 `setObjectCenter()` [2/2]** `void setObjectCenter (`  
    `qreal centerX,`  
    `qreal centerY )`

**13.11.3.21 `setObjectCenterX()`** `void setObjectCenterX (`  
    `qreal centerX )`

**13.11.3.22 `setObjectCenterY()`** `void setObjectCenterY (`  
    `qreal centerY )`

**13.11.3.23 `setObjectCircumference()`** `void setObjectCircumference (`  
    `qreal circumference )`

**13.11.3.24 setObjectDiameter()** void setObjectDiameter ( qreal diameter )

**13.11.3.25 setObjectRadius()** void setObjectRadius ( qreal radius )

**13.11.3.26 type()** virtual int type ( ) const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.11.3.27 updatePath()** void updatePath ( ) [private]

**13.11.3.28 updateRubber()** void updateRubber ( QPainter \* painter = 0 )

**13.11.3.29 vulcanize()** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

The documentation for this class was generated from the following files:

- [embroidermodder2/object-circle.h](#)
- [embroidermodder2/object-circle.cpp](#)

## 13.12 CmdPrompt Class Reference

```
#include <cmdprompt.h>
```

## Public Slots

- `QString getHistory ()`
- `QString getPrefix ()`
- `QString getCurrentText ()`
- `void setCurrentText (const QString &txt)`
- `void setHistory (const QString &txt)`
- `void setPrefix (const QString &txt)`
- `void appendHistory (const QString &txt)`
- `void startResizingTheHistory (int y)`
- `void stopResizingTheHistory (int y)`
- `void resizeTheHistory (int y)`
- `void addCommand (const QString &alias, const QString &cmd)`
- `void endCommand ()`
- `bool isCommandActive ()`
- `QString activeCommand ()`
- `QString lastCommand ()`
- `void processInput ()`
- `void enableRapidFire ()`
- `void disableRapidFire ()`
- `bool isRapidFireEnabled ()`
- `void alert (const QString &txt)`
- `void startBlinking ()`
- `void stopBlinking ()`
- `void blink ()`
- `void setPromptTextColor (const QColor &)`
- `void setPromptBackgroundColor (const QColor &)`
- `void setPromptFontFamily (const QString &)`
- `void setPromptFontStyle (const QString &)`
- `void setPromptFontSize (int)`
- `void floatingChanged (bool)`
- `void saveHistory (const QString &fileName, bool html)`

## Signals

- `void appendTheHistory (const QString &txt, int prefixLength)`
- `void startCommand (const QString &cmd)`
- `void runCommand (const QString &cmd, const QString &cmdtxt)`
- `void deletePressed ()`
- `void tabPressed ()`
- `void escapePressed ()`
- `void upPressed ()`
- `void downPressed ()`
- `void F1Pressed ()`
- `void F2Pressed ()`
- `void F3Pressed ()`
- `void F4Pressed ()`
- `void F5Pressed ()`
- `void F6Pressed ()`
- `void F7Pressed ()`
- `void F8Pressed ()`
- `void F9Pressed ()`
- `void F10Pressed ()`
- `void F11Pressed ()`

- void `F12Pressed ()`
- void `cutPressed ()`
- void `copyPressed ()`
- void `pastePressed ()`
- void `selectAllPressed ()`
- void `undoPressed ()`
- void `redoPressed ()`
- void `shiftPressed ()`
- void `shiftReleased ()`
- void `showSettings ()`
- void `historyAppended (const QString &txt)`

### Public Member Functions

- `CmdPrompt (QWidget *parent=0)`
- `~CmdPrompt ()`

### Private Member Functions

- void `updateStyle ()`

### Private Attributes

- `CmdPromptInput * promptInput`
- `CmdPromptHistory * promptHistory`
- `QVBoxLayout * promptVBoxLayout`
- `QFrame * promptDivider`
- `CmdPromptSplitter * promptSplitter`
- `QHash<QString, QString > * styleHash`
- `QTimer * blinkTimer`
- `bool blinkState`

### 13.12.1 Constructor & Destructor Documentation

**13.12.1.1 `CmdPrompt()`** `CmdPrompt (`  
`QWidget * parent = 0 )`

**13.12.1.2 `~CmdPrompt()`** `~CmdPrompt ( )`

### 13.12.2 Member Function Documentation

**13.12.2.1 activeCommand** `QString activeCommand ( ) [inline], [slot]`

**13.12.2.2 addCommand** `void addCommand (`  
    `const QString & alias,`  
    `const QString & cmd ) [inline], [slot]`

**13.12.2.3 alert** `void alert (`  
    `const QString & txt ) [slot]`

**13.12.2.4 appendHistory** `void appendHistory (`  
    `const QString & txt ) [slot]`

**13.12.2.5 appendTheHistory** `void appendTheHistory (`  
    `const QString & txt,`  
    `int prefixLength ) [signal]`

**13.12.2.6 blink** `void blink ( ) [slot]`

**13.12.2.7 copyPressed** `void copyPressed ( ) [signal]`

**13.12.2.8 cutPressed** `void cutPressed ( ) [signal]`

**13.12.2.9 deletePressed** `void deletePressed ( ) [signal]`

**13.12.2.10 disableRapidFire** `void disableRapidFire ( ) [inline], [slot]`

**13.12.2.11 downPressed** void downPressed ( ) [signal]

**13.12.2.12 enableRapidFire** void enableRapidFire ( ) [inline], [slot]

**13.12.2.13 endCommand** void endCommand ( ) [inline], [slot]

**13.12.2.14 escapePressed** void escapePressed ( ) [signal]

**13.12.2.15 F10Pressed** void F10Pressed ( ) [signal]

**13.12.2.16 F11Pressed** void F11Pressed ( ) [signal]

**13.12.2.17 F12Pressed** void F12Pressed ( ) [signal]

**13.12.2.18 F1Pressed** void F1Pressed ( ) [signal]

**13.12.2.19 F2Pressed** void F2Pressed ( ) [signal]

**13.12.2.20 F3Pressed** void F3Pressed ( ) [signal]

**13.12.2.21 F4Pressed** void F4Pressed ( ) [signal]

**13.12.2.22 F5Pressed** void F5Pressed ( ) [signal]

**13.12.2.23 F6Pressed** void F6Pressed ( ) [signal]

**13.12.2.24 F7Pressed** void F7Pressed ( ) [signal]

**13.12.2.25 F8Pressed** void F8Pressed ( ) [signal]

**13.12.2.26 F9Pressed** void F9Pressed ( ) [signal]

**13.12.2.27 floatingChanged** void floatingChanged ( bool isFloating ) [slot]

**13.12.2.28 getCurrentText** QString getCurrentText ( ) [inline], [slot]

**13.12.2.29 getHistory** QString getHistory ( ) [inline], [slot]

**13.12.2.30 getPrefix** QString getPrefix ( ) [inline], [slot]

**13.12.2.31 historyAppended** void historyAppended ( const QString & txt ) [signal]

**13.12.2.32 isCommandActive** bool isCommandActive ( ) [inline], [slot]

**13.12.2.33 `isRapidFireEnabled`** `bool isRapidFireEnabled () [inline], [slot]`

**13.12.2.34 `lastCommand`** `QString lastCommand () [inline], [slot]`

**13.12.2.35 `pastePressed`** `void pastePressed () [signal]`

**13.12.2.36 `processInput`** `void processInput () [inline], [slot]`

**13.12.2.37 `redoPressed`** `void redoPressed () [signal]`

**13.12.2.38 `resizeTheHistory`** `void resizeTheHistory ( int y ) [inline], [slot]`

**13.12.2.39 `runCommand`** `void runCommand ( const QString & cmd, const QString & cmdtxt ) [signal]`

**13.12.2.40 `saveHistory`** `void saveHistory ( const QString & fileName, bool html ) [slot]`

**13.12.2.41 `selectAllPressed`** `void selectAllPressed () [signal]`

**13.12.2.42 `setCurrentText`** `void setCurrentText ( const QString & txt ) [inline], [slot]`

**13.12.2.43 setHistory** void setHistory ( const QString & *txt* ) [inline], [slot]

**13.12.2.44 setPrefix** void setPrefix ( const QString & *txt* ) [slot]

**13.12.2.45 setPromptBackgroundColor** void setPromptBackgroundColor ( const QColor & *color* ) [slot]

**13.12.2.46 setPromptFontFamily** void setPromptFontFamily ( const QString & *family* ) [slot]

**13.12.2.47 setPromptFontSize** void setPromptFontSize ( int *size* ) [slot]

**13.12.2.48 setPromptFontStyle** void setPromptFontStyle ( const QString & *style* ) [slot]

**13.12.2.49 setPromptTextColor** void setPromptTextColor ( const QColor & *color* ) [slot]

**13.12.2.50 shiftPressed** void shiftPressed ( ) [signal]

**13.12.2.51 shiftReleased** void shiftReleased ( ) [signal]

**13.12.2.52 showSettings** void showSettings ( ) [signal]

**13.12.2.53 startBlinking** void startBlinking ( ) [slot]

**13.12.2.54 startCommand** void startCommand ( const QString & cmd ) [signal]

**13.12.2.55 startResizingTheHistory** void startResizingTheHistory ( int y ) [inline], [slot]

**13.12.2.56 stopBlinking** void stopBlinking ( ) [slot]

**13.12.2.57 stopResizingTheHistory** void stopResizingTheHistory ( int y ) [inline], [slot]

**13.12.2.58 tabPressed** void tabPressed ( ) [signal]

**13.12.2.59 undoPressed** void undoPressed ( ) [signal]

**13.12.2.60 updateStyle()** void updateStyle ( ) [private]

**13.12.2.61 upPressed** void upPressed ( ) [signal]

### 13.12.3 Member Data Documentation

**13.12.3.1 blinkState** bool blinkState [private]

**13.12.3.2 blinkTimer** QTimer\* blinkTimer [private]

**13.12.3.3 promptDivider** QFrame\* promptDivider [private]

**13.12.3.4 promptHistory** CmdPromptHistory\* promptHistory [private]

**13.12.3.5 promptInput** CmdPromptInput\* promptInput [private]

**13.12.3.6 promptSplitter** CmdPromptSplitter\* promptSplitter [private]

**13.12.3.7 promptVBoxLayout** QVBoxLayout\* promptVBoxLayout [private]

**13.12.3.8 styleHash** QHash<QString, QString>\* styleHash [private]

The documentation for this class was generated from the following files:

- embroidermodder2/cmprompt.h
- embroidermodder2/cmprompt.cpp

## 13.13 CmdPromptHandle Class Reference

```
#include <cmprompt.h>
```

### Signals

- void handlePressed (int y)
- void handleReleased (int y)
- void handleMoved (int y)

### Public Member Functions

- CmdPromptHandle (Qt::Orientation orientation, QSplitter \*parent)
- ~CmdPromptHandle ()

## Protected Member Functions

- void `mousePressEvent` (QMouseEvent \*e)
- void `mouseReleaseEvent` (QMouseEvent \*e)
- void `mouseMoveEvent` (QMouseEvent \*e)

## Private Attributes

- int `pressY`
- int `releaseY`
- int `moveY`

### 13.13.1 Constructor & Destructor Documentation

**13.13.1.1 `CmdPromptHandle()`** `CmdPromptHandle` (

```
Qt::Orientation orientation,
QSsplitter * parent )
```

**13.13.1.2 `~CmdPromptHandle()`** `~CmdPromptHandle` ( )

### 13.13.2 Member Function Documentation

**13.13.2.1 `handleMoved`** `void handleMoved (`  
    `int y ) [signal]`

**13.13.2.2 `handlePressed`** `void handlePressed (`  
    `int y ) [signal]`

**13.13.2.3 `handleReleased`** `void handleReleased (`  
    `int y ) [signal]`

**13.13.2.4 `mouseMoveEvent()`** `void mouseMoveEvent (`  
    `QMouseEvent * e ) [protected]`

**13.13.2.5 mousePressEvent()** void mousePressEvent ( QMouseEvent \* e ) [protected]

**13.13.2.6 mouseReleaseEvent()** void mouseReleaseEvent ( QMouseEvent \* e ) [protected]

### 13.13.3 Member Data Documentation

**13.13.3.1 moveY** int moveY [private]

**13.13.3.2 pressY** int pressY [private]

**13.13.3.3 releaseY** int releaseY [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/cmdprompt.h](#)
- [embroidermodder2/cmdprompt.cpp](#)

## 13.14 CmdPromptHistory Class Reference

#include <cmdprompt.h>

### Public Slots

- void [appendHistory](#) (const QString &txt, int prefixLength)
- void [startResizeHistory](#) (int y)
- void [stopResizeHistory](#) (int y)
- void [resizeHistory](#) (int y)

### Signals

- void [historyAppended](#) (const QString &txt)

### Public Member Functions

- [CmdPromptHistory](#) (QWidget \*parent=0)
- [~CmdPromptHistory](#) ()

## Protected Member Functions

- void `contextMenuEvent` (QContextMenuEvent \*event)

## Private Member Functions

- QString `applyFormatting` (const QString &txt, int prefixLength)

## Private Attributes

- int `tmpHeight`

### 13.14.1 Constructor & Destructor Documentation

**13.14.1.1 `CmdPromptHistory()`** `CmdPromptHistory` ( QWidget \* parent = 0 )

**13.14.1.2 `~CmdPromptHistory()`** ~`CmdPromptHistory` ( )

### 13.14.2 Member Function Documentation

**13.14.2.1 `appendHistory`** void appendHistory ( const QString & txt, int prefixLength ) [slot]

**13.14.2.2 `applyFormatting()`** QString applyFormatting ( const QString & txt, int prefixLength ) [private]

**13.14.2.3 `contextMenuEvent()`** void contextMenuEvent ( QContextMenuEvent \* event ) [protected]

**13.14.2.4 historyAppended** void historyAppended ( const QString & txt ) [signal]

**13.14.2.5 resizeHistory** void resizeHistory ( int y ) [slot]

**13.14.2.6 startResizeHistory** void startResizeHistory ( int y ) [slot]

**13.14.2.7 stopResizeHistory** void stopResizeHistory ( int y ) [slot]

### 13.14.3 Member Data Documentation

**13.14.3.1 tmpHeight** int tmpHeight [private]

The documentation for this class was generated from the following files:

- embroidermodder2/[cmdprompt.h](#)
- embroidermodder2/[cmdprompt.cpp](#)

## 13.15 CmdPromptInput Class Reference

```
#include <cmdprompt.h>
```

### Public Slots

- void [addCommand](#) (const QString &alias, const QString &cmd)
- void [endCommand](#) ()
- void [processInput](#) (const QChar &rapidChar=QChar())
- void [checkSelection](#) ()
- void [updateCurrentText](#) (const QString &txt)
- void [checkEditedText](#) (const QString &txt)
- void [checkChangedText](#) (const QString &txt)
- void [checkCursorPosition](#) (int oldpos, int newpos)

## Signals

- void `appendHistory` (const QString &txt, int prefixLength)
- void `startCommand` (const QString &cmd)
- void `runCommand` (const QString &cmd, const QString &cmdtxt)
- void `deletePressed` ()
- void `tabPressed` ()
- void `escapePressed` ()
- void `upPressed` ()
- void `downPressed` ()
- void `F1Pressed` ()
- void `F2Pressed` ()
- void `F3Pressed` ()
- void `F4Pressed` ()
- void `F5Pressed` ()
- void `F6Pressed` ()
- void `F7Pressed` ()
- void `F8Pressed` ()
- void `F9Pressed` ()
- void `F10Pressed` ()
- void `F11Pressed` ()
- void `F12Pressed` ()
- void `cutPressed` ()
- void `copyPressed` ()
- void `pastePressed` ()
- void `selectAllPressed` ()
- void `undoPressed` ()
- void `redoPressed` ()
- void `shiftPressed` ()
- void `shiftReleased` ()
- void `showSettings` ()
- void `stopBlinking` ()

## Public Member Functions

- `CmdPromptInput` (QWidget \*parent=0)
- `~CmdPromptInput` ()

## Public Attributes

- QString `curText`
- QString `defaultPrefix`
- QString `prefix`
- QString `lastCmd`
- QString `curCmd`
- bool `cmdActive`
- bool `rapidFireEnabled`
- bool `isBlinking`

## Protected Member Functions

- void `contextMenuEvent` (QContextMenuEvent \*event)
- bool `eventFilter` (QObject \*obj, QEvent \*event)

**Private Slots**

- void `copyClip ()`
- void `pasteClip ()`

**Private Member Functions**

- void `changeFormatting (const QList< QTextLayout::FormatRange > &formats)`
- void `clearFormatting ()`
- void `applyFormatting ()`

**Private Attributes**

- QHash< QString, QString > \* `aliasHash`

**13.15.1 Constructor & Destructor Documentation**

**13.15.1.1 CmdPromptInput()** `CmdPromptInput ( QWidget * parent = 0 )`

**13.15.1.2 ~CmdPromptInput()** `~CmdPromptInput ( )`

**13.15.2 Member Function Documentation**

**13.15.2.1 addCommand** `void addCommand ( const QString & alias, const QString & cmd ) [slot]`

**13.15.2.2 appendHistory** `void appendHistory ( const QString & txt, int prefixLength ) [signal]`

**13.15.2.3 applyFormatting()** `void applyFormatting ( ) [private]`

**13.15.2.4 changeFormatting()** void changeFormatting ( const QList< QTextLayout::FormatRange > & formats ) [private]

**13.15.2.5 checkChangedText** void checkChangedText ( const QString & txt ) [slot]

**13.15.2.6 checkCursorPosition** void checkCursorPosition ( int oldpos, int newpos ) [slot]

**13.15.2.7 checkEditedText** void checkEditedText ( const QString & txt ) [slot]

**13.15.2.8 checkSelection** void checkSelection ( ) [slot]

**13.15.2.9 clearFormatting()** void clearFormatting ( ) [private]

**13.15.2.10 contextMenuEvent()** void contextMenuEvent ( QContextMenuEvent \* event ) [protected]

**13.15.2.11 copyClip** void copyClip ( ) [private], [slot]

**13.15.2.12 copyPressed** void copyPressed ( ) [signal]

**13.15.2.13 cutPressed** void cutPressed ( ) [signal]

**13.15.2.14 deletePressed** void deletePressed ( ) [signal]

**13.15.2.15 downPressed** void downPressed ( ) [signal]

**13.15.2.16 endCommand** void endCommand ( ) [slot]

**13.15.2.17 escapePressed** void escapePressed ( ) [signal]

**13.15.2.18 eventFilter()** bool eventFilter ( QObject \* obj, QEvent \* event ) [protected]

**13.15.2.19 F10Pressed** void F10Pressed ( ) [signal]

**13.15.2.20 F11Pressed** void F11Pressed ( ) [signal]

**13.15.2.21 F12Pressed** void F12Pressed ( ) [signal]

**13.15.2.22 F1Pressed** void F1Pressed ( ) [signal]

**13.15.2.23 F2Pressed** void F2Pressed ( ) [signal]

**13.15.2.24 F3Pressed** void F3Pressed ( ) [signal]

**13.15.2.25 F4Pressed** void F4Pressed ( ) [signal]

**13.15.2.26 F5Pressed** void F5Pressed ( ) [signal]

**13.15.2.27 F6Pressed** void F6Pressed ( ) [signal]

**13.15.2.28 F7Pressed** void F7Pressed ( ) [signal]

**13.15.2.29 F8Pressed** void F8Pressed ( ) [signal]

**13.15.2.30 F9Pressed** void F9Pressed ( ) [signal]

**13.15.2.31 pasteClip** void pasteClip ( ) [private], [slot]

**13.15.2.32 pastePressed** void pastePressed ( ) [signal]

**13.15.2.33 processInput** void processInput (const QChar & rapidChar = QChar() ) [slot]

**Todo** sort Qt::Return if(rapidChar == Qt::Key\_Enter || rapidChar == Qt::Key\_Return) { emit appendHistory(curText, prefix.length()); emit runCommand(curCmd, "RAPID\_ENTER"); curText.clear(); clear(); return; } else if(rapidChar == Qt::Key\_Space) { updateCurrentText(curText + " "); emit runCommand(curCmd, cmdtxt + " "); return; } else { emit runCommand(curCmd, cmdtxt); return; }

**13.15.2.34 redoPressed** void redoPressed ( ) [signal]

```
13.15.2.35 runCommand void runCommand (
    const QString & cmd,
    const QString & cmdtxt ) [signal]
```

```
13.15.2.36 selectAllPressed void selectAllPressed () [signal]
```

```
13.15.2.37 shiftPressed void shiftPressed () [signal]
```

```
13.15.2.38 shiftReleased void shiftReleased () [signal]
```

```
13.15.2.39 showSettings void showSettings () [signal]
```

```
13.15.2.40 startCommand void startCommand (
    const QString & cmd ) [signal]
```

```
13.15.2.41 stopBlinking void stopBlinking () [signal]
```

```
13.15.2.42 tabPressed void tabPressed () [signal]
```

```
13.15.2.43 undoPressed void undoPressed () [signal]
```

```
13.15.2.44 updateCurrentText void updateCurrentText (
    const QString & txt ) [slot]
```

```
13.15.2.45 upPressed void upPressed () [signal]
```

### 13.15.3 Member Data Documentation

**13.15.3.1 aliasHash** `QHash<QString, QString>* aliasHash [private]`

**13.15.3.2 cmdActive** `bool cmdActive`

**13.15.3.3 curCmd** `QString curCmd`

**13.15.3.4 curText** `QString curText`

**13.15.3.5 defaultPrefix** `QString defaultPrefix`

**13.15.3.6 isBlinking** `bool isBlinking`

**13.15.3.7 lastCmd** `QString lastCmd`

**13.15.3.8 prefix** `QString prefix`

**13.15.3.9 rapidFireEnabled** `bool rapidFireEnabled`

The documentation for this class was generated from the following files:

- [embroidermodder2/cmdprompt.h](#)
- [embroidermodder2/cmdprompt.cpp](#)

## 13.16 CmdPromptSplitter Class Reference

```
#include <cmdprompt.h>
```

### Signals

- void `pressResizeHistory` (int y)
- void `releaseResizeHistory` (int y)
- void `moveResizeHistory` (int y)

### Public Member Functions

- `CmdPromptSplitter` (QWidget \*parent=0)
- `~CmdPromptSplitter` ()

### Protected Member Functions

- `QSplitterHandle * createHandle` ()

#### 13.16.1 Constructor & Destructor Documentation

**13.16.1.1 `CmdPromptSplitter()`** `CmdPromptSplitter` (  
    QWidget \* parent = 0 )

**13.16.1.2 `~CmdPromptSplitter()`** `~CmdPromptSplitter` ( )

#### 13.16.2 Member Function Documentation

**13.16.2.1 `createHandle()`** `QSplitterHandle * createHandle` ( ) [protected]

**13.16.2.2 `moveResizeHistory`** `void moveResizeHistory` (  
    int y ) [signal]

**13.16.2.3 `pressResizeHistory`** void pressResizeHistory ( int y ) [signal]

**13.16.2.4 `releaseResizeHistory`** void releaseResizeHistory ( int y ) [signal]

The documentation for this class was generated from the following files:

- embroiderymodder2/[cmdprompt.h](#)
- embroiderymodder2/[cmdprompt.cpp](#)

## 13.17 Compress Struct Reference

```
#include <embroidery_internal.h>
```

### Public Attributes

- int [bit\\_position](#)
- char \* [input\\_data](#)
- int [input\\_length](#)
- int [bits\\_total](#)
- int [block\\_elements](#)
- [huffman character\\_length\\_huffman](#)
- [huffman character\\_huffman](#)
- [huffman distance\\_huffman](#)

### 13.17.1 Member Data Documentation

**13.17.1.1 `bit_position`** int bit\_position

**13.17.1.2 `bits_total`** int bits\_total

**13.17.1.3 `block_elements`** int block\_elements

**13.17.1.4 `character_huffman`** [huffman](#) character\_huffman

**13.17.1.5 character\_length\_huffman** [huffman](#) character\_length\_huffman

**13.17.1.6 distance\_huffman** [huffman](#) distance\_huffman

**13.17.1.7 input\_data** char\* input\_data

**13.17.1.8 input\_length** int input\_length

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery\\_internal.h](#)

## 13.18 Dictionary\_ Struct Reference

```
#include <gui_backend.h>
```

### Public Attributes

- [DictionaryEntry \\* data](#)
- int [length](#)
- int [max\\_length](#)

#### 13.18.1 Member Data Documentation

**13.18.1.1 data** [DictionaryEntry\\*](#) data

**13.18.1.2 length** int length

**13.18.1.3 max\_length** int max\_length

The documentation for this struct was generated from the following file:

- [embroidermodder2/gui\\_backend.h](#)

## 13.19 DictionaryEntry\_ Struct Reference

```
#include <gui_backend.h>
```

### Public Attributes

- char [key](#) [200]
- char [value](#) [200]

#### 13.19.1 Member Data Documentation

##### 13.19.1.1 **key** char key[200]

##### 13.19.1.2 **value** char value[200]

The documentation for this struct was generated from the following file:

- [embroidermodder2/gui\\_backend.h](#)

## 13.20 DimLeaderObject Class Reference

```
#include <object-dimleader.h>
```

### Public Types

- enum [ArrowStyle](#) {  
    [NoArrow](#) , [Open](#) , [Closed](#) , [Dot](#) ,  
    [Box](#) , [Tick](#) }
- enum [lineStyle](#) { [NoLine](#) , [Flared](#) , [Fletching](#) }
- enum { [Type](#) = [OBJ\\_TYPE\\_DIMLEADER](#) }

### Public Types inherited from [BaseObject](#)

- enum { [Type](#) = [OBJ\\_TYPE\\_BASE](#) }

## Public Member Functions

- `DimLeaderObject (qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, QGraphicsItem *parent=0)`
- `DimLeaderObject (DimLeaderObject *obj, QGraphicsItem *parent=0)`
- `~DimLeaderObject ()`
- `virtual int type () const`
- `QPointF objectEndPoint1 () const`
- `QPointF objectEndPoint2 () const`
- `QPointF objectMidPoint () const`
- `qreal objectX1 () const`
- `qreal objectY1 () const`
- `qreal objectX2 () const`
- `qreal objectY2 () const`
- `qreal objectDeltaX () const`
- `qreal objectDeltaY () const`
- `qreal objectAngle () const`
- `qreal objectLength () const`
- `void setObjectEndPoint1 (const QPointF &endPt1)`
- `void setObjectEndPoint1 (qreal x1, qreal y1)`
- `void setObjectEndPoint2 (const QPointF &endPt2)`
- `void setObjectEndPoint2 (qreal x2, qreal y2)`
- `void setObjectX1 (qreal x)`
- `void setObjectY1 (qreal y)`
- `void setObjectX2 (qreal x)`
- `void setObjectY2 (qreal y)`
- `void updateRubber ( QPainter *painter=0 )`
- `virtual void vulcanize ()`
- `virtual QPointF mouseSnapPoint (const QPointF &mousePoint)`
- `virtual QList< QPointF > allGripPoints ()`
- `virtual void gripEdit (const QPointF &before, const QPointF &after)`

## Public Member Functions inherited from [BaseObject](#)

- `BaseObject ( QGraphicsItem *parent=0 )`
- `virtual ~BaseObject ()`
- `virtual int type () const`
- `qint64 objectID () const`
- `QPen objectPen () const`
- `QColor objectColor () const`
- `QRgb objectColorRGB () const`
- `Qt::PenStyle objectLineType () const`
- `qreal objectLineWidth () const`
- `QPainterPath objectPath () const`
- `int objectRubberMode () const`
- `QPointF objectRubberPoint (const QString &key) const`
- `QString objectRubberText (const QString &key) const`
- `QRectF rect () const`
- `void setRect (const QRectF &r)`
- `void setRect (qreal x, qreal y, qreal w, qreal h)`
- `QLineF line () const`
- `void setLine (const QLineF &li)`
- `void setLine (qreal x1, qreal y1, qreal x2, qreal y2)`
- `void setObjectColor (const QColor &color)`

- void `setObjectColorRGB` (QRgb rgb)
- void `setObjectLineType` (Qt::PenStyle lineType)
- void `setObjectLineWeight` (qreal lineWeight)
- void `setObjectPath` (const QPainterPath &p)
- void `setObjectRubberMode` (int mode)
- void `setObjectRubberPoint` (const QString &key, const QPointF &point)
- void `setObjectRubberText` (const QString &key, const QString &txt)
- virtual QRectF `boundingRect` () const
- virtual QPainterPath `shape` () const
- void `drawRubberLine` (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void `vulcanize` ()=0
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)=0
- virtual QList< QPointF > `allGripPoints` ()=0
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void `paint` (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from `BaseObject`

- QPen `lineWeightPen` () const
- qreal `pi` () const
- qreal `radians` (qreal degree) const
- qreal `degrees` (qreal radian) const
- void `realRender` (QPainter \*painter, const QPainterPath &renderPath)

### Private Member Functions

- void `init` (qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, Qt::PenStyle lineType)
- void `updateLeader` ()

### Private Attributes

- bool `curved`
- bool `filled`
- QPainterPath `lineStylePath`
- QPainterPath `arrowStylePath`
- qreal `arrowStyleAngle`
- qreal `arrowStyleLength`
- qreal `lineStyleAngle`
- qreal `lineStyleLength`

### 13.20.1 Member Enumeration Documentation

#### 13.20.1.1 anonymous enum anonymous enum

Enumerator

Type	<input type="button" value=""/>
------	---------------------------------

### 13.20.1.2 ArrowStyle enum `ArrowStyle`

Enumerator

NoArrow	<input type="button" value=""/>
Open	<input type="button" value=""/>
Closed	<input type="button" value=""/>
Dot	<input type="button" value=""/>
Box	<input type="button" value=""/>
Tick	<input type="button" value=""/>

### 13.20.1.3 lineStyle enum `lineStyle`

Enumerator

NoLine	<input type="button" value=""/>
Flared	<input type="button" value=""/>
Fletching	<input type="button" value=""/>

## 13.20.2 Constructor & Destructor Documentation

### 13.20.2.1 DimLeaderObject() [1/2] `DimLeaderObject` (

```
qreal x1,  
qreal y1,  
qreal x2,  
qreal y2,  
QRgb rgb,  
QGraphicsItem * parent = 0 )
```

### 13.20.2.2 DimLeaderObject() [2/2] `DimLeaderObject` (

```
DimLeaderObject * obj,  
QGraphicsItem * parent = 0 )
```

**13.20.2.3 ~DimLeaderObject()** ~DimLeaderObject ( )

### 13.20.3 Member Function Documentation

**13.20.3.1 allGripPoints()** QList< QPointF > allGripPoints ( ) [virtual]

Implements [BaseObject](#).

**13.20.3.2 gripEdit()** void gripEdit ( const QPointF & before, const QPointF & after ) [virtual]

Implements [BaseObject](#).

**13.20.3.3 init()** void init ( qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, Qt::PenStyle lineType ) [private]

**13.20.3.4 mouseSnapPoint()** QPointF mouseSnapPoint ( const QPointF & mousePoint ) [virtual]

Implements [BaseObject](#).

**13.20.3.5 objectAngle()** qreal objectAngle ( ) const

**13.20.3.6 objectDeltaX()** qreal objectDeltaX ( ) const [inline]

**13.20.3.7 objectDeltaY()** qreal objectDeltaY ( ) const [inline]

**13.20.3.8 objectEndPoint1()** QPointF objectEndPoint1 ( ) const

**13.20.3.9 objectEndPoint2()** QPointF objectEndPoint2 ( ) const

**13.20.3.10 objectLength()** qreal objectLength ( ) const [inline]

**13.20.3.11 objectMidPoint()** QPointF objectMidPoint ( ) const

**13.20.3.12 objectX1()** qreal objectX1 ( ) const [inline]

**13.20.3.13 objectX2()** qreal objectX2 ( ) const [inline]

**13.20.3.14 objectY1()** qreal objectY1 ( ) const [inline]

**13.20.3.15 objectY2()** qreal objectY2 ( ) const [inline]

**13.20.3.16 paint()** void paint (   
     QPainter \* painter,  
     const QStyleOptionGraphicsItem \* option,  
     QWidget \* ) [protected]

**13.20.3.17 setObjectEndPoint1() [1/2]** void setObjectEndPoint1 (   
     const QPointF & endPt1 )

**13.20.3.18 setObjectEndPoint1()** [2/2] void setObjectEndPoint1 ( qreal x1, qreal y1 )

**13.20.3.19 setObjectEndPoint2()** [1/2] void setObjectEndPoint2 ( const QPointF & endPt2 )

**13.20.3.20 setObjectEndPoint2()** [2/2] void setObjectEndPoint2 ( qreal x2, qreal y2 )

**13.20.3.21 setObjectX1()** void setObjectX1 ( qreal x ) [inline]

**13.20.3.22 setObjectX2()** void setObjectX2 ( qreal x ) [inline]

**13.20.3.23 setObjectY1()** void setObjectY1 ( qreal y ) [inline]

**13.20.3.24 setObjectY2()** void setObjectY2 ( qreal y ) [inline]

**13.20.3.25 type()** virtual int type ( ) const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.20.3.26 updateLeader()** void updateLeader ( ) [private]

**13.20.3.27 updateRubber()** void updateRubber ( QPainter \* painter = 0 )

**13.20.3.28 vulcanize()** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

#### 13.20.4 Member Data Documentation

**13.20.4.1 arrowStyleAngle** qreal arrowStyleAngle [private]

**13.20.4.2 arrowStyleLength** qreal arrowStyleLength [private]

**13.20.4.3 arrowStylePath** QPainterPath arrowStylePath [private]

**13.20.4.4 curved** bool curved [private]

**13.20.4.5 filled** bool filled [private]

**13.20.4.6 lineStyleAngle** qreal lineStyleAngle [private]

**13.20.4.7 lineStyleLength** qreal lineStyleLength [private]

**13.20.4.8 lineStylePath** QPainterPath lineStylePath [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/object-dimleader.h](#)
- [embroidermodder2/object-dimleader.cpp](#)

### 13.21 EllipseObject Class Reference

```
#include <object-ellipse.h>
```

#### Public Types

- enum { `Type` = OBJ\_TYPE\_ELLIPSE }

#### Public Types inherited from `BaseObject`

- enum { `Type` = OBJ\_TYPE\_BASE }

#### Public Member Functions

- `EllipseObject` (qreal centerX, qreal centerY, qreal width, qreal height, QRgb rgb, QGraphicsItem \*parent=0)
- `EllipseObject` (`EllipseObject` \*obj, QGraphicsItem \*parent=0)
- `~EllipseObject` ()
- virtual int `type` () const
- QPainterPath `objectSavePath` () const
- QPointF `objectCenter` () const
- qreal `objectCenterX` () const
- qreal `objectCenterY` () const
- qreal `objectRadiusMajor` () const
- qreal `objectRadiusMinor` () const
- qreal `objectDiameterMajor` () const
- qreal `objectDiameterMinor` () const
- qreal `objectWidth` () const
- qreal `objectHeight` () const
- QPointF `objectQuadrant0` () const
- QPointF `objectQuadrant90` () const
- QPointF `objectQuadrant180` () const
- QPointF `objectQuadrant270` () const
- void `setObjectSize` (qreal width, qreal height)
- void `setObjectCenter` (const QPointF &center)
- void `setObjectCenter` (qreal centerX, qreal centerY)
- void `setObjectCenterX` (qreal centerX)
- void `setObjectCenterY` (qreal centerY)
- void `setObjectRadiusMajor` (qreal radius)
- void `setObjectRadiusMinor` (qreal radius)
- void `setObjectDiameterMajor` (qreal diameter)
- void `setObjectDiameterMinor` (qreal diameter)
- void `updateRubber` (QPainter \*painter=0)
- virtual void `vulcanize` ()
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)
- virtual QList< QPointF > `allGripPoints` ()
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)

**Public Member Functions inherited from BaseObject**

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

**Protected Member Functions**

- void [paint](#) (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

**Protected Member Functions inherited from BaseObject**

- QPen [lineWeightPen](#) () const
- qreal [pi](#) () const
- qreal [radians](#) (qreal degree) const
- qreal [degrees](#) (qreal radian) const
- void [realRender](#) (QPainter \*painter, const QPainterPath &renderPath)

## Private Member Functions

- void [init](#) (qreal centerX, qreal centerY, qreal width, qreal height, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) ()

### 13.21.1 Member Enumeration Documentation

#### 13.21.1.1 anonymous enum anonymous enum

Enumerator

Type	<input type="button" value=""/>
------	---------------------------------

### 13.21.2 Constructor & Destructor Documentation

#### 13.21.2.1 EllipseObject() [1/2] [EllipseObject](#) (

```
    qreal centerX,
    qreal centerY,
    qreal width,
    qreal height,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

#### 13.21.2.2 EllipseObject() [2/2] [EllipseObject](#) (

```
    EllipseObject * obj,
    QGraphicsItem * parent = 0 )
```

#### 13.21.2.3 ~EllipseObject() [~EllipseObject](#) ( )

### 13.21.3 Member Function Documentation

#### 13.21.3.1 allGripPoints() [QList< QPointF > allGripPoints](#) ( ) [virtual]

Implements [BaseObject](#).

```
13.21.3.2 gripEdit() void gripEdit (
    const QPointF & before,
    const QPointF & after ) [virtual]
```

Implements [BaseObject](#).

```
13.21.3.3 init() void init (
    qreal centerX,
    qreal centerY,
    qreal width,
    qreal height,
    QRgb rgb,
    Qt::PenStyle lineType ) [private]
```

```
13.21.3.4 mouseSnapPoint() QPointF mouseSnapPoint (
    const QPointF & mousePoint ) [virtual]
```

Implements [BaseObject](#).

```
13.21.3.5 objectCenter() QPointF objectCenter () const [inline]
```

```
13.21.3.6 objectCenterX() qreal objectCenterX () const [inline]
```

```
13.21.3.7 objectCenterY() qreal objectCenterY () const [inline]
```

```
13.21.3.8 objectDiameterMajor() qreal objectDiameterMajor () const [inline]
```

```
13.21.3.9 objectDiameterMinor() qreal objectDiameterMinor () const [inline]
```

```
13.21.3.10 objectHeight() qreal objectHeight () const [inline]
```

**13.21.3.11 objectQuadrant0()** QPointF objectQuadrant0 ( ) const

**13.21.3.12 objectQuadrant180()** QPointF objectQuadrant180 ( ) const

**13.21.3.13 objectQuadrant270()** QPointF objectQuadrant270 ( ) const

**13.21.3.14 objectQuadrant90()** QPointF objectQuadrant90 ( ) const

**13.21.3.15 objectRadiusMajor()** qreal objectRadiusMajor ( ) const [inline]

**13.21.3.16 objectRadiusMinor()** qreal objectRadiusMinor ( ) const [inline]

**13.21.3.17 objectSavePath()** QPainterPath objectSavePath ( ) const

**13.21.3.18 objectWidth()** qreal objectWidth ( ) const [inline]

**13.21.3.19 paint()** void paint (   
     QPainter \* painter,  
     const QStyleOptionGraphicsItem \* option,  
     QWidget \* ) [protected]

**13.21.3.20 setObjectCenter() [1/2]** void setObjectCenter (   
     const QPointF & center )

**13.21.3.21 `setObjectCenter()` [2/2]** void setObjectCenter ( qreal centerX, qreal centerY )

**13.21.3.22 `setObjectCenterX()`** void setObjectCenterX ( qreal centerX )

**13.21.3.23 `setObjectCenterY()`** void setObjectCenterY ( qreal centerY )

**13.21.3.24 `setObjectDiameterMajor()`** void setObjectDiameterMajor ( qreal diameter )

**13.21.3.25 `setObjectDiameterMinor()`** void setObjectDiameterMinor ( qreal diameter )

**13.21.3.26 `setObjectRadiusMajor()`** void setObjectRadiusMajor ( qreal radius )

**13.21.3.27 `setObjectRadiusMinor()`** void setObjectRadiusMinor ( qreal radius )

**13.21.3.28 `setObjectSize()`** void setObjectSize ( qreal width, qreal height )

**13.21.3.29 `type()`** virtual int type ( ) const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.21.3.30 updatePath()** void updatePath ( ) [private]

**13.21.3.31 updateRubber()** void updateRubber ( QPainter \* painter = 0 )

**13.21.3.32 vulcanize()** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

The documentation for this class was generated from the following files:

- [embroidermodder2/object-ellipse.h](#)
- [embroidermodder2/object-ellipse.cpp](#)

## 13.22 EmbAlignedDim\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- [EmbVector position](#)

#### 13.22.1 Member Data Documentation

**13.22.1.1 position** [EmbVector](#) position

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

## 13.23 EmbAngularDim\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- [EmbVector position](#)

### 13.23.1 Member Data Documentation

#### 13.23.1.1 position `EmbVector` position

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.24 EmbArc\_ Struct Reference

absolute position (not relative)

```
#include <embroidery.h>
```

### Public Attributes

- `EmbVector start`
- `EmbVector mid`
- `EmbVector end`

#### 13.24.1 Detailed Description

absolute position (not relative)

### 13.24.2 Member Data Documentation

#### 13.24.2.1 end `EmbVector` end

#### 13.24.2.2 mid `EmbVector` mid

#### 13.24.2.3 start `EmbVector` start

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.25 EmbArcLengthDim\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- [EmbVector position](#)

#### 13.25.1 Member Data Documentation

##### 13.25.1.1 **position** [EmbVector](#) position

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

## 13.26 EmbArray\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- [EmbGeometry \\* geometry](#)
- [EmbStitch \\* stitch](#)
- [EmbThread \\* thread](#)
- int [count](#)
- int [length](#)
- int [type](#)

#### 13.26.1 Member Data Documentation

##### 13.26.1.1 **count** int count

##### 13.26.1.2 **geometry** [EmbGeometry\\*](#) geometry

**13.26.1.3 length** int length

**13.26.1.4 stitch** [EmbStitch\\*](#) stitch

**13.26.1.5 thread** [EmbThread\\*](#) thread

**13.26.1.6 type** int type

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

## 13.27 EmbBezier\_Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- [EmbVector start](#)
- [EmbVector control1](#)
- [EmbVector control2](#)
- [EmbVector end](#)

### 13.27.1 Member Data Documentation

**13.27.1.1 control1** [EmbVector](#) control1

**13.27.1.2 control2** [EmbVector](#) control2

**13.27.1.3 end** [EmbVector](#) end

**13.27.1.4 start** [EmbVector](#) start

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

**13.28 EmbBlock\_ Struct Reference**

```
#include <embroidery.h>
```

**Public Attributes**

- [EmbVector position](#)

**13.28.1 Member Data Documentation****13.28.1.1 position** [EmbVector](#) position

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

**13.29 EmbCircle\_ Struct Reference**

```
#include <embroidery.h>
```

**Public Attributes**

- [EmbVector center](#)
- [EmbReal radius](#)

**13.29.1 Member Data Documentation****13.29.1.1 center** [EmbVector](#) center

**13.29.1.2 radius** `EmbReal radius`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.30 EmbColor\_Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- `unsigned char r`
- `unsigned char g`
- `unsigned char b`

### 13.30.1 Detailed Description

`EmbColor` uses the light primaries: red, green, blue in that order.

### 13.30.2 Member Data Documentation

#### 13.30.2.1 b

`unsigned char b`

#### 13.30.2.2 g

`unsigned char g`

#### 13.30.2.3 r

`unsigned char r`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.31 EmbDetailsDialog Class Reference

```
#include <embdetails-dialog.h>
```

## Public Member Functions

- `EmbDetailsDialog` (`QGraphicsScene *theScene, QWidget *parent=0`)
- `~EmbDetailsDialog ()`

## Private Member Functions

- void `getInfo ()`
- `QWidget * createMainWidget ()`
- `QWidget * createHistogram ()`

## Private Attributes

- `QWidget * mainWidget`
- `QDialogButtonBox * buttonBox`
- `quint32 stitchesTotal`
- `quint32 stitchesReal`
- `quint32 stitchesJump`
- `quint32 stitchesTrim`
- `quint32 colorTotal`
- `quint32 colorChanges`
- `QRectF boundingRect`

### 13.31.1 Constructor & Destructor Documentation

#### 13.31.1.1 `EmbDetailsDialog()` `EmbDetailsDialog (`

```
    QGraphicsScene * theScene,  
    QWidget * parent = 0 )
```

#### 13.31.1.2 `~EmbDetailsDialog()` `~EmbDetailsDialog ( )`

### 13.31.2 Member Function Documentation

#### 13.31.2.1 `createHistogram()` `QWidget * createHistogram ( ) [private]`

#### 13.31.2.2 `createMainWidget()` `QWidget * createMainWidget ( ) [private]`

**13.31.2.3 getInfo()** void getInfo () [private]

### 13.31.3 Member Data Documentation

**13.31.3.1 boundingRect** QRectF boundingRect [private]

**13.31.3.2 buttonBox** QDialogButtonBox\* buttonBox [private]

**13.31.3.3 colorChanges** quint32 colorChanges [private]

**13.31.3.4 colorTotal** quint32 colorTotal [private]

**13.31.3.5 mainWidget** QWidget\* mainWidget [private]

**13.31.3.6 stitchesJump** quint32 stitchesJump [private]

**13.31.3.7 stitchesReal** quint32 stitchesReal [private]

**13.31.3.8 stitchesTotal** quint32 stitchesTotal [private]

**13.31.3.9 stitchesTrim** quint32 stitchesTrim [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/embdetails-dialog.h](#)
- [embroidermodder2/embdetails-dialog.cpp](#)

## 13.32 EmbDiameterDim\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- `EmbVector position`

#### 13.32.1 Member Data Documentation

##### 13.32.1.1 `position` `EmbVector position`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.33 EmbEllipse\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- `EmbVector center`
- `EmbVector radius`
- `EmbReal rotation`

#### 13.33.1 Member Data Documentation

##### 13.33.1.1 `center` `EmbVector center`

##### 13.33.1.2 `radius` `EmbVector radius`

##### 13.33.1.3 `rotation` `EmbReal rotation`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.34 EmbFormatList\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- char `extension` [2+`EMBFORMAT_MAXEXT`]
- char `description` [`EMBFORMAT_MAXDESC`]
- char `reader_state`
- char `writer_state`
- int `type`
- int `color_only`
- int `check_for_color_file`
- int `write_external_color_file`

### 13.34.1 Member Data Documentation

**13.34.1.1 `check_for_color_file`** int `check_for_color_file`

**13.34.1.2 `color_only`** int `color_only`

**13.34.1.3 `description`** char `description`[`EMBFORMAT_MAXDESC`]

**13.34.1.4 `extension`** char `extension`[2+`EMBFORMAT_MAXEXT`]

**13.34.1.5 `reader_state`** char `reader_state`

**13.34.1.6 `type`** int `type`

**13.34.1.7 `write_external_color_file`** int `write_external_color_file`

**13.34.1.8 writer\_state** char writer\_state

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

## 13.35 EmbGeometry\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- union {
    - EmbArc arc
    - EmbCircle circle
    - EmbColor color
    - EmbEllipse ellipse
    - EmbLine line
    - EmbPath path
    - EmbPoint point
    - EmbPolygon polygon
    - EmbPolyline polyline
    - EmbRect rect
    - EmbSpline spline
    - EmbVector vector}
  - object
- EmbStitch stitch
  - EmbThread thread
  - int flag
  - int type
  - int lineType

### 13.35.1 Member Data Documentation

#### 13.35.1.1 arc

[EmbArc](#) arc

#### 13.35.1.2 circle

[EmbCircle](#) circle

#### 13.35.1.3 color

[EmbColor](#) color

**13.35.1.4 ellipse** `EmbEllipse` `ellipse`

**13.35.1.5 flag** `int` `flag`

**13.35.1.6 line** `EmbLine` `line`

**13.35.1.7 lineType** `int` `lineType`

**13.35.1.8**      `union { ... } object`

**13.35.1.9 path** `EmbPath` `path`

**13.35.1.10 point** `EmbPoint` `point`

**13.35.1.11 polygon** `EmbPolygon` `polygon`

**13.35.1.12 polyline** `EmbPolyline` `polyline`

**13.35.1.13 rect** `EmbRect` `rect`

**13.35.1.14 spline** `EmbSpline` `spline`

**13.35.1.15 stitch** `EmbStitch` `stitch`

**13.35.1.16 thread** `EmbThread` `thread`

**13.35.1.17 type** `int` `type`

**13.35.1.18 vector** `EmbVector` `vector`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.36 EmbImage\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- `EmbVector position`
- `EmbVector dimensions`
- `unsigned char * data`
- `int width`
- `int height`
- `char path [200]`
- `char name [200]`

### 13.36.1 Member Data Documentation

**13.36.1.1 data** `unsigned char*` `data`

**13.36.1.2 dimensions** `EmbVector` `dimensions`

**13.36.1.3 height** int height

**13.36.1.4 name** char name[200]

**13.36.1.5 path** char path[200]

**13.36.1.6 position** [EmbVector](#) position

**13.36.1.7 width** int width

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

## 13.37 EmbInfiniteLine\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- [EmbVector position](#)

### 13.37.1 Member Data Documentation

**13.37.1.1 position** [EmbVector](#) position

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

## 13.38 EmbLayer\_ Struct Reference

```
#include <embroidery.h>
```

**Public Attributes**

- char `name` [100]
- `EmbArray * geometry`

**13.38.1 Member Data Documentation****13.38.1.1 `geometry` `EmbArray*` `geometry`****13.38.1.2 `name` char `name[100]`**

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

**13.39 EmbLeaderDim\_ Struct Reference**

```
#include <embroidery.h>
```

**Public Attributes**

- `EmbVector position`

**13.39.1 Member Data Documentation****13.39.1.1 `position` `EmbVector` `position`**

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

**13.40 EmbLine\_ Struct Reference**

```
#include <embroidery.h>
```

**Public Attributes**

- `EmbVector start`
- `EmbVector end`
- `int lineType`
- `EmbColor color`

**13.40.1 Member Data Documentation****13.40.1.1 color** `EmbColor color`**13.40.1.2 end** `EmbVector end`**13.40.1.3 lineType** `int lineType`**13.40.1.4 start** `EmbVector start`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

**13.41 EmbLinearDim\_ Struct Reference**

```
#include <embroidery.h>
```

**Public Attributes**

- `EmbVector position`

**13.41.1 Member Data Documentation****13.41.1.1 position** `EmbVector position`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.42 EmbOrdinateDim\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- [EmbVector position](#)

#### 13.42.1 Member Data Documentation

##### 13.42.1.1 position [EmbVector](#) position

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

## 13.43 EmbPath\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- [EmbArray \\* pointList](#)
- [EmbArray \\* flagList](#)
- [int lineType](#)
- [EmbColor color](#)

#### 13.43.1 Member Data Documentation

##### 13.43.1.1 color [EmbColor](#) color

##### 13.43.1.2 flagList [EmbArray\\*](#) flagList

##### 13.43.1.3 lineType [int](#) lineType

**13.43.1.4 pointList** `EmbArray*` pointList

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.44 EmbPattern\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- `unsigned int dstJumpsPerTrim`
- `EmbVector home`
- `EmbReal hoop_width`
- `EmbReal hoop_height`
- `EmbArray * thread_list`
- `EmbArray * stitch_list`
- `EmbArray * geometry`
- `EmbLayer layer [EMB_MAX_LAYERS]`
- `int currentColorIndex`

### 13.44.1 Member Data Documentation

**13.44.1.1 currentColorIndex** `int currentColorIndex`**13.44.1.2 dstJumpsPerTrim** `unsigned int dstJumpsPerTrim`**13.44.1.3 geometry** `EmbArray*` `geometry`**13.44.1.4 home** `EmbVector` `home`**13.44.1.5 hoop\_height** `EmbReal` `hoop_height`

**13.44.1.6 hoop\_width** `EmbReal` `hoop_width`

**13.44.1.7 layer** `EmbLayer` `layer[EMB_MAX_LAYERS]`

**13.44.1.8 stitch\_list** `EmbArray*` `stitch_list`

**13.44.1.9 thread\_list** `EmbArray*` `thread_list`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.45 EmbPoint\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- `EmbVector position`
- `int lineType`
- `EmbColor color`

### 13.45.1 Member Data Documentation

**13.45.1.1 color** `EmbColor` `color`

**13.45.1.2 lineType** `int` `lineType`

**13.45.1.3 position** `EmbVector` `position`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.46 EmbRadiusDim\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- EmbVector position

#### 13.46.1 Member Data Documentation

##### 13.46.1.1 position EmbVector position

The documentation for this struct was generated from the following file:

- extern/libembroidery/src/embroidery.h

## 13.47 EmbRay\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- EmbVector position

#### 13.47.1 Member Data Documentation

##### 13.47.1.1 position EmbVector position

The documentation for this struct was generated from the following file:

- extern/libembroidery/src/embroidery.h

## 13.48 EmbRect\_ Struct Reference

```
#include <embroidery.h>
```

## Public Attributes

- EmbReal top
- EmbReal left
- EmbReal bottom
- EmbReal right
- EmbReal rotation
- EmbReal radius

### 13.48.1 Member Data Documentation

**13.48.1.1 bottom** EmbReal bottom

**13.48.1.2 left** EmbReal left

**13.48.1.3 radius** EmbReal radius

**13.48.1.4 right** EmbReal right

**13.48.1.5 rotation** EmbReal rotation

**13.48.1.6 top** EmbReal top

The documentation for this struct was generated from the following file:

- extern/libembroidery/src/embroidery.h

## 13.49 EmbSatinOutline\_ Struct Reference

```
#include <embroidery.h>
```

**Public Attributes**

- int `length`
- `EmbArray * side1`
- `EmbArray * side2`

**13.49.1 Member Data Documentation****13.49.1.1 length int length****13.49.1.2 side1 `EmbArray*` side1****13.49.1.3 side2 `EmbArray*` side2**

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

**13.50 EmbSpline\_Struct Reference**

```
#include <embroidery.h>
```

**Public Attributes**

- `EmbArray * beziers`

**13.50.1 Member Data Documentation****13.50.1.1 beziers `EmbArray*` beziers**

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.51 EmbStitch\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- int **flags**
- **EmbReal** **x**
- **EmbReal** **y**
- int **color**

#### 13.51.1 Member Data Documentation

##### 13.51.1.1 **color** int color

positive is up, units are in mm

##### 13.51.1.2 **flags** int flags

##### 13.51.1.3 **x** **EmbReal** **x**

uses codes defined above

##### 13.51.1.4 **y** **EmbReal** **y**

absolute position (not relative)

The documentation for this struct was generated from the following file:

- extern/libembroidery/src/[embroidery.h](#)

## 13.52 EmbTextMulti\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- **EmbVector** **position**
- char **text** [200]

### 13.52.1 Member Data Documentation

**13.52.1.1 position** `EmbVector` position

**13.52.1.2 text** `char text[200]`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.53 EmbTextSingle\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- `EmbVector position`
- `char text [200]`

### 13.53.1 Member Data Documentation

**13.53.1.1 position** `EmbVector` position

**13.53.1.2 text** `char text[200]`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.54 EmbThread\_ Struct Reference

```
#include <embroidery.h>
```

**Public Attributes**

- `EmbColor color`
- `char description [50]`
- `char catalogNumber [30]`

**13.54.1 Member Data Documentation****13.54.1.1 catalogNumber** `char catalogNumber[30]`**13.54.1.2 color** `EmbColor color`**13.54.1.3 description** `char description[50]`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

**13.55 EmbTime\_ Struct Reference**

```
#include <embroidery.h>
```

**Public Attributes**

- `unsigned int year`
- `unsigned int month`
- `unsigned int day`
- `unsigned int hour`
- `unsigned int minute`
- `unsigned int second`

**13.55.1 Member Data Documentation****13.55.1.1 day** `unsigned int day`

**13.55.1.2 hour** unsigned int hour

**13.55.1.3 minute** unsigned int minute

**13.55.1.4 month** unsigned int month

**13.55.1.5 second** unsigned int second

**13.55.1.6 year** unsigned int year

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

## 13.56 EmbVector\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- [EmbReal x](#)
- [EmbReal y](#)

### 13.56.1 Detailed Description

The basic type to represent points absolutely or represent directions.

Positive y is up, units are in mm.

### 13.56.2 Member Data Documentation

#### 13.56.2.1 x [EmbReal x](#)

**13.56.2.2 `y` `EmbReal` `y`**

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

**13.57 `hoop_padding` Struct Reference****Public Attributes**

- `int left`
- `int right`
- `int top`
- `int bottom`

**13.57.1 Member Data Documentation****13.57.1.1 `bottom` `int bottom`****13.57.1.2 `left` `int left`****13.57.1.3 `right` `int right`****13.57.1.4 `top` `int top`**

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/formats/format_jef.c`

**13.58 Huffman Struct Reference**

```
#include <embroidery_internal.h>
```

## Public Attributes

- int `default_value`
- int `lengths` [1000]
- int `nlengths`
- int `table` [1000]
- int `table_width`
- int `ntable`

### 13.58.1 Member Data Documentation

**13.58.1.1 `default_value`** int `default_value`

**13.58.1.2 `lengths`** int `lengths`[1000]

**13.58.1.3 `nlengths`** int `nlengths`

**13.58.1.4 `ntable`** int `ntable`

**13.58.1.5 `table`** int `table`[1000]

**13.58.1.6 `table_width`** int `table_width`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery_internal.h`

## 13.59 ImageObject Class Reference

```
#include <object-image.h>
```

## Public Types

- enum { `Type` = OBJ\_TYPE\_IMAGE }

## Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ\_TYPE\_BASE }

## Public Member Functions

- [ImageObject](#) (qreal x, qreal y, qreal w, qreal h, QRgb rgb, QGraphicsItem \*parent=0)
- [ImageObject](#) ([ImageObject](#) \*obj, QGraphicsItem \*parent=0)
- [~ImageObject](#) ()
- virtual int [type](#) () const
- QPointF [objectTopLeft](#) () const
- QPointF [objectTopRight](#) () const
- QPointF [objectBottomLeft](#) () const
- QPointF [objectBottomRight](#) () const
- qreal [objectWidth](#) () const
- qreal [objectHeight](#) () const
- qreal [objectArea](#) () const
- void [setObjectRect](#) (qreal x, qreal y, qreal w, qreal h)
- void [updateRubber](#) ( QPainter \*painter=0 )
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

## Public Member Functions inherited from [BaseObject](#)

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)

- void `setObjectRubberText` (const QString &key, const QString &txt)
- virtual QRectF `boundingRect` () const
- virtual QPainterPath `shape` () const
- void `drawRubberLine` (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void `vulcanize` ()=0
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)=0
- virtual QList< QPointF > `allGripPoints` ()=0
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void `paint` (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from `BaseObject`

- QPen `lineWeightPen` () const
- qreal `pi` () const
- qreal `radians` (qreal degree) const
- qreal `degrees` (qreal radian) const
- void `realRender` (QPainter \*painter, const QPainterPath &renderPath)

### Private Member Functions

- void `init` (qreal x, qreal y, qreal w, qreal h, QRgb rgb, Qt::PenStyle lineType)
- void `updatePath` ()

## 13.59.1 Member Enumeration Documentation

### 13.59.1.1 anonymous enum anonymous enum

#### Enumerator

Type	<input type="button" value=""/>
------	---------------------------------

## 13.59.2 Constructor & Destructor Documentation

### 13.59.2.1 `ImageObject()` [1/2] `ImageObject` (

```
qreal x,  
qreal y,  
qreal w,  
qreal h,
```

```
QRgb rgb,  
QGraphicsItem * parent = 0 )
```

### 13.59.2.2 **ImageObject()** [2/2] [ImageObject](#) (

```
    ImageObject * obj,  
    QGraphicsItem * parent = 0 )
```

### 13.59.2.3 **~ImageObject()** [~ImageObject](#) ( )

## 13.59.3 Member Function Documentation

### 13.59.3.1 **allGripPoints()** [QList< QPointF > allGripPoints \( \)](#) [virtual]

Implements [BaseObject](#).

### 13.59.3.2 **gripEdit()** [void gripEdit \(](#) const QPointF & *before*, const QPointF & *after* ) [virtual]

Implements [BaseObject](#).

### 13.59.3.3 **init()** [void init \(](#) qreal *x*, qreal *y*, qreal *w*, qreal *h*, QRgb *rgb*, Qt::PenStyle *lineType* ) [private]

### 13.59.3.4 **mouseSnapPoint()** [QPointF mouseSnapPoint \(](#) const QPointF & *mousePoint* ) [virtual]

Implements [BaseObject](#).

**13.59.3.5 `objectArea()`** `qreal objectArea () const [inline]`

**13.59.3.6 `objectBottomLeft()`** `QPointF objectBottomLeft () const`

**13.59.3.7 `objectBottomRight()`** `QPointF objectBottomRight () const`

**13.59.3.8 `objectHeight()`** `qreal objectHeight () const [inline]`

**13.59.3.9 `objectTopLeft()`** `QPointF objectTopLeft () const`

**13.59.3.10 `objectTopRight()`** `QPointF objectTopRight () const`

**13.59.3.11 `objectWidth()`** `qreal objectWidth () const [inline]`

**13.59.3.12 `paint()`** `void paint (`  
    `QPainter * painter,`  
    `const QStyleOptionGraphicsItem * option,`  
    `QWidget * ) [protected]`

**13.59.3.13 `setObjectRect()`** `void setObjectRect (`  
    `qreal x,`  
    `qreal y,`  
    `qreal w,`  
    `qreal h )`

**13.59.3.14 `type()`** `virtual int type () const [inline], [virtual]`

Reimplemented from [BaseObject](#).

**13.59.3.15 updatePath()** void updatePath ( ) [private]

**13.59.3.16 updateRubber()** void updateRubber (   
 QPainter \* painter = 0 )

**13.59.3.17 vulcanize()** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

The documentation for this class was generated from the following files:

- [embroidermodder2/object-image.h](#)
- [embroidermodder2/object-image.cpp](#)

## 13.60 ImageWidget Class Reference

```
#include <imagewidget.h>
```

### Public Member Functions

- [ImageWidget](#) (const QString &filename, QWidget \*parent=0)
- [~ImageWidget](#) ()
- bool [load](#) (const QString &fileName)
- bool [save](#) (const QString &fileName)

### Protected Member Functions

- void [paintEvent](#) (QPaintEvent \*event)

### Private Attributes

- QImage [img](#)

#### 13.60.1 Constructor & Destructor Documentation

**13.60.1.1 ImageWidget()** [ImageWidget](#) (   
 const QString & filename,   
 QWidget \* parent = 0 )

**13.60.1.2 ~ImageWidget() ~ImageWidget ( )**

### 13.60.2 Member Function Documentation

**13.60.2.1 load()** bool load (  
const QString & fileName )

**13.60.2.2 paintEvent()** void paintEvent (  
QPaintEvent \* event ) [protected]

**13.60.2.3 save()** bool save (  
const QString & fileName )

### 13.60.3 Member Data Documentation

**13.60.3.1 img** QImage img [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/imagewidget.h](#)
- [embroidermodder2/imagewidget.cpp](#)

## 13.61 Index\_Struct Reference

### Public Attributes

- [IndexEntry \\* data](#)
- int [length](#)
- int [max\\_length](#)

### 13.61.1 Detailed Description

**Todo** document this.

### 13.61.2 Member Data Documentation

**13.61.2.1 data** [IndexEntry\\*](#) data

**13.61.2.2 length** int length

**13.61.2.3 max\_length** int max\_length

The documentation for this struct was generated from the following file:

- embroidermodder2/[imgui\\_main.c](#)

## 13.62 IndexEntry\_ Struct Reference

### Public Attributes

- char **key** [200]
- [Dictionary](#) \* **value**

### 13.62.1 Detailed Description

**Todo** document this.

### 13.62.2 Member Data Documentation

**13.62.2.1 key** char key[200]

**13.62.2.2 value** [Dictionary\\*](#) value

The documentation for this struct was generated from the following file:

- embroidermodder2/[imgui\\_main.c](#)

## 13.63 LayerManager Class Reference

```
#include <layer-manager.h>
```

## Public Member Functions

- `LayerManager (MainWindow *mw, QWidget *parent=0)`
- `~LayerManager ()`
- `void addLayer (const QString &name, const bool visible, const bool frozen, const qreal zValue, const QRgb color, const QString &lineType, const QString &lineWeight, const bool print)`

## Private Attributes

- `QStandardItemModel * layerModel`
- `QSortFilterProxyModel * layerModelSorted`
- `QTreeView * treeView`

### 13.63.1 Constructor & Destructor Documentation

#### 13.63.1.1 `LayerManager()` `LayerManager (`

```
    MainWindow * mw,
    QWidget * parent = 0 )
```

#### 13.63.1.2 `~LayerManager()` `~LayerManager ( )`

### 13.63.2 Member Function Documentation

#### 13.63.2.1 `addLayer()` `void addLayer (`

```
    const QString & name,
    const bool visible,
    const bool frozen,
    const qreal zValue,
    const QRgb color,
    const QString & lineType,
    const QString & lineWeight,
    const bool print )
```

### 13.63.3 Member Data Documentation

#### 13.63.3.1 `layerModel` `QStandardItemModel* layerModel [private]`

**13.63.3.2 layerModelSorted** QSortFilterProxyModel\* layerModelSorted [private]

**13.63.3.3 treeView** QTreeView\* treeView [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/layer-manager.h](#)
- [embroidermodder2/layer-manager.cpp](#)

## 13.64 LineObject Class Reference

#include <object-line.h>

### Public Types

- enum { [Type](#) = OBJ\_TYPE\_LINE }

### Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ\_TYPE\_BASE }

### Public Member Functions

- [LineObject](#) (qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, QGraphicsItem \*parent=0)
- [LineObject](#) ([LineObject](#) \*obj, QGraphicsItem \*parent=0)
- [~LineObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectEndPoint1](#) () const
- QPointF [objectEndPoint2](#) () const
- QPointF [objectMidPoint](#) () const
- qreal [objectX1](#) () const
- qreal [objectY1](#) () const
- qreal [objectX2](#) () const
- qreal [objectY2](#) () const
- qreal [objectDeltaX](#) () const
- qreal [objectDeltaY](#) () const
- qreal [objectAngle](#) () const
- qreal [objectLength](#) () const
- void [setObjectEndPoint1](#) (const QPointF &endPt1)
- void [setObjectEndPoint1](#) (qreal x1, qreal y1)
- void [setObjectEndPoint2](#) (const QPointF &endPt2)
- void [setObjectEndPoint2](#) (qreal x2, qreal y2)
- void [setObjectX1](#) (qreal x)
- void [setObjectY1](#) (qreal y)
- void [setObjectX2](#) (qreal x)
- void [setObjectY2](#) (qreal y)
- void [updateRubber](#) (QPainter \*painter=0)
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

### Public Member Functions inherited from [BaseObject](#)

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void [paint](#) (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from [BaseObject](#)

- QPen [lineWeightPen](#) () const
- qreal [pi](#) () const
- qreal [radians](#) (qreal degree) const
- qreal [degrees](#) (qreal radian) const
- void [realRender](#) (QPainter \*painter, const QPainterPath &renderPath)

### Private Member Functions

- void [init](#) (qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, Qt::PenStyle lineType)

### 13.64.1 Member Enumeration Documentation

#### 13.64.1.1 anonymous enum anonymous enum

Enumerator

Type	
------	--

### 13.64.2 Constructor & Destructor Documentation

#### 13.64.2.1 LineObject() [1/2] [LineObject](#) (

```
    qreal x1,  
    qreal y1,  
    qreal x2,  
    qreal y2,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

#### 13.64.2.2 LineObject() [2/2] [LineObject](#) (

```
    LineObject * obj,  
    QGraphicsItem * parent = 0 )
```

#### 13.64.2.3 ~LineObject() [~LineObject](#) ( )

### 13.64.3 Member Function Documentation

#### 13.64.3.1 allGripPoints() [QList< QPointF >](#) allGripPoints ( ) [virtual]

Implements [BaseObject](#).

#### 13.64.3.2 gripEdit() void gripEdit (

```
    const QPointF & before,  
    const QPointF & after ) [virtual]
```

Implements [BaseObject](#).

```
13.64.3.3 init() void init (
    qreal x1,
    qreal y1,
    qreal x2,
    qreal y2,
    QRgb rgb,
    Qt::PenStyle lineType ) [private]
```

```
13.64.3.4 mouseSnapPoint() QPointF mouseSnapPoint (
    const QPointF & mousePoint ) [virtual]
```

Implements [BaseObject](#).

```
13.64.3.5 objectAngle() qreal objectAngle () const
```

```
13.64.3.6 objectDeltaX() qreal objectDeltaX () const [inline]
```

```
13.64.3.7 objectDeltaY() qreal objectDeltaY () const [inline]
```

```
13.64.3.8 objectEndPoint1() QPointF objectEndPoint1 () const [inline]
```

```
13.64.3.9 objectEndPoint2() QPointF objectEndPoint2 () const
```

```
13.64.3.10 objectLength() qreal objectLength () const [inline]
```

```
13.64.3.11 objectMidPoint() QPointF objectMidPoint () const
```

```
13.64.3.12 objectSavePath() QPainterPath objectSavePath () const
```

**13.64.3.13 `objectX1()`** `qreal objectX1 ( ) const [inline]`

**13.64.3.14 `objectX2()`** `qreal objectX2 ( ) const [inline]`

**13.64.3.15 `objectY1()`** `qreal objectY1 ( ) const [inline]`

**13.64.3.16 `objectY2()`** `qreal objectY2 ( ) const [inline]`

**13.64.3.17 `paint()`** `void paint (`  
    `QPainter * painter,`  
    `const QStyleOptionGraphicsItem * option,`  
    `QWidget * ) [protected]`

**13.64.3.18 `setObjectEndPoint1()` [1/2]** `void setObjectEndPoint1 (`  
    `const QPointF & endPt1 )`

**13.64.3.19 `setObjectEndPoint1()` [2/2]** `void setObjectEndPoint1 (`  
    `qreal x1,`  
    `qreal y1 )`

**13.64.3.20 `setObjectEndPoint2()` [1/2]** `void setObjectEndPoint2 (`  
    `const QPointF & endPt2 )`

**13.64.3.21 `setObjectEndPoint2()` [2/2]** `void setObjectEndPoint2 (`  
    `qreal x2,`  
    `qreal y2 )`

**13.64.3.22 `setObjectX1()`** `void setObjectX1 (`  
    `qreal x ) [inline]`

**13.64.3.23 setObjectX2()** void setObjectX2 ( qreal x ) [inline]

**13.64.3.24 setObjectY1()** void setObjectY1 ( qreal y ) [inline]

**13.64.3.25 setObjectY2()** void setObjectY2 ( qreal y ) [inline]

**13.64.3.26 type()** virtual int type ( ) const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.64.3.27 updateRubber()** void updateRubber ( QPainter \* painter = 0 )

**13.64.3.28 vulcanize()** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

The documentation for this class was generated from the following files:

- [embroidermodder2/object-line.h](#)
- [embroidermodder2/object-line.cpp](#)

## 13.65 LSYSTEM Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- char [axiom](#)
- char \* [alphabet](#)
- char \* [constants](#)
- char \*\* [rules](#)

### 13.65.1 Member Data Documentation

**13.65.1.1 alphabet** char\* alphabet

**13.65.1.2 axiom** char axiom

**13.65.1.3 constants** char\* constants

**13.65.1.4 rules** char\*\* rules

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery.h](#)

## 13.66 MainWindow Class Reference

```
#include <mainwindow.h>
```

### Public Slots

- void [enablePromptRapidFire \(\)](#)
- void [disablePromptRapidFire \(\)](#)
- void [enableMoveRapidFire \(\)](#)
- void [disableMoveRapidFire \(\)](#)
- void [onCloseWindow \(\)](#)
- virtual void [onCloseMdiWin \(MdiWindow \\*\)](#)
- void [recentMenuAboutToShow \(\)](#)
- void [onWindowActivated \(QMdiSubWindow \\*w\)](#)
- void [windowMenuAboutToShow \(\)](#)
- void [windowMenuActivated \(bool checked\)](#)
- QAction \* [getAction \(int actionEnum\)](#)
- void [updateAllViewScrollBars \(bool val\)](#)
- void [updateAllViewCrossHairColors \(QRgb color\)](#)
- void [updateAllViewBackgroundColors \(QRgb color\)](#)
- void [updateAllViewSelectBoxColors \(QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha\)](#)
- void [updateAllViewGridColors \(QRgb color\)](#)
- void [updateAllViewRulerColors \(QRgb color\)](#)
- void [updatePickAddMode \(bool val\)](#)
- void [pickAddModeToggled \(\)](#)
- void [settingsPrompt \(\)](#)

- void `settingsDialog` (const QString &showTab=QString())
- void `readSettings` ()
- void `writeSettings` ()
- static bool `validFileFormat` (const QString &fileName)
- void `stub_implement` (QString txt)
- void `stub_testing` ()
- void `promptHistoryAppended` (const QString &txt)
- void `logPromptInput` (const QString &txt)
- void `promptInputPrevious` ()
- void `promptInputNext` ()
- void `runCommand` ()
- void `runCommandMain` (const QString &cmd)
- void `runCommandClick` (const QString &cmd, qreal x, qreal y)
- void `runCommandMove` (const QString &cmd, qreal x, qreal y)
- void `runCommandContext` (const QString &cmd, const QString &str)
- void `runCommandPrompt` (const QString &cmd, const QString &str)
- void `newFile` ()
- void `openFile` (bool recent=false, const QString &recentFile="")
- void `openFilesSelected` (const QStringList &)
- void `openrecentfile` ()
- void `savefile` ()
- void `saveasfile` ()
- void `print` ()
- void `designDetails` ()
- void `exit` ()
- void `quit` ()
- void `checkForUpdates` ()
- void `tipOfTheDay` ()
- void `buttonTipOfTheDayClicked` (int)
- void `checkBoxTipOfTheDayStateChanged` (int)
- void `help` ()
- void `changelog` ()
- void `about` ()
- void `whatsThisContextHelp` ()
- void `cut` ()
- void `copy` ()
- void `paste` ()
- void `selectAll` ()
- void `closeToolBar` (QAction \*)
- void `floatingChangedToolBar` (bool)
- void `toggleGrid` ()
- void `toggleRuler` ()
- void `toggleLwt` ()
- void `iconResize` (int iconSize)
- void `icon16` ()
- void `icon24` ()
- void `icon32` ()
- void `icon48` ()
- void `icon64` ()
- void `icon128` ()
- void `layerSelectorIndexChanged` (int index)
- void `colorSelectorIndexChanged` (int index)
- void `linetypeSelectorIndexChanged` (int index)
- void `lineweightSelectorIndexChanged` (int index)
- void `textFontSelectorCurrentFontChanged` (const QFont &font)

- void `textSizeSelectorIndexChanged` (int index)
- QString `textFont` ()
- qreal `textSize` ()
- qreal `textAngle` ()
- bool `textBold` ()
- bool `textItalic` ()
- bool `textUnderline` ()
- bool `textStrikeOut` ()
- bool `textOverline` ()
- void `setTextFont` (const QString &str)
- void `setTextSize` (qreal num)
- void `setTextAngle` (qreal num)
- void `setTextBold` (bool val)
- void `setTextItalic` (bool val)
- void `setTextUnderline` (bool val)
- void `setTextStrikeOut` (bool val)
- void `setTextOverline` (bool val)
- QString `getCurrentLayer` ()
- QRgb `getCurrentColor` ()
- QString `getCurrentLineType` ()
- QString `getCurrentLineWidth` ()
- void `undo` ()
- void `redo` ()
- bool `isShiftPressed` ()
- void `setShiftPressed` ()
- void `setShiftReleased` ()
- void `deletePressed` ()
- void `escapePressed` ()
- void `makeLayerActive` ()
- void `layerManager` ()
- void `layerPrevious` ()
- void `zoomRealtime` ()
- void `zoomPrevious` ()
- void `zoomWindow` ()
- void `zoomDynamic` ()
- void `zoomScale` ()
- void `zoomCenter` ()
- void `zoomIn` ()
- void `zoomOut` ()
- void `zoomSelected` ()
- void `zoomAll` ()
- void `zoomExtents` ()
- void `panrealtime` ()
- void `panpoint` ()
- void `panLeft` ()
- void `panRight` ()
- void `panUp` ()
- void `panDown` ()
- void `dayVision` ()
- void `nightVision` ()
- void `doNothing` ()

## Public Member Functions

- `MainWindow ()`
- `~MainWindow ()`
- `MdiArea * getMdiArea ()`
- `MainWindow * getApplication ()`
- `MdiWindow * activeMdiWindow ()`
- `View * activeView ()`
- `QGraphicsScene * activeScene ()`
- `QUndoStack * activeUndoStack ()`
- `void setUndoCleanIcon (bool opened)`
- `virtual void updateMenuToolbarStatusbar ()`
- `QString getSettingsGeneralLanguage ()`
- `QString getSettingsGeneralIconTheme ()`
- `int getSettingsGeneralIconSize ()`
- `bool getSettingsGeneralMdiBGUseLogo ()`
- `bool getSettingsGeneralMdiBGUseTexture ()`
- `bool getSettingsGeneralMdiBGUseColor ()`
- `QString getSettingsGeneralMdiBGLogo ()`
- `QString getSettingsGeneralMdiBGTTexture ()`
- `QRgb getSettingsGeneralMdiBGColor ()`
- `bool getSettingsGeneralTipOfDay ()`
- `int getSettingsGeneralCurrentTip ()`
- `bool getSettingsGeneralSystemHelpBrowser ()`
- `bool getSettingsGeneralCheckForUpdates ()`
- `bool getSettingsDisplayUseOpenGL ()`
- `bool getSettingsDisplayRenderHintAA ()`
- `bool getSettingsDisplayRenderHintTextAA ()`
- `bool getSettingsDisplayRenderHintSmoothPix ()`
- `bool getSettingsDisplayRenderHintHighAA ()`
- `bool getSettingsDisplayRenderHintNonCosmetic ()`
- `bool getSettingsDisplayShowScrollBars ()`
- `int getSettingsDisplayScrollBarWidgetNum ()`
- `QRgb getSettingsDisplayCrossHairColor ()`
- `QRgb getSettingsDisplayBGColor ()`
- `QRgb getSettingsDisplaySelectBoxLeftColor ()`
- `QRgb getSettingsDisplaySelectBoxLeftFill ()`
- `QRgb getSettingsDisplaySelectBoxRightColor ()`
- `QRgb getSettingsDisplaySelectBoxRightFill ()`
- `quint8 getSettingsDisplaySelectBoxAlpha ()`
- `qreal getSettingsDisplayZoomScaleIn ()`
- `qreal getSettingsDisplayZoomScaleOut ()`
- `quint8 getSettingsDisplayCrossHairPercent ()`
- `QString getSettingsDisplayUnits ()`
- `QRgb getSettingsPromptTextColor ()`
- `QRgb getSettingsPromptBGColor ()`
- `QString getSettingsPromptFontFamily ()`
- `QString getSettingsPromptFontStyle ()`
- `quint8 getSettingsPromptFontSize ()`
- `bool getSettingsPromptSaveHistory ()`
- `bool getSettingsPromptSaveHistoryAsHtml ()`
- `QString getSettingsPromptSaveHistoryFilename ()`
- `QString getSettingsCustomFilter ()`
- `QString getSettingsOpenFormat ()`
- `bool getSettingsOpenThumbnail ()`

- `QString getSettingsSaveFormat ()`
- `bool getSettingsSaveThumbnail ()`
- `quint8 getSettingsRecentMaxFiles ()`
- `quint8 getSettingsOpenSaveTrimDstNumJumps ()`
- `QString getSettingsPrintingDefaultDevice ()`
- `bool getSettingsPrintingUseLastDevice ()`
- `bool getSettingsPrintingDisableBG ()`
- `bool getSettingsGridShowOnLoad ()`
- `bool getSettingsGridShowOrigin ()`
- `bool getSettingsGridColorMatchCrossHair ()`
- `QRgb getSettingsGridColor ()`
- `bool getSettingsGridLoadFromFile ()`
- `QString getSettingsGridType ()`
- `bool getSettingsGridCenterOnOrigin ()`
- `qreal getSettingsGridCenterX ()`
- `qreal getSettingsGridCenterY ()`
- `qreal getSettingsGridSizeX ()`
- `qreal getSettingsGridSizeY ()`
- `qreal getSettingsGridSpacingX ()`
- `qreal getSettingsGridSpacingY ()`
- `qreal getSettingsGridSizeRadius ()`
- `qreal getSettingsGridSpacingRadius ()`
- `qreal getSettingsGridSpacingAngle ()`
- `bool getSettingsRulerShowOnLoad ()`
- `bool getSettingsRulerMetric ()`
- `QRgb getSettingsRulerColor ()`
- `quint8 getSettingsRulerPixelSize ()`
- `bool getSettingsQSnapEnabled ()`
- `QRgb getSettingsQSnapLocatorColor ()`
- `quint8 getSettingsQSnapLocatorSize ()`
- `quint8 getSettingsQSnapApertureSize ()`
- `bool getSettingsQSnapEndPoint ()`
- `bool getSettingsQSnapMidPoint ()`
- `bool getSettingsQSnapCenter ()`
- `bool getSettingsQSnapNode ()`
- `bool getSettingsQSnapQuadrant ()`
- `bool getSettingsQSnapIntersection ()`
- `bool getSettingsQSnapExtension ()`
- `bool getSettingsQSnapInsertion ()`
- `bool getSettingsQSnapPerpendicular ()`
- `bool getSettingsQSnapTangent ()`
- `bool getSettingsQSnapNearest ()`
- `bool getSettingsQSnapApparent ()`
- `bool getSettingsQSnapParallel ()`
- `bool getSettingsLwtShowLwt ()`
- `bool getSettingsLwtRealRender ()`
- `qreal getSettingsLwtDefaultLwt ()`
- `bool getSettingsSelectionModePickFirst ()`
- `bool getSettingsSelectionModePickAdd ()`
- `bool getSettingsSelectionModePickDrag ()`
- `QRgb getSettingsSelectionCoolGripColor ()`
- `QRgb getSettingsSelectionHotGripColor ()`
- `quint8 getSettingsSelectionGripSize ()`
- `quint8 getSettingsSelectionPickBoxSize ()`
- `QString getSettingsTextFont ()`

- qreal `getSettingsTextSize ()`
- qreal `getSettingsTextAngle ()`
- bool `getSettingsTextStyleBold ()`
- bool `getSettingsTextStyleItalic ()`
- bool `getSettingsTextStyleUnderline ()`
- bool `getSettingsTextStyleStrikeOut ()`
- bool `getSettingsTextStyleOverline ()`
- void `setSettingsGeneralLanguage (const QString &newValue)`
- void `setSettingsGeneralIconTheme (const QString &newValue)`
- void `setSettingsGeneralIconSize (int newValue)`
- void `setSettingsGeneralMdiBGUseLogo (bool newValue)`
- void `setSettingsGeneralMdiBGUseTexture (bool newValue)`
- void `setSettingsGeneralMdiBGUseColor (bool newValue)`
- void `setSettingsGeneralMdiBGLogo (const QString &newValue)`
- void `setSettingsGeneralMdiBGTexture (const QString &newValue)`
- void `setSettingsGeneralMdiBGColor (QRgb newValue)`
- void `setSettingsGeneralTipOfDay (bool newValue)`
- void `setSettingsGeneralCurrentTip (int newValue)`
- void `setSettingsGeneralSystemHelpBrowser (bool newValue)`
- void `setSettingsGeneralCheckForUpdates (bool newValue)`
- void `setSettingsDisplayUseOpenGL (bool newValue)`
- void `setSettingsDisplayRenderHintAA (bool newValue)`
- void `setSettingsDisplayRenderHintTextAA (bool newValue)`
- void `setSettingsDisplayRenderHintSmoothPix (bool newValue)`
- void `setSettingsDisplayRenderHintHighAA (bool newValue)`
- void `setSettingsDisplayRenderHintNonCosmetic (bool newValue)`
- void `setSettingsDisplayShowScrollBars (bool newValue)`
- void `setSettingsDisplayScrollBarWidgetNum (int newValue)`
- void `setSettingsDisplayCrossHairColor (QRgb newValue)`
- void `setSettingsDisplayBGColor (QRgb newValue)`
- void `setSettingsDisplaySelectBoxLeftColor (QRgb newValue)`
- void `setSettingsDisplaySelectBoxLeftFill (QRgb newValue)`
- void `setSettingsDisplaySelectBoxRightColor (QRgb newValue)`
- void `setSettingsDisplaySelectBoxRightFill (QRgb newValue)`
- void `setSettingsDisplaySelectBoxAlpha (quint8 newValue)`
- void `setSettingsDisplayZoomScaleIn (qreal newValue)`
- void `setSettingsDisplayZoomScaleOut (qreal newValue)`
- void `setSettingsDisplayCrossHairPercent (quint8 newValue)`
- void `setSettingsDisplayUnits (const QString &newValue)`
- void `setSettingsPromptTextColor (QRgb newValue)`
- void `setSettingsPromptBGColor (QRgb newValue)`
- void `setSettingsPromptFontFamily (const QString &newValue)`
- void `setSettingsPromptFontStyle (const QString &newValue)`
- void `setSettingsPromptFontSize (quint8 newValue)`
- void `setSettingsPromptSaveHistory (bool newValue)`
- void `setSettingsPromptSaveHistoryAsHtml (bool newValue)`
- void `setSettingsPromptSaveHistoryFilename (const QString &newValue)`
- void `setSettingsCustomFilter (const QString &newValue)`
- void `setSettingsOpenFormat (const QString &newValue)`
- void `setSettingsOpenThumbnail (bool newValue)`
- void `setSettingsSaveFormat (const QString &newValue)`
- void `setSettingsSaveThumbnail (bool newValue)`
- void `setSettingsRecentMaxFiles (quint8 newValue)`
- void `setSettingsOpenSaveTrimDstNumJumps (quint8 newValue)`
- void `setSettingsPrintingDefaultDevice (const QString &newValue)`

- void `setSettingsPrintingUseLastDevice` (bool newValue)
- void `setSettingsPrintingDisableBG` (bool newValue)
- void `setSettingsGridShowOnLoad` (bool newValue)
- void `setSettingsGridShowOrigin` (bool newValue)
- void `setSettingsGridColorMatchCrossHair` (bool newValue)
- void `setSettingsGridColor` (QRgb newValue)
- void `setSettingsGridLoadFromFile` (bool newValue)
- void `setSettingsGridType` (const QString &newValue)
- void `setSettingsGridCenterOnOrigin` (bool newValue)
- void `setSettingsGridCenterX` (qreal newValue)
- void `setSettingsGridCenterY` (qreal newValue)
- void `setSettingsGridSizeX` (qreal newValue)
- void `setSettingsGridSizeY` (qreal newValue)
- void `setSettingsGridSpacingX` (qreal newValue)
- void `setSettingsGridSpacingY` (qreal newValue)
- void `setSettingsGridSizeRadius` (qreal newValue)
- void `setSettingsGridSpacingRadius` (qreal newValue)
- void `setSettingsGridSpacingAngle` (qreal newValue)
- void `setSettingsRulerShowOnLoad` (bool newValue)
- void `setSettingsRulerMetric` (bool newValue)
- void `setSettingsRulerColor` (QRgb newValue)
- void `setSettingsRulerPixelSize` (quint8 newValue)
- void `setSettingsQSnapEnabled` (bool newValue)
- void `setSettingsQSnapLocatorColor` (QRgb newValue)
- void `setSettingsQSnapLocatorSize` (quint8 newValue)
- void `setSettingsQSnapApertureSize` (quint8 newValue)
- void `setSettingsQSnapEndPoint` (bool newValue)
- void `setSettingsQSnapMidPoint` (bool newValue)
- void `setSettingsQSnapCenter` (bool newValue)
- void `setSettingsQSnapNode` (bool newValue)
- void `setSettingsQSnapQuadrant` (bool newValue)
- void `setSettingsQSnapIntersection` (bool newValue)
- void `setSettingsQSnapExtension` (bool newValue)
- void `setSettingsQSnapInsertion` (bool newValue)
- void `setSettingsQSnapPerpendicular` (bool newValue)
- void `setSettingsQSnapTangent` (bool newValue)
- void `setSettingsQSnapNearest` (bool newValue)
- void `setSettingsQSnapApparent` (bool newValue)
- void `setSettingsQSnapParallel` (bool newValue)
- void `setSettingsLwtShowLwt` (bool newValue)
- void `setSettingsLwtRealRender` (bool newValue)
- void `setSettingsLwtDefaultLwt` (qreal newValue)
- void `setSettingsSelectionModePickFirst` (bool newValue)
- void `setSettingsSelectionModePickAdd` (bool newValue)
- void `setSettingsSelectionModePickDrag` (bool newValue)
- void `setSettingsSelectionCoolGripColor` (QRgb newValue)
- void `setSettingsSelectionHotGripColor` (QRgb newValue)
- void `setSettingsSelectionGripSize` (quint8 newValue)
- void `setSettingsSelectionPickBoxSize` (quint8 newValue)
- void `setSettingsTextFont` (const QString &newValue)
- void `setSettingsTextSize` (qreal newValue)
- void `setSettingsTextAngle` (qreal newValue)
- void `setSettingsTextStyleBold` (bool newValue)
- void `setSettingsTextStyleItalic` (bool newValue)
- void `setSettingsTextStyleUnderline` (bool newValue)

- void `setSettingsTextStyleStrikeOut` (bool newValue)
- void `setSettingsTextStyleOverline` (bool newValue)
- bool `isCommandActive` ()
- QString `activeCommand` ()
- QString `platformString` ()
- void `nativeAlert` (const QString &txt)
- void `nativeBlinkPrompt` ()
- void `nativeSetPromptPrefix` (const QString &txt)
- void `nativeAppendPromptHistory` (const QString &txt)
- void `nativeEnablePromptRapidFire` ()
- void `nativeDisablePromptRapidFire` ()
- void `nativeInitCommand` ()
- void `nativeEndCommand` ()
- void `nativeEnableMoveRapidFire` ()
- void `nativeDisableMoveRapidFire` ()
- void `nativeNewFile` ()
- void `nativeOpenFile` ()
- void `nativeExit` ()
- void `nativeHelp` ()
- void `nativeAbout` ()
- void `nativeTipOfTheDay` ()
- void `nativeWindowCascade` ()
- void `nativeWindowTile` ()
- void `nativeWindowClose` ()
- void `nativeWindowCloseAll` ()
- void `nativeWindowNext` ()
- void `nativeWindowPrevious` ()
- QString `nativePlatformString` ()
- void `nativeMessageBox` (const QString &type, const QString &title, const QString &text)
- void `nativeUndo` ()
- void `nativeRedo` ()
- void `nativeIcon16` ()
- void `nativeIcon24` ()
- void `nativeIcon32` ()
- void `nativeIcon48` ()
- void `nativeIcon64` ()
- void `nativeIcon128` ()
- void `nativePanLeft` ()
- void `nativePanRight` ()
- void `nativePanUp` ()
- void `nativePanDown` ()
- void `nativeZoomIn` ()
- void `nativeZoomOut` ()
- void `nativeZoomExtents` ()
- void `nativePrintArea` (qreal x, qreal y, qreal w, qreal h)
- void `nativeDayVision` ()
- void `nativeNightVision` ()
- void `nativeSetBackgroundColor` (quint8 r, quint8 g, quint8 b)
- void `nativeSetCrossHairColor` (quint8 r, quint8 g, quint8 b)
- void `nativeSetGridColor` (quint8 r, quint8 g, quint8 b)
- QString `nativeTextFont` ()
- qreal `nativeTextSize` ()
- qreal `nativeTextAngle` ()
- bool `nativeTextBold` ()
- bool `nativeTextItalic` ()

- bool `nativeTextUnderline ()`
- bool `nativeTextStrikeOut ()`
- bool `nativeTextOverline ()`
- void `nativeSetTextFont (const QString &str)`
- void `nativeSetTextSize (qreal num)`
- void `nativeSetTextAngle (qreal num)`
- void `nativeSetTextBold (bool val)`
- void `nativeSetTextItalic (bool val)`
- void `nativeSetTextUnderline (bool val)`
- void `nativeSetTextStrikeOut (bool val)`
- void `nativeSetTextOverline (bool val)`
- void `nativePreviewOn (int clone, int mode, qreal x, qreal y, qreal data)`
- void `nativePreviewOff ()`
- void `nativeVulcanize ()`
- void `nativeClearRubber ()`
- bool `nativeAllowRubber ()`
- void `nativeSpareRubber (qint64 id)`
- void `nativeSetRubberMode (int mode)`
- void `nativeSetRubberPoint (const QString &key, qreal x, qreal y)`
- void `nativeSetRubberText (const QString &key, const QString &txt)`
- void `nativeAddTextMulti (const QString &str, qreal x, qreal y, qreal rot, bool fill, int rubberMode)`
- void `nativeAddTextSingle (const QString &str, qreal x, qreal y, qreal rot, bool fill, int rubberMode)`
- void `nativeAddInfiniteLine (qreal x1, qreal y1, qreal x2, qreal y2, qreal rot)`
- void `nativeAddRay (qreal x1, qreal y1, qreal x2, qreal y2, qreal rot)`
- void `nativeAddLine (qreal x1, qreal y1, qreal x2, qreal y2, qreal rot, int rubberMode)`
- void `nativeAddTriangle (qreal x1, qreal y1, qreal x2, qreal y2, qreal x3, qreal y3, qreal rot, bool fill)`
- void `nativeAddRectangle (qreal x, qreal y, qreal w, qreal h, qreal rot, bool fill, int rubberMode)`
- void `nativeAddRoundedRectangle (qreal x, qreal y, qreal w, qreal h, qreal rad, qreal rot, bool fill)`
- void `nativeAddArc (qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, int rubberMode)`
- void `nativeAddCircle (qreal centerX, qreal centerY, qreal radius, bool fill, int rubberMode)`
- void `nativeAddSlot (qreal centerX, qreal centerY, qreal diameter, qreal length, qreal rot, bool fill, int rubberMode)`
- void `nativeAddEllipse (qreal centerX, qreal centerY, qreal width, qreal height, qreal rot, bool fill, int rubberMode)`
- void `nativeAddPoint (qreal x, qreal y)`
- void `nativeAddRegularPolygon (qreal centerX, qreal centerY, quint16 sides, quint8 mode, qreal rad, qreal rot, bool fill)`
- void `nativeAddPolygon (qreal startX, qreal startY, const QPainterPath &p, int rubberMode)`
- void `nativeAddPolyline (qreal startX, qreal startY, const QPainterPath &p, int rubberMode)`
- void `nativeAddPath (qreal startX, qreal startY, const QPainterPath &p, int rubberMode)`
- void `nativeAddHorizontalDimension (qreal x1, qreal y1, qreal x2, qreal y2, qreal legHeight)`
- void `nativeAddVerticalDimension (qreal x1, qreal y1, qreal x2, qreal y2, qreal legHeight)`
- void `nativeAddImage (const QString &img, qreal x, qreal y, qreal w, qreal h, qreal rot)`
- void `nativeAddDimLeader (qreal x1, qreal y1, qreal x2, qreal y2, qreal rot, int rubberMode)`
- void `nativeSetCursorShape (const QString &str)`
- qreal `nativeCalculateAngle (qreal x1, qreal y1, qreal x2, qreal y2)`
- qreal `nativeCalculateDistance (qreal x1, qreal y1, qreal x2, qreal y2)`
- qreal `nativePerpendicularDistance (qreal px, qreal py, qreal x1, qreal y1, qreal x2, qreal y2)`
- int `nativeNumSelected ()`
- void `nativeSelectAll ()`
- void `nativeAddToSelection (const QPainterPath path, Qt::ItemSelectionMode mode)`
- void `nativeClearSelection ()`
- void `nativeDeleteSelected ()`
- void `nativeCutSelected (qreal x, qreal y)`
- void `nativeCopySelected (qreal x, qreal y)`

- void `nativePasteSelected` (qreal x, qreal y)
- void `nativeMoveSelected` (qreal dx, qreal dy)
- void `nativeScaleSelected` (qreal x, qreal y, qreal factor)
- void `nativeRotateSelected` (qreal x, qreal y, qreal rot)
- void `nativeMirrorSelected` (qreal x1, qreal y1, qreal x2, qreal y2)
- qreal `nativeQSnapX` ()
- qreal `nativeQSnapY` ()
- qreal `nativeMouseX` ()
- qreal `nativeMouseY` ()

## Public Attributes

- `MainWindow * mainWin`
- `MdiArea * mdiArea`
- `CmdPrompt * prompt`
- `PropertyEditor * dockPropEdit`
- `UndoEditor * dockUndoEdit`
- `StatusBar * statusbar`
- `QList< QGraphicsItem * > cutCopyObjectList`
- `QHash< int, QAction * > actionHash`
- `QHash< QString, QToolBar * > toolbarHash`
- `QHash< QString, QMenu * > menuHash`
- `QString formatFilterOpen`
- `QString formatFilterSave`

## Protected Member Functions

- virtual void `resizeEvent` (QResizeEvent \*)
- void `closeEvent` (QCloseEvent \*event)
- `QAction * getFileSeparator` ()
- void `loadFormats` ()

## Private Slots

- void `hideUnimplemented` ()

## Private Member Functions

- `QMdiSubWindow * findMdiWindow` (const `QString &fileName`)
- void `createAllActions` ()
- `QAction * createAction` (const `QString icon`, const `QString toolTip`, const `QString statusTip`, bool `scripted=false`)
- void `createAllToolbars` ()
- void `createFileToolbar` ()
- void `createEditToolbar` ()
- void `createViewToolbar` ()
- void `createZoomToolbar` ()
- void `createPanToolbar` ()
- void `createIconToolbar` ()
- void `createHelpToolbar` ()
- void `createLayerToolbar` ()

- void `createPropertiesToolbar ()`
- void `createTextToolbar ()`
- void `createPromptToolbar ()`
- void `createAllMenus ()`
- void `createFileMenu ()`
- void `createEditMenu ()`
- void `createViewMenu ()`
- void `createSettingsMenu ()`
- void `createWindowMenu ()`
- void `createHelpMenu ()`
- void `javaInitNatives (QScriptEngine *engine)`
- void `javaLoadCommand (const QString &cmdName)`

### Private Attributes

- QString `settings_general_language`
- QString `settings_general_icon_theme`
- int `settings_general_icon_size`
- bool `settings_general_mdi_bg_use_logo`
- bool `settings_general_mdi_bg_use_texture`
- bool `settings_general_mdi_bg_use_color`
- QString `settings_general_mdi_bg_logo`
- QString `settings_general_mdi_bg_texture`
- QRgb `settings_general_mdi_bg_color`
- bool `settings_general_tip_of_the_day`
- quint16 `settings_general_current_tip`
- bool `settings_general_system_help_browser`
- bool `settings_general_check_for_updates`
- bool `settings_display_use_opengl`
- bool `settings_display_renderhint_aa`
- bool `settings_display_renderhint_text_aa`
- bool `settings_display_renderhint_smooth_pix`
- bool `settings_display_renderhint_high_aa`
- bool `settings_display_renderhint_noncosmetic`
- bool `settings_display_show_scrollbars`
- int `settings_display_scrollbar_widget_num`
- QRgb `settings_display_crosshair_color`
- QRgb `settings_display_bg_color`
- QRgb `settings_display_selectbox_left_color`
- QRgb `settings_display_selectbox_left_fill`
- QRgb `settings_display_selectbox_right_color`
- QRgb `settings_display_selectbox_right_fill`
- quint8 `settings_display_selectbox_alpha`
- qreal `settings_display_zoomscale_in`
- qreal `settings_display_zoomscale_out`
- quint8 `settings_display_crosshair_percent`
- QString `settings_display_units`
- QRgb `settings_prompt_text_color`
- QRgb `settings_prompt_bg_color`
- QString `settings_prompt_font_family`
- QString `settings_prompt_font_style`
- quint8 `settings_prompt_font_size`
- bool `settings_prompt_save_history`
- bool `settings_prompt_save_history_as_html`

- `QString settings_prompt_save_history_filename`
- `QString settings_opensave_custom_filter`
- `QString settings_opensave_open_format`
- `bool settings_opensave_open_thumbnail`
- `QString settings_opensave_save_format`
- `bool settings_opensave_save_thumbnail`
- `quint8 settings_opensave_recent_max_files`
- `QStringList settings_opensave_recent_list_of_files`
- `QString settings_opensave_recent_directory`
- `quint8 settings_opensave_trim_dst_num_jumps`
- `QString settings_printing_default_device`
- `bool settings_printing_use_last_device`
- `bool settings_printing_disable_bg`
- `bool settings_grid_show_on_load`
- `bool settings_grid_show_origin`
- `bool settings_grid_color_match_crosshair`
- `QRgb settings_grid_color`
- `bool settings_grid_load_from_file`
- `QString settings_grid_type`
- `bool settings_grid_center_on_origin`
- `qreal settings_grid_center_x`
- `qreal settings_grid_center_y`
- `qreal settings_grid_size_x`
- `qreal settings_grid_size_y`
- `qreal settings_grid_spacing_x`
- `qreal settings_grid_spacing_y`
- `qreal settings_grid_size_radius`
- `qreal settings_grid_spacing_radius`
- `qreal settings_grid_spacing_angle`
- `bool settings_ruler_show_on_load`
- `bool settings_ruler_metric`
- `QRgb settings_ruler_color`
- `quint8 settings_ruler_pixel_size`
- `bool settings_qsnap_enabled`
- `QRgb settings_qsnap_locator_color`
- `quint8 settings_qsnap_locator_size`
- `quint8 settings_qsnap_aperture_size`
- `bool settings_qsnap_endpoint`
- `bool settings_qsnap_midpoint`
- `bool settings_qsnap_center`
- `bool settings_qsnap_node`
- `bool settings_qsnap_quadrant`
- `bool settings_qsnap_intersection`
- `bool settings_qsnap_extension`
- `bool settings_qsnap_insertion`
- `bool settings_qsnap_perpendicular`
- `bool settings_qsnap_tangent`
- `bool settings_qsnap_nearest`
- `bool settings_qsnap_apparent`
- `bool settings_qsnap_parallel`
- `bool settings_lwt_show_lwt`
- `bool settings_lwt_real_render`
- `qreal settings_lwt_default_lwt`
- `bool settings_selection_mode_pickfirst`
- `bool settings_selection_mode_pickadd`

- bool `settings_selection_mode_pickdrag`
- QRgb `settings_selection_coolgrip_color`
- QRgb `settings_selection_hotgrip_color`
- quint8 `settings_selection_grip_size`
- quint8 `settings_selection_pickbox_size`
- QString `settings_text_font`
- qreal `settings_text_size`
- qreal `settings_text_angle`
- bool `settings_text_style_bold`
- bool `settings_text_style_italic`
- bool `settings_text_style_underline`
- bool `settings_text_style_overline`
- bool `settings_text_style_strikeout`
- bool `shiftKeyPressedState`
- QByteArray `layoutState`
- int `numOfDocs`
- int `docIndex`
- QList< MdiWindow \* > `listMdiWin`
- QString `openFilePath`
- QAction \* `myFileSeparator`
- QWizard \* `wizardTipOfTheDay`
- QLabel \* `labelTipOfTheDay`
- QCheckBox \* `checkBoxTipOfTheDay`
- QStringList `listTipOfTheDay`
- QToolBar \* `toolbarFile`
- QToolBar \* `toolbarEdit`
- QToolBar \* `toolbarView`
- QToolBar \* `toolbarZoom`
- QToolBar \* `toolbarPan`
- QToolBar \* `toolbarIcon`
- QToolBar \* `toolbarHelp`
- QToolBar \* `toolbarLayer`
- QToolBar \* `toolbarText`
- QToolBar \* `toolbarProperties`
- QToolBar \* `toolbarPrompt`
- QComboBox \* `layerSelector`
- QComboBox \* `colorSelector`
- QComboBox \* `linetypeSelector`
- QComboBox \* `lineweightSelector`
- QFontComboBox \* `textFontSelector`
- QComboBox \* `textSizeSelector`
- QMenu \* `fileMenu`
- QMenu \* `editMenu`
- QMenu \* `viewMenu`
- QMenu \* `settingsMenu`
- QMenu \* `windowMenu`
- QMenu \* `helpMenu`
- QMenu \* `recentMenu`
- QMenu \* `zoomMenu`
- QMenu \* `panMenu`
- QScriptEngine \* `engine`
- QScriptEngineDebugger \* `debugger`

### 13.66.1 Constructor & Destructor Documentation

**13.66.1.1 MainWindow()** `MainWindow ( )`

**13.66.1.2 ~MainWindow()** `~MainWindow ( )`

### 13.66.2 Member Function Documentation

**13.66.2.1 about** `void about ( ) [slot]`

**13.66.2.2 activeCommand()** `QString activeCommand ( ) [inline]`

**13.66.2.3 activeMdiWindow()** `MdiWindow * activeMdiWindow ( )`

**13.66.2.4 activeScene()** `QGraphicsScene * activeScene ( )`

**13.66.2.5 activeUndoStack()** `QUndoStack * activeUndoStack ( )`

**13.66.2.6 activeView()** `View * activeView ( )`

**13.66.2.7 buttonTipOfDayClicked** `void buttonTipOfDayClicked ( int button ) [slot]`

**13.66.2.8 changelog** void changelog ( ) [slot]

**13.66.2.9 checkBoxTipOfTheDayStateChanged** void checkBoxTipOfTheDayStateChanged ( int checked ) [slot]

**13.66.2.10 checkForUpdates** void checkForUpdates ( ) [slot]

**13.66.2.11 closeEvent()** void closeEvent ( QCloseEvent \* event ) [protected]

**13.66.2.12 closeToolBar** void closeToolBar ( QAction \* action ) [slot]

**13.66.2.13 colorSelectorIndexChanged** void colorSelectorIndexChanged ( int index ) [slot]

**13.66.2.14 copy** void copy ( ) [slot]

**13.66.2.15 createAction()** QAction \* createAction ( const QString icon, const QString toolTip, const QString statusTip, bool scripted = false ) [private]

**13.66.2.16 createAllActions()** void createAllActions ( ) [private]

**13.66.2.17 createAllMenus()** void createAllMenus ( ) [private]

**13.66.2.18 `createAllToolbars()`** void createAllToolbars ( ) [private]

**13.66.2.19 `createEditMenu()`** void createEditMenu ( ) [private]

**13.66.2.20 `createEditToolbar()`** void createEditToolbar ( ) [private]

**13.66.2.21 `createFileMenu()`** void createFileMenu ( ) [private]

**13.66.2.22 `createFileToolbar()`** void createFileToolbar ( ) [private]

**13.66.2.23 `createHelpMenu()`** void createHelpMenu ( ) [private]

**13.66.2.24 `createHelpToolbar()`** void createHelpToolbar ( ) [private]

**13.66.2.25 `createIconToolbar()`** void createIconToolbar ( ) [private]

**13.66.2.26 `createLayerToolbar()`** void createLayerToolbar ( ) [private]

**13.66.2.27 `createPanToolbar()`** void createPanToolbar ( ) [private]

**13.66.2.28 `createPromptToolbar()`** void createPromptToolbar ( ) [private]

**13.66.2.29 `createPropertiesToolbar()`** void createPropertiesToolbar ( ) [private]

**13.66.2.30 `createSettingsMenu()`** void createSettingsMenu ( ) [private]

**13.66.2.31 `createTextToolbar()`** void createTextToolbar ( ) [private]

**13.66.2.32 `createViewMenu()`** void createViewMenu ( ) [private]

**13.66.2.33 `createViewToolbar()`** void createViewToolbar ( ) [private]

**13.66.2.34 `createWindowMenu()`** void createWindowMenu ( ) [private]

**13.66.2.35 `createZoomToolbar()`** void createZoomToolbar ( ) [private]

**13.66.2.36 `cut`** void cut ( ) [slot]

**13.66.2.37 `dayVision`** void dayVision ( ) [slot]

**13.66.2.38 `deletePressed`** void deletePressed ( ) [slot]

**13.66.2.39 `designDetails`** void designDetails ( ) [slot]

**13.66.2.40 disableMoveRapidFire** void disableMoveRapidFire ( ) [slot]

**13.66.2.41 disablePromptRapidFire** void disablePromptRapidFire ( ) [slot]

**13.66.2.42 doNothing** void doNothing ( ) [slot]

**13.66.2.43 enableMoveRapidFire** void enableMoveRapidFire ( ) [slot]

**13.66.2.44 enablePromptRapidFire** void enablePromptRapidFire ( ) [slot]

**13.66.2.45 escapePressed** void escapePressed ( ) [slot]

**13.66.2.46 exit** void exit ( ) [slot]

**13.66.2.47 findMdiWindow()** QMdiSubWindow \* findMdiWindow ( const QString & fileName ) [private]

**13.66.2.48 floatingChangedToolBar** void floatingChangedToolBar ( bool isFloating ) [slot]

**13.66.2.49 getAction** QAction \* getAction ( int actionEnum ) [slot]

**13.66.2.50 getApplication()** [MainWindow](#) \* getApplication ( )

**13.66.2.51 `getCurrentColor`** `QRgb getCurrentColor () [slot]`

**13.66.2.52 `getCurrentLayer`** `QString getCurrentLayer () [slot]`

**13.66.2.53 `getCurrentLineType`** `QString getCurrentLineType () [slot]`

**13.66.2.54 `getCurrentLineWeight`** `QString getCurrentLineWeight () [slot]`

**13.66.2.55 `getFileSeparator()`** `QAction * getFileSeparator () [protected]`

**13.66.2.56 `getMdiArea()`** `MdiArea * getMdiArea ()`

**13.66.2.57 `getSettingsCustomFilter()`** `QString getSettingsCustomFilter () [inline]`

**13.66.2.58 `getSettingsDisplayBColor()`** `QRgb getSettingsDisplayBColor () [inline]`

**13.66.2.59 `getSettingsDisplayCrossHairColor()`** `QRgb getSettingsDisplayCrossHairColor () [inline]`

**13.66.2.60 `getSettingsDisplayCrossHairPercent()`** `quint8 getSettingsDisplayCrossHairPercent () [inline]`

**13.66.2.61 `getSettingsDisplayRenderHintAA()`** `bool getSettingsDisplayRenderHintAA () [inline]`

**13.66.2.62 `getSettingsDisplayRenderHintHighAA()`** bool getSettingsDisplayRenderHintHighAA ( )  
[inline]

**13.66.2.63 `getSettingsDisplayRenderHintNonCosmetic()`** bool getSettingsDisplayRenderHintNonCosmetic ( ) [inline]

**13.66.2.64 `getSettingsDisplayRenderHintSmoothPix()`** bool getSettingsDisplayRenderHintSmoothPix ( ) [inline]

**13.66.2.65 `getSettingsDisplayRenderHintTextAA()`** bool getSettingsDisplayRenderHintTextAA ( )  
[inline]

**13.66.2.66 `getSettingsDisplayScrollBarWidgetNum()`** int getSettingsDisplayScrollBarWidgetNum ( )  
[inline]

**13.66.2.67 `getSettingsDisplaySelectBoxAlpha()`** quint8 getSettingsDisplaySelectBoxAlpha ( ) [inline]

**13.66.2.68 `getSettingsDisplaySelectBoxLeftColor()`** QRgb getSettingsDisplaySelectBoxLeftColor ( )  
[inline]

**13.66.2.69 `getSettingsDisplaySelectBoxLeftFill()`** QRgb getSettingsDisplaySelectBoxLeftFill ( )  
[inline]

**13.66.2.70 `getSettingsDisplaySelectBoxRightColor()`** QRgb getSettingsDisplaySelectBoxRightColor ( )  
[inline]

**13.66.2.71 `getSettingsDisplaySelectBoxRightFill()`** QRgb getSettingsDisplaySelectBoxRightFill ( )  
[inline]

**13.66.2.72 `getSettingsDisplayShowScrollBars()`** `bool getSettingsDisplayShowScrollBars ( ) [inline]`

**13.66.2.73 `getSettingsDisplayUnits()`** `QString getSettingsDisplayUnits ( ) [inline]`

**13.66.2.74 `getSettingsDisplayUseOpenGL()`** `bool getSettingsDisplayUseOpenGL ( ) [inline]`

**13.66.2.75 `getSettingsDisplayZoomScaleIn()`** `qreal getSettingsDisplayZoomScaleIn ( ) [inline]`

**13.66.2.76 `getSettingsDisplayZoomScaleOut()`** `qreal getSettingsDisplayZoomScaleOut ( ) [inline]`

**13.66.2.77 `getSettingsGeneralCheckForUpdates()`** `bool getSettingsGeneralCheckForUpdates ( ) [inline]`

**13.66.2.78 `getSettingsGeneralCurrentTip()`** `int getSettingsGeneralCurrentTip ( ) [inline]`

**13.66.2.79 `getSettingsGeneralIconSize()`** `int getSettingsGeneralIconSize ( ) [inline]`

**13.66.2.80 `getSettingsGeneralIconTheme()`** `QString getSettingsGeneralIconTheme ( ) [inline]`

**13.66.2.81 `getSettingsGeneralLanguage()`** `QString getSettingsGeneralLanguage ( ) [inline]`

**13.66.2.82 `getSettingsGeneralMdiBGColor()`** `QRgb getSettingsGeneralMdiBGColor ( ) [inline]`

**13.66.2.83 `getSettingsGeneralMdiBGLogo()`** `QString getSettingsGeneralMdiBGLogo () [inline]`

**13.66.2.84 `getSettingsGeneralMdiBGTexture()`** `QString getSettingsGeneralMdiBGTexture () [inline]`

**13.66.2.85 `getSettingsGeneralMdiBGUseColor()`** `bool getSettingsGeneralMdiBGUseColor () [inline]`

**13.66.2.86 `getSettingsGeneralMdiBGUseLogo()`** `bool getSettingsGeneralMdiBGUseLogo () [inline]`

**13.66.2.87 `getSettingsGeneralMdiBGUseTexture()`** `bool getSettingsGeneralMdiBGUseTexture () [inline]`

**13.66.2.88 `getSettingsGeneralSystemHelpBrowser()`** `bool getSettingsGeneralSystemHelpBrowser () [inline]`

**13.66.2.89 `getSettingsGeneralTipOfTheDay()`** `bool getSettingsGeneralTipOfTheDay () [inline]`

**13.66.2.90 `getSettingsGridCenterOnOrigin()`** `bool getSettingsGridCenterOnOrigin () [inline]`

**13.66.2.91 `getSettingsGridCenterX()`** `qreal getSettingsGridCenterX () [inline]`

**13.66.2.92 `getSettingsGridCenterY()`** `qreal getSettingsGridCenterY () [inline]`

**13.66.2.93 `getSettingsGridColor()`** `QRgb getSettingsGridColor () [inline]`

**13.66.2.94 `getSettingsGridColorMatchCrossHair()`** `bool getSettingsGridColorMatchCrossHair ( )` [inline]

**13.66.2.95 `getSettingsGridLoadFromFile()`** `bool getSettingsGridLoadFromFile ( )` [inline]

**13.66.2.96 `getSettingsGridShowOnLoad()`** `bool getSettingsGridShowOnLoad ( )` [inline]

**13.66.2.97 `getSettingsGridShowOrigin()`** `bool getSettingsGridShowOrigin ( )` [inline]

**13.66.2.98 `getSettingsGridSizeRadius()`** `qreal getSettingsGridSizeRadius ( )` [inline]

**13.66.2.99 `getSettingsGridSizeX()`** `qreal getSettingsGridSizeX ( )` [inline]

**13.66.2.100 `getSettingsGridSizeY()`** `qreal getSettingsGridSizeY ( )` [inline]

**13.66.2.101 `getSettingsGridSpacingAngle()`** `qreal getSettingsGridSpacingAngle ( )` [inline]

**13.66.2.102 `getSettingsGridSpacingRadius()`** `qreal getSettingsGridSpacingRadius ( )` [inline]

**13.66.2.103 `getSettingsGridSpacingX()`** `qreal getSettingsGridSpacingX ( )` [inline]

**13.66.2.104 `getSettingsGridSpacingY()`** `qreal getSettingsGridSpacingY ( )` [inline]

**13.66.2.105 `getSettingsGridType()`** `QString getSettingsGridType ( ) [inline]`

**13.66.2.106 `getSettingsLwtDefaultLwt()`** `qreal getSettingsLwtDefaultLwt ( ) [inline]`

**13.66.2.107 `getSettingsLwtRealRender()`** `bool getSettingsLwtRealRender ( ) [inline]`

**13.66.2.108 `getSettingsLwtShowLwt()`** `bool getSettingsLwtShowLwt ( ) [inline]`

**13.66.2.109 `getSettingsOpenFormat()`** `QString getSettingsOpenFormat ( ) [inline]`

**13.66.2.110 `getSettingsOpenSaveTrimDstNumJumps()`** `quint8 getSettingsOpenSaveTrimDstNumJumps ( ) [inline]`

**13.66.2.111 `getSettingsOpenThumbnail()`** `bool getSettingsOpenThumbnail ( ) [inline]`

**13.66.2.112 `getSettingsPrintingDefaultDevice()`** `QString getSettingsPrintingDefaultDevice ( ) [inline]`

**13.66.2.113 `getSettingsPrintingDisableBG()`** `bool getSettingsPrintingDisableBG ( ) [inline]`

**13.66.2.114 `getSettingsPrintingUseLastDevice()`** `bool getSettingsPrintingUseLastDevice ( ) [inline]`

**13.66.2.115 `getSettingsPromptBColor()`** `QRgb getSettingsPromptBColor ( ) [inline]`

**13.66.2.116 `getSettingsPromptFontFamily()`** `QString getSettingsPromptFontFamily ()` [inline]

**13.66.2.117 `getSettingsPromptFontSize()`** `quint8 getSettingsPromptFontSize ()` [inline]

**13.66.2.118 `getSettingsPromptFontStyle()`** `QString getSettingsPromptFontStyle ()` [inline]

**13.66.2.119 `getSettingsPromptSaveHistory()`** `bool getSettingsPromptSaveHistory ()` [inline]

**13.66.2.120 `getSettingsPromptSaveHistoryAsHtml()`** `bool getSettingsPromptSaveHistoryAsHtml ()` [inline]

**13.66.2.121 `getSettingsPromptSaveHistoryFilename()`** `QString getSettingsPromptSaveHistoryFilename ()` [inline]

**13.66.2.122 `getSettingsPromptTextColor()`** `QRgb getSettingsPromptTextColor ()` [inline]

**13.66.2.123 `getSettingsQSnapApertureSize()`** `quint8 getSettingsQSnapApertureSize ()` [inline]

**13.66.2.124 `getSettingsQSnapApparent()`** `bool getSettingsQSnapApparent ()` [inline]

**13.66.2.125 `getSettingsQSnapCenter()`** `bool getSettingsQSnapCenter ()` [inline]

**13.66.2.126 `getSettingsQSnapEnabled()`** `bool getSettingsQSnapEnabled ()` [inline]

**13.66.2.127 `getSettingsQSnapEndPoint()`** `bool getSettingsQSnapEndPoint () [inline]`

**13.66.2.128 `getSettingsQSnapExtension()`** `bool getSettingsQSnapExtension () [inline]`

**13.66.2.129 `getSettingsQSnapInsertion()`** `bool getSettingsQSnapInsertion () [inline]`

**13.66.2.130 `getSettingsQSnapIntersection()`** `bool getSettingsQSnapIntersection () [inline]`

**13.66.2.131 `getSettingsQSnapLocatorColor()`** `QRgb getSettingsQSnapLocatorColor () [inline]`

**13.66.2.132 `getSettingsQSnapLocatorSize()`** `quint8 getSettingsQSnapLocatorSize () [inline]`

**13.66.2.133 `getSettingsQSnapMidPoint()`** `bool getSettingsQSnapMidPoint () [inline]`

**13.66.2.134 `getSettingsQSnapNearest()`** `bool getSettingsQSnapNearest () [inline]`

**13.66.2.135 `getSettingsQSnapNode()`** `bool getSettingsQSnapNode () [inline]`

**13.66.2.136 `getSettingsQSnapParallel()`** `bool getSettingsQSnapParallel () [inline]`

**13.66.2.137 `getSettingsQSnapPerpendicular()`** `bool getSettingsQSnapPerpendicular () [inline]`

**13.66.2.138 `getSettingsQSnapQuadrant()`** `bool getSettingsQSnapQuadrant ()` [inline]

**13.66.2.139 `getSettingsQSnapTangent()`** `bool getSettingsQSnapTangent ()` [inline]

**13.66.2.140 `getSettingsRecentMaxFiles()`** `quint8 getSettingsRecentMaxFiles ()` [inline]

**13.66.2.141 `getSettingsRulerColor()`** `QRgb getSettingsRulerColor ()` [inline]

**13.66.2.142 `getSettingsRulerMetric()`** `bool getSettingsRulerMetric ()` [inline]

**13.66.2.143 `getSettingsRulerPixelSize()`** `quint8 getSettingsRulerPixelSize ()` [inline]

**13.66.2.144 `getSettingsRulerShowOnLoad()`** `bool getSettingsRulerShowOnLoad ()` [inline]

**13.66.2.145 `getSettingsSaveFormat()`** `QString getSettingsSaveFormat ()` [inline]

**13.66.2.146 `getSettingsSaveThumbnail()`** `bool getSettingsSaveThumbnail ()` [inline]

**13.66.2.147 `getSettingsSelectionCoolGripColor()`** `QRgb getSettingsSelectionCoolGripColor ()` [inline]

**13.66.2.148 `getSettingsSelectionGripSize()`** `quint8 getSettingsSelectionGripSize ()` [inline]

**13.66.2.149 `getSettingsSelectionHotGripColor()`** QRgb getSettingsSelectionHotGripColor () [inline]

**13.66.2.150 `getSettingsSelectionModePickAdd()`** bool getSettingsSelectionModePickAdd () [inline]

**13.66.2.151 `getSettingsSelectionModePickDrag()`** bool getSettingsSelectionModePickDrag () [inline]

**13.66.2.152 `getSettingsSelectionModePickFirst()`** bool getSettingsSelectionModePickFirst () [inline]

**13.66.2.153 `getSettingsSelectionPickBoxSize()`** quint8 getSettingsSelectionPickBoxSize () [inline]

**13.66.2.154 `getSettingsTextAngle()`** qreal getSettingsTextAngle () [inline]

**13.66.2.155 `getSettingsTextFont()`** QString getSettingsTextFont () [inline]

**13.66.2.156 `getSettingsTextSize()`** qreal getSettingsTextSize () [inline]

**13.66.2.157 `getSettingsTextStyleBold()`** bool getSettingsTextStyleBold () [inline]

**13.66.2.158 `getSettingsTextStyleItalic()`** bool getSettingsTextStyleItalic () [inline]

**13.66.2.159 `getSettingsTextStyleOverline()`** bool getSettingsTextStyleOverline () [inline]

**13.66.2.160** **getSettingsTextStyleStrikeOut()** bool getSettingsTextStyleStrikeOut () [inline]

**13.66.2.161** **getSettingsTextStyleUnderline()** bool getSettingsTextStyleUnderline () [inline]

**13.66.2.162** **help** void help () [slot]

**13.66.2.163** **hideUnimplemented** void hideUnimplemented () [private], [slot]

**13.66.2.164** **icon128** void icon128 () [slot]

**13.66.2.165** **icon16** void icon16 () [slot]

**13.66.2.166** **icon24** void icon24 () [slot]

**13.66.2.167** **icon32** void icon32 () [slot]

**13.66.2.168** **icon48** void icon48 () [slot]

**13.66.2.169** **icon64** void icon64 () [slot]

**13.66.2.170** **iconResize** void iconResize (  
int iconSize) [slot]

**13.66.2.171 `isCommandActive()`** `bool isCommandActive () [inline]`

**13.66.2.172 `isShiftPressed`** `bool isShiftPressed () [slot]`

**13.66.2.173 `javaInitNatives()`** `void javaInitNatives (`  
`QScriptEngine * engine ) [private]`

**13.66.2.174 `javaLoadCommand()`** `void javaLoadCommand (`  
`const QString & cmdName ) [private]`

**13.66.2.175 `layerManager`** `void layerManager () [slot]`

**13.66.2.176 `layerPrevious`** `void layerPrevious () [slot]`

**13.66.2.177 `layerSelectorIndexChanged`** `void layerSelectorIndexChanged (`  
`int index ) [slot]`

**13.66.2.178 `linetypeSelectorIndexChanged`** `void linetypeSelectorIndexChanged (`  
`int index ) [slot]`

**13.66.2.179 `lineweightSelectorIndexChanged`** `void lineweightSelectorIndexChanged (`  
`int index ) [slot]`

**13.66.2.180 `loadFormats()`** `void loadFormats () [protected]`

**13.66.2.181 `logPromptInput`** void logPromptInput ( const QString & txt ) [slot]

**13.66.2.182 `makeLayerActive`** void makeLayerActive ( ) [slot]

**13.66.2.183 `nativeAbout()`** void nativeAbout ( )

**13.66.2.184 `nativeAddArc()`** void nativeAddArc ( qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, int rubberMode )

**13.66.2.185 `nativeAddCircle()`** void nativeAddCircle ( qreal centerX, qreal centerY, qreal radius, bool fill, int rubberMode )

**13.66.2.186 `nativeAddDimLeader()`** void nativeAddDimLeader ( qreal x1, qreal y1, qreal x2, qreal y2, qreal rot, int rubberMode )

**13.66.2.187 `nativeAddEllipse()`** void nativeAddEllipse ( qreal centerX, qreal centerY, qreal width, qreal height, qreal rot, bool fill, int rubberMode )

```
13.66.2.188 nativeAddHorizontalDimension() void nativeAddHorizontalDimension (
    qreal x1,
    qreal y1,
    qreal x2,
    qreal y2,
    qreal legHeight )
```

```
13.66.2.189 nativeAddImage() void nativeAddImage (
    const QString & img,
    qreal x,
    qreal y,
    qreal w,
    qreal h,
    qreal rot )
```

```
13.66.2.190 nativeAddInfiniteLine() void nativeAddInfiniteLine (
    qreal x1,
    qreal y1,
    qreal x2,
    qreal y2,
    qreal rot )
```

```
13.66.2.191 nativeAddLine() void nativeAddLine (
    qreal x1,
    qreal y1,
    qreal x2,
    qreal y2,
    qreal rot,
    int rubberMode )
```

```
13.66.2.192 nativeAddPath() void nativeAddPath (
    qreal startX,
    qreal startY,
    const QPainterPath & p,
    int rubberMode )
```

```
13.66.2.193 nativeAddPoint() void nativeAddPoint (
    qreal x,
    qreal y )
```

```
13.66.2.194 nativeAddPolygon() void nativeAddPolygon (
    qreal startX,
    qreal startY,
    const QPainterPath & p,
    int rubberMode )
```

```
13.66.2.195 nativeAddPolyline() void nativeAddPolyline (
    qreal startX,
    qreal startY,
    const QPainterPath & p,
    int rubberMode )
```

```
13.66.2.196 nativeAddRay() void nativeAddRay (
    qreal x1,
    qreal y1,
    qreal x2,
    qreal y2,
    qreal rot )
```

```
13.66.2.197 nativeAddRectangle() void nativeAddRectangle (
    qreal x,
    qreal y,
    qreal w,
    qreal h,
    qreal rot,
    bool fill,
    int rubberMode )
```

```
13.66.2.198 nativeAddRegularPolygon() void nativeAddRegularPolygon (
    qreal centerX,
    qreal centerY,
    quint16 sides,
    quint8 mode,
    qreal rad,
    qreal rot,
    bool fill )
```

```
13.66.2.199 nativeAddRoundedRectangle() void nativeAddRoundedRectangle (
    qreal x,
    qreal y,
    qreal w,
    qreal h,
    qreal rad,
    qreal rot,
    bool fill )
```

```
13.66.2.200 nativeAddSlot() void nativeAddSlot (  
    qreal centerX,  
    qreal centerY,  
    qreal diameter,  
    qreal length,  
    qreal rot,  
    bool fill,  
    int rubberMode )
```

```
13.66.2.201 nativeAddTextMulti() void nativeAddTextMulti (  
    const QString & str,  
    qreal x,  
    qreal y,  
    qreal rot,  
    bool fill,  
    int rubberMode )
```

```
13.66.2.202 nativeAddTextSingle() void nativeAddTextSingle (  
    const QString & str,  
    qreal x,  
    qreal y,  
    qreal rot,  
    bool fill,  
    int rubberMode )
```

```
13.66.2.203 nativeAddToSelection() void nativeAddToSelection (  
    const QPainterPath path,  
    Qt::ItemSelectionMode mode )
```

```
13.66.2.204 nativeAddTriangle() void nativeAddTriangle (  
    qreal x1,  
    qreal y1,  
    qreal x2,  
    qreal y2,  
    qreal x3,  
    qreal y3,  
    qreal rot,  
    bool fill )
```

**13.66.2.205 nativeAddVerticalDimension()** void nativeAddVerticalDimension ( qreal x1, qreal y1, qreal x2, qreal y2, qreal legHeight )

**13.66.2.206 nativeAlert()** void nativeAlert ( const QString & txt )

**13.66.2.207 nativeAllowRubber()** bool nativeAllowRubber ( )

**13.66.2.208 nativeAppendPromptHistory()** void nativeAppendPromptHistory ( const QString & txt )

**13.66.2.209 nativeBlinkPrompt()** void nativeBlinkPrompt ( )

**13.66.2.210 nativeCalculateAngle()** qreal nativeCalculateAngle ( qreal x1, qreal y1, qreal x2, qreal y2 )

**13.66.2.211 nativeCalculateDistance()** qreal nativeCalculateDistance ( qreal x1, qreal y1, qreal x2, qreal y2 )

**13.66.2.212 nativeClearRubber()** void nativeClearRubber ( )

**13.66.2.213 nativeClearSelection()** void nativeClearSelection ( )

**13.66.2.214 nativeCopySelected()** void nativeCopySelected ( qreal x, qreal y )

**13.66.2.215 nativeCutSelected()** void nativeCutSelected ( qreal x, qreal y )

**13.66.2.216 nativeDayVision()** void nativeDayVision ( )

**13.66.2.217 nativeDeleteSelected()** void nativeDeleteSelected ( )

**13.66.2.218 nativeDisableMoveRapidFire()** void nativeDisableMoveRapidFire ( )

**13.66.2.219 nativeDisablePromptRapidFire()** void nativeDisablePromptRapidFire ( )

**13.66.2.220 nativeEnableMoveRapidFire()** void nativeEnableMoveRapidFire ( )

**13.66.2.221 nativeEnablePromptRapidFire()** void nativeEnablePromptRapidFire ( )

**13.66.2.222 nativeEndCommand()** void nativeEndCommand ( )

**13.66.2.223 nativeExit()** void nativeExit ( )

**13.66.2.224 nativeHelp()** void nativeHelp ( )

**13.66.2.225 nativeIcon128()** void nativeIcon128 ( )

**13.66.2.226 nativeIcon16()** void nativeIcon16 ( )

**13.66.2.227 nativeIcon24()** void nativeIcon24 ( )

**13.66.2.228 nativeIcon32()** void nativeIcon32 ( )

**13.66.2.229 nativeIcon48()** void nativeIcon48 ( )

**13.66.2.230 nativeIcon64()** void nativeIcon64 ( )

**13.66.2.231 nativeInitCommand()** void nativeInitCommand ( )

**13.66.2.232 nativeMessageBox()** void nativeMessageBox (   
     const QString & type,  
     const QString & title,  
     const QString & text )

**13.66.2.233 nativeMirrorSelected()** void nativeMirrorSelected (   
     qreal x1,  
     qreal y1,  
     qreal x2,  
     qreal y2 )

**13.66.2.234 nativeMouseX()** qreal nativeMouseX ( )

**13.66.2.235 nativeMouseY()** qreal nativeMouseY ( )

**13.66.2.236 nativeMoveSelected()** void nativeMoveSelected ( qreal dx, qreal dy )

**13.66.2.237 nativeNewFile()** void nativeNewFile ( )

**13.66.2.238 nativeNightVision()** void nativeNightVision ( )

**13.66.2.239 nativeNumSelected()** int nativeNumSelected ( )

**13.66.2.240 nativeOpenFile()** void nativeOpenFile ( )

**13.66.2.241 nativePanDown()** void nativePanDown ( )

**13.66.2.242 nativePanLeft()** void nativePanLeft ( )

**13.66.2.243 nativePanRight()** void nativePanRight ( )

**13.66.2.244 nativePanUp()** void nativePanUp ( )

**13.66.2.245 nativePasteSelected()** void nativePasteSelected ( qreal x, qreal y )

**13.66.2.246 nativePerpendicularDistance()** qreal nativePerpendicularDistance ( qreal px, qreal py, qreal xl, qreal yl, qreal x2, qreal y2 )

**13.66.2.247 nativePlatformString()** QString nativePlatformString ( )

**13.66.2.248 nativePreviewOff()** void nativePreviewOff ( )

**13.66.2.249 nativePreviewOn()** void nativePreviewOn ( int clone, int mode, qreal x, qreal y, qreal data )

**13.66.2.250 nativePrintArea()** void nativePrintArea ( qreal x, qreal y, qreal w, qreal h )

**13.66.2.251 nativeQSnapX()** qreal nativeQSnapX ( )

**13.66.2.252 nativeQSnapY()** qreal nativeQSnapY ( )

**13.66.2.253 nativeRedo()** void nativeRedo ( )

**13.66.2.254 nativeRotateSelected()** void nativeRotateSelected ( qreal x, qreal y, qreal rot )

**13.66.2.255 nativeScaleSelected()** void nativeScaleSelected ( qreal x, qreal y, qreal factor )

**13.66.2.256 nativeSelectAll()** void nativeSelectAll ( )

**13.66.2.257 nativeSetBackgroundColor()** void nativeSetBackgroundColor ( quint8 r, quint8 g, quint8 b )

**13.66.2.258 nativeSetCrossHairColor()** void nativeSetCrossHairColor ( quint8 r, quint8 g, quint8 b )

**13.66.2.259 nativeSetCursorShape()** void nativeSetCursorShape ( const QString & str )

**13.66.2.260 nativeSetGridColor()** void nativeSetGridColor ( quint8 r, quint8 g, quint8 b )

**13.66.2.261 nativeSetPromptPrefix()** void nativeSetPromptPrefix ( const QString & txt )

**13.66.2.262 nativeSetRubberMode()** void nativeSetRubberMode ( int mode )

**13.66.2.263 nativeSetRubberPoint()** void nativeSetRubberPoint ( const QString & key, qreal x, qreal y )

**13.66.2.264 nativeSetRubberText()** void nativeSetRubberText ( const QString & key, const QString & txt )

**13.66.2.265 nativeSetTextAngle()** void nativeSetTextAngle ( qreal num )

**13.66.2.266 nativeSetTextBold()** void nativeSetTextBold ( bool val )

**13.66.2.267 nativeSetFont()** void nativeSetFont ( const QString & str )

**13.66.2.268 nativeSetTextItalic()** void nativeSetTextItalic ( bool val )

**13.66.2.269 nativeSetTextOverline()** void nativeSetTextOverline ( bool val )

**13.66.2.270 nativeSetTextSize()** void nativeSetTextSize ( qreal num )

**13.66.2.271 nativeSetTextStrikeOut()** void nativeSetTextStrikeOut ( bool val )

**13.66.2.272 nativeSetTextUnderline()** void nativeSetTextUnderline ( bool val )

**13.66.2.273 nativeSpareRubber()** void nativeSpareRubber ( qint64 id )

**13.66.2.274 nativeTextAngle()** qreal nativeTextAngle ( )

**13.66.2.275 nativeTextBold()** bool nativeTextBold ( )

**13.66.2.276 nativeTextFont()** QString nativeTextFont ( )

**13.66.2.277 nativeTextItalic()** bool nativeTextItalic ( )

**13.66.2.278 nativeTextOverline()** bool nativeTextOverline ( )

**13.66.2.279 nativeTextSize()** qreal nativeTextSize ( )

**13.66.2.280 nativeTextStrikeOut()** bool nativeTextStrikeOut ( )

**13.66.2.281 nativeTextUnderline()** bool nativeTextUnderline ( )

**13.66.2.282 nativeTipOfDay()** void nativeTipOfDay ( )

**13.66.2.283 nativeUndo()** void nativeUndo ( )

**13.66.2.284 nativeVulcanize()** void nativeVulcanize ( )

**13.66.2.285 nativeWindowCascade()** void nativeWindowCascade ( )

**13.66.2.286 nativeWindowClose()** void nativeWindowClose ( )

**13.66.2.287 nativeWindowCloseAll()** void nativeWindowCloseAll ( )

**13.66.2.288 nativeWindowNext()** void nativeWindowNext ( )

**13.66.2.289 nativeWindowPrevious()** void nativeWindowPrevious ( )

**13.66.2.290 nativeWindowTile()** void nativeWindowTile ( )

**13.66.2.291 nativeZoomExtents()** void nativeZoomExtents ( )

**13.66.2.292 nativeZoomIn()** void nativeZoomIn ( )

**13.66.2.293 nativeZoomOut()** void nativeZoomOut ( )

**13.66.2.294 newFile** void newFile ( ) [slot]

**13.66.2.295 nightVision** void nightVision ( ) [slot]

**13.66.2.296 onCloseMdiWin** void onCloseMdiWin (   
 MdiWindow \* theMdiWin ) [virtual], [slot]

**13.66.2.297 onCloseWindow** void onCloseWindow ( ) [slot]

**13.66.2.298 onWindowActivated** void onWindowActivated (   
 QMdiSubWindow \* w ) [slot]

**13.66.2.299 openFile** void openFile (   
 bool recent = false,   
 const QString & recentFile = "" ) [slot]

**13.66.2.300 openFilesSelected** void openFilesSelected (   
 const QStringList & filesToOpen ) [slot]

**13.66.2.301 openrecentfile** void openrecentfile ( ) [slot]

**13.66.2.302 panDown** void panDown ( ) [slot]

**13.66.2.303 panLeft** void panLeft ( ) [slot]

**13.66.2.304 panpoint** void panpoint ( ) [slot]

**13.66.2.305 panrealtime** void panrealtime ( ) [slot]

**13.66.2.306 panRight** void panRight ( ) [slot]

**13.66.2.307 panUp** void panUp ( ) [slot]

**13.66.2.308 paste** void paste ( ) [slot]

**13.66.2.309 pickAddModeToggled** void pickAddModeToggled ( ) [slot]

**13.66.2.310 platformString()** QString platformString ( )

**13.66.2.311 print** void print ( ) [slot]

**13.66.2.312 promptHistoryAppended** void promptHistoryAppended ( const QString & txt ) [slot]

**13.66.2.313 promptInputNext** void promptInputNext ( ) [slot]

**13.66.2.314 promptInputPrevious** void promptInputPrevious ( ) [slot]

**13.66.2.315 quit** void quit ( ) [slot]

**13.66.2.316 readSettings** void readSettings ( ) [slot]

**13.66.2.317 recentMenuAboutToShow** void recentMenuAboutToShow ( ) [slot]

**13.66.2.318 redo** void redo ( ) [slot]

**13.66.2.319 resizeEvent()** void resizeEvent ( QResizeEvent \* e ) [protected], [virtual]

**13.66.2.320 runCommand** void runCommand ( ) [slot]

**13.66.2.321 runCommandClick** void runCommandClick ( const QString & cmd, qreal x, qreal y ) [slot]

**13.66.2.322 runCommandContext** void runCommandContext ( const QString & cmd, const QString & str ) [slot]

**13.66.2.323 runCommandMain** void runCommandMain ( const QString & cmd ) [slot]

**13.66.2.324 runCommandMove** void runCommandMove ( const QString & *cmd*, qreal *x*, qreal *y* ) [slot]

**13.66.2.325 runCommandPrompt** void runCommandPrompt ( const QString & *cmd*, const QString & *str* ) [slot]

**13.66.2.326 saveasfile** void saveasfile ( ) [slot]

**13.66.2.327 savefile** void savefile ( ) [slot]

**13.66.2.328 selectAll** void selectAll ( ) [slot]

**13.66.2.329 setSettingsCustomFilter()** void setSettingsCustomFilter ( const QString & *newValue* ) [inline]

**13.66.2.330 setSettingsDisplayBGColor()** void setSettingsDisplayBGColor ( QRgb *newValue* ) [inline]

**13.66.2.331 setSettingsDisplayCrossHairColor()** void setSettingsDisplayCrossHairColor ( QRgb *newValue* ) [inline]

**13.66.2.332 setSettingsDisplayCrossHairPercent()** void setSettingsDisplayCrossHairPercent ( quint8 *newValue* ) [inline]

**13.66.2.333 setSettingsDisplayRenderHintAA()** void setSettingsDisplayRenderHintAA ( bool *newValue* ) [inline]

**13.66.2.334 `setSettingsDisplayRenderHintHighAA()`** void setSettingsDisplayRenderHintHighAA ( bool newValue ) [inline]

**13.66.2.335 `setSettingsDisplayRenderHintNonCosmetic()`** void setSettingsDisplayRenderHintNonCosmetic ( bool newValue ) [inline]

**13.66.2.336 `setSettingsDisplayRenderHintSmoothPix()`** void setSettingsDisplayRenderHintSmoothPix ( bool newValue ) [inline]

**13.66.2.337 `setSettingsDisplayRenderHintTextAA()`** void setSettingsDisplayRenderHintTextAA ( bool newValue ) [inline]

**13.66.2.338 `setSettingsDisplayScrollBarWidgetNum()`** void setSettingsDisplayScrollBarWidgetNum ( int newValue ) [inline]

**13.66.2.339 `setSettingsDisplaySelectBoxAlpha()`** void setSettingsDisplaySelectBoxAlpha ( quint8 newValue ) [inline]

**13.66.2.340 `setSettingsDisplaySelectBoxLeftColor()`** void setSettingsDisplaySelectBoxLeftColor ( QRgb newValue ) [inline]

**13.66.2.341 `setSettingsDisplaySelectBoxLeftFill()`** void setSettingsDisplaySelectBoxLeftFill ( QRgb newValue ) [inline]

**13.66.2.342 `setSettingsDisplaySelectBoxRightColor()`** void setSettingsDisplaySelectBoxRightColor ( QRgb newValue ) [inline]

**13.66.2.343 `setSettingsDisplaySelectBoxRightFill()`** void setSettingsDisplaySelectBoxRightFill ( QRgb newValue ) [inline]

**13.66.2.344 `setSettingsDisplayShowScrollBars()`** void setSettingsDisplayShowScrollBars ( bool newValue ) [inline]

**13.66.2.345 `setSettingsDisplayUnits()`** void setSettingsDisplayUnits ( const QString & newValue ) [inline]

**13.66.2.346 `setSettingsDisplayUseOpenGL()`** void setSettingsDisplayUseOpenGL ( bool newValue ) [inline]

**13.66.2.347 `setSettingsDisplayZoomScaleIn()`** void setSettingsDisplayZoomScaleIn ( qreal newValue ) [inline]

**13.66.2.348 `setSettingsDisplayZoomScaleOut()`** void setSettingsDisplayZoomScaleOut ( qreal newValue ) [inline]

**13.66.2.349 `setSettingsGeneralCheckForUpdates()`** void setSettingsGeneralCheckForUpdates ( bool newValue ) [inline]

**13.66.2.350 `setSettingsGeneralCurrentTip()`** void setSettingsGeneralCurrentTip ( int newValue ) [inline]

**13.66.2.351 `setSettingsGeneralIconSize()`** void setSettingsGeneralIconSize ( int newValue ) [inline]

**13.66.2.352 `setSettingsGeneralIconTheme()`** void setSettingsGeneralIconTheme ( const QString & newValue ) [inline]

**13.66.2.353 `setSettingsGeneralLanguage()`** void setSettingsGeneralLanguage ( const QString & newValue ) [inline]

**13.66.2.354 `setSettingsGeneralMdiBGColor()`** void setSettingsGeneralMdiBGColor ( QRgb newValue ) [inline]

**13.66.2.355 `setSettingsGeneralMdiBGLogo()`** void setSettingsGeneralMdiBGLogo ( const QString & newValue ) [inline]

**13.66.2.356 `setSettingsGeneralMdiBGTTexture()`** void setSettingsGeneralMdiBGTTexture ( const QString & newValue ) [inline]

**13.66.2.357 `setSettingsGeneralMdiBGUseColor()`** void setSettingsGeneralMdiBGUseColor ( bool newValue ) [inline]

**13.66.2.358 `setSettingsGeneralMdiBGUseLogo()`** void setSettingsGeneralMdiBGUseLogo ( bool newValue ) [inline]

**13.66.2.359 `setSettingsGeneralMdiBGUseTexture()`** void setSettingsGeneralMdiBGUseTexture ( bool newValue ) [inline]

**13.66.2.360 `setSettingsGeneralSystemHelpBrowser()`** void setSettingsGeneralSystemHelpBrowser ( bool newValue ) [inline]

**13.66.2.361 `setSettingsGeneralTipOfTheDay()`** void setSettingsGeneralTipOfTheDay ( bool newValue ) [inline]

**13.66.2.362 `setSettingsGridCenterOnOrigin()`** void setSettingsGridCenterOnOrigin ( bool newValue ) [inline]

**13.66.2.363 `setSettingsGridCenterX()`** void setSettingsGridCenterX ( qreal newValue ) [inline]

**13.66.2.364 `setSettingsGridCenterY()`** void setSettingsGridCenterY ( qreal newValue ) [inline]

**13.66.2.365 `setSettingsGridColor()`** void setSettingsGridColor ( QRgb newValue ) [inline]

**13.66.2.366 `setSettingsGridColorMatchCrossHair()`** void setSettingsGridColorMatchCrossHair ( bool newValue ) [inline]

**13.66.2.367 `setSettingsGridLoadFromFile()`** void setSettingsGridLoadFromFile ( bool newValue ) [inline]

**13.66.2.368 `setSettingsGridShowOnLoad()`** void setSettingsGridShowOnLoad ( bool newValue ) [inline]

**13.66.2.369 `setSettingsGridShowOrigin()`** void setSettingsGridShowOrigin ( bool newValue ) [inline]

**13.66.2.370 `setSettingsGridSizeRadius()`** void setSettingsGridSizeRadius ( qreal newValue ) [inline]

**13.66.2.371 `setSettingsGridSizeX()`** void setSettingsGridSizeX ( qreal newValue ) [inline]

**13.66.2.372 `setSettingsGridSizeY()`** void setSettingsGridSizeY ( qreal newValue ) [inline]

**13.66.2.373 `setSettingsGridSpacingAngle()`** void setSettingsGridSpacingAngle ( qreal newValue ) [inline]

**13.66.2.374 `setSettingsGridSpacingRadius()`** void setSettingsGridSpacingRadius ( qreal newValue ) [inline]

**13.66.2.375 `setSettingsGridSpacingX()`** void setSettingsGridSpacingX ( qreal newValue ) [inline]

**13.66.2.376 `setSettingsGridSpacingY()`** void setSettingsGridSpacingY ( qreal newValue ) [inline]

**13.66.2.377 `setSettingsGridType()`** void setSettingsGridType ( const QString & newValue ) [inline]

**13.66.2.378 `setSettingsLwtDefaultLwt()`** void setSettingsLwtDefaultLwt ( qreal newValue ) [inline]

**13.66.2.379 `setSettingsLwtRealRender()`** void setSettingsLwtRealRender ( bool newValue ) [inline]

**13.66.2.380 `setSettingsLwtShowLwt()`** void setSettingsLwtShowLwt ( bool newValue ) [inline]

**13.66.2.381 `setSettingsOpenFormat()`** void setSettingsOpenFormat ( const QString & newValue ) [inline]

**13.66.2.382 `setSettingsOpenSaveTrimDstNumJumps()`** void setSettingsOpenSaveTrimDstNumJumps ( quint8 newValue ) [inline]

**13.66.2.383 `setSettingsOpenThumbnail()`** void setSettingsOpenThumbnail ( bool newValue ) [inline]

**13.66.2.384 `setSettingsPrintingDefaultDevice()`** void setSettingsPrintingDefaultDevice ( const QString & newValue ) [inline]

**13.66.2.385 `setSettingsPrintingDisableBG()`** void setSettingsPrintingDisableBG ( bool newValue ) [inline]

**13.66.2.386 `setSettingsPrintingUseLastDevice()`** void setSettingsPrintingUseLastDevice ( bool newValue ) [inline]

**13.66.2.387 `setSettingsPromptBColor()`** void setSettingsPromptBColor ( QRgb newValue ) [inline]

**13.66.2.388 `setSettingsPromptFontFamily()`** void setSettingsPromptFontFamily ( const QString & newValue ) [inline]

**13.66.2.389 `setSettingsPromptFontSize()`** void setSettingsPromptFontSize ( quint8 newValue ) [inline]

**13.66.2.390 `setSettingsPromptFontStyle()`** void setSettingsPromptFontStyle ( const QString & newValue ) [inline]

**13.66.2.391 `setSettingsPromptSaveHistory()`** void setSettingsPromptSaveHistory ( bool newValue ) [inline]

**13.66.2.392 `setSettingsPromptSaveHistoryAsHtml()`** void setSettingsPromptSaveHistoryAsHtml ( bool newValue ) [inline]

**13.66.2.393 `setSettingsPromptSaveHistoryFilename()`** void setSettingsPromptSaveHistoryFilename ( const QString & newValue ) [inline]

**13.66.2.394 `setSettingsPromptTextColor()`** void setSettingsPromptTextColor ( QRgb newValue ) [inline]

**13.66.2.395 `setSettingsQSnapApertureSize()`** void setSettingsQSnapApertureSize ( quint8 newValue ) [inline]

**13.66.2.396 `setSettingsQSnapApparent()`** void setSettingsQSnapApparent ( bool newValue ) [inline]

**13.66.2.397 `setSettingsQSnapCenter()`** void setSettingsQSnapCenter ( bool newValue ) [inline]

**13.66.2.398 `setSettingsQSnapEnabled()`** void setSettingsQSnapEnabled ( bool newValue ) [inline]

**13.66.2.399 `setSettingsQSnapEndPoint()`** void setSettingsQSnapEndPoint ( bool newValue ) [inline]

**13.66.2.400 `setSettingsQSnapExtension()`** void setSettingsQSnapExtension ( bool newValue ) [inline]

**13.66.2.401 `setSettingsQSnapInsertion()`** void setSettingsQSnapInsertion ( bool newValue ) [inline]

**13.66.2.402 `setSettingsQSnapIntersection()`** void setSettingsQSnapIntersection ( bool newValue ) [inline]

**13.66.2.403 `setSettingsQSnapLocatorColor()`** void setSettingsQSnapLocatorColor ( QRgb newValue ) [inline]

**13.66.2.404 `setSettingsQSnapLocatorSize()`** void setSettingsQSnapLocatorSize ( quint8 newValue ) [inline]

**13.66.2.405 `setSettingsQSnapMidPoint()`** void setSettingsQSnapMidPoint ( bool newValue ) [inline]

**13.66.2.406 `setSettingsQSnapNearest()`** void setSettingsQSnapNearest ( bool newValue ) [inline]

**13.66.2.407 `setSettingsQSnapNode()`** void setSettingsQSnapNode ( bool newValue ) [inline]

**13.66.2.408 `setSettingsQSnapParallel()`** void setSettingsQSnapParallel ( bool newValue ) [inline]

**13.66.2.409 `setSettingsQSnapPerpendicular()`** void setSettingsQSnapPerpendicular ( bool newValue ) [inline]

**13.66.2.410 `setSettingsQSnapQuadrant()`** void setSettingsQSnapQuadrant ( bool newValue ) [inline]

**13.66.2.411 `setSettingsQSnapTangent()`** void setSettingsQSnapTangent ( bool newValue ) [inline]

**13.66.2.412 `setSettingsRecentMaxFiles()`** void setSettingsRecentMaxFiles ( quint8 newValue ) [inline]

**13.66.2.413 `setSettingsRulerColor()`** void setSettingsRulerColor ( QRgb newValue ) [inline]

**13.66.2.414 `setSettingsRulerMetric()`** void setSettingsRulerMetric ( bool newValue ) [inline]

**13.66.2.415 `setSettingsRulerPixelSize()`** void setSettingsRulerPixelSize ( quint8 newValue ) [inline]

**13.66.2.416 `setSettingsRulerShowOnLoad()`** void setSettingsRulerShowOnLoad ( bool newValue ) [inline]

**13.66.2.417 `setSettingsSaveFormat()`** void setSettingsSaveFormat ( const QString & newValue ) [inline]

**13.66.2.418 `setSettingsSaveThumbnail()`** void setSettingsSaveThumbnail ( bool newValue ) [inline]

**13.66.2.419 `setSettingsSelectionCoolGripColor()`** void setSettingsSelectionCoolGripColor ( QRgb newValue ) [inline]

**13.66.2.420 `setSettingsSelectionGripSize()`** void setSettingsSelectionGripSize ( quint8 newValue ) [inline]

**13.66.2.421 `setSettingsSelectionHotGripColor()`** void setSettingsSelectionHotGripColor ( QRgb newValue ) [inline]

**13.66.2.422 `setSettingsSelectionModePickAdd()`** void setSettingsSelectionModePickAdd ( bool newValue ) [inline]

**13.66.2.423 `setSettingsSelectionModePickDrag()`** void setSettingsSelectionModePickDrag ( bool newValue ) [inline]

**13.66.2.424 `setSettingsSelectionModePickFirst()`** void setSettingsSelectionModePickFirst ( bool newValue ) [inline]

**13.66.2.425 `setSettingsSelectionPickBoxSize()`** void setSettingsSelectionPickBoxSize ( quint8 newValue ) [inline]

**13.66.2.426 `setSettingsTextAngle()`** void setSettingsTextAngle ( qreal newValue ) [inline]

**13.66.2.427 `setSettingsTextFont()`** void setSettingsTextFont ( const QString & newValue ) [inline]

**13.66.2.428 `setSettingsTextSize()`** void setSettingsTextSize ( qreal newValue ) [inline]

**13.66.2.429 `setSettingsTextStyleBold()`** void setSettingsTextStyleBold ( bool newValue ) [inline]

**13.66.2.430 `setSettingsTextStyleItalic()`** void setSettingsTextStyleItalic ( bool newValue ) [inline]

**13.66.2.431 `setSettingsTextStyleOverline()`** void setSettingsTextStyleOverline ( bool newValue ) [inline]

**13.66.2.432 `setSettingsTextStyleStrikeOut()`** void setSettingsTextStyleStrikeOut ( bool newValue ) [inline]

**13.66.2.433 `setSettingsTextStyleUnderline()`** void setSettingsTextStyleUnderline ( bool newValue ) [inline]

**13.66.2.434 `setShiftPressed`** void setShiftPressed ( ) [slot]

**13.66.2.435 `setShiftReleased`** void setShiftReleased ( ) [slot]

**13.66.2.436 `setTextAngle`** void setTextAngle ( qreal num ) [slot]

**13.66.2.437 `setTextBold`** void setTextBold ( bool val ) [slot]

**13.66.2.438 `setTextFont`** void setTextFont ( const QString & str ) [slot]

**13.66.2.439 `setTextItalic`** void setTextItalic ( bool val ) [slot]

**13.66.2.440 `setTextOverline`** void setTextOverline ( bool val ) [slot]

**13.66.2.441 `setTextSize`** void setTextSize ( qreal num ) [slot]

**13.66.2.442 `setTextStrikeOut`** void setTextStrikeOut ( bool val ) [slot]

**13.66.2.443 `setTextUnderline`** void setTextUnderline ( bool val ) [slot]

**13.66.2.444 `settingsDialog`** void settingsDialog ( const QString & showTab = *QString()* ) [slot]

**13.66.2.445 `settingsPrompt`** void settingsPrompt ( ) [slot]

**13.66.2.446 `setUndoCleanIcon()`** void setUndoCleanIcon ( bool opened )

**13.66.2.447 `stub_implement`** void stub\_implement ( QString txt ) [slot]

**13.66.2.448 `stub_testing`** void stub\_testing ( ) [slot]

**13.66.2.449 `textAngle`** qreal textAngle ( ) [slot]

**13.66.2.450 `textBold`** bool textBold ( ) [slot]

**13.66.2.451 `textFont`** QString textFont ( ) [slot]

**13.66.2.452 `textFontSelectorCurrentFontChanged`** void textFontSelectorCurrentFontChanged ( const QFont & font ) [slot]

**13.66.2.453 `textItalic`** `bool textItalic () [slot]`

**13.66.2.454 `textOverline`** `bool textOverline () [slot]`

**13.66.2.455 `textSize`** `qreal textSize () [slot]`

**13.66.2.456 `textSizeSelectorIndexChanged`** `void textSizeSelectorIndexChanged (int index) [slot]`

**13.66.2.457 `textStrikeOut`** `bool textStrikeOut () [slot]`

**13.66.2.458 `textUnderline`** `bool textUnderline () [slot]`

**13.66.2.459 `tipOfDay`** `void tipOfDay () [slot]`

**13.66.2.460 `toggleGrid`** `void toggleGrid () [slot]`

**13.66.2.461 `toggleLwt`** `void toggleLwt () [slot]`

**13.66.2.462 `toggleRuler`** `void toggleRuler () [slot]`

**13.66.2.463 `undo`** `void undo () [slot]`

**13.66.2.464 updateAllViewBackgroundColors** void updateAllViewBackgroundColors ( QRgb color ) [slot]

**13.66.2.465 updateAllViewCrossHairColors** void updateAllViewCrossHairColors ( QRgb color ) [slot]

**13.66.2.466 updateAllViewGridColors** void updateAllViewGridColors ( QRgb color ) [slot]

**13.66.2.467 updateAllViewRulerColors** void updateAllViewRulerColors ( QRgb color ) [slot]

**13.66.2.468 updateAllViewScrollBars** void updateAllViewScrollBars ( bool val ) [slot]

**13.66.2.469 updateAllViewSelectBoxColors** void updateAllViewSelectBoxColors ( QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha ) [slot]

**13.66.2.470 updateMenuToolbarStatusbar()** void updateMenuToolbarStatusbar ( ) [virtual]

**13.66.2.471 updatePickAddMode** void updatePickAddMode ( bool val ) [slot]

**13.66.2.472 validFileFormat** bool validFileFormat ( const QString & fileName ) [static], [slot]

**13.66.2.473 whatsThisContextHelp** void whatsThisContextHelp ( ) [slot]

**13.66.2.474 windowMenuAboutToShow** void windowMenuAboutToShow ( ) [slot]

**13.66.2.475 windowMenuActivated** void windowMenuActivated ( bool checked ) [slot]

**13.66.2.476 writeSettings** void writeSettings ( ) [slot]

**13.66.2.477 zoomAll** void zoomAll ( ) [slot]

**13.66.2.478 zoomCenter** void zoomCenter ( ) [slot]

**13.66.2.479 zoomDynamic** void zoomDynamic ( ) [slot]

**13.66.2.480 zoomExtents** void zoomExtents ( ) [slot]

**13.66.2.481 zoomIn** void zoomIn ( ) [slot]

**13.66.2.482 zoomOut** void zoomOut ( ) [slot]

**13.66.2.483 zoomPrevious** void zoomPrevious ( ) [slot]

**13.66.2.484 zoomRealtime** void zoomRealtime ( ) [slot]

**13.66.2.485 zoomScale** void zoomScale ( ) [slot]

**13.66.2.486 zoomSelected** void zoomSelected ( ) [slot]

**13.66.2.487 zoomWindow** void zoomWindow ( ) [slot]

### 13.66.3 Member Data Documentation

**13.66.3.1 actionHash** QHash<int, QAction\*> actionHash

**13.66.3.2 checkBoxTipOfDay** QCheckBox\* checkBoxTipOfDay [private]

**13.66.3.3 colorSelector** QComboBox\* colorSelector [private]

**13.66.3.4 cutCopyObjectList** QList<QGraphicsItem\*> cutCopyObjectList

**13.66.3.5 debugger** QScriptEngineDebugger\* debugger [private]

**13.66.3.6 docIndex** int docIndex [private]

**13.66.3.7 dockPropEdit** PropertyEditor\* dockPropEdit

**13.66.3.8 dockUndoEdit** `UndoEditor*` `dockUndoEdit`

**13.66.3.9 editMenu** `QMenu*` `editMenu` [private]

**13.66.3.10 engine** `QScriptEngine*` `engine` [private]

**13.66.3.11 fileMenu** `QMenu*` `fileMenu` [private]

**13.66.3.12 formatFilterOpen** `QString` `formatFilterOpen`

**13.66.3.13 formatFilterSave** `QString` `formatFilterSave`

**13.66.3.14 helpMenu** `QMenu*` `helpMenu` [private]

**13.66.3.15 labelTipOfDay** `QLabel*` `labelTipOfDay` [private]

**13.66.3.16 layerSelector** `QComboBox*` `layerSelector` [private]

**13.66.3.17 layoutState** `QByteArray` `layoutState` [private]

**13.66.3.18 linetypeSelector** `QComboBox*` `linetypeSelector` [private]

**13.66.3.19 lineweightSelector** QComboBox\* lineweightSelector [private]

**13.66.3.20 listMdiWin** QList<MdiWindow\*> listMdiWin [private]

**13.66.3.21 listTipOfDay** QStringList listTipOfDay [private]

**13.66.3.22 mainWin** MainWindow\* mainWin

**13.66.3.23 mdiArea** MdiArea\* mdiArea

**13.66.3.24 menuHash** QHash<QString, QMenu\*> menuHash

**13.66.3.25 myFileSeparator** QAction\* myFileSeparator [private]

**13.66.3.26 numOfDocs** int numOfDocs [private]

**13.66.3.27 openFilePath** QString openFilePath [private]

**13.66.3.28 panMenu** QMenu\* panMenu [private]

**13.66.3.29 prompt** CmdPrompt\* prompt

**13.66.3.30 recentMenu** `QMenu* recentMenu [private]`

**13.66.3.31 settings\_display\_bg\_color** `QRgb settings_display_bg_color [private]`

**13.66.3.32 settings\_display\_crosshair\_color** `QRgb settings_display_crosshair_color [private]`

**13.66.3.33 settings\_display\_crosshair\_percent** `quint8 settings_display_crosshair_percent [private]`

**13.66.3.34 settings\_display\_renderhint\_aa** `bool settings_display_renderhint_aa [private]`

**13.66.3.35 settings\_display\_renderhint\_high\_aa** `bool settings_display_renderhint_high_aa [private]`

**13.66.3.36 settings\_display\_renderhint\_noncosmetic** `bool settings_display_renderhint_noncosmetic [private]`

**13.66.3.37 settings\_display\_renderhint\_smooth\_pix** `bool settings_display_renderhint_smooth_pix [private]`

**13.66.3.38 settings\_display\_renderhint\_text\_aa** `bool settings_display_renderhint_text_aa [private]`

**13.66.3.39 settings\_display\_scrollbar\_widget\_num** `int settings_display_scrollbar_widget_num [private]`

**13.66.3.40 settings\_display\_selectbox\_alpha** `quint8 settings_display_selectbox_alpha [private]`

**13.66.3.41 settings\_display\_selectbox\_left\_color** QRgb settings\_display\_selectbox\_left\_color [private]

**13.66.3.42 settings\_display\_selectbox\_left\_fill** QRgb settings\_display\_selectbox\_left\_fill [private]

**13.66.3.43 settings\_display\_selectbox\_right\_color** QRgb settings\_display\_selectbox\_right\_color [private]

**13.66.3.44 settings\_display\_selectbox\_right\_fill** QRgb settings\_display\_selectbox\_right\_fill [private]

**13.66.3.45 settings\_display\_show\_scrollbars** bool settings\_display\_show\_scrollbars [private]

**13.66.3.46 settings\_display\_units** QString settings\_display\_units [private]

**13.66.3.47 settings\_display\_use\_opengl** bool settings\_display\_use\_opengl [private]

**13.66.3.48 settings\_display\_zoomscale\_in** qreal settings\_display\_zoomscale\_in [private]

**13.66.3.49 settings\_display\_zoomscale\_out** qreal settings\_display\_zoomscale\_out [private]

**13.66.3.50 settings\_general\_check\_for\_updates** bool settings\_general\_check\_for\_updates [private]

**13.66.3.51 settings\_general\_current\_tip** quint16 settings\_general\_current\_tip [private]

**13.66.3.52 settings\_general\_icon\_size** int settings\_general\_icon\_size [private]

**13.66.3.53 settings\_general\_icon\_theme** QString settings\_general\_icon\_theme [private]

**13.66.3.54 settings\_general\_language** QString settings\_general\_language [private]

**13.66.3.55 settings\_general\_mdi\_bg\_color** QRgb settings\_general\_mdi\_bg\_color [private]

**13.66.3.56 settings\_general\_mdi\_bg\_logo** QString settings\_general\_mdi\_bg\_logo [private]

**13.66.3.57 settings\_general\_mdi\_bg\_texture** QString settings\_general\_mdi\_bg\_texture [private]

**13.66.3.58 settings\_general\_mdi\_bg\_use\_color** bool settings\_general\_mdi\_bg\_use\_color [private]

**13.66.3.59 settings\_general\_mdi\_bg\_use\_logo** bool settings\_general\_mdi\_bg\_use\_logo [private]

**13.66.3.60 settings\_general\_mdi\_bg\_use\_texture** bool settings\_general\_mdi\_bg\_use\_texture [private]

**13.66.3.61 settings\_general\_system\_help\_browser** bool settings\_general\_system\_help\_browser [private]

**13.66.3.62 settings\_general\_tip\_of\_the\_day** bool settings\_general\_tip\_of\_the\_day [private]

**13.66.3.63 `settings_grid_center_on_origin`** bool settings\_grid\_center\_on\_origin [private]

**13.66.3.64 `settings_grid_center_x`** qreal settings\_grid\_center\_x [private]

**13.66.3.65 `settings_grid_center_y`** qreal settings\_grid\_center\_y [private]

**13.66.3.66 `settings_grid_color`** QRgb settings\_grid\_color [private]

**13.66.3.67 `settings_grid_color_match_crosshair`** bool settings\_grid\_color\_match\_crosshair [private]

**13.66.3.68 `settings_grid_load_from_file`** bool settings\_grid\_load\_from\_file [private]

**13.66.3.69 `settings_grid_show_on_load`** bool settings\_grid\_show\_on\_load [private]

**13.66.3.70 `settings_grid_show_origin`** bool settings\_grid\_show\_origin [private]

**13.66.3.71 `settings_grid_size_radius`** qreal settings\_grid\_size\_radius [private]

**13.66.3.72 `settings_grid_size_x`** qreal settings\_grid\_size\_x [private]

**13.66.3.73 `settings_grid_size_y`** qreal settings\_grid\_size\_y [private]

**13.66.3.74 settings\_grid\_spacing\_angle** qreal settings\_grid\_spacing\_angle [private]

**13.66.3.75 settings\_grid\_spacing\_radius** qreal settings\_grid\_spacing\_radius [private]

**13.66.3.76 settings\_grid\_spacing\_x** qreal settings\_grid\_spacing\_x [private]

**13.66.3.77 settings\_grid\_spacing\_y** qreal settings\_grid\_spacing\_y [private]

**13.66.3.78 settings\_grid\_type** QString settings\_grid\_type [private]

**13.66.3.79 settings\_lwt\_default\_lwt** qreal settings\_lwt\_default\_lwt [private]

**13.66.3.80 settings\_lwt\_real\_render** bool settings\_lwt\_real\_render [private]

**13.66.3.81 settings\_lwt\_show\_lwt** bool settings\_lwt\_show\_lwt [private]

**13.66.3.82 settings\_opensave\_custom\_filter** QString settings\_opensave\_custom\_filter [private]

**13.66.3.83 settings\_opensave\_open\_format** QString settings\_opensave\_open\_format [private]

**13.66.3.84 settings\_opensave\_open\_thumbnail** bool settings\_opensave\_open\_thumbnail [private]

**13.66.3.85 settings\_opensave\_recent\_directory** `QString settings_opensave_recent_directory [private]`

**13.66.3.86 settings\_opensave\_recent\_list\_of\_files** `QStringList settings_opensave_recent_list_of_files [private]`

**13.66.3.87 settings\_opensave\_recent\_max\_files** `quint8 settings_opensave_recent_max_files [private]`

**13.66.3.88 settings\_opensave\_save\_format** `QString settings_opensave_save_format [private]`

**13.66.3.89 settings\_opensave\_save\_thumbnail** `bool settings_opensave_save_thumbnail [private]`

**13.66.3.90 settings\_opensave\_trim\_dst\_num\_jumps** `quint8 settings_opensave_trim_dst_num_jumps [private]`

**13.66.3.91 settings\_printing\_default\_device** `QString settings_printing_default_device [private]`

**13.66.3.92 settings\_printing\_disable\_bg** `bool settings_printing_disable_bg [private]`

**13.66.3.93 settings\_printing\_use\_last\_device** `bool settings_printing_use_last_device [private]`

**13.66.3.94 settings\_prompt\_bg\_color** `QRgb settings_prompt_bg_color [private]`

**13.66.3.95 settings\_prompt\_font\_family** `QString settings_prompt_font_family [private]`

**13.66.3.96 settings\_prompt\_font\_size** quint8 settings\_prompt\_font\_size [private]

**13.66.3.97 settings\_prompt\_font\_style** QString settings\_prompt\_font\_style [private]

**13.66.3.98 settings\_prompt\_save\_history** bool settings\_prompt\_save\_history [private]

**13.66.3.99 settings\_prompt\_save\_history\_as\_html** bool settings\_prompt\_save\_history\_as\_html [private]

**13.66.3.100 settings\_prompt\_save\_history\_filename** QString settings\_prompt\_save\_history\_filename [private]

**13.66.3.101 settings\_prompt\_text\_color** QRgb settings\_prompt\_text\_color [private]

**13.66.3.102 settings\_qsnap\_aperture\_size** quint8 settings\_qsnap\_aperture\_size [private]

**13.66.3.103 settings\_qsnap\_apparent** bool settings\_qsnap\_apparent [private]

**13.66.3.104 settings\_qsnap\_center** bool settings\_qsnap\_center [private]

**13.66.3.105 settings\_qsnap\_enabled** bool settings\_qsnap\_enabled [private]

**13.66.3.106 settings\_qsnap\_endpoint** bool settings\_qsnap\_endpoint [private]

13.66.3.107 **settings\_qsnap\_extension** bool settings\_qsnap\_extension [private]

13.66.3.108 **settings\_qsnap\_insertion** bool settings\_qsnap\_insertion [private]

13.66.3.109 **settings\_qsnap\_intersection** bool settings\_qsnap\_intersection [private]

13.66.3.110 **settings\_qsnap\_locator\_color** QRgb settings\_qsnap\_locator\_color [private]

13.66.3.111 **settings\_qsnap\_locator\_size** quint8 settings\_qsnap\_locator\_size [private]

13.66.3.112 **settings\_qsnap\_midpoint** bool settings\_qsnap\_midpoint [private]

13.66.3.113 **settings\_qsnap\_nearest** bool settings\_qsnap\_nearest [private]

13.66.3.114 **settings\_qsnap\_node** bool settings\_qsnap\_node [private]

13.66.3.115 **settings\_qsnap\_parallel** bool settings\_qsnap\_parallel [private]

13.66.3.116 **settings\_qsnap\_perpendicular** bool settings\_qsnap\_perpendicular [private]

13.66.3.117 **settings\_qsnap\_quadrant** bool settings\_qsnap\_quadrant [private]

**13.66.3.118 `settings_qsnap_tangent`** bool settings\_qsnap\_tangent [private]

**13.66.3.119 `settings_ruler_color`** QRgb settings\_ruler\_color [private]

**13.66.3.120 `settings_ruler_metric`** bool settings\_ruler\_metric [private]

**13.66.3.121 `settings_ruler_pixel_size`** quint8 settings\_ruler\_pixel\_size [private]

**13.66.3.122 `settings_ruler_show_on_load`** bool settings\_ruler\_show\_on\_load [private]

**13.66.3.123 `settings_selection_coolgrip_color`** QRgb settings\_selection\_coolgrip\_color [private]

**13.66.3.124 `settings_selection_grip_size`** quint8 settings\_selection\_grip\_size [private]

**13.66.3.125 `settings_selection_hotgrip_color`** QRgb settings\_selection\_hotgrip\_color [private]

**13.66.3.126 `settings_selection_mode_pickadd`** bool settings\_selection\_mode\_pickadd [private]

**13.66.3.127 `settings_selection_mode_pickdrag`** bool settings\_selection\_mode\_pickdrag [private]

**13.66.3.128 `settings_selection_mode_pickfirst`** bool settings\_selection\_mode\_pickfirst [private]

**13.66.3.129 settings\_selection\_pickbox\_size** quint8 settings\_selection\_pickbox\_size [private]

**13.66.3.130 settings\_text\_angle** qreal settings\_text\_angle [private]

**13.66.3.131 settings\_text\_font** QString settings\_text\_font [private]

**13.66.3.132 settings\_text\_size** qreal settings\_text\_size [private]

**13.66.3.133 settings\_text\_style\_bold** bool settings\_text\_style\_bold [private]

**13.66.3.134 settings\_text\_style\_italic** bool settings\_text\_style\_italic [private]

**13.66.3.135 settings\_text\_style\_overline** bool settings\_text\_style\_overline [private]

**13.66.3.136 settings\_text\_style\_strikeout** bool settings\_text\_style\_strikeout [private]

**13.66.3.137 settings\_text\_style\_underline** bool settings\_text\_style\_underline [private]

**13.66.3.138 settingsMenu** QMenu\* settingsMenu [private]

**13.66.3.139 shiftKeyPressedState** bool shiftKeyPressedState [private]

**13.66.3.140 statusbar** `StatusBar* statusbar`

**13.66.3.141 textFontSelector** `QFontComboBox* textFontSelector [private]`

**13.66.3.142 textSizeSelector** `QComboBox* textSizeSelector [private]`

**13.66.3.143 toolbarEdit** `QToolBar* toolbarEdit [private]`

**13.66.3.144 toolbarFile** `QToolBar* toolbarFile [private]`

**13.66.3.145 toolbarHash** `QHash<QString, QToolBar*> toolbarHash`

**13.66.3.146 toolbarHelp** `QToolBar* toolbarHelp [private]`

**13.66.3.147 toolbarIcon** `QToolBar* toolbarIcon [private]`

**13.66.3.148 toolbarLayer** `QToolBar* toolbarLayer [private]`

**13.66.3.149 toolbarPan** `QToolBar* toolbarPan [private]`

**13.66.3.150 toolbarPrompt** `QToolBar* toolbarPrompt [private]`

**13.66.3.151 toolbarProperties** QToolBar\* toolbarProperties [private]

**13.66.3.152 toolbarText** QToolBar\* toolbarText [private]

**13.66.3.153 toolbarView** QToolBar\* toolbarView [private]

**13.66.3.154 toolbarZoom** QToolBar\* toolbarZoom [private]

**13.66.3.155 viewMenu** QMenu\* viewMenu [private]

**13.66.3.156 windowMenu** QMenu\* windowMenu [private]

**13.66.3.157 wizardTipOfDay** QWizard\* wizardTipOfDay [private]

**13.66.3.158 zoomMenu** QMenu\* zoomMenu [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/mainwindow.h](#)
- [embroidermodder2/mainwindow-actions.cpp](#)
- [embroidermodder2/mainwindow-commands.cpp](#)
- [embroidermodder2/mainwindow-menus.cpp](#)
- [embroidermodder2/mainwindow-settings.cpp](#)
- [embroidermodder2/mainwindow-toolbars.cpp](#)
- [embroidermodder2/mainwindow.cpp](#)

## 13.67 MdiArea Class Reference

```
#include <mdiarea.h>
```

## Public Slots

- void `cascade ()`
- void `tile ()`

## Public Member Functions

- `MdiArea (MainWindow *mw, QWidget *parent=0)`
- `~MdiArea ()`
- void `useBackgroundLogo (bool use)`
- void `useBackgroundTexture (bool use)`
- void `useBackgroundColor (bool use)`
- void `setBackgroundLogo (const QString &fileName)`
- void `setBackgroundTexture (const QString &fileName)`
- void `setBackgroundColor (const QColor &color)`

## Protected Member Functions

- virtual void `mouseDoubleClickEvent (QMouseEvent *e)`
- virtual void `paintEvent (QPaintEvent *e)`

## Private Member Functions

- void `zoomExtentsAllSubWindows ()`
- void `forceRepaint ()`

## Private Attributes

- `MainWindow * mainWin`
- bool `useLogo`
- bool `useTexture`
- bool `useColor`
- `QPixmap bgLogo`
- `QPixmap bgTexture`
- `QColor bgColor`

### 13.67.1 Constructor & Destructor Documentation

```
13.67.1.1 MdiArea() MdiArea (
    MainWindow * mw,
    QWidget * parent = 0 )
```

```
13.67.1.2 ~MdiArea() ~MdiArea ( )
```

### 13.67.2 Member Function Documentation

**13.67.2.1 cascade** void cascade ( ) [slot]

**13.67.2.2 forceRepaint()** void forceRepaint ( ) [private]

**13.67.2.3 mouseDoubleClickEvent()** void mouseDoubleClickEvent ( QMouseEvent \* e ) [protected], [virtual]

**13.67.2.4 paintEvent()** void paintEvent ( QPaintEvent \* e ) [protected], [virtual]

**13.67.2.5 setBackgroundColor()** void setBackgroundColor ( const QColor & color )

**13.67.2.6 setBackgroundLogo()** void setBackgroundLogo ( const QString & fileName )

**13.67.2.7 setBackgroundTexture()** void setBackgroundTexture ( const QString & fileName )

**13.67.2.8 tile** void tile ( ) [slot]

**13.67.2.9 useBackgroundColor()** void useBackgroundColor ( bool use )

**13.67.2.10 useBackgroundLogo()** void useBackgroundLogo ( bool use )

**13.67.2.11 useBackgroundTexture()** void useBackgroundTexture ( bool use )

**13.67.2.12 zoomExtentsAllSubWindows()** void zoomExtentsAllSubWindows ( ) [private]

### 13.67.3 Member Data Documentation

**13.67.3.1 bgColor** QColor bgColor [private]

**13.67.3.2 bgLogo** QPixmap bgLogo [private]

**13.67.3.3 bgTexture** QPixmap bgTexture [private]

**13.67.3.4 mainWin** MainWindow\* mainWin [private]

**13.67.3.5 useColor** bool useColor [private]

**13.67.3.6 useLogo** bool useLogo [private]

**13.67.3.7 useTexture** bool useTexture [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/mdiarea.h](#)
- [embroidermodder2/mdiarea.cpp](#)

## 13.68 MdiWindow Class Reference

```
#include <mdiwindow.h>
```

### Public Slots

- void `closeEvent` (QCloseEvent \*e)
- void `onWindowActivated` ()
- void `currentLayerChanged` (const QString &layer)
- void `currentColorChanged` (const QRgb &color)
- void `currentLinetypeChanged` (const QString &type)
- void `currentLineweightChanged` (const QString &weight)
- void `updateColorLinetypeLinewidth` ()
- void `deletePressed` ()
- void `escapePressed` ()
- void `showViewScrollBars` (bool val)
- void `setViewCrossHairColor` (QRgb color)
- void `setViewBackgroundColor` (QRgb color)
- void `setViewSelectBoxColors` (QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha)
- void `setViewGridColor` (QRgb color)
- void `setViewRulerColor` (QRgb color)
- void `print` ()
- void `saveBMC` ()
- void `promptHistoryAppended` (const QString &txt)
- void `logPromptInput` (const QString &txt)
- void `promptInputPrevious` ()
- void `promptInputNext` ()

### Signals

- void `sendCloseMdiWin` (MdiWindow \*)

### Public Member Functions

- `MdiWindow` (const int theIndex, `MainWindow` \*mw, QMdiArea \*parent, Qt::WindowFlags wflags)
- `~MdiWindow` ()
- virtual QSize `sizeHint` () const
- QString `getCurrentFile` ()
- QString `getShortCurrentFile` ()
- `View` \* `getView` ()
- QGraphicsScene \* `getScene` ()
- QString `getCurrentLayer` ()
- QRgb `getCurrentColor` ()
- QString `getCurrentLineType` ()
- QString `getCurrentLineWeight` ()
- void `setCurrentLayer` (const QString &layer)
- void `setCurrentColor` (const QRgb &color)
- void `setCurrentLineType` (const QString &lineType)
- void `setCurrentLineWeight` (const QString &lineWeight)
- void `designDetails` ()
- bool `loadFile` (const QString &fileName)
- bool `saveFile` (const QString &fileName)

### Private Member Functions

- void `setCurrentFile` (const QString &fileName)
- QString `fileExtension` (const QString &fileName)
- void `promptInputPrevNext` (bool prev)

### Private Attributes

- `MainWindow * mainWin`
- `QMdiArea * mdiArea`
- `QGraphicsScene * gscene`
- `View * gview`
- bool `fileWasLoaded`
- QString `promptHistory`
- QList<QString> `promptInputList`
- int `promptInputNum`
- `QPrinter printer`
- QString `curFile`
- int `myIndex`
- QString `curLayer`
- QRgb `curColor`
- QString `curLineType`
- QString `curLineWeight`

#### 13.68.1 Constructor & Destructor Documentation

##### 13.68.1.1 `MdiWindow()` `MdiWindow` (

```
    const int theIndex,
    MainWindow * mw,
    QMdiArea * parent,
    Qt::WindowFlags wflags )
```

##### 13.68.1.2 `~MdiWindow()` `~MdiWindow` ( )

#### 13.68.2 Member Function Documentation

##### 13.68.2.1 `closeEvent` void `closeEvent` (

```
    QCloseEvent * e ) [slot]
```

**13.68.2.2 currentColorChanged** void currentColorChanged ( const QRgb & *color* ) [slot]

**13.68.2.3 currentLayerChanged** void currentLayerChanged ( const QString & *layer* ) [slot]

**13.68.2.4 currentLinetypeChanged** void currentLinetypeChanged ( const QString & *type* ) [slot]

**13.68.2.5 currentLineweightChanged** void currentLineweightChanged ( const QString & *weight* ) [slot]

**13.68.2.6 deletePressed** void deletePressed ( ) [slot]

**13.68.2.7 designDetails()** void designDetails ( )

**13.68.2.8 escapePressed** void escapePressed ( ) [slot]

**13.68.2.9 fileExtension()** QString fileExtension ( const QString & *fileName* ) [private]

**13.68.2.10 getCurrentColor()** QRgb getCurrentColor ( ) [inline]

**13.68.2.11 getCurrentFile()** QString getCurrentFile ( ) [inline]

**13.68.2.12 `getCurrentLayer()`** `QString getCurrentLayer ( ) [inline]`

**13.68.2.13 `getCurrentLineType()`** `QString getCurrentLineType ( ) [inline]`

**13.68.2.14 `getCurrentLineWeight()`** `QString getCurrentLineWeight ( ) [inline]`

**13.68.2.15 `getScene()`** `QGraphicsScene * getScene ( ) [inline]`

**13.68.2.16 `getShortCurrentFile()`** `QString getShortCurrentFile ( )`

**13.68.2.17 `getView()`** `View * getView ( ) [inline]`

**13.68.2.18 `loadFile()`** `bool loadFile ( const QString & fileName )`

**13.68.2.19 `logPromptInput`** `void logPromptInput ( const QString & txt ) [slot]`

**13.68.2.20 `onWindowActivated`** `void onWindowActivated ( ) [slot]`

**13.68.2.21 `print`** `void print ( ) [slot]`

**13.68.2.22 `promptHistoryAppended`** `void promptHistoryAppended ( const QString & txt ) [slot]`

**13.68.2.23 promptInputNext** void promptInputNext ( ) [slot]

**13.68.2.24 promptInputPrevious** void promptInputPrevious ( ) [slot]

**13.68.2.25 promptInputPrevNext()** void promptInputPrevNext ( bool prev ) [private]

**13.68.2.26 saveBMC** void saveBMC ( ) [slot]

**13.68.2.27 saveFile()** bool saveFile ( const QString & fileName )

**13.68.2.28 sendCloseMdiWin** void sendCloseMdiWin ( MdiWindow \* ) [signal]

**13.68.2.29 setCurrentColor()** void setCurrentColor ( const QRgb & color ) [inline]

**13.68.2.30 setCurrentFile()** void setCurrentFile ( const QString & fileName ) [private]

**13.68.2.31 setCurrentLayer()** void setCurrentLayer ( const QString & layer ) [inline]

**13.68.2.32 setCurrentLineType()** void setCurrentLineType ( const QString & lineType ) [inline]

**13.68.2.33 setCurrentLineWeight()** void setCurrentLineWeight ( const QString & *lineWeight* ) [inline]

**13.68.2.34 setViewBackgroundColor** void setViewBackgroundColor ( QRgb *color* ) [slot]

**13.68.2.35 setViewCrossHairColor** void setViewCrossHairColor ( QRgb *color* ) [slot]

**13.68.2.36 setViewGridColor** void setViewGridColor ( QRgb *color* ) [slot]

**13.68.2.37 setViewRulerColor** void setViewRulerColor ( QRgb *color* ) [slot]

**13.68.2.38 setViewSelectBoxColors** void setViewSelectBoxColors ( QRgb *colorL*, QRgb *fillL*, QRgb *colorR*, QRgb *fillR*, int *alpha* ) [slot]

**13.68.2.39 showViewScrollBars** void showViewScrollBars ( bool *val* ) [slot]

**13.68.2.40 sizeHint()** QSize sizeHint ( ) const [virtual]

**13.68.2.41 updateColorLinetypeLineweight** void updateColorLinetypeLineweight ( ) [slot]

### 13.68.3 Member Data Documentation

**13.68.3.1 curColor** QRgb curColor [private]

**13.68.3.2 curFile** QString curFile [private]

**13.68.3.3 curLayer** QString curLayer [private]

**13.68.3.4 curLineType** QString curLineType [private]

**13.68.3.5 curLineWeight** QString curLineWeight [private]

**13.68.3.6 fileWasLoaded** bool fileWasLoaded [private]

**13.68.3.7 gscene** QGraphicsScene\* gscene [private]

**13.68.3.8 gview** View\* gview [private]

**13.68.3.9 mainWin** MainWindow\* mainWin [private]

**13.68.3.10 mdiArea** QMdiArea\* mdiArea [private]

**13.68.3.11 myIndex** int myIndex [private]

**13.68.3.12 printer** QPrinter printer [private]

**13.68.3.13 promptHistory** QString promptHistory [private]

**13.68.3.14 promptInputList** QList<QString> promptInputList [private]

**13.68.3.15 promptInputNum** int promptInputNum [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/mdiwindow.h](#)
- [embroidermodder2/mdiwindow.cpp](#)

## 13.69 PathObject Class Reference

```
#include <object-path.h>
```

### Public Types

- enum { [Type](#) = OBJ\_TYPE\_PATH }

### Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ\_TYPE\_BASE }

### Public Member Functions

- [PathObject](#) (qreal x, qreal y, const QPainterPath p, QRgb rgb, QGraphicsItem \*parent=0)
- [PathObject](#) ([PathObject](#) \*obj, QGraphicsItem \*parent=0)
- [~PathObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectCopyPath](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectPos](#) () const
- qreal [objectX](#) () const
- qreal [objectY](#) () const
- void [setObjectPos](#) (const QPointF &point)
- void [setObjectPos](#) (qreal x, qreal y)
- void [setObjectX](#) (qreal x)
- void [setObjectY](#) (qreal y)
- void [updateRubber](#) (QPainter \*painter=0)
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

### Public Member Functions inherited from [BaseObject](#)

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void [paint](#) (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from [BaseObject](#)

- QPen [lineWeightPen](#) () const
- qreal [pi](#) () const
- qreal [radians](#) (qreal degree) const
- qreal [degrees](#) (qreal radian) const
- void [realRender](#) (QPainter \*painter, const QPainterPath &renderPath)

**Private Member Functions**

- void [init](#) (qreal x, qreal y, const QPainterPath &p, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) (const QPainterPath &p)

**Private Attributes**

- QPainterPath [normalPath](#)

**13.69.1 Member Enumeration Documentation****13.69.1.1 anonymous enum** anonymous enum

Enumerator

Type	
------	--

**13.69.2 Constructor & Destructor Documentation****13.69.2.1 PathObject() [1/2]** [PathObject](#) (

```
    qreal x,  
    qreal y,  
    const QPainterPath p,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

**13.69.2.2 PathObject() [2/2]** [PathObject](#) (

```
    PathObject * obj,  
    QGraphicsItem * parent = 0 )
```

**13.69.2.3 ~PathObject()** [~PathObject](#) ( )**13.69.3 Member Function Documentation**

**13.69.3.1 allGripPoints()** QList< QPointF > allGripPoints () [virtual]

Implements [BaseObject](#).

**13.69.3.2 gripEdit()** void gripEdit ( const QPointF & before, const QPointF & after ) [virtual]

Implements [BaseObject](#).

**13.69.3.3 init()** void init ( qreal x, qreal y, const QPainterPath & p, QRgb rgb, Qt::PenStyle lineType ) [private]

**13.69.3.4 mouseSnapPoint()** QPointF mouseSnapPoint ( const QPointF & mousePoint ) [virtual]

Implements [BaseObject](#).

**13.69.3.5 objectCopyPath()** QPainterPath objectCopyPath () const

**13.69.3.6 objectPos()** QPointF objectPos () const [inline]

**13.69.3.7 objectSavePath()** QPainterPath objectSavePath () const

**13.69.3.8 objectX()** qreal objectX () const [inline]

**13.69.3.9 objectY()** qreal objectY () const [inline]

**13.69.3.10 paint()** void paint ( QPainter \* painter, const QStyleOptionGraphicsItem \* option, QWidget \* ) [protected]

**13.69.3.11 setObjectPos() [1/2]** void setObjectPos ( const QPointF & point ) [inline]

**13.69.3.12 setObjectPos() [2/2]** void setObjectPos ( qreal x, qreal y ) [inline]

**13.69.3.13 setObjectX()** void setObjectX ( qreal x ) [inline]

**13.69.3.14 setObjectY()** void setObjectY ( qreal y ) [inline]

**13.69.3.15 type()** virtual int type ( ) const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.69.3.16 updatePath()** void updatePath ( const QPainterPath & p ) [private]

**13.69.3.17 updateRubber()** void updateRubber ( QPainter \* painter = 0 )

**13.69.3.18 vulcanize()** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

### 13.69.4 Member Data Documentation

#### 13.69.4.1 **normalPath** QPainterPath normalPath [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/object-path.h](#)
- [embroidermodder2/object-path.cpp](#)

## 13.70 PointObject Class Reference

```
#include <object-point.h>
```

### Public Types

- enum { [Type](#) = OBJ\_TYPE\_POINT }

### Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ\_TYPE\_BASE }

### Public Member Functions

- [PointObject](#) (qreal x, qreal y, QRgb rgb, QGraphicsItem \*parent=0)
- [PointObject](#) ([PointObject](#) \*obj, QGraphicsItem \*parent=0)
- [~PointObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectPos](#) () const
- qreal [objectX](#) () const
- qreal [objectY](#) () const
- void [setObjectPos](#) (const QPointF &point)
- void [setObjectPos](#) (qreal x, qreal y)
- void [setObjectX](#) (qreal x)
- void [setObjectY](#) (qreal y)
- void [updateRubber](#) (QPainter \*painter=0)
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

### Public Member Functions inherited from [BaseObject](#)

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &l)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void [paint](#) (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from [BaseObject](#)

- QPen [lineWeightPen](#) () const
- qreal [pi](#) () const
- qreal [radians](#) (qreal degree) const
- qreal [degrees](#) (qreal radian) const
- void [realRender](#) (QPainter \*painter, const QPainterPath &renderPath)

### Private Member Functions

- void [init](#) (qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType)

### 13.70.1 Member Enumeration Documentation

#### 13.70.1.1 anonymous enum anonymous enum

Enumerator

Type	
------	--

### 13.70.2 Constructor & Destructor Documentation

#### 13.70.2.1 PointObject() [1/2] [PointObject](#) (

```
qreal x,  
qreal y,  
QRgb rgb,  
QGraphicsItem * parent = 0 )
```

#### 13.70.2.2 PointObject() [2/2] [PointObject](#) (

```
PointObject * obj,  
QGraphicsItem * parent = 0 )
```

#### 13.70.2.3 ~PointObject() [~PointObject](#) ( )

### 13.70.3 Member Function Documentation

#### 13.70.3.1 allGripPoints() [QList< QPointF >](#) allGripPoints ( ) [virtual]

Implements [BaseObject](#).

#### 13.70.3.2 gripEdit() void gripEdit (

```
const QPointF & before,  
const QPointF & after ) [virtual]
```

Implements [BaseObject](#).

```
13.70.3.3 init() void init (
    qreal x,
    qreal y,
    QRgb rgb,
    Qt::PenStyle lineType ) [private]
```

```
13.70.3.4 mouseSnapPoint() QPointF mouseSnapPoint (
    const QPointF & mousePoint ) [virtual]
```

Implements [BaseObject](#).

```
13.70.3.5 objectPos() QPointF objectPos ( ) const [inline]
```

```
13.70.3.6 objectSavePath() QPainterPath objectSavePath ( ) const
```

```
13.70.3.7 objectX() qreal objectX ( ) const [inline]
```

```
13.70.3.8 objectY() qreal objectY ( ) const [inline]
```

```
13.70.3.9 paint() void paint (
    QPainter * painter,
    const QStyleOptionGraphicsItem * option,
    QWidget * ) [protected]
```

```
13.70.3.10 setObjectPos() [1/2] void setObjectPos (
    const QPointF & point ) [inline]
```

```
13.70.3.11 setObjectPos() [2/2] void setObjectPos (
    qreal x,
    qreal y ) [inline]
```

**13.70.3.12 `setObjectX()`** void setObjectX ( qreal x ) [inline]

**13.70.3.13 `setObjectY()`** void setObjectY ( qreal y ) [inline]

**13.70.3.14 `type()`** virtual int type ( ) const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.70.3.15 `updateRubber()`** void updateRubber ( QPainter \* painter = 0 )

**13.70.3.16 `vulcanize()`** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

The documentation for this class was generated from the following files:

- [embroidermodder2/object-point.h](#)
- [embroidermodder2/object-point.cpp](#)

## 13.71 PolygonObject Class Reference

```
#include <object-polygon.h>
```

### Public Types

- enum { [Type](#) = OBJ\_TYPE\_POLYGON }

### Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ\_TYPE\_BASE }

## Public Member Functions

- [PolygonObject](#) (qreal x, qreal y, const QPainterPath &p, QRgb rgb, QGraphicsItem \*parent=0)
- [PolygonObject](#) ([PolygonObject](#) \*obj, QGraphicsItem \*parent=0)
- [~PolygonObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectCopyPath](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectPos](#) () const
- qreal [objectX](#) () const
- qreal [objectY](#) () const
- void [setObjectPos](#) (const QPointF &point)
- void [setObjectPos](#) (qreal x, qreal y)
- void [setObjectX](#) (qreal x)
- void [setObjectY](#) (qreal y)
- void [updateRubber](#) (QPainter \*painter=0)
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

## Public Member Functions inherited from [BaseObject](#)

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &l)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void [paint](#) (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from [BaseObject](#)

- QPen [lineWeightPen](#) () const
- qreal [pi](#) () const
- qreal [radians](#) (qreal degree) const
- qreal [degrees](#) (qreal radian) const
- void [realRender](#) (QPainter \*painter, const QPainterPath &renderPath)

### Private Member Functions

- void [init](#) (qreal x, qreal y, const QPainterPath &p, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) (const QPainterPath &p)
- int [findIndex](#) (const QPointF &point)

### Private Attributes

- QPainterPath [normalPath](#)
- int [gripIndex](#)

## 13.71.1 Member Enumeration Documentation

### 13.71.1.1 anonymous enum anonymous enum

Enumerator

Type	<input type="button" value=""/>
------	---------------------------------

## 13.71.2 Constructor & Destructor Documentation

### 13.71.2.1 [PolygonObject\(\)](#) [1/2] [PolygonObject](#) (

```
    qreal x,  
    qreal y,  
    const QPainterPath & p,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

**13.71.2.2 `PolygonObject()` [2/2]** `PolygonObject (`  
    `PolygonObject * obj,`  
    `QGraphicsItem * parent = 0 )`

**13.71.2.3 `~PolygonObject()`** `~PolygonObject ( )`

### 13.71.3 Member Function Documentation

**13.71.3.1 `allGripPoints()`** `QList< QPointF > allGripPoints ( ) [virtual]`

Implements [BaseObject](#).

**13.71.3.2 `findIndex()`** `int findIndex (`  
    `const QPointF & point ) [private]`

**13.71.3.3 `gripEdit()`** `void gripEdit (`  
    `const QPointF & before,`  
    `const QPointF & after ) [virtual]`

Implements [BaseObject](#).

**13.71.3.4 `init()`** `void init (`  
    `qreal x,`  
    `qreal y,`  
    `const QPainterPath & p,`  
    `QRgb rgb,`  
    `Qt::PenStyle lineType ) [private]`

**13.71.3.5 `mouseSnapPoint()`** `QPointF mouseSnapPoint (`  
    `const QPointF & mousePoint ) [virtual]`

Implements [BaseObject](#).

**13.71.3.6 `objectCopyPath()`** QPainterPath `objectCopyPath () const`

**13.71.3.7 `objectPos()`** QPointF `objectPos () const [inline]`

**13.71.3.8 `objectSavePath()`** QPainterPath `objectSavePath () const`

**13.71.3.9 `objectX()`** qreal `objectX () const [inline]`

**13.71.3.10 `objectY()`** qreal `objectY () const [inline]`

**13.71.3.11 `paint()`** void `paint (`  
    *QPainter \* painter,*  
    *const QStyleOptionGraphicsItem \* option,*  
    *QWidget \* ) [protected]*

**13.71.3.12 `setObjectPos()` [1/2]** void `setObjectPos (`  
    *const QPointF & point ) [inline]*

**13.71.3.13 `setObjectPos()` [2/2]** void `setObjectPos (`  
    *qreal x,*  
    *qreal y ) [inline]*

**13.71.3.14 `setObjectX()`** void `setObjectX (`  
    *qreal x ) [inline]*

**13.71.3.15 `setObjectY()`** void `setObjectY (`  
    *qreal y ) [inline]*

**13.71.3.16 type()** virtual int type () const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.71.3.17 updatePath()** void updatePath (  
const QPainterPath & p) [private]

**13.71.3.18 updateRubber()** void updateRubber (  
QPainter \* painter = 0)

**13.71.3.19 vulcanize()** void vulcanize () [virtual]

Implements [BaseObject](#).

#### 13.71.4 Member Data Documentation

**13.71.4.1 gripIndex** int gripIndex [private]

**13.71.4.2 normalPath** QPainterPath normalPath [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/object-polygon.h](#)
- [embroidermodder2/object-polygon.cpp](#)

## 13.72 PolylineObject Class Reference

```
#include <object-polyline.h>
```

### Public Types

- enum { [Type](#) = OBJ\_TYPE\_POLYLINE }

### Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ\_TYPE\_BASE }

## Public Member Functions

- `PolylineObject` (qreal x, qreal y, const QPainterPath &p, QRgb rgb, QGraphicsItem \*parent=0)
- `PolylineObject` (`PolylineObject` \*obj, QGraphicsItem \*parent=0)
- `~PolylineObject` ()
- virtual int `type` () const
- QPainterPath `objectCopyPath` () const
- QPainterPath `objectSavePath` () const
- QPointF `objectPos` () const
- qreal `objectX` () const
- qreal `objectY` () const
- void `setObjectPos` (const QPointF &point)
- void `setObjectPos` (qreal x, qreal y)
- void `setObjectX` (qreal x)
- void `setObjectY` (qreal y)
- void `updateRubber` (QPainter \*painter=0)
- virtual void `vulcanize` ()
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)
- virtual QList< QPointF > `allGripPoints` ()
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)

## Public Member Functions inherited from `BaseObject`

- `BaseObject` (QGraphicsItem \*parent=0)
- virtual `~BaseObject` ()
- virtual int `type` () const
- qint64 `objectID` () const
- QPen `objectPen` () const
- QColor `objectColor` () const
- QRgb `objectColorRGB` () const
- Qt::PenStyle `objectLineType` () const
- qreal `objectLineWidth` () const
- QPainterPath `objectPath` () const
- int `objectRubberMode` () const
- QPointF `objectRubberPoint` (const QString &key) const
- QString `objectRubberText` (const QString &key) const
- QRectF `rect` () const
- void `setRect` (const QRectF &r)
- void `setRect` (qreal x, qreal y, qreal w, qreal h)
- QLineF `line` () const
- void `setLine` (const QLineF &l)
- void `setLine` (qreal x1, qreal y1, qreal x2, qreal y2)
- void `setObjectColor` (const QColor &color)
- void `setObjectColorRGB` (QRgb rgb)
- void `setObjectLineType` (Qt::PenStyle lineType)
- void `setObjectLineWidth` (qreal lineWidth)
- void `setObjectPath` (const QPainterPath &p)
- void `setObjectRubberMode` (int mode)
- void `setObjectRubberPoint` (const QString &key, const QPointF &point)
- void `setObjectRubberText` (const QString &key, const QString &txt)
- virtual QRectF `boundingRect` () const
- virtual QPainterPath `shape` () const
- void `drawRubberLine` (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void `vulcanize` ()=0
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)=0
- virtual QList< QPointF > `allGripPoints` ()=0
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void [paint](#) (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from [BaseObject](#)

- QPen [lineWeightPen](#) () const
- qreal [pi](#) () const
- qreal [radians](#) (qreal degree) const
- qreal [degrees](#) (qreal radian) const
- void [realRender](#) (QPainter \*painter, const QPainterPath &renderPath)

### Private Member Functions

- void [init](#) (qreal x, qreal y, const QPainterPath &p, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) (const QPainterPath &p)
- int [findIndex](#) (const QPointF &point)

### Private Attributes

- QPainterPath [normalPath](#)
- int [gripIndex](#)

## 13.72.1 Member Enumeration Documentation

### 13.72.1.1 anonymous enum anonymous enum

Enumerator

Type	<input type="button" value=""/>
------	---------------------------------

## 13.72.2 Constructor & Destructor Documentation

### 13.72.2.1 PolylineObject() [1/2] [PolylineObject](#) (

```
    qreal x,  
    qreal y,  
    const QPainterPath & p,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

**13.72.2.2 PolylineObject() [2/2]** `PolylineObject ()`

```
PolylineObject * obj,  
QGraphicsItem * parent = 0 )
```

**13.72.2.3 ~PolylineObject()** `~PolylineObject ()`**13.72.3 Member Function Documentation****13.72.3.1 allGripPoints()** `QList< QPointF > allGripPoints () [virtual]`

Implements [BaseObject](#).

**13.72.3.2 findIndex()** `int findIndex (const QPointF & point) [private]`**13.72.3.3 gripEdit()** `void gripEdit (const QPointF & before, const QPointF & after) [virtual]`

Implements [BaseObject](#).

**13.72.3.4 init()** `void init (qreal x, qreal y, const QPainterPath & p, QRgb rgb, Qt::PenStyle lineType) [private]`**13.72.3.5 mouseSnapPoint()** `QPointF mouseSnapPoint (const QPointF & mousePoint) [virtual]`

Implements [BaseObject](#).

**13.72.3.6 `objectCopyPath()`** `QPainterPath objectCopyPath ( ) const`

**13.72.3.7 `objectPos()`** `QPointF objectPos ( ) const [inline]`

**13.72.3.8 `objectSavePath()`** `QPainterPath objectSavePath ( ) const`

**13.72.3.9 `objectX()`** `qreal objectX ( ) const [inline]`

**13.72.3.10 `objectY()`** `qreal objectY ( ) const [inline]`

**13.72.3.11 `paint()`** `void paint (`  
    `QPainter * painter,`  
    `const QStyleOptionGraphicsItem * option,`  
    `QWidget * ) [protected]`

**13.72.3.12 `setObjectPos()` [1/2]** `void setObjectPos (`  
    `const QPointF & point ) [inline]`

**13.72.3.13 `setObjectPos()` [2/2]** `void setObjectPos (`  
    `qreal x,`  
    `qreal y ) [inline]`

**13.72.3.14 `setObjectX()`** `void setObjectX (`  
    `qreal x ) [inline]`

**13.72.3.15 `setObjectY()`** `void setObjectY (`  
    `qreal y ) [inline]`

**13.72.3.16 type()** virtual int type ( ) const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.72.3.17 updatePath()** void updatePath (  
const QPainterPath & p ) [private]

**13.72.3.18 updateRubber()** void updateRubber (  
QPainter \* painter = 0 )

**13.72.3.19 vulcanize()** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

#### 13.72.4 Member Data Documentation

**13.72.4.1 gripIndex** int gripIndex [private]

**13.72.4.2 normalPath** QPainterPath normalPath [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/object-polyline.h](#)
- [embroidermodder2/object-polyline.cpp](#)

### 13.73 PreviewDialog Class Reference

```
#include <preview-dialog.h>
```

#### Public Member Functions

- [PreviewDialog](#) (QWidget \*parent=0, const QString &caption=QString(), const QString &directory=QString(), const QString &filter=QString())
- [~PreviewDialog](#) ()

### Private Attributes

- `ImageWidget * imgWidget`

### 13.73.1 Constructor & Destructor Documentation

#### 13.73.1.1 `PreviewDialog()` `PreviewDialog (`

```
    QWidget * parent = 0,
    const QString & caption = QString(),
    const QString & directory = QString(),
    const QString & filter = QString() )
```

#### 13.73.1.2 `~PreviewDialog()` `~PreviewDialog ( )`

### 13.73.2 Member Data Documentation

#### 13.73.2.1 `imgWidget` `ImageWidget* imgWidget [private]`

The documentation for this class was generated from the following files:

- `embroidermodder2/preview-dialog.h`
- `embroidermodder2/preview-dialog.cpp`

## 13.74 PropertyEditor Class Reference

```
#include <property-editor.h>
```

### Public Slots

- `void setSelectedItems (QList< QGraphicsItem * > itemList)`
- `void updatePickAddModeButton (bool pickAddMode)`

### Signals

- `void pickAddModeToggled ()`

## Public Member Functions

- `PropertyEditor` (const QString &iconDirectory=QString(), bool pickAddMode=true, QWidget \*widgetTo←Focus=0, QWidget \*parent=0)
- `~PropertyEditor` ()

## Protected Member Functions

- bool `eventFilter` (QObject \*obj, QEvent \*event)

## Private Slots

- void `fieldEdited` (QObject \*fieldObj)
- void `showGroups` (int objType)
- void `showOneType` (int index)
- void `hideAllGroups` ()
- void `clearAllFields` ()
- void `togglePickAddMode` ()

## Private Member Functions

- QToolButton \* `createToolButton` (const QString &iconName, const QString &txt)
- QLineEdit \* `createLineEdit` (const QString &validatorType=QString(), bool readOnly=false)
- QComboBox \* `createComboBox` (bool disable=false)
- QFontComboBox \* `createFontComboBox` (bool disable=false)
- void `updateLineEditStrIfVaries` (QLineEdit \*lineEdit, const QString &str)
- void `updateLineEditNumIfVaries` (QLineEdit \*lineEdit, qreal num, bool useAnglePrecision)
- void `updateFontComboBoxStrIfVaries` (QFontComboBox \*fontComboBox, const QString &str)
- void `updateComboBoxStrIfVaries` (QComboBox \*comboBox, const QString &str, const QStringList &strList)
- void `updateComboBoxBoolIfVaries` (QComboBox \*comboBox, bool val, bool yesOrNoText)
- void `mapSignal` (QObject \*fieldObj, const QString &name, QVariant value)
- QComboBox \* `createComboBoxSelected` ()
- QToolButton \* `createToolButtonQSelect` ()
- QToolButton \* `createToolButtonPickAdd` ()
- QGroupBox \* `createGroupBoxGeneral` ()
- QGroupBox \* `createGroupBoxGeometryArc` ()
- QGroupBox \* `createGroupBoxMiscArc` ()
- QGroupBox \* `createGroupBoxGeometryBlock` ()
- QGroupBox \* `createGroupBoxGeometryCircle` ()
- QGroupBox \* `createGroupBoxGeometryDimAligned` ()
- QGroupBox \* `createGroupBoxGeometryDimAngular` ()
- QGroupBox \* `createGroupBoxGeometryDimArcLength` ()
- QGroupBox \* `createGroupBoxGeometryDimDiameter` ()
- QGroupBox \* `createGroupBoxGeometryDimLeader` ()
- QGroupBox \* `createGroupBoxGeometryDimLinear` ()
- QGroupBox \* `createGroupBoxGeometryDimOrdinate` ()
- QGroupBox \* `createGroupBoxGeometryDimRadius` ()
- QGroupBox \* `createGroupBoxGeometryEllipse` ()
- QGroupBox \* `createGroupBoxGeometryImage` ()
- QGroupBox \* `createGroupBoxMisclImage` ()
- QGroupBox \* `createGroupBoxGeometryInfiniteLine` ()
- QGroupBox \* `createGroupBoxGeometryLine` ()

- `QGroupBox * createGroupBoxGeometryPath ()`
- `QGroupBox * createGroupBoxMiscPath ()`
- `QGroupBox * createGroupBoxGeometryPoint ()`
- `QGroupBox * createGroupBoxGeometryPolygon ()`
- `QGroupBox * createGroupBoxGeometryPolyline ()`
- `QGroupBox * createGroupBoxMiscPolyline ()`
- `QGroupBox * createGroupBoxGeometryRay ()`
- `QGroupBox * createGroupBoxGeometryRectangle ()`
- `QGroupBox * createGroupBoxGeometryTextMulti ()`
- `QGroupBox * createGroupBoxTextTextSingle ()`
- `QGroupBox * createGroupBoxGeometryTextSingle ()`
- `QGroupBox * createGroupBoxMiscTextSingle ()`

### Private Attributes

- `QWidget * focusWidget`
- `QString iconDir`
- `int iconSize`
- `Qt::ToolButtonStyle propertyEditorButtonStyle`
- `bool pickAdd`
- `QList< QGraphicsItem * > selectedItemList`
- `ArcObject * tempArcObj`
- `BlockObject * tempBlockObj`
- `CircleObject * tempCircleObj`
- `DimAlignedObject * tempDimAlignedObj`
- `DimAngularObject * tempDimAngularObj`
- `DimArcLengthObject * tempDimArcLenObj`
- `DimDiameterObject * tempDimDiamObj`
- `DimLeaderObject * tempDimLeaderObj`
- `DimLinearObject * tempDimLinearObj`
- `DimOrdinateObject * tempDimOrdObj`
- `DimRadiusObject * tempDimRadiusObj`
- `EllipseObject * tempEllipseObj`
- `EllipseArcObject * tempEllipseArcObj`
- `HatchObject * tempHatchObj`
- `ImageObject * tempImageObj`
- `InfiniteLineObject * tempInflLineObj`
- `LineObject * tempLineObj`
- `PathObject * tempPathObj`
- `PointObject * tempPointObj`
- `PolygonObject * tempPolygonObj`
- `PolylineObject * tempPolylineObj`
- `RayObject * tempRayObj`
- `RectObject * tempRectObj`
- `SplineObject * tempSplineObj`
- `TextMultiObject * tempTextMultiObj`
- `TextSingleObject * tempTextSingleObj`
- `int precisionAngle`
- `int precisionLength`
- `QString fieldOldText`
- `QString fieldNewText`
- `QString fieldVariesText`
- `QString fieldYesText`
- `QString fieldNoText`

- `QString fieldOnText`
- `QString fieldOffText`
- `QSignalMapper * signalMapper`
- `QComboBox * comboBoxSelected`
- `QToolButton * toolButtonQSelect`
- `QToolButton * toolButtonPickAdd`
- `QGroupBox * groupBoxGeneral`
- `QToolButton * toolButtonGeneralLayer`
- `QToolButton * toolButtonGeneralColor`
- `QToolButton * toolButtonGeneralLineType`
- `QToolButton * toolButtonGeneralLineWeight`
- `QComboBox * comboBoxGeneralLayer`
- `QComboBox * comboBoxGeneralColor`
- `QComboBox * comboBoxGeneralLineType`
- `QComboBox * comboBoxGeneralLineWeight`
- `QGroupBox * groupBoxGeometryArc`
- `QToolButton * toolButtonArcCenterX`
- `QToolButton * toolButtonArcCenterY`
- `QToolButton * toolButtonArcRadius`
- `QToolButton * toolButtonArcStartAngle`
- `QToolButton * toolButtonArcEndAngle`
- `QToolButton * toolButtonArcStartX`
- `QToolButton * toolButtonArcStartY`
- `QToolButton * toolButtonArcEndX`
- `QToolButton * toolButtonArcEndY`
- `QToolButton * toolButtonArcArea`
- `QToolButton * toolButtonArcLength`
- `QToolButton * toolButtonArcChord`
- `QToolButton * toolButtonArcIncAngle`
- `QLineEdit * lineEditArcCenterX`
- `QLineEdit * lineEditArcCenterY`
- `QLineEdit * lineEditArcRadius`
- `QLineEdit * lineEditArcStartAngle`
- `QLineEdit * lineEditArcEndAngle`
- `QLineEdit * lineEditArcStartX`
- `QLineEdit * lineEditArcStartY`
- `QLineEdit * lineEditArcEndX`
- `QLineEdit * lineEditArcEndY`
- `QLineEdit * lineEditArcArea`
- `QLineEdit * lineEditArcLength`
- `QLineEdit * lineEditArcChord`
- `QLineEdit * lineEditArcIncAngle`
- `QGroupBox * groupBoxMiscArc`
- `QToolButton * toolButtonArcClockwise`
- `QComboBox * comboBoxArcClockwise`
- `QGroupBox * groupBoxGeometryBlock`
- `QToolButton * toolButtonBlockX`
- `QToolButton * toolButtonBlockY`
- `QLineEdit * lineEditBlockX`
- `QLineEdit * lineEditBlockY`
- `QGroupBox * groupBoxGeometryCircle`
- `QToolButton * toolButtonCircleCenterX`
- `QToolButton * toolButtonCircleCenterY`
- `QToolButton * toolButtonCircleRadius`
- `QToolButton * toolButtonCircleDiameter`

- QToolButton \* `toolButtonCircleArea`
- QToolButton \* `toolButtonCircleCircumference`
- QLineEdit \* `lineEditCircleCenterX`
- QLineEdit \* `lineEditCircleCenterY`
- QLineEdit \* `lineEditCircleRadius`
- QLineEdit \* `lineEditCircleDiameter`
- QLineEdit \* `lineEditCircleArea`
- QLineEdit \* `lineEditCircleCircumference`
- QGroupBox \* `groupBoxGeometryDimAligned`
- QGroupBox \* `groupBoxGeometryDimAngular`
- QGroupBox \* `groupBoxGeometryDimArcLength`
- QGroupBox \* `groupBoxGeometryDimDiameter`
- QGroupBox \* `groupBoxGeometryDimLeader`
- QGroupBox \* `groupBoxGeometryDimLinear`
- QGroupBox \* `groupBoxGeometryDimOrdinate`
- QGroupBox \* `groupBoxGeometryDimRadius`
- QGroupBox \* `groupBoxGeometryEllipse`
- QToolButton \* `toolButtonEllipseCenterX`
- QToolButton \* `toolButtonEllipseCenterY`
- QToolButton \* `toolButtonEllipseRadiusMajor`
- QToolButton \* `toolButtonEllipseRadiusMinor`
- QToolButton \* `toolButtonEllipseDiameterMajor`
- QToolButton \* `toolButtonEllipseDiameterMinor`
- QLineEdit \* `lineEditEllipseCenterX`
- QLineEdit \* `lineEditEllipseCenterY`
- QLineEdit \* `lineEditEllipseRadiusMajor`
- QLineEdit \* `lineEditEllipseRadiusMinor`
- QLineEdit \* `lineEditEllipseDiameterMajor`
- QLineEdit \* `lineEditEllipseDiameterMinor`
- QGroupBox \* `groupBoxGeometryImage`
- QToolButton \* `toolButtonImageX`
- QToolButton \* `toolButtonImageY`
- QToolButton \* `toolButtonImageWidth`
- QToolButton \* `toolButtonImageHeight`
- QLineEdit \* `lineEditImageX`
- QLineEdit \* `lineEditImageY`
- QLineEdit \* `lineEditImageWidth`
- QLineEdit \* `lineEditImageHeight`
- QGroupBox \* `groupBoxMisclImage`
- QToolButton \* `toolButtonImageName`
- QToolButton \* `toolButtonImagePath`
- QLineEdit \* `lineEditImageName`
- QLineEdit \* `lineEditImagePath`
- QGroupBox \* `groupBoxGeometryInfiniteLine`
- QToolButton \* `toolButtonInfiniteLineX1`
- QToolButton \* `toolButtonInfiniteLineY1`
- QToolButton \* `toolButtonInfiniteLineX2`
- QToolButton \* `toolButtonInfiniteLineY2`
- QToolButton \* `toolButtonInfiniteLineVectorX`
- QToolButton \* `toolButtonInfiniteLineVectorY`
- QLineEdit \* `lineEditInfiniteLineX1`
- QLineEdit \* `lineEditInfiniteLineY1`
- QLineEdit \* `lineEditInfiniteLineX2`
- QLineEdit \* `lineEditInfiniteLineY2`
- QLineEdit \* `lineEditInfiniteLineVectorX`

- QLineEdit \* `lineEditInfiniteLineVectorY`
- QGroupBox \* `groupBoxGeometryLine`
- QToolButton \* `toolButtonLineStartX`
- QToolButton \* `toolButtonLineStartY`
- QToolButton \* `toolButtonLineEndX`
- QToolButton \* `toolButtonLineEndY`
- QToolButton \* `toolButtonLineDeltaX`
- QToolButton \* `toolButtonLineDeltaY`
- QToolButton \* `toolButtonLineAngle`
- QToolButton \* `toolButtonLineLength`
- QLineEdit \* `lineEditLineStartX`
- QLineEdit \* `lineEditLineStartY`
- QLineEdit \* `lineEditLineEndX`
- QLineEdit \* `lineEditLineEndY`
- QLineEdit \* `lineEditLineDeltaX`
- QLineEdit \* `lineEditLineDeltaY`
- QLineEdit \* `lineEditLineAngle`
- QLineEdit \* `lineEditLineLength`
- QGroupBox \* `groupBoxGeometryPath`
- QToolButton \* `toolButtonPathVertexNum`
- QToolButton \* `toolButtonPathVertexX`
- QToolButton \* `toolButtonPathVertexY`
- QToolButton \* `toolButtonPathArea`
- QToolButton \* `toolButtonPathLength`
- QComboBox \* `comboBoxPathVertexNum`
- QLineEdit \* `lineEditPathVertexX`
- QLineEdit \* `lineEditPathVertexY`
- QLineEdit \* `lineEditPathArea`
- QLineEdit \* `lineEditPathLength`
- QGroupBox \* `groupBoxMiscPath`
- QToolButton \* `toolButtonPathClosed`
- QComboBox \* `comboBoxPathClosed`
- QGroupBox \* `groupBoxGeometryPoint`
- QToolButton \* `toolButtonPointX`
- QToolButton \* `toolButtonPointY`
- QLineEdit \* `lineEditPointX`
- QLineEdit \* `lineEditPointY`
- QGroupBox \* `groupBoxGeometryPolygon`
- QToolButton \* `toolButtonPolygonCenterX`
- QToolButton \* `toolButtonPolygonCenterY`
- QToolButton \* `toolButtonPolygonRadiusVertex`
- QToolButton \* `toolButtonPolygonRadiusSide`
- QToolButton \* `toolButtonPolygonDiameterVertex`
- QToolButton \* `toolButtonPolygonDiameterSide`
- QToolButton \* `toolButtonPolygonInteriorAngle`
- QLineEdit \* `lineEditPolygonCenterX`
- QLineEdit \* `lineEditPolygonCenterY`
- QLineEdit \* `lineEditPolygonRadiusVertex`
- QLineEdit \* `lineEditPolygonRadiusSide`
- QLineEdit \* `lineEditPolygonDiameterVertex`
- QLineEdit \* `lineEditPolygonDiameterSide`
- QLineEdit \* `lineEditPolygonInteriorAngle`
- QGroupBox \* `groupBoxGeometryPolyline`
- QToolButton \* `toolButtonPolylineVertexNum`
- QToolButton \* `toolButtonPolylineVertexX`

- QToolButton \* `toolButtonPolylineVertexY`
- QToolButton \* `toolButtonPolylineArea`
- QToolButton \* `toolButtonPolylineLength`
- QComboBox \* `comboBoxPolylineVertexNum`
- QLineEdit \* `lineEditPolylineVertexX`
- QLineEdit \* `lineEditPolylineVertexY`
- QLineEdit \* `lineEditPolylineArea`
- QLineEdit \* `lineEditPolylineLength`
- QGroupBox \* `groupBoxMiscPolyline`
- QToolButton \* `toolButtonPolylineClosed`
- QComboBox \* `comboBoxPolylineClosed`
- QGroupBox \* `groupBoxGeometryRay`
- QToolButton \* `toolButtonRayX1`
- QToolButton \* `toolButtonRayY1`
- QToolButton \* `toolButtonRayX2`
- QToolButton \* `toolButtonRayY2`
- QToolButton \* `toolButtonRayVectorX`
- QToolButton \* `toolButtonRayVectorY`
- QLineEdit \* `lineEditRayX1`
- QLineEdit \* `lineEditRayY1`
- QLineEdit \* `lineEditRayX2`
- QLineEdit \* `lineEditRayY2`
- QLineEdit \* `lineEditRayVectorX`
- QLineEdit \* `lineEditRayVectorY`
- QGroupBox \* `groupBoxGeometryRectangle`
- QToolButton \* `toolButtonRectangleCorner1X`
- QToolButton \* `toolButtonRectangleCorner1Y`
- QToolButton \* `toolButtonRectangleCorner2X`
- QToolButton \* `toolButtonRectangleCorner2Y`
- QToolButton \* `toolButtonRectangleCorner3X`
- QToolButton \* `toolButtonRectangleCorner3Y`
- QToolButton \* `toolButtonRectangleCorner4X`
- QToolButton \* `toolButtonRectangleCorner4Y`
- QToolButton \* `toolButtonRectangleWidth`
- QToolButton \* `toolButtonRectangleHeight`
- QToolButton \* `toolButtonRectangleArea`
- QLineEdit \* `lineEditRectangleCorner1X`
- QLineEdit \* `lineEditRectangleCorner1Y`
- QLineEdit \* `lineEditRectangleCorner2X`
- QLineEdit \* `lineEditRectangleCorner2Y`
- QLineEdit \* `lineEditRectangleCorner3X`
- QLineEdit \* `lineEditRectangleCorner3Y`
- QLineEdit \* `lineEditRectangleCorner4X`
- QLineEdit \* `lineEditRectangleCorner4Y`
- QLineEdit \* `lineEditRectangleWidth`
- QLineEdit \* `lineEditRectangleHeight`
- QLineEdit \* `lineEditRectangleArea`
- QGroupBox \* `groupBoxGeometryTextMulti`
- QToolButton \* `toolButtonTextMultiX`
- QToolButton \* `toolButtonTextMultiY`
- QLineEdit \* `lineEditTextMultiX`
- QLineEdit \* `lineEditTextMultiY`
- QGroupBox \* `groupBoxTextTextSingle`
- QToolButton \* `toolButtonTextSingleContents`
- QToolButton \* `toolButtonTextSingleFont`

- QToolButton \* `toolButtonTextSingleJustify`
- QToolButton \* `toolButtonTextSingleHeight`
- QToolButton \* `toolButtonTextSingleRotation`
- QLineEdit \* `lineEditTextSingleContents`
- QFontComboBox \* `comboBoxTextSingleFont`
- QComboBox \* `comboBoxTextSingleJustify`
- QLineEdit \* `lineEditTextSingleHeight`
- QLineEdit \* `lineEditTextSingleRotation`
- QGroupBox \* `groupBoxGeometryTextSingle`
- QToolButton \* `toolButtonTextSingleX`
- QToolButton \* `toolButtonTextSingleY`
- QLineEdit \* `lineEditTextSingleX`
- QLineEdit \* `lineEditTextSingleY`
- QGroupBox \* `groupBoxMiscTextSingle`
- QToolButton \* `toolButtonTextSingleBackward`
- QToolButton \* `toolButtonTextSingleUpsideDown`
- QComboBox \* `comboBoxTextSingleBackward`
- QComboBox \* `comboBoxTextSingleUpsideDown`

#### 13.74.1 Constructor & Destructor Documentation

##### 13.74.1.1 `PropertyEditor()` `PropertyEditor` (

```
    const QString & iconDirectory = QString(),
    bool pickAddMode = true,
    QWidget * widgetToFocus = 0,
    QWidget * parent = 0 )
```

##### 13.74.1.2 `~PropertyEditor()` `~PropertyEditor` ( )

#### 13.74.2 Member Function Documentation

##### 13.74.2.1 `clearAllFields` `void clearAllFields ( ) [private], [slot]`

##### 13.74.2.2 `createComboBox()` `QComboBox * createComboBox (` `bool disable = false ) [private]`

##### 13.74.2.3 `createComboBoxSelected()` `QComboBox * createComboBoxSelected ( ) [private]`

**13.74.2.4 `createFontComboBox()`** `QFontComboBox * createFontComboBox ( bool disable = false ) [private]`

**13.74.2.5 `createGroupBoxGeneral()`** `QGroupBox * createGroupBoxGeneral ( ) [private]`

**13.74.2.6 `createGroupBoxGeometryArc()`** `QGroupBox * createGroupBoxGeometryArc ( ) [private]`

**13.74.2.7 `createGroupBoxGeometryBlock()`** `QGroupBox * createGroupBoxGeometryBlock ( ) [private]`

**13.74.2.8 `createGroupBoxGeometryCircle()`** `QGroupBox * createGroupBoxGeometryCircle ( ) [private]`

**13.74.2.9 `createGroupBoxGeometryDimAligned()`** `QGroupBox * createGroupBoxGeometryDimAligned ( ) [private]`

**13.74.2.10 `createGroupBoxGeometryDimAngular()`** `QGroupBox * createGroupBoxGeometryDimAngular ( ) [private]`

**13.74.2.11 `createGroupBoxGeometryDimArcLength()`** `QGroupBox * createGroupBoxGeometryDimArcLength ( ) [private]`

**13.74.2.12 `createGroupBoxGeometryDimDiameter()`** `QGroupBox * createGroupBoxGeometryDimDiameter ( ) [private]`

**13.74.2.13 `createGroupBoxGeometryDimLeader()`** `QGroupBox * createGroupBoxGeometryDimLeader ( ) [private]`

**13.74.2.14 `createGroupBoxGeometryDimLinear()`** `QGroupBox * createGroupBoxGeometryDimLinear ( )`  
[private]

**13.74.2.15 `createGroupBoxGeometryDimOrdinate()`** `QGroupBox * createGroupBoxGeometryDimOrdinate ( )` [private]

**13.74.2.16 `createGroupBoxGeometryDimRadius()`** `QGroupBox * createGroupBoxGeometryDimRadius ( )`  
[private]

**13.74.2.17 `createGroupBoxGeometryEllipse()`** `QGroupBox * createGroupBoxGeometryEllipse ( )` [private]

**13.74.2.18 `createGroupBoxGeometryImage()`** `QGroupBox * createGroupBoxGeometryImage ( )` [private]

**13.74.2.19 `createGroupBoxGeometryInfiniteLine()`** `QGroupBox * createGroupBoxGeometryInfiniteLine ( )` [private]

**13.74.2.20 `createGroupBoxGeometryLine()`** `QGroupBox * createGroupBoxGeometryLine ( )` [private]

**13.74.2.21 `createGroupBoxGeometryPath()`** `QGroupBox * createGroupBoxGeometryPath ( )` [private]

**13.74.2.22 `createGroupBoxGeometryPoint()`** `QGroupBox * createGroupBoxGeometryPoint ( )` [private]

**13.74.2.23 `createGroupBoxGeometryPolygon()`** `QGroupBox * createGroupBoxGeometryPolygon ( )`  
[private]

**13.74.2.24 `createGroupBoxGeometryPolyline()`** `QGroupBox * createGroupBoxGeometryPolyline ()`  
[private]

**13.74.2.25 `createGroupBoxGeometryRay()`** `QGroupBox * createGroupBoxGeometryRay ()` [private]

**13.74.2.26 `createGroupBoxGeometryRectangle()`** `QGroupBox * createGroupBoxGeometryRectangle ()`  
[private]

**13.74.2.27 `createGroupBoxGeometryTextMulti()`** `QGroupBox * createGroupBoxGeometryTextMulti ()`  
[private]

**13.74.2.28 `createGroupBoxGeometryTextSingle()`** `QGroupBox * createGroupBoxGeometryTextSingle ()`  
[private]

**13.74.2.29 `createGroupBoxMiscArc()`** `QGroupBox * createGroupBoxMiscArc ()` [private]

**13.74.2.30 `createGroupBoxMiscImage()`** `QGroupBox * createGroupBoxMiscImage ()` [private]

**13.74.2.31 `createGroupBoxMiscPath()`** `QGroupBox * createGroupBoxMiscPath ()` [private]

**13.74.2.32 `createGroupBoxMiscPolyline()`** `QGroupBox * createGroupBoxMiscPolyline ()` [private]

**13.74.2.33 `createGroupBoxMiscTextSingle()`** `QGroupBox * createGroupBoxMiscTextSingle ()` [private]

**13.74.2.34 `createGroupBoxTextTextSingle()`** `QGroupBox * createGroupBoxTextTextSingle ()` [private]

**13.74.2.35 `createLineEdit()`** `QLineEdit * createLineEdit (`  
    `const QString & validatorType = QString(),`  
    `bool readOnly = false ) [private]`

**13.74.2.36 `createToolButton()`** `QToolButton * createToolButton (`  
    `const QString & iconName,`  
    `const QString & txt ) [private]`

**13.74.2.37 `createToolButtonPickAdd()`** `QToolButton * createToolButtonPickAdd ( ) [private]`

**13.74.2.38 `createToolButtonQSelect()`** `QToolButton * createToolButtonQSelect ( ) [private]`

**13.74.2.39 `eventFilter()`** `bool eventFilter (`  
    `QObject * obj,`  
    `QEvent * event ) [protected]`

**13.74.2.40 `fieldEdited`** `void fieldEdited (`  
    `QObject * fieldObj ) [private], [slot]`

**13.74.2.41 `hideAllGroups`** `void hideAllGroups ( ) [private], [slot]`

**13.74.2.42 `mapSignal()`** `void mapSignal (`  
    `QObject * fieldObj,`  
    `const QString & name,`  
    `QVariant value ) [private]`

**13.74.2.43 `pickAddModeToggled`** `void pickAddModeToggled ( ) [signal]`

**13.74.2.44 setSelectedItems** void setSelectedItems ( QList< QGraphicsItem \* > itemList ) [slot]

**13.74.2.45 showGroups** void showGroups ( int objType ) [private], [slot]

**13.74.2.46 showOneType** void showOneType ( int index ) [private], [slot]

**13.74.2.47 togglePickAddMode** void togglePickAddMode ( ) [private], [slot]

**13.74.2.48 updateComboBoxBoolIfVaries()** void updateComboBoxBoolIfVaries ( QComboBox \* comboBox, bool val, bool yesOrNoText ) [private]

**13.74.2.49 updateComboBoxStrIfVaries()** void updateComboBoxStrIfVaries ( QComboBox \* comboBox, const QString & str, const QStringList & strList ) [private]

**13.74.2.50 updateFontComboBoxStrIfVaries()** void updateFontComboBoxStrIfVaries ( QFontComboBox \* fontComboBox, const QString & str ) [private]

**13.74.2.51 updateLineEditNumIfVaries()** void updateLineEditNumIfVaries ( QLineEdit \* lineEdit, qreal num, bool useAnglePrecision ) [private]

**13.74.2.52 updateLineEditStrIfVaries()** void updateLineEditStrIfVaries ( QLineEdit \* *lineEdit*, const QString & *str* ) [private]

**13.74.2.53 updatePickAddModeButton** void updatePickAddModeButton ( bool *pickAddMode* ) [slot]

### 13.74.3 Member Data Documentation

**13.74.3.1 comboBoxArcClockwise** QComboBox\* *comboBoxArcClockwise* [private]

**13.74.3.2 comboBoxGeneralColor** QComboBox\* *comboBoxGeneralColor* [private]

**13.74.3.3 comboBoxGeneralLayer** QComboBox\* *comboBoxGeneralLayer* [private]

**13.74.3.4 comboBoxGeneralLineType** QComboBox\* *comboBoxGeneralLineType* [private]

**13.74.3.5 comboBoxGeneralLineWidth** QComboBox\* *comboBoxGeneralLineWidth* [private]

**13.74.3.6 comboBoxPathClosed** QComboBox\* *comboBoxPathClosed* [private]

**13.74.3.7 comboBoxPathVertexNum** QComboBox\* *comboBoxPathVertexNum* [private]

**13.74.3.8 comboBoxPolylineClosed** QComboBox\* *comboBoxPolylineClosed* [private]

**13.74.3.9 comboBoxPolylineVertexNum** QComboBox\* comboBoxPolylineVertexNum [private]

**13.74.3.10 comboBoxSelected** QComboBox\* comboBoxSelected [private]

**13.74.3.11 comboBoxTextSingleBackward** QComboBox\* comboBoxTextSingleBackward [private]

**13.74.3.12 comboBoxTextSingleFont** QFontComboBox\* comboBoxTextSingleFont [private]

**13.74.3.13 comboBoxTextSingleJustify** QComboBox\* comboBoxTextSingleJustify [private]

**13.74.3.14 comboBoxTextSingleUpsideDown** QComboBox\* comboBoxTextSingleUpsideDown [private]

**13.74.3.15 fieldNewText** QString fieldNewText [private]

**13.74.3.16 fieldNoText** QString fieldNoText [private]

**13.74.3.17 fieldOffText** QString fieldOffText [private]

**13.74.3.18 fieldOldText** QString fieldOldText [private]

**13.74.3.19 fieldOnText** QString fieldOnText [private]

**13.74.3.20 fieldVariesText** `QString fieldVariesText [private]`

**13.74.3.21 fieldYesText** `QString fieldYesText [private]`

**13.74.3.22 focusWidget** `QWidget* focusWidget [private]`

**13.74.3.23 groupBoxGeneral** `QGroupBox* groupBoxGeneral [private]`

**13.74.3.24 groupBoxGeometryArc** `QGroupBox* groupBoxGeometryArc [private]`

**13.74.3.25 groupBoxGeometryBlock** `QGroupBox* groupBoxGeometryBlock [private]`

**13.74.3.26 groupBoxGeometryCircle** `QGroupBox* groupBoxGeometryCircle [private]`

**13.74.3.27 groupBoxGeometryDimAligned** `QGroupBox* groupBoxGeometryDimAligned [private]`

**13.74.3.28 groupBoxGeometryDimAngular** `QGroupBox* groupBoxGeometryDimAngular [private]`

**13.74.3.29 groupBoxGeometryDimArcLength** `QGroupBox* groupBoxGeometryDimArcLength [private]`

**13.74.3.30 groupBoxGeometryDimDiameter** `QGroupBox* groupBoxGeometryDimDiameter [private]`

**13.74.3.31 groupBoxGeometryDimLeader** QGroupBox\* groupBoxGeometryDimLeader [private]

**13.74.3.32 groupBoxGeometryDimLinear** QGroupBox\* groupBoxGeometryDimLinear [private]

**13.74.3.33 groupBoxGeometryDimOrdinate** QGroupBox\* groupBoxGeometryDimOrdinate [private]

**13.74.3.34 groupBoxGeometryDimRadius** QGroupBox\* groupBoxGeometryDimRadius [private]

**13.74.3.35 groupBoxGeometryEllipse** QGroupBox\* groupBoxGeometryEllipse [private]

**13.74.3.36 groupBoxGeometryImage** QGroupBox\* groupBoxGeometryImage [private]

**13.74.3.37 groupBoxGeometryInfiniteLine** QGroupBox\* groupBoxGeometryInfiniteLine [private]

**13.74.3.38 groupBoxGeometryLine** QGroupBox\* groupBoxGeometryLine [private]

**13.74.3.39 groupBoxGeometryPath** QGroupBox\* groupBoxGeometryPath [private]

**13.74.3.40 groupBoxGeometryPoint** QGroupBox\* groupBoxGeometryPoint [private]

**13.74.3.41 groupBoxGeometryPolygon** QGroupBox\* groupBoxGeometryPolygon [private]

**13.74.3.42 groupBoxGeometryPolyline** QGroupBox\* groupBoxGeometryPolyline [private]

**13.74.3.43 groupBoxGeometryRay** QGroupBox\* groupBoxGeometryRay [private]

**13.74.3.44 groupBoxGeometryRectangle** QGroupBox\* groupBoxGeometryRectangle [private]

**13.74.3.45 groupBoxGeometryTextMulti** QGroupBox\* groupBoxGeometryTextMulti [private]

**13.74.3.46 groupBoxGeometryTextSingle** QGroupBox\* groupBoxGeometryTextSingle [private]

**13.74.3.47 groupBoxMiscArc** QGroupBox\* groupBoxMiscArc [private]

**13.74.3.48 groupBoxMiscImage** QGroupBox\* groupBoxMiscImage [private]

**13.74.3.49 groupBoxMiscPath** QGroupBox\* groupBoxMiscPath [private]

**13.74.3.50 groupBoxMiscPolyline** QGroupBox\* groupBoxMiscPolyline [private]

**13.74.3.51 groupBoxMiscTextSingle** QGroupBox\* groupBoxMiscTextSingle [private]

**13.74.3.52 groupBoxTextTextSingle** QGroupBox\* groupBoxTextTextSingle [private]

**13.74.3.53 iconDir** `QString iconDir [private]`

**13.74.3.54 iconSize** `int iconSize [private]`

**13.74.3.55 lineEditArcArea** `QLineEdit* lineEditArcArea [private]`

**13.74.3.56 lineEditArcCenterX** `QLineEdit* lineEditArcCenterX [private]`

**13.74.3.57 lineEditArcCenterY** `QLineEdit* lineEditArcCenterY [private]`

**13.74.3.58 lineEditArcChord** `QLineEdit* lineEditArcChord [private]`

**13.74.3.59 lineEditArcEndAngle** `QLineEdit* lineEditArcEndAngle [private]`

**13.74.3.60 lineEditArcEndX** `QLineEdit* lineEditArcEndX [private]`

**13.74.3.61 lineEditArcEndY** `QLineEdit* lineEditArcEndY [private]`

**13.74.3.62 lineEditArcIncAngle** `QLineEdit* lineEditArcIncAngle [private]`

**13.74.3.63 lineEditArcLength** `QLineEdit* lineEditArcLength [private]`

**13.74.3.64 `lineEditArcRadius`** `QLineEdit* lineEditArcRadius [private]`

**13.74.3.65 `lineEditArcStartAngle`** `QLineEdit* lineEditArcStartAngle [private]`

**13.74.3.66 `lineEditArcStartX`** `QLineEdit* lineEditArcStartX [private]`

**13.74.3.67 `lineEditArcStartY`** `QLineEdit* lineEditArcStartY [private]`

**13.74.3.68 `lineEditBlockX`** `QLineEdit* lineEditBlockX [private]`

**13.74.3.69 `lineEditBlockY`** `QLineEdit* lineEditBlockY [private]`

**13.74.3.70 `lineEditCircleArea`** `QLineEdit* lineEditCircleArea [private]`

**13.74.3.71 `lineEditCircleCenterX`** `QLineEdit* lineEditCircleCenterX [private]`

**13.74.3.72 `lineEditCircleCenterY`** `QLineEdit* lineEditCircleCenterY [private]`

**13.74.3.73 `lineEditCircleCircumference`** `QLineEdit* lineEditCircleCircumference [private]`

**13.74.3.74 `lineEditCircleDiameter`** `QLineEdit* lineEditCircleDiameter [private]`

**13.74.3.75 `lineEditCircleRadius`** `QLineEdit* lineEditCircleRadius [private]`

**13.74.3.76 `lineEditEllipseCenterX`** `QLineEdit* lineEditEllipseCenterX [private]`

**13.74.3.77 `lineEditEllipseCenterY`** `QLineEdit* lineEditEllipseCenterY [private]`

**13.74.3.78 `lineEditEllipseDiameterMajor`** `QLineEdit* lineEditEllipseDiameterMajor [private]`

**13.74.3.79 `lineEditEllipseDiameterMinor`** `QLineEdit* lineEditEllipseDiameterMinor [private]`

**13.74.3.80 `lineEditEllipseRadiusMajor`** `QLineEdit* lineEditEllipseRadiusMajor [private]`

**13.74.3.81 `lineEditEllipseRadiusMinor`** `QLineEdit* lineEditEllipseRadiusMinor [private]`

**13.74.3.82 `lineEditImageHeight`** `QLineEdit* lineEditImageHeight [private]`

**13.74.3.83 `lineEditImageName`** `QLineEdit* lineEditImageName [private]`

**13.74.3.84 `lineEditImagePath`** `QLineEdit* lineEditImagePath [private]`

**13.74.3.85 `lineEditImageWidth`** `QLineEdit* lineEditImageWidth [private]`

**13.74.3.86 `lineEditImageX`** `QLineEdit* lineEditImageX [private]`

**13.74.3.87 `lineEditImageY`** `QLineEdit* lineEditImageY [private]`

**13.74.3.88 `lineEditInfiniteLineVectorX`** `QLineEdit* lineEditInfiniteLineVectorX [private]`

**13.74.3.89 `lineEditInfiniteLineVectorY`** `QLineEdit* lineEditInfiniteLineVectorY [private]`

**13.74.3.90 `lineEditInfiniteLineX1`** `QLineEdit* lineEditInfiniteLineX1 [private]`

**13.74.3.91 `lineEditInfiniteLineX2`** `QLineEdit* lineEditInfiniteLineX2 [private]`

**13.74.3.92 `lineEditInfiniteLineY1`** `QLineEdit* lineEditInfiniteLineY1 [private]`

**13.74.3.93 `lineEditInfiniteLineY2`** `QLineEdit* lineEditInfiniteLineY2 [private]`

**13.74.3.94 `lineEditLineAngle`** `QLineEdit* lineEditLineAngle [private]`

**13.74.3.95 `lineEditLineDeltaX`** `QLineEdit* lineEditLineDeltaX [private]`

**13.74.3.96 `lineEditLineDeltaY`** `QLineEdit* lineEditLineDeltaY [private]`

**13.74.3.97 `lineEditLineEndX`** QLineEdit\* lineEditLineEndX [private]

**13.74.3.98 `lineEditLineEndY`** QLineEdit\* lineEditLineEndY [private]

**13.74.3.99 `lineEditLineLength`** QLineEdit\* lineEditLineLength [private]

**13.74.3.100 `lineEditLineStartX`** QLineEdit\* lineEditLineStartX [private]

**13.74.3.101 `lineEditLineStartY`** QLineEdit\* lineEditLineStartY [private]

**13.74.3.102 `lineEditPathArea`** QLineEdit\* lineEditPathArea [private]

**13.74.3.103 `lineEditPathLength`** QLineEdit\* lineEditPathLength [private]

**13.74.3.104 `lineEditPathVertexX`** QLineEdit\* lineEditPathVertexX [private]

**13.74.3.105 `lineEditPathVertexY`** QLineEdit\* lineEditPathVertexY [private]

**13.74.3.106 `lineEditPointX`** QLineEdit\* lineEditPointX [private]

**13.74.3.107 `lineEditPointY`** QLineEdit\* lineEditPointY [private]

**13.74.3.108 `lineEditPolygonCenterX`** `QLineEdit* lineEditPolygonCenterX` [private]

**13.74.3.109 `lineEditPolygonCenterY`** `QLineEdit* lineEditPolygonCenterY` [private]

**13.74.3.110 `lineEditPolygonDiameterSide`** `QLineEdit* lineEditPolygonDiameterSide` [private]

**13.74.3.111 `lineEditPolygonDiameterVertex`** `QLineEdit* lineEditPolygonDiameterVertex` [private]

**13.74.3.112 `lineEditPolygonInteriorAngle`** `QLineEdit* lineEditPolygonInteriorAngle` [private]

**13.74.3.113 `lineEditPolygonRadiusSide`** `QLineEdit* lineEditPolygonRadiusSide` [private]

**13.74.3.114 `lineEditPolygonRadiusVertex`** `QLineEdit* lineEditPolygonRadiusVertex` [private]

**13.74.3.115 `lineEditPolylineArea`** `QLineEdit* lineEditPolylineArea` [private]

**13.74.3.116 `lineEditPolylineLength`** `QLineEdit* lineEditPolylineLength` [private]

**13.74.3.117 `lineEditPolylineVertexX`** `QLineEdit* lineEditPolylineVertexX` [private]

**13.74.3.118 `lineEditPolylineVertexY`** `QLineEdit* lineEditPolylineVertexY` [private]

**13.74.3.119 `lineEditRayVectorX`** QLineEdit\* lineEditRayVectorX [private]

**13.74.3.120 `lineEditRayVectorY`** QLineEdit\* lineEditRayVectorY [private]

**13.74.3.121 `lineEditRayX1`** QLineEdit\* lineEditRayX1 [private]

**13.74.3.122 `lineEditRayX2`** QLineEdit\* lineEditRayX2 [private]

**13.74.3.123 `lineEditRayY1`** QLineEdit\* lineEditRayY1 [private]

**13.74.3.124 `lineEditRayY2`** QLineEdit\* lineEditRayY2 [private]

**13.74.3.125 `lineEditRectangleArea`** QLineEdit\* lineEditRectangleArea [private]

**13.74.3.126 `lineEditRectangleCorner1X`** QLineEdit\* lineEditRectangleCorner1X [private]

**13.74.3.127 `lineEditRectangleCorner1Y`** QLineEdit\* lineEditRectangleCorner1Y [private]

**13.74.3.128 `lineEditRectangleCorner2X`** QLineEdit\* lineEditRectangleCorner2X [private]

**13.74.3.129 `lineEditRectangleCorner2Y`** QLineEdit\* lineEditRectangleCorner2Y [private]

**13.74.3.130 `lineEditRectangleCorner3X`** `QLineEdit* lineEditRectangleCorner3X` [private]

**13.74.3.131 `lineEditRectangleCorner3Y`** `QLineEdit* lineEditRectangleCorner3Y` [private]

**13.74.3.132 `lineEditRectangleCorner4X`** `QLineEdit* lineEditRectangleCorner4X` [private]

**13.74.3.133 `lineEditRectangleCorner4Y`** `QLineEdit* lineEditRectangleCorner4Y` [private]

**13.74.3.134 `lineEditRectangleHeight`** `QLineEdit* lineEditRectangleHeight` [private]

**13.74.3.135 `lineEditRectangleWidth`** `QLineEdit* lineEditRectangleWidth` [private]

**13.74.3.136 `lineEditTextMultiX`** `QLineEdit* lineEditTextMultiX` [private]

**13.74.3.137 `lineEditTextMultiY`** `QLineEdit* lineEditTextMultiY` [private]

**13.74.3.138 `lineEditTextSingleContents`** `QLineEdit* lineEditTextSingleContents` [private]

**13.74.3.139 `lineEditTextSingleHeight`** `QLineEdit* lineEditTextSingleHeight` [private]

**13.74.3.140 `lineEditTextSingleRotation`** `QLineEdit* lineEditTextSingleRotation` [private]

**13.74.3.141 `lineEditTextSingleX`** `QLineEdit* lineEditTextSingleX [private]`

**13.74.3.142 `lineEditTextSingleY`** `QLineEdit* lineEditTextSingleY [private]`

**13.74.3.143 `pickAdd`** `bool pickAdd [private]`

**13.74.3.144 `precisionAngle`** `int precisionAngle [private]`

**13.74.3.145 `precisionLength`** `int precisionLength [private]`

**13.74.3.146 `propertyEditorButtonStyle`** `Qt::ToolButtonStyle propertyEditorButtonStyle [private]`

**13.74.3.147 `selectedItemList`** `QList<QGraphicsItem*> selectedItemList [private]`

**13.74.3.148 `signalMapper`** `QSignalMapper* signalMapper [private]`

**13.74.3.149 `tempArcObj`** `ArcObject* tempArcObj [private]`

**13.74.3.150 `tempBlockObj`** `BlockObject* tempBlockObj [private]`

**13.74.3.151 `tempCircleObj`** `CircleObject* tempCircleObj [private]`

**13.74.3.152 tempDimAlignedObj** DimAlignedObject\* tempDimAlignedObj [private]

**13.74.3.153 tempDimAngularObj** DimAngularObject\* tempDimAngularObj [private]

**13.74.3.154 tempDimArcLenObj** DimArcLengthObject\* tempDimArcLenObj [private]

**13.74.3.155 tempDimDiamObj** DimDiameterObject\* tempDimDiamObj [private]

**13.74.3.156 tempDimLeaderObj** DimLeaderObject\* tempDimLeaderObj [private]

**13.74.3.157 tempDimLinearObj** DimLinearObject\* tempDimLinearObj [private]

**13.74.3.158 tempDimOrdObj** DimOrdinateObject\* tempDimOrdObj [private]

**13.74.3.159 tempDimRadiusObj** DimRadiusObject\* tempDimRadiusObj [private]

**13.74.3.160 tempEllipseArcObj** EllipseArcObject\* tempEllipseArcObj [private]

**13.74.3.161 tempEllipseObj** EllipseObject\* tempEllipseObj [private]

**13.74.3.162 tempHatchObj** HatchObject\* tempHatchObj [private]

**13.74.3.163 tempImageObj** `ImageObject*` `tempImageObj` [private]

**13.74.3.164 tempInfLineObj** `InfiniteLineObject*` `tempInfLineObj` [private]

**13.74.3.165 tempLineObj** `LineObject*` `tempLineObj` [private]

**13.74.3.166 tempPathObj** `PathObject*` `tempPathObj` [private]

**13.74.3.167 tempPointObj** `PointObject*` `tempPointObj` [private]

**13.74.3.168 tempPolygonObj** `PolygonObject*` `tempPolygonObj` [private]

**13.74.3.169 tempPolylineObj** `PolylineObject*` `tempPolylineObj` [private]

**13.74.3.170 tempRayObj** `RayObject*` `tempRayObj` [private]

**13.74.3.171 tempRectObj** `RectObject*` `tempRectObj` [private]

**13.74.3.172 tempSplineObj** `SplineObject*` `tempSplineObj` [private]

**13.74.3.173 tempTextMultiObj** `TextMultiObject*` `tempTextMultiObj` [private]

**13.74.3.174 tempTextSingleObj** `TextSingleObject* tempTextSingleObj [private]`

**13.74.3.175 toolButtonArcArea** `QToolButton* toolButtonArcArea [private]`

**13.74.3.176 toolButtonArcCenterX** `QToolButton* toolButtonArcCenterX [private]`

**13.74.3.177 toolButtonArcCenterY** `QToolButton* toolButtonArcCenterY [private]`

**13.74.3.178 toolButtonArcChord** `QToolButton* toolButtonArcChord [private]`

**13.74.3.179 toolButtonArcClockwise** `QToolButton* toolButtonArcClockwise [private]`

**13.74.3.180 toolButtonArcEndAngle** `QToolButton* toolButtonArcEndAngle [private]`

**13.74.3.181 toolButtonArcEndX** `QToolButton* toolButtonArcEndX [private]`

**13.74.3.182 toolButtonArcEndY** `QToolButton* toolButtonArcEndY [private]`

**13.74.3.183 toolButtonArcIncAngle** `QToolButton* toolButtonArcIncAngle [private]`

**13.74.3.184 toolButtonArcLength** `QToolButton* toolButtonArcLength [private]`

**13.74.3.185 toolButtonArcRadius** QToolButton\* toolButtonArcRadius [private]

**13.74.3.186 toolButtonArcStartAngle** QToolButton\* toolButtonArcStartAngle [private]

**13.74.3.187 toolButtonArcStartX** QToolButton\* toolButtonArcStartX [private]

**13.74.3.188 toolButtonArcStartY** QToolButton\* toolButtonArcStartY [private]

**13.74.3.189 toolButtonBlockX** QToolButton\* toolButtonBlockX [private]

**13.74.3.190 toolButtonBlockY** QToolButton\* toolButtonBlockY [private]

**13.74.3.191 toolButtonCircleArea** QToolButton\* toolButtonCircleArea [private]

**13.74.3.192 toolButtonCircleCenterX** QToolButton\* toolButtonCircleCenterX [private]

**13.74.3.193 toolButtonCircleCenterY** QToolButton\* toolButtonCircleCenterY [private]

**13.74.3.194 toolButtonCircleCircumference** QToolButton\* toolButtonCircleCircumference [private]

**13.74.3.195 toolButtonCircleDiameter** QToolButton\* toolButtonCircleDiameter [private]

**13.74.3.196 toolButtonCircleRadius** QToolButton\* toolButtonCircleRadius [private]

**13.74.3.197 toolButtonEllipseCenterX** QToolButton\* toolButtonEllipseCenterX [private]

**13.74.3.198 toolButtonEllipseCenterY** QToolButton\* toolButtonEllipseCenterY [private]

**13.74.3.199 toolButtonEllipseDiameterMajor** QToolButton\* toolButtonEllipseDiameterMajor [private]

**13.74.3.200 toolButtonEllipseDiameterMinor** QToolButton\* toolButtonEllipseDiameterMinor [private]

**13.74.3.201 toolButtonEllipseRadiusMajor** QToolButton\* toolButtonEllipseRadiusMajor [private]

**13.74.3.202 toolButtonEllipseRadiusMinor** QToolButton\* toolButtonEllipseRadiusMinor [private]

**13.74.3.203 toolButtonGeneralColor** QToolButton\* toolButtonGeneralColor [private]

**13.74.3.204 toolButtonGeneralLayer** QToolButton\* toolButtonGeneralLayer [private]

**13.74.3.205 toolButtonGeneralLineType** QToolButton\* toolButtonGeneralLineType [private]

**13.74.3.206 toolButtonGeneralLineWidth** QToolButton\* toolButtonGeneralLineWidth [private]

**13.74.3.207 toolButtonImageHeight** QToolButton\* toolButtonImageHeight [private]

**13.74.3.208 toolButtonImageName** QToolButton\* toolButtonImageName [private]

**13.74.3.209 toolButtonImagePath** QToolButton\* toolButtonImagePath [private]

**13.74.3.210 toolButtonImageWidth** QToolButton\* toolButtonImageWidth [private]

**13.74.3.211 toolButtonImageX** QToolButton\* toolButtonImageX [private]

**13.74.3.212 toolButtonImageY** QToolButton\* toolButtonImageY [private]

**13.74.3.213 toolButtonInfiniteLineVectorX** QToolButton\* toolButtonInfiniteLineVectorX [private]

**13.74.3.214 toolButtonInfiniteLineVectorY** QToolButton\* toolButtonInfiniteLineVectorY [private]

**13.74.3.215 toolButtonInfiniteLineX1** QToolButton\* toolButtonInfiniteLineX1 [private]

**13.74.3.216 toolButtonInfiniteLineX2** QToolButton\* toolButtonInfiniteLineX2 [private]

**13.74.3.217 toolButtonInfiniteLineY1** QToolButton\* toolButtonInfiniteLineY1 [private]

**13.74.3.218 toolButtonInfiniteLineY2** QToolButton\* toolButtonInfiniteLineY2 [private]

**13.74.3.219 toolButtonLineAngle** QToolButton\* toolButtonLineAngle [private]

**13.74.3.220 toolButtonLineDeltaX** QToolButton\* toolButtonLineDeltaX [private]

**13.74.3.221 toolButtonLineDeltaY** QToolButton\* toolButtonLineDeltaY [private]

**13.74.3.222 toolButtonLineEndX** QToolButton\* toolButtonLineEndX [private]

**13.74.3.223 toolButtonLineEndY** QToolButton\* toolButtonLineEndY [private]

**13.74.3.224 toolButtonLineLength** QToolButton\* toolButtonLineLength [private]

**13.74.3.225 toolButtonLineStartX** QToolButton\* toolButtonLineStartX [private]

**13.74.3.226 toolButtonLineStartY** QToolButton\* toolButtonLineStartY [private]

**13.74.3.227 toolButtonPathArea** QToolButton\* toolButtonPathArea [private]

**13.74.3.228 toolButtonPathClosed** QToolButton\* toolButtonPathClosed [private]

**13.74.3.229 toolButtonPathLength** QToolButton\* toolButtonPathLength [private]

**13.74.3.230 toolButtonPathVertexNum** QToolButton\* toolButtonPathVertexNum [private]

**13.74.3.231 toolButtonPathVertexX** QToolButton\* toolButtonPathVertexX [private]

**13.74.3.232 toolButtonPathVertexY** QToolButton\* toolButtonPathVertexY [private]

**13.74.3.233 toolButtonPickAdd** QToolButton\* toolButtonPickAdd [private]

**13.74.3.234 toolButtonPointX** QToolButton\* toolButtonPointX [private]

**13.74.3.235 toolButtonPointY** QToolButton\* toolButtonPointY [private]

**13.74.3.236 toolButtonPolygonCenterX** QToolButton\* toolButtonPolygonCenterX [private]

**13.74.3.237 toolButtonPolygonCenterY** QToolButton\* toolButtonPolygonCenterY [private]

**13.74.3.238 toolButtonPolygonDiameterSide** QToolButton\* toolButtonPolygonDiameterSide [private]

**13.74.3.239 toolButtonPolygonDiameterVertex** QToolButton\* toolButtonPolygonDiameterVertex [private]

**13.74.3.240 toolButtonPolygonInteriorAngle** QToolButton\* toolButtonPolygonInteriorAngle [private]

**13.74.3.241 toolButtonPolygonRadiusSide** QToolButton\* toolButtonPolygonRadiusSide [private]

**13.74.3.242 toolButtonPolygonRadiusVertex** QToolButton\* toolButtonPolygonRadiusVertex [private]

**13.74.3.243 toolButtonPolylineArea** QToolButton\* toolButtonPolylineArea [private]

**13.74.3.244 toolButtonPolylineClosed** QToolButton\* toolButtonPolylineClosed [private]

**13.74.3.245 toolButtonPolylineLength** QToolButton\* toolButtonPolylineLength [private]

**13.74.3.246 toolButtonPolylineVertexNum** QToolButton\* toolButtonPolylineVertexNum [private]

**13.74.3.247 toolButtonPolylineVertexX** QToolButton\* toolButtonPolylineVertexX [private]

**13.74.3.248 toolButtonPolylineVertexY** QToolButton\* toolButtonPolylineVertexY [private]

**13.74.3.249 toolButtonQSelect** QToolButton\* toolButtonQSelect [private]

**13.74.3.250 toolButtonRayVectorX** QToolButton\* toolButtonRayVectorX [private]

**13.74.3.251 toolButtonRayVectorY** QToolButton\* toolButtonRayVectorY [private]

**13.74.3.252 toolButtonRayX1** QToolButton\* toolButtonRayX1 [private]

**13.74.3.253 toolButtonRayX2** QToolButton\* toolButtonRayX2 [private]

**13.74.3.254 toolButtonRayY1** QToolButton\* toolButtonRayY1 [private]

**13.74.3.255 toolButtonRayY2** QToolButton\* toolButtonRayY2 [private]

**13.74.3.256 toolButtonRectangleArea** QToolButton\* toolButtonRectangleArea [private]

**13.74.3.257 toolButtonRectangleCorner1X** QToolButton\* toolButtonRectangleCorner1X [private]

**13.74.3.258 toolButtonRectangleCorner1Y** QToolButton\* toolButtonRectangleCorner1Y [private]

**13.74.3.259 toolButtonRectangleCorner2X** QToolButton\* toolButtonRectangleCorner2X [private]

**13.74.3.260 toolButtonRectangleCorner2Y** QToolButton\* toolButtonRectangleCorner2Y [private]

**13.74.3.261 toolButtonRectangleCorner3X** QToolButton\* toolButtonRectangleCorner3X [private]

**13.74.3.262 toolButtonRectangleCorner3Y** QToolButton\* toolButtonRectangleCorner3Y [private]

**13.74.3.263 toolButtonRectangleCorner4X** QToolButton\* toolButtonRectangleCorner4X [private]

**13.74.3.264 toolButtonRectangleCorner4Y** QToolButton\* toolButtonRectangleCorner4Y [private]

**13.74.3.265 toolButtonRectangleHeight** QToolButton\* toolButtonRectangleHeight [private]

**13.74.3.266 toolButtonRectangleWidth** QToolButton\* toolButtonRectangleWidth [private]

**13.74.3.267 toolButtonTextMultiX** QToolButton\* toolButtonTextMultiX [private]

**13.74.3.268 toolButtonTextMultiY** QToolButton\* toolButtonTextMultiY [private]

**13.74.3.269 toolButtonTextSingleBackward** QToolButton\* toolButtonTextSingleBackward [private]

**13.74.3.270 toolButtonTextSingleContents** QToolButton\* toolButtonTextSingleContents [private]

**13.74.3.271 toolButtonTextSingleFont** QToolButton\* toolButtonTextSingleFont [private]

**13.74.3.272 toolButtonTextSingleHeight** QToolButton\* toolButtonTextSingleHeight [private]

**13.74.3.273 toolButtonTextSingleJustify** QToolButton\* toolButtonTextSingleJustify [private]

**13.74.3.274 toolButtonTextSingleRotation** QToolButton\* toolButtonTextSingleRotation [private]

**13.74.3.275 toolButtonTextSingleUpsideDown** QToolButton\* toolButtonTextSingleUpsideDown [private]

**13.74.3.276 toolButtonTextSingleX** QToolButton\* toolButtonTextSingleX [private]

**13.74.3.277 toolButtonTextSingleY** QToolButton\* toolButtonTextSingleY [private]

The documentation for this class was generated from the following files:

- embroidermodder2/[property-editor.h](#)
- embroidermodder2/[property-editor.cpp](#)

## 13.75 RectObject Class Reference

```
#include <object-rect.h>
```

### Public Types

- enum { [Type](#) = OBJ\_TYPE\_RECTANGLE }

### Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ\_TYPE\_BASE }

### Public Member Functions

- [RectObject](#) (qreal x, qreal y, qreal w, qreal h, QRgb rgb, QGraphicsItem \*parent=0)
- [RectObject](#) ([RectObject](#) \*obj, QGraphicsItem \*parent=0)
- [~RectObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectPos](#) () const
- QPointF [objectTopLeft](#) () const
- QPointF [objectTopRight](#) () const
- QPointF [objectBottomLeft](#) () const
- QPointF [objectBottomRight](#) () const
- qreal [objectWidth](#) () const
- qreal [objectHeight](#) () const
- qreal [objectArea](#) () const
- void [setObjectRect](#) (qreal x, qreal y, qreal w, qreal h)
- void [updateRubber](#) (QPainter \*painter=0)
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

### Public Member Functions inherited from [BaseObject](#)

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void [paint](#) (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from [BaseObject](#)

- QPen [lineWeightPen](#) () const
- qreal [pi](#) () const
- qreal [radians](#) (qreal degree) const
- qreal [degrees](#) (qreal radian) const
- void [realRender](#) (QPainter \*painter, const QPainterPath &renderPath)

**Private Member Functions**

- void [init](#) (qreal x, qreal y, qreal w, qreal h, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) ()

**13.75.1 Member Enumeration Documentation****13.75.1.1 anonymous enum** anonymous enum

Enumerator

Type	<input type="button" value=""/>
------	---------------------------------

**13.75.2 Constructor & Destructor Documentation****13.75.2.1 RectObject() [1/2]** [RectObject](#) (

```
    qreal x,  
    qreal y,  
    qreal w,  
    qreal h,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

**13.75.2.2 RectObject() [2/2]** [RectObject](#) (

```
    RectObject * obj,  
    QGraphicsItem * parent = 0 )
```

**13.75.2.3 ~RectObject()** [~RectObject](#) ( )**13.75.3 Member Function Documentation****13.75.3.1 allGripPoints()** [QList< QPointF >](#) allGripPoints ( ) [virtual]Implements [BaseObject](#).

```
13.75.3.2 gripEdit() void gripEdit (
    const QPointF & before,
    const QPointF & after ) [virtual]
```

Implements [BaseObject](#).

```
13.75.3.3 init() void init (
    qreal x,
    qreal y,
    qreal w,
    qreal h,
    QRgb rgb,
    Qt::PenStyle lineType ) [private]
```

```
13.75.3.4 mouseSnapPoint() QPointF mouseSnapPoint (
    const QPointF & mousePoint ) [virtual]
```

Implements [BaseObject](#).

```
13.75.3.5 objectArea() qreal objectArea ( ) const [inline]
```

```
13.75.3.6 objectBottomLeft() QPointF objectBottomLeft ( ) const
```

```
13.75.3.7 objectBottomRight() QPointF objectBottomRight ( ) const
```

```
13.75.3.8 objectHeight() qreal objectHeight ( ) const [inline]
```

```
13.75.3.9 objectPos() QPointF objectPos ( ) const [inline]
```

```
13.75.3.10 objectSavePath() QPainterPath objectSavePath ( ) const
```

**13.75.3.11 objectTopLeft()** QPointF objectTopLeft ( ) const

**13.75.3.12 objectTopRight()** QPointF objectTopRight ( ) const

**13.75.3.13 objectWidth()** qreal objectWidth ( ) const [inline]

**13.75.3.14 paint()** void paint (   
     QPainter \* painter,  
     const QStyleOptionGraphicsItem \* option,  
     QWidget \* ) [protected]

**13.75.3.15 setObjectRect()** void setObjectRect (   
     qreal x,  
     qreal y,  
     qreal w,  
     qreal h )

**13.75.3.16 type()** virtual int type ( ) const [inline], [virtual]

Reimplemented from [BaseObject](#).

**13.75.3.17 updatePath()** void updatePath ( ) [private]

**13.75.3.18 updateRubber()** void updateRubber (   
     QPainter \* painter = 0 )

**13.75.3.19 vulcanize()** void vulcanize ( ) [virtual]

Implements [BaseObject](#).

The documentation for this class was generated from the following files:

- [embroidermodder2/object-rect.h](#)
- [embroidermodder2/object-rect.cpp](#)

## 13.76 SaveObject Class Reference

```
#include <object-save.h>
```

### Public Member Functions

- `SaveObject (QGraphicsScene *theScene, QObject *parent=0)`
- `~SaveObject ()`
- `bool save (const QString &fileName)`
- `void addArc (EmbPattern *pattern, QGraphicsItem *item)`
- `void addBlock (EmbPattern *pattern, QGraphicsItem *item)`
- `void addCircle (EmbPattern *pattern, QGraphicsItem *item)`
- `void addDimAligned (EmbPattern *pattern, QGraphicsItem *item)`
- `void addDimAngular (EmbPattern *pattern, QGraphicsItem *item)`
- `void addDimArcLength (EmbPattern *pattern, QGraphicsItem *item)`
- `void addDimDiameter (EmbPattern *pattern, QGraphicsItem *item)`
- `void addDimLeader (EmbPattern *pattern, QGraphicsItem *item)`
- `void addDimLinear (EmbPattern *pattern, QGraphicsItem *item)`
- `void addDimOrdinate (EmbPattern *pattern, QGraphicsItem *item)`
- `void addDimRadius (EmbPattern *pattern, QGraphicsItem *item)`
- `void addEllipse (EmbPattern *pattern, QGraphicsItem *item)`
- `void addEllipseArc (EmbPattern *pattern, QGraphicsItem *item)`
- `void addGrid (EmbPattern *pattern, QGraphicsItem *item)`
- `void addHatch (EmbPattern *pattern, QGraphicsItem *item)`
- `void addImage (EmbPattern *pattern, QGraphicsItem *item)`
- `void addInfiniteLine (EmbPattern *pattern, QGraphicsItem *item)`
- `void addLine (EmbPattern *pattern, QGraphicsItem *item)`
- `void addPath (EmbPattern *pattern, QGraphicsItem *item)`
- `void addPoint (EmbPattern *pattern, QGraphicsItem *item)`
- `void addPolygon (EmbPattern *pattern, QGraphicsItem *item)`
- `void addPolyline (EmbPattern *pattern, QGraphicsItem *item)`
- `void addRay (EmbPattern *pattern, QGraphicsItem *item)`
- `void addRectangle (EmbPattern *pattern, QGraphicsItem *item)`
- `void addSlot (EmbPattern *pattern, QGraphicsItem *item)`
- `void addSpline (EmbPattern *pattern, QGraphicsItem *item)`
- `void addTextMulti (EmbPattern *pattern, QGraphicsItem *item)`
- `void addTextSingle (EmbPattern *pattern, QGraphicsItem *item)`

### Private Member Functions

- `void toPolyline (EmbPattern *pattern, const QPointF &objPos, const QPainterPath &objPath, const QString &layer, const QColor &color, const QString &lineType, const QString &lineWeight)`

### Private Attributes

- `QGraphicsScene * gscene`
- `int formatType`

#### 13.76.1 Constructor & Destructor Documentation

```
13.76.1.1 SaveObject() SaveObject (
    QGraphicsScene * theScene,
    QObject * parent = 0 )
```

```
13.76.1.2 ~SaveObject() ~SaveObject ( )
```

## 13.76.2 Member Function Documentation

```
13.76.2.1 addArc() void addArc (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.2 addBlock() void addBlock (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.3 addCircle() void addCircle (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.4 addDimAligned() void addDimAligned (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.5 addDimAngular() void addDimAngular (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.6 addDimArcLength() void addDimArcLength (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

**13.76.2.7 addDimDiameter()** void addDimDiameter (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.8 addDimLeader()** void addDimLeader (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.9 addDimLinear()** void addDimLinear (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.10 addDimOrdinate()** void addDimOrdinate (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.11 addDimRadius()** void addDimRadius (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.12 addEllipse()** void addEllipse (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.13 addEllipseArc()** void addEllipseArc (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.14 addGrid()** void addGrid (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.15 addHatch()** void addHatch (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.16 addImage()** void addImage (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.17 addInfiniteLine()** void addInfiniteLine (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.18 addLine()** void addLine (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.19 addPath()** void addPath (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.20 addPoint()** void addPoint (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.21 addPolygon()** void addPolygon (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

**13.76.2.22 addPolyline()** void addPolyline (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

```
13.76.2.23 addRay() void addRay (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.24 addRectangle() void addRectangle (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.25 addSlot() void addSlot (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.26 addSpline() void addSpline (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.27 addTextMulti() void addTextMulti (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.28 addTextSingle() void addTextSingle (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
13.76.2.29 save() bool save (
    const QString & fileName )
```

Returns whether the save to file process was successful.

**Todo** Before saving to a stitch only format, Embroidermodder needs to calculate the optimal path to minimize jump stitches. Also based upon which layer needs to be stitched first, the path to the next object needs to be hidden beneath fills that will come later. When finding the optimal path, we need to take into account the color of the thread, as we do not want to try to hide dark colored stitches beneath light colored fills.

```
13.76.2.30 toPolyline() void toPolyline (
    EmbPattern * pattern,
    const QPointF & objPos,
    const QPainterPath & objPath,
    const QString & layer,
    const QColor & color,
    const QString & lineType,
    const QString & lineWeight ) [private]
```

### 13.76.3 Member Data Documentation

13.76.3.1 **formatType** int formatType [private]

13.76.3.2 **gscene** QGraphicsScene\* gscene [private]

The documentation for this class was generated from the following files:

- embroidermodder2/object-save.h
- embroidermodder2/object-save.cpp

## 13.77 SelectBox Class Reference

```
#include <selectbox.h>
```

### Public Slots

- void **setDirection** (int dir)
- void **setColors** (const QColor &colorL, const QColor &fillL, const QColor &colorR, const QColor &fillR, int newAlpha)

### Public Member Functions

- **SelectBox** (Shape s, QWidget \*parent=0)

### Protected Member Functions

- void **paintEvent** (QPaintEvent \*)

### Private Member Functions

- void **forceRepaint** ()

## Private Attributes

- QColor `leftBrushColor`
- QColor `rightBrushColor`
- QColor `leftPenColor`
- QColor `rightPenColor`
- quint8 `alpha`
- QBrush `dirBrush`
- QBrush `leftBrush`
- QBrush `rightBrush`
- QPen `dirPen`
- QPen `leftPen`
- QPen `rightPen`
- bool `boxDir`

### 13.77.1 Constructor & Destructor Documentation

```
13.77.1.1 SelectBox() SelectBox (   
     Shape s,  
     QWidget * parent = 0 )
```

### 13.77.2 Member Function Documentation

```
13.77.2.1 forceRepaint() void forceRepaint ( ) [private]
```

```
13.77.2.2 paintEvent() void paintEvent (   
     QPaintEvent * ) [protected]
```

```
13.77.2.3 setColors void setColors (   
     const QColor & colorL,  
     const QColor & fillL,  
     const QColor & colorR,  
     const QColor & fillR,  
     int newAlpha ) [slot]
```

```
13.77.2.4 setDirection void setDirection (   
     int dir ) [slot]
```

### 13.77.3 Member Data Documentation

**13.77.3.1 `alpha`** quint8 alpha [private]

**13.77.3.2 `boxDir`** bool boxDir [private]

**13.77.3.3 `dirBrush`** QBrush dirBrush [private]

**13.77.3.4 `dirPen`** QPen dirPen [private]

**13.77.3.5 `leftBrush`** QBrush leftBrush [private]

**13.77.3.6 `leftBrushColor`** QColor leftBrushColor [private]

**13.77.3.7 `leftPen`** QPen leftPen [private]

**13.77.3.8 `leftPenColor`** QColor leftPenColor [private]

**13.77.3.9 `rightBrush`** QBrush rightBrush [private]

**13.77.3.10 `rightBrushColor`** QColor rightBrushColor [private]

**13.77.3.11 rightPen** QPen rightPen [private]

**13.77.3.12 rightPenColor** QColor rightPenColor [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/selectbox.h](#)
- [embroidermodder2/selectbox.cpp](#)

## 13.78 Settings\_ Struct Reference

Settings System.

### Public Attributes

- char [version](#) [200]
- bool [running](#)
- bool [testing](#)
- int [debug\\_mode](#)
- bool [show\\_about\\_dialog](#)
- bool [show\\_settings\\_editor](#)
- bool [show\\_editor](#)
- bool [show\\_details\\_dialog](#)
- bool [show\\_open\\_file\\_dialog](#)
- int [icon\\_size](#)
- char [icon\\_theme](#) [200]
- int [pattern\\_index](#)
- char [assets\\_dir](#) [200]
- bool [use\\_translation](#)
- char [language](#) [200]
- bool [mdi\\_bg\\_use\\_logo](#)
- bool [mdi\\_bg\\_use\\_texture](#)
- bool [mdi\\_bg\\_use\\_color](#)
- char [general\\_mdi\\_bg\\_logo](#) [200]
- char [general\\_mdi\\_bg\\_texture](#) [200]
- unsigned int [general\\_mdi\\_bg\\_color](#)
- bool [tip\\_of\\_the\\_day](#)
- unsigned int [general\\_current\\_tip](#)
- bool [general\\_system\\_help\\_browser](#)
- bool [general\\_check\\_for\\_updates](#)
- bool [display\\_use\\_opengl](#)
- bool [display\\_renderhint\\_aa](#)
- bool [display\\_renderhint\\_text\\_aa](#)
- bool [display\\_renderhint\\_smooth\\_pix](#)
- bool [display\\_renderhint\\_high\\_aa](#)
- bool [display\\_renderhint\\_noncosmetic](#)
- bool [display\\_show\\_scrollbars](#)
- int [display\\_scrollbar\\_widget\\_num](#)
- unsigned int [display\\_crosshair\\_color](#)

- unsigned int `display_bg_color`
- unsigned int `display_selectbox_left_color`
- unsigned int `display_selectbox_left_fill`
- unsigned int `display_selectbox_right_color`
- unsigned int `display_selectbox_right_fill`
- unsigned char `display_selectbox_alpha`
- float `display_zoomscale_in`
- float `display_zoomscale_out`
- unsigned char `display_crosshair_percent`
- char `display_units` [200]
- char `opensave_custom_filter` [200]
- char `opensave_open_format` [200]
- bool `opensave_open_thumbnail`
- char `opensave_save_format` [200]
- bool `opensave_save_thumbnail`
- unsigned char `opensave_recent_max_files`
- char `opensave_recent_list_of_files` [20][200]
- char `opensave_recent_directory` [200]
- unsigned char `opensave_trim_dst_num_jumps`
- char `printing_default_device` [200]
- bool `printing_use_last_device`
- bool `printing_disable_bg`
- bool `grid_show_on_load`
- bool `grid_show_origin`
- bool `grid_color_match_crosshair`
- unsigned int `grid_color`
- bool `grid_load_from_file`
- char `grid_type` [200]
- bool `grid_center_on_origin`
- `EmbVector grid_center`
- float `grid_size_x`
- float `grid_size_y`
- float `grid_spacing_x`
- float `grid_spacing_y`
- float `grid_size_radius`
- float `grid_spacing_radius`
- float `grid_spacing_angle`
- bool `ruler_show_on_load`
- bool `ruler_metric`
- unsigned int `ruler_color`
- unsigned char `ruler_pixel_size`
- bool `qsnap_enabled`
- unsigned int `qsnap_locator_color`
- unsigned char `qsnap_locator_size`
- unsigned char `qsnap_aperture_size`
- bool `qsnap_endpoint`
- bool `qsnap_midpoint`
- bool `qsnap_center`
- bool `qsnap_node`
- bool `qsnap_quadrant`
- bool `qsnap_intersection`
- bool `qsnap_extension`
- bool `qsnap_insertion`
- bool `qsnap_perpendicular`
- bool `qsnap_tangent`

- bool `qsnap_nearest`
- bool `qsnap_apparent`
- bool `qsnap_parallel`
- bool `lwt_show_lwt`
- bool `lwt_real_render`
- bool `shift_held`
- float `lwt_default_lwt`
- bool `selection_mode_pickfirst`
- bool `selection_mode_pickadd`
- bool `selection_mode_pickdrag`
- unsigned int `selection_coolgrip_color`
- unsigned int `selection_hotgrip_color`
- unsigned char `selection_grip_size`
- unsigned char `selection_pickbox_size`
- char `text_font` [200]
- float `text_size`
- float `text_angle`
- bool `text_style_bold`
- bool `text_style_italic`
- bool `text_style_underline`
- bool `text_style_overline`
- bool `text_style_strikeout`
- `Dictionary * texture_list`
- unsigned int `ticks_color`
- unsigned int `shine_color`
- char `to_open` [200]
- char `menu_action` [200]
- char `current_directory` [200]
- `EmbReal zoomInLimit`
- `EmbReal zoomOutLimit`
- `EmbVector grid_spacing`
- float `ruler_width`
- float `tick_depth`
- float `major_tick_seperation`
- float `needle_speed`
- float `stitch_time`

### 13.78.1 Detailed Description

Settings System.

Rather than pollute the global namespace, we collect together all the global settings into a structure that stores them. This also allows us to create a complete copy of the settings for the purpose of restoring them if the user cancels out of the Settings Dialog.

Like all of our structs, it's C99 compliant.

### 13.78.2 Member Data Documentation

**13.78.2.1 assets\_dir** char assets\_dir[200]

**13.78.2.2 current\_directory** char current\_directory[200]

**13.78.2.3 debug\_mode** int debug\_mode

**13.78.2.4 display\_bg\_color** unsigned int display\_bg\_color

**13.78.2.5 display\_crosshair\_color** unsigned int display\_crosshair\_color

**13.78.2.6 display\_crosshair\_percent** unsigned char display\_crosshair\_percent

**13.78.2.7 display\_renderhint\_aa** bool display\_renderhint\_aa

**13.78.2.8 display\_renderhint\_high\_aa** bool display\_renderhint\_high\_aa

**13.78.2.9 display\_renderhint\_noncosmetic** bool display\_renderhint\_noncosmetic

**13.78.2.10 display\_renderhint\_smooth\_pix** bool display\_renderhint\_smooth\_pix

**13.78.2.11 display\_renderhint\_text\_aa** bool display\_renderhint\_text\_aa

**13.78.2.12 `display_scrollbar_widget_num`** int display\_scrollbar\_widget\_num

**13.78.2.13 `display_selectbox_alpha`** unsigned char display\_selectbox\_alpha

**13.78.2.14 `display_selectbox_left_color`** unsigned int display\_selectbox\_left\_color

**13.78.2.15 `display_selectbox_left_fill`** unsigned int display\_selectbox\_left\_fill

**13.78.2.16 `display_selectbox_right_color`** unsigned int display\_selectbox\_right\_color

**13.78.2.17 `display_selectbox_right_fill`** unsigned int display\_selectbox\_right\_fill

**13.78.2.18 `display_show_scrollbars`** bool display\_show\_scrollbars

**13.78.2.19 `display_units`** char display\_units[200]

**13.78.2.20 `display_use_opengl`** bool display\_use\_opengl

**13.78.2.21 `display_zoomscale_in`** float display\_zoomscale\_in

**13.78.2.22 `display_zoomscale_out`** float display\_zoomscale\_out

13.78.2.23 **general\_check\_for\_updates** bool general\_check\_for\_updates

13.78.2.24 **general\_current\_tip** unsigned int general\_current\_tip

13.78.2.25 **general\_mdi\_bg\_color** unsigned int general\_mdi\_bg\_color

13.78.2.26 **general\_mdi\_bg\_logo** char general\_mdi\_bg\_logo[200]

13.78.2.27 **general\_mdi\_bg\_texture** char general\_mdi\_bg\_texture[200]

13.78.2.28 **general\_system\_help\_browser** bool general\_system\_help\_browser

13.78.2.29 **grid\_center** EmbVector grid\_center

13.78.2.30 **grid\_center\_on\_origin** bool grid\_center\_on\_origin

13.78.2.31 **grid\_color** unsigned int grid\_color

13.78.2.32 **grid\_color\_match\_crosshair** bool grid\_color\_match\_crosshair

13.78.2.33 **grid\_load\_from\_file** bool grid\_load\_from\_file

**13.78.2.34 `grid_show_on_load`** `bool grid_show_on_load`

**13.78.2.35 `grid_show_origin`** `bool grid_show_origin`

**13.78.2.36 `grid_size_radius`** `float grid_size_radius`

**13.78.2.37 `grid_size_x`** `float grid_size_x`

**13.78.2.38 `grid_size_y`** `float grid_size_y`

**13.78.2.39 `grid_spacing`** `EmbVector grid_spacing`

**13.78.2.40 `grid_spacing_angle`** `float grid_spacing_angle`

**13.78.2.41 `grid_spacing_radius`** `float grid_spacing_radius`

**13.78.2.42 `grid_spacing_x`** `float grid_spacing_x`

**13.78.2.43 `grid_spacing_y`** `float grid_spacing_y`

**13.78.2.44 `grid_type`** `char grid_type[200]`

**13.78.2.45 icon\_size** int icon\_size

**13.78.2.46 icon\_theme** char icon\_theme[200]

**13.78.2.47 language** char language[200]

**13.78.2.48 lwt\_default\_lwt** float lwt\_default\_lwt

**13.78.2.49 lwt\_real\_render** bool lwt\_real\_render

**13.78.2.50 lwt\_show\_lwt** bool lwt\_show\_lwt

**13.78.2.51 major\_tick\_seperation** float major\_tick\_seperation

**13.78.2.52 mdi\_bg\_use\_color** bool mdi\_bg\_use\_color

**13.78.2.53 mdi\_bg\_use\_logo** bool mdi\_bg\_use\_logo

**13.78.2.54 mdi\_bg\_use\_texture** bool mdi\_bg\_use\_texture

**13.78.2.55 menu\_action** char menu\_action[200]

**13.78.2.56 needle\_speed** float needle\_speed

**13.78.2.57 opensave\_custom\_filter** char opensave\_custom\_filter[200]

**13.78.2.58 opensave\_open\_format** char opensave\_open\_format[200]

**13.78.2.59 opensave\_open\_thumbnail** bool opensave\_open\_thumbnail

**13.78.2.60 opensave\_recent\_directory** char opensave\_recent\_directory[200]

**13.78.2.61 opensave\_recent\_list\_of\_files** char opensave\_recent\_list\_of\_files[20][200]

**13.78.2.62 opensave\_recent\_max\_files** unsigned char opensave\_recent\_max\_files

**13.78.2.63 opensave\_save\_format** char opensave\_save\_format[200]

**13.78.2.64 opensave\_save\_thumbnail** bool opensave\_save\_thumbnail

**13.78.2.65 opensave\_trim\_dst\_num\_jumps** unsigned char opensave\_trim\_dst\_num\_jumps

**13.78.2.66 pattern\_index** int pattern\_index

**13.78.2.67 printing\_default\_device** char printing\_default\_device[200]

**13.78.2.68 printing\_disable\_bg** bool printing\_disable\_bg

**13.78.2.69 printing\_use\_last\_device** bool printing\_use\_last\_device

**13.78.2.70 qsnap\_aperture\_size** unsigned char qsnap\_aperture\_size

**13.78.2.71 qsnap\_apparent** bool qsnap\_apparent

**13.78.2.72 qsnap\_center** bool qsnap\_center

**13.78.2.73 qsnap\_enabled** bool qsnap\_enabled

**13.78.2.74 qsnap\_endpoint** bool qsnap\_endpoint

**13.78.2.75 qsnap\_extension** bool qsnap\_extension

**13.78.2.76 qsnap\_insertion** bool qsnap\_insertion

**13.78.2.77 qsnap\_intersection** bool qsnap\_intersection

**13.78.2.78 `qsnap_locator_color`** `unsigned int qsnap_locator_color`

**13.78.2.79 `qsnap_locator_size`** `unsigned char qsnap_locator_size`

**13.78.2.80 `qsnap_midpoint`** `bool qsnap_midpoint`

**13.78.2.81 `qsnap_nearest`** `bool qsnap_nearest`

**13.78.2.82 `qsnap_node`** `bool qsnap_node`

**13.78.2.83 `qsnap_parallel`** `bool qsnap_parallel`

**13.78.2.84 `qsnap_perpendicular`** `bool qsnap_perpendicular`

**13.78.2.85 `qsnap_quadrant`** `bool qsnap_quadrant`

**13.78.2.86 `qsnap_tangent`** `bool qsnap_tangent`

**13.78.2.87 `ruler_color`** `unsigned int ruler_color`

**13.78.2.88 `ruler_metric`** `bool ruler_metric`

**13.78.2.89 ruler\_pixel\_size** unsigned char ruler\_pixel\_size

**13.78.2.90 ruler\_show\_on\_load** bool ruler\_show\_on\_load

**13.78.2.91 ruler\_width** float ruler\_width

**13.78.2.92 running** bool running

**13.78.2.93 selection\_coolgrip\_color** unsigned int selection\_coolgrip\_color

**13.78.2.94 selection\_grip\_size** unsigned char selection\_grip\_size

**13.78.2.95 selection\_hotgrip\_color** unsigned int selection\_hotgrip\_color

**13.78.2.96 selection\_mode\_pickadd** bool selection\_mode\_pickadd

**13.78.2.97 selection\_mode\_pickdrag** bool selection\_mode\_pickdrag

**13.78.2.98 selection\_mode\_pickfirst** bool selection\_mode\_pickfirst

**13.78.2.99 selection\_pickbox\_size** unsigned char selection\_pickbox\_size

**13.78.2.100 shift\_held** bool shift\_held

**13.78.2.101 shine\_color** unsigned int shine\_color

**13.78.2.102 show\_about\_dialog** bool show\_about\_dialog

**13.78.2.103 show\_details\_dialog** bool show\_details\_dialog

**13.78.2.104 show\_editor** bool show\_editor

**13.78.2.105 show\_open\_file\_dialog** bool show\_open\_file\_dialog

**13.78.2.106 show\_settings\_editor** bool show\_settings\_editor

**13.78.2.107 stitch\_time** float stitch\_time

**13.78.2.108 testing** bool testing

**13.78.2.109 text\_angle** float text\_angle

**13.78.2.110 text\_font** char text\_font[200]

**13.78.2.111 `text_size`** float text\_size

**13.78.2.112 `text_style_bold`** bool text\_style\_bold

**13.78.2.113 `text_style_italic`** bool text\_style\_italic

**13.78.2.114 `text_style_overline`** bool text\_style\_overline

**13.78.2.115 `text_style_strikeout`** bool text\_style\_strikeout

**13.78.2.116 `text_style_underline`** bool text\_style\_underline

**13.78.2.117 `texture_list`** Dictionary\* texture\_list

**13.78.2.118 `tick_depth`** float tick\_depth

**13.78.2.119 `ticks_color`** unsigned int ticks\_color

**13.78.2.120 `tip_of_the_day`** bool tip\_of\_the\_day

**13.78.2.121 `to_open`** char to\_open[200]

**13.78.2.122 use\_translation** bool use\_translation

**13.78.2.123 version** char version[200]

**13.78.2.124 zoomInLimit** EmbReal zoomInLimit

**13.78.2.125 zoomOutLimit** EmbReal zoomOutLimit

The documentation for this struct was generated from the following file:

- embroidermodder2/imgui\_main.c

## 13.79 Settings\_Dialog Class Reference

```
#include <settings-dialog.h>
```

### Signals

- void buttonCustomFilterSelectAll (bool)
- void buttonCustomFilterClearAll (bool)
- void buttonQSnapSelectAll (bool)
- void buttonQSnapClearAll (bool)

### Public Member Functions

- [Settings\\_Dialog \(MainWindow \\*mw, const QString &showTab=QString\(\), QWidget \\*parent=0\)](#)
- [~Settings\\_Dialog \(\)](#)

### Private Slots

- void `comboBoxLanguageCurrentIndexChanged` (const QString &)
- void `comboBoxIconThemeCurrentIndexChanged` (const QString &)
- void `comboBoxIconSizeCurrentIndexChanged` (int)
- void `checkBoxGeneralMdiBGUseLogoStateChanged` (int)
- void `chooseGeneralMdiBackgroundLogo` ()
- void `checkBoxGeneralMdiBGUseTextureStateChanged` (int)
- void `chooseGeneralMdiBackgroundTexture` ()
- void `checkBoxGeneralMdiBGUseColorStateChanged` (int)
- void `chooseGeneralMdiBackgroundColor` ()
- void `currentGeneralMdiBackgroundColorChanged` (const QColor &)
- void `checkBoxTipOfTheDayStateChanged` (int)
- void `checkBoxUseOpenGLStateChanged` (int)
- void `checkBoxRenderHintAAStateChanged` (int)
- void `checkBoxRenderHintTextAAStateChanged` (int)
- void `checkBoxRenderHintSmoothPixStateChanged` (int)
- void `checkBoxRenderHintHighAAStateChanged` (int)
- void `checkBoxRenderHintNonCosmeticStateChanged` (int)
- void `checkBoxShowScrollBarsStateChanged` (int)
- void `comboBoxScrollBarWidgetCurrentIndexChanged` (int)
- void `spinBoxZoomScaleInValueChanged` (double)
- void `spinBoxZoomScaleOutValueChanged` (double)
- void `checkBoxDisableBGStateChanged` (int)
- void `chooseDisplayCrossHairColor` ()
- void `currentDisplayCrossHairColorChanged` (const QColor &)
- void `chooseDisplayBackgroundColor` ()
- void `currentDisplayBackgroundColorChanged` (const QColor &)
- void `chooseDisplaySelectBoxLeftColor` ()
- void `currentDisplaySelectBoxLeftColorChanged` (const QColor &)
- void `chooseDisplaySelectBoxLeftFill` ()
- void `currentDisplaySelectBoxLeftFillChanged` (const QColor &)
- void `chooseDisplaySelectBoxRightColor` ()
- void `currentDisplaySelectBoxRightColorChanged` (const QColor &)
- void `chooseDisplaySelectBoxRightFill` ()
- void `currentDisplaySelectBoxRightFillChanged` (const QColor &)
- void `spinBoxDisplaySelectBoxAlphaValueChanged` (int)
- void `choosePromptTextColor` ()
- void `currentPromptTextColorChanged` (const QColor &)
- void `choosePromptBackgroundColor` ()
- void `currentPromptBackgroundColorChanged` (const QColor &)
- void `comboBoxPromptFontFamilyCurrentIndexChanged` (const QString &)
- void `comboBoxPromptFontStyleCurrentIndexChanged` (const QString &)
- void `spinBoxPromptFontSizeValueChanged` (int)
- void `checkBoxPromptSaveHistoryStateChanged` (int)
- void `checkBoxPromptSaveHistoryAsHtmlStateChanged` (int)
- void `checkBoxCustomFilterStateChanged` (int)
- void `buttonCustomFilterSelectAllClicked` ()
- void `buttonCustomFilterClearAllClicked` ()
- void `spinBoxRecentMaxFilesValueChanged` (int)
- void `spinBoxTrimDstNumJumpsValueChanged` (int)
- void `checkBoxGridShowOnLoadStateChanged` (int)
- void `checkBoxGridShowOriginStateChanged` (int)
- void `checkBoxGridColorMatchCrossHairStateChanged` (int)
- void `chooseGridColor` ()

- void `currentGridColorChanged` (const QColor &)
- void `checkBoxGridLoadFromFileStateChanged` (int)
- void `comboBoxGridTypeCurrentIndexChanged` (const QString &)
- void `checkBoxGridCenterOnOriginStateChanged` (int)
- void `spinBoxGridCenterXValueChanged` (double)
- void `spinBoxGridCenterYValueChanged` (double)
- void `spinBoxGridSizeXValueChanged` (double)
- void `spinBoxGridSizeYValueChanged` (double)
- void `spinBoxGridSpacingXValueChanged` (double)
- void `spinBoxGridSpacingYValueChanged` (double)
- void `spinBoxGridSizeRadiusValueChanged` (double)
- void `spinBoxGridSpacingRadiusValueChanged` (double)
- void `spinBoxGridSpacingAngleValueChanged` (double)
- void `checkBoxRulerShowOnLoadStateChanged` (int)
- void `comboBoxRulerMetricCurrentIndexChanged` (int)
- void `chooseRulerColor` ()
- void `currentRulerColorChanged` (const QColor &)
- void `spinBoxRulerPixelSizeValueChanged` (double)
- void `checkBoxQSnapEndPointStateChanged` (int)
- void `checkBoxQSnapMidPointStateChanged` (int)
- void `checkBoxQSnapCenterStateChanged` (int)
- void `checkBoxQSnapNodeStateChanged` (int)
- void `checkBoxQSnapQuadrantStateChanged` (int)
- void `checkBoxQSnapIntersectionStateChanged` (int)
- void `checkBoxQSnapExtensionStateChanged` (int)
- void `checkBoxQSnapInsertionStateChanged` (int)
- void `checkBoxQSnapPerpendicularStateChanged` (int)
- void `checkBoxQSnapTangentStateChanged` (int)
- void `checkBoxQSnapNearestStateChanged` (int)
- void `checkBoxQSnapApparentStateChanged` (int)
- void `checkBoxQSnapParallelStateChanged` (int)
- void `buttonQSnapSelectAllClicked` ()
- void `buttonQSnapClearAllClicked` ()
- void `comboBoxQSnapLocatorColorCurrentIndexChanged` (int)
- void `sliderQSnapLocatorSizeValueChanged` (int)
- void `sliderQSnapApertureSizeValueChanged` (int)
- void `checkBoxLwtShowLwtStateChanged` (int)
- void `checkBoxLwtRealRenderStateChanged` (int)
- void `checkBoxSelectionModePickFirstStateChanged` (int)
- void `checkBoxSelectionModePickAddStateChanged` (int)
- void `checkBoxSelectionModePickDragStateChanged` (int)
- void `comboBoxSelectionModeCoolGripColorCurrentIndexChanged` (int)
- void `comboBoxSelectionModeHotGripColorCurrentIndexChanged` (int)
- void `sliderSelectionGripSizeValueChanged` (int)
- void `sliderSelectionPickBoxSizeValueChanged` (int)
- void `acceptChanges` ()
- void `rejectChanges` ()

### Private Member Functions

- QWidget \* `createTabGeneral ()`
- QWidget \* `createTabFilePaths ()`
- QWidget \* `createTabDisplay ()`
- QWidget \* `createTabPrompt ()`
- QWidget \* `createTabOpenSave ()`
- QWidget \* `createTabPrinting ()`
- QWidget \* `createTabSnap ()`
- QWidget \* `createTabGridRuler ()`
- QWidget \* `createTabOrthoPolar ()`
- QWidget \* `createTabQuickSnap ()`
- QWidget \* `createTabQuickTrack ()`
- QWidget \* `createTabLineWeight ()`
- QWidget \* `createTabSelection ()`
- void `addColorsToComboBox (QComboBox *comboBox)`

### Private Attributes

- MainWindow \* `mainWin`
- QTabWidget \* `tabWidget`
- QDialogButtonBox \* `buttonBox`
- bool `preview_general_mdi_bg_use_logo`
- bool `preview_general_mdi_bg_use_texture`
- bool `preview_general_mdi_bg_use_color`
- QString `accept_general_mdi_bg_logo`
- QString `accept_general_mdi_bg_texture`
- QRgb `preview_general_mdi_bg_color`
- QRgb `accept_general_mdi_bg_color`
- bool `preview_display_show_scrollbars`
- QRgb `preview_display_crosshair_color`
- QRgb `accept_display_crosshair_color`
- QRgb `preview_display_bg_color`
- QRgb `accept_display_bg_color`
- QRgb `preview_display_selectbox_left_color`
- QRgb `accept_display_selectbox_left_color`
- QRgb `preview_display_selectbox_left_fill`
- QRgb `accept_display_selectbox_left_fill`
- QRgb `preview_display_selectbox_right_color`
- QRgb `accept_display_selectbox_right_color`
- QRgb `preview_display_selectbox_right_fill`
- QRgb `accept_display_selectbox_right_fill`
- quint8 `preview_display_selectbox_alpha`
- QRgb `preview_prompt_text_color`
- QRgb `accept_prompt_text_color`
- QRgb `preview_prompt_bg_color`
- QRgb `accept_prompt_bg_color`
- QString `preview_prompt_font_family`
- QString `preview_prompt_font_style`
- quint8 `preview_prompt_font_size`
- QRgb `preview_grid_color`
- QRgb `accept_grid_color`
- QRgb `preview_ruler_color`
- QRgb `accept_ruler_color`

- bool `preview_lwt_show_lwt`
- bool `preview_lwt_real_render`
- QString `dialog_general_language`
- QString `dialog_general_icon_theme`
- int `dialog_general_icon_size`
- bool `dialog_general_mdi_bg_use_logo`
- bool `dialog_general_mdi_bg_use_texture`
- bool `dialog_general_mdi_bg_use_color`
- QString `dialog_general_mdi_bg_logo`
- QString `dialog_general_mdi_bg_texture`
- QRgb `dialog_general_mdi_bg_color`
- bool `dialog_general_tip_of_the_day`
- bool `dialog_general_system_help_browser`
- bool `dialog_display_use_opengl`
- bool `dialog_display_renderhint_aa`
- bool `dialog_display_renderhint_text_aa`
- bool `dialog_display_renderhint_smooth_pix`
- bool `dialog_display_renderhint_high_aa`
- bool `dialog_display_renderhint_noncosmetic`
- bool `dialog_display_show_scrollbars`
- int `dialog_display_scrollbar_widget_num`
- QRgb `dialog_display_crosshair_color`
- QRgb `dialog_display_bg_color`
- QRgb `dialog_display_selectbox_left_color`
- QRgb `dialog_display_selectbox_left_fill`
- QRgb `dialog_display_selectbox_right_color`
- QRgb `dialog_display_selectbox_right_fill`
- quint8 `dialog_display_selectbox_alpha`
- qreal `dialog_display_zoomscale_in`
- qreal `dialog_display_zoomscale_out`
- quint8 `dialog_display_crosshair_percent`
- QString `dialog_display_units`
- QRgb `dialog_prompt_text_color`
- QRgb `dialog_prompt_bg_color`
- QString `dialog_prompt_font_family`
- QString `dialog_prompt_font_style`
- quint8 `dialog_prompt_font_size`
- bool `dialog_prompt_save_history`
- bool `dialog_prompt_save_history_as_html`
- QString `dialog_prompt_save_history_filename`
- QString `dialog_opensave_custom_filter`
- QString `dialog_opensave_open_format`
- bool `dialog_opensave_open_thumbnail`
- QString `dialog_opensave_save_format`
- bool `dialog_opensave_save_thumbnail`
- quint8 `dialog_opensave_recent_max_files`
- quint8 `dialog_opensave_trim_dst_num_jumps`
- QString `dialog_printing_default_device`
- bool `dialog_printing_use_last_device`
- bool `dialog_printing_disable_bg`
- bool `dialog_grid_show_on_load`
- bool `dialog_grid_show_origin`
- bool `dialog_grid_color_match_crosshair`
- QRgb `dialog_grid_color`
- bool `dialog_grid_load_from_file`

- `QString dialog_grid_type`
- `bool dialog_grid_center_on_origin`
- `qreal dialog_grid_center_x`
- `qreal dialog_grid_center_y`
- `qreal dialog_grid_size_x`
- `qreal dialog_grid_size_y`
- `qreal dialog_grid_spacing_x`
- `qreal dialog_grid_spacing_y`
- `qreal dialog_grid_size_radius`
- `qreal dialog_grid_spacing_radius`
- `qreal dialog_grid_spacing_angle`
- `bool dialog_ruler_show_on_load`
- `bool dialog_ruler_metric`
- `QRgb dialog_ruler_color`
- `quint8 dialog_ruler_pixel_size`
- `bool dialog_qsnap_enabled`
- `QRgb dialog_qsnap_locator_color`
- `quint8 dialog_qsnap_locator_size`
- `quint8 dialog_qsnap_aperture_size`
- `bool dialog_qsnap_endpoint`
- `bool dialog_qsnap_midpoint`
- `bool dialog_qsnap_center`
- `bool dialog_qsnap_node`
- `bool dialog_qsnap_quadrant`
- `bool dialog_qsnap_intersection`
- `bool dialog_qsnap_extension`
- `bool dialog_qsnap_insertion`
- `bool dialog_qsnap_perpendicular`
- `bool dialog_qsnap_tangent`
- `bool dialog_qsnap_nearest`
- `bool dialog_qsnap_apparent`
- `bool dialog_qsnap_parallel`
- `bool dialog_lwt_show_lwt`
- `bool dialog_lwt_real_render`
- `qreal dialog_lwt_default_lwt`
- `bool dialog_selection_mode_pickfirst`
- `bool dialog_selection_mode_pickadd`
- `bool dialog_selection_mode_pickdrag`
- `QRgb dialog_selection_coolgrip_color`
- `QRgb dialog_selection_hotgrip_color`
- `quint8 dialog_selection_grip_size`
- `quint8 dialog_selection_pickbox_size`

### 13.79.1 Constructor & Destructor Documentation

#### 13.79.1.1 Settings\_Dialog() `Settings_Dialog (`

```
    MainWindow * mw,
    const QString & showTab = QString(),
    QWidget * parent = 0 )
```

**13.79.1.2 ~Settings\_Dialog()** ~*Settings\_Dialog* ( )

## 13.79.2 Member Function Documentation

**13.79.2.1 acceptChanges** void acceptChanges ( ) [private], [slot]

**13.79.2.2 addColorsToComboBox()** void addColorsToComboBox ( QComboBox \* *comboBox* ) [private]

**13.79.2.3 buttonCustomFilterClearAll** void buttonCustomFilterClearAll ( bool ) [signal]

**13.79.2.4 buttonCustomFilterClearAllClicked** void buttonCustomFilterClearAllClicked ( ) [private], [slot]

**13.79.2.5 buttonCustomFilterSelectAll** void buttonCustomFilterSelectAll ( bool ) [signal]

**13.79.2.6 buttonCustomFilterSelectAllClicked** void buttonCustomFilterSelectAllClicked ( ) [private], [slot]

**13.79.2.7 buttonQSnapClearAll** void buttonQSnapClearAll ( bool ) [signal]

**13.79.2.8 buttonQSnapClearAllClicked** void buttonQSnapClearAllClicked ( ) [private], [slot]

**13.79.2.9 buttonQSnapSelectAll** void buttonQSnapSelectAll ( bool ) [signal]

**13.79.2.10 buttonQSnapSelectAllClicked** void buttonQSnapSelectAllClicked () [private], [slot]

**13.79.2.11 checkBoxCustomFilterStateChanged** void checkBoxCustomFilterStateChanged ( int checked ) [private], [slot]

**13.79.2.12 checkBoxDisableBGStateChanged** void checkBoxDisableBGStateChanged ( int checked ) [private], [slot]

**13.79.2.13 checkBoxGeneralMdiBGUseColorStateChanged** void checkBoxGeneralMdiBGUseColorStateChanged ( int checked ) [private], [slot]

**13.79.2.14 checkBoxGeneralMdiBGUseLogoStateChanged** void checkBoxGeneralMdiBGUseLogoStateChanged ( int checked ) [private], [slot]

**13.79.2.15 checkBoxGeneralMdiBGUseTextureStateChanged** void checkBoxGeneralMdiBGUseTextureStateChanged ( int checked ) [private], [slot]

**13.79.2.16 checkBoxGridCenterOnOriginStateChanged** void checkBoxGridCenterOnOriginStateChanged ( int checked ) [private], [slot]

**13.79.2.17 checkBoxGridColorMatchCrossHairStateChanged** void checkBoxGridColorMatchCrossHairStateChanged ( int checked ) [private], [slot]

**13.79.2.18 `checkBoxGridLoadFromFileStateChanged`** void checkBoxGridLoadFromFileStateChanged ( int *checked* ) [private], [slot]

**13.79.2.19 `checkBoxGridShowOnLoadStateChanged`** void checkBoxGridShowOnLoadStateChanged ( int *checked* ) [private], [slot]

**13.79.2.20 `checkBoxGridShowOriginStateChanged`** void checkBoxGridShowOriginStateChanged ( int *checked* ) [private], [slot]

**13.79.2.21 `checkBoxLwtRealRenderStateChanged`** void checkBoxLwtRealRenderStateChanged ( int *checked* ) [private], [slot]

**13.79.2.22 `checkBoxLwtShowLwtStateChanged`** void checkBoxLwtShowLwtStateChanged ( int *checked* ) [private], [slot]

**13.79.2.23 `checkBoxPromptSaveHistoryAsHtmlStateChanged`** void checkBoxPromptSaveHistoryAsHtmlStateChanged ( int *checked* ) [private], [slot]

**13.79.2.24 `checkBoxPromptSaveHistoryStateChanged`** void checkBoxPromptSaveHistoryStateChanged ( int *checked* ) [private], [slot]

**13.79.2.25 `checkBoxQSnapApparentStateChanged`** void checkBoxQSnapApparentStateChanged ( int *checked* ) [private], [slot]

**13.79.2.26 `checkBoxQSnapCenterStateChanged`** void checkBoxQSnapCenterStateChanged ( int *checked* ) [private], [slot]

**13.79.2.27 checkBoxQSnapEndPointStateChanged** void checkBoxQSnapEndPointStateChanged ( int *checked* ) [private], [slot]

**13.79.2.28 checkBoxQSnapExtensionStateChanged** void checkBoxQSnapExtensionStateChanged ( int *checked* ) [private], [slot]

**13.79.2.29 checkBoxQSnapInsertionStateChanged** void checkBoxQSnapInsertionStateChanged ( int *checked* ) [private], [slot]

**13.79.2.30 checkBoxQSnapIntersectionStateChanged** void checkBoxQSnapIntersectionStateChanged ( int *checked* ) [private], [slot]

**13.79.2.31 checkBoxQSnapMidPointStateChanged** void checkBoxQSnapMidPointStateChanged ( int *checked* ) [private], [slot]

**13.79.2.32 checkBoxQSnapNearestStateChanged** void checkBoxQSnapNearestStateChanged ( int *checked* ) [private], [slot]

**13.79.2.33 checkBoxQSnapNodeStateChanged** void checkBoxQSnapNodeStateChanged ( int *checked* ) [private], [slot]

**13.79.2.34 checkBoxQSnapParallelStateChanged** void checkBoxQSnapParallelStateChanged ( int *checked* ) [private], [slot]

**13.79.2.35 checkBoxQSnapPerpendicularStateChanged** void checkBoxQSnapPerpendicularState→Changed ( int *checked* ) [private], [slot]

**13.79.2.36 `checkBoxQSnapQuadrantStateChanged`** void checkBoxQSnapQuadrantStateChanged ( int *checked* ) [private], [slot]

**13.79.2.37 `checkBoxQSnapTangentStateChanged`** void checkBoxQSnapTangentStateChanged ( int *checked* ) [private], [slot]

**13.79.2.38 `checkBoxRenderHintAAStateChanged`** void checkBoxRenderHintAAStateChanged ( int *checked* ) [private], [slot]

**13.79.2.39 `checkBoxRenderHintHighAAStateChanged`** void checkBoxRenderHintHighAAStateChanged ( int *checked* ) [private], [slot]

**13.79.2.40 `checkBoxRenderHintNonCosmeticStateChanged`** void checkBoxRenderHintNonCosmeticStateChanged ( int *checked* ) [private], [slot]

**13.79.2.41 `checkBoxRenderHintSmoothPixStateChanged`** void checkBoxRenderHintSmoothPixStateChanged ( int *checked* ) [private], [slot]

**13.79.2.42 `checkBoxRenderHintTextAAStateChanged`** void checkBoxRenderHintTextAAStateChanged ( int *checked* ) [private], [slot]

**13.79.2.43 `checkBoxRulerShowOnLoadStateChanged`** void checkBoxRulerShowOnLoadStateChanged ( int *checked* ) [private], [slot]

**13.79.2.44 `checkBoxSelectionModePickAddStateChanged`** void checkBoxSelectionModePickAddStateChanged ( int *checked* ) [private], [slot]

**13.79.2.45 checkBoxSelectionModePickDragStateChanged** void checkBoxSelectionModePickDragStateChanged ( int checked ) [private], [slot]

**13.79.2.46 checkBoxSelectionModePickFirstStateChanged** void checkBoxSelectionModePickFirstStateChanged ( int checked ) [private], [slot]

**13.79.2.47 checkBoxShowScrollBarsStateChanged** void checkBoxShowScrollBarsStateChanged ( int checked ) [private], [slot]

**13.79.2.48 checkBoxTipOfTheDayStateChanged** void checkBoxTipOfTheDayStateChanged ( int checked ) [private], [slot]

**13.79.2.49 checkBoxUseOpenGLStateChanged** void checkBoxUseOpenGLStateChanged ( int checked ) [private], [slot]

**13.79.2.50 chooseDisplayBackgroundColor** void chooseDisplayBackgroundColor ( ) [private], [slot]

**13.79.2.51 chooseDisplayCrossHairColor** void chooseDisplayCrossHairColor ( ) [private], [slot]

**13.79.2.52 chooseDisplaySelectBoxLeftColor** void chooseDisplaySelectBoxLeftColor ( ) [private], [slot]

**13.79.2.53 chooseDisplaySelectBoxLeftFill** void chooseDisplaySelectBoxLeftFill ( ) [private], [slot]

**13.79.2.54 chooseDisplaySelectBoxRightColor** void chooseDisplaySelectBoxRightColor ( ) [private], [slot]

**13.79.2.55 chooseDisplaySelectBoxRightFill** void chooseDisplaySelectBoxRightFill ( ) [private], [slot]

**13.79.2.56 chooseGeneralMdiBackgroundColor** void chooseGeneralMdiBackgroundColor ( ) [private], [slot]

**13.79.2.57 chooseGeneralMdiBackgroundLogo** void chooseGeneralMdiBackgroundLogo ( ) [private], [slot]

**13.79.2.58 chooseGeneralMdiBackgroundTexture** void chooseGeneralMdiBackgroundTexture ( ) [private], [slot]

**13.79.2.59 chooseGridColor** void chooseGridColor ( ) [private], [slot]

**13.79.2.60 choosePromptBackgroundColor** void choosePromptBackgroundColor ( ) [private], [slot]

**13.79.2.61 choosePromptTextColor** void choosePromptTextColor ( ) [private], [slot]

**13.79.2.62 chooseRulerColor** void chooseRulerColor ( ) [private], [slot]

**13.79.2.63 comboBoxGridTypeCurrentIndexChanged** void comboBoxGridTypeCurrentIndexChanged ( const QString & type ) [private], [slot]

**13.79.2.64 comboBoxIconSizeCurrentIndexChanged** void comboBoxIconSizeCurrentIndexChanged ( int index ) [private], [slot]

**13.79.2.65 comboBoxIconThemeCurrentIndexChanged** void comboBoxIconThemeCurrentIndexChanged ( const QString & theme ) [private], [slot]

**13.79.2.66 comboBoxLanguageCurrentIndexChanged** void comboBoxLanguageCurrentIndexChanged ( const QString & lang ) [private], [slot]

**13.79.2.67 comboBoxPromptFontFamilyCurrentIndexChanged** void comboBoxPromptFontFamilyCurrentIndexChanged ( const QString & family ) [private], [slot]

**13.79.2.68 comboBoxPromptFontStyleCurrentIndexChanged** void comboBoxPromptFontStyleCurrentIndexChanged ( const QString & style ) [private], [slot]

**13.79.2.69 comboBoxQSnapLocatorColorCurrentIndexChanged** void comboBoxQSnapLocatorColorCurrentIndexChanged ( int index ) [private], [slot]

**13.79.2.70 comboBoxRulerMetricCurrentIndexChanged** void comboBoxRulerMetricCurrentIndexChanged ( int index ) [private], [slot]

**13.79.2.71 comboBoxScrollBarWidgetCurrentIndexChanged** void comboBoxScrollBarWidgetCurrentIndexChanged ( int index ) [private], [slot]

**13.79.2.72 comboBoxSelectionCoolGripColorCurrentIndexChanged** void comboBoxSelectionCoolGripColorCurrentIndexChanged ( int index ) [private], [slot]

**13.79.2.73 comboBoxSelectionHotGripColorCurrentIndexChanged** void comboBoxSelectionHotGripColorCurrentIndexChanged ( int index ) [private], [slot]

**13.79.2.74 createTabDisplay()** QWidget \* createTabDisplay () [private]

**13.79.2.75 createTabFilesPaths()** QWidget \* createTabFilesPaths () [private]

**13.79.2.76 createTabGeneral()** QWidget \* createTabGeneral () [private]

**13.79.2.77 createTabGridRuler()** QWidget \* createTabGridRuler () [private]

**13.79.2.78 createTabLineWeight()** QWidget \* createTabLineWeight () [private]

**13.79.2.79 createTabOpenSave()** QWidget \* createTabOpenSave () [private]

**13.79.2.80 createTabOrthoPolar()** QWidget \* createTabOrthoPolar () [private]

**13.79.2.81 createTabPrinting()** QWidget \* createTabPrinting () [private]

**13.79.2.82 createTabPrompt()** QWidget \* createTabPrompt () [private]

**13.79.2.83 createTabQuickSnap()** QWidget \* createTabQuickSnap () [private]

**13.79.2.84 `createTabQuickTrack()`** QWidget \* createTabQuickTrack () [private]

**13.79.2.85 `createTabSelection()`** QWidget \* createTabSelection () [private]

**13.79.2.86 `createTabSnap()`** QWidget \* createTabSnap () [private]

**13.79.2.87 `currentDisplayBackgroundColorChanged`** void currentDisplayBackgroundColorChanged ( const QColor & color ) [private], [slot]

**13.79.2.88 `currentDisplayCrossHairColorChanged`** void currentDisplayCrossHairColorChanged ( const QColor & color ) [private], [slot]

**13.79.2.89 `currentDisplaySelectBoxLeftColorChanged`** void currentDisplaySelectBoxLeftColorChanged ( const QColor & color ) [private], [slot]

**13.79.2.90 `currentDisplaySelectBoxLeftFillChanged`** void currentDisplaySelectBoxLeftFillChanged ( const QColor & color ) [private], [slot]

**13.79.2.91 `currentDisplaySelectBoxRightColorChanged`** void currentDisplaySelectBoxRightColorChanged ( const QColor & color ) [private], [slot]

**13.79.2.92 `currentDisplaySelectBoxRightFillChanged`** void currentDisplaySelectBoxRightFillChanged ( const QColor & color ) [private], [slot]

- 13.79.2.93 `currentGeneralMdiBackgroundColorChanged`** void currentGeneralMdiBackgroundColorChanged ( const QColor & color ) [private], [slot]
- 13.79.2.94 `currentGridColorChanged`** void currentGridColorChanged ( const QColor & color ) [private], [slot]
- 13.79.2.95 `currentPromptBackgroundColorChanged`** void currentPromptBackgroundColorChanged ( const QColor & color ) [private], [slot]
- 13.79.2.96 `currentPromptTextColorChanged`** void currentPromptTextColorChanged ( const QColor & color ) [private], [slot]
- 13.79.2.97 `currentRulerColorChanged`** void currentRulerColorChanged ( const QColor & color ) [private], [slot]
- 13.79.2.98 `rejectChanges`** void rejectChanges ( ) [private], [slot]
- 13.79.2.99 `sliderQSnapApertureSizeValueChanged`** void sliderQSnapApertureSizeValueChanged ( int value ) [private], [slot]
- 13.79.2.100 `sliderQSnapLocatorSizeValueChanged`** void sliderQSnapLocatorSizeValueChanged ( int value ) [private], [slot]
- 13.79.2.101 `sliderSelectionGripSizeValueChanged`** void sliderSelectionGripSizeValueChanged ( int value ) [private], [slot]

**13.79.2.102 sliderSelectionPickBoxSizeValueChanged** void sliderSelectionPickBoxSizeValueChanged ( int value ) [private], [slot]

**13.79.2.103 spinBoxDisplaySelectBoxAlphaValueChanged** void spinBoxDisplaySelectBoxAlphaValueChanged ( int value ) [private], [slot]

**13.79.2.104 spinBoxGridCenterXValueChanged** void spinBoxGridCenterXValueChanged ( double value ) [private], [slot]

**13.79.2.105 spinBoxGridCenterYValueChanged** void spinBoxGridCenterYValueChanged ( double value ) [private], [slot]

**13.79.2.106 spinBoxGridSizeRadiusValueChanged** void spinBoxGridSizeRadiusValueChanged ( double value ) [private], [slot]

**13.79.2.107 spinBoxGridSizeXValueChanged** void spinBoxGridSizeXValueChanged ( double value ) [private], [slot]

**13.79.2.108 spinBoxGridSizeYValueChanged** void spinBoxGridSizeYValueChanged ( double value ) [private], [slot]

**13.79.2.109 spinBoxGridSpacingAngleValueChanged** void spinBoxGridSpacingAngleValueChanged ( double value ) [private], [slot]

**13.79.2.110 spinBoxGridSpacingRadiusValueChanged** void spinBoxGridSpacingRadiusValueChanged ( double value ) [private], [slot]

- 13.79.2.111 `spinBoxGridSpacingXValueChanged`** void spinBoxGridSpacingXValueChanged ( double value ) [private], [slot]
- 13.79.2.112 `spinBoxGridSpacingYValueChanged`** void spinBoxGridSpacingYValueChanged ( double value ) [private], [slot]
- 13.79.2.113 `spinBoxPromptFontSizeValueChanged`** void spinBoxPromptFontSizeValueChanged ( int value ) [private], [slot]
- 13.79.2.114 `spinBoxRecentMaxFilesValueChanged`** void spinBoxRecentMaxFilesValueChanged ( int value ) [private], [slot]
- 13.79.2.115 `spinBoxRulerPixelSizeValueChanged`** void spinBoxRulerPixelSizeValueChanged ( double value ) [private], [slot]
- 13.79.2.116 `spinBoxTrimDstNumJumpsValueChanged`** void spinBoxTrimDstNumJumpsValueChanged ( int value ) [private], [slot]
- 13.79.2.117 `spinBoxZoomScaleInValueChanged`** void spinBoxZoomScaleInValueChanged ( double value ) [private], [slot]
- 13.79.2.118 `spinBoxZoomScaleOutValueChanged`** void spinBoxZoomScaleOutValueChanged ( double value ) [private], [slot]
- ### 13.79.3 Member Data Documentation
- 13.79.3.1 `accept_display_bg_color`** QRgb accept\_display\_bg\_color [private]

**13.79.3.2 accept\_display\_crosshair\_color** QRgb accept\_display\_crosshair\_color [private]

**13.79.3.3 accept\_display\_selectbox\_left\_color** QRgb accept\_display\_selectbox\_left\_color [private]

**13.79.3.4 accept\_display\_selectbox\_left\_fill** QRgb accept\_display\_selectbox\_left\_fill [private]

**13.79.3.5 accept\_display\_selectbox\_right\_color** QRgb accept\_display\_selectbox\_right\_color [private]

**13.79.3.6 accept\_display\_selectbox\_right\_fill** QRgb accept\_display\_selectbox\_right\_fill [private]

**13.79.3.7 accept\_general\_mdi\_bg\_color** QRgb accept\_general\_mdi\_bg\_color [private]

**13.79.3.8 accept\_general\_mdi\_bg\_logo** QString accept\_general\_mdi\_bg\_logo [private]

**13.79.3.9 accept\_general\_mdi\_bg\_texture** QString accept\_general\_mdi\_bg\_texture [private]

**13.79.3.10 accept\_grid\_color** QRgb accept\_grid\_color [private]

**13.79.3.11 accept\_prompt\_bg\_color** QRgb accept\_prompt\_bg\_color [private]

**13.79.3.12 accept\_prompt\_text\_color** QRgb accept\_prompt\_text\_color [private]

**13.79.3.13 accept\_ruler\_color** QRgb accept\_ruler\_color [private]

**13.79.3.14 buttonBox** QDialogButtonBox\* buttonBox [private]

**13.79.3.15 dialog\_display\_bg\_color** QRgb dialog\_display\_bg\_color [private]

**13.79.3.16 dialog\_display\_crosshair\_color** QRgb dialog\_display\_crosshair\_color [private]

**13.79.3.17 dialog\_display\_crosshair\_percent** quint8 dialog\_display\_crosshair\_percent [private]

**13.79.3.18 dialog\_display\_renderhint\_aa** bool dialog\_display\_renderhint\_aa [private]

**13.79.3.19 dialog\_display\_renderhint\_high\_aa** bool dialog\_display\_renderhint\_high\_aa [private]

**13.79.3.20 dialog\_display\_renderhint\_noncosmetic** bool dialog\_display\_renderhint\_noncosmetic [private]

**13.79.3.21 dialog\_display\_renderhint\_smooth\_pix** bool dialog\_display\_renderhint\_smooth\_pix [private]

**13.79.3.22 dialog\_display\_renderhint\_text\_aa** bool dialog\_display\_renderhint\_text\_aa [private]

**13.79.3.23 dialog\_display\_scrollbar\_widget\_num** int dialog\_display\_scrollbar\_widget\_num [private]

**13.79.3.24 dialog\_display\_selectbox\_alpha** quint8 dialog\_display\_selectbox\_alpha [private]

**13.79.3.25 dialog\_display\_selectbox\_left\_color** QRgb dialog\_display\_selectbox\_left\_color [private]

**13.79.3.26 dialog\_display\_selectbox\_left\_fill** QRgb dialog\_display\_selectbox\_left\_fill [private]

**13.79.3.27 dialog\_display\_selectbox\_right\_color** QRgb dialog\_display\_selectbox\_right\_color [private]

**13.79.3.28 dialog\_display\_selectbox\_right\_fill** QRgb dialog\_display\_selectbox\_right\_fill [private]

**13.79.3.29 dialog\_display\_show\_scrollbars** bool dialog\_display\_show\_scrollbars [private]

**13.79.3.30 dialog\_display\_units** QString dialog\_display\_units [private]

**13.79.3.31 dialog\_display\_use\_opengl** bool dialog\_display\_use\_opengl [private]

**13.79.3.32 dialog\_display\_zoomscale\_in** qreal dialog\_display\_zoomscale\_in [private]

**13.79.3.33 dialog\_display\_zoomscale\_out** qreal dialog\_display\_zoomscale\_out [private]

**13.79.3.34 dialog\_general\_icon\_size** int dialog\_general\_icon\_size [private]

**13.79.3.35 dialog\_general\_icon\_theme** `QString dialog_general_icon_theme [private]`

**13.79.3.36 dialog\_general\_language** `QString dialog_general_language [private]`

**13.79.3.37 dialog\_general\_mdi\_bg\_color** `QRgb dialog_general_mdi_bg_color [private]`

**13.79.3.38 dialog\_general\_mdi\_bg\_logo** `QString dialog_general_mdi_bg_logo [private]`

**13.79.3.39 dialog\_general\_mdi\_bg\_texture** `QString dialog_general_mdi_bg_texture [private]`

**13.79.3.40 dialog\_general\_mdi\_bg\_use\_color** `bool dialog_general_mdi_bg_use_color [private]`

**13.79.3.41 dialog\_general\_mdi\_bg\_use\_logo** `bool dialog_general_mdi_bg_use_logo [private]`

**13.79.3.42 dialog\_general\_mdi\_bg\_use\_texture** `bool dialog_general_mdi_bg_use_texture [private]`

**13.79.3.43 dialog\_general\_system\_help\_browser** `bool dialog_general_system_help_browser [private]`

**13.79.3.44 dialog\_general\_tip\_of\_the\_day** `bool dialog_general_tip_of_the_day [private]`

**13.79.3.45 dialog\_grid\_center\_on\_origin** `bool dialog_grid_center_on_origin [private]`

**13.79.3.46 dialog\_grid\_center\_x** qreal dialog\_grid\_center\_x [private]

**13.79.3.47 dialog\_grid\_center\_y** qreal dialog\_grid\_center\_y [private]

**13.79.3.48 dialog\_grid\_color** QRgb dialog\_grid\_color [private]

**13.79.3.49 dialog\_grid\_color\_match\_crosshair** bool dialog\_grid\_color\_match\_crosshair [private]

**13.79.3.50 dialog\_grid\_load\_from\_file** bool dialog\_grid\_load\_from\_file [private]

**13.79.3.51 dialog\_grid\_show\_on\_load** bool dialog\_grid\_show\_on\_load [private]

**13.79.3.52 dialog\_grid\_show\_origin** bool dialog\_grid\_show\_origin [private]

**13.79.3.53 dialog\_grid\_size\_radius** qreal dialog\_grid\_size\_radius [private]

**13.79.3.54 dialog\_grid\_size\_x** qreal dialog\_grid\_size\_x [private]

**13.79.3.55 dialog\_grid\_size\_y** qreal dialog\_grid\_size\_y [private]

**13.79.3.56 dialog\_grid\_spacing\_angle** qreal dialog\_grid\_spacing\_angle [private]

**13.79.3.57 dialog\_grid\_spacing\_radius** qreal dialog\_grid\_spacing\_radius [private]

**13.79.3.58 dialog\_grid\_spacing\_x** qreal dialog\_grid\_spacing\_x [private]

**13.79.3.59 dialog\_grid\_spacing\_y** qreal dialog\_grid\_spacing\_y [private]

**13.79.3.60 dialog\_grid\_type** QString dialog\_grid\_type [private]

**13.79.3.61 dialog\_lwt\_default\_lwt** qreal dialog\_lwt\_default\_lwt [private]

**13.79.3.62 dialog\_lwt\_real\_render** bool dialog\_lwt\_real\_render [private]

**13.79.3.63 dialog\_lwt\_show\_lwt** bool dialog\_lwt\_show\_lwt [private]

**13.79.3.64 dialog\_opensave\_custom\_filter** QString dialog\_opensave\_custom\_filter [private]

**13.79.3.65 dialog\_opensave\_open\_format** QString dialog\_opensave\_open\_format [private]

**13.79.3.66 dialog\_opensave\_open\_thumbnail** bool dialog\_opensave\_open\_thumbnail [private]

**13.79.3.67 dialog\_opensave\_recent\_max\_files** quint8 dialog\_opensave\_recent\_max\_files [private]

13.79.3.68 **dialog\_opensave\_save\_format** `QString dialog_opensave_save_format [private]`

13.79.3.69 **dialog\_opensave\_save\_thumbnail** `bool dialog_opensave_save_thumbnail [private]`

13.79.3.70 **dialog\_opensave\_trim\_dst\_num\_jumps** `quint8 dialog_opensave_trim_dst_num_jumps [private]`

13.79.3.71 **dialog\_printing\_default\_device** `QString dialog_printing_default_device [private]`

13.79.3.72 **dialog\_printing\_disable\_bg** `bool dialog_printing_disable_bg [private]`

13.79.3.73 **dialog\_printing\_use\_last\_device** `bool dialog_printing_use_last_device [private]`

13.79.3.74 **dialog\_prompt\_bg\_color** `QRgb dialog_prompt_bg_color [private]`

13.79.3.75 **dialog\_prompt\_font\_family** `QString dialog_prompt_font_family [private]`

13.79.3.76 **dialog\_prompt\_font\_size** `quint8 dialog_prompt_font_size [private]`

13.79.3.77 **dialog\_prompt\_font\_style** `QString dialog_prompt_font_style [private]`

13.79.3.78 **dialog\_prompt\_save\_history** `bool dialog_prompt_save_history [private]`

**13.79.3.79 dialog\_prompt\_save\_history\_as\_html** bool dialog\_prompt\_save\_history\_as\_html [private]

**13.79.3.80 dialog\_prompt\_save\_history\_filename** QString dialog\_prompt\_save\_history\_filename [private]

**13.79.3.81 dialog\_prompt\_text\_color** QRgb dialog\_prompt\_text\_color [private]

**13.79.3.82 dialog\_qsnap\_aperture\_size** quint8 dialog\_qsnap\_aperture\_size [private]

**13.79.3.83 dialog\_qsnap\_apparent** bool dialog\_qsnap\_apparent [private]

**13.79.3.84 dialog\_qsnap\_center** bool dialog\_qsnap\_center [private]

**13.79.3.85 dialog\_qsnap\_enabled** bool dialog\_qsnap\_enabled [private]

**13.79.3.86 dialog\_qsnap\_endpoint** bool dialog\_qsnap\_endpoint [private]

**13.79.3.87 dialog\_qsnap\_extension** bool dialog\_qsnap\_extension [private]

**13.79.3.88 dialog\_qsnap\_insertion** bool dialog\_qsnap\_insertion [private]

**13.79.3.89 dialog\_qsnap\_intersection** bool dialog\_qsnap\_intersection [private]

13.79.3.90 **dialog\_qsnap\_locator\_color** QRgb dialog\_qsnap\_locator\_color [private]

13.79.3.91 **dialog\_qsnap\_locator\_size** quint8 dialog\_qsnap\_locator\_size [private]

13.79.3.92 **dialog\_qsnap\_midpoint** bool dialog\_qsnap\_midpoint [private]

13.79.3.93 **dialog\_qsnap\_nearest** bool dialog\_qsnap\_nearest [private]

13.79.3.94 **dialog\_qsnap\_node** bool dialog\_qsnap\_node [private]

13.79.3.95 **dialog\_qsnap\_parallel** bool dialog\_qsnap\_parallel [private]

13.79.3.96 **dialog\_qsnap\_perpendicular** bool dialog\_qsnap\_perpendicular [private]

13.79.3.97 **dialog\_qsnap\_quadrant** bool dialog\_qsnap\_quadrant [private]

13.79.3.98 **dialog\_qsnap\_tangent** bool dialog\_qsnap\_tangent [private]

13.79.3.99 **dialog\_ruler\_color** QRgb dialog\_ruler\_color [private]

13.79.3.100 **dialog\_ruler\_metric** bool dialog\_ruler\_metric [private]

13.79.3.101 **dialog\_ruler\_pixel\_size** quint8 dialog\_ruler\_pixel\_size [private]

13.79.3.102 **dialog\_ruler\_show\_on\_load** bool dialog\_ruler\_show\_on\_load [private]

13.79.3.103 **dialog\_selection\_coolgrip\_color** QRgb dialog\_selection\_coolgrip\_color [private]

13.79.3.104 **dialog\_selection\_grip\_size** quint8 dialog\_selection\_grip\_size [private]

13.79.3.105 **dialog\_selection\_hotgrip\_color** QRgb dialog\_selection\_hotgrip\_color [private]

13.79.3.106 **dialog\_selection\_mode\_pickadd** bool dialog\_selection\_mode\_pickadd [private]

13.79.3.107 **dialog\_selection\_mode\_pickdrag** bool dialog\_selection\_mode\_pickdrag [private]

13.79.3.108 **dialog\_selection\_mode\_pickfirst** bool dialog\_selection\_mode\_pickfirst [private]

13.79.3.109 **dialog\_selection\_pickbox\_size** quint8 dialog\_selection\_pickbox\_size [private]

13.79.3.110 **mainWin** MainWindow\* mainWin [private]

13.79.3.111 **preview\_display\_bg\_color** QRgb preview\_display\_bg\_color [private]

**13.79.3.112 preview\_display\_crosshair\_color** QRgb preview\_display\_crosshair\_color [private]

**13.79.3.113 preview\_display\_selectbox\_alpha** quint8 preview\_display\_selectbox\_alpha [private]

**13.79.3.114 preview\_display\_selectbox\_left\_color** QRgb preview\_display\_selectbox\_left\_color [private]

**13.79.3.115 preview\_display\_selectbox\_left\_fill** QRgb preview\_display\_selectbox\_left\_fill [private]

**13.79.3.116 preview\_display\_selectbox\_right\_color** QRgb preview\_display\_selectbox\_right\_color [private]

**13.79.3.117 preview\_display\_selectbox\_right\_fill** QRgb preview\_display\_selectbox\_right\_fill [private]

**13.79.3.118 preview\_display\_show\_scrollbars** bool preview\_display\_show\_scrollbars [private]

**13.79.3.119 preview\_general\_mdi\_bg\_color** QRgb preview\_general\_mdi\_bg\_color [private]

**13.79.3.120 preview\_general\_mdi\_bg\_use\_color** bool preview\_general\_mdi\_bg\_use\_color [private]

**13.79.3.121 preview\_general\_mdi\_bg\_use\_logo** bool preview\_general\_mdi\_bg\_use\_logo [private]

**13.79.3.122 preview\_general\_mdi\_bg\_use\_texture** bool preview\_general\_mdi\_bg\_use\_texture [private]

**13.79.3.123 preview\_grid\_color** QRgb preview\_grid\_color [private]

**13.79.3.124 preview\_lwt\_real\_render** bool preview\_lwt\_real\_render [private]

**13.79.3.125 preview\_lwt\_show\_lwt** bool preview\_lwt\_show\_lwt [private]

**13.79.3.126 preview\_prompt\_bg\_color** QRgb preview\_prompt\_bg\_color [private]

**13.79.3.127 preview\_prompt\_font\_family** QString preview\_prompt\_font\_family [private]

**13.79.3.128 preview\_prompt\_font\_size** quint8 preview\_prompt\_font\_size [private]

**13.79.3.129 preview\_prompt\_font\_style** QString preview\_prompt\_font\_style [private]

**13.79.3.130 preview\_prompt\_text\_color** QRgb preview\_prompt\_text\_color [private]

**13.79.3.131 preview\_ruler\_color** QRgb preview\_ruler\_color [private]

**13.79.3.132 tabWidget** QTabWidget\* tabWidget [private]

The documentation for this class was generated from the following files:

- embroidermodder2/[settings-dialog.h](#)
- embroidermodder2/[settings-dialog.cpp](#)

## 13.80 StatusBar Class Reference

```
#include <statusbar.h>
```

### Public Member Functions

- `StatusBar (MainWindow *mw, QWidget *parent=0)`
- `void setMouseCoord (qreal x, qreal y)`

### Public Attributes

- `StatusBarButton * statusBarSnapButton`
- `StatusBarButton * statusBarGridButton`
- `StatusBarButton * statusBarRulerButton`
- `StatusBarButton * statusBarOrthoButton`
- `StatusBarButton * statusBarPolarButton`
- `StatusBarButton * statusBarQSnapButton`
- `StatusBarButton * statusBarQTrackButton`
- `StatusBarButton * statusBarLwtButton`
- `QLabel * statusBarMouseCoord`

#### 13.80.1 Constructor & Destructor Documentation

```
13.80.1.1 StatusBar() StatusBar (  
    MainWindow * mw,  
    QWidget * parent = 0 )
```

#### 13.80.2 Member Function Documentation

```
13.80.2.1 setMouseCoord() void setMouseCoord (  
    qreal x,  
    qreal y )
```

#### 13.80.3 Member Data Documentation

```
13.80.3.1 statusBarGridButton StatusBarButton* statusBarGridButton
```

**13.80.3.2 statusBarLwtButton** `StatusBarButton*` `statusBarLwtButton`

**13.80.3.3 statusBarMouseCoord** `QLabel*` `statusBarMouseCoord`

**13.80.3.4 statusBarOrthoButton** `StatusBarButton*` `statusBarOrthoButton`

**13.80.3.5 statusBarPolarButton** `StatusBarButton*` `statusBarPolarButton`

**13.80.3.6 statusBarQSnapButton** `StatusBarButton*` `statusBarQSnapButton`

**13.80.3.7 statusBarQTrackButton** `StatusBarButton*` `statusBarQTrackButton`

**13.80.3.8 statusBarRulerButton** `StatusBarButton*` `statusBarRulerButton`

**13.80.3.9 statusBarSnapButton** `StatusBarButton*` `statusBarSnapButton`

The documentation for this class was generated from the following files:

- `embroidermodder2/statusbar.h`
- `embroidermodder2/statusbar.cpp`

## 13.81 StatusBarButton Class Reference

```
#include <statusbar-button.h>
```

### Public Slots

- `void enableLwt ()`
- `void disableLwt ()`
- `void enableReal ()`
- `void disableReal ()`

## Public Member Functions

- `StatusBarButton (QString buttonText, MainWindow *mw, StatusBar *statbar, QWidget *parent=0)`

## Protected Member Functions

- `void contextMenuEvent (QContextMenuEvent *event=0)`

## Private Slots

- `void settingsSnap ()`
- `void settingsGrid ()`
- `void settingsRuler ()`
- `void settingsOrtho ()`
- `void settingsPolar ()`
- `void settingsQSnap ()`
- `void settingsQTrack ()`
- `void settingsLwt ()`
- `void toggleSnap (bool on)`
- `void toggleGrid (bool on)`
- `void toggleRuler (bool on)`
- `void toggleOrtho (bool on)`
- `void togglePolar (bool on)`
- `void toggleQSnap (bool on)`
- `void toggleQTrack (bool on)`
- `void toggleLwt (bool on)`

## Private Attributes

- `MainWindow * mainWin`
- `StatusBar * statusbar`

### 13.81.1 Constructor & Destructor Documentation

#### 13.81.1.1 StatusBarButton() `StatusBarButton (`

```
    QString buttonText,
    MainWindow * mw,
    StatusBar * statbar,
    QWidget * parent = 0 )
```

### 13.81.2 Member Function Documentation

**13.81.2.1 contextMenuEvent()** void contextMenuEvent ( QContextMenuEvent \* event = 0 ) [protected]

**13.81.2.2 disableLwt** void disableLwt ( ) [slot]

**13.81.2.3 disableReal** void disableReal ( ) [slot]

**13.81.2.4 enableLwt** void enableLwt ( ) [slot]

**13.81.2.5 enableReal** void enableReal ( ) [slot]

**13.81.2.6 settingsGrid** void settingsGrid ( ) [private], [slot]

**13.81.2.7 settingsLwt** void settingsLwt ( ) [private], [slot]

**13.81.2.8 settingsOrtho** void settingsOrtho ( ) [private], [slot]

**13.81.2.9 settingsPolar** void settingsPolar ( ) [private], [slot]

**13.81.2.10 settingsQSnap** void settingsQSnap ( ) [private], [slot]

**13.81.2.11 settingsQTrack** void settingsQTrack ( ) [private], [slot]

**13.81.2.12 settingsRuler** void settingsRuler ( ) [private], [slot]

**13.81.2.13 settingsSnap** void settingsSnap ( ) [private], [slot]

**13.81.2.14 toggleGrid** void toggleGrid ( bool on ) [private], [slot]

**13.81.2.15 toggleLwt** void toggleLwt ( bool on ) [private], [slot]

**13.81.2.16 toggleOrtho** void toggleOrtho ( bool on ) [private], [slot]

**13.81.2.17 togglePolar** void togglePolar ( bool on ) [private], [slot]

**13.81.2.18 toggleQSnap** void toggleQSnap ( bool on ) [private], [slot]

**13.81.2.19 toggleQTrack** void toggleQTrack ( bool on ) [private], [slot]

**13.81.2.20 toggleRuler** void toggleRuler ( bool on ) [private], [slot]

**13.81.2.21 toggleSnap** void toggleSnap ( bool on ) [private], [slot]

### 13.81.3 Member Data Documentation

**13.81.3.1 mainWin** `MainWindow* mainWin [private]`

**13.81.3.2 statusbar** `StatusBar* statusbar [private]`

The documentation for this class was generated from the following files:

- `embroidermodder2/statusbar-button.h`
- `embroidermodder2/statusbar-button.cpp`

## 13.82 StxThread\_ Struct Reference

```
#include <embroidery_internal.h>
```

### Public Attributes

- `char * colorCode`
- `char * colorName`
- `char * sectionName`
- `SubDescriptor * subDescriptors`
- `EmbColor stxColor`

### 13.82.1 Member Data Documentation

**13.82.1.1 colorCode** `char* colorCode`

**13.82.1.2 colorName** `char* colorName`

**13.82.1.3 sectionName** `char* sectionName`

**13.82.1.4 stxColor** `EmbColor` stxColor**13.82.1.5 subDescriptors** `SubDescriptor*` subDescriptors

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery_internal.h`

## 13.83 SubDescriptor\_ Struct Reference

```
#include <embroidery_internal.h>
```

### Public Attributes

- `int someNum`
- `int someInt`
- `int someOtherInt`
- `char * colorCode`
- `char * colorName`

### 13.83.1 Member Data Documentation

**13.83.1.1 colorCode** `char*` colorCode

**Todo** better variable naming

**13.83.1.2 colorName** `char*` colorName**13.83.1.3 someInt** `int` someInt

**Todo** better variable naming

**13.83.1.4 someNum** int someNum

**13.83.1.5 someOtherInt** int someOtherInt

**Todo** better variable naming

The documentation for this struct was generated from the following file:

- extern/libembroidery/src/embroidery\_internal.h

## 13.84 SvgAttribute\_ Struct Reference

```
#include <embroidery_internal.h>
```

### Public Attributes

- char \* **name**
- char \* **value**

### 13.84.1 Member Data Documentation

**13.84.1.1 name** char\* name

**13.84.1.2 value** char\* value

The documentation for this struct was generated from the following file:

- extern/libembroidery/src/embroidery\_internal.h

## 13.85 TextSingleObject Class Reference

```
#include <object-textsingle.h>
```

### Public Types

- enum { **Type** = OBJ\_TYPE\_TEXTSINGLE }

**Public Types inherited from BaseObject**

- enum { `Type` = `OBJ_TYPE_BASE` }

**Public Member Functions**

- `TextSingleObject` (const `QString` &`str`, qreal `x`, qreal `y`, `QRgb` `rgb`, `QGraphicsItem` \*`parent`=0)
- `TextSingleObject` (`TextSingleObject` \*`obj`, `QGraphicsItem` \*`parent`=0)
- `~TextSingleObject` ()
- virtual int `type` () const
- `QList< QPainterPath >` `objectSavePathList` () const
- `QList< QPainterPath >` `subPathList` () const
- `QString` `objectText` () const
- `QString` `objectTextFont` () const
- `QString` `objectTextJustify` () const
- qreal `objectTextSize` () const
- bool `objectTextBold` () const
- bool `objectTextItalic` () const
- bool `objectTextUnderline` () const
- bool `objectTextStrikeOut` () const
- bool `objectTextOverline` () const
- bool `objectTextBackward` () const
- bool `objectTextUpsideDown` () const
- `QPointF` `objectPos` () const
- qreal `objectX` () const
- qreal `objectY` () const
- `QStringList` `objectTextJustifyList` () const
- void `setObjectText` (const `QString` &`str`)
- void `setObjectTextFont` (const `QString` &`font`)
- void `setObjectTextJustify` (const `QString` &`justify`)
- void `setObjectTextSize` (qreal `size`)
- void `setObjectTextStyle` (bool `bold`, bool `italic`, bool `under`, bool `strike`, bool `over`)
- void `setObjectTextBold` (bool `val`)
- void `setObjectTextItalic` (bool `val`)
- void `setObjectTextUnderline` (bool `val`)
- void `setObjectTextStrikeOut` (bool `val`)
- void `setObjectTextOverline` (bool `val`)
- void `setObjectTextBackward` (bool `val`)
- void `setObjectTextUpsideDown` (bool `val`)
- void `setObjectPos` (const `QPointF` &`point`)
- void `setObjectPos` (qreal `x`, qreal `y`)
- void `setObjectX` (qreal `x`)
- void `setObjectY` (qreal `y`)
- void `updateRubber` (`QPainter` \*`painter`=0)
- virtual void `vulcanize` ()
- virtual `QPointF` `mouseSnapPoint` (const `QPointF` &`mousePoint`)
- virtual `QList< QPointF >` `allGripPoints` ()
- virtual void `gripEdit` (const `QPointF` &`before`, const `QPointF` &`after`)

### Public Member Functions inherited from [BaseObject](#)

- [BaseObject](#) (QGraphicsItem \*parent=0)
- virtual [~BaseObject](#) ()
- virtual int [type](#) () const
- qint64 [objectID](#) () const
- QPen [objectPen](#) () const
- QColor [objectColor](#) () const
- QRgb [objectColorRGB](#) () const
- Qt::PenStyle [objectLineType](#) () const
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter \*painter=0, const char \*colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

### Protected Member Functions

- void [paint](#) (QPainter \*, const QStyleOptionGraphicsItem \*, QWidget \*)

### Protected Member Functions inherited from [BaseObject](#)

- QPen [lineWeightPen](#) () const
- qreal [pi](#) () const
- qreal [radians](#) (qreal degree) const
- qreal [degrees](#) (qreal radian) const
- void [realRender](#) (QPainter \*painter, const QPainterPath &renderPath)

### Private Member Functions

- void [init](#) (const QString &str, qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType)

**Private Attributes**

- `QString objText`
- `QString objTextFont`
- `QString objTextJustify`
- `qreal objTextSize`
- `bool objTextBold`
- `bool objTextItalic`
- `bool objTextUnderline`
- `bool objTextStrikeOut`
- `bool objTextOverline`
- `bool objTextBackward`
- `bool objTextUpsideDown`
- `QPainterPath objTextPath`

**13.85.1 Member Enumeration Documentation****13.85.1.1 anonymous enum** `anonymous enum`

Enumerator

Type	<input type="text"/>
------	----------------------

**13.85.2 Constructor & Destructor Documentation****13.85.2.1 `TextSingleObject()` [1/2]** `TextSingleObject (`

```
    const QString & str,
    qreal x,
    qreal y,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

**13.85.2.2 `TextSingleObject()` [2/2]** `TextSingleObject (`

```
    TextSingleObject * obj,
    QGraphicsItem * parent = 0 )
```

**13.85.2.3 `~TextSingleObject()`** `~TextSingleObject ( )`

### 13.85.3 Member Function Documentation

**13.85.3.1 allGripPoints()** QList< QPointF > allGripPoints ( ) [virtual]

Implements [BaseObject](#).

**13.85.3.2 gripEdit()** void gripEdit ( const QPointF & before, const QPointF & after ) [virtual]

Implements [BaseObject](#).

**13.85.3.3 init()** void init ( const QString & str, qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType ) [private]

**13.85.3.4 mouseSnapPoint()** QPointF mouseSnapPoint ( const QPointF & mousePoint ) [virtual]

Implements [BaseObject](#).

**13.85.3.5 objectPos()** QPointF objectPos ( ) const [inline]

**13.85.3.6 objectSavePathList()** QList< QPainterPath > objectSavePathList ( ) const [inline]

**13.85.3.7 objectText()** QString objectText ( ) const [inline]

**13.85.3.8 objectTextBackward()** bool objectTextBackward ( ) const [inline]

**13.85.3.9 `objectTextBold()`** `bool objectTextBold () const [inline]`

**13.85.3.10 `objectTextFont()`** `QString objectTextFont () const [inline]`

**13.85.3.11 `objectTextItalic()`** `bool objectTextItalic () const [inline]`

**13.85.3.12 `objectTextJustify()`** `QString objectTextJustify () const [inline]`

**13.85.3.13 `objectTextJustifyList()`** `QStringList objectTextJustifyList () const`

**13.85.3.14 `objectTextOverline()`** `bool objectTextOverline () const [inline]`

**13.85.3.15 `objectTextSize()`** `qreal objectTextSize () const [inline]`

**13.85.3.16 `objectTextStrikeOut()`** `bool objectTextStrikeOut () const [inline]`

**13.85.3.17 `objectTextUnderline()`** `bool objectTextUnderline () const [inline]`

**13.85.3.18 `objectTextUpsideDown()`** `bool objectTextUpsideDown () const [inline]`

**13.85.3.19 `objectX()`** `qreal objectX () const [inline]`

**13.85.3.20 `objectY()`** `qreal objectY () const [inline]`

**13.85.3.21 `paint()`** `void paint (`  
    `QPainter * painter,`  
    `const QStyleOptionGraphicsItem * option,`  
    `QWidget * ) [protected]`

**13.85.3.22 `setObjectPos()` [1/2]** `void setObjectPos (`  
    `const QPointF & point ) [inline]`

**13.85.3.23 `setObjectPos()` [2/2]** `void setObjectPos (`  
    `qreal x,`  
    `qreal y ) [inline]`

**13.85.3.24 `setObjectText()`** `void setObjectText (`  
    `const QString & str )`

**13.85.3.25 `setObjectTextBackward()`** `void setObjectTextBackward (`  
    `bool val )`

**13.85.3.26 `setObjectTextBold()`** `void setObjectTextBold (`  
    `bool val )`

**13.85.3.27 `setObjectTextFont()`** `void setObjectTextFont (`  
    `const QString & font )`

**13.85.3.28 `setObjectTextItalic()`** `void setObjectTextItalic (`  
    `bool val )`

**13.85.3.29 `setObjectTextJustify()`** void setObjectTextJustify ( const QString & *justify* )

**13.85.3.30 `setObjectTextOverline()`** void setObjectTextOverline ( bool *val* )

**13.85.3.31 `setObjectTextSize()`** void setObjectTextSize ( qreal *size* )

**13.85.3.32 `setObjectTextStrikeOut()`** void setObjectTextStrikeOut ( bool *val* )

**13.85.3.33 `setObjectTextStyle()`** void setObjectTextStyle ( bool *bold*, bool *italic*, bool *under*, bool *strike*, bool *over* )

**13.85.3.34 `setObjectTextUnderline()`** void setObjectTextUnderline ( bool *val* )

**13.85.3.35 `setObjectTextUpsideDown()`** void setObjectTextUpsideDown ( bool *val* )

**13.85.3.36 `setObjectX()`** void setObjectX ( qreal *x* ) [inline]

**13.85.3.37 `setObjectY()`** void setObjectY ( qreal *y* ) [inline]

**13.85.3.38 `subPathList()`** `QList< QPainterPath > subPathList () const`

**13.85.3.39 `type()`** `virtual int type () const [inline], [virtual]`

Reimplemented from [BaseObject](#).

**13.85.3.40 `updateRubber()`** `void updateRubber (`  
`QPainter * painter = 0 )`

**13.85.3.41 `vulcanize()`** `void vulcanize () [virtual]`

Implements [BaseObject](#).

#### 13.85.4 Member Data Documentation

**13.85.4.1 `objText`** `QString objText [private]`

**13.85.4.2 `objTextBackward`** `bool objTextBackward [private]`

**13.85.4.3 `objTextBold`** `bool objTextBold [private]`

**13.85.4.4 `objTextFont`** `QString objTextFont [private]`

**13.85.4.5 `objTextItalic`** `bool objTextItalic [private]`

**13.85.4.6 `objTextJustify`** `QString objTextJustify [private]`

**13.85.4.7 objTextOverline** bool objTextOverline [private]

**13.85.4.8 objTextPath** QPainterPath objTextPath [private]

**13.85.4.9 objTextSize** qreal objTextSize [private]

**13.85.4.10 objTextStrikeOut** bool objTextStrikeOut [private]

**13.85.4.11 objTextUnderline** bool objTextUnderline [private]

**13.85.4.12 objTextUpsideDown** bool objTextUpsideDown [private]

The documentation for this class was generated from the following files:

- embroiderymodder2/[object-textsingle.h](#)
- embroiderymodder2/[object-textsingle.cpp](#)

## 13.86 thread\_color\_ Struct Reference

```
#include <embroidery.h>
```

### Public Attributes

- char [name](#) [22]
- unsigned int [hex\\_code](#)
- int [manufacturer\\_code](#)

#### 13.86.1 Member Data Documentation

**13.86.1.1 hex\_code** unsigned int hex\_code

**13.86.1.2 manufacturer\_code** int manufacturer\_code

**13.86.1.3 name** char name[22]

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery.h`

## 13.87 ThredExtension\_ Struct Reference

```
#include <embroidery_internal.h>
```

### Public Attributes

- float `hoopX`
- float `hoopY`
- float `stitchGranularity`
- char `creatorName` [50]
- char `modifierName` [50]
- char `auxFormat`
- char `reserved` [31]

### 13.87.1 Member Data Documentation

**13.87.1.1 auxFormat** char auxFormat

**13.87.1.2 creatorName** char creatorName[50]

**13.87.1.3 hoopX** float hoopX

**13.87.1.4 hoopY** float hoopY

**13.87.1.5 modifierName** char modifierName[50]

**13.87.1.6 reserved** char reserved[31]

**13.87.1.7 stitchGranularity** float stitchGranularity

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery_internal.h`

## 13.88 ThredHeader\_ Struct Reference

```
#include <embroidery_internal.h>
```

### Public Attributes

- unsigned int `sigVersion`
- unsigned int `length`
- unsigned short `numStiches`
- unsigned short `hoopSize`
- unsigned short `reserved [7]`

### 13.88.1 Member Data Documentation

**13.88.1.1 hoopSize** unsigned short hoopSize

**13.88.1.2 length** unsigned int length

**13.88.1.3 numStiches** unsigned short numStiches

**13.88.1.4 reserved** unsigned short reserved[7]

### 13.88.1.5 **sigVersion** `unsigned int sigVersion`

The documentation for this struct was generated from the following file:

- `extern/libembroidery/src/embroidery_internal.h`

## 13.89 **UiObject\_ Struct Reference**

This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.

### Public Attributes

- `char fname [200]`
- `char command [200]`
- `bool firstRun`
- `EmbVector controlPoints [10]`
- `char controlPointLabels [10][200]`
- `int n_controlPoints`
- `int numPoints`
- `int minPoints`
- `int maxPoints`
- `EmbVector center`
- `EmbVector scale`
- `EmbReal rotation`
- `unsigned int mode`
- `char path_desc [1000]`
- `char text [200]`
- `int textJustify`
- `char textFont [200]`
- `float textHeight`
- `float textRotation`
- `GLuint texture_id`
- `char id [200]`
- `int pattern_index`
- `char type [200]`
- `int object_index`
- `bool selectable`
- `EmbColor color`

### 13.89.1 Detailed Description

This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.

scale is how radii are stored if the object is a circle, or the semi-major and semi-minor axes if the object is an ellipse.

center perhaps should be the "anchor" instead which is the center for some objects and top left for rectangular objects.

Do angles need special storage? angleRef, angleNew

This chapter details how the source code achieves the design detailed in the previous chapter. For the low-level details, read the later chapters.

Dear ImGui (CITATION NEEDED)

**13.89.1.1 Geometry Objects** At all times the EmbPattern has all of the information about the pattern however, editing information like the rubber text labels needs to be stored during runtime. Also editing ghosts like when a rotate command is half executed.

To deal with this we have a generic object that can act as any other object that updates the associated pattern struct as changes are made.

Note that the editor state is separate from this since that is per view, not per object.

Selecting is done via this interface.

## 13.89.2 Member Data Documentation

**13.89.2.1 center** `EmbVector` center

**13.89.2.2 color** `EmbColor` color

**13.89.2.3 command** `char` command[200]

**13.89.2.4 controlPointLabels** `char` controlPointLabels[10][200]

**13.89.2.5 controlPoints** `EmbVector` controlPoints[10]

**13.89.2.6 firstRun** `bool` firstRun

**13.89.2.7 fname** `char` fname[200]

**13.89.2.8 id** `char` id[200]

**13.89.2.9 maxPoints** int maxPoints

**13.89.2.10 minPoints** int minPoints

**13.89.2.11 mode** unsigned int mode

**13.89.2.12 n\_controlPoints** int n\_controlPoints

**13.89.2.13 numPoints** int numPoints

**13.89.2.14 object\_index** int object\_index

**13.89.2.15 path\_desc** char path\_desc[1000]

**13.89.2.16 pattern\_index** int pattern\_index

**13.89.2.17 rotation** EmbReal rotation

**13.89.2.18 scale** EmbVector scale

**13.89.2.19 selectable** bool selectable

**13.89.2.20** **text** char text[200]

**13.89.2.21** **textFont** char textFont[200]

**13.89.2.22** **textHeight** float textHeight

**13.89.2.23** **textJustify** int textJustify

**13.89.2.24** **textRotation** float textRotation

**13.89.2.25** **texture\_id** GLuint texture\_id

**13.89.2.26** **type** char type[200]

The documentation for this struct was generated from the following file:

- embroidermodder2/[imgui\\_main.c](#)

## 13.90 UndoableAddCommand Class Reference

```
#include <undo-commands.h>
```

### Public Member Functions

- [UndoableAddCommand](#) (const QString &text, [BaseObject](#) \*obj, [View](#) \*v, [QUndoCommand](#) \*parent=0)
- void [undo](#) ()
- void [redo](#) ()

### Private Attributes

- [BaseObject](#) \* [object](#)
- [View](#) \* [gview](#)

### 13.90.1 Constructor & Destructor Documentation

#### 13.90.1.1 UndoableAddCommand() [UndoableAddCommand](#) (

```
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

### 13.90.2 Member Function Documentation

#### 13.90.2.1 redo() [void redo](#) ( )

#### 13.90.2.2 undo() [void undo](#) ( )

### 13.90.3 Member Data Documentation

#### 13.90.3.1 gview [View\\*](#) gview [private]

#### 13.90.3.2 object [BaseObject\\*](#) object [private]

The documentation for this class was generated from the following files:

- embroidermodder2/[undo-commands.h](#)
- embroidermodder2/[undo-commands.cpp](#)

## 13.91 UndoableDeleteCommand Class Reference

```
#include <undo-commands.h>
```

### Public Member Functions

- [UndoableDeleteCommand](#) (const QString &text, [BaseObject](#) \*obj, [View](#) \*v, [QUndoCommand](#) \*parent=0)
- void [undo](#) ()
- void [redo](#) ()

**Private Attributes**

- `BaseObject * object`
- `View * gview`

**13.91.1 Constructor & Destructor Documentation****13.91.1.1 UndoableDeleteCommand()** `UndoableDeleteCommand (`

```
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

**13.91.2 Member Function Documentation****13.91.2.1 redo()** `void redo ( )`**13.91.2.2 undo()** `void undo ( )`**13.91.3 Member Data Documentation****13.91.3.1 gview** `View* gview [private]`**13.91.3.2 object** `BaseObject* object [private]`

The documentation for this class was generated from the following files:

- `embroidermodder2/undo-commands.h`
- `embroidermodder2/undo-commands.cpp`

**13.92 UndoableGripEditCommand Class Reference**

```
#include <undo-commands.h>
```

## Public Member Functions

- `UndoableGripEditCommand` (const QPointF beforePoint, const QPointF afterPoint, const QString &text, `BaseObject` \*obj, `View` \*v, `QUndoCommand` \*parent=0)
- void `undo` ()
- void `redo` ()

## Private Attributes

- `BaseObject` \* `object`
- `View` \* `gview`
- `QPointF` `before`
- `QPointF` `after`

### 13.92.1 Constructor & Destructor Documentation

```
13.92.1.1 UndoableGripEditCommand() UndoableGripEditCommand (
```

```
    const QPointF beforePoint,  
    const QPointF afterPoint,  
    const QString & text,  
    BaseObject * obj,  
    View * v,  
    QUndoCommand * parent = 0 )
```

### 13.92.2 Member Function Documentation

```
13.92.2.1 redo() void redo ( )
```

```
13.92.2.2 undo() void undo ( )
```

### 13.92.3 Member Data Documentation

```
13.92.3.1 after QPointF after [private]
```

**13.92.3.2 before** QPointF before [private]

**13.92.3.3 gview** View\* gview [private]

**13.92.3.4 object** BaseObject\* object [private]

The documentation for this class was generated from the following files:

- embroidermodder2/undo-commands.h
- embroidermodder2/undo-commands.cpp

## 13.93 UndoableMirrorCommand Class Reference

```
#include <undo-commands.h>
```

### Public Member Functions

- [UndoableMirrorCommand](#) (qreal x1, qreal y1, qreal x2, qreal y2, const QString &text, [BaseObject](#) \*obj, [View](#) \*v, [QUndoCommand](#) \*parent=0)
- void [undo](#) ()
- void [redo](#) ()

### Private Member Functions

- void [mirror](#) ()

### Private Attributes

- [BaseObject](#) \* [object](#)
- [View](#) \* [gview](#)
- [QLineF](#) [mirrorLine](#)

### 13.93.1 Constructor & Destructor Documentation

**13.93.1.1 UndoableMirrorCommand()** [UndoableMirrorCommand](#) (

```
    qreal x1,
    qreal y1,
    qreal x2,
    qreal y2,
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

### 13.93.2 Member Function Documentation

**13.93.2.1 mirror()** void mirror ( ) [private]

**13.93.2.2 redo()** void redo ( )

**13.93.2.3 undo()** void undo ( )

### 13.93.3 Member Data Documentation

**13.93.3.1 gview** [View\\*](#) gview [private]

**13.93.3.2 mirrorLine** [QLineF](#) mirrorLine [private]

**13.93.3.3 object** [BaseObject\\*](#) object [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/undo-commands.h](#)
- [embroidermodder2/undo-commands.cpp](#)

## 13.94 UndoableMoveCommand Class Reference

```
#include <undo-commands.h>
```

### Public Member Functions

- [UndoableMoveCommand](#) (qreal deltaX, qreal deltaY, const QString &text, [BaseObject](#) \*obj, [View](#) \*v, [QUndoCommand](#) \*parent=0)
- void [undo](#) ()
- void [redo](#) ()

**Private Attributes**

- `BaseObject * object`
- `View * gview`
- qreal `dx`
- qreal `dy`

**13.94.1 Constructor & Destructor Documentation**

**13.94.1.1 UndoableMoveCommand()** `UndoableMoveCommand (`  
    `qreal deltaX,`  
    `qreal deltaY,`  
    `const QString & text,`  
    `BaseObject * obj,`  
    `View * v,`  
    `QUndoCommand * parent = 0 )`

**13.94.2 Member Function Documentation**

**13.94.2.1 redo()** `void redo ( )`

**13.94.2.2 undo()** `void undo ( )`

**13.94.3 Member Data Documentation**

**13.94.3.1 dx** `qreal dx [private]`

**13.94.3.2 dy** `qreal dy [private]`

**13.94.3.3 gview** `View* gview [private]`

**13.94.3.4 object** `BaseObject*` `object` [private]

The documentation for this class was generated from the following files:

- `embroidermodder2/undo-commands.h`
- `embroidermodder2/undo-commands.cpp`

## 13.95 UndoableNavCommand Class Reference

```
#include <undo-commands.h>
```

### Public Member Functions

- `UndoableNavCommand` (const `QString` &`type`, `View` \*`v`, `QUndoCommand` \*`parent`=0)
- int `id` () const
- bool `mergeWith` (const `QUndoCommand` \*`command`)
- void `undo` ()
- void `redo` ()

### Private Attributes

- `QString navType`
- `QTransform fromTransform`
- `QTransform toTransform`
- `QPointF fromCenter`
- `QPointF toCenter`
- bool `done`
- `View` \* `gview`

### 13.95.1 Constructor & Destructor Documentation

**13.95.1.1 UndoableNavCommand()** `UndoableNavCommand` (  
    `const QString & type,`  
    `View * v,`  
    `QUndoCommand * parent = 0 )`

### 13.95.2 Member Function Documentation

**13.95.2.1 id()** `int id ( ) const [inline]`

**13.95.2.2 mergeWith()** bool mergeWith ( const QUndoCommand \* *command* )

**13.95.2.3 redo()** void redo ( )

**13.95.2.4 undo()** void undo ( )

### 13.95.3 Member Data Documentation

**13.95.3.1 done** bool *done* [private]

**13.95.3.2 fromCenter** QPointF *fromCenter* [private]

**13.95.3.3 fromTransform** QTransform *fromTransform* [private]

**13.95.3.4 gview** View\* *gview* [private]

**13.95.3.5 navType** QString *navType* [private]

**13.95.3.6 toCenter** QPointF *toCenter* [private]

**13.95.3.7 toTransform** QTransform *toTransform* [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/undo-commands.h](#)
- [embroidermodder2/undo-commands.cpp](#)

## 13.96 UndoableRotateCommand Class Reference

```
#include <undo-commands.h>
```

### Public Member Functions

- `UndoableRotateCommand` (qreal pivotPointX, qreal pivotPointY, qreal rotAngle, const QString &text, `BaseObject` \*obj, `View` \*v, `QUndoCommand` \*parent=0)
- void `undo` ()
- void `redo` ()

### Private Member Functions

- void `rotate` (qreal x, qreal y, qreal rot)
- qreal `pi` ()
- qreal `radians` (qreal `degrees`)

### Private Attributes

- `BaseObject` \* `object`
- `View` \* `gview`
- qreal `pivotX`
- qreal `pivotY`
- qreal `angle`

#### 13.96.1 Constructor & Destructor Documentation

##### 13.96.1.1 `UndoableRotateCommand()` `UndoableRotateCommand` (

```
    qreal pivotPointX,  
    qreal pivotPointY,  
    qreal rotAngle,  
    const QString & text,  
    BaseObject * obj,  
    View * v,  
    QUndoCommand * parent = 0 )
```

#### 13.96.2 Member Function Documentation

##### 13.96.2.1 `pi()` qreal `pi` ( ) [inline], [private]

**13.96.2.2 radians()** `qreal radians ( qreal degrees ) [inline], [private]`

**13.96.2.3 redo()** `void redo ( )`

**13.96.2.4 rotate()** `void rotate ( qreal x, qreal y, qreal rot ) [private]`

**13.96.2.5 undo()** `void undo ( )`

### 13.96.3 Member Data Documentation

**13.96.3.1 angle** `qreal angle [private]`

**13.96.3.2 gview** `View* gview [private]`

**13.96.3.3 object** `BaseObject* object [private]`

**13.96.3.4 pivotX** `qreal pivotX [private]`

**13.96.3.5 pivotY** `qreal pivotY [private]`

The documentation for this class was generated from the following files:

- [embroidermodder2/undo-commands.h](#)
- [embroidermodder2/undo-commands.cpp](#)

## 13.97 UndoableScaleCommand Class Reference

```
#include <undo-commands.h>
```

### Public Member Functions

- `UndoableScaleCommand` (qreal x, qreal y, qreal scaleFactor, const QString &text, `BaseObject` \*obj, `View` \*v, `QUndoCommand` \*parent=0)
- void `undo` ()
- void `redo` ()

### Private Attributes

- `BaseObject` \* `object`
- `View` \* `gview`
- qreal `dx`
- qreal `dy`
- qreal `factor`

#### 13.97.1 Constructor & Destructor Documentation

##### 13.97.1.1 `UndoableScaleCommand()` `UndoableScaleCommand` (

```
    qreal x,
    qreal y,
    qreal scaleFactor,
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

#### 13.97.2 Member Function Documentation

##### 13.97.2.1 `redo()` void `redo` ( )

##### 13.97.2.2 `undo()` void `undo` ( )

#### 13.97.3 Member Data Documentation

**13.97.3.1 dx** qreal dx [private]

**13.97.3.2 dy** qreal dy [private]

**13.97.3.3 factor** qreal factor [private]

**13.97.3.4 gview** View\* gview [private]

**13.97.3.5 object** BaseObject\* object [private]

The documentation for this class was generated from the following files:

- embroidermodder2/undo-commands.h
- embroidermodder2/undo-commands.cpp

## 13.98 UndoEditor Class Reference

```
#include <undo-editor.h>
```

### Public Slots

- void [undo](#) ()
- void [redo](#) ()
- void [updateCleanIcon](#) (bool opened)

### Public Member Functions

- [UndoEditor](#) (const QString &iconDirectory=QString(), QWidget \*widgetToFocus=0, QWidget \*parent=0)
- [~UndoEditor](#) ()
- void [addStack](#) (QUndoStack \*stack)
- bool [canUndo](#) () const
- bool [canRedo](#) () const
- QString [undoText](#) () const
- QString [redoText](#) () const

**Private Attributes**

- QWidget \* `focusWidget`
- QString `iconDir`
- int `iconSize`
- QUndoGroup \* `undoGroup`
- QUndoView \* `undoView`

**13.98.1 Constructor & Destructor Documentation****13.98.1.1 UndoEditor() `UndoEditor` (**

```
    const QString & iconDirectory = QString(),
    QWidget * widgetToFocus = 0,
    QWidget * parent = 0 )
```

**13.98.1.2 ~UndoEditor() `~UndoEditor` ( )****13.98.2 Member Function Documentation****13.98.2.1 addStack() void addStack (**

```
    QUndoStack * stack )
```

**13.98.2.2 canRedo() bool canRedo ( ) const****13.98.2.3 canUndo() bool canUndo ( ) const****13.98.2.4 redo void redo ( ) [slot]****13.98.2.5 redoText() QString redoText ( ) const**

**13.98.2.6 undo** void undo ( ) [slot]

**13.98.2.7 undoText()** QString undoText ( ) const

**13.98.2.8 updateCleanIcon** void updateCleanIcon ( bool opened ) [slot]

### 13.98.3 Member Data Documentation

**13.98.3.1 focusWidget** QWidget\* focusWidget [private]

**13.98.3.2 iconDir** QString iconDir [private]

**13.98.3.3 iconSize** int iconSize [private]

**13.98.3.4 undoGroup** QUndoGroup\* undoGroup [private]

**13.98.3.5 undoView** QUndoView\* undoView [private]

The documentation for this class was generated from the following files:

- [embroidermodder2/undo-editor.h](#)
- [embroidermodder2/undo-editor.cpp](#)

## 13.99 UndoHistory\_ Struct Reference

### Public Attributes

- char [data](#) [100][200]
- int [length](#)
- int [position](#)
- int [max\\_length](#)

### 13.99.1 Detailed Description

**Todo** document this.

### 13.99.2 Member Data Documentation

**13.99.2.1 data** char data[100] [200]

**13.99.2.2 length** int length

**13.99.2.3 max\_length** int max\_length

**13.99.2.4 position** int position

The documentation for this struct was generated from the following file:

- [embroidermodder2/imgui\\_main.c](#)

## 13.100 View Class Reference

```
#include <view.h>
```

### Public Slots

- void [zoomIn](#) ()
- void [zoomOut](#) ()
- void [zoomWindow](#) ()
- void [zoomSelected](#) ()
- void [zoomExtents](#) ()
- void [panRealTime](#) ()
- void [panPoint](#) ()
- void [panLeft](#) ()
- void [panRight](#) ()
- void [panUp](#) ()
- void [panDown](#) ()
- void [selectAll](#) ()
- void [selectionChanged](#) ()
- void [clearSelection](#) ()
- void [deleteSelected](#) ()

- void **moveSelected** (qreal dx, qreal dy)
- void **cut** ()
- void **copy** ()
- void **paste** ()
- void **repeatAction** ()
- void **moveAction** ()
- void **scaleAction** ()
- void **scaleSelected** (qreal x, qreal y, qreal factor)
- void **rotateAction** ()
- void **rotateSelected** (qreal x, qreal y, qreal rot)
- void **mirrorSelected** (qreal x1, qreal y1, qreal x2, qreal y2)
- int **numSelected** ()
- void **deletePressed** ()
- void **escapePressed** ()
- void **cornerButtonClicked** ()
- void **showScrollBars** (bool val)
- void **setCornerButton** ()
- void **setCrossHairColor** (QRgb color)
- void **setCrossHairSize** (quint8 percent)
- void **setBackgroundColor** (QRgb color)
- void **setSelectBoxColors** (QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha)
- void **toggleSnap** (bool on)
- void **toggleGrid** (bool on)
- void **toggleRuler** (bool on)
- void **toggleOrtho** (bool on)
- void **togglePolar** (bool on)
- void **toggleQSnap** (bool on)
- void **toggleQTrack** (bool on)
- void **toggleLwt** (bool on)
- void **toggleReal** (bool on)
- bool **isLwtEnabled** ()
- bool **isRealEnabled** ()
- void **setGridColor** (QRgb color)
- void **createGrid** (const QString &gridType)
- void **setRulerColor** (QRgb color)
- void **previewOn** (int clone, int mode, qreal x, qreal y, qreal data)
- void **previewOff** ()
- void **enableMoveRapidFire** ()
- void **disableMoveRapidFire** ()
- bool **allowRubber** ()
- void **addToRubberRoom** (QGraphicsItem \*item)
- void **vulcanizeRubberRoom** ()
- void **clearRubberRoom** ()
- void **spareRubber** (qint64 id)
- void **setRubberMode** (int mode)
- void **setRubberPoint** (const QString &key, const QPointF &point)
- void **setRubberText** (const QString &key, const QString &txt)

## Public Member Functions

- `View (MainWindow *mw, QGraphicsScene *theScene, QWidget *parent)`
- `~View ()`
- `bool allowZoomIn ()`
- `bool allowZoomOut ()`
- `void recalculateLimits ()`
- `void zoomToPoint (const QPoint &mousePoint, int zoomDir)`
- `void centerAt (const QPointF &centerPoint)`
- `QPointF center ()`
- `QUndoStack * getUndoStack ()`
- `void addObject (BaseObject *obj)`
- `void deleteObject (BaseObject *obj)`
- `void vulcanizeObject (BaseObject *obj)`

## Protected Member Functions

- `void mouseDoubleClickEvent (QMouseEvent *event)`
- `void mousePressEvent (QMouseEvent *event)`
- `void mouseMoveEvent (QMouseEvent *event)`
- `void mouseReleaseEvent (QMouseEvent *event)`
- `void wheelEvent (QWheelEvent *event)`
- `void contextMenuEvent (QContextMenuEvent *event)`
- `void drawBackground (QPainter *painter, const QRectF &rect)`
- `void drawForeground (QPainter *painter, const QRectF &rect)`
- `void enterEvent (QEvent *event)`

## Private Member Functions

- `void createGridRect ()`
- `void createGridPolar ()`
- `void createGridIso ()`
- `void createOrigin ()`
- `void loadRulerSettings ()`
- `bool willUnderflowInt32 (qint64 a, qint64 b)`
- `bool willOverflowInt32 (qint64 a, qint64 b)`
- `int roundToMultiple (bool roundUp, int numToRound, int multiple)`
- `QPainterPath createRulerTextPath (float x, float y, QString str, float height)`
- `QList< QGraphicsItem * > createObjectList (QList< QGraphicsItem * > list)`
- `void copySelected ()`
- `void startGripping (BaseObject *obj)`
- `void stopGripping (bool accept=false)`
- `void updateMouseCoords (int x, int y)`
- `void panStart (const QPoint &point)`
- `void alignScenePointWithViewPoint (const QPointF &scenePoint, const QPoint &viewPoint)`
- `qreal pi ()`
- `qreal radians (qreal degrees)`

### Private Attributes

- QHash< qint64, QGraphicsItem \* > `hashDeletedObjects`
- QList< qint64 > `spareRubberList`
- QColor `gridColor`
- QPainterPath `gridPath`
- QPainterPath `originPath`
- bool `rulerMetric`
- QColor `rulerColor`
- quint8 `rulerPixelSize`
- QList< QGraphicsItem \* > `previewObjectList`
- QGraphicsItemGroup \* `previewObjectItemGroup`
- QPointF `previewPoint`
- qreal `previewData`
- int `previewMode`
- QPointF `cutCopyMousePoint`
- QGraphicsItemGroup \* `pasteObjectItemGroup`
- QPointF `pasteDelta`
- QList< QGraphicsItem \* > `rubberRoomList`
- bool `grippingActive`
- bool `rapidMoveActive`
- bool `previewActive`
- bool `pastingActive`
- bool `movingActive`
- bool `selectingActive`
- bool `zoomWindowActive`
- bool `panningRealTimeActive`
- bool `panningPointActive`
- bool `panningActive`
- bool `qSnapActive`
- bool `qSnapToggle`
- BaseObject \* `gripBaseObj`
- BaseObject \* `tempBaseObj`
- MainWindow \* `mainWin`
- QGraphicsScene \* `gscene`
- QUndoStack \* `undoStack`
- SelectBox \* `selectBox`
- QPointF `scenePressPoint`
- QPoint `pressPoint`
- QPointF `sceneMovePoint`
- QPoint `movePoint`
- QPointF `sceneReleasePoint`
- QPoint `releasePoint`
- QPointF `sceneGripPoint`
- QPoint `viewMousePoint`
- QPointF `sceneMousePoint`
- QRgb `qsnapLocatorColor`
- quint8 `qsnapLocatorSize`
- quint8 `qsnapApertureSize`
- QRgb `gripColorCool`
- QRgb `gripColorHot`
- quint8 `gripSize`
- quint8 `pickBoxSize`
- QRgb `crosshairColor`
- quint32 `crosshairSize`
- int `panDistance`
- int `panStartX`
- int `panStartY`

### 13.100.1 Constructor & Destructor Documentation

**13.100.1.1 View()** `View (`  
    `MainWindow * mw,`  
    `QGraphicsScene * theScene,`  
    `QWidget * parent )`

**13.100.1.2 ~View()** `~View ( )`

### 13.100.2 Member Function Documentation

**13.100.2.1 addObject()** `void addObject (`  
    `BaseObject * obj )`

**13.100.2.2 addToRubberRoom** `void addToRubberRoom (`  
    `QGraphicsItem * item ) [slot]`

**13.100.2.3 alignScenePointWithViewPoint()** `void alignScenePointWithViewPoint (`  
    `const QPointF & scenePoint,`  
    `const QPoint & viewPoint ) [private]`

**13.100.2.4 allowRubber** `bool allowRubber ( ) [slot]`

**13.100.2.5 allowZoomIn()** `bool allowZoomIn ( )`

**13.100.2.6 allowZoomOut()** `bool allowZoomOut ( )`

**13.100.2.7 center()** QPointF center () [inline]

**13.100.2.8 centerAt()** void centerAt (  
const QPointF & centerPoint )

**13.100.2.9 clearRubberRoom** void clearRubberRoom () [slot]

**13.100.2.10 clearSelection** void clearSelection () [slot]

**13.100.2.11 contextMenuEvent()** void contextMenuEvent (  
QContextMenuEvent \* event ) [protected]

**13.100.2.12 copy** void copy () [slot]

**13.100.2.13 copySelected()** void copySelected () [private]

**13.100.2.14 cornerButtonClicked** void cornerButtonClicked () [slot]

**13.100.2.15 createGrid** void createGrid (  
const QString & gridType ) [slot]

**13.100.2.16 createGridIso()** void createGridIso () [private]

**13.100.2.17 createGridPolar()** void createGridPolar () [private]

**13.100.2.18 `createGridRect()`** void createGridRect ( ) [private]

**13.100.2.19 `createObjectList()`** QList< QGraphicssItem \* > createObjectList ( QList< QGraphicssItem \* > list ) [private]

**13.100.2.20 `createOrigin()`** void createOrigin ( ) [private]

**13.100.2.21 `createRulerTextPath()`** QPainterPath createRulerTextPath ( float x, float y, QString str, float height ) [private]

**13.100.2.22 `cut`** void cut ( ) [slot]

**13.100.2.23 `deleteObject()`** void deleteObject ( BaseObject \* obj )

**13.100.2.24 `deletePressed`** void deletePressed ( ) [slot]

**13.100.2.25 `deleteSelected`** void deleteSelected ( ) [slot]

**13.100.2.26 `disableMoveRapidFire`** void disableMoveRapidFire ( ) [slot]

**13.100.2.27 `drawBackground()`** void drawBackground ( QPainter \* painter, const QRectF & rect ) [protected]

**13.100.2.28 drawForeground()** void drawForeground (   
   QPainter \* painter,  
   const QRectF & rect ) [protected]

**13.100.2.29 enableMoveRapidFire** void enableMoveRapidFire ( ) [slot]

**13.100.2.30 enterEvent()** void enterEvent (   
   QEvent \* event ) [protected]

**13.100.2.31 escapePressed** void escapePressed ( ) [slot]

**13.100.2.32 getUndoStack()** QUndoStack \* getUndoStack ( ) [inline]

**13.100.2.33 isLwtEnabled** bool isLwtEnabled ( ) [slot]

**13.100.2.34 isRealEnabled** bool isRealEnabled ( ) [slot]

**13.100.2.35 loadRulerSettings()** void loadRulerSettings ( ) [private]

**13.100.2.36 mirrorSelected** void mirrorSelected (   
   qreal x1,  
   qreal y1,  
   qreal x2,  
   qreal y2 ) [slot]

**13.100.2.37 mouseDoubleClickEvent()** void mouseDoubleClickEvent (   
   QMouseEvent \* event ) [protected]

**13.100.2.38 mouseMoveEvent()** void mouseMoveEvent ( QMouseEvent \* event ) [protected]

**13.100.2.39 mousePressEvent()** void mousePressEvent ( QMouseEvent \* event ) [protected]

**13.100.2.40 mouseReleaseEvent()** void mouseReleaseEvent ( QMouseEvent \* event ) [protected]

**13.100.2.41 moveAction** void moveAction ( ) [slot]

**13.100.2.42 moveSelected** void moveSelected ( qreal dx, qreal dy ) [slot]

**13.100.2.43 numSelected** int numSelected ( ) [slot]

**13.100.2.44 panDown** void panDown ( ) [slot]

**13.100.2.45 panLeft** void panLeft ( ) [slot]

**13.100.2.46 panPoint** void panPoint ( ) [slot]

**13.100.2.47 panRealTime** void panRealTime ( ) [slot]

**13.100.2.48 panRight** void panRight ( ) [slot]

**13.100.2.49 panStart()** void panStart (const QPoint & *point* ) [private]

**13.100.2.50 panUp** void panUp ( ) [slot]

**13.100.2.51 paste** void paste ( ) [slot]

**13.100.2.52 pi()** qreal pi ( ) [inline], [private]

**13.100.2.53 previewOff** void previewOff ( ) [slot]

**13.100.2.54 previewOn** void previewOn (int *clone*, int *mode*, qreal *x*, qreal *y*, qreal *data* ) [slot]

**13.100.2.55 radians()** qreal radians (qreal *degrees* ) [inline], [private]

**13.100.2.56 recalculateLimits()** void recalculateLimits ( )

**13.100.2.57 repeatAction** void repeatAction ( ) [slot]

**13.100.2.58 rotateAction** void rotateAction ( ) [slot]

**13.100.2.59 rotateSelected** void rotateSelected ( qreal x, qreal y, qreal rot ) [slot]

**13.100.2.60 roundToMultiple()** int roundToMultiple ( bool roundUp, int numToRound, int multiple ) [private]

**13.100.2.61 scaleAction** void scaleAction ( ) [slot]

**13.100.2.62 scaleSelected** void scaleSelected ( qreal x, qreal y, qreal factor ) [slot]

**13.100.2.63 selectAll** void selectAll ( ) [slot]

**13.100.2.64 selectionChanged** void selectionChanged ( ) [slot]

**13.100.2.65 setBackgroundColor** void setBackgroundColor ( QRgb color ) [slot]

**13.100.2.66 setCornerButton** void setCornerButton ( ) [slot]

---

**13.100.2.67 setCrossHairColor** void setCrossHairColor ( QRgb *color* ) [slot]

**13.100.2.68 setCrossHairSize** void setCrossHairSize ( quint8 *percent* ) [slot]

**13.100.2.69 setGridColor** void setGridColor ( QRgb *color* ) [slot]

**13.100.2.70 setRubberMode** void setRubberMode ( int *mode* ) [slot]

**13.100.2.71 setRubberPoint** void setRubberPoint ( const QString & *key*, const QPointF & *point* ) [slot]

**13.100.2.72 setRubberText** void setRubberText ( const QString & *key*, const QString & *txt* ) [slot]

**13.100.2.73 setRulerColor** void setRulerColor ( QRgb *color* ) [slot]

**13.100.2.74 setSelectBoxColors** void setSelectBoxColors ( QRgb *colorL*, QRgb *fillL*, QRgb *colorR*, QRgb *fillR*, int *alpha* ) [slot]

**13.100.2.75 showScrollBars** void showScrollBars ( bool *val* ) [slot]

**13.100.2.76 `spareRubber`** void spareRubber ( qint64 id ) [slot]

**13.100.2.77 `startGripping()`** void startGripping ( BaseObject \* obj ) [private]

**13.100.2.78 `stopGripping()`** void stopGripping ( bool accept = false ) [private]

**13.100.2.79 `toggleGrid`** void toggleGrid ( bool on ) [slot]

**13.100.2.80 `toggleLwt`** void toggleLwt ( bool on ) [slot]

**13.100.2.81 `toggleOrtho`** void toggleOrtho ( bool on ) [slot]

**13.100.2.82 `togglePolar`** void togglePolar ( bool on ) [slot]

**13.100.2.83 `toggleQSnap`** void toggleQSnap ( bool on ) [slot]

**13.100.2.84 `toggleQTrack`** void toggleQTrack ( bool on ) [slot]

**13.100.2.85 `toggleReal`** void toggleReal ( bool on ) [slot]

**13.100.2.86 toggleRuler** void toggleRuler (  
    bool on ) [slot]

**13.100.2.87 toggleSnap** void toggleSnap (  
    bool on ) [slot]

**13.100.2.88 updateMouseCoords()** void updateMouseCoords (  
    int x,  
    int y ) [private]

**13.100.2.89 vulcanizeObject()** void vulcanizeObject (  
    BaseObject \* obj )

**13.100.2.90 vulcanizeRubberRoom** void vulcanizeRubberRoom ( ) [slot]

**13.100.2.91 wheelEvent()** void wheelEvent (  
    QWheelEvent \* event ) [protected]

**13.100.2.92 willOverflowInt32()** bool willOverflowInt32 (  
    qint64 a,  
    qint64 b ) [private]

**13.100.2.93 willUnderflowInt32()** bool willUnderflowInt32 (  
    qint64 a,  
    qint64 b ) [private]

**13.100.2.94 zoomExtents** void zoomExtents ( ) [slot]

**13.100.2.95 zoomIn** void zoomIn ( ) [slot]

**13.100.2.96 zoomOut** void zoomOut ( ) [slot]

**13.100.2.97 zoomSelected** void zoomSelected ( ) [slot]

**13.100.2.98 zoomToPoint()** void zoomToPoint (   
     const QPoint & *mousePoint*,  
     int *zoomDir* )

**13.100.2.99 zoomWindow** void zoomWindow ( ) [slot]

### 13.100.3 Member Data Documentation

**13.100.3.1 crosshairColor** QRgb crosshairColor [private]

**13.100.3.2 crosshairSize** quint32 crosshairSize [private]

**13.100.3.3 cutCopyMousePoint** QPointF cutCopyMousePoint [private]

**13.100.3.4 gridColor** QColor gridColor [private]

**13.100.3.5 gridPath** QPainterPath gridPath [private]

**13.100.3.6 gripBaseObj** `BaseObject*` `gripBaseObj` [private]

**13.100.3.7 gripColorCool** `QRgb` `gripColorCool` [private]

**13.100.3.8 gripColorHot** `QRgb` `gripColorHot` [private]

**13.100.3.9 grippingActive** `bool` `grippingActive` [private]

**13.100.3.10 gripSize** `quint8` `gripSize` [private]

**13.100.3.11 gscene** `QGraphicsScene*` `gscene` [private]

**13.100.3.12 hashDeletedObjects** `QHash<qint64, QGraphicsItem*>` `hashDeletedObjects` [private]

**13.100.3.13 mainWin** `MainWindow*` `mainWin` [private]

**13.100.3.14 movePoint** `QPoint` `movePoint` [private]

**13.100.3.15 movingActive** `bool` `movingActive` [private]

**13.100.3.16 originPath** `QPainterPath` `originPath` [private]

**13.100.3.17 panDistance** int panDistance [private]

**13.100.3.18 panningActive** bool panningActive [private]

**13.100.3.19 panningPointActive** bool panningPointActive [private]

**13.100.3.20 panningRealTimeActive** bool panningRealTimeActive [private]

**13.100.3.21 panStartX** int panStartX [private]

**13.100.3.22 panStartY** int panStartY [private]

**13.100.3.23 pasteDelta** QPointF pasteDelta [private]

**13.100.3.24 pasteObjectItemGroup** QGraphicsItemGroup\* pasteObjectItemGroup [private]

**13.100.3.25 pastingActive** bool pastingActive [private]

**13.100.3.26 pickBoxSize** quint8 pickBoxSize [private]

**13.100.3.27 pressPoint** QPoint pressPoint [private]

**13.100.3.28 previewActive** bool previewActive [private]

**13.100.3.29 previewData** qreal previewData [private]

**13.100.3.30 previewMode** int previewMode [private]

**13.100.3.31 previewObjectItemGroup** QGraphicsItemGroup\* previewObjectItemGroup [private]

**13.100.3.32 previewObjectList** QList<QGraphicsItem\*> previewObjectList [private]

**13.100.3.33 previewPoint** QPointF previewPoint [private]

**13.100.3.34 qSnapActive** bool qSnapActive [private]

**13.100.3.35 qsnapApertureSize** quint8 qsnapApertureSize [private]

**13.100.3.36 qsnapLocatorColor** QRgb qsnapLocatorColor [private]

**13.100.3.37 qsnapLocatorSize** quint8 qsnapLocatorSize [private]

**13.100.3.38 qSnapToggle** bool qSnapToggle [private]

**13.100.3.39** **rapidMoveActive** bool rapidMoveActive [private]

**13.100.3.40** **releasePoint** QPoint releasePoint [private]

**13.100.3.41** **rubberRoomList** QList<QGraphicsItem\*> rubberRoomList [private]

**13.100.3.42** **rulerColor** QColor rulerColor [private]

**13.100.3.43** **rulerMetric** bool rulerMetric [private]

**13.100.3.44** **rulerPixelSize** quint8 rulerPixelSize [private]

**13.100.3.45** **sceneGripPoint** QPointF sceneGripPoint [private]

**13.100.3.46** **sceneMousePoint** QPointF sceneMousePoint [private]

**13.100.3.47** **sceneMovePoint** QPointF sceneMovePoint [private]

**13.100.3.48** **scenePressPoint** QPointF scenePressPoint [private]

**13.100.3.49** **sceneReleasePoint** QPointF sceneReleasePoint [private]

**13.100.3.50 selectBox** `SelectBox*` `selectBox` [private]

**13.100.3.51 selectingActive** `bool` `selectingActive` [private]

**13.100.3.52 spareRubberList** `QList<qint64>` `spareRubberList` [private]

**13.100.3.53 tempBaseObj** `BaseObject*` `tempBaseObj` [private]

**13.100.3.54 undoStack** `QUndoStack*` `undoStack` [private]

**13.100.3.55 viewMousePoint** `QPoint` `viewMousePoint` [private]

**13.100.3.56 zoomWindowActive** `bool` `zoomWindowActive` [private]

The documentation for this class was generated from the following files:

- `embroidermodder2/view.h`
- `embroidermodder2/view.cpp`

## 13.101 View\_Struct Reference

### Public Attributes

- `EmbPattern * pattern`
- `EmbVector origin`
- `float scale`
- `char grid_type [200]`
- `int ui_mode`
- `bool snap_mode`
- `bool grid_mode`
- `bool ruler_mode`
- `bool ortho_mode`
- `bool polar_mode`
- `bool qsnap_mode`
- `bool qtrack_mode`
- `bool lwt_mode`

- bool `real_render`
- bool `metric`
- bool `simulate`
- `clock_t simulation_start`
- char `text_font` [200]
- float `text_size`
- float `text_angle`
- bool `text_style_bold`
- bool `text_style_italic`
- bool `text_style_underline`
- bool `text_style_overline`
- bool `text_style_strikeout`
- char `filename` [200]
- `UndoHistory undo_history`
- int `selected` [100]
- int `n_selected`
- int `rubber_mode`

### 13.101.1 Detailed Description

### 13.101.2 Views

The `View` describes how the render is displayed.

### 13.101.3 Member Data Documentation

**13.101.3.1 filename** char `filename`[200]

**13.101.3.2 grid\_mode** bool `grid_mode`

**13.101.3.3 grid\_type** char `grid_type`[200]

**13.101.3.4 lwt\_mode** bool `lwt_mode`

**13.101.3.5 metric** bool `metric`

**13.101.3.6 n\_selected** int n\_selected

**13.101.3.7 origin** EmbVector origin

**13.101.3.8 ortho\_mode** bool ortho\_mode

**13.101.3.9 pattern** EmbPattern\* pattern

**13.101.3.10 polar\_mode** bool polar\_mode

**13.101.3.11 qsnap\_mode** bool qsnap\_mode

**13.101.3.12 qtrack\_mode** bool qtrack\_mode

**13.101.3.13 real\_render** bool real\_render

**13.101.3.14 rubber\_mode** int rubber\_mode

**13.101.3.15 ruler\_mode** bool ruler\_mode

**13.101.3.16 scale** float scale

**13.101.3.17 selected** int selected[100]

**13.101.3.18 simulate** bool simulate

**13.101.3.19 simulation\_start** clock\_t simulation\_start

**13.101.3.20 snap\_mode** bool snap\_mode

**13.101.3.21 text\_angle** float text\_angle

**13.101.3.22 text\_font** char text\_font[200]

**13.101.3.23 text\_size** float text\_size

**13.101.3.24 text\_style\_bold** bool text\_style\_bold

**13.101.3.25 text\_style\_italic** bool text\_style\_italic

**13.101.3.26 text\_style\_overline** bool text\_style\_overline

**13.101.3.27 text\_style\_strikeout** bool text\_style\_strikeout

13.101.3.28 **text\_style\_underline** bool text\_style\_underline

13.101.3.29 **ui\_mode** int ui\_mode

13.101.3.30 **undo\_history** UndoHistory undo\_history

The documentation for this struct was generated from the following file:

- embroidermodder2/imgui\_main.c

## 13.102 VipHeader\_ Struct Reference

```
#include <embroidery_internal.h>
```

### Public Attributes

- int [magicCode](#)
- int [numberOfStitches](#)
- int [numberOfColors](#)
- short [positiveXHoopSize](#)
- short [positiveYHoopSize](#)
- short [negativeXHoopSize](#)
- short [negativeYHoopSize](#)
- int [attributeOffset](#)
- int [xOffset](#)
- int [yOffset](#)
- unsigned char [stringVal](#) [8]
- short [unknown](#)
- int [colorLength](#)

### 13.102.1 Member Data Documentation

13.102.1.1 **attributeOffset** int attributeOffset

13.102.1.2 **colorLength** int colorLength

**13.102.1.3 magicCode** int magicCode

**13.102.1.4 negativeXHoopSize** short negativeXHoopSize

**13.102.1.5 negativeYHoopSize** short negativeYHoopSize

**13.102.1.6 numberOfColors** int numberOfColors

**13.102.1.7 numberOfStitches** int numberOfStitches

**13.102.1.8 positiveXHoopSize** short positiveXHoopSize

**13.102.1.9 positiveYHoopSize** short positiveYHoopSize

**13.102.1.10 stringVal** unsigned char stringVal[8]

**13.102.1.11 unknown** short unknown

**13.102.1.12 xOffset** int xOffset

**13.102.1.13 yOffset** int yOffset

The documentation for this struct was generated from the following file:

- [extern/libembroidery/src/embroidery\\_internal.h](#)

## 14 File Documentation

### 14.1 CODE\_OF\_CONDUCT.md File Reference

### 14.2 embroidermodder2/application.cpp File Reference

```
#include "application.h"
#include "mainwindow.h"
```

### 14.3 embroidermodder2/application.h File Reference

```
#include <QApplication>
```

#### Classes

- class [Application](#)

### 14.4 application.h

[Go to the documentation of this file.](#)

```
00001 #ifndef APPLICATION_H
00002 #define APPLICATION_H
00003
00004 #include <QApplication>
00005
00006 class MainWindow;
00007
00008 // On Mac, if the user drops a file on the app's Dock icon, or uses Open As, then this is how the app
     actually opens the file.
00009 class Application : public QApplication
00010 {
00011     Q_OBJECT
00012 public:
00013     Application(int argc, char **argv);
00014     void setMainWin(MainWindow* mainWin) { _mainWin = mainWin; }
00015 protected:
00016     virtual bool event(QEvent *e);
00017 private:
00018     MainWindow* _mainWin;
00019 };
00020
00021 #endif // APPLICATION_H
```

### 14.5 embroidermodder2/cmdprompt.cpp File Reference

```
#include "cmdprompt.h"
#include <QApplication>
#include <QClipboard>
#include <QString>
#include <QAction>
#include <QMenu>
#include <QFile>
#include <QFrame>
#include <QVBoxLayout>
#include <QContextMenuEvent>
#include <QSplitter>
#include <QTextStream>
#include <QTimer>
```

## 14.6 embroidermodder2/cmprompt.h File Reference

```
#include <QHash>
#include <QLineEdit>
#include <QTextBrowser>
#include <QSplitter>
#include <QTextLayout>
```

### Classes

- class [CmdPromptInput](#)
- class [CmdPromptHistory](#)
- class [CmdPromptSplitter](#)
- class [CmdPromptHandle](#)
- class [CmdPrompt](#)

## 14.7 cmdprompt.h

[Go to the documentation of this file.](#)

```
00001 #ifndef CMDPROMPT_H
00002 #define CMDPROMPT_H
00003
00004 #include <QHash>
00005 #include <QLineEdit>
00006 #include <QTextBrowser>
00007 #include <QSplitter>
00008 #include <QTextLayout>
00009
00010 QT_BEGIN_NAMESPACE
00011 class QString;
00012 class QLineEdit;
00013 class QTextBrowser;
00014 class QVBoxLayout;
00015 class QAction;
00016 class QMenu;
00017 class QContextMenuEvent;
00018 class QSplitter;
00019 class QTimer;
00020 QT_END_NAMESPACE
00021
00022 class CmdPromptInput : public QLineEdit
00023 {
00024     Q_OBJECT
00025
00026 public:
00027     CmdPromptInput(QWidget* parent = 0);
00028     ~CmdPromptInput();
00029
00030     QString curText;
00031     QString defaultPrefix;
00032     QString prefix;
00033
00034     QString lastCmd;
00035     QString curCmd;
00036     bool cmdActive;
00037
00038     bool rapidFireEnabled;
00039     bool isBlinking;
00040
00041 protected:
00042     void contextMenuEvent(QContextMenuEvent *event);
00043     bool eventFilter(QObject *obj, QEvent *event);
00044
00045 signals:
00046     void appendHistory(const QString& txt, int prefixLength);
00047
00048     //These connect to the CmdPrompt signals
00049     void startCommand(const QString& cmd);
00050     void runCommand(const QString& cmd, const QString& cmdtxt);
00051     void deletePressed();
00052     void tabPressed();
```

```
00053     void escapePressed();
00054     void upPressed();
00055     void downPressed();
00056     void F1Pressed();
00057     void F2Pressed();
00058     void F3Pressed();
00059     void F4Pressed();
00060     void F5Pressed();
00061     void F6Pressed();
00062     void F7Pressed();
00063     void F8Pressed();
00064     void F9Pressed();
00065     void F10Pressed();
00066     void F11Pressed();
00067     void F12Pressed();
00068     void cutPressed();
00069     void copyPressed();
00070     void pastePressed();
00071     void selectAllPressed();
00072     void undoPressed();
00073     void redoPressed();
00074
00075     void shiftPressed();
00076     void shiftReleased();
00077
00078     void showSettings();
00079
00080     void stopBlinking();
00081
00082 public slots:
00083     void addCommand(const QString& alias, const QString& cmd);
00084     void endCommand();
00085     void processInput(const QChar& rapidChar = QChar());
00086     void checkSelection();
00087     void updateCurrentText(const QString& txt);
00088     void checkEditedText(const QString& txt);
00089     void checkChangedText(const QString& txt);
00090     void checkCursorPosition(int oldpos, int newpos);
00091 private slots:
00092     void copyClip();
00093     void pasteClip();
00094 private:
00095     QHash<QString, QString>* aliasHash;
00096
00097     void changeFormatting(const QList<QTextLayout::FormatRange>& formats);
00098     void clearFormatting();
00099     void applyFormatting();
00100 };
00101
00102 //=====
00103
00104 class CmdPromptHistory : public QTextBrowser
00105 {
00106     Q_OBJECT
00107
00108 public:
00109     CmdPromptHistory(QWidget* parent = 0);
00110     ~CmdPromptHistory();
00111
00112 protected:
00113     void contextMenuEvent(QContextMenuEvent* event);
00114
00115 public slots:
00116     void appendHistory(const QString& txt, int prefixLength);
00117     void startResizeHistory(int y);
00118     void stopResizeHistory(int y);
00119     void resizeHistory(int y);
00120
00121 signals:
00122     void historyAppended(const QString& txt);
00123
00124 private:
00125     int tmpHeight;
00126     QString applyFormatting(const QString& txt, int prefixLength);
00127 };
00128
00129 //=====
00130
00131 class CmdPromptSplitter : public QSplitter
00132 {
00133     Q_OBJECT
00134
00135 public:
00136     CmdPromptSplitter(QWidget* parent = 0);
00137     ~CmdPromptSplitter();
00138
00139 protected:
```

```

00140     QSplitterHandle* createHandle();
00141
00142 signals:
00143     void pressResizeHistory(int y);
00144     void releaseResizeHistory(int y);
00145     void moveResizeHistory(int y);
00146 };
00147
00148 //=====
00149
00150 class CmdPromptHandle : public QSplitterHandle
00151 {
00152     Q_OBJECT
00153
00154 public:
00155     CmdPromptHandle(Qt::Orientation orientation, QSplitter* parent);
00156     ~CmdPromptHandle();
00157
00158 protected:
00159     void mousePressEvent(QMouseEvent* e);
00160     void mouseReleaseEvent(QMouseEvent* e);
00161     void mouseMoveEvent(QMouseEvent* e);
00162
00163 signals:
00164     void handlePressed(int y);
00165     void handleReleased(int y);
00166     void handleMoved(int y);
00167
00168 private:
00169     int pressY;
00170     int releaseY;
00171     int moveY;
00172 };
00173
00174 //=====
00175
00176 class CmdPrompt : public QWidget
00177 {
00178     Q_OBJECT
00179
00180 public:
00181     CmdPrompt(QWidget* parent = 0);
00182     ~CmdPrompt();
00183
00184 protected:
00185
00186 public slots:
00187     QString getHistory() { return promptHistory->toHtml(); }
00188     QString getPrefix() { return promptInput->prefix; }
00189     QString getCurrentText() { return promptInput->curText; }
00190     void setCurrentText(const QString& txt) { promptInput->curText = promptInput->prefix + txt;
00191         promptInput->setText(promptInput->curText); }
00192     void setHistory(const QString& txt) { promptHistory->setHtml(txt);
00193         promptHistory->moveCursor(QTextCursor::End, QTextCursor::MoveAnchor); }
00194     void setPrefix(const QString& txt);
00195     void appendHistory(const QString& txt);
00196     void startResizingTheHistory(int y) { promptHistory->startResizeHistory(y); }
00197     void stopResizingTheHistory(int y) { promptHistory->stopResizeHistory(y); }
00198     void resizeTheHistory(int y) { promptHistory->resizeHistory(y); }
00199     void addCommand(const QString& alias, const QString& cmd) { promptInput->addCommand(alias, cmd); }
00200     void endCommand() { promptInput->endCommand(); }
00201     bool isCommandActive() { return promptInput->cmdActive; }
00202     QString activeCommand() { return promptInput->curCmd; }
00203     QString lastCommand() { return promptInput->lastCmd; }
00204     void processInput() { promptInput->processInput(); }
00205     void enableRapidFire() { promptInput->rapidFireEnabled = true; }
00206     void disableRapidFire() { promptInput->rapidFireEnabled = false; }
00207     bool isRapidFireEnabled() { return promptInput->rapidFireEnabled; }
00208
00209     void alert(const QString& txt);
00210     void startBlinking();
00211     void stopBlinking();
00212     void blink();
00213
00214     void setPromptTextColor(const QColor&);
00215     void setPromptBackgroundColor(const QColor&);
00216     void setPromptFontFamily(const QString&);
00217     void setPromptFontSize(const QString&);
00218
00219     void floatingChanged(bool);
00220
00221     void saveHistory(const QString& fileName, bool html);
00222
00223 private slots:
00224

```

```

00225 signals:
00226     void appendTheHistory(const QString& txt, int prefixLength);
00227
00228     //For connecting outside of command prompt
00229     void startCommand(const QString& cmd);
00230     void runCommand(const QString& cmd, const QString& cmdtxt);
00231     void deletePressed();
00232     void tabPressed();
00233     void escapePressed();
00234     void upPressed();
00235     void downPressed();
00236     void F1Pressed();
00237     void F2Pressed();
00238     void F3Pressed();
00239     void F4Pressed();
00240     void F5Pressed();
00241     void F6Pressed();
00242     void F7Pressed();
00243     void F8Pressed();
00244     void F9Pressed();
00245     void F10Pressed();
00246     void F11Pressed();
00247     void F12Pressed();
00248     void cutPressed();
00249     void copyPressed();
00250     void pastePressed();
00251     void selectAllPressed();
00252     void undoPressed();
00253     void redoPressed();
00254
00255     void shiftPressed();
00256     void shiftReleased();
00257
00258     void showSettings();
00259
00260     void historyAppended(const QString& txt);
00261
00262 private:
00263     CmdPromptInput*    promptInput;
00264     CmdPromptHistory*  promptHistory;
00265     QVBoxLayout*       promptVBoxLayout;
00266     QFrame*            promptDivider;
00267
00268     CmdPromptSplitter* promptSplitter;
00269
00270     QHash<QString, QString>* styleHash;
00271     void updateStyle();
00272     QTimer*             blinkTimer;
00273     bool                blinkState;
00274 };
00275
00276 #endif
00277
00278 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.8 embroidermodder2/embdetails-dialog.cpp File Reference

```

#include <QApplication>
#include <QtGui>
#include <QGridLayout>
#include <QLabel>
#include <QDialogButtonBox>
#include <QScrollArea>
#include <QGroupBox>
#include "embdetails-dialog.h"
#include "embroidery.h"

```

## 14.9 embroidermodder2/embdetails-dialog.h File Reference

```
#include <QDialog>
```

## Classes

- class [EmbDetailsDialog](#)

### 14.10 embdetails-dialog.h

[Go to the documentation of this file.](#)

```
00001 #ifndef EMBDETAILS_DIALOG_H
00002 #define EMBDETAILS_DIALOG_H
00003
00004 #include <QDialog>
00005
00006 QT_BEGIN_NAMESPACE
00007 class QDialogButtonBox;
00008 class QGraphicsScene;
00009 QT_END_NAMESPACE
00010
00011 class EmbDetailsDialog : public QDialog
00012 {
00013     Q_OBJECT
00014
00015 public:
00016     EmbDetailsDialog(QGraphicsScene* theScene, QWidget *parent = 0);
00017     ~EmbDetailsDialog();
00018
00019 private:
00020     QWidget*      mainWidget;
00021
00022     void          getInfo();
00023     QWidget*      createMainWidget();
00024     QWidget*      createHistogram();
00025
00026     QDialogButtonBox* buttonBox;
00027
00028     quint32 stitchesTotal;
00029     quint32 stitchesReal;
00030     quint32 stitchesJump;
00031     quint32 stitchesTrim;
00032     quint32 colorTotal;
00033     quint32 colorChanges;
00034
00035     QRectF boundingRect;
00036 };
00037
00038 #endif
00039
00040 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

### 14.11 embroidermodder2/gui\_backend.cpp File Reference

```
#include "imgui.h"
#include "backends/imgui_impl_glfw.h"
#include "backends/imgui_impl_opengl2.h"
#include "gui_backend.h"
#include <vector>
#include <unordered_map>
#include <string>
#include <filesystem>
```

## Functions

- `ImVec2 to_ImVec2 (EmbVector v)`
- `unsigned int embColor_to_int (EmbColor c, int alpha)`  
*Wrapper for ImGui's IM\_COL32 macro.*
- `void draw_line (EmbVector start, EmbVector end, int color)`

- void `draw_circle` (`EmbVector` position, float radius, int color, bool filled)
- void `draw_rect` (`EmbVector` bottom\_left, `EmbVector` top\_right, int color, bool filled)
- void `draw_text` (`EmbVector` position, int color, const char \*text)
- void `draw_quad` (`EmbVector` c1, `EmbVector` c2, `EmbVector` c3, `EmbVector` c4, int color)
- void `begin_ui` (const char \*label, int height, int width)
- void `end_ui` (void)
- bool `begin_tab_bar` (const char \*label)
- void `end_tab_bar` (void)
- bool `begin_combo` (const char \*label, char \*data)
- bool `selectable` (const char \*label, bool current)
- void `end_combo` (void)
- bool `collapsing_header` (const char \*label)
- bool `button` (const char \*label)
- bool `begin_tab_item` (const char \*label)
- void `end_tab_item` (void)
- void `edit_int` (const char \*label, int \*data)
- void `show_real` (const char \*label, `EmbReal` data)
- void `show_int` (const char \*label, int data)
- void `translated_text` (const char \*str)
- void `checkbox_data` (const char \*label, bool \*stor, bool \*value)
- void `edit_real` (const char \*label, `EmbReal` \*data)
- void `same_line` (void)
- void `begin_child` (const char \*label)
- void `end_child` ()
- `EmbVector get_window_pos` (void)  
*Get the window pos object.*
- `EmbVector get_screen_size` (void)  
*Get the screen size object.*
- void `get_display_size` (int \*width, int \*height)  
*Get the display size object.*
- void `set_style` (char font\_file[200])  
*Set the style object.*
- void `columns` (int n, char \*label)
- void `next_column` (void)
- void `end_columns` (void)
- void `display_text` (const char \*msg)
- void `get_current_directory` (char directory[200])
- bool `menu_item` (const char \*key)
- int `load_textures` (`Dictionary` \*texture\_list)
- void `menu_separator` (void)
- bool `begin_menu` (const char \*label)
- void `end_menu` ()
- bool `image_button` (char \*texture\_label, `EmbVector` size)
- void `header` (const char \*title)
- void `set_column_width` (int start, int end)
- bool `begin_menu_bar` (void)
- void `end_menu_bar` (void)
- void `setup_main_widget` (void)
- void `setup_imgui` (`GLFWwindow` \*window)
- void `imgui_render` (`GLFWwindow` \*window)
- void `imgui_new_frame` (void)

## Variables

- ImFont \* `font`
- ImFont \* `header_font`
- std::unordered\_map< std::string, GLuint > `textures`

### 14.11.1 Function Documentation

**14.11.1.1 `begin_child()`** void begin\_child ( const char \* *label* )

#### Parameters

<i>label</i>	<input type="text"/>
--------------	----------------------

**14.11.1.2 `begin_combo()`** bool begin\_combo ( const char \* *label*, char \* *data* )

#### Parameters

<i>label</i>	<input type="text"/>
<i>data</i>	<input type="text"/>

#### Returns

true  
false

**14.11.1.3 `begin_menu()`** bool begin\_menu ( const char \* *label* )

**14.11.1.4 `begin_menu_bar()`** bool begin\_menu\_bar ( void )

**14.11.1.5 `begin_tab_bar()`** bool begin\_tab\_bar ( const char \* *label* )

**Parameters**

<i>label</i>	<input type="text"/>
--------------	----------------------

**Returns**

true

false

**14.11.1.6 begin\_tab\_item()** `bool begin_tab_item (`  
`const char * label )`**Parameters**

<i>label</i>	<input type="text"/>
--------------	----------------------

**Returns**

true

false

**14.11.1.7 begin\_ui()** `void begin_ui (`  
`const char * label,`  
`int height,`  
`int width )`**Parameters**

<i>label</i>	<input type="text"/>
<i>height</i>	<input type="text"/>
<i>width</i>	<input type="text"/>

**14.11.1.8 button()** `bool button (`  
`const char * label )`**Parameters**

<i>label</i>	<input type="text"/>
--------------	----------------------

**Returns**

true  
false

**14.11.1.9 checkbox\_data()** void checkbox\_data ( const char \* *label*, bool \* *stor*, bool \* *value* )

**Parameters**

<i>label</i>	<input type="text"/>
<i>stor</i>	<input type="text"/>
<i>value</i>	<input type="text"/>

**14.11.1.10 collapsing\_header()** bool collapsing\_header ( const char \* *label* )

**Parameters**

<i>label</i>	<input type="text"/>
--------------	----------------------

**Returns**

true  
false

**14.11.1.11 columns()** void columns ( int *n*, char \* *label* )

**14.11.1.12 display\_text()** void display\_text ( const char \* *msg* )

**14.11.1.13 draw\_circle()** void draw\_circle ( EmbVector *position*, float *radius*, int *color*, bool *filled* )

**Parameters**

<i>position</i>	
<i>radius</i>	
<i>color</i>	
<i>filled</i>	

**14.11.1.14 draw\_line()** void draw\_line (  
    EmbVector start,  
    EmbVector end,  
    int color )**Parameters**

<i>start</i>	
<i>end</i>	
<i>color</i>	

**14.11.1.15 draw\_quad()** void draw\_quad (  
    EmbVector c1,  
    EmbVector c2,  
    EmbVector c3,  
    EmbVector c4,  
    int color )**Parameters**

<i>c1</i>	
<i>c2</i>	
<i>c3</i>	
<i>c4</i>	
<i>color</i>	

**14.11.1.16 draw\_rect()** void draw\_rect (  
    EmbVector bottom\_left,  
    EmbVector top\_right,  
    int color,  
    bool filled )**Parameters**

<i>bottom_left</i>	
<i>top_right</i>	
<i>color</i>	
<i>filled</i>	

```
14.11.1.17 draw_text() void draw_text (
    EmbVector position,
    int color,
    const char * text )
```

**Parameters**

<i>position</i>	
<i>color</i>	
<i>text</i>	

```
14.11.1.18 edit_int() void edit_int (
    const char * label,
    int * data )
```

**Parameters**

<i>label</i>	
<i>data</i>	

```
14.11.1.19 edit_real() void edit_real (
    const char * label,
    EmbReal * data )
```

**Parameters**

<i>label</i>	
<i>data</i>	

```
14.11.1.20 embColor_to_int() unsigned int embColor_to_int (
    EmbColor c,
    int alpha )
```

Wrapper for ImGui's IM\_COL32 macro.

This function doesn't deal with opacity.

**Parameters**

<i>c</i>	The color as an EmbColor.
----------	---------------------------

**Returns**

unsigned int The color encoded as an integer.

**14.11.1.21 `end_child()`** void end\_child ( void )

**14.11.1.22 `end_columns()`** void end\_columns ( void )

**14.11.1.23 `end_combo()`** void end\_combo ( void )

**14.11.1.24 `end_menu()`** void end\_menu ( )

**14.11.1.25 `end_menu_bar()`** void end\_menu\_bar ( void )

**14.11.1.26 `end_tab_bar()`** void end\_tab\_bar ( void )

**14.11.1.27 `end_tab_item()`** void end\_tab\_item ( void )

**14.11.1.28 `end_ui()`** void end\_ui ( void )

**14.11.1.29 `get_current_directory()`** void get\_current\_directory ( char *directory*[200] )

**14.11.1.30 `get_display_size()`** void get\_display\_size ( int \* *width*, int \* *height* )

Get the display size object.

**Parameters**

<i>width</i>	
<i>height</i>	

**14.11.1.31 `get_screen_size()`** `EmbVector get_screen_size (`  
`void )`

Get the screen size object.

**Returns**`EmbVector`**14.11.1.32 `get_window_pos()`** `EmbVector get_window_pos (`  
`void )`

Get the window pos object.

**Returns**`EmbVector`**14.11.1.33 `header()`** `void header (`  
`const char * title )`**14.11.1.34 `image_button()`** `bool image_button (`  
`char * texture_label,`  
`EmbVector size )`**14.11.1.35 `imgui_new_frame()`** `void imgui_new_frame (`  
`void )`**14.11.1.36 `imgui_render()`** `void imgui_render (`  
`GLFWwindow * window )`**14.11.1.37 `load_textures()`** `int load_textures (`  
`Dictionary * texture_list )`

**Parameters**

<i>texture_list</i>	<input type="text"/>
---------------------	----------------------

**Returns**

int

**14.11.1.38 menu\_item()** bool menu\_item (  
    const char \* key )**14.11.1.39 menu\_separator()** void menu\_separator (  
    void )**14.11.1.40 next\_column()** void next\_column (  
    void )**14.11.1.41 same\_line()** void same\_line (  
    void )**14.11.1.42 selectable()** bool selectable (  
    const char \* label,  
    bool current )**Parameters**

<i>label</i>	<input type="text"/>
<i>current</i>	<input type="text"/>

**Returns**true  
false

```
14.11.1.43 set_column_width() void set_column_width (
    int start,
    int end )
```

```
14.11.1.44 set_style() void set_style (
    char font_file[200] )
```

Set the style object.

```
14.11.1.45 setup_imgui() void setup_imgui (
    GLFWwindow * window )
```

```
14.11.1.46 setup_main_widget() void setup_main_widget (
    void )
```

```
14.11.1.47 show_int() void show_int (
    const char * label,
    int data )
```

#### Parameters

<i>label</i>	
<i>data</i>	

```
14.11.1.48 show_real() void show_real (
    const char * label,
    EmbReal data )
```

```
14.11.1.49 to_ImVec2() ImVec2 to_ImVec2 (
    EmbVector v ) [inline]
```

```
14.11.1.50 translated_text() void translated_text (
    const char * str )
```

**Parameters**

<code>str</code>	
------------------	--

**14.11.2 Variable Documentation****14.11.2.1 font** `ImFont* font`**14.11.2.2 header\_font** `ImFont* header_font`**14.11.2.3 textures** `std::unordered_map<std::string, GLuint> textures`**14.12 embroidermodder2/gui\_backend.h File Reference**

```
#include <stdio.h>
#include <stdbool.h>
#include <time.h>
#include <embroidery.h>
#include <GL/glew.h>
#include <GLFW/glfw3.h>
```

**Classes**

- struct [DictionaryEntry\\_](#)
- struct [Dictionary\\_](#)

**Typedefs**

- typedef struct [DictionaryEntry\\_ DictionaryEntry](#)
- typedef struct [Dictionary\\_ Dictionary](#)

## Functions

- void `log_debug` (const char \*s)  
*Rather than outputting debug information to the command line it is sent to a file called "debug.txt" which is in the current directory.*
- const char \* `translate` (const char \*)  
*Rather than using .po files we translate at runtime using this function.*
- void `set_style` (char fname[200])  
*Set the style object.*
- bool `menu_item` (const char \*)
- unsigned int `embColor_to_int` (`EmbColor` c, int alpha)  
*Wrapper for ImGui's IM\_COL32 macro.*
- void `draw_line` (`EmbVector` start, `EmbVector` end, int color)
- void `draw_circle` (`EmbVector` position, float radius, int color, bool filled)
- void `draw_rect` (`EmbVector` bottom\_left, `EmbVector` top\_right, int color, bool filled)
- void `draw_quad` (`EmbVector` c1, `EmbVector` c2, `EmbVector` c3, `EmbVector` c4, int color)
- void `draw_text` (`EmbVector` position, int color, const char \*text)
- void `begin_ui` (const char \*, int, int)
- void `end_ui` (void)
- void `begin_child` (const char \*label)
- void `end_child` (void)
- bool `begin_tab_bar` (const char \*label)
- void `end_tab_bar` (void)
- bool `begin_combo` (const char \*label, char \*data)
- bool `selectable` (const char \*label, bool)
- void `end_combo` (void)
- bool `collapsing_header` (const char \*label)
- bool `button` (const char \*)
- bool `begin_tab_item` (const char \*str)
- void `edit_int` (const char \*str, int \*data)
- void `end_tab_item` (void)
- void `show_real` (const char \*label, `EmbReal` data)
- void `show_int` (const char \*label, int data)
- void `translated_text` (const char \*str)
- void `checkbox_data` (const char \*str, bool \*stor, bool \*value)
- void `edit_real` (const char \*str, `EmbReal` \*data)
- void `same_line` (void)
- bool `begin_menu_bar` (void)
- void `end_menu_bar` (void)
- void `get_current_directory` (char directory[200])
- bool `image_button` (char \*texture\_label, `EmbVector` size)
- void `menu_separator` (void)
- `EmbVector get_window_pos` (void)  
*Get the window pos object.*
- `EmbVector get_screen_size` (void)  
*Get the screen size object.*
- `GLuint gen_gl_texture` (uint8\_t \*data, int w, int h, int wrap)
- `GLuint load_texture` (char fname[200])
- bool `begin_menu` (const char \*label)
- void `end_menu` ()
- void `setup_imgui` (GLFWwindow \*window)
- void `imgui_render` (GLFWwindow \*window)
- void `imgui_new_frame` (void)
- int `load_textures` (`Dictionary` \*texture\_list)

- void `view_tab` (int)
- void `setup_main_widget` (void)
- void `columns` (int n, char \*label)
- void `next_column` (void)
- void `end_columns` (void)
- void `display_text` (const char \*msg)
- void `header` (const char \*title)
- void `set_column_width` (int, int)
- void `get_display_size` (int \*width, int \*height)

*Get the display size object.*

#### 14.12.1 Typedef Documentation

##### 14.12.1.1 `Dictionary` `typedef struct Dictionary_ Dictionary`

##### 14.12.1.2 `DictionaryEntry` `typedef struct DictionaryEntry_ DictionaryEntry`

#### 14.12.2 Function Documentation

##### 14.12.2.1 `begin_child()` `void begin_child (` `const char * label )`

###### Parameters

<code>label</code>	<input type="text"/>
--------------------	----------------------

##### 14.12.2.2 `begin_combo()` `bool begin_combo (` `const char * label,` `char * data )`

###### Parameters

<code>label</code>	<input type="text"/>
<code>data</code>	<input type="text"/>

Returns

true  
false

**14.12.2.3 begin\_menu()** bool begin\_menu (  
const char \* *label* )

**14.12.2.4 begin\_menu\_bar()** bool begin\_menu\_bar (  
void )

**14.12.2.5 begin\_tab\_bar()** bool begin\_tab\_bar (  
const char \* *label* )

Parameters

<i>label</i>	<input type="text"/>
--------------	----------------------

Returns

true  
false

**14.12.2.6 begin\_tab\_item()** bool begin\_tab\_item (  
const char \* *label* )

Parameters

<i>label</i>	<input type="text"/>
--------------	----------------------

Returns

true  
false

**14.12.2.7 begin\_ui()** void begin\_ui (  
const char \* *label*,  
int *height*,  
int *width* )

**Parameters**

<i>label</i>	<input type="text"/>
<i>height</i>	<input type="text"/>
<i>width</i>	<input type="text"/>

**14.12.2.8 button()** `bool button ( const char * label )`**Parameters**

<i>label</i>	<input type="text"/>
--------------	----------------------

**Returns**

true  
false

**14.12.2.9 checkbox\_data()** `void checkbox_data ( const char * label, bool * stor, bool * value )`**Parameters**

<i>label</i>	<input type="text"/>
<i>stor</i>	<input type="text"/>
<i>value</i>	<input type="text"/>

**14.12.2.10 collapsing\_header()** `bool collapsing_header ( const char * label )`**Parameters**

<i>label</i>	<input type="text"/>
--------------	----------------------

**Returns**

true  
false

**14.12.2.11 columns()** void columns (

```
int n,
char * label )
```

**14.12.2.12 display\_text()** void display\_text (

```
const char * msg )
```

**14.12.2.13 draw\_circle()** void draw\_circle (

```
EmbVector position,
float radius,
int color,
bool filled )
```

**Parameters**

<i>position</i>	
<i>radius</i>	
<i>color</i>	
<i>filled</i>	

**14.12.2.14 draw\_line()** void draw\_line (

```
EmbVector start,
EmbVector end,
int color )
```

**Parameters**

<i>start</i>	
<i>end</i>	
<i>color</i>	

**14.12.2.15 draw\_quad()** void draw\_quad (

```
EmbVector c1,
EmbVector c2,
EmbVector c3,
EmbVector c4,
int color )
```

**Parameters**

<i>c1</i>	
<i>c2</i>	

**Parameters**

<i>c3</i>	
<i>c4</i>	
<i>color</i>	

**14.12.2.16 draw\_rect()** void draw\_rect (

```
EmbVector bottom_left,
EmbVector top_right,
int color,
bool filled )
```

**Parameters**

<i>bottom_left</i>	
<i>top_right</i>	
<i>color</i>	
<i>filled</i>	

**14.12.2.17 draw\_text()** void draw\_text (

```
EmbVector position,
int color,
const char * text )
```

**Parameters**

<i>position</i>	
<i>color</i>	
<i>text</i>	

**14.12.2.18 edit\_int()** void edit\_int (

```
const char * label,
int * data )
```

**Parameters**

<i>label</i>	
<i>data</i>	

**14.12.2.19 edit\_real()** void edit\_real (

```
const char * label,  
EmbReal * data )
```

**Parameters**

<i>label</i>	
<i>data</i>	

**14.12.2.20 `embColor_to_int()`** `unsigned int embColor_to_int (`  
`EmbColor c,`  
`int alpha )`

Wrapper for ImGui's IM\_COL32 macro.

This function doesn't deal with opacity.

**Parameters**

<i>c</i>	The color as an EmbColor.
----------	---------------------------

**Returns**

`unsigned int` The color encoded as an integer.

**14.12.2.21 `end_child()`** `void end_child (`  
`void )`

**14.12.2.22 `end_columns()`** `void end_columns (`  
`void )`

**14.12.2.23 `end_combo()`** `void end_combo (`  
`void )`

**14.12.2.24 `end_menu()`** `void end_menu ( )`

**14.12.2.25 `end_menu_bar()`** void end\_menu\_bar ( void )

**14.12.2.26 `end_tab_bar()`** void end\_tab\_bar ( void )

**14.12.2.27 `end_tab_item()`** void end\_tab\_item ( void )

**14.12.2.28 `end_ui()`** void end\_ui ( void )

**14.12.2.29 `gen_gl_texture()`** GLuint gen\_gl\_texture ( uint8\_t \* data, int w, int h, int wrap )

**14.12.2.30 `get_current_directory()`** void get\_current\_directory ( char directory[200] )

**14.12.2.31 `get_display_size()`** void get\_display\_size ( int \* width, int \* height )

Get the display size object.

#### Parameters

<code>width</code>	
<code>height</code>	

**14.12.2.32 `get_screen_size()`** EmbVector get\_screen\_size ( void )

Get the screen size object.

Returns

EmbVector

**14.12.2.33 get\_window\_pos()** EmbVector get\_window\_pos ( void )

Get the window pos object.

Returns

EmbVector

**14.12.2.34 header()** void header ( const char \* title )

**14.12.2.35 image\_button()** bool image\_button ( char \* texture\_label, EmbVector size )

**14.12.2.36 imgui\_new\_frame()** void imgui\_new\_frame ( void )

**14.12.2.37 imgui\_render()** void imgui\_render ( GLFWwindow \* window )

**14.12.2.38 load\_texture()** GLuint load\_texture ( char fname[200] )

**14.12.2.39 load\_textures()** int load\_textures ( Dictionary \* texture\_list )

**Parameters**

<i>texture_list</i>	<input type="text"/>
---------------------	----------------------

**Returns**

int

**14.12.2.40 log\_debug()** void log\_debug (  
    const char \* msg )

Rather than outputting debug information to the command line it is sent to a file called "debug.txt" which is in the current directory.

*msg* The message to be written to the end of the debug file.

The benefits of always logging to file are: they are easily requested from users who need help and we can search the debug log using grep and other tool.

**Todo** log current time and process id alongside all debug information.

**14.12.2.41 menu\_item()** bool menu\_item (  
    const char \* key )**14.12.2.42 menu\_separator()** void menu\_separator (  
    void )**14.12.2.43 next\_column()** void next\_column (  
    void )**14.12.2.44 same\_line()** void same\_line (  
    void )**14.12.2.45 selectable()** bool selectable (  
    const char \* label,  
    bool current )

**Parameters**

<i>label</i>	
<i>current</i>	

**Returns**

true  
false

**14.12.2.46 `set_column_width()`** void set\_column\_width ( int *start*, int *end* )

**14.12.2.47 `set_style()`** void set\_style ( char *font\_file*[200] )

Set the style object.

**14.12.2.48 `setup_imgui()`** void setup\_imgui ( GLFWwindow \* *window* )

**14.12.2.49 `setup_main_widget()`** void setup\_main\_widget ( void )

**14.12.2.50 `show_int()`** void show\_int ( const char \* *label*, int *data* )

**Parameters**

<i>label</i>	
<i>data</i>	

**14.12.2.51 `show_real()`** void show\_real (

```
    const char * label,
    EmbReal data )
```

#### 14.12.2.52 translate() const char \* translate (

```
    const char * string )
```

Rather than using .po files we translate at runtime using this function.

*string* The string to be translated. Returns const char\* The translated string.

**Todo** check for translation\_table loaded and use it.

#### 14.12.2.53 translated\_text() void translated\_text (

```
    const char * str )
```

**Parameters**

str	
-----	--

#### 14.12.2.54 view\_tab() void view\_tab (

```
    int )
```

## 14.13 gui\_backend.h

[Go to the documentation of this file.](#)

```
00001 /*
00002  *   Embroidermodder 2.
00003  *
00004  * -----
00005  *
00006  * Copyright 2013-2022 The Embroidermodder Team
00007  * Embroidermodder 2 is Open Source Software.
00008  * See LICENSE for licensing terms.
00009  *
00010  * -----
00011  *
00012  * Use Python's PEP7 style guide.
00013  *     https://peps.python.org/pep-0007/
00014 */
00015
00016 #ifndef GUI_BACKEND_H
00017 #define GUI_BACKEND_H
00018
00019 #ifdef __cplusplus
00020 extern "C" {
00021 #endif
00022
00023 #include <stdio.h>
00024 #include <stdbool.h>
00025 #include <time.h>
00026
00027 #include <embroidery.h>
00028
```

```

00029 #include <GL/glew.h>
00030 #include <GLFW/glfw3.h>
00031
00036 typedef struct DictionaryEntry_ {
00037     char key[200];
00038     char value[200];
00039 } DictionaryEntry;
00040
00045 typedef struct Dictionary_ {
00046     DictionaryEntry *data;
00047     int length;
00048     int max_length;
00049 } Dictionary;
00050
00051
00052 void log_debug(const char *s);
00053 const char *translate(const char *s);
00054 void set_style(char fname[200]);
00055 bool menu_item(const char *s);
00056 unsigned int embColor_to_int(EmbColor c, int alpha);
00057 void draw_line(EmbVector start, EmbVector end, int color);
00058 void draw_circle(EmbVector position, float radius, int color, bool filled);
00059 void draw_rect(EmbVector bottom_left, EmbVector top_right, int color, bool filled);
00060 void draw_quad(EmbVector c1, EmbVector c2, EmbVector c3, EmbVector c4, int color);
00061 void draw_text(EmbVector position, int color, const char *text);
00062 void begin_ui(const char *, int, int);
00063 void end_ui(void);
00064 void begin_child(const char *label);
00065 void end_child(void);
00066 bool begin_tab_bar(const char *label);
00067 void end_tab_bar(void);
00068 bool begin_combo(const char *label, char *data);
00069 bool selectable(const char *label, bool);
00070 void end_combo(void);
00071 bool collapsing_header(const char *label);
00072 bool button(const char *s);
00073 bool begin_tab_item(const char *str);
00074 void edit_int(const char *str, int *data);
00075 void end_tab_item(void);
00076 void show_real(const char *label, EmbReal data);
00077 void show_int(const char *label, int data);
00078 void translated_text(const char *str);
00079 void checkbox_data(const char *str, bool *stor, bool *value);
00080 void edit_real(const char *str, EmbReal *data);
00081 void same_line(void);
00082 bool begin_menu_bar(void);
00083 void end_menu_bar(void);
00084 void get_current_directory(char directory[200]);
00085 void image_button(char* texture_label, EmbVector size);
00086 void menu_separator(void);
00087 EmbVector get_window_pos(void);
00088 EmbVector get_screen_size(void);
00089 GLuint gen_gl_texture(uint8_t* data, int w, int h, int wrap);
00090 GLuint load_texture(char fname[200]);
00091 bool begin_menu(const char *label);
00092 void end_menu();
00093 void setup_imgui(GLFWwindow *window);
00094 void imgui_render(GLFWwindow *window);
00095 void imgui_new_frame();
00096 int load_textures(Dictionary *texture_list);
00097 void view_tab(int);
00098 void setup_main_widget(void);
00099 void columns(int n, char *label);
00100 void next_column(void);
00101 void end_columns(void);
00102 void display_text(const char *msg);
00103 void header(const char *title);
00104 void set_column_width(int, int);
00105 void get_display_size(int *width, int *height);
00106
00107 #ifdef __cplusplus
00108 }
00109 #endif
00110
00111 #endif /* EMBROIDERMODDER_H */

```

## 14.14 embroidermodder2/imagedwidget.cpp File Reference

```
#include <QDebug>
#include "imagedwidget.h"
```

## 14.15 embroidermodder2/imagewidget.h File Reference

```
#include <QPainter>
#include <QImage>
#include <QWidget>
```

### Classes

- class [ImageWidget](#)

## 14.16 imagewidget.h

[Go to the documentation of this file.](#)

```
00001 #ifndef IMAGEWIDGET_H
00002 #define IMAGEWIDGET_H
00003
00004 #include <QPainter>
00005 #include <QImage>
00006 #include <QWidget>
00007
00008 QT_BEGIN_NAMESPACE
00009 class QPainter;
00010 class QImage;
00011 QT_END_NAMESPACE
00012
00013 class ImageWidget : public QWidget
00014 {
00015     Q_OBJECT
00016
00017 public:
00018     ImageWidget(const QString &filename, QWidget* parent = 0);
00019     ~ImageWidget();
00020
00021     bool load(const QString &fileName);
00022     bool save(const QString &fileName);
00023
00024 protected:
00025     void paintEvent(QPaintEvent* event);
00026
00027 private:
00028     QImage img;
00029 };
00030
00031 #endif
00032
00033 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.17 embroidermodder2/imgui\_main.c File Reference

```
#include <stdlib.h>
#include <string.h>
#include <stdint.h>
#include <stdbool.h>
#include <math.h>
#include <time.h>
#include <tinydir.h>
#include "stb/stb_image.h"
#include "toml.h"
#include "gui_backend.h"
```

## Classes

- struct `UiObject_`  
*This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.*
- struct `UndoHistory_`
- struct `IndexEntry_`
- struct `Index_`
- struct `View_`
- struct `Settings_`  
*Settings System.*

## Macros

- `#define STB_IMAGE_IMPLEMENTATION`
- `#define WIDGET_MODE_BLOCK 0`
- `#define WIDGET_MODE_TEXT 1`
- `#define WIDGET_MODE_IMAGE 2`
- `#define WIDGET_MODE_SVG 3`
- `#define WIDGET_MODE_BACKGROUND 4`
- `#define WIDGET_MODE_SPINBOX 5`
- `#define WIDGET_MODE_COMBOBOX 6`
- `#define WIDGET_MODE_CONTAINER 7`
- `#define WIDGET_MODE_PANEL 8`
- `#define WIDGET_MODE_VIEW 9`
- `#define WIDGET_MODE_ROOT 10`
- `#define VIEW_STATE_SNAP 0x0000`
- `#define VIEW_STATE_GRIP 0x0001`
- `#define VIEW_STATE_RULER 0x0002`
- `#define VIEW_STATE_ORTHO 0x0004`
- `#define VIEW_STATE_POLAR 0x0008`
- `#define VIEW_STATE_QSNAP 0x0010`
- `#define VIEW_STATE_QTRACK 0x0020`
- `#define VIEW_STATE_LWT 0x0040`
- `#define VIEW_STATE_REAL 0x0080`
- `#define VIEW_STATE_CLOSEABLE 0x0100`
- `#define VIEW_STATE_USE_LOGO 0x0200`
- `#define VIEW_STATE_USE_TEXTURE 0x0400`
- `#define VIEW_STATE_USE_COLOR 0x0800`
- `#define VIEW_STATE_GRID 0x1000`
- `#define PERMISSIONS_USER 0`
- `#define PERMISSIONS_SYSTEM 1`
- `#define MITER_JOIN 0`
- `#define LINE_STYLE_DASHED 0`
- `#define LINE_STYLE_SOLID 1`
- `#define BRUSH_STYLE_DASHED 0`
- `#define BRUSH_STYLE_SOLID 1`
- `#define DIRECTION_RIGHT 0`
- `#define DIRECTION_LEFT 1`
- `#define RENDER_UI 0`
- `#define RENDER_TEXT_EDITOR 1`
- `#define OBJ_TYPE_NULL 0`
- `#define OBJ_TYPE_BASE 0`
- `#define OBJ_TYPE_ARC 1`
- `#define OBJ_TYPE_BLOCK 2`

- #define OBJ\_TYPE\_CIRCLE 3
- #define OBJ\_TYPE\_DIMALIGNED 4
- #define OBJ\_TYPE\_DIMANGULAR 5
- #define OBJ\_TYPE\_DIMARCLENGTH 6
- #define OBJ\_TYPE\_DIMDIAMETER 7
- #define OBJ\_TYPE\_DIMLEADER 8
- #define OBJ\_TYPE\_DIMLINEAR 9
- #define OBJ\_TYPE\_DIMORDINATE 10
- #define OBJ\_TYPE\_DIMRADIUS 11
- #define OBJ\_TYPE\_ELLIPSE 12
- #define OBJ\_TYPE\_ELLIPSEARC 13
- #define OBJ\_TYPE\_RUBBER 14
- #define OBJ\_TYPE\_GRID 15
- #define OBJ\_TYPE\_HATCH 16
- #define OBJ\_TYPE\_IMAGE 17
- #define OBJ\_TYPE\_INFINITELINE 18
- #define OBJ\_TYPE\_LINE 19
- #define OBJ\_TYPE\_PATH 20
- #define OBJ\_TYPE\_POINT 21
- #define OBJ\_TYPE\_POLYGON 22
- #define OBJ\_TYPE\_POLYLINE 23
- #define OBJ\_TYPE\_RAY 24
- #define OBJ\_TYPE\_RECTANGLE 25
- #define OBJ\_TYPE\_SLOT 26
- #define OBJ\_TYPE\_SPLINE 27
- #define OBJ\_TYPE\_TEXTMULTI 28
- #define OBJ\_TYPE\_TEXTSINGLE 29
- #define OBJ\_TYPE\_UNKNOWN 30
- #define OBJ\_LTYPE\_CONT 0
- #define OBJ\_LTYPE\_CENTER 1
- #define OBJ\_LTYPE\_DOT 2
- #define OBJ\_LTYPE\_HIDDEN 3
- #define OBJ\_LTYPE\_PHANTOM 4
- #define OBJ\_LTYPE\_ZIGZAG 5
- #define OBJ\_LTYPE\_RUNNING 6
- #define OBJ\_LTYPE\_SATIN 7
- #define OBJ\_LTYPE\_FISHBONE 8
- #define OBJ\_LWT\_BYLAYER (-2)
- #define OBJ\_LWT\_BYBLOCK (-1)
- #define OBJ\_LWT\_DEFAULT 0
- #define OBJ\_LWT\_01 1
- #define OBJ\_LWT\_02 2
- #define OBJ\_LWT\_03 3
- #define OBJ\_LWT\_04 4
- #define OBJ\_LWT\_05 5
- #define OBJ\_LWT\_06 6
- #define OBJ\_LWT\_07 7
- #define OBJ\_LWT\_08 8
- #define OBJ\_LWT\_09 9
- #define OBJ\_LWT\_10 10
- #define OBJ\_LWT\_11 11
- #define OBJ\_LWT\_12 12
- #define OBJ\_LWT\_13 13
- #define OBJ\_LWT\_14 14
- #define OBJ\_LWT\_15 15

- #define OBJ\_LWT\_16 16
- #define OBJ\_LWT\_17 17
- #define OBJ\_LWT\_18 18
- #define OBJ\_LWT\_19 19
- #define OBJ\_LWT\_20 20
- #define OBJ\_LWT\_21 21
- #define OBJ\_LWT\_22 22
- #define OBJ\_LWT\_23 23
- #define OBJ\_LWT\_24 24
- #define OBJ\_SNAP\_NULL 0
- #define OBJ\_SNAP\_ENDPOINT 1
- #define OBJ\_SNAP\_MIDPOINT 2
- #define OBJ\_SNAP\_CENTER 3
- #define OBJ\_SNAP\_NODE 4
- #define OBJ\_SNAP\_QUADRANT 5
- #define OBJ\_SNAP\_INTERSECTION 6
- #define OBJ\_SNAP\_EXTENSION 7
- #define OBJ\_SNAP\_INSERTION 8
- #define OBJ\_SNAP\_PERPENDICULAR 9
- #define OBJ\_SNAP\_TANGENT 10
- #define OBJ\_SNAP\_NEAREST 11
- #define OBJ\_SNAP\_APPINTERSECTION 12
- #define OBJ\_SNAP\_PARALLEL 13
- #define SNAP\_TYPES 14
- #define OBJ\_RUBBER\_OFF 0
- #define OBJ\_RUBBER\_ON 1
- #define OBJ\_RUBBER\_CIRCLE\_1P\_RAD 2
- #define OBJ\_RUBBER\_CIRCLE\_1P\_DIA 3
- #define OBJ\_RUBBER\_CIRCLE\_2P 4
- #define OBJ\_RUBBER\_CIRCLE\_3P 5
- #define OBJ\_RUBBER\_CIRCLE\_TTR 6
- #define OBJ\_RUBBER\_CIRCLE\_TTT 7
- #define OBJ\_RUBBER\_DIMLEADER\_LINE 8
- #define OBJ\_RUBBER\_ELLIPSE\_LINE 9
- #define OBJ\_RUBBER\_ELLIPSE\_MAJORDIAMETER\_MINORRADIUS 10
- #define OBJ\_RUBBER\_ELLIPSE\_MAJORRADIUS\_MINORRADIUS 11
- #define OBJ\_RUBBER\_ELLIPSE\_ROTATION 12
- #define OBJ\_RUBBER\_GRIP 13
- #define OBJ\_RUBBER\_LINE 14
- #define OBJ\_RUBBER\_POLYGON 15
- #define OBJ\_RUBBER\_POLYGON\_INSCRIBE 16
- #define OBJ\_RUBBER\_POLYGON\_CIRCUMSCRIBE 17
- #define OBJ\_RUBBER\_POLYLINE 18
- #define OBJ\_RUBBER\_IMAGE 19
- #define OBJ\_RUBBER\_RECTANGLE 20
- #define OBJ\_RUBBER\_TEXTSINGLE 21
- #define RUBBER\_MODES 22
- #define SPARE\_RUBBER\_OFF 0
- #define SPARE\_RUBBER\_PATH 1
- #define SPARE\_RUBBER\_POLYGON 2
- #define SPARE\_RUBBER\_POLYLINE 3
- #define PREVIEW\_CLONE\_NULL 0
- #define PREVIEW\_CLONE\_SELECTED 1
- #define PREVIEW\_CLONE\_RUBBER 2
- #define PREVIEW\_MODE\_NULL 0

- #define PREVIEW\_MODE\_OFF 0
- #define PREVIEW\_MODE\_MOVE 1
- #define PREVIEW\_MODE\_ROTATE 2
- #define PREVIEW\_MODE\_SCALE 3
- #define NUMBER\_ARCHITECTURAL 0
- #define NUMBER\_DECIMAL 1
- #define NUMBER\_ENGINEERING 2
- #define NUMBER\_FRACTIONAL 3
- #define NUMBER\_SCIENTIFIC 4
- #define DISABLE\_GRID 0
- #define RECTANGULAR\_GRID 1
- #define CIRCULAR\_GRID 2
- #define ISOMETRIC\_GRID 3
- #define ENABLE\_LWT "ENABLE\_LWT"
- #define ENABLE\_REAL "ENABLE\_REAL"
- #define VIEW\_COLOR\_CROSSHAIR "VIEW\_COLOR\_CROSSHAIR"
- #define VIEW\_COLOR\_GRID "VIEW\_COLOR\_GRID"
- #define EMB\_BLOCK -1
- #define EMB\_DIM\_ALIGNED -2
- #define EMB\_DIM\_ANGULAR -20
- #define EMB\_DIM\_ARCLENGTH -3
- #define EMB\_DIM\_LINEAR -4
- #define EMB\_DIM\_RADIUS -5
- #define EMB\_DIM\_ORDINATE -6
- #define EMB\_INFINITELINE -7
- #define EMB\_RAY -8
- #define DEFAULT\_MODE 0
- #define CIRCLE\_MODE\_1P\_RAD 1
- #define CIRCLE\_MODE\_1P\_DIA 2
- #define CIRCLE\_MODE\_2P 3
- #define CIRCLE\_MODE\_3P 4
- #define CIRCLE\_MODE\_TTR 5
- #define ELLIPSE\_MODE\_MAJORDIAMETER\_MINORRADIUS 6
- #define ELLIPSE\_MODE\_MAJORRADIUS\_MINORRADIUS 7
- #define ELLIPSE\_MODE\_ELLIPSE\_ROTATION 8
- #define DOLPHIN\_MODE\_NUM\_POINTS 9
- #define DOLPHIN\_MODE\_XSCALE 10
- #define DOLPHIN\_MODE\_YSCALE 11
- #define HEART\_MODE\_NUM\_POINTS 12
- #define HEART\_MODE\_STYLE 13
- #define HEART\_MODE\_XSCALE 14
- #define HEART\_MODE\_YSCALE 15
- #define ROTATE\_MODE\_NORMAL 16
- #define ROTATE\_MODE\_REFERENCE 17
- #define SCALE\_MODE\_NORMAL 18
- #define SCALE\_MODE\_REFERENCE 19
- #define SINGLE\_LINE\_TEXT\_MODE\_JUSTIFY 20
- #define SINGLE\_LINE\_TEXT\_MODE\_SETFONT 21
- #define SINGLE\_LINE\_TEXT\_MODE\_SETGEOM 22
- #define SINGLE\_LINE\_TEXT\_MODE\_RAPID 23
- #define STAR\_MODE\_NUM\_POINTS 24
- #define STAR\_MODE\_CENTER\_PT 25
- #define STAR\_MODE\_RAD\_OUTER 26
- #define STAR\_MODE\_RAD\_INNER 27
- #define SNOWFLAKE\_MODE\_NUM\_POINTS 28

- #define SNOWFLAKE\_MODE\_XSCALE 29
- #define SNOWFLAKE\_MODE\_YSCALE 30
- #define MSG\_CRITICAL 1
- #define MSG\_INFORMATION 2
- #define MSG\_QUESTION 3
- #define MSG\_WARNING 4
- #define JUSTIFY\_LEFT 0
- #define JUSTIFY\_RIGHT 1
- #define JUSTIFY\_ALIGN 2
- #define JUSTIFY\_MIDDLE 3
- #define JUSTIFY\_\_ 3
- #define JUSTIFY\_TOPLEFT 4
- #define JUSTIFY\_TOPCENTER 5
- #define JUSTIFY\_TOPRIGHT 6
- #define JUSTIFY\_MIDDLELEFT 7
- #define JUSTIFY\_MIDDLECENTER 8
- #define JUSTIFY\_MIDDLERIGHT 9
- #define JUSTIFY\_BOTTOMLEFT 10
- #define JUSTIFY\_BOTTOMCENTER 11
- #define JUSTIFY\_BOTTOMRIGHT 12
- #define RGB\_MODE\_BACKGROUND 0
- #define RGB\_MODE\_CROSSHAIR 1
- #define RGB\_MODE\_GRID 2

## Typedefs

- typedef struct [UiObject\\_UiObject](#)  
*This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.*
- typedef struct [UndoHistory\\_UndoHistory](#)
- typedef struct [IndexEntry\\_IndexEntry](#)
- typedef struct [Index\\_Index](#)
- typedef struct [View\\_View](#)
- typedef struct [Settings\\_Settings](#)  
*Settings System.*

## Enumerations

- enum [OBJ\\_KEYS](#) {  
OBJ\_TYPE = 0 , OBJ\_NAME = 1 , OBJ\_LAYER = 2 , OBJ\_COLOR = 3 ,  
OBJ\_LTYPE = 4 , OBJ\_LWT = 5 , OBJ\_RUBBER = 6 , OBJ\_TYPE = 0 ,  
OBJ\_NAME = 1 , OBJ\_LAYER = 2 , OBJ\_COLOR = 3 , OBJ\_LTYPE = 4 ,  
OBJ\_LWT = 5 , OBJ\_RUBBER = 6 }

## Functions

- static void `createOrigin` (void)
- static void `clear_selection` (void)

*Clear the current view's selection by ignoring the data contained in it.*
- static void `copy_selection` (void)

*Prevent memory leaks by deleting any unpasted instances.*
- static void `platform_string` (char str[200])

*Report the platform, usually as part of a debugging effort across platforms. str A character array pointer of where to store the result.*
- static void `usage` (void)

*Advice to users on how to use command line arguments.*
- static void `parse_command` (int argc, char \*argv[], char command[200])
- `UndoHistory undo_history_init` (void)

*Returns UndoHistory.*
- static void `undo_history_free` (UndoHistory \*)
- static void `add_to_undo_history` (UndoHistory \*undo\_history, const char \*command\_line)

*Adds a command line to the undo history.*
- bool `validRGB` (int r, int g, int b)

*Check that r, g and b are in the range 0-255 inclusive.*
- `View init_view` (void)

*Create a new view to represent the file being edited.*
- static void `read_settings` (const char \*settings\_file)
- static void `write_settings` (const char \*settings\_file)

*Write settings to file with file name settings\_file.*
- `EmbArray * createObjectList` (EmbArray \*list)

*list Returns EmbGeometry\**
- bool `streq` (const char \*s1, const char \*s2)

*Wrapper for the standard strncmp that is aware of our 200 character string limit.*
- static void `read_str_setting` (toml\_table\_t \*table, const char \*key, char s[200])
- int `read_int_setting` (toml\_table\_t \*table, const char \*key)
- bool `read_bool_setting` (toml\_table\_t \*table, const char \*key)
- `Dictionary * read_dictionary_setting` (toml\_table\_t \*table, const char \*key)
- static void `write_float_setting` (FILE \*file, const char \*key, float value)
- static void `write_int_setting` (FILE \*file, const char \*key, int value)
- static void `write_uint_setting` (FILE \*file, const char \*key, unsigned int value)
- static void `write_str_setting` (FILE \*file, const char \*key, const char value[200])
- static void `write_bool_setting` (FILE \*file, const char \*key, bool value)
- static void `write_dictionary_setting` (FILE \*file, const char \*key, Dictionary dict)
- static void `create_tab_general` (void)

*Create a tab general object.*
- static void `create_tab_files_paths` (void)

*Create a tab files paths object.*
- static void `create_tab_display` (void)

*Create a tab display object.*
- static void `create_tab_prompt` (void)
- static void `create_tab_open_save` (void)

*Create a tab open save object.*
- static void `create_tab_printing` (void)

*Create a tab printing object.*
- static void `create_tab_snap` (void)

*Create a tab snap object.*
- static void `create_tab_grid_ruler` (void)

- static void `create_tab_ortho_polar` (void)  
*Create a tab ortho polar object.*
- static void `create_tab_quicksnap` (void)  
*Create a tab quicksnap object.*
- static void `create_tab_quicktrack` (void)  
*Create a tab quicktrack object.*
- static void `create_tab_lineweight` (void)  
*Create a tab lineweight object.*
- static void `create_tab_selection` (void)  
*Create a tab selection object.*
- static void `arc_action` (void)  
*odo document this.*
- static void `circle_action` (void)
- static void `close_action` (void)  
*Close the current view.*
- static void `copy_action` (void)  
*Copy what is currently in active\_view->selected.*
- static void `cut_action` (void)  
*Cut what is currently in active\_view->selected.*
- static void `ellipse_action` (void)  
*odo document this.*
- static void `error_action` (const char \*msg)  
*msg*
- static void `exit_action` (void)
- static void `new_file_action` (void)
- static void `open_file_action` (int argc, char argv[10][200])  
*argc argv*
- static void `icon_action` (int new\_size)  
*new\_size*
- static void `pan_action` (const char \*mode)  
*mode*
- static void `paste_action` (void)
- static void `print_action` (void)
- static void `rectangle_action` (void)
- static void `redo_action` (void)
- static void `text_angle_action` (EmbReal angle)  
*angle*
- static void `text_font_action` (const char \*font)  
*font*
- static void `text_size_action` (EmbReal size)  
*size*
- static void `undo_action` (void)
- static void `vulcanize_action` (void)
- static void `window_action` (const char \*arg)  
*Alter the window layout based on the char array arg.*
- static void `zoom_action` (const char \*arg)  
*arg*
- static void `create_group_box_general` (int id, EmbPattern \*pattern)  
*Create a group box general object.*
- static void `create_group_box_arc` (int id, EmbArc \*arc)

- static void `create_group_box_block` (int id, `EmbBlock` \*obj)  
*Create a group box block object.*
- static void `create_group_box_circle` (int id, `EmbCircle` \*circle)  
*Create a group box circle object.*
- static void `create_group_box_dim_aligned` (int id, `EmbAlignedDim` \*obj)  
*Create a group box dim aligned object.*
- static void `create_group_box_dim_angular` (int id, `EmbAngularDim` \*obj)  
*Create a group box dim angular object.*
- static void `create_group_box_dim_arc_length` (int id, `EmbArcLengthDim` \*obj)  
*Create a group box dim arc length object.*
- static void `create_group_box_dim_diameter` (int id, `EmbDiameterDim` \*dim\_diameter)  
*Create a group box dim diameter object.*
- static void `create_group_box_dim_leader` (int id, `EmbLeaderDim` \*obj)  
*Create a group box dim leader object.*
- static void `create_group_box_dim_linear` (int id, `EmbLinearDim` \*obj)  
*Create a group box dim linear object.*
- static void `create_group_box_dim_ordinate` (int id, `EmbOrdinateDim` \*obj)  
*Create a group box dim ordinate object.*
- static void `create_group_box_dim_radius` (int id, `EmbRadiusDim` \*dim\_radius)  
*Create a group box dim radius object.*
- static void `create_group_box_ellipse` (int id, `EmbEllipse` \*ellipse)  
*Create a group box ellipse object.*
- static void `create_group_box_image` (int id, `EmblImage` \*image)  
*Create a group box image object.*
- static void `create_group_box_infinite_line` (int id, `EmblInfiniteLine` \*obj)  
*Create a group box infinite line object.*
- static void `create_group_box_line` (int id, `EmbLine` \*line)  
*Create a group box line object.*
- static void `create_group_box_path` (int id, `EmbPath` \*path)  
*Create a group box path object.*
- static void `create_group_box_point` (int id, `EmbPoint` \*point)  
*Create a group box point object.*
- static void `create_group_box_polygon` (int id, `EmbPolygon` \*polygon)  
*Create a group box polygon object.*
- static void `create_group_box_polyline` (int id, `EmbPolyline` \*polyline)  
*Create a group box polyline object.*
- static void `create_group_box_ray` (int id, `EmbRay` \*ray)  
*Create a group box ray object.*
- static void `create_group_box_rectangle` (int id, `EmbRect` \*rect)  
*Create a group box rectangle object.*
- static void `create_group_box_stitch` (int i, `EmbStitch` \*st)  
*Create a group box stitch object.*
- static void `create_group_box_stitch_list` (int id, `EmbArray` \*stitch\_list)  
*Create a group box stitch list object.*
- static void `create_group_box_text_multi` (int id, `EmbTextMulti` \*text\_multi)  
*Create a group box text multi object.*
- static void `create_group_box_text_single` (int id, `EmbTextSingle` \*text\_single)  
*Create a group box text single object.*
- static void `alert` (const char \*txt)

*Renderer for the alert dialog. Called by the main widget, with the message passed as txt.*

- static void `about_dialog` (void)  
*Renderer for the about dialog. Called by the main widget.*
- static void `changelog_dialog` (void)  
*Renderer for the changelog dialog. Called by the main widget.*
- static void `details_dialog` (void)
- static void `help_dialog` (void)  
*Renderer for the help dialog. Called by the main widget.*
- static void `tip_of_the_day_dialog` (void)
- `UiObject * UiObject_init` (int pattern\_index, char type[200], int object\_index)
- static void `UiObject_free` (`UiObject *obj`)
- `EmbRect boundingRect` (`UiObject *obj`)
- bool `clockwise` (`UiObject *obj`)
- static void `move` (`UiObject *obj`, `EmbVector delta`)
- static void `vulcanize` (`UiObject *obj`)
- `UiObject generic_design_init` (void)
- static `UiObject sandbox_main` (void)  
*float global = {};//Required global.test1; global.test2;*
- static void `sandbox_click` (`UiObject *global`, `EmbVector pos`)
- static void `sandbox_prompt` (`UiObject *global`, const char \*str)
- static `UiObject scale_main` (void)
- static void `scale_click` (`UiObject *global`, `EmbVector pos`)
- static void `scale_prompt` (`UiObject *global`, const char \*str)
- static `UiObject single_line_text_main` (void)
- static void `single_line_text_click` (`UiObject *global`, `EmbVector pos`)
- static void `single_line_text_prompt` (`UiObject *global`, const char \*str)
- static void `embArc_setCenter` (`EmbArc *arc`, `EmbVector point`)
- static void `embArc_setRadius` (`EmbArc *arc`, float radius)
- static void `embArc_setStartAngle` (`EmbArc *arc`, float angle)
- static void `embArc_setEndAngle` (`EmbArc *arc`, float angle)
- float `embArc_startAngle` (`EmbArc arc`)
- float `embArc_endAngle` (`EmbArc arc`)
- static void `embCircle_setArea` (`EmbCircle *circle`, float area)
- static void `embCircle_setCircumference` (`EmbCircle *circle`, float circumference)
- `UiObject snowflake_main` ()
- `UiObject snowflake_click` (`UiObject global`, `EmbVector position`)
- `UiObject snowflake_move` (`UiObject global`, `EmbVector delta`)  
*Move the snowflake design by a specified amount.*
- static void `updateSnowflake` (`EmbPath *path`, `UiObject global`)
- `UiObject star_main` (void)  
*Returns UiObject.*
- `UiObject star_click` (`UiObject global`, `EmbVector pos`)
- `UiObject star_move` (`UiObject global`, `EmbVector delta`)
- static void `updateStar` (`EmbPath *path`, `UiObject global`)
- `Index * index_init` (void)  
*Returns Index\*.*
- static void `index_free` (`Index *index`)
- `Dictionary * dictionary_from_index` (`Index *index`, const char \*label)
- static void `c_split` (char input[200], int \*argc, char argv[10][200])
- static void `open_file_dialog` (void)
- static void `create_tab` (int i)  
*Create the i-th view as a tab.*
- static void `load_menu` (const char \*menu\_label)
- static void `load_toolbar` (const char \*label)

- static void `simplify_path` (char \*path)  
*Simplifies a path by removing the .. and . symbols in place.*
- static void `status_bar` (void)
- static void `property_editor` (void)
- static void `load_configuration` (void)
- static void `pattern_view` (void)
- static void `actuator` (char command\_line[200])  
*The unified user interaction system which operates like a command line parser.*
- static void `settings_editor` (void)  
*Renderer for the interface of the settings editor, called by main\_widget.*
- int `main` (int argc, char \*argv[])  
*The program entry point on all platforms.*
- int `run_script` (const char \*filename)  
*A basic line-by-line script processor to allow for extensions to the program.*
- EmbReal `random_uniform` (void)  
*Generate a random number in the range (0.0, 1.0).*
- int `roundToMultiple` (int roundUp, int numToRound, int multiple)  
*Rounds integers to multiples of another given integer.*
- bool `willUnderflowInt32` (int32\_t a, int32\_t b)  
*Check whether an subtraction will cause underflow before we rely on the result.*
- bool `willOverflowInt32` (int32\_t a, int32\_t b)  
*Check whether an addition will cause overflow before we rely on the result.*
- bool `valid_file_format` (char \*fname)  
*Check if the filename is valid before we attempt to read or write it.*
- bool `test_translate` (void)  
*Check that the translate call can return an entry from the table.*
- EmbReal `emb_clamp` (EmbReal lower, EmbReal x, EmbReal upper)  
*Ensure that x lies in the range [lower, upper] by rounding up or down if x is outside of that range.*
- static void `undo_history_viewer` (void)
- GLuint `gen_gl_texture` (uint8\_t \*data, int w, int h, int wrap)
- GLuint `load_texture` (char fname[200])
- static void `view_empty_double_click` (void)
- static void `view_empty_paint_event` (View \*view, int \*event)
- static void `zoom_extents_all_subviews` (void)
- static void `save_bmc` (void)
- static void `set_current_file` (const char \*fileName)
- const char \* `get_short_current_file` (void)  
*Returns const char\*.*
- const char \* `file_extension` (const char \*fileName)
- static void `close_event` (int \*event)
- static void `on_window_activated` (void)
- EmbVector `size_hint` (void)  
*Returns EmbVector.*
- static void `current_layer_changed` (const char \*layer)
- static void `current_color_changed` (unsigned int color)
- static void `current_linetype_changed` (const char \*type)
- static void `current_lineweight_changed` (const char \*weight)
- static void `updateColorLinetypeLineweight` (void)
- static void `show_view_scrollbars` (bool val)
- static void `set_view_crosshair_color` (unsigned int color)
- static void `set_view_background_color` (unsigned int color)

- static void `set_view_selectbox_colors` (unsigned int colorL, unsigned int fillL, unsigned int colorR, unsigned int fillR, int alpha)
- static void `set_viewGridColor` (unsigned int color)
- static void `set_viewRulerColor` (unsigned int color)
- static void `prompt_input_prev_next` (bool prev)
- static void `set_prompt_prefix` (const char \*msg)
- static void `preview_dialog` (void)
- static void `set_mouse_coord` (`EmbVector` pos)  
*Set the Mouse Coord object.*
- static void `status_bar_context_menu` (void)  
*This appears not to be used any more.*
- static void `image_widget_init` (const char \*filename)
- bool `image_widget_load` (const char \*fileName)
- bool `image_widget_save` (const char \*fileName)
- static void `image_widget_paint_event` (void)
- static void `layer_manager` (`View` \*view)
- static void `Layer_manager_add_layer` (const char \*name, bool visible, bool frozen, `EmbReal` zValue, unsigned int color, const char \*lineType, const char \*lineWeight, bool print)
- static void `View_` (void)
- static void `view_free` (void)  
*Prevent memory leaks by deleting any objects that were removed from the scene.*
- static void `enter_event` (int \*event)
- static void `add_object` (`EmbGeometry` \*obj)
- static void `delete_object` (`EmbGeometry` \*obj)  
*We really just remove the objects from the scene. Deletion actually occurs in the destructor.*
- static void `preview_on` (int clone, int mode, `EmbReal` x, `EmbReal` y, `EmbReal` data)
- static void `preview_off` (void)
- static void `enableMoveRapidFire` (void)
- static void `disable_move_rapid_fire` (void)
- bool `allow_rubber` (void)  
*Returns true Returns false.*
- static void `add_to_rubber_room` (`EmbGeometry` \*item)
- static void `vulcanize_rubber_room` (void)
- static void `vulcanizeObject` (`EmbGeometry` \*obj)
- static void `clearRubberRoom` (void)
- static void `setRubberMode` (int mode)
- static void `setRubberPoint` (const char \*key, `EmbVector` point)
- static void `setRubberText` (const char \*key, const char \*txt)
- static void `setGridColor` (unsigned int color)
- static void `setRulerColor` (unsigned int color)
- static void `createGrid` (const char \*gridType)
- static void `createGridRect` (void)
- static void `createGridPolar` (void)
- static void `createGridIso` (void)
- static void `toggleGrid` (bool on)
- static void `drawBackground` (int \*painter, const `EmbRect` rect)
- static void `drawForeground` (int \*painter, `EmbRect` rect)
- static void `update_mouse_coords` (`EmbVector` position)
- static void `setCrossHairSize` (uint8\_t percent)
- static void `setCornerButton` (void)
- static void `cornerButtonClicked` (void)
- static void `selection_changed` (void)
- static void `mouse_double_click_event` (int \*event)
- static void `mouse_press_event` (int \*event)

- static void `panStart` (`EmbVector` point)
- static void `recalculateLimits` (void)

*NOTE: Increase the sceneRect limits if the point we want to go to lies outside of sceneRect's limits If the sceneRect limits aren't increased, you cannot pan past its limits.*
- static void `centerAt` (`EmbVector` centerPoint)
- static void `alignScenePointWithViewPoint` (`EmbVector` scenePoint, `EmbVector` viewPoint)
- static void `mouseMoveEvent` (int \*event)
- static void `mouseReleaseEvent` (int \*event)
- bool `allow_zoom_in` (void)
- bool `allow_zoom_out` (void)
- static void `wheel_event` (int \*event)
- static void `zoom_to_point` (`EmbVector` mousePoint, int zoomDir)
- static void `context_menu_event` (void)
- static void `delete_pressed` (void)
- static void `escape_pressed` (void)
- static void `start_gripping` (`EmbGeometry` \*obj)
- static void `stop_gripping` (bool accept)
- static void `delete_selected` (void)
- static void `cut` (void)
- static void `copy` (void)
- static void `paste` (void)
- static void `repeat_action` (void)
- static void `moveAction` (void)
- static void `moveSelected` (`EmbReal` dx, `EmbReal` dy)
- static void `rotateAction` (void)
- static void `rotateSelected` (`EmbReal` x, `EmbReal` y, `EmbReal` rot)
- static void `mirrorSelected` (`EmbReal` x1, `EmbReal` y1, `EmbReal` x2, `EmbReal` y2)
- static void `scaleAction` (void)
- static void `scaleSelected` (`EmbReal` x, `EmbReal` y, `EmbReal` factor)
- static void `showscrollbars` (bool val)
- static void `setCrossHairColor` (unsigned int color)
- static void `setBackgroundColor` (`EmbColor` color)
- static void `setSelectBoxColors` (unsigned int colorL, unsigned int fillL, unsigned int colorR, unsigned int fillR, int alpha)
- static void `selectbox_SelectBox` (void)
- static void `selectbox_setDirection` (int dir)
- static void `selectbox_set_colors` (`EmbColor` colorL, `EmbColor` fillL, `EmbColor` colorR, `EmbColor` fillR, int newAlpha)
- static void `selectbox_paintEvent` (int \*paint\_event)
- bool `property_editor_eventFilter` (void)

*Returns true Returns false.*
- int \* `property_editor_createComboBoxSelected` (void)

*Returns int\*.*
- int \* `property_editor_create_tool_buttonQSelect` (void)

*Returns int\*.*
- int \* `property_editor_create_tool_buttonPickAdd` (void)

*Returns int\*.*
- static void `property_editor_updatePickAddModeButton` (bool pickAddMode)
- static void `property_editor_togglePickAddMode` (void)
- static void `property_editor_set_selectedItems` (int \*item\_list, int length)
- static void `property_editor_updateLineEditStrlfVaries` (int \*lineEdit, const char \*str)
- static void `property_editor_updateLineEditNumIfVaries` (int \*lineEdit, `EmbReal` num, bool useAnglePrecision)
- static void `property_editor_updateFontComboBoxStrlfVaries` (int \*fontComboBox, const char \*str)

- static void `property_editor_updateComboBoxStrIfVaries` (int \*comboBox, const char \*str, const char \*\*strList)
- static void `property_editor_updateComboBoxBoolIfVaries` (int \*comboBox, bool val, bool yesOrNoText)
- static void `property_editor_showGroups` (int objType)
- static void `property_editor_showOneType` (int id)
- static void `property_editor_hideAllGroups` (void)
- void `log_debug` (const char \*msg)  
*Rather than outputting debug information to the command line it is sent to a file called "debug.txt" which is in the current directory.*
- const char \* `translate` (const char \*string)  
*Rather than using .po files we translate at runtime using this function.*
- `EmbLine stitch_line_to_scene` (View view, EmbStitch prev, EmbStitch st)
- int `render_pattern` (EmbPattern \*p)
- static void `render_shine` (EmbVector start, EmbVector end, EmbVector normal, float start\_frac, float end\_frac)  
*Add a rectangular shine in the direction indicated by normal.*
- static void `real_render_pattern` (EmbPattern \*p)
- static void `simulate_pattern` (EmbPattern \*p)
- static void `draw_rulers` (void)
- static void `draw_grid` (void)
- static void `settings_dialog_addColorsToComboBox` (int \*comboBox)
- static void `settings_dialog_comboBoxLanguageCurrentIndexChanged` (const char \*lang)
- static void `settings_dialog_comboBoxIconThemeCurrentIndexChanged` (const char \*theme)
- static void `settings_dialog_comboBoxIconSizeCurrentIndexChanged` (int index)
- static void `settings_dialog_checkBoxGeneralMdiBGUseLogoStateChanged` (int checked)
- static void `settings_dialog_chooseGeneralMdiBackgroundLogo` (void)
- static void `settings_dialog_checkBoxGeneralMdiBGUseTextureStateChanged` (int checked)
- static void `settings_dialog_chooseGeneralMdiBackgroundTexture` (void)
- static void `settings_dialog_checkBoxGeneralMdiBGUseColorStateChanged` (int checked)  
*checked.*
- static void `settings_dialog_chooseGeneralMdiBackgroundColor` (void)
- static void `settings_dialog_currentGeneralMdiBackgroundColorChanged` (EmbColor color)  
*color.*
- static void `settings_dialog_checkBoxShowscrollbarsStateChanged` (int checked)  
*checked.*
- static void `settings_dialog_chooseDisplayCrossHairColor` (void)
- static void `settings_dialog_currentDisplayCrossHairColorChanged` (EmbColor color)  
*color.*
- static void `settings_dialog_chooseDisplayBackgroundColor` (void)
- static void `settings_dialog_currentDisplayBackgroundColorChanged` (EmbColor color)  
*color.*
- static void `settings_dialog_chooseDisplaySelectBoxLeftColor` (void)
- static void `settings_dialog_currentDisplaySelectBoxLeftColorChanged` (EmbColor color)  
*color.*
- static void `settings_dialog_chooseDisplaySelectBoxLeftFill` (void)
- static void `settings_dialog_currentDisplaySelectBoxLeftFillChanged` (EmbColor color)  
*color.*
- static void `settings_dialog_chooseDisplaySelectBoxRightColor` (void)
- static void `settings_dialog_currentDisplaySelectBoxRightColorChanged` (EmbColor color)  
*color.*
- static void `settings_dialog_chooseDisplaySelectBoxRightFill` (void)
- static void `settings_dialog_currentDisplaySelectBoxRightFillChanged` (EmbColor color)  
*color.*
- static void `settings_dialog_spinBoxDisplaySelectBoxAlphaValueChanged` (int value)

- value.
- static void `settings_dialog_choosePromptTextColor` (void)
  - static void `settings_dialog_currentPromptTextColorChanged` (`EmbColor` color)  
*color*.
  - static void `settings_dialog_choosePromptBackgroundColor` (void)
  - static void `settings_dialog_currentPromptBackgroundColorChanged` (`EmbColor` color)  
*color*.
  - static void `settings_dialog_comboBoxPromptFontFamilyCurrentIndexChanged` (const char \*family)  
*family*
  - static void `settings_dialog_comboBoxPromptFontStyleCurrentIndexChanged` (const char \*style)  
*style*
  - static void `settings_dialog_spinBoxPromptFontSizeValueChanged` (int value)  
*value*
  - static void `settings_dialog_checkBoxCustomFilterStateChanged` (int checked)  
*checked*
  - static void `settings_dialog_buttonCustomFilterSelectAllClicked` (void)
  - static void `settings_dialog_buttonCustomFilterClearAllClicked` (void)
  - static void `settings_dialog_checkBoxGridColorMatchCrossHairStateChanged` (int checked)  
*checked*
  - static void `settings_dialog_chooseGridColor` (void)
  - static void `settings_dialog_currentGridColorChanged` (`EmbColor` color)  
*color*
  - static void `settings_dialog_checkBoxGridLoadFromFileStateChanged` (int checked)  
*checked*
  - static void `settings_dialog_comboBoxGridTypeCurrentIndexChanged` (const char \*type)  
*type*
  - static void `settings_dialog_checkBoxGridCenterOnOriginStateChanged` (int checked)  
*checked*
  - static void `settings_dialog_comboBoxRulerMetricCurrentIndexChanged` (int index)  
*index*
  - static void `settings_dialog_chooseRulerColor` (void)
  - static void `settings_dialog_currentRulerColorChanged` (`EmbColor` color)  
*color*.
  - static void `settings_dialog_buttonQSnapSelectAllClicked` (void)
  - static void `settings_dialog_buttonQSnapClearAllClicked` (void)  
*odo document this.*
  - static void `settings_dialog_comboBoxQSnapLocatorColorCurrentIndexChanged` (int index)  
*index*.
  - static void `settings_dialog_checkBoxLwtShowLwtStateChanged` (int checked)  
*checked*.
  - static void `settings_dialog_checkBoxLwtRealRenderStateChanged` (int checked)  
*checked*.
  - static void `settings_dialog_combobox_selectionCoolGripColorCurrentIndexChanged` (int index)  
*index*.
  - static void `settings_dialog_combobox_selectionHotGripColorCurrentIndexChanged` (int index)  
*index*.
  - static void `settings_dialog_acceptChanges` (void)
  - static void `settings_dialog_rejectChanges` (void)
  - static void `stub_implement` (const char \*msg)  
*msg*
  - static void `export_action` (const char \*filename)

- static void `save_as_file_action` (char \*filename)  
    *filename*
- static void `triangle_action` (void)
- static void `messagebox_action` (void)
- static void `print_area_action` (void)
- static void `background_color_action` (void)
- static void `crosshair_color_action` (void)
- static void `grid_color_action` (void)
- static void `preview_on_action` (void)
- static void `set_rubber_mode_action` (char \*label, int mode)  
    *Set the rubber mode action object.*
- static void `rubber_point_action` (void)
- static void `rubber_text_action` (void)
- static void `add_rubber_action` (void)
- static void `spare_rubber_action` (void)
- static void `text_multi_action` (void)
- static void `text_single_action` (void)
- static void `infinite_line_action` (void)
- static void `ray_action` (void)
- static void `line_action` (void)
- static void `rounded_rectangle_action` (void)
- static void `add_slot_action` (void)
- static void `add_point_action` (void)
- static void `polygon_action` (void)
- static void `polyline_action` (`EmbVector` start, `EmbPath` \*p, int rubberMode)  
    *NOTE: This is different than the rest in that the Y+ is down (scripters need not worry about this)*
- static void `set_cursor_shape_action` (int shape)  
    *Set the cursor shape action object.*
- static void `calculate_angle_action` (void)
- static void `calculate_distance_action` (void)
- `EmbReal embVector_perpendicularDistance` (`EmbVector` p, `EmbLine` line)  
    *p line Returns EmbReal*
- static void `cut_selected` (void)
- static void `copy_selected` (void)
- static void `paste_selected` (void)
- static void `move_selected_action` (void)
- static void `scale_selected_action` (void)
- static void `rotate_selected_action` (void)
- static void `mirror_selected_action` (`EmbLine` line)
- static void `stub_testing_action` (void)
- static void `checkForUpdates` (void)
- static void `whats_this_context_help_action` (void)
- static void `button_tip_of_the_day_clicked` (int button)
- static void `setUndoCleanIcon` (void)  
    *Set the Undo Clean Icon object.*
- static void `updateAllViewscrollbars` (bool val)
- static void `updateAllViewCrossHairColors` (unsigned int color)
- static void `updateAllViewBackgroundColors` (unsigned int color)  
    *color*
- static void `updateAllViewSelectBoxColors` (unsigned int colorL, unsigned int fillL, unsigned int colorR, unsigned int fillR, int alpha)
- static void `updateAllViewGridColors` (unsigned int color)

- static void `updateAllViewRulerColors` (unsigned int color)  
*color*
- static void `updatePickAddMode` (bool val)  
*val*
- static void `pickAddModeToggled` (void)
- static void `makeLayerActive` (void)  
*Layer Toolbar.*
- static void `layerManager` (void)
- static void `layerPrevious` (void)
- static void `layerSelectorIndexChanged` (int index)  
*index*
- static void `colorSelectorIndexChanged` (int index)  
*index*
- static void `linetypeSelectorIndexChanged` (int index)  
*index*
- static void `lineweightSelectorIndexChanged` (int index)  
*index*
- static void `textFontSelectorCurrentFontChanged` (int font)  
*font*
- static void `textSizeSelectorIndexChanged` (int index)  
*index*
- static void `setTextFont` (const char \*str)  
*Set the Text Font object.*
- static void `setTextSize` (double num)  
*Set the Text Size object.*
- char \* `getCurrentLayer` (void)  
*Get the Current Layer object.*
- unsigned int `getCurrentColor` (void)  
*Get the Current Color object.*
- char \* `getCurrentLineType` (void)  
*Get the Current Line Type object.*
- char \* `getCurrentLineWeight` (void)  
*Get the Current Line Weight object.*
- static void `promptHistoryAppended` (const char \*txt)  
*txt*
- static void `logPromptInput` (const char \*txt)  
*txt*
- static void `promptInputPrevious` (void)
- static void `promptInputNext` (void)
- static void `enablePromptRapidFire` (void)
- static void `disablePromptRapidFire` (void)
- static void `init_command` (void)
- static void `end_command` (void)
- static void `Help` (void)
- static void `TipOfTheDay` (void)
- static void `messagebox` (int type, char title[200], char text[200])  
*type title text*
- static void `PrintArea` (EmbReal x, EmbReal y, EmbReal w, EmbReal h)  
*x y w h*
- static void `setBackgroundColor_` (int r, int g, int b)  
*Set the Background Color object.*

- static void `set_crosshair_color` (int r, int g, int b)  
*Set the crosshair color object.*
- static void `set_grid_color` (int r, int g, int b)  
*Set the grid color object.*
- static void `clear_rubber` (void)
- static void `spare_rubber` (size\_t id)  
*id.*
- static void `set_rubber_point` (const char \*key, `EmbVector` position)  
*Set the rubber point object.*
- static void `set_rubber_text` (const char \*key, const char \*txt)  
*Set the rubber text object.*
- static void `add_text_multi` (const char \*str, `EmbVector` pos, `EmbReal` rot, bool fill, int rubberMode)
- static void `add_text_single` (const char \*str, `EmbReal` x, `EmbReal` y, `EmbReal` rot, bool fill, int rubberMode)
- static void `add_infinite_line` (`EmbReal` x1, `EmbReal` y1, `EmbReal` x2, `EmbReal` y2, `EmbReal` rot)  
*x1 y1 x2 y2 rot*
- static void `add_ray` (`EmbReal` x1, `EmbReal` y1, `EmbReal` x2, `EmbReal` y2, `EmbReal` rot)  
*x1 y1 x2 y2 rot*
- static void `add_line` (`EmbLine` line, `EmbReal` rot, int rubberMode)  
*line rot rubberMode*
- static void `add_ellipse` (`EmbReal` centerX, `EmbReal` centerY, `EmbReal` width, `EmbReal` height, `EmbReal` rot, bool fill, int rubberMode)  
*centerX centerY width height rot fill rubberMode*
- static void `add_point` (`EmbReal` x, `EmbReal` y)  
*x y*
- static void `add_regular_polygon` (`EmbReal` centerX, `EmbReal` centerY, int sides, int mode, `EmbReal` rad, `EmbReal` rot, bool fill)  
*centerX centerY sides mode rad rot fill*
- static void `path_action` (`EmbReal` startX, `EmbReal` startY, `EmbPath` \*p, int rubberMode)  
*startX startY p rubberMode*
- static void `horizontal_dimension_action` (void)
- static void `vertical_dimension_action` (void)
- static void `image_action` (void)  
*Add an `EmblImage` to the current view.*
- static void `dim_leader_action` (void)  
*Add a `EmbDimLeader` to the current view.*
- `EmbReal calculate_angle` (`EmbReal` x1, `EmbReal` y1, `EmbReal` x2, `EmbReal` y2)  
*x1 y1 x2 y2 Returns EmbReal*
- `EmbReal perpendicular_distance` (`EmbVector` p, `EmbLine` line)  
*p line Returns EmbReal*
- static void `createAllActions` (void)  
*Create a All Actions object.*
- static void `create_layer_toolbar` (void)  
*Create a layer toolbar object.*
- static void `create_properties_toolbar` (void)  
*Create a properties toolbar object.*
- static void `create_text_toolbar` (void)  
*Create a text toolbar object.*
- static void `create_prompt_toolbar` (void)  
*Create a prompt toolbar object.*
- static void `MainWindow` (void)
- static void `recentMenuAboutToShow` (void)

- static void `window_menu_about_to_show` (void)
- static void `window_menu_activated` (bool checked)  
    *checked*
- static void `open_recent_file` (void)
- int `find_view` (const char \*fileName)  
    *fileName Returns int*
- static void `resize_event` (void)
- static void `update_menu_toolbar_statusbar` (void)
- static void `load_formats` (void)
- static void `close_toolbar_action` (int \*action)  
    *action*
- static void `floating_changed_toolbar_action` (bool isFloating)  
    *isFloating*
- static void `undo_editor_init` (char \*iconDirectory)  
    *iconDirectory*
- static void `update_clean_icon` (bool opened)  
    *opened*
- static void `rotate` (EmbVector point, EmbReal rot)  
*Actions that were Qt internals were here. addStack, canUndo, canRedo, undoText, redoText, undo, redo.*
- static void `scale_action` (EmbVector position, EmbReal scaleFactor, char \*text, EmbGeometry \*obj, View \*v)  
    *position scaleFactor text obj v*
- static void `scale_undo` (void)
- static void `scale_redo` (void)
- static void `undoable_navigation_command` (char \*type, View \*v)  
    *type v*
- bool `merge_with` (void)  
*Returns Boolean value representing the success or failure of the function.*
- static void `undo_navigation` (void)
- static void `redo_navigation` (void)
- static void `embCircle_click` (UiObject \*global, EmbVector position)  
    *position*
- static void `embCircle_prompt` (UiObject \*global, const char \*str)  
    *str*
- bool `save_save` (const char \*fileName)
- static void `save_toPolyline` (EmbPattern \*pattern, EmbVector objPos, EmbPath objPath, const char \*layer, EmbColor color, const char \*lineType, const char \*lineWeight)  
*Old conversion method for saving to non-design formats: move to libembroidery.*
- UiObject `dolphin_main` (void)  
*Initialise a Dolphin design element.*
- static void `updateDolphin` (EmbArray \*path, UiObject global)  
    *path global*
- static UiObject `heart_init` (void)
- static void `update_heart` (EmbPath \*path, UiObject global)  
    *path global*
- static UiObject `path_init` (void)  
*Returns UiObject.*
- static void `path_click` (UiObject \*global, EmbVector position)  
*Alter global using the supplied position, depending on the mode.*
- static void `path_prompt` (const char \*str)  
    *str*
- static UiObject `point_init` (void)
- static void `point_click` (UiObject global, EmbVector position)

## Variables

- `Settings settings`
  - `Index * menu_layout`
  - `Index * toolbar_layout`
  - `View views [50]`
  - `int n_views = 0`
  - `char menu_action [200]`
  - `char current_directory [200] = "/"`
  - `char to_open [200] = ""`
  - `char settings_dir [200]`
  - `char settings_file [200]`
  - `static Settings dialog`
  - `static Settings preview`
  - `bool just_opened = true`
  - `Dictionary * translation_table`
  - `View * active_view = NULL`
  - `static bool stor [10]`
  - `static int from_ = 0`
  - `static int to_ = 10`
  - `const char * languages [20]`

*The language strings for identifying where to look for translation tables.*

### 14.17.1 Macro Definition Documentation

**14.17.1.1 BRUSH\_STYLE\_DASHED** #define BRUSH\_STYLE\_DASHED 0

**14.17.1.2 BRUSH\_STYLE\_SOLID** #define BRUSH\_STYLE\_SOLID 1

**14.17.1.3 CIRCLE\_MODE\_1P\_DIA** #define CIRCLE\_MODE\_1P\_DIA 2

**14.17.1.4 CIRCLE\_MODE\_1P\_RAD** #define CIRCLE\_MODE\_1P\_RAD 1

**14.17.1.5 CIRCLE\_MODE\_2P** #define CIRCLE\_MODE\_2P 3

**14.17.1.6 CIRCLE\_MODE\_3P** #define CIRCLE\_MODE\_3P 4

**14.17.1.7 CIRCLE\_MODE\_TTR** #define CIRCLE\_MODE\_TTR 5

**14.17.1.8 CIRCULAR\_GRID** #define CIRCULAR\_GRID 2

**14.17.1.9 DEFAULT\_MODE** #define DEFAULT\_MODE 0

Modes for the UiObject struct.

**14.17.1.10 DIRECTION\_LEFT** #define DIRECTION\_LEFT 1

**14.17.1.11 DIRECTION\_RIGHT** #define DIRECTION\_RIGHT 0

**14.17.1.12 DISABLE\_GRID** #define DISABLE\_GRID 0

**14.17.1.13 DOLPHIN\_MODE\_NUM\_POINTS** #define DOLPHIN\_MODE\_NUM\_POINTS 9

**14.17.1.14 DOLPHIN\_MODE\_XSCALE** #define DOLPHIN\_MODE\_XSCALE 10

**14.17.1.15 DOLPHIN\_MODE\_YSCALE** #define DOLPHIN\_MODE\_YSCALE 11

**14.17.1.16 ELLIPSE\_MODE\_ELLIPSE\_ROTATION** #define ELLIPSE\_MODE\_ELLIPSE\_ROTATION 8

**14.17.1.17 ELLIPSE\_MODE\_MAJORDIAMETER\_MINORRADIUS** #define ELLIPSE\_MODE\_MAJORDIAMETER←  
\_MINORRADIUS 6

**14.17.1.18 ELLIPSE\_MODE\_MAJORRADIUS\_MINORRADIUS** #define ELLIPSE\_MODE\_MAJORRADIUS\_←  
MINORRADIUS 7

**14.17.1.19 EMB\_BLOCK** #define EMB\_BLOCK -1

These values are incorrect and need to be in libembroidery.

**14.17.1.20 EMB\_DIM\_ALIGNED** #define EMB\_DIM\_ALIGNED -2

**14.17.1.21 EMB\_DIM\_ANGULAR** #define EMB\_DIM\_ANGULAR -20

**14.17.1.22 EMB\_DIM\_ARCLENGTH** #define EMB\_DIM\_ARCLENGTH -3

**14.17.1.23 EMB\_DIM\_LINEAR** #define EMB\_DIM\_LINEAR -4

**14.17.1.24 EMB\_DIM\_ORDINATE** #define EMB\_DIM\_ORDINATE -6

**14.17.1.25 EMB\_DIM\_RADIUS** #define EMB\_DIM\_RADIUS -5

**14.17.1.26 EMB\_INFINITELINE** #define EMB\_INFINITELINE -7

**14.17.1.27 EMB\_RAY** #define EMB\_RAY -8

**14.17.1.28 ENABLE\_LWT** #define ENABLE\_LWT "ENABLE\_LWT"

**14.17.1.29 ENABLE\_REAL** #define ENABLE\_REAL "ENABLE\_REAL"

**14.17.1.30 HEART\_MODE\_NUM\_POINTS** #define HEART\_MODE\_NUM\_POINTS 12

**14.17.1.31 HEART\_MODE\_STYLE** #define HEART\_MODE\_STYLE 13

**14.17.1.32 HEART\_MODE\_XSCALE** #define HEART\_MODE\_XSCALE 14

**14.17.1.33 HEART\_MODE\_YSCALE** #define HEART\_MODE\_YSCALE 15

**14.17.1.34 ISOMETRIC\_GRID** #define ISOMETRIC\_GRID 3

**14.17.1.35 JUSTIFY\_\_** #define JUSTIFY\_\_ 3

**14.17.1.36 JUSTIFY\_ALIGN** #define JUSTIFY\_ALIGN 2

**14.17.1.37 JUSTIFY\_BOTTOMCENTER** #define JUSTIFY\_BOTTOMCENTER 11

**14.17.1.38 JUSTIFY\_BOTTOMLEFT** #define JUSTIFY\_BOTTOMLEFT 10

**14.17.1.39 JUSTIFY\_BOTTOMRIGHT** #define JUSTIFY\_BOTTOMRIGHT 12

**14.17.1.40 JUSTIFY\_LEFT** #define JUSTIFY\_LEFT 0

A kind of text justification.

**14.17.1.41 JUSTIFY\_MIDDLE** #define JUSTIFY\_MIDDLE 3

**14.17.1.42 JUSTIFY\_MIDDLECENTER** #define JUSTIFY\_MIDDLECENTER 8

**14.17.1.43 JUSTIFY\_MIDDLELEFT** #define JUSTIFY\_MIDDLELEFT 7

**14.17.1.44 JUSTIFY\_MIDDLERIGHT** #define JUSTIFY\_MIDDLERIGHT 9

**14.17.1.45 JUSTIFY\_RIGHT** #define JUSTIFY\_RIGHT 1

**14.17.1.46 JUSTIFY\_TOPCENTER** #define JUSTIFY\_TOPCENTER 5

**14.17.1.47 JUSTIFY\_TOPLEFT** #define JUSTIFY\_TOPLEFT 4

**14.17.1.48 JUSTIFY\_TOPRIGHT** #define JUSTIFY\_TOPRIGHT 6

**14.17.1.49 LINE\_STYLE\_DASHED** #define LINE\_STYLE\_DASHED 0

**14.17.1.50 LINE\_STYLE\_SOLID** #define LINE\_STYLE\_SOLID 1

**14.17.1.51 MITER\_JOIN** #define MITER\_JOIN 0

**14.17.1.52 MSG\_CRITICAL** #define MSG\_CRITICAL 1

Kinds of messagebox.

**14.17.1.53 MSG\_INFORMATION** #define MSG\_INFORMATION 2

**14.17.1.54 MSG\_QUESTION** #define MSG\_QUESTION 3

**14.17.1.55 MSG\_WARNING** #define MSG\_WARNING 4

**14.17.1.56 NUMBER\_ARCHITECTURAL** #define NUMBER\_ARCHITECTURAL 0

**14.17.1.57 NUMBER\_DECIMAL** #define NUMBER\_DECIMAL 1

**14.17.1.58 NUMBER\_ENGINEERING** #define NUMBER\_ENGINEERING 2

**14.17.1.59 NUMBER\_FRACTIONAL** #define NUMBER\_FRACTIONAL 3

**14.17.1.60 NUMBER\_SCIENTIFIC** #define NUMBER\_SCIENTIFIC 4

**14.17.1.61 OBJ\_LTYPE\_CENTER** #define OBJ\_LTYPE\_CENTER 1

**14.17.1.62 OBJ\_LTYPE\_CONT** #define OBJ\_LTYPE\_CONT 0

**14.17.1.63 OBJ\_LTYPE\_DOT** #define OBJ\_LTYPE\_DOT 2

**14.17.1.64 OBJ\_LTYPE\_FISHBONE** #define OBJ\_LTYPE\_FISHBONE 8

**14.17.1.65 OBJ\_LTYPE\_HIDDEN** #define OBJ\_LTYPE\_HIDDEN 3

**14.17.1.66 OBJ\_LTYPE\_PHANTOM** #define OBJ\_LTYPE\_PHANTOM 4

**14.17.1.67 OBJ\_LTYPE\_RUNNING** #define OBJ\_LTYPE\_RUNNING 6

**14.17.1.68 OBJ\_LTYPE\_SATIN** #define OBJ\_LTYPE\_SATIN 7

**14.17.1.69 OBJ\_LTYPE\_ZIGZAG** #define OBJ\_LTYPE\_ZIGZAG 5

**14.17.1.70 OBJ\_LWT\_01** #define OBJ\_LWT\_01 1

**14.17.1.71 OBJ\_LWT\_02** #define OBJ\_LWT\_02 2

**14.17.1.72 OBJ\_LWT\_03** #define OBJ\_LWT\_03 3

**14.17.1.73 OBJ\_LWT\_04** #define OBJ\_LWT\_04 4

**14.17.1.74 OBJ\_LWT\_05** #define OBJ\_LWT\_05 5

**14.17.1.75 OBJ\_LWT\_06** #define OBJ\_LWT\_06 6

**14.17.1.76 OBJ\_LWT\_07** #define OBJ\_LWT\_07 7

**14.17.1.77 OBJ\_LWT\_08** #define OBJ\_LWT\_08 8

**14.17.1.78 OBJ\_LWT\_09** #define OBJ\_LWT\_09 9

**14.17.1.79 OBJ\_LWT\_10** #define OBJ\_LWT\_10 10

**14.17.1.80 OBJ\_LWT\_11** #define OBJ\_LWT\_11 11

**14.17.1.81 OBJ\_LWT\_12** #define OBJ\_LWT\_12 12

**14.17.1.82 OBJ\_LWT\_13** #define OBJ\_LWT\_13 13

**14.17.1.83 OBJ\_LWT\_14** #define OBJ\_LWT\_14 14

**14.17.1.84 OBJ\_LWT\_15** #define OBJ\_LWT\_15 15

**14.17.1.85 OBJ\_LWT\_16** #define OBJ\_LWT\_16 16

**14.17.1.86 OBJ\_LWT\_17** #define OBJ\_LWT\_17 17

**14.17.1.87 OBJ\_LWT\_18** #define OBJ\_LWT\_18 18

**14.17.1.88 OBJ\_LWT\_19** #define OBJ\_LWT\_19 19

**14.17.1.89 OBJ\_LWT\_20** #define OBJ\_LWT\_20 20

**14.17.1.90 OBJ\_LWT\_21** #define OBJ\_LWT\_21 21

**14.17.1.91 OBJ\_LWT\_22** #define OBJ\_LWT\_22 22

**14.17.1.92 OBJ\_LWT\_23** #define OBJ\_LWT\_23 23

**14.17.1.93 OBJ\_LWT\_24** #define OBJ\_LWT\_24 24

**14.17.1.94 OBJ\_LWT\_BYBLOCK** #define OBJ\_LWT\_BYBLOCK (-1)

**14.17.1.95 OBJ\_LWT\_BYLAYER** #define OBJ\_LWT\_BYLAYER (-2)

**14.17.1.96 OBJ\_LWT\_DEFAULT** #define OBJ\_LWT\_DEFAULT 0

**14.17.1.97 OBJ\_RUBBER\_CIRCLE\_1P\_DIA** #define OBJ\_RUBBER\_CIRCLE\_1P\_DIA 3

For the circle object currently focussed, show two rubber points: one for the left of the diameter and one for the right. These rubber points can be moved around the circle, but they always oppose one another.

**14.17.1.98 OBJ\_RUBBER\_CIRCLE\_1P\_RAD** #define OBJ\_RUBBER\_CIRCLE\_1P\_RAD 2

For the circle object currently focussed, show two rubber points: one for the centre (the anchor) and the other at some point on the radius to adjust the radius.

**14.17.1.99 OBJ\_RUBBER\_CIRCLE\_2P** #define OBJ\_RUBBER\_CIRCLE\_2P 4

**14.17.1.100 OBJ\_RUBBER\_CIRCLE\_3P** #define OBJ\_RUBBER\_CIRCLE\_3P 5

**14.17.1.101 OBJ\_RUBBER\_CIRCLE\_TTR** #define OBJ\_RUBBER\_CIRCLE\_TTR 6

**14.17.1.102 OBJ\_RUBBER\_CIRCLE\_TTT** #define OBJ\_RUBBER\_CIRCLE\_TTT 7

**14.17.1.103 OBJ\_RUBBER\_DIMLEADER\_LINE** #define OBJ\_RUBBER\_DIMLEADER\_LINE 8

**14.17.1.104 OBJ\_RUBBER\_ELLIPSE\_LINE** #define OBJ\_RUBBER\_ELLIPSE\_LINE 9

**14.17.1.105 OBJ\_RUBBER\_ELLIPSE\_MAJORDIAMETER\_MINORRADIUS** #define OBJ\_RUBBER\_ELLIPSE←  
\_MAJORDIAMETER\_MINORRADIUS 10

**14.17.1.106 OBJ\_RUBBER\_ELLIPSE\_MAJORRADIUS\_MINORRADIUS** #define OBJ\_RUBBER\_ELLIPSE←  
\_MAJORRADIUS\_MINORRADIUS 11

**14.17.1.107 OBJ\_RUBBER\_ELLIPSE\_ROTATION** #define OBJ\_RUBBER\_ELLIPSE\_ROTATION 12

**14.17.1.108 OBJ\_RUBBER\_GRIP** #define OBJ\_RUBBER\_GRIP 13

**14.17.1.109 OBJ\_RUBBER\_IMAGE** #define OBJ\_RUBBER\_IMAGE 19

**14.17.1.110 OBJ\_RUBBER\_LINE** #define OBJ\_RUBBER\_LINE 14

**14.17.1.111 OBJ\_RUBBER\_OFF** #define OBJ\_RUBBER\_OFF 0

Rubber point modes.

**14.17.1.112 OBJ\_RUBBER\_VALUES** NOTE: Allow this enum to evaluate false and true

**14.17.1.113 OBJ\_RUBBER\_ON** #define OBJ\_RUBBER\_ON 1

**14.17.1.114 OBJ\_RUBBER\_POLYGON** #define OBJ\_RUBBER\_POLYGON 15

**14.17.1.115 OBJ\_RUBBER\_POLYGON\_CIRCUMSCRIBE** #define OBJ\_RUBBER\_POLYGON\_CIRCUMSCRIBE 17

**14.17.1.116 OBJ\_RUBBER\_POLYGON\_INSCRIBE** #define OBJ\_RUBBER\_POLYGON\_INSCRIBE 16

**14.17.1.117 OBJ\_RUBBER\_POLYLINE** #define OBJ\_RUBBER\_POLYLINE 18

**14.17.1.118 OBJ\_RUBBER\_RECTANGLE** #define OBJ\_RUBBER\_RECTANGLE 20

**14.17.1.119 OBJ\_RUBBER\_TEXTSINGLE** #define OBJ\_RUBBER\_TEXTSINGLE 21

**14.17.1.120 OBJ\_SNAP\_APPINTERSECTION** #define OBJ\_SNAP\_APPINTERSECTION 12

**14.17.1.121 OBJ\_SNAP\_CENTER** #define OBJ\_SNAP\_CENTER 3

**14.17.1.122 OBJ\_SNAP\_ENDPOINT** #define OBJ\_SNAP\_ENDPOINT 1

**14.17.1.123 OBJ\_SNAP\_EXTENSION** #define OBJ\_SNAP\_EXTENSION 7

**14.17.1.124 OBJ\_SNAP\_INSERTION** #define OBJ\_SNAP\_INSERTION 8

**14.17.1.125 OBJ\_SNAP\_INTERSECTION** #define OBJ\_SNAP\_INTERSECTION 6

**14.17.1.126 OBJ\_SNAP\_MIDPOINT** #define OBJ\_SNAP\_MIDPOINT 2

**14.17.1.127 OBJ\_SNAP\_NEAREST** #define OBJ\_SNAP\_NEAREST 11

**14.17.1.128 OBJ\_SNAP\_NODE** #define OBJ\_SNAP\_NODE 4

**14.17.1.129 OBJ\_SNAP\_NULL** #define OBJ\_SNAP\_NULL 0

**14.17.1.130 OBJ\_SNAP\_PARALLEL** #define OBJ\_SNAP\_PARALLEL 13

**14.17.1.131 OBJ\_SNAP\_PERPENDICULAR** #define OBJ\_SNAP\_PERPENDICULAR 9

**14.17.1.132 OBJ\_SNAP\_QUADRANT** #define OBJ\_SNAP\_QUADRANT 5

**14.17.1.133 OBJ\_SNAP\_TANGENT** #define OBJ\_SNAP\_TANGENT 10

**14.17.1.134 OBJ\_TYPE\_ARC** #define OBJ\_TYPE\_ARC 1

**14.17.1.135 OBJ\_TYPE\_BASE** #define OBJ\_TYPE\_BASE 0

**14.17.1.136 OBJ\_TYPE\_BLOCK** #define OBJ\_TYPE\_BLOCK 2

**14.17.1.137 OBJ\_TYPE\_CIRCLE** #define OBJ\_TYPE\_CIRCLE 3

**14.17.1.138 OBJ\_TYPE\_DIMALIGNED** #define OBJ\_TYPE\_DIMALIGNED 4

**14.17.1.139 OBJ\_TYPE\_DIMANGULAR** #define OBJ\_TYPE\_DIMANGULAR 5

**14.17.1.140 OBJ\_TYPE\_DIMARCLENGTH** #define OBJ\_TYPE\_DIMARCLENGTH 6

**14.17.1.141 OBJ\_TYPE\_DIMDIAMETER** #define OBJ\_TYPE\_DIMDIAMETER 7

**14.17.1.142 OBJ\_TYPE\_DIMLEADER** #define OBJ\_TYPE\_DIMLEADER 8

**14.17.1.143 OBJ\_TYPE\_DIMLINEAR** #define OBJ\_TYPE\_DIMLINEAR 9

**14.17.1.144 OBJ\_TYPE\_DIMORDINATE** #define OBJ\_TYPE\_DIMORDINATE 10

**14.17.1.145 OBJ\_TYPE\_DIMRADIUS** #define OBJ\_TYPE\_DIMRADIUS 11

**14.17.1.146 OBJ\_TYPE\_ELLIPSE** #define OBJ\_TYPE\_ELLIPSE 12

**14.17.1.147 OBJ\_TYPE\_ELLIPSEARC** #define OBJ\_TYPE\_ELLIPSEARC 13

**14.17.1.148 OBJ\_TYPE\_GRID** #define OBJ\_TYPE\_GRID 15

**14.17.1.149 OBJ\_TYPE\_HATCH** #define OBJ\_TYPE\_HATCH 16

**14.17.1.150 OBJ\_TYPE\_IMAGE** #define OBJ\_TYPE\_IMAGE 17

**14.17.1.151 OBJ\_TYPE\_INFINITELINE** #define OBJ\_TYPE\_INFINITELINE 18

**14.17.1.152 OBJ\_TYPE\_LINE** #define OBJ\_TYPE\_LINE 19

**14.17.1.153 OBJ\_TYPE\_NULL** #define OBJ\_TYPE\_NULL 0

**14.17.1.154 OBJ\_TYPE\_PATH** #define OBJ\_TYPE\_PATH 20

**14.17.1.155 OBJ\_TYPE\_POINT** #define OBJ\_TYPE\_POINT 21

**14.17.1.156 OBJ\_TYPE\_POLYGON** #define OBJ\_TYPE\_POLYGON 22

**14.17.1.157 OBJ\_TYPE\_POLYLINE** #define OBJ\_TYPE\_POLYLINE 23

**14.17.1.158 OBJ\_TYPE\_RAY** #define OBJ\_TYPE\_RAY 24

**14.17.1.159 OBJ\_TYPE\_RECTANGLE** #define OBJ\_TYPE\_RECTANGLE 25

**14.17.1.160 OBJ\_TYPE\_RUBBER** #define OBJ\_TYPE\_RUBBER 14

**14.17.1.161 OBJ\_TYPE\_SLOT** #define OBJ\_TYPE\_SLOT 26

**14.17.1.162 OBJ\_TYPE\_SPLINE** #define OBJ\_TYPE\_SPLINE 27

**14.17.1.163 OBJ\_TYPE\_TEXTMULTI** #define OBJ\_TYPE\_TEXTMULTI 28

**14.17.1.164 OBJ\_TYPE\_TEXTSINGLE** #define OBJ\_TYPE\_TEXTSINGLE 29

**14.17.1.165 OBJ\_TYPE\_UNKNOWN** #define OBJ\_TYPE\_UNKNOWN 30

**14.17.1.166 PERMISSIONS\_SYSTEM** #define PERMISSIONS\_SYSTEM 1

**14.17.1.167 PERMISSIONS\_USER** #define PERMISSIONS\_USER 0

**14.17.1.168 PREVIEW\_CLONE\_NULL** #define PREVIEW\_CLONE\_NULL 0

**14.17.1.169 PREVIEW\_CLONE\_RUBBER** #define PREVIEW\_CLONE\_RUBBER 2

**14.17.1.170 PREVIEW\_CLONE\_SELECTED** #define PREVIEW\_CLONE\_SELECTED 1

**14.17.1.171 PREVIEW\_MODE\_MOVE** #define PREVIEW\_MODE\_MOVE 1

**14.17.1.172 PREVIEW\_MODE\_NULL** #define PREVIEW\_MODE\_NULL 0

**14.17.1.173 PREVIEW\_MODE\_OFF** #define PREVIEW\_MODE\_OFF 0

**14.17.1.174 PREVIEW\_MODE\_ROTATE** #define PREVIEW\_MODE\_ROTATE 2

**14.17.1.175 PREVIEW\_MODE\_SCALE** #define PREVIEW\_MODE\_SCALE 3

**14.17.1.176 RECTANGULAR\_GRID** #define RECTANGULAR\_GRID 1

**14.17.1.177 RENDER\_TEXT\_EDITOR** #define RENDER\_TEXT\_EDITOR 1

**14.17.1.178 RENDER\_UI** #define RENDER\_UI 0

**14.17.1.179 RGB\_MODE\_BACKGROUND** #define RGB\_MODE\_BACKGROUND 0

**Todo** document this.

**14.17.1.180 RGB\_MODE\_CROSSHAIR** #define RGB\_MODE\_CROSSHAIR 1

**14.17.1.181 RGB\_MODE\_GRID** #define RGB\_MODE\_GRID 2

**14.17.1.182 ROTATE\_MODE\_NORMAL** #define ROTATE\_MODE\_NORMAL 16

**14.17.1.183 ROTATE\_MODE\_REFERENCE** #define ROTATE\_MODE\_REFERENCE 17

**14.17.1.184 RUBBER\_MODES** #define RUBBER\_MODES 22

The number of possible rubber values: used for checking if a rubber value is unset or in error.

**14.17.1.185 SCALE\_MODE\_NORMAL** #define SCALE\_MODE\_NORMAL 18

**14.17.1.186 SCALE\_MODE\_REFERENCE** #define SCALE\_MODE\_REFERENCE 19

**14.17.1.187 SINGLE\_LINE\_TEXT\_MODE\_JUSTIFY** #define SINGLE\_LINE\_TEXT\_MODE\_JUSTIFY 20

14.17.1.188 **SINGLE\_LINE\_TEXT\_MODE\_RAPID** #define SINGLE\_LINE\_TEXT\_MODE\_RAPID 23

14.17.1.189 **SINGLE\_LINE\_TEXT\_MODE\_SETFONT** #define SINGLE\_LINE\_TEXT\_MODE\_SETFONT 21

14.17.1.190 **SINGLE\_LINE\_TEXT\_MODE\_SETGEOM** #define SINGLE\_LINE\_TEXT\_MODE\_SETGEOM 22

14.17.1.191 **SNAP\_TYPES** #define SNAP\_TYPES 14

14.17.1.192 **SNOWFLAKE\_MODE\_NUM\_POINTS** #define SNOWFLAKE\_MODE\_NUM\_POINTS 28

14.17.1.193 **SNOWFLAKE\_MODE\_XSCALE** #define SNOWFLAKE\_MODE\_XSCALE 29

14.17.1.194 **SNOWFLAKE\_MODE\_YSCALE** #define SNOWFLAKE\_MODE\_YSCALE 30

14.17.1.195 **SPARE\_RUBBER\_OFF** #define SPARE\_RUBBER\_OFF 0

14.17.1.196 **SPARE\_RUBBER\_PATH** #define SPARE\_RUBBER\_PATH 1

14.17.1.197 **SPARE\_RUBBER\_POLYGON** #define SPARE\_RUBBER\_POLYGON 2

14.17.1.198 **SPARE\_RUBBER\_POLYLINE** #define SPARE\_RUBBER\_POLYLINE 3

**14.17.1.199 STAR\_MODE\_CENTER\_PT** #define STAR\_MODE\_CENTER\_PT 25

**14.17.1.200 STAR\_MODE\_NUM\_POINTS** #define STAR\_MODE\_NUM\_POINTS 24

**14.17.1.201 STAR\_MODE\_RAD\_INNER** #define STAR\_MODE\_RAD\_INNER 27

**14.17.1.202 STAR\_MODE\_RAD\_OUTER** #define STAR\_MODE\_RAD\_OUTER 26

**14.17.1.203 STB\_IMAGE\_IMPLEMENTATION** #define STB\_IMAGE\_IMPLEMENTATION

**14.17.1.204 VIEW\_COLOR\_CROSSHAIR** #define VIEW\_COLOR\_CROSSHAIR "VIEW\_COLOR\_CROSSHAIR"

**14.17.1.205 VIEW\_COLOR\_GRID** #define VIEW\_COLOR\_GRID "VIEW\_COLOR\_GRID"

**14.17.1.206 VIEW\_STATE\_CLOSEABLE** #define VIEW\_STATE\_CLOSEABLE 0x0100

**14.17.1.207 VIEW\_STATE\_GRID** #define VIEW\_STATE\_GRID 0x1000

**14.17.1.208 VIEW\_STATE\_GRIP** #define VIEW\_STATE\_GRIP 0x0001

**14.17.1.209 VIEW\_STATE\_LWT** #define VIEW\_STATE\_LWT 0x0040

**14.17.1.210 `VIEW_STATE_ORTHO`** #define VIEW\_STATE\_ORTHO 0x0004

**14.17.1.211 `VIEW_STATE_POLAR`** #define VIEW\_STATE\_POLAR 0x0008

**14.17.1.212 `VIEW_STATE_QSNAP`** #define VIEW\_STATE\_QSNAP 0x0010

**14.17.1.213 `VIEW_STATE_QTRACK`** #define VIEW\_STATE\_QTRACK 0x0020

**14.17.1.214 `VIEW_STATE_REAL`** #define VIEW\_STATE\_REAL 0x0080

**14.17.1.215 `VIEW_STATE_RULER`** #define VIEW\_STATE\_RULER 0x0002

**14.17.1.216 `VIEW_STATE_SNAP`** #define VIEW\_STATE\_SNAP 0x0000

**14.17.1.217 `VIEW_STATE_USE_COLOR`** #define VIEW\_STATE\_USE\_COLOR 0x0800

**14.17.1.218 `VIEW_STATE_USE_LOGO`** #define VIEW\_STATE\_USE\_LOGO 0x0200

**14.17.1.219 `VIEW_STATE_USE_TEXTURE`** #define VIEW\_STATE\_USE\_TEXTURE 0x0400

**14.17.1.220 `WIDGET_MODE_BACKGROUND`** #define WIDGET\_MODE\_BACKGROUND 4

**14.17.1.221 WIDGET\_MODE\_BLOCK** #define WIDGET\_MODE\_BLOCK 0

**14.17.1.222 WIDGET\_MODE\_COMBOBOX** #define WIDGET\_MODE\_COMBOBOX 6

**14.17.1.223 WIDGET\_MODE\_CONTAINER** #define WIDGET\_MODE\_CONTAINER 7

**14.17.1.224 WIDGET\_MODE\_IMAGE** #define WIDGET\_MODE\_IMAGE 2

**14.17.1.225 WIDGET\_MODE\_PANEL** #define WIDGET\_MODE\_PANEL 8

**14.17.1.226 WIDGET\_MODE\_ROOT** #define WIDGET\_MODE\_ROOT 10

**14.17.1.227 WIDGET\_MODE\_SPINBOX** #define WIDGET\_MODE\_SPINBOX 5

**14.17.1.228 WIDGET\_MODE\_SVG** #define WIDGET\_MODE\_SVG 3

**14.17.1.229 WIDGET\_MODE\_TEXT** #define WIDGET\_MODE\_TEXT 1

**14.17.1.230 WIDGET\_MODE\_VIEW** #define WIDGET\_MODE\_VIEW 9

## 14.17.2 Typedef Documentation

**14.17.2.1 Index** `typedef struct Index_ Index`

**Todo** document this.

**14.17.2.2 IndexEntry** `typedef struct IndexEntry_ IndexEntry`

**Todo** document this.

**14.17.2.3 Settings** `typedef struct Settings_ Settings`

Settings System.

Rather than pollute the global namespace, we collect together all the global settings into a structure that stores them. This also allows us to create a complete copy of the settings for the purpose of restoring them if the user cancels out of the Settings Dialog.

Like all of our structs, it's C99 compliant.

**14.17.2.4 UiObject** `typedef struct UiObject_ UiObject`

This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.

scale is how radii are stored if the object is a circle, or the semi-major and semi-minor axes if the object is an ellipse.

center perhaps should be the "anchor" instead which is the center for some objects and top left for rectangular objects.

Do angles need special storage? angleRef, angleNew

This chapter details how the source code achieves the design detailed in the previous chapter. For the low-level details, read the later chapters.

Dear ImGui (CITATION NEEDED)

**14.17.2.5 Geometry Objects** At all times the EmbPattern has all of the information about the pattern however, editing information like the rubber text labels needs to be stored during runtime. Also editing ghosts like when a rotate command is half executed.

To deal with this we have a generic object that can act as any other object that updates the associated pattern struct as changes are made.

Note that the editor state is separate from this since that is per view, not per object.

Selecting is done via this interface.

**14.17.2.6 UndoHistory** `typedef struct UndoHistory_ UndoHistory`

**Todo** document this.

**14.17.2.7 View** `typedef struct View_ View`**14.17.3 Views**

The `View` describes how the render is displayed.

**14.17.4 Enumeration Type Documentation****14.17.4.1 OBJ\_KEYS** `enum OBJ_KEYS`

Enumerator

OBJ_TYPE	
OBJ_NAME	
OBJ_LAYER	
OBJ_COLOR	
OBJ_LTYPE	
OBJ_LWT	
OBJ_RUBBER	
OBJ_TYPE	
OBJ_NAME	
OBJ_LAYER	
OBJ_COLOR	
OBJ_LTYPE	
OBJ_LWT	
OBJ_RUBBER	

**14.17.5 Function Documentation****14.17.5.1 about\_dialog()** `static void about_dialog (`  
`void ) [static]`

Renderer for the about dialog. Called by the main widget.

```
14.17.5.2 actuator() static void actuator (
    char command_line[200] ) [static]
```

The unified user interaction system which operates like a command line parser.

*command\_line*

In order to have a complex version of saving work, with backups, undo history and forks we need a good recording of what has happened.

An action has been taken, we are at the current head of the stack.

The action string is command similar to how a command line works: seperated by spaces we have a function followed by arguments.

**Todo** Make day vision color settings.

**Todo** check-for-updates should create a dialog.

**Todo** changelog

**Todo** Make night vision color settings.

**Todo** These should be part of init\_view rulerMetric = settings.ruler\_metric; rulerColor = EmbColor(settings.ruler\_color); rulerPixelSize = settings.ruler\_pixel\_size;

```
14.17.5.3 add_ellipse() static void add_ellipse (
    EmbReal centerX,
    EmbReal centerY,
    EmbReal width,
    EmbReal height,
    EmbReal rot,
    bool fill,
    int rubberMode ) [static]
```

*centerX* *centerY* *width* *height* *rot* *fill* *rubberMode*

```
14.17.5.4 add_infinite_line() static void add_infinite_line (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2,
    EmbReal rot ) [static]
```

*x1* *y1* *x2* *y2* *rot*

```
14.17.5.5 add_line() static void add_line (
    EmbLine line,
    EmbReal rot,
    int rubberMode ) [static]
```

*line rot rubberMode*

```
14.17.5.6 add_object() static void add_object (
    EmbGeometry * obj ) [static]
```

```
14.17.5.7 add_point() static void add_point (
    EmbReal x,
    EmbReal y ) [static]
```

*x y*

```
14.17.5.8 add_point_action() static void add_point_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.9 add_ray() static void add_ray (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2,
    EmbReal rot ) [static]
```

*x1 y1 x2 y2 rot*

```
14.17.5.10 add_regular_polygon() static void add_regular_polygon (
    EmbReal centerX,
    EmbReal centerY,
    int sides,
    int mode,
    EmbReal rad,
    EmbReal rot,
    bool fill ) [static]
```

*centerX centerY sides mode rad rot fill*

**Todo** finish add\_regular\_polygon.

```
14.17.5.11 add_rubber_action() static void add_rubber_action (
    void ) [static]
```

**Todo** handle arc type

- handle block type
- handle DimAligned type
- handle DimAngular rubber action.
- handle DimArcLength rubber action.
- handle DimDiameter rubber action.
- handle ellipse arc type
- handle hatch type
- handle image type
- handle infinite line type
- handle path type
- handle point type

**Todo** handle dim linear type

**Todo** handle dim ordinate type

**Todo** handle dim radius type

```
char * objType = results[0].toString().toUpperCase();

if (!allowRubber()) {
    log_debug("add_rubber(): You must use vulcanize() before you can add another rubber object.");
    return;
}

EmbReal mx = MouseX();
EmbReal my = MouseY();

switch (objType) {
case EMB_ARC: {
    break;
}
case EMB_BLOCK: {
    break;
}
case EMB_CIRCLE: {
    addCircle(mx, my, 0, false, OBJ_RUBBER_ON);
    break;
}
case EMB_DIMALIGNED: {
    break;
}
case EMB_DIMANGULAR: {
    break;
}
case EMB_DIMARCLENGTH: {
    break;
}
case EMB_DIMDIAMETER: {
    break;
}
case EMB_DIMLEADER: {
    addDimLeader(mx, my, mx, my, 0, OBJ_RUBBER_ON);
}
case EMB_DIMLINEAR: {
```

```

        break;
    }
    case EMB_DIMORDINATE: {
        break;
    }
    case EMB_DIMRADIUS: {
        break;
    }
    case EMB_ELLIPSE: {
        addEllipse(mx, my, 0, 0, 0, 0, OBJ_RUBBER_ON);
        break;
    }
    case EMB_ELLIPSEARC: {
        break;
    }
    case EMB_HATCH: {
        break;
    }
    case EMB_IMAGE: {
        break;
    }
    case EMB_INFINITELINE: {
        break;
    }
    case EMB_LINE: {
        addLine(mx, my, mx, my, 0, OBJ_RUBBER_ON);
        break;
    }
    case EMB_PATH: {
        break;
    }
    case EMB_POINT: {
        break;
    }
    case EMB_POLYGON: {
        addPolygon(mx, my, EmbPath(), OBJ_RUBBER_ON);
        break;
    }
    case EMB_POLYLINE: {
        addPolyline(mx, my, EmbPath(), OBJ_RUBBER_ON);
        break;
    }
    case EMB_RAY: {

```

**Todo** handle this type break; } case EMB\_RECT: { addRectangle(mx, my, mx, my, 0, 0, OBJ\_RUBBER\_ON); break; } case EMB\_SPLINE: {

### Todo

**Todo** handle this type break; } case EMB\_TEXTMULTI: {

### Todo

**Todo** handle this type break; } case EMB\_TEXTSINGLE: { addTextSingle("", mx, my, 0, false, OBJ\_RUBBER\_ON); break; } default: break; }

#### 14.17.5.12 add\_slot\_action()

```
static void add_slot_action (
    void ) [static]
```

**Todo** Use [UndoableAddCommand](#) for slots

**Todo** slot fill

```
14.17.5.13 add_text_multi() static void add_text_multi (
    const char * str,
    EmbVector pos,
    EmbReal rot,
    bool fill,
    int rubberMode ) [static]
```

```
14.17.5.14 add_text_single() static void add_text_single (
    const char * str,
    EmbReal x,
    EmbReal y,
    EmbReal rot,
    bool fill,
    int rubberMode ) [static]
```

**Todo** single line text fill

```
14.17.5.15 add_to_rubber_room() static void add_to_rubber_room (
    EmbGeometry * item ) [static]
```

```
14.17.5.16 add_to_undo_history() static void add_to_undo_history (
    UndoHistory * undo_history,
    const char * command_line ) [static]
```

```
14.17.5.17 alert() static void alert (
    const char * txt ) [static]
```

Renderer for the alert dialog. Called by the main widget, with the message passed as *txt*.

```
14.17.5.18 alignScenePointWithViewPoint() static void alignScenePointWithViewPoint (
    EmbVector scenePoint,
    EmbVector viewPoint ) [static]
```

```
14.17.5.19 allow_rubber() bool allow_rubber (
    void )
```

Returns true Returns false.

**Todo** the rubberRoomList size check should be removed later.

```
14.17.5.20 allow_zoom_in() bool allow_zoom_in (
    void )
```

```
14.17.5.21 allow_zoom_out() bool allow_zoom_out (
    void )
```

```
14.17.5.22 arc_action() static void arc_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.23 background_color_action() static void background_color_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.24 boundingRect() EmbRect boundingRect (
    UiObject * obj )
```

```
14.17.5.25 button_tip_of_the_day_clicked() static void button_tip_of_the_day_clicked (
    int button ) [static]
```

**Todo** document this.

```
14.17.5.26 c_split() static void c_split (
    char input[200],
    int * argc,
    char argv[10][200] ) [static]
```

```
14.17.5.27 calculate_angle() EmbReal calculate_angle (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2 )
```

*x1 y1 x2 y2* Returns EmbReal

**Todo** finish CalculateAngle.

```
14.17.5.28 calculate_angle_action() static void calculate_angle_action (
    void ) [static]
```

**Todo** Get mouse point.

```
14.17.5.29 calculate_distance_action() static void calculate_distance_action (
    void ) [static]
```

**Todo** Get mouse point.

```
14.17.5.30 centerAt() static void centerAt (
    EmbVector centerPoint ) [static]
```

```
14.17.5.31 changelog_dialog() static void changelog_dialog (
    void ) [static]
```

Renderer for the changelog dialog. Called by the main widget.

```
14.17.5.32 checkForUpdates() static void checkForUpdates (
    void ) [static]
```

**Todo** Check website for new versions, commands, etc...

```
14.17.5.33 circle_action() static void circle_action (
    void ) [static]
```

**Todo** circle fill

```
14.17.5.34 clear_rubber() static void clear_rubber (
    void ) [static]
```

**Todo** document this.

```
14.17.5.35 clear_selection() static void clear_selection (
    void ) [static]
```

Clear the current view's selection by ignoring the data contained in it.

```
14.17.5.36 clearRubberRoom() static void clearRubberRoom (
    void ) [static]
```

**Todo** document this.

```
14.17.5.37 clockwise() bool clockwise (
    UiObject * obj )
```

```
14.17.5.38 close_action() static void close_action (
    void ) [static]
```

Close the current view.

**Todo** finish copy\_action

```
14.17.5.39 close_event() static void close_event (
    int * event ) [static]
```

**Todo** need close\_view\_event and close\_window\_event? or action

```
14.17.5.40 close_toolbar_action() static void close_toolbar_action (
    int * action ) [static]
```

*action*

```
14.17.5.41 colorSelectorIndexChanged() static void colorSelectorIndexChanged (
    int index ) [static]
```

*index*

**Todo** Handle ByLayer and ByBlock and Other...

```
14.17.5.42 context_menu_event() static void context_menu_event (
    void ) [static]
```

**Todo** document this.

```
14.17.5.43 copy() static void copy (
    void ) [static]
```

**Todo** Prompt to select objects if nothing is preselected.

```
14.17.5.44 copy_action() static void copy_action (
    void ) [static]
```

Copy what is currently in active\_view->selected.

**Todo** finish copy\_action

**14.17.5.45 copy\_selected()** static void copy\_selected ( void ) [static]

**Todo** Get mouse point/move

**14.17.5.46 copy\_selection()** static void copy\_selection ( void ) [static]

Prevent memory leaks by deleting any unpasted instances.

**14.17.5.47 cornerButtonClicked()** static void cornerButtonClicked ( void ) [static]

**Todo** document this.

**14.17.5.48 create\_group\_box\_arc()** static void create\_group\_box\_arc ( int *id*, EmbArc \* *arc* ) [static]

Create a group box arc object.

**14.17.5.49 create\_group\_box\_block()** static void create\_group\_box\_block ( int *id*, EmbBlock \* *obj* ) [static]

Create a group box block object.

**Todo** editors for blocks.

**14.17.5.50 create\_group\_box\_circle()** static void create\_group\_box\_circle ( int *id*, EmbCircle \* *circle* ) [static]

Create a group box circle object.

**Bug** When the user selects multiple entries across different circles then edits the program throws an error.

```
14.17.5.51 create_group_box_dim_aligned() static void create_group_box_dim_aligned ( int id, EmbAlignedDim * obj ) [static]
```

Create a group box dim aligned object.

**Todo** editors for aligned dimension.

```
14.17.5.52 create_group_box_dim_angular() static void create_group_box_dim_angular ( int id, EmbAngularDim * obj ) [static]
```

Create a group box dim angular object.

```
14.17.5.53 create_group_box_dim_arc_length() static void create_group_box_dim_arc_length ( int id, EmbArcLengthDim * obj ) [static]
```

Create a group box dim arc length object.

```
14.17.5.54 create_group_box_dim_diameter() static void create_group_box_dim_diameter ( int id, EmbDiameterDim * dim_diameter ) [static]
```

Create a group box dim diameter object.

```
14.17.5.55 create_group_box_dim_leader() static void create_group_box_dim_leader ( int id, EmbLeaderDim * obj ) [static]
```

Create a group box dim leader object.

```
14.17.5.56 create_group_box_dim_linear() static void create_group_box_dim_linear ( int id, EmbLinearDim * obj ) [static]
```

Create a group box dim linear object.

**Todo** editors for linear dimension.

```
14.17.5.57 create_group_box_dim_ordinate() static void create_group_box_dim_ordinate (
    int id,
    EmbOrdinateDim * obj ) [static]
```

Create a group box dim ordinate object.

**Todo** editors for linear dimension.

```
14.17.5.58 create_group_box_dim_radius() static void create_group_box_dim_radius (
    int id,
    EmbRadiusDim * dim_radius ) [static]
```

Create a group box dim radius object.

**Todo** editors for radius dimension.

```
14.17.5.59 create_group_box_ellipse() static void create_group_box_ellipse (
    int id,
    EmbEllipse * ellipse ) [static]
```

Create a group box ellipse object.

```
14.17.5.60 create_group_box_general() static void create_group_box_general (
    int id,
    EmbPattern * pattern ) [static]
```

Create a group box general object.

```
14.17.5.61 create_group_box_image() static void create_group_box_image (
    int id,
    EmbImage * image ) [static]
```

Create a group box image object.

```
14.17.5.62 create_group_box_infinite_line() static void create_group_box_infinite_line (
    int id,
    EmbInfiniteLine * obj ) [static]
```

Create a group box infinite line object.

```
14.17.5.63 create_group_box_line() static void create_group_box_line (
    int id,
    EmbLine * line ) [static]
```

Create a group box line object.

```
14.17.5.64 create_group_box_path() static void create_group_box_path (
    int id,
    EmbPath * path ) [static]
```

Create a group box path object.

```
14.17.5.65 create_group_box_point() static void create_group_box_point (
    int id,
    EmbPoint * point ) [static]
```

Create a group box point object.

```
14.17.5.66 create_group_box_polygon() static void create_group_box_polygon (
    int id,
    EmbPolygon * polygon ) [static]
```

Create a group box polygon object.

```
14.17.5.67 create_group_box_polyline() static void create_group_box_polyline (
    int id,
    EmbPolyline * polyline ) [static]
```

Create a group box polyline object.

```
14.17.5.68 create_group_box_ray() static void create_group_box_ray (
    int id,
    EmbRay * ray ) [static]
```

Create a group box ray object.

```
14.17.5.69 create_group_box_rectangle() static void create_group_box_rectangle (
    int id,
    EmbRect * rect ) [static]
```

Create a group box rectangle object.

```
14.17.5.70 create_group_box_stitch() static void create_group_box_stitch (
    int i,
    EmbStitch * st ) [static]
```

Create a group box stitch object.

```
14.17.5.71 create_group_box_stitch_list() static void create_group_box_stitch_list (
    int id,
    EmbArray * stitch_list ) [static]
```

Create a group box stitch list object.

```
14.17.5.72 create_group_box_text_multi() static void create_group_box_text_multi (
    int id,
    EmbTextMulti * text_multi ) [static]
```

Create a group box text multi object.

```
14.17.5.73 create_group_box_text_single() static void create_group_box_text_single (
    int id,
    EmbTextSingle * text_single ) [static]
```

Create a group box text single object.

```
14.17.5.74 create_layer_toolbar() static void create_layer_toolbar (
    void ) [static]
```

Create a layer toolbar object.

```
14.17.5.75 create_prompt_toolbar() static void create_prompt_toolbar (
    void ) [static]
```

Create a prompt toolbar object.

```
14.17.5.76 create_properties_toolbar() static void create_properties_toolbar (
    void ) [static]
```

Create a properties toolbar object.

```
14.17.5.77 create_tab() static void create_tab (
    int i ) [static]
```

Create the *i*-th view as a tab.

*i* Which entry in the views array to use.

```
14.17.5.78 create_tab_display() static void create_tab_display (
    void ) [static]
```

Create a tab display object.

```
14.17.5.79 create_tab_files_paths() static void create_tab_files_paths (
    void ) [static]
```

Create a tab files paths object.

```
14.17.5.80 create_tab_general() static void create_tab_general (
    void ) [static]
```

Create a tab general object.

```
14.17.5.81 create_tab_grid_ruler() static void create_tab_grid_ruler (
    void ) [static]
```

Create a tab grid ruler object.

```
14.17.5.82 create_tab_lineweight() static void create_tab_lineweight (
    void ) [static]
```

Create a tab lineweight object.

**Todo** finish this

```
14.17.5.83 create_tab_open_save() static void create_tab_open_save (
    void ) [static]
```

Create a tab open save object.

```
14.17.5.84 create_tab_ortho_polar() static void create_tab_ortho_polar (
    void ) [static]
```

Create a tab ortho polar object.

```
14.17.5.85 create_tab_printing() static void create_tab_printing (
    void ) [static]
```

Create a tab printing object.

```
14.17.5.86 create_tab_prompt() static void create_tab_prompt (
    void ) [static]
```

```
14.17.5.87 create_tab_quicksnap() static void create_tab_quicksnap (
    void ) [static]
```

Create a tab quicksnap object.

```
14.17.5.88 create_tab_quicktrack() static void create_tab_quicktrack (
    void ) [static]
```

Create a tab quicktrack object.

```
14.17.5.89 create_tab_selection() static void create_tab_selection (
    void ) [static]
```

Create a tab selection object.

```
14.17.5.90 create_tab_snap() static void create_tab_snap ( void ) [static]
```

Create a tab snap object.

```
14.17.5.91 create_text_toolbar() static void create_text_toolbar ( void ) [static]
```

Create a text toolbar object.

```
14.17.5.92 createAllActions() static void createAllActions ( void ) [static]
```

Create a All Actions object.

**Todo** SCENE\_QSNAP\_POINT for each scene

**Todo** Set What's This Context Help to statusTip for now so there is some infos there. Make custom whats this context help popup with more descriptive help than just the status bar/tip one liner(short but not real long) with a hyperlink in the custom popup at the bottom to open full help file description. Ex: like wxPython AGW's SuperToolTip.

**Todo** Finish All Commands ... <.<

```
14.17.5.93 createGrid() static void createGrid ( const char * gridType ) [static]
```

```
14.17.5.94 createGridIso() static void createGridIso ( void ) [static]
```

**Todo** document this.

```
14.17.5.95 createGridPolar() static void createGridPolar ( void ) [static]
```

**Todo** document this.

```
14.17.5.96 createGridRect() static void createGridRect (
    void ) [static]
```

**Todo** document this.

```
14.17.5.97 createObjectList() EmbArray * createObjectList (
    EmbArray * list )
```

*list* Returns EmbGeometry\*

**Todo** cut/copy blocks

**Todo** cut/copy aligned dimensions

**Todo** cut/copy elliptical arcs

**Todo** cut/copy images

**Todo** cut/copy infinite lines

**Todo** cut/copy linear dimensions

**Todo** cut/copy ordinate dimensions

**Todo** cut/copy radius dimensions

```
14.17.5.98 createOrigin() static void createOrigin (
    void ) [static]
```

**Todo** Make Origin Customizable

```
14.17.5.99 crosshair_color_action() static void crosshair_color_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.100 current_color_changed() static void current_color_changed (
    unsigned int color ) [static]
```

```
14.17.5.101 current_layer_changed() static void current_layer_changed (
    const char * layer ) [static]
```

```
14.17.5.102 current_linetype_changed() static void current_linetype_changed (
    const char * type ) [static]
```

```
14.17.5.103 current_lineweight_changed() static void current_lineweight_changed (
    const char * weight ) [static]
```

```
14.17.5.104 cut() static void cut (
    void ) [static]
```

**Todo** document this.

```
14.17.5.105 cut_action() static void cut_action (
    void ) [static]
```

Cut what is currently in active\_view->selected.

**Todo** finish cut\_action

```
14.17.5.106 cut_selected() static void cut_selected (
    void ) [static]
```

**Todo** Get mouse point/move

```
14.17.5.107 delete_object() static void delete_object (
    EmbGeometry * obj ) [static]
```

We really just remove the objects from the scene. Deletion actually occurs in the destructor.

```
14.17.5.108 delete_pressed() static void delete_pressed (
    void ) [static]
```

**Todo** document this.

```
14.17.5.109 delete_selected() static void delete_selected (
    void ) [static]
```

**Todo** document this.

```
14.17.5.110 details_dialog() static void details_dialog (
    void ) [static]
```

**Todo** Move majority of the calculation code into libembroidery

**Todo** Color Histogram

**Todo** Stitch Distribution Histogram

Switch to grid layout.

```
14.17.5.111 dictionary_from_index() Dictionary * dictionary_from_index (
    Index * index,
    const char * label )
```

```
14.17.5.112 dim_leader_action() static void dim_leader_action (
    void ) [static]
```

Add a EmbDimLeader to the current view.

**Todo** Finish dim\_leader\_action.

```
14.17.5.113 disable_move_rapid_fire() static void disable_move_rapid_fire (
    void ) [static]
```

**Todo** document this.

```
14.17.5.114 disablePromptRapidFire() static void disablePromptRapidFire (
    void ) [static]
```

**Todo** document this.

```
14.17.5.115 dolphin_main() UiObject dolphin_main (
    void )
```

Initialise a Dolphin design element.

```
14.17.5.116 draw_grid() static void draw_grid (
    void ) [static]
```

**Todo** document this.

```
14.17.5.117 draw_rulers() static void draw_rulers (
    void ) [static]
```

**Todo** labels for measurements.

```
14.17.5.118 drawBackground() static void drawBackground (
    int * painter,
    const EmbRect rect ) [static]
```

```
14.17.5.119 drawForeground() static void drawForeground (
    int * painter,
    EmbRect rect ) [static]
```

Draw grip points for all selected objects

```
14.17.5.120 ellipse_action() static void ellipse_action (
    void ) [static]
```

odo document this.

```
14.17.5.121 emb_clamp() EmbReal emb_clamp (
    EmbReal lower,
    EmbReal x,
    EmbReal upper )
```

Ensure that x lies in the range [*lower*, *upper*] by rounding up or down if x is outside of that range.

*lower* The minimum permissible value x can take. *x* The value to be processed. *upper* The maximum permissible value x can take. Returns EmbReal The clamped value.

**Todo** Move to libembroidery.

```
14.17.5.122 embArc_endAngle() float embArc_endAngle (
    EmbArc arc )
```

```
14.17.5.123 embArc_setCenter() static void embArc_setCenter (
    EmbArc * arc,
    EmbVector point ) [static]
```

```
14.17.5.124 embArc_setEndAngle() static void embArc_setEndAngle (
    EmbArc * arc,
    float angle ) [static]
```

```
14.17.5.125 embArc_setRadius() static void embArc_setRadius (
    EmbArc * arc,
    float radius ) [static]
```

```
14.17.5.126 embArc_setStartAngle() static void embArc_setStartAngle (
    EmbArc * arc,
    float angle ) [static]
```

**14.17.5.127 embArc\_startAngle()** float embArc\_startAngle (   
   EmbArc arc )

**14.17.5.128 embCircle\_click()** static void embCircle\_click (   
   UiObject \* global,   
   EmbVector position ) [static]

*position*

**14.17.5.129 embCircle\_prompt()** static void embCircle\_prompt (   
   UiObject \* global,   
   const char \* str ) [static]

*str*

**14.17.5.130 embCircle\_setArea()** static void embCircle\_setArea (   
   EmbCircle \* circle,   
   float area ) [static]

**14.17.5.131 embCircle\_setCircumference()** static void embCircle\_setCircumference (   
   EmbCircle \* circle,   
   float circumference ) [static]

**14.17.5.132 embPolyline\_click()** static void embPolyline\_click (   
   UiObject \* global,   
   float x,   
   float y ) [static]

**14.17.5.133 embPolyline\_main()** static void embPolyline\_main (   
   void ) [static]

Command: Polyline.

float global = {};//Required global.firstRun; global.firstX; global.firstY; global.prevX; global.prevY; global.num;

**14.17.5.134 embPolyline\_prompt()** static void embPolyline\_prompt (   
   UiObject global,   
   const char \* str ) [static]

**14.17.5.135 embVector\_perpendicularDistance()** `EmbReal` `embVector_perpendicularDistance (`  
`EmbVector p,`  
`EmbLine line )`

*p /line* Returns `EmbReal`

**14.17.5.136 enableMoveRapidFire()** `static void enableMoveRapidFire (`  
`void ) [static]`

**Todo** document this.

**14.17.5.137 enablePromptRapidFire()** `static void enablePromptRapidFire (`  
`void ) [static]`

**Todo** document this.

**14.17.5.138 end\_command()** `static void end_command (`  
`void ) [static]`

**Todo** document this.

**14.17.5.139 enter\_event()** `static void enter_event (`  
`int * event ) [static]`

**Todo** document this.

**14.17.5.140 error\_action()** `static void error_action (`  
`const char * msg ) [static]`

*msg*

```
14.17.5.141 escape_pressed() static void escape_pressed (
    void ) [static]
```

**Todo** document this.

In the actuator, this could be just "escape" which we emit when the escape key is pressed or any remapping of it.

```
14.17.5.142 exit_action() static void exit_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.143 export_action() static void export_action (
    const char * filename ) [static]
```

*filename*

```
14.17.5.144 file_extension() const char * file_extension (
    const char * fileName )
```

```
14.17.5.145 find_view() int find_view (
    const char * fileName )
```

*fileName* Returns int

```
14.17.5.146 floating_changed_toolbar_action() static void floating_changed_toolbar_action (
    bool isFloating ) [static]
```

*isFloating*

```
14.17.5.147 gen_gl_texture() GLuint gen_gl_texture (
    uint8_t * data,
    int w,
    int h,
    int wrap )
```

**14.17.5.148 generic\_design\_init()** `UiObject` generic\_design\_init (  
    `void` )

**14.17.5.149 get\_short\_current\_file()** `const char *` get\_short\_current\_file (  
    `void` )

Returns `const char*`.

**14.17.5.150 getCurrentColor()** `unsigned int` getCurrentColor (  
    `void` )

Get the Current Color object.

Returns `unsigned int`

**Todo** return color ByLayer

**14.17.5.151 getCurrentLayer()** `char *` getCurrentLayer (  
    `void` )

Get the Current Layer object.

Returns `char*`

**14.17.5.152 getCurrentLineType()** `char *` getCurrentLineType (  
    `void` )

Get the Current Line Type object.

Returns `char*`

**14.17.5.153 getCurrentLineWeight()** `char *` getCurrentLineWeight (  
    `void` )

Get the Current Line Weight object.

Returns `char*`

**14.17.5.154 grid\_color\_action()** `static void` grid\_color\_action (  
    `void` ) [static]

**Todo** document this.

```
14.17.5.155 heart_init() static UiObject heart_init (
    void ) [static]
```

**Todo** document this.

```
14.17.5.156 Help() static void Help (
    void ) [static]
```

**Todo** document this.

```
14.17.5.157 help_dialog() static void help_dialog (
    void ) [static]
```

Renderer for the help dialog. Called by the main widget.

```
14.17.5.158 horizontal_dimension_action() static void horizontal_dimension_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.159 icon_action() static void icon_action (
    int new_size ) [static]
```

*new\_size*

```
14.17.5.160 image_action() static void image_action (
    void ) [static]
```

Add an EmblImage to the current view.

**Todo** finish image\_action.

**14.17.5.161 `image_widget_init()`** static void image\_widget\_init ( const char \* *filename* ) [static]

**14.17.5.162 `image_widget_load()`** bool image\_widget\_load ( const char \* *fileName* )

**14.17.5.163 `image_widget_paint_event()`** static void image\_widget\_paint\_event ( void ) [static]

**14.17.5.164 `image_widget_save()`** bool image\_widget\_save ( const char \* *fileName* )

**14.17.5.165 `index_free()`** static void index\_free ( Index \* *index* ) [static]

**14.17.5.166 `index_init()`** Index \* index\_init ( void )

Returns Index\*.

**14.17.5.167 `infinite_line_action()`** static void infinite\_line\_action ( void ) [static]

**Todo** document this.

**14.17.5.168 `init_command()`** static void init\_command ( void ) [static]

**Todo** document this.

```
14.17.5.169 init_view() View init_view (
    void )
```

Create a new view to represent the file being edited.

Returns [View](#) A properly initialised view.

On creation, view claims the active\_view and therefore captures key presses and mouse actions.

**Todo** Originally, EM2 allowed for multiple views of the same file, we can allow for this, but currently means we have multiple pattern pointers. So we'd need to set the memory locations to be the same place.

**Todo** Dropping files onto dock on Mac to open them?

**Todo** automatically maximises, but it could allow for multiple views, panes and windows.

```
14.17.5.170 layer_manager() static void layer_manager (
    View * view ) [static]
```

**Todo** document this.

```
14.17.5.171 Layer_manager_add_layer() static void Layer_manager_add_layer (
    const char * name,
    bool visible,
    bool frozen,
    EmbReal zValue,
    unsigned int color,
    const char * lineType,
    const char * lineWeight,
    bool print ) [static]
```

```
14.17.5.172 layerManager() static void layerManager (
    void ) [static]
```

**Todo** document this.

```
14.17.5.173 layerPrevious() static void layerPrevious (
    void ) [static]
```

**Todo** document this.

```
14.17.5.174 layerSelectorIndexChanged() static void layerSelectorIndexChanged (
    int index ) [static]
```

*index*

```
14.17.5.175 line_action() static void line_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.176 linetypeSelectorIndexChanged() static void linetypeSelectorIndexChanged (
    int index ) [static]
```

*index*

```
14.17.5.177 lineweightSelectorIndexChanged() static void lineweightSelectorIndexChanged (
    int index ) [static]
```

*index*

```
14.17.5.178 load_configuration() static void load_configuration (
    void ) [static]
```

```
14.17.5.179 load_formats() static void load_formats (
    void ) [static]
```

**Todo** document this.

```
14.17.5.180 load_menu() static void load_menu (
    const char * menu_label ) [static]
```

```
14.17.5.181 load_texture() GLuint load_texture (
    char fname[200] )
```

```
14.17.5.182 load_toolbar() static void load_toolbar (
    const char * toolbar_label ) [static]
```

```
14.17.5.183 locate_point_click() static void locate_point_click (
    UiObject * global,
    EmbVector v ) [static]
```

Process a left-click in the locate point context.

```
14.17.5.184 locate_point_main() UiObject locate_point_main (
    void )
```

Initialise command: Locate Point.

```
14.17.5.185 located_point_prompt() static void located_point_prompt (
    UiObject * global,
    const char * str ) [static]
```

```
14.17.5.186 log_debug() void log_debug (
    const char * msg )
```

Rather than outputting debug information to the command line it is sent to a file called "debug.txt" which is in the current directory.

*msg* The message to be written to the end of the debug file.

The benefits of always logging to file are: they are easily requested from users who need help and we can search the debug log using grep and other tool.

**Todo** log current time and process id alongside all debug information.

**14.17.5.187 logPromptInput()** static void logPromptInput (

```
const char * txt ) [static]
```

*txt*

**14.17.5.188 main()** int main (

```
int argc,  
char * argv[ ] )
```

The program entry point on all platforms.

*argc* The number of command line arguments sent (including the program executable). *argv* An array of char arrays for each of the command line arguments. Returns 0 If the program closed without fault. Returns 1 Otherwise

**Todo** detail all possible error return values here.

Load all menus in the main window.

**Todo** add icons and shortcut prompts to menus.

Load all toolbars in main window.

Build statusbar.

Possible inputs: Snap "Snap" Grid "Grid/Ruler" Ruler "Grid/Ruler" Ortho "Ortho/Polar" Polar "Ortho/Polar" QSnap "QuickSnap" QTrack "QuickTrack" Lwt "LineWeight"

```
static void statusbar_button(const char *key) { settings_dialog(key); }
```

**14.17.5.189 MainWindow()** static void MainWindow (

```
void ) [static]
```

**Todo** Prevent memory leaks by deleting any unpasted objects.

**14.17.5.190 makeLayerActive()** static void makeLayerActive (

```
void ) [static]
```

Layer Toolbar.

**14.17.5.191 merge\_with()** bool merge\_with (

```
void )
```

Returns Boolean value representing the success or failure of the function.

```
14.17.5.192 messagebox() static void messagebox (
    int type,
    char title[200],
    char text[200] ) [static]
```

*type title text*

```
14.17.5.193 messagebox_action() static void messagebox_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.194 mirror_selected_action() static void mirror_selected_action (
    EmbLine line ) [static]
```

**Todo** document this.

```
14.17.5.195 mirrorSelected() static void mirrorSelected (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2 ) [static]
```

```
14.17.5.196 mouse_double_click_event() static void mouse_double_click_event (
    int * event ) [static]
```

```
14.17.5.197 mouse_press_event() static void mouse_press_event (
    int * event ) [static]
```

```
14.17.5.198 mouseMoveEvent() static void mouseMoveEvent (
    int * event ) [static]
```

```
14.17.5.199 mouseReleaseEvent() static void mouseReleaseEvent (
    int * event ) [static]
```

```
14.17.5.200 move() static void move (
    UiObject * obj,
    EmbVector delta ) [static]
```

```
14.17.5.201 move_click() static void move_click (
    UiObject * global,
    EmbVector v ) [static]
```

```
14.17.5.202 move_main() UiObject move_main (
    void )
```

Initialise move UI event.

**Todo** Prompt to select objects if nothing is preselected

```
14.17.5.203 move_prompt() static void move_prompt (
    UiObject * global,
    const char * str ) [static]
```

```
14.17.5.204 move_selected_action() static void move_selected_action (
    void ) [static]
```

**Todo** Get mouse point/move

```
14.17.5.205 moveAction() static void moveAction (
    void ) [static]
```

```
14.17.5.206 moveSelected() static void moveSelected (
    EmbReal dx,
    EmbReal dy ) [static]
```

```
14.17.5.207 new_file_action() static void new_file_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.208 on_window_activated() static void on_window_activated (
    void ) [static]
```

**Todo** document this.

```
14.17.5.209 open_file_action() static void open_file_action (
    int argc,
    char argv[10][200] ) [static]
```

*argc argv*

**Todo** warn user of too many open tabs.

```
14.17.5.210 open_file_dialog() static void open_file_dialog (
    void ) [static]
```

```
14.17.5.211 open_recent_file() static void open_recent_file (
    void ) [static]
```

**Todo** document this.

```
14.17.5.212 pan_action() static void pan_action (
    const char * mode ) [static]
```

*mode*

**Todo** Undo records for pan action.

```
14.17.5.213 panStart() static void panStart (
    EmbVector point ) [static]
```

```
14.17.5.214 parse_command() static void parse_command (
    int argc,
    char * argv[],
    char command[200] ) [static]
```

```
14.17.5.215 paste() static void paste (
    void ) [static]
```

**Todo** document this.

```
14.17.5.216 paste_action() static void paste_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.217 paste_selected() static void paste_selected (
    void ) [static]
```

**Todo** Get mouse point/move

```
14.17.5.218 path_action() static void path_action (
    EmbReal startX,
    EmbReal startY,
    EmbPath * p,
    int rubberMode ) [static]
```

*startX* *startY* *p* *rubberMode*

```
14.17.5.219 path_click() static void path_click (
    UiObject * global,
    EmbVector position ) [static]
```

Alter *global* using the supplied *position*, depending on the mode.

```
14.17.5.220 path_init() static UiObject path_init (
    void ) [static]
```

Returns *UiObject*.

```
14.17.5.221 path_prompt() static void path_prompt (
    const char * str ) [static]
```

*str*

```
14.17.5.222 pattern_view() static void pattern_view (
    void ) [static]
```

**Todo** document this.

```
14.17.5.223 perpendicular_distance() EmbReal perpendicular_distance (
    EmbVector p,
    EmbLine line )
```

*p* *line* Returns *EmbReal*

```
14.17.5.224 pickAddModeToggled() static void pickAddModeToggled (
    void ) [static]
```

**Todo** document this.

```
14.17.5.225 platform_string() static void platform_string (
    char s[200] ) [static]
```

Report the platform, usually as part of a debugging effort accross platforms. *str* A character array pointer of where to store the result.

```
14.17.5.226 point_click() static void point_click (
    UiObject global,
    EmbVector position ) [static]
```

test

```
14.17.5.227 point_init() static UiObject point_init (
    void ) [static]
```

```
14.17.5.228 point_prompt() static void point_prompt (
    const char * str ) [static]
```

```
14.17.5.229 polygon_action() static void polygon_action (
    void ) [static]
```

**Todo** finish polygon\_action.

```
14.17.5.230 polygon_click() static void polygon_click (
    float x,
    float y ) [static]
```

```
14.17.5.231 polygon_main() static void polygon_main (
    void ) [static]
```

Command: Polygon.

```
float global = {}; //Required global.centerX; global.centerY; global.sideX1; global.sideY1; global.sideX2; global.sideY2; global.pointIX; global.pointIY; global.pointCX; global.pointCY; global.polyType = "Inscribed"; //Default
global.numSides = 4; //Default global->mode;
```

```
enums MODE_NUM_SIDES = 0; MODE_CENTER_PT = 1; MODE_POLYTYPE = 2; MODE_INSCRIBE = 3;
MODE_CIRCUMSCRIBE = 4; MODE_DISTANCE = 5; MODE_SIDE_LEN = 6;
```

```
14.17.5.232 polygon_prompt() static void polygon_prompt (
    const char * str ) [static]
```

```
14.17.5.233 polyline_action() static void polyline_action (
    EmbVector start,
    EmbPath * p,
    int rubberMode ) [static]
```

NOTE: This is different than the rest in that the Y+ is down (scripters need not worry about this)

*start p rubberMode*

**Todo** finish polyline\_action.

```
14.17.5.234 preview_dialog() static void preview_dialog (
    void ) [static]
```

**Todo** get actual thumbnail image from file, lets also use a size of 128x128 for now...

**Todo** make thumbnail size adjustable thru settings dialog

**Todo** connect the currentChanged signal to update the preview imgWidget.

```
14.17.5.235 preview_off() static void preview_off (
    void ) [static]
```

**Todo** document this.

```
14.17.5.236 preview_on() static void preview_on (
    int clone,
    int mode,
    EmbReal x,
    EmbReal y,
    EmbReal data ) [static]
```

```
14.17.5.237 preview_on_action() static void preview_on_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.238 print_action() static void print_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.239 print_area_action() static void print_area_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.240 PrintArea() static void PrintArea (
    EmbReal x,
    EmbReal y,
    EmbReal w,
    EmbReal h ) [static]
```

*x y w h*

**Todo** Print Setup Stuff

```
14.17.5.241 prompt_input_prev_next() static void prompt_input_prev_next (
    bool prev ) [static]
```

```
14.17.5.242 promptHistoryAppended() static void promptHistoryAppended (
    const char * txt ) [static]
```

*txt*

```
14.17.5.243 promptInputNext() static void promptInputNext (
    void ) [static]
```

**Todo** document this.

```
14.17.5.244 promptInputPrevious() static void promptInputPrevious (
    void ) [static]
```

**Todo** document this.

```
14.17.5.245 property_editor() static void property_editor (
    void ) [static]
```

**Todo** Load precisionAngle from settings and provide function for updating from settings  
Load precisionLength from settings and provide function for updating from settings

```
14.17.5.246 property_editor_create_tool_buttonPickAdd() int * property_editor_create_tool_←
buttonPickAdd (
    void )
```

Returns int\*.

```
14.17.5.247 property_editor_create_tool_buttonQSelect() int * property_editor_create_tool_←
buttonQSelect (
    void )
```

Returns int\*.

```
14.17.5.248 property_editor_createComboBoxSelected() int * property_editor_createComboBoxSelected ( void )
```

Returns int\*.

```
14.17.5.249 property_editor_eventFilter() bool property_editor_eventFilter ( void )
```

Returns true Returns false.

```
14.17.5.250 property_editor_hideAllGroups() static void property_editor_hideAllGroups ( void ) [static]
```

**Todo** document this.

```
14.17.5.251 property_editor_set_selectedItems() static void property_editor_set_selectedItems ( int * item_list, int length ) [static]
```

```
14.17.5.252 property_editor_showGroups() static void property_editor_showGroups ( int objType ) [static]
```

```
14.17.5.253 property_editor_showOneType() static void property_editor_showOneType ( int id ) [static]
```

```
14.17.5.254 property_editor_togglePickAddMode() static void property_editor_togglePickAddMode ( void ) [static]
```

**Todo** document this.

**14.17.5.255 `property_editor_updateComboBoxBoolIfVaries()`** static void property\_editor\_updateComboBoxBoolIfVaries ( int \* comboBox, bool val, bool yesOrNoText ) [static]

**14.17.5.256 `property_editor_updateComboBoxStrIfVaries()`** static void property\_editor\_updateComboBoxStrIfVaries ( int \* comboBox, const char \* str, const char \*\* strList ) [static]

**14.17.5.257 `property_editor_updateFontComboBoxStrIfVaries()`** static void property\_editor\_updateFontComboBoxStrIfVaries ( int \* fontComboBox, const char \* str ) [static]

**14.17.5.258 `property_editor_updateLineEditNumIfVaries()`** static void property\_editor\_updateLineEditNumIfVaries ( int \* lineEdit, EmbReal num, bool useAnglePrecision ) [static]

**14.17.5.259 `property_editor_updateLineEditStrIfVaries()`** static void property\_editor\_updateLineEditStrIfVaries ( int \* lineEdit, const char \* str ) [static]

**14.17.5.260 `property_editor_updatePickAddModeButton()`** static void property\_editor\_updatePickAddModeButton ( bool pickAddMode ) [static]

**14.17.5.261 `quicleader_click()`** static void quicleader\_click ( UiObject \* global, EmbVector v ) [static]

**14.17.5.262 quickleader\_main()** `UiObject` quickleader\_main (   
   void )

**Todo** Adding the text is not complete yet.

**14.17.5.263 quickleader\_prompt()** static void quickleader\_prompt (   
   `UiObject` \* global,   
   const char \* str ) [static]

**14.17.5.264 random\_uniform()** `EmbReal` random\_uniform (   
   void )

Generate a random number in the range (0.0, 1.0).

**Todo** move to libembroidery.

Returns `EmbReal` A randomly generated real number.

**14.17.5.265 ray\_action()** static void ray\_action (   
   void ) [static]

**Todo** document this.

**14.17.5.266 read\_bool\_setting()** bool read\_bool\_setting (   
   `toml_table_t` \* table,   
   const char \* key )

**14.17.5.267 read\_dictionary\_setting()** `Dictionary` \* read\_dictionary\_setting (   
   `toml_table_t` \* table,   
   const char \* key )

**14.17.5.268 read\_int\_setting()** int read\_int\_setting (   
   `toml_table_t` \* table,   
   const char \* key )

```
14.17.5.269 read_settings() static void read_settings (
    const char * fname ) [static]
```

```
14.17.5.270 read_str_setting() static void read_str_setting (
    toml_table_t * table,
    const char * key,
    char s[200] ) [static]
```

```
14.17.5.271 real_render_pattern() static void real_render_pattern (
    EmbPattern * p ) [static]
```

```
14.17.5.272 recalculateLimits() static void recalculateLimits (
    void ) [static]
```

NOTE: Increase the sceneRect limits if the point we want to go to lies outside of sceneRect's limits If the sceneRect limits aren't increased, you cannot pan past its limits.

```
14.17.5.273 recentMenuAboutToShow() static void recentMenuAboutToShow (
    void ) [static]
```

**Todo** document this.

```
14.17.5.274 rectangle_action() static void rectangle_action (
    void ) [static]
```

**Todo** rect fill for rectangle\_action

```
14.17.5.275 rectangle_click() static void rectangle_click (
    UiObject * global,
    EmbVector position ) [static]
```

```
14.17.5.276 rectangle_main() UiObject rectangle_main (
    void )
```

Create a rectangle object on the current pattern.

```
14.17.5.277 rectangle_prompt() static void rectangle_prompt (
    UiObject * global,
    const char * str ) [static]
```

```
14.17.5.278 redo_action() static void redo_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.279 redo_navigation() static void redo_navigation (
    void ) [static]
```

**Todo** document this.

```
14.17.5.280 render_pattern() int render_pattern (
    EmbPattern * p )
```

```
14.17.5.281 render_shine() static void render_shine (
    EmbVector start,
    EmbVector end,
    EmbVector normal,
    float start_frac,
    float end_frac ) [static]
```

Add a rectangular shine in the direction indicated by *normal*.

*start* The start point in the middle of one short side of the rectangle. *end* The start point in the middle of one short side of the rectangle.

```
14.17.5.282 repeat_action() static void repeat_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.283 resize_event() static void resize_event (
    void ) [static]
```

**Todo** document this.

```
14.17.5.284 rgb_main() UiObject rgb_main (
    void )
```

Command: RGB (prompt only command).

```
14.17.5.285 rgb_prompt() static void rgb_prompt (
    const char * str ) [static]
```

```
14.17.5.286 rotate() static void rotate (
    EmbVector point,
    EmbReal rot ) [static]
```

Actions that were Qt internals were here. addStack, canUndo, canRedo, undoText, redoText, undo, redo.

*point rot*

```
14.17.5.287 rotate_click() static void rotate_click (
    UiObject * global,
    EmbVector pos ) [static]
```

```
14.17.5.288 rotate_main() UiObject rotate_main (
    void )
```

**Todo** Prompt to select objects if nothing is preselected

```
14.17.5.289 rotate_prompt() static void rotate_prompt (
    UiObject * global,
    const char * str ) [static]
```

```
14.17.5.290 rotate_selected_action() static void rotate_selected_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.291 rotateAction() static void rotateAction (
    void ) [static]
```

**Todo** document this.

```
14.17.5.292 rotateSelected() static void rotateSelected (
    EmbReal x,
    EmbReal y,
    EmbReal rot ) [static]
```

```
14.17.5.293 rounded_rectangle_action() static void rounded_rectangle_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.294 roundToMultiple() int roundToMultiple (
    int roundUp,
    int numToRound,
    int multiple )
```

Rounds integers to multiples of another given integer.

This is used by the rulers to scale appropriately.

*roundUp* Whether to round up or down: 1 if up, 0 if down. *numToRound* Input to be rounded. *multiple* The number which must be a factor of the result. Returns *int* The multiple which is the closest to numToRound.

```
14.17.5.295 rubber_point_action() static void rubber_point_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.296 rubber_text_action() static void rubber_text_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.297 run_script() int run_script (
    const char * filename )
```

A basic line-by-line script processor to allow for extensions to the program.

*filename* The path of the script to run. Returns int Whether the script was successful.

Since the actuator uses command line style parsing, a script is just a text file with each line a compatible command.

It should be stressed that this has no control flow on purpose. We don't want this to be hacked into a full scripting language that could cause havoc on the user's system.

However, it may be useful to set and get variables and define macros: neither of these will allow for endless loops, stack overflow or other problems that third-party scripts could introduce.

```
example.sh
-----
# Save characters by defining functions.
# The syntax features
# Semi-colon ';' separates out lines like in bash.
# The line ending is the end of the function, but the style
# is a shell function, so we need to write the end brace.

donut() { circle $1 $2 $3 $5 ; circle $1 $2 $4 $5 }

donut 10 20 20 black
donut 20 40 20 black
-----
```

```
14.17.5.298 sandbox_click() static void sandbox_click (
    UiObject * global,
    EmbVector pos ) [static]
```

```
14.17.5.299 sandbox_main() static UiObject sandbox_main (
    void ) [static]
```

```
float global = {};//Required global.test1; global.test2;
```

```
14.17.5.300 sandbox_prompt() static void sandbox_prompt (
    UiObject * global,
    const char * str ) [static]
```

```
14.17.5.301 save_as_file_action() static void save_as_file_action (
    char * filename ) [static]
```

*filename*

```
14.17.5.302 save_bmc() static void save_bmc (
    void ) [static]
```

**Todo** Save a Brother PEL image (An 8bpp, 130x113 pixel monochromatic? bitmap image) Why 8bpp when only 1bpp is needed?

**Todo** Should BMC be limited to ~32KB or is this a mix up with Bitmap Cache?

**Todo** Is there/should there be other embedded data in the bitmap besides the image itself?

NOTE: Can save a Singer BMC image (An 8bpp, 130x113 pixel colored bitmap image)

**Todo** Make BMC background into it's own setting?

**Todo** figure out how to center the image, right now it just plops it to the left side.

```
14.17.5.303 save_save() bool save_save (
    const char * fileName )
```

**Todo** Before saving to a stitch only format, Embroidermodder needs to calculate the optimal path to minimize jump stitches. Also based upon which layer needs to be stitched first, the path to the next object needs to be hidden beneath fills that will come later. When finding the optimal path, we need to take into account the color of the thread, as we do not want to try to hide dark colored stitches beneath light colored fills.

*fileName* Returns true Returns false

**Todo** handle EMBFORMAT\_STCHANDOBJ also

**Todo** handle all objects like this

**Todo** check the embLog for errors and if any exist, report them.

```
14.17.5.304 save_toPolyline() static void save_toPolyline (
    EmbPattern * pattern,
    EmbVector objPos,
    EmbPath objPath,
    const char * layer,
    EmbColor color,
    const char * lineType,
    const char * lineWeight ) [static]
```

Old conversion method for saving to non-design formats: move to libembroidery.

NOTE: This function should be used to interpret various object types and save them as polylines for stitchOnly formats.

*pattern* The pointer to the pattern to operate on. *objPos* The position of object in the scene. *objPath* The path to be converted. *layer* Which layer to place the result in. *color* *lineType* *lineWeight*

**Todo** proper lineType

```
14.17.5.305 scale_action() static void scale_action (
    EmbVector position,
    EmbReal scaleFactor,
    char * text,
    EmbGeometry * obj,
    View * v ) [static]
```

*position* *scaleFactor* *text* *obj* *v*

```
14.17.5.306 scale_click() static void scale_click (
    UiObject * global,
    EmbVector pos ) [static]
```

```
14.17.5.307 scale_main() static UiObject scale_main (
    void ) [static]
```

**Todo** document this.

```
14.17.5.308 scale_prompt() static void scale_prompt (
    UiObject * global,
    const char * str ) [static]
```

```
14.17.5.309 scale_redo() static void scale_redo (
    void ) [static]
```

**Todo** document this.

```
14.17.5.310 scale_selected_action() static void scale_selected_action (
    void ) [static]
```

**Todo** Get mouse point/move

```
14.17.5.311 scale_undo() static void scale_undo (
    void ) [static]
```

**Todo** document this.

```
14.17.5.312 scaleAction() static void scaleAction (
    void ) [static]
```

**Todo** document this.

```
14.17.5.313 scaleSelected() static void scaleSelected (
    EmbReal x,
    EmbReal y,
    EmbReal factor ) [static]
```

```
14.17.5.314 selectbox_paintEvent() static void selectbox_paintEvent (
    int * paint_event ) [static]
```

```
14.17.5.315 selectbox_SelectBox() static void selectbox_SelectBox (
    void ) [static]
```

**Todo** document this.

```
14.17.5.316 selectbox_set_colors() static void selectbox_set_colors (
    EmbColor colorL,
    EmbColor fillL,
    EmbColor colorR,
    EmbColor fillR,
    int newAlpha ) [static]
```

```
14.17.5.317 selectbox_setDirection() static void selectbox_setDirection (
    int dir ) [static]
```

```
14.17.5.318 selection_changed() static void selection_changed (
    void ) [static]
```

**Todo** document this.

```
14.17.5.319 set_crosshair_color() static void set_crosshair_color (
    int r,
    int g,
    int b ) [static]
```

Set the crosshair color object.

*rgb*

```
14.17.5.320 set_current_file() static void set_current_file (
    const char * fileName ) [static]
```

```
14.17.5.321 set_cursor_shape_action() static void set_cursor_shape_action (
    int shape ) [static]
```

Set the cursor shape action object.

*shape*

**Todo** Uses the CURSOR\_SHAPE defines.

```
14.17.5.322 set_grid_color() static void set_grid_color (
    int r,
    int g,
    int b ) [static]
```

Set the grid color object.

*r g b*

```
14.17.5.323 set_mouse_coord() static void set_mouse_coord (
    EmbVector pos ) [static]
```

Set the Mouse Coord object.

*pos*

**Todo** set format from settings (Architectural, Decimal, Engineering, Fractional, Scientific)

**Todo** use precision from unit settings

```
14.17.5.324 set_prompt_prefix() static void set_prompt_prefix (
    const char * msg ) [static]
```

**Todo** finish set\_prompt\_prefix

```
14.17.5.325 set_rubber_mode_action() static void set_rubber_mode_action (
    char * label,
    int mode ) [static]
```

Set the rubber mode action object.

*label mode*

```
14.17.5.326 set_rubber_point() static void set_rubber_point (
    const char * key,
    EmbVector position ) [static]
```

Set the rubber point object.

```
14.17.5.327 set_rubber_text() static void set_rubber_text (
    const char * key,
    const char * txt ) [static]
```

Set the rubber text object.

```
14.17.5.328 set_view_background_color() static void set_view_background_color (
    unsigned int color ) [static]
```

```
14.17.5.329 set_view_crosshair_color() static void set_view_crosshair_color (
    unsigned int color ) [static]
```

```
14.17.5.330 set_view_selectbox_colors() static void set_view_selectbox_colors (
    unsigned int colorL,
    unsigned int fillL,
    unsigned int colorR,
    unsigned int fillR,
    int alpha ) [static]
```

```
14.17.5.331 set_viewGridColor() static void set_viewGridColor (
    unsigned int color ) [static]
```

```
14.17.5.332 set_viewRulerColor() static void set_viewRulerColor (
    unsigned int color ) [static]
```

```
14.17.5.333 setBackgroundColor() static void setBackgroundColor (
    EmbColor color ) [static]
```

```
14.17.5.334 setBackgroundColor_() static void setBackgroundColor_ (
    int r,
    int g,
    int b ) [static]
```

Set the Background Color object.

*r g b*

```
14.17.5.335 setCornerButton() static void setCornerButton (
    void ) [static]
```

**Todo** document this.

```
14.17.5.336 setCrossHairColor() static void setCrossHairColor (
    unsigned int color ) [static]
```

```
14.17.5.337 setCrossHairSize() static void setCrossHairSize (
    uint8_t percent ) [static]
```

```
14.17.5.338 setGridColor() static void setGridColor (
    unsigned int color ) [static]
```

```
14.17.5.339 setRubberMode() static void setRubberMode (
    int mode ) [static]
```

```
14.17.5.340 setRubberPoint() static void setRubberPoint (
    const char * key,
    EmbVector point ) [static]
```

```
14.17.5.341 setRubberText() static void setRubberText (
    const char * key,
    const char * txt ) [static]
```

```
14.17.5.342 setRulerColor() static void setRulerColor (
    unsigned int color ) [static]
```

```
14.17.5.343 setSelectBoxColors() static void setSelectBoxColors (
    unsigned int colorL,
    unsigned int fillL,
    unsigned int colorR,
    unsigned int fillR,
    int alpha ) [static]
```

```
14.17.5.344 setTextFont() static void setTextFont (
    const char * str ) [static]
```

Set the Text Font object.

*str*

```
14.17.5.345 setTextSize() static void setTextSize (
    double num ) [static]
```

Set the Text Size object.

*num*

```
14.17.5.346 settings_dialog_acceptChanges() static void settings_dialog_acceptChanges (
    void ) [static]
```

**Todo** document this.

```
14.17.5.347 settings_dialog_addColorsToComboBox() static void settings_dialog_addColorsTo←
ComboBox (
    int * comboBox ) [static]
```

**Todo** Add Other... so the user can select custom colors

```
14.17.5.348 settings_dialog_buttonCustomFilterClearAllClicked() static void settings_dialog←
buttonCustomFilterClearAllClicked (
    void ) [static]
```

**Todo** document this.

```
14.17.5.349 settings_dialog_buttonCustomFilterSelectAllClicked() static void settings_dialog_←
buttonCustomFilterSelectAllClicked (
    void ) [static]
```

**Todo** document this.

```
14.17.5.350 settings_dialog_buttonQSnapClearAllClicked() static void settings_dialog_button←
QSnapClearAllClicked (
    void ) [static]
```

**odo** document this.

```
14.17.5.351 settings_dialog_buttonQSnapSelectAllClicked() static void settings_dialog_button←
QSnapSelectAllClicked (
    void ) [static]
```

**Todo** document this.

```
14.17.5.352 settings_dialog_checkBoxCustomFilterStateChanged() static void settings_dialog_←
checkBoxCustomFilterStateChanged (
    int checked ) [static]
```

*checked*

```
14.17.5.353 settings_dialog_checkBoxGeneralMdiBGUseColorStateChanged() static void settings_←
_dialog_checkBoxGeneralMdiBGUseColorStateChanged (
    int checked ) [static]
```

*checked.*

```
14.17.5.354 settings_dialog_checkBoxGeneralMdiBGUseLogoStateChanged() static void settings_←
dialog_checkBoxGeneralMdiBGUseLogoStateChanged (
    int checked ) [static]
```

**14.17.5.355 settings\_dialog\_checkBoxGeneralMdiBGUseTextureStateChanged()** static void settings\_→  
\_dialog\_checkBoxGeneralMdiBGUseTextureStateChanged ( int checked ) [static]

**14.17.5.356 settings\_dialog\_checkBoxGridCenterOnOriginStateChanged()** static void settings\_→  
dialog\_checkBoxGridCenterOnOriginStateChanged ( int checked ) [static]

*checked*

**14.17.5.357 settings\_dialog\_checkBoxGridColorMatchCrossHairStateChanged()** static void settings\_→  
\_dialog\_checkBoxGridColorMatchCrossHairStateChanged ( int checked ) [static]

*checked*

**14.17.5.358 settings\_dialog\_checkBoxGridLoadFromFileStateChanged()** static void settings\_→  
dialog\_checkBoxGridLoadFromFileStateChanged ( int checked ) [static]

*checked*

**14.17.5.359 settings\_dialog\_checkBoxLwtRealRenderStateChanged()** static void settings\_dialog\_→  
checkBoxLwtRealRenderStateChanged ( int checked ) [static]

*checked.*

**14.17.5.360 settings\_dialog\_checkBoxLwtShowLwtStateChanged()** static void settings\_dialog\_→  
checkBoxLwtShowLwtStateChanged ( int checked ) [static]

*checked.*

**14.17.5.361 settings\_dialog\_checkBoxShowscrollbarsStateChanged()** static void settings\_dialog\_→  
checkBoxShowscrollbarsStateChanged ( int checked ) [static]

*checked.*

**14.17.5.362 settings\_dialog\_chooseDisplayBackgroundColor()** static void settings\_dialog\_chooseDisplayBackgroundColor ( void ) [static]

**14.17.5.363 settings\_dialog\_chooseDisplayCrossHairColor()** static void settings\_dialog\_chooseDisplayCrossHairColor ( void ) [static]

**14.17.5.364 settings\_dialog\_chooseDisplaySelectBoxLeftColor()** static void settings\_dialog\_chooseDisplaySelectBoxLeftColor ( void ) [static]

**14.17.5.365 settings\_dialog\_chooseDisplaySelectBoxLeftFill()** static void settings\_dialog\_chooseDisplaySelectBoxLeftFill ( void ) [static]

**14.17.5.366 settings\_dialog\_chooseDisplaySelectBoxRightColor()** static void settings\_dialog\_chooseDisplaySelectBoxRightColor ( void ) [static]

**14.17.5.367 settings\_dialog\_chooseDisplaySelectBoxRightFill()** static void settings\_dialog\_chooseDisplaySelectBoxRightFill ( void ) [static]

**14.17.5.368 settings\_dialog\_chooseGeneralMdiBackgroundColor()** static void settings\_dialog\_chooseGeneralMdiBackgroundColor ( void ) [static]

**14.17.5.369 settings\_dialog\_chooseGeneralMdiBackgroundLogo()** static void settings\_dialog\_chooseGeneralMdiBackgroundLogo ( void ) [static]

```
14.17.5.370 settings_dialog_chooseGeneralMdiBackgroundTexture() static void settings_dialog_←
chooseGeneralMdiBackgroundTexture (
    void ) [static]
```

**Todo** document this.

```
14.17.5.371 settings_dialog_chooseGridColor() static void settings_dialog_chooseGridColor (
    void ) [static]
```

**Todo** document this.

```
14.17.5.372 settings_dialog_choosePromptBackgroundColor() static void settings_dialog_choose←
PromptBackgroundColor (
    void ) [static]
```

```
14.17.5.373 settings_dialog_choosePromptTextColor() static void settings_dialog_choosePrompt←
TextColor (
    void ) [static]
```

```
14.17.5.374 settings_dialog_chooseRulerColor() static void settings_dialog_chooseRulerColor (
    void ) [static]
```

**Todo** document this.

```
14.17.5.375 settings_dialog_combobox_selectionCoolGripColorCurrentIndexChanged() static void
settings_dialog_combobox_selectionCoolGripColorCurrentIndexChanged (
    int index ) [static]
```

*index*.

**Todo** Alert user if color matched the display bg color

```
14.17.5.376 settings_dialog_combobox_selectionHotGripColorCurrentIndexChanged() static void
settings_dialog_combobox_selectionHotGripColorCurrentIndexChanged (
    int index ) [static]

index.
```

**Todo** Alert user if color matched the display bg color

```
14.17.5.377 settings_dialog_comboBoxGridTypeCurrentIndexChanged() static void settings_←
dialog_comboBoxGridTypeCurrentIndexChanged (
    const char * type ) [static]

type
```

```
14.17.5.378 settings_dialog_comboBoxIconSizeCurrentIndexChanged() static void settings_←
dialog_comboBoxIconSizeCurrentIndexChanged (
    int index ) [static]
```

```
14.17.5.379 settings_dialog_comboBoxIconThemeCurrentIndexChanged() static void settings_←
dialog_comboBoxIconThemeCurrentIndexChanged (
    const char * theme ) [static]
```

```
14.17.5.380 settings_dialog_comboBoxLanguageCurrentIndexChanged() static void settings_←
dialog_comboBoxLanguageCurrentIndexChanged (
    const char * lang ) [static]
```

```
14.17.5.381 settings_dialog_comboBoxPromptFontFamilyCurrentIndexChanged() static void settings_←
_dialog_comboBoxPromptFontFamilyCurrentIndexChanged (
    const char * family ) [static]

family
```

```
14.17.5.382 settings_dialog_comboBoxPromptFontStyleCurrentIndexChanged() static void settings_←
_dialog_comboBoxPromptFontStyleCurrentIndexChanged (
    const char * style ) [static]
```

*style*

```
14.17.5.383 settings_dialog_comboBoxQSnapLocatorColorCurrentIndexChanged() static void settings_←
(dialog_comboBoxQSnapLocatorColorCurrentIndexChanged (
    int index ) [static]

index .
```

**Todo** Figure out how to abstract the slot in a way that it can be used for comboBoxes in general Currently comboBoxQSnapLocatorColorCurrentIndexChanged(int index) comboBoxSelectionCoolGripColorCurrentIndexChanged(int index) comboBoxSelectionHotGripColorCurrentIndexChanged(int index) are all similar except the dialog. variable being worked on and the QVariant.

```
14.17.5.384 settings_dialog_comboBoxRulerMetricCurrentIndexChanged() static void settings_←
(dialog_comboBoxRulerMetricCurrentIndexChanged (
    int index ) [static]

index
```

```
14.17.5.385 settings_dialog_currentDisplayBackgroundColorChanged() static void settings_←
(dialog_currentDisplayBackgroundColorChanged (
    EmbColor color ) [static]

color .
```

```
14.17.5.386 settings_dialog_currentDisplayCrossHairColorChanged() static void settings_dialog_←
(currentDisplayCrossHairColorChanged (
    EmbColor color ) [static]

color .
```

```
14.17.5.387 settings_dialog_currentDisplaySelectBoxLeftColorChanged() static void settings_dialog_←
(dialog_currentDisplaySelectBoxLeftColorChanged (
    EmbColor color ) [static]

color .
```

```
14.17.5.388 settings_dialog_currentDisplaySelectBoxLeftFillChanged() static void settings_dialog_←
(_currentDisplaySelectBoxLeftFillChanged (
    EmbColor color ) [static]

color .
```

**14.17.5.389 settings\_dialog\_currentDisplaySelectBoxRightColorChanged()** static void settings\_↔  
dialog\_currentDisplaySelectBoxRightColorChanged ( EmbColor color ) [static]  
*color*.

**14.17.5.390 settings\_dialog\_currentDisplaySelectBoxRightFillChanged()** static void settings\_↔  
dialog\_currentDisplaySelectBoxRightFillChanged ( EmbColor color ) [static]  
*color*.

**14.17.5.391 settings\_dialog\_currentGeneralMdiBackgroundColorChanged()** static void settings\_↔  
dialog\_currentGeneralMdiBackgroundColorChanged ( EmbColor color ) [static]  
*color*.

**14.17.5.392 settings\_dialog\_currentGridColorChanged()** static void settings\_dialog\_currentGrid↔  
ColorChanged ( EmbColor color ) [static]  
*color*

**14.17.5.393 settings\_dialog\_currentPromptBackgroundColorChanged()** static void settings\_↔  
dialog\_currentPromptBackgroundColorChanged ( EmbColor color ) [static]  
*color*.

**14.17.5.394 settings\_dialog\_currentPromptTextColorChanged()** static void settings\_dialog\_↔  
currentPromptTextColorChanged ( EmbColor color ) [static]  
*color*.

**14.17.5.395 settings\_dialog\_currentRulerColorChanged()** static void settings\_dialog\_currentRulerColorChanged ( EmbColor color ) [static]  
*color*.

**14.17.5.396 settings\_dialog\_rejectChanges()** static void settings\_dialog\_rejectChanges ( void ) [static]

**Todo** document this.

**Todo** inform the user if they have changed settings

Update the view since the user must accept the preview active\_view->useBackgroundLogo(dialog.general\_mdi\_bg\_use\_logo); active\_view->useBackgroundTexture(dialog.general\_mdi\_bg\_use\_texture); active\_view->useBackgroundColor(dialog.general\_mdi\_bg\_use\_color); active\_view->setBackgroundLogo(dialog.general\_mdi\_bg\_logo); active\_view->setBackgroundTexture(dialog.general\_mdi\_bg\_texture); active\_view->setBackgroundColor(dialog.general\_mdi\_bg\_color); updateAllViewscrollbars(dialog.display\_show\_scrollbars); updateAllViewCrossHairColors(dialog.display\_crosshair\_color); updateAllViewBackgroundColors(dialog.display\_bg\_color); updateAllViewSelectBoxColors(dialog.display\_selectbox\_left\_color, dialog.display\_selectbox\_left\_fill, dialog.display\_selectbox\_right\_color, dialog.display\_selectbox\_right\_fill, dialog.display\_selectbox\_alpha); prompt->setPromptTextColor(EmbColor(dialog.prompt\_text\_color)); prompt->setPromptBackgroundColor(EmbColor(dialog.prompt\_bg\_color)); prompt->setPromptFontFamily(dialog.prompt\_font\_family); prompt->setPromptFontStyle(dialog.prompt\_font\_style); prompt->setPromptFontSize(dialog.prompt\_font\_size); updateAllViewGridColors(dialog.grid\_color); updateAllViewRulerColors(dialog.ruler\_color); if (dialog.lwt\_show\_lwt) { statusbarLwtButton->enableLwt(); } else { statusbarLwtButton->disableLwt(); } if (dialog.lwt\_real\_render) { statusbarLwtButton->enableReal(); } else { statusbarLwtButton->disableReal(); }

reject();

**14.17.5.397 settings\_dialog\_spinBoxDisplaySelectBoxAlphaValueChanged()** static void settings\_dialog\_spinBoxDisplaySelectBoxAlphaValueChanged ( int value ) [static]  
*value*.

**14.17.5.398 settings\_dialog\_spinBoxPromptFontSizeValueChanged()** static void settings\_dialog\_spinBoxPromptFontSizeValueChanged ( int value ) [static]  
*value*

**14.17.5.399 settings\_editor()** static void settings\_editor ( void ) [static]

Renderer for the interface of the settings editor, called by main\_widget.

```
14.17.5.400 setUndoCleanIcon() static void setUndoCleanIcon (
    void ) [static]
```

Set the Undo Clean Icon object.

```
14.17.5.401 show_view_scrollbars() static void show_view_scrollbars (
    bool val ) [static]
```

```
14.17.5.402 showscrollbars() static void showscrollbars (
    bool val ) [static]
```

```
14.17.5.403 simplify_path() static void simplify_path (
    char * path ) [static]
```

Simplifies a path by removing the .. and . symbols in place.

*path* The character array to operate on.

```
14.17.5.404 simulate_pattern() static void simulate_pattern (
    EmbPattern * p ) [static]
```

```
14.17.5.405 single_line_text_click() static void single_line_text_click (
    UiObject * global,
    EmbVector pos ) [static]
```

```
14.17.5.406 single_line_text_main() static UiObject single_line_text_main (
    void ) [static]
```

**Todo** document this.

```
14.17.5.407 single_line_text_prompt() static void single_line_text_prompt (
    UiObject * global,
    const char * str ) [static]
```

```
if (streq(str, "RAPID_ENTER")) { if (global.text == "") { end_command(); } else { vulcanize(); end_command(); //
```

**Todo** Rather than ending the command, calculate where the next line would be and modify the x/y to the new point  
} } else { global.text = str; setRubberText("TEXT\_RAPID", global.text); }

```
14.17.5.408 size_hint() EmbVector size_hint (
    void )
```

Returns EmbVector.

```
14.17.5.409 snowflake_click() UiObject snowflake_click (
    UiObject global,
    EmbVector position )
```

```
14.17.5.410 snowflake_main() UiObject snowflake_main (
    void )
```

**Todo** document this.

```
14.17.5.411 snowflake_move() UiObject snowflake_move (
    UiObject global,
    EmbVector delta )
```

Move the snowflake design by a specified amount.

*global* The design specification (not including the path). *delta* The vector to display the design by.

```
14.17.5.412 spare_rubber() static void spare_rubber (
    size_t id ) [static]
```

*id*.

```
14.17.5.413 spare_rubber_action() static void spare_rubber_action (
    void ) [static]
```

**Todo** ClearRubber(); function

```
14.17.5.414 star_click() UiObject star_click (
    UiObject global,
    EmbVector pos )
```

```
14.17.5.415 star_main() UiObject star_main (
    void )
```

Returns **UiObject**.

```
14.17.5.416 star_move() UiObject star_move (
    UiObject global,
    EmbVector delta )
```

```
14.17.5.417 star_prompt() static void star_prompt (
    UiObject design,
    const char * str ) [static]
```

```
14.17.5.418 start_gripping() static void start_gripping (
    EmbGeometry * obj ) [static]
```

```
14.17.5.419 status_bar() static void status_bar (
    void ) [static]
```

```
14.17.5.420 status_bar_context_menu() static void status_bar_context_menu (
    void ) [static]
```

This appears not to be used any more.

```
14.17.5.421 stitch_line_to_scene() EmbLine stitch_line_to_scene (
    View view,
    EmbStitch prev,
    EmbStitch st )
```

```
14.17.5.422 stop_gripping() static void stop_gripping (
    bool accept ) [static]
```

```
14.17.5.423 streq() bool streq (  
    const char * s1,  
    const char * s2 )
```

Wrapper for the standard strncmp that is aware of our 200 character string limit.

*s1* The first string, usually the variable data. *s2* The second string, usually the contant to compare against. Returns true when the strings match for the first 200 characters, for longer strings that match this far this is the wrong tool.

```
14.17.5.424 stub_implement() static void stub_implement (  
    const char * msg ) [static]
```

*msg*

```
14.17.5.425 stub_testing_action() static void stub_testing_action (  
    void ) [static]
```

**Todo** document this.

```
14.17.5.426 test_translate() bool test_translate (  
    void )
```

Check that the translate call can return an entry from the table.

Returns true If the test has been passed. Returns false Otherwise.

```
14.17.5.427 text_angle_action() static void text_angle_action (  
    EmbReal angle ) [static]
```

*angle*

```
14.17.5.428 text_font_action() static void text_font_action (  
    const char * font ) [static]
```

*font*

```
14.17.5.429 text_multi_action() static void text_multi_action (  
    void ) [static]
```

**Todo** document this.

```
14.17.5.430 text_single_action() static void text_single_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.431 text_size_action() static void text_size_action (
    EmbReal size ) [static]
```

*size*

```
14.17.5.432 textFontSelectorCurrentFontChanged() static void textFontSelectorCurrentFontChanged (
( int font ) [static]
```

*font*

```
14.17.5.433 textSizeSelectorIndexChanged() static void textSizeSelectorIndexChanged (
    int index ) [static]
```

*index*

**Todo** check that the toReal() conversion is ok

```
14.17.5.434 tip_of_the_day_dialog() static void tip_of_the_day_dialog (
    void ) [static]
```

**Todo** Add icons to buttons by using wizardTipOfTheDay->setButton(CustomButton1, buttonPrevious)

**Todo** Add icons to buttons by using wizardTipOfTheDay->setButton(CustomButton1, buttonNext)

**Todo** Add icons to buttons by using wizardTipOfTheDay->setButton(CustomButton1, buttonClose)

```
14.17.5.435 TipOfTheDay() static void TipOfTheDay (
    void ) [static]
```

**Todo** document this.

**14.17.5.436 `toggleGrid()`** static void toggleGrid ( bool on ) [static]

**14.17.5.437 `translate()`** const char \* translate ( const char \* string )

Rather than using .po files we translate at runtime using this function.

*string* The string to be translated. Returns const char\* The translated string.

**Todo** check for translation\_table loaded and use it.

**14.17.5.438 `triangle_action()`** static void triangle\_action ( void ) [static]

**Todo** document this.

**14.17.5.439 `UiObject_free()`** static void UiObject\_free ( *UiObject* \* obj ) [static]

**14.17.5.440 `UiObject_init()`** *UiObject* \* UiObject\_init ( int pattern\_index, char type[200], int object\_index )

**14.17.5.441 `undo_action()`** static void undo\_action ( void ) [static]

**Todo** document this.

**14.17.5.442 `undo_editor_init()`** static void undo\_editor\_init ( char \* iconDirectory ) [static]

*iconDirectory*

**14.17.5.443 undo\_history\_free()** static void undo\_history\_free ( UndoHistory \* ) [static]

**14.17.5.444 undo\_history\_init()** UndoHistory undo\_history\_init ( void )

Returns UndoHistory.

**14.17.5.445 undo\_history\_viewer()** static void undo\_history\_viewer ( void ) [static]

**Todo** document this.

**14.17.5.446 undo\_navigation()** static void undo\_navigation ( void ) [static]

**Todo** document this.

**14.17.5.447 undoable\_navigation\_command()** static void undoable\_navigation\_command ( char \* type, View \* v ) [static]

*type v*

**14.17.5.448 update\_clean\_icon()** static void update\_clean\_icon ( bool opened ) [static]

*opened*

**14.17.5.449 update\_heart()** static void update\_heart ( EmbPath \* path, UiObject global ) [static]

*path global*

```
14.17.5.450 update_menu_toolbar_statusbar() static void update_menu_toolbar_statusbar ( void ) [static]
```

**Todo** document this.

```
14.17.5.451 update_mouse_coords() static void update_mouse_coords ( EmbVector position ) [static]
```

```
14.17.5.452 updateAllViewBackgroundColors() static void updateAllViewBackgroundColors ( unsigned int color ) [static]
```

*color*

```
14.17.5.453 updateAllViewCrossHairColors() static void updateAllViewCrossHairColors ( unsigned int color ) [static]
```

**Todo** document this.

```
14.17.5.454 updateAllViewGridColors() static void updateAllViewGridColors ( unsigned int color ) [static]
```

**Todo** document this.

```
14.17.5.455 updateAllViewRulerColors() static void updateAllViewRulerColors ( unsigned int color ) [static]
```

*color*

```
14.17.5.456 updateAllViewscrollbars() static void updateAllViewscrollbars ( bool val ) [static]
```

**Todo** document this.

```
14.17.5.457 updateAllViewSelectBoxColors() static void updateAllViewSelectBoxColors (  
    unsigned int colorL,  
    unsigned int fillL,  
    unsigned int colorR,  
    unsigned int fillR,  
    int alpha ) [static]
```

**Todo** document this.

```
14.17.5.458 updateColorLinetypeLinewidth() static void updateColorLinetypeLinewidth (void ) [static]
```

```
14.17.5.459 updateDolphin() static void updateDolphin (  
    EmbArray * path,  
    UiObject global ) [static]
```

*path global*

```
14.17.5.460 updatePickAddMode() static void updatePickAddMode (bool val ) [static]
```

*val*

```
14.17.5.461 updateSnowflake() static void updateSnowflake (  
    EmbPath * path,  
    UiObject global ) [static]
```

```
14.17.5.462 updateStar() static void updateStar (  
    EmbPath * path,  
    UiObject global ) [static]
```

```
14.17.5.463 usage() static void usage (void ) [static]
```

Advice to users on how to use command line arguments.

```
14.17.5.464 valid_file_format() bool valid_file_format (
    char * fname )
```

Check if the filename is valid before we attempt to read or write it.

*fname* The file name to check (absolute or relative). Returns true If this file can be parsed by libembroidery. Returns false If it cannot be, or no file name appears to be present.

```
14.17.5.465 validRGB() bool validRGB (
    int r,
    int g,
    int b )
```

Check that *r*, *g* and *b* are in the range 0-255 inclusive.

```
14.17.5.466 vertical_dimension_action() static void vertical_dimension_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.467 View__() static void View__ (
    void ) [static]
```

**Todo** Review OpenGL direct calls (rather than via GLFW).

**Todo** panDistance needs a setting.

**Todo** load toggleReal from file, else settings with default being true.

```
14.17.5.468 view_empty_double_click() static void view_empty_double_click (
    void ) [static]
```

**Todo** document this.

```
14.17.5.469 view_empty_paint_event() static void view_empty_paint_event (
    View * view,
    int * event ) [static]
```

**Todo** document this.

```
14.17.5.470 view_free() static void view_free (
    void ) [static]
```

Prevent memory leaks by deleting any objects that were removed from the scene.

```
14.17.5.471 vulcanize() static void vulcanize (
    UiObject * obj ) [static]
```

```
14.17.5.472 vulcanize_action() static void vulcanize_action (
    void ) [static]
```

**Todo** document this.

```
14.17.5.473 vulcanize_rubber_room() static void vulcanize_rubber_room (
    void ) [static]
```

```
14.17.5.474 vulcanizeObject() static void vulcanizeObject (
    EmbGeometry * obj ) [static]
```

```
14.17.5.475 whats_this_context_help_action() static void whats_this_context_help_action (
    void ) [static]
```

**Todo** document this.

**14.17.5.476 `wheel_event()`** static void wheel\_event ( int \* event ) [static]

**14.17.5.477 `willOverflowInt32()`** bool willOverflowInt32 ( int32\_t a, int32\_t b )

Check whether an addition will cause overflow before we rely on the result.

*a* The first argument to the addition. *b* The second argument to the addition. Returns true If overflow should occur. Returns false If overflow won't occur.

**14.17.5.478 `willUnderflowInt32()`** bool willUnderflowInt32 ( int32\_t a, int32\_t b )

Check whether an subtraction will cause underflow before we rely on the result.

*a* The first argument to the subtraction. *b* The second argument to the subtraction. Returns true If underflow should occur. Returns false If underflow won't occur.

**14.17.5.479 `window_action()`** static void window\_action ( const char \* arg ) [static]

Alter the window layout based on the char array *arg*.

**14.17.5.480 `window_menu_about_to_show()`** static void window\_menu\_about\_to\_show ( void ) [static]

**Todo** document this.

**14.17.5.481 `window_menu_activated()`** static void window\_menu\_activated ( bool checked ) [static]

*checked*

**14.17.5.482 `write_bool_setting()`** static void write\_bool\_setting ( FILE \* file, const char \* key, bool value ) [static]

```
14.17.5.483 write_dictionary_setting() static void write_dictionary_setting (
    FILE * file,
    const char * key,
    Dictionary value ) [static]
```

```
14.17.5.484 write_float_setting() static void write_float_setting (
    FILE * file,
    const char * key,
    float value ) [static]
```

```
14.17.5.485 write_int_setting() static void write_int_setting (
    FILE * file,
    const char * key,
    int value ) [static]
```

```
14.17.5.486 write_settings() static void write_settings (
    const char * fname ) [static]
```

Write settings to file with file name *settings\_file*.

```
14.17.5.487 write_str_setting() static void write_str_setting (
    FILE * file,
    const char * key,
    const char value[200] ) [static]
```

```
14.17.5.488 write_uint_setting() static void write_uint_setting (
    FILE * file,
    const char * key,
    unsigned int value ) [static]
```

```
14.17.5.489 zoom_action() static void zoom_action (
    const char * arg ) [static]
```

*arg*

**Todo** Implement zoomCenter.

**Todo** Implement zoomDynamic.

**Todo** Implement zoomPrevious.

**Todo** Implement zoomRealtime.

**Todo** Implement zoomScale.

```
14.17.5.490 zoom_extents_all_subviews() static void zoom_extents_all_subviews (
    void ) [static]
```

**Todo** document this.

```
14.17.5.491 zoom_to_point() static void zoom_to_point (
    EmbVector mousePoint,
    int zoomDir ) [static]
```

## 14.17.6 Variable Documentation

```
14.17.6.1 active_view View* active_view = NULL
```

The view focussed (that is the last view to have a click or keypress sent): this has to be manually set whenever it changes including being set to NULL when all views are closed.

```
14.17.6.2 current_directory char current_directory[200] = "/"
```

```
14.17.6.3 dialog Settings dialog [static]
```

These copies of the settings struct are for restoring the state if the user doesn't want to accept their changes in the settings dialog.

```
14.17.6.4 from_ int from_ = 0 [static]
```

```
14.17.6.5 just_opened bool just_opened = true
```

**Todo** Move to the settings struct.

**14.17.6.6 languages** const char\* languages[20]**Initial value:**

```
= {  
    "default",  
    "spanish",  
    "french",  
    "END"  
}
```

The language strings for identifying where to look for translation tables.

**Todo** this should be loaded from configuration.

**14.17.6.7 menu\_action** char menu\_action[200]**14.17.6.8 menu\_layout** [Index\\*](#) menu\_layout**14.17.6.9 n\_views** int n\_views = 0**14.17.6.10 preview** [Settings](#) preview [static]**14.17.6.11 settings** [Settings](#) settings

The actuator changes the program state via these global variables.

**14.17.6.12 settings\_dir** char settings\_dir[200]

The directory on the user's system to keep our configuration in: this will be some variant of "~/embroidermodder2".

**14.17.6.13 settings\_file** char settings\_file[200]

This file needs to be read from the users home directory to ensure it is writable.

**14.17.6.14 stor** bool stor[10] [static]

**14.17.6.15 `to_`** int `to_` = 10 [static]

**14.17.6.16 `to_open`** char `to_open`[200] = ""

**14.17.6.17 `toolbar_layout`** [Index](#)\* `toolbar_layout`

**14.17.6.18 `translation_table`** [Dictionary](#)\* `translation_table`

**14.17.6.19 `views`** [View](#) `views`[50]

## 14.18 embroidermodder2/layer-manager.cpp File Reference

```
#include <QtGui>
#include "layer-manager.h"
#include "mainwindow.h"
```

## 14.19 embroidermodder2/layer-manager.h File Reference

```
#include <QDialog>
```

### Classes

- class [LayerManager](#)

## 14.20 layer-manager.h

[Go to the documentation of this file.](#)

```

00001 #ifndef LAYER_MANAGER_H
00002 #define LAYER_MANAGER_H
00003
00004 #include <QDialog>
00005
00006 class MainWindow;
00007
00008 QT_BEGIN_NAMESPACE
00009 class QAbstractItemModel;
00010 class QCheckBox;
00011 class QComboBox;
00012 class QGroupBox;
00013 class QLabel;
00014 class QLineEdit;
00015 class QSortFilterProxyModel;
00016 class QTreeView;
00017 class QStandardItemModel;
00018 QT_END_NAMESPACE
00019
00020 class LayerManager : public QDialog
00021 {
00022     Q_OBJECT
00023
00024 public:
00025     LayerManager(MainWindow* mw, QWidget *parent = 0);
00026     ~LayerManager();
00027
00028 void addLayer(const QString& name,
00029                 const bool visible,
00030                 const bool frozen,
00031                 const qreal zValue,
00032                 const QRgb color,
00033                 const QString& lineType,
00034                 const QString& lineWeight,
00035                 const bool print);
00036
00037 private slots:
00038
00039 private:
00040     QStandardItemModel*    layerModel;
00041     QSortFilterProxyModel* layerModelSorted;
00042     QTreeView*            treeView;
00043 };
00044
00045 #endif
00046
00047 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.21 embroidermodder2/main.cpp File Reference

```
#include "application.h"
#include "mainwindow.h"
```

### Functions

- static void [usage](#) (void)
- static void [version](#) ()
- int [main](#) (int argc, char \*argv[ ])

### Variables

- const char \* [\\_appName\\_](#) = "Embroidermodder"
- const char \* [\\_appVer\\_](#) = "v2.0 alpha"
- bool [exitApp](#) = false

#### 14.21.1 Function Documentation

**14.21.1.1 main()** int main (  
    int argc,  
    char \* argv[ ] )

**14.21.1.2 usage()** static void usage (  
    void ) [static]

**14.21.1.3 version()** static void version ( ) [static]

#### 14.21.2 Variable Documentation

**14.21.2.1 \_appName\_** const char\* \_appName\_ = "Embroidermodder"

**14.21.2.2 \_appVer\_** const char\* \_appVer\_ = "v2.0 alpha"

**14.21.2.3 exitApp** bool exitApp = false

### 14.22 embroidermodder2/mainwindow-actions.cpp File Reference

```
#include "mainwindow.h"
#include <QAction>
#include <QApplication>
#include <QMdiArea>
```

## 14.23 embroidermodder2/mainwindow-actions.h File Reference

### Enumerations

- enum COMMAND\_ACTIONS {
 ACTION\_donothing , ACTION\_new , ACTION\_open , ACTION\_save ,
 ACTION\_saveas , ACTION\_print , ACTION\_designdetails , ACTION\_exit ,
 ACTION\_cut , ACTION\_copy , ACTION\_paste , ACTION\_undo ,
 ACTION\_redo , ACTION\_windowclose , ACTION\_windowcloseall , ACTION\_windowcascade ,
 ACTION\_windowtile , ACTION\_windownext , ACTION\_windowprevious , ACTION\_help ,
 ACTION\_changelog , ACTION\_tipoftheday , ACTION\_about , ACTION\_whatsthis ,
 ACTION\_icon16 , ACTION\_icon24 , ACTION\_icon32 , ACTION\_icon48 ,
 ACTION\_icon64 , ACTION\_icon128 , ACTION\_settingsdialog , ACTION\_makelayercurrent ,
 ACTION\_layers , ACTION\_layerselector , ACTION\_layerprevious , ACTION\_colorselector ,
 ACTION\_linetypesselector , ACTION\_lineweightselector , ACTION\_hidealllayers , ACTION\_showalllayers ,
 ACTION\_freezealllayers , ACTION\_thawalllayers , ACTION\_lockalllayers , ACTION\_unlockalllayers ,
 ACTION\_textbold , ACTION\_textitalic , ACTION\_textunderline , ACTION\_textstrikeout ,
 ACTION\_textoverline , ACTION\_zoomrealtime , ACTION\_zoomprevious , ACTION\_zoomwindow ,
 ACTION\_zoomdynamic , ACTION\_zoomscale , ACTION\_zoomcenter , ACTION\_zoomin ,
 ACTION\_zoomout , ACTION\_zoomselected , ACTION\_zoomall , ACTION\_zoomextents ,
 ACTION\_panrealtime , ACTION\_panpoint , ACTION\_panleft , ACTION\_panright ,
 ACTION\_panup , ACTION\_pandown , ACTION\_day , ACTION\_night ,
 ACTION\_null }

### 14.23.1 Enumeration Type Documentation

#### 14.23.1.1 COMMAND\_ACTIONS enum COMMAND\_ACTIONS

##### Enumerator

ACTION_donothing	
ACTION_new	
ACTION_open	
ACTION_save	
ACTION_saveas	
ACTION_print	
ACTION_designdetails	
ACTION_exit	
ACTION_cut	
ACTION_copy	
ACTION_paste	
ACTION_undo	
ACTION_redo	
ACTION_windowclose	
ACTION_windowcloseall	
ACTION_windowcascade	
ACTION_windowtile	
ACTION_windownext	
ACTION_windowprevious	
ACTION_help	

## Enumerator

ACTION_changelog	
ACTION_tipoftheday	
ACTION_about	
ACTION_whatsthis	
ACTION_icon16	
ACTION_icon24	
ACTION_icon32	
ACTION_icon48	
ACTION_icon64	
ACTION_—	
ACTION_icon128	
ACTION_settingsdialog	
ACTION_makelayercurrent	
ACTION_layers	
ACTION_layerselector	
ACTION_layerprevious	
ACTION_colorselector	
ACTION_linetypesselector	
ACTION_lineweightselector	
ACTION_hidealllayers	
ACTION_showalllayers	
ACTION_freezealllayers	
ACTION_thawalllayers	
ACTION_lockalllayers	
ACTION_unlockalllayers	
ACTION_textbold	
ACTION_textitalic	
ACTION_textunderline	
ACTION_textstrikeout	
ACTION_textoverline	
ACTION_zoomrealtime	
ACTION_zoomprior	
ACTION_zoomwindow	
ACTION_zoomdynamic	
ACTION_zoomscale	
ACTION_zoomcenter	
ACTION_zoomin	
ACTION_zoomout	
ACTION_zoomselected	
ACTION_zoomall	
ACTION_zoomextents	
ACTION_panrealtime	
ACTION_panpoint	
ACTION_panleft	
ACTION_panright	
ACTION_panup	
ACTION_pandown	
ACTION_day	
ACTION_night	

**Enumerator**

ACTION_null	<input type="checkbox"/>
-------------	--------------------------

**14.24 mainwindow-actions.h**

[Go to the documentation of this file.](#)

```
00001 #ifndef MAINWINDOW_ACTIONS_H
00002 #define MAINWINDOW_ACTIONS_H
00003
00004 enum COMMAND_ACTIONS
00005 {
00006
00007 ACTION_donothing,
00008
00009 ACTION_new,
00010 ACTION_open,
00011 ACTION_save,
00012 ACTION_saveas,
00013 ACTION_print,
00014 ACTION_designdetails,
00015 ACTION_exit,
00016 ACTION_cut,
00017 ACTION_copy,
00018 ACTION_paste,
00019
00020 ACTION_undo,
00021 ACTION_redo,
00022 // Window Menu
00023 ACTION_windowclose,
00024 ACTION_windowcloseall,
00025 ACTION_windowcascade,
00026 ACTION_windowtile,
00027 ACTION_windownext,
00028 ACTION_windowprevious,
00029 // Help Menu
00030 ACTION_help,
00031 ACTION_changelog,
00032 ACTION_tipoftheday,
00033 ACTION_about,
00034 ACTION_whatsthis,
00035 // Icons
00036 ACTION_icon16,
00037 ACTION_icon24,
00038 ACTION_icon32,
00039 ACTION_icon48,
00040 ACTION_icon64,
00041 ACTION_icon128,
00042
00043 ACTION_settingsdialog,
00044
00045 // Layer ToolBar
00046 ACTION_makelayercurrent,
00047 ACTION_layers,
00048 ACTION_layerselector,
00049 ACTION_layerprevious,
00050 ACTION_colorselector,
00051 ACTION_linetypeselector,
00052 ACTION_lineweightselector,
00053 ACTION_hidealllayers,
00054 ACTION_showalllayers,
00055 ACTION_freezealllayers,
00056 ACTION_thawalllayers,
00057 ACTION_lockalllayers,
00058 ACTION_unlockalllayers,
00059 //Text ToolBar
00060 ACTION_textbold,
00061 ACTION_textitalic,
00062 ACTION_textunderline,
00063 ACTION_textstrikeout,
00064 ACTION_textoverline,
00065 // Zoom ToolBar
00066 ACTION_zoomrealtime,
00067 ACTION_zoomprevious,
00068 ACTION_zoomwindow,
00069 ACTION_zoomdynamic,
00070 ACTION_zoomscale,
00071 ACTION_zoomcenter,
00072 ACTION_zoomin,
```

```
00073 ACTION_zoomout,
00074 ACTION_zoomselected,
00075 ACTION_zoomall,
00076 ACTION_zoomextents,
00077 // Pan SubMenu
00078 ACTION_panrealtime,
00079 ACTION_panpoint,
00080 ACTION_panleft,
00081 ACTION_panright,
00082 ACTION_panup,
00083 ACTION_pandown,
00084
00085 ACTION_day,
00086 ACTION_night,
00087
00088 //TODO: ACTION_spellcheck,
00089 //TODO: ACTION_quickselect,
00090
00091 ACTION_null
00092 };
00093
00094 #endif
00095
00096 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.25 embroidermodder2/mainwindow-commands.cpp File Reference

```
#include "mainwindow.h"
#include "view.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include "imagewidget.h"
#include "layer-manager.h"
#include "object-data.h"
#include "object-arc.h"
#include "object-circle.h"
#include "object-dimleader.h"
#include "object-ellipse.h"
#include "object-image.h"
#include "object-line.h"
#include "object-path.h"
#include "object-point.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include "object-rect.h"
#include "object-textsingle.h"
#include "embroidery.h"
#include "property-editor.h"
#include "undo-editor.h"
#include "undo-commands.h"
#include "embdetails-dialog.h"
#include <QLabel>
#include <QDesktopServices>
#include <QApplication>
#include <QUrl>
#include <QProcess>
#include <QMessageBox>
#include <QDialogButtonBox>
#include <QPushButton>
#include <QMdiArea>
#include <QGraphicsScene>
#include <QComboBox>
#include <QWhatsThis>
```

**14.26 embroidermodder2/mainwindow-menus.cpp File Reference**

```
#include "mainwindow.h"
#include <QDebug>
#include <QMenu>
#include <QMenuBar>
#include <QAction>
```

**14.27 embroidermodder2/mainwindow-settings.cpp File Reference**

```
#include "mainwindow.h"
#include "settings-dialog.h"
#include <QDebug>
#include <QtGlobal>
#include <QSettings>
```

**14.28 embroidermodder2/mainwindow-toolbars.cpp File Reference**

```
#include "mainwindow.h"
#include <QAction>
#include <QToolBar>
```

**14.29 embroidermodder2/mainwindow.cpp File Reference**

```
#include "mainwindow.h"
#include "mainwindow-actions.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include "view.h"
#include "cmdprompt.h"
#include "property-editor.h"
#include "undo-editor.h"
#include "preview-dialog.h"
#include "embroidery.h"
#include <stdlib.h>
#include <QDebug>
#include <QFrame>
#include <QVBoxLayout>
#include <QMenu>
#include <QMenuBar>
#include <QStatusBar>
#include <QMdiArea>
#include <QWidget>
#include <QMdiSubWindow>
#include <QMessageBox>
#include <QToolBar>
#include <QFileDialog>
#include <QApplication>
#include <QDate>
```

```
#include <QFileInfo>
#include <QLabel>
#include <QComboBox>
#include <QCcloseEvent>
#include <QMetaObject>
#include <QLocale>
```

## 14.30 embroidermodder2/mainwindow.h File Reference

```
#include <QMainWindow>
#include <QList>
#include <QHash>
#include <QDir>
#include "mdiarea.h"
#include "mdiwindow.h"
#include "mainwindow-actions.h"
#include "cmdprompt.h"
```

### Classes

- class [MainWindow](#)

## 14.31 mainwindow.h

[Go to the documentation of this file.](#)

```
00001 #ifndef MAINWINDOW_H
00002 #define MAINWINDOW_H
00003
00004 #include <QMainWindow>
00005 #include <QList>
00006 #include <QHash>
00007 #include <QDir>
00008 // #include <QtScript>
00009 // #include <QtScriptTools>
00010
00011 #include "mdiarea.h"
00012 #include "mdiwindow.h"
00013 #include "mainwindow-actions.h"
00014 #include "cmdprompt.h"
00015
00016 class MdiArea;
00017 class MdiWindow;
00018 class View;
00019 class StatusBar;
00020 class StatusBarButton;
00021 class CmdPrompt;
00022 class PropertyEditor;
00023 class UndoEditor;
00024
00025 QT_BEGIN_NAMESPACE
00026 class QComboBox;
00027 class QAction;
00028 class QToolBar;
00029 class QCcloseEvent;
00030 class QMenu;
00031 class QScriptEngine;
00032 class QScriptEngineDebugger;
00033 class QScriptProgram;
00034 class QUndoStack;
00035 QT_END_NAMESPACE
00036
00037 class MainWindow: public QMainWindow
00038 {
00039     Q_OBJECT
00040 }
```

```
00041 public:
00042     MainWindow();
00043     ~MainWindow();
00044
00045     MdiArea*           getMdiArea();
00046     MainWindow*        getApplication();
00047     MdiWindow*         activeMdiWindow();
00048     View*              activeView();
00049     QGraphicsScene*    activeScene();
00050     QUndoStack*        activeUndoStack();
00051
00052     void               setUndoCleanIcon(bool opened);
00053
00054     virtual void       updateMenuToolbarStatusbar();
00055
00056     MainWindow*        mainWin;
00057     MdiArea*           mdiArea;
00058     CmdPrompt*          prompt;
00059     PropertyEditor*    dockPropEdit;
00060     UndoEditor*         dockUndoEdit;
00061     StatusBar*          statusbar;
00062
00063     QList<QGraphicsItem*> cutCopyObjectList;
00064
00065     QString  getSettingsGeneralLanguage()           { return settings_general_language; }
00066     QString  getSettingsGeneralIconTheme()          { return settings_general_icon_theme; }
00067     int      getSettingsGeneralIconSize()           { return settings_general_icon_size; }
00068     bool    getSettingsGeneralMdiBGUseLogo()         { return settings_general_mdi_bg_use_logo; }
00069     bool    getSettingsGeneralMdiBGUseTexture()       { return settings_general_mdi_bg_use_texture; }
00070     bool    getSettingsGeneralMdiBGUseColor()         { return settings_general_mdi_bg_use_color; }
00071     QString  getSettingsGeneralMdiBGLogo()           { return settings_general_mdi_bg_logo; }
00072     QString  getSettingsGeneralMdiBGTTexture()        { return settings_general_mdi_bg_texture; }
00073     QRgb    getSettingsGeneralMdiBGColor()            { return settings_general_mdi_bg_color; }
00074     bool    getSettingsGeneralTipOfTheDay()           { return settings_general_tip_of_the_day; }
00075     int      getSettingsGeneralCurrentTip()           { return settings_general_current_tip; }
00076     bool    getSettingsGeneralSystemHelpBrowser()       { return settings_general_system_help_browser; }
00077     bool    getSettingsGeneralCheckForUpdates()         { return settings_general_check_for_updates; }
00078     bool    getSettingsDisplayUseOpenGL()              { return settings_display_use_opengl; }
00079     bool    getSettingsDisplayRenderHintAA()             { return settings_display_renderhint_aa; }
00080     bool    getSettingsDisplayRenderHintTextAA()         { return settings_display_renderhint_text_aa; }
00081     bool    getSettingsDisplayRenderHintSmoothPix()       { return settings_display_renderhint_smooth_pix; }
00082     bool    getSettingsDisplayRenderHintHighAA()         { return settings_display_renderhint_high_aa; }
00083     bool    getSettingsDisplayRenderHintNonCosmetic()     { return
00084     settings_display_renderhint_noncosmetic; }
00085     int      getSettingsDisplayScrollBarWidgetNum()       { return settings_display_scrollbar_widget_num; }
00086     QRgb    getSettingsDisplayCrossHairColor()           { return settings_display_crosshair_color; }
00087     QRgb    getSettingsDisplayBGColor()                  { return settings_display_bg_color; }
00088     QRgb    getSettingsDisplaySelectBoxLeftColor()        { return settings_display_selectbox_left_color; }
00089     QRgb    getSettingsDisplaySelectBoxLeftFill()         { return settings_display_selectbox_left_fill; }
00090     QRgb    getSettingsDisplaySelectBoxRightColor()        { return settings_display_selectbox_right_color; }
00091     QRgb    getSettingsDisplaySelectBoxRightFill()         { return settings_display_selectbox_right_fill; }
00092     quint8   getSettingsDisplaySelectBoxAlpha()           { return settings_display_selectbox_alpha; }
00093     qreal   getSettingsDisplayZoomScaleIn()              { return settings_display_zoomscale_in; }
00094     qreal   getSettingsDisplayZoomScaleOut()             { return settings_display_zoomscale_out; }
00095     quint8   getSettingsDisplayCrossHairPercent()          { return settings_display_crosshair_percent; }
00096     QString  getSettingsDisplayUnits()                   { return settings_display_units; }
```

```

00097     QRgb    getSettingsPromptTextColor()           { return settings_prompt_text_color; }
00098     QRgb    getSettingsPromptBackgroundColor()   { return settings_prompt_bg_color; }
00099     QString  getSettingsPromptFontFamily()       { return settings_prompt_font_family; }
00100     QString  getSettingsPromptFontStyle()        { return settings_prompt_font_style; }
00101     quint8   getSettingsPromptFontSize()          { return settings_prompt_font_size; }
00102     bool     getSettingsPromptSaveHistory()       { return settings_prompt_save_history; }
00103     bool     getSettingsPromptSaveHistoryAsHtml() { return settings_prompt_save_history_as_html; }
00104     QString  getSettingsPromptSaveHistoryFilename() { return settings_prompt_save_history_filename; }
00105     QString  getSettingsCustomFilter()            { return settings_opensave_custom_filter; }
00106     QString  getSettingsOpenFormat()              { return settings_opensave_open_format; }
00107     bool     getSettingsOpenThumbnail()            { return settings_opensave_open_thumbnail; }
00108     QString  getSettingsSaveFormat()              { return settings_opensave_save_format; }
00109     bool     getSettingsSaveThumbnail()            { return settings_opensave_save_thumbnail; }
00110     quint8   getSettingsRecentMaxFiles()          { return settings_opensave_recent_max_files; }
00111     quint8   getSettingsOpenSaveTrimDstNumJumps() { return settings_opensave_trim_dst_num_jumps; }
00112     QString  getSettingsPrintingDefaultDevice()   { return settings_printing_default_device; }
00113     bool     getSettingsPrintingUseLastDevice()   { return settings_printing_use_last_device; }
00114     bool     getSettingsPrintingDisableBG()        { return settings_printing_disable_bg; }
00115     bool     getSettingsGridShowOnLoad()           { return settings_grid_show_on_load; }
00116     bool     getSettingsGridShowOrigin()           { return settings_grid_show_origin; }
00117     bool     getSettingsGridColorMatchCrossHair() { return settings_grid_color_match_crosshair; }
00118     QRgb    getSettingsGridColor()                { return settings_grid_color; }
00119     bool     getSettingsGridLoadFromFile()         { return settings_grid_load_from_file; }
00120     QString  getSettingsGridType()                { return settings_grid_type; }
00121     bool     getSettingsGridCenterOnOrigin()       { return settings_grid_center_on_origin; }
00122     qreal   getSettingsGridCenterX()              { return settings_grid_center_x; }
00123     qreal   getSettingsGridCenterY()              { return settings_grid_center_y; }
00124     qreal   getSettingsGridSizeX()                { return settings_grid_size_x; }
00125     qreal   getSettingsGridSizeY()                { return settings_grid_size_y; }
00126     qreal   getSettingsGridSpacingX()             { return settings_grid_spacing_x; }
00127     qreal   getSettingsGridSpacingY()             { return settings_grid_spacing_y; }
00128     qreal   getSettingsGridSizeRadius()           { return settings_grid_size_radius; }
00129     qreal   getSettingsGridSpacingRadius()         { return settings_grid_spacing_radius; }
00130     qreal   getSettingsGridSpacingAngle()          { return settings_grid_spacing_angle; }
00131     bool     getSettingsRulerShowOnLoad()          { return settings_ruler_show_on_load; }
00132     bool     getSettingsRulerMetric()              { return settings_ruler_metric; }
00133     QRgb    getSettingsRulerColor()               { return settings_ruler_color; }
00134     quint8   getSettingsRulerPixelSize()           { return settings_ruler_pixel_size; }
00135     bool     getSettingsQSnapEnabled()             { return settings_qsnap_enabled; }
00136     QRgb    getSettingsQSnapLocatorColor()         { return settings_qsnap_locator_color; }
00137     quint8   getSettingsQSnapLocatorSize()          { return settings_qsnap_locator_size; }
00138     quint8   getSettingsQSnapApertureSize()         { return settings_qsnap_aperture_size; }
00139     bool     getSettingsQSnapEndPoint()            { return settings_qsnap_endpoint; }

```

```

00140     bool    getSettingsQSnapMidPoint()           { return settings_qsnap_midpoint; }
00141     bool    getSettingsQSnapCenter()            { return settings_qsnap_center; }
00142     bool    getSettingsQSnapNode()              { return settings_qsnap_node; }
00143     bool    getSettingsQSnapQuadrant()          { return settings_qsnap_quadrant; }
00144     bool    getSettingsQSnapIntersection()       { return settings_qsnap_intersection; }
00145     bool    getSettingsQSnapExtension()          { return settings_qsnap_extension; }
00146     bool    getSettingsQSnapInsertion()          { return settings_qsnap_insertion; }
00147     bool    getSettingsQSnapPerpendicular()       { return settings_qsnap_perpendicular; }
00148     bool    getSettingsQSnapTangent()             { return settings_qsnap_tangent; }
00149     bool    getSettingsQSnapNearest()             { return settings_qsnap_nearest; }
00150     bool    getSettingsQSnapApparent()            { return settings_qsnap_apparent; }
00151     bool    getSettingsQSnapParallel()            { return settings_qsnap_parallel; }
00152     bool    getSettingsLwtShowLwt()               { return settings_lwt_show_lwt; }
00153     bool    getSettingsLwtRealRender()            { return settings_lwt_real_render; }
00154     qreal   getSettingsLwtDefaultLwt()            { return settings_lwt_default_lwt; }
00155     bool    getSettingsSelectionModePickFirst()    { return settings_selection_mode_pickfirst; }
00156     bool    getSettingsSelectionModePickAdd()       { return settings_selection_mode_pickadd; }
00157     bool    getSettingsSelectionModePickDrag()      { return settings_selection_mode_pickdrag; }
00158     QRgb   getSettingsSelectionCoolGripColor()     { return settings_selection_coolgrip_color; }
00159     QRgb   getSettingsSelectionHotGripColor()      { return settings_selection_hotgrip_color; }
00160     quint8  getSettingsSelectionGripSize()          { return settings_selection_grip_size; }
00161     quint8  getSettingsSelectionPickBoxSize()        { return settings_selection_pickbox_size; }
00162     QString getSettingsTextFont()                  { return settings_text_font; }
00163     qreal   getSettingsTextSize()                  { return settings_text_size; }
00164     qreal   getSettingsTextAngle()                 { return settings_text_angle; }
00165     bool    getSettingsTextStyleBold()              { return settings_text_style_bold; }
00166     bool    getSettingsTextStyleItalic()            { return settings_text_style_italic; }
00167     bool    getSettingsTextStyleUnderline()          { return settings_text_style_underline; }
00168     bool    getSettingsTextStyleStrikeOut()          { return settings_text_style_strikeout; }
00169     bool    getSettingsTextStyleOverline()            { return settings_text_style_overline; }
00170
00171     void    setSettingsGeneralLanguage(const QString& newValue)      { settings_general_language
00172 = newValue; }                                                 settings_general_language
00173     void    setSettingsGeneralIconTheme(const QString& newValue)     { settings_general_icon_theme
00174 = newValue; }                                                 settings_general_icon_theme
00175     void    setSettingsGeneralIconSize(int newValue)                  { settings_general_icon_size
00176 = newValue; }                                                 settings_general_icon_size
00177     void    setSettingsGeneralMdiBGUseLogo(bool newValue)            { settings_general_mdi_bg_use_logo
00178 = newValue; }                                                 settings_general_mdi_bg_use_logo
00179     void    setSettingsGeneralMdiBGUseTexture(bool newValue)         { settings_general_mdi_bg_use_texture
00180 = newValue; }                                                 settings_general_mdi_bg_use_texture
00181     void    setSettingsGeneralMdiBGUseColor(bool newValue)           { settings_general_mdi_bg_use_color
00182 = newValue; }                                                 settings_general_mdi_bg_use_color
00183     void    setSettingsGeneralMdiBGLogo(const QString& newValue)    { settings_general_mdi_bg_logo
00184 = newValue; }                                                 settings_general_mdi_bg_logo
00185     void    setSettingsGeneralMdiBGTTexture(const QString& newValue) { settings_general_mdi_bg_texture
00186 = newValue; }                                                 settings_general_mdi_bg_texture
00187     void    setSettingsGeneralMdiBGColor(QRgb newValue)              { settings_general_mdi_bg_color
00188 = newValue; }                                                 settings_general_mdi_bg_color
00189     void    setSettingsGeneralTipOfTheDay(bool newValue)             { settings_general_tip_of_the_day
00190 = newValue; }                                                 settings_general_tip_of_the_day
00191     void    setSettingsGeneralCurrentTip(int newValue)              { settings_general_current_tip
00192 = newValue; }                                                 settings_general_current_tip
00193     void    setSettingsGeneralSystemHelpBrowser(bool newValue)       { settings_general_system_help_browser
00194 = newValue; }                                                 settings_general_system_help_browser
00195     void    setSettingsGeneralCheckForUpdates(bool newValue)         { settings_general_check_for_updates
00196 = newValue; }                                                 settings_general_check_for_updates

```

```

00184     void setSettingsDisplayUseOpenGL(bool newValue)           { settings_display_use_opengl
00185     = newValue; }
00186     void setSettingsDisplayRenderHintAA(bool newValue)        {
00187     settings_display_renderhint_aa = newValue; }
00188     void setSettingsDisplayRenderHintTextAA(bool newValue)    {
00189     settings_display_renderhint_text_aa = newValue; }
00190     void setSettingsDisplayRenderHintSmoothPix(bool newValue) {
00191     settings_display_renderhint_smooth_pix = newValue; }
00192     void setSettingsDisplayRenderHintHighAA(bool newValue)    {
00193     settings_display_renderhint_high_aa = newValue; }
00194     void setSettingsDisplayRenderHintNonCosmetic(bool newValue) {
00195     settings_display_renderhint_noncosmetic = newValue; }
00196     void setSettingsDisplayShowScrollBars(bool newValue)       {
00197     settings_display_show_scrollbars = newValue; }
00198     void setSettingsDisplayScrollBarWidgetNum(int newValue)   {
00199     settings_display_scrollbar_widget_num = newValue; }
00200     void setSettingsDisplayCrossHairColor(QRgb newValue)      {
00201     settings_display_crosshair_color = newValue; }
00202     void setSettingsDisplayBGColor(QRgb newValue)             { settings_display_bg_color
00203     = newValue; }
00204     void setSettingsDisplaySelectBoxLeftColor(QRgb newValue) {
00205     settings_display_selectbox_left_color = newValue; }
00206     void setSettingsDisplaySelectBoxLeftFill(QRgb newValue)   {
00207     settings_display_selectbox_left_fill = newValue; }
00208     void setSettingsDisplaySelectBoxRightColor(QRgb newValue) {
00209     settings_display_selectbox_right_color = newValue; }
00210     void setSettingsDisplaySelectBoxRightFill(QRgb newValue)  {
00211     settings_display_selectbox_right_fill = newValue; }
00212     void setSettingsDisplaySelectBoxAlpha(quint8 newValue)    {
00213     settings_display_selectbox_alpha = newValue; }
00214     void setSettingsDisplayZoomScaleIn(qreal newValue)         { settings_display_zoomscale_in
00215     = newValue; }
00216     void setSettingsDisplayZoomScaleOut(qreal newValue)        {
00217     settings_display_zoomscale_out = newValue; }
00218     void setSettingsDisplayCrossHairPercent(quint8 newValue)  {
00219     settings_display_crosshair_percent = newValue; }
00220     void setSettingsDisplayUnits(const QString& newValue)     { settings_display_units
00221     = newValue; }
00222     void setSettingsPromptTextColor(QRgb newValue)             { settings_prompt_text_color
00223     = newValue; }
00224     void setSettingsPromptBGColor(QRgb newValue)               { settings_prompt_bg_color
00225     = newValue; }
00226     void setSettingsPromptFontFamily(const QString& newValue) { settings_prompt_font_family
00227     = newValue; }
00228     void setSettingsPromptFontStyle(const QString& newValue)  { settings_prompt_font_style
00229     = newValue; }
00230     void setSettingsPromptFontSize(quint8 newValue)            { settings_prompt_font_size
00231     = newValue; }
00232     void setSettingsPromptSaveHistory(bool newValue)          { settings_prompt_save_history
00233     = newValue; }
00234     void setSettingsPromptSaveHistoryAsHtml(bool newValue)    {
00235     settings_prompt_save_history_as_html = newValue; }
00236     void setSettingsPromptSaveHistoryFilename(const QString& newValue) {
00237     settings_prompt_save_history_filename = newValue; }
00238     void setSettingsCustomFilter(const QString& newValue)    {
00239     settings_opensave_custom_filter = newValue; }
00240     void setSettingsOpenFormat(const QString& newValue)       { settings_opensave_open_format
00241     = newValue; }
00242     void setSettingsOpenThumbnail(bool newValue)                {
00243     settings_opensave_open_thumbnail = newValue; }
00244     void setSettingsSaveFormat(const QString& newValue)        { settings_opensave_save_format
00245     = newValue; }
00246     void setSettingsSaveThumbnail(bool newValue)               {
00247     settings_opensave_save_thumbnail = newValue; }
00248     void setSettingsRecentMaxFiles(quint8 newValue)            {
00249     settings_opensave_recent_max_files = newValue; }
00250     void setSettingsOpenSaveTrimDstNumJumps(quint8 newValue)  {
00251     settings_opensave_trim_dst_num_jumps = newValue; }
00252     void setSettingsPrintingDefaultDevice(const QString& newValue) {
00253     settings_printing_default_device = newValue; }
00254     void setSettingsPrintingUseLastDevice(bool newValue)       {
00255     settings_printing_use_last_device = newValue; }
00256     void setSettingsPrintingDisableBG(bool newValue)           { settings_printing_disable_bg
00257     = newValue; }
00258     void setSettingsGridShowOnLoad(bool newValue)              { settings_grid_show_on_load
00259     = newValue; }
00260     void setSettingsGridShowOrigin(bool newValue)              { settings_grid_show_origin
00261     = newValue; }
00262     void setSettingsGridColorMatchCrossHair(bool newValue)    {
00263     settings_grid_color_match_crosshair = newValue; }
00264     void setSettingsGridColor(QRgb newValue)                  { settings_grid_color
00265     = newValue; }
00266     void setSettingsGridLoadFromFile(bool newValue)            { settings_grid_load_from_file
00267     = newValue; }
00268     void setSettingsGridType(const QString& newValue)         { settings_grid_type
00269     = newValue; }
00270     void setSettingsGridCenterOnOrigin(bool newValue)          {
00271     settings_grid_center_on_origin = newValue; }

```

```

0028     void setSettingsGridCenterX(qreal newValue) = newValue; }
0029     void setSettingsGridCenterY(qreal newValue) = newValue; }
0030     void setSettingsGridSizeX(qreal newValue) = newValue; }
0031     void setSettingsGridSizeY(qreal newValue) = newValue; }
0032     void setSettingsGridSpacingX(qreal newValue) = newValue; }
0033     void setSettingsGridSpacingY(qreal newValue) = newValue; }
0034     void setSettingsGridSizeRadius(qreal newValue) = newValue; }
0035     void setSettingsGridSpacingRadius(qreal newValue) = newValue; }
0036     void setSettingsGridSpacingAngle(qreal newValue) = newValue; }
0037     void setSettingsRulerShowOnLoad(bool newValue) = newValue; }
0038     void setSettingsRulerMetric(bool newValue) = newValue; }
0039     void setSettingsRulerColor(QRgb newValue) = newValue; }
0040     void setSettingsRulerPixelSize(quint8 newValue) = newValue; }
0041     void setSettingsQSnapEnabled(bool newValue) = newValue; }
0042     void setSettingsQSnapLocatorColor(QRgb newValue) = newValue; }
0043     void setSettingsQSnapLocatorSize(quint8 newValue) = newValue; }
0044     void setSettingsQSnapApertureSize(quint8 newValue) = newValue; }
0045     void setSettingsQSnapEndPoint(bool newValue) = newValue; }
0046     void setSettingsQSnapMidPoint(bool newValue) = newValue; }
0047     void setSettingsQSnapCenter(bool newValue) = newValue; }
0048     void setSettingsQSnapNode(bool newValue) = newValue; }
0049     void setSettingsQSnapQuadrant(bool newValue) = newValue; }
0050     void setSettingsQSnapIntersection(bool newValue) = newValue; }
0051     void setSettingsQSnapExtension(bool newValue) = newValue; }
0052     void setSettingsQSnapInsertion(bool newValue) = newValue; }
0053     void setSettingsQSnapPerpendicular(bool newValue) = newValue; }
0054     void setSettingsQSnapTangent(bool newValue) = newValue; }
0055     void setSettingsQSnapNearest(bool newValue) = newValue; }
0056     void setSettingsQSnapApparent(bool newValue) = newValue; }
0057     void setSettingsQSnapParallel(bool newValue) = newValue; }
0058     void setSettingsLwtShowLwt(bool newValue) = newValue; }
0059     void setSettingsLwtRealRender(bool newValue) = newValue; }
0060     void setSettingsLwtDefaultLwt(qreal newValue) = newValue; }
0061     void setSettingsSelectionModePickFirst(bool newValue)
0062     settings_selection_mode_pickfirst = newValue; }
0063     void setSettingsSelectionModePickAdd(bool newValue)
0064     settings_selection_mode_pickadd = newValue; }
0065     void setSettingsSelectionModePickDrag(bool newValue)
0066     settings_selection_mode_pickdrag = newValue; }
0067     void setSettingsSelectionCoolGripColor(QRgb newValue)
0068     settings_selection_coolgrip_color = newValue; }
0069     void setSettingsSelectionHotGripColor(QRgb newValue)
0070     settings_selection_hotgrip_color = newValue; }
0071     void setSettingsSelectionGripSize(quint8 newValue) = newValue; }
0072     void setSettingsSelectionPickBoxSize(quint8 newValue)
0073     settings_selection_pickbox_size = newValue; }
0074     void setSettingsTextFont(const QString& newValue)
0075     = newValue; }
0076     void setSettingsTextSize(qreal newValue) = newValue; }
0077     void setSettingsTextAngle(qreal newValue) = newValue; }

```

```

00271     void setSettingsTextStyleBold(bool newValue)
00272     = newValue; }
00273     void setSettingsTextStyleItalic(bool newValue)
00274     = newValue; }
00275     void setSettingsTextStyleUnderline(bool newValue)
00276     = newValue; }
00277     void setSettingsTextStyleStrikeOut(bool newValue)
00278     = newValue; }
00279     void setSettingsTextStyleOverline(bool newValue)
00280     = newValue; }

00281     QHash<int, QAction*>           actionHash;
00282     QHash<QString, QToolBar*>        toolbarHash;
00283     QHash<QString, QMenu*>          menuHash;

00284     QString                         formatFilterOpen;
00285     QString                         formatFilterSave;
00286
00287     bool                            isCommandActive() { return prompt->isCommandActive(); }
00288     QString                         activeCommand() { return prompt->activeCommand(); }

00289     QString platformString();

00290     public slots:
00291     void enablePromptRapidFire();
00292     void disablePromptRapidFire();
00293
00294     void enableMoveRapidFire();
00295     void disableMoveRapidFire();
00296
00297     void onCloseWindow();
00298     virtual void onCloseMdiWin(MdiWindow* );
00299
00300     void recentMenuAboutToShow();
00301
00302     void onWindowActivated (QMdiSubWindow* w);
00303     void windowMenuAboutToShow();
00304     void windowMenuActivated( bool checked/*int id*/ );
00305     QAction* getAction(int actionEnum);

00306     void updateAllViewScrollBars(bool val);
00307     void updateAllViewCrossHairColors(QRgb color);
00308     void updateAllViewBackgroundColors(QRgb color);
00309     void updateAllViewSelectBoxColors(QRgb colorL, QRgb fillL, QRgb colorR,
00310                                         QRgb fillR, int alpha);
00311     void updateAllViewGridColors(QRgb color);
00312     void updateAllViewRulerColors(QRgb color);

00313     void updatePickAddMode(bool val);
00314     void pickAddModeToggled();

00315     void settingsPrompt();

00316     void settingsDialog(const QString& showTab = QString());
00317     void readSettings();
00318     void writeSettings();

00319     static bool validFileFormat(const QString &fileName);

00320     protected:
00321     virtual void resizeEvent(QResizeEvent* );
00322     void closeEvent(QCloseEvent *event);
00323     QAction* getFileSeparator();
00324     void loadFormats();

00325     private:
00326     QString settings_general_language;
00327     QString settings_general_icon_theme;
00328     int settings_general_icon_size;
00329     bool settings_general_mdi_bg_use_logo;
00330     bool settings_general_mdi_bg_use_texture;
00331     bool settings_general_mdi_bg_use_color;
00332     QString settings_general_mdi_bg_logo;
00333     QString settings_general_mdi_bg_texture;
00334     QRgb settings_general_mdi_bg_color;
00335     bool settings_general_tip_of_the_day;
00336     quint16 settings_general_current_tip;
00337     bool settings_general_system_help_browser;
00338     bool settings_general_check_for_updates;
00339     bool settings_display_use_opengl;
00340     bool settings_display_renderhint_aa;
00341     bool settings_display_renderhint_text_aa;
00342     bool settings_display_renderhint_smooth_pix;
00343     bool settings_display_renderhint_high_aa;
00344     bool settings_display_renderhint_noncosmetic;

```

```
00352     bool           settings_display_show_scrollbars;
00353     int            settings_display_scrollbar_widget_num;
00354     QRgb           settings_display_crosshair_color;
00355     QRgb           settings_display_bg_color;
00356     QRgb           settings_display_selectbox_left_color;
00357     QRgb           settings_display_selectbox_left_fill;
00358     QRgb           settings_display_selectbox_right_color;
00359     QRgb           settings_display_selectbox_right_fill;
00360     quint8         settings_display_selectbox_alpha;
00361     qreal          settings_display_zoomscale_in;
00362     qreal          settings_display_zoomscale_out;
00363     quint8         settings_display_crosshair_percent;
00364     QString        settings_display_units;
00365     QRgb           settings_prompt_text_color;
00366     QRgb           settings_prompt_bg_color;
00367     QString        settings_prompt_font_family;
00368     QString        settings_prompt_font_style;
00369     quint8         settings_prompt_font_size;
00370     bool           settings_prompt_save_history;
00371     bool           settings_prompt_save_history_as_html;
00372     QString        settings_prompt_save_history_filename;
00373     QString        settings_opensave_custom_filter;
00374     QString        settings_opensave_open_format;
00375     bool           settings_opensave_open_thumbnail;
00376     QString        settings_opensave_save_format;
00377     bool           settings_opensave_save_thumbnail;
00378     quint8         settings_opensave_recent_max_files;
00379     QStringList   settings_opensave_recent_list_of_files;
00380     QString        settings_opensave_recent_directory;
00381     quint8         settings_opensave_trim_dst_num_jumps;
00382     QString        settings_printing_default_device;
00383     bool           settings_printing_use_last_device;
00384     bool           settings_printing_disable_bg;
00385     bool           settings_grid_show_on_load;
00386     bool           settings_grid_show_origin;
00387     bool           settings_grid_color_match_crosshair;
00388     QRgb           settings_grid_color;
00389     bool           settings_grid_load_from_file;
00390     QString        settings_grid_type;
00391     bool           settings_grid_center_on_origin;
00392     qreal          settings_grid_center_x;
00393     qreal          settings_grid_center_y;
00394     qreal          settings_grid_size_x;
00395     qreal          settings_grid_size_y;
00396     qreal          settings_grid_spacing_x;
00397     qreal          settings_grid_spacing_y;
00398     qreal          settings_grid_size_radius;
00399     qreal          settings_grid_spacing_radius;
00400     qreal          settings_grid_spacing_angle;
00401     bool           settings_ruler_show_on_load;
00402     bool           settings_ruler_metric;
00403     QRgb           settings_ruler_color;
00404     quint8         settings_ruler_pixel_size;
00405     bool           settings_qsnap_enabled;
00406     QRgb           settings_qsnap_locator_color;
00407     quint8         settings_qsnap_locator_size;
00408     quint8         settings_qsnap_aperture_size;
00409     bool           settings_qsnap_endpoint;
00410     bool           settings_qsnap_midpoint;
00411     bool           settings_qsnap_center;
00412     bool           settings_qsnap_node;
00413     bool           settings_qsnap_quadrant;
00414     bool           settings_qsnap_intersection;
00415     bool           settings_qsnap_extension;
00416     bool           settings_qsnap_insertion;
00417     bool           settings_qsnap_perpendicular;
00418     bool           settings_qsnap_tangent;
00419     bool           settings_qsnap_nearest;
00420     bool           settings_qsnap_apparent;
00421     bool           settings_qsnap_parallel;
00422     bool           settings_lwt_show_lwt;
00423     bool           settings_lwt_real_render;
00424     qreal          settings_lwt_default_lwt;
00425     bool           settings_selection_mode_pickfirst;
00426     bool           settings_selection_mode_pickadd;
00427     bool           settings_selection_mode_pickdrag;
00428     QRgb           settings_selection_coolgrip_color;
00429     QRgb           settings_selection_hotgrip_color;
00430     quint8         settings_selection_grip_size;
00431     quint8         settings_selection_pickbox_size;
00432     QString        settings_text_font;
00433     qreal          settings_text_size;
00434     qreal          settings_text_angle;
00435     bool           settings_text_style_bold;
00436     bool           settings_text_style_italic;
00437     bool           settings_text_style_underline;
00438     bool           settings_text_style_overline;
```

```

00439     bool                     settings_text_style_strikeout;
00440
00441     bool                     shiftKeyPressedState;
00442
00443     QByteArray               layoutState;
00444
00445     int                      numOfDocs;
00446     int                      docIndex;
00447
00448     QList<MdiWindow*>       listMdiWin;
00449     QMdiSubWindow*           findMdiWindow(const QString &fileName);
00450     QString                 openFilePath;
00451
00452     QAction*                myFileSeparator;
00453
00454     QWizard*                wizardTipOfDay;
00455     QLabel*                 labelTipOfDay;
00456     QCheckBox*               checkBoxTipOfDay;
00457     QStringList              listTipOfDay;
00458
00459     void                     createAction(const QIcon icon, const QString tooltip, const
00460     QString statusTip, bool scripted = false);
00461 //=====
00462 //Toolbars
00463 //=====
00464     void createAllToolbars();
00465     void createFileToolbar();
00466     void createEditToolbar();
00467     void createViewToolbar();
00468     void createZoomToolbar();
00469     void createPanToolbar();
00470     void createIconToolbar();
00471     void createHelpToolbar();
00472     void createLayerToolbar();
00473     void createPropertiesToolbar();
00474     void createTextToolbar();
00475     void createPromptToolbar();
00476
00477     QToolBar*                toolbarFile;
00478     QToolBar*                toolbarEdit;
00479     QToolBar*                toolbarView;
00480     QToolBar*                toolbarZoom;
00481     QToolBar*                toolbarPan;
00482     QToolBar*                toolbarIcon;
00483     QToolBar*                toolbarHelp;
00484     QToolBar*                toolbarLayer;
00485     QToolBar*                toolbarText;
00486     QToolBar*                toolbarProperties;
00487     QToolBar*                toolbarPrompt;
00488 //=====
00489 //Selectors
00490 //=====
00491     QComboBox*               layerSelector;
00492     QComboBox*               colorSelector;
00493     QComboBox*               linetypeSelector;
00494     QComboBox*               linewidthSelector;
00495     QFontComboBox*           textFontSelector;
00496     QComboBox*               textSizeSelector;
00497 //=====
00498 //Menus
00499 //=====
00500     void createAllMenus();
00501     void createFileMenu();
00502     void createEditMenu();
00503     void createViewMenu();
00504     void createSettingsMenu();
00505     void createWindowMenu();
00506     void createHelpMenu();
00507
00508     QMenu*                   fileMenu;
00509     QMenu*                   editMenu;
00510     QMenu*                   viewMenu;
00511     QMenu*                   settingsMenu;
00512     QMenu*                   windowMenu;
00513     QMenu*                   helpMenu;
00514 //=====
00515 //SubMenus
00516 //=====
00517     QMenu*                   recentMenu;
00518     QMenu*                   zoomMenu;
00519     QMenu*                   panMenu;
00520
00521 private slots:
00522     void hideUnimplemented();
00523
00524 public slots:

```

```
00525
00526     void stub_implement(QString txt);
00527     void stub_testing();
00528
00529     void promptHistoryAppended(const QString& txt);
00530     void logPromptInput(const QString& txt);
00531     void promptInputPrevious();
00532     void promptInputNext();
00533
00534     void runCommand();
00535     void runCommandMain(const QString& cmd);
00536     void runCommandClick(const QString& cmd, qreal x, qreal y);
00537     void runCommandMove(const QString& cmd, qreal x, qreal y);
00538     void runCommandContext(const QString& cmd, const QString& str);
00539     void runCommandPrompt(const QString& cmd, const QString& str);
00540
00541     void newFile();
00542     void openFile(bool recent = false, const QString& recentFile = "");
00543     void openFilesSelected(const QStringList&);
00544     void openrecentfile();
00545     void savefile();
00546     void saveasfile();
00547     void print();
00548     void designDetails();
00549     void exit();
00550     void quit();
00551     void checkForUpdates();
00552     // Help Menu
00553     void tipOfTheDay();
00554     void buttonTipOfTheDayClicked(int);
00555     void checkBoxTipOfTheDayStateChanged(int);
00556     void help();
00557     void changelog();
00558     void about();
00559     void whatsThisContextHelp();
00560
00561     void cut();
00562     void copy();
00563     void paste();
00564     void selectAll();
00565
00566     void closeToolBar(QAction* );
00567     void floatingChangedToolBar(bool);
00568
00569     void toggleGrid();
00570     void toggleRuler();
00571     void toggleLwt();
00572
00573     // Icons
00574     void iconResize(int iconSize);
00575     void icon16();
00576     void icon24();
00577     void icon32();
00578     void icon48();
00579     void icon64();
00580     void icon128();
00581
00582     //Selectors
00583     void layerSelectorIndexChanged(int index);
00584     void colorSelectorIndexChanged(int index);
00585     void linetypeSelectorIndexChanged(int index);
00586     void linewidthSelectorIndexChanged(int index);
00587     void textFontSelectorCurrentFontChanged(const QFont& font);
00588     void textSizeSelectorIndexChanged(int index);
00589
00590     QString textFont();
00591     qreal textSize();
00592     qreal textAngle();
00593     bool textBold();
00594     bool textItalic();
00595     bool textUnderline();
00596     bool textStrikeOut();
00597     bool textOverline();
00598
00599     void setTextFont(const QString& str);
00600     void setTextSize(qreal num);
00601     void setTextAngle(qreal num);
00602     void setTextBold(bool val);
00603     void setTextItalic(bool val);
00604     void setTextUnderline(bool val);
00605     void setTextStrikeOut(bool val);
00606     void setTextOverline(bool val);
00607
00608     QString getCurrentLayer();
00609     QRgb getCurrentColor();
00610     QString getCurrentLineType();
00611     QString getCurrentLineWeight();
```

```
00612
00613 // Standard Slots
00614 void undo();
00615 void redo();
00616
00617 bool isShiftPressed();
00618 void setShiftPressed();
00619 void setShiftReleased();
00620
00621 void deletePressed();
00622 void escapePressed();
00623
00624 // Layer Toolbar
00625 void makeLayerActive();
00626 void layerManager();
00627 void layerPrevious();
00628 // Zoom Toolbar
00629 void zoomRealtime();
00630 void zoomPrevious();
00631 void zoomWindow();
00632 void zoomDynamic();
00633 void zoomScale();
00634 void zoomCenter();
00635 void zoomIn();
00636 void zoomOut();
00637 void zoomSelected();
00638 void zoomAll();
00639 void zoomExtents();
00640 // Pan SubMenu
00641 void panrealtime();
00642 void panpoint();
00643 void panLeft();
00644 void panRight();
00645 void panUp();
00646 void panDown();
00647
00648 void dayVision();
00649 void nightVision();
00650
00651 void doNothing();
00652
00653 private:
00654     QScriptEngine* engine;
00655     QScriptEngineDebugger* debugger;
00656     void javaInitNatives(QScriptEngine* engine);
00657     void javaLoadCommand(const QString& cmdName);
00658
00659 public:
00660 //Natives
00661 void nativeAlert           (const QString& txt);
00662 void nativeBlinkPrompt      ();
00663 void nativeSetPromptPrefix (const QString& txt);
00664 void nativeAppendPromptHistory (const QString& txt);
00665 void nativeEnablePromptRapidFire ();
00666 void nativeDisablePromptRapidFire ();
00667 void nativeInitCommand      ();
00668 void nativeEndCommand       ();
00669
00670 void nativeEnableMoveRapidFire ();
00671 void nativeDisableMoveRapidFire ();
00672
00673 void nativeNewFile          ();
00674 void nativeOpenFile         ();
00675
00676 void nativeExit             ();
00677 void nativeHelp              ();
00678 void nativeAbout             ();
00679 void nativeTipOfTheDay      ();
00680 void nativeWindowCascade    ();
00681 void nativeWindowTile        ();
00682 void nativeWindowClose      ();
00683 void nativeWindowCloseAll   ();
00684 void nativeWindowNext       ();
00685 void nativeWindowPrevious   ();
00686
00687 QString nativePlatformString ();
00688
00689 void nativeMessageBox       (const QString& type, const QString& title, const QString& text);
00690
00691 void nativeUndo             ();
00692 void nativeRedo             ();
00693
00694 void nativeIcon16           ();
00695 void nativeIcon24           ();
00696 void nativeIcon32           ();
00697 void nativeIcon48           ();
```

```

00698     void nativeIcon64          ();
00699     void nativeIcon128         ();
00700
00701     void nativePanLeft         ();
00702     void nativePanRight        ();
00703     void nativePanUp           ();
00704     void nativePanDown         ();
00705
00706     void nativeZoomIn          ();
00707     void nativeZoomOut         ();
00708     void nativeZoomExtents      ();
00709
00710     void nativePrintArea        (qreal x, qreal y, qreal w, qreal h);
00711
00712     void nativeDayVision       ();
00713     void nativeNightVision      ();
00714
00715     void nativeSetBackgroundColor (quint8 r, quint8 g, quint8 b);
00716     void nativeSetCrossHairColor (quint8 r, quint8 g, quint8 b);
00717     void nativeSetGridColor      (quint8 r, quint8 g, quint8 b);
00718
00719     QString nativeTextFont      ();
00720     qreal  nativeTextSize       ();
00721     qreal  nativeTextAngle      ();
00722     bool   nativeTextBold       ();
00723     bool   nativeTextItalic      ();
00724     bool   nativeTextUnderline    ();
00725     bool   nativeTextStrikeOut   ();
00726     bool   nativeTextOverline    ();
00727
00728     void nativeSetFont          (const QString& str);
00729     void nativeSetFontSize       (qreal num);
00730     void nativeSetTextAngle      (qreal num);
00731     void nativeSetTextBold       (bool val);
00732     void nativeSetTextItalic     (bool val);
00733     void nativeSetTextUnderline   (bool val);
00734     void nativeSetTextStrikeOut  (bool val);
00735     void nativeSetTextOverline    (bool val);
00736
00737     void nativePreviewOn        (int clone, int mode, qreal x, qreal y, qreal data);
00738     void nativePreviewOff       ();
00739
00740     void nativeVulcanize        ();
00741     void nativeClearRubber      ();
00742     bool  nativeAllowRubber      ();
00743     void nativeSpareRubber      (qint64 id);
00744     //TODO: void nativeSetRubberFilter(qint64 id); //TODO: This is so more than 1 rubber object can
00745     //exist at one time without updating all rubber objects at once
00746     void nativeSetRubberMode     (int mode);
00747     void nativeSetRubberPoint    (const QString& key, qreal x, qreal y);
00748     void nativeSetRubberText     (const QString& key, const QString& txt);
00749
00750     void nativeAddTextMulti      (const QString& str, qreal x, qreal y, qreal rot, bool fill, int
00751     rubberMode);
00752     void nativeAddTextSingle     (const QString& str, qreal x, qreal y, qreal rot, bool fill, int
00753
00754     void nativeAddInfiniteLine   (qreal x1, qreal y1, qreal x2, qreal y2, qreal rot);
00755     void nativeAddRay            (qreal x1, qreal y1, qreal x2, qreal y2, qreal rot);
00756     void nativeAddLine           (qreal x1, qreal y1, qreal x2, qreal y2, qreal rot, int
00757     rubberMode);
00758     void nativeAddTriangle       (qreal x1, qreal y1, qreal x2, qreal y2, qreal x3, qreal y3,
00759
00760     void nativeAddRectangle      (qreal x, qreal y, qreal w, qreal h, qreal rot, bool fill, int
00761     rubberMode);
00762     void nativeAddRoundedRectangle (qreal x, qreal y, qreal w, qreal h, qreal rad, qreal rot, bool
00763     fill);
00764     void nativeAddArc             (qreal startX, qreal startY, qreal midX, qreal midY, qreal endX,
00765
00766     void nativeAddCircle           (qreal centerX, qreal centerY, qreal radius, bool fill, int
00767     rubberMode);
00768     void nativeAddSlot             (qreal centerX, qreal centerY, qreal diameter, qreal length,
00769
00770     void nativeAddEllipse          (qreal centerX, qreal centerY, qreal width, qreal height, qreal
00771     rot, bool fill, int rubberMode);
00772     void nativeAddPoint            (qreal x, qreal y);
00773     void nativeAddRegularPolygon   (qreal centerX, qreal centerY, quint16 sides, quint8 mode, qreal
00774     rad, qreal rot, bool fill);
00775     void nativeAddPolygon          (qreal startX, qreal startY, const QPainterPath& p, int
00776     rubberMode);
00777     void nativeAddPolyline         (qreal startX, qreal startY, const QPainterPath& p, int
00778     rubberMode);
00779     void nativeAddPath              (qreal startX, qreal startY, const QPainterPath& p, int
00780     rubberMode);
00781     void nativeAddHorizontalDimension (qreal x1, qreal y1, qreal x2, qreal y2, qreal legHeight);
00782     void nativeAddVerticalDimension (qreal x1, qreal y1, qreal x2, qreal y2, qreal legHeight);
00783     void nativeAddImage            (const QString& img, qreal x, qreal y, qreal w, qreal h, qreal
00784

```

```

    rot);
00770 void nativeAddDimLeader      (qreal x1, qreal y1, qreal x2, qreal y2, qreal rot, int
rubberMode);
00772
00773 void nativeSetCursorShape   (const QString& str);
00774 qreal nativeCalculateAngle (qreal x1, qreal y1, qreal x2, qreal y2);
00775 qreal nativeCalculateDistance (qreal x1, qreal y1, qreal x2, qreal y2);
00776 qreal nativePerpendicularDistance (qreal px, qreal py, qreal x1, qreal y1, qreal x2, qreal y2);
00777
00778 int nativeNumSelected       ();
00779 void nativeSelectAll        ();
00780 void nativeAddToSelection  (const QPainterPath path, Qt::ItemSelectionMode mode);
00781 void nativeClearSelection  ();
00782 void nativeDeleteSelected  ();
00783 void nativeCutSelected     (qreal x, qreal y);
00784 void nativeCopySelected    (qreal x, qreal y);
00785 void nativePasteSelected   (qreal x, qreal y);
00786 void nativeMoveSelected    (qreal dx, qreal dy);
00787 void nativeScaleSelected   (qreal x, qreal y, qreal factor);
00788 void nativeRotateSelected  (qreal x, qreal y, qreal rot);
00789 void nativeMirrorSelected  (qreal x1, qreal y1, qreal x2, qreal y2);
00790
00791 qreal nativeQSnapX         ();
00792 qreal nativeQSnapY         ();
00793 qreal nativeMouseX         ();
00794 qreal nativeMouseY         ();
00795 };
00796
00797 #endif
00798
00799 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.32 embroidermodder2/mdiarea.cpp File Reference

```
#include "mdiarea.h"
#include "mainwindow.h"
#include "view.h"
```

## 14.33 embroidermodder2/mdiarea.h File Reference

```
#include <QMdiArea>
#include <QPixmap>
```

### Classes

- class [MdiArea](#)

## 14.34 mdiarea.h

[Go to the documentation of this file.](#)

```

00001 #ifndef MDIAREA_H
00002 #define MDIAREA_H
00003
00004 #include <QMdiArea>
00005 #include <QPixmap>
00006
00007 class MainWindow;
00008
00009 QT_BEGIN_NAMESPACE
00010 QT_END_NAMESPACE
00011
00012 class MdiArea : public QMdiArea
00013 {
```

```

00014     Q_OBJECT
00015
00016 public:
00017     MdiArea(MainWindow* mw, QWidget* parent = 0);
00018     ~MdiArea();
00019
00020     void useBackgroundLogo(bool use);
00021     void useBackgroundTexture(bool use);
00022     void useBackgroundColor(bool use);
00023
00024     void setBackgroundLogo(const QString& fileName);
00025     void setBackgroundTexture(const QString& fileName);
00026     void setBackgroundColor(const QColor& color);
00027
00028 public slots:
00029     void cascade();
00030     void tile();
00031 protected:
00032     virtual void mouseDoubleClickEvent(QMouseEvent* e);
00033     virtual void paintEvent(QPaintEvent* e);
00034
00035 private:
00036     MainWindow* mainWin;
00037
00038     bool useLogo;
00039     bool useTexture;
00040     bool useColor;
00041
00042     QPixmap bgLogo;
00043     QPixmap bgTexture;
00044     QColor bgColor;
00045
00046     void zoomExtentsAllSubWindows();
00047     void forceRepaint();
00048 };
00049
00050 #endif
00051
00052 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.35 embroidermodder2/mdiwindow.cpp File Reference

```

#include "mdiwindow.h"
#include "view.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include "object-save.h"
#include "object-data.h"
#include "object-path.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include <QFileDialog>
#include <QMessageBox>
#include <QApplication>
#include <QDir>
#include <QFile>
#include <QFileInfo>
#include <QMainWindow>
#include <QMdiArea>
#include <QMdiSubWindow>
#include <QStatusBar>
#include <QColor>
#include <QUndoStack>
#include <QGraphicsScene>
#include <QGraphicsView>
#include <QGraphicsItem>
#include "embroidery.h"

```

## 14.36 embroidermodder2/mdiwindow.h File Reference

```
#include <QObject>
#include <QMainWindow>
#include <QMdiSubWindow>
#include <QScrollBar>
#include <QGridLayout>
#include <QPrinter>
#include "mainwindow.h"
```

### Classes

- class [MdiWindow](#)

## 14.37 mdiwindow.h

[Go to the documentation of this file.](#)

```
00001 #ifndef MDIWINDOW_H
00002 #define MDIWINDOW_H
00003 //Qt
00004 #include <QObject>
00005 #include <QMainWindow>
00006 #include <QMdiSubWindow>
00007 #include <QScrollBar>
00008 #include <QGridLayout>
00009
00010 #if QT_VERSION >= 0x050000
00011 //Qt5
00012 #include <QtPrintSupport>
00013 #else
00014 //Qt4
00015 #include <QPrinter>
00016 #endif
00017
00018
00019 #include "mainwindow.h"
00020
00021 class MainWindow;
00022 class View;
00023
00024 QT_BEGIN_NAMESPACE
00025 class QMdiArea;
00026 class QGraphicsScene;
00027 class QGraphicsView;
00028 QT_END_NAMESPACE
00029
00030 class MdiWindow: public QMdiSubWindow
00031 {
00032     Q_OBJECT
00033
00034 public:
00035     MdiWindow(const int theIndex, MainWindow* mw, QMdiArea* parent, Qt::WindowFlags wflags);
00036     ~MdiWindow();
00037
00038     virtual QSize           sizeHint() const;
00039     QString                getCurrentFile() { return curFile; }
00040     QString                getShortCurrentFile();
00041     View*                  getView() { return gview; }
00042     QGraphicsScene*        getScene() { return gscene; }
00043     QString                getCurrentLayer() { return curLayer; }
00044     QRgb                   getCurrentColor() { return curColor; }
00045     QString                getCurrentLineType() { return curLineType; }
00046     qreal                  getCurrentLineWidth() { return curLineWidth; }
00047     void                   setCurrentLayer(const QString& layer) { curLayer = layer; }
00048     void                   setCurrentColor(const QRgb& color) { curColor = color; }
00049     void                   setCurrentLineType(const QString& lineType) { curLineType = lineType; }
00050     void                   setCurrentLineWidth(const QString& lineWidth) { curLineWidth =
00051         lineWidth; }
00052     void                   designDetails();
00053     bool                  loadFile(const QString &fileName);
00054     bool                  saveFile(const QString &fileName);
00055 signals:
```

```

00055     void           sendCloseMdiWin (MdiWindow* );
00056
00057 public slots:
00058     void           closeEvent (QCloseEvent* e);
00059     void           onWindowActivated();
00060
00061     void           currentLayerChanged (const QString& layer);
00062     void           currentColorChanged (const QRgb& color);
00063     void           currentLinetypeChanged (const QString& type);
00064     void           currentLineWeightChanged (const QString& weight);
00065
00066     void           updateColorLinetypeLineWeight ();
00067     void           deletePressed();
00068     void           escapePressed();
00069
00070     void           showViewScrollBars (bool val);
00071     void           setViewCrossHairColor (QRgb color);
00072     void           setViewBackgroundColor (QRgb color);
00073     void           setViewSelectBoxColors (QRgb colorL, QRgb fillL, QRgb colorR, QRgb
00074           fillR, int alpha);
00075     void           setViewGridColor (QRgb color);
00076     void           setViewRulerColor (QRgb color);
00077
00078     void           print();
00079     void           saveBMC();
00080
00081     void promptHistoryAppended (const QString& txt);
00082     void logPromptInput (const QString& txt);
00083     void promptInputPrevious();
00084     void promptInputNext();
00085
00086 protected:
00087
00088 private:
00089     MainWindow*      mainWin;
00090     QMdiArea*         mdiArea;
00091     QGraphicsScene*   gscene;
00092     View*             gview;
00093     bool              fileWasLoaded;
00094
00095     QString           promptHistory;
00096     QList<QString>  promptInputList;
00097     int               promptInputNum;
00098
00099     QPrinter          printer;
00100
00101     QString           curFile;
00102     void              setCurrentFile (const QString& fileName);
00103     QString           fileExtension (const QString& fileName);
00104
00105     int               myIndex;
00106
00107     QString           curLayer;
00108     QRgb              curColor;
00109     QString           curLineType;
00110     QString           curLineWeight;
00111
00112     void promptInputPrevNext (bool prev);
00113 };
00114
00115 #endif
00116
00117 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.38 embroidermodder2/native-scripting.cpp File Reference

```
#include "native-scripting.h"
```

### Functions

- void **initMainWinPointer** (**MainWindow** \*mw)
- **MainWindow** \* **mainWin** ()

## Variables

- `MainWindow * _mainWin = 0`

### 14.38.1 Function Documentation

**14.38.1.1 `initMainWinPointer()`** `void initMainWinPointer (`  
`MainWindow * mw )`

**14.38.1.2 `mainWin()`** `MainWindow * mainWin ( )`

### 14.38.2 Variable Documentation

**14.38.2.1 `_mainWin`** `MainWindow* _mainWin = 0`

## 14.39 embroidermodder2/native-scripting.h File Reference

```
#include "mainwindow.h"
```

## Functions

- `void initMainWinPointer (MainWindow *mw)`
- `MainWindow * mainWin ()`

### 14.39.1 Function Documentation

**14.39.1.1 `initMainWinPointer()`** `void initMainWinPointer (`  
`MainWindow * mw )`

**14.39.1.2 `mainWin()`** `MainWindow * mainWin ( )`

## 14.40 native-scripting.h

[Go to the documentation of this file.](#)

```
00001 #ifndef NATIVE_SCRIPTING_H
00002 #define NATIVE_SCRIPTING_H
00003
00004 #include "mainwindow.h"
00005
00006 void initMainWinPointer(MainWindow* mw);
00007 MainWindow* mainWin();
00008
00009 #endif
00010
00011 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.41 embroidermodder2/object-arc.cpp File Reference

```
#include "object-arc.h"
#include "object-data.h"
#include "embroidery.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
```

## 14.42 embroidermodder2/object-arc.h File Reference

```
#include "object-base.h"
```

### Classes

- class [ArcObject](#)

## 14.43 object-arc.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_ARC_H
00002 #define OBJECT_ARC_H
00003
00004 #include "object-base.h"
00005
00006 class ArcObject : public BaseObject
00007 {
00008 public:
00009     ArcObject(qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, QRgb rgb,
00010     QGraphicsItem* parent = 0);
00011     ArcObject(ArcObject* obj, QGraphicsItem* parent = 0);
00012     ~ArcObject();
00013     enum { Type = OBJ_TYPE_ARC };
00014     virtual int type() const { return Type; }
00015
00016     QPointF objectCenter() const { return scenePos(); }
00017     qreal objectCenterX() const { return scenePos().x(); }
00018     qreal objectCenterY() const { return scenePos().y(); }
00019     qreal objectRadius() const { return rect().width()/2.0*scale(); }
00020     qreal objectStartAngle() const;
00021     qreal objectEndAngle() const;
00022     QPointF objectStartPoint() const;
00023     qreal object startX() const;
00024     qreal object startY() const;
00025     QPointF objectMidPoint() const;
```

```

00026     qreal   objectMidX()           const;
00027     qreal   objectMidY()           const;
00028     QPointF objectEndPoint()      const;
00029     qreal   objectEndX()           const;
00030     qreal   objectEndY()           const;
00031     qreal   objectArea()          const;
00032     qreal   objectArcLength()     const;
00033     qreal   objectChord()         const;
00034     qreal   objectIncludedAngle() const;
00035     bool    objectClockwise()     const;
00036
00037 void    setObjectCenter(const QPointF& point);
00038 void    setObjectCenter(qreal pointX, qreal pointY);
00039 void    setObjectCenterX(qreal pointX);
00040 void    setObjectCenterY(qreal pointY);
00041 void    setObjectRadius(qreal radius);
00042 void    setObjectStartAngle(qreal angle);
00043 void    setObjectEndAngle(qreal angle);
00044 void    setObjectStartPoint(const QPointF& point);
00045 void    setObjectEndPoint(qreal pointX, qreal pointY);
00046 void    setObjectMidPoint(const QPointF& point);
00047 void    setObjectMidPoint(qreal pointX, qreal pointY);
00048 void    setObjectEndPoint(const QPointF& point);
00049 void    setObjectEndPoint(qreal pointX, qreal pointY);
00050
00051 void    updateRubber(QPainter* painter = 0);
00052 virtual void vulcanize();
00053 virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00054 virtual QList<QPointF> allGripPoints();
00055 virtual void gripEdit(const QPointF& before, const QPointF& after);
00056 protected:
00057     void    paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00058 private:
00059     void    init(qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, QRgb rgb,
00060                 Qt::PenStyle lineType);
00060     void    updatePath();
00061
00062     void    calculateArcData(qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY);
00063     void    updateArcRect(qreal radius);
00064
00065     QPointF arc startPoint;
00066     QPointF arc Mid Point;
00067     QPointF arc End Point;
00068 };
00069
00070 #endif
00071
00072 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.44 embroidermodder2/object-base.cpp File Reference

```

#include "object-base.h"
#include <QDebug>
#include <QGraphicsScene>
#include <QMessageBox>
#include <QDateTime>
#include <QPainter>

```

## 14.45 embroidermodder2/object-base.h File Reference

```

#include "object-data.h"
#include <QHash>
#include <QPen>
#include <QGraphicsPathItem>
#include <QtCore/qmath.h>

```

### Classes

- class [BaseObject](#)

## 14.46 object-base.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_BASE_H
00002 #define OBJECT_BASE_H
00003
00004 #include "object-data.h"
00005
00006 #include <QHash>
00007 #include <QPen>
00008 #include <QGraphicsPathItem>
00009 #include <QtCore/qmath.h>
00010
00011 class BaseObject : public QGraphicsPathItem
00012 {
00013 public:
00014     BaseObject(QGraphicsItem* parent = 0);
00015     virtual ~BaseObject();
00016
00017     enum { Type = OBJ_TYPE_BASE };
00018     virtual int type() const { return Type; }
00019
00020     qint64      objectID()                                const { return objID; }
00021     QPen        objectPen()                               const { return objPen; }
00022     QColor      objectColor()                            const { return objPen.color(); }
00023     QRgb        objectColorRGB()                         const { return objPen.color().rgb(); }
00024     Qt::PenStyle objectLineType()                         const { return objPen.style(); }
00025     qreal       objectLineWidth()                        const { return lwtPen.widthF(); }
00026     QPainterPath objectPath()                           const { return path(); }
00027     int         objectRubberMode()                      const { return objRubberMode; }
00028     QPointF    objectRubberPoint(const QString& key) const;
00029     QString     objectRubberText(const QString& key)  const;
00030
00031     QRectF rect() const { return path().boundingRect(); }
00032     void setRect(const QRectF& r) { QPainterPath p; p.addRect(r); setPath(p); }
00033     void setRect(qreal x, qreal y, qreal w, qreal h) { QPainterPath p; p.addRect(x,y,w,h); setPath(p); }
00034 }
00035     QLineF line() const { return objLine; }
00036     void setLine(const QLineF& li) { QPainterPath p; p.moveTo(li.p1()); p.lineTo(li.p2()); setPath(p);
00037     objLine = li; }
00038     void setLine(qreal x1, qreal y1, qreal x2, qreal y2) { QPainterPath p; p.moveTo(x1,y1);
00039     p.lineTo(x2,y2); setPath(p); objLine.setLine(x1,y1,x2,y2); }
00040
00041     void setObjectColor(const QColor& color);
00042     void setObjectColorRGB(QRgb rgb);
00043     void setObjectLineType(Qt::PenStyle lineType);
00044     void setObjectLineWidth(qreal lineWidth);
00045     void setObjectPath(const QPainterPath& p) { setPath(p); }
00046     void setObjectRubberMode(int mode) { objRubberMode = mode; }
00047     void setObjectRubberPoint(const QString& key, const QPointF& point) { objRubberPoints.insert(key,
00048     point); }
00049     void setObjectRubberText(const QString& key, const QString& txt) { objRubberTexts.insert(key,
00050     txt); }
00051
00052     virtual QRectF boundingRect() const;
00053     virtual QPainterPath shape() const { return path(); }
00054
00055     void drawRubberLine(const QLineF& rubLine, QPainter* painter = 0, const char* colorFromScene = 0);
00056
00057     virtual void vulcanize() = 0;
00058     virtual QPointF mouseSnapPoint(const QPointF& mousePoint) = 0;
00059     virtual QList<QPointF> allGripPoints() = 0;
00060     virtual void gripEdit(const QPointF& before, const QPointF& after) = 0;
00061
00062 protected:
00063     QPen lineWeightPen() const { return lwtPen; }
00064     inline qreal pi() const { return (qAtan(1.0)*4.0); }
00065     inline qreal radians(qreal degree) const { return (degree*pi()/180.0); }
00066     inline qreal degrees(qreal radian) const { return (radian*180.0/pi()); }
00067     void realRender(QPainter* painter, const QPainterPath& renderPath);
00068
00069 private:
00070     QPen objPen;
00071     QPen lwtPen;
00072     QLineF objLine;
00073     int objRubberMode;
00074     QHash<QString, QPointF> objRubberPoints;
00075     QHash<QString, QString> objRubberTexts;
00076     qint64 objID;
00077
00078 };
00079
00080 #endif
00081
00082 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.47 embroidermodder2/object-circle.cpp File Reference

```
#include "object-circle.h"
#include "object-data.h"
#include "embroidery.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
```

## 14.48 embroidermodder2/object-circle.h File Reference

```
#include "object-base.h"
```

### Classes

- class [CircleObject](#)

## 14.49 object-circle.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_CIRCLE_H
00002 #define OBJECT_CIRCLE_H
00003
00004 #include "object-base.h"
00005
00006 class CircleObject : public BaseObject
00007 {
00008 public:
00009     CircleObject(qreal centerX, qreal centerY, qreal radius, QRgb rgb, QGraphicsItem* parent = 0);
00010     CircleObject(CircleObject* obj, QGraphicsItem* parent = 0);
00011     ~CircleObject();
00012
00013     enum { Type = OBJ_TYPE_CIRCLE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectCenter() const { return scenePos(); }
00019     qreal objectCenterX() const { return scenePos().x(); }
00020     qreal objectCenterY() const { return scenePos().y(); }
00021     qreal objectRadius() const { return rect().width()/2.0*scale(); }
00022     qreal objectDiameter() const { return rect().width()*scale(); }
00023     qreal objectArea() const { return pi()*objectRadius()*objectRadius(); }
00024     qreal objectCircumference() const { return pi()*objectDiameter(); }
00025     QPointF objectQuadrant0() const { return objectCenter() + QPointF(objectRadius(), 0); }
00026     QPointF objectQuadrant90() const { return objectCenter() + QPointF(0,-objectRadius()); }
00027     QPointF objectQuadrant180() const { return objectCenter() + QPointF(-objectRadius(),0); }
00028     QPointF objectQuadrant270() const { return objectCenter() + QPointF(0, objectRadius()); }
00029
00030     void setObjectCenter(const QPointF& center);
00031     void setObjectCenter(qreal centerX, qreal centerY);
00032     void setObjectCenterX(qreal centerX);
00033     void setObjectCenterY(qreal centerY);
00034     void setObjectRadius(qreal radius);
00035     void setObjectDiameter(qreal diameter);
00036     void setObjectArea(qreal area);
00037     void setObjectCircumference(qreal circumference);
00038
00039     void updateRubber(QPainter* painter = 0);
00040     virtual void vulcanize();
00041     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00042     virtual QList<QPointF> allGripPoints();
00043     virtual void gripEdit(const QPointF& before, const QPointF& after);
00044 protected:
00045     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00046 private:
00047     void init(qreal centerX, qreal centerY, qreal radius, QRgb rgb, Qt::PenStyle lineType);
00048     void updatePath();
00049 };
00050
00051 #endif
00052
00053 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.50 embroidermodder2/object-data.h File Reference

### Enumerations

- enum `OBJ_KEYS` {
   
`OBJ_TYPE = 0, OBJ_NAME = 1, OBJ_LAYER = 2, OBJ_COLOR = 3,`  
`OBJ_LTYPE = 4, OBJ_LWT = 5, OBJ_RUBBER = 6, OBJ_TYPE = 0,`  
`OBJ_NAME = 1, OBJ_LAYER = 2, OBJ_COLOR = 3, OBJ_LTYPE = 4,`  
`OBJ_LWT = 5, OBJ_RUBBER = 6 }`
- enum `OBJ_TYPE_VALUES` {
   
`OBJ_TYPE_NULL = 0, OBJ_TYPE_BASE = 100000, OBJ_TYPE_ARC = 100001, OBJ_TYPE_BLOCK =`  
`100002,`  
`OBJ_TYPE_CIRCLE = 100003, OBJ_TYPE_DIMALIGNED = 100004, OBJ_TYPE_DIMANGULAR =`  
`100005, OBJ_TYPE_DIMARCLength = 100006,`  
`OBJ_TYPE_DIMDIAMETER = 100007, OBJ_TYPE_DIMLEADER = 100008, OBJ_TYPE_DIMLINEAR =`  
`100009, OBJ_TYPE_DIMORDINATE = 100010,`  
`OBJ_TYPE_DIMRADIUS = 100011, OBJ_TYPE_ELLIPSE = 100012, OBJ_TYPE_ELLIPSEARC = 100013`  
`, OBJ_TYPE_RUBBER = 100014,`  
`OBJ_TYPE_GRID = 100015, OBJ_TYPE_HATCH = 100016, OBJ_TYPE_IMAGE = 100017,`  
`OBJ_TYPE_INFINITELINE = 100018,`  
`OBJ_TYPE_LINE = 100019, OBJ_TYPE_PATH = 100020, OBJ_TYPE_POINT = 100021, OBJ_TYPE_POLYGON`  
`= 100022,`  
`OBJ_TYPE_POLYLINE = 100023, OBJ_TYPE_RAY = 100024, OBJ_TYPE_RECTANGLE = 100025,`  
`OBJ_TYPE_SLOT = 100026,`  
`OBJ_TYPE_SPLINE = 100027, OBJ_TYPE_TEXTMULTI = 100028, OBJ_TYPE_TEXTSINGLE = 100029 }`
- enum `OBJ_LTYPE_VALUES` {
   
`OBJ_LTYPE_CONT = 0, OBJ_LTYPE_CENTER = 1, OBJ_LTYPE_DOT = 2, OBJ_LTYPE_HIDDEN = 3,`  
`OBJ_LTYPE_PHANTOM = 4, OBJ_LTYPE_ZIGZAG = 5, OBJ_LTYPE_RUNNING = 6, OBJ_LTYPE_SATIN`  
`= 7,`  
`OBJ_LTYPE_FISHBONE = 8 }`
- enum `OBJ_LWT_VALUES` {
   
`OBJ_LWT_BYLAYER = -2, OBJ_LWT_BYBLOCK = -1, OBJ_LWT_DEFAULT = 0, OBJ_LWT_01 = 1,`  
`OBJ_LWT_02 = 2, OBJ_LWT_03 = 3, OBJ_LWT_04 = 4, OBJ_LWT_05 = 5,`  
`OBJ_LWT_06 = 6, OBJ_LWT_07 = 7, OBJ_LWT_08 = 8, OBJ_LWT_09 = 9,`  
`OBJ_LWT_10 = 10, OBJ_LWT_11 = 11, OBJ_LWT_12 = 12, OBJ_LWT_13 = 13,`  
`OBJ_LWT_14 = 14, OBJ_LWT_15 = 15, OBJ_LWT_16 = 16, OBJ_LWT_17 = 17,`  
`OBJ_LWT_18 = 18, OBJ_LWT_19 = 19, OBJ_LWT_20 = 20, OBJ_LWT_21 = 21,`  
`OBJ_LWT_22 = 22, OBJ_LWT_23 = 23, OBJ_LWT_24 = 24 }`
- enum `OBJ_SNAP_VALUES` {
   
`OBJ_SNAP_NULL = 0, OBJ_SNAP_ENDPOINT = 1, OBJ_SNAP_MIDPOINT = 2, OBJ_SNAP_CENTER`  
`= 3,`  
`OBJ_SNAP_NODE = 4, OBJ_SNAP_QUADRANT = 5, OBJ_SNAP_INTERSECTION = 6, OBJ_SNAP_EXTENSION`  
`= 7,`  
`OBJ_SNAP_INSERTION = 8, OBJ_SNAP_PERPENDICULAR = 9, OBJ_SNAP_TANGENT = 10,`  
`OBJ_SNAP_NEAREST = 11,`  
`OBJ_SNAP_APPINTERSECTION = 12, OBJ_SNAP_PARALLEL = 13 }`
- enum `OBJ_RUBBER_VALUES` {
   
`OBJ_RUBBER_OFF = 0, OBJ_RUBBER_ON = 1, OBJ_RUBBER_CIRCLE_1P_RAD, OBJ_RUBBER_CIRCLE_1P_DIA`  
`,`  
`OBJ_RUBBER_CIRCLE_2P, OBJ_RUBBER_CIRCLE_3P, OBJ_RUBBER_CIRCLE_TTR, OBJ_RUBBER_CIRCLE_TTT`  
`,`  
`OBJ_RUBBER_DIMLEADER_LINE, OBJ_RUBBER_ELLIPSE_LINE, OBJ_RUBBER_ELLIPSE_MAJOR_DIAMETER_MINOR`  
`, OBJ_RUBBER_ELLIPSE_MAJOR_RADIUS_MINOR_RADIUS,`  
`OBJ_RUBBER_ELLIPSE_ROTATION, OBJ_RUBBER_GRIP, OBJ_RUBBER_LINE, OBJ_RUBBER_POLYGON`  
`,`  
`OBJ_RUBBER_POLYGON_INSCRIBE, OBJ_RUBBER_POLYGON_CIRCUMSCRIBE, OBJ_RUBBER_POLYLINE`  
`, OBJ_RUBBER_IMAGE,`  
`OBJ_RUBBER_RECTANGLE, OBJ_RUBBER_TEXTSINGLE }`

- enum `SPARE_RUBBER_VALUES` { `SPARE_RUBBER_OFF` = 0 , `SPARE_RUBBER_PATH` , `SPARE_RUBBER_POLYGON` , `SPARE_RUBBER_POLYLINE` }
- enum `PREVIEW_CLONE_VALUES` { `PREVIEW_CLONE_NULL` = 0 , `PREVIEW_CLONE_SELECTED` , `PREVIEW_CLONE_RUBBER` }
- enum `PREVIEW_MODE_VALUES` { `PREVIEW_MODE_NULL` = 0 , `PREVIEW_MODE_MOVE` , `PREVIEW_MODE_ROTATE` , `PREVIEW_MODE_SCALE` }

## Variables

- const char \*const `OBJ_NAME_NULL` = "Unknown"
- const char \*const `OBJ_NAME_BASE` = "Base"
- const char \*const `OBJ_NAME_ARC` = "Arc"
- const char \*const `OBJ_NAME_BLOCK` = "Block"
- const char \*const `OBJ_NAME_CIRCLE` = "Circle"
- const char \*const `OBJ_NAME_DIMALIGNED` = "Aligned Dimension"
- const char \*const `OBJ_NAME_DIMANGULAR` = "Angular Dimension"
- const char \*const `OBJ_NAME_DIMARCLENGTH` = "Arc Length Dimension"
- const char \*const `OBJ_NAME_DIMDIAMETER` = "Diameter Dimension"
- const char \*const `OBJ_NAME_DIMLEADER` = "Leader Dimension"
- const char \*const `OBJ_NAME_DIMLINEAR` = "Linear Dimension"
- const char \*const `OBJ_NAME_DIMORDINATE` = "Ordinate Dimension"
- const char \*const `OBJ_NAME_DIMRADIUS` = "Radius Dimension"
- const char \*const `OBJ_NAME_ELLIPSE` = "Ellipse"
- const char \*const `OBJ_NAME_ELLIPSEARC` = "Elliptical Arc"
- const char \*const `OBJ_NAME_RUBBER` = "Rubber"
- const char \*const `OBJ_NAME_GRID` = "Grid"
- const char \*const `OBJ_NAME_HATCH` = "Hatch"
- const char \*const `OBJ_NAME_IMAGE` = "Image"
- const char \*const `OBJ_NAME_INFINITELINE` = "Infinite Line"
- const char \*const `OBJ_NAME_LINE` = "Line"
- const char \*const `OBJ_NAME_PATH` = "Path"
- const char \*const `OBJ_NAME_POINT` = "Point"
- const char \*const `OBJ_NAME_POLYGON` = "Polygon"
- const char \*const `OBJ_NAME_POLYLINE` = "Polyline"
- const char \*const `OBJ_NAME_RAY` = "Ray"
- const char \*const `OBJ_NAME_RECTANGLE` = "Rectangle"
- const char \*const `OBJ_NAME_SLOT` = "Slot"
- const char \*const `OBJ_NAME_SPLINE` = "Spline"
- const char \*const `OBJ_NAME_TEXTMULTI` = "Multi Line Text"
- const char \*const `OBJ_NAME_TEXTSINGLE` = "Single Line Text"
- const char \*const `ENABLE_SNAP` = "ENABLE\_SNAP"
- const char \*const `ENABLE_GRID` = "ENABLE\_GRID"
- const char \*const `ENABLE_RULER` = "ENABLE\_RULER"
- const char \*const `ENABLE_ORTHO` = "ENABLE\_ORTHO"
- const char \*const `ENABLE_POLAR` = "ENABLE\_POLAR"
- const char \*const `ENABLE_QSNAP` = "ENABLE\_QSNAP"
- const char \*const `ENABLE_QTRACK` = "ENABLE\_QTRACK"
- const char \*const `ENABLE_LWT` = "ENABLE\_LWT"
- const char \*const `ENABLE_REAL` = "ENABLE\_REAL"
- const char \*const `SCENE_QSNAP_POINT` = "SCENE\_QSNAP\_POINT"
- const char \*const `SCENE_MOUSE_POINT` = "SCENE\_MOUSE\_POINT"
- const char \*const `VIEW_MOUSE_POINT` = "VIEW\_MOUSE\_POINT"
- const char \*const `RUBBER_ROOM` = "RUBBER\_ROOM"
- const char \*const `VIEW_COLOR_BACKGROUND` = "VIEW\_COLOR\_BACKGROUND"
- const char \*const `VIEW_COLOR_CROSSHAIR` = "VIEW\_COLOR\_CROSSHAIR"
- const char \*const `VIEW_COLOR_GRID` = "VIEW\_COLOR\_GRID"

#### 14.50.1 Enumeration Type Documentation

##### 14.50.1.1 OBJ\_KEYS enum [OBJ\\_KEYS](#)

Enumerator

OBJ_TYPE	
OBJ_NAME	
OBJ_LAYER	
OBJ_COLOR	
OBJ_LTYPE	
OBJ_LWT	
OBJ_RUBBER	
OBJ_TYPE	
OBJ_NAME	
OBJ_LAYER	
OBJ_COLOR	
OBJ_LTYPE	
OBJ_LWT	
OBJ_RUBBER	

##### 14.50.1.2 OBJ\_LTYPE\_VALUES enum [OBJ\\_LTYPE\\_VALUES](#)

Enumerator

OBJ_LTYPE_CONT	
OBJ_LTYPE_CENTER	
OBJ_LTYPE_DOT	
OBJ_LTYPE_HIDDEN	
OBJ_LTYPE_PHANTOM	
OBJ_LTYPE_ZIGZAG	
OBJ_LTYPE_RUNNING	
OBJ_LTYPE_SATIN	
OBJ_LTYPE_FISHBONE	

##### 14.50.1.3 OBJ\_LWT\_VALUES enum [OBJ\\_LWT\\_VALUES](#)

Enumerator

OBJ_LWT_BYLAYER	
OBJ_LWT_BYBLOCK	
OBJ_LWT_DEFAULT	

## Enumerator

OBJ_LWT_01
OBJ_LWT_02
OBJ_LWT_03
OBJ_LWT_04
OBJ_LWT_05
OBJ_LWT_06
OBJ_LWT_07
OBJ_LWT_08
OBJ_LWT_09
OBJ_LWT_10
OBJ_LWT_11
OBJ_LWT_12
OBJ_LWT_13
OBJ_LWT_14
OBJ_LWT_15
OBJ_LWT_16
OBJ_LWT_17
OBJ_LWT_18
OBJ_LWT_19
OBJ_LWT_20
OBJ_LWT_21
OBJ_LWT_22
OBJ_LWT_23
OBJ_LWT_24

**14.50.1.4 OBJ\_RUBBER\_VALUES** enum [OBJ\\_RUBBER\\_VALUES](#)

## Enumerator

OBJ_RUBBER_OFF
OBJ_RUBBER_ON
OBJ_RUBBER_CIRCLE_1P_RAD
OBJ_RUBBER_CIRCLE_1P_DIA
OBJ_RUBBER_CIRCLE_2P
OBJ_RUBBER_CIRCLE_3P
OBJ_RUBBER_CIRCLE_TTR
OBJ_RUBBER_CIRCLE_TTT
OBJ_RUBBER_DIMLEADER_LINE
OBJ_RUBBER_ELLIPSE_LINE
OBJ_RUBBER_ELLIPSE_MAJORDIAMETER_MINORRADIUS
OBJ_RUBBER_ELLIPSE_MAJORRADIUS_MINORRADIUS
OBJ_RUBBER_ELLIPSE_ROTATION
OBJ_RUBBER_GRIP
OBJ_RUBBER_LINE
OBJ_RUBBER_POLYGON
OBJ_RUBBER_POLYGON_INSCRIBE

## Enumerator

OBJ_RUBBER_POLYGON_CIRCUMSCRIBE	
OBJ_RUBBER_POLYLINE	
OBJ_RUBBER_IMAGE	
OBJ_RUBBER_RECTANGLE	
OBJ_RUBBER_TEXTSINGLE	

**14.50.1.5 OBJ\_SNAP\_VALUES** enum [OBJ\\_SNAP\\_VALUES](#)

## Enumerator

OBJ_SNAP_NULL	
OBJ_SNAP_ENDPOINT	
OBJ_SNAP_MIDPOINT	
OBJ_SNAP_CENTER	
OBJ_SNAP_NODE	
OBJ_SNAP_QUADRANT	
OBJ_SNAP_INTERSECTION	
OBJ_SNAP_EXTENSION	
OBJ_SNAP_INSERTION	
OBJ_SNAP_PERPENDICULAR	
OBJ_SNAP_TANGENT	
OBJ_SNAP_NEAREST	
OBJ_SNAP_APPINTERSECTION	
OBJ_SNAP_PARALLEL	

**14.50.1.6 OBJ\_TYPE\_VALUES** enum [OBJ\\_TYPE\\_VALUES](#)

## Enumerator

OBJ_TYPE_NULL	
OBJ_TYPE_BASE	
OBJ_TYPE_ARC	
OBJ_TYPE_BLOCK	
OBJ_TYPE_CIRCLE	
OBJ_TYPE_DIMALIGNED	
OBJ_TYPE_DIMANGULAR	
OBJ_TYPE_DIMARCLENGTH	
OBJ_TYPE_DIMDIAMETER	
OBJ_TYPE_DIMLEADER	
OBJ_TYPE_DIMLINEAR	
OBJ_TYPE_DIMORDINATE	
OBJ_TYPE_DIMRADIUS	
OBJ_TYPE_ELLIPSE	

**Enumerator**

OBJ_TYPE_ELLIPSEARC
OBJ_TYPE_RUBBER
OBJ_TYPE_GRID
OBJ_TYPE_HATCH
OBJ_TYPE_IMAGE
OBJ_TYPE_INFINITELINE
OBJ_TYPE_LINE
OBJ_TYPE_PATH
OBJ_TYPE_POINT
OBJ_TYPE_POLYGON
OBJ_TYPE_POLYLINE
OBJ_TYPE_RAY
OBJ_TYPE_RECTANGLE
OBJ_TYPE_SLOT
OBJ_TYPE_SPLINE
OBJ_TYPE_TEXTMULTI
OBJ_TYPE_TEXTSINGLE

**14.50.1.7 PREVIEW\_CLONE\_VALUES** enum [PREVIEW\\_CLONE\\_VALUES](#)**Enumerator**

PREVIEW_CLONE_NULL
PREVIEW_CLONE_SELECTED
PREVIEW_CLONE_RUBBER

**14.50.1.8 PREVIEW\_MODE\_VALUES** enum [PREVIEW\\_MODE\\_VALUES](#)**Enumerator**

PREVIEW_MODE_NULL
PREVIEW_MODE_MOVE
PREVIEW_MODE_ROTATE
PREVIEW_MODE_SCALE

**14.50.1.9 SPARE\_RUBBER\_VALUES** enum [SPARE\\_RUBBER\\_VALUES](#)**Enumerator**

SPARE_RUBBER_OFF
------------------

**Enumerator**

SPARE_RUBBER_PATH	
SPARE_RUBBER_POLYGON	
SPARE_RUBBER_POLYLINE	

**14.50.2 Variable Documentation****14.50.2.1 ENABLE\_GRID** const char\* const ENABLE\_GRID = "ENABLE\_GRID"**14.50.2.2 ENABLE\_LWT** const char\* const ENABLE\_LWT = "ENABLE\_LWT"**14.50.2.3 ENABLE\_ORTHO** const char\* const ENABLE\_ORTHO = "ENABLE\_ORTHO"**14.50.2.4 ENABLE\_POLAR** const char\* const ENABLE\_POLAR = "ENABLE\_POLAR"**14.50.2.5 ENABLE\_QSNAP** const char\* const ENABLE\_QSNAP = "ENABLE\_QSNAP"**14.50.2.6 ENABLE\_QTRACK** const char\* const ENABLE\_QTRACK = "ENABLE\_QTRACK"**14.50.2.7 ENABLE\_REAL** const char\* const ENABLE\_REAL = "ENABLE\_REAL"**14.50.2.8 ENABLE\_RULER** const char\* const ENABLE\_RULER = "ENABLE\_RULER"

**14.50.2.9 ENABLE\_SNAP** const char\* const ENABLE\_SNAP = "ENABLE\_SNAP"

**14.50.2.10 OBJ\_NAME\_ARC** const char\* const OBJ\_NAME\_ARC = "Arc"

**14.50.2.11 OBJ\_NAME\_BASE** const char\* const OBJ\_NAME\_BASE = "Base"

**14.50.2.12 OBJ\_NAME\_BLOCK** const char\* const OBJ\_NAME\_BLOCK = "Block"

**14.50.2.13 OBJ\_NAME\_CIRCLE** const char\* const OBJ\_NAME\_CIRCLE = "Circle"

**14.50.2.14 OBJ\_NAME\_DIMALIGNED** const char\* const OBJ\_NAME\_DIMALIGNED = "Aligned Dimension"

**14.50.2.15 OBJ\_NAME\_DIMANGULAR** const char\* const OBJ\_NAME\_DIMANGULAR = "Angular Dimension"

**14.50.2.16 OBJ\_NAME\_DIMARCLENGTH** const char\* const OBJ\_NAME\_DIMARCLENGTH = "Arc Length Dimension"

**14.50.2.17 OBJ\_NAME\_DIMDIAMETER** const char\* const OBJ\_NAME\_DIMDIAMETER = "Diameter Dimension"

**14.50.2.18 OBJ\_NAME\_DIMLEADER** const char\* const OBJ\_NAME\_DIMLEADER = "Leader Dimension"

**14.50.2.19 OBJ\_NAME\_DIMLINEAR** const char\* const OBJ\_NAME\_DIMLINEAR = "Linear Dimension"

**14.50.2.20 OBJ\_NAME\_DIMORDINATE** const char\* const OBJ\_NAME\_DIMORDINATE = "Ordinate Dimension"

**14.50.2.21 OBJ\_NAME\_DIMRADIUS** const char\* const OBJ\_NAME\_DIMRADIUS = "Radius Dimension"

**14.50.2.22 OBJ\_NAME\_ELLIPSE** const char\* const OBJ\_NAME\_ELLIPSE = "Ellipse"

**14.50.2.23 OBJ\_NAME\_ELLIPSEARC** const char\* const OBJ\_NAME\_ELLIPSEARC = "Elliptical Arc"

**14.50.2.24 OBJ\_NAME\_GRID** const char\* const OBJ\_NAME\_GRID = "Grid"

**14.50.2.25 OBJ\_NAME\_HATCH** const char\* const OBJ\_NAME\_HATCH = "Hatch"

**14.50.2.26 OBJ\_NAME\_IMAGE** const char\* const OBJ\_NAME\_IMAGE = "Image"

**14.50.2.27 OBJ\_NAME\_INFINITELINE** const char\* const OBJ\_NAME\_INFINITELINE = "Infinite Line"

**14.50.2.28 OBJ\_NAME\_LINE** const char\* const OBJ\_NAME\_LINE = "Line"

**14.50.2.29 OBJ\_NAME\_NULL** const char\* const OBJ\_NAME\_NULL = "Unknown"

**14.50.2.30 OBJ\_NAME\_PATH** const char\* const OBJ\_NAME\_PATH = "Path"

**14.50.2.31 OBJ\_NAME\_POINT** const char\* const OBJ\_NAME\_POINT = "Point"

**14.50.2.32 OBJ\_NAME\_POLYGON** const char\* const OBJ\_NAME\_POLYGON = "Polygon"

**14.50.2.33 OBJ\_NAME\_POLYLINE** const char\* const OBJ\_NAME\_POLYLINE = "Polyline"

**14.50.2.34 OBJ\_NAME\_RAY** const char\* const OBJ\_NAME\_RAY = "Ray"

**14.50.2.35 OBJ\_NAME\_RECTANGLE** const char\* const OBJ\_NAME\_RECTANGLE = "Rectangle"

**14.50.2.36 OBJ\_NAME\_RUBBER** const char\* const OBJ\_NAME\_RUBBER = "Rubber"

**14.50.2.37 OBJ\_NAME\_SLOT** const char\* const OBJ\_NAME\_SLOT = "Slot"

**14.50.2.38 OBJ\_NAME\_SPLINE** const char\* const OBJ\_NAME\_SPLINE = "Spline"

**14.50.2.39 OBJ\_NAME\_TEXTMULTI** const char\* const OBJ\_NAME\_TEXTMULTI = "Multi Line Text"

**14.50.2.40 OBJ\_NAME\_TEXTSINGLE** const char\* const OBJ\_NAME\_TEXTSINGLE = "Single Line Text"

**14.50.2.41 RUBBER\_ROOM** const char\* const RUBBER\_ROOM = "RUBBER\_ROOM"

**14.50.2.42 SCENE\_MOUSE\_POINT** const char\* const SCENE\_MOUSE\_POINT = "SCENE\_MOUSE\_POINT"

**14.50.2.43 SCENE\_QSNAP\_POINT** const char\* const SCENE\_QSNAP\_POINT = "SCENE\_QSNAP\_POINT"

**14.50.2.44 VIEW\_COLOR\_BACKGROUND** const char\* const VIEW\_COLOR\_BACKGROUND = "VIEW\_COLOR\_BACKGROUND"

**14.50.2.45 VIEW\_COLOR\_CROSSHAIR** const char\* const VIEW\_COLOR\_CROSSHAIR = "VIEW\_COLOR\_CROSSHAIR"

**14.50.2.46 VIEW\_COLOR\_GRID** const char\* const VIEW\_COLOR\_GRID = "VIEW\_COLOR\_GRID"

**14.50.2.47 VIEW\_MOUSE\_POINT** const char\* const VIEW\_MOUSE\_POINT = "VIEW\_MOUSE\_POINT"

## 14.51 object-data.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_DATA_H
00002 #define OBJECT_DATA_H
00003
00004 //Custom Data used in QGraphicsItems
00005
00006 //          (      int, const QVariant)
00007 //I.E. object.setData(OBJ_TYPE, OBJ_TYPE_LINE);
00008 //I.E. object.setData(OBJ_LAYER, "OUTLINE");
00009 //I.E. object.setData(OBJ_COLOR, 123);
0010 //I.E. object.setData(OBJ_LTYPE, OBJ_LTYPE_CONT);
0011
0012 //Keys
0013 enum OBJ_KEYS {
0014     OBJ_TYPE      = 0, //value type - int: See OBJ_TYPE_VALUES
0015     OBJ_NAME      = 1, //value type - str: See OBJ_NAME_VALUES
0016     OBJ_LAYER     = 2, //value type - str: "USER", "DEFINED", "STRINGS", etc...
0017     OBJ_COLOR     = 3, //value type - int: 0-255 //TODO: Use color chart in formats/format-dxf.h for this
0018     OBJ_LTYPE     = 4, //value type - int: See OBJ_LTYPE_VALUES
0019     OBJ_LWT       = 5, //value type - int: 0-27
0020     OBJ_RUBBER    = 6 //value type - int: See OBJ_RUBBER_VALUES
0021 };
0022
0023 //Values
0024 enum OBJ_TYPE_VALUES {
0025     OBJ_TYPE_NULL      = 0, //NOTE: Allow this enum to evaluate false
0026     OBJ_TYPE_BASE      = 100000, //NOTE: Values >= 65536 ensure compatibility with qgraphicsitem_cast()
0027     OBJ_TYPE_ARC       = 100001,
0028     OBJ_TYPE_BLOCK     = 100002,
0029     OBJ_TYPE_CIRCLE    = 100003,
0030     OBJ_TYPE_DIMALIGNED = 100004,
0031     OBJ_TYPE_DIMANGULAR = 100005,
0032     OBJ_TYPE_DIMARCLENGTH = 100006,
0033     OBJ_TYPE_DIMDIAMETER = 100007,
0034     OBJ_TYPE_DIMLEADER  = 100008,
0035     OBJ_TYPE_DIMLINEAR  = 100009,
```

```

00036 OBJ_TYPE_DIMORDINATE = 100010,
00037 OBJ_TYPE_DIMRADIUS = 100011,
00038 OBJ_TYPE_ELLIPSE = 100012,
00039 OBJ_TYPE_ELLIPSEARC = 100013,
00040 OBJ_TYPE_RUBBER = 100014,
00041 OBJ_TYPE_GRID = 100015,
00042 OBJ_TYPE_HATCH = 100016,
00043 OBJ_TYPE_IMAGE = 100017,
00044 OBJ_TYPE_INFINITELINE = 100018,
00045 OBJ_TYPE_LINE = 100019,
00046 OBJ_TYPE_PATH = 100020,
00047 OBJ_TYPE_POINT = 100021,
00048 OBJ_TYPE_POLYGON = 100022,
00049 OBJ_TYPE_POLYLINE = 100023,
00050 OBJ_TYPE_RAY = 100024,
00051 OBJ_TYPE_RECTANGLE = 100025,
00052 OBJ_TYPE_SLOT = 100026,
00053 OBJ_TYPE_SPLINE = 100027,
00054 OBJ_TYPE_TEXTMULTI = 100028,
00055 OBJ_TYPE_TEXTSINGLE = 100029
00056 };
00057
00058 //OBJ_NAME_VALUES
00059 const char* const OBJ_NAME_NULL = "Unknown";
00060 const char* const OBJ_NAME_BASE = "Base";
00061 const char* const OBJ_NAME_ARC = "Arc";
00062 const char* const OBJ_NAME_BLOCK = "Block";
00063 const char* const OBJ_NAME_CIRCLE = "Circle";
00064 const char* const OBJ_NAME_DIMALIGNED = "Aligned Dimension";
00065 const char* const OBJ_NAME_DIMANGULAR = "Angular Dimension";
00066 const char* const OBJ_NAME_DIMARCLENGTH = "Arc Length Dimension";
00067 const char* const OBJ_NAME_DIMDIAMETER = "Diameter Dimension";
00068 const char* const OBJ_NAME_DIMLEADER = "Leader Dimension";
00069 const char* const OBJ_NAME_DIMLINEAR = "Linear Dimension";
00070 const char* const OBJ_NAME_DIMORDINATE = "Ordinate Dimension";
00071 const char* const OBJ_NAME_DIMRADIUS = "Radius Dimension";
00072 const char* const OBJ_NAME_ELLIPSE = "Ellipse";
00073 const char* const OBJ_NAME_ELLIPSEARC = "Elliptical Arc";
00074 const char* const OBJ_NAME_RUBBER = "Rubber";
00075 const char* const OBJ_NAME_GRID = "Grid";
00076 const char* const OBJ_NAME_HATCH = "Hatch";
00077 const char* const OBJ_NAME_IMAGE = "Image";
00078 const char* const OBJ_NAME_INFINITELINE = "Infinite Line";
00079 const char* const OBJ_NAME_LINE = "Line";
00080 const char* const OBJ_NAME_PATH = "Path";
00081 const char* const OBJ_NAME_POINT = "Point";
00082 const char* const OBJ_NAME_POLYGON = "Polygon";
00083 const char* const OBJ_NAME_POLYLINE = "Polyline";
00084 const char* const OBJ_NAME_RAY = "Ray";
00085 const char* const OBJ_NAME_RECTANGLE = "Rectangle";
00086 const char* const OBJ_NAME_SLOT = "Slot";
00087 const char* const OBJ_NAME_SPLINE = "Spline";
00088 const char* const OBJ_NAME_TEXTMULTI = "Multi Line Text";
00089 const char* const OBJ_NAME_TEXTSINGLE = "Single Line Text";
00090
00091 enum OBJ_LTYPE_VALUES {
00092 //CAD Linetypes
00093 OBJ_LTYPE_CONT = 0,
00094 OBJ_LTYPE_CENTER = 1,
00095 OBJ_LTYPE_DOT = 2,
00096 OBJ_LTYPE_HIDDEN = 3,
00097 OBJ_LTYPE_PHANTOM = 4,
00098 OBJ_LTYPE_ZIGZAG = 5,
00099 //Embroidery Stitchtypes
00100 OBJ_LTYPE_RUNNING = 6, // _____
00101 OBJ_LTYPE_SATIN = 7, // vvvvvvvvvvvv
00102 OBJ_LTYPE_FISHBONE = 8, // >>>>
00103 };
00104
00105 enum OBJ_LWT_VALUES {
00106 OBJ_LWT_BYLAYER = -2,
00107 OBJ_LWT_BYBLOCK = -1,
00108 OBJ_LWT_DEFAULT = 0,
00109 OBJ_LWT_01 = 1,
00110 OBJ_LWT_02 = 2,
00111 OBJ_LWT_03 = 3,
00112 OBJ_LWT_04 = 4,
00113 OBJ_LWT_05 = 5,
00114 OBJ_LWT_06 = 6,
00115 OBJ_LWT_07 = 7,
00116 OBJ_LWT_08 = 8,
00117 OBJ_LWT_09 = 9,
00118 OBJ_LWT_10 = 10,
00119 OBJ_LWT_11 = 11,
00120 OBJ_LWT_12 = 12,
00121 OBJ_LWT_13 = 13,
00122 OBJ_LWT_14 = 14,

```

```
00123 OBJ_LWT_15      = 15,
00124 OBJ_LWT_16      = 16,
00125 OBJ_LWT_17      = 17,
00126 OBJ_LWT_18      = 18,
00127 OBJ_LWT_19      = 19,
00128 OBJ_LWT_20      = 20,
00129 OBJ_LWT_21      = 21,
00130 OBJ_LWT_22      = 22,
00131 OBJ_LWT_23      = 23,
00132 OBJ_LWT_24      = 24
00133 };
00134
00135 enum OBJ_SNAP_VALUES {
00136     OBJ_SNAP_NULL      = 0, //NOTE: Allow this enum to evaluate false
00137     OBJ_SNAP_ENDPOINT    = 1,
00138     OBJ_SNAP_MIDPOINT   = 2,
00139     OBJ_SNAP_CENTER      = 3,
00140     OBJ_SNAP_NODE        = 4,
00141     OBJ_SNAP_QUADRANT   = 5,
00142     OBJ_SNAP_INTERSECTION = 6,
00143     OBJ_SNAP_EXTENSION   = 7,
00144     OBJ_SNAP_INSERTION   = 8,
00145     OBJ_SNAP_PERPENDICULAR = 9,
00146     OBJ_SNAP_TANGENT     = 10,
00147     OBJ_SNAP_NEAREST      = 11,
00148     OBJ_SNAP_APPINTERSECTION = 12,
00149     OBJ_SNAP_PARALLEL     = 13
00150 };
00151
00152 enum OBJ_RUBBER_VALUES {
00153     OBJ_RUBBER_OFF = 0, //NOTE: Allow this enum to evaluate false
00154     OBJ_RUBBER_ON  = 1, //NOTE: Allow this enum to evaluate true
00155
00156     OBJ_RUBBER_CIRCLE_1P_RAD,
00157     OBJ_RUBBER_CIRCLE_1P_DIA,
00158     OBJ_RUBBER_CIRCLE_2P,
00159     OBJ_RUBBER_CIRCLE_3P,
00160     OBJ_RUBBER_CIRCLE_TTR,
00161     OBJ_RUBBER_CIRCLE_TTT,
00162
00163     OBJ_RUBBER_DIMLEADER_LINE,
00164
00165     OBJ_RUBBER_ELLIPSE_LINE,
00166     OBJ_RUBBER_ELLIPSE_MAJORDIAMETER_MINORRADIUS,
00167     OBJ_RUBBER_ELLIPSE_MAJORRADUIS_MINORRADIUS,
00168     OBJ_RUBBER_ELLIPSE_ROTATION,
00169
00170     OBJ_RUBBER_GRIP,
00171
00172     OBJ_RUBBER_LINE,
00173
00174     OBJ_RUBBER_POLYGON,
00175     OBJ_RUBBER_POLYGON_INSCRIBE,
00176     OBJ_RUBBER_POLYGON_CIRCUMSCRIBE,
00177
00178     OBJ_RUBBER_POLYLINE,
00179
00180     OBJ_RUBBER_IMAGE,
00181
00182     OBJ_RUBBER_RECTANGLE,
00183
00184     OBJ_RUBBER_TEXTSINGLE
00185 };
00186
00187 enum SPARE_RUBBER_VALUES {
00188     SPARE_RUBBER_OFF = 0, //NOTE: Allow this enum to evaluate false
00189     SPARE_RUBBER_PATH,
00190     SPARE_RUBBER_POLYGON,
00191     SPARE_RUBBER_POLYLINE
00192 };
00193
00194 enum PREVIEW_CLONE_VALUES {
00195     PREVIEW_CLONE_NULL = 0, //NOTE: Allow this enum to evaluate false
00196     PREVIEW_CLONE_SELECTED,
00197     PREVIEW_CLONE_RUBBER
00198 };
00199
00200 enum PREVIEW_MODE_VALUES {
00201     PREVIEW_MODE_NULL = 0, //NOTE: Allow this enum to evaluate false
00202     PREVIEW_MODE_MOVE,
00203     PREVIEW_MODE_ROTATE,
00204     PREVIEW_MODE_SCALE
00205 };
00206
00207 const char* const ENABLE_SNAP = "ENABLE_SNAP";
00208 const char* const ENABLE_GRID = "ENABLE_GRID";
00209 const char* const ENABLE_RULER = "ENABLE_RULER";
```

```

00210 const char* const ENABLE_ORTHO = "ENABLE_ORTHO";
00211 const char* const ENABLE_POLAR = "ENABLE_POLAR";
00212 const char* const ENABLE_QSNAP = "ENABLE_QSNAP";
00213 const char* const ENABLE_QTRACK = "ENABLE_QTRACK";
00214 const char* const ENABLE_LWT = "ENABLE_LWT";
00215 const char* const ENABLE_REAL = "ENABLE_REAL";
00216
00217 const char* const SCENE_QSNAP_POINT = "SCENE_QSNAP_POINT";
00218 const char* const SCENE_MOUSE_POINT = "SCENE_MOUSE_POINT";
00219 const char* const VIEW_MOUSE_POINT = "VIEW_MOUSE_POINT";
00220 const char* const RUBBER_ROOM = "RUBBER_ROOM";
00221
00222 const char* const VIEW_COLOR_BACKGROUND = "VIEW_COLOR_BACKGROUND";
00223 const char* const VIEW_COLOR_CROSSHAIR = "VIEW_COLOR_CROSSHAIR";
00224 const char* const VIEW_COLOR_GRID = "VIEW_COLOR_GRID";
00225
00226 #endif
00227
00228 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.52 embroidermodder2/object-dimleader.cpp File Reference

```

#include "object-dimleader.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

## 14.53 embroidermodder2/object-dimleader.h File Reference

```
#include "object-base.h"
```

### Classes

- class [DimLeaderObject](#)

## 14.54 object-dimleader.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_DIMLEADER_H
00002 #define OBJECT_DIMLEADER_H
00003
00004 #include "object-base.h"
00005
00006 class DimLeaderObject : public BaseObject
00007 {
00008 public:
00009     DimLeaderObject(qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, QGraphicsItem* parent = 0);
00010     DimLeaderObject(DimLeaderObject* obj, QGraphicsItem* parent = 0);
00011     ~DimLeaderObject();
00012
00013     enum ArrowStyle
00014     {
00015         NoArrow, //NOTE: Allow this enum to evaluate false
00016         Open,
00017         Closed,
00018         Dot,
00019         Box,
00020         Tick
00021     };
00022
00023     enum lineStyle
00024     {
00025         NoLine, //NOTE: Allow this enum to evaluate false

```

```

00026     Flared,
00027     Fletching
00028 };
00029
00030 enum { Type = OBJ_TYPE_DIMLEADER };
00031 virtual int type() const { return Type; }
00032
00033 QPointF objectEndPoint1() const;
00034 QPointF objectEndPoint2() const;
00035 QPointF objectMidPoint() const;
00036 qreal objectX1() const { return objectEndPoint1().x(); }
00037 qreal objectY1() const { return objectEndPoint1().y(); }
00038 qreal objectX2() const { return objectEndPoint2().x(); }
00039 qreal objectY2() const { return objectEndPoint2().y(); }
00040 qreal objectDeltaX() const { return (objectX2() - objectX1()); }
00041 qreal objectDeltaY() const { return (objectY2() - objectY1()); }
00042 qreal objectAngle() const;
00043 qreal objectLength() const { return line().length(); }
00044
00045 void setObjectEndPoint1(const QPointF& endPt1);
00046 void setObjectEndPoint1(qreal x1, qreal y1);
00047 void setObjectEndPoint2(const QPointF& endPt2);
00048 void setObjectEndPoint2(qreal x2, qreal y2);
00049 void setObjectX1(qreal x) { setObjectEndPoint1(x, objectY1()); }
00050 void setObjectY1(qreal y) { setObjectEndPoint1(objectX1(), y); }
00051 void setObjectX2(qreal x) { setObjectEndPoint2(x, objectY2()); }
00052 void setObjectY2(qreal y) { setObjectEndPoint2(objectX2(), y); }
00053
00054 void updateRubber(QPainter* painter = 0);
00055 virtual void vulcanize();
00056 virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00057 virtual QList<QPointF> allGripPoints();
00058 virtual void gripEdit(const QPointF& before, const QPointF& after);
00059 protected:
00060     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00061 private:
00062     void init(qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, Qt::PenStyle lineType);
00063
00064     bool curved;
00065     bool filled;
00066     void updateLeader();
00067     QPainterPath lineStylePath;
00068     QPainterPath arrowStylePath;
00069     qreal arrowStyleAngle;
00070     qreal arrowStyleLength;
00071     qreal lineStyleAngle;
00072     qreal lineStyleLength;
00073 };
00074
00075 #endif
00076
00077 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.55 embroidermodder2/object-ellipse.cpp File Reference

```

#include "object-ellipse.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

## 14.56 embroidermodder2/object-ellipse.h File Reference

```
#include "object-base.h"
```

### Classes

- class EllipseObject

## 14.57 object-ellipse.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_ELLIPSE_H
00002 #define OBJECT_ELLIPSE_H
00003
00004 #include "object-base.h"
00005
00006 class EllipseObject : public BaseObject
00007 {
00008 public:
00009     EllipseObject(qreal centerX, qreal centerY, qreal width, qreal height, QRgb rgb, QGraphicsItem*
parent = 0);
00010     EllipseObject(EllipseObject* obj, QGraphicsItem* parent = 0);
00011     ~EllipseObject();
00012
00013     enum { Type = OBJ_TYPE_ELLIPSE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectCenter() const { return scenePos(); }
00019     qreal objectCenterX() const { return scenePos().x(); }
00020     qreal objectCenterY() const { return scenePos().y(); }
00021     qreal objectRadiusMajor() const { return qMax(rect().width(), rect().height())/2.0*scale(); }
00022     qreal objectRadiusMinor() const { return qMin(rect().width(), rect().height())/2.0*scale(); }
00023     qreal objectDiameterMajor() const { return qMax(rect().width(), rect().height())*scale(); }
00024     qreal objectDiameterMinor() const { return qMin(rect().width(), rect().height())*scale(); }
00025     qreal objectWidth() const { return rect().width()*scale(); }
00026     qreal objectHeight() const { return rect().height()*scale(); }
00027     QPointF objectQuadrant0() const;
00028     QPointF objectQuadrant90() const;
00029     QPointF objectQuadrant180() const;
00030     QPointF objectQuadrant270() const;
00031
00032     void setObjectSize(qreal width, qreal height);
00033     void setObjectCenter(const QPointF& center);
00034     void setObjectCenter(qreal centerX, qreal centerY);
00035     void setObjectCenterX(qreal centerX);
00036     void setObjectCenterY(qreal centerY);
00037     void setObjectRadiusMajor(qreal radius);
00038     void setObjectRadiusMinor(qreal radius);
00039     void setObjectDiameterMajor(qreal diameter);
00040     void setObjectDiameterMinor(qreal diameter);
00041
00042     void updateRubber(QPainter* painter = 0);
00043     virtual void vulcanize();
00044     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00045     virtual QList<QPointF> allGripPoints();
00046     virtual void gripEdit(const QPointF& before, const QPointF& after);
00047 protected:
00048     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00049 private:
00050     void init(qreal centerX, qreal centerY, qreal width, qreal height, QRgb rgb, Qt::PenStyle
lineType);
00051     void updatePath();
00052 };
00053
00054 #endif
00055
00056 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.58 embroidermodder2/object-image.cpp File Reference

```

#include "object-image.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

## 14.59 embroidermodder2/object-image.h File Reference

```
#include "object-base.h"
```

**Classes**

- class [ImageObject](#)

**14.60 object-image.h**

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_IMAGE_H
00002 #define OBJECT_IMAGE_H
00003
00004 #include "object-base.h"
00005
00006 class ImageObject : public BaseObject
00007 {
00008 public:
00009     ImageObject(qreal x, qreal y, qreal w, qreal h, QRgb rgb, QGraphicsItem* parent = 0);
00010     ImageObject(ImageObject* obj, QGraphicsItem* parent = 0);
00011     ~ImageObject();
00012
00013     enum { Type = OBJ_TYPE_IMAGE };
00014     virtual int type() const { return Type; }
00015
00016     QPointF objectTopLeft() const;
00017     QPointF objectTopRight() const;
00018     QPointF objectBottomLeft() const;
00019     QPointF objectBottomRight() const;
00020     qreal objectWidth() const { return rect().width()*scale(); }
00021     qreal objectHeight() const { return rect().height()*scale(); }
00022     qreal objectArea() const { return qAbs(objectWidth()*objectHeight()); }
00023
00024     void setObjectRect(qreal x, qreal y, qreal w, qreal h);
00025
00026     void updateRubber(QPainter* painter = 0);
00027     virtual void vulcanize();
00028     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00029     virtual QList<QPointF> allGripPoints();
00030     virtual void gripEdit(const QPointF& before, const QPointF& after);
00031 protected:
00032     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00033 private:
00034     void init(qreal x, qreal y, qreal w, qreal h, QRgb rgb, Qt::PenStyle lineType);
00035     void updatePath();
00036 };
00037
00038 #endif
00039
00040 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

**14.61 embroidermodder2/object-line.cpp File Reference**

```
#include "object-line.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
```

**14.62 embroidermodder2/object-line.h File Reference**

```
#include "object-base.h"
```

**Classes**

- class [LineObject](#)

## 14.63 object-line.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_LINE_H
00002 #define OBJECT_LINE_H
00003
00004 #include "object-base.h"
00005
00006 class LineObject : public BaseObject
00007 {
00008 public:
00009     LineObject(qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, QGraphicsItem* parent = 0);
00010     LineObject(LineObject* obj, QGraphicsItem* parent = 0);
00011     ~LineObject();
00012
00013     enum { Type = OBJ_TYPE_LINE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectEndPoint1() const { return scenePos(); }
00019     QPointF objectEndPoint2() const;
00020     QPointF objectMidPoint() const;
00021     qreal objectX1() const { return objectEndPoint1().x(); }
00022     qreal objectY1() const { return objectEndPoint1().y(); }
00023     qreal objectX2() const { return objectEndPoint2().x(); }
00024     qreal objectY2() const { return objectEndPoint2().y(); }
00025     qreal objectDeltaX() const { return (objectX2() - objectX1()); }
00026     qreal objectDeltaY() const { return (objectY2() - objectY1()); }
00027     qreal objectAngle() const;
00028     qreal objectLength() const { return line().length()*scale(); }
00029
00030     void setObjectEndPoint1(const QPointF& endPt1);
00031     void setObjectEndPoint1(qreal x1, qreal y1);
00032     void setObjectEndPoint2(const QPointF& endPt2);
00033     void setObjectEndPoint2(qreal x2, qreal y2);
00034     void setObjectX1(qreal x) { setObjectEndPoint1(x, objectY1()); }
00035     void setObjectY1(qreal y) { setObjectEndPoint1(objectX1(), y); }
00036     void setObjectX2(qreal x) { setObjectEndPoint2(x, objectY2()); }
00037     void setObjectY2(qreal y) { setObjectEndPoint2(objectX2(), y); }
00038
00039     void updateRubber(QPainter* painter = 0);
00040     virtual void vulcanize();
00041     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00042     virtual QList<QPointF> allGripPoints();
00043     virtual void gripEdit(const QPointF& before, const QPointF& after);
00044 protected:
00045     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00046 private:
00047     void init(qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, Qt::PenStyle lineType);
00048 };
00049
00050 #endif
00051 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.64 embroidermodder2/object-path.cpp File Reference

```

#include "object-path.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
#include <QMessageBox>

```

## 14.65 embroidermodder2/object-path.h File Reference

```
#include "object-base.h"
```

## Classes

- class PathObject

## 14.66 object-path.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_PATH_H
00002 #define OBJECT_PATH_H
00003
00004 #include "object-base.h"
00005
00006 class PathObject : public BaseObject
00007 {
00008     public:
00009         PathObject(qreal x, qreal y, const QPainterPath p, QRgb rgb, QGraphicsItem* parent = 0);
00010         PathObject(PathObject* obj, QGraphicsItem* parent = 0);
00011         ~PathObject();
00012
00013     enum { Type = OBJ_TYPE_PATH };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectCopyPath() const;
00017     QPainterPath objectSavePath() const;
00018
00019     QPointF objectPos() const { return scenePos(); }
00020     qreal objectX() const { return scenePos().x(); }
00021     qreal objectY() const { return scenePos().y(); }
00022
00023     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
00024     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00025     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00026     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00027
00028     void updateRubber(QPainter* painter = 0);
00029     virtual void vulcanize();
00030     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00031     virtual QList<QPointF> allGripPoints();
00032     virtual void gripEdit(const QPointF& before, const QPointF& after);
00033 protected:
00034     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00035 private:
00036     void init(qreal x, qreal y, const QPainterPath& p, QRgb rgb, Qt::PenStyle lineType);
00037     void updatePath(const QPainterPath& p);
00038     QPainterPath normalPath;
00039     //TODO: make paths similar to polylines. Review and implement any missing functions/members.
00040 };
00041
00042 #endif
00043
00044 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.67 embroidermodder2/object-point.cpp File Reference

```

#include "object-point.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

## 14.68 embroidermodder2/object-point.h File Reference

```
#include "object-base.h"
```

**Classes**

- class [PointObject](#)

**14.69 object-point.h**

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_POINT_H
00002 #define OBJECT_POINT_H
00003
00004 #include "object-base.h"
00005
00006 class PointObject : public BaseObject
00007 {
00008 public:
00009     PointObject(qreal x, qreal y, QRgb rgb, QGraphicsItem* parent = 0);
00010     PointObject(PointObject* obj, QGraphicsItem* parent = 0);
00011     ~PointObject();
00012
00013     enum { Type = OBJ_TYPE_POINT };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectPos() const { return scenePos(); }
00019     qreal objectX() const { return scenePos().x(); }
00020     qreal objectY() const { return scenePos().y(); }
00021
00022     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
00023     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00024     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00025     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00026
00027     void updateRubber(QPainter* painter = 0);
00028     virtual void vulcanize();
00029     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00030     virtual QList<QPointF> allGripPoints();
00031     virtual void gripEdit(const QPointF& before, const QPointF& after);
00032 protected:
00033     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00034 private:
00035     void init(qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType);
00036 };
00037
00038 #endif
00039
00040 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

**14.70 embroidermodder2/object-polygon.cpp File Reference**

```
#include "object-polygon.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
#include <QMessageBox>
```

**14.71 embroidermodder2/object-polygon.h File Reference**

```
#include "object-base.h"
```

**Classes**

- class [PolygonObject](#)

## 14.72 object-polygon.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_POLYGON_H
00002 #define OBJECT_POLYGON_H
00003
00004 #include "object-base.h"
00005
00006 class PolygonObject : public BaseObject
00007 {
00008 public:
00009     PolygonObject(qreal x, qreal y, const QPainterPath& p, QRgb rgb, QGraphicsItem* parent = 0);
00010     PolygonObject(PolygonObject* obj, QGraphicsItem* parent = 0);
00011     ~PolygonObject();
00012
00013     enum { Type = OBJ_TYPE_POLYGON };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectCopyPath() const;
00017     QPainterPath objectSavePath() const;
00018
00019     QPointF objectPos() const { return scenePos(); }
00020     qreal objectX() const { return scenePos().x(); }
00021     qreal objectY() const { return scenePos().y(); }
00022
00023     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
00024     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00025     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00026     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00027
00028     void updateRubber(QPainter* painter = 0);
00029     virtual void vulcanize();
00030     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00031     virtual QList<QPointF> allGripPoints();
00032     virtual void gripEdit(const QPointF& before, const QPointF& after);
00033 protected:
00034     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00035 private:
00036     void init(qreal x, qreal y, const QPainterPath& p, QRgb rgb, Qt::PenStyle lineType);
00037     void updatePath(const QPainterPath& p);
00038     QPainterPath normalPath;
00039     int findIndex(const QPointF& point);
00040     int gripIndex;
00041 };
00042
00043 #endif
00044
00045 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.73 embroidermodder2/object-polyline.cpp File Reference

```

#include "object-polyline.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
#include <QMessageBox>

```

## 14.74 embroidermodder2/object-polyline.h File Reference

```
#include "object-base.h"
```

### Classes

- class [PolylineObject](#)

## 14.75 object-polyline.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_POLYLINE_H
00002 #define OBJECT_POLYLINE_H
00003
00004 #include "object-base.h"
00005
00006 class PolylineObject : public BaseObject
00007 {
00008 public:
00009     PolylineObject(qreal x, qreal y, const QPainterPath& p, QRgb rgb, QGraphicsItem* parent = 0);
00010     PolylineObject(PolylineObject* obj, QGraphicsItem* parent = 0);
00011     ~PolylineObject();
00012
00013     enum { Type = OBJ_TYPE_POLYLINE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectCopyPath() const;
00017     QPainterPath objectSavePath() const;
00018
00019     QPointF objectPos() const { return scenePos(); }
00020     qreal objectX() const { return scenePos().x(); }
00021     qreal objectY() const { return scenePos().y(); }
00022
00023     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
00024     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00025     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00026     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00027
00028     void updateRubber(QPainter* painter = 0);
00029     virtual void vulcanize();
00030     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00031     virtual QList<QPointF> allGripPoints();
00032     virtual void gripEdit(const QPointF& before, const QPointF& after);
00033 protected:
00034     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00035 private:
00036     void init(qreal x, qreal y, const QPainterPath& p, QRgb rgb, Qt::PenStyle lineType);
00037     void updatePath(const QPainterPath& p);
00038     QPainterPath normalPath;
00039     int findIndex(const QPointF& point);
00040     int gripIndex;
00041 };
00042
00043 #endif
00044
00045 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.76 embroidermodder2/object-rect.cpp File Reference

```

#include "object-rect.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

## 14.77 embroidermodder2/object-rect.h File Reference

```
#include "object-base.h"
```

### Classes

- class [RectObject](#)

## 14.78 object-rect.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_RECT_H
00002 #define OBJECT_RECT_H
00003
00004 #include "object-base.h"
00005
00006 class RectObject : public BaseObject
00007 {
00008 public:
00009     RectObject(qreal x, qreal y, qreal w, qreal h, QRgb rgb, QGraphicsItem* parent = 0);
00010     RectObject(RectObject* obj, QGraphicsItem* parent = 0);
00011     ~RectObject();
00012
00013     enum { Type = OBJ_TYPE_RECTANGLE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectPos() const { return scenePos(); }
00019
00020     QPointF objectTopLeft() const;
00021     QPointF objectTopRight() const;
00022     QPointF objectBottomLeft() const;
00023     QPointF objectBottomRight() const;
00024     qreal objectWidth() const { return rect().width()*scale(); }
00025     qreal objectHeight() const { return rect().height()*scale(); }
00026     qreal objectArea() const { return qAbs(objectWidth()*objectHeight()); }
00027
00028     void setObjectRect(qreal x, qreal y, qreal w, qreal h);
00029
00030     void updateRubber(QPainter* painter = 0);
00031     virtual void vulcanize();
00032     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00033     virtual QList<QPointF> allGripPoints();
00034     virtual void gripEdit(const QPointF& before, const QPointF& after);
00035 protected:
00036     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00037 private:
00038     void init(qreal x, qreal y, qreal w, qreal h, QRgb rgb, Qt::PenStyle lineType);
00039     void updatePath();
00040 };
00041
00042 #endif
00043
00044 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.79 embroidermodder2/object-save.cpp File Reference

```

#include "object-save.h"
#include "object-data.h"
#include "object-arc.h"
#include "object-circle.h"
#include "object-dimleader.h"
#include "object-ellipse.h"
#include "object-line.h"
#include "object-point.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include "object-rect.h"
#include "object-textsingle.h"
#include "embroidery.h"
#include <QGraphicsScene>
#include <QGraphicsItem>

```

## 14.80 embroidermodder2/object-save.h File Reference

```

#include "embroidery.h"
#include <QObject>

```

```
#include <QPainterPath>
```

## Classes

- class [SaveObject](#)

### 14.81 object-save.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_SAVE_H
00002 #define OBJECT_SAVE_H
00003
00004 #include "embroidery.h"
00005
00006 #include <QObject>
00007 #include <QPainterPath>
00008
00009 QT_BEGIN_NAMESPACE
00010 class QGraphicsItem;
00011 class QGraphicsScene;
00012 QT_END_NAMESPACE
00013
00014 class SaveObject : public QObject
00015 {
00016     Q_OBJECT
00017
00018 public:
00019     SaveObject(QGraphicsScene* theScene, QObject* parent = 0);
00020     ~SaveObject();
00021
00022     bool save(const QString &fileName);
00023
00024     void addArc          (EmbPattern* pattern, QGraphicsItem* item);
00025     void addBlock         (EmbPattern* pattern, QGraphicsItem* item);
00026     void addCircle        (EmbPattern* pattern, QGraphicsItem* item);
00027     void addDimAligned    (EmbPattern* pattern, QGraphicsItem* item);
00028     void addDimAngular   (EmbPattern* pattern, QGraphicsItem* item);
00029     void addDimArcLength (EmbPattern* pattern, QGraphicsItem* item);
00030     void addDimDiameter  (EmbPattern* pattern, QGraphicsItem* item);
00031     void addDimLeader    (EmbPattern* pattern, QGraphicsItem* item);
00032     void addDimLinear    (EmbPattern* pattern, QGraphicsItem* item);
00033     void addDimOrdinate  (EmbPattern* pattern, QGraphicsItem* item);
00034     void addDimRadius    (EmbPattern* pattern, QGraphicsItem* item);
00035     void addEllipse       (EmbPattern* pattern, QGraphicsItem* item);
00036     void addEllipseArc   (EmbPattern* pattern, QGraphicsItem* item);
00037     void addGrid          (EmbPattern* pattern, QGraphicsItem* item);
00038     void addHatch         (EmbPattern* pattern, QGraphicsItem* item);
00039     void addImage         (EmbPattern* pattern, QGraphicsItem* item);
00040     void addInfiniteLine (EmbPattern* pattern, QGraphicsItem* item);
00041     void addLine          (EmbPattern* pattern, QGraphicsItem* item);
00042     void addPath          (EmbPattern* pattern, QGraphicsItem* item);
00043     void addPoint         (EmbPattern* pattern, QGraphicsItem* item);
00044     void addPolygon       (EmbPattern* pattern, QGraphicsItem* item);
00045     void addPolyline      (EmbPattern* pattern, QGraphicsItem* item);
00046     void addRay           (EmbPattern* pattern, QGraphicsItem* item);
00047     void addRectangle     (EmbPattern* pattern, QGraphicsItem* item);
00048     void addSlot          (EmbPattern* pattern, QGraphicsItem* item);
00049     void addSpline         (EmbPattern* pattern, QGraphicsItem* item);
00050     void addTextMulti    (EmbPattern* pattern, QGraphicsItem* item);
00051     void addTextSingle   (EmbPattern* pattern, QGraphicsItem* item);
00052
00053 private:
00054     QGraphicsScene* gscene;
00055     int formatType;
00056
00057     void toPolyline(EmbPattern* pattern, const QPointF& objPos, const QPainterPath& objPath, const
00058                     QString& layer, const QColor& color, const QString& lineType, const QString& lineWeight);
00059 };
00060 #endif
00061
00062 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.82 embroidermodder2/object-textsingle.cpp File Reference

```
#include "object-textsingle.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
```

## 14.83 embroidermodder2/object-textsingle.h File Reference

```
#include "object-base.h"
```

### Classes

- class [TextSingleObject](#)

## 14.84 object-textsingle.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_TEXTSINGLE_H
00002 #define OBJECT_TEXTSINGLE_H
00003
00004 #include "object-base.h"
00005
00006 class TextSingleObject : public BaseObject
00007 {
00008 public:
00009     TextSingleObject(const QString& str, qreal x, qreal y, QRgb rgb, QGraphicsItem* parent = 0);
00010     TextSingleObject(TextSingleObject* obj, QGraphicsItem* parent = 0);
00011     ~TextSingleObject();
00012
00013     enum { Type = OBJ_TYPE_TEXTSINGLE };
00014     virtual int type() const { return Type; }
00015
00016     QList<QPainterPath> objectSavePathList() const { return subPathList(); }
00017     QList<QPainterPath> subPathList() const;
00018
00019     QString objectText() const { return objText; }
00020     QString objectTextFont() const { return objTextFont; }
00021     QString objectTextJustify() const { return objTextJustify; }
00022     qreal objectTextSize() const { return objTextSize; }
00023     bool objectTextBold() const { return objTextBold; }
00024     bool objectTextItalic() const { return objTextItalic; }
00025     bool objectTextUnderline() const { return objTextUnderline; }
00026     bool objectTextStrikeOut() const { return objTextStrikeOut; }
00027     bool objectTextOverline() const { return objTextOverline; }
00028     bool objectTextBackward() const { return objTextBackward; }
00029     bool objectTextUpsideDown() const { return objTextUpsideDown; }
00030     QPointF objectPos() const { return scenePos(); }
00031     qreal objectX() const { return scenePos().x(); }
00032     qreal objectY() const { return scenePos().y(); }
00033
00034     QStringList objectTextJustifyList() const;
00035
00036     void setObjectText(const QString& str);
00037     void setObjectTextFont(const QString& font);
00038     void setObjectTextJustify(const QString& justify);
00039     void setObjectTextSize(qreal size);
00040     void setObjectTextStyle(bool bold, bool italic, bool under, bool strike, bool over);
00041     void setObjectTextBold(bool val);
00042     void setObjectTextItalic(bool val);
00043     void setObjectTextUnderline(bool val);
00044     void setObjectTextStrikeOut(bool val);
00045     void setObjectTextOverline(bool val);
00046     void setObjectTextBackward(bool val);
00047     void setObjectTextUpsideDown(bool val);
00048     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
```

```

00049     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00050     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00051     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00052
00053     void updateRubber(QPainter* painter = 0);
00054     virtual void vulcanize();
00055     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00056     virtual QList<QPointF> allGripPoints();
00057     virtual void gripEdit(const QPointF& before, const QPointF& after);
00058 protected:
00059     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00060 private:
00061     void init(const QString& str, qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType);
00062
00063     QString objText;
00064     QString objTextFont;
00065     QString objTextJustify;
00066     qreal objTextSize;
00067     bool objTextBold;
00068     bool objTextItalic;
00069     bool objTextUnderline;
00070     bool objTextStrikeOut;
00071     bool objTextOverline;
00072     bool objTextBackward;
00073     bool objTextUpsideDown;
00074     QPainterPath objTextPath;
00075 };
00076
00077 #endif
00078 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.85 embroidermodder2/preview-dialog.cpp File Reference

```

#include "preview-dialog.h"
#include "imagewidget.h"
#include <QDebug>
#include <QGridLayout>

```

## 14.86 embroidermodder2/preview-dialog.h File Reference

```
#include <QFileDialog>
```

### Classes

- class [PreviewDialog](#)

## 14.87 preview-dialog.h

[Go to the documentation of this file.](#)

```

00001 #ifndef PREVIEW_DIALOG_H
00002 #define PREVIEW_DIALOG_H
00003
00004 #include <QFileDialog>
00005
00006 class ImageWidget;
00007
00008 class PreviewDialog : public QFileDialog
00009 {
00010     Q_OBJECT
00011
00012 public:
00013     PreviewDialog(QWidget* parent = 0,
00014                     const QString& caption = QString(),

```

```
00015         const QString& directory = QString(),
00016         const QString& filter = QString());
00017     ~PreviewDialog();
00018
00019 private:
00020     ImageWidget* imgWidget;
00021 };
00022
00023 #endif
00024
00025 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.88 embroidermodder2/property-editor.cpp File Reference

```
#include <QApplication>
#include <QComboBox>
#include <QFontComboBox>
#include <QFormLayout>
#include <QGroupBox>
#include <QKeyEvent>
#include <QLineEdit>
#include <QScrollArea>
#include <QSignalMapper>
#include <QToolButton>
#include <QWidget>
#include "property-editor.h"
#include "object-data.h"
#include "object-arc.h"
#include "object-circle.h"
#include "object-dimleader.h"
#include "object-ellipse.h"
#include "object-image.h"
#include "object-line.h"
#include "object-path.h"
#include "object-point.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include "object-rect.h"
#include "object-textsingle.h"
```

## 14.89 embroidermodder2/property-editor.h File Reference

```
#include <QDockWidget>
```

### Classes

- class [PropertyEditor](#)

## 14.90 property-editor.h

[Go to the documentation of this file.](#)

```

00001 #ifndef PROPERTY_EDITOR_H
00002 #define PROPERTY_EDITOR_H
00003
00004 #include <QDockWidget>
00005
00006 class ArcObject;
00007 class BlockObject;
00008 class CircleObject;
00009 class DimAlignedObject;
00010 class DimAngularObject;
00011 class DimArcLengthObject;
00012 class DimDiameterObject;
00013 class DimLeaderObject;
00014 class DimLinearObject;
00015 class DimOrdinateObject;
00016 class DimRadiusObject;
00017 class EllipseObject;
00018 class EllipseArcObject;
00019 class HatchObject;
00020 class ImageObject;
00021 class InfiniteLineObject;
00022 class LineObject;
00023 class PathObject;
00024 class PointObject;
00025 class PolygonObject;
00026 class PolylineObject;
00027 class RayObject;
00028 class RectObject;
00029 class SplineObject;
00030 class TextMultiObject;
00031 class TextSingleObject;
00032
00033 QT_BEGIN_NAMESPACE
00034 class QGroupBox;
00035 class QComboBox;
00036 class QFontComboBox;
00037 class QLineEdit;
00038 class QPushButton;
00039 class QGraphicsItem;
00040 class QSignalMapper;
00041 QT_END_NAMESPACE
00042
00043 class PropertyEditor : public QDockWidget
00044 {
00045     Q_OBJECT
00046
00047 public:
00048     PropertyEditor(const QString& iconDirectory = QString(), bool pickAddMode = true, QWidget*
00049     widgetToFocus = 0, QWidget* parent = 0); //, Qt::WindowFlags flags = 0);
00049 ~PropertyEditor();
00050
00051 protected:
00052     bool eventFilter(QObject *obj, QEvent *event);
00053
00054 signals:
00055     void pickAddModeToggled();
00056
00057 public slots:
00058     void setSelectedItems(QList<QGraphicsItem*> itemList);
00059     void updatePickAddModeButton(bool pickAddMode);
00060
00061 private slots:
00062     void fieldEdited(QObject* fieldObj);
00063     void showGroups(int objType);
00064     void showOneType(int index);
00065     void hideAllGroups();
00066     void clearAllFields();
00067     void togglePickAddMode();
00068
00069 private:
00070     QWidget*      focusWidget;
00071
00072     QString        iconDir;
00073     int           iconSize;
00074     Qt::ToolButtonStyle propertyEditorButtonStyle;
00075
00076     bool    pickAdd;
00077
00078     QList<QGraphicsItem*> selectedItemList;
00079
00080     ArcObject*      tempArcObj;
00081     BlockObject*    tempBlockObj;
00082     CircleObject*   tempCircleObj;

```

```
00083     DimAlignedObject*      tempDimAlignedObj;
00084     DimAngularObject*     tempDimAngularObj;
00085     DimArcLengthObject*   tempDimArcLenObj;
00086     DimDiameterObject*   tempDimDiamObj;
00087     DimLeaderObject*     tempDimLeaderObj;
00088     DimLinearObject*     tempDimLinearObj;
00089     DimOrdinateObject*   tempDimOrdObj;
00090     DimRadiusObject*     tempDimRadiusObj;
00091     EllipseObject*       tempEllipseObj;
00092     EllipseArcObject*    tempEllipseArcObj;
00093     HatchObject*         tempHatchObj;
00094     ImageObject*          tempImageObj;
00095     InfiniteLineObject*  tempInfLineObj;
00096     LineObject*           tempLineObj;
00097     PathObject*           tempPathObj;
00098     PointObject*          tempPointObj;
00099     PolygonObject*        tempPolygonObj;
00100    PolylineObject*       tempPolylineObj;
00101    RayObject*            tempRayObj;
00102    RectObject*           tempRectObj;
00103    SplineObject*         tempSplineObj;
00104    TextMultiObject*      tempTextMultiObj;
00105    TextSingleObject*     tempTextSingleObj;
00106
00107 //Helper functions
00108 QToolButton*   createToolBarButton(const QString& iconName, const QString& txt);
00109 QLineEdit*    createLineEdit(const QString& validatorType = QString(), bool readOnly = false);
00110 QComboBox*    createComboBox(bool disable = false);
00111 QFontComboBox* createFontComboBox(bool disable = false);
00112
00113 int precisionAngle;
00114 int precisionLength;
00115
00116 //Used when checking if fields vary
00117 QString fieldOldText;
00118 QString fieldNewText;
00119 QString fieldVariesText;
00120 QString fieldYesText;
00121 QString fieldNoText;
00122 QString fieldOnText;
00123 QString fieldOffText;
00124
00125 void updateLineEditStrIfVaries(QLineEdit* lineEdit, const QString& str);
00126 void updateLineEditNumIfVaries(QLineEdit* lineEdit, qreal num, bool useAnglePrecision);
00127 void updateFontComboBoxStrIfVaries(QFontComboBox* fontComboBox, const QString& str);
00128 void updateComboBoxStrIfVaries(QComboBox* comboBox, const QString& str, const QStringList&
strList);
00129 void updateComboBoxBoolIfVaries(QComboBox* comboBox, bool val, bool yesOrNoText);
00130
00131 QSignalMapper* signalMapper;
00132 void mapSignal(QObject* fieldObj, const QString& name, QVariant value);
00133
00134 //=====
00135 //Selection
00136 //=====
00137 QComboBox* createComboBoxSelected();
00138 QToolButton* createToolBarQSelect();
00139 QToolButton* createToolBarPickAdd();
00140
00141 QComboBox* comboBoxSelected;
00142 QToolButton* toolButtonQSelect;
00143 QToolButton* toolButtonPickAdd;
00144
00145 //TODO: Alphabetic/Categorized TabWidget
00146
00147 //=====
00148 //General
00149 //=====
00150 QGroupBox* createGroupBoxGeneral();
00151 QGroupBox* groupBoxGeneral;
00152
00153 QToolButton* toolButtonGeneralLayer;
00154 QToolButton* toolButtonGeneralColor;
00155 QToolButton* toolButtonGeneralLineType;
00156 QToolButton* toolButtonGeneralLineWidth;
00157
00158 QComboBox* comboBoxGeneralLayer;
00159 QComboBox* comboBoxGeneralColor;
00160 QComboBox* comboBoxGeneralLineType;
00161 QComboBox* comboBoxGeneralLineWidth;
00162
00163 //=====
00164 //Geometry
00165 //=====
00166
00167 //Arc
00168 QGroupBox* createGroupBoxGeometryArc();
```

```

00169     QGroupBox*   groupBoxGeometryArc;
00170
00171     QToolButton* toolButtonArcCenterX;
00172     QToolButton* toolButtonArcCenterY;
00173     QToolButton* toolButtonArcRadius;
00174     QToolButton* toolButtonArcStartAngle;
00175     QToolButton* toolButtonArcEndAngle;
00176     QToolButton* toolButtonArcStartX;
00177     QToolButton* toolButtonArcStartY;
00178     QToolButton* toolButtonArcEndX;
00179     QToolButton* toolButtonArcEndY;
00180     QToolButton* toolButtonArcArea;
00181     QToolButton* toolButtonArcLength;
00182     QToolButton* toolButtonArcChord;
00183     QToolButton* toolButtonArcIncAngle;
00184
00185     QLineEdit*   lineEditArcCenterX;
00186     QLineEdit*   lineEditArcCenterY;
00187     QLineEdit*   lineEditArcRadius;
00188     QLineEdit*   lineEditArcStartAngle;
00189     QLineEdit*   lineEditArcEndAngle;
00190     QLineEdit*   lineEditArcStartX;
00191     QLineEdit*   lineEditArcStartY;
00192     QLineEdit*   lineEditArcEndX;
00193     QLineEdit*   lineEditArcEndY;
00194     QLineEdit*   lineEditArcArea;
00195     QLineEdit*   lineEditArcLength;
00196     QLineEdit*   lineEditArcChord;
00197     QLineEdit*   lineEditArcIncAngle;
00198
00199     QGroupBox*   createGroupBoxMiscArc();
00200     QGroupBox*   groupBoxMiscArc;
00201
00202     QToolButton* toolButtonArcClockwise;
00203
00204     QComboBox*   comboBoxArcClockwise;
00205
00206     //Block
00207     QGroupBox*   createGroupBoxGeometryBlock();
00208     QGroupBox*   groupBoxGeometryBlock;
00209
00210     QToolButton* toolButtonBlockX;
00211     QToolButton* toolButtonBlockY;
00212
00213     QLineEdit*   lineEditBlockX;
00214     QLineEdit*   lineEditBlockY;
00215
00216     //Circle
00217     QGroupBox*   createGroupBoxGeometryCircle();
00218     QGroupBox*   groupBoxGeometryCircle;
00219
00220     QToolButton* toolButtonCircleCenterX;
00221     QToolButton* toolButtonCircleCenterY;
00222     QToolButton* toolButtonCircleRadius;
00223     QToolButton* toolButtonCircleDiameter;
00224     QToolButton* toolButtonCircleArea;
00225     QToolButton* toolButtonCircleCircumference;
00226
00227     QLineEdit*   lineEditCircleCenterX;
00228     QLineEdit*   lineEditCircleCenterY;
00229     QLineEdit*   lineEditCircleRadius;
00230     QLineEdit*   lineEditCircleDiameter;
00231     QLineEdit*   lineEditCircleArea;
00232     QLineEdit*   lineEditCircleCircumference;
00233
00234     //DimAligned
00235     QGroupBox*   createGroupBoxGeometryDimAligned();
00236     QGroupBox*   groupBoxGeometryDimAligned;
00237
00238     //TODO: toolButtons and lineEdits for DimAligned
00239
00240     //DimAngular
00241     QGroupBox*   createGroupBoxGeometryDimAngular();
00242     QGroupBox*   groupBoxGeometryDimAngular;
00243
00244     //TODO: toolButtons and lineEdits for DimAngular
00245
00246     //DimArcLength
00247     QGroupBox*   createGroupBoxGeometryDimArcLength();
00248     QGroupBox*   groupBoxGeometryDimArcLength;
00249
00250     //TODO: toolButtons and lineEdits for DimArcLength
00251
00252     //DimDiameter
00253     QGroupBox*   createGroupBoxGeometryDimDiameter();
00254     QGroupBox*   groupBoxGeometryDimDiameter;
00255

```

```
00256 //TODO: toolButtons and lineEdits for DimDiameter
00257
00258 //DimLeader
00259 QGroupBox*    createGroupBoxGeometryDimLeader();
00260 QGroupBox*    groupBoxGeometryDimLeader;
00261
00262 //TODO: toolButtons and lineEdits for DimLeader
00263
00264 //DimLinear
00265 QGroupBox*    createGroupBoxGeometryDimLinear();
00266 QGroupBox*    groupBoxGeometryDimLinear;
00267
00268 //TODO: toolButtons and lineEdits for DimLinear
00269
00270 //DimOrdinate
00271 QGroupBox*    createGroupBoxGeometryDimOrdinate();
00272 QGroupBox*    groupBoxGeometryDimOrdinate;
00273
00274 //TODO: toolButtons and lineEdits for DimOrdinate
00275
00276 //DimRadius
00277 QGroupBox*    createGroupBoxGeometryDimRadius();
00278 QGroupBox*    groupBoxGeometryDimRadius;
00279
00280 //TODO: toolButtons and lineEdits for DimRadius
00281
00282 //Ellipse
00283 QGroupBox*    createGroupBoxGeometryEllipse();
00284 QGroupBox*    groupBoxGeometryEllipse;
00285
00286 QToolButton*  toolButtonEllipseCenterX;
00287 QToolButton*  toolButtonEllipseCenterY;
00288 QToolButton*  toolButtonEllipseRadiusMajor;
00289 QToolButton*  toolButtonEllipseRadiusMinor;
00290 QToolButton*  toolButtonEllipseDiameterMajor;
00291 QToolButton*  toolButtonEllipseDiameterMinor;
00292
00293 QLineEdit*   lineEditEllipseCenterX;
00294 QLineEdit*   lineEditEllipseCenterY;
00295 QLineEdit*   lineEditEllipseRadiusMajor;
00296 QLineEdit*   lineEditEllipseRadiusMinor;
00297 QLineEdit*   lineEditEllipseDiameterMajor;
00298 QLineEdit*   lineEditEllipseDiameterMinor;
00299
00300 //Image
00301 QGroupBox*    createGroupBoxGeometryImage();
00302 QGroupBox*    groupBoxGeometryImage;
00303
00304 QToolButton*  toolButtonImageX;
00305 QToolButton*  toolButtonImageY;
00306 QToolButton*  toolButtonImageWidth;
00307 QToolButton*  toolButtonImageHeight;
00308
00309 QLineEdit*   lineEditImageX;
00310 QLineEdit*   lineEditImageY;
00311 QLineEdit*   lineEditImageWidth;
00312 QLineEdit*   lineEditImageHeight;
00313
00314 QGroupBox*    createGroupBoxMiscImage();
00315 QGroupBox*    groupBoxMiscImage;
00316
00317 QToolButton*  toolButtonImageName;
00318 QToolButton*  toolButtonImagePath;
00319
00320 QLineEdit*   lineEditImageName;
00321 QLineEdit*   lineEditImagePath;
00322
00323 //Infinite Line
00324 QGroupBox*    createGroupBoxGeometryInfiniteLine();
00325 QGroupBox*    groupBoxGeometryInfiniteLine;
00326
00327 QToolButton*  toolButtonInfiniteLineX1;
00328 QToolButton*  toolButtonInfiniteLineY1;
00329 QToolButton*  toolButtonInfiniteLineX2;
00330 QToolButton*  toolButtonInfiniteLineY2;
00331 QToolButton*  toolButtonInfiniteLineVectorX;
00332 QToolButton*  toolButtonInfiniteLineVectorY;
00333
00334 QLineEdit*   lineEditInfiniteLineX1;
00335 QLineEdit*   lineEditInfiniteLineY1;
00336 QLineEdit*   lineEditInfiniteLineX2;
00337 QLineEdit*   lineEditInfiniteLineY2;
00338 QLineEdit*   lineEditInfiniteLineVectorX;
00339 QLineEdit*   lineEditInfiniteLineVectorY;
00340
00341 //Line
00342 QGroupBox*    createGroupBoxGeometryLine();
```

```

00343     QGroupBox*   groupBoxGeometryLine;
00344
00345     QToolButton* toolButtonLineStartX;
00346     QToolButton* toolButtonLineStartY;
00347     QToolButton* toolButtonLineEndX;
00348     QToolButton* toolButtonLineEndY;
00349     QToolButton* toolButtonLineDeltaX;
00350     QToolButton* toolButtonLineDeltaY;
00351     QToolButton* toolButtonLineAngle;
00352     QToolButton* toolButtonLineLength;
00353
00354     QLineEdit*   lineEditLineStartX;
00355     QLineEdit*   lineEditLineStartY;
00356     QLineEdit*   lineEditLineEndX;
00357     QLineEdit*   lineEditLineEndY;
00358     QLineEdit*   lineEditLineDeltaX;
00359     QLineEdit*   lineEditLineDeltaY;
00360     QLineEdit*   lineEditLineAngle;
00361     QLineEdit*   lineEditLineLength;
00362
00363 //Path
00364     QGroupBox*   createGroupBoxGeometryPath();
00365     QGroupBox*   groupBoxGeometryPath;
00366
00367     QToolButton* toolButtonPathVertexNum;
00368     QToolButton* toolButtonPathVertexX;
00369     QToolButton* toolButtonPathVertexY;
00370     QToolButton* toolButtonPathArea;
00371     QToolButton* toolButtonPathLength;
00372
00373     QComboBox*   comboBoxPathVertexNum;
00374     QLineEdit*   lineEditPathVertexX;
00375     QLineEdit*   lineEditPathVertexY;
00376     QLineEdit*   lineEditPathArea;
00377     QLineEdit*   lineEditPathLength;
00378
00379     QGroupBox*   createGroupBoxMiscPath();
00380     QGroupBox*   groupBoxMiscPath;
00381
00382     QToolButton* toolButtonPathClosed;
00383
00384     QComboBox*   comboBoxPathClosed;
00385
00386 //Point
00387     QGroupBox*   createGroupBoxGeometryPoint();
00388     QGroupBox*   groupBoxGeometryPoint;
00389
00390     QToolButton* toolButtonPointX;
00391     QToolButton* toolButtonPointY;
00392
00393     QLineEdit*   lineEditPointX;
00394     QLineEdit*   lineEditPointY;
00395
00396 //Polygon
00397     QGroupBox*   createGroupBoxGeometryPolygon();
00398     QGroupBox*   groupBoxGeometryPolygon;
00399
00400     QToolButton* toolButtonPolygonCenterX;
00401     QToolButton* toolButtonPolygonCenterY;
00402     QToolButton* toolButtonPolygonRadiusVertex;
00403     QToolButton* toolButtonPolygonRadiusSide;
00404     QToolButton* toolButtonPolygonDiameterVertex;
00405     QToolButton* toolButtonPolygonDiameterSide;
00406     QToolButton* toolButtonPolygonInteriorAngle;
00407
00408     QLineEdit*   lineEditPolygonCenterX;
00409     QLineEdit*   lineEditPolygonCenterY;
00410     QLineEdit*   lineEditPolygonRadiusVertex;
00411     QLineEdit*   lineEditPolygonRadiusSide;
00412     QLineEdit*   lineEditPolygonDiameterVertex;
00413     QLineEdit*   lineEditPolygonDiameterSide;
00414     QLineEdit*   lineEditPolygonInteriorAngle;
00415
00416 //Polyline
00417     QGroupBox*   createGroupBoxGeometryPolyline();
00418     QGroupBox*   groupBoxGeometryPolyline;
00419
00420     QToolButton* toolButtonPolylineVertexNum;
00421     QToolButton* toolButtonPolylineVertexX;
00422     QToolButton* toolButtonPolylineVertexY;
00423     QToolButton* toolButtonPolylineArea;
00424     QToolButton* toolButtonPolylineLength;
00425
00426     QComboBox*   comboBoxPolylineVertexNum;
00427     QLineEdit*   lineEditPolylineVertexX;
00428     QLineEdit*   lineEditPolylineVertexY;
00429     QLineEdit*   lineEditPolylineArea;

```

```
00430     QLineEdit*    lineEditPolylineLength;
00431
00432     QGroupBox*    createGroupBoxMiscPolyline();
00433     QGroupBox*    groupBoxMiscPolyline;
00434
00435     QToolButton*   toolButtonPolylineClosed;
00436
00437     QComboBox*    comboBoxPolylineClosed;
00438
00439     //Ray
00440     QGroupBox*    createGroupBoxGeometryRay();
00441     QGroupBox*    groupBoxGeometryRay;
00442
00443     QToolButton*   toolButtonRayX1;
00444     QToolButton*   toolButtonRayY1;
00445     QToolButton*   toolButtonRayX2;
00446     QToolButton*   toolButtonRayY2;
00447     QToolButton*   toolButtonRayVectorX;
00448     QToolButton*   toolButtonRayVectorY;
00449
00450     QLineEdit*    lineEditRayX1;
00451     QLineEdit*    lineEditRayY1;
00452     QLineEdit*    lineEditRayX2;
00453     QLineEdit*    lineEditRayY2;
00454     QLineEdit*    lineEditRayVectorX;
00455     QLineEdit*    lineEditRayVectorY;
00456
00457     //Rectangle
00458     QGroupBox*    createGroupBoxGeometryRectangle();
00459     QGroupBox*    groupBoxGeometryRectangle;
00460
00461     QToolButton*   toolButtonRectangleCorner1X;
00462     QToolButton*   toolButtonRectangleCorner1Y;
00463     QToolButton*   toolButtonRectangleCorner2X;
00464     QToolButton*   toolButtonRectangleCorner2Y;
00465     QToolButton*   toolButtonRectangleCorner3X;
00466     QToolButton*   toolButtonRectangleCorner3Y;
00467     QToolButton*   toolButtonRectangleCorner4X;
00468     QToolButton*   toolButtonRectangleCorner4Y;
00469     QToolButton*   toolButtonRectangleWidth;
00470     QToolButton*   toolButtonRectangleHeight;
00471     QToolButton*   toolButtonRectangleArea;
00472
00473     QLineEdit*    lineEditRectangleCorner1X;
00474     QLineEdit*    lineEditRectangleCorner1Y;
00475     QLineEdit*    lineEditRectangleCorner2X;
00476     QLineEdit*    lineEditRectangleCorner2Y;
00477     QLineEdit*    lineEditRectangleCorner3X;
00478     QLineEdit*    lineEditRectangleCorner3Y;
00479     QLineEdit*    lineEditRectangleCorner4X;
00480     QLineEdit*    lineEditRectangleCorner4Y;
00481     QLineEdit*    lineEditRectangleWidth;
00482     QLineEdit*    lineEditRectangleHeight;
00483     QLineEdit*    lineEditRectangleArea;
00484
00485     //Text Multi
00486     QGroupBox*    createGroupBoxGeometryTextMulti();
00487     QGroupBox*    groupBoxGeometryTextMulti;
00488
00489     QToolButton*   toolButtonTextMultiX;
00490     QToolButton*   toolButtonTextMultiY;
00491
00492     QLineEdit*    lineEditTextMultiX;
00493     QLineEdit*    lineEditTextMultiY;
00494
00495     //Text Single
00496     QGroupBox*    createGroupBoxTextTextSingle();
00497     QGroupBox*    groupBoxTextTextSingle;
00498
00499     QToolButton*   toolButtonTextSingleContents;
00500     QToolButton*   toolButtonTextSingleFont;
00501     QToolButton*   toolButtonTextSingleJustify;
00502     QToolButton*   toolButtonTextSingleHeight;
00503     QToolButton*   toolButtonTextSingleRotation;
00504
00505     QLineEdit*    lineEditTextSingleContents;
00506     QFontComboBox* comboBoxTextSingleFont;
00507     QComboBox*    comboBoxTextSingleJustify;
00508     QLineEdit*    lineEditTextSingleHeight;
00509     QLineEdit*    lineEditTextSingleRotation;
00510
00511     QGroupBox*    createGroupBoxGeometryTextSingle();
00512     QGroupBox*    groupBoxGeometryTextSingle;
00513
00514     QToolButton*   toolButtonTextSingleX;
00515     QToolButton*   toolButtonTextSingleY;
00516
```

```
00517     QLineEdit*    lineEditTextSingleX;
00518     QLineEdit*    lineEditTextSingleY;
00519
00520     QGroupBox*    createGroupBoxMiscTextSingle();
00521     QGroupBox*    groupBoxMiscTextSingle;
00522
00523     QToolButton*   toolButtonTextSingleBackward;
00524     QToolButton*   toolButtonTextSingleUpsideDown;
00525
00526     QComboBox*    comboBoxTextSingleBackward;
00527     QComboBox*    comboBoxTextSingleUpsideDown;
00528 };
00529 #endif
00531
00532 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.91 **embroidermodder2/README.md** File Reference

## 14.92 **embroidermodder2/selectbox.cpp** File Reference

```
#include "selectbox.h"
#include <QPainter>
```

## 14.93 **embroidermodder2/selectbox.h** File Reference

```
#include <QRubberBand>
#include <QBrush>
#include <QPen>
```

### Classes

- class [SelectBox](#)

## 14.94 **selectbox.h**

[Go to the documentation of this file.](#)

```
00001 #ifndef SELECTBOX_H
00002 #define SELECTBOX_H
00003
00004 #include <QRubberBand>
00005 #include <QBrush>
00006 #include <QPen>
00007
00008 class SelectBox : public QRubberBand
00009 {
00010 public:
00011     SelectBox(Shape s, QWidget* parent = 0);
00012
00013 public slots:
00014     void setDirection(int dir);
00015     void setColors(const QColor& colorL, const QColor& fillL, const QColor& colorR, const QColor&
fillR, int newAlpha);
00016
00017 protected:
00018     void paintEvent(QPaintEvent* );
00019
00020 private:
00021     QColor leftBrushColor;
00022     QColor rightBrushColor;
00023     QColor leftPenColor;
00024     QColor rightPenColor;
```

```

00025     quint8 alpha;
00026
00027     QBrush dirBrush;
00028     QBrush leftBrush;
00029     QBrush rightBrush;
00030
00031     QPen dirPen;
00032     QPen leftPen;
00033     QPen rightPen;
00034
00035     bool boxDir;
00036
00037     void forceRepaint();
00038 }
00039
00040 #endif
00041
00042 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

**14.95 embroidermodder2/settings-dialog.cpp File Reference**

```

#include <QtGui>
#include "settings-dialog.h"
#include "object-data.h"
#include "statusbar.h"
#include "statusbar-button.h"

```

**14.96 embroidermodder2/settings-dialog.h File Reference**

```

#include <QDialog>
#include "mainwindow.h"

```

**Classes**

- class [Settings\\_Dialog](#)

**14.97 settings-dialog.h**

[Go to the documentation of this file.](#)

```

00001 #ifndef SETTINGS_DIALOG_H
00002 #define SETTINGS_DIALOG_H
00003
00004 #include <QDialog>
00005 #include "mainwindow.h"
00006
00007 class MainWindow;
00008
00009 QT_BEGIN_NAMESPACE
00010 class QDialogButtonBox;
00011 class QFileInfo;
00012 class QWidget;
00013 QT_END_NAMESPACE
00014
00015 class Settings_Dialog : public QDialog
00016 {
00017     Q_OBJECT
00018
00019 public:
00020     Settings_Dialog(MainWindow* mw, const QString& showTab = QString(), QWidget *parent = 0);
00021     ~Settings_Dialog();
00022
00023 private:
00024     MainWindow*      mainWin;

```

```

00025
00026     QTabWidget*      tabWidget;
00027
00028     QWidget*        createTabGeneral();
00029     QWidget*        createTabFilePaths();
00030     QWidget*        createTabDisplay();
00031     QWidget*        createTabPrompt();
00032     QWidget*        createTabOpenSave();
00033     QWidget*        createTabPrinting();
00034     QWidget*        createTabSnap();
00035     QWidget*        createTabGridRuler();
00036     QWidget*        createTabOrthoPolar();
00037     QWidget*        createTabQuickSnap();
00038     QWidget*        createTabQuickTrack();
00039     QWidget*        createTabLineWeight();
00040     QWidget*        createTabSelection();
00041
00042     QDialogButtonBox* buttonBox;
00043
00044     void addColorsToComboBox(QComboBox* comboBox);
00045
00046     //Temporary for instant preview
00047     bool   preview_general_mdi_bg_use_logo;
00048     bool   preview_general_mdi_bg_use_texture;
00049     bool   preview_general_mdi_bg_use_color;
00050
00051     QString accept_general_mdi_bg_logo;
00052     QString accept_general_mdi_bg_texture;
00053     QRgb   preview_general_mdi_bg_color;
00054     QRgb   accept_general_mdi_bg_color;
00055
00056     bool   preview_display_show_scrollbars;
00057
00058     QRgb   preview_display_crosshair_color;
00059     QRgb   accept_display_crosshair_color;
00060     QRgb   preview_display_bg_color;
00061     QRgb   accept_display_bg_color;
00062
00063     QRgb   preview_display_selectbox_left_color;
00064     QRgb   accept_display_selectbox_left_color;
00065     QRgb   preview_display_selectbox_left_fill;
00066     QRgb   accept_display_selectbox_left_fill;
00067     QRgb   preview_display_selectbox_right_color;
00068     QRgb   accept_display_selectbox_right_color;
00069     QRgb   preview_display_selectbox_right_fill;
00070     QRgb   accept_display_selectbox_right_fill;
00071     quint8 preview_display_selectbox_alpha;
00072
00073     QRgb   preview_prompt_text_color;
00074     QRgb   accept_prompt_text_color;
00075
00076     QRgb   preview_prompt_bg_color;
00077     QRgb   accept_prompt_bg_color;
00078
00079     QString preview_prompt_font_family;
00080     QString preview_prompt_font_style;
00081     quint8 preview_prompt_font_size;
00082
00083     QRgb   preview_grid_color;
00084     QRgb   accept_grid_color;
00085
00086     QRgb   preview_ruler_color;
00087     QRgb   accept_ruler_color;
00088
00089     bool   preview_lwt_show_lwt;
00090     bool   preview_lwt_real_render;
00091
00092     //Temporary until changes are accepted
00093     QString dialog_general_language;
00094     QString dialog_general_icon_theme;
00095     int    dialog_general_icon_size;
00096     bool   dialog_general_mdi_bg_use_logo;
00097     bool   dialog_general_mdi_bg_use_texture;
00098     bool   dialog_general_mdi_bg_use_color;
00099     QString dialog_general_mdi_bg_logo;
00100    QString dialog_general_mdi_bg_texture;
00101    QRgb   dialog_general_mdi_bg_color;
00102    bool   dialog_general_tip_of_the_day;
00103    bool   dialog_general_system_help_browser;
00104    bool   dialog_display_use_opengl;
00105    bool   dialog_display_renderhint_aa;
00106    bool   dialog_display_renderhint_text_aa;
00107    bool   dialog_display_renderhint_smooth_pix;
00108    bool   dialog_display_renderhint_high_aa;
00109    bool   dialog_display_renderhint_noncosmetic;
00110    bool   dialog_display_show_scrollbars;
00111    int    dialog_display_scrollbar_widget_num;

```

```
00112     QRgb    dialog_display_crosshair_color;
00113     QRgb    dialog_display_bg_color;
00114     QRgb    dialog_display_selectbox_left_color;
00115     QRgb    dialog_display_selectbox_left_fill;
00116     QRgb    dialog_display_selectbox_right_color;
00117     QRgb    dialog_display_selectbox_right_fill;
00118     quint8  dialog_display_selectbox_alpha;
00119     qreal   dialog_display_zoomscale_in;
00120     qreal   dialog_display_zoomscale_out;
00121     quint8  dialog_display_crosshair_percent;
00122     QString dialog_display_units;
00123     QRgb    dialog_prompt_text_color;
00124     QRgb    dialog_prompt_bg_color;
00125     QString dialog_prompt_font_family;
00126     QString dialog_prompt_font_style;
00127     quint8  dialog_prompt_font_size;
00128     bool    dialog_prompt_save_history;
00129     bool    dialog_prompt_save_history_as_html;
00130     QString dialog_prompt_save_history_filename;
00131     QString dialog_opensave_custom_filter;
00132     QString dialog_opensave_open_format;
00133     bool    dialog_opensave_open_thumbnail;
00134     QString dialog_opensave_save_format;
00135     bool    dialog_opensave_save_thumbnail;
00136     quint8  dialog_opensave_recent_max_files;
00137     quint8  dialog_opensave_trim_dst_num_jumps;
00138     QString dialog_printing_default_device;
00139     bool    dialog_printing_use_last_device;
00140     bool    dialog_printing_disable_bg;
00141     bool    dialog_grid_show_on_load;
00142     bool    dialog_grid_show_origin;
00143     bool    dialog_grid_color_match_crosshair;
00144     QRgb    dialog_grid_color;
00145     bool    dialog_grid_load_from_file;
00146     QString dialog_grid_type;
00147     bool    dialog_grid_center_on_origin;
00148     qreal   dialog_grid_center_x;
00149     qreal   dialog_grid_center_y;
00150     qreal   dialog_grid_size_x;
00151     qreal   dialog_grid_size_y;
00152     qreal   dialog_grid_spacing_x;
00153     qreal   dialog_grid_spacing_y;
00154     qreal   dialog_grid_size_radius;
00155     qreal   dialog_grid_spacing_radius;
00156     qreal   dialog_grid_spacing_angle;
00157     bool    dialog_ruler_show_on_load;
00158     bool    dialog_ruler_metric;
00159     QRgb    dialog_ruler_color;
00160     quint8  dialog_ruler_pixel_size;
00161     bool    dialog_qsnap_enabled;
00162     QRgb    dialog_qsnap_locator_color;
00163     quint8  dialog_qsnap_locator_size;
00164     quint8  dialog_qsnap_aperture_size;
00165     bool    dialog_qsnap_endpoint;
00166     bool    dialog_qsnap_midpoint;
00167     bool    dialog_qsnap_center;
00168     bool    dialog_qsnap_node;
00169     bool    dialog_qsnap_quadrant;
00170     bool    dialog_qsnap_intersection;
00171     bool    dialog_qsnap_extension;
00172     bool    dialog_qsnap_insertion;
00173     bool    dialog_qsnap_perpendicular;
00174     bool    dialog_qsnap_tangent;
00175     bool    dialog_qsnap_nearest;
00176     bool    dialog_qsnap_apparent;
00177     bool    dialog_qsnap_parallel;
00178     bool    dialog_lwt_show_lwt;
00179     bool    dialog_lwt_real_render;
00180     qreal   dialog_lwt_default_lwt;
00181     bool    dialog_selection_mode_pickfirst;
00182     bool    dialog_selection_mode_pickadd;
00183     bool    dialog_selection_mode_pickdrag;
00184     QRgb    dialog_selection_coolgrip_color;
00185     QRgb    dialog_selection_hotgrip_color;
00186     quint8  dialog_selection_grip_size;
00187     quint8  dialog_selection_pickbox_size;
00188
00189 private slots:
00190     void comboBoxLanguageCurrentIndexChanged(const QString&);
00191     void comboBoxIconThemeCurrentIndexChanged(const QString&);
00192     void comboBoxIconSizeCurrentIndexChanged(int);
00193     void checkBoxGeneralMdiBGUseLogoStateChanged(int);
00194     void chooseGeneralMdiBackgroundLogo();
00195     void checkBoxGeneralMdiBGUseTextureStateChanged(int);
00196     void chooseGeneralMdiBackgroundTexture();
00197     void checkBoxGeneralMdiBGUseColorStateChanged(int);
00198     void chooseGeneralMdiBackgroundColor();
```

```

00199 void currentGeneralMdiBackgroundColorChanged(const QColor&);
00200 void checkBoxTipOfTheDayStateChanged(int);
00201 void checkBoxUseOpenGLStateChanged(int);
00202 void checkBoxRenderHintAAStateChanged(int);
00203 void checkBoxRenderHintTextAAStateChanged(int);
00204 void checkBoxRenderHintSmoothPixStateChanged(int);
00205 void checkBoxRenderHintHighAAStateChanged(int);
00206 void checkBoxRenderHintNonCosmeticStateChanged(int);
00207 void checkBoxShowScrollBarsStateChanged(int);
00208 void comboBoxScrollBarWidgetCurrentIndexChanged(int);
00209 void spinBoxZoomScaleInValueChanged(double);
00210 void spinBoxZoomScaleOutValueChanged(double);
00211 void checkBoxDisableBGStateChanged(int);
00212 void chooseDisplayCrossHairColor();
00213 void currentDisplayCrossHairColorChanged(const QColor&);
00214 void chooseDisplayBackgroundColor();
00215 void currentDisplayBackgroundColorChanged(const QColor&);
00216 void chooseDisplaySelectBoxLeftColor();
00217 void currentDisplaySelectBoxLeftColorChanged(const QColor&);
00218 void chooseDisplaySelectBoxLeftFill();
00219 void currentDisplaySelectBoxLeftFillChanged(const QColor&);
00220 void chooseDisplaySelectBoxRightColor();
00221 void currentDisplaySelectBoxRightColorChanged(const QColor&);
00222 void chooseDisplaySelectBoxRightFill();
00223 void currentDisplaySelectBoxRightFillChanged(const QColor&);
00224 void spinBoxDisplaySelectBoxAlphaValueChanged(int);
00225 void choosePromptTextColor();
00226 void currentPromptTextColorChanged(const QColor&);
00227 void choosePromptBackgroundColor();
00228 void currentPromptBackgroundColorChanged(const QColor&);
00229 void comboBoxPromptFontFamilyCurrentIndexChanged(const QString&);
00230 void comboBoxPromptFontStyleCurrentIndexChanged(const QString&);
00231 void spinBoxPromptFontSizeValueChanged(int);
00232 void checkBoxPromptSaveHistoryStateChanged(int);
00233 void checkBoxPromptSaveHistoryAsHtmlStateChanged(int);
00234 void checkBoxCustomFilterStateChanged(int);
00235 void buttonCustomFilterSelectAllClicked();
00236 void buttonCustomFilterClearAllClicked();
00237 void spinBoxRecentMaxFilesValueChanged(int);
00238 void spinBoxTrimDstNumJumpsValueChanged(int);
00239 void checkBoxGridShowOnLoadStateChanged(int);
00240 void checkBoxGridShowOriginStateChanged(int);
00241 void checkBoxGridColorMatchCrossHairStateChanged(int);
00242 void chooseGridColor();
00243 void currentGridColorChanged(const QColor&);
00244 void checkBoxGridLoadFromFileStateChanged(int);
00245 void comboBoxGridTypeCurrentIndexChanged(const QString&);
00246 void checkBoxGridCenterOnOriginStateChanged(int);
00247 void spinBoxGridCenterXValueChanged(double);
00248 void spinBoxGridCenterYValueChanged(double);
00249 void spinBoxGridSizeXValueChanged(double);
00250 void spinBoxGridSizeYValueChanged(double);
00251 void spinBoxGridSpacingXValueChanged(double);
00252 void spinBoxGridSpacingYValueChanged(double);
00253 void spinBoxGridSizeRadiusValueChanged(double);
00254 void spinBoxGridSpacingRadiusValueChanged(double);
00255 void spinBoxGridSpacingAngleValueChanged(double);
00256 void checkBoxRulerShowOnLoadStateChanged(int);
00257 void comboBoxRulerMetricCurrentIndexChanged(int);
00258 void chooseRulerColor();
00259 void currentRulerColorChanged(const QColor&);
00260 void spinBoxRulerPixelSizeValueChanged(double);
00261 void checkBoxQSnapEndPointStateChanged(int);
00262 void checkBoxQSnapMidPointStateChanged(int);
00263 void checkBoxQSnapCenterStateChanged(int);
00264 void checkBoxQSnapNodeStateChanged(int);
00265 void checkBoxQSnapQuadrantStateChanged(int);
00266 void checkBoxQSnapIntersectionStateChanged(int);
00267 void checkBoxQSnapExtensionStateChanged(int);
00268 void checkBoxQSnapInsertionStateChanged(int);
00269 void checkBoxQSnapPerpendicularStateChanged(int);
00270 void checkBoxQSnapTangentStateChanged(int);
00271 void checkBoxQSnapNearestStateChanged(int);
00272 void checkBoxQSnapApparentStateChanged(int);
00273 void checkBoxQSnapParallelStateChanged(int);
00274 void buttonQSnapSelectAllClicked();
00275 void buttonQSnapClearAllClicked();
00276 void comboBoxQSnapLocatorColorCurrentIndexChanged(int);
00277 void sliderQSnapLocatorSizeValueChanged(int);
00278 void sliderQSnapApertureSizeValueChanged(int);
00279 void checkBoxLwtShowLwtStateChanged(int);
00280 void checkBoxLwtRealRenderStateChanged(int);
00281 void checkBoxSelectionModePickFirstStateChanged(int);
00282 void checkBoxSelectionModePickAddStateChanged(int);
00283 void checkBoxSelectionModePickDragStateChanged(int);
00284 void comboBoxSelectionCoolGripColorCurrentIndexChanged(int);
00285 void comboBoxSelectionHotGripColorCurrentIndexChanged(int);

```

```

00286     void sliderSelectionGripSizeValueChanged(int);
00287     void sliderSelectionPickBoxSizeValueChanged(int);
00288
00289     void acceptChanges();
00290     void rejectChanges();
00291
00292 signals:
00293     void buttonCustomFilterSelectAll(bool);
00294     void buttonCustomFilterClearAll(bool);
00295     void buttonQSnapSelectAll(bool);
00296     void buttonQSnapClearAll(bool);
00297 };
00298
00299 #endif
00300
00301 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

**14.98 embroidermodder2/statusbar-button.cpp File Reference**

```

#include "mainwindow.h"
#include "mdiwindow.h"
#include "view.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include <QMenu>
#include <QMdiArea>
#include <QApplication>
#include <QContextMenuEvent>

```

**14.99 embroidermodder2/statusbar-button.h File Reference**

```
#include <QToolButton>
```

**Classes**

- class [StatusBarButton](#)

**14.100 statusbar-button.h**

[Go to the documentation of this file.](#)

```

00001 #ifndef STATUSBARBUTTON_H
00002 #define STATUSBARBUTTON_H
00003
00004 #include <QToolButton>
00005
00006 class MainWindow;
00007 class StatusBar;
00008
00009 class StatusBarButton : public QToolButton
00010 {
00011     Q_OBJECT
00012
00013 public:
00014     StatusBarButton(QString buttonText, MainWindow* mw, StatusBar* statbar, QWidget *parent = 0);
00015
00016 protected:
00017     void contextMenuEvent(QContextMenuEvent *event = 0);
00018
00019 private slots:
00020     void settingsSnap();
00021     void settingsGrid();
00022     void settingsRuler();

```

```
00023     void settingsOrtho();
00024     void settingsPolar();
00025     void settingsQSnap();
00026     void settingsQTrack();
00027     void settingsLwt();
00028     void toggleSnap(bool on);
00029     void toggleGrid(bool on);
00030     void toggleRuler(bool on);
00031     void toggleOrtho(bool on);
00032     void togglePolar(bool on);
00033     void toggleQSnap(bool on);
00034     void toggleQTrack(bool on);
00035     void toggleLwt(bool on);
00036 public slots:
00037     void enableLwt();
00038     void disableLwt();
00039     void enableReal();
00040     void disableReal();
00041
00042 private:
00043     MainWindow* mainWin;
00044     StatusBar* statusbar;
00045 };
00046
00047 #endif
00048
00049 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.101 embroidermodder2/statusbar.cpp File Reference

```
#include "mainwindow.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include <QLabel>
```

## 14.102 embroidermodder2/statusbar.h File Reference

```
#include <QStatusBar>
#include <QToolButton>
```

### Classes

- class [StatusBar](#)

## 14.103 statusbar.h

[Go to the documentation of this file.](#)

```
00001 #ifndef STATUSBAR_H
00002 #define STATUSBAR_H
00003
00004 #include <QStatusBar>
00005 #include <QToolButton>
00006
00007 class StatusBarButton;
00008 class MainWindow;
00009
00010 QT_BEGIN_NAMESPACE
00011 class QLabel;
00012 QT_END_NAMESPACE
00013
00014 class StatusBar : public QStatusBar
00015 {
00016     Q_OBJECT
00017 }
```

```
00018 public:
00019     StatusBar(MainWindow* mw, QWidget* parent = 0);
00020
00021     StatusBarButton* statusBarSnapButton;
00022     StatusBarButton* statusBarGridButton;
00023     StatusBarButton* statusBarRulerButton;
00024     StatusBarButton* statusBarOrthoButton;
00025     StatusBarButton* statusBarPolarButton;
00026     StatusBarButton* statusBarQSnapButton;
00027     StatusBarButton* statusBarQTrackButton;
00028     StatusBarButton* statusBarLwtButton;
00029     QLabel* statusBarMouseCoord;
00030
00031     void setMouseCoord(qreal x, qreal y);
00032
00033 protected:
00034
00035 private slots:
00036
00037 private:
00038
00039 };
00040
00041 #endif
00042
00043 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.104 embroidermodder2/undo-commands.cpp File Reference

```
#include "undo-commands.h"
#include "object-base.h"
#include "view.h"
```

## 14.105 embroidermodder2/undo-commands.h File Reference

```
#include <QUndoCommand>
#include <QPointF>
#include <QTransform>
#include <QtCore/qmath.h>
```

### Classes

- class [UndoableAddCommand](#)
- class [UndoableDeleteCommand](#)
- class [UndoableMoveCommand](#)
- class [UndoableRotateCommand](#)
- class [UndoableScaleCommand](#)
- class [UndoableNavCommand](#)
- class [UndoableGripEditCommand](#)
- class [UndoableMirrorCommand](#)

## 14.106 undo-commands.h

[Go to the documentation of this file.](#)

```

00001 #ifndef UNDO_COMMANDS_H
00002 #define UNDO_COMMANDS_H
00003
00004 #include <QUndoCommand>
00005 #include <QPointF>
00006 #include <QTransform>
00007 #include <QtCore/qmath.h>
00008
00009 class BaseObject;
00010 class View;
00011
00012 class UndoableAddCommand : public QUndoCommand
00013 {
00014 public:
00015     UndoableAddCommand(const QString& text, BaseObject* obj, View* v, QUndoCommand* parent = 0);
00016
00017     void undo();
00018     void redo();
00019
00020 private:
00021     BaseObject* object;
00022     View* gview;
00023 };
00024
00025 class UndoableDeleteCommand : public QUndoCommand
00026 {
00027 public:
00028     UndoableDeleteCommand(const QString& text, BaseObject* obj, View* v, QUndoCommand* parent = 0);
00029
00030     void undo();
00031     void redo();
00032
00033 private:
00034     BaseObject* object;
00035     View* gview;
00036 };
00037
00038 class UndoableMoveCommand : public QUndoCommand
00039 {
00040 public:
00041     UndoableMoveCommand(qreal deltaX, qreal deltaY, const QString& text, BaseObject* obj, View* v,
00042     QUndoCommand* parent = 0);
00043
00044     void undo();
00045     void redo();
00046
00047 private:
00048     BaseObject* object;
00049     View* gview;
00050     qreal dx;
00051     qreal dy;
00052
00053 class UndoableRotateCommand : public QUndoCommand
00054 {
00055 public:
00056     UndoableRotateCommand(qreal pivotPointX, qreal pivotPointY, qreal rotAngle, const QString& text,
00057     BaseObject* obj, View* v, QUndoCommand* parent = 0);
00058
00059     void undo();
00060     void redo();
00061
00062 private:
00063     void rotate(qreal x, qreal y, qreal rot);
00064
00065     inline qreal pi() { return (qAtan(1.0)*4.0); };
00066     inline qreal radians(qreal degrees) { return (degrees*pi()/180.0); };
00067
00068     BaseObject* object;
00069     View* gview;
00070     qreal pivotX;
00071     qreal pivotY;
00072     qreal angle;
00073
00074 class UndoableScaleCommand : public QUndoCommand
00075 {
00076 public:
00077     UndoableScaleCommand(qreal x, qreal y, qreal scaleFactor, const QString& text, BaseObject* obj,
00078     View* v, QUndoCommand* parent = 0);
00079
00080     void undo();
00081     void redo();

```

```

00081
00082     private:
00083         BaseObject* object;
00084         View* gview;
00085         qreal dx;
00086         qreal dy;
00087         qreal factor;
00088     };
00089
00090     class UndoableNavCommand : public QUndoCommand
00091     {
00092         public:
00093             UndoableNavCommand(const QString& type, View* v, QUndoCommand* parent = 0);
00094
00095             int id() const { return 1234; }
00096             bool mergeWith(const QUndoCommand* command);
00097             void undo();
00098             void redo();
00099
00100         private:
00101             QString navType;
00102             QTransform fromTransform;
00103             QTransform toTransform;
00104             QPointF fromCenter;
00105             QPointF toCenter;
00106             bool done;
00107             View* gview;
00108     };
00109
00110     class UndoableGripEditCommand : public QUndoCommand
00111     {
00112         public:
00113             UndoableGripEditCommand(const QPointF beforePoint, const QPointF afterPoint, const QString& text,
00114             BaseObject* obj, View* v, QUndoCommand* parent = 0);
00115             void undo();
00116             void redo();
00117
00118         private:
00119             BaseObject* object;
00120             View* gview;
00121             QPointF before;
00122             QPointF after;
00123     };
00124
00125
00126     class UndoableMirrorCommand : public QUndoCommand
00127     {
00128         public:
00129             UndoableMirrorCommand(qreal x1, qreal y1, qreal x2, qreal y2, const QString& text, BaseObject*
00130             obj, View* v, QUndoCommand* parent = 0);
00131             void undo();
00132             void redo();
00133
00134         private:
00135             void mirror();
00136
00137             BaseObject* object;
00138             View* gview;
00139             QLineF mirrorLine;
00140
00141     };
00142
00143 #endif
00144
00145 /* kate: bom off; indent-mode cststyle; indent-width 4; replace-trailing-space-save on; */

```

## 14.107 embroidermodder2/undo-editor.cpp File Reference

```

#include <QUndoGroup>
#include <QUndoStack>
#include <QUndoView>
#include <QKeyEvent>
#include "undo-editor.h"
#include "undo-commands.h"

```

## 14.108 embroidermodder2/undo-editor.h File Reference

```
#include <QDockWidget>
```

### Classes

- class [UndoEditor](#)

## 14.109 undo-editor.h

[Go to the documentation of this file.](#)

```
00001 #ifndef UNDO_EDITOR_H
00002 #define UNDO_EDITOR_H
00003
00004 #include <QDockWidget>
00005
00006 QT_BEGIN_NAMESPACE
00007 class QUndoGroup;
00008 class QUndoStack;
00009 class QUndoView;
00010 QT_END_NAMESPACE
00011
00012 class UndoEditor : public QDockWidget
00013 {
00014     Q_OBJECT
00015
00016 public:
00017     UndoEditor(const QString& iconDirectory = QString(), QWidget* widgetToFocus = 0, QWidget* parent =
00018     0); //, Qt::WindowFlags flags = 0);
00019     ~UndoEditor();
00020
00021     void addStack(QUndoStack* stack);
00022
00023     bool canUndo() const;
00024     bool canRedo() const;
00025
00026     QString undoText() const;
00027     QString redoText() const;
00028
00029 protected:
00030
00031     public slots:
00032         void undo();
00033         void redo();
00034
00035 private:
00036     QWidget* focusWidget;
00037
00038     QString iconDir;
00039     int iconSize;
00040
00041     QUndoGroup* undoGroup;
00042     QUndoView* undoView;
00043 };
00044
00045 #endif
00046
00047 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.110 embroidermodder2/view.cpp File Reference

```
#include "view.h"
#include "property-editor.h"
#include "statusbar.h"
#include "object-data.h"
#include "object-base.h"
#include "undo-editor.h"
```

```
#include "undo-commands.h"
#include "selectbox.h"
#include "object-arc.h"
#include "object-circle.h"
#include "object-dimleader.h"
#include "object-ellipse.h"
#include "object-image.h"
#include "object-line.h"
#include "object-path.h"
#include "object-point.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include "object-rect.h"
#include "object-textsingle.h"
#include <QtGui>
#include <QGraphicsScene>
```

## 14.111 embroidermodder2/view.h File Reference

```
#include <QGraphicsView>
#include <QGraphicsScene>
#include "mainwindow.h"
```

### Classes

- class [View](#)

## 14.112 view.h

[Go to the documentation of this file.](#)

```
00001 #ifndef VIEW_H
00002 #define VIEW_H
00003
00004 #include <QGraphicsView>
00005 #include <QGraphicsScene>
00006 #include "mainwindow.h"
00007
00008 class MainWindow;
00009 class BaseObject;
00010 class SelectBox;
00011
00012 QT_BEGIN_NAMESPACE
00013 class QGraphicsScene;
00014 class QUndoStack;
00015 QT_END_NAMESPACE
00016
00017 class View : public QGraphicsView
00018 {
00019     Q_OBJECT
00020
00021 public:
00022     View(MainWindow* mw, QGraphicsScene* theScene, QWidget* parent);
00023     ~View();
00024
00025     bool allowZoomIn();
00026     bool allowZoomOut();
00027
00028     void recalculateLimits();
00029     void zoomToPoint(const QPoint& mousePoint, int zoomDir);
00030     void centerAt(const QPointF& centerPoint);
00031     QPointF center() { return mapToScene(rect().center()); }
00032 }
```

```

00033     QUndoStack* getUndoStack() { return undoStack; }
00034     void addObject(BaseObject* obj);
00035     void deleteObject(BaseObject* obj);
00036     void vulcanizeObject(BaseObject* obj);
00037
00038     public slots:
00039     void zoomIn();
00040     void zoomOut();
00041     void zoomWindow();
00042     void zoomSelected();
00043     void zoomExtents();
00044     void panRealTime();
00045     void panPoint();
00046     void panLeft();
00047     void panRight();
00048     void panUp();
00049     void panDown();
00050     void selectAll();
00051     void selectionChanged();
00052     void clearSelection();
00053     void deleteSelected();
00054     void moveSelected(qreal dx, qreal dy);
00055     void cut();
00056     void copy();
00057     void paste();
00058     void repeatAction();
00059     void moveAction();
00060     void scaleAction();
00061     void scaleSelected(qreal x, qreal y, qreal factor);
00062     void rotateAction();
00063     void rotateSelected(qreal x, qreal y, qreal rot);
00064     void mirrorSelected(qreal x1, qreal y1, qreal x2, qreal y2);
00065     int numSelected();
00066
00067     void deletePressed();
00068     void escapePressed();
00069
00070     void cornerButtonClicked();
00071
00072     void showScrollBars(bool val);
00073     void setCornerButton();
00074     void setCrossHairColor(QRgb color);
00075     void setCrossHairSize(quint8 percent);
00076     void setBackgroundColor(QRgb color);
00077     void setSelectBoxColors(QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha);
00078     void toggleSnap(bool on);
00079     void toggleGrid(bool on);
00080     void toggleRuler(bool on);
00081     void toggleOrtho(bool on);
00082     void togglePolar(bool on);
00083     void toggleQSnap(bool on);
00084     void toggleQTrack(bool on);
00085     void toggleLwt(bool on);
00086     void toggleReal(bool on);
00087     bool isLwtEnabled();
00088     bool isRealEnabled();
00089
00090     void setGridColor(QRgb color);
00091     void createGrid(const QString& gridType);
00092     void setRulerColor(QRgb color);
00093
00094     void previewOn(int clone, int mode, qreal x, qreal y, qreal data);
00095     void previewOff();
00096
00097     void enableMoveRapidFire();
00098     void disableMoveRapidFire();
00099
00100     bool allowRubber();
00101     void addToRubberRoom(QGraphicsItem* item);
00102     void vulcanizeRubberRoom();
00103     void clearRubberRoom();
00104     void spareRubber(qint64 id);
00105     void setRubberMode(int mode);
00106     void setRubberPoint(const QString& key, const QPointF& point);
00107     void setRubberText(const QString& key, const QString& txt);
00108
00109     protected:
00110     void mouseDoubleClickEvent(QMouseEvent* event);
00111     void mousePressEvent(QMouseEvent* event);
00112     void mouseMoveEvent(QMouseEvent* event);
00113     void mouseReleaseEvent(QMouseEvent* event);
00114     void wheelEvent(QWheelEvent* event);
00115     void contextMenuEvent(QContextMenuEvent* event);
00116     void drawBackground(QPainter* painter, const QRectF& rect);
00117     void drawForeground(QPainter* painter, const QRectF& rect);
00118     void enterEvent(QEvent* event);
00119

```

```
00120 private:
00121     QHash<qint64, QGraphicsItem*> hashDeletedObjects;
00122
00123     QList<qint64> spareRubberList;
00124
00125     QColor gridColor;
00126     QPainterPath gridPath;
00127     void createGridRect();
00128     void createGridPolar();
00129     void createGridIso();
00130     QPainterPath originPath;
00131     void createOrigin();
00132
00133     bool rulerMetric;
00134     QColor rulerColor;
00135     quint8 rulerPixelSize;
00136     void loadRulerSettings();
00137
00138     bool willUnderflowInt32(qint64 a, qint64 b);
00139     bool willOverflowInt32(qint64 a, qint64 b);
00140     int roundToMultiple(bool roundUp, int numToRound, int multiple);
00141     QPainterPath createRulerTextPath(float x, float y, QString str, float height);
00142
00143     QList<QGraphicsItem*> previewObjectList;
00144     QGraphicsItemGroup* previewObjectItemGroup;
00145     QPointF previewPoint;
00146     qreal previewData;
00147     int previewMode;
00148
00149     QList<QGraphicsItem*> createObjectList(QList<QGraphicsItem*> list);
00150     QPointF cutCopyMousePoint;
00151     QGraphicsItemGroup* pasteObjectItemGroup;
00152     QPointF pasteDelta;
00153
00154     QList<QGraphicsItem*> rubberRoomList;
00155
00156     void copySelected();
00157
00158     bool grippingActive;
00159     bool rapidMoveActive;
00160     bool previewActive;
00161     bool pastingActive;
00162     bool movingActive;
00163     bool selectingActive;
00164     bool zoomWindowActive;
00165     bool panningRealTimeActive;
00166     bool panningPointActive;
00167     bool panningActive;
00168     bool qSnapActive;
00169     bool qSnapToggle;
00170
00171     void startGripping(BaseObject* obj);
00172     void stopGripping(bool accept = false);
00173
00174     BaseObject* gripBaseObj;
00175     BaseObject* tempBaseObj;
00176
00177     MainWindow* mainWin;
00178     QGraphicsScene* gscene;
00179     QUndoStack* undoStack;
00180
00181     SelectBox* selectBox;
00182     QPointF scenePressPoint;
00183     QPoint pressPoint;
00184     QPointF sceneMovePoint;
00185     QPoint movePoint;
00186     QPointF sceneReleasePoint;
00187     QPoint releasePoint;
00188     QPointF sceneGripPoint;
00189
00190     void updateMouseCoords(int x, int y);
00191     QPoint viewMousePoint;
00192     QPointF sceneMousePoint;
00193     QRgb qsnapLocatorColor;
00194     quint8 qsnapLocatorSize;
00195     quint8 qsnapApertureSize;
00196     QRgb gripColorCool;
00197     QRgb gripColorHot;
00198     quint8 gripSize;
00199     quint8 pickBoxSize;
00200     QRgb crosshairColor;
00201     quint32 crosshairSize;
00202
00203     void panStart(const QPoint& point);
00204     int panDistance;
00205     int panStartX;
00206     int panStartY;
```

```
00207
00208     void alignScenePointWithViewPoint(const QPointF& scenePoint, const QPoint& viewPoint);
00209
00210     inline qreal pi() { return (qAtan(1.0)*4.0); }
00211     inline qreal radians(qreal degrees) { return (degrees*pi()/180.0); }
00212 };
00213
00214 #endif
00215
00216 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

## 14.113 extern/libembroidery/src/array.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include "embroidery_internal.h"
```

### Functions

- `EmbArray * embArray_create (int type)`
- `int embArray_resize (EmbArray *a)`
- `void embArray_copy (EmbArray *dst, EmbArray *src)`
- `int embArray_addArc (EmbArray *a, EmbArc b)`
- `int embArray_addCircle (EmbArray *a, EmbCircle b)`
- `int embArray_addEllipse (EmbArray *a, EmbEllipse b)`
- `int embArray_addFlag (EmbArray *a, EmbFlag b)`
- `int embArray_addLine (EmbArray *a, EmbLine b)`
- `int embArray_addPath (EmbArray *a, EmbPath b)`
- `int embArray_addPoint (EmbArray *a, EmbPoint b)`
- `int embArray_addPolyline (EmbArray *a, EmbPolyline b)`
- `int embArray_addPolygon (EmbArray *a, EmbPolygon b)`
- `int embArray_addRect (EmbArray *a, EmbRect b)`
- `int embArray_addStitch (EmbArray *a, EmbStitch b)`
- `int embArray_addVector (EmbArray *a, EmbVector b)`
- `void embArray_free (EmbArray *a)`

### 14.113.1 Function Documentation

```
14.113.1.1 embArray_addArc() int embArray_addArc (
    EmbArray * a,
    EmbArc b )
```

#### Parameters

<code>a</code>	
<code>b</code>	

**Returns**

int

**14.113.1.2 embArray\_addCircle()** int embArray\_addCircle ( EmbArray \* *a*, EmbCircle *b* )**Parameters**

<i>a</i>	
<i>b</i>	

**Returns**

int

**14.113.1.3 embArray\_addEllipse()** int embArray\_addEllipse ( EmbArray \* *a*, EmbEllipse *b* )**Parameters**

<i>a</i>	
<i>b</i>	

**Returns**

int

**14.113.1.4 embArray\_addFlag()** int embArray\_addFlag ( EmbArray \* *a*, EmbFlag *b* )**Parameters**

<i>a</i>	
<i>b</i>	

**Returns**

int

**14.113.1.5 embArray\_addLine()** int embArray\_addLine (

```
EmbArray * a,
EmbLine b )
```

**Parameters**

a	
b	

**Returns**

int

**14.113.1.6 embArray\_addPath()** int embArray\_addPath (

```
EmbArray * a,
EmbPath b )
```

**Parameters**

a	
b	

**Returns**

int

**14.113.1.7 embArray\_addPoint()** int embArray\_addPoint (

```
EmbArray * a,
EmbPoint b )
```

**Parameters**

a	
b	

**Returns**

int

**14.113.1.8 embArray\_addPolygon()** int embArray\_addPolygon (

```
EmbArray * a,
EmbPolygon b )
```

**Parameters**

a	
b	

**Returns**

int

**14.113.1.9 embArray\_addPolyline()** int embArray\_addPolyline (`EmbArray * a,  
EmbPolyline b )`**Parameters**

a	
b	

**Returns**

int

**14.113.1.10 embArray\_addRect()** int embArray\_addRect (`EmbArray * a,  
EmbRect b )`**Parameters**

a	
b	

**Returns**

int

**14.113.1.11 embArray\_addStitch()** int embArray\_addStitch (`EmbArray * a,  
EmbStitch b )`**Parameters**

a	
b	

Returns

int

**14.113.1.12 embArray\_addVector()** int embArray\_addVector (

```
EmbArray * a,
EmbVector b )
```

Parameters

a	
b	

Returns

int

**14.113.1.13 embArray\_copy()** void embArray\_copy (

```
EmbArray * dst,
EmbArray * src )
```

Parameters

dst	
src	

**14.113.1.14 embArray\_create()** EmbArray \* embArray\_create (

```
int type )
```

Parameters

type	
------	--

Returns

EmbArray\*

**14.113.1.15 embArray\_free()** void embArray\_free (

```
EmbArray * a )
```

**Parameters**

a	
---	--

**14.113.1.16 embArray\_resize()** int embArray\_resize (  
    **EmbArray** \* a )**Parameters**

a	
---	--

**Returns**

int

**14.114 extern/libembroidery/src/compress.c File Reference**

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include "embroidery_internal.h"
```

**Functions**

- int [hus\\_compress](#) (char \*data, int length, char \*output, int \*output\_length)

- void [huffman\\_build\\_table](#) (huffman \*h)

*These next 2 functions represent the [Huffman](#) class in tartarize's code.*

- int \* [huffman\\_lookup](#) (huffman h, int byte\_lookup)
- void [compress\\_init](#) ()
- int [compress\\_get\\_bits](#) (compress \*c, int length)
- int [compress\\_pop](#) (compress \*c, int bit\_count)
- int [compress\\_peek](#) (compress \*c, int bit\_count)
- int [compress\\_read\\_variable\\_length](#) (compress \*c)
- void [compress\\_load\\_character\\_length\\_huffman](#) (compress \*c)
- void [compress\\_load\\_character\\_huffman](#) (compress \*c)
- void [compress\\_load\\_distance\\_huffman](#) (compress \*c)
- void [compress\\_load\\_block](#) (compress \*c)
- int [compress\\_get\\_token](#) (compress \*c)
- int [compress\\_get\\_position](#) (compress \*c)
- int [hus\\_decompress](#) (char \*data, int length, char \*output, int \*output\_length)

**Variables**

- int [huffman\\_lookup\\_data](#) [2]

**14.114.1 Function Documentation**

**14.114.1.1 compress\_get\_bits()** int compress\_get\_bits (

```
compress * c,
int length )
```

Parameters

<i>c</i>	
<i>length</i>	

Returns

int

**14.114.1.2 compress\_get\_position()** int compress\_get\_position (

```
compress * c )
```

Parameters

<i>c</i>	
----------	--

Returns

int

**14.114.1.3 compress\_get\_token()** int compress\_get\_token (

```
compress * c )
```

Parameters

<i>c</i>	
----------	--

Returns

int

**14.114.1.4 compress\_init()** void compress\_init ( )

**14.114.1.5 compress\_load\_block()** void compress\_load\_block ( compress \* c )

Parameters

c	
---	--

**14.114.1.6 compress\_load\_character\_huffman()** void compress\_load\_character\_huffman ( compress \* c )

Parameters

c	
---	--

**14.114.1.7 compress\_load\_character\_length\_huffman()** void compress\_load\_character\_length\_huffman ( compress \* c )

Parameters

c	
---	--

**14.114.1.8 compress\_load\_distance\_huffman()** void compress\_load\_distance\_huffman ( compress \* c )

Parameters

c	
---	--

**14.114.1.9 compress\_peek()** int compress\_peek ( compress \* c, int bit\_count )

Parameters

c	
bit_count	

Returns

int

**14.114.1.10 compress\_pop()** int compress\_pop (   
   compress \* c,  
   int bit\_count )

Parameters

c	
bit_count	

Returns

int

**14.114.1.11 compress\_read\_variable\_length()** int compress\_read\_variable\_length (   
   compress \* c )

Parameters

c	
---	--

Returns

int

**14.114.1.12 huffman\_build\_table()** void huffman\_build\_table (   
   huffman \* h )

These next 2 functions represent the [Huffman](#) class in tartarize's code.

Parameters

h	
---	--

**14.114.1.13 huffman\_lookup()** int \* huffman\_lookup (   
   huffman h,  
   int byte\_lookup )

**Parameters**

<i>h</i>	
<i>byte_lookup</i>	

**Returns**

int\*

```
14.114.1.14 hus_compress() int hus_compress (
    char * data,
    int length,
    char * output,
    int * output_length )
```

This file is part of libembroidery.

Copyright 2018-2022 The Embroidermodder Team Licensed under the terms of the zlib license.

This file contains all the read and write functions for the library.

Thanks to Jason Weiler for describing the binary formats of the HUS and VIP formats at:

<http://www.jasonweiler.com/HUSandVIPFileInfo.html>

Further thanks to github user tatarize for solving the mystery of the compression in:

<https://github.com/EmbroidePy/pyembroidery>

with a description of that work here:

<https://stackoverflow.com/questions/7852670/greenleaf-archive-library>

This is based on their work.

**Parameters**

<i>data</i>	
<i>length</i>	
<i>output</i>	
<i>output_length</i>	

**Returns**

int

This avoids the now unnecessary compression by placing a minimal header of 6 bytes and using only literals in the huffman compressed part (see the sources above).

```
14.114.1.15 hus_decompress() int hus_decompress (
    char * data,
    int length,
    char * output,
    int * output_length )
```

#### Parameters

<i>data</i>	
<i>length</i>	
<i>output</i>	
<i>output_length</i>	

#### Returns

int

### 14.114.2 Variable Documentation

**14.114.2.1 huffman\_lookup\_data** int huffman\_lookup\_data[2]

### 14.115 extern/libembroidery/src/embedded.md File Reference

### 14.116 extern/libembroidery/src/embroider\_cli.md File Reference

### 14.117 extern/libembroidery/src/embroidery.h File Reference

#### Classes

- struct [EmbColor\\_](#)
- struct [EmbVector\\_](#)
- struct [EmblImage\\_](#)
- struct [EmbBlock\\_](#)
- struct [EmbAlignedDim\\_](#)
- struct [EmbAngularDim\\_](#)
- struct [EmbArcLengthDim\\_](#)
- struct [EmbDiameterDim\\_](#)
- struct [EmbLeaderDim\\_](#)
- struct [EmbLinearDim\\_](#)
- struct [EmbOrdinateDim\\_](#)
- struct [EmbRadiusDim\\_](#)
- struct [EmblInfiniteLine\\_](#)
- struct [EmbRay\\_](#)
- struct [EmbTextMulti\\_](#)
- struct [EmbTextSingle\\_](#)
- struct [EmbTime\\_](#)
- struct [EmbPoint\\_](#)

- struct `EmbLine_`
- struct `EmbPath_`
- struct `EmbStitch_`
- struct `EmbThread_`
- struct `thread_color_`
- struct `EmbArc_`  
*absolute position (not relative)*
- struct `EmbRect_`
- struct `EmbCircle_`
- struct `EmbSatinOutline_`
- struct `EmbEllipse_`
- struct `EmbBezier_`
- struct `EmbSpline_`
- struct `LSYSTEM`
- struct `EmbGeometry_`
- struct `EmbArray_`
- struct `EmbLayer_`
- struct `EmbPattern_`
- struct `EmbFormatList_`

## Macros

- `#define LIBEMBROIDERY_EMBEDDED_VERSION 0`
- `#define NORMAL 0 /*! stitch to (x, y) */`
- `#define JUMP 1 /*! move to (x, y) */`
- `#define TRIM 2 /*! trim + move to (x, y) */`
- `#define STOP 4 /*! pause machine for thread change */`
- `#define SEQUIN 8 /*! sequin */`
- `#define END 16 /*! end of program */`
- `#define EMB_FORMAT_100 0`
- `#define EMB_FORMAT_10O 1`
- `#define EMB_FORMAT_ART 2`
- `#define EMB_FORMAT_BMC 3`
- `#define EMB_FORMAT_BRO 4`
- `#define EMB_FORMAT_CND 5`
- `#define EMB_FORMAT_COL 6`
- `#define EMB_FORMAT_CSD 7`
- `#define EMB_FORMAT_CSV 8`
- `#define EMB_FORMAT_DAT 9`
- `#define EMB_FORMAT_DEM 10`
- `#define EMB_FORMAT_DSB 11`
- `#define EMB_FORMAT_DST 12`
- `#define EMB_FORMAT_DSZ 13`
- `#define EMB_FORMAT_DXF 14`
- `#define EMB_FORMAT_EDR 15`
- `#define EMB_FORMAT_EMD 16`
- `#define EMB_FORMAT_EXP 17`
- `#define EMB_FORMAT_EXY 18`
- `#define EMB_FORMAT_EYS 19`
- `#define EMB_FORMAT_FXY 20`
- `#define EMB_FORMAT_GC 21`
- `#define EMB_FORMAT_GNC 22`
- `#define EMB_FORMAT_GT 23`
- `#define EMB_FORMAT_HUS 24`

- #define EMB\_FORMAT\_INB 25
- #define EMB\_FORMAT\_INF 26
- #define EMB\_FORMAT\_JEF 27
- #define EMB\_FORMAT\_KSM 28
- #define EMB\_FORMAT\_MAX 29
- #define EMB\_FORMAT\_MIT 30
- #define EMB\_FORMAT\_NEW 31
- #define EMB\_FORMAT\_OFM 32
- #define EMB\_FORMAT\_PCD 33
- #define EMB\_FORMAT\_PCM 34
- #define EMB\_FORMAT\_PCQ 35
- #define EMB\_FORMAT\_PCS 36
- #define EMB\_FORMAT\_PEC 37
- #define EMB\_FORMAT\_PEL 38
- #define EMB\_FORMAT\_PEM 39
- #define EMB\_FORMAT\_PES 40
- #define EMB\_FORMAT\_PHB 41
- #define EMB\_FORMAT\_PHC 42
- #define EMB\_FORMAT\_PLT 43
- #define EMB\_FORMAT\_RGB 44
- #define EMB\_FORMAT\_SEW 45
- #define EMB\_FORMAT\_SHV 46
- #define EMB\_FORMAT\_SST 47
- #define EMB\_FORMAT\_STX 48
- #define EMB\_FORMAT\_SVG 49
- #define EMB\_FORMAT\_T01 50
- #define EMB\_FORMAT\_T09 51
- #define EMB\_FORMAT\_TAP 52
- #define EMB\_FORMAT\_THR 53
- #define EMB\_FORMAT\_TXT 54
- #define EMB\_FORMAT\_U00 55
- #define EMB\_FORMAT\_U01 56
- #define EMB\_FORMAT\_VIP 57
- #define EMB\_FORMAT\_VP3 58
- #define EMB\_FORMAT\_XXX 59
- #define EMB\_FORMAT\_ZSK 60
- #define Arc\_Polyester 0
- #define Arc\_Rayon 1
- #define CoatsAndClark\_Rayon 2
- #define Exquisite\_Polyester 3
- #define Fufu\_Polyester 4
- #define Fufu\_Rayon 5
- #define Hemingworth\_Polyester 6
- #define Isacord\_Polyester 7
- #define Isafil\_Rayon 8
- #define Marathon\_Polyester 9
- #define Marathon\_Rayon 10
- #define Madeira\_Polyester 11
- #define Madeira\_Rayon 12
- #define Metro\_Polyester 13
- #define Pantone 14
- #define RobisonAnton\_Polyester 15
- #define RobisonAnton\_Rayon 16
- #define Sigma\_Polyester 17
- #define Sulky\_Rayon 18

- #define ThreadArt\_Rayon 19
- #define ThreadArt\_Polyester 20
- #define ThreaDelight\_Polyester 21
- #define Z102\_Isacord\_Polyester 22
- #define SVG\_Colors 23
- #define hus\_thread 24
- #define jef\_thread 25
- #define pcm\_thread 26
- #define pec\_thread 27
- #define shv\_thread 28
- #define dxf\_color 29
- #define EMB\_ARRAY 0
- #define EMB\_ARC 1
- #define EMB\_CIRCLE 2
- #define EMB\_DIM\_DIAMETER 3
- #define EMB\_DIM\_LEADER 4
- #define EMB\_ELLIPSE 5
- #define EMB\_FLAG 6
- #define EMB\_LINE 7
- #define EMB\_IMAGE 8
- #define EMB\_PATH 9
- #define EMB\_POINT 10
- #define EMB\_POLYGON 11
- #define EMB\_POLYLINE 12
- #define EMB\_RECT 13
- #define EMB\_SPLINE 14
- #define EMB\_STITCH 15
- #define EMB\_TEXT\_SINGLE 16
- #define EMB\_TEXT\_MULTI 17
- #define EMB\_VECTOR 18
- #define EMB\_THREAD 19
- #define EMBFORMAT\_UNSUPPORTED 0
- #define EMBFORMAT\_STITCHONLY 1
- #define EMBFORMAT\_OBJECTONLY 2
- #define EMBFORMAT\_STCHANDOBJ 3 /\* binary operation: 1+2=3 \*/
- #define numberFormats 61
- #define CHUNK\_SIZE 128
- #define EMB\_MAX\_LAYERS 10
- #define MAX\_THREADS 256
- #define EMBFORMAT\_MAXEXT 3
- #define EMBFORMAT\_MAXDESC 50
- #define MAX\_STITCHES 1000000
- #define EMB\_PUBLIC

## Typedefs

- typedef float EmbReal
- typedef struct EmbColor\_ EmbColor
- typedef struct EmbVector\_ EmbVector
- typedef struct EmbArray\_ EmbArray
- typedef struct EmbImage\_ EmbImage
- typedef struct EmbBlock\_ EmbBlock
- typedef struct EmbAlignedDim\_ EmbAlignedDim
- typedef struct EmbAngularDim\_ EmbAngularDim

- `typedef struct EmbArcLengthDim_ EmbArcLengthDim`
- `typedef struct EmbDiameterDim_ EmbDiameterDim`
- `typedef struct EmbLeaderDim_ EmbLeaderDim`
- `typedef struct EmbLinearDim_ EmbLinearDim`
- `typedef struct EmbOrdinateDim_ EmbOrdinateDim`
- `typedef struct EmbRadiusDim_ EmbRadiusDim`
- `typedef struct EmbInfiniteLine_ EmbInfiniteLine`
- `typedef struct EmbRay_ EmbRay`
- `typedef struct EmbTextMulti_ EmbTextMulti`
- `typedef struct EmbTextSingle_ EmbTextSingle`
- `typedef struct EmbTime_ EmbTime`
- `typedef struct EmbPoint_ EmbPoint`
- `typedef struct EmbLine_ EmbLine`
- `typedef struct EmbPath_ EmbPath`
- `typedef struct EmbStitch_ EmbStitch`
- `typedef struct EmbThread_ EmbThread`
- `typedef struct thread_color_ thread_color`
- `typedef struct EmbArc_ EmbArc`  
*absolute position (not relative)*
- `typedef struct EmbRect_ EmbRect`
- `typedef struct EmbCircle_ EmbCircle`
- `typedef EmbPath EmbPolygon`
- `typedef EmbPath EmbPolyline`
- `typedef int EmbFlag`
- `typedef struct EmbSatinOutline_ EmbSatinOutline`
- `typedef struct EmbEllipse_ EmbEllipse`
- `typedef struct EmbBezier_ EmbBezier`
- `typedef struct EmbSpline_ EmbSpline`
- `typedef struct LSYSTEM L_system`
- `typedef struct EmbGeometry_ EmbGeometry`
- `typedef struct EmbLayer_ EmbLayer`
- `typedef struct EmbPattern_ EmbPattern`
- `typedef struct EmbFormatList_ EmbFormatList`

## Functions

- `EMB_PUBLIC int lindenmayer_system (L_system L, char *state, int iteration, int complete)`
- `EMB_PUBLIC int hilbert_curve (EmbPattern *pattern, int iterations)`
- `EMB_PUBLIC int emb_identify_format (const char *ending)`
- `EMB_PUBLIC void testMain (int level)`
- `EMB_PUBLIC int convert (const char *inf, const char *outf)`
- `EMB_PUBLIC EmbColor embColor_make (unsigned char r, unsigned char g, unsigned char b)`
- `EMB_PUBLIC EmbColor * embColor_create (unsigned char r, unsigned char g, unsigned char b)`
- `EMB_PUBLIC EmbColor embColor_fromHexStr (char *val)`  
*Converts a 6 digit hex string (I.E. "00FF00") into an EmbColor and returns it.*
- `EMB_PUBLIC int embColor_distance (EmbColor a, EmbColor b)`
- `EMB_PUBLIC EmbArray * embArray_create (int type)`
- `EMB_PUBLIC int embArray_resize (EmbArray *g)`
- `EMB_PUBLIC void embArray_copy (EmbArray *dst, EmbArray *src)`
- `EMB_PUBLIC int embArray_addArc (EmbArray *g, EmbArc arc)`
- `EMB_PUBLIC int embArray_addCircle (EmbArray *g, EmbCircle circle)`
- `EMB_PUBLIC int embArray_addEllipse (EmbArray *g, EmbEllipse ellipse)`
- `EMB_PUBLIC int embArray_addFlag (EmbArray *g, int flag)`

- `EMB_PUBLIC int embArray_addLine (EmbArray *g, EmbLine line)`
- `EMB_PUBLIC int embArray_addRect (EmbArray *g, EmbRect rect)`
- `EMB_PUBLIC int embArray_addPath (EmbArray *g, EmbPath p)`
- `EMB_PUBLIC int embArray_addPoint (EmbArray *g, EmbPoint p)`
- `EMB_PUBLIC int embArray_addPolygon (EmbArray *g, EmbPolygon p)`
- `EMB_PUBLIC int embArray_addPolyline (EmbArray *g, EmbPolyline p)`
- `EMB_PUBLIC int embArray_addStitch (EmbArray *g, EmbStitch st)`
- `EMB_PUBLIC int embArray_addThread (EmbArray *g, EmbThread p)`
- `EMB_PUBLIC int embArray_addVector (EmbArray *g, EmbVector)`
- `EMB_PUBLIC void embArray_free (EmbArray *p)`
- `EMB_PUBLIC EmbLine embLine_make (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `EMB_PUBLIC void embLine_normalVector (EmbLine line, EmbVector *result, int clockwise)`
- `EMB_PUBLIC EmbVector embLine_intersectionPoint (EmbLine line1, EmbLine line2)`
- `EMB_PUBLIC int embThread_findNearestColor (EmbColor color, EmbColor *colors, int n_colors)`
- `EMB_PUBLIC int embThread_findNearestThread (EmbColor color, EmbThread *threads, int n_threads)`
- `EMB_PUBLIC EmbThread embThread_getRandom (void)`
- `EMB_PUBLIC void embVector_normalize (EmbVector vector, EmbVector *result)`
- `EMB_PUBLIC void embVector_multiply (EmbVector vector, EmbReal magnitude, EmbVector *result)`
- `EMB_PUBLIC EmbVector embVector_add (EmbVector v1, EmbVector v2)`
- `EMB_PUBLIC EmbVector embVector_average (EmbVector v1, EmbVector v2)`
- `EMB_PUBLIC EmbVector embVector_subtract (EmbVector v1, EmbVector v2)`
- `EMB_PUBLIC EmbReal embVector_dot (EmbVector v1, EmbVector v2)`
- `EMB_PUBLIC EmbReal embVector_cross (EmbVector v1, EmbVector v2)`

*The "cross product" as vectors  $a$  and  $b$  returned as a real value.*

- `EMB_PUBLIC void embVector_transpose_product (EmbVector v1, EmbVector v2, EmbVector *result)`
- `EMB_PUBLIC EmbReal embVector_length (EmbVector vector)`
- `EMB_PUBLIC EmbReal embVector_relativeX (EmbVector a1, EmbVector a2, EmbVector a3)`
- `EMB_PUBLIC EmbReal embVector_relativeY (EmbVector a1, EmbVector a2, EmbVector a3)`
- `EMB_PUBLIC EmbReal embVector_angle (EmbVector v)`
- `EMB_PUBLIC EmbReal embVector_distance (EmbVector a, EmbVector b)`
- `EMB_PUBLIC EmbVector embVector_unit (EmbReal angle)`
- `EMB_PUBLIC EmbArc embArc_init (void)`
- `EMB_PUBLIC char embArc_clockwise (EmbArc arc)`
- `EMB_PUBLIC void getArcCenter (EmbArc arc, EmbVector *arcCenter)`
- `EMB_PUBLIC char getArcDataFromBulge (EmbReal bulge, EmbArc *arc, EmbReal *arcCenterX, EmbReal *arcCenterY, EmbReal *radius, EmbReal *diameter, EmbReal *chord, EmbReal *chordMidX, EmbReal *chordMidY, EmbReal *sagitta, EmbReal *apothem, EmbReal *incAngleInDegrees, char *clockwise)`
- `EMB_PUBLIC EmbCircle embCircle_init (void)`
- `EMB_PUBLIC int getCircleCircleIntersections (EmbCircle c0, EmbCircle c1, EmbVector *v0, EmbVector *v1)`
- `EMB_PUBLIC int getCircleTangentPoints (EmbCircle c, EmbVector p, EmbVector *v0, EmbVector *v1)`
- `EMB_PUBLIC EmbEllipse embEllipse_init (void)`
- `EMB_PUBLIC EmbEllipse embEllipse_make (EmbReal cx, EmbReal cy, EmbReal rx, EmbReal ry)`
- `EMB_PUBLIC EmbReal embEllipse_diameterX (EmbEllipse ellipse)`
- `EMB_PUBLIC EmbReal embEllipse_diameterY (EmbEllipse ellipse)`
- `EMB_PUBLIC EmbReal embEllipse_width (EmbEllipse ellipse)`
- `EMB_PUBLIC EmbReal embEllipse_height (EmbEllipse ellipse)`
- `EMB_PUBLIC EmbReal embEllipse_area (EmbEllipse ellipse)`
- `EMB_PUBLIC EmbReal embEllipse_perimeter (EmbEllipse ellipse)`
- `EMB_PUBLIC EmbImage embImage_create (int, int)`
- `EMB_PUBLIC void embImage_read (EmblImage *image, char *fname)`
- `EMB_PUBLIC int emblImage_write (EmblImage *image, char *fname)`
- `EMB_PUBLIC void emblImage_free (EmblImage *image)`
- `EMB_PUBLIC EmbRect embRect_init (void)`
- `EMB_PUBLIC EmbReal embRect_area (EmbRect)`

- EMB\_PUBLIC int threadColor (const char \*, int brand)
- EMB\_PUBLIC int threadColorNum (unsigned int color, int brand)
- EMB\_PUBLIC const char \* threadColorName (unsigned int color, int brand)
- EMB\_PUBLIC void embTime\_initNow (EmbTime \*t)
- EMB\_PUBLIC EmbTime embTime\_time (EmbTime \*t)
- EMB\_PUBLIC void embSatinOutline\_generateSatinOutline (EmbArray \*lines, EmbReal thickness, EmbSatinOutline \*result)
- EMB\_PUBLIC EmbArray \* embSatinOutline\_renderStitches (EmbSatinOutline \*result, EmbReal density)
- EMB\_PUBLIC EmbGeometry \* embGeometry\_init (int type\_in)
 

*Our generic object interface backends to each individual type.*
- EMB\_PUBLIC void embGeometry\_free (EmbGeometry \*obj)
 

*Free the memory occupied by a non-stitch geometry object.*
- EMB\_PUBLIC void embGeometry\_move (EmbGeometry \*obj, EmbVector delta)
 

*Translate obj by the vector delta.*
- EMB\_PUBLIC EmbRect embGeometry\_boundingRect (EmbGeometry \*obj)
 

*Calculate the bounding box of geometry obj based on what kind of geometric object it is.*
- EMB\_PUBLIC void embGeometry\_vulcanize (EmbGeometry \*obj)
 

*Toggle the rubber mode of the object.*
- EMB\_PUBLIC EmbPattern \* embPattern\_create (void)
 

*Returns a pointer to an EmbPattern. It is created on the heap. The caller is responsible for freeing the allocated memory with embPattern\_free().*
- EMB\_PUBLIC void embPattern\_hideStitchesOverLength (EmbPattern \*p, int length)
- EMB\_PUBLIC void embPattern\_fixColorCount (EmbPattern \*p)
- EMB\_PUBLIC int embPattern\_addThread (EmbPattern \*p, EmbThread thread)
- EMB\_PUBLIC void embPattern\_addStitchAbs (EmbPattern \*p, EmbReal x, EmbReal y, int flags, int isAuto←ColorIndex)
- EMB\_PUBLIC void embPattern\_addStitchRel (EmbPattern \*p, EmbReal dx, EmbReal dy, int flags, int is←AutoColorIndex)
- EMB\_PUBLIC void embPattern\_changeColor (EmbPattern \*p, int index)
- EMB\_PUBLIC void embPattern\_free (EmbPattern \*p)
- EMB\_PUBLIC void embPattern\_scale (EmbPattern \*p, EmbReal scale)
- EMB\_PUBLIC EmbReal embPattern\_totalStitchLength (EmbPattern \*pattern)
- EMB\_PUBLIC EmbReal embPattern\_minimumStitchLength (EmbPattern \*pattern)
- EMB\_PUBLIC EmbReal embPattern\_maximumStitchLength (EmbPattern \*pattern)
- EMB\_PUBLIC void embPattern\_lengthHistogram (EmbPattern \*pattern, int \*bin, int NUMBINS)
- EMB\_PUBLIC int embPattern\_realStitches (EmbPattern \*pattern)
- EMB\_PUBLIC int embPattern\_jumpStitches (EmbPattern \*pattern)
- EMB\_PUBLIC int embPattern\_trimStitches (EmbPattern \*pattern)
- EMB\_PUBLIC EmbRect embPattern\_calcBoundingBox (EmbPattern \*p)
- EMB\_PUBLIC void embPattern\_flipHorizontal (EmbPattern \*p)
- EMB\_PUBLIC void embPattern\_flipVertical (EmbPattern \*p)
- EMB\_PUBLIC void embPattern\_flip (EmbPattern \*p, int horz, int vert)
- EMB\_PUBLIC void embPattern\_combineJumpStitches (EmbPattern \*p)
- EMB\_PUBLIC void embPattern\_correctForMaxStitchLength (EmbPattern \*p, EmbReal maxStitchLength, EmbReal maxJumpLength)
- EMB\_PUBLIC void embPattern\_center (EmbPattern \*p)
- EMB\_PUBLIC void embPattern\_loadExternalColorFile (EmbPattern \*p, const char \*fileName)
- EMB\_PUBLIC void embPattern\_convertGeometry (EmbPattern \*p)
- EMB\_PUBLIC void embPattern\_designDetails (EmbPattern \*p)
- EMB\_PUBLIC EmbPattern \* embPattern\_combine (EmbPattern \*p1, EmbPattern \*p2)
- EMB\_PUBLIC int embPattern\_color\_count (EmbPattern \*pattern, EmbColor startColor)
- EMB\_PUBLIC void embPattern\_end (EmbPattern \*p)
- EMB\_PUBLIC void embPattern\_crossstitch (EmbPattern \*pattern, EmblImage \*, int threshhold)
- EMB\_PUBLIC void embPattern\_horizontal\_fill (EmbPattern \*pattern, EmblImage \*, int threshhold)

- EMB\_PUBLIC int embPattern\_render (EmbPattern \*pattern, char \*fname)
- EMB\_PUBLIC int embPattern\_simulate (EmbPattern \*pattern, char \*fname)
- EMB\_PUBLIC void embPattern\_addCircleAbs (EmbPattern \*p, EmbCircle obj)
- EMB\_PUBLIC void embPattern\_addEllipseAbs (EmbPattern \*p, EmbEllipse obj)
- EMB\_PUBLIC void embPattern\_addLineAbs (EmbPattern \*p, EmbLine obj)
- EMB\_PUBLIC void embPattern\_addPathAbs (EmbPattern \*p, EmbPath obj)
- EMB\_PUBLIC void embPattern\_addPointAbs (EmbPattern \*p, EmbPoint obj)
- EMB\_PUBLIC void embPattern\_addPolygonAbs (EmbPattern \*p, EmbPolygon obj)
- EMB\_PUBLIC void embPattern\_addPolylineAbs (EmbPattern \*p, EmbPolyline obj)
- EMB\_PUBLIC void embPattern\_addRectAbs (EmbPattern \*p, EmbRect obj)
- EMB\_PUBLIC void embPattern\_copyStitchListToPolylines (EmbPattern \*pattern)
- EMB\_PUBLIC void embPattern\_copyPolylinesToStitchList (EmbPattern \*pattern)
- EMB\_PUBLIC void embPattern\_moveStitchListToPolylines (EmbPattern \*pattern)
- EMB\_PUBLIC void embPattern\_movePolylinesToStitchList (EmbPattern \*pattern)
- EMB\_PUBLIC char embPattern\_read (EmbPattern \*pattern, const char \*fileName, int format)
- EMB\_PUBLIC char embPattern\_write (EmbPattern \*pattern, const char \*fileName, int format)
- EMB\_PUBLIC char embPattern\_readAuto (EmbPattern \*pattern, const char \*fileName)
- EMB\_PUBLIC char embPattern\_writeAuto (EmbPattern \*pattern, const char \*fileName)
- EMB\_PUBLIC void report (int result, char \*label)
- EMB\_PUBLIC int full\_test\_matrix (char \*fname)
- EMB\_PUBLIC int emb\_round (EmbReal x)
- EMB\_PUBLIC EmbReal radians (EmbReal degree)
- EMB\_PUBLIC EmbReal degrees (EmbReal radian)

## Variables

- EmbFormatList formatTable [numberOfFormats]
- const int pecThreadCount
- const int shvThreadCount
- const EmbReal embConstantPi
- const EmbThread husThreads []
- const EmbThread jefThreads []
- const EmbThread shvThreads []
- const EmbThread pcmThreads []
- const EmbThread pecThreads []
- const unsigned char \_dxfColorTable [ ][3]
- EmbThread black\_thread
- const unsigned char vipDecodingTable []
- int emb\_error
 

*Error code storage for optional control flow blocking.*
- int emb\_verbose
 

*Verbosity level.*

### 14.117.1 Macro Definition Documentation

#### 14.117.1.1 Arc\_Polyester #define Arc\_Polyester 0

**14.117.1.2 Arc\_Rayon** #define Arc\_Rayon 1

**14.117.1.3 CHUNK\_SIZE** #define CHUNK\_SIZE 128

**14.117.1.4 CoatsAndClark\_Rayon** #define CoatsAndClark\_Rayon 2

**14.117.1.5 dxf\_color** #define dxf\_color 29

**14.117.1.6 EMB\_ARC** #define EMB\_ARC 1

**14.117.1.7 EMB\_ARRAY** #define EMB\_ARRAY 0

**14.117.1.8 EMB\_CIRCLE** #define EMB\_CIRCLE 2

**14.117.1.9 EMB\_DIM\_DIAMETER** #define EMB\_DIM\_DIAMETER 3

**14.117.1.10 EMB\_DIM\_LEADER** #define EMB\_DIM\_LEADER 4

**14.117.1.11 EMB\_ELLIPSE** #define EMB\_ELLIPSE 5

**14.117.1.12 EMB\_FLAG** #define EMB\_FLAG 6

**14.117.1.13 EMB\_FORMAT\_100** #define EMB\_FORMAT\_100 0

Format identifiers

**14.117.1.14 EMB\_FORMAT\_10O** #define EMB\_FORMAT\_10O 1

**14.117.1.15 EMB\_FORMAT\_ART** #define EMB\_FORMAT\_ART 2

**14.117.1.16 EMB\_FORMAT\_BMC** #define EMB\_FORMAT\_BMC 3

**14.117.1.17 EMB\_FORMAT\_BRO** #define EMB\_FORMAT\_BRO 4

**14.117.1.18 EMB\_FORMAT\_CND** #define EMB\_FORMAT\_CND 5

**14.117.1.19 EMB\_FORMAT\_COL** #define EMB\_FORMAT\_COL 6

**14.117.1.20 EMB\_FORMAT\_CSD** #define EMB\_FORMAT\_CSD 7

**14.117.1.21 EMB\_FORMAT\_CSV** #define EMB\_FORMAT\_CSV 8

**14.117.1.22 EMB\_FORMAT\_DAT** #define EMB\_FORMAT\_DAT 9

**14.117.1.23 EMB\_FORMATDEM** #define EMB\_FORMATDEM 10

**14.117.1.24 EMB\_FORMAT\_DSB** #define EMB\_FORMAT\_DSB 11

**14.117.1.25 EMB\_FORMAT\_DST** #define EMB\_FORMAT\_DST 12

**14.117.1.26 EMB\_FORMAT\_DSZ** #define EMB\_FORMAT\_DSZ 13

**14.117.1.27 EMB\_FORMAT\_DXF** #define EMB\_FORMAT\_DXF 14

**14.117.1.28 EMB\_FORMAT\_EDR** #define EMB\_FORMAT\_EDR 15

**14.117.1.29 EMB\_FORMAT\_EMD** #define EMB\_FORMAT\_EMD 16

**14.117.1.30 EMB\_FORMAT\_EXP** #define EMB\_FORMAT\_EXP 17

**14.117.1.31 EMB\_FORMAT\_EXY** #define EMB\_FORMAT\_EXY 18

**14.117.1.32 EMB\_FORMAT\_EYS** #define EMB\_FORMAT\_EYS 19

**14.117.1.33 EMB\_FORMAT\_FXY** #define EMB\_FORMAT\_FXY 20

**14.117.1.34 EMB\_FORMAT\_GC** #define EMB\_FORMAT\_GC 21

**14.117.1.35 EMB\_FORMAT\_GNC** #define EMB\_FORMAT\_GNC 22

**14.117.1.36 EMB\_FORMAT\_GT** #define EMB\_FORMAT\_GT 23

**14.117.1.37 EMB\_FORMAT\_HUS** #define EMB\_FORMAT\_HUS 24

**14.117.1.38 EMB\_FORMAT\_INB** #define EMB\_FORMAT\_INB 25

**14.117.1.39 EMB\_FORMAT\_INF** #define EMB\_FORMAT\_INF 26

**14.117.1.40 EMB\_FORMAT\_JEF** #define EMB\_FORMAT\_JEF 27

**14.117.1.41 EMB\_FORMAT\_KSM** #define EMB\_FORMAT\_KSM 28

**14.117.1.42 EMB\_FORMAT\_MAX** #define EMB\_FORMAT\_MAX 29

**14.117.1.43 EMB\_FORMAT\_MIT** #define EMB\_FORMAT\_MIT 30

**14.117.1.44 EMB\_FORMAT\_NEW** #define EMB\_FORMAT\_NEW 31

**14.117.1.45 EMB\_FORMAT\_OFM** #define EMB\_FORMAT\_OFM 32

**14.117.1.46 EMB\_FORMAT\_PCD** #define EMB\_FORMAT\_PCD 33

**14.117.1.47 EMB\_FORMAT\_PCM** #define EMB\_FORMAT\_PCM 34

**14.117.1.48 EMB\_FORMAT\_PCQ** #define EMB\_FORMAT\_PCQ 35

**14.117.1.49 EMB\_FORMAT\_PCS** #define EMB\_FORMAT\_PCS 36

**14.117.1.50 EMB\_FORMAT\_PEC** #define EMB\_FORMAT\_PEC 37

**14.117.1.51 EMB\_FORMAT\_PEL** #define EMB\_FORMAT\_PEL 38

**14.117.1.52 EMB\_FORMAT\_PEM** #define EMB\_FORMAT\_PEM 39

**14.117.1.53 EMB\_FORMAT\_PES** #define EMB\_FORMAT\_PES 40

**14.117.1.54 EMB\_FORMAT\_PHB** #define EMB\_FORMAT\_PHB 41

**14.117.1.55 EMB\_FORMAT\_PHC** #define EMB\_FORMAT\_PHC 42

**14.117.1.56 EMB\_FORMAT\_PLT** #define EMB\_FORMAT\_PLT 43

**14.117.1.57 EMB\_FORMAT\_RGB** #define EMB\_FORMAT\_RGB 44

**14.117.1.58 EMB\_FORMAT\_SEW** #define EMB\_FORMAT\_SEW 45

**14.117.1.59 EMB\_FORMAT\_SHV** #define EMB\_FORMAT\_SHV 46

**14.117.1.60 EMB\_FORMAT\_SST** #define EMB\_FORMAT\_SST 47

**14.117.1.61 EMB\_FORMAT\_STX** #define EMB\_FORMAT\_STX 48

**14.117.1.62 EMB\_FORMAT\_SVG** #define EMB\_FORMAT\_SVG 49

**14.117.1.63 EMB\_FORMAT\_T01** #define EMB\_FORMAT\_T01 50

**14.117.1.64 EMB\_FORMAT\_T09** #define EMB\_FORMAT\_T09 51

**14.117.1.65 EMB\_FORMAT\_TAP** #define EMB\_FORMAT\_TAP 52

**14.117.1.66 EMB\_FORMAT\_THR** #define EMB\_FORMAT\_THR 53

**14.117.1.67 EMB\_FORMAT\_TXT** #define EMB\_FORMAT\_TXT 54

**14.117.1.68 EMB\_FORMAT\_U00** #define EMB\_FORMAT\_U00 55

**14.117.1.69 EMB\_FORMAT\_U01** #define EMB\_FORMAT\_U01 56

**14.117.1.70 EMB\_FORMAT\_VIP** #define EMB\_FORMAT\_VIP 57

**14.117.1.71 EMB\_FORMAT\_VP3** #define EMB\_FORMAT\_VP3 58

**14.117.1.72 EMB\_FORMAT\_XXX** #define EMB\_FORMAT\_XXX 59

**14.117.1.73 EMB\_FORMAT\_ZSK** #define EMB\_FORMAT\_ZSK 60

**14.117.1.74 EMB\_IMAGE** #define EMB\_IMAGE 8

**14.117.1.75 EMB\_LINE** #define EMB\_LINE 7

**14.117.1.76 EMB\_MAX\_LAYERS** #define EMB\_MAX\_LAYERS 10

**14.117.1.77 EMB\_PATH** #define EMB\_PATH 9

**14.117.1.78 EMB\_POINT** #define EMB\_POINT 10

**14.117.1.79 EMB\_POLYGON** #define EMB\_POLYGON 11

**14.117.1.80 EMB\_POLYLINE** #define EMB\_POLYLINE 12

**14.117.1.81 EMB\_PUBLIC** #define EMB\_PUBLIC

**14.117.1.82 EMB\_RECT** #define EMB\_RECT 13

**14.117.1.83 EMB\_SPLINE** #define EMB\_SPLINE 14

**14.117.1.84 EMB\_STITCH** #define EMB\_STITCH 15

**14.117.1.85 EMB\_TEXT\_MULTI** #define EMB\_TEXT\_MULTI 17

**14.117.1.86 EMB\_TEXT\_SINGLE** #define EMB\_TEXT\_SINGLE 16

**14.117.1.87 EMB\_THREAD** #define EMB\_THREAD 19

**14.117.1.88 EMB\_VECTOR** #define EMB\_VECTOR 18

**14.117.1.89 EMBFORMAT\_MAXDESC** #define EMBFORMAT\_MAXDESC 50

**14.117.1.90 EMBFORMAT\_MAXEXT** #define EMBFORMAT\_MAXEXT 3

**14.117.1.91 EMBFORMAT\_OBJECTONLY** #define EMBFORMAT\_OBJECTONLY 2

**14.117.1.92 EMBFORMAT\_STCHANDOBJ** #define EMBFORMAT\_STCHANDOBJ 3 /\* binary operation←  
: 1+2=3 \*/

**14.117.1.93 EMBFORMAT\_STITCHONLY** #define EMBFORMAT\_STITCHONLY 1

**14.117.1.94 EMBFORMAT\_UNSUPPORTED** #define EMBFORMAT\_UNSUPPORTED 0

**14.117.1.95 END** #define END 16 /\*! end of program \*/

**14.117.1.96 Exquisite\_Polyester** #define Exquisite\_Polyester 3

**14.117.1.97 Fufu\_Polyester** #define Fufu\_Polyester 4

**14.117.1.98 Fufu\_Rayon** #define Fufu\_Rayon 5

**14.117.1.99 Hemingworth\_Polyester** #define Hemingworth\_Polyester 6

**14.117.1.100 hus\_thread** #define hus\_thread 24

**14.117.1.101 Isacord\_Polyester** #define Isacord\_Polyester 7

**14.117.1.102 Isafil\_Rayon** #define Isafil\_Rayon 8

**14.117.1.103 jef\_thread** #define jef\_thread 25

**14.117.1.104 JUMP** #define JUMP 1 /\*! move to (x, y) \*/

**14.117.1.105 LIBEMBROIDERY\_EMBEDDED\_VERSION** #define LIBEMBROIDERY\_EMBEDDED\_VERSION 0

**14.117.1.106 Madeira\_Polyester** #define Madeira\_Polyester 11

**14.117.1.107 Madeira\_Rayon** #define Madeira\_Rayon 12

**14.117.1.108 Marathon\_Polyester** #define Marathon\_Polyester 9

**14.117.1.109 Marathon\_Rayon** #define Marathon\_Rayon 10

**14.117.1.110 MAX\_STITCHES** #define MAX\_STITCHES 1000000

**14.117.1.111 MAX\_THREADS** #define MAX\_THREADS 256

**14.117.1.112 Metro\_Polyester** #define Metro\_Polyester 13

**14.117.1.113 NORMAL** #define NORMAL 0 /\*! stitch to (x, y) \*/

Machine codes for stitch flags

**14.117.1.114 numberOfFormats** #define numberOfFormats 61

**14.117.1.115 Pantone** #define Pantone 14

**14.117.1.116 pcm\_thread** #define pcm\_thread 26

**14.117.1.117 pec\_thread** #define pec\_thread 27

**14.117.1.118 RobisonAnton\_Polyester** #define RobisonAnton\_Polyester 15

**14.117.1.119 RobisonAnton\_Rayon** #define RobisonAnton\_Rayon 16

**14.117.1.120 SEQUIN** #define SEQUIN 8 /\*! sequin \*/

**14.117.1.121 shv\_thread** #define shv\_thread 28

**14.117.1.122 Sigma\_Polyester** #define Sigma\_Polyester 17

**14.117.1.123 STOP** #define STOP 4 /\*! pause machine for thread change \*/

**14.117.1.124 Sulky\_Rayon** #define Sulky\_Rayon 18

**14.117.1.125 SVG\_Colors** #define SVG\_Colors 23

**14.117.1.126 ThreadArt\_Polyester** #define ThreadArt\_Polyester 20

**14.117.1.127 ThreadArt\_Rayon** #define ThreadArt\_Rayon 19

**14.117.1.128 ThreaDelight\_Polyester** #define ThreaDelight\_Polyester 21

**14.117.1.129 TRIM** #define TRIM 2 /\*! trim + move to (x, y) \*/

**14.117.1.130 Z102\_Isacord\_Polyester** #define Z102\_Isacord\_Polyester 22

## 14.117.2 Typedef Documentation

**14.117.2.1 EmbAlignedDim** typedef struct [EmbAlignedDim\\_](#) EmbAlignedDim

**14.117.2.2 EmbAngularDim** typedef struct [EmbAngularDim\\_](#) EmbAngularDim

**14.117.2.3 EmbArc** `typedef struct EmbArc_ EmbArc`

absolute position (not relative)

**14.117.2.4 EmbArcLengthDim** `typedef struct EmbArcLengthDim_ EmbArcLengthDim`**14.117.2.5 EmbArray** `typedef struct EmbArray_ EmbArray`

The basic array type.

**14.117.2.6 EmbBezier** `typedef struct EmbBezier_ EmbBezier`**14.117.2.7 EmbBlock** `typedef struct EmbBlock_ EmbBlock`**14.117.2.8 EmbCircle** `typedef struct EmbCircle_ EmbCircle`**14.117.2.9 EmbColor** `typedef struct EmbColor_ EmbColor`

EmbColor uses the light primaries: red, green, blue in that order.

**14.117.2.10 EmbDiameterDim** `typedef struct EmbDiameterDim_ EmbDiameterDim`**14.117.2.11 EmbEllipse** `typedef struct EmbEllipse_ EmbEllipse`**14.117.2.12 EmbFlag** `typedef int EmbFlag`**14.117.2.13 EmbFormatList** `typedef struct EmbFormatList_ EmbFormatList`

**14.117.2.14 EmbGeometry** `typedef struct EmbGeometry_ EmbGeometry`

**14.117.2.15 EmbImage** `typedef struct EmbImage_ EmbImage`

**14.117.2.16 EmbInfiniteLine** `typedef struct EmbInfiniteLine_ EmbInfiniteLine`

**14.117.2.17 EmbLayer** `typedef struct EmbLayer_ EmbLayer`

**14.117.2.18 EmbLeaderDim** `typedef struct EmbLeaderDim_ EmbLeaderDim`

**14.117.2.19 EmbLine** `typedef struct EmbLine_ EmbLine`

**14.117.2.20 EmbLinearDim** `typedef struct EmbLinearDim_ EmbLinearDim`

**14.117.2.21 EmbOrdinateDim** `typedef struct EmbOrdinateDim_ EmbOrdinateDim`

**14.117.2.22 EmbPath** `typedef struct EmbPath_ EmbPath`

**14.117.2.23 EmbPattern** `typedef struct EmbPattern_ EmbPattern`

**14.117.2.24 EmbPoint** `typedef struct EmbPoint_ EmbPoint`

**14.117.2.25 EmbPolygon** `typedef EmbPath EmbPolygon`

**14.117.2.26 EmbPolyline** `typedef EmbPath EmbPolyline`

**14.117.2.27 EmbRadiusDim** `typedef struct EmbRadiusDim_ EmbRadiusDim`

**14.117.2.28 EmbRay** `typedef struct EmbRay_ EmbRay`

**14.117.2.29 EmbReal** `typedef float EmbReal`

**14.117.2.30 EmbRect** `typedef struct EmbRect_ EmbRect`

**14.117.2.31 EmbSatinOutline** `typedef struct EmbSatinOutline_ EmbSatinOutline`

**14.117.2.32 EmbSpline** `typedef struct EmbSpline_ EmbSpline`

**14.117.2.33 EmbStitch** `typedef struct EmbStitch_ EmbStitch`

**14.117.2.34 EmbTextMulti** `typedef struct EmbTextMulti_ EmbTextMulti`

**14.117.2.35 EmbTextSingle** `typedef struct EmbTextSingle_ EmbTextSingle`

**14.117.2.36 EmbThread** `typedef struct EmbThread_ EmbThread`

**14.117.2.37 EmbTime** `typedef struct EmbTime_ EmbTime`

**14.117.2.38 EmbVector** `typedef struct EmbVector_ EmbVector`

The basic type to represent points absolutely or represent directions.

Positive y is up, units are in mm.

**14.117.2.39 L\_system** `typedef struct LSYSTEM L_system`

**14.117.2.40 thread\_color** `typedef struct thread_color_ thread_color`

### 14.117.3 Function Documentation

**14.117.3.1 convert()** `EMB_PUBLIC int convert (`  
    `const char * inf,`  
    `const char * outf )`

**14.117.3.2 degrees()** `EMB_PUBLIC EmbReal degrees (`  
    `EmbReal radian )`

**14.117.3.3 emb\_identify\_format()** `EMB_PUBLIC int emb_identify_format (`  
    `const char * fileName )`

Parameters

<code>fileName</code>	<input type="text"/>
-----------------------	----------------------

Returns

`int`

**14.117.3.4 emb\_round()** `EMB_PUBLIC int emb_round (`  
`EmbReal x )`

**14.117.3.5 embArc\_clockwise()** `EMB_PUBLIC char embArc_clockwise (`  
`EmbArc arc )`

**14.117.3.6 embArc\_init()** `EMB_PUBLIC EmbArc embArc_init (`  
`void )`

**14.117.3.7 embArray\_addArc()** `EMB_PUBLIC int embArray_addArc (`  
`EmbArray * a,`  
`EmbArc b )`

**Parameters**

<code>a</code>	
<code>b</code>	

**Returns**

`int`

**14.117.3.8 embArray\_addCircle()** `EMB_PUBLIC int embArray_addCircle (`  
`EmbArray * a,`  
`EmbCircle b )`

**Parameters**

<code>a</code>	
<code>b</code>	

**Returns**

`int`

**14.117.3.9 embArray\_addEllipse()** `EMB_PUBLIC int embArray_addEllipse (`  
`EmbArray * a,`  
`EmbEllipse b )`

**Parameters**

a	
b	

**Returns**

int

**14.117.3.10 embArray\_addFlag()** EMB\_PUBLIC int embArray\_addFlag (

```
EmbArray * a,  
EmbFlag b )
```

**Parameters**

a	
b	

**Returns**

int

**14.117.3.11 embArray\_addLine()** EMB\_PUBLIC int embArray\_addLine (

```
EmbArray * a,  
EmbLine b )
```

**Parameters**

a	
b	

**Returns**

int

**14.117.3.12 embArray\_addPath()** EMB\_PUBLIC int embArray\_addPath (

```
EmbArray * a,  
EmbPath b )
```

**Parameters**

a	
b	

Returns

int

**14.117.3.13 embArray\_addPoint()** `EMB_PUBLIC int embArray_addPoint (`  
`EmbArray * a,`  
`EmbPoint b )`

Parameters

a	
b	

Returns

int

**14.117.3.14 embArray\_addPolygon()** `EMB_PUBLIC int embArray_addPolygon (`  
`EmbArray * a,`  
`EmbPolygon b )`

Parameters

a	
b	

Returns

int

**14.117.3.15 embArray\_addPolyline()** `EMB_PUBLIC int embArray_addPolyline (`  
`EmbArray * a,`  
`EmbPolyline b )`

Parameters

a	
b	

Returns

int

**14.117.3.16 embArray\_addRect()** `EMB_PUBLIC int embArray_addRect (`  
`EmbArray * a,`  
`EmbRect b )`

Parameters

<code>a</code>	
<code>b</code>	

Returns

`int`

**14.117.3.17 embArray\_addStitch()** `EMB_PUBLIC int embArray_addStitch (`  
`EmbArray * a,`  
`EmbStitch b )`

Parameters

<code>a</code>	
<code>b</code>	

Returns

`int`

**14.117.3.18 embArray\_addThread()** `EMB_PUBLIC int embArray_addThread (`  
`EmbArray * g,`  
`EmbThread p )`

**14.117.3.19 embArray\_addVector()** `EMB_PUBLIC int embArray_addVector (`  
`EmbArray * a,`  
`EmbVector b )`

Parameters

<code>a</code>	
<code>b</code>	

Returns

`int`

**14.117.3.20 embArray\_copy()** `EMB_PUBLIC void embArray_copy (`  
`EmbArray * dst,`  
`EmbArray * src )`

Parameters

<code>dst</code>	<input type="text"/>
<code>src</code>	<input type="text"/>

**14.117.3.21 embArray\_create()** `EMB_PUBLIC EmbArray * embArray_create (`  
`int type )`

Parameters

<code>type</code>	<input type="text"/>
-------------------	----------------------

Returns

`EmbArray*`

**14.117.3.22 embArray\_free()** `EMB_PUBLIC void embArray_free (`  
`EmbArray * a )`

Parameters

<code>a</code>	<input type="text"/>
----------------	----------------------

**14.117.3.23 embArray\_resize()** `EMB_PUBLIC int embArray_resize (`  
`EmbArray * a )`

Parameters

<code>a</code>	<input type="text"/>
----------------	----------------------

Returns

`int`

**14.117.3.24 embCircle\_init()** `EMB_PUBLIC EmbCircle embCircle_init (`  
`void )`

**14.117.3.25 embColor\_create()** `EMB_PUBLIC EmbColor * embColor_create (`  
    `unsigned char r,`  
    `unsigned char g,`  
    `unsigned char b )`

**14.117.3.26 embColor\_distance()** `EMB_PUBLIC int embColor_distance (`  
    `EmbColor a,`  
    `EmbColor b )`

**Parameters**

<code>a</code>	
<code>b</code>	

**Returns**

`int`

**14.117.3.27 embColor\_fromHexStr()** `EMB_PUBLIC EmbColor embColor_fromHexStr (`  
    `char * val )`

Converts a 6 digit hex string (I.E. "00FF00") into an EmbColor and returns it.

**Parameters**

<code>val</code>	6 byte code describing the color as a hex string, doesn't require null termination.
------------------	---

**Returns**

`EmbColor` the same color as our internal type.

**14.117.3.28 embColor\_make()** `EMB_PUBLIC EmbColor embColor_make (`  
    `unsigned char r,`  
    `unsigned char g,`  
    `unsigned char b )`

**14.117.3.29 embEllipse\_area()** `EMB_PUBLIC EmbReal embEllipse_area (`  
    `EmbEllipse ellipse )`

**14.117.3.30 `embEllipse_diameterX()`** `EMB_PUBLIC EmbReal embEllipse_diameterX (`  
`EmbEllipse ellipse )`

**14.117.3.31 `embEllipse_diameterY()`** `EMB_PUBLIC EmbReal embEllipse_diameterY (`  
`EmbEllipse ellipse )`

**14.117.3.32 `embEllipse_height()`** `EMB_PUBLIC EmbReal embEllipse_height (`  
`EmbEllipse ellipse )`

**14.117.3.33 `embEllipse_init()`** `EMB_PUBLIC EmbEllipse embEllipse_init (`  
`void )`

**14.117.3.34 `embEllipse_make()`** `EMB_PUBLIC EmbEllipse embEllipse_make (`  
`EmbReal cx,`  
`EmbReal cy,`  
`EmbReal rx,`  
`EmbReal ry )`

**14.117.3.35 `embEllipse_perimeter()`** `EMB_PUBLIC EmbReal embEllipse_perimeter (`  
`EmbEllipse ellipse )`

**14.117.3.36 `embEllipse_width()`** `EMB_PUBLIC EmbReal embEllipse_width (`  
`EmbEllipse ellipse )`

**14.117.3.37 `embGeometry_boundingRect()`** `EMB_PUBLIC EmbRect embGeometry_boundingRect (`  
`EmbGeometry * obj )`

Calculate the bounding box of geometry *obj* based on what kind of geometric object it is.

#### Parameters

<i>obj</i>	A pointer to the geometry memory.
------------	-----------------------------------

**Returns**

EmbRect The bounding box in the same scale as the input geometry.

In the case of a failure the bounding box returned is always the unit square with top left corner at (0, 0).

**14.117.3.38 embGeometry\_free()** EMB\_PUBLIC void embGeometry\_free ( EmbGeometry \* obj )

Free the memory occupied by a non-stitch geometry object.

**Parameters**

<i>obj</i>	Pointer to geometry memory.
------------	-----------------------------

**14.117.3.39 embGeometry\_init()** EMB\_PUBLIC EmbGeometry \* embGeometry\_init ( int type\_in )

Our generic object interface backends to each individual type.

**Parameters**

<i>type</i> _in	
--------------------	--

**Returns**

EmbGeometry\*

**14.117.3.40 embGeometry\_move()** EMB\_PUBLIC void embGeometry\_move ( EmbGeometry \* obj, EmbVector delta )

Translate *obj* by the vector *delta*.

**Parameters**

<i>obj</i>	A pointer to the geometry memory.
<i>delta</i>	A vector in the 0.1mm scale to offset the geometry by.

**14.117.3.41 embGeometry\_vulcanize()** EMB\_PUBLIC void embGeometry\_vulcanize ( EmbGeometry \* obj )

Toggle the rubber mode of the object.

**Parameters**

<i>obj</i>	
------------	--

**Todo** Review. This could be controlled by a simple flag.

**14.117.3.42 embImage\_create()** `EMB_PUBLIC EmbImage embImage_create (`

```
    int ,  
    int )
```

**14.117.3.43 embImage\_free()** `EMB_PUBLIC void embImage_free (`

```
    EmbImage * image )
```

**14.117.3.44 embImage\_read()** `EMB_PUBLIC void embImage_read (`

```
    EmbImage * image,  
    char * fname )
```

**14.117.3.45 embImage\_write()** `EMB_PUBLIC int embImage_write (`

```
    EmbImage * image,  
    char * fname )
```

**14.117.3.46 embLine\_intersectionPoint()** `EMB_PUBLIC EmbVector embLine_intersectionPoint (`

```
    EmbLine line1,  
    EmbLine line2 )
```

**14.117.3.47 embLine\_make()** `EMB_PUBLIC EmbLine embLine_make (`

```
    EmbReal x1,  
    EmbReal y1,  
    EmbReal x2,  
    EmbReal y2 )
```

**14.117.3.48 embLine\_normalVector()** `EMB_PUBLIC void embLine_normalVector (`  
`EmbLine line,`  
`EmbVector * result,`  
`int clockwise )`

Finds the normalized vector perpendicular (*clockwise*) to the line given by v1->v2 (normal to the line)

**14.117.3.49 embPattern\_addCircleAbs()** `EMB_PUBLIC void embPattern_addCircleAbs (`  
`EmbPattern * p,`  
`EmbCircle circle )`

Adds a circle object to pattern (*p*) with its center at the absolute position (*cx,cy*) with a radius of (*r*). Positive y is up. Units are in millimeters.

**14.117.3.50 embPattern\_addEllipseAbs()** `EMB_PUBLIC void embPattern_addEllipseAbs (`  
`EmbPattern * p,`  
`EmbEllipse ellipse )`

Adds an ellipse object to pattern (*p*) with its center at the absolute position (*cx,cy*) with radii of (*rx,ry*). Positive y is up. Units are in millimeters.

**14.117.3.51 embPattern\_addLineAbs()** `EMB_PUBLIC void embPattern_addLineAbs (`  
`EmbPattern * p,`  
`EmbLine line )`

Adds a line object to pattern (*p*) starting at the absolute position (*x1,y1*) and ending at the absolute position (*x2,y2*). Positive y is up. Units are in millimeters.

**14.117.3.52 embPattern\_addPathAbs()** `EMB_PUBLIC void embPattern_addPathAbs (`  
`EmbPattern * p,`  
`EmbPath obj )`

**14.117.3.53 embPattern\_addPointAbs()** `EMB_PUBLIC void embPattern_addPointAbs (`  
`EmbPattern * p,`  
`EmbPoint obj )`

Adds a point object to pattern (*p*) at the absolute position (*x,y*). Positive y is up. Units are in millimeters.

**14.117.3.54 embPattern\_addPolygonAbs()** `EMB_PUBLIC void embPattern_addPolygonAbs (`  
`EmbPattern * p,`  
`EmbPolygon obj )`

**14.117.3.55 embPattern\_addPolylineAbs()** `EMB_PUBLIC void embPattern_addPolylineAbs (`  
`EmbPattern * p,`  
`EmbPolyline obj )`

---

**14.117.3.56 embPattern\_addRectAbs()** `EMB_PUBLIC void embPattern_addRectAbs (`  
`EmbPattern * p,`  
`EmbRect rect )`

Adds a rectangle object to pattern (*p*) at the absolute position (*x,y*) with a width of (*w*) and a height of (*h*). Positive y is up. Units are in millimeters.

**14.117.3.57 embPattern\_addStitchAbs()** `EMB_PUBLIC void embPattern_addStitchAbs (`  
`EmbPattern * p,`  
`EmbReal x,`  
`EmbReal y,`  
`int flags,`  
`int isAutoColorIndex )`

Adds a stitch to the pattern (*p*) at the absolute position (*x,y*). Positive y is up. Units are in millimeters.

**14.117.3.58 embPattern\_addStitchRel()** `EMB_PUBLIC void embPattern_addStitchRel (`  
`EmbPattern * p,`  
`EmbReal dx,`  
`EmbReal dy,`  
`int flags,`  
`int isAutoColorIndex )`

Adds a stitch to the pattern (*p*) at the relative position (*dx,dy*) to the previous stitch. Positive y is up. Units are in millimeters.

**14.117.3.59 embPattern\_addThread()** `EMB_PUBLIC int embPattern_addThread (`  
`EmbPattern * pattern,`  
`EmbThread thread )`

#### Parameters

<i>pattern</i>	<input type="text"/>
<i>thread</i>	<input type="text"/>

#### Returns

`int`

**14.117.3.60 embPattern\_calcBoundingBox()** `EMB_PUBLIC EmbRect embPattern_calcBoundingBox (`  
`EmbPattern * p )`

Returns an EmbRect that encapsulates all stitches and objects in the pattern (*p*).

**14.117.3.61 embPattern\_center()** `EMB_PUBLIC void embPattern_center (`  
`EmbPattern * p )`

**14.117.3.62 embPattern\_changeColor()** `EMB_PUBLIC void embPattern_changeColor (`  
`EmbPattern * p,`  
`int index )`

**Parameters**

<i>p</i>	
<i>index</i>	

**14.117.3.63 embPattern\_color\_count()** `EMB_PUBLIC int embPattern_color_count (`  
`EmbPattern * pattern,`  
`EmbColor startColor )`

**14.117.3.64 embPattern\_combine()** `EMB_PUBLIC EmbPattern * embPattern_combine (`  
`EmbPattern * p1,`  
`EmbPattern * p2 )`

**Parameters**

<i>p1</i>	
<i>p2</i>	

**Returns**

`EmbPattern*`

**14.117.3.65 embPattern\_combineJumpStitches()** `EMB_PUBLIC void embPattern_combineJumpStitches (`  
`EmbPattern * p )`

**14.117.3.66 embPattern\_convertGeometry()** `EMB_PUBLIC void embPattern_convertGeometry (`  
`EmbPattern * p )`

**Parameters**

<i>p</i>	
----------	--

**14.117.3.67 embPattern\_copyPolylinesToStitchList()** `EMB_PUBLIC void embPattern_copyPolylinesTo←`  
`StitchList (`  
`EmbPattern * pattern )`

**14.117.3.68 embPattern\_copyStitchListToPolylines()** `EMB_PUBLIC void embPattern_copyStitchListToPolylines ( EmbPattern * pattern )`

**14.117.3.69 embPattern\_correctForMaxStitchLength()** `EMB_PUBLIC void embPattern_correctForMaxStitchLength ( EmbPattern * p, EmbReal maxStitchLength, EmbReal maxJumpLength )`

**14.117.3.70 embPattern\_create()** `EMB_PUBLIC EmbPattern * embPattern_create ( void )`

Returns a pointer to an EmbPattern. It is created on the heap. The caller is responsible for freeing the allocated memory with `embPattern_free()`.

#### Returns

`EmbPattern*`

**14.117.3.71 embPattern\_crossstitch()** `EMB_PUBLIC void embPattern_crossstitch ( EmbPattern * pattern, EmbImage * image, int threshold )`

#### Parameters

<code>pattern</code>	
<code>image</code>	
<code>threshold</code>	

Uses a threshhold method to determine where to put crosses in the fill.

To improve this, we can remove the vertical stitches when two crosses neighbour. Currently the simple way to do this is to chain crosses that are neighbours exactly one ahead.

**14.117.3.72 embPattern\_designDetails()** `EMB_PUBLIC void embPattern_designDetails ( EmbPattern * p )`

**14.117.3.73 embPattern\_end()** `EMB_PUBLIC void embPattern_end ( EmbPattern * p )`

---

**14.117.3.74 embPattern\_fixColorCount()** `EMB_PUBLIC void embPattern_fixColorCount ( EmbPattern * p )`

Parameters

<code>p</code>	
----------------	--

**14.117.3.75 embPattern\_flip()** `EMB_PUBLIC void embPattern_flip ( EmbPattern * p, int horz, int vert )`

Flips the entire pattern (*p*) horizontally about the x-axis if (*horz*) is true. Flips the entire pattern (*p*) vertically about the y-axis if (*vert*) is true.

**14.117.3.76 embPattern\_flipHorizontal()** `EMB_PUBLIC void embPattern_flipHorizontal ( EmbPattern * p )`

Flips the entire pattern (*p*) horizontally about the y-axis.

**14.117.3.77 embPattern\_flipVertical()** `EMB_PUBLIC void embPattern_flipVertical ( EmbPattern * p )`

Flips the entire pattern (*p*) vertically about the x-axis.

**14.117.3.78 embPattern\_free()** `EMB_PUBLIC void embPattern_free ( EmbPattern * p )`

Frees all memory allocated in the pattern (*p*).

**14.117.3.79 embPattern\_hideStitchesOverLength()** `EMB_PUBLIC void embPattern_hideStitchesOverLength ( EmbPattern * p, int length )`

Parameters

<code>p</code>	
<code>length</code>	

**14.117.3.80 embPattern\_horizontal\_fill()** `EMB_PUBLIC void embPattern_horizontal_fill ( EmbPattern * pattern, EmbImage * image, int threshold )`

**Parameters**

<i>pattern</i>	
<i>image</i>	
<i>threshold</i>	

Uses a threshold method to determine where to put lines in the fill.

Needs to pass a "donut test", i.e. an image with black pixels where:  $10 < x*x + y*y < 20$  over the area (-30, 30) x (-30, 30).

Use render then image difference to see how well it passes.

**14.117.3.81 embPattern\_jumpStitches()** `EMB_PUBLIC int embPattern_jumpStitches ( EmbPattern * pattern )`

**14.117.3.82 embPattern\_lengthHistogram()** `EMB_PUBLIC void embPattern_lengthHistogram ( EmbPattern * pattern, int * bin, int NUMBINS )`

**14.117.3.83 embPattern\_loadExternalColorFile()** `EMB_PUBLIC void embPattern_loadExternalColorFile ( EmbPattern * p, const char * fileName )`

**14.117.3.84 embPattern\_maximumStitchLength()** `EMB_PUBLIC EmbReal embPattern_maximumStitchLength ( EmbPattern * pattern )`

**14.117.3.85 embPattern\_minimumStitchLength()** `EMB_PUBLIC EmbReal embPattern_minimumStitchLength ( EmbPattern * pattern )`

**14.117.3.86 embPattern\_movePolylinesToStitchList()** `EMB_PUBLIC void embPattern_movePolylinesToStitchList ( EmbPattern * pattern )`

**14.117.3.87 embPattern\_moveStitchListToPolylines()** `EMB_PUBLIC void embPattern_moveStitchListToPolylines ( EmbPattern * pattern )`

**14.117.3.88 embPattern\_read()** `EMB_PUBLIC char embPattern_read ( EmbPattern * pattern, const char * fileName, int format )`

#### Parameters

<code>pattern</code>	
<code>fileName</code>	
<code>format</code>	

#### Returns

`char`

**14.117.3.89 embPattern\_readAuto()** `EMB_PUBLIC char embPattern_readAuto ( EmbPattern * pattern, const char * fileName )`

#### Parameters

<code>pattern</code>	
<code>fileName</code>	

#### Returns

`char`

**14.117.3.90 embPattern\_realStitches()** `EMB_PUBLIC int embPattern_realStitches ( EmbPattern * pattern )`

**14.117.3.91 embPattern\_render()** `EMB_PUBLIC int embPattern_render ( EmbPattern * pattern, char * fname )`

**14.117.3.92 embPattern\_scale()** `EMB_PUBLIC void embPattern_scale (`  
`EmbPattern * p,`  
`EmbReal scale )`

**14.117.3.93 embPattern\_simulate()** `EMB_PUBLIC int embPattern_simulate (`  
`EmbPattern * pattern,`  
`char * fname )`

**14.117.3.94 embPattern\_totalStitchLength()** `EMB_PUBLIC EmbReal embPattern_totalStitchLength (`  
`EmbPattern * pattern )`

**Parameters**

<code>pattern</code>	<input type="button" value=""/>
----------------------	---------------------------------

**Returns**

`float`

**14.117.3.95 embPattern\_trimStitches()** `EMB_PUBLIC int embPattern_trimStitches (`  
`EmbPattern * pattern )`

**14.117.3.96 embPattern\_write()** `EMB_PUBLIC char embPattern_write (`  
`EmbPattern * pattern,`  
`const char * fileName,`  
`int format )`

**Parameters**

<code>pattern</code>	<input type="button" value=""/>
<code>fileName</code>	<input type="button" value=""/>
<code>format</code>	<input type="button" value=""/>

**Returns**

`char`

**14.117.3.97 embPattern\_writeAuto()** `EMB_PUBLIC` `char embPattern_writeAuto (`  
`EmbPattern * pattern,`  
`const char * fileName )`

**Parameters**

<i>pattern</i>	
<i>fileName</i>	

**Returns**

char

**14.117.3.98 embRect\_area()** EMB\_PUBLIC EmbReal embRect\_area ( EmbRect rect )**14.117.3.99 embRect\_init()** EMB\_PUBLIC EmbRect embRect\_init ( void )**14.117.3.100 embSatinOutline\_generateSatinOutline()** EMB\_PUBLIC void embSatinOutline\_generate←  
SatinOutline ( EmbArray \* lines,  
EmbReal thickness,  
EmbSatinOutline \* result )**Parameters**

<i>lines</i>	
<i>thickness</i>	
<i>result</i>	

**14.117.3.101 embSatinOutline\_renderStitches()** EMB\_PUBLIC EmbArray \* embSatinOutline\_render←  
Stitches ( EmbSatinOutline \* result,  
EmbReal density )**Parameters**

<i>result</i>	
<i>density</i>	

**Returns**

EmbArray\*

```
14.117.3.102 embThread_findNearestColor() EMB_PUBLIC int embThread_findNearestColor (
    EmbColor color,
    EmbColor * color_list,
    int n_colors )
```

Returns the closest color to the required color based on a list of available threads. The algorithm is a simple least squares search against the list. If the (square of) Euclidean 3-dimensional distance between the points in (red, green, blue) space is smaller then the index is saved and the remaining index is returned to the caller.

#### Parameters

<i>color</i>	The EmbColor color to match.
<i>colors</i>	The EmbThreadList pointer to start the search at.
<i>mode</i>	Is the argument an array of threads (0) or colors (1)?

#### Returns

*closestIndex* The entry in the ThreadList that matches.

```
14.117.3.103 embThread_findNearestThread() EMB_PUBLIC int embThread_findNearestThread (
    EmbColor color,
    EmbThread * thread_list,
    int n_threads )
```

#### Parameters

<i>color</i>	
<i>thread_list</i>	
<i>n_threads</i>	

#### Returns

*int*

```
14.117.3.104 embThread_getRandom() EMB_PUBLIC EmbThread embThread_getRandom (
    void )
```

Returns a random thread color, useful in filling in cases where the actual color of the thread doesn't matter but one needs to be declared to test or render a pattern.

#### Returns

*c* The resulting color.

**14.117.3.105 embTime\_initNow()** EMB\_PUBLIC void embTime\_initNow ( EmbTime \* t )

**Parameters**

<code>t</code>	<input type="text"/>
----------------	----------------------

**14.117.3.106 embTime\_time()** `EMB_PUBLIC EmbTime embTime_time ( EmbTime * t )`

**Parameters**

<code>t</code>	<input type="text"/>
----------------	----------------------

**Returns**

`EmbTime`

**14.117.3.107 embVector\_add()** `EMB_PUBLIC EmbVector embVector_add ( EmbVector a, EmbVector b )`

The sum of vectors *a* and *b* returned as a vector.

Equivalent to:

$$\mathbf{c} = \mathbf{a} + \mathbf{b} = \begin{pmatrix} a_x + b_x \\ a_y + b_y \end{pmatrix}$$

**14.117.3.108 embVector\_angle()** `EMB_PUBLIC EmbReal embVector_angle ( EmbVector v )`

The angle, measured anti-clockwise from the x-axis, of a vector *v*.

**14.117.3.109 embVector\_average()** `EMB_PUBLIC EmbVector embVector_average ( EmbVector a, EmbVector b )`

The average of vectors *v1* and *v2* returned as a vector.

Equivalent to:

$$\mathbf{c} = \frac{\mathbf{a} + \mathbf{b}}{2} = \begin{pmatrix} \frac{a_x + b_x}{2} \\ \frac{a_y + b_y}{2} \end{pmatrix}$$

```
14.117.3.110 embVector_cross() EMB_PUBLIC EmbReal embVector_cross (
    EmbVector a,
    EmbVector b )
```

The "cross product" as vectors *a* and *b* returned as a real value.

Technically, this is the magnitude of the cross product when the embroidery is placed in the z=0 plane (since the cross product is defined for 3-dimensional vectors). That is:

$$|c| = \left| \begin{pmatrix} a_x \\ a_y \\ 0 \end{pmatrix} \times \begin{pmatrix} b_x \\ b_y \\ 0 \end{pmatrix} \right| = \left| \begin{pmatrix} 0 \\ 0 \\ a_x b_y - a_y b_x \end{pmatrix} \right| = a_x b_y - a_y b_x$$

```
14.117.3.111 embVector_distance() EMB_PUBLIC EmbReal embVector_distance (
    EmbVector a,
    EmbVector b )
```

The distance between *a* and *b* returned as a real value.

$$d = |\mathbf{a} - \mathbf{b}| = \sqrt{(a_x - b_x)^2 + (a_y - b_y)^2}$$

```
14.117.3.112 embVector_dot() EMB_PUBLIC EmbReal embVector_dot (
    EmbVector a,
    EmbVector b )
```

The dot product as vectors *v1* and *v2* returned as a EmbReal.

Equivalent to:

$$c = \mathbf{a} \cdot \mathbf{b} = a_x b_x + a_y b_y$$

```
14.117.3.113 embVector_length() EMB_PUBLIC EmbReal embVector_length (
    EmbVector vector )
```

The length or absolute value of the vector *vector*.

Equivalent to:

$$|v| = \sqrt{v_x^2 + v_y^2}$$

```
14.117.3.114 embVector_multiply() EMB_PUBLIC void embVector_multiply (
    EmbVector vector,
    EmbReal magnitude,
    EmbVector * result )
```

The scalar multiple *magnitude* of a vector *vector*. Returned as *result*.

**Todo** make result return argument.

```
14.117.3.115 embVector_normalize() EMB_PUBLIC void embVector_normalize (
    EmbVector vector,
    EmbVector * result )
```

Finds the unit length vector *result* in the same direction as *vector*.

Equivalent to:

$$\mathbf{u} = \frac{\mathbf{v}}{|\mathbf{v}|}$$

**Todo** make result return argument.

```
14.117.3.116 embVector_relativeX() EMB_PUBLIC EmbReal embVector_relativeX (
    EmbVector a1,
    EmbVector a2,
    EmbVector a3 )
```

The x-component of the vector

```
14.117.3.117 embVector_relativeY() EMB_PUBLIC EmbReal embVector_relativeY (
    EmbVector a1,
    EmbVector a2,
    EmbVector a3 )
```

The y-component of the vector

```
14.117.3.118 embVector_subtract() EMB_PUBLIC EmbVector embVector_subtract (
    EmbVector v1,
    EmbVector v2 )
```

The difference between vectors *v1* and *v2* returned as *result*.

Equivalent to:

$$\mathbf{c} = \mathbf{a} - \mathbf{b} = \begin{pmatrix} a_x - b_x \\ a_y - b_y \end{pmatrix}$$

```
14.117.3.119 embVector_transpose_product() EMB_PUBLIC void embVector_transpose_product (
    EmbVector v1,
    EmbVector v2,
    EmbVector * result )
```

Since we aren't using full vector algebra here, all vectors are "vertical". so this is like the product  $v1^T \cdot v2$  for our vectors  $v1$  and  $v2$  so a "component-wise product". The result is stored at the pointer *result*.

That is  $(1 \ 0) \cdot (x \ y) = (x \ y)$

```
14.117.3.120 embVector_unit() EMB_PUBLIC EmbVector embVector_unit (
    EmbReal alpha )
```

The unit vector in the direction *angle*.

$$\mathbf{a}_\alpha = \begin{pmatrix} \cos(\alpha) \\ \sin(\alpha) \end{pmatrix}$$

```
14.117.3.121 full_test_matrix() EMB_PUBLIC int full_test_matrix (
    char * fname )
```

```
14.117.3.122 getArcCenter() EMB_PUBLIC void getArcCenter (
    EmbArc arc,
    EmbVector * arcCenter )
```

```
14.117.3.123 getArcDataFromBulge() EMB_PUBLIC char getArcDataFromBulge (
    EmbReal bulge,
    EmbArc * arc,
    EmbReal * arcCenterX,
    EmbReal * arcCenterY,
    EmbReal * radius,
    EmbReal * diameter,
    EmbReal * chord,
    EmbReal * chordMidX,
    EmbReal * chordMidY,
    EmbReal * sagitta,
    EmbReal * apothem,
    EmbReal * incAngleInDegrees,
    char * clockwise )
```

```
14.117.3.124 getCircleCircleIntersections() EMB_PUBLIC int getCircleCircleIntersections (
    EmbCircle c0,
    EmbCircle c1,
    EmbVector * v0,
    EmbVector * v1 )
```

```
14.117.3.125 getCircleTangentPoints() EMB_PUBLIC int getCircleTangentPoints (
    EmbCircle c,
    EmbVector p,
    EmbVector * v0,
    EmbVector * v1 )
```

```
14.117.3.126 hilbert_curve() EMB_PUBLIC int hilbert_curve (
    EmbPattern * pattern,
    int iterations )
```

**Parameters**

<i>pattern</i>	
<i>iterations</i>	

**Returns**

int

[https://en.wikipedia.org/wiki/Hilbert\\_curve](https://en.wikipedia.org/wiki/Hilbert_curve)

Using the Lindenmayer System, so we can save work across different functions.

```
14.117.3.127 lindenmayer_system() EMB_PUBLIC int lindenmayer_system (
    L_system L,
    char * state,
    int iterations,
    int complete )
```

**Parameters**

<i>L</i>	
<i>state</i>	
<i>iterations</i>	
<i>complete</i>	

**Returns**

int

This is a slow generation algorithm.

```
14.117.3.128 radians() EMB_PUBLIC EmbReal radians (
    EmbReal degree )
```

```
14.117.3.129 report() EMB_PUBLIC void report (
    int result,
    char * label )
```

```
14.117.3.130 testMain() EMB_PUBLIC void testMain (
    int level )
```

```
14.117.3.131 threadColor() EMB_PUBLIC int threadColor (
    const char * name,
    int brand )
```

```
14.117.3.132 threadColorName() EMB_PUBLIC const char * threadColorName (
    unsigned int color,
    int brand )
```

```
14.117.3.133 threadColorNum() EMB_PUBLIC int threadColorNum (
    unsigned int color,
    int brand )
```

#### 14.117.4 Variable Documentation

```
14.117.4.1 _dxfColorTable const unsigned char _dxfColorTable[ ][3] [extern]
```

```
14.117.4.2 black_thread EmbThread black_thread [extern]
```

```
14.117.4.3 emb_error int emb_error [extern]
```

Error code storage for optional control flow blocking.

**14.117.4.4 emb\_verbose** int emb\_verbose [extern]

Verbosity level.

**14.117.4.5 embConstantPi** const EmbReal embConstantPi [extern]**14.117.4.6 formatTable** EmbFormatList formatTable[numberOfFormats] [extern]

This file is part of libembroidery.

Copyright 2018-2022 The Embroidermodder Team Licensed under the terms of the zlib license.

This file contains all the read and write functions for the library.

**Todo** This list needs reviewed in case some stitch formats also can contain object data (EMBFORMAT\_← STCHANDOBJ). \*

**14.117.4.7 husThreads** const EmbThread husThreads[] [extern]**14.117.4.8 jefThreads** const EmbThread jefThreads[] [extern]**14.117.4.9 pcmThreads** const EmbThread pcmThreads[] [extern]**14.117.4.10 pecThreadCount** const int pecThreadCount [extern]**14.117.4.11 pecThreads** const EmbThread pecThreads[] [extern]**14.117.4.12 shvThreadCount** const int shvThreadCount [extern]

---

**14.117.4.13 shvThreads** const `EmbThread` shvThreads[ ] [extern]

**14.117.4.14 vipDecodingTable** const unsigned char vipDecodingTable[] [extern]

## 14.118 embroidery.h

[Go to the documentation of this file.](#)

```
00001 #ifndef LIBEMBROIDERY_HEADER_
00002 #define LIBEMBROIDERY_HEADER_
00003
00004 #ifdef __cplusplus
00005 extern "C" {
00006 #endif
00007
00012 #ifndef LIBEMBROIDERY_EMBEDDED_VERSION
00013 #define LIBEMBROIDERY_EMBEDDED_VERSION 0
00014 #endif
00015
00016 /* MACROS
00017 *****/
00018
00022 #define NORMAL 0
00023 #define JUMP 1
00024 #define TRIM 2
00025 #define STOP 4
00026 #define SEQUIN 8
00027 #define END 16
00032 #define EMB_FORMAT_100 0
00033 #define EMB_FORMAT_100 1
00034 #define EMB_FORMAT_ART 2
00035 #define EMB_FORMAT_BMC 3
00036 #define EMB_FORMAT_BRO 4
00037 #define EMB_FORMAT_CND 5
00038 #define EMB_FORMAT_COL 6
00039 #define EMB_FORMAT_CSD 7
00040 #define EMB_FORMAT_CSV 8
00041 #define EMB_FORMAT_DAT 9
00042 #define EMB_FORMAT_DEM 10
00043 #define EMB_FORMAT_DSB 11
00044 #define EMB_FORMAT_DST 12
00045 #define EMB_FORMAT_DSZ 13
00046 #define EMB_FORMAT_DXF 14
00047 #define EMB_FORMAT_EDR 15
00048 #define EMB_FORMAT_EMD 16
00049 #define EMB_FORMAT_EXP 17
00050 #define EMB_FORMAT_EXY 18
00051 #define EMB_FORMAT_EYS 19
00052 #define EMB_FORMAT_FXY 20
00053 #define EMB_FORMAT_GC 21
00054 #define EMB_FORMAT_GNC 22
00055 #define EMB_FORMAT_GT 23
00056 #define EMB_FORMAT_HUS 24
00057 #define EMB_FORMAT_INB 25
00058 #define EMB_FORMAT_INF 26
00059 #define EMB_FORMAT_JEF 27
00060 #define EMB_FORMAT_KSM 28
00061 #define EMB_FORMAT_MAX 29
00062 #define EMB_FORMAT_MIT 30
00063 #define EMB_FORMAT_NEW 31
00064 #define EMB_FORMAT_OFM 32
00065 #define EMB_FORMAT_PCD 33
00066 #define EMB_FORMAT_PCM 34
00067 #define EMB_FORMAT_PCQ 35
00068 #define EMB_FORMAT_PCS 36
00069 #define EMB_FORMAT_PEC 37
00070 #define EMB_FORMAT_PEL 38
00071 #define EMB_FORMAT_PEM 39
00072 #define EMB_FORMAT_PES 40
00073 #define EMB_FORMAT_PHB 41
00074 #define EMB_FORMAT_PHC 42
00075 #define EMB_FORMAT_PLT 43
00076 #define EMB_FORMAT_RGB 44
00077 #define EMB_FORMAT_SEW 45
00078 #define EMB_FORMAT_SHV 46
00079 #define EMB_FORMAT_SST 47
00080 #define EMB_FORMAT_STX 48
```

```
00081 #define EMB_FORMAT_SVG          49
00082 #define EMB_FORMAT_T01         50
00083 #define EMB_FORMAT_T09         51
00084 #define EMB_FORMAT_TAP          52
00085 #define EMB_FORMAT_THR          53
00086 #define EMB_FORMAT_TXT          54
00087 #define EMB_FORMAT_U00          55
00088 #define EMB_FORMAT_U01          56
00089 #define EMB_FORMAT_VIP          57
00090 #define EMB_FORMAT_VP3          58
00091 #define EMB_FORMAT_XXX          59
00092 #define EMB_FORMAT_ZSK          60
00093
00094 /* Thread color */
00095 #define Arc_Polyester        0
00096 #define Arc_Rayon            1
00097 #define CoatsAndClark_Rayon   2
00098 #define Exquisite_Polyester  3
00099 #define Fufu_Polyester       4
00100 #define Fufu_Rayon           5
00101 #define Hemingworth_Polyester 6
00102 #define Isacord_Polyester    7
00103 #define Isafil_Rayon         8
00104 #define Marathon_Polyester  9
00105 #define Marathon_Rayon       10
00106 #define Madeira_Polyester   11
00107 #define Madeira_Rayon        12
00108 #define Metro_Polyester     13
00109 #define Pantone              14
00110 #define RobisonAnton_Polyester 15
00111 #define RobisonAnton_Rayon   16
00112 #define Sigma_Polyester      17
00113 #define Sulky_Rayon          18
00114 #define ThreadArt_Rayon     19
00115 #define ThreadArt_Polyester 20
00116 #define ThreaDelight_Polyester 21
00117 #define Z102_Isacord_Polyester 22
00118 #define SVG_Colors          23
00119 #define hus_thread          24
00120 #define jef_thread          25
00121 #define pcm_thread          26
00122 #define pec_thread          27
00123 #define shv_thread          28
00124 #define dxf_color           29
00125
00126 #define EMB_ARRAY             0
00127 #define EMB_ARC               1
00128 #define EMB_CIRCLE            2
00129 #define EMB_DIM_DIAMETER      3
00130 #define EMB_DIM_LEADER        4
00131 #define EMB_ELLIPSE           5
00132 #define EMB_FLAG              6
00133 #define EMB_LINE              7
00134 #define EMB_IMAGE             8
00135 #define EMB_PATH              9
00136 #define EMB_POINT             10
00137 #define EMB_POLYGON           11
00138 #define EMB_POLYLINE          12
00139 #define EMB_RECT              13
00140 #define EMB_SPLINE             14
00141 #define EMB_STITCH             15
00142 #define EMB_TEXT_SINGLE       16
00143 #define EMB_TEXT_MULTI         17
00144 #define EMB_VECTOR             18
00145 #define EMB_THREAD             19
00146
00147 #define EMBFORMAT_UNSUPPORTED  0
00148 #define EMBFORMAT_STITCHONLY   1
00149 #define EMBFORMAT_OBJECTONLY   2
00150 #define EMBFORMAT_STCHANDOBJ  3 /* binary operation: 1+2=3 */
00151
00152 #define numberFormats          61
00153
00154 #define CHUNK_SIZE            128
00155
00156 #define EMB_MAX_LAYERS         10
00157 #define MAX_THREADS            256
00158 #define EMBFORMAT_MAXEXT        3
00159 /* maximum length of extension without dot */
00160 #define EMBFORMAT_MAXDESC       50
00161 /* the longest possible description string length */
00162 #define MAX_STITCHES          1000000
00163
00164
00165
00166 #if defined(_WIN32) && !defined(WIN32)
00167 #define WIN32
```

```

00168 #endif
00169
00170 /* When building a shared library,
00171 * use the proper export keyword depending on the compiler */
00172 #define EMB_PUBLIC
00173 #if defined(LIBEMBROIDERY_SHARED)
00174     #undef EMB_PUBLIC
00175     #if defined(__WIN32__) || defined(WIN32)
00176         #define EMB_PUBLIC __declspec(dllexport)
00177     #else
00178         #define EMB_PUBLIC __attribute__ ((visibility("default")))
00179     #endif
00180 #endif
00181
00182 /* TYPEDEFS AND STRUCTS
00183 *****/
00184
00185 typedef float EmbReal;
00186
00187 typedef struct EmbColor_
00188 {
00189     unsigned char r;
00190     unsigned char g;
00191     unsigned char b;
00192 } EmbColor;
00193
00194 typedef struct EmbVector_
00195 {
00196     EmbReal x;
00197     EmbReal y;
00198 } EmbVector;
00199
00200 typedef struct EmbArray_ EmbArray;
00201
00202 typedef struct EmbImage_ {
00203     EmbVector position;
00204     EmbVector dimensions;
00205     unsigned char* data;
00206     int width;
00207     int height;
00208     char path[200];
00209     char name[200];
00210 } EmbImage;
00211
00212 typedef struct EmbBlock_ {
00213     EmbVector position;
00214 } EmbBlock;
00215
00216 typedef struct EmbAlignedDim_ {
00217     EmbVector position;
00218 } EmbAlignedDim;
00219
00220 typedef struct EmbAngularDim_ {
00221     EmbVector position;
00222 } EmbAngularDim;
00223
00224 typedef struct EmbArcLengthDim_ {
00225     EmbVector position;
00226 } EmbArcLengthDim;
00227
00228 typedef struct EmbDiameterDim_ {
00229     EmbVector position;
00230 } EmbDiameterDim;
00231
00232 typedef struct EmbLeaderDim_ {
00233     EmbVector position;
00234 } EmbLeaderDim;
00235
00236 typedef struct EmbLinearDim_ {
00237     EmbVector position;
00238 } EmbLinearDim;
00239
00240 typedef struct EmbOrdinateDim_ {
00241     EmbVector position;
00242 } EmbOrdinateDim;
00243
00244 typedef struct EmbRadiusDim_ {
00245     EmbVector position;
00246 } EmbRadiusDim;
00247
00248 typedef struct EmbInfiniteLine_ {
00249     EmbVector position;
00250 } EmbInfiniteLine;
00251
00252 typedef struct EmbRay_ {
00253     EmbVector position;
00254 } EmbRay;
00255

```

```
00310
00315 typedef struct EmbTextMulti_ {
00316     EmbVector position;
00317     char text[200];
00318 } EmbTextMulti;
00319
00324 typedef struct EmbTextSingle_ {
00325     EmbVector position;
00326     char text[200];
00327 } EmbTextSingle;
00328
00333 typedef struct EmbTime_
00334 {
00335     unsigned int year;
00336     unsigned int month;
00337     unsigned int day;
00338     unsigned int hour;
00339     unsigned int minute;
00340     unsigned int second;
00341 } EmbTime;
00342
00347 typedef struct EmbPoint_
00348 {
00349     EmbVector position;
00350     int lineType;
00351     EmbColor color;
00352 } EmbPoint;
00353
00358 typedef struct EmbLine_
00359 {
00360     EmbVector start;
00361     EmbVector end;
00362     int lineType;
00363     EmbColor color;
00364 } EmbLine;
00365
00370 typedef struct EmbPath_
00371 {
00372     EmbArray* pointList;
00373     EmbArray* flagList;
00374     int lineType;
00375     EmbColor color;
00376 } EmbPath;
00377
00382 typedef struct EmbStitch_
00383 {
00384     int flags;
00385     EmbReal x;
00386     EmbReal y;
00387     int color;
00388 } EmbStitch;
00390
00395 typedef struct EmbThread_
00396 {
00397     EmbColor color;
00398     char description[50];
00399     char catalogNumber[30];
00400 } EmbThread;
00401
00406 typedef struct thread_color_
00407 {
00408     char name[22];
00409     unsigned int hex_code;
00410     int manufacturer_code;
00411 } thread_color;
00412
00416 typedef struct EmbArc_
00417 {
00418     EmbVector start;
00419     EmbVector mid;
00420     EmbVector end;
00421 } EmbArc;
00422
00427 typedef struct EmbRect_
00428 {
00429     EmbReal top;
00430     EmbReal left;
00431     EmbReal bottom;
00432     EmbReal right;
00433     EmbReal rotation;
00434     EmbReal radius;
00435 } EmbRect;
00436
00441 typedef struct EmbCircle_
00442 {
00443     EmbVector center;
00444     EmbReal radius;
00445 } EmbCircle;
```

```

00446
00451 typedef EmbPath EmbPolygon;
00452
00457 typedef EmbPath EmbPolyline;
00458
00463 typedef int EmbFlag;
00464
00469 typedef struct EmbSatinOutline_
00470 {
00471     int length;
00472     EmbArray* side1;
00473     EmbArray* side2;
00474 } EmbSatinOutline;
00475
00480 typedef struct EmbEllipse_
00481 {
00482     EmbVector center;
00483     EmbVector radius;
00484     EmbReal rotation;
00485 } EmbEllipse;
00486
00491 typedef struct EmbBezier_
00492 {
00493     EmbVector start;
00494     EmbVector control1;
00495     EmbVector control2;
00496     EmbVector end;
00497 } EmbBezier;
00498
00502 typedef struct EmbSpline_
00503 {
00504     EmbArray *beziers;
00505 } EmbSpline;
00506
00510 typedef struct LSYSTEM {
00511     char axiom;
00512     char *alphabet;
00513     char *constants;
00514     char **rules;
00515 } L_system;
00516
00521 typedef struct EmbGeometry_
00522 {
00523     union {
00524         EmbArc arc;
00525         EmbCircle circle;
00526         EmbColor color;
00527         EmbEllipse ellipse;
00528         EmbLine line;
00529         EmbPath path;
00530         EmbPoint point;
00531         EmbPolygon polygon;
00532         EmbPolyline polyline;
00533         EmbRect rect;
00534         EmbSpline spline;
00535         EmbVector vector;
00536     } object;
00537     EmbStitch stitch;
00538     EmbThread thread;
00539     int flag;
00540     int type;
00541     EmbColor color;
00542 } EmbGeometry;
00543
00548 struct EmbArray_
00549 {
00550     EmbGeometry *geometry;
00551     EmbStitch *stitch;
00552     EmbThread *thread;
00553     int count;
00554     int length;
00555     int type;
00556 };
00561 typedef struct EmbLayer_
00562 {
00563     char name[100];
00564     EmbArray *geometry;
00565 } EmbLayer;
00566
00571 typedef struct EmbPattern_
00572 {
00573     unsigned int dstJumpsPerTrim;
00574     EmbVector home;
00575     EmbReal hoop_width;
00576     EmbReal hoop_height;
00577     EmbArray *thread_list;
00578     EmbArray *stitch_list;
00579     EmbArray *geometry;
00580     EmbLayer layer[EMB_MAX_LAYERS];

```

```

00581     int currentColorIndex;
00582 } EmbPattern;
00583
00588 typedef struct EmbFormatList_
00589 {
00590     char extension[2 + EMBFORMAT_MAXEXT];
00591     char description[EMBFORMAT_MAXDESC];
00592     char reader_state;
00593     char writer_state;
00594     int type;
00595     int color_only;
00596     int check_for_color_file;
00597     int write_external_color_file;
00598 } EmbFormatList;
00599
00600 /* Function Declarations
00601 ****
00602 EMB_PUBLIC int lindenmayer_system(L_system L, char* state, int iteration, int complete);
00603 EMB_PUBLIC int hilbert_curve(EmbPattern *pattern, int iterations);
00604
00605 EMB_PUBLIC int emb_identify_format(const char *ending);
00606 EMB_PUBLIC void testMain(int level);
00607 EMB_PUBLIC int convert(const char *inf, const char *outf);
00608
00609 EMB_PUBLIC EmbColor embColor_make(unsigned char r, unsigned char g, unsigned char b);
00610 EMB_PUBLIC EmbColor* embColor_create(unsigned char r, unsigned char g, unsigned char b);
00611 EMB_PUBLIC EmbColor embColor_fromHexStr(char* val);
00612 EMB_PUBLIC int embColor_distance(EmbColor a, EmbColor b);
00613
00614 EMB_PUBLIC EmbArray* embArray_create(int type);
00615 EMB_PUBLIC int embArray_resize(EmbArray *g);
00616 EMB_PUBLIC void embArray_copy(EmbArray *dst, EmbArray *src);
00617 EMB_PUBLIC int embArray_addArc(EmbArray* g, EmbArc arc);
00618 EMB_PUBLIC int embArray_addCircle(EmbArray* g, EmbCircle circle);
00619 EMB_PUBLIC int embArray_addEllipse(EmbArray* g, EmbEllipse ellipse);
00620 EMB_PUBLIC int embArray_addFlag(EmbArray* g, int flag);
00621 EMB_PUBLIC int embArray_addLine(EmbArray* g, EmbLine line);
00622 EMB_PUBLIC int embArray_addRect(EmbArray* g, EmbRect rect);
00623 EMB_PUBLIC int embArray_addPath(EmbArray* g, EmbPath p);
00624 EMB_PUBLIC int embArray_addPoint(EmbArray* g, EmbPoint p);
00625 EMB_PUBLIC int embArray_addPolygon(EmbArray* g, EmbPolygon p);
00626 EMB_PUBLIC int embArray_addPolyline(EmbArray* g, EmbPolyline p);
00627 /* EMB_PUBLIC int embArray_addSpline(EmbArray* g, EmbSpline p); */
00628 EMB_PUBLIC int embArray_addStitch(EmbArray* g, EmbStitch st);
00629 EMB_PUBLIC int embArray_addThread(EmbArray* g, EmbThread p);
00630 EMB_PUBLIC int embArray_addVector(EmbArray* g, EmbVector);
00631 EMB_PUBLIC void embArray_free(EmbArray* p);
00632
00633 EMB_PUBLIC EmbLine embLine_make(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2);
00634
00635 EMB_PUBLIC void embLine_normalVector(EmbLine line, EmbVector* result, int clockwise);
00636 EMB_PUBLIC EmbVector embLine_intersectionPoint(EmbLine line1, EmbLine line2);
00637
00638 EMB_PUBLIC int embThread_findNearestColor(EmbColor color, EmbColor* colors, int n_colors);
00639 EMB_PUBLIC int embThread_findNearestThread(EmbColor color, EmbThread* threads, int n_threads);
00640 EMB_PUBLIC EmbThread embThread_getRandom(void);
00641
00642 EMB_PUBLIC void embVector_normalize(EmbVector vector, EmbVector* result);
00643 EMB_PUBLIC void embVector_multiply(EmbVector vector, EmbReal magnitude, EmbVector* result);
00644 EMB_PUBLIC EmbVector embVector_add(EmbVector v1, EmbVector v2);
00645 EMB_PUBLIC EmbVector embVector_average(EmbVector v1, EmbVector v2);
00646 EMB_PUBLIC EmbVector embVector_subtract(EmbVector v1, EmbVector v2);
00647 EMB_PUBLIC EmbReal embVector_dot(EmbVector v1, EmbVector v2);
00648 EMB_PUBLIC EmbReal embVector_cross(EmbVector v1, EmbVector v2);
00649 EMB_PUBLIC void embVector_transpose_product(EmbVector v1, EmbVector v2, EmbVector* result);
00650 EMB_PUBLIC EmbReal embVector_length(EmbVector vector);
00651 EMB_PUBLIC EmbReal embVector_relativeX(EmbVector a1, EmbVector a2, EmbVector a3);
00652 EMB_PUBLIC EmbReal embVector_relativeY(EmbVector a1, EmbVector a2, EmbVector a3);
00653 EMB_PUBLIC EmbReal embVector_angle(EmbVector v);
00654 EMB_PUBLIC EmbReal embVector_distance(EmbVector a, EmbVector b);
00655 EMB_PUBLIC EmbVector embVector_unit(EmbReal angle);
00656
00657 EMB_PUBLIC EmbArc embArc_init(void);
00658 EMB_PUBLIC char embArc_clockwise(EmbArc arc);
00659
00660 EMB_PUBLIC void getArcCenter(EmbArc arc, EmbVector *arcCenter);
00661 EMB_PUBLIC char getArcDataFromBulge(EmbReal bulge,
00662                                         EmbArc *arc,
00663                                         EmbReal* arcCenterX,           EmbReal* arcCenterY,
00664                                         EmbReal* radius,              EmbReal* diameter,
00665                                         EmbReal* chord,
00666                                         EmbReal* chordMidX,           EmbReal* chordMidY,
00667                                         EmbReal* sagitta,             EmbReal* apothem,
00668                                         EmbReal* incAngleInDegrees,   char*    clockwise);
00669
00670 EMB_PUBLIC EmbCircle embCircle_init(void);
00671 EMB_PUBLIC int getCircleCircleIntersections

```

```

00672     EmbCircle c0, EmbCircle c1, EmbVector *v0, EmbVector *v1);
00673 EMB_PUBLIC int getCircleTangentPoints(
00674     EmbCircle c, EmbVector p, EmbVector *v0, EmbVector *v1);
00675
00676 EMB_PUBLIC EmbEllipse embEllipse_init(void);
00677 EMB_PUBLIC EmbEllipse embEllipse_make(EmbReal cx, EmbReal cy, EmbReal rx, EmbReal ry);
00678 EMB_PUBLIC EmbReal embEllipse_diameterX(EmbEllipse ellipse);
00679 EMB_PUBLIC EmbReal embEllipse_diameterY(EmbEllipse ellipse);
00680 EMB_PUBLIC EmbReal embEllipse_width(EmbEllipse ellipse);
00681 EMB_PUBLIC EmbReal embEllipse_height(EmbEllipse ellipse);
00682 EMB_PUBLIC EmbReal embEllipse_area(EmbEllipse ellipse);
00683 EMB_PUBLIC EmbReal embEllipse_perimeter(EmbEllipse ellipse);
00684
00685 EMB_PUBLIC EmbImage embImage_create(int, int);
00686 EMB_PUBLIC void embImage_read(EmbImage *image, char *fname);
00687 EMB_PUBLIC int embImage_write(EmbImage *image, char *fname);
00688 EMB_PUBLIC void embImage_free(EmbImage *image);
00689
00690 EMB_PUBLIC EmbRect embRect_init(void);
00691 EMB_PUBLIC EmbReal embRect_area(EmbRect);
00692
00693 EMB_PUBLIC int threadColor(const char*, int brand);
00694 EMB_PUBLIC int threadColorNum(unsigned int color, int brand);
00695 EMB_PUBLIC const char* threadColorName(unsigned int color, int brand);
00696
00697 EMB_PUBLIC void embTime_initNow(EmbTime* t);
00698 EMB_PUBLIC EmbTime embTime_time(EmbTime* t);
00699
00700 EMB_PUBLIC void embSatinOutline_generateSatinOutline(EmbArray* lines, EmbReal thickness,
00701     EmbSatinOutline* result);
00702 EMB_PUBLIC EmbArray* embSatinOutline_renderStitches(EmbSatinOutline* result, EmbReal density);
00703
00704 EMB_PUBLIC EmbGeometry *embGeometry_init(int type_in);
00705 EMB_PUBLIC void embGeometry_free(EmbGeometry *obj);
00706 EMB_PUBLIC void embGeometry_move(EmbGeometry *obj, EmbVector delta);
00707 EMB_PUBLIC EmbRect embGeometry_boundingRect(EmbGeometry *obj);
00708 EMB_PUBLIC void embGeometry_vulcanize(EmbGeometry *obj);
00709
00710 EMB_PUBLIC EmbPattern* embPattern_create(void);
00711 EMB_PUBLIC void embPattern_hideStitchesOverLength(EmbPattern* p, int length);
00712 EMB_PUBLIC void embPattern_fixColorCount(EmbPattern* p);
00713 EMB_PUBLIC int embPattern_addThread(EmbPattern* p, EmbThread thread);
00714 EMB_PUBLIC void embPattern_addStitchAbs(EmbPattern* p, EmbReal x, EmbReal y, int flags, int
00715     isAutoColorIndex);
00716 EMB_PUBLIC void embPattern_changeColor(EmbPattern* p, int index);
00717 EMB_PUBLIC void embPattern_free(EmbPattern* p);
00718 EMB_PUBLIC void embPattern_scale(EmbPattern* p, EmbReal scale);
00719 EMB_PUBLIC EmbReal embPattern_totalStitchLength(EmbPattern *pattern);
00720 EMB_PUBLIC EmbReal embPattern_minimumStitchLength(EmbPattern *pattern);
00721 EMB_PUBLIC EmbReal embPattern_maximumStitchLength(EmbPattern *pattern);
00722 EMB_PUBLIC void embPattern_lengthHistogram(EmbPattern *pattern, int *bin, int NUMBINS);
00723 EMB_PUBLIC int embPattern_realStitches(EmbPattern *pattern);
00724 EMB_PUBLIC int embPattern_jumpStitches(EmbPattern *pattern);
00725 EMB_PUBLIC int embPattern_trimStitches(EmbPattern *pattern);
00726 EMB_PUBLIC EmbRect embPattern_calcBoundingBox(EmbPattern* p);
00727 EMB_PUBLIC void embPattern_flipHorizontal(EmbPattern* p);
00728 EMB_PUBLIC void embPattern_flipVertical(EmbPattern* p);
00729 EMB_PUBLIC void embPattern_combineJumpStitches(EmbPattern* p);
00730 EMB_PUBLIC void embPattern_correctForMaxStitchLength(EmbPattern* p, EmbReal maxStitchLength, EmbReal
00731     maxJumpLength);
00732 EMB_PUBLIC void embPattern_center(EmbPattern* p);
00733 EMB_PUBLIC void embPattern_loadExternalColorFile(EmbPattern* p, const char* fileName);
00734 EMB_PUBLIC void embPattern_convertGeometry(EmbPattern* p);
00735 EMB_PUBLIC void embPattern_designDetails(EmbPattern *p);
00736 EMB_PUBLIC void embPattern_combine(EmbPattern *p1, EmbPattern *p2);
00737 EMB_PUBLIC void embPattern_color_count(EmbPattern *pattern, EmbColor startColor);
00738 EMB_PUBLIC void embPattern_crossstitch(EmbPattern *pattern, EmbImage *, int threshhold);
00739 EMB_PUBLIC void embPattern_horizontal_fill(EmbPattern *pattern, EmbImage *, int threshold);
00740 EMB_PUBLIC int embPattern_render(EmbPattern *pattern, char *fname);
00741 EMB_PUBLIC int embPattern_simulate(EmbPattern *pattern, char *fname);
00742
00743 EMB_PUBLIC void embPattern_addCircleAbs(EmbPattern* p, EmbCircle obj);
00744 EMB_PUBLIC void embPattern_addEllipseAbs(EmbPattern* p, EmbEllipse obj);
00745 EMB_PUBLIC void embPattern_addLineAbs(EmbPattern* p, EmbLine obj);
00746 EMB_PUBLIC void embPattern_addPathAbs(EmbPattern* p, EmbPath obj);
00747 EMB_PUBLIC void embPattern_addPointAbs(EmbPattern* p, EmbPoint obj);
00748 EMB_PUBLIC void embPattern_addPolygonAbs(EmbPattern* p, EmbPolygon obj);
00749 EMB_PUBLIC void embPattern_addPolylineAbs(EmbPattern* p, EmbPolyline obj);
00750 EMB_PUBLIC void embPattern_addRectAbs(EmbPattern* p, EmbRect obj);
00751
00752 EMB_PUBLIC void embPattern_copyStitchListToPolylines(EmbPattern* pattern);
00753 EMB_PUBLIC void embPattern_copyPolylinesToStitchList(EmbPattern* pattern);
00754 EMB_PUBLIC void embPattern_moveStitchListToPolylines(EmbPattern* pattern);

```

```

00755 EMB_PUBLIC void embPattern_movePolylinesToStitchList(EmbPattern* pattern);
00756
00757 EMB_PUBLIC char embPattern_read(EmbPattern *pattern, const char* fileName, int format);
00758 EMB_PUBLIC char embPattern_write(EmbPattern *pattern, const char* fileName, int format);
00759
00760 EMB_PUBLIC char embPattern_readAuto(EmbPattern *pattern, const char* fileName);
00761 EMB_PUBLIC char embPattern_writeAuto(EmbPattern *pattern, const char* fileName);
00762
00763 EMB_PUBLIC void report(int result, char *label);
00764 EMB_PUBLIC int full_test_matrix(char *fname);
00765
00766 EMB_PUBLIC int emb_round(EmbReal x);
00767 EMB_PUBLIC EmbReal radians(EmbReal degree);
00768 EMB_PUBLIC EmbReal degrees(EmbReal radian);
00769
00770 /* NON-MACRO CONSTANTS
00771 ****
00772
00773 extern EmbFormatList formatTable[numberOfFormats];
00774 extern const int pecThreadCount;
00775 extern const int shvThreadCount;
00776 extern const EmbReal embConstantPi;
00777 extern const EmbThread husThreads[];
00778 extern const EmbThread jefThreads[];
00779 extern const EmbThread shvThreads[];
00780 extern const EmbThread pcmThreads[];
00781 extern const EmbThread pecThreads[];
00782 extern const unsigned char _dxfColorTable[][][3];
00783 extern EmbThread black_thread;
00784 extern const unsigned char vipDecodingTable[];
00785
00786 /* VARIABLES
00787 ****
00788
00792 extern int emb_error;
00793
00797 extern int emb_verbose;
00798
00799 #ifdef __cplusplus
00800 }
00801 #endif /* __cplusplus */
00802
00803 #endif /* LIBEMBROIDERY_HEADER_ */
00804

```

## 14.119 [extern/libembroidery/src/embroidery\\_internal.h](#) File Reference

```
#include "embroidery.h"
#include <stdio.h>
```

### Classes

- struct [\\_bcf\\_file\\_difat](#)
- struct [\\_bcf\\_file\\_fat](#)
- struct [\\_bcf\\_directory\\_entry](#)
- struct [\\_bcf\\_directory](#)
- struct [\\_bcf\\_file\\_header](#)
- struct [\\_bcf\\_file](#)
- struct [\\_vp3Hoop](#)
- struct [ThredHeader\\_](#)
- struct [ThredExtension\\_](#)
- struct [SubDescriptor\\_](#)
- struct [StxThread\\_](#)
- struct [VipHeader\\_](#)
- struct [SvgAttribute\\_](#)
- struct [Huffman](#)
- struct [Compress](#)

## Macros

- #define CompoundFileSector\_MaxRegSector 0xFFFFFFFFA
- #define CompoundFileSector\_DIFAT\_Sector 0xFFFFFFFFC
- #define CompoundFileSector\_FAT\_Sector 0xFFFFFFFFD
- #define CompoundFileSector\_EndOfChain 0xFFFFFFFFE
- #define CompoundFileSector\_FreeSector 0xFFFFFFFFF
- #define ObjectTypeUnknown 0x00
- #define ObjectTypeStorage 0x01
- #define ObjectTypeStream 0x02
- #define ObjectTypeRootEntry 0x05
- #define CompoundFileStreamId\_MaxRegularStreamId 0xFFFFFFFFA
- #define CompoundFileStreamId\_NoStream 0xFFFFFFFFF
- #define ELEMENT\_XML 0
- #define ELEMENT\_A 1
- #define ELEMENT\_ANIMATE 2
- #define ELEMENT\_ANIMATECOLOR 3
- #define ELEMENT\_ANIMATEMOTION 4
- #define ELEMENT\_ANIMATETRANSFORM 5
- #define ELEMENT\_ANIMATION 6
- #define ELEMENT\_AUDIO 7
- #define ELEMENT\_CIRCLE 8
- #define ELEMENT\_DEFS 9
- #define ELEMENT\_DESC 10
- #define ELEMENT\_DISCARD 11
- #define ELEMENT\_ELLIPSE 12
- #define ELEMENT\_FONT 13
- #define ELEMENT\_FONT\_FACE 14
- #define ELEMENT\_FONT\_FACE\_SRC 15
- #define ELEMENT\_FONT\_FACE\_URI 16
- #define ELEMENT\_FOREIGN\_OBJECT 17
- #define ELEMENT\_G 18
- #define ELEMENT\_GLYPH 19
- #define ELEMENT\_HANDLER 20
- #define ELEMENT\_HKERN 21
- #define ELEMENT\_IMAGE 22
- #define ELEMENT\_LINE 23
- #define ELEMENT\_LINEAR\_GRADIENT 24
- #define ELEMENT\_LISTENER 25
- #define ELEMENT\_METADATA 26
- #define ELEMENT\_MISSING\_GLYPH 27
- #define ELEMENT\_MPATH 28
- #define ELEMENT\_PATH 29
- #define ELEMENT\_POLYGON 30
- #define ELEMENT\_POLYLINE 31
- #define ELEMENT\_PREFETCH 32
- #define ELEMENT\_RADIAL\_GRADIENT 33
- #define ELEMENT\_RECT 34
- #define ELEMENT\_SCRIPT 35
- #define ELEMENT\_SET 36
- #define ELEMENT\_SOLID\_COLOR 37
- #define ELEMENT\_STOP 38
- #define ELEMENT\_SVG 39
- #define ELEMENT\_SWITCH 40
- #define ELEMENT\_TBREAK 41

- `#define ELEMENT_TEXT 42`
- `#define ELEMENT_TEXT_AREA 43`
- `#define ELEMENT_TITLE 44`
- `#define ELEMENT_TSPAN 45`
- `#define ELEMENT_USE 46`
- `#define ELEMENT_VIDEO 47`
- `#define RED_TERM_COLOR "\x1B[0;31m"`
- `#define GREEN_TERM_COLOR "\x1B[0;32m"`
- `#define YELLOW_TERM_COLOR "\x1B[1;33m"`
- `#define RESET_TERM_COLOR "\033[0m"`
- `#define HOOP_126X110 0`
- `#define HOOP_110X110 1`
- `#define HOOP_50X50 2`
- `#define HOOP_140X200 3`
- `#define HOOP_230X200 4`
- `#define EMB_MIN(A, B) (((A) < (B)) ? (A) : (B))`
- `#define EMB_MAX(A, B) (((A) > (B)) ? (A) : (B))`
- `#define EMB_BIG_ENDIAN 0`
- `#define EMB_LITTLE_ENDIAN 1`
- `#define ENDIAN_HOST EMB_LITTLE_ENDIAN`
- `#define EMB_INT16_BIG 2`
- `#define EMB_INT16_LITTLE 3`
- `#define EMB_INT32_BIG 4`
- `#define EMB_INT32_LITTLE 5`
- `#define PES0001 0`
- `#define PES0020 1`
- `#define PES0022 2`
- `#define PES0030 3`
- `#define PES0040 4`
- `#define PES0050 5`
- `#define PES0055 6`
- `#define PES0056 7`
- `#define PES0060 8`
- `#define PES0070 9`
- `#define PES0080 10`
- `#define PES0090 11`
- `#define PES0100 12`
- `#define N_PES VERSIONS 13`
- `#define DXF_VERSION_R10 "AC1006"`
- `#define DXF_VERSION_R11 "AC1009"`
- `#define DXF_VERSION_R12 "AC1009"`
- `#define DXF_VERSION_R13 "AC1012"`
- `#define DXF_VERSION_R14 "AC1014"`
- `#define DXF_VERSION_R15 "AC1015"`
- `#define DXF_VERSION_R18 "AC1018"`
- `#define DXF_VERSION_R21 "AC1021"`
- `#define DXF_VERSION_R24 "AC1024"`
- `#define DXF_VERSION_R27 "AC1027"`
- `#define DXF_VERSION_2000 "AC1015"`
- `#define DXF_VERSION_2002 "AC1015"`
- `#define DXF_VERSION_2004 "AC1018"`
- `#define DXF_VERSION_2006 "AC1018"`
- `#define DXF_VERSION_2007 "AC1021"`
- `#define DXF_VERSION_2009 "AC1021"`
- `#define DXF_VERSION_2010 "AC1024"`

- #define DXF\_VERSION\_2013 "AC1027"
- #define SVG\_CREATOR\_NULL 0
- #define SVG\_CREATOR\_EMBROIDERMODDER 1
- #define SVG\_CREATOR\_ILLUSTRATOR 2
- #define SVG\_CREATOR\_INKSCAPE 3
- #define SVG\_EXPECT\_NULL 0
- #define SVG\_EXPECT\_ELEMENT 1
- #define SVG\_EXPECT\_ATTRIBUTE 2
- #define SVG\_EXPECT\_VALUE 3
- #define SVG\_NULL 0
- #define SVG\_ELEMENT 1
- #define SVG\_PROPERTY 2
- #define SVG\_MEDIA\_PROPERTY 3
- #define SVG\_ATTRIBUTE 4
- #define SVG\_CATCH\_ALL 5
- #define LINETO 0
- #define MOVETO 1
- #define BULGETOCONTROL 2
- #define BULGETOEND 4
- #define ELLIPSETORAD 8
- #define ELLIPSETOEND 16
- #define CUBICTOCONTROL1 32
- #define CUBICTOCONTROL2 64
- #define CUBICTOEND 128
- #define QUADTOCONTROL 256
- #define QUADTOEND 512

## Typedefs

- typedef struct \_bcf\_file\_difat bcf\_file\_difat
- typedef struct \_bcf\_file\_fat bcf\_file\_fat
- typedef struct \_bcf\_directory\_entry bcf\_directory\_entry
- typedef struct \_bcf\_directory bcf\_directory
- typedef struct \_bcf\_file\_header bcf\_file\_header
- typedef struct \_bcf\_file bcf\_file
- typedef struct \_vp3Hoop vp3Hoop
- typedef struct ThredHeader\_ ThredHeader
- typedef struct ThredExtension\_ ThredExtension
- typedef struct SubDescriptor\_ SubDescriptor
- typedef struct StxThread\_ StxThread
- typedef struct VipHeader\_ VipHeader
- typedef struct SvgAttribute\_ SvgAttribute
- typedef struct Huffman huffman
- typedef struct Compress compress

## Enumerations

- enum CSV\_EXPECT { CSV\_EXPECT\_NULL , CSV\_EXPECT\_QUOTE1 , CSV\_EXPECT\_QUOTE2 , CSV\_EXPECT\_COMMA }
- enum CSV\_MODE { CSV\_MODE\_NULL , CSV\_MODE\_COMMENT , CSV\_MODE\_VARIABLE , CSV\_MODE\_THREAD , CSV\_MODE\_STITCH }

## Functions

- void `huffman_build_table (huffman *h)`

*These next 2 functions represent the `Huffman` class in tartarize's code.*
- int \* `huffman_table_lookup (huffman *h, int byte_lookup, int *lengths)`
- int `compress_get_bits (compress *c, int length)`
- int `compress_pop (compress *c, int bit_count)`
- int `compress_read_variable_length (compress *c)`
- void `compress_load_character_length_huffman (compress *c)`
- void `compress_load_character_huffman (compress *c)`
- void `compress_load_distance_huffman (compress *c)`
- void `compress_load_block (compress *c)`
- int `compress_get_token (compress *c)`
- int `compress_get_position (compress *c)`
- void `readPecStitches (EmbPattern *pattern, FILE *file)`
- void `writePecStitches (EmbPattern *pattern, FILE *file, const char *filename)`
- int `decodeNewStitch (unsigned char value)`
- void `pfaffEncode (FILE *file, int x, int y, int flags)`
- `EmbReal pfaffDecode (unsigned char a1, unsigned char a2, unsigned char a3)`
- unsigned char `mitEncodeStitch (EmbReal value)`
- int `mitDecodeStitch (unsigned char value)`
- int `encode_tajima_ternary (unsigned char b[3], int x, int y)`
- void `decode_tajima_ternary (unsigned char b[3], int *x, int *y)`
- void `encode_t01_record (unsigned char b[3], int x, int y, int flags)`
- int `decode_t01_record (unsigned char b[3], int *x, int *y, int *flags)`
- void `readPESHeaderV5 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV6 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV7 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV8 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV9 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV10 (FILE *file, EmbPattern *pattern)`
- void `readDescriptions (FILE *file, EmbPattern *pattern)`
- void `readHoopName (FILE *file, EmbPattern *pattern)`
- void `readImageString (FILE *file, EmbPattern *pattern)`
- void `readProgrammableFills (FILE *file, EmbPattern *pattern)`
- void `readMotifPatterns (FILE *file, EmbPattern *pattern)`
- void `readFeatherPatterns (FILE *file, EmbPattern *pattern)`
- void `readThreads (FILE *file, EmbPattern *pattern)`
- void `emblnt_read (FILE *f, char *label, void *b, int mode)`
- void `emblnt_write (FILE *f, char *label, void *b, int mode)`
- int `emb_readline (FILE *file, char *line, int maxLength)`
- int `bcfFile_read (FILE *file, bcf_file *bcfFile)`
- FILE \* `GetFile (bcf_file *bcfFile, FILE *file, char *fileToFind)`

*Get the File object.*

  - void `bcf_file_free (bcf_file *bcfFile)`
  - void `binaryReadString (FILE *file, char *buffer, int maxLength)`
  - void `binaryReadUnicodeString (FILE *file, char *buffer, const int stringLength)`
  - int `stringInArray (const char *s, const char **array)`
  - void `fpad (FILE *f, char c, int n)`
  - char \* `copy_trim (char const *s)`
  - char \* `emb_optOut (EmbReal num, char *str)`

*Optimizes the number (num) for output to a text file and returns it as a string (str).*
  - void `write_24bit (FILE *file, int)`
  - int `check_header_present (FILE *file, int minimum_header_length)`

- unsigned short `fread_uint16` (FILE \*file)
- short `fread_int16` (FILE \*f)
- int `fread_int32_be` (FILE \*f)
- void `safe_free` (void \*data)
- void `binaryWriteUIntBE` (FILE \*f, unsigned int data)
- void `binaryWriteUInt` (FILE \*f, unsigned int data)
- void `binaryWriteIntBE` (FILE \*f, int data)
- void `binaryWriteInt` (FILE \*f, int data)
- void `binaryWriteUShort` (FILE \*f, unsigned short data)
- void `binaryWriteUShortBE` (FILE \*f, unsigned short data)
- void `binaryWriteShort` (FILE \*f, short data)
- `bcf_file_difat * bcf_difat_create` (FILE \*file, unsigned int fatSectors, const unsigned int `sectorSize`)
- unsigned int `readFullSector` (FILE \*file, `bcf_file_difat` \*bcfFile, unsigned int \*numberOfDifatEntriesStillToRead)
- unsigned int `numberOfEntriesInDifatSector` (`bcf_file_difat` \*fat)
- void `bcf_file_difat_free` (`bcf_file_difat` \*difat)
- unsigned int `entriesInDifatSector` (`bcf_file_difat` \*fat)
- `bcf_file_fat * bcfFileFat_create` (const unsigned int `sectorSize`)
- void `loadFatFromSector` (`bcf_file_fat` \*fat, FILE \*file)
- void `bcf_file_fat_free` (`bcf_file_fat` \*\*fat)
- `bcf_directory_entry * CompoundFileDirectoryEntry` (FILE \*file)
- `bcf_directory * CompoundFileDirectory` (const unsigned int maxNumberOfDirectoryEntries)
- void `readNextSector` (FILE \*file, `bcf_directory` \*dir)
- void `bcf_directory_free` (`bcf_directory` \*\*dir)
- `bcf_file_header bcfFileHeader_read` (FILE \*file)
- int `bcfFileHeader_isValid` (`bcf_file_header` header)
- int `hus_compress` (char \*input, int size, char \*output, int \*out\_size)
- int `hus_decompress` (char \*input, int size, char \*output, int \*out\_size)
- void `testTangentPoints` (`EmbCircle` c, `EmbVector` p, `EmbVector` \*t0, `EmbVector` \*t1)
- void `printArcResults` (`EmbReal` bulge, `EmbArc` arc, `EmbReal` centerX, `EmbReal` centerY, `EmbReal` radius, `EmbReal` diameter, `EmbReal` chord, `EmbReal` chordMidX, `EmbReal` chordMidY, `EmbReal` sagitta, `EmbReal` apothem, `EmbReal` incAngle, char `clockwise`)
- int `create_test_file_1` (const char \*outf)
- int `create_test_file_2` (const char \*outf)
- int `create_test_file_3` (const char \*outf)
- int `testEmbCircle` (void)
- int `testEmbCircle_2` (void)
- int `testGeomArc` (void)
- int `testThreadColor` (void)
- int `testEmbFormat` (void)
- void `embColor_read` (FILE \*f, `EmbColor` \*c, int toRead)
- void `embColor_write` (FILE \*f, `EmbColor` c, int toWrite)
- char `read100` (`EmbPattern` \*pattern, FILE \*file)
- char `write100` (`EmbPattern` \*pattern, FILE \*file)
- char `read10o` (`EmbPattern` \*pattern, FILE \*file)
- char `write10o` (`EmbPattern` \*pattern, FILE \*file)
- char `readArt` (`EmbPattern` \*pattern, FILE \*file)
- char `writeArt` (`EmbPattern` \*pattern, FILE \*file)
- char `readBmc` (`EmbPattern` \*pattern, FILE \*file)
- char `writeBmc` (`EmbPattern` \*pattern, FILE \*file)
- char `readBro` (`EmbPattern` \*pattern, FILE \*file)
- char `writeBro` (`EmbPattern` \*pattern, FILE \*file)
- char `readCnd` (`EmbPattern` \*pattern, FILE \*file)
- char `writeCnd` (`EmbPattern` \*pattern, FILE \*file)
- char `readCol` (`EmbPattern` \*pattern, FILE \*file)

- char `writeCol` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readCsd` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeCsd` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readCsv` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeCsv` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readDat` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeDat` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readDem` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeDem` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readDsb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeDsb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readDst` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeDst` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readDsz` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeDsz` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readDxf` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeDxf` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readEdr` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeEdr` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readEmd` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeEmd` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readExp` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeExp` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readExy` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeExy` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readEys` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeEys` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readFxy` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeFxy` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readGc` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeGc` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readGnc` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeGnc` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readGt` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeGt` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readHus` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeHus` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readInb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writelnb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readInf` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writelnf` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readJef` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeJef` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readKsm` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeKsm` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readMax` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeMax` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readMit` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeMit` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readNew` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeNew` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readOfm` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeOfm` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readPcd` (`EmbPattern` \*pattern, const char \*fileName, `FILE` \*file)
- char `writePcd` (`EmbPattern` \*pattern, `FILE` \*file)

- char `readPcm` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writePcm` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readPcq` (`EmbPattern` \*pattern, const `char` \*fileName, `FILE` \*file)
- char `writePcq` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readPcs` (`EmbPattern` \*pattern, const `char` \*fileName, `FILE` \*file)
- char `writePcs` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readPec` (`EmbPattern` \*pattern, const `char` \*fileName, `FILE` \*file)
- char `writePec` (`EmbPattern` \*pattern, const `char` \*fileName, `FILE` \*file)
- char `readPel` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writePel` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readPem` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writePem` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readPes` (`EmbPattern` \*pattern, const `char` \*fileName, `FILE` \*file)
- char `writePes` (`EmbPattern` \*pattern, const `char` \*fileName, `FILE` \*file)
- char `readPhb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writePhb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readPhc` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writePhc` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readPlt` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writePlt` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readRgb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeRgb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readSew` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeSew` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readShv` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeShv` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readSst` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeSst` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readStx` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeStx` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readSvg` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeSvg` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readT01` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeT01` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readT09` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeT09` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readTap` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeTap` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readThr` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeThr` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readTxt` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeTxt` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readU00` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeU00` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readU01` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeU01` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readVip` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeVip` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readVp3` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeVp3` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readXxx` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeXxx` (`EmbPattern` \*pattern, `FILE` \*file)
- char `readZsk` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeZsk` (`EmbPattern` \*pattern, `FILE` \*file)

## Variables

- const char [imageWithFrame](#) [38][48]

### 14.119.1 Macro Definition Documentation

**14.119.1.1 BULGETOCONTROL** #define BULGETOCONTROL 2

**14.119.1.2 BULGETOEND** #define BULGETOEND 4

**14.119.1.3 CompoundFileSector\_DIFAT\_Sector** #define CompoundFileSector\_DIFAT\_Sector 0xFFFFFFFFC

**14.119.1.4 CompoundFileSector\_EndOfChain** #define CompoundFileSector\_EndOfChain 0xFFFFFFFFE

**14.119.1.5 CompoundFileSector\_FAT\_Sector** #define CompoundFileSector\_FAT\_Sector 0xFFFFFFFFD

**14.119.1.6 CompoundFileSector\_FreeSector** #define CompoundFileSector\_FreeSector 0xFFFFFFFFF

**14.119.1.7 CompoundFileSector\_MaxRegSector** #define CompoundFileSector\_MaxRegSector 0x←  
FFFFFFFA

Type of sector

**14.119.1.8 CompoundFileStreamId\_MaxRegularStreamId** #define CompoundFileStreamId\_MaxRegular←  
StreamId 0xFFFFFFFFFA

Special values for Stream Identifiers All real stream Ids are less than this

**14.119.1.9 CompoundFileStreamId\_NoStream** #define CompoundFileStreamId\_NoStream 0xFFFFFFFFF

There is no valid stream Id

**14.119.1.10 CUBICTOCONTROL1** #define CUBICTOCONTROL1 32

**14.119.1.11 CUBICTOCONTROL2** #define CUBICTOCONTROL2 64

**14.119.1.12 CUBICTOEND** #define CUBICTOEND 128

**14.119.1.13 DXF\_VERSION\_2000** #define DXF\_VERSION\_2000 "AC1015"

**14.119.1.14 DXF\_VERSION\_2002** #define DXF\_VERSION\_2002 "AC1015"

**14.119.1.15 DXF\_VERSION\_2004** #define DXF\_VERSION\_2004 "AC1018"

**14.119.1.16 DXF\_VERSION\_2006** #define DXF\_VERSION\_2006 "AC1018"

**14.119.1.17 DXF\_VERSION\_2007** #define DXF\_VERSION\_2007 "AC1021"

**14.119.1.18 DXF\_VERSION\_2009** #define DXF\_VERSION\_2009 "AC1021"

**14.119.1.19 DXF\_VERSION\_2010** #define DXF\_VERSION\_2010 "AC1024"

**14.119.1.20 DXF\_VERSION\_2013** #define DXF\_VERSION\_2013 "AC1027"

**14.119.1.21 DXF\_VERSION\_R10** #define DXF\_VERSION\_R10 "AC1006"

**14.119.1.22 DXF\_VERSION\_R11** #define DXF\_VERSION\_R11 "AC1009"

**14.119.1.23 DXF\_VERSION\_R12** #define DXF\_VERSION\_R12 "AC1009"

**14.119.1.24 DXF\_VERSION\_R13** #define DXF\_VERSION\_R13 "AC1012"

**14.119.1.25 DXF\_VERSION\_R14** #define DXF\_VERSION\_R14 "AC1014"

**14.119.1.26 DXF\_VERSION\_R15** #define DXF\_VERSION\_R15 "AC1015"

**14.119.1.27 DXF\_VERSION\_R18** #define DXF\_VERSION\_R18 "AC1018"

**14.119.1.28 DXF\_VERSION\_R21** #define DXF\_VERSION\_R21 "AC1021"

**14.119.1.29 DXF\_VERSION\_R24** #define DXF\_VERSION\_R24 "AC1024"

**14.119.1.30 DXF\_VERSION\_R27** #define DXF\_VERSION\_R27 "AC1027"

**14.119.1.31 ELEMENT\_A** #define ELEMENT\_A 1

**14.119.1.32 ELEMENT\_ANIMATE** #define ELEMENT\_ANIMATE 2

**14.119.1.33 ELEMENT\_ANIMATECOLOR** #define ELEMENT\_ANIMATECOLOR 3

**14.119.1.34 ELEMENT\_ANIMATEMOTION** #define ELEMENT\_ANIMATEMOTION 4

**14.119.1.35 ELEMENT\_ANIMATETRANSFORM** #define ELEMENT\_ANIMATETRANSFORM 5

**14.119.1.36 ELEMENT\_ANIMATION** #define ELEMENT\_ANIMATION 6

**14.119.1.37 ELEMENT\_AUDIO** #define ELEMENT\_AUDIO 7

**14.119.1.38 ELEMENT\_CIRCLE** #define ELEMENT\_CIRCLE 8

**14.119.1.39 ELEMENT\_DEFS** #define ELEMENT\_DEFS 9

**14.119.1.40 ELEMENT\_DESC** #define ELEMENT\_DESC 10

**14.119.1.41 ELEMENT\_DISCARD** #define ELEMENT\_DISCARD 11

**14.119.1.42 ELEMENT\_ELLIPSE** #define ELEMENT\_ELLIPSE 12

**14.119.1.43 ELEMENT\_FONT** `#define ELEMENT_FONT 13`

**14.119.1.44 ELEMENT\_FONT\_FACE** `#define ELEMENT_FONT_FACE 14`

**14.119.1.45 ELEMENT\_FONT\_FACE\_SRC** `#define ELEMENT_FONT_FACE_SRC 15`

**14.119.1.46 ELEMENT\_FONT\_FACE\_URI** `#define ELEMENT_FONT_FACE_URI 16`

**14.119.1.47 ELEMENT\_FOREIGN\_OBJECT** `#define ELEMENT_FOREIGN_OBJECT 17`

**14.119.1.48 ELEMENT\_G** `#define ELEMENT_G 18`

**14.119.1.49 ELEMENT\_GLYPH** `#define ELEMENT_GLYPH 19`

**14.119.1.50 ELEMENT\_HANDLER** `#define ELEMENT_HANDLER 20`

**14.119.1.51 ELEMENT\_HKERN** `#define ELEMENT_HKERN 21`

**14.119.1.52 ELEMENT\_IMAGE** `#define ELEMENT_IMAGE 22`

**14.119.1.53 ELEMENT\_LINE** `#define ELEMENT_LINE 23`

**14.119.1.54 ELEMENT\_LINEAR\_GRADIENT** #define ELEMENT\_LINEAR\_GRADIENT 24

**14.119.1.55 ELEMENT\_LISTENER** #define ELEMENT\_LISTENER 25

**14.119.1.56 ELEMENT\_METADATA** #define ELEMENT\_METADATA 26

**14.119.1.57 ELEMENT\_MISSING\_GLYPH** #define ELEMENT\_MISSING\_GLYPH 27

**14.119.1.58 ELEMENT\_MPATH** #define ELEMENT\_MPATH 28

**14.119.1.59 ELEMENT\_PATH** #define ELEMENT\_PATH 29

**14.119.1.60 ELEMENT\_POLYGON** #define ELEMENT\_POLYGON 30

**14.119.1.61 ELEMENT\_POLYLINE** #define ELEMENT\_POLYLINE 31

**14.119.1.62 ELEMENT\_PREFETCH** #define ELEMENT\_PREFETCH 32

**14.119.1.63 ELEMENT\_RADIAL\_GRADIENT** #define ELEMENT\_RADIAL\_GRADIENT 33

**14.119.1.64 ELEMENT\_RECT** #define ELEMENT\_RECT 34

**14.119.1.65 ELEMENT\_SCRIPT** `#define ELEMENT_SCRIPT 35`

**14.119.1.66 ELEMENT\_SET** `#define ELEMENT_SET 36`

**14.119.1.67 ELEMENT\_SOLID\_COLOR** `#define ELEMENT_SOLID_COLOR 37`

**14.119.1.68 ELEMENT\_STOP** `#define ELEMENT_STOP 38`

**14.119.1.69 ELEMENT\_SVG** `#define ELEMENT_SVG 39`

**14.119.1.70 ELEMENT\_SWITCH** `#define ELEMENT_SWITCH 40`

**14.119.1.71 ELEMENT\_TBREAK** `#define ELEMENT_TBREAK 41`

**14.119.1.72 ELEMENT\_TEXT** `#define ELEMENT_TEXT 42`

**14.119.1.73 ELEMENT\_TEXT\_AREA** `#define ELEMENT_TEXT_AREA 43`

**14.119.1.74 ELEMENT\_TITLE** `#define ELEMENT_TITLE 44`

**14.119.1.75 ELEMENT\_TSPAN** `#define ELEMENT_TSPAN 45`

**14.119.1.76 ELEMENT\_USE** #define ELEMENT\_USE 46

**14.119.1.77 ELEMENT\_VIDEO** #define ELEMENT\_VIDEO 47

**14.119.1.78 ELEMENT\_XML** #define ELEMENT\_XML 0

**14.119.1.79 ELLIPSETOEND** #define ELLIPSETOEND 16

**14.119.1.80 ELLIPSETORAD** #define ELLIPSETORAD 8

**14.119.1.81 EMB\_BIG\_ENDIAN** #define EMB\_BIG\_ENDIAN 0

**14.119.1.82 EMB\_INT16\_BIG** #define EMB\_INT16\_BIG 2

**14.119.1.83 EMB\_INT16\_LITTLE** #define EMB\_INT16\_LITTLE 3

**14.119.1.84 EMB\_INT32\_BIG** #define EMB\_INT32\_BIG 4

**14.119.1.85 EMB\_INT32\_LITTLE** #define EMB\_INT32\_LITTLE 5

**14.119.1.86 EMB\_LITTLE\_ENDIAN** #define EMB\_LITTLE\_ENDIAN 1

**14.119.1.87 EMB\_MAX** #define EMB\_MAX(  
    A,  
    B) ((A) > (B)) ? (A) : (B))

**14.119.1.88 EMB\_MIN** #define EMB\_MIN(  
    A,  
    B) ((A) < (B)) ? (A) : (B))

**14.119.1.89 ENDIAN\_HOST** #define ENDIAN\_HOST EMB\_LITTLE\_ENDIAN

**14.119.1.90 GREEN\_TERM\_COLOR** #define GREEN\_TERM\_COLOR "\x1B[0;32m"

**14.119.1.91 HOOP\_110X110** #define HOOP\_110X110 1

**14.119.1.92 HOOP\_126X110** #define HOOP\_126X110 0

**14.119.1.93 HOOP\_140X200** #define HOOP\_140X200 3

**14.119.1.94 HOOP\_230X200** #define HOOP\_230X200 4

**14.119.1.95 HOOP\_50X50** #define HOOP\_50X50 2

**14.119.1.96 LINETO** #define LINETO 0

**14.119.1.97 MOVETO** #define MOVETO 1

**14.119.1.98 N\_PES\_VERSIONS** #define N\_PES\_VERSIONS 13

**14.119.1.99 ObjectTypeRootEntry** #define ObjectTypeRootEntry 0x05

the root entry

**14.119.1.100 ObjectTypeStorage** #define ObjectTypeStorage 0x01

a directory type object

**14.119.1.101 ObjectTypeStream** #define ObjectTypeStream 0x02

a file type object

**14.119.1.102 ObjectTypeUnknown** #define ObjectTypeUnknown 0x00

Type of directory object Probably unallocated

**14.119.1.103 PES0001** #define PES0001 0

**14.119.1.104 PES0020** #define PES0020 1

**14.119.1.105 PES0022** #define PES0022 2

**14.119.1.106 PES0030** #define PES0030 3

**14.119.1.107 PES0040** #define PES0040 4

**14.119.1.108 PES0050** #define PES0050 5

**14.119.1.109 PES0055** #define PES0055 6

**14.119.1.110 PES0056** #define PES0056 7

**14.119.1.111 PES0060** #define PES0060 8

**14.119.1.112 PES0070** #define PES0070 9

**14.119.1.113 PES0080** #define PES0080 10

**14.119.1.114 PES0090** #define PES0090 11

**14.119.1.115 PES0100** #define PES0100 12

**14.119.1.116 QUADTOCONTROL** #define QUADTOCONTROL 256

**14.119.1.117 QUADTOEND** #define QUADTOEND 512

**14.119.1.118 RED\_TERM\_COLOR** #define RED\_TERM\_COLOR "\x1B[0;31m"

**14.119.1.119 RESET\_TERM\_COLOR** #define RESET\_TERM\_COLOR "\033[0m"

**14.119.1.120 `SVG_ATTRIBUTE`** #define SVG\_ATTRIBUTE 4

**14.119.1.121 `SVG_CATCH_ALL`** #define SVG\_CATCH\_ALL 5

**14.119.1.122 `SVG_CREATOR_EMBROIDERMODDER`** #define SVG\_CREATOR\_EMBROIDERMODDER 1

**14.119.1.123 `SVG_CREATOR_ILLUSTRATOR`** #define SVG\_CREATOR\_ILLUSTRATOR 2

**14.119.1.124 `SVG_CREATOR_INKSCAPE`** #define SVG\_CREATOR\_INKSCAPE 3

**14.119.1.125 `SVG_CREATOR_NULL`** #define SVG\_CREATOR\_NULL 0

**14.119.1.126 `SVG_ELEMENT`** #define SVG\_ELEMENT 1

**14.119.1.127 `SVG_EXPECT_ATTRIBUTE`** #define SVG\_EXPECT\_ATTRIBUTE 2

**14.119.1.128 `SVG_EXPECT_ELEMENT`** #define SVG\_EXPECT\_ELEMENT 1

**14.119.1.129 `SVG_EXPECT_NULL`** #define SVG\_EXPECT\_NULL 0

**14.119.1.130 `SVG_EXPECT_VALUE`** #define SVG\_EXPECT\_VALUE 3

**14.119.1.131 `SVG_MEDIA_PROPERTY`** `#define SVG_MEDIA_PROPERTY 3`

**14.119.1.132 `SVG_NULL`** `#define SVG_NULL 0`

**14.119.1.133 `SVG_PROPERTY`** `#define SVG_PROPERTY 2`

**14.119.1.134 `YELLOW_TERM_COLOR`** `#define YELLOW_TERM_COLOR "\x1B[1;33m"`

## 14.119.2 **Typedef Documentation**

**14.119.2.1 `bcf_directory`** `typedef struct _bcf_directory bcf_directory`

**Todo** possibly add a directory tree in the future.

**14.119.2.2 `bcf_directory_entry`** `typedef struct _bcf_directory_entry bcf_directory_entry`

**14.119.2.3 `bcf_file`** `typedef struct _bcf_file bcf_file`

**14.119.2.4 `bcf_file_difat`** `typedef struct _bcf_file_difat bcf_file_difat`

**14.119.2.5 `bcf_file_fat`** `typedef struct _bcf_file_fat bcf_file_fat`

**14.119.2.6 `bcf_file_header`** `typedef struct _bcf_file_header bcf_file_header`

**Todo** CLSID should be a separate type.

**14.119.2.7 compress** `typedef struct Compress compress`

**14.119.2.8 huffman** `typedef struct Huffman huffman`

**14.119.2.9 StxThread** `typedef struct StxThread_ StxThread`

**14.119.2.10 SubDescriptor** `typedef struct SubDescriptor_ SubDescriptor`

**14.119.2.11 SvgAttribute** `typedef struct SvgAttribute_ SvgAttribute`

**14.119.2.12 ThredExtension** `typedef struct ThredExtension_ ThredExtension`

**14.119.2.13 ThredHeader** `typedef struct ThredHeader_ ThredHeader`

**14.119.2.14 VipHeader** `typedef struct VipHeader_ VipHeader`

**14.119.2.15 vp3Hoop** `typedef struct _vp3Hoop vp3Hoop`

## 14.119.3 Enumeration Type Documentation

**14.119.3.1 CSV\_EXPECT** `enum CSV_EXPECT`

Enumerator

<code>CSV_EXPECT_NULL</code>	
<code>CSV_EXPECT_QUOTE1</code>	
<code>CSV_EXPECT_QUOTE2</code>	
<code>CSV_EXPECT_COMMA</code>	

**14.119.3.2 CSV\_MODE enum CSV\_MODE**

Enumerator

CSV_MODE_NULL	
CSV_MODE_COMMENT	
CSV_MODE_VARIABLE	
CSV_MODE_THREAD	
CSV_MODE_STITCH	

**14.119.4 Function Documentation****14.119.4.1 bcf\_difat\_create()** `bcf_file_difat * bcf_difat_create ( FILE * file, unsigned int fatSectors, const unsigned int sectorSize )`

Parameters

<i>file</i>	
<i>fatSectors</i>	
<i>sectorSize</i>	

Returns

`bcf_file_difat*`**14.119.4.2 bcf\_directory\_free()** `void bcf_directory_free ( bcf_directory ** dir )`

Parameters

<i>dir</i>	
------------	--

**14.119.4.3 bcf\_file\_difat\_free()** `void bcf_file_difat_free ( bcf_file_difat * difat )`

**14.119.4.4 bcf\_file\_fat\_free()** void bcf\_file\_fat\_free (   
     `bcf_file_fat` \*\* *fat* )

**14.119.4.5 bcf\_file\_free()** void bcf\_file\_free (   
     `bcf_file` \* *bcfFile* )

Parameters

<code>bcfFile</code>	
----------------------	--

**14.119.4.6 bcfFile\_read()** int bcfFile\_read (   
     FILE \* *file*,   
     `bcf_file` \* *bcfFile* )

Parameters

<code>file</code>	
<code>bcfFile</code>	

Returns

int

**14.119.4.7 bcfFileFat\_create()** `bcf_file_fat` \* bcfFileFat\_create (   
     const unsigned int *sectorSize* )

Parameters

<code>sectorSize</code>	
-------------------------	--

Returns

`bcf_file_fat*`

**14.119.4.8 bcfFileHeader\_isValid()** int bcfFileHeader\_isValid (   
     `bcf_file_header` *header* )

**14.119.4.9 bcfFileHeader\_read()** `bcf_file_header` bcfFileHeader\_read (   
     FILE \* *file* )

**Parameters**

<i>file</i>	
-------------	--

**Returns**`bcf_file_header`**14.119.4.10 binaryReadString()** `void binaryReadString (`

```
FILE * file,  
char * buffer,  
int maxLength )
```

**Parameters**

<i>file</i>	
<i>buffer</i>	
<i>maxLength</i>	

**14.119.4.11 binaryReadUnicodeString()** `void binaryReadUnicodeString (`

```
FILE * file,  
char * buffer,  
const int stringLength )
```

**Parameters**

<i>file</i>	
<i>buffer</i>	
<i>stringLength</i>	

**14.119.4.12 binaryWriteInt()** `void binaryWriteInt (`

```
FILE * f,  
int data )
```

**Parameters**

<i>f</i>	
<i>data</i>	

**Todo** replace with emblnt\_read

**14.119.4.13 binaryWriteIntBE()** void binaryWriteIntBE (

```
FILE * f,  
int data )
```

Parameters

f	
data	

**Todo** replace with emblnt\_read

**14.119.4.14 binaryWriteShort()** void binaryWriteShort (

```
FILE * f,  
short data )
```

Parameters

f	
data	

**Todo** replace with emblnt\_read

**14.119.4.15 binaryWriteUInt()** void binaryWriteUInt (

```
FILE * f,  
unsigned int data )
```

Parameters

f	
data	

**Todo** replace with emblnt\_read

**14.119.4.16 binaryWriteUIntBE()** void binaryWriteUIntBE (

```
FILE * f,  
unsigned int data )
```

Parameters

f	
data	

**Todo** replace with emblnt\_read

#### 14.119.4.17 `binaryWriteUShort()` `void binaryWriteUShort (`

```
FILE * f,  
unsigned short data )
```

Parameters

<code>f</code>	
<code>data</code>	

**Todo** replace with emblnt\_read

#### 14.119.4.18 `binaryWriteUShortBE()` `void binaryWriteUShortBE (`

```
FILE * f,  
unsigned short data )
```

Parameters

<code>f</code>	
<code>data</code>	

**Todo** replace with emblnt\_read

#### 14.119.4.19 `check_header_present()` `int check_header_present (`

```
FILE * file,  
int minimum_header_length )
```

Parameters

<code>file</code>	
<code>minimum_header_length</code>	

Returns

`int`

Checks that there are enough bytes to interpret the header, stops possible segfaults when reading in the header bytes.

Returns 0 if there aren't enough, or the length of the file if there are.

**14.119.4.20 CompoundFileDirectory()** `bcf_directory * CompoundFileDirectory (`  
`const unsigned int maxNumberOfDirectoryEntries )`

Parameters

<code>maxNumberOfDirectoryEntries</code>	
--	--

Returns

`bcf_directory*`

**14.119.4.21 CompoundFileDirectoryEntry()** `bcf_directory_entry * CompoundFileDirectoryEntry (`  
`FILE * file )`

Parameters

<code>file</code>	
-------------------	--

Returns

`bcf_directory_entry*`

**14.119.4.22 compress\_get\_bits()** `int compress_get_bits (`  
`compress * c,`  
`int length )`

Parameters

<code>c</code>	
<code>length</code>	

Returns

`int`

**14.119.4.23 compress\_get\_position()** `int compress_get_position (`  
`compress * c )`

Parameters

<code>c</code>	
----------------	--

Returns

int

**14.119.4.24 `compress_get_token()`** int compress\_get\_token (   
      compress \* c )

Parameters

<code>c</code>	<input type="text"/>
----------------	----------------------

Returns

int

**14.119.4.25 `compress_load_block()`** void compress\_load\_block (   
      compress \* c )

Parameters

<code>c</code>	<input type="text"/>
----------------	----------------------

**14.119.4.26 `compress_load_character_huffman()`** void compress\_load\_character\_huffman (   
      compress \* c )

Parameters

<code>c</code>	<input type="text"/>
----------------	----------------------

**14.119.4.27 `compress_load_character_length_huffman()`** void compress\_load\_character\_length\_huffman (   
      compress \* c )

Parameters

<code>c</code>	<input type="text"/>
----------------	----------------------

**14.119.4.28 compress\_load\_distance\_huffman()** void compress\_load\_distance\_huffman ( compress \* c )

Parameters

c	
---	--

**14.119.4.29 compress\_pop()** int compress\_pop ( compress \* c, int bit\_count )

Parameters

c	
bit_count	

Returns

int

**14.119.4.30 compress\_read\_variable\_length()** int compress\_read\_variable\_length ( compress \* c )

Parameters

c	
---	--

Returns

int

**14.119.4.31 copy\_trim()** char \* copy\_trim ( char const \* s )

Parameters

s	
---	--

Returns

char\*

**Todo** description

**14.119.4.32 `create_test_file_1()`** `int create_test_file_1 (`  
`const char * outf )`

**14.119.4.33 `create_test_file_2()`** `int create_test_file_2 (`  
`const char * outf )`

**14.119.4.34 `create_test_file_3()`** `int create_test_file_3 (`  
`const char * outf )`

**14.119.4.35 `decode_t01_record()`** `int decode_t01_record (`  
`unsigned char b[3],`  
`int * x,`  
`int * y,`  
`int * flags )`

#### Parameters

<i>b</i>	
<i>x</i>	
<i>y</i>	
<i>flags</i>	

#### Returns

`int`

**14.119.4.36 `decode_tajima_ternary()`** `void decode_tajima_ternary (`  
`unsigned char b[3],`  
`int * x,`  
`int * y )`

#### Parameters

<i>b</i>	
<i>x</i>	
<i>y</i>	

**14.119.4.37 decodeNewStitch()** int decodeNewStitch ( unsigned char value )

**Parameters**

value	
-------	--

**Returns**

int

**14.119.4.38 emb\_optOut()** char \* emb\_optOut ( EmbReal num, char \* str )

Optimizes the number (*num*) for output to a text file and returns it as a string (*str*).

**Parameters**

num	
str	

**Returns**

char\*

**14.119.4.39 emb\_readline()** int emb\_readline ( FILE \* file, char \* line, int maxLength )

**Parameters**

file	
line	
maxLength	

**Returns**

int

```
14.119.4.40 embColor_read() void embColor_read (  
    FILE * f,  
    EmbColor * c,  
    int toRead )
```

**Parameters**

<i>f</i>	
<i>c</i>	
<i>toRead</i>	

```
14.119.4.41 embColor_write() void embColor_write (
    FILE * f,
    EmbColor c,
    int toWrite )
```

**Parameters**

<i>f</i>	
<i>c</i>	
<i>toWrite</i>	

```
14.119.4.42 embInt_read() void embInt_read (
    FILE * f,
    char * label,
    void * b,
    int mode )
```

**Parameters**

<i>f</i>	
<i>label</i>	
<i>b</i>	
<i>mode</i>	

Read and write system for multiple byte types.

The caller passes the function to read/write from, the memory location as a void pointer and a mode identifier that describes the type. This way we can abstract out the endianness of the system running the library and don't have to maintain many functions, just two.

```
14.119.4.43 embInt_write() void embInt_write (
    FILE * f,
    char * label,
    void * b,
    int mode )
```

**Parameters**

<i>f</i>	
<i>label</i>	
<i>b</i>	
<i>mode</i>	

```
14.119.4.44 encode_t01_record() void encode_t01_record (
    unsigned char b[3],
    int x,
    int y,
    int flags )
```

**Parameters**

<i>b</i>	
<i>x</i>	
<i>y</i>	
<i>flags</i>	

```
14.119.4.45 encode_tajima_ternary() int encode_tajima_ternary (
    unsigned char b[3],
    int x,
    int y )
```

**Parameters**

<i>b</i>	
<i>x</i>	
<i>y</i>	

**Returns**

int

```
14.119.4.46 entriesInDifatSector() unsigned int entriesInDifatSector (
    bcf\_file\_difat * fat )
```

**Parameters**

<i>fat</i>	
------------	--

**Returns**

unsigned int

**14.119.4.47 fpad()** void fpad (

```
FILE * file,
char c,
int n )
```

**Parameters**

f	
---	--

**Returns**

int

**14.119.4.48 fread\_int16()** short fread\_int16 (

```
FILE * f )
```

**Parameters**

f	
---	--

**Returns**

short

**14.119.4.49 fread\_int32\_be()** int fread\_int32\_be (

```
FILE * f )
```

**Parameters**

f	
---	--

**Returns**

int

**Todo** replace with emblnt\_read

**14.119.4.50 fread\_uint16()** unsigned short fread\_uint16 (

```
FILE * f )
```

**Parameters**

<code>f</code>	<input type="text"/>
----------------	----------------------

**Returns**`unsigned short`**Todo** replace with emblnt\_read**14.119.4.51 `GetFile()`** `FILE * GetFile (`  
`bcf_file * bcfFile,`  
`FILE * file,`  
`char * fileToFind )`

Get the File object.

**Parameters**

<code>bcfFile</code>	<input type="text"/>
<code>file</code>	<input type="text"/>
<code>fileToFind</code>	<input type="text"/>

**Returns**`FILE*`**14.119.4.52 `huffman_build_table()`** `void huffman_build_table (`  
`huffman * h )`These next 2 functions represent the `Huffman` class in tartarize's code.**Parameters**

<code>h</code>	<input type="text"/>
----------------	----------------------

**14.119.4.53 `huffman_table_lookup()`** `int * huffman_table_lookup (`  
`huffman * h,`  
`int byte_lookup,`  
`int * lengths )`

```
14.119.4.54 hus_compress() int hus_compress (
    char * data,
    int length,
    char * output,
    int * output_length )
```

This file is part of libembroidery.

Copyright 2018-2022 The Embroidermodder Team Licensed under the terms of the zlib license.

This file contains all the read and write functions for the library.

Thanks to Jason Weiler for describing the binary formats of the HUS and VIP formats at:

<http://www.jasonweiler.com/HUSandVIPFileInfo.html>

Further thanks to github user tatarize for solving the mystery of the compression in:

<https://github.com/EmbroidePy/pyembroidery>

with a description of that work here:

<https://stackoverflow.com/questions/7852670/greenleaf-archive-library>

This is based on their work.

#### Parameters

<i>data</i>	
<i>length</i>	
<i>output</i>	
<i>output_length</i>	

#### Returns

int

This avoids the now unnecessary compression by placing a minimal header of 6 bytes and using only literals in the huffman compressed part (see the sources above).

```
14.119.4.55 hus_decompress() int hus_decompress (
    char * data,
    int length,
    char * output,
    int * output_length )
```

#### Parameters

<i>data</i>	
<i>length</i>	
<i>output</i>	
<i>output_length</i>	

Returns

int

**14.119.4.56 `loadFatFromSector()`** void loadFatFromSector (   
     `bcf_file_fat` \* *fat*,   
     FILE \* *file* )

Parameters

<i>fat</i>	<input type="text"/>
<i>file</i>	<input type="text"/>

**14.119.4.57 `mitDecodeStitch()`** int mitDecodeStitch (   
     unsigned char *value* )

Parameters

<i>value</i>	<input type="text"/>
--------------	----------------------

Returns

int

**14.119.4.58 `mitEncodeStitch()`** unsigned char mitEncodeStitch (   
     `EmbReal` *value* )

Parameters

<i>value</i>	<input type="text"/>
--------------	----------------------

Returns

unsigned char

**14.119.4.59 `numberOfEntriesInDifatSector()`** unsigned int numberOfEntriesInDifatSector (   
     `bcf_file_difat` \* *fat* )

**14.119.4.60 pfaffDecode()** `EmbReal pfaffDecode (`  
    `unsigned char a1,`  
    `unsigned char a2,`  
    `unsigned char a3 )`

**Parameters**

<i>a1</i>	
<i>a2</i>	
<i>a3</i>	

**Returns**

`EmbReal`

**14.119.4.61 pfaffEncode()** `void pfaffEncode (`  
    `FILE * file,`  
    `int dx,`  
    `int dy,`  
    `int flags )`

**Parameters**

<i>file</i>	
<i>dx</i>	
<i>dy</i>	
<i>flags</i>	

**14.119.4.62 printArcResults()** `void printArcResults (`  
    `EmbReal bulge,`  
    `EmbArc arc,`  
    `EmbReal centerX,`  
    `EmbReal centerY,`  
    `EmbReal radius,`  
    `EmbReal diameter,`  
    `EmbReal chord,`  
    `EmbReal chordMidX,`  
    `EmbReal chordMidY,`  
    `EmbReal sagitta,`  
    `EmbReal apothem,`  
    `EmbReal incAngle,`  
    `char clockwise )`

**14.119.4.63 read100()** `char read100 (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.119.4.64 read10o()** char read10o (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.65 readArt()** char readArt (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.66 readBmc()** char readBmc (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.67 readBro()** char readBro (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.68 readCnd()** char readCnd (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.69 readCol()** char readCol (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.70 readCsd()** char readCsd (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.71 readCsv()** char readCsv (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.72** `readDat()` `char readDat (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.73** `readDem()` `char readDem (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.74** `readDescriptions()` `void readDescriptions (`  
`FILE * file,`  
`EmbPattern * pattern )`

**14.119.4.75** `readDsb()` `char readDsb (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.76** `readDst()` `char readDst (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.77** `readDsz()` `char readDsz (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.78** `readDxf()` `char readDxf (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.79** `readEdr()` `char readEdr (`  
`EmbPattern * pattern,`  
`FILE * file )`

```
14.119.4.80 readEmd() char readEmd (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.81 readExp() char readExp (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.82 readExy() char readExy (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.83 readEys() char readEys (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.84 readFeatherPatterns() void readFeatherPatterns (
    FILE * file,
    EmbPattern * pattern )
```

```
14.119.4.85 readFullSector() unsigned int readFullSector (
    FILE * file,
    bcf_file_difat * bcfFile,
    unsigned int * difatEntriesToRead )
```

#### Parameters

<i>file</i>	
<i>bcfFile</i>	
<i>difatEntriesToRead</i>	

#### Returns

unsigned int

**14.119.4.86 `readFxy()`** `char readFxy (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.87 `readGc()`** `char readGc (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.88 `readGnc()`** `char readGnc (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.89 `readGt()`** `char readGt (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.90 `readHoopName()`** `void readHoopName (`  
`FILE * file,`  
`EmbPattern * pattern )`

**14.119.4.91 `readHus()`** `char readHus (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.92 `readImageString()`** `void readImageString (`  
`FILE * file,`  
`EmbPattern * pattern )`

**14.119.4.93 `readInb()`** `char readInb (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.94 `readInf()`** `char readInf (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.119.4.95 `readJef()`** `char readJef (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.119.4.96 `readKsm()`** `char readKsm (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.119.4.97 `readMax()`** `char readMax (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.119.4.98 `readMit()`** `char readMit (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.119.4.99 `readMotifPatterns()`** `void readMotifPatterns (`  
    `FILE * file,`  
    `EmbPattern * pattern )`

**14.119.4.100 `readNew()`** `char readNew (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.119.4.101 `readNextSector()`** `void readNextSector (`  
    `FILE * file,`  
    `bcf_directory * dir )`

#### Parameters

<code>file</code>	
<code>dir</code>	

```
14.119.4.102 readOfm() char readOfm (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.103 readPcd() char readPcd (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
14.119.4.104 readPcm() char readPcm (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.105 readPcq() char readPcq (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
14.119.4.106 readPcs() char readPcs (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
14.119.4.107 readPec() char readPec (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
14.119.4.108 readPecStitches() void readPecStitches (
    EmbPattern * pattern,
    FILE * file )
```

**14.119.4.109 `readPel()`** `char readPel (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.110 `readPem()`** `char readPem (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.111 `readPes()`** `char readPes (`  
`EmbPattern * pattern,`  
`const char * fileName,`  
`FILE * file )`

**14.119.4.112 `readPESHeaderV10()`** `void readPESHeaderV10 (`  
`FILE * file,`  
`EmbPattern * pattern )`

**14.119.4.113 `readPESHeaderV5()`** `void readPESHeaderV5 (`  
`FILE * file,`  
`EmbPattern * pattern )`

**14.119.4.114 `readPESHeaderV6()`** `void readPESHeaderV6 (`  
`FILE * file,`  
`EmbPattern * pattern )`

**14.119.4.115 `readPESHeaderV7()`** `void readPESHeaderV7 (`  
`FILE * file,`  
`EmbPattern * pattern )`

**14.119.4.116 `readPESHeaderV8()`** `void readPESHeaderV8 (`  
`FILE * file,`  
`EmbPattern * pattern )`

**14.119.4.117** **readPESHeaderV9()** void readPESHeaderV9 ( FILE \* *file*, EmbPattern \* *pattern* )

**14.119.4.118** **readPhb()** char readPhb ( EmbPattern \* *pattern*, FILE \* *file* )

**14.119.4.119** **readPhc()** char readPhc ( EmbPattern \* *pattern*, FILE \* *file* )

**14.119.4.120** **readPlt()** char readPlt ( EmbPattern \* *pattern*, FILE \* *file* )

**14.119.4.121** **readProgrammableFills()** void readProgrammableFills ( FILE \* *file*, EmbPattern \* *pattern* )

**14.119.4.122** **readRgb()** char readRgb ( EmbPattern \* *pattern*, FILE \* *file* )

**14.119.4.123** **readSew()** char readSew ( EmbPattern \* *pattern*, FILE \* *file* )

**14.119.4.124** **readShv()** char readShv ( EmbPattern \* *pattern*, FILE \* *file* )

**14.119.4.125** **readSst()** char readSst (

`EmbPattern * pattern,`

`FILE * file )`

**14.119.4.126** **readStx()** char readStx (

`EmbPattern * pattern,`

`FILE * file )`

**14.119.4.127** **readSvg()** char readSvg (

`EmbPattern * pattern,`

`FILE * file )`

**14.119.4.128** **readT01()** char readT01 (

`EmbPattern * pattern,`

`FILE * file )`

**14.119.4.129** **readT09()** char readT09 (

`EmbPattern * pattern,`

`FILE * file )`

**14.119.4.130** **readTap()** char readTap (

`EmbPattern * pattern,`

`FILE * file )`

**14.119.4.131** **readThr()** char readThr (

`EmbPattern * pattern,`

`FILE * file )`

**14.119.4.132** **readThreads()** void readThreads (

`FILE * file,`

`EmbPattern * pattern )`

**14.119.4.133** **readTxt()** char readTxt (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.134** **readU00()** char readU00 (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.135** **readU01()** char readU01 (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.136** **readVip()** char readVip (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.137** **readVp3()** char readVp3 (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.138** **readXxx()** char readXxx (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.139** **readZsk()** char readZsk (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.140** **safe\_free()** void safe\_free (

```
void * data )
```

#### Parameters

<i>data</i>	<input type="text"/>
-------------	----------------------

```
14.119.4.141 stringInArray() int stringInArray (
    const char * s,
    const char ** array )
```

Tests for the presence of a string *s* in the supplied *array*.

The end of the array is marked by an empty string.

#### Returns

0 if not present 1 if present.

```
14.119.4.142 testEmbCircle() int testEmbCircle (
    void )
```

```
14.119.4.143 testEmbCircle_2() int testEmbCircle_2 (
    void )
```

```
14.119.4.144 testEmbFormat() int testEmbFormat (
    void )
```

```
14.119.4.145 testGeomArc() int testGeomArc (
    void )
```

```
14.119.4.146 testTangentPoints() void testTangentPoints (
    EmbCircle c,
    EmbVector p,
    EmbVector * t0,
    EmbVector * t1 )
```

```
14.119.4.147 testThreadColor() int testThreadColor (
    void )
```

**14.119.4.148** **write100()** char write100 (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.149** **write10o()** char write10o (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.150** **write\_24bit()** void write\_24bit (

```
FILE * file,
int x )
```

#### Parameters

<i>file</i>	
<i>x</i>	

**14.119.4.151** **writeArt()** char writeArt (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.152** **writeBmc()** char writeBmc (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.153** **writeBro()** char writeBro (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.154** **writeCnd()** char writeCnd (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.155 `writeCol()`** `char writeCol (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.156 `writeCsd()`** `char writeCsd (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.157 `writeCsv()`** `char writeCsv (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.158 `writeDat()`** `char writeDat (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.159 `writeDem()`** `char writeDem (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.160 `writeDsb()`** `char writeDsb (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.161 `writeDst()`** `char writeDst (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.162 `writeDsz()`** `char writeDsz (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.163** **writeDxf()** char writeDxf (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.164** **writeEdr()** char writeEdr (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.165** **writeEmd()** char writeEmd (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.166** **writeExp()** char writeExp (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.167** **writeExy()** char writeExy (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.168** **writeEys()** char writeEys (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.169** **writeFxy()** char writeFxy (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.170** **writeGc()** char writeGc (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.171 `writeGnc()`** char writeGnc (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.172 `writeGt()`** char writeGt (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.173 `writeHus()`** char writeHus (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.174 `writeInb()`** char writeInb (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.175 `writeInf()`** char writeInf (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.176 `writeJef()`** char writeJef (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.177 `writeKsm()`** char writeKsm (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.178 `writeMax()`** char writeMax (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.179** **writeMit()** char writeMit (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.180** **writeNew()** char writeNew (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.181** **writeOfm()** char writeOfm (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.182** **writePcd()** char writePcd (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.183** **writePcm()** char writePcm (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.184** **writePcq()** char writePcq (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.185** **writePcs()** char writePcs (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.186** **writePec()** char writePec (

```
EmbPattern * pattern,
const char * fileName,
FILE * file )
```

**14.119.4.187 `writePecStitches()`** `void writePecStitches (`  
`EmbPattern * pattern,`  
`FILE * file,`  
`const char * filename )`

**14.119.4.188 `writePel()`** `char writePel (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.189 `writePem()`** `char writePem (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.190 `writePes()`** `char writePes (`  
`EmbPattern * pattern,`  
`const char * fileName,`  
`FILE * file )`

**14.119.4.191 `writePhb()`** `char writePhb (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.192 `writePhc()`** `char writePhc (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.193 `writePlt()`** `char writePlt (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.119.4.194 `writeRgb()`** `char writeRgb (`  
`EmbPattern * pattern,`  
`FILE * file )`

```
14.119.4.195 writeSew() char writeSew (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.196 writeShv() char writeShv (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.197 writeSst() char writeSst (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.198 writeStx() char writeStx (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.199 writeSvg() char writeSvg (
    EmbPattern * pattern,
    FILE * file )
```

Writes the data from *pattern* to a file with the given *fileName*. Returns `true` if successful, otherwise returns `false`.

```
14.119.4.200 writeT01() char writeT01 (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.201 writeT09() char writeT09 (
    EmbPattern * pattern,
    FILE * file )
```

```
14.119.4.202 writeTap() char writeTap (
    EmbPattern * pattern,
    FILE * file )
```

**14.119.4.203** **writeThr()** char writeThr (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.204** **writeTxt()** char writeTxt (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.205** **writeU00()** char writeU00 (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.206** **writeU01()** char writeU01 (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.207** **writeVip()** char writeVip (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.208** **writeVp3()** char writeVp3 (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.209** **writeXxx()** char writeXxx (

```
EmbPattern * pattern,
FILE * file )
```

**14.119.4.210** **writeZsk()** char writeZsk (

```
EmbPattern * pattern,
FILE * file )
```

## 14.119.5 Variable Documentation

---

**14.119.5.1 `imageWithFrame`** const char `imageWithFrame[38][48]` [extern]

## 14.120 `embroidery_internal.h`

[Go to the documentation of this file.](#)

```
00001 #ifndef LIBEMBROIDERY_INTERNAL_HEADER_
00002 #define LIBEMBROIDERY_INTERNAL_HEADER_
00003
00004 #include "embroidery.h"
00005
00006 /* For FILE */
00007 #include <stdio.h>
00008
00012 #define CompoundFileSector_MaxRegSector 0xFFFFFFF
00013 #define CompoundFileSector_DIFAT_Sector 0xFFFFFFF
00014 #define CompoundFileSector_FAT_Sector 0xFFFFFFF
00015 #define CompoundFileSector_EndOfChain 0xFFFFFFF
00016 #define CompoundFileSector_FreeSector 0xFFFFFFF
00017
00021 #define ObjectTypeUnknown 0x0
00022 #define ObjectTypeStorage 0x1
00023 #define ObjectTypeStream 0x2
00024 #define ObjectTypeRootEntry 0x5
00029 #define CompoundFileStreamId_MaxRegularStreamId 0xFFFFFFF
00030 #define CompoundFileStreamId_NoStream 0xFFFFFFF
00032 #define ELEMENT_XML 0
00033 #define ELEMENT_A 1
00034 #define ELEMENT_ANIMATE 2
00035 #define ELEMENT_ANIMATECOLOR 3
00036 #define ELEMENT_ANIMATEMOTION 4
00037 #define ELEMENT_ANIMATEGRAF 5
00038 #define ELEMENT_ANIMATION 6
00039 #define ELEMENT_AUDIO 7
00040 #define ELEMENT_CIRCLE 8
00041 #define ELEMENT_DEFS 9
00042 #define ELEMENT_DESC 10
00043 #define ELEMENT_DISCARD 11
00044 #define ELEMENT_ELLIPSE 12
00045 #define ELEMENT_FONT 13
00046 #define ELEMENT_FONT_FACE 14
00047 #define ELEMENT_FONT_FACE_SRC 15
00048 #define ELEMENT_FONT_FACE_URI 16
00049 #define ELEMENT_FOREIGN_OBJECT 17
00050 #define ELEMENT_G 18
00051 #define ELEMENT_GLYPH 19
00052 #define ELEMENT_HANDLER 20
00053 #define ELEMENT_HKERN 21
00054 #define ELEMENT_IMAGE 22
00055 #define ELEMENT_LINE 23
00056 #define ELEMENT_LINEAR_GRADIENT 24
00057 #define ELEMENT_LISTENER 25
00058 #define ELEMENT_METADATA 26
00059 #define ELEMENT_MISSING_GLYPH 27
00060 #define ELEMENT_MPATH 28
00061 #define ELEMENT_PATH 29
00062 #define ELEMENT_POLYGON 30
00063 #define ELEMENT_POLYLINE 31
00064 #define ELEMENT_PREFETCH 32
00065 #define ELEMENT_RADIAL_GRADIENT 33
00066 #define ELEMENT_RECT 34
00067 #define ELEMENT_SCRIPT 35
00068 #define ELEMENT_SET 36
00069 #define ELEMENT_SOLID_COLOR 37
00070 #define ELEMENT_STOP 38
00071 #define ELEMENT_SVG 39
00072 #define ELEMENT_SWITCH 40
00073 #define ELEMENT_TBREAK 41
00074 #define ELEMENT_TEXT 42
00075 #define ELEMENT_TEXT_AREA 43
00076 #define ELEMENT_TITLE 44
00077 #define ELEMENT_TSPAN 45
00078 #define ELEMENT_USE 46
00079 #define ELEMENT_VIDEO 47
00080
00081 /* INTERNAL DEFINES */
00082 #define RED_TERM_COLOR "\x1B[0;31m"
00083 #define GREEN_TERM_COLOR "\x1B[0;32m"
00084 #define YELLOW_TERM_COLOR "\x1B[1;33m"
00085 #define RESET_TERM_COLOR "\033[0m"
00086
00087 #define HOOP_126X110 0
00088 #define HOOP_110X110 1
```

```
00089 #define HOOP_50X50 2
00090 #define HOOP_140X200 3
00091 #define HOOP_230X200 4
00092
00093 #define EMB_MIN(A, B) (((A) < (B)) ? (A) : (B))
00094 #define EMB_MAX(A, B) (((A) > (B)) ? (A) : (B))
00095
00096 /* Libembroidery's handling of integer types.
00097 */
00098 #define EMB_BIG_ENDIAN 0
00099 #define EMB_LITTLE_ENDIAN 1
00100
00101 #define ENDIAN_HOST EMB_LITTLE_ENDIAN
00102
00103 #define EMB_INT16_BIG 2
00104 #define EMB_INT16_LITTLE 3
00105 #define EMB_INT32_BIG 4
00106 #define EMB_INT32_LITTLE 5
00107
00108 #define PES0001 0
00109 #define PES0020 1
00110 #define PES0022 2
00111 #define PES0030 3
00112 #define PES0040 4
00113 #define PES0050 5
00114 #define PES0055 6
00115 #define PES0056 7
00116 #define PES0060 8
00117 #define PES0070 9
00118 #define PES0080 10
00119 #define PES0090 11
00120 #define PES0100 12
00121 #define N_PES_VERSIONS 13
00122
00123 /* DXF Version Identifiers */
00124 #define DXF_VERSION_R10 "AC1006"
00125 #define DXF_VERSION_R11 "AC1009"
00126 #define DXF_VERSION_R12 "AC1009"
00127 #define DXF_VERSION_R13 "AC1012"
00128 #define DXF_VERSION_R14 "AC1014"
00129 #define DXF_VERSION_R15 "AC1015"
00130 #define DXF_VERSION_R18 "AC1018"
00131 #define DXF_VERSION_R21 "AC1021"
00132 #define DXF_VERSION_R24 "AC1024"
00133 #define DXF_VERSION_R27 "AC1027"
00134
00135 #define DXF_VERSION_2000 "AC1015"
00136 #define DXF_VERSION_2002 "AC1015"
00137 #define DXF_VERSION_2004 "AC1018"
00138 #define DXF_VERSION_2006 "AC1018"
00139 #define DXF_VERSION_2007 "AC1021"
00140 #define DXF_VERSION_2009 "AC1021"
00141 #define DXF_VERSION_2010 "AC1024"
00142 #define DXF_VERSION_2013 "AC1027"
00143
00144 #define SVG_CREATOR_NULL 0
00145 #define SVG_CREATOR_EMBROIDERMODDER 1
00146 #define SVG_CREATOR_ILLUSTRATOR 2
00147 #define SVG_CREATOR_INKSCAPE 3
00148
00149 #define SVG_EXPECT_NULL 0
00150 #define SVG_EXPECT_ELEMENT 1
00151 #define SVG_EXPECT_ATTRIBUTE 2
00152 #define SVG_EXPECT_VALUE 3
00153
00154 /* SVG_TYPES
00155 * -----
00156 */
00157 #define SVG_NULL 0
00158 #define SVG_ELEMENT 1
00159 #define SVG_PROPERTY 2
00160 #define SVG_MEDIA_PROPERTY 3
00161 #define SVG_ATTRIBUTE 4
00162 #define SVG_CATCH_ALL 5
00163
00164 /* path flag codes */
00165 #define LINETO 0
00166 #define MOVETO 1
00167 #define BULGETOCONTROL 2
00168 #define BULGETOEND 4
00169 #define ELLIPSETORAD 8
00170 #define ELLIPSETOEND 16
00171 #define CUBICTOCONTROL1 32
00172 #define CUBICTOCONTROL2 64
00173 #define CUBICTOEND 128
00174 #define QUADTOCONTROL 256
00175 #define QUADTOEND 512
```

```

00176 /* STRUCTS
00177 ****
00178 */
00179 /* double-indirection file allocation table references */
00180
00186 typedef struct _bcf_file_difat
00187 {
00188     unsigned int fatSectorCount;
00189     unsigned int fatSectorEntries[109];
00190     unsigned int sectorSize;
00191 } bcf_file_difat;
00192
00197 typedef struct _bcf_file_fat
00198 {
00199     int fatEntryCount;
00200     unsigned int fatEntries[255]; /* maybe make this dynamic */
00201     unsigned int numberofEntriesInFatSector;
00202 } bcf_file_fat;
00203
00208 typedef struct _bcf_directory_entry
00209 {
00210     char directoryEntryName[32];
00211     unsigned short directoryEntryNameLength;
00212     unsigned char objectType;
00213     unsigned char colorFlag;
00214     unsigned int leftSiblingId;
00215     unsigned int rightSiblingId;
00216     unsigned int childId;
00217     unsigned char CLSID[16];
00218     unsigned int stateBits;
00219     EmtTime creationTime;
00220     EmtTime modifiedTime;
00221     unsigned int startingSectorLocation;
00222     unsigned long streamSize; /* should be long long but in our case we shouldn't need
00223     it, and hard to support on c89 cross platform */
00224     unsigned int streamSizeHigh; /* store the high int of streamsize */
00225     struct _bcf_directory_entry* next;
00226 } bcf_directory_entry;
00227
00232 typedef struct _bcf_directory
00233 {
00234     bcf_directory_entry* dirEntries;
00235     unsigned int maxNumberofDirectoryEntries;
00236 } bcf_directory;
00237
00242 typedef struct _bcf_file_header
00243 {
00244     unsigned char signature[8];
00245     unsigned char CLSID[16];
00246     unsigned short minorVersion;
00247     unsigned short majorVersion;
00248     unsigned short byteOrder;
00249     unsigned short sectorShift;
00250     unsigned short miniSectorShift;
00251     unsigned short reserved1;
00252     unsigned int reserved2;
00253     unsigned int numberofDirectorySectors;
00254     unsigned int numberofFATSectors;
00255     unsigned int firstDirectorySectorLocation;
00256     unsigned int transactionSignatureNumber;
00257     unsigned int miniStreamCutoffsize;
00258     unsigned int firstMiniFATSectorLocation;
00259     unsigned int numberofMiniFatSectors;
00260     unsigned int firstDifatSectorLocation;
00261     unsigned int numberofDifatSectors;
00262 } bcf_file_header;
00263
00268 typedef struct _bcf_file
00269 {
00270     bcf_file_header header;
00271     bcf_file_difat* difat;
00272     bcf_file_fat* fat;
00273     bcf_directory* directory;
00274 } bcf_file;
00275
00280 typedef struct _vp3Hoop
00281 {
00282     int right;
00283     int bottom;
00284     int left;
00285     int top;
00286     int threadLength;
00287     char unknown2;
00288     unsigned char numberofColors;
00289     unsigned short unknown3;
00290     int unknown4;

```

```
00291     int numberOfBytesRemaining;
00292
00293     int xOffset;
00294     int yOffset;
00295
00296     unsigned char byte1;
00297     unsigned char byte2;
00298     unsigned char byte3;
00299
00300     /* Centered hoop dimensions */
00301     int right2;
00302     int left2;
00303     int bottom2;
00304     int top2;
00305
00306     int width;
00307     int height;
00308 } vp3Hoop;
00309
00314 typedef struct ThredHeader_    /* thred file header */
00315 {
00316     unsigned int sigVersion;      /* signature and version */
00317     unsigned int length;         /* length of ThredHeader + length of stitch data */
00318     unsigned short numStitches;  /* number of stitches */
00319     unsigned short hoopSize;     /* size of hoop */
00320     unsigned short reserved[7];   /* reserved for expansion */
00321 } ThredHeader;
00322
00327 typedef struct ThredExtension_ /* thred v1.0 file header extension */
00328 {
00329     float hoopX;                /* hoop size x dimension in 1/6 mm units */
00330     float hoopY;                /* hoop size y dimension in 1/6 mm units */
00331     float stitchGranularity;    /* stitches per millimeter--not implemented */
00332     char creatorName[50];        /* name of the file creator */
00333     char modifierName[50];       /* name of last file modifier */
00334     char auxFormat;             /* auxiliary file format, 0=PCS,1=DST,2=PES */
00335     char reserved[31];          /* reserved for expansion */
00336 } ThredExtension;
00337
00342 typedef struct SubDescriptor_
00343 {
00344     int someNum;
00345     int someInt;
00346     int someOtherInt;
00347     char* colorCode;
00348     char* colorName;
00349 } SubDescriptor;
00350
00355 typedef struct StxThread_
00356 {
00357     char* colorCode;
00358     char* colorName;
00359     char* sectionName;
00360     SubDescriptor* subDescriptors;
00361     EmbColor stxColor;
00362 } StxThread;
00363
00368 typedef struct VipHeader_ {
00369     int magicCode;
00370     int numberOfStitches;
00371     int numberOfColors;
00372     short positiveXHoopSize;
00373     short positiveYHoopSize;
00374     short negativeXHoopSize;
00375     short negativeYHoopSize;
00376     int attributeOffset;
00377     int xOffset;
00378     int yOffset;
00379     unsigned char stringVal[8];
00380     short unknown;
00381     int colorLength;
00382 } VipHeader;
00383
00388 typedef enum
00389 {
00390     CSV_EXPECT_NULL,
00391     CSV_EXPECT_QUOTE1,
00392     CSV_EXPECT_QUOTE2,
00393     CSV_EXPECT_COMMA
00394 } CSV_EXPECT;
00395
00400 typedef enum
00401 {
00402     CSV_MODE_NULL,
00403     CSV_MODE_COMMENT,
00404     CSV_MODE_VARIABLE,
00405     CSV_MODE_THREAD,
```

```

00406     CSV_MODE_STITCH
00407 } CSV_MODE;
00408
00413 typedef struct SvgAttribute_
00414 {
00415     char* name;
00416     char* value;
00417 } SvgAttribute;
00418
00423 typedef struct Huffman {
00424     int default_value;
00425     int lengths[1000];
00426     int nlengths;
00427     int table[1000];
00428     int table_width;
00429     int ntable;
00430 } huffman;
00431
00436 typedef struct Compress {
00437     int bit_position;
00438     char *input_data;
00439     int input_length;
00440     int bits_total;
00441     int block_elements;
00442     huffman character_length_huffman;
00443     huffman character_huffman;
00444     huffman distance_huffman;
00445 } compress;
00446
00447 /* Function Declarations
00448 ****
00449 void huffman_build_table(huffman *h);
00450 int *huffman_table_lookup(huffman *h, int byte_lookup, int *lengths);
00451
00452 int compress_get_bits(compress *c, int length);
00453 int compress_pop(compress *c, int bit_count);
00454 int compress_read_variable_length(compress *c);
00455 void compress_load_character_length_huffman(compress *c);
00456 void compress_load_character_huffman(compress *c);
00457 void compress_load_distance_huffman(compress *c);
00458 void compress_load_block(compress *c);
00459 int compress_get_token(compress *c);
00460 int compress_get_position(compress *c);
00461
00462 void readPecStitches(EmbPattern* pattern, FILE* file);
00463 void writePecStitches(EmbPattern* pattern, FILE* file, const char* filename);
00464
00465 int decodeNewStitch(unsigned char value);
00466
00467 void pfaffEncode(FILE* file, int x, int y, int flags);
00468 EmbReal pfaffDecode(unsigned char a1, unsigned char a2, unsigned char a3);
00469
00470 unsigned char mitEncodeStitch(EmbReal value);
00471 int mitDecodeStitch(unsigned char value);
00472
00473 int encode_tajima_ternary(unsigned char b[3], int x, int y);
00474 void decode_tajima_ternary(unsigned char b[3], int *x, int *y);
00475
00476 void encode_t01_record(unsigned char b[3], int x, int y, int flags);
00477 int decode_t01_record(unsigned char b[3], int *x, int *y, int *flags);
00478 void readPESHeaderV5(FILE* file, EmbPattern* pattern);
00479 void readPESHeaderV6(FILE* file, EmbPattern* pattern);
00480 void readPESHeaderV7(FILE* file, EmbPattern* pattern);
00481 void readPESHeaderV8(FILE* file, EmbPattern* pattern);
00482 void readPESHeaderV9(FILE* file, EmbPattern* pattern);
00483 void readPESHeaderV10(FILE* file, EmbPattern* pattern);
00484
00485 void readDescriptions(FILE* file, EmbPattern* pattern);
00486 void readHoopName(FILE* file, EmbPattern* pattern);
00487 void readImageString(FILE* file, EmbPattern* pattern);
00488 void readProgrammableFills(FILE* file, EmbPattern* pattern);
00489 void readMotifPatterns(FILE* file, EmbPattern* pattern);
00490 void readFeatherPatterns(FILE* file, EmbPattern* pattern);
00491 void readThreads(FILE* file, EmbPattern* pattern);
00492
00493 void embInt_read(FILE* f, char *label, void *b, int mode);
00494 void embInt_write(FILE* f, char *label, void *b, int mode);
00495 int emb_readline(FILE* file, char *line, int maxLength);
00496
00497 int bcfFile_read(FILE* file, bcf_file* bcfFile);
00498 FILE* GetFile(bcf_file* bcfFile, FILE* file, char* fileToFind);
00499 void bcf_file_free(bcf_file* bcfFile);
00500
00501 void binaryReadString(FILE* file, char *buffer, int maxLength);
00502 void binaryReadUnicodeString(FILE* file, char *buffer, const int stringLength);
00503
00504 int stringInArray(const char *s, const char **array);

```

```
00505 void fpad(FILE *f, char c, int n);
00506 char *copy_trim(char const *s);
00507 char* emb_optOut(EmbReal num, char* str);
00508
00509 void write_24bit(FILE* file, int);
00510 int check_header_present(FILE* file, int minimum_header_length);
00511
00512 unsigned short fread_uint16(FILE *file);
00513 short fread_int16(FILE* f);
00514 int fread_int32_be(FILE* f);
00515 void safe_free(void *data);
00516 void embInt_read(FILE* f, char *label, void *b, int mode);
00517
00518 void binaryWriteUIntBE(FILE* f, unsigned int data);
00519 void binaryWriteUInt(FILE* f, unsigned int data);
00520 void binaryWriteIntBE(FILE* f, int data);
00521 void binaryWriteInt(FILE* f, int data);
00522 void binaryWriteUShort(FILE* f, unsigned short data);
00523 void binaryWriteUShortBE(FILE* f, unsigned short data);
00524 void binaryWriteShort(FILE* f, short data);
00525
00526 bcf_file_difat* bcf_difat_create(FILE* file, unsigned int fatSectors, const unsigned int sectorSize);
00527 unsigned int readFullSector(FILE* file, bcf_file_difat* bcfFile, unsigned int* numberOfDifatEntriesStillToRead);
00528 unsigned int numberOfEntriesInDifatSector(bcf_file_difat* fat);
00529 void bcf_file_difat_free(bcf_file_difat* difat);
00530
00531 unsigned int entriesInDifatSector(bcf_file_difat* fat);
00532 bcf_file_fat* bcfFileFat_create(const unsigned int sectorSize);
00533 void loadFatFromSector(bcf_file_fat* fat, FILE* file);
00534 void bcf_file_fat_free(bcf_file_fat** fat);
00535
00536 bcf_directory_entry* CompoundFileDirectoryEntry(FILE* file);
00537 bcf_directory* CompoundFileDirectory(const unsigned int maxNumberOfDirectoryEntries);
00538 void readNextSector(FILE* file, bcf_directory* dir);
00539 void bcf_directory_free(bcf_directory** dir);
00540
00541 bcf_file_header bcfFileHeader_read(FILE* file);
00542 int bcfFileHeader_isValid(bcf_file_header header);
00543
00544 int hus_compress(char* input, int size, char* output, int *out_size);
00545 int hus_decompress(char* input, int size, char* output, int *out_size);
00546
00547 int encode_tajima_ternary(unsigned char b[3], int x, int y);
00548 void decode_tajima_ternary(unsigned char b[3], int *x, int *y);
00549 void testTangentPoints(EmbCircle c, EmbVector p, EmbVector *t0, EmbVector *t1);
00550 void printArcResults(EmbReal bulge, EmbArc arc,
00551             EmbReal centerX, EmbReal centerY,
00552             EmbReal radius, EmbReal diameter,
00553             EmbReal chord,
00554             EmbReal chordMidX, EmbReal chordMidY,
00555             EmbReal sagitta, EmbReal apothem,
00556             EmbReal incAngle, char clockwise);
00557 int create_test_file_1(const char* outf);
00558 int create_test_file_2(const char* outf);
00559 int create_test_file_3(const char* outf);
00560 int testEmbCircle(void);
00561 int testEmbCircle_2(void);
00562 int testGeomArc(void);
00563 int testThreadColor(void);
00564 int testEmbFormat(void);
00565
00566 void embColor_read(FILE *f, EmbColor *c, int toRead);
00567 void embColor_write(FILE *f, EmbColor c, int toWrite);
00568
00569 char read100(EmbPattern *pattern, FILE* file);
00570 char write100(EmbPattern *pattern, FILE* file);
00571 char read10o(EmbPattern *pattern, FILE* file);
00572 char write10o(EmbPattern *pattern, FILE* file);
00573 char readArt(EmbPattern *pattern, FILE* file);
00574 char writeArt(EmbPattern *pattern, FILE* file);
00575 char readBmc(EmbPattern *pattern, FILE* file);
00576 char writeBmc(EmbPattern *pattern, FILE* file);
00577 char readBro(EmbPattern *pattern, FILE* file);
00578 char writeBro(EmbPattern *pattern, FILE* file);
00579 char readCnd(EmbPattern *pattern, FILE* file);
00580 char writeCnd(EmbPattern *pattern, FILE* file);
00581 char readCol(EmbPattern *pattern, FILE* file);
00582 char writeCol(EmbPattern *pattern, FILE* file);
00583 char readCsd(EmbPattern *pattern, FILE* file);
00584 char writeCsd(EmbPattern *pattern, FILE* file);
00585 char readCsv(EmbPattern *pattern, FILE* file);
00586 char writeCsv(EmbPattern *pattern, FILE* file);
00587 char readDat(EmbPattern *pattern, FILE* file);
00588 char writeDat(EmbPattern *pattern, FILE* file);
00589 char readDem(EmbPattern *pattern, FILE* file);
00590 char writeDem(EmbPattern *pattern, FILE* file);
```

```

00591 char readDsb(EmbPattern *pattern, FILE* file);
00592 char writeDsb(EmbPattern *pattern, FILE* file);
00593 char readDst(EmbPattern *pattern, FILE* file);
00594 char writeDst(EmbPattern *pattern, FILE* file);
00595 char readDsz(EmbPattern *pattern, FILE* file);
00596 char writeDsz(EmbPattern *pattern, FILE* file);
00597 char readDxf(EmbPattern *pattern, FILE* file);
00598 char writeDxf(EmbPattern *pattern, FILE* file);
00599 char readEdr(EmbPattern *pattern, FILE* file);
00600 char writeEdr(EmbPattern *pattern, FILE* file);
00601 char readEmd(EmbPattern *pattern, FILE* file);
00602 char writeEmd(EmbPattern *pattern, FILE* file);
00603 char readExp(EmbPattern *pattern, FILE* file);
00604 char writeExp(EmbPattern *pattern, FILE* file);
00605 char readExy(EmbPattern *pattern, FILE* file);
00606 char writeExy(EmbPattern *pattern, FILE* file);
00607 char readEys(EmbPattern *pattern, FILE* file);
00608 char writeEys(EmbPattern *pattern, FILE* file);
00609 char readFxy(EmbPattern *pattern, FILE* file);
00610 char writeFxy(EmbPattern *pattern, FILE* file);
00611 char readGc(EmbPattern *pattern, FILE* file);
00612 char writeGc(EmbPattern *pattern, FILE* file);
00613 char readGnc(EmbPattern *pattern, FILE* file);
00614 char writeGnc(EmbPattern *pattern, FILE* file);
00615 char readGt(EmbPattern *pattern, FILE* file);
00616 char writeGt(EmbPattern *pattern, FILE* file);
00617 char readHus(EmbPattern *pattern, FILE* file);
00618 char writeHus(EmbPattern *pattern, FILE* file);
00619 char readInb(EmbPattern *pattern, FILE* file);
00620 char writeInb(EmbPattern *pattern, FILE* file);
00621 char readInf(EmbPattern *pattern, FILE* file);
00622 char writeInf(EmbPattern *pattern, FILE* file);
00623 char readJef(EmbPattern *pattern, FILE* file);
00624 char writeJef(EmbPattern *pattern, FILE* file);
00625 char readKsm(EmbPattern *pattern, FILE* file);
00626 char writeKsm(EmbPattern *pattern, FILE* file);
00627 char readMax(EmbPattern *pattern, FILE* file);
00628 char writeMax(EmbPattern *pattern, FILE* file);
00629 char readMit(EmbPattern *pattern, FILE* file);
00630 char writeMit(EmbPattern *pattern, FILE* file);
00631 char readNew(EmbPattern *pattern, FILE* file);
00632 char writeNew(EmbPattern *pattern, FILE* file);
00633 char readOfm(EmbPattern *pattern, FILE* file);
00634 char writeOfm(EmbPattern *pattern, FILE* file);
00635 char readPcd(EmbPattern *pattern, const char *fileName, FILE* file);
00636 char writePcd(EmbPattern *pattern, FILE* file);
00637 char readPcm(EmbPattern *pattern, FILE* file);
00638 char writePcm(EmbPattern *pattern, FILE* file);
00639 char readPcq(EmbPattern *pattern, const char *fileName, FILE* file);
00640 char writePcq(EmbPattern *pattern, FILE* file);
00641 char readPcs(EmbPattern *pattern, const char *fileName, FILE* file);
00642 char writePcs(EmbPattern *pattern, FILE* file);
00643 char readPec(EmbPattern *pattern, const char *fileName, FILE* file);
00644 char writePec(EmbPattern *pattern, const char *fileName, FILE* file);
00645 char readPel(EmbPattern *pattern, FILE *file);
00646 char writePel(EmbPattern *pattern, FILE *file);
00647 char readPem(EmbPattern *pattern, FILE *file);
00648 char writePem(EmbPattern *pattern, FILE *file);
00649 char readPes(EmbPattern *pattern, const char *fileName, FILE* file);
00650 char writePes(EmbPattern *pattern, const char *fileName, FILE* file);
00651 char readPhb(EmbPattern *pattern, FILE* file);
00652 char writePhb(EmbPattern *pattern, FILE *file);
00653 char readPhc(EmbPattern *pattern, FILE* file);
00654 char writePhc(EmbPattern *pattern, FILE *file);
00655 char readPlt(EmbPattern *pattern, FILE* file);
00656 char writePlt(EmbPattern *pattern, FILE* file);
00657 char readRgb(EmbPattern *pattern, FILE* file);
00658 char writeRgb(EmbPattern *pattern, FILE* file);
00659 char readSew(EmbPattern *pattern, FILE* file);
00660 char writeSew(EmbPattern *pattern, FILE* file);
00661 char readShv(EmbPattern *pattern, FILE* file);
00662 char writeShv(EmbPattern *pattern, FILE *file);
00663 char readSst(EmbPattern *pattern, FILE* file);
00664 char writeSst(EmbPattern *pattern, FILE *file);
00665 char readStx(EmbPattern *pattern, FILE* file);
00666 char writeStx(EmbPattern *pattern, FILE *file);
00667 char readSvg(EmbPattern *pattern, FILE* file);
00668 char writeSvg(EmbPattern *pattern, FILE* file);
00669 char readT01(EmbPattern *pattern, FILE* file);
00670 char writeT01(EmbPattern *pattern, FILE* file);
00671 char readT09(EmbPattern *pattern, FILE* file);
00672 char writeT09(EmbPattern *pattern, FILE* file);
00673 char readTap(EmbPattern *pattern, FILE* file);
00674 char writeTap(EmbPattern *pattern, FILE* file);
00675 char readThr(EmbPattern *pattern, FILE* file);
00676 char writeThr(EmbPattern *pattern, FILE* file);
00677 char readTxt(EmbPattern *pattern, FILE* file);

```

```

00678 char writeTxt(EmbPattern *pattern, FILE* file);
00679 char readU00(EmbPattern *pattern, FILE* file);
00680 char writeU00(EmbPattern *pattern, FILE *file);
00681 char readU01(EmbPattern *pattern, FILE* file);
00682 char writeU01(EmbPattern *pattern, FILE *file);
00683 char readVip(EmbPattern *pattern, FILE* file);
00684 char writeVip(EmbPattern *pattern, FILE* file);
00685 char readVp3(EmbPattern *pattern, FILE* file);
00686 char writeVp3(EmbPattern *pattern, FILE* file);
00687 char readXxx(EmbPattern *pattern, FILE* file);
00688 char writeXxx(EmbPattern *pattern, FILE* file);
00689 char readZsk(EmbPattern *pattern, FILE* file);
00690 char writeZsk(EmbPattern *pattern, FILE* file);
00691
00692 extern const char imageWithFrame[38][48];
00693
00694 #endif

```

## 14.121 extern/libembroidery/src/encoding.c File Reference

```

#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "embroidery_internal.h"

```

### Functions

- void [write\\_24bit](#) (FILE \*file, int)
- [EmbColor embColor\\_fromHexStr](#) (char \*val)
 

*Converts a 6 digit hex string (I.E. "00FF00") into an EmbColor and returns it.*
- void [reverse\\_byte\\_order](#) (void \*b, int bytes)
 

*Reverses the byte order for 2 or 4 byte arrays.*
- int [decode\\_t01\\_record](#) (unsigned char b[3], int \*x, int \*y, int \*flags)
- void [encode\\_t01\\_record](#) (unsigned char b[3], int x, int y, int flags)
- int [encode\\_tajima\\_ternary](#) (unsigned char b[3], int x, int y)
- void [decode\\_tajima\\_ternary](#) (unsigned char b[3], int \*x, int \*y)
- void [pfaffEncode](#) (FILE \*file, int dx, int dy, int flags)
- [EmbReal pfaffDecode](#) (unsigned char a1, unsigned char a2, unsigned char a3)
- unsigned char [mitEncodeStitch](#) ([EmbReal](#) value)
- int [mitDecodeStitch](#) (unsigned char value)
- int [decodeNewStitch](#) (unsigned char value)
- void [emblnt\\_read](#) (FILE \*f, char \*label, void \*b, int mode)
- void [emblnt\\_write](#) (FILE \*f, char \*label, void \*b, int mode)

### 14.121.1 Function Documentation

```

14.121.1.1 decode_t01_record() int decode_t01_record (
    unsigned char b[3],
    int * x,
    int * y,
    int * flags )

```

**Parameters**

<i>b</i>	
<i>x</i>	
<i>y</i>	
<i>flags</i>	

**Returns**

int

**14.121.1.2 decode\_tajima\_ternary()** void decode\_tajima\_ternary (

```
    unsigned char b[3],  
    int * x,  
    int * y )
```

**Parameters**

<i>b</i>	
<i>x</i>	
<i>y</i>	

**14.121.1.3 decodeNewStitch()** int decodeNewStitch (

```
    unsigned char value )
```

**Parameters**

<i>value</i>	
--------------	--

**Returns**

int

**14.121.1.4 embColor\_fromHexStr()** [EmbColor](#) embColor\_fromHexStr (

```
    char * val )
```

Converts a 6 digit hex string (I.E. "00FF00") into an EmbColor and returns it.

**Parameters**

<i>val</i>	6 byte code describing the color as a hex string, doesn't require null termination.
------------	---

**Returns**

EmbColor the same color as our internal type.

```
14.121.1.5 embInt_read() void embInt_read (
    FILE * f,
    char * label,
    void * b,
    int mode )
```

**Parameters**

<i>f</i>	
<i>label</i>	
<i>b</i>	
<i>mode</i>	

Read and write system for multiple byte types.

The caller passes the function to read/write from, the memory location as a void pointer and a mode identifier that describes the type. This way we can abstract out the endianness of the system running the library and don't have to maintain many functions, just two.

```
14.121.1.6 embInt_write() void embInt_write (
    FILE * f,
    char * label,
    void * b,
    int mode )
```

**Parameters**

<i>f</i>	
<i>label</i>	
<i>b</i>	
<i>mode</i>	

```
14.121.1.7 encode_t01_record() void encode_t01_record (
    unsigned char b[3],
    int x,
    int y,
    int flags )
```

**Parameters**

<i>b</i>	
<i>x</i>	
<i>y</i>	
<i>flags</i>	

**14.121.1.8 encode\_tajima\_ternary()** int encode\_tajima\_ternary (  
    unsigned char b[3],  
    int x,  
    int y )

Parameters

b	
x	
y	

Returns

int

**14.121.1.9 mitDecodeStitch()** int mitDecodeStitch (   
    unsigned char value )

Parameters

value	
-------	--

Returns

int

**14.121.1.10 mitEncodeStitch()** unsigned char mitEncodeStitch (   
    **EmbReal** value )

Parameters

value	
-------	--

Returns

unsigned char

**14.121.1.11 pfaffDecode()** **EmbReal** pfaffDecode (   
    unsigned char a1,  
    unsigned char a2,  
    unsigned char a3 )

**Parameters**

<i>a1</i>	
<i>a2</i>	
<i>a3</i>	

**Returns**

EmbReal

**14.121.1.12 pfaffEncode()** void pfaffEncode ( FILE \* *file*, int *dx*, int *dy*, int *flags* )**Parameters**

<i>file</i>	
<i>dx</i>	
<i>dy</i>	
<i>flags</i>	

**14.121.1.13 reverse\_byte\_order()** void reverse\_byte\_order ( void \* *b*, int *bytes* )

Reverses the byte order for 2 or 4 byte arrays.

**Parameters**

<i>b</i>	The pointer to the data to be processed.
<i>bytes</i>	The number of bytes to reverse.

**14.121.1.14 write\_24bit()** void write\_24bit ( FILE \* *file*, int *x* )**Parameters**

<i>file</i>	
<i>x</i>	

## 14.122 extern/libembroidery/src/fill.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "embroidery_internal.h"
```

### Functions

- int [lindenmayer\\_system \(L\\_system L, char \\*state, int iterations, int complete\)](#)
- static void [join\\_short\\_stitches \(int \\*points, int \\*n\\_points, int width, int tolerance\)](#)
- static int \* [threshold\\_method \(EmblImage \\*image, int \\*n\\_points, int subsample\\_width, int subsample\\_height, int threshold\)](#)
- static void [greedy\\_algorithm \(int \\*points, int n\\_points, int width, EmbReal bias\)](#)
- static void [save\\_points\\_to\\_pattern \(EmbPattern \\*pattern, int \\*points, int n\\_points, EmbReal scale, int width, int height\)](#)
- void [embPattern\\_horizontal\\_fill \(EmbPattern \\*pattern, EmblImage \\*image, int threshhold\)](#)
- void [embPattern\\_crossstitch \(EmbPattern \\*pattern, EmblImage \\*image, int threshold\)](#)
- int [hilbert\\_curve \(EmbPattern \\*pattern, int iterations\)](#)
- void [generate\\_dragon\\_curve \(char \\*state, int iterations\)](#)
- int [dragon\\_curve \(int iterations\)](#)
- void [embPolygon\\_reduceByDistance \(EmbArray \\*vertices, EmbArray \\*simplified, float distance\)](#)
- void [embPolygon\\_reduceByNth \(EmbArray \\*vertices, EmbArray \\*out, int nth\)](#)
- EmbPattern \* [embPattern\\_combine \(EmbPattern \\*p1, EmbPattern \\*p2\)](#)
- void [embPattern\\_stitchArc \(EmbPattern \\*p, EmbArc arc, int thread\\_index, int style\)](#)  
    *p arc thread\_index style*
- void [embPattern\\_stitchCircle \(EmbPattern \\*p, EmbCircle circle, int thread\\_index, int style\)](#)
- void [embPattern\\_stitchEllipse \(EmbPattern \\*p, EmbEllipse ellipse, int thread\\_index, int style\)](#)
- void [embPattern\\_stitchPath \(EmbPattern \\*p, EmbPath path, int thread\\_index, int style\)](#)
- void [embPattern\\_stitchPolygon \(EmbPattern \\*p, EmbPolygon polygon, int thread\\_index, int style\)](#)
- void [embPattern\\_stitchPolyline \(EmbPattern \\*p, EmbPolyline polyline, int thread\\_index, int style\)](#)
- void [embPattern\\_stitchRect \(EmbPattern \\*p, EmbRect rect, int thread\\_index, int style\)](#)
- void [embPattern\\_stitchText \(EmbPattern \\*p, EmbRect rect, int thread\\_index, int style\)](#)
- void [embPattern\\_convertGeometry \(EmbPattern \\*p\)](#)

### Variables

- const char \* [rules \[\] = {"+BF-AFA-FB+", "-AF+BFB+FA-"}](#)
- [L\\_system hilbert\\_curve\\_l\\_system](#)

#### 14.122.1 Function Documentation

##### 14.122.1.1 dragon\_curve() int dragon\_curve (     int iterations )

**Parameters**

<i>iterations</i>	<input type="text"/>
-------------------	----------------------

**Returns**

int

**14.122.1.2 embPattern\_combine()** `EmbPattern * embPattern_combine (``EmbPattern * p1,  
    EmbPattern * p2 )`**Parameters**

<i>p1</i>	<input type="text"/>
<i>p2</i>	<input type="text"/>

**Returns**

EmbPattern\*

**14.122.1.3 embPattern\_convertGeometry()** `void embPattern_convertGeometry (``EmbPattern * p )`**Parameters**

<i>p</i>	<input type="text"/>
----------	----------------------

**14.122.1.4 embPattern\_crossstitch()** `void embPattern_crossstitch (``EmbPattern * pattern,  
    EmbImage * image,  
    int threshold )`**Parameters**

<i>pattern</i>	<input type="text"/>
<i>image</i>	<input type="text"/>
<i>threshold</i>	<input type="text"/>

Uses a threshhold method to determine where to put crosses in the fill.

To improve this, we can remove the vertical stitches when two crosses neighbour. Currently the simple way to do this is to chain crosses that are neighbours exactly one ahead.

**14.122.1.5 embPattern\_horizontal\_fill()** `void embPattern_horizontal_fill (`  
`EmbPattern * pattern,`  
`EmbImage * image,`  
`int threshold )`

**Parameters**

<i>pattern</i>	
<i>image</i>	
<i>threshold</i>	

Uses a threshhold method to determine where to put lines in the fill.

Needs to pass a "donut test", i.e. an image with black pixels where:  $10 < x*x + y*y < 20$  over the area  $(-30, 30) \times (-30, 30)$ .

Use render then image difference to see how well it passes.

**14.122.1.6 embPattern\_stitchArc()** `void embPattern_stitchArc (`  
`EmbPattern * p,`  
`EmbArc arc,`  
`int thread_index,`  
`int style )`

*p arc thread\_index style*

**14.122.1.7 embPattern\_stitchCircle()** `void embPattern_stitchCircle (`  
`EmbPattern * p,`  
`EmbCircle circle,`  
`int thread_index,`  
`int style )`

**Parameters**

<i>p</i>	
<i>circle</i>	<i>thread_index style</i>

style determines: stitch density fill pattern outline or fill

For now it's a straight fill of 1000 stitches of the whole object by default.

Consider the intersection of a line in direction "d" that passes through the disc with center "c", radius "r". The start and end points are:

$$(c - r(d/|d|), c + r(d/|d|))$$

Lines that are above and below this with an even separation  $s$  can be found by taking the point on the line to be  $c + sn$  where the  $n$  is the unit normal vector to  $d$  and the vector to be  $d$  again. The intersection points are therefore a right angled triangle, with one side  $r$ , another  $s$  and the third the length to be solved, by Pythagoras we have:

$$(c + sn - \sqrt{r^2 - s^2}(d/|d|), c + sn + \sqrt{r^2 - s^2}(d/|d|))$$

repeating this process gives us all the end points and the fill only alters these lines by splitting the ones longer than some tolerance.

#### 14.122.1.8 embPattern\_stitchEllipse()

```
void embPattern_stitchEllipse (
    EmbPattern * p,
    EmbEllipse ellipse,
    int thread_index,
    int style )
```

##### Parameters

<i>p</i>	
<i>ellipse</i>	
<i>thread_index</i>	
<i>style</i>	

**Todo** finish stitchEllipse

#### 14.122.1.9 embPattern\_stitchPath()

```
void embPattern_stitchPath (
    EmbPattern * p,
    EmbPath path,
    int thread_index,
    int style )
```

##### Parameters

<i>p</i>	
<i>rect</i>	
<i>thread_index</i>	
<i>style</i>	

**Todo** finish stitch path

#### 14.122.1.10 embPattern\_stitchPolygon()

```
void embPattern_stitchPolygon (
    EmbPattern * p,
    EmbPolygon polygon,
    int thread_index,
    int style )
```

**Parameters**

<i>p</i>	
<i>rect</i>	
<i>thread_index</i>	
<i>style</i>	

**Todo** finish stitch polygon

**14.122.1.11 embPattern\_stitchPolyline()** void embPattern\_stitchPolyline (

```
EmbPattern * p,
EmbPolyline polyline,
int thread_index,
int style )
```

**Parameters**

<i>p</i>	
<i>rect</i>	
<i>thread_index</i>	
<i>style</i>	

**Todo** finish stitch polyline

**14.122.1.12 embPattern\_stitchRect()** void embPattern\_stitchRect (

```
EmbPattern * p,
EmbRect rect,
int thread_index,
int style )
```

**Parameters**

<i>p</i>	
<i>rect</i>	
<i>thread_index</i>	
<i>style</i>	

Here we just stitch the rectangle in the direction of it's longer side.

**14.122.1.13 embPattern\_stitchText()** void embPattern\_stitchText (

```
EmbPattern * p,
EmbRect rect,
```

```
int thread_index,
int style )
```

**Parameters**

<i>p</i>	
<i>rect</i>	
<i>thread_index</i>	
<i>style</i>	

**14.122.1.14 embPolygon\_reduceByDistance()** void embPolygon\_reduceByDistance (

```
EmbArray * vertices,
EmbArray * simplified,
float distance )
```

**Parameters**

<i>vertices</i>	
<i>simplified</i>	
<i>distance</i>	

Reduces the polygon by distance.

This is a non-destructive function, so the caller is responsible for freeing "vertices" if they choose to keep "simplified".

**14.122.1.15 embPolygon\_reduceByNth()** void embPolygon\_reduceByNth (

```
EmbArray * vertices,
EmbArray * out,
int nth )
```

**Parameters**

<i>vertices</i>	
<i>out</i>	
<i>nth</i>	

Reduces the polygon by removing the Nth vertex in the vertices list. This is a non-destructive function, so the caller is responsible for freeing vertices if they choose to keep out.

**14.122.1.16 generate\_dragon\_curve()** void generate\_dragon\_curve (

```
char * state,
int iterations )
```

**Parameters**

<i>state</i>	
<i>iterations</i>	

using the "paper folding" method

**Todo** find citation for paper folding method

```
14.122.1.17 greedy_algorithm() static void greedy_algorithm (
    int * points,
    int n_points,
    int width,
    EmbReal bias ) [static]
```

#### Parameters

<i>points</i>	
<i>n_points</i>	
<i>width</i>	
<i>bias</i>	

**14.122.1.18 Greedy Algorithm** For each point in the list find the shortest distance to any possible neighbour, then perform a swap to make that neighbour the next item in the list.

To make the stitches lie more on one axis than the other bias the distance operator to prefer horizontal direction.

```
14.122.1.19 hilbert_curve() int hilbert_curve (
    EmbPattern * pattern,
    int iterations )
```

#### Parameters

<i>pattern</i>	
<i>iterations</i>	

#### Returns

int

[https://en.wikipedia.org/wiki/Hilbert\\_curve](https://en.wikipedia.org/wiki/Hilbert_curve)

Using the Lindenmayer System, so we can save work across different functions.

```
14.122.1.20 join_short_stitches() static void join_short_stitches (
    int * points,
    int * n_points,
    int width,
    int tolerence ) [static]
```

**Parameters**

<i>points</i>	
<i>n_points</i>	
<i>width</i>	
<i>tolerence</i>	

Remove points that lie in the middle of two short stitches that could be one longer stitch. Repeat until none are found.

**14.122.1.21 lindenmayer\_system()** `int lindenmayer_system (`

```
    L_system L,
    char * state,
    int iterations,
    int complete )
```

**Parameters**

<i>L</i>	
<i>state</i>	
<i>iterations</i>	
<i>complete</i>	

**Returns**

`int`

This is a slow generation algorithm.

**14.122.1.22 save\_points\_to\_pattern()** `static void save_points_to_pattern (`

```
    EmbPattern * pattern,
    int * points,
    int n_points,
    EmbReal scale,
    int width,
    int height ) [static]
```

**Parameters**

<i>pattern</i>	
<i>points</i>	
<i>n_points</i>	
<i>scale</i>	
<i>width</i>	
<i>height</i>	

**14.122.1.23 threshold\_method()** `static int * threshold_method (`

```
EmbImage * image,
int * n_points,
int subsample_width,
int subsample_height,
int threshold ) [static]
```

**Parameters**

<i>image</i>	
<i>n_points</i>	
<i>subsample_width</i>	
<i>subsample_height</i>	
<i>threshold</i>	

**Returns**

```
int*
```

Identify darker pixels to put stitches in.

**14.122.2 Variable Documentation****14.122.2.1 hilbert\_curve\_l\_system L\_system hilbert\_curve\_l\_system****Initial value:**

```
= {
    'A', "AB", "F+-", (char**)rules
}
```

**14.122.2.2 rules const char\* rules[ ] = {"+BF-AFA-FB+", "-AF+BFB+FA-"}** **14.123 extern/libembroidery/src/formats.c File Reference**

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include <ctype.h>
#include "embroidery_internal.h"
```

## Functions

- void `safe_free` (void \*data)
- int `embFormat_getExtension` (const char \*fileName, char \*ending)
- int `emb_identify_format` (const char \*fileName)
- short `fread_int16` (FILE \*f)
- unsigned short `fread_uint16` (FILE \*f)
- int `fread_int32_be` (FILE \*f)
- void `fpad` (FILE \*file, char c, int n)
- void `binaryWriteShort` (FILE \*f, short data)
- void `binaryWriteUShort` (FILE \*f, unsigned short data)
- void `binaryWriteUShortBE` (FILE \*f, unsigned short data)
- void `binaryWriteInt` (FILE \*f, int data)
- void `binaryWriteIntBE` (FILE \*f, int data)
- void `binaryWriteUInt` (FILE \*f, unsigned int data)
- void `binaryWriteUIntBE` (FILE \*f, unsigned int data)
- char `embPattern_read` (EmbPattern \*pattern, const char \*fileName, int format)
- char `embPattern_write` (EmbPattern \*pattern, const char \*fileName, int format)
- char `embPattern_readAuto` (EmbPattern \*pattern, const char \*fileName)
- char `embPattern_writeAuto` (EmbPattern \*pattern, const char \*fileName)

## Variables

- EmbFormatList `formatTable` [numberOfFormats]
- const char `imageWithFrame` [38][48]

### 14.123.1 Function Documentation

```
14.123.1.1 binaryWriteInt() void binaryWriteInt (
    FILE * f,
    int data )
```

#### Parameters

<i>f</i>	
<i>data</i>	

**Todo** replace with emblnt\_read

```
14.123.1.2 binaryWriteIntBE() void binaryWriteIntBE (
    FILE * f,
    int data )
```

**Parameters**

<i>f</i>	
<i>data</i>	

**Todo** replace with emblnt\_read

**14.123.1.3 binaryWriteShort()** `void binaryWriteShort (`

```
FILE * f,  
      short data )
```

**Parameters**

<i>f</i>	
<i>data</i>	

**Todo** replace with emblnt\_read

**14.123.1.4 binaryWriteUInt()** `void binaryWriteUInt (`

```
FILE * f,  
      unsigned int data )
```

**Parameters**

<i>f</i>	
<i>data</i>	

**Todo** replace with emblnt\_read

**14.123.1.5 binaryWriteUIntBE()** `void binaryWriteUIntBE (`

```
FILE * f,  
      unsigned int data )
```

**Parameters**

<i>f</i>	
<i>data</i>	

**Todo** replace with emblnt\_read

**14.123.1.6 binaryWriteUShort()** void binaryWriteUShort ( FILE \* *f*, unsigned short *data* )

Parameters

<i>f</i>	
<i>data</i>	

**Todo** replace with emblnt\_read

**14.123.1.7 binaryWriteUShortBE()** void binaryWriteUShortBE ( FILE \* *f*, unsigned short *data* )

Parameters

<i>f</i>	
<i>data</i>	

**Todo** replace with emblnt\_read

**14.123.1.8 emb\_identify\_format()** int emb\_identify\_format ( const char \* *fileName* )

Parameters

<i>fileName</i>	
-----------------	--

Returns

int

**14.123.1.9 embFormat\_getExtension()** int embFormat\_getExtension ( const char \* *fileName*, char \* *ending* )

**Parameters**

<i>fileName</i>	
<i>ending</i>	

**Returns**

int

**14.123.1.10 embPattern\_read()** char embPattern\_read (   
     **EmbPattern** \* *pattern*,  
     const char \* *fileName*,  
     int *format* )**Parameters**

<i>pattern</i>	
<i>fileName</i>	
<i>format</i>	

**Returns**

char

**14.123.1.11 embPattern\_readAuto()** char embPattern\_readAuto (   
     **EmbPattern** \* *pattern*,  
     const char \* *fileName* )**Parameters**

<i>pattern</i>	
<i>fileName</i>	

**Returns**

char

**14.123.1.12 embPattern\_write()** char embPattern\_write (   
     **EmbPattern** \* *pattern*,  
     const char \* *fileName*,  
     int *format* )

**Parameters**

<i>pattern</i>	
<i>fileName</i>	
<i>format</i>	

**Returns**

char

**14.123.1.13 embPattern\_writeAuto()** char embPattern\_writeAuto (   
     **EmbPattern** \* *pattern*,  
     const char \* *fileName* )**Parameters**

<i>pattern</i>	
<i>fileName</i>	

**Returns**

char

**14.123.1.14 fpad()** void fpad (   
     FILE \* *file*,  
     char *c*,  
     int *n* )**Parameters**

<i>f</i>	
----------	--

**Returns**

int

**14.123.1.15 fread\_int16()** short fread\_int16 (   
     FILE \* *f* )**Parameters**

<i>f</i>	
----------	--

**Returns**

short

**14.123.1.16 `fread_int32_be()`** int fread\_int32\_be ( FILE \* *f* )

**Parameters**

<i>f</i>	<input type="text"/>
----------	----------------------

**Returns**

int

**Todo** replace with emblnt\_read

**14.123.1.17 `fread_uint16()`** unsigned short fread\_uint16 ( FILE \* *f* )

**Parameters**

<i>f</i>	<input type="text"/>
----------	----------------------

**Returns**

unsigned short

**Todo** replace with emblnt\_read

**14.123.1.18 `safe_free()`** void safe\_free ( void \* *data* )

**Parameters**

<i>data</i>	<input type="text"/>
-------------	----------------------

**14.123.2 Variable Documentation**

**14.123.2.1 formatTable** `EmbFormatList formatTable[numberOfFormats]`

This file is part of libembroidery.

Copyright 2018-2022 The Embroidermodder Team Licensed under the terms of the zlib license.

This file contains all the read and write functions for the library.

**Todo** This list needs reviewed in case some stitch formats also can contain object data (EMBFORMAT\_← STCHANDOBJ). \*

**14.123.2.2 imageWithFrame** `const char imageWithFrame[38][48]`**14.124 extern/libembroidery/src/formats/format\_100.c File Reference**

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

**Functions**

- `char read100 (EmbPattern *pattern, FILE *file)`
- `char write100 (EmbPattern *pattern, FILE *file)`

**14.124.1 Function Documentation****14.124.1.1 read100()** `char read100 (`  
 `EmbPattern * pattern,`  
 `FILE * file )`**14.124.1.2 write100()** `char write100 (`  
 `EmbPattern * pattern,`  
 `FILE * file )`**14.125 extern/libembroidery/src/formats/format\_10o.c File Reference**

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `read10o` (`EmbPattern` \**pattern*, `FILE` \**file*)
- char `write10o` (`EmbPattern` \**pattern*, `FILE` \**file*)

### 14.125.1 Function Documentation

**14.125.1.1 `read10o()`** char `read10o` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

**14.125.1.2 `write10o()`** char `write10o` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

## 14.126 `extern/libembroidery/src/formats/format_art.c` File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readArt` (`EmbPattern` \**pattern*, `FILE` \**file*)
- char `writeArt` (`EmbPattern` \**pattern*, `FILE` \**file*)

### 14.126.1 Function Documentation

**14.126.1.1 `readArt()`** char `readArt` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

**14.126.1.2 `writeArt()`** char `writeArt` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

## 14.127 extern/libembroidery/src/formats/format\_bmc.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char [readBmc](#) ([EmbPattern](#) \*pattern, FILE \*file)
- char [writeBmc](#) ([EmbPattern](#) \*pattern, FILE \*file)

#### 14.127.1 Function Documentation

**14.127.1.1 [readBmc\(\)](#)** char [readBmc](#) (  
    [EmbPattern](#) \* *pattern*,  
    FILE \* *file* )

**14.127.1.2 [writeBmc\(\)](#)** char [writeBmc](#) (  
    [EmbPattern](#) \* *pattern*,  
    FILE \* *file* )

## 14.128 extern/libembroidery/src/formats/format\_bro.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char [readBro](#) ([EmbPattern](#) \*pattern, FILE \*file)
- char [writeBro](#) ([EmbPattern](#) \*pattern, FILE \*file)

#### 14.128.1 Function Documentation

**14.128.1.1 [readBro\(\)](#)** char [readBro](#) (  
    [EmbPattern](#) \* *pattern*,  
    FILE \* *file* )

```
14.128.1.2 writeBro() char writeBro (
    EmbPattern * pattern,
    FILE * file )
```

## 14.129 extern/libembroidery/src/formats/format\_cnd.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char [readCnd](#) (*EmbPattern* \*pattern, *FILE* \*file)
- char [writeCnd](#) (*EmbPattern* \*pattern, *FILE* \*file)

### 14.129.1 Function Documentation

```
14.129.1.1 readCnd() char readCnd (
    EmbPattern * pattern,
    FILE * file )
```

```
14.129.1.2 writeCnd() char writeCnd (
    EmbPattern * pattern,
    FILE * file )
```

## 14.130 extern/libembroidery/src/formats/format\_col.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char [readCol](#) (*EmbPattern* \*pattern, *FILE* \*file)
- char [writeCol](#) (*EmbPattern* \*pattern, *FILE* \*file)

### 14.130.1 Function Documentation

```
14.130.1.1 readCol() char readCol (
    EmbPattern * pattern,
    FILE * file )
```

```
14.130.1.2 writeCol() char writeCol (
    EmbPattern * pattern,
    FILE * file )
```

## 14.131 extern/libembroidery/src/formats/format\_csd.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Macros

- #define CsdSubMaskSize 479
- #define CsdXorMaskSize 501

### Functions

- void BuildDecryptionTable (int seed)
- unsigned char DecodeCsdByte (long fileOffset, unsigned char val, int type)
- char readCsd (EmbPattern \*pattern, FILE \*file)
- char writeCsd (EmbPattern \*pattern, FILE \*file)

### Variables

- char \_subMask [CsdSubMaskSize]
- char \_xorMask [CsdXorMaskSize]
- const unsigned char csd\_decryptArray []

#### 14.131.1 Macro Definition Documentation

14.131.1.1 **CsdSubMaskSize** #define CsdSubMaskSize 479

14.131.1.2 **CsdXorMaskSize** #define CsdXorMaskSize 501

### 14.131.2 Function Documentation

**14.131.2.1 BuildDecryptionTable()** void BuildDecryptionTable ( int seed )

**14.131.2.2 DecodeCsdByte()** unsigned char DecodeCsdByte ( long fileOffset, unsigned char val, int type )

**14.131.2.3 readCsd()** char readCsd ( EmbPattern \* pattern, FILE \* file )

**14.131.2.4 writeCsd()** char writeCsd ( EmbPattern \* pattern, FILE \* file )

### 14.131.3 Variable Documentation

**14.131.3.1 \_subMask** char \_subMask[CsdSubMaskSize]

**14.131.3.2 \_xorMask** char \_xorMask[CsdXorMaskSize]

**14.131.3.3 csd\_decryptArray** const unsigned char csd\_decryptArray[ ]

**Initial value:**

```
= {
    0x43, 0x6E, 0x72, 0x7A, 0x76, 0x6C, 0x61, 0x6F, 0x7C, 0x29, 0x5D, 0x62, 0x60, 0x6E, 0x61, 0x62,
    0x20, 0x41, 0x66, 0x6A, 0x3A, 0x35, 0x5A, 0x63, 0x7C, 0x37, 0x3A, 0x2A, 0x25, 0x24, 0x2A, 0x33,
    0x00, 0x10, 0x14, 0x03, 0x72, 0x4C, 0x48, 0x42, 0x08, 0x7A, 0x5E, 0x0B, 0x6F, 0x45, 0x47, 0x5F,
    0x40, 0x54, 0x5C, 0x57, 0x55, 0x59, 0x53, 0x3A, 0x32, 0x6F, 0x53, 0x54, 0x50, 0x5C, 0x4A, 0x56,
    0x2F, 0x2F, 0x62, 0x2C, 0x22, 0x65, 0x25, 0x28, 0x38, 0x30, 0x38, 0x22, 0x2B, 0x25, 0x3A, 0x6F,
    0x27, 0x38, 0x3E, 0x3F, 0x74, 0x37, 0x33, 0x77, 0x2E, 0x30, 0x3D, 0x34, 0x2E, 0x32, 0x2B, 0x2C,
    0x0C, 0x18, 0x42, 0x13, 0x16, 0x0A, 0x15, 0x02, 0x0B, 0x1C, 0x1E, 0x0E, 0x08, 0x60, 0x64, 0x0D,
    0x09, 0x51, 0x25, 0x1A, 0x18, 0x16, 0x19, 0x1A, 0x58, 0x10, 0x14, 0x5B, 0x08, 0x15, 0x1B, 0x5F,
    0xD5, 0xD2, 0xAE, 0xA3, 0xC1, 0xF0, 0xF4, 0xE8, 0xEC, 0xA6, 0xAB, 0xCD, 0xF8, 0xFD, 0xFB,
    0xE2, 0xF0, 0xFE, 0xFA, 0xF5, 0xB5, 0xF7, 0xF9, 0xFC, 0xB9, 0xF5, 0xEF, 0xF4, 0xF8, 0xEC, 0xBF,
    0xC3, 0xCE, 0xD7, 0xCD, 0xD0, 0xD7, 0xCF, 0xC2, 0xDB, 0xA4, 0xA0, 0xB0, 0xAF, 0xBE, 0x98, 0xE2,
    0xC2, 0x91, 0xE5, 0xDC, 0xDA, 0xD2, 0x96, 0xC4, 0x98, 0xF8, 0xC9, 0xD2, 0xDD, 0xD3, 0x9E, 0xDE,
    0xAE, 0xA5, 0xE2, 0x8C, 0xB6, 0xAC, 0xA3, 0xA9, 0xBC, 0xA8, 0xA6, 0xEB, 0x8B, 0xBF, 0xA1, 0xAC,
    0xB5, 0xA3, 0xBB, 0xB6, 0xA7, 0xD8, 0xDC, 0x9A, 0xAA, 0xF9, 0x82, 0xFB, 0x9D, 0xB9, 0xAB, 0xB3,
    0x94, 0xC1, 0xA0, 0x8C, 0x8B, 0x8E, 0x95, 0x8F, 0x87, 0x99, 0xE7, 0xE1, 0xA3, 0x83, 0x8B, 0xCF,
    0xA3, 0x85, 0x9D, 0x83, 0xD4, 0xB7, 0x83, 0x84, 0x91, 0x97, 0x9F, 0x88, 0x8F, 0xDD, 0xAD, 0x90
}
```

## 14.132 extern/libembroidery/src/formats/format\_csv.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- `char * csvStitchFlagToStr (int flags)`
- `int csvStrToStitchFlag (const char *str)`
- `char readCsv (EmbPattern *pattern, FILE *file)`
- `char writeCsv (EmbPattern *pattern, FILE *file)`

#### 14.132.1 Function Documentation

**14.132.1.1 csvStitchFlagToStr()** `char * csvStitchFlagToStr (`  
 `int flags )`

**14.132.1.2 csvStrToStitchFlag()** `int csvStrToStitchFlag (`  
 `const char * str )`

**14.132.1.3 readCsv()** `char readCsv (`  
 `EmbPattern * pattern,`  
 `FILE * file )`

**14.132.1.4 writeCsv()** `char writeCsv (`  
 `EmbPattern * pattern,`  
 `FILE * file )`

## 14.133 extern/libembroidery/src/formats/format\_dat.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readDat (EmbPattern *pattern, FILE *file)`
- char `writeDat (EmbPattern *pattern, FILE *file)`

### 14.133.1 Function Documentation

#### 14.133.1.1 `readDat()` char `readDat (`

```
    EmbPattern * pattern,  
    FILE * file )
```

#### 14.133.1.2 `writeDat()` char `writeDat (`

```
    EmbPattern * pattern,  
    FILE * file )
```

## 14.134 extern/libembroidery/src/formats/format\_dem.c File Reference

```
#include <stdio.h>  
#include <math.h>  
#include "../embroidery_internal.h"
```

## Functions

- char `readDem (EmbPattern *pattern, FILE *file)`
- char `writeDem (EmbPattern *pattern, FILE *file)`

### 14.134.1 Function Documentation

#### 14.134.1.1 `readDem()` char `readDem (`

```
    EmbPattern * pattern,  
    FILE * file )
```

#### 14.134.1.2 `writeDem()` char `writeDem (`

```
    EmbPattern * pattern,  
    FILE * file )
```

## 14.135 extern/libembroidery/src/formats/format\_dsb.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readDsb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeDsb` (`EmbPattern` \*pattern, `FILE` \*file)

#### 14.135.1 Function Documentation

```
14.135.1.1 readDsb() char readDsb (
    EmbPattern * pattern,
    FILE * file )
```

```
14.135.1.2 writeDsb() char writeDsb (
    EmbPattern * pattern,
    FILE * file )
```

## 14.136 extern/libembroidery/src/formats/format\_dst.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Macros

- #define `cci(c1, c2)` (`c1*256+c2`)

### Functions

- int `decode_record_flags` (unsigned char b2)
- void `encode_record` (FILE \*file, int x, int y, int flags)
- void `set_dst_variable` (`EmbPattern` \*pattern, char \*var, char \*val)
- char `readDst` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeDst` (`EmbPattern` \*pattern, `FILE` \*file)

#### 14.136.1 Macro Definition Documentation

```
14.136.1.1 cci #define cci(  
    c1,  
    c2 ) (c1*256+c2)
```

#### 14.136.2 Function Documentation

```
14.136.2.1 decode_record_flags() int decode_record_flags (   
    unsigned char b2 )
```

```
14.136.2.2 encode_record() void encode_record (   
    FILE * file,  
    int x,  
    int y,  
    int flags )
```

```
14.136.2.3 readDst() char readDst (   
    EmbPattern * pattern,  
    FILE * file )
```

```
14.136.2.4 set_dst_variable() void set_dst_variable (   
    EmbPattern * pattern,  
    char * var,  
    char * val )
```

```
14.136.2.5 writeDst() char writeDst (   
    EmbPattern * pattern,  
    FILE * file )
```

#### 14.137 extern/libembroidery/src/formats/format\_dsz.c File Reference

```
#include <stdio.h>  
#include <math.h>  
#include "../embroidery_internal.h"
```

## Functions

- char `readDsz` (`EmbPattern` \**pattern*, `FILE` \**file*)
- char `writeDsz` (`EmbPattern` \**pattern*, `FILE` \**file*)

### 14.137.1 Function Documentation

**14.137.1.1 `readDsz()`** char `readDsz` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

**14.137.1.2 `writeDsz()`** char `writeDsz` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

## 14.138 extern/libembroidery/src/formats/format\_dxf.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- void `readLine` (`FILE` \**file*, char \**str*)
- char `readDxf` (`EmbPattern` \**pattern*, `FILE` \**file*)
- char `writeDxf` (`EmbPattern` \**pattern*, `FILE` \**file*)

### 14.138.1 Function Documentation

**14.138.1.1 `readDxf()`** char `readDxf` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

```
14.138.1.2 readLine() void readLine (
    FILE * file,
    char * str )
```

```
14.138.1.3 writeDxf() char writeDxf (
    EmbPattern * pattern,
    FILE * file )
```

## 14.139 extern/libembroidery/src/formats/format\_edr.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char [readEdr](#) (EmbPattern \*pattern, FILE \*file)
- char [writeEdr](#) (EmbPattern \*pattern, FILE \*file)

### 14.139.1 Function Documentation

```
14.139.1.1 readEdr() char readEdr (
    EmbPattern * pattern,
    FILE * file )
```

```
14.139.1.2 writeEdr() char writeEdr (
    EmbPattern * pattern,
    FILE * file )
```

## 14.140 extern/libembroidery/src/formats/format\_emd.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char [emdDecode](#) (unsigned char inputByte)
- char [readEmd](#) (EmbPattern \*pattern, FILE \*file)
- char [writeEmd](#) (EmbPattern \*pattern, FILE \*file)

#### 14.140.1 Function Documentation

**14.140.1.1 emdDecode()** char emdDecode ( unsigned char *inputByte* )

**14.140.1.2 readEmd()** char readEmd ( EmbPattern \* *pattern*, FILE \* *file* )

**14.140.1.3 writeEmd()** char writeEmd ( EmbPattern \* *pattern*, FILE \* *file* )

#### 14.141 extern/libembroidery/src/formats/format\_exp.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

#### Functions

- char **expDecode** (unsigned char *a1*)
- char **readExp** (EmbPattern \**pattern*, FILE \**file*)
- char **writeExp** (EmbPattern \**pattern*, FILE \**file*)

#### 14.141.1 Function Documentation

**14.141.1.1 expDecode()** char expDecode ( unsigned char *a1* )

**14.141.1.2 readExp()** char readExp ( EmbPattern \* *pattern*, FILE \* *file* )

```
14.141.1.3 writeExp() char writeExp (
    EmbPattern * pattern,
    FILE * file )
```

## 14.142 extern/libembroidery/src/formats/format\_exy.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- int `decode_exy_flags` (unsigned char b2)
- char `readExy` (EmbPattern \*pattern, FILE \*file)
- char `writeExy` (EmbPattern \*pattern, FILE \*file)

### 14.142.1 Function Documentation

```
14.142.1.1 decode_exy_flags() int decode_exy_flags (
    unsigned char b2 )
```

```
14.142.1.2 readExy() char readExy (
    EmbPattern * pattern,
    FILE * file )
```

```
14.142.1.3 writeExy() char writeExy (
    EmbPattern * pattern,
    FILE * file )
```

## 14.143 extern/libembroidery/src/formats/format\_eyc.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readEys` (EmbPattern \*pattern, FILE \*file)
- char `writeEys` (EmbPattern \*pattern, FILE \*file)

### 14.143.1 Function Documentation

**14.143.1.1 readEys()** char readEys (

```
EmbPattern * pattern,
FILE * file )
```

**14.143.1.2 writeEys()** char writeEys (

```
EmbPattern * pattern,
FILE * file )
```

## 14.144 extern/libembroidery/src/formats/format\_fxy.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char **readFxy** (EmbPattern \*pattern, FILE \*file)
- char **writeFxy** (EmbPattern \*pattern, FILE \*file)

### 14.144.1 Function Documentation

**14.144.1.1 readFxy()** char readFxy (

```
EmbPattern * pattern,
FILE * file )
```

**14.144.1.2 writeFxy()** char writeFxy (

```
EmbPattern * pattern,
FILE * file )
```

## 14.145 extern/libembroidery/src/formats/format\_gc.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readGc (EmbPattern *pattern, FILE *file)`
- char `writeGc (EmbPattern *pattern, FILE *file)`

### 14.145.1 Function Documentation

**14.145.1.1 `readGc()`** char `readGc (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.145.1.2 `writeGc()`** char `writeGc (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

## 14.146 `extern/libembroidery/src/formats/format_gnc.c` File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readGnc (EmbPattern *pattern, FILE *file)`
- char `writeGnc (EmbPattern *pattern, FILE *file)`

### 14.146.1 Function Documentation

**14.146.1.1 `readGnc()`** char `readGnc (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.146.1.2 `writeGnc()`** char `writeGnc (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

## 14.147 extern/libembroidery/src/formats/format\_gt.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char [readGt](#) ([EmbPattern](#) \*pattern, FILE \*file)
- char [writeGt](#) ([EmbPattern](#) \*pattern, FILE \*file)

#### 14.147.1 Function Documentation

**14.147.1.1 [readGt\(\)](#)** char [readGt](#) (  
    [EmbPattern](#) \* *pattern*,  
    FILE \* *file* )

**14.147.1.2 [writeGt\(\)](#)** char [writeGt](#) (  
    [EmbPattern](#) \* *pattern*,  
    FILE \* *file* )

## 14.148 extern/libembroidery/src/formats/format\_hus.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- int [husDecodeStitchType](#) (unsigned char b)
- unsigned char \* [husDecompressData](#) (unsigned char \*input, int compressedInputLength, int decompressedContentLength)
- unsigned char \* [husCompressData](#) (unsigned char \*input, int decompressedInputSize, int \*compressedSize)
- int [husDecodeByte](#) (unsigned char b)
- unsigned char [husEncodeByte](#) ([EmbReal](#) f)
- unsigned char [husEncodeStitchType](#) (int st)
- char [readHus](#) ([EmbPattern](#) \*pattern, FILE \*file)
- char [writeHus](#) ([EmbPattern](#) \*pattern, FILE \*file)

#### 14.148.1 Function Documentation

**14.148.1.1 `husCompressData()`** `unsigned char * husCompressData (`  
    `unsigned char * input,`  
    `int decompressedInputSize,`  
    `int * compressedSize )`

**14.148.1.2 `husDecodeByte()`** `int husDecodeByte (`  
    `unsigned char b )`

**14.148.1.3 `husDecodeStitchType()`** `int husDecodeStitchType (`  
    `unsigned char b )`

**14.148.1.4 `husDecompressData()`** `unsigned char * husDecompressData (`  
    `unsigned char * input,`  
    `int compressedInputLength,`  
    `int decompressedContentLength )`

**14.148.1.5 `husEncodeByte()`** `unsigned char husEncodeByte (`  
    `EmbReal f )`

**14.148.1.6 `husEncodeStitchType()`** `unsigned char husEncodeStitchType (`  
    `int st )`

**14.148.1.7 `readHus()`** `char readHus (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.148.1.8 `writeHus()`** `char writeHus (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

## 14.149 `extern/libembroidery/src/formats/format_inb.c` File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readInb` (`EmbPattern` \**pattern*, `FILE` \**file*)
- char `writelnb` (`EmbPattern` \**pattern*, `FILE` \**file*)

#### 14.149.1 Function Documentation

**14.149.1.1 `readInb()`** char `readInb` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

**14.149.1.2 `writelnb()`** char `writelnb` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

## 14.150 `extern/libembroidery/src/formats/format_inf.c` File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readInf` (`EmbPattern` \**pattern*, `FILE` \**file*)
- char `writelInf` (`EmbPattern` \**pattern*, `FILE` \**file*)

#### 14.150.1 Function Documentation

**14.150.1.1 `readInf()`** char `readInf` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

```
14.150.1.2 writelnf() char writeInf (
    EmbPattern * pattern,
    FILE * file )
```

## 14.151 extern/libembroidery/src/formats/format\_jef.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Classes

- struct [hoop\\_padding](#)

### Functions

- int [jefGetHoopSize](#) (int width, int height)
- char [jefDecode](#) (unsigned char inputByte)
- void [jefSetHoopFromId](#) (EmbPattern \*pattern, int hoopCode)
- void [read\\_hoop](#) (FILE \*file, struct [hoop\\_padding](#) \*hoop, char \*label)
- char [readJef](#) (EmbPattern \*pattern, FILE \*file)
- void [jefEncode](#) (unsigned char \*b, char dx, char dy, int flags)
- char [writeJef](#) (EmbPattern \*pattern, FILE \*file)

### 14.151.1 Function Documentation

```
14.151.1.1 jefDecode() char jefDecode (
    unsigned char inputByte )
```

```
14.151.1.2 jefEncode() void jefEncode (
    unsigned char * b,
    char dx,
    char dy,
    int flags )
```

```
14.151.1.3 jefGetHoopSize() int jefGetHoopSize (
    int width,
    int height )
```

```
14.151.1.4 jefSetHoopFromId() void jefSetHoopFromId (
    EmbPattern * pattern,
    int hoopCode )
```

```
14.151.1.5 read_hoop() void read_hoop (
    FILE * file,
    struct hoop_padding * hoop,
    char * label )
```

```
14.151.1.6 readJef() char readJef (
    EmbPattern * pattern,
    FILE * file )
```

```
14.151.1.7 writeJef() char writeJef (
    EmbPattern * pattern,
    FILE * file )
```

## 14.152 extern/libembroidery/src/formats/format\_ksm.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- void **ksmEncode** (unsigned char \*b, char dx, char dy, int flags)
- char **readKsm** (EmbPattern \*pattern, FILE \*file)
- char **writeKsm** (EmbPattern \*pattern, FILE \*file)

### 14.152.1 Function Documentation

```
14.152.1.1 ksmEncode() void ksmEncode (
    unsigned char * b,
    char dx,
    char dy,
    int flags )
```

```
14.152.1.2 readKsm() char readKsm (
    EmbPattern * pattern,
    FILE * file )
```

```
14.152.1.3 writeKsm() char writeKsm (
    EmbPattern * pattern,
    FILE * file )
```

## 14.153 extern/libembroidery/src/formats/format\_max.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char **readMax** (EmbPattern \*pattern, FILE \*file)
- char **writeMax** (EmbPattern \*pattern, FILE \*file)

### Variables

- const unsigned char **max\_header** []

## 14.153.1 Function Documentation

```
14.153.1.1 readMax() char readMax (
    EmbPattern * pattern,
    FILE * file )
```

```
14.153.1.2 writeMax() char writeMax (
    EmbPattern * pattern,
    FILE * file )
```

## 14.153.2 Variable Documentation

**14.153.2.1 max\_header** const unsigned char max\_header[ ]

### Initial value:

14.154 [extern/libembroidery/src/formats/format\\_mit.c](#) File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char **readMit** (EmbPattern \*pattern, FILE \*file)
  - char **writeMit** (EmbPattern \*pattern, FILE \*file)

## 14.154.1 Function Documentation

#### **14.154.1.1 readMit() char readMit (**

```
EmbPattern * pattern,  
FILE * file )
```

#### 14.154.1.2 writeMit() char writeMit (

```
    "EmbPattern * pattern,  
FILE * file )
```

#### **14.155 extern/libembroidery/src/formats/format\_new.c File Reference**

```
#include <stdio.h>
#include <math.h>
#include "../embroidery/internal.h"
```

## Functions

- char `readNew` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeNew` (`EmbPattern` \*pattern, `FILE` \*file)

### 14.155.1 Function Documentation

**14.155.1.1 `readNew()`** char `readNew` (  
    `EmbPattern` \* pattern,  
    `FILE` \* file )

**14.155.1.2 `writeNew()`** char `writeNew` (  
    `EmbPattern` \* pattern,  
    `FILE` \* file )

## 14.156 extern/libembroidery/src/formats/format\_ofm.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char \* `ofmReadLibrary` (`FILE` \*file)
- static int `ofmReadClass` (`FILE` \*file)
- void `ofmReadBlockHeader` (`FILE` \*file)
- void `ofmReadColorChange` (`FILE` \*file, `EmbPattern` \*pattern)
- void `ofmReadThreads` (`FILE` \*file, `EmbPattern` \*p)
- `EmbReal` `ofmDecode` (unsigned char b1, unsigned char b2)
- void `ofmReadExpanded` (`FILE` \*file, `EmbPattern` \*p)
- char `readOfm` (`EmbPattern` \*pattern, `FILE` \*fileCompound)
- char `writeOfm` (`EmbPattern` \*pattern, `FILE` \*file)

### 14.156.1 Function Documentation

**14.156.1.1 `ofmDecode()`** `EmbReal` `ofmDecode` (  
    unsigned char b1,  
    unsigned char b2 )

**14.156.1.2 ofmReadBlockHeader()** void ofmReadBlockHeader ( FILE \* file )

**14.156.1.3 ofmReadClass()** static int ofmReadClass ( FILE \* file ) [static]

**14.156.1.4 ofmReadColorChange()** void ofmReadColorChange ( FILE \* file, EmbPattern \* pattern )

**14.156.1.5 ofmReadExpanded()** void ofmReadExpanded ( FILE \* file, EmbPattern \* p )

**14.156.1.6 ofmReadLibrary()** char \* ofmReadLibrary ( FILE \* file )

**14.156.1.7 ofmReadThreads()** void ofmReadThreads ( FILE \* file, EmbPattern \* p )

**14.156.1.8 readOfm()** char readOfm ( EmbPattern \* pattern, FILE \* fileCompound )

**14.156.1.9 writeOfm()** char writeOfm ( EmbPattern \* pattern, FILE \* file )

## 14.157 extern/libembroidery/src/formats/format\_pcd.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readPcd` (`EmbPattern` \*pattern, const char \*fileName, FILE \*file)
- char `writePcd` (`EmbPattern` \*pattern, FILE \*file)

### 14.157.1 Function Documentation

#### 14.157.1.1 `readPcd()` char `readPcd` (

```
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

#### 14.157.1.2 `writePcd()` char `writePcd` (

```
    EmbPattern * pattern,
    FILE * file )
```

## 14.158 extern/libembroidery/src/formats/format\_pcm.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readPcm` (`EmbPattern` \*pattern, FILE \*file)
- char `writePcm` (`EmbPattern` \*pattern, FILE \*file)

### 14.158.1 Function Documentation

#### 14.158.1.1 `readPcm()` char `readPcm` (

```
    EmbPattern * pattern,
    FILE * file )
```

#### 14.158.1.2 `writePcm()` char `writePcm` (

```
    EmbPattern * pattern,
    FILE * file )
```

## 14.159 extern/libembroidery/src/formats/format\_pcq.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readPcq` (`EmbPattern` \*pattern, const char \*fileName, FILE \*file)
- char `writePcq` (`EmbPattern` \*pattern, FILE \*file)

#### 14.159.1 Function Documentation

```
14.159.1.1 readPcq() char readPcq (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
14.159.1.2 writePcq() char writePcq (
    EmbPattern * pattern,
    FILE * file )
```

## 14.160 extern/libembroidery/src/formats/format\_pcs.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readPcs` (`EmbPattern` \*pattern, const char \*fileName, FILE \*file)
- char `writePcs` (`EmbPattern` \*pattern, FILE \*file)

#### 14.160.1 Function Documentation

```
14.160.1.1 readPcs() char readPcs (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
14.160.1.2 writePcs() char writePcs (
    EmbPattern * pattern,
    FILE * file )
```

## 14.161 extern/libembroidery/src/formats/format\_pec.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- void **readPecStitches** (EmbPattern \*pattern, FILE \*file)
- void **pecEncodeJump** (FILE \*file, int x, int types)
- void **pecEncodeStop** (FILE \*file, unsigned char val)
- char **readPec** (EmbPattern \*pattern, const char \*fileName, FILE \*file)
- void **pecEncode** (FILE \*file, EmbPattern \*p)
- void **writelImage** (FILE \*file, unsigned char image[][48])
- void **writePecStitches** (EmbPattern \*pattern, FILE \*file, const char \*fileName)
- char **writePec** (EmbPattern \*pattern, const char \*fileName, FILE \*file)

### 14.161.1 Function Documentation

```
14.161.1.1 pecEncode() void pecEncode (
    FILE * file,
    EmbPattern * p )
```

```
14.161.1.2 pecEncodeJump() void pecEncodeJump (
    FILE * file,
    int x,
    int types )
```

---

**14.161.1.3 pecEncodeStop()** void pecEncodeStop (

```
FILE * file,
unsigned char val )
```

**14.161.1.4 readPec()** char readPec (

```
EmbPattern * pattern,
const char * fileName,
FILE * file )
```

**14.161.1.5 readPecStitches()** void readPecStitches (

```
EmbPattern * pattern,
FILE * file )
```

**14.161.1.6 writeImage()** void writeImage (

```
FILE * file,
unsigned char image[ ][48] )
```

#### Parameters

<i>file</i>	
<i>image</i>	

for the PES embedded

**14.161.1.7 writePec()** char writePec (

```
EmbPattern * pattern,
const char * fileName,
FILE * file )
```

**14.161.1.8 writePecStitches()** void writePecStitches (

```
EmbPattern * pattern,
FILE * file,
const char * fileName )
```

## 14.162 extern/libembroidery/src/formats/format\_pel.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readPel (EmbPattern *pattern, FILE *file)`
- char `writePel (EmbPattern *pattern, FILE *file)`

### 14.162.1 Function Documentation

#### 14.162.1.1 `readPel()` char readPel (

```
    EmbPattern * pattern,
    FILE * file )
```

#### 14.162.1.2 `writePel()` char writePel (

```
    EmbPattern * pattern,
    FILE * file )
```

## 14.163 `extern/libembroidery/src/formats/format_pem.c` File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readPem (EmbPattern *pattern, FILE *file)`
- char `writePem (EmbPattern *pattern, FILE *file)`

### 14.163.1 Function Documentation

#### 14.163.1.1 `readPem()` char readPem (

```
    EmbPattern * pattern,
    FILE * file )
```

#### 14.163.1.2 `writePem()` char writePem (

```
    EmbPattern * pattern,
    FILE * file )
```

## 14.164 extern/libembroidery/src/formats/format\_pes.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readPes` (`EmbPattern` \*pattern, const char \*fileName, `FILE` \*file)
- void `readDescriptions` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readPESHeaderV5` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readPESHeaderV6` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readPESHeaderV7` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readPESHeaderV8` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readPESHeaderV9` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readPESHeaderV10` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readHoopName` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readImageString` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readProgrammableFills` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readMotifPatterns` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readFeatherPatterns` (`FILE` \*file, `EmbPattern` \*pattern)
- void `readThreads` (`FILE` \*file, `EmbPattern` \*pattern)
- void `pesWriteSewSegSection` (`EmbPattern` \*pattern, `FILE` \*file)
- void `pesWriteEmbOneSection` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writePes` (`EmbPattern` \*pattern, const char \*fileName, `FILE` \*file)

### Variables

- const char \* `pes_version_strings` []
- int `pes_version` = PES0001

#### 14.164.1 Function Documentation

**14.164.1.1 pesWriteEmbOneSection()** `void pesWriteEmbOneSection (`  
 `EmbPattern * pattern,`  
 `FILE * file )`

**14.164.1.2 pesWriteSewSegSection()** `void pesWriteSewSegSection (`  
 `EmbPattern * pattern,`  
 `FILE * file )`

**14.164.1.3 `readDescriptions()`** void readDescriptions (

```
FILE * file,
EmbPattern * pattern )
```

**14.164.1.4 `readFeatherPatterns()`** void readFeatherPatterns (

```
FILE * file,
EmbPattern * pattern )
```

**14.164.1.5 `readHoopName()`** void readHoopName (

```
FILE * file,
EmbPattern * pattern )
```

**14.164.1.6 `readImageString()`** void readImageString (

```
FILE * file,
EmbPattern * pattern )
```

**14.164.1.7 `readMotifPatterns()`** void readMotifPatterns (

```
FILE * file,
EmbPattern * pattern )
```

**14.164.1.8 `readPes()`** char readPes (

```
EmbPattern * pattern,
const char * fileName,
FILE * file )
```

**14.164.1.9 `readPESHeaderV10()`** void readPESHeaderV10 (

```
FILE * file,
EmbPattern * pattern )
```

**14.164.1.10 `readPESHeaderV5()`** void readPESHeaderV5 (

```
FILE * file,
EmbPattern * pattern )
```

```
14.164.1.11 readPESHeaderV6() void readPESHeaderV6 (
    FILE * file,
    EmbPattern * pattern )
```

```
14.164.1.12 readPESHeaderV7() void readPESHeaderV7 (
    FILE * file,
    EmbPattern * pattern )
```

```
14.164.1.13 readPESHeaderV8() void readPESHeaderV8 (
    FILE * file,
    EmbPattern * pattern )
```

```
14.164.1.14 readPESHeaderV9() void readPESHeaderV9 (
    FILE * file,
    EmbPattern * pattern )
```

```
14.164.1.15 readProgrammableFills() void readProgrammableFills (
    FILE * file,
    EmbPattern * pattern )
```

```
14.164.1.16 readThreads() void readThreads (
    FILE * file,
    EmbPattern * pattern )
```

```
14.164.1.17 writePes() char writePes (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

## 14.164.2 Variable Documentation

```
14.164.2.1 pes_version int pes_version = PES0001
```

**14.164.2.2 pes\_version\_strings** const char\* pes\_version\_strings[]**Initial value:**

```
= {  
    "#PES0001",  
    "#PES0020",  
    "#PES0022",  
    "#PES0030",  
    "#PES0040",  
    "#PES0050",  
    "#PES0055",  
    "#PES0056",  
    "#PES0060",  
    "#PES0070",  
    "#PES0080",  
    "#PES0090",  
    "#PES0100",  
}
```

**14.165 extern/libembroidery/src/formats/format\_phb.c File Reference**

```
#include <stdio.h>  
#include <math.h>  
#include "../embroidery_internal.h"
```

**Functions**

- char **readPhb** (*EmbPattern* \*pattern, FILE \*file)
- char **writePhb** (*EmbPattern* \*pattern, FILE \*file)

**14.165.1 Function Documentation****14.165.1.1 readPhb()** char readPhb (  
 *EmbPattern* \* pattern,  
 FILE \* file )**14.165.1.2 writePhb()** char writePhb (  
 *EmbPattern* \* pattern,  
 FILE \* file )**14.166 extern/libembroidery/src/formats/format\_phc.c File Reference**

```
#include <stdio.h>  
#include <math.h>  
#include "../embroidery_internal.h"
```

## Functions

- char `readPhc` (`EmbPattern` \**pattern*, `FILE` \**file*)
- char `writePhc` (`EmbPattern` \**pattern*, `FILE` \**file*)

### 14.166.1 Function Documentation

#### 14.166.1.1 `readPhc()` char `readPhc` (

```
    EmbPattern * pattern,
    FILE * file )
```

#### 14.166.1.2 `writePhc()` char `writePhc` (

```
    EmbPattern * pattern,
    FILE * file )
```

## 14.167 `extern/libembroidery/src/formats/format_plt.c` File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readPlt` (`EmbPattern` \**pattern*, `FILE` \**file*)
- char `writePlt` (`EmbPattern` \**pattern*, `FILE` \**file*)

### 14.167.1 Function Documentation

#### 14.167.1.1 `readPlt()` char `readPlt` (

```
    EmbPattern * pattern,
    FILE * file )
```

#### 14.167.1.2 `writePlt()` char `writePlt` (

```
    EmbPattern * pattern,
    FILE * file )
```

## 14.168 extern/libembroidery/src/formats/format\_rgb.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readRgb` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeRgb` (`EmbPattern` \*pattern, `FILE` \*file)

#### 14.168.1 Function Documentation

**14.168.1.1 `readRgb()`** char `readRgb` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

**14.168.1.2 `writeRgb()`** char `writeRgb` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

## 14.169 extern/libembroidery/src/formats/format\_sew.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `sewDecode` (unsigned char *inputByte*)
- char `readSew` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeSew` (`EmbPattern` \*pattern, `FILE` \*file)

#### 14.169.1 Function Documentation

```
14.169.1.1 readSew() char readSew (
    EmbPattern * pattern,
    FILE * file )
```

```
14.169.1.2 sewDecode() char sewDecode (
    unsigned char inputByte )
```

```
14.169.1.3 writeSew() char writeSew (
    EmbPattern * pattern,
    FILE * file )
```

## 14.170 extern/libembroidery/src/formats/format\_shv.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char **shvDecode** (unsigned char inputByte)
- short **shvDecodeShort** (unsigned short inputByte)
- char **readShv** (EmbPattern \*pattern, FILE \*file)
- char **writeShv** (EmbPattern \*pattern, FILE \*file)

### 14.170.1 Function Documentation

```
14.170.1.1 readShv() char readShv (
    EmbPattern * pattern,
    FILE * file )
```

```
14.170.1.2 shvDecode() char shvDecode (
    unsigned char inputByte )
```

```
14.170.1.3 shvDecodeShort() short shvDecodeShort (
    unsigned short inputByte )
```

```
14.170.1.4 writeShv() char writeShv (
    EmbPattern * pattern,
    FILE * file )
```

## 14.171 extern/libembroidery/src/formats/format\_sst.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char [readSst](#) (EmbPattern \*pattern, FILE \*file)
- char [writeSst](#) (EmbPattern \*pattern, FILE \*file)

#### 14.171.1 Function Documentation

```
14.171.1.1 readSst() char readSst (
    EmbPattern * pattern,
    FILE * file )
```

```
14.171.1.2 writeSst() char writeSst (
    EmbPattern * pattern,
    FILE * file )
```

## 14.172 extern/libembroidery/src/formats/format\_stx.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- int `stxReadThread` (`StxThread` \*`thread`, `FILE` \*`file`)
- char `readStx` (`EmbPattern` \*`pattern`, `FILE` \*`file`)
- char `writeStx` (`EmbPattern` \*`pattern`, `FILE` \*`file`)

### 14.172.1 Function Documentation

**14.172.1.1 `readStx()`** char `readStx` (  
    `EmbPattern` \* `pattern`,  
    `FILE` \* `file` )

**14.172.1.2 `stxReadThread()`** int `stxReadThread` (  
    `StxThread` \* `thread`,  
    `FILE` \* `file` )

**14.172.1.3 `writeStx()`** char `writeStx` (  
    `EmbPattern` \* `pattern`,  
    `FILE` \* `file` )

## 14.173 extern/libembroidery/src/formats/format\_svg.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readSvg` (`EmbPattern` \*`pattern`, `FILE` \*`file`)
- char `writeSvg` (`EmbPattern` \*`pattern`, `FILE` \*`file`)

## Variables

- int `svgCreator`
- int `svgExpect`
- int `svgMultiValue`
- int `current_element_id`
- `SvgAttribute attributeList` [1000]
- int `n_attributes` = 0
- char `currentAttribute` [1000]
- char `currentValue` [1000]

### 14.173.1 Function Documentation

**14.173.1.1 `readSvg()`** `char readSvg (`  
`EmbPattern * pattern,`  
`FILE * file )`

**14.173.1.2 `writeSvg()`** `char writeSvg (`  
`EmbPattern * pattern,`  
`FILE * file )`

Writes the data from `pattern` to a file with the given `fileName`. Returns `true` if successful, otherwise returns `false`.

### 14.173.2 Variable Documentation

**14.173.2.1 `attributeList`** `SvgAttribute attributeList[1000]`

**14.173.2.2 `current_element_id`** `int current_element_id`

**14.173.2.3 `currentAttribute`** `char currentAttribute[1000]`

**14.173.2.4 `currentValue`** `char currentValue[1000]`

**14.173.2.5 `n_attributes`** `int n_attributes = 0`

**14.173.2.6 `svgCreator`** `int svgCreator`

**14.173.2.7** `svgExpect` int `svgExpect`

**14.173.2.8** `svgMultiValue` int `svgMultiValue`

## 14.174 extern/libembroidery/src/formats/format\_t01.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readT01` (`EmbPattern` \*`pattern`, `FILE` \*`file`)
- char `writeT01` (`EmbPattern` \*`pattern`, `FILE` \*`file`)

### 14.174.1 Function Documentation

**14.174.1.1** `readT01()` char `readT01` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

**14.174.1.2** `writeT01()` char `writeT01` (  
    `EmbPattern` \* *pattern*,  
    `FILE` \* *file* )

## 14.175 extern/libembroidery/src/formats/format\_t09.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readT09` (`EmbPattern` \*`pattern`, `FILE` \*`file`)
- char `writeT09` (`EmbPattern` \*`pattern`, `FILE` \*`file`)

#### 14.175.1 Function Documentation

**14.175.1.1 `readT09()`** char `readT09 (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.175.1.2 `writeT09()`** char `writeT09 (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

### 14.176 `extern/libembroidery/src/formats/format_tap.c` File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include "../embroidery_internal.h"
```

#### Functions

- void `encode_tap_record` (FILE \*file, int x, int y, int flags)
- int `decode_tap_record_flags` (unsigned char b2)
- char `readTap` (EmbPattern \*pattern, FILE \*file)
- char `writeTap` (EmbPattern \*pattern, FILE \*file)

#### 14.176.1 Function Documentation

**14.176.1.1 `decode_tap_record_flags()`** int `decode_tap_record_flags (`  
    `unsigned char b2 )`

**14.176.1.2 `encode_tap_record()`** void `encode_tap_record (`  
    `FILE * file,`  
    `int x,`  
    `int y,`  
    `int flags )`

```
14.176.1.3 readTap() char readTap (
    EmbPattern * pattern,
    FILE * file )
```

```
14.176.1.4 writeTap() char writeTap (
    EmbPattern * pattern,
    FILE * file )
```

## 14.177 extern/libembroidery/src/formats/format\_thr.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char **readThr** (EmbPattern \*pattern, FILE \*file)
- char **writeThr** (EmbPattern \*pattern, FILE \*file)

### 14.177.1 Function Documentation

```
14.177.1.1 readThr() char readThr (
    EmbPattern * pattern,
    FILE * file )
```

```
14.177.1.2 writeThr() char writeThr (
    EmbPattern * pattern,
    FILE * file )
```

## 14.178 extern/libembroidery/src/formats/format\_txt.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readTxt (EmbPattern *pattern, FILE *file)`
- char `writeTxt (EmbPattern *pattern, FILE *file)`

### 14.178.1 Function Documentation

**14.178.1.1 `readTxt()`** char `readTxt (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.178.1.2 `writeTxt()`** char `writeTxt (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

## 14.179 `extern/libembroidery/src/formats/format_u00.c` File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- char `readU00 (EmbPattern *pattern, FILE *file)`
- char `writeU00 (EmbPattern *pattern, FILE *file)`

### 14.179.1 Function Documentation

**14.179.1.1 `readU00()`** char `readU00 (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.179.1.2 `writeU00()`** char `writeU00 (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

## 14.180 extern/libembroidery/src/formats/format\_u01.c File Reference

```
#include <stdio.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readU01` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeU01` (`EmbPattern` \*pattern, `FILE` \*file)

#### 14.180.1 Function Documentation

```
14.180.1.1 readU01() char readU01 (
    EmbPattern * pattern,
    FILE * file )
```

```
14.180.1.2 writeU01() char writeU01 (
    EmbPattern * pattern,
    FILE * file )
```

## 14.181 extern/libembroidery/src/formats/format\_vip.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- int `vipDecodeByte` (unsigned char b)
- int `vipDecodeStitchType` (unsigned char b)
- unsigned char \* `vipDecompressData` (unsigned char \*input, int compressedInputLength, int decompressedContentLength)
- char `readVip` (`EmbPattern` \*pattern, `FILE` \*file)
- unsigned char \* `vipCompressData` (unsigned char \*input, int decompressedInputSize, int \*compressedSize)
- unsigned char `vipEncodeByte` (`EmbReal` f)
- unsigned char `vipEncodeStitchType` (int st)
- char `writeVip` (`EmbPattern` \*pattern, `FILE` \*file)

**Variables**

- const unsigned char `vipDecodingTable []`

**14.181.1 Function Documentation**

**14.181.1.1 `readVip()`** `char readVip (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.181.1.2 `vipCompressData()`** `unsigned char * vipCompressData (`  
    `unsigned char * input,`  
    `int decompressedInputSize,`  
    `int * compressedSize )`

**14.181.1.3 `vipDecodeByte()`** `int vipDecodeByte (`  
    `unsigned char b )`

**14.181.1.4 `vipDecodeStitchType()`** `int vipDecodeStitchType (`  
    `unsigned char b )`

**14.181.1.5 `vipDecompressData()`** `unsigned char * vipDecompressData (`  
    `unsigned char * input,`  
    `int compressedInputLength,`  
    `int decompressedContentLength )`

**14.181.1.6 `vipEncodeByte()`** `unsigned char vipEncodeByte (`  
    `EmbReal f )`

**14.181.1.7 `vipEncodeStitchType()`** `unsigned char vipEncodeStitchType (`  
    `int st )`

```
14.181.1.8 writeVip() char writeVip (
    EmbPattern * pattern,
    FILE * file )
```

## 14.181.2 Variable Documentation

**14.181.2.1 vipDecodingTable** const unsigned char vipDecodingTable[ ]

### Initial value:

```
= {
    0x2E, 0x82, 0xE4, 0x6F, 0x38, 0xA9, 0xDC, 0xC6, 0x7B, 0xB6, 0x28, 0xAC, 0xFD, 0xAA, 0x8A, 0x4E,
    0x76, 0x2E, 0xF0, 0xE4, 0x25, 0x1B, 0x8A, 0x68, 0x4E, 0x92, 0xB9, 0xB4, 0x95, 0xF0, 0x3E, 0xEF,
    0xF7, 0x40, 0x24, 0x18, 0x39, 0x31, 0xBB, 0xE1, 0x53, 0x8, 0x1F, 0xB1, 0x3A, 0x07, 0xFB, 0xCB,
    0xE6, 0x00, 0x81, 0x50, 0x0E, 0x40, 0xE1, 0x2C, 0x73, 0x50, 0x0D, 0x91, 0xD6, 0x0A, 0x5D, 0x6,
    0x8B, 0xB8, 0x62, 0xAE, 0x47, 0x00, 0x53, 0x5A, 0xB7, 0x80, 0xAA, 0x28, 0xF7, 0x5D, 0x70, 0x5E,
    0x2C, 0x0B, 0x98, 0xE3, 0xA0, 0x98, 0x60, 0x47, 0x89, 0x9B, 0x82, 0xFB, 0x40, 0xC9, 0xB4, 0x00,
    0x0E, 0x68, 0x6A, 0x1E, 0x09, 0x85, 0xC0, 0x53, 0x81, 0xD1, 0x98, 0x89, 0xAF, 0xE8, 0x85, 0x4F,
    0xE3, 0x69, 0x89, 0x03, 0xA1, 0x2E, 0x8F, 0xCF, 0xED, 0x91, 0x9F, 0x58, 0x1E, 0xD6, 0x84, 0x3C,
    0x09, 0x27, 0xBD, 0xF4, 0xC3, 0x90, 0xC0, 0x51, 0x1B, 0x2B, 0x63, 0xBC, 0xB9, 0x3D, 0x40, 0x4D,
    0x62, 0x6F, 0xE0, 0x8C, 0xF5, 0x5D, 0x08, 0xFD, 0x3D, 0x50, 0x36, 0xD7, 0xC9, 0x43, 0xE4,
    0x2D, 0xCB, 0x95, 0xB6, 0xF4, 0xD, 0xEA, 0xC2, 0xFD, 0x66, 0x3F, 0x5E, 0xBD, 0x69, 0x06, 0x2A,
    0x03, 0x19, 0x47, 0x2B, 0xDF, 0x38, 0xEA, 0x4F, 0x80, 0x49, 0x95, 0xB2, 0xD6, 0xF9, 0x9A, 0x75,
    0xF4, 0xD8, 0x9B, 0x1D, 0xB0, 0x44, 0x69, 0xDB, 0xA9, 0x21, 0x79, 0x6F, 0xD8, 0xDE, 0x33, 0xFE,
    0x9F, 0x04, 0xE5, 0x9A, 0x6B, 0x9B, 0x73, 0x83, 0x62, 0x7C, 0xB9, 0x66, 0x76, 0xF2, 0x5B, 0xC9,
    0x5E, 0xFC, 0x74, 0xA, 0x6C, 0xF1, 0xCD, 0x93, 0xCE, 0xE9, 0x80, 0x53, 0x03, 0x3B, 0x97, 0x4B,
    0x39, 0x76, 0xC2, 0xC1, 0x56, 0xCB, 0x70, 0xFD, 0x3B, 0x3E, 0x52, 0x57, 0x81, 0x5D, 0x56, 0x8D,
    0x51, 0x90, 0xD4, 0x76, 0xD7, 0x5, 0x16, 0x02, 0x6D, 0xF2, 0x4D, 0xE1, 0x0E, 0x96, 0x4F, 0xA1,
    0x3A, 0xA0, 0x60, 0x59, 0x64, 0x04, 0x1A, 0xE4, 0x67, 0xB6, 0xED, 0x3F, 0x20, 0x55, 0x1F,
    0xFB, 0x23, 0x92, 0x91, 0x53, 0xC8, 0x65, 0xAB, 0x9D, 0x51, 0xD6, 0x73, 0xDE, 0x01, 0xB1, 0x80,
    0xB7, 0xC0, 0xD6, 0x80, 0x1C, 0x2E, 0x3C, 0x83, 0x63, 0xEE, 0xBC, 0x33, 0x25, 0xE2, 0x0E, 0x7A,
    0x67, 0xDE, 0x3F, 0x71, 0x14, 0x49, 0x9C, 0x92, 0x93, 0x0D, 0x26, 0x9A, 0x0E, 0xDA, 0xED, 0x6F,
    0xA4, 0x89, 0x0C, 0x1B, 0xF0, 0xA1, 0xDF, 0xE1, 0x9E, 0x3C, 0x04, 0x78, 0xE4, 0xAB, 0x6D, 0xFF,
    0x9C, 0xAF, 0xCA, 0xC7, 0x88, 0x17, 0x9C, 0xE5, 0xB7, 0x33, 0x6D, 0xDC, 0xED, 0x8F, 0x6C, 0x18,
    0x1D, 0x71, 0x06, 0xB1, 0xC5, 0xE2, 0xCF, 0x13, 0x77, 0x81, 0xC5, 0xB7, 0x0A, 0x14, 0x0A, 0x6B,
    0x40, 0x26, 0xA0, 0x88, 0xD1, 0x62, 0x6A, 0xB3, 0x50, 0x12, 0xB9, 0x9B, 0xB5, 0x83, 0x9B, 0x37
}
```

## 14.182 extern/libembroidery/src/formats/format\_vp3.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

## Functions

- unsigned char \* **vp3ReadString** (FILE \*file)
- int **vp3Decode** (unsigned char inputByte)
- short **vp3DecodeInt16** (unsigned short inputByte)
- **vp3Hoop vp3ReadHoopSection** (FILE \*file)
- char **readVp3** (EmbPattern \*pattern, FILE \*file)
- void **vp3WriteStringLen** (FILE \*file, const char \*str, int len)
- void **vp3WriteString** (FILE \*file, const char \*str)
- void **vp3PatchByteCount** (FILE \*file, int offset, int adjustment)
- char **writeVp3** (EmbPattern \*pattern, FILE \*file)

### 14.182.1 Function Documentation

**14.182.1.1 `readVp3()`** `char readVp3 (`  
    `EmbPattern * pattern,`  
    `FILE * file )`

**14.182.1.2 `vp3Decode()`** `int vp3Decode (`  
    `unsigned char inputByte )`

**14.182.1.3 `vp3DecodeInt16()`** `short vp3DecodeInt16 (`  
    `unsigned short inputByte )`

**14.182.1.4 `vp3PatchByteCount()`** `void vp3PatchByteCount (`  
    `FILE * file,`  
    `int offset,`  
    `int adjustment )`

**14.182.1.5 `vp3ReadHoopSection()`** `vp3Hoop vp3ReadHoopSection (`  
    `FILE * file )`

**14.182.1.6 `vp3ReadString()`** `unsigned char * vp3ReadString (`  
    `FILE * file )`

**14.182.1.7 `vp3WriteString()`** `void vp3WriteString (`  
    `FILE * file,`  
    `const char * str )`

**14.182.1.8 `vp3WriteStringLen()`** `void vp3WriteStringLen (`  
    `FILE * file,`  
    `const char * str,`  
    `int len )`

```
14.182.1.9 writeVp3() char writeVp3 (
    EmbPattern * pattern,
    FILE * file )
```

## 14.183 extern/libembroidery/src/formats/format\_xxx.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include "../embroidery_internal.h"
```

### Functions

- char `xxxDecodeByte` (unsigned char `inputByte`)
- char `readXxx` (`EmbPattern` \*`pattern`, `FILE` \*`file`)
- void `xxxEncodeStop` (`FILE` \*`file`, `EmbStitch` `s`)
- void `xxxEncodeStitch` (`FILE` \*`file`, `EmbReal` `deltaX`, `EmbReal` `deltaY`, int `flags`)
- void `xxxEncodeDesign` (`FILE` \*`file`, `EmbPattern` \*`p`)
- char `writeXxx` (`EmbPattern` \*`pattern`, `FILE` \*`file`)

### 14.183.1 Function Documentation

```
14.183.1.1 readXxx() char readXxx (
    EmbPattern * pattern,
    FILE * file )
```

```
14.183.1.2 writeXxx() char writeXxx (
    EmbPattern * pattern,
    FILE * file )
```

```
14.183.1.3 xxxDecodeByte() char xxxDecodeByte (
    unsigned char inputByte )
```

```
14.183.1.4 xxxEncodeDesign() void xxxEncodeDesign (
    FILE * file,
    EmbPattern * p )
```

```
14.183.1.5 xxxEncodeStitch() void xxxEncodeStitch (
    FILE * file,
    EmbReal deltaX,
    EmbReal deltaY,
    int flags )
```

```
14.183.1.6 xxxEncodeStop() void xxxEncodeStop (
    FILE * file,
    EmbStitch s )
```

## 14.184 extern/libembroidery/src/formats/format\_zsk.c File Reference

```
#include <stdio.h>
#include <string.h>
#include "../embroidery_internal.h"
```

### Functions

- char `readZsk` (`EmbPattern` \*pattern, `FILE` \*file)
- char `writeZsk` (`EmbPattern` \*pattern, `FILE` \*file)

### 14.184.1 Function Documentation

```
14.184.1.1 readZsk() char readZsk (
    EmbPattern * pattern,
    FILE * file )
```

```
14.184.1.2 writeZsk() char writeZsk (
    EmbPattern * pattern,
    FILE * file )
```

## 14.185 extern/libembroidery/src/formats/formats.md File Reference

## 14.186 extern/libembroidery/src/geometry.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "embroidery.h"
```

## Functions

- `EmbGeometry * embGeometry_init (int type_in)`  
*Our generic object interface backends to each individual type.*
- `void embGeometry_free (EmbGeometry *obj)`  
*Free the memory occupied by a non-stitch geometry object.*
- `void embGeometry_move (EmbGeometry *obj, EmbVector delta)`  
*Translate obj by the vector delta.*
- `EmbRect embGeometry_boundingRect (EmbGeometry *obj)`  
*Calculate the bounding box of geometry obj based on what kind of geometric object it is.*
- `void embGeometry_vulcanize (EmbGeometry *obj)`  
*Toggle the rubber mode of the object.*

### 14.186.1 Function Documentation

**14.186.1.1 embGeometry\_boundingRect()** `EmbRect embGeometry_boundingRect (`  
`EmbGeometry * obj )`

Calculate the bounding box of geometry *obj* based on what kind of geometric object it is.

#### Parameters

<code>obj</code>	A pointer to the geometry memory.
------------------	-----------------------------------

#### Returns

`EmbRect` The bounding box in the same scale as the input geometry.

In the case of a failure the bounding box returned is always the unit square with top left corner at (0, 0).

**14.186.1.2 embGeometry\_free()** `void embGeometry_free (`  
`EmbGeometry * obj )`

Free the memory occupied by a non-stitch geometry object.

#### Parameters

<code>obj</code>	Pointer to geometry memory.
------------------	-----------------------------

**14.186.1.3 embGeometry\_init()** `EmbGeometry * embGeometry_init (`  
`int type_in )`

Our generic object interface backends to each individual type.

**Parameters**

<code>type</code> <code>_in</code>	
---------------------------------------	--

**Returns**`EmbGeometry*`

**14.186.1.4 `embGeometry_move()`** `void embGeometry_move (`  
    `EmbGeometry * obj,`  
    `EmbVector delta )`

Translate *obj* by the vector *delta*.

**Parameters**

<code>obj</code>	A pointer to the geometry memory.
<code>delta</code>	A vector in the 0.1mm scale to offset the geometry by.

**14.186.1.5 `embGeometry_vulcanize()`** `void embGeometry_vulcanize (`  
    `EmbGeometry * obj )`

Toggle the rubber mode of the object.

**Parameters**

<code>obj</code>	
------------------	--

**Todo** Review. This could be controlled by a simple flag.

## 14.187 `extern/libembroidery/src/geometry/arc.c` File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

### Functions

- `EmbArc embArc_init (void)`

- char `embArc_clockwise (EmbArc arc)`
- void `getArcCenter (EmbArc arc, EmbVector *arcCenter)`
- char `getArcDataFromBulge (EmbReal bulge, EmbArc *arc, EmbReal *arcCenterX, EmbReal *arcCenterY, EmbReal *radius, EmbReal *diameter, EmbReal *chord, EmbReal *chordMidX, EmbReal *chordMidY, EmbReal *sagitta, EmbReal *apothem, EmbReal *incAngleInDegrees, char *clockwise)`
- char `clockwise (EmbGeometry *obj)`
- void `embArc_setCenter (EmbArc *arc, EmbVector point)`
- void `embArc_setRadius (EmbArc *arc, float radius)`
- void `embArc_setStartAngle (EmbArc *arc, float angle)`
- void `embArc_setEndAngle (EmbArc *arc, float angle)`
- float `embArc_startAngle (EmbArc arc)`
- float `embArc_endAngle (EmbArc arc)`
- float `embArc_area (EmbArc arc)`
- float `embArc_arcLength (EmbArc arc)`
- float `embArc_chord (EmbArc arc)`
- float `embArc_includedAngle (EmbArc arc)`
- char `Arc_clockwise ()`
- void `embArc_updatePath (EmbArc arc)`
- void `embArc_paint (void)`
- void `embArc_updateRubber (EmbArc arc, int pattern, int layer, int index)`
- `EmbVector embArc_mouseSnapPoint (EmbArc arc, EmbVector mousePoint)`
- void `embArc_gripEdit (EmbArc *arc, EmbVector before, EmbVector after)`
- void `set_object_color (EmbGeometry *obj, EmbColor color)`
- void `embBaseSetColorRGB (EmbGeometry *obj, unsigned int rgb)`
- void `Base_setLineType (EmbGeometry *obj, int lineType)`
- void `Base_setLineWidth (EmbGeometry *obj, float lineWidth)`
- `EmbVector Base_objectRubberPoint (EmbGeometry *obj, const char *key)`
- const char \* `Base_objectRubberText (EmbGeometry *obj, const char *key)`
- void `embCircle_prompt (const char *str)`
- void `embCircle_setArea (EmbCircle *circle, float area)`
- void `embCircle_setCircumference (EmbCircle *circle, float circumference)`
- void `embEllipse_main ()`
- void `embEllipse_click (float x, float y)`
- `EmbVector embRect_bottomLeft (EmbRect rect)`
- `EmbVector embRect_bottomRight (EmbRect rect)`

#### 14.187.1 Function Documentation

##### 14.187.1.1 Arc\_clockwise() char Arc\_clockwise ( )

##### 14.187.1.2 Base\_objectRubberPoint() EmbVector Base\_objectRubberPoint (

```
EmbGeometry * obj,
const char * key )
```

**14.187.1.3 Base\_objectRubberText()** const char \* Base\_objectRubberText ( EmbGeometry \* obj,  
const char \* key )

**14.187.1.4 Base\_setLineType()** void Base\_setLineType ( EmbGeometry \* obj,  
int lineType )

**14.187.1.5 Base\_setLineWeight()** void Base\_setLineWeight ( EmbGeometry \* obj,  
float lineWeight )

**14.187.1.6 clockwise()** char clockwise ( EmbGeometry \* obj )

**14.187.1.7 embArc\_arcLength()** float embArc\_arcLength ( EmbArc arc )

**14.187.1.8 embArc\_area()** float embArc\_area ( EmbArc arc )

**14.187.1.9 embArc\_chord()** float embArc\_chord ( EmbArc arc )

**14.187.1.10 embArc\_clockwise()** char embArc\_clockwise ( EmbArc arc )

**14.187.1.11 embArc\_endAngle()** float embArc\_endAngle ( EmbArc arc )

**14.187.1.12 embArc\_gripEdit()** void embArc\_gripEdit (

```
EmbArc * arc,
EmbVector before,
EmbVector after )
```

**14.187.1.13 embArc\_includedAngle()** float embArc\_includedAngle (

```
EmbArc arc )
```

**14.187.1.14 embArc\_init()** EmbArc embArc\_init (

```
void )
```

**14.187.1.15 embArc\_mouseSnapPoint()** EmbVector embArc\_mouseSnapPoint (

```
EmbArc arc,
EmbVector mousePoint )
```

**14.187.1.16 embArc\_paint()** void embArc\_paint (

```
void )
```

**14.187.1.17 embArc\_setCenter()** void embArc\_setCenter (

```
EmbArc * arc,
EmbVector point )
```

**14.187.1.18 embArc\_setEndAngle()** void embArc\_setEndAngle (

```
EmbArc * arc,
float angle )
```

**14.187.1.19 embArc\_setRadius()** void embArc\_setRadius (

```
EmbArc * arc,
float radius )
```

**14.187.1.20 `embArc_setStartAngle()`** void embArc\_setStartAngle (

```
EmbArc * arc,
float angle )
```

**14.187.1.21 `embArc_startAngle()`** float embArc\_startAngle (

```
EmbArc arc )
```

**14.187.1.22 `embArc_updatePath()`** void embArc\_updatePath (

```
EmbArc arc )
```

**14.187.1.23 `embArc_updateRubber()`** void embArc\_updateRubber (

```
EmbArc arc,
int pattern,
int layer,
int index )
```

**14.187.1.24 `embBaseSetColorRGB()`** void embBaseSetColorRGB (

```
EmbGeometry * obj,
unsigned int rgb )
```

**14.187.1.25 `embCircle_prompt()`** void embCircle\_prompt (

```
const char * str )
```

**14.187.1.26 `embCircle_setArea()`** void embCircle\_setArea (

```
EmbCircle * circle,
float area )
```

**14.187.1.27 `embCircle_setCircumference()`** void embCircle\_setCircumference (

```
EmbCircle * circle,
float circumference )
```

**14.187.1.28 embEllipse\_click()** void embEllipse\_click ( float x, float y )

**14.187.1.29 embEllipse\_main()** void embEllipse\_main ( )

**14.187.1.30 embRect\_bottomLeft()** EmbVector embRect\_bottomLeft ( EmbRect rect )

**14.187.1.31 embRect\_bottomRight()** EmbVector embRect\_bottomRight ( EmbRect rect )

**14.187.1.32 getArcCenter()** void getArcCenter ( EmbArc arc, EmbVector \* arcCenter )

**14.187.1.33 getArcDataFromBulge()** char getArcDataFromBulge ( EmbReal bulge, EmbArc \* arc, EmbReal \* arcCenterX, EmbReal \* arcCenterY, EmbReal \* radius, EmbReal \* diameter, EmbReal \* chord, EmbReal \* chordMidX, EmbReal \* chordMidY, EmbReal \* sagitta, EmbReal \* apothem, EmbReal \* incAngleInDegrees, char \* clockwise )

**14.187.1.34 set\_object\_color()** void set\_object\_color ( EmbGeometry \* obj, EmbColor color )

## 14.188 extern/libembroidery/src/geometry/circle.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

### Functions

- `EmbCircle embCircle_init (void)`
- `EmbReal embCircle_area (EmbCircle circle)`
- `EmbReal embCircle_circumference (EmbCircle circle)`
- `int getCircleCircleIntersections (EmbCircle c0, EmbCircle c1, EmbVector *p0, EmbVector *p1)`
- `int getCircleTangentPoints (EmbCircle c, EmbVector point, EmbVector *t0, EmbVector *t1)`

#### 14.188.1 Function Documentation

**14.188.1.1 `embCircle_area()`** `EmbReal embCircle_area (`  
`EmbCircle circle )`

**14.188.1.2 `embCircle_circumference()`** `EmbReal embCircle_circumference (`  
`EmbCircle circle )`

**14.188.1.3 `embCircle_init()`** `EmbCircle embCircle_init (`  
`void )`

**14.188.1.4 `getCircleCircleIntersections()`** `int getCircleCircleIntersections (`  
`EmbCircle c0,`  
`EmbCircle c1,`  
`EmbVector * p0,`  
`EmbVector * p1 )`

**14.188.1.5 `getCircleTangentPoints()`** `int getCircleTangentPoints (`  
`EmbCircle c,`  
`EmbVector point,`  
`EmbVector * t0,`  
`EmbVector * t1 )`

## 14.189 extern/libembroidery/src/geometry/ellipse.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

### Functions

- `EmbEllipse embEllipse_init (void)`
- `EmbReal embEllipse_area (EmbEllipse ellipse)`
- `EmbReal embEllipse_perimeter (EmbEllipse ellipse)`
- `EmbReal embEllipse_diameterX (EmbEllipse ellipse)`
- `EmbReal embEllipse_diameterY (EmbEllipse ellipse)`
- `EmbReal embEllipse_width (EmbEllipse ellipse)`
- `EmbReal embEllipse_height (EmbEllipse ellipse)`
- `void embEllipse_setSize (float width, float height)`
- `void embEllipse_setRadiusMajor (float radius)`
- `void embEllipse_setRadiusMinor (float radius)`
- `void embEllipse_setDiameterMajor (EmbEllipse *ellipse, float diameter)`
- `void embEllipse_setDiameterMinor (EmbEllipse *ellipse, float diameter)`
- `EmbVector ellipse_objectQuadrant0 (EmbEllipse *ellipse)`
- `EmbVector ellipse_objectQuadrant90 (EmbEllipse *ellipse)`
- `EmbVector ellipse_objectQuadrant180 (EmbEllipse *ellipse)`
- `EmbVector ellipse_objectQuadrant270 (EmbEllipse *ellipse)`
- `void embEllipse_updatePath ()`

### 14.189.1 Function Documentation

**14.189.1.1 `ellipse_objectQuadrant0()`** `EmbVector ellipse_objectQuadrant0 (`  
`EmbEllipse * ellipse )`

**14.189.1.2 `ellipse_objectQuadrant180()`** `EmbVector ellipse_objectQuadrant180 (`  
`EmbEllipse * ellipse )`

**14.189.1.3 `ellipse_objectQuadrant270()`** `EmbVector ellipse_objectQuadrant270 (`  
`EmbEllipse * ellipse )`

**14.189.1.4 `ellipse_objectQuadrant90()`** `EmbVector` `ellipse_objectQuadrant90 (`  
`EmbEllipse * ellipse )`

**14.189.1.5 `embEllipse_area()`** `EmbReal` `embEllipse_area (`  
`EmbEllipse ellipse )`

**14.189.1.6 `embEllipse_diameterX()`** `EmbReal` `embEllipse_diameterX (`  
`EmbEllipse ellipse )`

**14.189.1.7 `embEllipse_diameterY()`** `EmbReal` `embEllipse_diameterY (`  
`EmbEllipse ellipse )`

**14.189.1.8 `embEllipse_height()`** `EmbReal` `embEllipse_height (`  
`EmbEllipse ellipse )`

**14.189.1.9 `embEllipse_init()`** `EmbEllipse` `embEllipse_init (`  
`void )`

**14.189.1.10 `embEllipse_perimeter()`** `EmbReal` `embEllipse_perimeter (`  
`EmbEllipse ellipse )`

**14.189.1.11 `embEllipse_setDiameterMajor()`** `void` `embEllipse_setDiameterMajor (`  
`EmbEllipse * ellipse,`  
`float diameter )`

**14.189.1.12 `embEllipse_setDiameterMinor()`** `void` `embEllipse_setDiameterMinor (`  
`EmbEllipse * ellipse,`  
`float diameter )`

**14.189.1.13 embEllipse\_setRadiusMajor()** void embEllipse\_setRadiusMajor ( float radius )

**14.189.1.14 embEllipse\_setRadiusMinor()** void embEllipse\_setRadiusMinor ( float radius )

**14.189.1.15 embEllipse\_setSize()** void embEllipse\_setSize ( float width, float height )

**14.189.1.16 embEllipse\_updatePath()** void embEllipse\_updatePath ( )

**14.189.1.17 embEllipse\_width()** EmbReal embEllipse\_width ( EmbEllipse ellipse )

## 14.190 extern/libembroidery/src/geometry/functions.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

### Functions

- int [emb\\_round \(EmbReal x\)](#)
- [EmbReal radians \(EmbReal degree\)](#)
- [EmbReal degrees \(EmbReal radian\)](#)

#### 14.190.1 Function Documentation

**14.190.1.1 degrees()** EmbReal degrees ( EmbReal radian )

```
14.190.1.2 emb_round() int emb_round (
    EmbReal x )
```

```
14.190.1.3 radians() EmbReal radians (
    EmbReal degree )
```

## 14.191 extern/libembroidery/src/geometry/geometry.md File Reference

## 14.192 extern/libembroidery/src/geometry/line.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

### Functions

- void **embLine\_normalVector** (**EmbLine** line, **EmbVector** \*result, int **clockwise**)
- **EmbVector** **embLine\_toVector** (**EmbLine** line)
- **EmbVector** **embLine\_intersectionPoint** (**EmbLine** line1, **EmbLine** line2)

### 14.192.1 Function Documentation

```
14.192.1.1 embLine_intersectionPoint() EmbVector embLine_intersectionPoint (
    EmbLine line1,
    EmbLine line2 )
```

```
14.192.1.2 embLine_normalVector() void embLine_normalVector (
    EmbLine line,
    EmbVector * result,
    int clockwise )
```

Finds the normalized vector perpendicular (clockwise) to the line given by v1->v2 (normal to the line)

```
14.192.1.3 embLine_toVector() EmbVector embLine_toVector (
    EmbLine line )
```

**14.193 `extern/libembroidery/src/geometry/path.c` File Reference**

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

**14.194 `extern/libembroidery/src/geometry/polygon.c` File Reference**

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

**14.195 `extern/libembroidery/src/geometry/polyline.c` File Reference**

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

**14.196 `extern/libembroidery/src/geometry/rect.c` File Reference**

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

**Functions**

- `EmbRect embRect_init (void)`
- `EmbReal embRect_area (EmbRect rect)`

**14.196.1 Function Documentation****14.196.1.1 `embRect_area()`** `EmbReal embRect_area (`  
`EmbRect rect )`

```
14.196.1.2 embRect_init() EmbRect embRect_init (
    void )
```

## 14.197 extern/libembroidery/src/geometry/text.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

### Functions

- void `textSingle_setTextFont` (const char \*`font`)
- void `textSingle_setJustify` (const char \*`justify`)
- void `textSingle_setTextSize` (float `size`)
- void `textSingle_setTextStyle` (char `bold`, char `italic`, char `under`, char `strike`, char `over`)
- void `textSingle_setTextBold` (char `val`)
- void `textSingle_setTextItalic` (char `val`)
- void `textSingle_setTextUnderline` (char `val`)
- void `textSingle_setTextStrikeOut` (char `val`)
- void `textSingle_setTextOverline` (char `val`)
- void `textSingle_setTextBackward` (char `val`)
- void `textSingle_setTextUpsideDown` (char `val`)
- void `textSingle_paint` ()
- void `textSingle_updateRubber` ()
- `EmbVector` `textSingle_mouseSnapPoint` (`EmbVector` `mousePoint`)
- void `textSingle_gripEdit` (`EmbVector` `before`, `EmbVector` `after`)

### 14.197.1 Function Documentation

```
14.197.1.1 textSingle_gripEdit() void textSingle_gripEdit (
    EmbVector before,
    EmbVector after )
```

```
14.197.1.2 textSingle_mouseSnapPoint() EmbVector textSingle_mouseSnapPoint (
    EmbVector mousePoint )
```

```
14.197.1.3 textSingle_paint() void textSingle_paint ( )
```

**14.197.1.4 `textSingle_setJustify()`** void textSingle\_setJustify ( const char \* *justify* )

**14.197.1.5 `textSingle_setTextBackward()`** void textSingle\_setTextBackward ( char *val* )

**14.197.1.6 `textSingle_setTextBold()`** void textSingle\_setTextBold ( char *val* )

**14.197.1.7 `textSingle_setTextFont()`** void textSingle\_setTextFont ( const char \* *font* )

**14.197.1.8 `textSingle_setTextItalic()`** void textSingle\_setTextItalic ( char *val* )

**14.197.1.9 `textSingle_setTextOverline()`** void textSingle\_setTextOverline ( char *val* )

**14.197.1.10 `textSingle_setTextSize()`** void textSingle\_setTextSize ( float *size* )

**14.197.1.11 `textSingle_setTextStrikeOut()`** void textSingle\_setTextStrikeOut ( char *val* )

**14.197.1.12 `textSingle_setTextStyle()`** void textSingle\_setTextStyle ( char *bold*, char *italic*, char *under*, char *strike*, char *over* )

```
14.197.1.13 textSingle_setTextUnderline() void textSingle_setTextUnderline (
    char val )
```

```
14.197.1.14 textSingle_setTextUpsideDown() void textSingle_setTextUpsideDown (
    char val )
```

```
14.197.1.15 textSingle_updateRubber() void textSingle_updateRubber ( )
```

## 14.198 extern/libembroidery/src/geometry/vector.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

### Functions

- void [embVector\\_normalize \(EmbVector vector, EmbVector \\*result\)](#)
- void [embVector\\_multiply \(EmbVector vector, EmbReal magnitude, EmbVector \\*result\)](#)
- [EmbVector embVector\\_add \(EmbVector a, EmbVector b\)](#)
- [EmbVector embVector\\_average \(EmbVector a, EmbVector b\)](#)
- [EmbVector embVector\\_subtract \(EmbVector v1, EmbVector v2\)](#)
- [EmbReal embVector\\_dot \(EmbVector a, EmbVector b\)](#)
- [EmbReal embVector\\_cross \(EmbVector a, EmbVector b\)](#)  
*The "cross product" as vectors a and b returned as a real value.*
- void [embVector\\_transpose\\_product \(EmbVector v1, EmbVector v2, EmbVector \\*result\)](#)
- [EmbReal embVector\\_length \(EmbVector vector\)](#)
- [EmbReal embVector\\_relativeX \(EmbVector a1, EmbVector a2, EmbVector a3\)](#)
- [EmbReal embVector\\_relativeY \(EmbVector a1, EmbVector a2, EmbVector a3\)](#)
- [EmbReal embVector\\_angle \(EmbVector v\)](#)
- [EmbVector embVector\\_unit \(EmbReal alpha\)](#)
- [EmbReal embVector\\_distance \(EmbVector a, EmbVector b\)](#)

### 14.198.1 Function Documentation

```
14.198.1.1 embVector_add() EmbVector embVector_add (
    EmbVector a,
    EmbVector b )
```

The sum of vectors *a* and *b* returned as a vector.

Equivalent to:

$$\mathbf{c} = \mathbf{a} + \mathbf{b} = \begin{pmatrix} a_x + b_x \\ a_y + b_y \end{pmatrix}$$

**14.198.1.2 embVector\_angle()** `EmbReal` `embVector_angle ( EmbVector v )`

The angle, measured anti-clockwise from the x-axis, of a vector *v*.

**14.198.1.3 embVector\_average()** `EmbVector` `embVector_average ( EmbVector a, EmbVector b )`

The average of vectors *v1* and *v2* returned as a vector.

Equivalent to:

$$\mathbf{c} = \frac{\mathbf{a} + \mathbf{b}}{2} = \left( \begin{array}{c} \frac{a_x+b_x}{2} \\ \frac{a_y+b_y}{2} \end{array} \right)$$

**14.198.1.4 embVector\_cross()** `EmbReal` `embVector_cross ( EmbVector a, EmbVector b )`

The "cross product" as vectors *a* and *b* returned as a real value.

Technically, this is the magnitude of the cross product when the embroidery is placed in the z=0 plane (since the cross product is defined for 3-dimensional vectors). That is:

$$|c| = \left| \begin{pmatrix} a_x \\ a_y \\ 0 \end{pmatrix} \times \begin{pmatrix} b_x \\ b_y \\ 0 \end{pmatrix} \right| = \left| \begin{pmatrix} 0 \\ 0 \\ a_x b_y - a_y b_x \end{pmatrix} \right| = a_x b_y - a_y b_x$$

**14.198.1.5 embVector\_distance()** `EmbReal` `embVector_distance ( EmbVector a, EmbVector b )`

The distance between *a* and *b* returned as a real value.

$$d = |\mathbf{a} - \mathbf{b}| = \sqrt{(a_x - b_x)^2 + (a_y - b_y)^2}$$

**14.198.1.6 embVector\_dot()** `EmbReal` `embVector_dot ( EmbVector a, EmbVector b )`

The dot product as vectors *v1* and *v2* returned as a `EmbReal`.

Equivalent to:

$$c = \mathbf{a} \cdot \mathbf{b} = a_x b_x + a_y b_y$$

**14.198.1.7 embVector\_length()** `EmbReal embVector_length (`  
`EmbVector vector )`

The length or absolute value of the vector *vector*.

Equivalent to:

$$|v| = \sqrt{v_x^2 + v_y^2}$$

**14.198.1.8 embVector\_multiply()** `void embVector_multiply (`  
`EmbVector vector,`  
`EmbReal magnitude,`  
`EmbVector * result )`

The scalar multiple *magnitude* of a vector *vector*. Returned as *result*.

**Todo** make result return argument.

**14.198.1.9 embVector\_normalize()** `void embVector_normalize (`  
`EmbVector vector,`  
`EmbVector * result )`

Finds the unit length vector *result* in the same direction as *vector*.

Equivalent to:

$$\mathbf{u} = \frac{\mathbf{v}}{|\mathbf{v}|}$$

**Todo** make result return argument.

**14.198.1.10 embVector\_relativeX()** `EmbReal embVector_relativeX (`  
`EmbVector a1,`  
`EmbVector a2,`  
`EmbVector a3 )`

The x-component of the vector

**14.198.1.11 embVector\_relativeY()** `EmbReal embVector_relativeY (`  
`EmbVector a1,`  
`EmbVector a2,`  
`EmbVector a3 )`

The y-component of the vector

```
14.198.1.12 embVector_subtract() EmbVector embVector_subtract (
    EmbVector v1,
    EmbVector v2 )
```

The difference between vectors *v1* and *v2* returned as *result*.

Equivalent to:

$$\mathbf{c} = \mathbf{a} - \mathbf{b} = \begin{pmatrix} a_x - b_x \\ a_y - b_y \end{pmatrix}$$

```
14.198.1.13 embVector_transpose_product() void embVector_transpose_product (
    EmbVector v1,
    EmbVector v2,
    EmbVector * result )
```

Since we aren't using full vector algebra here, all vectors are "vertical". so this is like the product  $\mathbf{v1}^T \mathbf{v2}$  for our vectors *v1* and *v2* so a "component-wise product". The result is stored at the pointer *result*.

That is  $(1 \ 0) \ (\mathbf{a}) = (x_a \ (x \ y)) (0 \ 1) \ (\mathbf{b}) = (y_b)$

```
14.198.1.14 embVector_unit() EmbVector embVector_unit (
    EmbReal alpha )
```

The unit vector in the direction *angle*.

$$\mathbf{a}_\alpha = \begin{pmatrix} \cos(\alpha) \\ \sin(\alpha) \end{pmatrix}$$

## 14.199 extern/libembroidery/src/image.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "embroidery_internal.h"
```

### Functions

- void **writelImage** (FILE \*file, unsigned char image[][48])
- float **image\_diff** (unsigned char \*a, unsigned char \*b, int size)

#### 14.199.1 Function Documentation

```
14.199.1.1 image_diff() float image_diff (
    unsigned char * a,
    unsigned char * b,
    int size )
```

**Parameters**

<i>a</i>	
<i>b</i>	
<i>size</i>	

**Returns**

float

**14.199.1.2 writelimage()** void writeImage ( FILE \* *file*, unsigned char *image*[ ][48] )**Parameters**

<i>file</i>	
<i>image</i>	

for the PES embedded

**14.200 extern/libembroidery/src/main.c File Reference**

As much of the code as possible, to keep the structure simple and in a procedural style.

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include <time.h>
#include "embroidery_internal.h"
```

**Macros**

- #define FLAG\_TO 0
- #define FLAG\_TO\_SHORT 1
- #define FLAG\_HELP 2
- #define FLAG\_HELP\_SHORT 3
- #define FLAG\_FORMATS 4
- #define FLAG\_FORMATS\_SHORT 5
- #define FLAG QUIET 6
- #define FLAG QUIET\_SHORT 7
- #define FLAG\_VERBOSE 8
- #define FLAG\_VERBOSE\_SHORT 9
- #define FLAG\_VERSION 10
- #define FLAG\_VERSION\_SHORT 11

- #define FLAG\_CIRCLE 12
- #define FLAG\_CIRCLE\_SHORT 13
- #define FLAG\_ELLIPSE 14
- #define FLAG\_ELLIPSE\_SHORT 15
- #define FLAG\_LINE 16
- #define FLAG\_LINE\_SHORT 17
- #define FLAG\_POLYGON 18
- #define FLAG\_POLYGON\_SHORT 19
- #define FLAG\_POLYLINE 20
- #define FLAG\_POLYLINE\_SHORT 21
- #define FLAG\_RENDER 22
- #define FLAG\_RENDER\_SHORT 23
- #define FLAG\_SATIN 24
- #define FLAG\_SATIN\_SHORT 25
- #define FLAG\_STITCH 26
- #define FLAG\_STITCH\_SHORT 27
- #define FLAG\_TEST 28
- #define FLAG\_FULL\_TEST\_SUITE 29
- #define FLAG\_HILBERT\_CURVE 30
- #define FLAG\_SIERPINSKI\_TRIANGLE 31
- #define FLAG\_FILL 32
- #define FLAG\_FILL\_SHORT 33
- #define FLAG\_SIMULATE 34
- #define FLAG\_COMBINE 35
- #define FLAG\_CROSS\_STITCH 36
- #define NUM\_FLAGS 37

## Functions

- void `embVector_print` (`EmbVector` v, `char` \*label)
- void `embArc_print` (`EmbArc` arc)
- int `check_header_present` (`FILE` \*file, `int` minimum\_header\_length)
- `unsigned int sectorSize` (`bcf_file` \*bcfFile)
- `int haveExtraDIFATSectors` (`bcf_file` \*file)
- `int seekToSector` (`bcf_file` \*bcfFile, `FILE` \*file, `const unsigned int` sector)
- void `parseDIFATSectors` (`FILE` \*file, `bcf_file` \*bcfFile)
- `int bcfFile_read` (`FILE` \*file, `bcf_file` \*bcfFile)
- `FILE * GetFile` (`bcf_file` \*bcfFile, `FILE` \*file, `char` \*fileToFind)
 

*Get the File object.*
- void `bcf_file_free` (`bcf_file` \*bcfFile)
- `bcf_file_difat * bcf_difat_create` (`FILE` \*file, `unsigned int` fatSectors, `const unsigned int` `sectorSize`)
- `unsigned int entriesInDifatSector` (`bcf_file_difat` \*fat)
- `unsigned int readFullSector` (`FILE` \*file, `bcf_file_difat` \*bcfFile, `unsigned int` \*difatEntriesToRead)
- void `parseDirectoryEntryName` (`FILE` \*file, `bcf_directory_entry` \*dir)
- `bcf_directory * CompoundFileDirectory` (`const unsigned int` maxNumberOfDirectoryEntries)
- `EmbTime parseTime` (`FILE` \*file)
- `bcf_directory_entry * CompoundFileDirectoryEntry` (`FILE` \*file)
- void `readNextSector` (`FILE` \*file, `bcf_directory` \*dir)
- void `bcf_directory_free` (`bcf_directory` \*\*dir)
- `bcf_file_fat * bcfFileFat_create` (`const unsigned int` `sectorSize`)
- void `loadFatFromSector` (`bcf_file_fat` \*fat, `FILE` \*file)
- `bcf_file_header bcfFileHeader_read` (`FILE` \*file)
- void `embSatinOutline_generateSatinOutline` (`EmbArray` \*lines, `EmbReal` thickness, `EmbSatinOutline` \*result)
- `EmbArray * embSatinOutline_renderStitches` (`EmbSatinOutline` \*result, `EmbReal` density)

- void `write_24bit` (FILE \*file, int x)
- int `embColor_distance` (EmbColor a, EmbColor b)
- void `embColor_read` (FILE \*f, EmbColor \*c, int toRead)
- void `embColor_write` (FILE \*f, EmbColor c, int toWrite)
- int `embThread_findNearestColor` (EmbColor color, EmbColor \*color\_list, int n\_colors)
- int `embThread_findNearestThread` (EmbColor color, EmbThread \*thread\_list, int n\_threads)
- `EmbThread embThread_getRandom` (void)
- void `binaryReadString` (FILE \*file, char \*buffer, int maxLength)
- void `binaryReadUnicodeString` (FILE \*file, char \*buffer, const int stringLength)
- int `stringInArray` (const char \*s, const char \*\*array)
- int `emb_readline` (FILE \*file, char \*line, int maxLength)
- void `get_trim_bounds` (char const \*s, char const \*\*firstWord, char const \*\*trailingSpace)  
*Get the trim bounds object.*
- char \* `copy_trim` (char const \*s)
- char \* `emb_optOut` (EmbReal num, char \*str)  
*Optimizes the number (num) for output to a text file and returns it as a string (str).*
- void `embTime_initNow` (EmbTime \*t)
- `EmbTime embTime_time` (EmbTime \*t)

## Variables

- `EmbThread black_thread` = { { 0, 0, 0 }, "Black", "Black" }
- int `emb_verbose` = 0  
*Verbosity level.*
- int `emb_error` = 0  
*Error code storage for optional control flow blocking.*
- const `EmbReal embConstantPi` = 3.1415926535
- const unsigned int `difatEntriesInHeader` = 109
- const unsigned int `sizeOfFatEntry` = sizeof(unsigned int)
- const unsigned int `sizeOfDifatEntry` = 4
- const unsigned int `sizeOfChainingEntryAtEndOfDifatSector` = 4
- const unsigned int `sizeOfDirectoryEntry` = 128
- char const `WHITE SPACE` [] = "\t\n\r"

### 14.200.1 Detailed Description

As much of the code as possible, to keep the structure simple and in a procedural style.

Embroidermodder 2  
Copyright 2013-2022 The Embroidermodder Team Embroidermodder 2 is Open Source Software. See LICENSE for licensing terms.  
Use Python's PEP7 style guide. <https://peps.python.org/pep-0007/>

---

### 14.200.2 Macro Definition Documentation

#### 14.200.2.1 FLAG\_CIRCLE #define FLAG\_CIRCLE 12

#### 14.200.2.2 FLAG\_CIRCLE\_SHORT #define FLAG\_CIRCLE\_SHORT 13

**14.200.2.3 FLAG\_COMBINE** #define FLAG\_COMBINE 35

**14.200.2.4 FLAG\_CROSS\_STITCH** #define FLAG\_CROSS\_STITCH 36

**14.200.2.5 FLAG\_ELLIPSE** #define FLAG\_ELLIPSE 14

**14.200.2.6 FLAG\_ELLIPSE\_SHORT** #define FLAG\_ELLIPSE\_SHORT 15

**14.200.2.7 FLAG\_FILL** #define FLAG\_FILL 32

**14.200.2.8 FLAG\_FILL\_SHORT** #define FLAG\_FILL\_SHORT 33

**14.200.2.9 FLAG\_FORMATS** #define FLAG\_FORMATS 4

**14.200.2.10 FLAG\_FORMATS\_SHORT** #define FLAG\_FORMATS\_SHORT 5

**14.200.2.11 FLAG\_FULL\_TEST\_SUITE** #define FLAG\_FULL\_TEST\_SUITE 29

**14.200.2.12 FLAG\_HELP** #define FLAG\_HELP 2

**14.200.2.13 FLAG\_HELP\_SHORT** #define FLAG\_HELP\_SHORT 3

**14.200.2.14 FLAG\_HILBERT\_CURVE** #define FLAG\_HILBERT\_CURVE 30

**14.200.2.15 FLAG\_LINE** #define FLAG\_LINE 16

**14.200.2.16 FLAG\_LINE\_SHORT** #define FLAG\_LINE\_SHORT 17

**14.200.2.17 FLAG\_POLYGON** #define FLAG\_POLYGON 18

**14.200.2.18 FLAG\_POLYGON\_SHORT** #define FLAG\_POLYGON\_SHORT 19

**14.200.2.19 FLAG\_POLYLINE** #define FLAG\_POLYLINE 20

**14.200.2.20 FLAG\_POLYLINE\_SHORT** #define FLAG\_POLYLINE\_SHORT 21

- 14.200.2.21 FLAG\_QUIET** #define FLAG\_QUIET 6
- 14.200.2.22 FLAG\_QUIET\_SHORT** #define FLAG\_QUIET\_SHORT 7
- 14.200.2.23 FLAG\_RENDER** #define FLAG\_RENDER 22
- 14.200.2.24 FLAG\_RENDER\_SHORT** #define FLAG\_RENDER\_SHORT 23
- 14.200.2.25 FLAG\_SATIN** #define FLAG\_SATIN 24
- 14.200.2.26 FLAG\_SATIN\_SHORT** #define FLAG\_SATIN\_SHORT 25
- 14.200.2.27 FLAG\_SIERPINSKI\_TRIANGLE** #define FLAG\_SIERPINSKI\_TRIANGLE 31
- 14.200.2.28 FLAG\_SIMULATE** #define FLAG\_SIMULATE 34
- 14.200.2.29 FLAG\_STITCH** #define FLAG\_STITCH 26
- 14.200.2.30 FLAG\_STITCH\_SHORT** #define FLAG\_STITCH\_SHORT 27
- 14.200.2.31 FLAG\_TEST** #define FLAG\_TEST 28
- 14.200.2.32 FLAG\_TO** #define FLAG\_TO 0
- 14.200.2.33 FLAG\_TO\_SHORT** #define FLAG\_TO\_SHORT 1
- 14.200.2.34 FLAG\_VERBOSE** #define FLAG\_VERBOSE 8
- 14.200.2.35 FLAG\_VERBOSE\_SHORT** #define FLAG\_VERBOSE\_SHORT 9
- 14.200.2.36 FLAG\_VERSION** #define FLAG\_VERSION 10
- 14.200.2.37 FLAG\_VERSION\_SHORT** #define FLAG\_VERSION\_SHORT 11
- 14.200.2.38 NUM\_FLAGS** #define NUM\_FLAGS 37

### 14.200.3 Function Documentation

**14.200.3.1 bcf\_difat\_create()** `bcf_file_difat * bcf_difat_create ( FILE * file, unsigned int fatSectors, const unsigned int sectorSize )`

#### Parameters

<i>file</i>	
<i>fatSectors</i>	
<i>sectorSize</i>	

#### Returns

`bcf_file_difat*`

**14.200.3.2 bcf\_directory\_free()** `void bcf_directory_free ( bcf_directory ** dir )`

#### Parameters

<i>dir</i>	
------------	--

**14.200.3.3 bcf\_file\_free()** `void bcf_file_free ( bcf_file * bcfFile )`

#### Parameters

<i>bcfFile</i>	
----------------	--

**14.200.3.4 bcfFile\_read()** `int bcfFile_read ( FILE * file, bcf_file * bcfFile )`

#### Parameters

<i>file</i>	
<i>bcfFile</i>	

#### Returns

`int`

**14.200.3.5 bcfFileFat\_create()** `bcf_file_fat * bcfFileFat_create ( const unsigned int sectorSize )`

**Parameters**

<code>sectorSize</code>	<input type="text"/>
-------------------------	----------------------

**Returns**`bcf_file_fat*`**14.200.3.6 bcfFileHeader\_read()** `bcf_file_header bcfFileHeader_read ( FILE * file )`**Parameters**

<code>file</code>	<input type="text"/>
-------------------	----------------------

**Returns**`bcf_file_header`**14.200.3.7 binaryReadString()** `void binaryReadString ( FILE * file, char * buffer, int maxLength )`**Parameters**

<code>file</code>	<input type="text"/>
<code>buffer</code>	<input type="text"/>
<code>maxLength</code>	<input type="text"/>

**14.200.3.8 binaryReadUnicodeString()** `void binaryReadUnicodeString ( FILE * file, char * buffer, const int stringLength )`**Parameters**

<code>file</code>	<input type="text"/>
<code>buffer</code>	<input type="text"/>
<code>stringLength</code>	<input type="text"/>

**14.200.3.9 check\_header\_present()** `int check_header_present ( FILE * file, int minimum_header_length )`**Parameters**

<code>file</code>	<input type="text"/>
<code>minimum_header_length</code>	<input type="text"/>

**Returns**

int
-----

Checks that there are enough bytes to interpret the header, stops possible segfaults when reading in the header bytes.

Returns 0 if there aren't enough, or the length of the file if there are.

**14.200.3.10 CompoundFileDirectory()** `bcf_directory * CompoundFileDirectory ( const unsigned int maxNumberOfDirectoryEntries )`

**Parameters**

<code>maxNumberOfDirectoryEntries</code>
--

**Returns**

<code>bcf_directory*</code>
-----------------------------

**14.200.3.11 CompoundFileDirectoryEntry()** `bcf_directory_entry * CompoundFileDirectoryEntry ( FILE * file )`

**Parameters**

<code>file</code>
-------------------

**Returns**

<code>bcf_directory_entry*</code>
-----------------------------------

**14.200.3.12 copy\_trim()** `char * copy_trim ( char const * s )`

**Parameters**

<code>s</code>
----------------

**Returns**

<code>char*</code>
--------------------

**Todo** description

**14.200.3.13 emb\_optOut()** `char * emb_optOut ( EmbReal num, char * str )`

Optimizes the number (`num`) for output to a text file and returns it as a string (`str`).

**Parameters**

<code>num</code>
<code>str</code>

**Returns**`char*`

**14.200.3.14 `emb_readline()`** `int emb_readline (`  
`FILE * file,`  
`char * line,`  
`int maxLength )`

**Parameters**

<code>file</code>	
<code>line</code>	
<code>maxLength</code>	

**Returns**`int`

**14.200.3.15 `embArc_print()`** `void embArc_print (`  
`EmbArc arc )`

**Parameters**

<code>arc</code>	
------------------	--

**Todo** move to `arc.c`

**14.200.3.16 `embColor_distance()`** `int embColor_distance (`  
`EmbColor a,`  
`EmbColor b )`

**Parameters**

<code>a</code>	
<code>b</code>	

**Returns**`int`

**14.200.3.17 `embColor_read()`** `void embColor_read (`  
`FILE * f,`  
`EmbColor * c,`  
`int toRead )`

**Parameters**

<code>f</code>	
<code>c</code>	
<code>toRead</code>	

```
14.200.3.18 embColor_write() void embColor_write (
    FILE * f,
    EmbColor c,
    int toWrite )
```

**Parameters**

<i>f</i>	
<i>c</i>	
<i>toWrite</i>	

```
14.200.3.19 embSatinOutline_generateSatinOutline() void embSatinOutline_generateSatinOutline (
    EmbArray * lines,
    EmbReal thickness,
    EmbSatinOutline * result )
```

**Parameters**

<i>lines</i>	
<i>thickness</i>	
<i>result</i>	

```
14.200.3.20 embSatinOutline_renderStitches() EmbArray * embSatinOutline_renderStitches (
    EmbSatinOutline * result,
    EmbReal density )
```

**Parameters**

<i>result</i>	
<i>density</i>	

**Returns**

EmbArray\*

```
14.200.3.21 embThread_findNearestColor() int embThread_findNearestColor (
    EmbColor color,
    EmbColor * color_list,
    int n_colors )
```

Returns the closest color to the required color based on a list of available threads. The algorithm is a simple least squares search against the list. If the (square of) Euclidean 3-dimensional distance between the points in (red, green, blue) space is smaller then the index is saved and the remaining index is returned to the caller.

**Parameters**

<i>color</i>	The EmbColor color to match.
<i>colors</i>	The EmbThreadList pointer to start the search at.
<i>mode</i>	Is the argument an array of threads (0) or colors (1)?

**Returns**

closestIndex The entry in the ThreadList that matches.

**14.200.3.22 embThread\_findNearestThread()** `int embThread_findNearestThread (`  
`EmbColor color,`  
`EmbThread * thread_list,`  
`int n_threads )`

**Parameters**

<code>color</code>
<code>thread_list</code>
<code>n_threads</code>

**Returns**

`int`

**14.200.3.23 embThread\_getRandom()** `EmbThread embThread_getRandom (`  
`void )`

Returns a random thread color, useful in filling in cases where the actual color of the thread doesn't matter but one needs to be declared to test or render a pattern.

**Returns**

`c` The resulting color.

**14.200.3.24 embTime\_initNow()** `void embTime_initNow (`  
`EmbTime * t )`

**Parameters**

<code>t</code>	<input type="text"/>
----------------	----------------------

**14.200.3.25 embTime\_time()** `EmbTime embTime_time (`  
`EmbTime * t )`

**Parameters**

<code>t</code>	<input type="text"/>
----------------	----------------------

**Returns**

`EmbTime`

**14.200.3.26 embVector\_print()** `void embVector_print (`  
`EmbVector v,`  
`char * label )`

**Parameters**

<i>v</i>	
<i>label</i>	

move to [vector.c](#)

**14.200.3.27 entriesInDifatSector()** `unsigned int entriesInDifatSector ( bcf_file_difat * fat )`

**Parameters**

<i>fat</i>	
------------	--

**Returns**

`unsigned int`

**14.200.3.28 get\_trim\_bounds()** `void get_trim_bounds ( char const * s, char const ** firstWord, char const ** trailingSpace )`

Get the trim bounds object.

**Parameters**

<i>s</i>	
<i>firstWord</i>	
<i>trailingSpace</i>	

**14.200.3.29 GetFile()** `FILE * GetFile ( bcf_file * bcfFile, FILE * file, char * fileToFind )`

Get the File object.

**Parameters**

<i>bcfFile</i>	
<i>file</i>	
<i>fileToFind</i>	

**Returns**

`FILE*`

**14.200.3.30 haveExtraDIFATectors()** `int haveExtraDIFATectors ( bcf_file * file )`

**Parameters**

<i>file</i>	
-------------	--

**Returns**

int

**14.200.3.31 loadFatFromSector()** void loadFatFromSector (   
     *bcf\_file\_fat* \* *fat*,  
     FILE \* *file* )**Parameters**

<i>fat</i>	
<i>file</i>	

**14.200.3.32 parseDIFATSectors()** void parseDIFATSectors (   
     FILE \* *file*,  
     *bcf\_file* \* *bcfFile* )**Parameters**

<i>file</i>	
<i>bcfFile</i>	

**14.200.3.33 parseDirectoryEntryName()** void parseDirectoryEntryName (   
     FILE \* *file*,  
     *bcf\_directory\_entry* \* *dir* )**Parameters**

<i>file</i>	
<i>dir</i>	

**14.200.3.34 parseTime()** *EmbTime* parseTime (   
     FILE \* *file* )**Parameters**

<i>file</i>	
-------------	--

**Returns***EmbTime***14.200.3.35 readFullSector()** unsigned int readFullSector (

```
FILE * file,
bcf_file_difat * bcfFile,
unsigned int * difatEntriesToRead )
```

**Parameters**

<i>file</i>	
<i>bcfFile</i>	
<i>difatEntriesToRead</i>	

**Returns**

```
unsigned int
```

**14.200.3.36 readNextSector()** void readNextSector (

```
FILE * file,
bcf_directory * dir )
```

**Parameters**

<i>file</i>	
<i>dir</i>	

**14.200.3.37 sectorSize()** unsigned int sectorSize (

```
bcf_file * bcfFile )
```

**Parameters**

<i>bcfFile</i>	
----------------	--

**Returns**

```
unsigned int
```

**14.200.3.38 seekToSector()** int seekToSector (

```
bcf_file * bcfFile,
FILE * file,
const unsigned int sector )
```

**Parameters**

<i>bcfFile</i>	
<i>file</i>	
<i>sector</i>	

**Returns**

```
int
```

```
14.200.3.39 stringInArray() int stringInArray (
    const char * s,
    const char ** array )
```

Tests for the presence of a string *s* in the supplied *array*.  
The end of the array is marked by an empty string.

#### Returns

0 if not present 1 if present.

```
14.200.3.40 write_24bit() void write_24bit (
    FILE * file,
    int x )
```

#### Parameters

<i>file</i>	
<i>x</i>	

### 14.200.4 Variable Documentation

```
14.200.4.1 black_thread EmbThread black_thread = { { 0, 0, 0 }, "Black", "Black" }
```

```
14.200.4.2 difatEntriesInHeader const unsigned int difatEntriesInHeader = 109
```

```
14.200.4.3 emb_error int emb_error = 0
Error code storage for optional control flow blocking.
```

```
14.200.4.4 emb_verbose int emb_verbose = 0
Verbosity level.
```

```
14.200.4.5 embConstantPi const EmbReal embConstantPi = 3.1415926535
```

```
14.200.4.6 sizeOfChainingEntryAtEndOfDifatSector const unsigned int sizeOfChainingEntryAtEnd←
OfDifatSector = 4
```

```
14.200.4.7 sizeOfDifatEntry const unsigned int sizeOfDifatEntry = 4
```

```
14.200.4.8 sizeOfDirectoryEntry const unsigned int sizeOfDirectoryEntry = 128
```

```
14.200.4.9 sizeOfFatEntry const unsigned int sizeOfFatEntry = sizeof(unsigned int)
```

```
14.200.4.10 WHITESPACE char const WHITESPACE[ ] = " \t\n\r"
```

## 14.201 extern/libembroidery/src/pattern.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "embroidery_internal.h"
```

### Functions

- `EmbPattern * embPattern_create (void)`  
*Returns a pointer to an EmbPattern. It is created on the heap. The caller is responsible for freeing the allocated memory with `embPattern_free()`.*
- `void embPattern_hideStitchesOverLength (EmbPattern *p, int length)`
- `int embPattern_addThread (EmbPattern *pattern, EmbThread thread)`
- `void embPattern_fixColorCount (EmbPattern *p)`
- `void embPattern_copystitch_listToPolylines (EmbPattern *p)`  
*Copies all of the Embstitch\_list data to EmbPolylineObjectList data for pattern (p).*
- `void embPattern_copyPolylinesTostitch_list (EmbPattern *p)`
- `void embPattern_movestitch_listToPolylines (EmbPattern *p)`
- `void embPattern_movePolylinesTostitch_list (EmbPattern *p)`
- `void embPattern_addStitchAbs (EmbPattern *p, EmbReal x, EmbReal y, int flags, int isAutoColorIndex)`
- `void embPattern_addStitchRel (EmbPattern *p, EmbReal dx, EmbReal dy, int flags, int isAutoColorIndex)`
- `void embPattern_changeColor (EmbPattern *p, int index)`
- `void embPattern_scale (EmbPattern *p, EmbReal scale)`
- `EmbRect embPattern_calcBoundingBox (EmbPattern *p)`
- `void embPattern_flipHorizontal (EmbPattern *p)`
- `void embPattern_flipVertical (EmbPattern *p)`
- `void embPattern_flip (EmbPattern *p, int horz, int vert)`
- `void embPattern_combineJumpStitches (EmbPattern *p)`
- `void embPattern_correctForMaxStitchLength (EmbPattern *p, EmbReal maxStitchLength, EmbReal maxJumpLength)`
- `void embPattern_center (EmbPattern *p)`
- `void embPattern_loadExternalColorFile (EmbPattern *p, const char *fileName)`
- `void embPattern_free (EmbPattern *p)`
- `void embPattern_addCircleAbs (EmbPattern *p, EmbCircle circle)`
- `void embPattern_addEllipseAbs (EmbPattern *p, EmbEllipse ellipse)`
- `void embPattern_addLineAbs (EmbPattern *p, EmbLine line)`
- `void embPattern_addPathAbs (EmbPattern *p, EmbPath obj)`
- `void embPattern_addPointAbs (EmbPattern *p, EmbPoint obj)`
- `void embPattern_addPolygonAbs (EmbPattern *p, EmbPolygon obj)`
- `void embPattern_addPolylineObjectAbs (EmbPattern *p, EmbPolyline obj)`
- `void embPattern_addRectAbs (EmbPattern *p, EmbRect rect)`
- `void embPattern_end (EmbPattern *p)`
- `int embPattern_color_count (EmbPattern *pattern, EmbColor startColor)`
- `void embPattern_designDetails (EmbPattern *pattern)`
- `int convert (const char *inf, const char *outf)`
- `float embPattern_totalStitchLength (EmbPattern *pattern)`
- `float embPattern_minimumStitchLength (EmbPattern *pattern)`
- `float embPattern_maximumStitchLength (EmbPattern *pattern)`
- `void embPattern_lengthHistogram (EmbPattern *pattern, int *bin, int NUMBINS)`
- `int embPattern_realStitches (EmbPattern *pattern)`
- `int embPattern_jumpStitches (EmbPattern *pattern)`
- `int embPattern_trimStitches (EmbPattern *pattern)`

## 14.201.1 Function Documentation

**14.201.1.1 convert()** int convert (

```
const char * inf,
const char * outf )
```

**14.201.1.2 embPattern\_addCircleAbs()** void embPattern\_addCircleAbs (

```
EmbPattern * p,
EmbCircle circle )
```

Adds a circle object to pattern (*p*) with its center at the absolute position (*cx,cy*) with a radius of (*r*). Positive y is up. Units are in millimeters.

**14.201.1.3 embPattern\_addEllipseAbs()** void embPattern\_addEllipseAbs (

```
EmbPattern * p,
EmbEllipse ellipse )
```

Adds an ellipse object to pattern (*p*) with its center at the absolute position (*cx,cy*) with radii of (*rx,ry*). Positive y is up. Units are in millimeters.

**14.201.1.4 embPattern\_addLineAbs()** void embPattern\_addLineAbs (

```
EmbPattern * p,
EmbLine line )
```

Adds a line object to pattern (*p*) starting at the absolute position (*x1,y1*) and ending at the absolute position (*x2,y2*). Positive y is up. Units are in millimeters.

**14.201.1.5 embPattern\_addPathAbs()** void embPattern\_addPathAbs (

```
EmbPattern * p,
EmbPath obj )
```

**14.201.1.6 embPattern\_addPointAbs()** void embPattern\_addPointAbs (

```
EmbPattern * p,
EmbPoint obj )
```

Adds a point object to pattern (*p*) at the absolute position (*x,y*). Positive y is up. Units are in millimeters.

**14.201.1.7 embPattern\_addPolygonAbs()** void embPattern\_addPolygonAbs (

```
EmbPattern * p,
EmbPolygon obj )
```

**14.201.1.8 embPattern\_addPolylineObjectAbs()** void embPattern\_addPolylineObjectAbs (

```
EmbPattern * p,
EmbPolyline obj )
```

**14.201.1.9 embPattern\_addRectAbs()** void embPattern\_addRectAbs (

```
EmbPattern * p,
EmbRect rect )
```

Adds a rectangle object to pattern (*p*) at the absolute position (*x,y*) with a width of (*w*) and a height of (*h*). Positive y is up. Units are in millimeters.

```
14.201.1.10 embPattern_addStitchAbs() void embPattern_addStitchAbs (
    EmbPattern * p,
    EmbReal x,
    EmbReal y,
    int flags,
    int isAutoColorIndex )
```

Adds a stitch to the pattern (*p*) at the absolute position (*x,y*). Positive y is up. Units are in millimeters.

```
14.201.1.11 embPattern_addStitchRel() void embPattern_addStitchRel (
    EmbPattern * p,
    EmbReal dx,
    EmbReal dy,
    int flags,
    int isAutoColorIndex )
```

Adds a stitch to the pattern (*p*) at the relative position (*dx,dy*) to the previous stitch. Positive y is up. Units are in millimeters.

```
14.201.1.12 embPattern_addThread() int embPattern_addThread (
    EmbPattern * pattern,
    EmbThread thread )
```

#### Parameters

<i>pattern</i>	
<i>thread</i>	

#### Returns

int

```
14.201.1.13 embPattern_calcBoundingBox() EmbRect embPattern_calcBoundingBox (
    EmbPattern * p )
```

Returns an EmbRect that encapsulates all stitches and objects in the pattern (*p*).

```
14.201.1.14 embPattern_center() void embPattern_center (
    EmbPattern * p )
```

```
14.201.1.15 embPattern_changeColor() void embPattern_changeColor (
    EmbPattern * p,
    int index )
```

#### Parameters

<i>p</i>	
<i>index</i>	

```
14.201.1.16 embPattern_color_count() int embPattern_color_count (
    EmbPattern * pattern,
    EmbColor startColor )
```

**14.201.1.17 embPattern\_combineJumpStitches()** void embPattern\_combineJumpStitches ( EmbPattern \* p )

**14.201.1.18 embPattern\_copyPolylineObjectListToStitchList()** void embPattern\_copyPolylineObjectListToStitchList ( EmbPattern \* p )

Copies all of the EmbPolylineObjectList data to Embstitch\_list data for pattern (p).

**14.201.1.19 embPattern\_copystitchListToPolylines()** void embPattern\_copystitchListToPolylines ( EmbPattern \* p )

Copies all of the Embstitch\_list data to EmbPolylineObjectList data for pattern (p).

#### Parameters

p	
---	--

**14.201.1.20 embPattern\_correctForMaxStitchLength()** void embPattern\_correctForMaxStitchLength ( EmbPattern \* p, EmbReal maxStitchLength, EmbReal maxJumpLength )

**14.201.1.21 embPattern\_create()** EmbPattern \* embPattern\_create ( void )

Returns a pointer to an EmbPattern. It is created on the heap. The caller is responsible for freeing the allocated memory with `embPattern_free()`.

#### Returns

EmbPattern\*

**14.201.1.22 embPattern\_designDetails()** void embPattern\_designDetails ( EmbPattern \* pattern )

**14.201.1.23 embPattern\_end()** void embPattern\_end ( EmbPattern \* p )

**14.201.1.24 embPattern\_fixColorCount()** void embPattern\_fixColorCount ( EmbPattern \* p )

#### Parameters

p	
---	--

**14.201.1.25 embPattern\_flip()** void embPattern\_flip ( EmbPattern \* p, int horz, int vert )

Flips the entire pattern (p) horizontally about the x-axis if (horz) is true. Flips the entire pattern (p) vertically about

the y-axis if (*vert*) is true.

**14.201.1.26 embPattern\_flipHorizontal()** void embPattern\_flipHorizontal ( EmbPattern \* *p* )

Flips the entire pattern (*p*) horizontally about the y-axis.

**14.201.1.27 embPattern\_flipVertical()** void embPattern\_flipVertical ( EmbPattern \* *p* )

Flips the entire pattern (*p*) vertically about the x-axis.

**14.201.1.28 embPattern\_free()** void embPattern\_free ( EmbPattern \* *p* )

Frees all memory allocated in the pattern (*p*).

**14.201.1.29 embPattern\_hideStitchesOverLength()** void embPattern\_hideStitchesOverLength ( EmbPattern \* *p*, int *length* )

#### Parameters

<i>p</i>	
<i>length</i>	

**14.201.1.30 embPattern\_jumpStitches()** int embPattern\_jumpStitches ( EmbPattern \* *pattern* )

**14.201.1.31 embPattern\_lengthHistogram()** void embPattern\_lengthHistogram ( EmbPattern \* *pattern*, int \* *bin*, int *NUMBINS* )

**14.201.1.32 embPattern\_loadExternalColorFile()** void embPattern\_loadExternalColorFile ( EmbPattern \* *p*, const char \* *fileName* )

**14.201.1.33 embPattern\_maximumStitchLength()** float embPattern\_maximumStitchLength ( EmbPattern \* *pattern* )

**14.201.1.34 embPattern\_minimumStitchLength()** float embPattern\_minimumStitchLength ( EmbPattern \* *pattern* )

**14.201.1.35 embPattern\_movePolylinesToStitch\_list()** void embPattern\_movePolylinesToStitch\_list ( EmbPattern \* *p* )

Moves all of the EmbPolylineObjectList data to Embstitch\_list data for pattern (*p*).

**14.201.1.36 embPattern\_movestitch\_listToPolylines()** void embPattern\_movestitch\_listToPolylines ( EmbPattern \* *p* )

Moves all of the Embstitch\_list data to EmbPolylineObjectList data for pattern (*p*).

**14.201.1.37 embPattern\_realStitches()** int embPattern\_realStitches ( EmbPattern \* pattern )

**14.201.1.38 embPattern\_scale()** void embPattern\_scale ( EmbPattern \* p, EmbReal scale )

**14.201.1.39 embPattern\_totalStitchLength()** float embPattern\_totalStitchLength ( EmbPattern \* pattern )

#### Parameters

*pattern*

#### Returns

float

**14.201.1.40 embPattern\_trimStitches()** int embPattern\_trimStitches ( EmbPattern \* pattern )

## 14.202 extern/libembroidery/src/thread-color.c File Reference

```
#include <stdio.h>
#include <string.h>
#include "embroidery_internal.h"
```

#### Functions

- int **threadColor** (const char \*name, int brand)
- int **threadColorNum** (unsigned int color, int brand)
- const char \* **threadColorName** (unsigned int color, int brand)

#### Variables

- const unsigned char **\_dxfColorTable** [ ][3] = {{ 0, 0, 0 }}
- const **EmbThread** **husThreads** [] = {{{ 0, 0, 0 }, "END", "END"}}
- const **EmbThread** **jerThreads** [] = {{{ 0, 0, 0 }, "END", "END"}}
- const **EmbThread** **shvThreads** [] = {{{ 0, 0, 0 }, "END", "END"}}
- const **EmbThread** **pcmThreads** [] = {{{ 0, 0, 0 }, "END", "END"}}
- const **EmbThread** **pecThreads** [] = {{{ 0, 0, 0 }, "END", "END"}}
- const int **shvThreadCount** = 42
- const int **pecThreadCount** = 65
- **thread\_color** \* **brand\_codes** []
- const char \* **brand\_codes\_files** []

### 14.202.1 Function Documentation

```
14.202.1.1 threadColor() int threadColor (
    const char * name,
    int brand )
```

```
14.202.1.2 threadColorName() const char * threadColorName (
    unsigned int color,
    int brand )
```

```
14.202.1.3 threadColorNum() int threadColorNum (
    unsigned int color,
    int brand )
```

## 14.202.2 Variable Documentation

**14.202.2.1 \_dxfColorTable** const unsigned char \_dxfColorTable[][3] = {{ 0, 0, 0 }}

**14.202.2.2 brand\_codes** `thread_color*` brand\_codes[ ]

**14.202.2.3 brand\_codes\_files** const char\* brand\_codes\_files[ ]

**Initial value:**

```
= {
    "arc_polyester_colors.csv",
    "arc_rayon_colors.csv",
    "coats_and_clark_rayon_colors.csv",
    "exquisite_polyester_colors.csv",
    "fufu_Polyester_colors.csv",
    "fufu_Rayon_colors.csv",
    "Hemingworth_Polyester_colors.csv",
    "Isacord_Polyester_colors.csv",
    "Isafil_Rayon_colors.csv",
    "Marathon_Polyester_colors.csv",
    "Marathon_Rayon_colors.csv",
    "Madeira_Polyester_colors.csv",
    "Madeira_Rayon_colors.csv",
    "Metro_Polyester_colors.csv",
    "Pantone_colors.csv",
    "RobisonAnton_Polyester_colors.csv",
    "RobisonAnton_Rayon_colors.csv",
    "Sigma_Polyester_colors.csv",
    "Sulky_Rayon_colors.csv",
    "ThreadArt_Rayon_colors.csv",
    "ThreadArt_Polyester_colors.csv",
    "ThreadDelight_Polyester_colors.csv",
    "Z102_Isacord_Polyester_colors.csv",
    "svg_color_colors.csv"
}
```

**14.202.2.4 husThreads** const `EmbThread` husThreads[ ] = {{{ 0, 0, 0 }, "END", "END" }}}

**14.202.2.5 jefThreads** const `EmbThread` jefThreads[ ] = {{{ 0, 0, 0 }, "END", "END" }}}

**14.202.2.6 pcmThreads** const `EmbThread` pcmThreads[ ] = {{{ 0, 0, 0 }, "END", "END" }}}

**14.202.2.7 pecThreadCount** const int pecThreadCount = 65

**14.202.2.8 pecThreads** const `EmbThread` pecThreads[ ] = {{{ 0, 0, 0 }, "END", "END"}}

**14.202.2.9 shvThreadCount** const int shvThreadCount = 42

**14.202.2.10 shvThreads** const `EmbThread` shvThreads[ ] = {{{ 0, 0, 0 }, "END", "END"}}

## 14.203 privacy\_policy.md File Reference

## References



# Index

\_appName\_  
    main.cpp, 578  
\_appVer\_  
    main.cpp, 578  
\_bcf\_directory, 47  
    dirEntries, 47  
    maxNumberOfDirectoryEntries, 47  
\_bcf\_directory\_entry, 47  
    childId, 48  
    CLSID, 48  
    colorFlag, 48  
    creationTime, 48  
    directoryEntryName, 48  
    directoryEntryNameLength, 48  
    leftSiblingId, 48  
    modifiedTime, 48  
    next, 48  
    objectType, 48  
    rightSiblingId, 48  
    startingSectorLocation, 49  
    stateBits, 49  
    streamSize, 49  
    streamSizeHigh, 49  
\_bcf\_file, 49  
    difat, 49  
    directory, 49  
    fat, 49  
    header, 50  
\_bcf\_file\_difat, 50  
    fatSectorCount, 50  
    fatSectorEntries, 50  
    sectorSize, 50  
\_bcf\_file\_fat, 50  
    fatEntries, 51  
    fatEntryCount, 51  
    numberOfEntriesInFatSector, 51  
\_bcf\_file\_header, 51  
    byteOrder, 52  
    CLSID, 52  
    firstDifatSectorLocation, 52  
    firstDirectorySectorLocation, 52  
    firstMiniFATSectorLocation, 52  
    majorVersion, 52  
    miniSectorShift, 52  
    miniStreamCutoffSize, 52  
    minorVersion, 52  
    numberOfDifatSectors, 52  
    numberOfDirectorySectors, 53  
    numberOfFATSectors, 53  
    numberOfMiniFatSectors, 53  
    reserved1, 53  
    reserved2, 53  
    sectorShift, 53  
    signature, 53  
    transactionSignatureNumber, 53  
\_dxintColorTable  
    embroidery.h, 714  
    thread-color.c, 899  
\_mainWin  
    Application, 57  
    native-scripting.cpp, 600  
\_subMask  
    format\_csd.c, 814  
\_vp3Hoop, 53  
    bottom, 54  
    bottom2, 54  
    byte1, 54  
    byte2, 54  
    byte3, 54  
    height, 54  
    left, 55  
    left2, 55  
    numberOfBytesRemaining, 55  
    numberOfColors, 55  
    right, 55  
    right2, 55  
    threadLength, 55  
    top, 55  
    top2, 55  
    unknown2, 55  
    unknown3, 55  
    unknown4, 56  
    width, 56  
    xOffset, 56  
    yOffset, 56  
\_xorMask  
    format\_csd.c, 814  
~ArcObject  
    ArcObject, 60  
~BaseObject  
    BaseObject, 67  
~CircleObject  
    CircleObject, 75  
~CmdPrompt  
    CmdPrompt, 80  
~CmdPromptHandle  
    CmdPromptHandle, 88  
~CmdPromptHistory  
    CmdPromptHistory, 90  
~CmdPromptInput  
    CmdPromptInput, 93  
~CmdPromptSplitter  
    CmdPromptSplitter, 99  
~DimLeaderObject  
    DimLeaderObject, 105  
~EllipseObject  
    EllipseObject, 112  
~EmbDetailsDialog  
    EmbDetailsDialog, 122  
~ImageObject

ImageObject, 146  
 ~ImageWidget  
     ImageWidget, 148  
 ~LayerManager  
     LayerManager, 151  
 ~LineObject  
     LineObject, 154  
 ~MainWindow  
     MainWindow, 171  
 ~MdiArea  
     MdiArea, 235  
 ~MdiWindow  
     MdiWindow, 239  
 ~PathObject  
     PathObject, 247  
 ~PointObject  
     PointObject, 252  
 ~PolygonObject  
     PolygonObject, 257  
 ~PolylineObject  
     PolylineObject, 262  
 ~PreviewDialog  
     PreviewDialog, 265  
 ~PropertyEditor  
     PropertyEditor, 272  
 ~RectObject  
     RectObject, 305  
 ~SaveObject  
     SaveObject, 309  
 ~Settings\_Dialog  
     Settings\_Dialog, 335  
 ~TextSingleObject  
     TextSingleObject, 371  
 ~UndoEditor  
     UndoEditor, 396  
 ~View  
     View, 402  
  
 about  
     MainWindow, 171  
 about\_dialog  
     imgui\_main.c, 495  
 accept\_display\_bg\_color  
     Settings\_Dialog, 348  
 accept\_display\_crosshair\_color  
     Settings\_Dialog, 348  
 accept\_display\_selectbox\_left\_color  
     Settings\_Dialog, 349  
 accept\_display\_selectbox\_left\_fill  
     Settings\_Dialog, 349  
 accept\_display\_selectbox\_right\_color  
     Settings\_Dialog, 349  
 accept\_display\_selectbox\_right\_fill  
     Settings\_Dialog, 349  
 accept\_general\_mdi\_bg\_color  
     Settings\_Dialog, 349  
 accept\_general\_mdi\_bg\_logo  
     Settings\_Dialog, 349  
 accept\_general\_mdi\_bg\_texture

Settings\_Dialog, 349  
 accept\_grid\_color  
     Settings\_Dialog, 349  
 accept\_prompt\_bg\_color  
     Settings\_Dialog, 349  
 accept\_prompt\_text\_color  
     Settings\_Dialog, 349  
 accept\_ruler\_color  
     Settings\_Dialog, 349  
 acceptChanges  
     Settings\_Dialog, 336  
 ACTION\_about  
     mainwindow-actions.h, 580  
 ACTION\_changelog  
     mainwindow-actions.h, 580  
 ACTION\_colorselector  
     mainwindow-actions.h, 580  
 ACTION\_copy  
     mainwindow-actions.h, 579  
 ACTION\_cut  
     mainwindow-actions.h, 579  
 ACTION\_day  
     mainwindow-actions.h, 580  
 ACTION\_designdetails  
     mainwindow-actions.h, 579  
 ACTION\_donothing  
     mainwindow-actions.h, 579  
 ACTION\_exit  
     mainwindow-actions.h, 579  
 ACTION\_freezealllayers  
     mainwindow-actions.h, 580  
 ACTION\_help  
     mainwindow-actions.h, 579  
 ACTION\_hidealllayers  
     mainwindow-actions.h, 580  
 ACTION\_icon128  
     mainwindow-actions.h, 580  
 ACTION\_icon16  
     mainwindow-actions.h, 580  
 ACTION\_icon24  
     mainwindow-actions.h, 580  
 ACTION\_icon32  
     mainwindow-actions.h, 580  
 ACTION\_icon48  
     mainwindow-actions.h, 580  
 ACTION\_icon64  
     mainwindow-actions.h, 580  
 ACTION\_layerprevious  
     mainwindow-actions.h, 580  
 ACTION\_layers  
     mainwindow-actions.h, 580  
 ACTION\_layerselector  
     mainwindow-actions.h, 580  
 ACTION\_linetypeselector  
     mainwindow-actions.h, 580  
 ACTION\_lineweightselector  
     mainwindow-actions.h, 580  
 ACTION\_lockalllayers

mainwindow-actions.h, 580  
ACTION\_makelayercurrent  
mainwindow-actions.h, 580  
ACTION\_new  
mainwindow-actions.h, 579  
ACTION\_night  
mainwindow-actions.h, 580  
ACTION\_null  
mainwindow-actions.h, 581  
ACTION\_open  
mainwindow-actions.h, 579  
ACTION\_pandown  
mainwindow-actions.h, 580  
ACTION\_panleft  
mainwindow-actions.h, 580  
ACTION\_panpoint  
mainwindow-actions.h, 580  
ACTION\_panrealtime  
mainwindow-actions.h, 580  
ACTION\_panright  
mainwindow-actions.h, 580  
ACTION\_panup  
mainwindow-actions.h, 580  
ACTION\_paste  
mainwindow-actions.h, 579  
ACTION\_print  
mainwindow-actions.h, 579  
ACTION\_redo  
mainwindow-actions.h, 579  
ACTION\_save  
mainwindow-actions.h, 579  
ACTION\_saveas  
mainwindow-actions.h, 579  
ACTION\_settingsdialog  
mainwindow-actions.h, 580  
ACTION\_showalllayers  
mainwindow-actions.h, 580  
ACTION\_textbold  
mainwindow-actions.h, 580  
ACTION\_textitalic  
mainwindow-actions.h, 580  
ACTION\_textoverline  
mainwindow-actions.h, 580  
ACTION\_textstrikeout  
mainwindow-actions.h, 580  
ACTION\_textunderline  
mainwindow-actions.h, 580  
ACTION\_thawalllayers  
mainwindow-actions.h, 580  
ACTION\_tipoftheday  
mainwindow-actions.h, 580  
ACTION\_undo  
mainwindow-actions.h, 579  
ACTION\_unlockalllayers  
mainwindow-actions.h, 580  
ACTION\_whatsthis  
mainwindow-actions.h, 580  
ACTION\_windowcascade

mainwindow-actions.h, 579  
ACTION\_windowclose  
mainwindow-actions.h, 579  
ACTION\_windowcloseall  
mainwindow-actions.h, 579  
ACTION\_windownext  
mainwindow-actions.h, 579  
ACTION\_windowprevious  
mainwindow-actions.h, 579  
ACTION\_windowtile  
mainwindow-actions.h, 579  
ACTION\_zoomall  
mainwindow-actions.h, 580  
ACTION\_zoomcenter  
mainwindow-actions.h, 580  
ACTION\_zoomdynamic  
mainwindow-actions.h, 580  
ACTION\_zoomextents  
mainwindow-actions.h, 580  
ACTION\_zoomin  
mainwindow-actions.h, 580  
ACTION\_zoomout  
mainwindow-actions.h, 580  
ACTION\_zoomprevious  
mainwindow-actions.h, 580  
ACTION\_zoomrealtime  
mainwindow-actions.h, 580  
ACTION\_zoomscale  
mainwindow-actions.h, 580  
ACTION\_zoomselected  
mainwindow-actions.h, 580  
ACTION\_zoomwindow  
mainwindow-actions.h, 580  
actionHash  
MainWindow, 220  
active\_view  
imgui\_main.c, 574  
activeCommand  
CmdPrompt, 80  
MainWindow, 171  
activeMdiWindow  
MainWindow, 171  
activeScene  
MainWindow, 171  
activeUndoStack  
MainWindow, 171  
activeView  
MainWindow, 171  
actuator  
imgui\_main.c, 495  
add\_ellipse  
imgui\_main.c, 496  
add\_infinite\_line  
imgui\_main.c, 496  
add\_line  
imgui\_main.c, 496  
add\_object  
imgui\_main.c, 497

add\_point  
    imgui\_main.c, 497  
add\_point\_action  
    imgui\_main.c, 497  
add\_ray  
    imgui\_main.c, 497  
add\_regular\_polygon  
    imgui\_main.c, 497  
add\_rubber\_action  
    imgui\_main.c, 497  
add\_slot\_action  
    imgui\_main.c, 499  
add\_text\_multi  
    imgui\_main.c, 499  
add\_text\_single  
    imgui\_main.c, 500  
add\_to\_rubber\_room  
    imgui\_main.c, 500  
add\_to\_undo\_history  
    imgui\_main.c, 500  
addArc  
    SaveObject, 309  
addBlock  
    SaveObject, 309  
addCircle  
    SaveObject, 309  
addColorsToComboBox  
    Settings\_Dialog, 336  
addCommand  
    CmdPrompt, 81  
    CmdPromptInput, 93  
addDimAligned  
    SaveObject, 309  
addDimAngular  
    SaveObject, 309  
addDimArcLength  
    SaveObject, 309  
addDimDiameter  
    SaveObject, 309  
addDimLeader  
    SaveObject, 310  
addDimLinear  
    SaveObject, 310  
addDimOrdinate  
    SaveObject, 310  
addDimRadius  
    SaveObject, 310  
addEllipse  
    SaveObject, 310  
addEllipseArc  
    SaveObject, 310  
addGrid  
    SaveObject, 310  
addHatch  
    SaveObject, 310  
addImage  
    SaveObject, 311  
addInfiniteLine  
    SaveObject, 311  
addLayer  
    LayerManager, 151  
addLine  
    SaveObject, 311  
addObject  
    View, 402  
addPath  
    SaveObject, 311  
addPoint  
    SaveObject, 311  
addPolygon  
    SaveObject, 311  
addPolyline  
    SaveObject, 311  
addRay  
    SaveObject, 311  
addRectangle  
    SaveObject, 312  
addSlot  
    SaveObject, 312  
addSpline  
    SaveObject, 312  
addStack  
    UndoEditor, 396  
addTextMulti  
    SaveObject, 312  
addTextSingle  
    SaveObject, 312  
addToRubberRoom  
    View, 402  
after  
    UndoableGripEditCommand, 386  
alert  
    CmdPrompt, 81  
    imgui\_main.c, 500  
aliasHash  
    CmdPromptInput, 98  
alignScenePointWithViewPoint  
    imgui\_main.c, 500  
    View, 402  
allGripPoints  
    ArcObject, 61  
    BaseObject, 67  
    CircleObject, 75  
    DimLeaderObject, 106  
    EllipseObject, 112  
    ImageObject, 146  
    LineObject, 154  
    PathObject, 247  
    PointObject, 252  
    PolygonObject, 257  
    PolylineObject, 262  
    RectObject, 305  
    TextSingleObject, 372  
allow\_rubber  
    imgui\_main.c, 500  
allow\_zoom\_in

imgui\_main.c, 500  
allow\_zoom\_out  
    imgui\_main.c, 501  
allowRubber  
    View, 402  
allowZoomIn  
    View, 402  
allowZoomOut  
    View, 402  
alpha  
    SelectBox, 315  
alphabet  
    LSYSTEM, 158  
angle  
    UndoableRotateCommand, 393  
appendHistory  
    CmdPrompt, 81  
    CmdPromptHistory, 90  
    CmdPromptInput, 93  
appendTheHistory  
    CmdPrompt, 81  
Application, 56  
    \_mainWin, 57  
    Application, 56  
    event, 57  
    setMainWin, 57  
applyFormatting  
    CmdPromptHistory, 90  
    CmdPromptInput, 93  
arc  
    EmbGeometry\_, 126  
arc.c  
    Arc\_clockwise, 861  
    Base\_objectRubberPoint, 861  
    Base\_objectRubberText, 861  
    Base\_setLineType, 862  
    Base\_setLineWidth, 862  
    clockwise, 862  
    embArc\_arcLength, 862  
    embArc\_area, 862  
    embArc\_chord, 862  
    embArc\_clockwise, 862  
    embArc\_endAngle, 862  
    embArc\_gripEdit, 862  
    embArc\_includedAngle, 863  
    embArc\_init, 863  
    embArc\_mouseSnapPoint, 863  
    embArc\_paint, 863  
    embArc\_setCenter, 863  
    embArc\_setEndAngle, 863  
    embArc\_setRadius, 863  
    embArc\_setStartAngle, 863  
    embArc\_startAngle, 864  
    embArc\_updatePath, 864  
    embArc\_updateRubber, 864  
    embBaseSetColorRGB, 864  
    embCircle\_prompt, 864  
    embCircle\_setArea, 864  
        embCircle\_setCircumference, 864  
        embEllipse\_click, 864  
        embEllipse\_main, 865  
        embRect\_bottomLeft, 865  
        embRect\_bottomRight, 865  
        getArcCenter, 865  
        getArcDataFromBulge, 865  
        set\_object\_color, 865  
arc\_action  
    imgui\_main.c, 501  
Arc\_clockwise  
    arc.c, 861  
Arc\_Polyester  
    embroidery.h, 669  
Arc\_Rayon  
    embroidery.h, 669  
arcEndPoint  
    ArcObject, 65  
arcMidPoint  
    ArcObject, 65  
ArcObject, 57  
    ~ArcObject, 60  
    allGripPoints, 61  
    arcEndPoint, 65  
    arcMidPoint, 65  
    ArcObject, 60  
    arcStartPoint, 66  
    calculateArcData, 61  
    gripEdit, 61  
    init, 61  
    mouseSnapPoint, 61  
    objectArcLength, 61  
    objectArea, 61  
    objectCenter, 62  
    objectCenterX, 62  
    objectCenterY, 62  
    objectChord, 62  
    objectClockwise, 62  
    objectEndAngle, 62  
    objectEndPoint, 62  
    objectEndX, 62  
    objectEndY, 62  
    objectIncludedAngle, 62  
    objectMidPoint, 62  
    objectMidX, 63  
    objectMidY, 63  
    objectRadius, 63  
    objectStartAngle, 63  
    objectStartPoint, 63  
    objectStartX, 63  
    objectStartY, 63  
    paint, 63  
    setObjectCenter, 63  
    setObjectCenterX, 64  
    setObjectCenterY, 64  
    setObjectEndAngle, 64  
    setObjectEndPoint, 64  
    setObjectMidPoint, 64

setObjectRadius, 64  
 setObjectStartAngle, 64  
 setObjectStartPoint, 65  
 Type, 60  
 type, 65  
 updateArcRect, 65  
 updatePath, 65  
 updateRubber, 65  
 vulcanize, 65  
 arc startPoint  
   ArcObject, 66  
 array.c  
   embArray\_addArc, 652  
   embArray\_addCircle, 653  
   embArray\_addEllipse, 653  
   embArray\_addFlag, 653  
   embArray\_addLine, 653  
   embArray\_addPath, 654  
   embArray\_addPoint, 654  
   embArray\_addPolygon, 654  
   embArray\_addPolyline, 655  
   embArray\_addRect, 655  
   embArray\_addStitch, 655  
   embArray\_addVector, 656  
   embArray\_copy, 656  
   embArray\_create, 656  
   embArray\_free, 656  
   embArray\_resize, 657  
 ArrowStyle  
   DimLeaderObject, 105  
 arrowStyleAngle  
   DimLeaderObject, 109  
 arrowStyleLength  
   DimLeaderObject, 109  
 arrowStylePath  
   DimLeaderObject, 109  
 assets\_dir  
   Settings\_, 318  
 attributeList  
   format\_svg.c, 848  
 attributeOffset  
   VipHeader\_, 421  
 auxFormat  
   ThredExtension\_, 378  
 axiom  
   LSYSTEM, 158  
  
 b  
   EmbColor\_, 121  
 background\_color\_action  
   imgui\_main.c, 501  
 Base\_objectRubberPoint  
   arc.c, 861  
 Base\_objectRubberText  
   arc.c, 861  
 Base\_setLineType  
   arc.c, 862  
 Base\_setLineWidth  
   arc.c, 862  
   BaseObject, 66  
   ~BaseObject, 67  
   allGripPoints, 67  
   BaseObject, 67  
   boundingRect, 68  
   degrees, 68  
   drawRubberLine, 68  
   gripEdit, 68  
   line, 68  
   lineWeightPen, 68  
   lwtPen, 72  
   mouseSnapPoint, 68  
   objectColor, 68  
   objectColorRGB, 69  
   objectID, 69  
   objectLineType, 69  
   objectLineWidth, 69  
   objectPath, 69  
   objectPen, 69  
   objectRubberMode, 69  
   objectRubberPoint, 69  
   objectRubberText, 69  
   objID, 72  
   objLine, 72  
   objPen, 72  
   objRubberMode, 72  
   objRubberPoints, 72  
   objRubberTexts, 72  
   pi, 69  
   radians, 69  
   realRender, 70  
   rect, 70  
   setLine, 70  
   setObjectColor, 70  
   setObjectColorRGB, 70  
   setObjectLineType, 70  
   setObjectLineWidth, 70  
   setObjectPath, 70  
   setObjectRubberMode, 71  
   setObjectRubberPoint, 71  
   setObjectRubberText, 71  
   setRect, 71  
   shape, 71  
   Type, 67  
   type, 71  
   vulcanize, 71  
 bcf\_difat\_create  
   embroidery\_internal.h, 745  
   main.c, 883  
 bcf\_directory  
   embroidery\_internal.h, 743  
 bcf\_directory\_entry  
   embroidery\_internal.h, 743  
 bcf\_directory\_free  
   embroidery\_internal.h, 745  
   main.c, 883  
 bcf\_file  
   embroidery\_internal.h, 743

bcf\_file\_difat  
    embroidery\_internal.h, 743  
bcf\_file\_difat\_free  
    embroidery\_internal.h, 745  
bcf\_file\_fat  
    embroidery\_internal.h, 743  
bcf\_file\_fat\_free  
    embroidery\_internal.h, 745  
bcf\_file\_free  
    embroidery\_internal.h, 746  
    main.c, 883  
bcf\_file\_header  
    embroidery\_internal.h, 743  
bcfFile\_read  
    embroidery\_internal.h, 746  
    main.c, 883  
bcfFileFat\_create  
    embroidery\_internal.h, 746  
    main.c, 883  
bcfFileHeader\_isValid  
    embroidery\_internal.h, 746  
bcfFileHeader\_read  
    embroidery\_internal.h, 746  
    main.c, 884  
before  
    UndoableGripEditCommand, 386  
begin\_child  
    gui\_backend.cpp, 430  
    gui\_backend.h, 441  
begin\_combo  
    gui\_backend.cpp, 430  
    gui\_backend.h, 441  
begin\_menu  
    gui\_backend.cpp, 430  
    gui\_backend.h, 442  
begin\_menu\_bar  
    gui\_backend.cpp, 430  
    gui\_backend.h, 442  
begin\_tab\_bar  
    gui\_backend.cpp, 430  
    gui\_backend.h, 442  
begin\_tab\_item  
    gui\_backend.cpp, 431  
    gui\_backend.h, 442  
begin\_ui  
    gui\_backend.cpp, 431  
    gui\_backend.h, 442  
beziers  
    EmbSpline\_, 137  
bgColor  
    MdiArea, 237  
bgLogo  
    MdiArea, 237  
bgTexture  
    MdiArea, 237  
binaryReadString  
    embroidery\_internal.h, 747  
    main.c, 884  
binaryReadUnicodeString  
    embroidery\_internal.h, 747  
    main.c, 884  
binaryWriteInt  
    embroidery\_internal.h, 747  
    formats.c, 803  
binaryWriteIntBE  
    embroidery\_internal.h, 747  
    formats.c, 803  
binaryWriteShort  
    embroidery\_internal.h, 748  
    formats.c, 804  
binaryWriteUInt  
    embroidery\_internal.h, 748  
    formats.c, 804  
binaryWriteUIntBE  
    embroidery\_internal.h, 748  
    formats.c, 804  
binaryWriteUShort  
    embroidery\_internal.h, 749  
    formats.c, 805  
binaryWriteUShortBE  
    embroidery\_internal.h, 749  
    formats.c, 805  
bit\_position  
    Compress, 100  
bits\_total  
    Compress, 100  
black\_thread  
    embroidery.h, 714  
    main.c, 892  
blink  
    CmdPrompt, 81  
blinkState  
    CmdPrompt, 86  
blinkTimer  
    CmdPrompt, 86  
block\_elements  
    Compress, 100  
bottom  
    \_vp3Hoop, 54  
    EmbRect\_, 136  
    hoop\_padding, 142  
bottom2  
    \_vp3Hoop, 54  
boundingRect  
    BaseObject, 68  
    EmbDetailsDialog, 123  
    imgui\_main.c, 501  
Box  
    DimLeaderObject, 105  
boxDir  
    SelectBox, 315  
brand\_codes  
    thread-color.c, 899  
brand\_codes\_files  
    thread-color.c, 899  
BRUSH\_STYLE\_DASHED

imgui\_main.c, 473  
 BRUSH\_STYLE\_SOLID  
     imgui\_main.c, 473  
 BuildDecryptionTable  
     format\_csd.c, 814  
 BULGETOCONTROL  
     embroidery\_internal.h, 731  
 BULGETOEND  
     embroidery\_internal.h, 731  
 button  
     gui\_backend.cpp, 431  
     gui\_backend.h, 443  
 button\_tip\_of\_the\_day\_clicked  
     imgui\_main.c, 501  
 buttonBox  
     EmbDetailsDialog, 123  
     Settings\_Dialog, 350  
 buttonCustomFilterClearAll  
     Settings\_Dialog, 336  
 buttonCustomFilterClearAllClicked  
     Settings\_Dialog, 336  
 buttonCustomFilterSelectAll  
     Settings\_Dialog, 336  
 buttonCustomFilterSelectAllClicked  
     Settings\_Dialog, 336  
 buttonQSnapClearAll  
     Settings\_Dialog, 336  
 buttonQSnapClearAllClicked  
     Settings\_Dialog, 336  
 buttonQSnapSelectAll  
     Settings\_Dialog, 336  
 buttonQSnapSelectAllClicked  
     Settings\_Dialog, 337  
 buttonTipOfTheDayClicked  
     MainWindow, 171  
 byte1  
     \_vp3Hoop, 54  
 byte2  
     \_vp3Hoop, 54  
 byte3  
     \_vp3Hoop, 54  
 byteOrder  
     \_bcf\_file\_header, 52  
 c\_split  
     imgui\_main.c, 501  
 calculate\_angle  
     imgui\_main.c, 501  
 calculate\_angle\_action  
     imgui\_main.c, 502  
 calculate\_distance\_action  
     imgui\_main.c, 502  
 calculateArcData  
     ArcObject, 61  
 canRedo  
     UndoEditor, 396  
 canUndo  
     UndoEditor, 396  
 cascade  
     MdiArea, 236  
 catalogNumber  
     EmbThread\_, 140  
 cci  
     format\_dst.c, 818  
 center  
     EmbCircle\_, 120  
     EmbEllipse\_, 124  
     UiObject\_, 381  
     View, 402  
 centerAt  
     imgui\_main.c, 502  
     View, 403  
 changeFormatting  
     CmdPromptInput, 93  
 changelog  
     MainWindow, 171  
 changelog\_dialog  
     imgui\_main.c, 502  
 character\_huffman  
     Compress, 100  
 character\_length\_huffman  
     Compress, 100  
 check\_for\_color\_file  
     EmbFormatList\_, 125  
 check\_header\_present  
     embroidery\_internal.h, 749  
     main.c, 884  
 checkbox\_data  
     gui\_backend.cpp, 432  
     gui\_backend.h, 443  
 checkBoxCustomFilterStateChanged  
     Settings\_Dialog, 337  
 checkBoxDisableBGStateChanged  
     Settings\_Dialog, 337  
 checkBoxGeneralMdiBGUseColorStateChanged  
     Settings\_Dialog, 337  
 checkBoxGeneralMdiBGUseLogoStateChanged  
     Settings\_Dialog, 337  
 checkBoxGeneralMdiBGUseTextureStateChanged  
     Settings\_Dialog, 337  
 checkBoxGridCenterOnOriginStateChanged  
     Settings\_Dialog, 337  
 checkBoxGridColorMatchCrossHairStateChanged  
     Settings\_Dialog, 337  
 checkBoxGridLoadFromFileStateChanged  
     Settings\_Dialog, 337  
 checkBoxGridShowOnLoadStateChanged  
     Settings\_Dialog, 338  
 checkBoxGridShowOriginStateChanged  
     Settings\_Dialog, 338  
 checkBoxLwtRealRenderStateChanged  
     Settings\_Dialog, 338  
 checkBoxLwtShowLwtStateChanged  
     Settings\_Dialog, 338  
 checkBoxPromptSaveHistoryAsHtmlStateChanged  
     Settings\_Dialog, 338  
 checkBoxPromptSaveHistoryStateChanged  
     Settings\_Dialog, 338

Settings\_Dialog, 338  
checkBoxQSnapApparentStateChanged  
    Settings\_Dialog, 338  
checkBoxQSnapCenterStateChanged  
    Settings\_Dialog, 338  
checkBoxQSnapEndPointStateChanged  
    Settings\_Dialog, 338  
checkBoxQSnapExtensionStateChanged  
    Settings\_Dialog, 339  
checkBoxQSnapInsertionStateChanged  
    Settings\_Dialog, 339  
checkBoxQSnapIntersectionStateChanged  
    Settings\_Dialog, 339  
checkBoxQSnapMidPointStateChanged  
    Settings\_Dialog, 339  
checkBoxQSnapNearestStateChanged  
    Settings\_Dialog, 339  
checkBoxQSnapNodeStateChanged  
    Settings\_Dialog, 339  
checkBoxQSnapParallelStateChanged  
    Settings\_Dialog, 339  
checkBoxQSnapPerpendicularStateChanged  
    Settings\_Dialog, 339  
checkBoxQSnapQuadrantStateChanged  
    Settings\_Dialog, 339  
checkBoxQSnapTangentStateChanged  
    Settings\_Dialog, 340  
checkBoxRenderHintAAStateChanged  
    Settings\_Dialog, 340  
checkBoxRenderHintHighAAStateChanged  
    Settings\_Dialog, 340  
checkBoxRenderHintNonCosmeticStateChanged  
    Settings\_Dialog, 340  
checkBoxRenderHintSmoothPixStateChanged  
    Settings\_Dialog, 340  
checkBoxRenderHintTextAAStateChanged  
    Settings\_Dialog, 340  
checkBoxRulerShowOnLoadStateChanged  
    Settings\_Dialog, 340  
checkBoxSelectionModePickAddStateChanged  
    Settings\_Dialog, 340  
checkBoxSelectionModePickDragStateChanged  
    Settings\_Dialog, 340  
checkBoxSelectionModePickFirstStateChanged  
    Settings\_Dialog, 341  
checkBoxShowScrollBarsStateChanged  
    Settings\_Dialog, 341  
checkBoxTipOfDay  
    MainWindow, 220  
checkBoxTipOfDayStateChanged  
    MainWindow, 172  
    Settings\_Dialog, 341  
checkBoxUseOpenGLStateChanged  
    Settings\_Dialog, 341  
checkChangedText  
    CmdPromptInput, 94  
checkCursorPosition  
    CmdPromptInput, 94  
checkEditedText  
    CmdPromptInput, 94  
checkForUpdates  
    imgui\_main.c, 502  
    MainWindow, 172  
checkSelection  
    CmdPromptInput, 94  
childId  
    \_bcf\_directory\_entry, 48  
chooseDisplayBackgroundColor  
    Settings\_Dialog, 341  
chooseDisplayCrossHairColor  
    Settings\_Dialog, 341  
chooseDisplaySelectBoxLeftColor  
    Settings\_Dialog, 341  
chooseDisplaySelectBoxLeftFill  
    Settings\_Dialog, 341  
chooseDisplaySelectBoxRightColor  
    Settings\_Dialog, 341  
chooseDisplaySelectBoxRightFill  
    Settings\_Dialog, 342  
chooseGeneralMdiBackgroundColor  
    Settings\_Dialog, 342  
chooseGeneralMdiBackgroundLogo  
    Settings\_Dialog, 342  
chooseGeneralMdiBackgroundTexture  
    Settings\_Dialog, 342  
chooseGridColor  
    Settings\_Dialog, 342  
choosePromptBackgroundColor  
    Settings\_Dialog, 342  
choosePromptTextColor  
    Settings\_Dialog, 342  
chooseRulerColor  
    Settings\_Dialog, 342  
CHUNK\_SIZE  
    embroidery.h, 670  
circle  
    EmbGeometry\_, 126  
circle.c  
    embCircle\_area, 866  
    embCircle\_circumference, 866  
    embCircle\_init, 866  
    getCircleCircleIntersections, 866  
    getCircleTangentPoints, 866  
circle\_action  
    imgui\_main.c, 502  
CIRCLE\_MODE\_1P\_DIA  
    imgui\_main.c, 473  
CIRCLE\_MODE\_1P\_RAD  
    imgui\_main.c, 473  
CIRCLE\_MODE\_2P  
    imgui\_main.c, 473  
CIRCLE\_MODE\_3P  
    imgui\_main.c, 473  
CIRCLE\_MODE\_TTR  
    imgui\_main.c, 473  
CircleObject, 72

~CircleObject, 75  
allGripPoints, 75  
CircleObject, 75  
gripEdit, 75  
init, 75  
mouseSnapPoint, 75  
objectArea, 76  
objectCenter, 76  
objectCenterX, 76  
objectCenterY, 76  
objectCircumference, 76  
objectDiameter, 76  
objectQuadrant0, 76  
objectQuadrant180, 76  
objectQuadrant270, 76  
objectQuadrant90, 76  
objectRadius, 76  
objectSavePath, 77  
paint, 77  
setObjectArea, 77  
setObjectCenter, 77  
setObjectCenterX, 77  
setObjectCenterY, 77  
setObjectCircumference, 77  
setObjectDiameter, 77  
setObjectRadius, 78  
Type, 74  
type, 78  
updatePath, 78  
updateRubber, 78  
vulcanize, 78  
CIRCULAR\_GRID  
    imgui\_main.c, 473  
clear\_rubber  
    imgui\_main.c, 503  
clear\_selection  
    imgui\_main.c, 503  
clearAllFields  
    PropertyEditor, 272  
clearFormatting  
    CmdPromptInput, 94  
clearRubberRoom  
    imgui\_main.c, 503  
    View, 403  
clearSelection  
    View, 403  
clockwise  
    arc.c, 862  
    imgui\_main.c, 503  
close\_action  
    imgui\_main.c, 503  
close\_event  
    imgui\_main.c, 503  
close\_toolbar\_action  
    imgui\_main.c, 504  
Closed  
    DimLeaderObject, 105  
closeEvent

MainWindow, 172  
MdiWindow, 239  
closeToolBar  
    MainWindow, 172  
CLSID  
    \_bcf\_directory\_entry, 48  
    \_bcf\_file\_header, 52  
cmdActive  
    CmdPromptInput, 98  
CmdPrompt, 78  
    ~CmdPrompt, 80  
    activeCommand, 80  
    addCommand, 81  
    alert, 81  
    appendHistory, 81  
    appendTheHistory, 81  
    blink, 81  
    blinkState, 86  
    blinkTimer, 86  
    CmdPrompt, 80  
    copyPressed, 81  
    cutPressed, 81  
    deletePressed, 81  
    disableRapidFire, 81  
    downPressed, 81  
    enableRapidFire, 82  
    endCommand, 82  
    escapePressed, 82  
    F10Pressed, 82  
    F11Pressed, 82  
    F12Pressed, 82  
    F1Pressed, 82  
    F2Pressed, 82  
    F3Pressed, 82  
    F4Pressed, 82  
    F5Pressed, 82  
    F6Pressed, 83  
    F7Pressed, 83  
    F8Pressed, 83  
    F9Pressed, 83  
    floatingChanged, 83  
    getCurrentText, 83  
    getHistory, 83  
    getPrefix, 83  
    historyAppended, 83  
    isCommandActive, 83  
    isRapidFireEnabled, 83  
    lastCommand, 84  
    pastePressed, 84  
    processInput, 84  
    promptDivider, 87  
    promptHistory, 87  
    promptInput, 87  
    promptSplitter, 87  
    promptVBoxLayout, 87  
    redoPressed, 84  
    resizeTheHistory, 84  
    runCommand, 84

saveHistory, 84  
selectAllPressed, 84  
setCurrentText, 84  
setHistory, 84  
setPrefix, 85  
setPromptBackgroundColor, 85  
setPromptFontFamily, 85  
setPromptFontSize, 85  
setPromptFontStyle, 85  
setPromptTextColor, 85  
shiftPressed, 85  
shiftReleased, 85  
showSettings, 85  
startBlinking, 85  
startCommand, 86  
startResizingTheHistory, 86  
stopBlinking, 86  
stopResizingTheHistory, 86  
styleHash, 87  
tabPressed, 86  
undoPressed, 86  
updateStyle, 86  
upPressed, 86  
CmdPromptHandle, 87  
~CmdPromptHandle, 88  
CmdPromptHandle, 88  
handleMoved, 88  
handlePressed, 88  
handleReleased, 88  
mouseMoveEvent, 88  
mousePressEvent, 88  
mouseReleaseEvent, 89  
moveY, 89  
pressY, 89  
releaseY, 89  
CmdPromptHistory, 89  
~CmdPromptHistory, 90  
appendHistory, 90  
applyFormatting, 90  
CmdPromptHistory, 90  
contextMenuEvent, 90  
historyAppended, 90  
resizeHistory, 91  
startResizeHistory, 91  
stopResizeHistory, 91  
tmpHeight, 91  
CmdPromptInput, 91  
~CmdPromptInput, 93  
addCommand, 93  
aliasHash, 98  
appendHistory, 93  
applyFormatting, 93  
changeFormatting, 93  
checkChangedText, 94  
checkCursorPosition, 94  
checkEditedText, 94  
checkSelection, 94  
clearFormatting, 94  
cmdActive, 98  
CmdPromptInput, 93  
contextMenuEvent, 94  
copyClip, 94  
copyPressed, 94  
curCmd, 98  
curText, 98  
cutPressed, 94  
defaultPrefix, 98  
deletePressed, 94  
downPressed, 95  
endCommand, 95  
escapePressed, 95  
eventFilter, 95  
F10Pressed, 95  
F11Pressed, 95  
F12Pressed, 95  
F1Pressed, 95  
F2Pressed, 95  
F3Pressed, 95  
F4Pressed, 95  
F5Pressed, 96  
F6Pressed, 96  
F7Pressed, 96  
F8Pressed, 96  
F9Pressed, 96  
isBlinking, 98  
lastCmd, 98  
pasteClip, 96  
pastePressed, 96  
prefix, 98  
processInput, 96  
rapidFireEnabled, 98  
redoPressed, 96  
runCommand, 96  
selectAllPressed, 97  
shiftPressed, 97  
shiftReleased, 97  
showSettings, 97  
startCommand, 97  
stopBlinking, 97  
tabPressed, 97  
undoPressed, 97  
updateCurrentText, 97  
upPressed, 97  
CmdPromptSplitter, 99  
~CmdPromptSplitter, 99  
CmdPromptSplitter, 99  
createHandle, 99  
moveResizeHistory, 99  
pressResizeHistory, 99  
releaseResizeHistory, 100  
CoatsAndClark\_Rayon  
embroidery.h, 670  
CODE\_OF\_CONDUCT.md, 423  
collapsing\_header  
    gui\_backend.cpp, 432  
    gui\_backend.h, 443

color  
 EmbGeometry\_, 126  
 EmbLine\_, 131  
 EmbPath\_, 132  
 EmbPoint\_, 134  
 EmbStitch\_, 138  
 EmbThread\_, 140  
 UiObject\_, 381

color\_only  
 EmbFormatList\_, 125

colorChanges  
 EmbDetailsDialog, 123

colorCode  
 StxThread\_, 366  
 SubDescriptor\_, 367

colorFlag  
 \_bcf\_directory\_entry, 48

colorLength  
 VipHeader\_, 421

colorName  
 StxThread\_, 366  
 SubDescriptor\_, 367

colorSelector  
 MainWindow, 220

colorSelectorIndexChanged  
 imgui\_main.c, 504  
 MainWindow, 172

colorTotal  
 EmbDetailsDialog, 123

columns  
 gui\_backend.cpp, 432  
 gui\_backend.h, 443

comboBoxArcClockwise  
 PropertyEditor, 278

comboBoxGeneralColor  
 PropertyEditor, 278

comboBoxGeneralLayer  
 PropertyEditor, 278

comboBoxGeneralLineType  
 PropertyEditor, 278

comboBoxGeneralLineWeight  
 PropertyEditor, 278

comboBoxGridTypecurrentIndexChanged  
 Settings\_Dialog, 342

comboBoxIconSizecurrentIndexChanged  
 Settings\_Dialog, 342

comboBoxIconThemecurrentIndexChanged  
 Settings\_Dialog, 343

comboBoxLanguagecurrentIndexChanged  
 Settings\_Dialog, 343

comboBoxPathClosed  
 PropertyEditor, 278

comboBoxPathVertexNum  
 PropertyEditor, 278

comboBoxPolylineClosed  
 PropertyEditor, 278

comboBoxPolylineVertexNum  
 PropertyEditor, 278

comboBoxPromptFontFamilycurrentIndexChanged  
 Settings\_Dialog, 343

comboBoxPromptFontStylecurrentIndexChanged  
 Settings\_Dialog, 343

comboBoxQSnapLocatorColorcurrentIndexChanged  
 Settings\_Dialog, 343

comboBoxRulerMetriccurrentIndexChanged  
 Settings\_Dialog, 343

comboBoxScrollBarWidgetcurrentIndexChanged  
 Settings\_Dialog, 343

comboBoxSelected  
 PropertyEditor, 279

comboBoxSelectionCoolGripColorcurrentIndexChanged  
 Settings\_Dialog, 343

comboBoxSelectionHotGripColorcurrentIndexChanged  
 Settings\_Dialog, 343

comboBoxTextSingleBackward  
 PropertyEditor, 279

comboBoxTextSingleFont  
 PropertyEditor, 279

comboBoxTextSingleJustify  
 PropertyEditor, 279

comboBoxTextSingleUpsideDown  
 PropertyEditor, 279

command  
 UiObject\_, 381

COMMAND\_ACTIONS  
 mainwindow-actions.h, 579

CompoundFileDirectory  
 embroidery\_internal.h, 749  
 main.c, 885

CompoundFileDirectoryEntry  
 embroidery\_internal.h, 750  
 main.c, 885

CompoundFileSector\_DIFAT\_Sector  
 embroidery\_internal.h, 731

CompoundFileSector\_EndOfChain  
 embroidery\_internal.h, 731

CompoundFileSector\_FAT\_Sector  
 embroidery\_internal.h, 731

CompoundFileSector\_FreeSector  
 embroidery\_internal.h, 731

CompoundFileSector\_MaxRegSector  
 embroidery\_internal.h, 731

CompoundFileStreamId\_MaxRegularStreamId  
 embroidery\_internal.h, 731

CompoundFileStreamId\_NoStream  
 embroidery\_internal.h, 731

Compress, 100  
 bit\_position, 100  
 bits\_total, 100  
 block\_elements, 100  
 character\_huffman, 100  
 character\_length\_huffman, 100  
 distance\_huffman, 101  
 input\_data, 101  
 input\_length, 101

compress

embroidery\_internal.h, 743  
compress.c  
    compress\_get\_bits, 658  
    compress\_get\_position, 658  
    compress\_get\_token, 658  
    compress\_init, 658  
    compress\_load\_block, 658  
    compress\_load\_character\_huffman, 659  
    compress\_load\_character\_length\_huffman, 659  
    compress\_load\_distance\_huffman, 659  
    compress\_peek, 659  
    compress\_pop, 660  
    compress\_read\_variable\_length, 660  
    huffman\_build\_table, 660  
    huffman\_lookup, 660  
    huffman\_lookup\_data, 662  
    hus\_compress, 661  
    hus\_decompress, 661  
compress\_get\_bits  
    compress.c, 658  
    embroidery\_internal.h, 750  
compress\_get\_position  
    compress.c, 658  
    embroidery\_internal.h, 750  
compress\_get\_token  
    compress.c, 658  
    embroidery\_internal.h, 751  
compress\_init  
    compress.c, 658  
compress\_load\_block  
    compress.c, 658  
    embroidery\_internal.h, 751  
compress\_load\_character\_huffman  
    compress.c, 659  
    embroidery\_internal.h, 751  
compress\_load\_character\_length\_huffman  
    compress.c, 659  
    embroidery\_internal.h, 751  
compress\_load\_distance\_huffman  
    compress.c, 659  
    embroidery\_internal.h, 751  
compress\_peek  
    compress.c, 659  
compress\_pop  
    compress.c, 660  
    embroidery\_internal.h, 752  
compress\_read\_variable\_length  
    compress.c, 660  
    embroidery\_internal.h, 752  
constants  
    LSYSTEM, 158  
context\_menu\_event  
    imgui\_main.c, 504  
contextMenuEvent  
    CmdPromptHistory, 90  
    CmdPromptInput, 94  
    StatusBarButton, 363  
    View, 403  
control1  
    EmbBezier\_, 119  
control2  
    EmbBezier\_, 119  
controlPointLabels  
    UiObject\_, 381  
controlPoints  
    UiObject\_, 381  
convert  
    embroidery.h, 685  
    pattern.c, 894  
copy  
    imgui\_main.c, 504  
    MainWindow, 172  
    View, 403  
copy\_action  
    imgui\_main.c, 504  
copy\_selected  
    imgui\_main.c, 504  
copy\_selection  
    imgui\_main.c, 505  
copy\_trim  
    embroidery\_internal.h, 752  
    main.c, 885  
copyClip  
    CmdPromptInput, 94  
copyPressed  
    CmdPrompt, 81  
    CmdPromptInput, 94  
copySelected  
    View, 403  
cornerButtonClicked  
    imgui\_main.c, 505  
    View, 403  
count  
    EmbArray\_, 118  
create\_group\_box\_arc  
    imgui\_main.c, 505  
create\_group\_box\_block  
    imgui\_main.c, 505  
create\_group\_box\_circle  
    imgui\_main.c, 505  
create\_group\_box\_dim\_aligned  
    imgui\_main.c, 505  
create\_group\_box\_dim\_angular  
    imgui\_main.c, 506  
create\_group\_box\_dim\_arc\_length  
    imgui\_main.c, 506  
create\_group\_box\_dim\_diameter  
    imgui\_main.c, 506  
create\_group\_box\_dim\_leader  
    imgui\_main.c, 506  
create\_group\_box\_dim\_linear  
    imgui\_main.c, 506  
create\_group\_box\_dim\_ordinate  
    imgui\_main.c, 506  
create\_group\_box\_dim\_radius  
    imgui\_main.c, 507

create\_group\_box\_ellipse  
    imgui\_main.c, 507  
create\_group\_box\_general  
    imgui\_main.c, 507  
create\_group\_box\_image  
    imgui\_main.c, 507  
create\_group\_box\_infinite\_line  
    imgui\_main.c, 507  
create\_group\_box\_line  
    imgui\_main.c, 507  
create\_group\_box\_path  
    imgui\_main.c, 508  
create\_group\_box\_point  
    imgui\_main.c, 508  
create\_group\_box\_polygon  
    imgui\_main.c, 508  
create\_group\_box\_polyline  
    imgui\_main.c, 508  
create\_group\_box\_ray  
    imgui\_main.c, 508  
create\_group\_box\_rectangle  
    imgui\_main.c, 508  
create\_group\_box\_stitch  
    imgui\_main.c, 509  
create\_group\_box\_stitch\_list  
    imgui\_main.c, 509  
create\_group\_box\_text\_multi  
    imgui\_main.c, 509  
create\_group\_box\_text\_single  
    imgui\_main.c, 509  
create\_layer\_toolbar  
    imgui\_main.c, 509  
create\_prompt\_toolbar  
    imgui\_main.c, 509  
create\_properties\_toolbar  
    imgui\_main.c, 509  
create\_tab  
    imgui\_main.c, 510  
create\_tab\_display  
    imgui\_main.c, 510  
create\_tab\_files\_paths  
    imgui\_main.c, 510  
create\_tab\_general  
    imgui\_main.c, 510  
create\_tab\_grid\_ruler  
    imgui\_main.c, 510  
create\_tab\_lineweight  
    imgui\_main.c, 510  
create\_tab\_open\_save  
    imgui\_main.c, 510  
create\_tab\_ortho\_polar  
    imgui\_main.c, 511  
create\_tab\_printing  
    imgui\_main.c, 511  
create\_tab\_prompt  
    imgui\_main.c, 511  
create\_tab\_quicksnap  
    imgui\_main.c, 511  
create\_tab\_quicktrack  
    imgui\_main.c, 511  
create\_tab\_selection  
    imgui\_main.c, 511  
create\_tab\_snap  
    imgui\_main.c, 511  
create\_test\_file\_1  
    embroidery\_internal.h, 753  
create\_test\_file\_2  
    embroidery\_internal.h, 753  
create\_test\_file\_3  
    embroidery\_internal.h, 753  
create\_text\_toolbar  
    imgui\_main.c, 512  
createAction  
    MainWindow, 172  
createAllActions  
    imgui\_main.c, 512  
    MainWindow, 172  
createAllMenus  
    MainWindow, 172  
createAllToolbars  
    MainWindow, 172  
createComboBox  
    PropertyEditor, 272  
createComboBoxSelected  
    PropertyEditor, 272  
createEditMenu  
    MainWindow, 173  
createEditToolbar  
    MainWindow, 173  
createFileMenu  
    MainWindow, 173  
createFileToolbar  
    MainWindow, 173  
createFontComboBox  
    PropertyEditor, 272  
createGrid  
    imgui\_main.c, 512  
    View, 403  
createGridIso  
    imgui\_main.c, 512  
    View, 403  
createGridPolar  
    imgui\_main.c, 512  
    View, 403  
createGridRect  
    imgui\_main.c, 512  
    View, 403  
createGroupBoxGeneral  
    PropertyEditor, 273  
createGroupBoxGeometryArc  
    PropertyEditor, 273  
createGroupBoxGeometryBlock  
    PropertyEditor, 273  
createGroupBoxGeometryCircle  
    PropertyEditor, 273  
createGroupBoxGeometryDimAligned

PropertyEditor, 273  
createGroupBoxGeometryDimAngular  
    PropertyEditor, 273  
createGroupBoxGeometryDimArcLength  
    PropertyEditor, 273  
createGroupBoxGeometryDimDiameter  
    PropertyEditor, 273  
createGroupBoxGeometryDimLeader  
    PropertyEditor, 273  
createGroupBoxGeometryDimLinear  
    PropertyEditor, 273  
createGroupBoxGeometryDimOrdinate  
    PropertyEditor, 274  
createGroupBoxGeometryDimRadius  
    PropertyEditor, 274  
createGroupBoxGeometryEllipse  
    PropertyEditor, 274  
createGroupBoxGeometryImage  
    PropertyEditor, 274  
createGroupBoxGeometryInfiniteLine  
    PropertyEditor, 274  
createGroupBoxGeometryLine  
    PropertyEditor, 274  
createGroupBoxGeometryPath  
    PropertyEditor, 274  
createGroupBoxGeometryPoint  
    PropertyEditor, 274  
createGroupBoxGeometryPolygon  
    PropertyEditor, 274  
createGroupBoxGeometryPolyline  
    PropertyEditor, 274  
createGroupBoxGeometryRay  
    PropertyEditor, 275  
createGroupBoxGeometryRectangle  
    PropertyEditor, 275  
createGroupBoxGeometryTextMulti  
    PropertyEditor, 275  
createGroupBoxGeometryTextSingle  
    PropertyEditor, 275  
createGroupBoxMiscArc  
    PropertyEditor, 275  
createGroupBoxMisclImage  
    PropertyEditor, 275  
createGroupBoxMiscPath  
    PropertyEditor, 275  
createGroupBoxMiscPolyline  
    PropertyEditor, 275  
createGroupBoxMiscTextSingle  
    PropertyEditor, 275  
createGroupBoxTextTextSingle  
    PropertyEditor, 275  
createHandle  
    CmdPromptSplitter, 99  
createHelpMenu  
    MainWindow, 173  
createHelpToolbar  
    MainWindow, 173  
createHistogram  
    EmbDetailsDialog, 122  
createIconToolbar  
    MainWindow, 173  
createLayerToolbar  
    MainWindow, 173  
createLineEdit  
    PropertyEditor, 275  
createMainWidget  
    EmbDetailsDialog, 122  
createObjectList  
    imgui\_main.c, 513  
    View, 404  
createOrigin  
    imgui\_main.c, 513  
    View, 404  
createPanToolbar  
    MainWindow, 173  
createPromptToolbar  
    MainWindow, 173  
createPropertiesToolbar  
    MainWindow, 173  
createRulerTextPath  
    View, 404  
createSettingsMenu  
    MainWindow, 174  
createTabDisplay  
    Settings\_Dialog, 344  
createTabFilesPaths  
    Settings\_Dialog, 344  
createTabGeneral  
    Settings\_Dialog, 344  
createTabGridRuler  
    Settings\_Dialog, 344  
createTabLineWeight  
    Settings\_Dialog, 344  
createTabOpenSave  
    Settings\_Dialog, 344  
createTabOrthoPolar  
    Settings\_Dialog, 344  
createTabPrinting  
    Settings\_Dialog, 344  
createTabPrompt  
    Settings\_Dialog, 344  
createTabQuickSnap  
    Settings\_Dialog, 344  
createTabQuickTrack  
    Settings\_Dialog, 344  
createTabSelection  
    Settings\_Dialog, 345  
createTabSnap  
    Settings\_Dialog, 345  
createTextToolbar  
    MainWindow, 174  
createToolButton  
    PropertyEditor, 276  
createToolButtonPickAdd  
    PropertyEditor, 276  
createToolButtonQSelect

PropertyEditor, 276  
createViewMenu  
    MainWindow, 174  
createViewToolbar  
    MainWindow, 174  
createWindowMenu  
    MainWindow, 174  
createZoomToolbar  
    MainWindow, 174  
creationTime  
    \_bcf\_directory\_entry, 48  
creatorName  
    ThredExtension\_, 378  
crosshair\_color\_action  
    imgui\_main.c, 513  
crosshairColor  
    View, 412  
crosshairSize  
    View, 412  
csd\_decryptArray  
    format\_csd.c, 814  
CsdSubMaskSize  
    format\_csd.c, 813  
CsdXorMaskSize  
    format\_csd.c, 813  
CSV\_EXPECT  
    embroidery\_internal.h, 744  
CSV\_EXPECT\_COMMA  
    embroidery\_internal.h, 744  
CSV\_EXPECT\_NULL  
    embroidery\_internal.h, 744  
CSV\_EXPECT\_QUOTE1  
    embroidery\_internal.h, 744  
CSV\_EXPECT\_QUOTE2  
    embroidery\_internal.h, 744  
CSV\_MODE  
    embroidery\_internal.h, 745  
CSV\_MODE\_COMMENT  
    embroidery\_internal.h, 745  
CSV\_MODE\_NULL  
    embroidery\_internal.h, 745  
CSV\_MODE\_STITCH  
    embroidery\_internal.h, 745  
CSV\_MODE\_THREAD  
    embroidery\_internal.h, 745  
CSV\_MODE\_VARIABLE  
    embroidery\_internal.h, 745  
csvStitchFlagToStr  
    format\_csv.c, 815  
csvStrToStitchFlag  
    format\_csv.c, 815  
CUBICTOCONTROL1  
    embroidery\_internal.h, 731  
CUBICTOCONTROL2  
    embroidery\_internal.h, 732  
CUBICTOEND  
    embroidery\_internal.h, 732  
curCmd  
    CmdPromptInput, 98  
curColor  
    MdiWindow, 243  
curFile  
    MdiWindow, 244  
curLayer  
    MdiWindow, 244  
curLineType  
    MdiWindow, 244  
curLineWeight  
    MdiWindow, 244  
current\_color\_changed  
    imgui\_main.c, 513  
current\_directory  
    imgui\_main.c, 574  
    Settings\_, 319  
current\_element\_id  
    format\_svg.c, 848  
current\_layer\_changed  
    imgui\_main.c, 514  
current\_linetype\_changed  
    imgui\_main.c, 514  
current\_linewidth\_changed  
    imgui\_main.c, 514  
currentAttribute  
    format\_svg.c, 848  
currentColorChanged  
    MdiWindow, 239  
currentColorIndex  
    EmbPattern\_, 133  
currentDisplayBackgroundColorChanged  
    Settings\_Dialog, 345  
currentDisplayCrossHairColorChanged  
    Settings\_Dialog, 345  
currentDisplaySelectBoxLeftColorChanged  
    Settings\_Dialog, 345  
currentDisplaySelectBoxLeftFillChanged  
    Settings\_Dialog, 345  
currentDisplaySelectBoxRightColorChanged  
    Settings\_Dialog, 345  
currentDisplaySelectBoxRightFillChanged  
    Settings\_Dialog, 345  
currentGeneralMdiBackgroundColorChanged  
    Settings\_Dialog, 345  
currentGridColorChanged  
    Settings\_Dialog, 346  
currentLayerChanged  
    MdiWindow, 240  
currentLinetypeChanged  
    MdiWindow, 240  
currentLinewidthChanged  
    MdiWindow, 240  
currentPromptBackgroundColorChanged  
    Settings\_Dialog, 346  
currentPromptTextColorChanged  
    Settings\_Dialog, 346  
currentRulerColorChanged  
    Settings\_Dialog, 346

currentValue  
    format\_svg.c, 848

curText  
    CmdPromptInput, 98

curved  
    DimLeaderObject, 109

cut  
    imgui\_main.c, 514  
    MainWindow, 174  
    View, 404

cut\_action  
    imgui\_main.c, 514

cut\_selected  
    imgui\_main.c, 514

cutCopyMousePoint  
    View, 412

cutCopyObjectList  
    MainWindow, 220

cutPressed  
    CmdPrompt, 81  
    CmdPromptInput, 94

data  
    Dictionary\_, 101  
    EmblImage\_, 128  
    Index\_, 149  
    UndoHistory\_, 398

day  
    EmbTime\_, 140

dayVision  
    MainWindow, 174

debug\_mode  
    Settings\_, 319

debugger  
    MainWindow, 220

decode\_exy\_flags  
    format\_exy.c, 822

decode\_record\_flags  
    format\_dst.c, 818

decode\_t01\_record  
    embroidery\_internal.h, 753  
    encoding.c, 789

decode\_tajima\_ternary  
    embroidery\_internal.h, 753  
    encoding.c, 790

decode\_tap\_record\_flags  
    format\_tap.c, 850

DecodeCsdByte  
    format\_csd.c, 814

decodeNewStitch  
    embroidery\_internal.h, 753  
    encoding.c, 790

DEFAULT\_MODE  
    imgui\_main.c, 473

default\_value  
    Huffman, 143

defaultPrefix  
    CmdPromptInput, 98

degrees  
    BaseObject, 68  
    embroidery.h, 685  
    functions.c, 869

delete\_object  
    imgui\_main.c, 514

delete\_pressed  
    imgui\_main.c, 515

delete\_selected  
    imgui\_main.c, 515

deleteObject  
    View, 404

deletePressed  
    CmdPrompt, 81  
    CmdPromptInput, 94  
    MainWindow, 174  
    MdiWindow, 240  
    View, 404

deleteSelected  
    View, 404

description  
    EmbFormatList\_, 125  
    EmbThread\_, 140

designDetails  
    MainWindow, 174  
    MdiWindow, 240

details\_dialog  
    imgui\_main.c, 515

dialog  
    imgui\_main.c, 574

dialog\_display\_bg\_color  
    Settings\_Dialog, 350

dialog\_display\_crosshair\_color  
    Settings\_Dialog, 350

dialog\_display\_crosshair\_percent  
    Settings\_Dialog, 350

dialog\_display\_renderhint\_aa  
    Settings\_Dialog, 350

dialog\_display\_renderhint\_high\_aa  
    Settings\_Dialog, 350

dialog\_display\_renderhint\_noncosmetic  
    Settings\_Dialog, 350

dialog\_display\_renderhint\_smooth\_pix  
    Settings\_Dialog, 350

dialog\_display\_renderhint\_text\_aa  
    Settings\_Dialog, 350

dialog\_display\_scrollbar\_widget\_num  
    Settings\_Dialog, 350

dialog\_display\_selectbox\_alpha  
    Settings\_Dialog, 350

dialog\_display\_selectbox\_left\_color  
    Settings\_Dialog, 351

dialog\_display\_selectbox\_left\_fill  
    Settings\_Dialog, 351

dialog\_display\_selectbox\_right\_color  
    Settings\_Dialog, 351

dialog\_display\_selectbox\_right\_fill  
    Settings\_Dialog, 351

dialog\_display\_show\_scrollbars

Settings\_Dialog, 351  
dialog\_display\_units  
    Settings\_Dialog, 351  
dialog\_display\_use\_opengl  
    Settings\_Dialog, 351  
dialog\_display\_zoomscale\_in  
    Settings\_Dialog, 351  
dialog\_display\_zoomscale\_out  
    Settings\_Dialog, 351  
dialog\_general\_icon\_size  
    Settings\_Dialog, 351  
dialog\_general\_icon\_theme  
    Settings\_Dialog, 351  
dialog\_general\_language  
    Settings\_Dialog, 352  
dialog\_general\_mdi\_bg\_color  
    Settings\_Dialog, 352  
dialog\_general\_mdi\_bg\_logo  
    Settings\_Dialog, 352  
dialog\_general\_mdi\_bg\_texture  
    Settings\_Dialog, 352  
dialog\_general\_mdi\_bg\_use\_color  
    Settings\_Dialog, 352  
dialog\_general\_mdi\_bg\_use\_logo  
    Settings\_Dialog, 352  
dialog\_general\_mdi\_bg\_use\_texture  
    Settings\_Dialog, 352  
dialog\_general\_system\_help\_browser  
    Settings\_Dialog, 352  
dialog\_general\_tip\_of\_the\_day  
    Settings\_Dialog, 352  
dialog\_grid\_center\_on\_origin  
    Settings\_Dialog, 352  
dialog\_grid\_center\_x  
    Settings\_Dialog, 352  
dialog\_grid\_center\_y  
    Settings\_Dialog, 353  
dialog\_grid\_color  
    Settings\_Dialog, 353  
dialog\_grid\_color\_match\_crosshair  
    Settings\_Dialog, 353  
dialog\_grid\_load\_from\_file  
    Settings\_Dialog, 353  
dialog\_grid\_show\_on\_load  
    Settings\_Dialog, 353  
dialog\_grid\_show\_origin  
    Settings\_Dialog, 353  
dialog\_grid\_size\_radius  
    Settings\_Dialog, 353  
dialog\_grid\_size\_x  
    Settings\_Dialog, 353  
dialog\_grid\_size\_y  
    Settings\_Dialog, 353  
dialog\_grid\_spacing\_angle  
    Settings\_Dialog, 353  
dialog\_grid\_spacing\_radius  
    Settings\_Dialog, 353  
dialog\_grid\_spacing\_x  
    Settings\_Dialog, 354  
dialog\_grid\_spacing\_y  
    Settings\_Dialog, 354  
dialog\_grid\_type  
    Settings\_Dialog, 354  
dialog\_lwt\_default\_lwt  
    Settings\_Dialog, 354  
dialog\_lwt\_real\_render  
    Settings\_Dialog, 354  
dialog\_lwt\_show\_lwt  
    Settings\_Dialog, 354  
dialog\_opensave\_custom\_filter  
    Settings\_Dialog, 354  
dialog\_opensave\_open\_format  
    Settings\_Dialog, 354  
dialog\_opensave\_recent\_max\_files  
    Settings\_Dialog, 354  
dialog\_opensave\_save\_format  
    Settings\_Dialog, 354  
dialog\_opensave\_save\_thumbnail  
    Settings\_Dialog, 354  
dialog\_opensave\_trim\_dst\_num\_jumps  
    Settings\_Dialog, 355  
dialog\_printing\_default\_device  
    Settings\_Dialog, 355  
dialog\_printing\_disable\_bg  
    Settings\_Dialog, 355  
dialog\_printing\_use\_last\_device  
    Settings\_Dialog, 355  
dialog\_prompt\_bg\_color  
    Settings\_Dialog, 355  
dialog\_prompt\_font\_family  
    Settings\_Dialog, 355  
dialog\_prompt\_font\_size  
    Settings\_Dialog, 355  
dialog\_prompt\_font\_style  
    Settings\_Dialog, 355  
dialog\_prompt\_save\_history  
    Settings\_Dialog, 355  
dialog\_prompt\_save\_history\_as\_html  
    Settings\_Dialog, 355  
dialog\_prompt\_save\_history\_filename  
    Settings\_Dialog, 356  
dialog\_prompt\_text\_color  
    Settings\_Dialog, 356  
dialog\_qsnap\_aperture\_size  
    Settings\_Dialog, 356  
dialog\_qsnap\_apparent  
    Settings\_Dialog, 356  
dialog\_qsnap\_center  
    Settings\_Dialog, 356  
dialog\_qsnap\_enabled  
    Settings\_Dialog, 356  
dialog\_qsnap\_endpoint  
    Settings\_Dialog, 356  
dialog\_qsnap\_extension

Settings\_Dialog, 356  
dialog\_qsnap\_insertion  
    Settings\_Dialog, 356  
dialog\_qsnap\_intersection  
    Settings\_Dialog, 356  
dialog\_qsnap\_locator\_color  
    Settings\_Dialog, 356  
dialog\_qsnap\_locator\_size  
    Settings\_Dialog, 357  
dialog\_qsnap\_midpoint  
    Settings\_Dialog, 357  
dialog\_qsnap\_nearest  
    Settings\_Dialog, 357  
dialog\_qsnap\_node  
    Settings\_Dialog, 357  
dialog\_qsnap\_parallel  
    Settings\_Dialog, 357  
dialog\_qsnap\_perpendicular  
    Settings\_Dialog, 357  
dialog\_qsnap\_quadrant  
    Settings\_Dialog, 357  
dialog\_qsnap\_tangent  
    Settings\_Dialog, 357  
dialog\_ruler\_color  
    Settings\_Dialog, 357  
dialog\_ruler\_metric  
    Settings\_Dialog, 357  
dialog\_ruler\_pixel\_size  
    Settings\_Dialog, 357  
dialog\_ruler\_show\_on\_load  
    Settings\_Dialog, 358  
dialog\_selection\_coolgrip\_color  
    Settings\_Dialog, 358  
dialog\_selection\_grip\_size  
    Settings\_Dialog, 358  
dialog\_selection\_hotgrip\_color  
    Settings\_Dialog, 358  
dialog\_selection\_mode\_pickadd  
    Settings\_Dialog, 358  
dialog\_selection\_mode\_pickdrag  
    Settings\_Dialog, 358  
dialog\_selection\_mode\_pickfirst  
    Settings\_Dialog, 358  
dialog\_selection\_pickbox\_size  
    Settings\_Dialog, 358  
Dictionary  
    gui\_backend.h, 441  
Dictionary\_, 101  
    data, 101  
    length, 101  
    max\_length, 101  
dictionary\_from\_index  
    imgui\_main.c, 515  
DictionaryEntry  
    gui\_backend.h, 441  
DictionaryEntry\_, 102  
    key, 102  
    value, 102  
difat  
    \_bcf\_file, 49  
difatEntriesInHeader  
    main.c, 892  
dim\_leader\_action  
    imgui\_main.c, 515  
dimensions  
    EmblImage\_, 128  
DimLeaderObject, 102  
    ~DimLeaderObject, 105  
    allGripPoints, 106  
    ArrowStyle, 105  
    arrowStyleAngle, 109  
    arrowStyleLength, 109  
    arrowStylePath, 109  
    Box, 105  
    Closed, 105  
    curved, 109  
    DimLeaderObject, 105  
    Dot, 105  
    filled, 109  
    Flared, 105  
    Fletching, 105  
    gripEdit, 106  
    init, 106  
    lineStyle, 105  
    lineStyleAngle, 109  
    lineStyleLength, 109  
    lineStylePath, 109  
    mouseSnapPoint, 106  
    NoArrow, 105  
    NoLine, 105  
    objectAngle, 106  
    objectDeltaX, 106  
    objectDeltaY, 106  
    objectEndPoint1, 106  
    objectEndPoint2, 107  
    objectLength, 107  
    objectMidPoint, 107  
    objectX1, 107  
    objectX2, 107  
    objectY1, 107  
    objectY2, 107  
    Open, 105  
    paint, 107  
    setObjectEndPoint1, 107  
    setObjectEndPoint2, 108  
    setObjectX1, 108  
    setObjectX2, 108  
    setObjectY1, 108  
    setObjectY2, 108  
    Tick, 105  
    Type, 105  
    type, 108  
    updateLeader, 108  
    updateRubber, 108  
    vulcanize, 109  
dirBrush

SelectBox, 315  
DIRECTION\_LEFT  
    imgui\_main.c, 473  
DIRECTION\_RIGHT  
    imgui\_main.c, 473  
directory  
    \_bcf\_file, 49  
directoryEntryName  
    \_bcf\_directory\_entry, 48  
directoryEntryNameLength  
    \_bcf\_directory\_entry, 48  
dirEntries  
    \_bcf\_directory, 47  
dirPen  
    SelectBox, 315  
DISABLE\_GRID  
    imgui\_main.c, 474  
disable\_move\_rapid\_fire  
    imgui\_main.c, 515  
disableLwt  
    StatusBarButton, 364  
disableMoveRapidFire  
    MainWindow, 174  
        View, 404  
disablePromptRapidFire  
    imgui\_main.c, 516  
        MainWindow, 175  
    disableRapidFire  
        CmdPrompt, 81  
    disableReal  
        StatusBarButton, 364  
display\_bg\_color  
    Settings\_, 319  
display\_crosshair\_color  
    Settings\_, 319  
display\_crosshair\_percent  
    Settings\_, 319  
display\_renderhint\_aa  
    Settings\_, 319  
display\_renderhint\_high\_aa  
    Settings\_, 319  
display\_renderhint\_noncosmetic  
    Settings\_, 319  
display\_renderhint\_smooth\_pix  
    Settings\_, 319  
display\_renderhint\_text\_aa  
    Settings\_, 319  
display\_scrollbar\_widget\_num  
    Settings\_, 319  
display\_selectbox\_alpha  
    Settings\_, 320  
display\_selectbox\_left\_color  
    Settings\_, 320  
display\_selectbox\_left\_fill  
    Settings\_, 320  
display\_selectbox\_right\_color  
    Settings\_, 320  
display\_selectbox\_right\_fill

    Settings\_, 320  
    display\_show\_scrollbars  
        Settings\_, 320  
    display\_text  
        gui\_backend.cpp, 432  
        gui\_backend.h, 444  
    display\_units  
        Settings\_, 320  
    display\_use\_opengl  
        Settings\_, 320  
    display\_zoomscale\_in  
        Settings\_, 320  
    display\_zoomscale\_out  
        Settings\_, 320  
    distance\_huffman  
        Compress, 101  
docIndex  
    MainWindow, 220  
dockPropEdit  
    MainWindow, 220  
dockUndoEdit  
    MainWindow, 220  
dolphin\_main  
    imgui\_main.c, 516  
DOLPHIN\_MODE\_NUM\_POINTS  
    imgui\_main.c, 474  
DOLPHIN\_MODE\_XSCALE  
    imgui\_main.c, 474  
DOLPHIN\_MODE\_YSCALE  
    imgui\_main.c, 474  
done  
    UndoableNavCommand, 391  
doNothing  
    MainWindow, 175  
Dot  
    DimLeaderObject, 105  
downPressed  
    CmdPrompt, 81  
    CmdPromptInput, 95  
dragon\_curve  
    fill.c, 794  
draw\_circle  
    gui\_backend.cpp, 432  
    gui\_backend.h, 444  
draw\_grid  
    imgui\_main.c, 516  
draw\_line  
    gui\_backend.cpp, 433  
    gui\_backend.h, 444  
draw\_quad  
    gui\_backend.cpp, 433  
    gui\_backend.h, 444  
draw\_rect  
    gui\_backend.cpp, 433  
    gui\_backend.h, 445  
draw\_rulers  
    imgui\_main.c, 516  
draw\_text

gui\_backend.cpp, 434  
gui\_backend.h, 445  
drawBackground  
    imgui\_main.c, 516  
    View, 404  
drawForeground  
    imgui\_main.c, 516  
    View, 404  
drawRubberLine  
    BaseObject, 68  
dstJumpsPerTrim  
    EmbPattern\_, 133  
dx  
    UndoableMoveCommand, 389  
    UndoableScaleCommand, 394  
dxf\_color  
    embroidery.h, 670  
DXF\_VERSION\_2000  
    embroidery\_internal.h, 732  
DXF\_VERSION\_2002  
    embroidery\_internal.h, 732  
DXF\_VERSION\_2004  
    embroidery\_internal.h, 732  
DXF\_VERSION\_2006  
    embroidery\_internal.h, 732  
DXF\_VERSION\_2007  
    embroidery\_internal.h, 732  
DXF\_VERSION\_2009  
    embroidery\_internal.h, 732  
DXF\_VERSION\_2010  
    embroidery\_internal.h, 732  
DXF\_VERSION\_2013  
    embroidery\_internal.h, 732  
DXF\_VERSION\_R10  
    embroidery\_internal.h, 732  
DXF\_VERSION\_R11  
    embroidery\_internal.h, 733  
DXF\_VERSION\_R12  
    embroidery\_internal.h, 733  
DXF\_VERSION\_R13  
    embroidery\_internal.h, 733  
DXF\_VERSION\_R14  
    embroidery\_internal.h, 733  
DXF\_VERSION\_R15  
    embroidery\_internal.h, 733  
DXF\_VERSION\_R18  
    embroidery\_internal.h, 733  
DXF\_VERSION\_R21  
    embroidery\_internal.h, 733  
DXF\_VERSION\_R24  
    embroidery\_internal.h, 733  
DXF\_VERSION\_R27  
    embroidery\_internal.h, 733  
dy  
    UndoableMoveCommand, 389  
    UndoableScaleCommand, 395  
edit\_int  
    gui\_backend.cpp, 434  
    gui\_backend.h, 445  
edit\_real  
    gui\_backend.cpp, 434  
    gui\_backend.h, 445  
editMenu  
    MainWindow, 221  
ELEMENT\_A  
    embroidery\_internal.h, 733  
ELEMENT\_ANIMATE  
    embroidery\_internal.h, 733  
ELEMENT\_ANIMATECOLOR  
    embroidery\_internal.h, 734  
ELEMENT\_ANIMATEMOTION  
    embroidery\_internal.h, 734  
ELEMENT\_ANIMATETRANSFORM  
    embroidery\_internal.h, 734  
ELEMENT\_ANIMATION  
    embroidery\_internal.h, 734  
ELEMENT\_AUDIO  
    embroidery\_internal.h, 734  
ELEMENT\_CIRCLE  
    embroidery\_internal.h, 734  
ELEMENT\_DEFS  
    embroidery\_internal.h, 734  
ELEMENT\_DESC  
    embroidery\_internal.h, 734  
ELEMENT\_DISCARD  
    embroidery\_internal.h, 734  
ELEMENT\_ELLIPSE  
    embroidery\_internal.h, 734  
ELEMENT\_FONT  
    embroidery\_internal.h, 734  
ELEMENT\_FONT\_FACE  
    embroidery\_internal.h, 735  
ELEMENT\_FONT\_FACE\_SRC  
    embroidery\_internal.h, 735  
ELEMENT\_FONT\_FACE\_URI  
    embroidery\_internal.h, 735  
ELEMENT\_FOREIGN\_OBJECT  
    embroidery\_internal.h, 735  
ELEMENT\_G  
    embroidery\_internal.h, 735  
ELEMENT\_GLYPH  
    embroidery\_internal.h, 735  
ELEMENT\_HANDLER  
    embroidery\_internal.h, 735  
ELEMENT\_HKERN  
    embroidery\_internal.h, 735  
ELEMENT\_IMAGE  
    embroidery\_internal.h, 735  
ELEMENT\_LINE  
    embroidery\_internal.h, 735  
ELEMENT\_LINEAR\_GRADIENT  
    embroidery\_internal.h, 735  
ELEMENT\_LISTENER  
    embroidery\_internal.h, 736  
ELEMENT\_METADATA  
    embroidery\_internal.h, 736

ELEMENT\_MISSING\_GLYPH  
embroidery\_internal.h, 736

ELEMENT\_MPATH  
embroidery\_internal.h, 736

ELEMENT\_PATH  
embroidery\_internal.h, 736

ELEMENT\_POLYGON  
embroidery\_internal.h, 736

ELEMENT\_POLYLINE  
embroidery\_internal.h, 736

ELEMENT\_PREFETCH  
embroidery\_internal.h, 736

ELEMENT\_RADIAL\_GRADIENT  
embroidery\_internal.h, 736

ELEMENT\_RECT  
embroidery\_internal.h, 736

ELEMENT\_SCRIPT  
embroidery\_internal.h, 736

ELEMENT\_SET  
embroidery\_internal.h, 737

ELEMENT\_SOLID\_COLOR  
embroidery\_internal.h, 737

ELEMENT\_STOP  
embroidery\_internal.h, 737

ELEMENT\_SVG  
embroidery\_internal.h, 737

ELEMENT\_SWITCH  
embroidery\_internal.h, 737

ELEMENT\_TBREAK  
embroidery\_internal.h, 737

ELEMENT\_TEXT  
embroidery\_internal.h, 737

ELEMENT\_TEXT\_AREA  
embroidery\_internal.h, 737

ELEMENT\_TITLE  
embroidery\_internal.h, 737

ELEMENT\_TSPAN  
embroidery\_internal.h, 737

ELEMENT\_USE  
embroidery\_internal.h, 737

ELEMENT\_VIDEO  
embroidery\_internal.h, 738

ELEMENT\_XML  
embroidery\_internal.h, 738

ellipse  
EmbGeometry\_, 126

ellipse.c  
ellipse\_objectQuadrant0, 867  
ellipse\_objectQuadrant180, 867  
ellipse\_objectQuadrant270, 867  
ellipse\_objectQuadrant90, 867  
embEllipse\_area, 868  
embEllipse\_diameterX, 868  
embEllipse\_diameterY, 868  
embEllipse\_height, 868  
embEllipse\_init, 868  
embEllipse\_perimeter, 868  
embEllipse\_setDiameterMajor, 868

embEllipse\_setDiameterMinor, 868  
embEllipse\_setRadiusMajor, 868  
embEllipse\_setRadiusMinor, 869  
embEllipse\_setSize, 869  
embEllipse\_updatePath, 869  
embEllipse\_width, 869

ellipse\_action  
imgui\_main.c, 516

ELLIPSE\_MODE\_ELLIPSE\_ROTATION  
imgui\_main.c, 474

ELLIPSE\_MODE\_MAJORDIAMETER\_MINORRADIUS  
imgui\_main.c, 474

ELLIPSE\_MODE\_MAJORRADIUS\_MINORRADIUS  
imgui\_main.c, 474

ellipse\_objectQuadrant0  
ellipse.c, 867

ellipse\_objectQuadrant180  
ellipse.c, 867

ellipse\_objectQuadrant270  
ellipse.c, 867

ellipse\_objectQuadrant90  
ellipse.c, 867

EllipseObject, 110  
~EllipseObject, 112  
allGripPoints, 112  
EllipseObject, 112  
gripEdit, 112  
init, 113  
mouseSnapPoint, 113  
objectCenter, 113  
objectCenterX, 113  
objectCenterY, 113  
objectDiameterMajor, 113  
objectDiameterMinor, 113  
objectHeight, 113  
objectQuadrant0, 113  
objectQuadrant180, 114  
objectQuadrant270, 114  
objectQuadrant90, 114  
objectRadiusMajor, 114  
objectRadiusMinor, 114  
objectSavePath, 114  
objectWidth, 114  
paint, 114  
setObjectCenter, 114  
setObjectCenterX, 115  
setObjectCenterY, 115  
setObjectDiameterMajor, 115  
setObjectDiameterMinor, 115  
setObjectRadiusMajor, 115  
setObjectRadiusMinor, 115  
setObjectSize, 115  
Type, 112  
type, 115  
updatePath, 115  
updateRubber, 116  
vulcanize, 116

ELLIPSETOEND

embroidery\_internal.h, 738  
ELLIPSETORAD  
    embroidery\_internal.h, 738  
EMB\_ARC  
    embroidery.h, 670  
EMB\_ARRAY  
    embroidery.h, 670  
EMB\_BIG\_ENDIAN  
    embroidery\_internal.h, 738  
EMB\_BLOCK  
    imgui\_main.c, 474  
EMB\_CIRCLE  
    embroidery.h, 670  
emb\_clamp  
    imgui\_main.c, 517  
EMB\_DIM\_ALIGNED  
    imgui\_main.c, 474  
EMB\_DIM\_ANGULAR  
    imgui\_main.c, 474  
EMB\_DIM\_ARCLENGTH  
    imgui\_main.c, 474  
EMB\_DIM\_DIAMETER  
    embroidery.h, 670  
EMB\_DIM\_LEADER  
    embroidery.h, 670  
EMB\_DIM\_LINEAR  
    imgui\_main.c, 475  
EMB\_DIM\_ORDINATE  
    imgui\_main.c, 475  
EMB\_DIM\_RADIUS  
    imgui\_main.c, 475  
EMB\_ELLIPSE  
    embroidery.h, 670  
emb\_error  
    embroidery.h, 714  
    main.c, 892  
EMB\_FLAG  
    embroidery.h, 670  
EMB\_FORMAT\_100  
    embroidery.h, 670  
EMB\_FORMAT\_10O  
    embroidery.h, 671  
EMB\_FORMAT\_ART  
    embroidery.h, 671  
EMB\_FORMAT\_BMC  
    embroidery.h, 671  
EMB\_FORMAT\_BRO  
    embroidery.h, 671  
EMB\_FORMAT\_CND  
    embroidery.h, 671  
EMB\_FORMAT\_COL  
    embroidery.h, 671  
EMB\_FORMAT\_CSD  
    embroidery.h, 671  
EMB\_FORMAT\_CSV  
    embroidery.h, 671  
EMB\_FORMAT\_DAT  
    embroidery.h, 671  
EMB\_FORMAT\_DEM  
    embroidery.h, 671  
EMB\_FORMAT\_DSB  
    embroidery.h, 671  
EMB\_FORMAT\_DST  
    embroidery.h, 672  
EMB\_FORMAT\_DSZ  
    embroidery.h, 672  
EMB\_FORMAT\_DXF  
    embroidery.h, 672  
EMB\_FORMAT\_EDR  
    embroidery.h, 672  
EMB\_FORMAT\_EMD  
    embroidery.h, 672  
EMB\_FORMAT\_EXP  
    embroidery.h, 672  
EMB\_FORMAT\_EXY  
    embroidery.h, 672  
EMB\_FORMAT\_EYS  
    embroidery.h, 672  
EMB\_FORMAT\_FXY  
    embroidery.h, 672  
EMB\_FORMAT\_GC  
    embroidery.h, 672  
EMB\_FORMAT\_GNC  
    embroidery.h, 672  
EMB\_FORMAT\_GT  
    embroidery.h, 673  
EMB\_FORMAT\_HUS  
    embroidery.h, 673  
EMB\_FORMAT\_INB  
    embroidery.h, 673  
EMB\_FORMAT\_INF  
    embroidery.h, 673  
EMB\_FORMAT\_JEF  
    embroidery.h, 673  
EMB\_FORMAT\_KSM  
    embroidery.h, 673  
EMB\_FORMAT\_MAX  
    embroidery.h, 673  
EMB\_FORMAT\_MIT  
    embroidery.h, 673  
EMB\_FORMAT\_NEW  
    embroidery.h, 673  
EMB\_FORMAT\_OFM  
    embroidery.h, 673  
EMB\_FORMAT\_PCD  
    embroidery.h, 673  
EMB\_FORMAT\_PCM  
    embroidery.h, 674  
EMB\_FORMAT\_PCQ  
    embroidery.h, 674  
EMB\_FORMAT\_PCS  
    embroidery.h, 674  
EMB\_FORMAT\_PEC  
    embroidery.h, 674  
EMB\_FORMAT\_PEL  
    embroidery.h, 674

EMB\_FORMAT\_PEM  
embroidery.h, 674

EMB\_FORMAT\_PES  
embroidery.h, 674

EMB\_FORMAT\_PHB  
embroidery.h, 674

EMB\_FORMAT\_PHC  
embroidery.h, 674

EMB\_FORMAT\_PLT  
embroidery.h, 674

EMB\_FORMAT\_RGB  
embroidery.h, 674

EMB\_FORMAT\_SEW  
embroidery.h, 675

EMB\_FORMAT\_SHV  
embroidery.h, 675

EMB\_FORMAT\_SST  
embroidery.h, 675

EMB\_FORMAT\_STX  
embroidery.h, 675

EMB\_FORMAT\_SVG  
embroidery.h, 675

EMB\_FORMAT\_T01  
embroidery.h, 675

EMB\_FORMAT\_T09  
embroidery.h, 675

EMB\_FORMAT\_TAP  
embroidery.h, 675

EMB\_FORMAT\_THR  
embroidery.h, 675

EMB\_FORMAT\_TXT  
embroidery.h, 675

EMB\_FORMAT\_U00  
embroidery.h, 675

EMB\_FORMAT\_U01  
embroidery.h, 676

EMB\_FORMAT\_VIP  
embroidery.h, 676

EMB\_FORMAT\_VP3  
embroidery.h, 676

EMB\_FORMAT\_XXX  
embroidery.h, 676

EMB\_FORMAT\_ZSK  
embroidery.h, 676

emb\_identify\_format  
embroidery.h, 685  
formats.c, 805

EMB\_IMAGE  
embroidery.h, 676

EMB\_INFINITELINE  
imgui\_main.c, 475

EMB\_INT16\_BIG  
embroidery\_internal.h, 738

EMB\_INT16\_LITTLE  
embroidery\_internal.h, 738

EMB\_INT32\_BIG  
embroidery\_internal.h, 738

EMB\_INT32\_LITTLE  
embroidery\_internal.h, 738

EMB\_LINE  
embroidery.h, 676

EMB\_LITTLE\_ENDIAN  
embroidery\_internal.h, 738

EMB\_MAX  
embroidery\_internal.h, 738

EMB\_MAX\_LAYERS  
embroidery.h, 676

EMB\_MIN  
embroidery\_internal.h, 739

emb\_optOut  
embroidery\_internal.h, 754  
main.c, 885

EMB\_PATH  
embroidery.h, 676

EMB\_POINT  
embroidery.h, 676

EMB\_POLYGON  
embroidery.h, 676

EMB\_POLYLINE  
embroidery.h, 677

EMB\_PUBLIC  
embroidery.h, 677

EMB\_RAY  
imgui\_main.c, 475

emb\_readline  
embroidery\_internal.h, 754  
main.c, 886

EMB\_RECT  
embroidery.h, 677

emb\_round  
embroidery.h, 685  
functions.c, 869

EMB\_SPLINE  
embroidery.h, 677

EMB\_STITCH  
embroidery.h, 677

EMB\_TEXT\_MULTI  
embroidery.h, 677

EMB\_TEXT\_SINGLE  
embroidery.h, 677

EMB\_THREAD  
embroidery.h, 677

EMB\_VECTOR  
embroidery.h, 677

emb\_verbose  
embroidery.h, 714  
main.c, 892

EmbAlignedDim  
embroidery.h, 681

EmbAlignedDim\_, 116  
position, 116

EmbAngularDim  
embroidery.h, 681

EmbAngularDim\_, 116  
position, 117

EmbArc

embroidery.h, 681  
EmbArc\_, 117  
  end, 117  
  mid, 117  
  start, 117  
embArc\_arcLength  
  arc.c, 862  
embArc\_area  
  arc.c, 862  
embArc\_chord  
  arc.c, 862  
embArc\_clockwise  
  arc.c, 862  
  embroidery.h, 686  
embArc\_endAngle  
  arc.c, 862  
  imgui\_main.c, 517  
embArc\_gripEdit  
  arc.c, 862  
embArc\_includedAngle  
  arc.c, 863  
embArc\_init  
  arc.c, 863  
  embroidery.h, 686  
embArc\_mouseSnapPoint  
  arc.c, 863  
embArc\_paint  
  arc.c, 863  
embArc\_print  
  main.c, 886  
embArc\_setCenter  
  arc.c, 863  
  imgui\_main.c, 517  
embArc\_setEndAngle  
  arc.c, 863  
  imgui\_main.c, 517  
embArc\_setRadius  
  arc.c, 863  
  imgui\_main.c, 517  
embArc\_setStartAngle  
  arc.c, 863  
  imgui\_main.c, 517  
embArc\_startAngle  
  arc.c, 864  
  imgui\_main.c, 517  
embArc\_updatePath  
  arc.c, 864  
embArc\_updateRubber  
  arc.c, 864  
EmbArcLengthDim  
  embroidery.h, 682  
EmbArcLengthDim\_, 118  
  position, 118  
EmbArray  
  embroidery.h, 682  
EmbArray\_, 118  
  count, 118  
  geometry, 118  
            length, 118  
            stitch, 119  
            thread, 119  
            type, 119  
embArray\_addArc  
  array.c, 652  
  embroidery.h, 686  
embArray\_addCircle  
  array.c, 653  
  embroidery.h, 686  
embArray\_addEllipse  
  array.c, 653  
  embroidery.h, 686  
embArray\_addFlag  
  array.c, 653  
  embroidery.h, 687  
embArray\_addLine  
  array.c, 653  
  embroidery.h, 687  
embArray\_addPath  
  array.c, 654  
  embroidery.h, 687  
embArray\_addPoint  
  array.c, 654  
  embroidery.h, 688  
embArray\_addPolygon  
  array.c, 654  
  embroidery.h, 688  
embArray\_addPolyline  
  array.c, 655  
  embroidery.h, 688  
embArray\_addRect  
  array.c, 655  
  embroidery.h, 688  
embArray\_addStitch  
  array.c, 655  
  embroidery.h, 689  
embArray\_addThread  
  embroidery.h, 689  
embArray\_addVector  
  array.c, 656  
  embroidery.h, 689  
embArray\_copy  
  array.c, 656  
  embroidery.h, 689  
embArray\_create  
  array.c, 656  
  embroidery.h, 690  
embArray\_free  
  array.c, 656  
  embroidery.h, 690  
embArray\_resize  
  array.c, 657  
  embroidery.h, 690  
embBaseSetColorRGB  
  arc.c, 864  
EmbBezier  
  embroidery.h, 682

**EmbBezier\_**, 119  
 control1, 119  
 control2, 119  
 end, 119  
 start, 119  
**EmbBlock**  
 embroidery.h, 682  
**EmbBlock\_**, 120  
 position, 120  
**EmbCircle**  
 embroidery.h, 682  
**EmbCircle\_**, 120  
 center, 120  
 radius, 120  
**embCircle\_area**  
 circle.c, 866  
**embCircle\_circumference**  
 circle.c, 866  
**embCircle\_click**  
 imgui\_main.c, 518  
**embCircle\_init**  
 circle.c, 866  
 embroidery.h, 690  
**embCircle\_prompt**  
 arc.c, 864  
 imgui\_main.c, 518  
**embCircle\_setArea**  
 arc.c, 864  
 imgui\_main.c, 518  
**embCircle\_setCircumference**  
 arc.c, 864  
 imgui\_main.c, 518  
**EmbColor**  
 embroidery.h, 682  
**EmbColor\_**, 121  
 b, 121  
 g, 121  
 r, 121  
**embColor\_create**  
 embroidery.h, 690  
**embColor\_distance**  
 embroidery.h, 691  
 main.c, 886  
**embColor\_fromHexStr**  
 embroidery.h, 691  
 encoding.c, 790  
**embColor\_make**  
 embroidery.h, 691  
**embColor\_read**  
 embroidery\_internal.h, 754  
 main.c, 886  
**embColor\_to\_int**  
 gui\_backend.cpp, 434  
 gui\_backend.h, 446  
**embColor\_write**  
 embroidery\_internal.h, 756  
 main.c, 887  
**embConstantPi**  
 embroidery.h, 715  
 main.c, 892  
**EmbDetailsDialog**, 121  
 ~EmbDetailsDialog, 122  
 boundingRect, 123  
 buttonBox, 123  
 colorChanges, 123  
 colorTotal, 123  
 createHistogram, 122  
 createMainWidget, 122  
 EmbDetailsDialog, 122  
 getInfo, 122  
 mainWidget, 123  
 stitchesJump, 123  
 stitchesReal, 123  
 stitchesTotal, 123  
 stitchesTrim, 123  
**EmbDiameterDim**  
 embroidery.h, 682  
**EmbDiameterDim\_**, 124  
 position, 124  
**EmbEllipse**  
 embroidery.h, 682  
**EmbEllipse\_**, 124  
 center, 124  
 radius, 124  
 rotation, 124  
**embEllipse\_area**  
 ellipse.c, 868  
 embroidery.h, 691  
**embEllipse\_click**  
 arc.c, 864  
**embEllipse\_diameterX**  
 ellipse.c, 868  
 embroidery.h, 691  
**embEllipse\_diameterY**  
 ellipse.c, 868  
 embroidery.h, 692  
**embEllipse\_height**  
 ellipse.c, 868  
 embroidery.h, 692  
**embEllipse\_init**  
 ellipse.c, 868  
 embroidery.h, 692  
**embEllipse\_main**  
 arc.c, 865  
**embEllipse\_make**  
 embroidery.h, 692  
**embEllipse\_perimeter**  
 ellipse.c, 868  
 embroidery.h, 692  
**embEllipse\_setDiameterMajor**  
 ellipse.c, 868  
**embEllipse\_setDiameterMinor**  
 ellipse.c, 868  
**embEllipse\_setRadiusMajor**  
 ellipse.c, 868  
**embEllipse\_setRadiusMinor**

ellipse.c, 869  
embEllipse\_setSize  
    ellipse.c, 869  
embEllipse\_updatePath  
    ellipse.c, 869  
embEllipse\_width  
    ellipse.c, 869  
    embroidery.h, 692  
EmbFlag  
    embroidery.h, 682  
embFormat\_getExtension  
    formats.c, 805  
EMBFORMAT\_MAXDESC  
    embroidery.h, 677  
EMBFORMAT\_MAXEXT  
    embroidery.h, 677  
EMBFORMAT\_OBJECTONLY  
    embroidery.h, 678  
EMBFORMAT\_STCHANDOBJ  
    embroidery.h, 678  
EMBFORMAT\_STITCHONLY  
    embroidery.h, 678  
EMBFORMAT\_UNSUPPORTED  
    embroidery.h, 678  
EmbFormatList  
    embroidery.h, 682  
EmbFormatList\_, 125  
    check\_for\_color\_file, 125  
    color\_only, 125  
    description, 125  
    extension, 125  
    reader\_state, 125  
    type, 125  
    write\_external\_color\_file, 125  
    writer\_state, 125  
EmbGeometry  
    embroidery.h, 682  
EmbGeometry\_, 126  
    arc, 126  
    circle, 126  
    color, 126  
    ellipse, 126  
    flag, 127  
    line, 127  
    lineType, 127  
    object, 127  
    path, 127  
    point, 127  
    polygon, 127  
    polyline, 127  
    rect, 127  
    spline, 127  
    stitch, 127  
    thread, 128  
    type, 128  
    vector, 128  
embGeometry\_boundingRect  
    embroidery.h, 692  
                geometry.c, 859  
                embGeometry\_free  
                embroidery.h, 693  
                geometry.c, 859  
                embGeometry\_init  
                embroidery.h, 693  
                geometry.c, 859  
                embGeometry\_move  
                embroidery.h, 693  
                geometry.c, 860  
                embGeometry\_vulcanize  
                embroidery.h, 693  
                geometry.c, 860  
EmblImage  
    embroidery.h, 683  
EmblImage\_, 128  
    data, 128  
    dimensions, 128  
    height, 128  
    name, 129  
    path, 129  
    position, 129  
    width, 129  
emblImage\_create  
    embroidery.h, 695  
emblImage\_free  
    embroidery.h, 695  
emblImage\_read  
    embroidery.h, 695  
emblImage\_write  
    embroidery.h, 695  
EmblInfiniteLine  
    embroidery.h, 683  
EmblInfiniteLine\_, 129  
    position, 129  
emblInt\_read  
    embroidery\_internal.h, 756  
    encoding.c, 791  
emblInt\_write  
    embroidery\_internal.h, 756  
    encoding.c, 791  
EmbLayer  
    embroidery.h, 683  
EmbLayer\_, 129  
    geometry, 130  
    name, 130  
EmbLeaderDim  
    embroidery.h, 683  
EmbLeaderDim\_, 130  
    position, 130  
EmbLine  
    embroidery.h, 683  
EmbLine\_, 130  
    color, 131  
    end, 131  
    lineType, 131  
    start, 131  
                embLine\_intersectionPoint

embroidery.h, 695  
line.c, 870  
embLine\_make  
    embroidery.h, 695  
embLine\_normalVector  
    embroidery.h, 695  
    line.c, 870  
embLine\_toVector  
    line.c, 870  
EmbLinearDim  
    embroidery.h, 683  
EmbLinearDim\_, 131  
    position, 131  
EmbOrdinateDim  
    embroidery.h, 683  
EmbOrdinateDim\_, 132  
    position, 132  
EmbPath  
    embroidery.h, 683  
EmbPath\_, 132  
    color, 132  
    flagList, 132  
    lineType, 132  
    pointList, 132  
EmbPattern  
    embroidery.h, 683  
EmbPattern\_, 133  
    currentColorIndex, 133  
    dstJumpsPerTrim, 133  
    geometry, 133  
    home, 133  
    hoop\_height, 133  
    hoop\_width, 133  
    layer, 134  
    stitch\_list, 134  
    thread\_list, 134  
embPattern\_addCircleAbs  
    embroidery.h, 696  
    pattern.c, 894  
embPattern\_addEllipseAbs  
    embroidery.h, 696  
    pattern.c, 894  
embPattern\_addLineAbs  
    embroidery.h, 696  
    pattern.c, 894  
embPattern\_addPathAbs  
    embroidery.h, 696  
    pattern.c, 894  
embPattern\_addPointAbs  
    embroidery.h, 696  
    pattern.c, 894  
embPattern\_addPolygonAbs  
    embroidery.h, 696  
    pattern.c, 894  
embPattern\_addPolylineAbs  
    embroidery.h, 696  
embPattern\_addPolylineObjectAbs  
    pattern.c, 894  
embPattern\_addRectAbs  
    embroidery.h, 696  
    pattern.c, 894  
embPattern\_addStitchAbs  
    embroidery.h, 697  
    pattern.c, 894  
embPattern\_addStitchRel  
    embroidery.h, 697  
    pattern.c, 895  
embPattern\_addThread  
    embroidery.h, 697  
    pattern.c, 895  
embPattern\_calcBoundingBox  
    embroidery.h, 697  
    pattern.c, 895  
embPattern\_center  
    embroidery.h, 697  
    pattern.c, 895  
embPattern\_changeColor  
    embroidery.h, 697  
    pattern.c, 895  
embPattern\_color\_count  
    embroidery.h, 699  
    pattern.c, 895  
embPattern\_combine  
    embroidery.h, 699  
    fill.c, 795  
embPattern\_combineJumpStitches  
    embroidery.h, 699  
    pattern.c, 895  
embPattern\_convertGeometry  
    embroidery.h, 699  
    fill.c, 795  
embPattern\_copyPolylinesToStitch\_list  
    pattern.c, 896  
embPattern\_copyPolylinesToStitchList  
    embroidery.h, 699  
embPattern\_copystitch\_listToPolylines  
    pattern.c, 896  
embPattern\_copyStitchListToPolylines  
    embroidery.h, 699  
embPattern\_correctForMaxStitchLength  
    embroidery.h, 700  
    pattern.c, 896  
embPattern\_create  
    embroidery.h, 700  
    pattern.c, 896  
embPattern\_crossstitch  
    embroidery.h, 700  
    fill.c, 795  
embPattern\_designDetails  
    embroidery.h, 700  
    pattern.c, 896  
embPattern\_end  
    embroidery.h, 700  
    pattern.c, 896  
embPattern\_fixColorCount  
    embroidery.h, 700

pattern.c, 896  
embPattern\_flip  
    embroidery.h, 701  
    pattern.c, 896  
embPattern\_flipHorizontal  
    embroidery.h, 701  
    pattern.c, 897  
embPattern\_flipVertical  
    embroidery.h, 701  
    pattern.c, 897  
embPattern\_free  
    embroidery.h, 701  
    pattern.c, 897  
embPattern\_hideStitchesOverLength  
    embroidery.h, 701  
    pattern.c, 897  
embPattern\_horizontal\_fill  
    embroidery.h, 701  
    fill.c, 796  
embPattern\_jumpStitches  
    embroidery.h, 702  
    pattern.c, 897  
embPattern\_lengthHistogram  
    embroidery.h, 702  
    pattern.c, 897  
embPattern\_loadExternalColorFile  
    embroidery.h, 702  
    pattern.c, 897  
embPattern\_maximumStitchLength  
    embroidery.h, 702  
    pattern.c, 897  
embPattern\_minimumStitchLength  
    embroidery.h, 702  
    pattern.c, 897  
embPattern\_movePolylinesToStitch\_list  
    pattern.c, 897  
embPattern\_movePolylinesToStitchList  
    embroidery.h, 702  
embPattern\_movestitch\_listToPolylines  
    pattern.c, 897  
embPattern\_moveStitchListToPolylines  
    embroidery.h, 702  
embPattern\_read  
    embroidery.h, 703  
    formats.c, 806  
embPattern\_readAuto  
    embroidery.h, 703  
    formats.c, 806  
embPattern\_realStitches  
    embroidery.h, 703  
    pattern.c, 897  
embPattern\_render  
    embroidery.h, 703  
embPattern\_scale  
    embroidery.h, 703  
    pattern.c, 898  
embPattern\_simulate  
    embroidery.h, 704  
embPattern\_stitchArc  
    fill.c, 796  
embPattern\_stitchCircle  
    fill.c, 796  
embPattern\_stitchEllipse  
    fill.c, 797  
embPattern\_stitchPath  
    fill.c, 797  
embPattern\_stitchPolygon  
    fill.c, 797  
embPattern\_stitchPolyline  
    fill.c, 798  
embPattern\_stitchRect  
    fill.c, 798  
embPattern\_stitchText  
    fill.c, 798  
embPattern\_totalStitchLength  
    embroidery.h, 704  
    pattern.c, 898  
embPattern\_trimStitches  
    embroidery.h, 704  
    pattern.c, 898  
embPattern\_write  
    embroidery.h, 704  
    formats.c, 806  
embPattern\_writeAuto  
    embroidery.h, 704  
    formats.c, 807  
EmbPoint  
    embroidery.h, 683  
EmbPoint\_  
    color, 134  
    lineType, 134  
    position, 134  
EmbPolygon  
    embroidery.h, 683  
embPolygon\_reduceByDistance  
    fill.c, 799  
embPolygon\_reduceByNth  
    fill.c, 799  
EmbPolyline  
    embroidery.h, 684  
embPolyline\_click  
    imgui\_main.c, 518  
embPolyline\_main  
    imgui\_main.c, 518  
embPolyline\_prompt  
    imgui\_main.c, 518  
EmbRadiusDim  
    embroidery.h, 684  
EmbRadiusDim\_  
    position, 135  
EmbRay  
    embroidery.h, 684  
EmbRay\_  
    position, 135  
EmbReal  
    embroidery.h, 684

**EmbRect**  
 embroidery.h, 684  
**EmbRect\_**, 135  
 bottom, 136  
 left, 136  
 radius, 136  
 right, 136  
 rotation, 136  
 top, 136  
**embRect\_area**  
 embroidery.h, 706  
 rect.c, 871  
**embRect\_bottomLeft**  
 arc.c, 865  
**embRect\_bottomRight**  
 arc.c, 865  
**embRect\_init**  
 embroidery.h, 706  
 rect.c, 871  
**brodermodder2/application.cpp**, 423  
**brodermodder2/application.h**, 423  
**brodermodder2/cmdprompt.cpp**, 423  
**brodermodder2/cmdprompt.h**, 424  
**brodermodder2/embeddetails-dialog.cpp**, 427  
**brodermodder2/embeddetails-dialog.h**, 427, 428  
**brodermodder2/gui\_backend.cpp**, 428  
**brodermodder2/gui\_backend.h**, 439, 451  
**brodermodder2/imagewidget.cpp**, 452  
**brodermodder2/imagewidget.h**, 453  
**brodermodder2/imgui\_main.c**, 453  
**brodermodder2/layer-manager.cpp**, 576  
**brodermodder2/layer-manager.h**, 576, 577  
**brodermodder2/main.cpp**, 577  
**brodermodder2/mainwindow-actions.cpp**, 578  
**brodermodder2/mainwindow-actions.h**, 579, 581  
**brodermodder2/mainwindow-commands.cpp**, 582  
**brodermodder2/mainwindow-menus.cpp**, 583  
**brodermodder2/mainwindow-settings.cpp**, 583  
**brodermodder2/mainwindow-toolbars.cpp**, 583  
**brodermodder2/mainwindow.cpp**, 583  
**brodermodder2/mainwindow.h**, 584  
**brodermodder2/mdiarea.cpp**, 596  
**brodermodder2/mdiarea.h**, 596  
**brodermodder2/mdiwindow.cpp**, 597  
**brodermodder2/mdiwindow.h**, 598  
**brodermodder2/native-scripting.cpp**, 599  
**brodermodder2/native-scripting.h**, 600, 601  
**brodermodder2/object-arc.cpp**, 601  
**brodermodder2/object-arc.h**, 601  
**brodermodder2/object-base.cpp**, 602  
**brodermodder2/object-base.h**, 602, 603  
**brodermodder2/object-circle.cpp**, 604  
**brodermodder2/object-circle.h**, 604  
**brodermodder2/object-data.h**, 605, 615  
**brodermodder2/object-dimleader.cpp**, 618  
**brodermodder2/object-dimleader.h**, 618  
**brodermodder2/object-ellipse.cpp**, 619  
**brodermodder2/object-ellipse.h**, 619, 620  
**brodermodder2/object-image.cpp**, 620  
**brodermodder2/object-image.h**, 620, 621  
**brodermodder2/object-line.cpp**, 621  
**brodermodder2/object-line.h**, 621, 622  
**brodermodder2/object-path.cpp**, 622  
**brodermodder2/object-path.h**, 622, 623  
**brodermodder2/object-point.cpp**, 623  
**brodermodder2/object-point.h**, 623, 624  
**brodermodder2/object-polygon.cpp**, 624  
**brodermodder2/object-polygon.h**, 624, 625  
**brodermodder2/object-polyline.cpp**, 625  
**brodermodder2/object-polyline.h**, 625, 626  
**brodermodder2/object-rect.cpp**, 626  
**brodermodder2/object-rect.h**, 626, 627  
**brodermodder2/object-save.cpp**, 627  
**brodermodder2/object-save.h**, 627, 628  
**brodermodder2/object-textsingle.cpp**, 629  
**brodermodder2/object-textsingle.h**, 629  
**brodermodder2/preview-dialog.cpp**, 630  
**brodermodder2/preview-dialog.h**, 630  
**brodermodder2/property-editor.cpp**, 631  
**brodermodder2/property-editor.h**, 631, 632  
**brodermodder2/README.md**, 638  
**brodermodder2/selectbox.cpp**, 638  
**brodermodder2/selectbox.h**, 638  
**brodermodder2/settings-dialog.cpp**, 639  
**brodermodder2/settings-dialog.h**, 639  
**brodermodder2/statusbar-button.cpp**, 643  
**brodermodder2/statusbar-button.h**, 643  
**brodermodder2/statusbar.cpp**, 644  
**brodermodder2/statusbar.h**, 644  
**brodermodder2/undo-commands.cpp**, 645  
**brodermodder2/undo-commands.h**, 645, 646  
**brodermodder2/undo-editor.cpp**, 647  
**brodermodder2/undo-editor.h**, 648  
**brodermodder2/view.cpp**, 648  
**brodermodder2/view.h**, 649  
**brodermodder2/embroidery.h**  
 \_dxfColorTable, 714  
 Arc\_Polyester, 669  
 Arc\_Rayon, 669  
 black\_thread, 714  
 CHUNK\_SIZE, 670  
 CoatsAndClark\_Rayon, 670  
 convert, 685  
 degrees, 685  
 dxf\_color, 670  
 EMB\_ARC, 670  
 EMB\_ARRAY, 670  
 EMB\_CIRCLE, 670  
 EMB\_DIM\_DIAMETER, 670  
 EMB\_DIM\_LEADER, 670  
 EMB\_ELLIPSE, 670  
 emb\_error, 714  
 EMB\_FLAG, 670  
 EMB\_FORMAT\_100, 670  
 EMB\_FORMAT\_10O, 671  
 EMB\_FORMAT\_ART, 671

EMB\_FORMAT\_BMC, 671  
EMB\_FORMAT\_BRO, 671  
EMB\_FORMAT\_CND, 671  
EMB\_FORMAT\_COL, 671  
EMB\_FORMAT\_CSD, 671  
EMB\_FORMAT\_CSV, 671  
EMB\_FORMAT\_DAT, 671  
EMB\_FORMAT\_DEM, 671  
EMB\_FORMAT\_DSB, 671  
EMB\_FORMAT\_DST, 672  
EMB\_FORMAT\_DSZ, 672  
EMB\_FORMAT\_DXF, 672  
EMB\_FORMAT\_EDR, 672  
EMB\_FORMAT\_EMD, 672  
EMB\_FORMAT\_EXP, 672  
EMB\_FORMAT\_EXY, 672  
EMB\_FORMAT\_EYS, 672  
EMB\_FORMAT\_FXY, 672  
EMB\_FORMAT\_GC, 672  
EMB\_FORMAT\_GNC, 672  
EMB\_FORMAT\_GT, 673  
EMB\_FORMAT\_HUS, 673  
EMB\_FORMAT\_INB, 673  
EMB\_FORMAT\_INF, 673  
EMB\_FORMAT\_JEF, 673  
EMB\_FORMAT\_KSM, 673  
EMB\_FORMAT\_MAX, 673  
EMB\_FORMAT\_MIT, 673  
EMB\_FORMAT\_NEW, 673  
EMB\_FORMAT\_OFM, 673  
EMB\_FORMAT\_PCD, 673  
EMB\_FORMAT\_PCM, 674  
EMB\_FORMAT\_PCQ, 674  
EMB\_FORMAT\_PCS, 674  
EMB\_FORMAT\_PEC, 674  
EMB\_FORMAT\_PEL, 674  
EMB\_FORMAT PEM, 674  
EMB\_FORMAT\_PES, 674  
EMB\_FORMAT\_PHB, 674  
EMB\_FORMAT\_PHC, 674  
EMB\_FORMAT\_PLT, 674  
EMB\_FORMAT\_RGB, 674  
EMB\_FORMAT\_SEW, 675  
EMB\_FORMAT\_SHV, 675  
EMB\_FORMAT\_SST, 675  
EMB\_FORMAT\_STX, 675  
EMB\_FORMAT\_SVG, 675  
EMB\_FORMAT\_T01, 675  
EMB\_FORMAT\_T09, 675  
EMB\_FORMAT\_TAP, 675  
EMB\_FORMAT\_THR, 675  
EMB\_FORMAT\_TXT, 675  
EMB\_FORMAT\_U00, 675  
EMB\_FORMAT\_U01, 676  
EMB\_FORMAT\_VIP, 676  
EMB\_FORMAT\_VP3, 676  
EMB\_FORMAT\_XXX, 676  
EMB\_FORMAT\_ZSK, 676  
emb\_identify\_format, 685  
EMB\_IMAGE, 676  
EMB\_LINE, 676  
EMB\_MAX\_LAYERS, 676  
EMB\_PATH, 676  
EMB\_POINT, 676  
EMB\_POLYGON, 676  
EMB\_POLYLINE, 677  
EMB\_PUBLIC, 677  
EMB\_RECT, 677  
emb\_round, 685  
EMB\_SPLINE, 677  
EMB\_STITCH, 677  
EMB\_TEXT\_MULTI, 677  
EMB\_TEXT\_SINGLE, 677  
EMB\_THREAD, 677  
EMB\_VECTOR, 677  
emb\_verbose, 714  
EmbAlignedDim, 681  
EmbAngularDim, 681  
EmbArc, 681  
embArc\_clockwise, 686  
embArc\_init, 686  
EmbArcLengthDim, 682  
EmbArray, 682  
embArray\_addArc, 686  
embArray\_addCircle, 686  
embArray\_addEllipse, 686  
embArray\_addFlag, 687  
embArray\_addLine, 687  
embArray\_addPath, 687  
embArray\_addPoint, 688  
embArray\_addPolygon, 688  
embArray\_addPolyline, 688  
embArray\_addRect, 688  
embArray\_addStitch, 689  
embArray\_addThread, 689  
embArray\_addVector, 689  
embArray\_copy, 689  
embArray\_create, 690  
embArray\_free, 690  
embArray\_resize, 690  
EmbBezier, 682  
EmbBlock, 682  
EmbCircle, 682  
embCircle\_init, 690  
EmbColor, 682  
embColor\_create, 690  
embColor\_distance, 691  
embColor\_fromHexStr, 691  
embColor\_make, 691  
embConstantPi, 715  
EmbDiameterDim, 682  
EmbEllipse, 682  
embEllipse\_area, 691  
embEllipse\_diameterX, 691  
embEllipse\_diameterY, 692  
embEllipse\_height, 692

embEllipse\_init, 692  
 embEllipse\_make, 692  
 embEllipse\_perimeter, 692  
 embEllipse\_width, 692  
 EmbFlag, 682  
 EMBFORMAT\_MAXDESC, 677  
 EMBFORMAT\_MAXEXT, 677  
 EMBFORMAT\_OBJECTONLY, 678  
 EMBFORMAT\_STCHANDOBJ, 678  
 EMBFORMAT\_STITCHONLY, 678  
 EMBFORMAT\_UNSUPPORTED, 678  
 EmbFormatList, 682  
 EmbGeometry, 682  
 embGeometry\_boundingRect, 692  
 embGeometry\_free, 693  
 embGeometry\_init, 693  
 embGeometry\_move, 693  
 embGeometry\_vulcanize, 693  
 EmblImage, 683  
 emblImage\_create, 695  
 emblImage\_free, 695  
 emblImage\_read, 695  
 emblImage\_write, 695  
 EmbInfiniteLine, 683  
 EmbLayer, 683  
 EmbLeaderDim, 683  
 EmbLine, 683  
 embLine\_intersectionPoint, 695  
 embLine\_make, 695  
 embLine\_normalVector, 695  
 EmbLinearDim, 683  
 EmbOrdinateDim, 683  
 EmbPath, 683  
 EmbPattern, 683  
 embPattern\_addCircleAbs, 696  
 embPattern\_addEllipseAbs, 696  
 embPattern\_addLineAbs, 696  
 embPattern\_addPathAbs, 696  
 embPattern\_addPointAbs, 696  
 embPattern\_addPolygonAbs, 696  
 embPattern\_addPolylineAbs, 696  
 embPattern\_addRectAbs, 696  
 embPattern\_addStitchAbs, 697  
 embPattern\_addStitchRel, 697  
 embPattern\_addThread, 697  
 embPattern\_calcBoundingBox, 697  
 embPattern\_center, 697  
 embPattern\_changeColor, 697  
 embPattern\_color\_count, 699  
 embPattern\_combine, 699  
 embPattern\_combineJumpStitches, 699  
 embPattern\_convertGeometry, 699  
 embPattern\_copyPolylinesToStitchList, 699  
 embPattern\_copyStitchListToPolylines, 699  
 embPattern\_correctForMaxStitchLength, 700  
 embPattern\_create, 700  
 embPattern\_crossstitch, 700  
 embPattern\_designDetails, 700  
 embPattern\_end, 700  
 embPattern\_fixColorCount, 700  
 embPattern\_flip, 701  
 embPattern\_flipHorizontal, 701  
 embPattern\_flipVertical, 701  
 embPattern\_free, 701  
 embPattern\_hideStitchesOverLength, 701  
 embPattern\_horizontal\_fill, 701  
 embPattern\_jumpStitches, 702  
 embPattern\_lengthHistogram, 702  
 embPattern\_loadExternalColorFile, 702  
 embPattern\_maximumStitchLength, 702  
 embPattern\_minimumStitchLength, 702  
 embPattern\_movePolylinesToStitchList, 702  
 embPattern\_moveStitchListToPolylines, 702  
 embPattern\_read, 703  
 embPattern\_readAuto, 703  
 embPattern\_realStitches, 703  
 embPattern\_render, 703  
 embPattern\_scale, 703  
 embPattern\_simulate, 704  
 embPattern\_totalStitchLength, 704  
 embPattern\_trimStitches, 704  
 embPattern\_write, 704  
 embPattern\_writeAuto, 704  
 EmbPoint, 683  
 EmbPolygon, 683  
 EmbPolyline, 684  
 EmbRadiusDim, 684  
 EmbRay, 684  
 EmbReal, 684  
 EmbRect, 684  
 embRect\_area, 706  
 embRect\_init, 706  
 EmbSatinOutline, 684  
 embSatinOutline\_generateSatinOutline, 706  
 embSatinOutline\_renderStitches, 706  
 EmbSpline, 684  
 EmbStitch, 684  
 EmbTextMulti, 684  
 EmbTextSingle, 684  
 EmbThread, 684  
 embThread\_findNearestColor, 707  
 embThread\_findNearestThread, 707  
 embThread\_getRandom, 707  
 EmbTime, 685  
 embTime\_initNow, 707  
 embTime\_time, 709  
 EmbVector, 685  
 embVector\_add, 709  
 embVector\_angle, 709  
 embVector\_average, 709  
 embVector\_cross, 709  
 embVector\_distance, 710  
 embVector\_dot, 710  
 embVector\_length, 710  
 embVector\_multiply, 710  
 embVector\_normalize, 711

embVector\_relativeX, 711  
embVector\_relativeY, 711  
embVector\_subtract, 711  
embVector\_transpose\_product, 711  
embVector\_unit, 712  
END, 678  
Exquisite\_Polyester, 678  
formatTable, 715  
Fufu\_Polyester, 678  
Fufu\_Rayon, 678  
full\_test\_matrix, 712  
getArcCenter, 712  
getArcDataFromBulge, 712  
getCircleCircleIntersections, 712  
getCircleTangentPoints, 712  
Hemingworth\_Polyester, 678  
hilbert\_curve, 713  
hus\_thread, 678  
husThreads, 715  
Isacord\_Polyester, 678  
Isafil\_Rayon, 679  
jef\_thread, 679  
jefThreads, 715  
JUMP, 679  
L\_system, 685  
LIBEMBROIDERY\_EMBEDDED\_VERSION, 679  
lindenmayer\_system, 713  
Madeira\_Polyester, 679  
Madeira\_Rayon, 679  
Marathon\_Polyester, 679  
Marathon\_Rayon, 679  
MAX\_STITCHES, 679  
MAX\_THREADS, 679  
Metro\_Polyester, 679  
NORMAL, 680  
numberOfFormats, 680  
Pantone, 680  
pcm\_thread, 680  
pcmThreads, 715  
pec\_thread, 680  
pecThreadCount, 715  
pecThreads, 715  
radians, 713  
report, 713  
RobisonAnton\_Polyester, 680  
RobisonAnton\_Rayon, 680  
SEQUIN, 680  
shv\_thread, 680  
shvThreadCount, 715  
shvThreads, 715  
Sigma\_Polyester, 680  
STOP, 680  
Sulky\_Rayon, 681  
SVG\_Colors, 681  
testMain, 714  
thread\_color, 685  
ThreadArt\_Polyester, 681  
ThreadArt\_Rayon, 681  
threadColor, 714  
threadColorName, 714  
threadColorNum, 714  
ThreaDelight\_Polyester, 681  
TRIM, 681  
vipDecodingTable, 716  
Z102\_Isacord\_Polyester, 681  
embroidery\_internal.h  
  bcf\_difat\_create, 745  
  bcf\_directory, 743  
  bcf\_directory\_entry, 743  
  bcf\_directory\_free, 745  
  bcf\_file, 743  
  bcf\_file\_difat, 743  
  bcf\_file\_difat\_free, 745  
  bcf\_file\_fat, 743  
  bcf\_file\_fat\_free, 745  
  bcf\_file\_free, 746  
  bcf\_file\_header, 743  
  bcfFile\_read, 746  
  bcfFileFat\_create, 746  
  bcfFileHeader\_isValid, 746  
  bcfFileHeader\_read, 746  
  binaryReadString, 747  
  binaryReadUnicodeString, 747  
  binaryWriteInt, 747  
  binaryWriteIntBE, 747  
  binaryWriteShort, 748  
  binaryWriteUInt, 748  
  binaryWriteUIntBE, 748  
  binaryWriteUShort, 749  
  binaryWriteUShortBE, 749  
  BULGETOCONTROL, 731  
  BULGETOEND, 731  
  check\_header\_present, 749  
  CompoundFileDirectory, 749  
  CompoundFileDirectoryEntry, 750  
  CompoundFileSector\_DIFAT\_Sector, 731  
  CompoundFileSector\_EndOfChain, 731  
  CompoundFileSector\_FAT\_Sector, 731  
  CompoundFileSector\_FreeSector, 731  
  CompoundFileSector\_MaxRegSector, 731  
  CompoundFileStreamId\_MaxRegularStreamId, 731  
  CompoundFileStreamId\_NoStream, 731  
  compress, 743  
  compress\_get\_bits, 750  
  compress\_get\_position, 750  
  compress\_get\_token, 751  
  compress\_load\_block, 751  
  compress\_load\_character\_huffman, 751  
  compress\_load\_character\_length\_huffman, 751  
  compress\_load\_distance\_huffman, 751  
  compress\_pop, 752  
  compress\_read\_variable\_length, 752  
  copy\_trim, 752  
  create\_test\_file\_1, 753  
  create\_test\_file\_2, 753

create\_test\_file\_3, 753  
CSV\_EXPECT, 744  
CSV\_EXPECT\_COMMAS, 744  
CSV\_EXPECT\_NULL, 744  
CSV\_EXPECT\_QUOTE1, 744  
CSV\_EXPECT\_QUOTE2, 744  
CSV\_MODE, 745  
CSV\_MODE\_COMMENT, 745  
CSV\_MODE\_NULL, 745  
CSV\_MODE\_STITCH, 745  
CSV\_MODE\_THREAD, 745  
CSV\_MODE\_VARIABLE, 745  
CUBICTOCONTROL1, 731  
CUBICTOCONTROL2, 732  
CUBICTOEND, 732  
decode\_t01\_record, 753  
decode\_tajima\_ternary, 753  
decodeNewStitch, 753  
DXF\_VERSION\_2000, 732  
DXF\_VERSION\_2002, 732  
DXF\_VERSION\_2004, 732  
DXF\_VERSION\_2006, 732  
DXF\_VERSION\_2007, 732  
DXF\_VERSION\_2009, 732  
DXF\_VERSION\_2010, 732  
DXF\_VERSION\_2013, 732  
DXF\_VERSION\_R10, 732  
DXF\_VERSION\_R11, 733  
DXF\_VERSION\_R12, 733  
DXF\_VERSION\_R13, 733  
DXF\_VERSION\_R14, 733  
DXF\_VERSION\_R15, 733  
DXF\_VERSION\_R18, 733  
DXF\_VERSION\_R21, 733  
DXF\_VERSION\_R24, 733  
DXF\_VERSION\_R27, 733  
ELEMENT\_A, 733  
ELEMENT\_ANIMATE, 733  
ELEMENT\_ANIMATECOLOR, 734  
ELEMENT\_ANIMATEMOTION, 734  
ELEMENT\_ANIMATETRANSFORM, 734  
ELEMENT\_ANIMATION, 734  
ELEMENT\_AUDIO, 734  
ELEMENT\_CIRCLE, 734  
ELEMENT\_DEFS, 734  
ELEMENT\_DESC, 734  
ELEMENT\_DISCARD, 734  
ELEMENT\_ELLIPSE, 734  
ELEMENT\_FONT, 734  
ELEMENT\_FONT\_FACE, 735  
ELEMENT\_FONT\_FACE\_SRC, 735  
ELEMENT\_FONT\_FACE\_URI, 735  
ELEMENT\_FOREIGN\_OBJECT, 735  
ELEMENT\_G, 735  
ELEMENT\_GLYPH, 735  
ELEMENT\_HANDLER, 735  
ELEMENT\_HKERN, 735  
ELEMENT\_IMAGE, 735  
ELEMENT\_LINE, 735  
ELEMENT\_LINEAR\_GRADIENT, 735  
ELEMENT\_LISTENER, 736  
ELEMENT\_METADATA, 736  
ELEMENT\_MISSING\_GLYPH, 736  
ELEMENT\_MPATH, 736  
ELEMENT\_PATH, 736  
ELEMENT\_POLYGON, 736  
ELEMENT\_POLYLINE, 736  
ELEMENT\_PREFETCH, 736  
ELEMENT\_RADIAL\_GRADIENT, 736  
ELEMENT\_RECT, 736  
ELEMENT\_SCRIPT, 736  
ELEMENT\_SET, 737  
ELEMENT\_SOLID\_COLOR, 737  
ELEMENT\_STOP, 737  
ELEMENT\_SVG, 737  
ELEMENT\_SWITCH, 737  
ELEMENT\_TBREAK, 737  
ELEMENT\_TEXT, 737  
ELEMENT\_TEXT\_AREA, 737  
ELEMENT\_TITLE, 737  
ELEMENT\_TSPAN, 737  
ELEMENT\_USE, 737  
ELEMENT\_VIDEO, 738  
ELEMENT\_XML, 738  
ELLIPSETOEND, 738  
ELLIPSETORAD, 738  
EMB\_BIG\_ENDIAN, 738  
EMB\_INT16\_BIG, 738  
EMB\_INT16\_LITTLE, 738  
EMB\_INT32\_BIG, 738  
EMB\_INT32\_LITTLE, 738  
EMB\_LITTLE\_ENDIAN, 738  
EMB\_MAX, 738  
EMB\_MIN, 739  
emb\_optOut, 754  
emb\_readline, 754  
embColor\_read, 754  
embColor\_write, 756  
emblnt\_read, 756  
emblnt\_write, 756  
encode\_t01\_record, 757  
encode\_tajima\_ternary, 757  
ENDIAN\_HOST, 739  
entriesInDifatSector, 757  
fpad, 757  
fread\_int16, 758  
fread\_int32\_be, 758  
fread\_uint16, 758  
GetFile, 759  
GREEN\_TERM\_COLOR, 739  
HOOP\_110X110, 739  
HOOP\_126X110, 739  
HOOP\_140X200, 739  
HOOP\_230X200, 739  
HOOP\_50X50, 739  
huffman, 744

huffman\_build\_table, 759  
huffman\_table\_lookup, 759  
hus\_compress, 759  
hus\_decompress, 760  
imageWithFrame, 781  
LINETO, 739  
loadFatFromSector, 761  
mitDecodeStitch, 761  
mitEncodeStitch, 761  
MOVETO, 739  
N\_PES\_VERSIONS, 739  
numberOfEntriesInDifatSector, 761  
ObjectTypeRootEntry, 740  
ObjectTypeStorage, 740  
ObjectTypeStream, 740  
ObjectTypeUnknown, 740  
PES0001, 740  
PES0020, 740  
PES0022, 740  
PES0030, 740  
PES0040, 740  
PES0050, 740  
PES0055, 740  
PES0056, 741  
PES0060, 741  
PES0070, 741  
PES0080, 741  
PES0090, 741  
PES0100, 741  
pfaffDecode, 761  
pfaffEncode, 762  
printArcResults, 762  
QUADTOCONTROL, 741  
QUADTOEND, 741  
read100, 762  
read10o, 762  
readArt, 763  
readBmc, 763  
readBro, 763  
readCnd, 763  
readCol, 763  
readCsd, 763  
readCsv, 763  
readDat, 763  
readDem, 764  
readDescriptions, 764  
readDsb, 764  
readDst, 764  
readDsz, 764  
readDxf, 764  
readEdr, 764  
readEmd, 764  
readExp, 765  
readExy, 765  
readEys, 765  
readFeatherPatterns, 765  
readFullSector, 765  
readFxy, 765  
readGc, 766  
readGnc, 766  
readGt, 766  
readHoopName, 766  
readHus, 766  
readImageString, 766  
readInb, 766  
readInf, 766  
readJef, 767  
readKsm, 767  
readMax, 767  
readMit, 767  
readMotifPatterns, 767  
readNew, 767  
readNextSector, 767  
readOfm, 768  
readPcd, 768  
readPcm, 768  
readPcq, 768  
readPcs, 768  
readPec, 768  
readPecStitches, 768  
readPel, 768  
readPem, 769  
readPes, 769  
readPESHeaderV10, 769  
readPESHeaderV5, 769  
readPESHeaderV6, 769  
readPESHeaderV7, 769  
readPESHeaderV8, 769  
readPESHeaderV9, 769  
readPhb, 770  
readPhc, 770  
readPlt, 770  
readProgrammableFills, 770  
readRgb, 770  
readSew, 770  
readShv, 770  
readSst, 770  
readStx, 771  
readSvg, 771  
readT01, 771  
readT09, 771  
readTap, 771  
readThr, 771  
readThreads, 771  
readTxt, 771  
readU00, 772  
readU01, 772  
readVip, 772  
readVp3, 772  
readXxx, 772  
readZsk, 772  
RED\_TERM\_COLOR, 741  
RESET\_TERM\_COLOR, 741  
safe\_free, 772  
stringInArray, 773  
StxThread, 744

SubDescriptor, 744  
 SVG\_ATTRIBUTE, 741  
 SVG\_CATCH\_ALL, 742  
 SVG\_CREATOR\_EMBROIDERMODDER, 742  
 SVG\_CREATOR\_ILLUSTRATOR, 742  
 SVG\_CREATOR\_INKSCAPE, 742  
 SVG\_CREATOR\_NULL, 742  
 SVG\_ELEMENT, 742  
 SVG\_EXPECT\_ATTRIBUTE, 742  
 SVG\_EXPECT\_ELEMENT, 742  
 SVG\_EXPECT\_NULL, 742  
 SVG\_EXPECT\_VALUE, 742  
 SVG\_MEDIA\_PROPERTY, 742  
 SVG\_NULL, 743  
 SVG\_PROPERTY, 743  
 SvgAttribute, 744  
 testEmbCircle, 773  
 testEmbCircle\_2, 773  
 testEmbFormat, 773  
 testGeomArc, 773  
 testTangentPoints, 773  
 testThreadColor, 773  
 ThredExtension, 744  
 ThredHeader, 744  
 VipHeader, 744  
 vp3Hoop, 744  
 write100, 773  
 write10o, 774  
 write\_24bit, 774  
 writeArt, 774  
 writeBmc, 774  
 writeBro, 774  
 writeCnd, 774  
 writeCol, 774  
 writeCsd, 775  
 writeCsv, 775  
 writeDat, 775  
 writeDem, 775  
 writeDsb, 775  
 writeDst, 775  
 writeDsz, 775  
 writeDxf, 775  
 writeEdr, 776  
 writeEmd, 776  
 writeExp, 776  
 writeExy, 776  
 writeEys, 776  
 writeFxy, 776  
 writeGc, 776  
 writeGnc, 776  
 writeGt, 777  
 writeHus, 777  
 writeInb, 777  
 writeInf, 777  
 writeJef, 777  
 writeKsm, 777  
 writeMax, 777  
 writeMit, 777  
 writeNew, 778  
 writeOfm, 778  
 writePcd, 778  
 writePcm, 778  
 writePcq, 778  
 writePcs, 778  
 writePec, 778  
 writePecStitches, 778  
 writePel, 779  
 writePem, 779  
 writePes, 779  
 writePhb, 779  
 writePhc, 779  
 writePlt, 779  
 writeRgb, 779  
 writeSew, 779  
 writeShv, 780  
 writeSst, 780  
 writeStx, 780  
 writeSvg, 780  
 writeT01, 780  
 writeT09, 780  
 writeTap, 780  
 writeThr, 780  
 writeTxt, 781  
 writeU00, 781  
 writeU01, 781  
 writeVip, 781  
 writeVp3, 781  
 writeXxx, 781  
 writeZsk, 781  
 YELLOW\_TERM\_COLOR, 743  
 EmbSatinOutline  
     embroidery.h, 684  
 EmbSatinOutline\_, 136  
     length, 137  
     side1, 137  
     side2, 137  
 embSatinOutline\_generateSatinOutline  
     embroidery.h, 706  
     main.c, 887  
 embSatinOutline\_renderStitches  
     embroidery.h, 706  
     main.c, 887  
 EmbSpline  
     embroidery.h, 684  
 EmbSpline\_, 137  
     beziers, 137  
 EmbStitch  
     embroidery.h, 684  
 EmbStitch\_, 138  
     color, 138  
     flags, 138  
     x, 138  
     y, 138  
 EmbTextMulti  
     embroidery.h, 684  
 EmbTextMulti\_, 138

position, 139  
text, 139  
EmbTextSingle  
embroidery.h, 684  
EmbTextSingle\_, 139  
position, 139  
text, 139  
EmbThread  
embroidery.h, 684  
EmbThread\_, 139  
catalogNumber, 140  
color, 140  
description, 140  
embThread\_findNearestColor  
embroidery.h, 707  
main.c, 887  
embThread\_findNearestThread  
embroidery.h, 707  
main.c, 888  
embThread\_getRandom  
embroidery.h, 707  
main.c, 888  
EmbTime  
embroidery.h, 685  
EmbTime\_, 140  
day, 140  
hour, 140  
minute, 141  
month, 141  
second, 141  
year, 141  
embTime\_initNow  
embroidery.h, 707  
main.c, 888  
embTime\_time  
embroidery.h, 709  
main.c, 888  
EmbVector  
embroidery.h, 685  
EmbVector\_, 141  
x, 141  
y, 141  
embVector\_add  
embroidery.h, 709  
vector.c, 874  
embVector\_angle  
embroidery.h, 709  
vector.c, 874  
embVector\_average  
embroidery.h, 709  
vector.c, 875  
embVector\_cross  
embroidery.h, 709  
vector.c, 875  
embVector\_distance  
embroidery.h, 710  
vector.c, 875  
embVector\_dot  
embroidery.h, 710  
vector.c, 875  
embVector\_length  
embroidery.h, 710  
vector.c, 875  
embVector\_multiply  
embroidery.h, 710  
vector.c, 876  
embVector\_normalize  
embroidery.h, 711  
vector.c, 876  
embVector\_perpendicularDistance  
imgui\_main.c, 518  
embVector\_print  
main.c, 888  
embVector\_relativeX  
embroidery.h, 711  
vector.c, 876  
embVector\_relativeY  
embroidery.h, 711  
vector.c, 876  
embVector\_subtract  
embroidery.h, 711  
vector.c, 876  
embVector\_transpose\_product  
embroidery.h, 711  
vector.c, 877  
embVector\_unit  
embroidery.h, 712  
vector.c, 877  
emdDecode  
format\_emd.c, 821  
ENABLE\_GRID  
object-data.h, 611  
ENABLE\_LWT  
imgui\_main.c, 475  
object-data.h, 611  
ENABLE\_ORTHO  
object-data.h, 611  
ENABLE\_POLAR  
object-data.h, 611  
ENABLE\_QSNAP  
object-data.h, 611  
ENABLE\_QTRACK  
object-data.h, 611  
ENABLE\_REAL  
imgui\_main.c, 475  
object-data.h, 611  
ENABLE\_RULER  
object-data.h, 611  
ENABLE\_SNAP  
object-data.h, 611  
enableLwt  
StatusBarButton, 364  
enableMoveRapidFire  
imgui\_main.c, 519  
MainWindow, 175  
View, 405

enablePromptRapidFire  
     imgui\_main.c, 519  
     MainWindow, 175  
 enableRapidFire  
     CmdPrompt, 82  
 enableReal  
     StatusBarButton, 364  
 encode\_record  
     format\_dst.c, 818  
 encode\_t01\_record  
     embroidery\_internal.h, 757  
     encoding.c, 791  
 encode\_tajima\_ternary  
     embroidery\_internal.h, 757  
     encoding.c, 792  
 encode\_tap\_record  
     format\_tap.c, 850  
 encoding.c  
     decode\_t01\_record, 789  
     decode\_tajima\_ternary, 790  
     decodeNewStitch, 790  
     embColor\_fromHexStr, 790  
     emblnt\_read, 791  
     emblnt\_write, 791  
     encode\_t01\_record, 791  
     encode\_tajima\_ternary, 792  
     mitDecodeStitch, 792  
     mitEncodeStitch, 792  
     pfaffDecode, 792  
     pfaffEncode, 793  
     reverse\_byte\_order, 793  
     write\_24bit, 793  
 END  
     embroidery.h, 678  
 end  
     EmbArc\_, 117  
     EmbBezier\_, 119  
     EmbLine\_, 131  
 end\_child  
     gui\_backend.cpp, 435  
     gui\_backend.h, 446  
 end\_columns  
     gui\_backend.cpp, 435  
     gui\_backend.h, 446  
 end\_combo  
     gui\_backend.cpp, 435  
     gui\_backend.h, 446  
 end\_command  
     imgui\_main.c, 519  
 end\_menu  
     gui\_backend.cpp, 435  
     gui\_backend.h, 446  
 end\_menu\_bar  
     gui\_backend.cpp, 435  
     gui\_backend.h, 446  
 end\_tab\_bar  
     gui\_backend.cpp, 435  
     gui\_backend.h, 447  
 end\_tab\_item  
     gui\_backend.cpp, 435  
     gui\_backend.h, 447  
 end\_ui  
     gui\_backend.cpp, 435  
     gui\_backend.h, 447  
 endCommand  
     CmdPrompt, 82  
     CmdPromptInput, 95  
 ENDIAN\_HOST  
     embroidery\_internal.h, 739  
 engine  
     MainWindow, 221  
 enter\_event  
     imgui\_main.c, 519  
 enterEvent  
     View, 405  
 entriesInDifatSector  
     embroidery\_internal.h, 757  
     main.c, 889  
 error\_action  
     imgui\_main.c, 519  
 escape\_pressed  
     imgui\_main.c, 519  
 escapePressed  
     CmdPrompt, 82  
     CmdPromptInput, 95  
     MainWindow, 175  
     MdiWindow, 240  
     View, 405  
 event  
     Application, 57  
 eventFilter  
     CmdPromptInput, 95  
     PropertyEditor, 276  
 exit  
     MainWindow, 175  
 exit\_action  
     imgui\_main.c, 520  
 exitApp  
     main.cpp, 578  
 expDecode  
     format\_exp.c, 821  
 export\_action  
     imgui\_main.c, 520  
 Exquisite\_Polyester  
     embroidery.h, 678  
 extension  
     EmbFormatList\_, 125  
 extern/libembroidery/src/array.c, 652  
 extern/libembroidery/src/compress.c, 657  
 extern/libembroidery/src/embedded.md, 662  
 extern/libembroidery/src/embroider\_cli.md, 662  
 extern/libembroidery/src/embroidery.h, 662, 716  
 extern/libembroidery/src/embroidery\_internal.h, 723,  
     782  
 extern/libembroidery/src/encoding.c, 789  
 extern/libembroidery/src/fill.c, 794

extern/libembroidery/src/formats.c, 802  
extern/libembroidery/src/formats/format\_100.c, 809  
extern/libembroidery/src/formats/format\_10o.c, 809  
extern/libembroidery/src/formats/format\_art.c, 810  
extern/libembroidery/src/formats/format\_bmc.c, 811  
extern/libembroidery/src/formats/format\_bro.c, 811  
extern/libembroidery/src/formats/format\_cnd.c, 812  
extern/libembroidery/src/formats/format\_col.c, 812  
extern/libembroidery/src/formats/format\_csd.c, 813  
extern/libembroidery/src/formats/format\_csv.c, 815  
extern/libembroidery/src/formats/format\_dat.c, 815  
extern/libembroidery/src/formats/format\_dem.c, 816  
extern/libembroidery/src/formats/format\_dsb.c, 817  
extern/libembroidery/src/formats/format\_dst.c, 817  
extern/libembroidery/src/formats/format\_dsz.c, 818  
extern/libembroidery/src/formats/format\_dxf.c, 819  
extern/libembroidery/src/formats/format\_edr.c, 820  
extern/libembroidery/src/formats/format\_emd.c, 820  
extern/libembroidery/src/formats/format\_exp.c, 821  
extern/libembroidery/src/formats/format\_exy.c, 822  
extern/libembroidery/src/formats/format\_eyc.c, 822  
extern/libembroidery/src/formats/format\_fxy.c, 823  
extern/libembroidery/src/formats/format\_gc.c, 823  
extern/libembroidery/src/formats/format\_gnc.c, 824  
extern/libembroidery/src/formats/format\_gt.c, 825  
extern/libembroidery/src/formats/format\_hus.c, 825  
extern/libembroidery/src/formats/format\_inb.c, 827  
extern/libembroidery/src/formats/format\_inf.c, 827  
extern/libembroidery/src/formats/format\_jef.c, 828  
extern/libembroidery/src/formats/format\_ksm.c, 829  
extern/libembroidery/src/formats/format\_max.c, 830  
extern/libembroidery/src/formats/format\_mit.c, 831  
extern/libembroidery/src/formats/format\_new.c, 831  
extern/libembroidery/src/formats/format\_ofm.c, 832  
extern/libembroidery/src/formats/format\_pcd.c, 833  
extern/libembroidery/src/formats/format\_pcm.c, 834  
extern/libembroidery/src/formats/format\_pcq.c, 835  
extern/libembroidery/src/formats/format\_pcs.c, 835  
extern/libembroidery/src/formats/format\_pec.c, 836  
extern/libembroidery/src/formats/format\_pel.c, 837  
extern/libembroidery/src/formats/format\_pem.c, 838  
extern/libembroidery/src/formats/format\_pes.c, 839  
extern/libembroidery/src/formats/format\_phb.c, 842  
extern/libembroidery/src/formats/format\_phc.c, 842  
extern/libembroidery/src/formats/format\_plt.c, 843  
extern/libembroidery/src/formats/format\_rgb.c, 844  
extern/libembroidery/src/formats/format\_sew.c, 844  
extern/libembroidery/src/formats/format\_shv.c, 845  
extern/libembroidery/src/formats/format\_sst.c, 846  
extern/libembroidery/src/formats/format\_stx.c, 846  
extern/libembroidery/src/formats/format\_svg.c, 847  
extern/libembroidery/src/formats/format\_t01.c, 849  
extern/libembroidery/src/formats/format\_t09.c, 849  
extern/libembroidery/src/formats/format\_tap.c, 850  
extern/libembroidery/src/formats/format\_thr.c, 851  
extern/libembroidery/src/formats/format\_txt.c, 851  
extern/libembroidery/src/formats/format\_u00.c, 852  
extern/libembroidery/src/formats/format\_u01.c, 853  
extern/libembroidery/src/formats/format\_vip.c, 853  
extern/libembroidery/src/formats/format\_vp3.c, 855  
extern/libembroidery/src/formats/format\_xxx.c, 857  
extern/libembroidery/src/formats/format\_zsk.c, 858  
extern/libembroidery/src/formats/formats.md, 858  
extern/libembroidery/src/geometry.c, 858  
extern/libembroidery/src/geometry/arc.c, 860  
extern/libembroidery/src/geometry/circle.c, 866  
extern/libembroidery/src/geometry/ellipse.c, 867  
extern/libembroidery/src/geometry/functions.c, 869  
extern/libembroidery/src/geometry/geometry.md, 870  
extern/libembroidery/src/geometry/line.c, 870  
extern/libembroidery/src/geometry/path.c, 871  
extern/libembroidery/src/geometry/polygon.c, 871  
extern/libembroidery/src/geometry/polyline.c, 871  
extern/libembroidery/src/geometry/rect.c, 871  
extern/libembroidery/src/geometry/text.c, 872  
extern/libembroidery/src/geometry/vector.c, 874  
extern/libembroidery/src/image.c, 877  
extern/libembroidery/src/main.c, 878  
extern/libembroidery/src/pattern.c, 893  
extern/libembroidery/src/thread-color.c, 898

F10Pressed  
    CmdPrompt, 82  
    CmdPromptInput, 95

F11Pressed  
    CmdPrompt, 82  
    CmdPromptInput, 95

F12Pressed  
    CmdPrompt, 82  
    CmdPromptInput, 95

F1Pressed  
    CmdPrompt, 82  
    CmdPromptInput, 95

F2Pressed  
    CmdPrompt, 82  
    CmdPromptInput, 95

F3Pressed  
    CmdPrompt, 82  
    CmdPromptInput, 95

F4Pressed  
    CmdPrompt, 82  
    CmdPromptInput, 95

F5Pressed  
    CmdPrompt, 82  
    CmdPromptInput, 96

F6Pressed  
    CmdPrompt, 83  
    CmdPromptInput, 96

F7Pressed  
    CmdPrompt, 83  
    CmdPromptInput, 96

F8Pressed  
    CmdPrompt, 83  
    CmdPromptInput, 96

F9Pressed  
    CmdPrompt, 83  
    CmdPromptInput, 96

factor  
     UndoableScaleCommand, 395  
 fat  
     \_bcf\_file, 49  
 fatEntries  
     \_bcf\_file\_fat, 51  
 fatEntryCount  
     \_bcf\_file\_fat, 51  
 fatSectorCount  
     \_bcf\_file\_difat, 50  
 fatSectorEntries  
     \_bcf\_file\_difat, 50  
 fieldEdited  
     PropertyEditor, 276  
 fieldNewText  
     PropertyEditor, 279  
 fieldNoText  
     PropertyEditor, 279  
 fieldOffText  
     PropertyEditor, 279  
 fieldOldText  
     PropertyEditor, 279  
 fieldOnText  
     PropertyEditor, 279  
 fieldVariesText  
     PropertyEditor, 279  
 fieldYesText  
     PropertyEditor, 280  
 file\_extension  
     imgui\_main.c, 520  
 fileExtension  
     MdiWindow, 240  
 fileMenu  
     MainWindow, 221  
 filename  
     View\_, 418  
 fileWasLoaded  
     MdiWindow, 244  
 fill.c  
     dragon\_curve, 794  
     embPattern\_combine, 795  
     embPattern\_convertGeometry, 795  
     embPattern\_crossstitch, 795  
     embPattern\_horizontal\_fill, 796  
     embPattern\_stitchArc, 796  
     embPattern\_stitchCircle, 796  
     embPattern\_stitchEllipse, 797  
     embPattern\_stitchPath, 797  
     embPattern\_stitchPolygon, 797  
     embPattern\_stitchPolyline, 798  
     embPattern\_stitchRect, 798  
     embPattern\_stitchText, 798  
     embPolygon\_reduceByDistance, 799  
     embPolygon\_reduceByNth, 799  
     generate\_dragon\_curve, 799  
     greedy\_algorithm, 800  
     hilbert\_curve, 800  
     hilbert\_curve\_l\_system, 802  
         join\_short\_stitches, 800  
         lindenmayer\_system, 801  
         rules, 802  
         save\_points\_to\_pattern, 801  
         threshold\_method, 801  
 filled  
     DimLeaderObject, 109  
 find\_view  
     imgui\_main.c, 520  
 findIndex  
     PolygonObject, 257  
     PolylineObject, 262  
 findMdiWindow  
     MainWindow, 175  
 firstDifatSectorLocation  
     \_bcf\_file\_header, 52  
 firstDirectorySectorLocation  
     \_bcf\_file\_header, 52  
 firstMinIFATSectorLocation  
     \_bcf\_file\_header, 52  
 firstRun  
     UiObject\_, 381  
 flag  
     EmbGeometry\_, 127  
 FLAG\_CIRCLE  
     main.c, 880  
 FLAG\_CIRCLE\_SHORT  
     main.c, 880  
 FLAG\_COMBINE  
     main.c, 880  
 FLAG\_CROSS\_STITCH  
     main.c, 881  
 FLAG\_ELLIPSE  
     main.c, 881  
 FLAG\_ELLIPSE\_SHORT  
     main.c, 881  
 FLAG\_FILL  
     main.c, 881  
 FLAG\_FILL\_SHORT  
     main.c, 881  
 FLAG\_FORMATS  
     main.c, 881  
 FLAG\_FORMATS\_SHORT  
     main.c, 881  
 FLAG\_FULL\_TEST\_SUITE  
     main.c, 881  
 FLAG\_HELP  
     main.c, 881  
 FLAG\_HELP\_SHORT  
     main.c, 881  
 FLAG\_HILBERT\_CURVE  
     main.c, 881  
 FLAG\_LINE  
     main.c, 881  
 FLAG\_LINE\_SHORT  
     main.c, 881  
 FLAG\_POLYGON  
     main.c, 881

FLAG\_POLYGON\_SHORT  
  main.c, 881  
FLAG\_POLYLINE  
  main.c, 881  
FLAG\_POLYLINE\_SHORT  
  main.c, 881  
FLAG QUIET  
  main.c, 881  
FLAG QUIET\_SHORT  
  main.c, 882  
FLAG\_RENDER  
  main.c, 882  
FLAG\_RENDER\_SHORT  
  main.c, 882  
FLAG\_SATIN  
  main.c, 882  
FLAG\_SATIN\_SHORT  
  main.c, 882  
FLAG\_SIERPINSKI\_TRIANGLE  
  main.c, 882  
FLAG\_SIMULATE  
  main.c, 882  
FLAG\_STITCH  
  main.c, 882  
FLAG\_STITCH\_SHORT  
  main.c, 882  
FLAG\_TEST  
  main.c, 882  
FLAG\_TO  
  main.c, 882  
FLAG\_TO\_SHORT  
  main.c, 882  
FLAG\_VERBOSE  
  main.c, 882  
FLAG\_VERBOSE\_SHORT  
  main.c, 882  
FLAG\_VERSION  
  main.c, 882  
FLAG\_VERSION\_SHORT  
  main.c, 882  
flagList  
  EmbPath\_, 132  
flags  
  EmbStitch\_, 138  
Flared  
  DimLeaderObject, 105  
Fletching  
  DimLeaderObject, 105  
floating\_changed\_toolbar\_action  
  imgui\_main.c, 520  
floatingChanged  
  CmdPrompt, 83  
floatingChangedToolBar  
  MainWindow, 175  
fname  
  UiObject\_, 381  
focusWidget  
  PropertyEditor, 280  
            UndoEditor, 397  
font  
  gui\_backend.cpp, 439  
forceRepaint  
  MdiArea, 236  
  SelectBox, 314  
format\_100.c  
  read100, 809  
  write100, 809  
format\_10o.c  
  read10o, 810  
  write10o, 810  
format\_art.c  
  readArt, 810  
  writeArt, 810  
format\_bmc.c  
  readBmc, 811  
  writeBmc, 811  
format\_bro.c  
  readBro, 811  
  writeBro, 811  
format\_cnd.c  
  readCnd, 812  
  writeCnd, 812  
format\_col.c  
  readCol, 812  
  writeCol, 813  
format\_csd.c  
  \_subMask, 814  
  \_xorMask, 814  
  BuildDecryptionTable, 814  
  csd\_decryptArray, 814  
  CsdSubMaskSize, 813  
  CsdXorMaskSize, 813  
  DecodeCsdByte, 814  
  readCsd, 814  
  writeCsd, 814  
format\_csv.c  
  csvStitchFlagToStr, 815  
  csvStrToStitchFlag, 815  
  readCsv, 815  
  writeCsv, 815  
format\_dat.c  
  readDat, 816  
  writeDat, 816  
format\_dem.c  
  readDem, 816  
  writeDem, 816  
format\_dsb.c  
  readDsb, 817  
  writeDsb, 817  
format\_dst.c  
  cci, 818  
  decode\_record\_flags, 818  
  encode\_record, 818  
  readDst, 818  
  set\_dst\_variable, 818  
  writeDst, 818

format\_dsz.c  
    readDsz, 819  
    writeDsz, 819  
format\_dxf.c  
    readDxf, 819  
    readLine, 819  
    writeDxf, 820  
format\_edr.c  
    readEdr, 820  
    writeEdr, 820  
format\_emd.c  
    emdDecode, 821  
    readEmd, 821  
    writeEmd, 821  
format\_exp.c  
    expDecode, 821  
    readExp, 821  
    writeExp, 821  
format\_exy.c  
    decode\_exy\_flags, 822  
    readExy, 822  
    writeExy, 822  
format\_eyc.c  
    readEys, 823  
    writeEys, 823  
format\_fxy.c  
    readFxy, 823  
    writeFxy, 823  
format\_gc.c  
    readGc, 824  
    writeGc, 824  
format\_gnc.c  
    readGnc, 824  
    writeGnc, 824  
format\_gt.c  
    readGt, 825  
    writeGt, 825  
format\_hus.c  
    husCompressData, 826  
    husDecodeByte, 826  
    husDecodeStitchType, 826  
    husDecompressData, 826  
    husEncodeByte, 826  
    husEncodeStitchType, 826  
    readHus, 826  
    writeHus, 826  
format\_inb.c  
    readInb, 827  
    writeInb, 827  
format\_inf.c  
    readInf, 827  
    writeInf, 827  
format\_jef.c  
    jefDecode, 828  
    jefEncode, 828  
    jefGetHoopSize, 828  
    jefSetHoopFromId, 828  
    read\_hoop, 829  
                readJef, 829  
                writeJef, 829  
format\_ksm.c  
    ksmEncode, 829  
    readKsm, 829  
    writeKsm, 830  
format\_max.c  
    max\_header, 830  
    readMax, 830  
    writeMax, 830  
format\_mit.c  
    readMit, 831  
    writeMit, 831  
format\_new.c  
    readNew, 832  
    writeNew, 832  
format\_ofm.c  
    ofmDecode, 832  
    ofmReadBlockHeader, 832  
    ofmReadClass, 833  
    ofmReadColorChange, 833  
    ofmReadExpanded, 833  
    ofmReadLibrary, 833  
    ofmReadThreads, 833  
    readOfm, 833  
    writeOfm, 833  
format\_pcd.c  
    readPcd, 834  
    writePcd, 834  
format\_pcm.c  
    readPcm, 834  
    writePcm, 834  
format\_pcq.c  
    readPcq, 835  
    writePcq, 835  
format\_pcs.c  
    readPcs, 835  
    writePcs, 836  
format\_pec.c  
    pecEncode, 836  
    pecEncodeJump, 836  
    pecEncodeStop, 836  
    readPec, 837  
    readPecStitches, 837  
    writeImage, 837  
    writePec, 837  
    writePecStitches, 837  
format\_pel.c  
    readPel, 838  
    writePel, 838  
format\_pem.c  
    readPem, 838  
    writePem, 838  
format\_pes.c  
    pes\_version, 841  
    pes\_version\_strings, 841  
    pesWriteEmbOneSection, 839  
    pesWriteSewSegSection, 839

readDescriptions, 839  
readFeatherPatterns, 840  
readHoopName, 840  
readImageString, 840  
readMotifPatterns, 840  
readPes, 840  
readPESHeaderV10, 840  
readPESHeaderV5, 840  
readPESHeaderV6, 840  
readPESHeaderV7, 841  
readPESHeaderV8, 841  
readPESHeaderV9, 841  
readProgrammableFills, 841  
readThreads, 841  
writePes, 841  
format\_phb.c  
  readPhb, 842  
  writePhb, 842  
format\_phc.c  
  readPhc, 843  
  writePhc, 843  
format\_plt.c  
  readPlt, 843  
  writePlt, 843  
format\_rgb.c  
  readRgb, 844  
  writeRgb, 844  
format\_sew.c  
  readSew, 844  
  sewDecode, 845  
  writeSew, 845  
format\_shv.c  
  readShv, 845  
  shvDecode, 845  
  shvDecodeShort, 845  
  writeShv, 846  
format\_sst.c  
  readSst, 846  
  writeSst, 846  
format\_stx.c  
  readStx, 847  
  stxReadThread, 847  
  writeStx, 847  
format\_svg.c  
  attributeList, 848  
  current\_element\_id, 848  
  currentAttribute, 848  
  currentValue, 848  
  n\_attributes, 848  
  readSvg, 848  
  svgCreator, 848  
  svgExpect, 848  
  svgMultiValue, 849  
  writeSvg, 848  
format\_t01.c  
  readT01, 849  
  writeT01, 849  
format\_t09.c  
  readT09, 850  
  writeT09, 850  
format\_tap.c  
  decode\_tap\_record\_flags, 850  
  encode\_tap\_record, 850  
  readTap, 850  
  writeTap, 851  
format\_thr.c  
  readThr, 851  
  writeThr, 851  
format\_txt.c  
  readTxt, 852  
  writeTxt, 852  
format\_u00.c  
  readU00, 852  
  writeU00, 852  
format\_u01.c  
  readU01, 853  
  writeU01, 853  
format\_vip.c  
  readVip, 854  
  vipCompressData, 854  
  vipDecodeByte, 854  
  vipDecodeStitchType, 854  
  vipDecodingTable, 855  
  vipDecompressData, 854  
  vipEncodeByte, 854  
  vipEncodeStitchType, 854  
  writeVip, 854  
format\_vp3.c  
  readVp3, 856  
  vp3Decode, 856  
  vp3DecodeInt16, 856  
  vp3PatchByteCount, 856  
  vp3ReadHoopSection, 856  
  vp3ReadString, 856  
  vp3WriteString, 856  
  vp3WriteStringLen, 856  
  writeVp3, 856  
format\_xxx.c  
  readXxx, 857  
  writeXxx, 857  
  xxxDecodeByte, 857  
  xxxEncodeDesign, 857  
  xxxEncodeStitch, 857  
  xxxEncodeStop, 858  
format\_zsk.c  
  readZsk, 858  
  writeZsk, 858  
formatFilterOpen  
  MainWindow, 221  
formatFilterSave  
  MainWindow, 221  
formats.c  
  binaryWriteInt, 803  
  binaryWriteIntBE, 803  
  binaryWriteShort, 804  
  binaryWriteUInt, 804

binaryWriteUIntBE, 804  
 binaryWriteUShort, 805  
 binaryWriteUShortBE, 805  
 emb\_identify\_format, 805  
 embFormat\_getExtension, 805  
 embPattern\_read, 806  
 embPattern\_readAuto, 806  
 embPattern\_write, 806  
 embPattern\_writeAuto, 807  
 formatTable, 808  
 fpad, 807  
 fread\_int16, 807  
 fread\_int32\_be, 808  
 fread\_uint16, 808  
 imageWithFrame, 809  
 safe\_free, 808  
 formatTable  
     embroidery.h, 715  
     formats.c, 808  
 formatType  
     SaveObject, 313  
 fpad  
     embroidery\_internal.h, 757  
     formats.c, 807  
 fread\_int16  
     embroidery\_internal.h, 758  
     formats.c, 807  
 fread\_int32\_be  
     embroidery\_internal.h, 758  
     formats.c, 808  
 fread\_uint16  
     embroidery\_internal.h, 758  
     formats.c, 808  
 from\_  
     imgui\_main.c, 574  
 fromCenter  
     UndoableNavCommand, 391  
 fromTransform  
     UndoableNavCommand, 391  
 Fufu\_Polyester  
     embroidery.h, 678  
 Fufu\_Rayon  
     embroidery.h, 678  
 full\_test\_matrix  
     embroidery.h, 712  
 functions.c  
     degrees, 869  
     emb\_round, 869  
     radians, 870  
  
 g  
     EmbColor\_, 121  
 gen\_gl\_texture  
     gui\_backend.h, 447  
     imgui\_main.c, 520  
 general\_check\_for\_updates  
     Settings\_, 320  
 general\_current\_tip  
     Settings\_, 321  
  
 general\_mdi\_bg\_color  
     Settings\_, 321  
 general\_mdi\_bg\_logo  
     Settings\_, 321  
 general\_mdi\_bg\_texture  
     Settings\_, 321  
 general\_system\_help\_browser  
     Settings\_, 321  
 generate\_dragon\_curve  
     fill.c, 799  
 generic\_design\_init  
     imgui\_main.c, 520  
 geometry  
     EmbArray\_, 118  
     EmbLayer\_, 130  
     EmbPattern\_, 133  
 geometry.c  
     embGeometry\_boundingRect, 859  
     embGeometry\_free, 859  
     embGeometry\_init, 859  
     embGeometry\_move, 860  
     embGeometry\_vulcanize, 860  
 get\_current\_directory  
     gui\_backend.cpp, 435  
     gui\_backend.h, 447  
 get\_display\_size  
     gui\_backend.cpp, 435  
     gui\_backend.h, 447  
 get\_screen\_size  
     gui\_backend.cpp, 436  
     gui\_backend.h, 447  
 get\_short\_current\_file  
     imgui\_main.c, 521  
 get\_trim\_bounds  
     main.c, 889  
 get\_window\_pos  
     gui\_backend.cpp, 436  
     gui\_backend.h, 448  
 getAction  
     MainWindow, 175  
 getApplication  
     MainWindow, 175  
 getArcCenter  
     arc.c, 865  
     embroidery.h, 712  
 getArcDataFromBulge  
     arc.c, 865  
     embroidery.h, 712  
 getCircleCircleIntersections  
     circle.c, 866  
     embroidery.h, 712  
 getCircleTangentPoints  
     circle.c, 866  
     embroidery.h, 712  
 getCurrentColor  
     imgui\_main.c, 521  
     MainWindow, 175  
     MdiWindow, 240

getCurrentFile  
    MdiWindow, 240  
getCurrentLayer  
    imgui\_main.c, 521  
    MainWindow, 176  
    MdiWindow, 240  
getCurrentLineType  
    imgui\_main.c, 521  
    MainWindow, 176  
    MdiWindow, 241  
getCurrentLineWeight  
    imgui\_main.c, 521  
    MainWindow, 176  
    MdiWindow, 241  
getCurrentText  
    CmdPrompt, 83  
GetFile  
    embroidery\_internal.h, 759  
    main.c, 889  
getFileSeparator  
    MainWindow, 176  
getHistory  
    CmdPrompt, 83  
 getInfo  
    EmbDetailsDialog, 122  
getMdiArea  
    MainWindow, 176  
getPrefix  
    CmdPrompt, 83  
getScene  
    MdiWindow, 241  
getSettingsCustomFilter  
    MainWindow, 176  
getSettingsDisplayBGColor  
    MainWindow, 176  
getSettingsDisplayCrossHairColor  
    MainWindow, 176  
getSettingsDisplayCrossHairPercent  
    MainWindow, 176  
getSettingsDisplayRenderHintAA  
    MainWindow, 176  
getSettingsDisplayRenderHintHighAA  
    MainWindow, 176  
getSettingsDisplayRenderHintNonCosmetic  
    MainWindow, 177  
getSettingsDisplayRenderHintSmoothPix  
    MainWindow, 177  
getSettingsDisplayRenderHintTextAA  
    MainWindow, 177  
getSettingsDisplayScrollBarWidgetNum  
    MainWindow, 177  
getSettingsDisplaySelectBoxAlpha  
    MainWindow, 177  
getSettingsDisplaySelectBoxLeftColor  
    MainWindow, 177  
getSettingsDisplaySelectBoxLeftFill  
    MainWindow, 177  
getSettingsDisplaySelectBoxRightColor  
    MainWindow, 177  
getSettingsDisplaySelectBoxRightFill  
    MainWindow, 177  
getSettingsDisplayShowScrollBars  
    MainWindow, 177  
getSettingsDisplayUnits  
    MainWindow, 178  
getSettingsDisplayUseOpenGL  
    MainWindow, 178  
getSettingsDisplayZoomScaleIn  
    MainWindow, 178  
getSettingsDisplayZoomScaleOut  
    MainWindow, 178  
getSettingsGeneralCheckForUpdates  
    MainWindow, 178  
getSettingsGeneralCurrentTip  
    MainWindow, 178  
getSettingsGeneralIconSize  
    MainWindow, 178  
getSettingsGeneralIconTheme  
    MainWindow, 178  
getSettingsGeneralLanguage  
    MainWindow, 178  
getSettingsGeneralMdiBGColor  
    MainWindow, 178  
getSettingsGeneralMdiBGLogo  
    MainWindow, 178  
getSettingsGeneralMdiBGTTexture  
    MainWindow, 179  
getSettingsGeneralMdiBGUseColor  
    MainWindow, 179  
getSettingsGeneralMdiBGUseLogo  
    MainWindow, 179  
getSettingsGeneralMdiBGUseTexture  
    MainWindow, 179  
getSettingsGeneralSystemHelpBrowser  
    MainWindow, 179  
getSettingsGeneralTipOfDay  
    MainWindow, 179  
getSettingsGridCenterOnOrigin  
    MainWindow, 179  
getSettingsGridCenterX  
    MainWindow, 179  
getSettingsGridCenterY  
    MainWindow, 179  
getSettingsGridColor  
    MainWindow, 179  
getSettingsGridColorMatchCrossHair  
    MainWindow, 179  
getSettingsGridLoadFromFile  
    MainWindow, 180  
getSettingsGridShowOnLoad  
    MainWindow, 180  
getSettingsGridShowOrigin  
    MainWindow, 180  
getSettingsGridSizeRadius  
    MainWindow, 180  
getSettingsGridSizeX

MainWindow, 180  
getSettingsGridSizeY  
    MainWindow, 180  
getSettingsGridSpacingAngle  
    MainWindow, 180  
getSettingsGridSpacingRadius  
    MainWindow, 180  
getSettingsGridSpacingX  
    MainWindow, 180  
getSettingsGridSpacingY  
    MainWindow, 180  
getSettingsGridType  
    MainWindow, 180  
getSettingsLwtDefaultLwt  
    MainWindow, 181  
getSettingsLwtRealRender  
    MainWindow, 181  
getSettingsLwtShowLwt  
    MainWindow, 181  
getSettingsOpenFormat  
    MainWindow, 181  
getSettingsOpenSaveTrimDstNumJumps  
    MainWindow, 181  
getSettingsOpenThumbnail  
    MainWindow, 181  
getSettingsPrintingDefaultDevice  
    MainWindow, 181  
getSettingsPrintingDisableBG  
    MainWindow, 181  
getSettingsPrintingUseLastDevice  
    MainWindow, 181  
getSettingsPromptBGColor  
    MainWindow, 181  
getSettingsPromptFontFamily  
    MainWindow, 181  
getSettingsPromptFontSize  
    MainWindow, 182  
getSettingsPromptFontStyle  
    MainWindow, 182  
getSettingsPromptSaveHistory  
    MainWindow, 182  
getSettingsPromptSaveHistoryAsHtml  
    MainWindow, 182  
getSettingsPromptSaveHistoryFilename  
    MainWindow, 182  
getSettingsPromptTextColor  
    MainWindow, 182  
getSettingsQSnapApertureSize  
    MainWindow, 182  
getSettingsQSnapApparent  
    MainWindow, 182  
getSettingsQSnapCenter  
    MainWindow, 182  
getSettingsQSnapEnabled  
    MainWindow, 182  
getSettingsQSnapEndPoint  
    MainWindow, 182  
getSettingsQSnapExtension  
    MainWindow, 183  
getSettingsQSnapInsertion  
    MainWindow, 183  
getSettingsQSnapIntersection  
    MainWindow, 183  
getSettingsQSnapLocatorColor  
    MainWindow, 183  
getSettingsQSnapLocatorSize  
    MainWindow, 183  
getSettingsQSnapMidPoint  
    MainWindow, 183  
getSettingsQSnapNearest  
    MainWindow, 183  
getSettingsQSnapNode  
    MainWindow, 183  
getSettingsQSnapParallel  
    MainWindow, 183  
getSettingsQSnapPerpendicular  
    MainWindow, 183  
getSettingsQSnapQuadrant  
    MainWindow, 183  
getSettingsQSnapTangent  
    MainWindow, 184  
getSettingsRecentMaxFiles  
    MainWindow, 184  
getSettingsRulerColor  
    MainWindow, 184  
getSettingsRulerMetric  
    MainWindow, 184  
getSettingsRulerPixelSize  
    MainWindow, 184  
getSettingsRulerShowOnLoad  
    MainWindow, 184  
getSettingsSaveFormat  
    MainWindow, 184  
getSettingsSaveThumbnail  
    MainWindow, 184  
getSettingsSelectionCoolGripColor  
    MainWindow, 184  
getSettingsSelectionGripSize  
    MainWindow, 184  
getSettingsSelectionModePickAdd  
    MainWindow, 185  
getSettingsSelectionModePickDrag  
    MainWindow, 185  
getSettingsSelectionModePickFirst  
    MainWindow, 185  
getSettingsSelectionPickBoxSize  
    MainWindow, 185  
getSettingsTextAngle  
    MainWindow, 185  
getSettingsTextFont  
    MainWindow, 185  
getSettingsTextSize  
    MainWindow, 185  
getSettingsTextStyleBold

MainWindow, 185  
getSettingsTextStyleItalic  
    MainWindow, 185  
getSettingsTextStyleOverline  
    MainWindow, 185  
getSettingsTextStyleStrikeOut  
    MainWindow, 185  
getSettingsTextStyleUnderline  
    MainWindow, 186  
getShortCurrentFile  
    MdiWindow, 241  
getUndoStack  
    View, 405  
getView  
    MdiWindow, 241  
greedy\_algorithm  
    fill.c, 800  
GREEN\_TERM\_COLOR  
    embroidery\_internal.h, 739  
grid\_center  
    Settings\_, 321  
grid\_center\_on\_origin  
    Settings\_, 321  
grid\_color  
    Settings\_, 321  
grid\_color\_action  
    imgui\_main.c, 521  
grid\_color\_match\_crosshair  
    Settings\_, 321  
grid\_load\_from\_file  
    Settings\_, 321  
grid\_mode  
    View\_, 418  
grid\_show\_on\_load  
    Settings\_, 321  
grid\_show\_origin  
    Settings\_, 322  
grid\_size\_radius  
    Settings\_, 322  
grid\_size\_x  
    Settings\_, 322  
grid\_size\_y  
    Settings\_, 322  
grid\_spacing  
    Settings\_, 322  
grid\_spacing\_angle  
    Settings\_, 322  
grid\_spacing\_radius  
    Settings\_, 322  
grid\_spacing\_x  
    Settings\_, 322  
grid\_spacing\_y  
    Settings\_, 322  
grid\_type  
    Settings\_, 322  
    View\_, 418  
gridColor  
    View, 412  
gridPath  
    View, 412  
gripBaseObj  
    View, 412  
gripColorCool  
    View, 413  
gripColorHot  
    View, 413  
gripEdit  
    ArcObject, 61  
    BaseObject, 68  
    CircleObject, 75  
    DimLeaderObject, 106  
    EllipseObject, 112  
    ImageObject, 146  
    LineObject, 154  
    PathObject, 248  
    PointObject, 252  
    PolygonObject, 257  
    PolylineObject, 262  
    RectObject, 305  
    TextSingleObject, 372  
gripIndex  
    PolygonObject, 259  
    PolylineObject, 264  
grippingActive  
    View, 413  
gripSize  
    View, 413  
groupBoxGeneral  
    PropertyEditor, 280  
groupBoxGeometryArc  
    PropertyEditor, 280  
groupBoxGeometryBlock  
    PropertyEditor, 280  
groupBoxGeometryCircle  
    PropertyEditor, 280  
groupBoxGeometryDimAligned  
    PropertyEditor, 280  
groupBoxGeometryDimAngular  
    PropertyEditor, 280  
groupBoxGeometryDimArcLength  
    PropertyEditor, 280  
groupBoxGeometryDimDiameter  
    PropertyEditor, 280  
groupBoxGeometryDimLeader  
    PropertyEditor, 280  
groupBoxGeometryDimLinear  
    PropertyEditor, 281  
groupBoxGeometryDimOrdinate  
    PropertyEditor, 281  
groupBoxGeometryDimRadius  
    PropertyEditor, 281  
groupBoxGeometryEllipse  
    PropertyEditor, 281  
groupBoxGeometryImage  
    PropertyEditor, 281  
groupBoxGeometryInfiniteLine

PropertyEditor, 281  
 groupBoxGeometryLine  
     PropertyEditor, 281  
 groupBoxGeometryPath  
     PropertyEditor, 281  
 groupBoxGeometryPoint  
     PropertyEditor, 281  
 groupBoxGeometryPolygon  
     PropertyEditor, 281  
 groupBoxGeometryPolyline  
     PropertyEditor, 281  
 groupBoxGeometryRay  
     PropertyEditor, 282  
 groupBoxGeometryRectangle  
     PropertyEditor, 282  
 groupBoxGeometryTextMulti  
     PropertyEditor, 282  
 groupBoxGeometryTextSingle  
     PropertyEditor, 282  
 groupBoxMiscArc  
     PropertyEditor, 282  
 groupBoxMisImage  
     PropertyEditor, 282  
 groupBoxMiscPath  
     PropertyEditor, 282  
 groupBoxMiscPolyline  
     PropertyEditor, 282  
 groupBoxMiscTextSingle  
     PropertyEditor, 282  
 groupBoxTextTextSingle  
     PropertyEditor, 282  
 gscene  
     MdiWindow, 244  
     SaveObject, 313  
     View, 413  
 gui\_backend.cpp  
     begin\_child, 430  
     begin\_combo, 430  
     begin\_menu, 430  
     begin\_menu\_bar, 430  
     begin\_tab\_bar, 430  
     begin\_tab\_item, 431  
     begin\_ui, 431  
     button, 431  
     checkbox\_data, 432  
     collapsing\_header, 432  
     columns, 432  
     display\_text, 432  
     draw\_circle, 432  
     draw\_line, 433  
     draw\_quad, 433  
     draw\_rect, 433  
     draw\_text, 434  
     edit\_int, 434  
     edit\_real, 434  
     embColor\_to\_int, 434  
     end\_child, 435  
     end\_columns, 435  
     end\_combo, 435  
     end\_menu, 435  
     end\_menu\_bar, 435  
     end\_tab\_bar, 435  
     end\_tab\_item, 435  
     end\_ui, 435  
     font, 439  
     get\_current\_directory, 435  
     get\_display\_size, 435  
     get\_screen\_size, 436  
     get\_window\_pos, 436  
     header, 436  
     header\_font, 439  
     image\_button, 436  
     imgui\_new\_frame, 436  
     imgui\_render, 436  
     load\_textures, 436  
     menu\_item, 437  
     menu\_separator, 437  
     next\_column, 437  
     same\_line, 437  
     selectable, 437  
     set\_column\_width, 437  
     set\_style, 438  
     setup\_imgui, 438  
     setup\_main\_widget, 438  
     show\_int, 438  
     show\_real, 438  
     textures, 439  
     to\_ImVec2, 438  
     translated\_text, 438  
 gui\_backend.h  
     begin\_child, 441  
     begin\_combo, 441  
     begin\_menu, 442  
     begin\_menu\_bar, 442  
     begin\_tab\_bar, 442  
     begin\_tab\_item, 442  
     begin\_ui, 442  
     button, 443  
     checkbox\_data, 443  
     collapsing\_header, 443  
     columns, 443  
     Dictionary, 441  
     DictionaryEntry, 441  
     display\_text, 444  
     draw\_circle, 444  
     draw\_line, 444  
     draw\_quad, 444  
     draw\_rect, 445  
     draw\_text, 445  
     edit\_int, 445  
     edit\_real, 445  
     embColor\_to\_int, 446  
     end\_child, 446  
     end\_columns, 446  
     end\_combo, 446  
     end\_menu, 446

end\_menu\_bar, 446  
end\_tab\_bar, 447  
end\_tab\_item, 447  
end\_ui, 447  
gen\_gl\_texture, 447  
get\_current\_directory, 447  
get\_display\_size, 447  
get\_screen\_size, 447  
get\_window\_pos, 448  
header, 448  
image\_button, 448  
imgui\_new\_frame, 448  
imgui\_render, 448  
load\_texture, 448  
load\_textures, 448  
log\_debug, 449  
menu\_item, 449  
menu\_separator, 449  
next\_column, 449  
same\_line, 449  
selectable, 449  
set\_column\_width, 450  
set\_style, 450  
setup\_imgui, 450  
setup\_main\_widget, 450  
show\_int, 450  
show\_real, 450  
translate, 451  
translated\_text, 451  
view\_tab, 451  
gview  
    MdiWindow, 244  
    UndoableAddCommand, 384  
    UndoableDeleteCommand, 385  
    UndoableGripEditCommand, 387  
    UndoableMirrorCommand, 388  
    UndoableMoveCommand, 389  
    UndoableNavCommand, 391  
    UndoableRotateCommand, 393  
    UndoableScaleCommand, 395  
handleMoved  
    CmdPromptHandle, 88  
handlePressed  
    CmdPromptHandle, 88  
handleReleased  
    CmdPromptHandle, 88  
hashDeletedObjects  
    View, 413  
haveExtraDIFATSectors  
    main.c, 889  
header  
    \_bcf\_file, 50  
    gui\_backend.cpp, 436  
    gui\_backend.h, 448  
header\_font  
    gui\_backend.cpp, 439  
heart\_init  
    imgui\_main.c, 521  
HEART\_MODE\_NUM\_POINTS  
    imgui\_main.c, 475  
HEART\_MODE\_STYLE  
    imgui\_main.c, 475  
HEART\_MODE\_XSCALE  
    imgui\_main.c, 475  
HEART\_MODE\_YSCALE  
    imgui\_main.c, 475  
height  
    \_vp3Hoop, 54  
    EmblImage\_, 128  
Help  
    imgui\_main.c, 522  
help  
    MainWindow, 186  
help\_dialog  
    imgui\_main.c, 522  
helpMenu  
    MainWindow, 221  
Hemingworth\_Polyester  
    embroidery.h, 678  
hex\_code  
    thread\_color\_, 377  
hideAllGroups  
    PropertyEditor, 276  
hideUnimplemented  
    MainWindow, 186  
hilbert\_curve  
    embroidery.h, 713  
    fill.c, 800  
hilbert\_curve\_l\_system  
    fill.c, 802  
historyAppended  
    CmdPrompt, 83  
    CmdPromptHistory, 90  
home  
    EmbPattern\_, 133  
HOOP\_110X110  
    embroidery\_internal.h, 739  
HOOP\_126X110  
    embroidery\_internal.h, 739  
HOOP\_140X200  
    embroidery\_internal.h, 739  
HOOP\_230X200  
    embroidery\_internal.h, 739  
HOOP\_50X50  
    embroidery\_internal.h, 739  
hoop\_height  
    EmbPattern\_, 133  
hoop\_padding, 142  
    bottom, 142  
    left, 142  
    right, 142  
    top, 142  
hoop\_width  
    EmbPattern\_, 133  
hoopSize  
    ThredHeader\_, 379

hoopX  
     ThredExtension\_, 378  
 hoopY  
     ThredExtension\_, 378  
 horizontal\_dimension\_action  
     imgui\_main.c, 522  
 hour  
     EmbTime\_, 140  
 Huffman, 142  
     default\_value, 143  
     lengths, 143  
     nlengths, 143  
     ntable, 143  
     table, 143  
     table\_width, 143  
 huffman  
     embroidery\_internal.h, 744  
 huffman\_build\_table  
     compress.c, 660  
     embroidery\_internal.h, 759  
 huffman\_lookup  
     compress.c, 660  
 huffman\_lookup\_data  
     compress.c, 662  
 huffman\_table\_lookup  
     embroidery\_internal.h, 759  
 hus\_compress  
     compress.c, 661  
     embroidery\_internal.h, 759  
 hus\_decompress  
     compress.c, 661  
     embroidery\_internal.h, 760  
 hus\_thread  
     embroidery.h, 678  
 husCompressData  
     format\_hus.c, 826  
 husDecodeByte  
     format\_hus.c, 826  
 husDecodeStitchType  
     format\_hus.c, 826  
 husDecompressData  
     format\_hus.c, 826  
 husEncodeByte  
     format\_hus.c, 826  
 husEncodeStitchType  
     format\_hus.c, 826  
 husThreads  
     embroidery.h, 715  
     thread-color.c, 899  
 icon128  
     MainWindow, 186  
 icon16  
     MainWindow, 186  
 icon24  
     MainWindow, 186  
 icon32  
     MainWindow, 186  
 icon48  
     MainWindow, 186  
 icon64  
     MainWindow, 186  
 icon\_action  
     imgui\_main.c, 522  
 icon\_size  
     Settings\_, 322  
 icon\_theme  
     Settings\_, 323  
 iconDir  
     PropertyEditor, 282  
     UndoEditor, 397  
 iconResize  
     MainWindow, 186  
 iconSize  
     PropertyEditor, 283  
     UndoEditor, 397  
 id  
     UiObject\_, 381  
     UndoableNavCommand, 390  
 image.c  
     image\_diff, 877  
     writeImage, 878  
 image\_action  
     imgui\_main.c, 522  
 image\_button  
     gui\_backend.cpp, 436  
     gui\_backend.h, 448  
 image\_diff  
     image.c, 877  
 image\_widget\_init  
     imgui\_main.c, 522  
 image\_widget\_load  
     imgui\_main.c, 523  
 image\_widget\_paint\_event  
     imgui\_main.c, 523  
 image\_widget\_save  
     imgui\_main.c, 523  
 ImageObject, 143  
     ~ImageObject, 146  
     allGripPoints, 146  
     gripEdit, 146  
     ImageObject, 145, 146  
     init, 146  
     mouseSnapPoint, 146  
     objectArea, 146  
     objectBottomLeft, 147  
     objectBottomRight, 147  
     objectHeight, 147  
     objectTopLeft, 147  
     objectTopRight, 147  
     objectWidth, 147  
     paint, 147  
     setObjectRect, 147  
     Type, 145  
     type, 147  
     updatePath, 147  
     updateRubber, 148

vulcanize, 148  
ImageWidget, 148  
~ImageWidget, 148  
ImageWidget, 148  
img, 149  
load, 149  
paintEvent, 149  
save, 149  
imageWithFrame  
embroidery\_internal.h, 781  
formats.c, 809  
img  
ImageWidget, 149  
imgui\_main.c  
about\_dialog, 495  
active\_view, 574  
actuator, 495  
add\_ellipse, 496  
add\_infinite\_line, 496  
add\_line, 496  
add\_object, 497  
add\_point, 497  
add\_point\_action, 497  
add\_ray, 497  
add\_regular\_polygon, 497  
add\_rubber\_action, 497  
add\_slot\_action, 499  
add\_text\_multi, 499  
add\_text\_single, 500  
add\_to\_rubber\_room, 500  
add\_to\_undo\_history, 500  
alert, 500  
alignScenePointWithViewPoint, 500  
allow\_rubber, 500  
allow\_zoom\_in, 500  
allow\_zoom\_out, 501  
arc\_action, 501  
background\_color\_action, 501  
boundingRect, 501  
BRUSH\_STYLE\_DASHED, 473  
BRUSH\_STYLE\_SOLID, 473  
button\_tip\_of\_the\_day\_clicked, 501  
c\_split, 501  
calculate\_angle, 501  
calculate\_angle\_action, 502  
calculate\_distance\_action, 502  
centerAt, 502  
changelog\_dialog, 502  
checkForUpdates, 502  
circle\_action, 502  
CIRCLE\_MODE\_1P\_DIA, 473  
CIRCLE\_MODE\_1P\_RAD, 473  
CIRCLE\_MODE\_2P, 473  
CIRCLE\_MODE\_3P, 473  
CIRCLE\_MODE\_TTR, 473  
CIRCULAR\_GRID, 473  
clear\_rubber, 503  
clear\_selection, 503  
clearRubberRoom, 503  
clockwise, 503  
close\_action, 503  
close\_event, 503  
close\_toolbar\_action, 504  
colorSelectorIndexChanged, 504  
context\_menu\_event, 504  
copy, 504  
copy\_action, 504  
copy\_selected, 504  
copy\_selection, 505  
cornerButtonClicked, 505  
create\_group\_box\_arc, 505  
create\_group\_box\_block, 505  
create\_group\_box\_circle, 505  
create\_group\_box\_dim\_aligned, 505  
create\_group\_box\_dim\_angular, 506  
create\_group\_box\_dim\_arc\_length, 506  
create\_group\_box\_dim\_diameter, 506  
create\_group\_box\_dim\_leader, 506  
create\_group\_box\_dim\_linear, 506  
create\_group\_box\_dim\_ordinate, 506  
create\_group\_box\_dim\_radius, 507  
create\_group\_box\_ellipse, 507  
create\_group\_box\_general, 507  
create\_group\_box\_image, 507  
create\_group\_box\_infinite\_line, 507  
create\_group\_box\_line, 507  
create\_group\_box\_path, 508  
create\_group\_box\_point, 508  
create\_group\_box\_polygon, 508  
create\_group\_box\_polyline, 508  
create\_group\_box\_ray, 508  
create\_group\_box\_rectangle, 508  
create\_group\_box\_stitch, 509  
create\_group\_box\_stitch\_list, 509  
create\_group\_box\_text\_multi, 509  
create\_group\_box\_text\_single, 509  
create\_layer\_toolbar, 509  
create\_prompt\_toolbar, 509  
create\_properties\_toolbar, 509  
create\_tab, 510  
create\_tab\_display, 510  
create\_tab\_files\_paths, 510  
create\_tab\_general, 510  
create\_tab\_grid\_ruler, 510  
create\_tab\_lineweight, 510  
create\_tab\_open\_save, 510  
create\_tab\_ortho\_polar, 511  
create\_tab\_printing, 511  
create\_tab\_prompt, 511  
create\_tab\_quicksnap, 511  
create\_tab\_quicktrack, 511  
create\_tab\_selection, 511  
create\_tab\_snap, 511  
create\_text\_toolbar, 512  
createAllActions, 512  
createGrid, 512

createGridIso, 512  
 createGridPolar, 512  
 createGridRect, 512  
 createObjectList, 513  
 createOrigin, 513  
 crosshair\_color\_action, 513  
 current\_color\_changed, 513  
 current\_directory, 574  
 current\_layer\_changed, 514  
 current\_linetype\_changed, 514  
 current\_lineweight\_changed, 514  
 cut, 514  
 cut\_action, 514  
 cut\_selected, 514  
 DEFAULT\_MODE, 473  
 delete\_object, 514  
 delete\_pressed, 515  
 delete\_selected, 515  
 details\_dialog, 515  
 dialog, 574  
 dictionary\_from\_index, 515  
 dim\_leader\_action, 515  
 DIRECTION\_LEFT, 473  
 DIRECTION\_RIGHT, 473  
 DISABLE\_GRID, 474  
 disable\_move\_rapid\_fire, 515  
 disablePromptRapidFire, 516  
 dolphin\_main, 516  
 DOLPHIN\_MODE\_NUM\_POINTS, 474  
 DOLPHIN\_MODE\_XSCALE, 474  
 DOLPHIN\_MODE\_YSCALE, 474  
 draw\_grid, 516  
 draw\_rulers, 516  
 drawBackground, 516  
 drawForeground, 516  
 ellipse\_action, 516  
 ELLIPSE\_MODE\_ELLIPSE\_ROTATION, 474  
 ELLIPSE\_MODE\_MAJORDIAMETER\_MINORRADIUS, 474  
 ELLIPSE\_MODE\_MAJORRADIUS\_MINORRADIUS, 474  
 EMB\_BLOCK, 474  
 emb\_clamp, 517  
 EMB\_DIM\_ALIGNED, 474  
 EMB\_DIM\_ANGULAR, 474  
 EMB\_DIM\_ARCLENGTH, 474  
 EMB\_DIM\_LINEAR, 475  
 EMB\_DIM\_ORDINATE, 475  
 EMB\_DIM\_RADIUS, 475  
 EMB\_INFINITELINE, 475  
 EMB\_RAY, 475  
 embArc\_endAngle, 517  
 embArc\_setCenter, 517  
 embArc\_setEndAngle, 517  
 embArc\_setRadius, 517  
 embArc\_setStartAngle, 517  
 embArc\_startAngle, 517  
 embCircle\_click, 518  
 embCircle\_prompt, 518  
 embCircle\_setArea, 518  
 embCircle\_setCircumference, 518  
 embPolyline\_click, 518  
 embPolyline\_main, 518  
 embPolyline\_prompt, 518  
 embVector\_perpendicularDistance, 518  
 ENABLE\_LWT, 475  
 ENABLE\_REAL, 475  
 enableMoveRapidFire, 519  
 enablePromptRapidFire, 519  
 end\_command, 519  
 enter\_event, 519  
 error\_action, 519  
 escape\_pressed, 519  
 exit\_action, 520  
 export\_action, 520  
 file\_extension, 520  
 find\_view, 520  
 floating\_changed\_toolbar\_action, 520  
 from\_, 574  
 gen\_gl\_texture, 520  
 generic\_design\_init, 520  
 get\_short\_current\_file, 521  
 getCurrentColor, 521  
 getCurrentLayer, 521  
 getCurrentLineType, 521  
 getCurrentLineWeight, 521  
 grid\_color\_action, 521  
 heart\_init, 521  
 HEART\_MODE\_NUM\_POINTS, 475  
 HEART\_MODE\_STYLE, 475  
 HEART\_MODE\_XSCALE, 475  
 HEART\_MODE\_YSCALE, 475  
 Help, 522  
 help\_dialog, 522  
 horizontal\_dimension\_action, 522  
 icon\_action, 522  
 image\_action, 522  
 image\_widget\_init, 522  
 image\_widget\_load, 523  
 image\_widget\_paint\_event, 523  
 image\_widget\_save, 523  
 Index, 493  
 index\_free, 523  
 index\_init, 523  
 IndexEntry, 494  
 infinite\_line\_action, 523  
 init\_command, 523  
 init\_view, 523  
 ISOMETRIC\_GRID, 476  
 just\_opened, 574  
 JUSTIFY\_\_, 476  
 JUSTIFY\_ALIGN, 476  
 JUSTIFY\_BOTTOMCENTER, 476  
 JUSTIFY\_BOTTOMLEFT, 476  
 JUSTIFY\_BOTTOMRIGHT, 476  
 JUSTIFY\_LEFT, 476

JUSTIFY\_MIDDLE, 476  
JUSTIFY\_MIDDLECENTER, 476  
JUSTIFY\_MIDDLELEFT, 476  
JUSTIFY\_MIDDLERIGHT, 476  
JUSTIFY\_RIGHT, 477  
JUSTIFY\_TOPCENTER, 477  
JUSTIFY\_TOPLEFT, 477  
JUSTIFY\_TOPRIGHT, 477  
languages, 574  
layer\_manager, 524  
Layer\_manager\_add\_layer, 524  
layerManager, 524  
layerPrevious, 524  
layerSelectorIndexChanged, 525  
line\_action, 525  
LINE\_STYLE\_DASHED, 477  
LINE\_STYLE\_SOLID, 477  
linetypeSelectorIndexChanged, 525  
lineweightSelectorIndexChanged, 525  
load\_configuration, 525  
load\_formats, 525  
load\_menu, 525  
load\_texture, 526  
load\_toolbar, 526  
locate\_point\_click, 526  
locate\_point\_main, 526  
located\_point\_prompt, 526  
log\_debug, 526  
logPromptInput, 526  
main, 527  
MainWindow, 527  
makeLayerActive, 527  
menu\_action, 575  
menu\_layout, 575  
merge\_with, 527  
messagebox, 527  
messagebox\_action, 528  
mirror\_selected\_action, 528  
mirrorSelected, 528  
MITER\_JOIN, 477  
mouse\_double\_click\_event, 528  
mouse\_press\_event, 528  
mouseMoveEvent, 528  
mouseReleaseEvent, 528  
move, 529  
move\_click, 529  
move\_main, 529  
move\_prompt, 529  
move\_selected\_action, 529  
moveAction, 529  
moveSelected, 529  
MSG\_CRITICAL, 477  
MSG\_INFORMATION, 477  
MSG\_QUESTION, 477  
MSG\_WARNING, 477  
n\_views, 575  
new\_file\_action, 530  
NUMBER\_ARCHITECTURAL, 478  
NUMBER\_DECIMAL, 478  
NUMBER\_ENGINEERING, 478  
NUMBER\_FRACTIONAL, 478  
NUMBER\_SCIENTIFIC, 478  
OBJ\_COLOR, 495  
OBJ\_KEYS, 495  
OBJ\_LAYER, 495  
OBJ\_LTYPE, 495  
OBJ\_LTYPE\_CENTER, 478  
OBJ\_LTYPE\_CONT, 478  
OBJ\_LTYPE\_DOT, 478  
OBJ\_LTYPE\_FISHBONE, 478  
OBJ\_LTYPE\_HIDDEN, 478  
OBJ\_LTYPE\_PHANTOM, 478  
OBJ\_LTYPE\_RUNNING, 479  
OBJ\_LTYPE\_SATIN, 479  
OBJ\_LTYPE\_ZIGZAG, 479  
OBJ\_LWT, 495  
OBJ\_LWT\_01, 479  
OBJ\_LWT\_02, 479  
OBJ\_LWT\_03, 479  
OBJ\_LWT\_04, 479  
OBJ\_LWT\_05, 479  
OBJ\_LWT\_06, 479  
OBJ\_LWT\_07, 479  
OBJ\_LWT\_08, 479  
OBJ\_LWT\_09, 480  
OBJ\_LWT\_10, 480  
OBJ\_LWT\_11, 480  
OBJ\_LWT\_12, 480  
OBJ\_LWT\_13, 480  
OBJ\_LWT\_14, 480  
OBJ\_LWT\_15, 480  
OBJ\_LWT\_16, 480  
OBJ\_LWT\_17, 480  
OBJ\_LWT\_18, 480  
OBJ\_LWT\_19, 480  
OBJ\_LWT\_20, 481  
OBJ\_LWT\_21, 481  
OBJ\_LWT\_22, 481  
OBJ\_LWT\_23, 481  
OBJ\_LWT\_24, 481  
OBJ\_LWT\_BYBLOCK, 481  
OBJ\_LWT\_BYLAYER, 481  
OBJ\_LWT\_DEFAULT, 481  
OBJ\_NAME, 495  
OBJ\_RUBBER, 495  
OBJ\_RUBBER\_CIRCLE\_1P\_DIA, 481  
OBJ\_RUBBER\_CIRCLE\_1P\_RAD, 481  
OBJ\_RUBBER\_CIRCLE\_2P, 481  
OBJ\_RUBBER\_CIRCLE\_3P, 482  
OBJ\_RUBBER\_CIRCLE\_TTR, 482  
OBJ\_RUBBER\_CIRCLE\_TTT, 482  
OBJ\_RUBBER\_DIMLEADER\_LINE, 482  
OBJ\_RUBBER\_ELLIPSE\_LINE, 482  
OBJ\_RUBBER\_ELLIPSE\_MAJORDIAMETER\_MINORRADIUS, 482

OBJ\_RUBBER\_ELLIPSE\_MAJORRADIUS, 482  
OBJ\_RUBBER\_ELLIPSE\_MINORRADIUS, 482  
OBJ\_RUBBER\_GRIP, 482  
OBJ\_RUBBER\_IMAGE, 482  
OBJ\_RUBBER\_LINE, 482  
OBJ\_RUBBER\_OFF, 483  
OBJ\_RUBBER\_ON, 483  
OBJ\_RUBBER\_POLYGON, 483  
OBJ\_RUBBER\_POLYGON\_CIRCUMSCRIBE, 483  
OBJ\_RUBBER\_POLYGON\_INSCRIBE, 483  
OBJ\_RUBBER\_POLYLINE, 483  
OBJ\_RUBBER\_RECTANGLE, 483  
OBJ\_RUBBER\_TEXTSINGLE, 483  
OBJ\_SNAP\_APPINTERSECTION, 483  
OBJ\_SNAP\_CENTER, 483  
OBJ\_SNAP\_ENDPOINT, 483  
OBJ\_SNAP\_EXTENSION, 484  
OBJ\_SNAP\_INSERTION, 484  
OBJ\_SNAP\_INTERSECTION, 484  
OBJ\_SNAP\_MIDPOINT, 484  
OBJ\_SNAP\_NEAREST, 484  
OBJ\_SNAP\_NODE, 484  
OBJ\_SNAP\_NULL, 484  
OBJ\_SNAP\_PARALLEL, 484  
OBJ\_SNAP\_PERPENDICULAR, 484  
OBJ\_SNAP\_QUADRANT, 484  
OBJ\_SNAP\_TANGENT, 484  
OBJ\_TYPE, 495  
OBJ\_TYPE\_ARC, 485  
OBJ\_TYPE\_BASE, 485  
OBJ\_TYPE\_BLOCK, 485  
OBJ\_TYPE\_CIRCLE, 485  
OBJ\_TYPE\_DIMALIGNED, 485  
OBJ\_TYPE\_DIMANGULAR, 485  
OBJ\_TYPE\_DIMARCLENGTH, 485  
OBJ\_TYPE\_DIMDIAMETER, 485  
OBJ\_TYPE\_DIMLEADER, 485  
OBJ\_TYPE\_DIMLINEAR, 485  
OBJ\_TYPE\_DIMORDINATE, 485  
OBJ\_TYPE\_DIMRADIUS, 486  
OBJ\_TYPE\_ELLIPSE, 486  
OBJ\_TYPE\_ELLIPSEARC, 486  
OBJ\_TYPE\_GRID, 486  
OBJ\_TYPE\_HATCH, 486  
OBJ\_TYPE\_IMAGE, 486  
OBJ\_TYPE\_INFINITELINE, 486  
OBJ\_TYPE\_LINE, 486  
OBJ\_TYPE\_NULL, 486  
OBJ\_TYPE\_PATH, 486  
OBJ\_TYPE\_POINT, 486  
OBJ\_TYPE\_POLYGON, 487  
OBJ\_TYPE\_POLYLINE, 487  
OBJ\_TYPE\_RAY, 487  
OBJ\_TYPE\_RECTANGLE, 487  
OBJ\_TYPE\_RUBBER, 487  
OBJ\_TYPE\_SLOT, 487  
OBJ\_TYPE\_SPLINE, 487  
OBJ\_TYPE\_TEXTMULTI, 487  
OBJ\_TYPE\_TEXTSINGLE, 487  
OBJ\_TYPE\_UNKNOWN, 487  
on\_window\_activated, 530  
open\_file\_action, 530  
open\_file\_dialog, 530  
open\_recent\_file, 530  
pan\_action, 530  
panStart, 531  
parse\_command, 531  
paste, 531  
paste\_action, 531  
paste\_selected, 531  
path\_action, 531  
path\_click, 532  
path\_init, 532  
path\_prompt, 532  
pattern\_view, 532  
PERMISSIONS\_SYSTEM, 487  
PERMISSIONS\_USER, 488  
perpendicular\_distance, 532  
pickAddModeToggled, 532  
platform\_string, 533  
point\_click, 533  
point\_init, 533  
point\_prompt, 533  
polygon\_action, 533  
polygon\_click, 533  
polygon\_main, 533  
polygon\_prompt, 534  
polyline\_action, 534  
preview, 575  
PREVIEW\_CLONE\_NULL, 488  
PREVIEW\_CLONE\_RUBBER, 488  
PREVIEW\_CLONE\_SELECTED, 488  
preview\_dialog, 534  
PREVIEW\_MODE\_MOVE, 488  
PREVIEW\_MODE\_NULL, 488  
PREVIEW\_MODE\_OFF, 488  
PREVIEW\_MODE\_ROTATE, 488  
PREVIEW\_MODE\_SCALE, 488  
preview\_off, 534  
preview\_on, 534  
preview\_on\_action, 535  
print\_action, 535  
print\_area\_action, 535  
PrintArea, 535  
prompt\_input\_prev\_next, 535  
promptHistoryAppended, 535  
promptInputNext, 536  
promptInputPrevious, 536  
property\_editor, 536  
property\_editor\_create\_tool\_buttonPickAdd, 536  
property\_editor\_create\_tool\_buttonQSelect, 536  
property\_editor\_createComboBoxSelected, 536  
property\_editor\_eventFilter, 537  
property\_editor\_hideAllGroups, 537  
property\_editor\_set\_selectedItems, 537

property\_editor\_showGroups, 537  
property\_editor\_showOneType, 537  
property\_editor\_togglePickAddMode, 537  
property\_editor\_updateComboBoxBoolIfVaries,  
    537  
property\_editor\_updateComboBoxStrIfVaries, 538  
property\_editor\_updateFontComboBoxStrIfVaries,  
    538  
property\_editor\_updateLineEditNumIfVaries, 538  
property\_editor\_updateLineEditStrIfVaries, 538  
property\_editor\_updatePickAddModeButton, 538  
quicleader\_click, 538  
quicleader\_main, 538  
quicleader\_prompt, 539  
random\_uniform, 539  
ray\_action, 539  
read\_bool\_setting, 539  
read\_dictionary\_setting, 539  
read\_int\_setting, 539  
read\_settings, 539  
read\_str\_setting, 540  
real\_render\_pattern, 540  
recalculateLimits, 540  
recentMenuAboutToShow, 540  
rectangle\_action, 540  
rectangle\_click, 540  
rectangle\_main, 540  
rectangle\_prompt, 541  
RECTANGULAR\_GRID, 488  
redo\_action, 541  
redo\_navigation, 541  
render\_pattern, 541  
render\_shine, 541  
RENDER\_TEXT\_EDITOR, 488  
RENDER\_UI, 489  
repeat\_action, 541  
resize\_event, 541  
rgb\_main, 542  
RGB\_MODE\_BACKGROUND, 489  
RGB\_MODE\_CROSSHAIR, 489  
RGB\_MODE\_GRID, 489  
rgb\_prompt, 542  
rotate, 542  
rotate\_click, 542  
rotate\_main, 542  
ROTATE\_MODE\_NORMAL, 489  
ROTATE\_MODE\_REFERENCE, 489  
rotate\_prompt, 542  
rotate\_selected\_action, 542  
rotateAction, 543  
rotateSelected, 543  
rounded\_rectangle\_action, 543  
roundToMultiple, 543  
RUBBER\_MODES, 489  
rubber\_point\_action, 543  
rubber\_text\_action, 543  
run\_script, 544  
sandbox\_click, 544  
sandbox\_main, 544  
sandbox\_prompt, 544  
save\_as\_file\_action, 545  
save\_bmc, 545  
save\_save, 545  
save\_toPolyline, 545  
scale\_action, 546  
scale\_click, 546  
scale\_main, 546  
SCALE\_MODE\_NORMAL, 489  
SCALE\_MODE\_REFERENCE, 489  
scale\_prompt, 546  
scale\_redo, 546  
scale\_selected\_action, 547  
scale\_undo, 547  
scaleAction, 547  
scaleSelected, 547  
selectbox\_paintEvent, 547  
selectbox\_SelectBox, 547  
selectbox\_set\_colors, 547  
selectbox\_setDirection, 548  
selection\_changed, 548  
set\_crosshair\_color, 548  
set\_current\_file, 548  
set\_cursor\_shape\_action, 548  
set\_grid\_color, 548  
set\_mouse\_coord, 549  
set\_prompt\_prefix, 549  
set\_rubber\_mode\_action, 549  
set\_rubber\_point, 549  
set\_rubber\_text, 549  
set\_view\_background\_color, 550  
set\_view\_crosshair\_color, 550  
set\_view\_selectbox\_colors, 550  
set\_viewGridColor, 550  
set\_viewRulerColor, 550  
setBackgroundColor, 550  
setBackgroundColor\_, 550  
setCornerButton, 550  
setCrossHairColor, 551  
setCrossAxisSize, 551  
setGridColor, 551  
setRubberMode, 551  
setRubberPoint, 551  
setRubberText, 551  
setRulerColor, 551  
setSelectBoxColors, 551  
setTextFont, 552  
setTextSize, 552  
Settings, 494  
settings, 575  
settings\_dialog\_acceptChanges, 552  
settings\_dialog\_addColorsToComboBox, 552  
settings\_dialog\_buttonCustomFilterClearAllClicked,  
    552  
settings\_dialog\_buttonCustomFilterSelectAllClicked,  
    552  
settings\_dialog\_buttonQSnapClearAllClicked, 553

settings\_dialog\_buttonQSnapSelectAllClicked, 553  
settings\_dialog\_checkBoxCustomFilterStateChanged, 553  
settings\_dialog\_checkBoxGeneralMdiBGUseColorStateChange, 553  
settings\_dialog\_checkBoxGeneralMdiBGUseLogoStateChange, 553  
settings\_dialog\_checkBoxGeneralMdiBGUseTextureStateChange, 553  
settings\_dialog\_checkBoxGridCenterOnOriginStateChanged, 554  
settings\_dialog\_checkBoxGridColorMatchCrossHairStateChange, 554  
settings\_dialog\_checkBoxGridLoadFromFileStateChanged, 554  
settings\_dialog\_checkBoxLwtRealRenderStateChanged, 554  
settings\_dialog\_checkBoxLwtShowLwtStateChanged, 554  
settings\_dialog\_checkBoxShowscrollbarsStateChanged, 554  
settings\_dialog\_chooseDisplayBackgroundColor, 554  
settings\_dialog\_chooseDisplayCrossHairColor, 555  
settings\_dialog\_chooseDisplaySelectBoxLeftColor, 555  
settings\_dialog\_chooseDisplaySelectBoxLeftFill, 555  
settings\_dialog\_chooseDisplaySelectBoxRightColor, 555  
settings\_dialog\_chooseDisplaySelectBoxRightFill, 555  
settings\_dialog\_chooseGeneralMdiBackgroundColor, 555  
settings\_dialog\_chooseGeneralMdiBackgroundLogo, 555  
settings\_dialog\_chooseGeneralMdiBackgroundTexture, 555  
settings\_dialog\_chooseGridColor, 556  
settings\_dialog\_choosePromptBackgroundColor, 556  
settings\_dialog\_choosePromptTextColor, 556  
settings\_dialog\_chooseRulerColor, 556  
settings\_dialog\_combobox\_selectionCoolGripColorCurrentIndexChanged, 556  
settings\_dialog\_combobox\_selectionHotGripColorCurrentIndexChanged, 556  
settings\_dialog\_comboBoxGridTypeCurrentIndexChanged, 557  
settings\_dialog\_comboBoxIconSizeCurrentIndexChanged, 557  
settings\_dialog\_comboBoxIconThemeCurrentIndexChanged, 557  
settings\_dialog\_comboBoxLanguageCurrentIndexChanged, 557  
settings\_dialog\_comboBoxPromptFontFamilyCurrentIndexChanged, 557  
settings\_dialog\_comboBoxPromptFontSizeCurrentIndexChanged, 557  
settings\_dialog\_comboBoxPromptFontStyleCurrentIndexChanged, 557  
settings\_dialog\_comboBoxQSnapLocatorColorCurrentIndexChanged, 557  
settings\_dialog\_currentDisplayBackgroundColorChanged, 558  
settings\_dialog\_currentDisplayCrossHairColorChanged, 558  
settings\_dialog\_currentDisplaySelectBoxLeftColorChanged, 558  
settings\_dialog\_currentDisplaySelectBoxLeftFillChanged, 558  
settings\_dialog\_currentDisplaySelectBoxRightColorChanged, 558  
settings\_dialog\_currentDisplaySelectBoxRightFillChanged, 559  
settings\_dialog\_currentGeneralMdiBackgroundColorChanged, 559  
settings\_dialog\_currentGridColorChanged, 559  
settings\_dialog\_currentPromptBackgroundColorChanged, 559  
settings\_dialog\_currentPromptTextColorChanged, 559  
settings\_dialog\_currentRulerColorChanged, 559  
settings\_dialog\_rejectChanges, 560  
settings\_dialog\_spinBoxDisplaySelectBoxAlphaValueChanged, 560  
settings\_dialog\_spinBoxPromptFontSizeValueChanged, 560  
settings\_dir, 575  
settings\_editor, 560  
settings\_file, 575  
setUndoCleanlcon, 560  
show\_view\_scrollbars, 561  
showscrollbars, 561  
simplify\_path, 561  
simulate\_pattern, 561  
single\_line\_text\_click, 561  
single\_line\_text\_main, 561  
SINGLE\_LINE\_TEXT\_MODE\_JUSTIFY, 489  
SINGLE\_LINE\_TEXT\_MODE\_RAPID, 489  
SINGLE\_LINE\_TEXT\_MODE\_SETFONT, 490  
SINGLE\_LINE\_TEXT\_MODE\_SETGEOM, 490  
single\_line\_text\_prompt, 561  
sizeChar, 561  
SNAP\_TYPES, 490  
snowflake\_click, 562  
snowflake\_main, 562  
SNOWFLAKE\_MODE\_NUM\_POINTS, 490  
SNOWFLAKE\_MODE\_XSCALE, 490  
SNOWFLAKE\_MODE\_YSCALE, 490  
snowflake\_move, 562  
spare\_rubber, 562  
spare\_rubber\_action, 562  
SPARED\_RUBBER\_OFF, 490  
SPARE\_RUBBER\_PATH, 490

SPARE\_RUBBER\_POLYGON, 490  
SPARE\_RUBBER\_POLYLINE, 490  
star\_click, 562  
star\_main, 562  
STAR\_MODE\_CENTER\_PT, 490  
STAR\_MODE\_NUM\_POINTS, 491  
STAR\_MODE\_RAD\_INNER, 491  
STAR\_MODE\_RAD\_OUTER, 491  
star\_move, 563  
star\_prompt, 563  
start\_gripping, 563  
status\_bar, 563  
status\_bar\_context\_menu, 563  
STB\_IMAGE\_IMPLEMENTATION, 491  
stitch\_line\_to\_scene, 563  
stop\_gripping, 563  
stor, 575  
streq, 563  
stub\_implement, 564  
stub\_testing\_action, 564  
test\_translate, 564  
text\_angle\_action, 564  
text\_font\_action, 564  
text\_multi\_action, 564  
text\_single\_action, 564  
text\_size\_action, 565  
textFontSelectorCurrentFontChanged, 565  
textSizeSelectorIndexChanged, 565  
tip\_of\_the\_day\_dialog, 565  
TipOfTheDay, 565  
to\_, 575  
to\_open, 576  
toggleGrid, 565  
toolbar\_layout, 576  
translate, 566  
translation\_table, 576  
triangle\_action, 566  
UiObject, 494  
UiObject\_free, 566  
UiObject\_init, 566  
undo\_action, 566  
undo\_editor\_init, 566  
undo\_history\_free, 566  
undo\_history\_init, 567  
undo\_history\_viewer, 567  
undo\_navigation, 567  
undoable\_navigation\_command, 567  
UndoHistory, 494  
update\_clean\_icon, 567  
update\_heart, 567  
update\_menu\_toolbar\_statusbar, 567  
update\_mouse\_coords, 568  
updateAllViewBackgroundColors, 568  
updateAllViewCrossHairColors, 568  
updateAllViewGridColors, 568  
updateAllViewRulerColors, 568  
updateAllViewscrollbars, 568  
updateAllViewSelectBoxColors, 568  
updateColorLinetypeLineweight, 569  
updateDolphin, 569  
updatePickAddMode, 569  
updateSnowflake, 569  
updateStar, 569  
usage, 569  
valid\_file\_format, 569  
validRGB, 570  
vertical\_dimension\_action, 570  
View, 495  
View\_\_, 570  
VIEW\_COLOR\_CROSSHAIR, 491  
VIEW\_COLOR\_GRID, 491  
view\_empty\_double\_click, 570  
view\_empty\_paint\_event, 570  
view\_free, 571  
VIEW\_STATE\_CLOSEABLE, 491  
VIEW\_STATE\_GRID, 491  
VIEW\_STATE\_GRIP, 491  
VIEW\_STATE\_LWT, 491  
VIEW\_STATE\_ORTHO, 491  
VIEW\_STATE\_POLAR, 492  
VIEW\_STATE\_QSNAP, 492  
VIEW\_STATE\_QTRACK, 492  
VIEW\_STATE\_REAL, 492  
VIEW\_STATE\_RULER, 492  
VIEW\_STATE\_SNAP, 492  
VIEW\_STATE\_USE\_COLOR, 492  
VIEW\_STATE\_USE\_LOGO, 492  
VIEW\_STATE\_USE\_TEXTURE, 492  
views, 576  
vulcanize, 571  
vulcanize\_action, 571  
vulcanize\_rubber\_room, 571  
vulcanizeObject, 571  
whats\_this\_context\_help\_action, 571  
wheel\_event, 571  
WIDGET\_MODE\_BACKGROUND, 492  
WIDGET\_MODE\_BLOCK, 492  
WIDGET\_MODE\_COMBOBOX, 493  
WIDGET\_MODE\_CONTAINER, 493  
WIDGET\_MODE\_IMAGE, 493  
WIDGET\_MODE\_PANEL, 493  
WIDGET\_MODE\_ROOT, 493  
WIDGET\_MODE\_SPINBOX, 493  
WIDGET\_MODE\_SVG, 493  
WIDGET\_MODE\_TEXT, 493  
WIDGET\_MODE\_VIEW, 493  
willOverflowInt32, 572  
willUnderflowInt32, 572  
window\_action, 572  
window\_menu\_about\_to\_show, 572  
window\_menu\_activated, 572  
write\_bool\_setting, 572  
write\_dictionary\_setting, 572  
write\_float\_setting, 573  
write\_int\_setting, 573  
write\_settings, 573

write\_str\_setting, 573  
 write\_uint\_setting, 573  
 zoom\_action, 573  
 zoom\_extents\_all\_subviews, 573  
 zoom\_to\_point, 574  
 imgui\_new\_frame  
     gui\_backend.cpp, 436  
     gui\_backend.h, 448  
 imgui\_render  
     gui\_backend.cpp, 436  
     gui\_backend.h, 448  
 imgWidget  
     PreviewDialog, 265  
 Index  
     imgui\_main.c, 493  
 Index\_, 149  
     data, 149  
     length, 150  
     max\_length, 150  
 index\_free  
     imgui\_main.c, 523  
 index\_init  
     imgui\_main.c, 523  
 IndexEntry  
     imgui\_main.c, 494  
 IndexEntry\_, 150  
     key, 150  
     value, 150  
 infinite\_line\_action  
     imgui\_main.c, 523  
 init  
     ArcObject, 61  
     CircleObject, 75  
     DimLeaderObject, 106  
     EllipseObject, 113  
     ImageObject, 146  
     LineObject, 154  
     PathObject, 248  
     PointObject, 252  
     PolygonObject, 257  
     PolylineObject, 262  
     RectObject, 306  
     TextSingleObject, 372  
 init\_command  
     imgui\_main.c, 523  
 init\_view  
     imgui\_main.c, 523  
 initMainWinPointer  
     native-scripting.cpp, 600  
     native-scripting.h, 600  
 input\_data  
     Compress, 101  
 input\_length  
     Compress, 101  
 Isacord\_Polyester  
     embroidery.h, 678  
 Isafil\_Rayon  
     embroidery.h, 679  
 isBlinking  
     CmdPromptInput, 98  
 isCommandActive  
     CmdPrompt, 83  
     MainWindow, 186  
 isLwtEnabled  
     View, 405  
 ISOMETRIC\_GRID  
     imgui\_main.c, 476  
 isRapidFireEnabled  
     CmdPrompt, 83  
 isRealEnabled  
     View, 405  
 isShiftPressed  
     MainWindow, 187  
 javaInitNatives  
     MainWindow, 187  
 javaLoadCommand  
     MainWindow, 187  
 jef\_thread  
     embroidery.h, 679  
 jefDecode  
     format\_jef.c, 828  
 jefEncode  
     format\_jef.c, 828  
 jefGetHoopSize  
     format\_jef.c, 828  
 jefSetHoopFromId  
     format\_jef.c, 828  
 jefThreads  
     embroidery.h, 715  
     thread-color.c, 899  
 join\_short\_stitches  
     fill.c, 800  
 JUMP  
     embroidery.h, 679  
 just\_opened  
     imgui\_main.c, 574  
 JUSTIFY\_\_  
     imgui\_main.c, 476  
 JUSTIFY\_ALIGN  
     imgui\_main.c, 476  
 JUSTIFY\_BOTTOMCENTER  
     imgui\_main.c, 476  
 JUSTIFY\_BOTTOMLEFT  
     imgui\_main.c, 476  
 JUSTIFY\_BOTTOMRIGHT  
     imgui\_main.c, 476  
 JUSTIFY\_LEFT  
     imgui\_main.c, 476  
 JUSTIFY\_MIDDLE  
     imgui\_main.c, 476  
 JUSTIFY\_MIDDLECENTER  
     imgui\_main.c, 476  
 JUSTIFY\_MIDDLELEFT  
     imgui\_main.c, 476  
 JUSTIFY\_MIDDLERIGHT  
     imgui\_main.c, 476

JUSTIFY\_RIGHT  
      
JUSTIFY\_TOPCENTER  
      
JUSTIFY\_TOPLEFT  
    JUSTIFY\_TOPRIGHT  
      
key  
    DictionaryEntry\_, 102  
    IndexEntry\_, 150  
ksmEncode  
    format\_ksm.c, 829  
  
L\_system  
    embroidery.h, 685  
labelTipOfTheDay  
    MainWindow, 221  
language  
    Settings\_, 323  
languages  
    lastCmd  
    CmdPromptInput, 98  
lastCommand  
    CmdPrompt, 84  
layer  
    EmbPattern\_, 134  
layer\_manager  
    Layer\_manager\_add\_layer  
    LayerManager, 150  
    ~LayerManager, 151  
    addLayer, 151  
    LayerManager, 151  
    layerModel, 151  
    layerModelSorted, 151  
    treeView, 152  
layerManager  
        MainWindow, 187  
layerModel  
    LayerManager, 151  
layerModelSorted  
    LayerManager, 151  
layerPrevious  
        MainWindow, 187  
layerSelector  
    MainWindow, 221  
layerSelectorIndexChanged  
        MainWindow, 187  
layoutState  
    MainWindow, 221  
left  
    \_vp3Hoop, 55  
    EmbRect\_, 136  
    hoop\_padding, 142  
left2  
    \_vp3Hoop, 55  
leftBrush  
    SelectBox, 315  
leftBrushColor  
    SelectBox, 315  
leftPen  
    SelectBox, 315  
leftPenColor  
    SelectBox, 315  
leftSiblingId  
    \_bcf\_directory\_entry, 48  
length  
    Dictionary\_, 101  
    EmbArray\_, 118  
    EmbSatinOutline\_, 137  
    Index\_, 150  
    ThredHeader\_, 379  
    UndoHistory\_, 398  
lengths  
    Huffman, 143  
LIBEMBROIDERY\_EMBEDDED\_VERSION  
    embroidery.h, 679  
lindenmayer\_system  
    embroidery.h, 713  
    fill.c, 801  
line  
    BaseObject, 68  
    EmbGeometry\_, 127  
line.c  
    embLine\_intersectionPoint, 870  
    embLine\_normalVector, 870  
    embLine\_toVector, 870  
line\_action  
    LINE\_STYLE\_DASHED  
    LINE\_STYLE\_SOLID  
    lineEditArcArea  
    PropertyEditor, 283  
lineEditArcCenterX  
    PropertyEditor, 283  
lineEditArcCenterY  
    PropertyEditor, 283  
lineEditArcChord  
    PropertyEditor, 283  
lineEditArcEndAngle  
    PropertyEditor, 283  
lineEditArcEndX  
    PropertyEditor, 283  
lineEditArcEndY  
    PropertyEditor, 283  
lineEditArcIncAngle  
    PropertyEditor, 283  
lineEditArcLength

PropertyEditor, 283  
lineEditArcRadius  
    PropertyEditor, 283  
lineEditArcStartAngle  
    PropertyEditor, 284  
lineEditArcStartX  
    PropertyEditor, 284  
lineEditArcStartY  
    PropertyEditor, 284  
lineEditBlockX  
    PropertyEditor, 284  
lineEditBlockY  
    PropertyEditor, 284  
lineEditCircleArea  
    PropertyEditor, 284  
lineEditCircleCenterX  
    PropertyEditor, 284  
lineEditCircleCenterY  
    PropertyEditor, 284  
lineEditCircleCircumference  
    PropertyEditor, 284  
lineEditCircleDiameter  
    PropertyEditor, 284  
lineEditCircleRadius  
    PropertyEditor, 284  
lineEditEllipseCenterX  
    PropertyEditor, 285  
lineEditEllipseCenterY  
    PropertyEditor, 285  
lineEditEllipseDiameterMajor  
    PropertyEditor, 285  
lineEditEllipseDiameterMinor  
    PropertyEditor, 285  
lineEditEllipseRadiusMajor  
    PropertyEditor, 285  
lineEditEllipseRadiusMinor  
    PropertyEditor, 285  
lineEditImageHeight  
    PropertyEditor, 285  
lineEditImageName  
    PropertyEditor, 285  
lineEditImagePath  
    PropertyEditor, 285  
lineEditImageWidth  
    PropertyEditor, 285  
lineEditImageX  
    PropertyEditor, 285  
lineEditImageY  
    PropertyEditor, 286  
lineEditInfiniteLineVectorX  
    PropertyEditor, 286  
lineEditInfiniteLineVectorY  
    PropertyEditor, 286  
lineEditInfiniteLineX1  
    PropertyEditor, 286  
lineEditInfiniteLineX2  
    PropertyEditor, 286  
lineEditInfiniteLineY1  
    PropertyEditor, 286  
lineEditInfiniteLineY2  
    PropertyEditor, 286  
lineEditLineAngle  
    PropertyEditor, 286  
lineEditLineDeltaX  
    PropertyEditor, 286  
lineEditLineDeltaY  
    PropertyEditor, 286  
lineEditLineEndX  
    PropertyEditor, 286  
lineEditLineEndY  
    PropertyEditor, 287  
lineEditLineLength  
    PropertyEditor, 287  
lineEditLineStartX  
    PropertyEditor, 287  
lineEditLineStartY  
    PropertyEditor, 287  
lineEditPathArea  
    PropertyEditor, 287  
lineEditPathLength  
    PropertyEditor, 287  
lineEditPathVertexX  
    PropertyEditor, 287  
lineEditPathVertexY  
    PropertyEditor, 287  
lineEditPointX  
    PropertyEditor, 287  
lineEditPointY  
    PropertyEditor, 287  
lineEditPolygonCenterX  
    PropertyEditor, 287  
lineEditPolygonCenterY  
    PropertyEditor, 288  
lineEditPolygonDiameterSide  
    PropertyEditor, 288  
lineEditPolygonDiameterVertex  
    PropertyEditor, 288  
lineEditPolygonInteriorAngle  
    PropertyEditor, 288  
lineEditPolygonRadiusSide  
    PropertyEditor, 288  
lineEditPolygonRadiusVertex  
    PropertyEditor, 288  
lineEditPolylineArea  
    PropertyEditor, 288  
lineEditPolylineLength  
    PropertyEditor, 288  
lineEditPolylineVertexX  
    PropertyEditor, 288  
lineEditPolylineVertexY  
    PropertyEditor, 288  
lineEditRayVectorX  
    PropertyEditor, 288  
lineEditRayVectorY  
    PropertyEditor, 289  
lineEditRayX1

PropertyEditor, 289  
lineEditRayX2  
    PropertyEditor, 289  
lineEditRayY1  
    PropertyEditor, 289  
lineEditRayY2  
    PropertyEditor, 289  
lineEditRectangleArea  
    PropertyEditor, 289  
lineEditRectangleCorner1X  
    PropertyEditor, 289  
lineEditRectangleCorner1Y  
    PropertyEditor, 289  
lineEditRectangleCorner2X  
    PropertyEditor, 289  
lineEditRectangleCorner2Y  
    PropertyEditor, 289  
lineEditRectangleCorner3X  
    PropertyEditor, 289  
lineEditRectangleCorner3Y  
    PropertyEditor, 290  
lineEditRectangleCorner4X  
    PropertyEditor, 290  
lineEditRectangleCorner4Y  
    PropertyEditor, 290  
lineEditRectangleHeight  
    PropertyEditor, 290  
lineEditRectangleWidth  
    PropertyEditor, 290  
lineEditTextMultiX  
    PropertyEditor, 290  
lineEditTextMultiY  
    PropertyEditor, 290  
lineEditTextSingleContents  
    PropertyEditor, 290  
lineEditTextSingleHeight  
    PropertyEditor, 290  
lineEditTextSingleRotation  
    PropertyEditor, 290  
lineEditTextSingleX  
    PropertyEditor, 290  
lineEditTextSingleY  
    PropertyEditor, 291  
LineObject, 152  
    ~LineObject, 154  
    allGripPoints, 154  
    gripEdit, 154  
    init, 154  
    LineObject, 154  
    mouseSnapPoint, 155  
    objectAngle, 155  
    objectDeltaX, 155  
    objectDeltaY, 155  
    objectEndPoint1, 155  
    objectEndPoint2, 155  
    objectLength, 155  
    objectMidPoint, 155  
    objectSavePath, 155  
    objectX1, 155  
    objectX2, 156  
    objectY1, 156  
    objectY2, 156  
    paint, 156  
    setObjectEndPoint1, 156  
    setObjectEndPoint2, 156  
    setObjectX1, 156  
    setObjectX2, 156  
    setObjectY1, 157  
    setObjectY2, 157  
    Type, 154  
    type, 157  
    updateRubber, 157  
    vulcanize, 157  
lineStyle  
    DimLeaderObject, 105  
lineStyleAngle  
    DimLeaderObject, 109  
lineStyleLength  
    DimLeaderObject, 109  
lineStylePath  
    DimLeaderObject, 109  
LINETO  
    embroidery\_internal.h, 739  
lineType  
    EmbGeometry\_, 127  
    EmbLine\_, 131  
    EmbPath\_, 132  
    EmbPoint\_, 134  
linetypeSelector  
    MainWindow, 221  
linetypeSelectorIndexChanged  
    imgui\_main.c, 525  
    MainWindow, 187  
lineWeightPen  
    BaseObject, 68  
lineweightSelector  
    MainWindow, 221  
lineweightSelectorIndexChanged  
    imgui\_main.c, 525  
    MainWindow, 187  
listMdiWin  
    MainWindow, 222  
listTipOfDay  
    MainWindow, 222  
load  
    ImageWidget, 149  
load\_configuration  
    imgui\_main.c, 525  
load\_formats  
    imgui\_main.c, 525  
load\_menu  
    imgui\_main.c, 525  
load\_texture  
    gui\_backend.h, 448  
    imgui\_main.c, 526  
load\_textures

gui\_backend.cpp, 436  
 gui\_backend.h, 448  
 load\_toolbar  
     imgui\_main.c, 526  
 loadFatFromSector  
     embroidery\_internal.h, 761  
     main.c, 890  
 loadFile  
     MdiWindow, 241  
 loadFormats  
     MainWindow, 187  
 loadRulerSettings  
     View, 405  
 locate\_point\_click  
     imgui\_main.c, 526  
 locate\_point\_main  
     imgui\_main.c, 526  
 located\_point\_prompt  
     imgui\_main.c, 526  
 log\_debug  
     gui\_backend.h, 449  
     imgui\_main.c, 526  
 logPromptInput  
     imgui\_main.c, 526  
     MainWindow, 187  
     MdiWindow, 241  
 LSYSTEM, 157  
     alphabet, 158  
     axiom, 158  
     constants, 158  
     rules, 158  
 lwt\_default\_lwt  
     Settings\_, 323  
 lwt\_mode  
     View\_, 418  
 lwt\_real\_render  
     Settings\_, 323  
 lwt\_show\_lwt  
     Settings\_, 323  
 lwtPen  
     BaseObject, 72  
  
 Madeira\_Polyester  
     embroidery.h, 679  
 Madeira\_Rayon  
     embroidery.h, 679  
 magicCode  
     VipHeader\_, 421  
 main  
     imgui\_main.c, 527  
     main.cpp, 578  
 main.c  
     bcf\_difat\_create, 883  
     bcf\_directory\_free, 883  
     bcf\_file\_free, 883  
     bcfFile\_read, 883  
     bcfFileFat\_create, 883  
     bcfFileHeader\_read, 884  
     binaryReadString, 884  
     binaryReadUnicodeString, 884  
     black\_thread, 892  
     check\_header\_present, 884  
     CompoundFileDirectory, 885  
     CompoundFileDirectoryEntry, 885  
     copy\_trim, 885  
     difatEntriesInHeader, 892  
     emb\_error, 892  
     emb\_optOut, 885  
     emb\_readline, 886  
     emb\_verbose, 892  
     embArc\_print, 886  
     embColor\_distance, 886  
     embColor\_read, 886  
     embColor\_write, 887  
     embConstantPi, 892  
     embSatinOutline\_generateSatinOutline, 887  
     embSatinOutline\_renderStitches, 887  
     embThread\_findNearestColor, 887  
     embThread\_findNearestThread, 888  
     embThread\_getRandom, 888  
     embTime\_initNow, 888  
     embTime\_time, 888  
     embVector\_print, 888  
     entriesInDifatSector, 889  
     FLAG\_CIRCLE, 880  
     FLAG\_CIRCLE\_SHORT, 880  
     FLAG\_COMBINE, 880  
     FLAG\_CROSS\_STITCH, 881  
     FLAG\_ELLIPSE, 881  
     FLAG\_ELLIPSE\_SHORT, 881  
     FLAG\_FILL, 881  
     FLAG\_FILL\_SHORT, 881  
     FLAG\_FORMATS, 881  
     FLAG\_FORMATS\_SHORT, 881  
     FLAG\_FULL\_TEST\_SUITE, 881  
     FLAG\_HELP, 881  
     FLAG\_HELP\_SHORT, 881  
     FLAG\_HILBERT\_CURVE, 881  
     FLAG\_LINE, 881  
     FLAG\_LINE\_SHORT, 881  
     FLAG\_POLYGON, 881  
     FLAG\_POLYGON\_SHORT, 881  
     FLAG\_POLYLINE, 881  
     FLAG\_POLYLINE\_SHORT, 881  
     FLAG QUIET, 881  
     FLAG QUIET\_SHORT, 882  
     FLAG\_RENDER, 882  
     FLAG\_RENDER\_SHORT, 882  
     FLAG\_SATIN, 882  
     FLAG\_SATIN\_SHORT, 882  
     FLAG\_SIERPINSKI\_TRIANGLE, 882  
     FLAG\_SIMULATE, 882  
     FLAG\_STITCH, 882  
     FLAG\_STITCH\_SHORT, 882  
     FLAG\_TEST, 882  
     FLAG\_TO, 882  
     FLAG\_TO\_SHORT, 882

FLAG\_VERBOSE, 882  
FLAG\_VERBOSE\_SHORT, 882  
FLAG\_VERSION, 882  
FLAG\_VERSION\_SHORT, 882  
get\_trim\_bounds, 889  
GetFile, 889  
haveExtraDIFATSectors, 889  
loadFatFromSector, 890  
NUM\_FLAGS, 882  
parseDIFATSectors, 890  
parseDirectoryEntryName, 890  
parseTime, 890  
readFullSector, 890  
readNextSector, 891  
sectorSize, 891  
seekToSector, 891  
sizeOfChainingEntryAtEndOfDifatSector, 892  
sizeOfDifatEntry, 892  
sizeOfDirectoryEntry, 892  
sizeOfFatEntry, 892  
stringInArray, 891  
WHITESPACE, 892  
write\_24bit, 892  
  
main.cpp  
  \_appName\_, 578  
  \_appVer\_, 578  
  exitApp, 578  
  main, 578  
  usage, 578  
  version, 578  
  
mainWidget  
  EmbDetailsDialog, 123  
  
mainWin  
  MainWindow, 222  
  MdiArea, 237  
  MdiWindow, 244  
  native-scripting.cpp, 600  
  native-scripting.h, 600  
  Settings\_Dialog, 358  
  StatusBarButton, 366  
  View, 413  
  
MainWindow, 158  
  ~MainWindow, 171  
  about, 171  
  actionHash, 220  
  activeCommand, 171  
  activeMdiWindow, 171  
  activeScene, 171  
  activeUndoStack, 171  
  activeView, 171  
  buttonTipOfTheDayClicked, 171  
  changelog, 171  
  checkBoxTipOfTheDay, 220  
  checkBoxTipOfTheDayStateChanged, 172  
  checkForUpdates, 172  
  closeEvent, 172  
  closeToolBar, 172  
  colorSelector, 220  
  
  colorSelectorIndexChanged, 172  
  copy, 172  
  createAction, 172  
  createAllActions, 172  
  createAllMenus, 172  
  createAllToolbars, 172  
  createEditMenu, 173  
  createEditToolbar, 173  
  createFileMenu, 173  
  createFileToolbar, 173  
  createHelpMenu, 173  
  createHelpToolbar, 173  
  createIconToolbar, 173  
  createLayerToolbar, 173  
  createPanToolbar, 173  
  createPromptToolbar, 173  
  createPropertiesToolbar, 173  
  createSettingsMenu, 174  
  createTextToolbar, 174  
  createViewMenu, 174  
  createViewToolbar, 174  
  createWindowMenu, 174  
  createZoomToolbar, 174  
  cut, 174  
  cutCopyObjectList, 220  
  dayVision, 174  
  debugger, 220  
  deletePressed, 174  
  designDetails, 174  
  disableMoveRapidFire, 174  
  disablePromptRapidFire, 175  
  docIndex, 220  
  dockPropEdit, 220  
  dockUndoEdit, 220  
  doNothing, 175  
  editMenu, 221  
  enableMoveRapidFire, 175  
  enablePromptRapidFire, 175  
  engine, 221  
  escapePressed, 175  
  exit, 175  
  fileMenu, 221  
  findMdiWindow, 175  
  floatingChangedToolBar, 175  
  formatFilterOpen, 221  
  formatFilterSave, 221  
  getAction, 175  
  getApplication, 175  
  getCurrentColor, 175  
  getCurrentLayer, 176  
  getCurrentLineType, 176  
  getCurrentLineWeight, 176  
  getFileSeparator, 176  
  getMdiArea, 176  
  getSettingsCustomFilter, 176  
  getSettingsDisplayBGColor, 176  
  getSettingsDisplayCrossHairColor, 176  
  getSettingsDisplayCrossHairPercent, 176

getSettingsDisplayRenderHintAA, 176  
getSettingsDisplayRenderHintHighAA, 176  
getSettingsDisplayRenderHintNonCosmetic, 177  
getSettingsDisplayRenderHintSmoothPix, 177  
getSettingsDisplayRenderHintTextAA, 177  
getSettingsDisplayScrollBarWidgetNum, 177  
getSettingsDisplaySelectBoxAlpha, 177  
getSettingsDisplaySelectBoxLeftColor, 177  
getSettingsDisplaySelectBoxLeftFill, 177  
getSettingsDisplaySelectBoxRightColor, 177  
getSettingsDisplaySelectBoxRightFill, 177  
getSettingsDisplayShowScrollBars, 177  
getSettingsDisplayUnits, 178  
getSettingsDisplayUseOpenGL, 178  
getSettingsDisplayZoomScaleIn, 178  
getSettingsDisplayZoomScaleOut, 178  
getSettingsGeneralCheckForUpdates, 178  
getSettingsGeneralCurrentTip, 178  
getSettingsGeneralIconSize, 178  
getSettingsGeneralIconTheme, 178  
getSettingsGeneralLanguage, 178  
getSettingsGeneralMdiBGColor, 178  
getSettingsGeneralMdiBGLogo, 178  
getSettingsGeneralMdiBGTTexture, 179  
getSettingsGeneralMdiBGUseColor, 179  
getSettingsGeneralMdiBGUseLogo, 179  
getSettingsGeneralMdiBGUseTexture, 179  
getSettingsGeneralSystemHelpBrowser, 179  
getSettingsGeneralTipOfDay, 179  
getSettingsGridCenterOnOrigin, 179  
getSettingsGridCenterX, 179  
getSettingsGridCenterY, 179  
getSettingsGridColor, 179  
getSettingsGridColorMatchCrossHair, 179  
getSettingsGridLoadFromFile, 180  
getSettingsGridShowOnLoad, 180  
getSettingsGridShowOrigin, 180  
getSettingsGridSizeRadius, 180  
getSettingsGridSizeX, 180  
getSettingsGridSizeY, 180  
getSettingsGridSpacingAngle, 180  
getSettingsGridSpacingRadius, 180  
getSettingsGridSpacingX, 180  
getSettingsGridSpacingY, 180  
getSettingsGridType, 180  
getSettingsLwtDefaultLwt, 181  
getSettingsLwtRealRender, 181  
getSettingsLwtShowLwt, 181  
getSettingsOpenFormat, 181  
getSettingsOpenSaveTrimDstNumJumps, 181  
getSettingsOpenThumbnail, 181  
getSettingsPrintingDefaultDevice, 181  
getSettingsPrintingDisableBG, 181  
getSettingsPrintingUseLastDevice, 181  
getSettingsPromptBGColor, 181  
getSettingsPromptFontFamily, 181  
getSettingsPromptFontSize, 182  
getSettingsPromptFontStyle, 182  
getSettingsPromptSaveHistory, 182  
getSettingsPromptSaveHistoryAsHtml, 182  
getSettingsPromptSaveHistoryFilename, 182  
getSettingsPromptTextColor, 182  
getSettingsQSnapApertureSize, 182  
getSettingsQSnapApparent, 182  
getSettingsQSnapCenter, 182  
getSettingsQSnapEnabled, 182  
getSettingsQSnapEndPoint, 182  
getSettingsQSnapExtension, 183  
getSettingsQSnapInsertion, 183  
getSettingsQSnapIntersection, 183  
getSettingsQSnapLocatorColor, 183  
getSettingsQSnapLocatorSize, 183  
getSettingsQSnapMidPoint, 183  
getSettingsQSnapNearest, 183  
getSettingsQSnapNode, 183  
getSettingsQSnapParallel, 183  
getSettingsQSnapPerpendicular, 183  
getSettingsQSnapQuadrant, 183  
getSettingsQSnapTangent, 184  
getSettingsRecentMaxFiles, 184  
getSettingsRulerColor, 184  
getSettingsRulerMetric, 184  
getSettingsRulerPixelSize, 184  
getSettingsRulerShowOnLoad, 184  
getSettingsSaveFormat, 184  
getSettingsSaveThumbnail, 184  
getSettingsSelectionCoolGripColor, 184  
getSettingsSelectionGripSize, 184  
getSettingsSelectionHotGripColor, 184  
getSettingsSelectionModePickAdd, 185  
getSettingsSelectionModePickDrag, 185  
getSettingsSelectionModePickFirst, 185  
getSettingsSelectionPickBoxSize, 185  
getSettingsTextAngle, 185  
getSettingsTextFont, 185  
getSettingsTextSize, 185  
getSettingsTextStyleBold, 185  
getSettingsTextStyleItalic, 185  
getSettingsTextStyleOverline, 185  
getSettingsTextStyleStrikeOut, 185  
getSettingsTextStyleUnderline, 186  
help, 186  
helpMenu, 221  
hideUnimplemented, 186  
icon128, 186  
icon16, 186  
icon24, 186  
icon32, 186  
icon48, 186  
icon64, 186  
iconResize, 186  
imgui\_main.c, 527  
isCommandActive, 186  
isShiftPressed, 187  
javaInitNatives, 187  
javaLoadCommand, 187

labelTipOfTheDay, 221  
layerManager, 187  
layerPrevious, 187  
layerSelector, 221  
layerSelectorIndexChanged, 187  
layoutState, 221  
linetypeSelector, 221  
linetypeSelectorIndexChanged, 187  
lineweightSelector, 221  
lineweightSelectorIndexChanged, 187  
listMdiWin, 222  
listTipOfTheDay, 222  
loadFormats, 187  
logPromptInput, 187  
mainWin, 222  
MainWindow, 171  
makeLayerActive, 188  
mdiArea, 222  
menuHash, 222  
myFileSeparator, 222  
nativeAbout, 188  
nativeAddArc, 188  
nativeAddCircle, 188  
nativeAddDimLeader, 188  
nativeAddEllipse, 188  
nativeAddHorizontalDimension, 188  
nativeAddImage, 189  
nativeAddInfiniteLine, 189  
nativeAddLine, 189  
nativeAddPath, 189  
nativeAddPoint, 189  
nativeAddPolygon, 189  
nativeAddPolyline, 190  
nativeAddRay, 190  
nativeAddRectangle, 190  
nativeAddRegularPolygon, 190  
nativeAddRoundedRectangle, 190  
nativeAddSlot, 190  
nativeAddTextMulti, 191  
nativeAddTextSingle, 191  
nativeAddToSelection, 191  
nativeAddTriangle, 191  
nativeAddVerticalDimension, 191  
nativeAlert, 192  
nativeAllowRubber, 192  
nativeAppendPromptHistory, 192  
nativeBlinkPrompt, 192  
nativeCalculateAngle, 192  
nativeCalculateDistance, 192  
nativeClearRubber, 192  
nativeClearSelection, 192  
nativeCopySelected, 192  
nativeCutSelected, 193  
nativeDayVision, 193  
nativeDeleteSelected, 193  
nativeDisableMoveRapidFire, 193  
nativeDisablePromptRapidFire, 193  
nativeEnableMoveRapidFire, 193  
nativeEnablePromptRapidFire, 193  
nativeEndCommand, 193  
nativeExit, 193  
nativeHelp, 193  
nativeIcon128, 193  
nativeIcon16, 194  
nativeIcon24, 194  
nativeIcon32, 194  
nativeIcon48, 194  
nativeIcon64, 194  
nativeInitCommand, 194  
nativeMessageBox, 194  
nativeMirrorSelected, 194  
nativeMouseX, 194  
nativeMouseY, 194  
nativeMoveSelected, 195  
nativeNewFile, 195  
nativeNightVision, 195  
nativeNumSelected, 195  
nativeOpenFile, 195  
nativePanDown, 195  
nativePanLeft, 195  
nativePanRight, 195  
nativePanUp, 195  
nativePasteSelected, 195  
nativePerpendicularDistance, 195  
nativePlatformString, 196  
nativePreviewOff, 196  
nativePreviewOn, 196  
nativePrintArea, 196  
nativeQSnapX, 196  
nativeQSnapY, 196  
nativeRedo, 196  
nativeRotateSelected, 196  
nativeScaleSelected, 197  
nativeSelectAll, 197  
nativeSetBackgroundColor, 197  
nativeSetCrossHairColor, 197  
nativeSetCursorShape, 197  
nativeSetGridColor, 197  
nativeSetPromptPrefix, 197  
nativeSetRubberMode, 197  
nativeSetRubberPoint, 198  
nativeSetRubberText, 198  
nativeSetTextAngle, 198  
nativeSetTextBold, 198  
nativeSetTextFont, 198  
nativeSetTextItalic, 198  
nativeSetTextOverline, 198  
nativeSetTextSize, 198  
nativeSetTextStrikeOut, 198  
nativeSetTextUnderline, 199  
nativeSpareRubber, 199  
nativeTextAngle, 199  
nativeTextBold, 199  
nativeTextFont, 199  
nativeTextItalic, 199  
nativeTextOverline, 199

nativeTextSize, 199  
nativeTextStrikeOut, 199  
nativeTextUnderline, 199  
nativeTipOfTheDay, 199  
nativeUndo, 200  
nativeVulcanize, 200  
nativeWindowCascade, 200  
nativeWindowClose, 200  
nativeWindowCloseAll, 200  
nativeWindowNext, 200  
nativeWindowPrevious, 200  
nativeWindowTile, 200  
nativeZoomExtents, 200  
nativeZoomIn, 200  
nativeZoomOut, 200  
newFile, 201  
nightVision, 201  
numOfDocs, 222  
onCloseMdiWin, 201  
onCloseWindow, 201  
onWindowActivated, 201  
openFile, 201  
openFilePath, 222  
openFilesSelected, 201  
openrecentfile, 201  
panDown, 201  
panLeft, 201  
panMenu, 222  
panpoint, 202  
panrealtime, 202  
panRight, 202  
panUp, 202  
paste, 202  
pickAddModeToggled, 202  
platformString, 202  
print, 202  
prompt, 222  
promptHistoryAppended, 202  
promptInputNext, 202  
promptInputPrevious, 202  
quit, 203  
readSettings, 203  
recentMenu, 222  
recentMenuAboutToShow, 203  
redo, 203  
resizeEvent, 203  
runCommand, 203  
runCommandClick, 203  
runCommandContext, 203  
runCommandMain, 203  
runCommandMove, 203  
runCommandPrompt, 204  
saveasfile, 204  
savefile, 204  
selectAll, 204  
setSettingsCustomFilter, 204  
setSettingsDisplayBGColor, 204  
setSettingsDisplayCrossHairColor, 204  
setSettingsDisplayCrossHairPercent, 204  
setSettingsDisplayRenderHintAA, 204  
setSettingsDisplayRenderHintHighAA, 204  
setSettingsDisplayRenderHintNonCosmetic, 205  
setSettingsDisplayRenderHintSmoothPix, 205  
setSettingsDisplayRenderHintTextAA, 205  
setSettingsDisplayScrollBarWidgetNum, 205  
setSettingsDisplaySelectBoxAlpha, 205  
setSettingsDisplaySelectBoxLeftColor, 205  
setSettingsDisplaySelectBoxLeftFill, 205  
setSettingsDisplaySelectBoxRightColor, 205  
setSettingsDisplaySelectBoxRightFill, 205  
setSettingsDisplayShowScrollBars, 206  
setSettingsDisplayUnits, 206  
setSettingsDisplayUseOpenGL, 206  
setSettingsDisplayZoomScaleIn, 206  
setSettingsDisplayZoomScaleOut, 206  
setSettingsGeneralCheckForUpdates, 206  
setSettingsGeneralCurrentTip, 206  
setSettingsGeneralIconSize, 206  
setSettingsGeneralIconTheme, 206  
setSettingsGeneralLanguage, 206  
setSettingsGeneralMdiBGColor, 207  
setSettingsGeneralMdiBGLogo, 207  
setSettingsGeneralMdiBGTexture, 207  
setSettingsGeneralMdiBGUseColor, 207  
setSettingsGeneralMdiBGUseLogo, 207  
setSettingsGeneralMdiBGUseTexture, 207  
setSettingsGeneralSystemHelpBrowser, 207  
setSettingsGeneralTipOfTheDay, 207  
setSettingsGridCenterOnOrigin, 207  
setSettingsGridCenterX, 207  
setSettingsGridCenterY, 208  
setSettingsGridColor, 208  
setSettingsGridColorMatchCrossHair, 208  
setSettingsGridLoadFromFile, 208  
setSettingsGridShowOnLoad, 208  
setSettingsGridShowOrigin, 208  
setSettingsGridSizeRadius, 208  
setSettingsGridSizeX, 208  
setSettingsGridSizeY, 208  
setSettingsGridSpacingAngle, 208  
setSettingsGridSpacingRadius, 209  
setSettingsGridSpacingX, 209  
setSettingsGridSpacingY, 209  
setSettingsGridType, 209  
setSettingsLwtDefaultLwt, 209  
setSettingsLwtRealRender, 209  
setSettingsLwtShowLwt, 209  
setSettingsOpenFormat, 209  
setSettingsOpenSaveTrimDstNumJumps, 209  
setSettingsOpenThumbnail, 209  
setSettingsPrintingDefaultDevice, 210  
setSettingsPrintingDisableBG, 210  
setSettingsPrintingUseLastDevice, 210  
setSettingsPromptBGColor, 210  
setSettingsPromptFontFamily, 210  
setSettingsPromptFontSize, 210

setSettingsPromptFontStyle, 210  
setSettingsPromptSaveHistory, 210  
setSettingsPromptSaveHistoryAsHtml, 210  
setSettingsPromptSaveHistoryFilename, 210  
setSettingsPromptTextColor, 211  
setSettingsQSnapApertureSize, 211  
setSettingsQSnapApparent, 211  
setSettingsQSnapCenter, 211  
setSettingsQSnapEnabled, 211  
setSettingsQSnapEndPoint, 211  
setSettingsQSnapExtension, 211  
setSettingsQSnapInsertion, 211  
setSettingsQSnapIntersection, 211  
setSettingsQSnapLocatorColor, 211  
setSettingsQSnapLocatorSize, 212  
setSettingsQSnapMidPoint, 212  
setSettingsQSnapNearest, 212  
setSettingsQSnapNode, 212  
setSettingsQSnapParallel, 212  
setSettingsQSnapPerpendicular, 212  
setSettingsQSnapQuadrant, 212  
setSettingsQSnapTangent, 212  
setSettingsRecentMaxFiles, 212  
setSettingsRulerColor, 212  
setSettingsRulerMetric, 213  
setSettingsRulerPixelSize, 213  
setSettingsRulerShowOnLoad, 213  
setSettingsSaveFormat, 213  
setSettingsSaveThumbnail, 213  
setSettingsSelectionCoolGripColor, 213  
setSettingsSelectionGripSize, 213  
setSettingsSelectionHotGripColor, 213  
setSettingsSelectionModePickAdd, 213  
setSettingsSelectionModePickDrag, 213  
setSettingsSelectionModePickFirst, 214  
setSettingsSelectionPickBoxSize, 214  
setSettingsTextAngle, 214  
setSettingsTextFont, 214  
setSettingsTextSize, 214  
setSettingsTextStyleBold, 214  
setSettingsTextStyleItalic, 214  
setSettingsTextStyleOverline, 214  
setSettingsTextStyleStrikeOut, 214  
setSettingsTextStyleUnderline, 214  
setShiftPressed, 215  
setShiftReleased, 215  
setTextAngle, 215  
setTextBold, 215  
setTextFont, 215  
setTextItalic, 215  
setTextOverline, 215  
setTextSize, 215  
setTextStrikeOut, 215  
setTextUnderline, 215  
settings\_display\_bg\_color, 223  
settings\_display\_crosshair\_color, 223  
settings\_display\_crosshair\_percent, 223  
settings\_display\_renderhint\_aa, 223  
settings\_display\_renderhint\_high\_aa, 223  
settings\_display\_renderhint\_noncosmetic, 223  
settings\_display\_renderhint\_smooth\_pix, 223  
settings\_display\_renderhint\_text\_aa, 223  
settings\_display\_scrollbar\_widget\_num, 223  
settings\_display\_selectbox\_alpha, 223  
settings\_display\_selectbox\_left\_color, 223  
settings\_display\_selectbox\_left\_fill, 224  
settings\_display\_selectbox\_right\_color, 224  
settings\_display\_selectbox\_right\_fill, 224  
settings\_display\_show\_scrollbars, 224  
settings\_display\_units, 224  
settings\_display\_use\_opengl, 224  
settings\_display\_zoomscale\_in, 224  
settings\_display\_zoomscale\_out, 224  
settings\_general\_check\_for\_updates, 224  
settings\_general\_current\_tip, 224  
settings\_general\_icon\_size, 224  
settings\_general\_icon\_theme, 225  
settings\_general\_language, 225  
settings\_general\_mdi\_bg\_color, 225  
settings\_general\_mdi\_bg\_logo, 225  
settings\_general\_mdi\_bg\_texture, 225  
settings\_general\_mdi\_bg\_use\_color, 225  
settings\_general\_mdi\_bg\_use\_logo, 225  
settings\_general\_mdi\_bg\_use\_texture, 225  
settings\_general\_system\_help\_browser, 225  
settings\_general\_tip\_of\_the\_day, 225  
settings\_grid\_center\_on\_origin, 225  
settings\_grid\_center\_x, 226  
settings\_grid\_center\_y, 226  
settings\_grid\_color, 226  
settings\_grid\_color\_match\_crosshair, 226  
settings\_grid\_load\_from\_file, 226  
settings\_grid\_show\_on\_load, 226  
settings\_grid\_show\_origin, 226  
settings\_grid\_size\_radius, 226  
settings\_grid\_size\_x, 226  
settings\_grid\_size\_y, 226  
settings\_grid\_spacing\_angle, 226  
settings\_grid\_spacing\_radius, 227  
settings\_grid\_spacing\_x, 227  
settings\_grid\_spacing\_y, 227  
settings\_grid\_type, 227  
settings\_lwt\_default\_lwt, 227  
settings\_lwt\_real\_render, 227  
settings\_lwt\_show\_lwt, 227  
settings\_opensave\_custom\_filter, 227  
settings\_opensave\_open\_format, 227  
settings\_opensave\_open\_thumbnail, 227  
settings\_opensave\_recent\_directory, 227  
settings\_opensave\_recent\_list\_of\_files, 228  
settings\_opensave\_recent\_max\_files, 228  
settings\_opensave\_save\_format, 228  
settings\_opensave\_save\_thumbnail, 228  
settings\_opensave\_trim\_dst\_num\_jumps, 228  
settings\_printing\_default\_device, 228  
settings\_printing\_disable\_bg, 228

settings\_printing\_use\_last\_device, 228  
 settings\_prompt\_bg\_color, 228  
 settings\_prompt\_font\_family, 228  
 settings\_prompt\_font\_size, 228  
 settings\_prompt\_font\_style, 229  
 settings\_prompt\_save\_history, 229  
 settings\_prompt\_save\_history\_as\_html, 229  
 settings\_prompt\_save\_history\_filename, 229  
 settings\_prompt\_text\_color, 229  
 settings\_qsnap\_aperture\_size, 229  
 settings\_qsnap\_apparent, 229  
 settings\_qsnap\_center, 229  
 settings\_qsnap\_enabled, 229  
 settings\_qsnap\_endpoint, 229  
 settings\_qsnap\_extension, 229  
 settings\_qsnap\_insertion, 230  
 settings\_qsnap\_intersection, 230  
 settings\_qsnap\_locator\_color, 230  
 settings\_qsnap\_locator\_size, 230  
 settings\_qsnap\_midpoint, 230  
 settings\_qsnap\_nearest, 230  
 settings\_qsnap\_node, 230  
 settings\_qsnap\_parallel, 230  
 settings\_qsnap\_perpendicular, 230  
 settings\_qsnap\_quadrant, 230  
 settings\_qsnap\_tangent, 230  
 settings\_ruler\_color, 231  
 settings\_ruler\_metric, 231  
 settings\_ruler\_pixel\_size, 231  
 settings\_ruler\_show\_on\_load, 231  
 settings\_selection\_coolgrip\_color, 231  
 settings\_selection\_grip\_size, 231  
 settings\_selection\_hotgrip\_color, 231  
 settings\_selection\_mode\_pickadd, 231  
 settings\_selection\_mode\_pickdrag, 231  
 settings\_selection\_mode\_pickfirst, 231  
 settings\_selection\_pickbox\_size, 231  
 settings\_text\_angle, 232  
 settings\_text\_font, 232  
 settings\_text\_size, 232  
 settings\_text\_style\_bold, 232  
 settings\_text\_style\_italic, 232  
 settings\_text\_style\_overline, 232  
 settings\_text\_style\_strikeout, 232  
 settings\_text\_style\_underline, 232  
 settingsDialog, 216  
 settingsMenu, 232  
 settingsPrompt, 216  
 setUndoCleanIcon, 216  
 shiftKeyPressedState, 232  
 statusbar, 232  
 stub\_implement, 216  
 stub\_testing, 216  
 textAngle, 216  
 textBold, 216  
 textFont, 216  
 textFontSelector, 233  
 textFontSelectorCurrentFontChanged, 216  
 textItalic, 216  
 textOverline, 217  
 textSize, 217  
 textSizeSelector, 233  
 textSizeSelectorIndexChanged, 217  
 textStrikeOut, 217  
 textUnderline, 217  
 tipOfDay, 217  
 toggleGrid, 217  
 toggleLwt, 217  
 toggleRuler, 217  
 toolbarEdit, 233  
 toolbarFile, 233  
 toolbarHash, 233  
 toolbarHelp, 233  
 toolbarIcon, 233  
 toolbarLayer, 233  
 toolbarPan, 233  
 toolbarPrompt, 233  
 toolbarProperties, 233  
 toolbarText, 234  
 toolbarView, 234  
 toolbarZoom, 234  
 undo, 217  
 updateAllViewBackgroundColors, 217  
 updateAllViewCrossHairColors, 218  
 updateAllViewGridColors, 218  
 updateAllViewRulerColors, 218  
 updateAllViewScrollBars, 218  
 updateAllViewSelectBoxColors, 218  
 updateMenuToolbarStatusbar, 218  
 updatePickAddMode, 218  
 validFileFormat, 218  
 viewMenu, 234  
 whatsThisContextHelp, 218  
 windowMenu, 234  
 windowMenuAboutToShow, 219  
 windowMenuActivated, 219  
 wizardTipOfDay, 234  
 writeSettings, 219  
 zoomAll, 219  
 zoomCenter, 219  
 zoomDynamic, 219  
 zoomExtents, 219  
 zoomIn, 219  
 zoomMenu, 234  
 zoomOut, 219  
 zoomPrevious, 219  
 zoomRealtime, 219  
 zoomScale, 220  
 zoomSelected, 220  
 zoomWindow, 220  
 mainwindow-actions.h  
   ACTION\_about, 580  
   ACTION\_changelog, 580  
   ACTION\_colorselector, 580  
   ACTION\_copy, 579  
   ACTION\_cut, 579

ACTION\_day, 580  
ACTION\_designdetails, 579  
ACTION\_donothing, 579  
ACTION\_exit, 579  
ACTION\_freezealllayers, 580  
ACTION\_help, 579  
ACTION\_hidealllayers, 580  
ACTION\_icon128, 580  
ACTION\_icon16, 580  
ACTION\_icon24, 580  
ACTION\_icon32, 580  
ACTION\_icon48, 580  
ACTION\_icon64, 580  
ACTION\_layerprevious, 580  
ACTION\_layers, 580  
ACTION\_layerselector, 580  
ACTION\_linetypeselector, 580  
ACTION\_lineweightselector, 580  
ACTION\_lockalllayers, 580  
ACTION\_makelayercurrent, 580  
ACTION\_new, 579  
ACTION\_night, 580  
ACTION\_null, 581  
ACTION\_open, 579  
ACTION\_pandown, 580  
ACTION\_panleft, 580  
ACTION\_panpoint, 580  
ACTION\_panrealtime, 580  
ACTION\_panright, 580  
ACTION\_panup, 580  
ACTION\_paste, 579  
ACTION\_print, 579  
ACTION\_redo, 579  
ACTION\_save, 579  
ACTION\_saveas, 579  
ACTION\_settingsdialog, 580  
ACTION\_showalllayers, 580  
ACTION\_textbold, 580  
ACTION\_textitalic, 580  
ACTION\_textoverline, 580  
ACTION\_textstrikeout, 580  
ACTION\_textunderline, 580  
ACTION\_thawalllayers, 580  
ACTION\_tipoftheday, 580  
ACTION\_undo, 579  
ACTION\_unlockalllayers, 580  
ACTION\_whatsthis, 580  
ACTION\_windowcascade, 579  
ACTION\_windowclose, 579  
ACTION\_windowcloseall, 579  
ACTION\_windownext, 579  
ACTION\_windowprevious, 579  
ACTION\_windowtile, 579  
ACTION\_zoomall, 580  
ACTION\_zoomcenter, 580  
ACTION\_zoomdynamic, 580  
ACTION\_zoomextents, 580  
ACTION\_zoomin, 580  
ACTION\_zoomout, 580  
ACTION\_zoomprevious, 580  
ACTION\_zoomrealtime, 580  
ACTION\_zoomscale, 580  
ACTION\_zoomselected, 580  
ACTION\_zoomwindow, 580  
COMMAND\_ACTIONS, 579  
major\_tick\_seperation  
    Settings\_, 323  
majorVersion  
    \_bcf\_file\_header, 52  
makeLayerActive  
    imgui\_main.c, 527  
    MainWindow, 188  
manufacturer\_code  
    thread\_color\_, 377  
mapSignal  
    PropertyEditor, 276  
Marathon\_Polyester  
    embroidery.h, 679  
Marathon\_Rayon  
    embroidery.h, 679  
max\_header  
    format\_max.c, 830  
max\_length  
    Dictionary\_, 101  
    Index\_, 150  
    UndoHistory\_, 398  
MAX\_STITCHES  
    embroidery.h, 679  
MAX\_THREADS  
    embroidery.h, 679  
maxNumberOfDirectoryEntries  
    \_bcf\_directory, 47  
maxPoints  
    UiObject\_, 381  
mdi\_bg\_use\_color  
    Settings\_, 323  
mdi\_bg\_use\_logo  
    Settings\_, 323  
mdi\_bg\_use\_texture  
    Settings\_, 323  
MdiArea, 234  
    ~MdiArea, 235  
    bgColor, 237  
    bgLogo, 237  
    bgTexture, 237  
    cascade, 236  
    forceRepaint, 236  
    mainWin, 237  
    MdiArea, 235  
    mouseDoubleClickEvent, 236  
    paintEvent, 236  
    setBackgroundColor, 236  
    setBackgroundLogo, 236  
    setBackgroundTexture, 236  
    tile, 236  
    useBackgroundColor, 236

useBackgroundLogo, 236  
 useBackgroundTexture, 237  
 useColor, 237  
 useLogo, 237  
 useTexture, 237  
 zoomExtentsAllSubWindows, 237  
**mdiArea**  
 MainWindow, 222  
 MdiWindow, 244  
**MdiWindow**, 238  
 ~MdiWindow, 239  
 closeEvent, 239  
 curColor, 243  
 curFile, 244  
 curLayer, 244  
 curLineType, 244  
 curLineWeight, 244  
 currentColorChanged, 239  
 currentLayerChanged, 240  
 currentLinetypeChanged, 240  
 currentLinewidthChanged, 240  
 deletePressed, 240  
 designDetails, 240  
 escapePressed, 240  
 fileExtension, 240  
 fileWasLoaded, 244  
 getCurrentColor, 240  
 getCurrentFile, 240  
 getCurrentLayer, 240  
 getCurrentLineType, 241  
 getCurrentLineWeight, 241  
 getScene, 241  
 getShortCurrentFile, 241  
 getView, 241  
 gscene, 244  
 gview, 244  
 loadFile, 241  
 logPromptInput, 241  
 mainWin, 244  
 mdiArea, 244  
**MdiWindow**, 239  
 myIndex, 244  
 onWindowActivated, 241  
 print, 241  
 printer, 244  
 promptHistory, 245  
 promptHistoryAppended, 241  
 promptInputList, 245  
 promptInputNext, 241  
 promptInputNum, 245  
 promptInputPrevious, 242  
 promptInputPrevNext, 242  
 saveBMC, 242  
 saveFile, 242  
 sendCloseMdiWin, 242  
 setCurrentColor, 242  
 setCurrentFile, 242  
 setCurrentLayer, 242  
 setCurrentLineType, 242  
 setCurrentLineWeight, 242  
 setViewBackgroundColor, 243  
 setViewCrossHairColor, 243  
 setViewGridColor, 243  
 setViewRulerColor, 243  
 setViewSelectBoxColors, 243  
 showViewScrollBars, 243  
 sizeHint, 243  
 updateColorLinetypeLinewidth, 243  
**menu\_action**  
 imgui\_main.c, 575  
 Settings\_, 323  
**menu\_item**  
 gui\_backend.cpp, 437  
 gui\_backend.h, 449  
**menu\_layout**  
 imgui\_main.c, 575  
**menu\_separator**  
 gui\_backend.cpp, 437  
 gui\_backend.h, 449  
**menuHash**  
 MainWindow, 222  
**merge\_with**  
 imgui\_main.c, 527  
**mergeWith**  
 UndoableNavCommand, 390  
**messagebox**  
 imgui\_main.c, 527  
**messagebox\_action**  
 imgui\_main.c, 528  
**metric**  
 View\_, 418  
**Metro\_Polyester**  
 embroidery.h, 679  
**mid**  
 EmbArc\_, 117  
**miniSectorShift**  
 \_bcf\_file\_header, 52  
**miniStreamCutoffSize**  
 \_bcf\_file\_header, 52  
**minorVersion**  
 \_bcf\_file\_header, 52  
**minPoints**  
 UiObject\_, 382  
**minute**  
 EmbTime\_, 141  
**mirror**  
 UndoableMirrorCommand, 388  
**mirror\_selected\_action**  
 imgui\_main.c, 528  
**mirrorLine**  
 UndoableMirrorCommand, 388  
**mirrorSelected**  
 imgui\_main.c, 528  
 View, 405  
**mitDecodeStitch**  
 embroidery\_internal.h, 761

encoding.c, 792  
mitEncodeStitch  
embroidery\_internal.h, 761  
encoding.c, 792  
MITER\_JOIN  
imgui\_main.c, 477  
mode  
UiObject\_, 382  
modifiedTime  
\_bcf\_directory\_entry, 48  
modifierName  
ThredExtension\_, 378  
month  
EmbTime\_, 141  
mouse\_double\_click\_event  
imgui\_main.c, 528  
mouse\_press\_event  
imgui\_main.c, 528  
mouseDoubleClickEvent  
MdiArea, 236  
View, 405  
mouseMoveEvent  
CmdPromptHandle, 88  
imgui\_main.c, 528  
View, 405  
mousePressEvent  
CmdPromptHandle, 88  
View, 406  
mouseReleaseEvent  
CmdPromptHandle, 89  
imgui\_main.c, 528  
View, 406  
mouseSnapPoint  
ArcObject, 61  
BaseObject, 68  
CircleObject, 75  
DimLeaderObject, 106  
EllipseObject, 113  
ImageObject, 146  
LineObject, 155  
PathObject, 248  
PointObject, 253  
PolygonObject, 257  
PolylineObject, 262  
RectObject, 306  
TextSingleObject, 372  
move  
imgui\_main.c, 529  
move\_click  
imgui\_main.c, 529  
move\_main  
imgui\_main.c, 529  
move\_prompt  
imgui\_main.c, 529  
move\_selected\_action  
imgui\_main.c, 529  
moveAction  
imgui\_main.c, 529  
View, 406  
movePoint  
View, 413  
moveResizeHistory  
CmdPromptSplitter, 99  
moveSelected  
imgui\_main.c, 529  
View, 406  
MOVETO  
embroidery\_internal.h, 739  
moveY  
CmdPromptHandle, 89  
movingActive  
View, 413  
MSG\_CRITICAL  
imgui\_main.c, 477  
MSG\_INFORMATION  
imgui\_main.c, 477  
MSG\_QUESTION  
imgui\_main.c, 477  
MSG\_WARNING  
imgui\_main.c, 477  
myFileSeparator  
MainWindow, 222  
myIndex  
MdiWindow, 244  
n\_attributes  
format\_svg.c, 848  
n\_controlPoints  
UiObject\_, 382  
N\_PES\_VERSIONS  
embroidery\_internal.h, 739  
n\_selected  
View\_, 418  
n\_views  
imgui\_main.c, 575  
name  
EmblImage\_, 129  
EmbLayer\_, 130  
SvgAttribute\_, 368  
thread\_color\_, 378  
native-scripting.cpp  
\_mainWin, 600  
initMainWinPointer, 600  
mainWin, 600  
native-scripting.h  
initMainWinPointer, 600  
mainWin, 600  
nativeAbout  
MainWindow, 188  
nativeAddArc  
MainWindow, 188  
nativeAddCircle  
MainWindow, 188  
nativeAddDimLeader  
MainWindow, 188  
nativeAddEllipse  
MainWindow, 188

nativeAddHorizontalDimension  
    MainWindow, 188  
nativeAddImage  
    MainWindow, 189  
nativeAddInfiniteLine  
    MainWindow, 189  
nativeAddLine  
    MainWindow, 189  
nativeAddPath  
    MainWindow, 189  
nativeAddPoint  
    MainWindow, 189  
nativeAddPolygon  
    MainWindow, 189  
nativeAddPolyline  
    MainWindow, 190  
nativeAddRay  
    MainWindow, 190  
nativeAddRectangle  
    MainWindow, 190  
nativeAddRegularPolygon  
    MainWindow, 190  
nativeAddRoundedRectangle  
    MainWindow, 190  
nativeAddSlot  
    MainWindow, 190  
nativeAddTextMulti  
    MainWindow, 191  
nativeAddTextSingle  
    MainWindow, 191  
nativeAddToSelection  
    MainWindow, 191  
nativeAddTriangle  
    MainWindow, 191  
nativeAddVerticalDimension  
    MainWindow, 191  
nativeAlert  
    MainWindow, 192  
nativeAllowRubber  
    MainWindow, 192  
nativeAppendPromptHistory  
    MainWindow, 192  
nativeBlinkPrompt  
    MainWindow, 192  
nativeCalculateAngle  
    MainWindow, 192  
nativeCalculateDistance  
    MainWindow, 192  
nativeClearRubber  
    MainWindow, 192  
nativeClearSelection  
    MainWindow, 192  
nativeCopySelected  
    MainWindow, 192  
nativeCutSelected  
    MainWindow, 193  
nativeDayVision  
    MainWindow, 193  
nativeDeleteSelected  
    MainWindow, 193  
nativeDisableMoveRapidFire  
    MainWindow, 193  
nativeDisablePromptRapidFire  
    MainWindow, 193  
nativeEnableMoveRapidFire  
    MainWindow, 193  
nativeEnablePromptRapidFire  
    MainWindow, 193  
nativeEndCommand  
    MainWindow, 193  
nativeExit  
    MainWindow, 193  
nativeHelp  
    MainWindow, 193  
nativeIcon128  
    MainWindow, 193  
nativeIcon16  
    MainWindow, 194  
nativeIcon24  
    MainWindow, 194  
nativeIcon32  
    MainWindow, 194  
nativeIcon48  
    MainWindow, 194  
nativeIcon64  
    MainWindow, 194  
nativeInitCommand  
    MainWindow, 194  
nativeMessageBox  
    MainWindow, 194  
nativeMirrorSelected  
    MainWindow, 194  
nativeMouseX  
    MainWindow, 194  
nativeMouseY  
    MainWindow, 194  
nativeMoveSelected  
    MainWindow, 195  
nativeNewFile  
    MainWindow, 195  
nativeNightVision  
    MainWindow, 195  
nativeNumSelected  
    MainWindow, 195  
nativeOpenFile  
    MainWindow, 195  
nativePanDown  
    MainWindow, 195  
nativePanLeft  
    MainWindow, 195  
nativePanRight  
    MainWindow, 195  
nativePanUp  
    MainWindow, 195  
nativePasteSelected  
    MainWindow, 195

nativePerpendicularDistance  
    MainWindow, 195  
nativePlatformString  
    MainWindow, 196  
nativePreviewOff  
    MainWindow, 196  
nativePreviewOn  
    MainWindow, 196  
nativePrintArea  
    MainWindow, 196  
nativeQSnapX  
    MainWindow, 196  
nativeQSnapY  
    MainWindow, 196  
nativeRedo  
    MainWindow, 196  
nativeRotateSelected  
    MainWindow, 196  
nativeScaleSelected  
    MainWindow, 197  
nativeSelectAll  
    MainWindow, 197  
nativeSetBackgroundColor  
    MainWindow, 197  
nativeSetCrossHairColor  
    MainWindow, 197  
nativeSetCursorShape  
    MainWindow, 197  
nativeSetGridColor  
    MainWindow, 197  
nativeSetPromptPrefix  
    MainWindow, 197  
nativeSetRubberMode  
    MainWindow, 197  
nativeSetRubberPoint  
    MainWindow, 198  
nativeSetRubberText  
    MainWindow, 198  
nativeSetTextAngle  
    MainWindow, 198  
nativeSetTextBold  
    MainWindow, 198  
nativeSetTextFont  
    MainWindow, 198  
nativeSetTextItalic  
    MainWindow, 198  
nativeSetTextOverline  
    MainWindow, 198  
nativeSetTextSize  
    MainWindow, 198  
nativeSetTextStrikeOut  
    MainWindow, 198  
nativeSetTextUnderline  
    MainWindow, 199  
nativeSpareRubber  
    MainWindow, 199  
nativeTextAngle  
    MainWindow, 199  
nativeTextBold  
    MainWindow, 199  
nativeTextFont  
    MainWindow, 199  
nativeTextItalic  
    MainWindow, 199  
nativeTextOverline  
    MainWindow, 199  
nativeTextSize  
    MainWindow, 199  
nativeTextStrikeOut  
    MainWindow, 199  
nativeTextUnderline  
    MainWindow, 199  
nativeTipOfDay  
    MainWindow, 199  
nativeUndo  
    MainWindow, 200  
nativeVulcanize  
    MainWindow, 200  
nativeWindowCascade  
    MainWindow, 200  
nativeWindowClose  
    MainWindow, 200  
nativeWindowCloseAll  
    MainWindow, 200  
nativeWindowNext  
    MainWindow, 200  
nativeWindowPrevious  
    MainWindow, 200  
nativeWindowTile  
    MainWindow, 200  
nativeZoomExtents  
    MainWindow, 200  
nativeZoomIn  
    MainWindow, 200  
nativeZoomOut  
    MainWindow, 200  
navType  
    UndoableNavCommand, 391  
needle\_speed  
    Settings\_, 323  
negativeXHoopSize  
    VipHeader\_, 422  
negativeYHoopSize  
    VipHeader\_, 422  
new\_file\_action  
    imgui\_main.c, 530  
newFile  
    MainWindow, 201  
next  
    \_bcf\_directory\_entry, 48  
next\_column  
    gui\_backend.cpp, 437  
    gui\_backend.h, 449  
nightVision  
    MainWindow, 201  
nlenghts

Huffman, 143  
**NoArrow**  
  DimLeaderObject, 105  
**NoLine**  
  DimLeaderObject, 105  
**NORMAL**  
  embroidery.h, 680  
**normalPath**  
  PathObject, 250  
  PolygonObject, 259  
  PolylineObject, 264  
**ntable**  
  Huffman, 143  
**NUM\_FLAGS**  
  main.c, 882  
**NUMBER\_ARCHITECTURAL**  
  imgui\_main.c, 478  
**NUMBER\_DECIMAL**  
  imgui\_main.c, 478  
**NUMBER\_ENGINEERING**  
  imgui\_main.c, 478  
**NUMBER\_FRACTIONAL**  
  imgui\_main.c, 478  
**NUMBER\_SCIENTIFIC**  
  imgui\_main.c, 478  
**numberOfBytesRemaining**  
  \_vp3Hoop, 55  
**numberOfColors**  
  \_vp3Hoop, 55  
  VipHeader\_, 422  
**numberOfDifatSectors**  
  \_bcf\_file\_header, 52  
**numberOfDirectorySectors**  
  \_bcf\_file\_header, 53  
**numberOfEntriesInDifatSector**  
  embroidery\_internal.h, 761  
**numberOfEntriesInFatSector**  
  \_bcf\_file\_fat, 51  
**numberOfFATSectors**  
  \_bcf\_file\_header, 53  
**numberOfFormats**  
  embroidery.h, 680  
**numberOfMiniFatSectors**  
  \_bcf\_file\_header, 53  
**numberOfStitches**  
  VipHeader\_, 422  
**numOfDocs**  
  MainWindow, 222  
**numPoints**  
  UiObject\_, 382  
**numSelected**  
  View, 406  
**numStiches**  
  ThredHeader\_, 379  
**OBJ\_COLOR**  
  imgui\_main.c, 495  
  object-data.h, 607  
**OBJ\_KEYS**  
  imgui\_main.c, 495  
  object-data.h, 607  
**OBJ\_LAYER**  
  imgui\_main.c, 495  
  object-data.h, 607  
**OBJ\_LTYPE**  
  imgui\_main.c, 495  
  object-data.h, 607  
**OBJ\_LTYPE\_CENTER**  
  imgui\_main.c, 478  
  object-data.h, 607  
**OBJ\_LTYPE\_CONT**  
  imgui\_main.c, 478  
  object-data.h, 607  
**OBJ\_LTYPE\_DOT**  
  imgui\_main.c, 478  
  object-data.h, 607  
**OBJ\_LTYPE\_FISHBONE**  
  imgui\_main.c, 478  
  object-data.h, 607  
**OBJ\_LTYPE\_HIDDEN**  
  imgui\_main.c, 478  
  object-data.h, 607  
**OBJ\_LTYPE\_PHANTOM**  
  imgui\_main.c, 478  
  object-data.h, 607  
**OBJ\_LTYPE\_RUNNING**  
  imgui\_main.c, 479  
  object-data.h, 607  
**OBJ\_LTYPE\_SATIN**  
  imgui\_main.c, 479  
  object-data.h, 607  
**OBJ\_LTYPE\_VALUES**  
  object-data.h, 607  
**OBJ\_LTYPE\_ZIGZAG**  
  imgui\_main.c, 479  
  object-data.h, 607  
**OBJ\_LWT**  
  imgui\_main.c, 495  
  object-data.h, 607  
**OBJ\_LWT\_01**  
  imgui\_main.c, 479  
  object-data.h, 608  
**OBJ\_LWT\_02**  
  imgui\_main.c, 479  
  object-data.h, 608  
**OBJ\_LWT\_03**  
  imgui\_main.c, 479  
  object-data.h, 608  
**OBJ\_LWT\_04**  
  imgui\_main.c, 479  
  object-data.h, 608  
**OBJ\_LWT\_05**  
  imgui\_main.c, 479  
  object-data.h, 608  
**OBJ\_LWT\_06**  
  imgui\_main.c, 479  
  object-data.h, 608

OBJ\_LWT\_07  
    imgui\_main.c, 479  
    object-data.h, 608  
OBJ\_LWT\_08  
    imgui\_main.c, 479  
    object-data.h, 608  
OBJ\_LWT\_09  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_10  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_11  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_12  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_13  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_14  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_15  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_16  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_17  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_18  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_19  
    imgui\_main.c, 480  
    object-data.h, 608  
OBJ\_LWT\_20  
    imgui\_main.c, 481  
    object-data.h, 608  
OBJ\_LWT\_21  
    imgui\_main.c, 481  
    object-data.h, 608  
OBJ\_LWT\_22  
    imgui\_main.c, 481  
    object-data.h, 608  
OBJ\_LWT\_23  
    imgui\_main.c, 481  
    object-data.h, 608  
OBJ\_LWT\_24  
    imgui\_main.c, 481  
    object-data.h, 608  
OBJ\_LWT\_BYBLOCK  
    imgui\_main.c, 481  
    object-data.h, 607  
OBJ\_LWT\_BYLAYER  
    imgui\_main.c, 481  
    object-data.h, 607  
OBJ\_LWT\_DEFAULT  
    imgui\_main.c, 481  
    object-data.h, 607  
OBJ\_LWT\_VALUES  
    object-data.h, 607  
OBJ\_NAME  
    imgui\_main.c, 495  
    object-data.h, 607  
OBJ\_NAME\_ARC  
    object-data.h, 612  
OBJ\_NAME\_BASE  
    object-data.h, 612  
OBJ\_NAME\_BLOCK  
    object-data.h, 612  
OBJ\_NAME\_CIRCLE  
    object-data.h, 612  
OBJ\_NAME\_DIMALIGNED  
    object-data.h, 612  
OBJ\_NAME\_DIMANGULAR  
    object-data.h, 612  
OBJ\_NAME\_DIMARCLENGTH  
    object-data.h, 612  
OBJ\_NAME\_DIMDIAMETER  
    object-data.h, 612  
OBJ\_NAME\_DIMLEADER  
    object-data.h, 612  
OBJ\_NAME\_DIMLINEAR  
    object-data.h, 612  
OBJ\_NAME\_DIMORDINATE  
    object-data.h, 612  
OBJ\_NAME\_DIMRADIUS  
    object-data.h, 613  
OBJ\_NAME\_ELLIPSE  
    object-data.h, 613  
OBJ\_NAME\_ELLIPSEARC  
    object-data.h, 613  
OBJ\_NAME\_GRID  
    object-data.h, 613  
OBJ\_NAME\_IMAGE  
    object-data.h, 613  
OBJ\_NAME\_INFINITELINE  
    object-data.h, 613  
OBJ\_NAME\_LINE  
    object-data.h, 613  
OBJ\_NAME\_NULL  
    object-data.h, 613  
OBJ\_NAME\_PATH  
    object-data.h, 613  
OBJ\_NAME\_POINT  
    object-data.h, 613  
OBJ\_NAME\_POLYGON  
    object-data.h, 614  
OBJ\_NAME\_POLYLINE  
    object-data.h, 614

OBJ\_NAME\_RAY  
object-data.h, 614  
OBJ\_NAME\_RECTANGLE  
object-data.h, 614  
OBJ\_NAME\_RUBBER  
object-data.h, 614  
OBJ\_NAME\_SLOT  
object-data.h, 614  
OBJ\_NAME\_SPLINE  
object-data.h, 614  
OBJ\_NAME\_TEXTMULTI  
object-data.h, 614  
OBJ\_NAME\_TEXTSINGLE  
object-data.h, 614  
OBJ\_RUBBER  
imgui\_main.c, 495  
object-data.h, 607  
OBJ\_RUBBER\_CIRCLE\_1P\_DIA  
imgui\_main.c, 481  
object-data.h, 608  
OBJ\_RUBBER\_CIRCLE\_1P\_RAD  
imgui\_main.c, 481  
object-data.h, 608  
OBJ\_RUBBER\_CIRCLE\_2P  
imgui\_main.c, 481  
object-data.h, 608  
OBJ\_RUBBER\_CIRCLE\_3P  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_CIRCLE\_TTR  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_CIRCLE\_TTT  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_DIMLEADER\_LINE  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_ELLIPSE\_LINE  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_ELLIPSE\_MAJORDIAMETER\_MINORRADIUS  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_ELLIPSE\_MAJORRADIUS\_MINORRADIUS  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_ELLIPSE\_ROTATION  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_GRIP  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_IMAGE  
imgui\_main.c, 482  
object-data.h, 609  
OBJ\_RUBBER\_LINE  
imgui\_main.c, 482  
object-data.h, 608  
OBJ\_RUBBER\_OFF  
imgui\_main.c, 483  
object-data.h, 608  
OBJ\_RUBBER\_ON  
imgui\_main.c, 483  
object-data.h, 608  
OBJ\_RUBBER\_POLYGON  
imgui\_main.c, 483  
object-data.h, 608  
OBJ\_RUBBER\_POLYGON\_CIRCUMSCRIBE  
imgui\_main.c, 483  
object-data.h, 609  
OBJ\_RUBBER\_POLYGON\_INSCRIBE  
imgui\_main.c, 483  
object-data.h, 608  
OBJ\_RUBBER\_POLYLINE  
imgui\_main.c, 483  
object-data.h, 609  
OBJ\_RUBBER\_RECTANGLE  
imgui\_main.c, 483  
object-data.h, 609  
OBJ\_RUBBER\_TEXTSINGLE  
imgui\_main.c, 483  
object-data.h, 609  
OBJ\_RUBBER\_VALUES  
object-data.h, 608  
OBJ\_SNAP\_APPINTERSECTION  
imgui\_main.c, 483  
object-data.h, 609  
OBJ\_SNAP\_CENTER  
imgui\_main.c, 483  
object-data.h, 609  
OBJ\_SNAP\_ENDPOINT  
imgui\_main.c, 483  
object-data.h, 609  
OBJ\_SNAP\_EXTENSION  
imgui\_main.c, 484  
object-data.h, 609  
OBJ\_SNAP\_INSERTION  
imgui\_main.c, 484  
object-data.h, 609  
OBJ\_SNAP\_INTERSECTION  
imgui\_main.c, 484  
object-data.h, 609  
OBJ\_SNAP\_MIDPOINT  
imgui\_main.c, 484  
object-data.h, 609  
OBJ\_SNAP\_NEAREST  
imgui\_main.c, 484  
object-data.h, 609  
OBJ\_SNAP\_NODE  
imgui\_main.c, 484  
object-data.h, 609  
OBJ\_SNAP\_NULL  
imgui\_main.c, 484  
object-data.h, 609  
OBJ\_SNAP\_PARALLEL

imgui\_main.c, 484  
object-data.h, 609  
**OBJ\_SNAP\_PERPENDICULAR**  
  imgui\_main.c, 484  
  object-data.h, 609  
**OBJ\_SNAP\_QUADRANT**  
  imgui\_main.c, 484  
  object-data.h, 609  
**OBJ\_SNAP\_TANGENT**  
  imgui\_main.c, 484  
  object-data.h, 609  
**OBJ\_SNAP\_VALUES**  
  object-data.h, 609  
**OBJ\_TYPE**  
  imgui\_main.c, 495  
  object-data.h, 607  
**OBJ\_TYPE\_ARC**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_BASE**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_BLOCK**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_CIRCLE**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_DIMALIGNED**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_DIMANGULAR**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_DIMARCLENGTH**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_DIMDIAMETER**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_DIMLEADER**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_DIMLINEAR**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_DIMORDINATE**  
  imgui\_main.c, 485  
  object-data.h, 609  
**OBJ\_TYPE\_DIMRADIUS**  
  imgui\_main.c, 486  
  object-data.h, 609  
**OBJ\_TYPE\_ELLIPSE**  
  imgui\_main.c, 486  
  object-data.h, 609  
**OBJ\_TYPE\_ELLIPSEARC**  
  imgui\_main.c, 486  
  object-data.h, 610

OBJ\_TYPE\_GRID  
  imgui\_main.c, 486  
  object-data.h, 610  
**OBJ\_TYPE\_HATCH**  
  imgui\_main.c, 486  
  object-data.h, 610  
**OBJ\_TYPE\_IMAGE**  
  imgui\_main.c, 486  
  object-data.h, 610  
**OBJ\_TYPE\_INFINITELINE**  
  imgui\_main.c, 486  
  object-data.h, 610  
**OBJ\_TYPE\_LINE**  
  imgui\_main.c, 486  
  object-data.h, 610  
**OBJ\_TYPE\_NULL**  
  imgui\_main.c, 486  
  object-data.h, 609  
**OBJ\_TYPE\_PATH**  
  imgui\_main.c, 486  
  object-data.h, 610  
**OBJ\_TYPE\_POINT**  
  imgui\_main.c, 486  
  object-data.h, 610  
**OBJ\_TYPE\_POLYGON**  
  imgui\_main.c, 487  
  object-data.h, 610  
**OBJ\_TYPE\_POLYLINE**  
  imgui\_main.c, 487  
  object-data.h, 610  
**OBJ\_TYPE\_RAY**  
  imgui\_main.c, 487  
  object-data.h, 610  
**OBJ\_TYPE\_RECTANGLE**  
  imgui\_main.c, 487  
  object-data.h, 610  
**OBJ\_TYPE\_RUBBER**  
  imgui\_main.c, 487  
  object-data.h, 610  
**OBJ\_TYPE\_SLOT**  
  imgui\_main.c, 487  
  object-data.h, 610  
**OBJ\_TYPE\_SPLINE**  
  imgui\_main.c, 487  
  object-data.h, 610  
**OBJ\_TYPE\_TEXTMULTI**  
  imgui\_main.c, 487  
  object-data.h, 610  
**OBJ\_TYPE\_TEXTSINGLE**  
  imgui\_main.c, 487  
  object-data.h, 610  
**OBJ\_TYPE\_UNKNOWN**  
  imgui\_main.c, 487  
**OBJ\_TYPE\_VALUES**  
  object-data.h, 609  
**object**  
  EmbGeometry\_, 127  
  UndoableAddCommand, 384

UndoableDeleteCommand, 385  
UndoableGripEditCommand, 387  
UndoableMirrorCommand, 388  
UndoableMoveCommand, 389  
UndoableRotateCommand, 393  
UndoableScaleCommand, 395  
object-data.h  
    ENABLE\_GRID, 611  
    ENABLE\_LWT, 611  
    ENABLE\_ORTHO, 611  
    ENABLE\_POLAR, 611  
    ENABLE\_QSNAP, 611  
    ENABLE\_QTRACK, 611  
    ENABLE\_REAL, 611  
    ENABLE\_RULER, 611  
    ENABLE\_SNAP, 611  
    OBJ\_COLOR, 607  
    OBJ\_KEYS, 607  
    OBJ\_LAYER, 607  
    OBJ\_LTYPE, 607  
    OBJ\_LTYPE\_CENTER, 607  
    OBJ\_LTYPE\_CONT, 607  
    OBJ\_LTYPE\_DOT, 607  
    OBJ\_LTYPE\_FISHBONE, 607  
    OBJ\_LTYPE\_HIDDEN, 607  
    OBJ\_LTYPE\_PHANTOM, 607  
    OBJ\_LTYPE\_RUNNING, 607  
    OBJ\_LTYPE\_SATIN, 607  
    OBJ\_LTYPE\_VALUES, 607  
    OBJ\_LTYPE\_ZIGZAG, 607  
    OBJ\_LWT, 607  
    OBJ\_LWT\_01, 608  
    OBJ\_LWT\_02, 608  
    OBJ\_LWT\_03, 608  
    OBJ\_LWT\_04, 608  
    OBJ\_LWT\_05, 608  
    OBJ\_LWT\_06, 608  
    OBJ\_LWT\_07, 608  
    OBJ\_LWT\_08, 608  
    OBJ\_LWT\_09, 608  
    OBJ\_LWT\_10, 608  
    OBJ\_LWT\_11, 608  
    OBJ\_LWT\_12, 608  
    OBJ\_LWT\_13, 608  
    OBJ\_LWT\_14, 608  
    OBJ\_LWT\_15, 608  
    OBJ\_LWT\_16, 608  
    OBJ\_LWT\_17, 608  
    OBJ\_LWT\_18, 608  
    OBJ\_LWT\_19, 608  
    OBJ\_LWT\_20, 608  
    OBJ\_LWT\_21, 608  
    OBJ\_LWT\_22, 608  
    OBJ\_LWT\_23, 608  
    OBJ\_LWT\_24, 608  
    OBJ\_LWT\_BYBLOCK, 607  
    OBJ\_LWT\_BYLAYER, 607  
    OBJ\_LWT\_DEFAULT, 607  
OBJ\_LWT\_VALUES, 607  
OBJ\_NAME, 607  
OBJ\_NAME\_ARC, 612  
OBJ\_NAME\_BASE, 612  
OBJ\_NAME\_BLOCK, 612  
OBJ\_NAME\_CIRCLE, 612  
OBJ\_NAME\_DIMALIGNED, 612  
OBJ\_NAME\_DIMANGULAR, 612  
OBJ\_NAME\_DIMARCLENGTH, 612  
OBJ\_NAME\_DIMDIAMETER, 612  
OBJ\_NAME\_DIMLEADER, 612  
OBJ\_NAME\_DIMLINEAR, 612  
OBJ\_NAME\_DIMORDINATE, 612  
OBJ\_NAME\_DIMRADIUS, 613  
OBJ\_NAME\_ELLIPSE, 613  
OBJ\_NAME\_ELLIPSEARC, 613  
OBJ\_NAME\_GRID, 613  
OBJ\_NAME\_HATCH, 613  
OBJ\_NAME\_IMAGE, 613  
OBJ\_NAME\_INFINITELINE, 613  
OBJ\_NAME\_LINE, 613  
OBJ\_NAME\_NULL, 613  
OBJ\_NAME\_PATH, 613  
OBJ\_NAME\_POINT, 613  
OBJ\_NAME\_POLYGON, 614  
OBJ\_NAME\_POLYLINE, 614  
OBJ\_NAME\_RAY, 614  
OBJ\_NAME\_RECTANGLE, 614  
OBJ\_NAME\_RUBBER, 614  
OBJ\_NAME\_SLOT, 614  
OBJ\_NAME\_SPLINE, 614  
OBJ\_NAME\_TEXTMULTI, 614  
OBJ\_NAME\_TEXTSINGLE, 614  
OBJ\_RUBBER, 607  
OBJ\_RUBBER\_CIRCLE\_1P\_DIA, 608  
OBJ\_RUBBER\_CIRCLE\_1P\_RAD, 608  
OBJ\_RUBBER\_CIRCLE\_2P, 608  
OBJ\_RUBBER\_CIRCLE\_3P, 608  
OBJ\_RUBBER\_CIRCLE\_TTR, 608  
OBJ\_RUBBER\_CIRCLE\_TTT, 608  
OBJ\_RUBBER\_DIMLEADER\_LINE, 608  
OBJ\_RUBBER\_ELLIPSE\_LINE, 608  
OBJ\_RUBBER\_ELLIPSE\_MAJOR\_DIAMETER\_MINOR\_RADIUS, 608  
OBJ\_RUBBER\_ELLIPSE\_MAJOR\_RADIUS\_MINOR\_RADIUS, 608  
OBJ\_RUBBER\_ELLIPSE\_ROTATION, 608  
OBJ\_RUBBER\_GRIP, 608  
OBJ\_RUBBER\_IMAGE, 609  
OBJ\_RUBBER\_LINE, 608  
OBJ\_RUBBER\_OFF, 608  
OBJ\_RUBBER\_ON, 608  
OBJ\_RUBBER\_POLYGON, 608  
OBJ\_RUBBER\_POLYGON\_CIRCUMSCRIBE, 609  
OBJ\_RUBBER\_POLYGON\_INSCRIBE, 608  
OBJ\_RUBBER\_POLYLINE, 609  
OBJ\_RUBBER\_RECTANGLE, 609  
OBJ\_RUBBER\_TEXTSINGLE, 609

OBJ\_RUBBER\_VALUES, 608  
OBJ\_SNAP\_APPINTERSECTION, 609  
OBJ\_SNAP\_CENTER, 609  
OBJ\_SNAP\_ENDPOINT, 609  
OBJ\_SNAP\_EXTENSION, 609  
OBJ\_SNAP\_INSERTION, 609  
OBJ\_SNAP\_INTERSECTION, 609  
OBJ\_SNAP\_MIDPOINT, 609  
OBJ\_SNAP\_NEAREST, 609  
OBJ\_SNAP\_NODE, 609  
OBJ\_SNAP\_NULL, 609  
OBJ\_SNAP\_PARALLEL, 609  
OBJ\_SNAP\_PERPENDICULAR, 609  
OBJ\_SNAP\_QUADRANT, 609  
OBJ\_SNAP\_TANGENT, 609  
OBJ\_SNAP\_VALUES, 609  
OBJ\_TYPE, 607  
OBJ\_TYPE\_ARC, 609  
OBJ\_TYPE\_BASE, 609  
OBJ\_TYPE\_BLOCK, 609  
OBJ\_TYPE\_CIRCLE, 609  
OBJ\_TYPE\_DIMALIGNED, 609  
OBJ\_TYPE\_DIMANGULAR, 609  
OBJ\_TYPE\_DIMARCLENGTH, 609  
OBJ\_TYPE\_DIMDIAMETER, 609  
OBJ\_TYPE\_DIMLEADER, 609  
OBJ\_TYPE\_DIMLINEAR, 609  
OBJ\_TYPE\_DIMORDINATE, 609  
OBJ\_TYPE\_DIMRADIUS, 609  
OBJ\_TYPE\_ELLIPSE, 609  
OBJ\_TYPE\_ELLIPSEARC, 610  
OBJ\_TYPE\_GRID, 610  
OBJ\_TYPE\_HATCH, 610  
OBJ\_TYPE\_IMAGE, 610  
OBJ\_TYPE\_INFINITELINE, 610  
OBJ\_TYPE\_LINE, 610  
OBJ\_TYPE\_NULL, 609  
OBJ\_TYPE\_PATH, 610  
OBJ\_TYPE\_POINT, 610  
OBJ\_TYPE\_POLYGON, 610  
OBJ\_TYPE\_POLYLINE, 610  
OBJ\_TYPE\_RAY, 610  
OBJ\_TYPE\_RECTANGLE, 610  
OBJ\_TYPE\_RUBBER, 610  
OBJ\_TYPE\_SLOT, 610  
OBJ\_TYPE\_SPLINE, 610  
OBJ\_TYPE\_TEXTMULTI, 610  
OBJ\_TYPE\_TEXTSINGLE, 610  
OBJ\_TYPE\_VALUES, 609  
PREVIEW\_CLONE\_NULL, 610  
PREVIEW\_CLONE\_RUBBER, 610  
PREVIEW\_CLONE\_SELECTED, 610  
PREVIEW\_CLONE\_VALUES, 610  
PREVIEW\_MODE\_MOVE, 610  
PREVIEW\_MODE\_NULL, 610  
PREVIEW\_MODE\_ROTATE, 610  
PREVIEW\_MODE\_SCALE, 610  
PREVIEW\_MODE\_VALUES, 610  
RUBBER\_ROOM, 614  
SCENE\_MOUSE\_POINT, 614  
SCENE\_QSNAP\_POINT, 615  
SPARE\_RUBBER\_OFF, 610  
SPARE\_RUBBER\_PATH, 611  
SPARE\_RUBBER\_POLYGON, 611  
SPARE\_RUBBER\_POLYLINE, 611  
SPARE\_RUBBER\_VALUES, 610  
VIEW\_COLOR\_BACKGROUND, 615  
VIEW\_COLOR\_CROSSHAIR, 615  
VIEW\_COLOR\_GRID, 615  
VIEW\_MOUSE\_POINT, 615  
object\_index  
    UiObject\_, 382  
objectAngle  
    DimLeaderObject, 106  
    LineObject, 155  
objectArcLength  
    ArcObject, 61  
objectArea  
    ArcObject, 61  
    CircleObject, 76  
    ImageObject, 146  
    RectObject, 306  
objectBottomLeft  
    ImageObject, 147  
    RectObject, 306  
objectBottomRight  
    ImageObject, 147  
    RectObject, 306  
objectCenter  
    ArcObject, 62  
    CircleObject, 76  
    EllipseObject, 113  
objectCenterX  
    ArcObject, 62  
    CircleObject, 76  
    EllipseObject, 113  
objectCenterY  
    ArcObject, 62  
    CircleObject, 76  
    EllipseObject, 113  
objectChord  
    ArcObject, 62  
objectCircumference  
    CircleObject, 76  
objectClockwise  
    ArcObject, 62  
objectColor  
    BaseObject, 68  
objectColorRGB  
    BaseObject, 69  
objectCopyPath  
    PathObject, 248  
    PolygonObject, 257  
    PolylineObject, 262  
objectDeltaX  
    DimLeaderObject, 106

LineObject, 155  
objectDeltaY  
    DimLeaderObject, 106  
    LineObject, 155  
objectDiameter  
    CircleObject, 76  
objectDiameterMajor  
    EllipseObject, 113  
objectDiameterMinor  
    EllipseObject, 113  
objectEndAngle  
    ArcObject, 62  
objectEndPoint  
    ArcObject, 62  
objectEndPoint1  
    DimLeaderObject, 106  
    LineObject, 155  
objectEndPoint2  
    DimLeaderObject, 107  
    LineObject, 155  
objectEndX  
    ArcObject, 62  
objectEndY  
    ArcObject, 62  
objectHeight  
    EllipseObject, 113  
    ImageObject, 147  
    RectObject, 306  
objectID  
    BaseObject, 69  
objectIncludedAngle  
    ArcObject, 62  
objectLength  
    DimLeaderObject, 107  
    LineObject, 155  
objectLineType  
    BaseObject, 69  
objectLineWidth  
    BaseObject, 69  
objectMidPoint  
    ArcObject, 62  
    DimLeaderObject, 107  
    LineObject, 155  
objectMidX  
    ArcObject, 63  
objectMidY  
    ArcObject, 63  
objectPath  
    BaseObject, 69  
objectPen  
    BaseObject, 69  
objectPos  
    PathObject, 248  
    PointObject, 253  
    PolygonObject, 258  
    PolylineObject, 263  
    RectObject, 306  
    TextSingleObject, 372  
objectQuadrant0  
    CircleObject, 76  
    EllipseObject, 113  
objectQuadrant180  
    CircleObject, 76  
    EllipseObject, 114  
objectQuadrant270  
    CircleObject, 76  
    EllipseObject, 114  
objectQuadrant90  
    CircleObject, 76  
    EllipseObject, 114  
objectRadius  
    ArcObject, 63  
    CircleObject, 76  
objectRadiusMajor  
    EllipseObject, 114  
objectRadiusMinor  
    EllipseObject, 114  
objectRubberMode  
    BaseObject, 69  
objectRubberPoint  
    BaseObject, 69  
objectRubberText  
    BaseObject, 69  
objectSavePath  
    CircleObject, 77  
    EllipseObject, 114  
    LineObject, 155  
    PathObject, 248  
    PointObject, 253  
    PolygonObject, 258  
    PolylineObject, 263  
    RectObject, 306  
objectSavePathList  
    TextSingleObject, 372  
objectStartAngle  
    ArcObject, 63  
objectStartPoint  
    ArcObject, 63  
objectStartX  
    ArcObject, 63  
objectStartY  
    ArcObject, 63  
objectText  
    TextSingleObject, 372  
objectTextBackward  
    TextSingleObject, 372  
objectTextBold  
    TextSingleObject, 372  
objectTextFont  
    TextSingleObject, 373  
objectTextItalic  
    TextSingleObject, 373  
objectTextJustify  
    TextSingleObject, 373  
objectTextJustifyList  
    TextSingleObject, 373

objectTextOverline  
    TextSingleObject, 373

objectTextSize  
    TextSingleObject, 373

objectTextStrikeOut  
    TextSingleObject, 373

objectTextUnderline  
    TextSingleObject, 373

objectTextUpsideDown  
    TextSingleObject, 373

objectTopLeft  
    ImageObject, 147  
    RectObject, 306

objectTopRight  
    ImageObject, 147  
    RectObject, 307

objectType  
    \_bcf\_directory\_entry, 48

ObjectTypeRootEntry  
    embroidery\_internal.h, 740

ObjectTypeStorage  
    embroidery\_internal.h, 740

ObjectTypeStream  
    embroidery\_internal.h, 740

ObjectTypeUnknown  
    embroidery\_internal.h, 740

objectWidth  
    EllipseObject, 114  
    ImageObject, 147  
    RectObject, 307

objectX  
    PathObject, 248  
    PointObject, 253  
    PolygonObject, 258  
    PolylineObject, 263  
    TextSingleObject, 373

objectX1  
    DimLeaderObject, 107  
    LineObject, 155

objectX2  
    DimLeaderObject, 107  
    LineObject, 156

objectY  
    PathObject, 248  
    PointObject, 253  
    PolygonObject, 258  
    PolylineObject, 263  
    TextSingleObject, 373

objectY1  
    DimLeaderObject, 107  
    LineObject, 156

objectY2  
    DimLeaderObject, 107  
    LineObject, 156

objID  
    BaseObject, 72

objLine  
    BaseObject, 72

objPen  
    BaseObject, 72

objRubberMode  
    BaseObject, 72

objRubberPoints  
    BaseObject, 72

objRubberTexts  
    BaseObject, 72

objText  
    TextSingleObject, 376

objTextBackward  
    TextSingleObject, 376

objTextBold  
    TextSingleObject, 376

objTextFont  
    TextSingleObject, 376

objTextItalic  
    TextSingleObject, 376

objTextJustify  
    TextSingleObject, 376

objTextOverline  
    TextSingleObject, 376

objTextPath  
    TextSingleObject, 377

objTextSize  
    TextSingleObject, 377

objTextStrikeOut  
    TextSingleObject, 377

objTextUnderline  
    TextSingleObject, 377

objTextUpsideDown  
    TextSingleObject, 377

ofmDecode  
    format\_ofm.c, 832

ofmReadBlockHeader  
    format\_ofm.c, 832

ofmReadClass  
    format\_ofm.c, 833

ofmReadColorChange  
    format\_ofm.c, 833

ofmReadExpanded  
    format\_ofm.c, 833

ofmReadLibrary  
    format\_ofm.c, 833

ofmReadThreads  
    format\_ofm.c, 833

on\_window\_activated  
    imgui\_main.c, 530

onCloseMdiWin  
    MainWindow, 201

onCloseWindow  
    MainWindow, 201

onWindowActivated  
    MainWindow, 201  
    MdiWindow, 241

Open  
    DimLeaderObject, 105

open\_file\_action

imgui\_main.c, 530  
open\_file\_dialog  
    imgui\_main.c, 530  
open\_recent\_file  
    imgui\_main.c, 530  
openFile  
    MainWindow, 201  
openFilePath  
    MainWindow, 222  
openFilesSelected  
    MainWindow, 201  
openrecentfile  
    MainWindow, 201  
opensave\_custom\_filter  
    Settings\_, 324  
opensave\_open\_format  
    Settings\_, 324  
opensave\_open\_thumbnail  
    Settings\_, 324  
opensave\_recent\_directory  
    Settings\_, 324  
opensave\_recent\_list\_of\_files  
    Settings\_, 324  
opensave\_recent\_max\_files  
    Settings\_, 324  
opensave\_save\_format  
    Settings\_, 324  
opensave\_save\_thumbnail  
    Settings\_, 324  
opensave\_trim\_dst\_num\_jumps  
    Settings\_, 324  
origin  
    View\_, 419  
originPath  
    View, 413  
ortho\_mode  
    View\_, 419  
paint  
    ArcObject, 63  
    CircleObject, 77  
    DimLeaderObject, 107  
    EllipseObject, 114  
    ImageObject, 147  
    LineObject, 156  
    PathObject, 248  
    PointObject, 253  
    PolygonObject, 258  
    PolylineObject, 263  
    RectObject, 307  
    TextSingleObject, 374  
paintEvent  
    ImageWidget, 149  
    MdiArea, 236  
    SelectBox, 314  
pan\_action  
    imgui\_main.c, 530  
panDistance  
    View, 413  
panDown  
    MainWindow, 201  
    View, 406  
panLeft  
    MainWindow, 201  
    View, 406  
panMenu  
    MainWindow, 222  
panningActive  
    View, 414  
panningPointActive  
    View, 414  
panningRealTimeActive  
    View, 414  
panPoint  
    View, 406  
panpoint  
    MainWindow, 202  
panRealTime  
    View, 406  
panrealtime  
    MainWindow, 202  
panRight  
    MainWindow, 202  
    View, 406  
panStart  
    imgui\_main.c, 531  
    View, 407  
panStartX  
    View, 414  
panStartY  
    View, 414  
Pantone  
    embroidery.h, 680  
panUp  
    MainWindow, 202  
    View, 407  
parse\_command  
    imgui\_main.c, 531  
parseDIFATSectors  
    main.c, 890  
parseDirectoryName  
    main.c, 890  
parseTime  
    main.c, 890  
paste  
    imgui\_main.c, 531  
    MainWindow, 202  
    View, 407  
paste\_action  
    imgui\_main.c, 531  
paste\_selected  
    imgui\_main.c, 531  
pasteClip  
    CmdPromptInput, 96  
pasteDelta  
    View, 414  
pasteObjectItemGroup

View, 414  
pastePressed  
  CmdPrompt, 84  
  CmdPromptInput, 96  
pastingActive  
  View, 414  
path  
  EmbGeometry\_, 127  
  EmblImage\_, 129  
path\_action  
  imgui\_main.c, 531  
path\_click  
  imgui\_main.c, 532  
path\_desc  
  UiObject\_, 382  
path\_init  
  imgui\_main.c, 532  
path\_prompt  
  imgui\_main.c, 532  
PathObject, 245  
  ~PathObject, 247  
  allGripPoints, 247  
  gripEdit, 248  
  init, 248  
  mouseSnapPoint, 248  
  normalPath, 250  
  objectCopyPath, 248  
  objectPos, 248  
  objectSavePath, 248  
  objectX, 248  
  objectY, 248  
  paint, 248  
  PathObject, 247  
  setObjectPos, 249  
  setObjectX, 249  
  setObjectY, 249  
  Type, 247  
  type, 249  
  updatePath, 249  
  updateRubber, 249  
  vulcanize, 249  
pattern  
  View\_, 419  
pattern.c  
  convert, 894  
  embPattern\_addCircleAbs, 894  
  embPattern\_addEllipseAbs, 894  
  embPattern\_addLineAbs, 894  
  embPattern\_addPathAbs, 894  
  embPattern\_addPointAbs, 894  
  embPattern\_addPolygonAbs, 894  
  embPattern\_addPolylineObjectAbs, 894  
  embPattern\_addRectAbs, 894  
  embPattern\_addStitchAbs, 894  
  embPattern\_addStitchRel, 895  
  embPattern\_addThread, 895  
  embPattern\_calcBoundingBox, 895  
  embPattern\_center, 895  
  embPattern\_changeColor, 895  
  embPattern\_color\_count, 895  
  embPattern\_combineJumpStitches, 895  
  embPattern\_copyPolylinesTostitch\_list, 896  
  embPattern\_copystitch\_listToPolylines, 896  
  embPattern\_correctForMaxStitchLength, 896  
  embPattern\_create, 896  
  embPattern\_designDetails, 896  
  embPattern\_end, 896  
  embPattern\_fixColorCount, 896  
  embPattern\_flip, 896  
  embPattern\_flipHorizontal, 897  
  embPattern\_flipVertical, 897  
  embPattern\_free, 897  
  embPattern\_hideStitchesOverLength, 897  
  embPattern\_jumpStitches, 897  
  embPattern\_lengthHistogram, 897  
  embPattern\_loadExternalColorFile, 897  
  embPattern\_maximumStitchLength, 897  
  embPattern\_minimumStitchLength, 897  
  embPattern\_movePolylinesTostitch\_list, 897  
  embPattern\_movestitch\_listToPolylines, 897  
  embPattern\_realStitches, 897  
  embPattern\_scale, 898  
  embPattern\_totalStitchLength, 898  
  embPattern\_trimStitches, 898  
pattern\_index  
  Settings\_, 324  
  UiObject\_, 382  
pattern\_view  
  imgui\_main.c, 532  
pcm\_thread  
  embroidery.h, 680  
pcmThreads  
  embroidery.h, 715  
  thread-color.c, 899  
pec\_thread  
  embroidery.h, 680  
pecEncode  
  format\_pec.c, 836  
pecEncodeJump  
  format\_pec.c, 836  
pecEncodeStop  
  format\_pec.c, 836  
pecThreadCount  
  embroidery.h, 715  
  thread-color.c, 899  
pecThreads  
  embroidery.h, 715  
  thread-color.c, 899  
PERMISSIONS\_SYSTEM  
  imgui\_main.c, 487  
PERMISSIONS\_USER  
  imgui\_main.c, 488  
perpendicular\_distance  
  imgui\_main.c, 532  
PES0001  
  embroidery\_internal.h, 740

PES0020  
     embroidery\_internal.h, 740

PES0022  
     embroidery\_internal.h, 740

PES0030  
     embroidery\_internal.h, 740

PES0040  
     embroidery\_internal.h, 740

PES0050  
     embroidery\_internal.h, 740

PES0055  
     embroidery\_internal.h, 740

PES0056  
     embroidery\_internal.h, 741

PES0060  
     embroidery\_internal.h, 741

PES0070  
     embroidery\_internal.h, 741

PES0080  
     embroidery\_internal.h, 741

PES0090  
     embroidery\_internal.h, 741

PES0100  
     embroidery\_internal.h, 741

pes\_version  
     format\_pes.c, 841

pes\_version\_strings  
     format\_pes.c, 841

pesWriteEmbOneSection  
     format\_pes.c, 839

pesWriteSewSegSection  
     format\_pes.c, 839

pfaffDecode  
     embroidery\_internal.h, 761  
     encoding.c, 792

pfaffEncode  
     embroidery\_internal.h, 762  
     encoding.c, 793

pi  
     BaseObject, 69  
     UndoableRotateCommand, 392  
     View, 407

pickAdd  
     PropertyEditor, 291

pickAddModeToggled  
     imgui\_main.c, 532  
     MainWindow, 202  
     PropertyEditor, 276

pickBoxSize  
     View, 414

pivotX  
     UndoableRotateCommand, 393

pivotY  
     UndoableRotateCommand, 393

platform\_string  
     imgui\_main.c, 533

platformString  
     MainWindow, 202

point  
     EmbGeometry\_, 127

point\_click  
     imgui\_main.c, 533

point\_init  
     imgui\_main.c, 533

point\_prompt  
     imgui\_main.c, 533

pointList  
     EmbPath\_, 132

PointObject, 250  
     ~PointObject, 252  
     allGripPoints, 252  
     gripEdit, 252  
     init, 252  
     mouseSnapPoint, 253  
     objectPos, 253  
     objectSavePath, 253  
     objectX, 253  
     objectY, 253  
     paint, 253  
     PointObject, 252  
     setObjectPos, 253  
     setObjectX, 253  
     setObjectY, 254  
     Type, 252  
     type, 254  
     updateRubber, 254  
     vulcanize, 254

polar\_mode  
     View\_, 419

polygon  
     EmbGeometry\_, 127

polygon\_action  
     imgui\_main.c, 533

polygon\_click  
     imgui\_main.c, 533

polygon\_main  
     imgui\_main.c, 533

polygon\_prompt  
     imgui\_main.c, 534

PolygonObject, 254  
     ~PolygonObject, 257  
     allGripPoints, 257  
     findIndex, 257  
     gripEdit, 257  
     gripIndex, 259  
     init, 257  
     mouseSnapPoint, 257  
     normalPath, 259  
     objectCopyPath, 257  
     objectPos, 258  
     objectSavePath, 258  
     objectX, 258  
     objectY, 258  
     paint, 258  
     PolygonObject, 256  
     setObjectPos, 258

setObjectX, 258  
setObjectY, 258  
Type, 256  
type, 258  
updatePath, 259  
updateRubber, 259  
vulcanize, 259  
polyline  
    EmbGeometry\_, 127  
polyline\_action  
    imgui\_main.c, 534  
PolylineObject, 259  
    ~PolylineObject, 262  
    allGripPoints, 262  
    findIndex, 262  
    gripEdit, 262  
    gripIndex, 264  
    init, 262  
    mouseSnapPoint, 262  
    normalPath, 264  
    objectCopyPath, 262  
    objectPos, 263  
    objectSavePath, 263  
    objectX, 263  
    objectY, 263  
    paint, 263  
    PolylineObject, 261  
    setObjectPos, 263  
    setObjectX, 263  
    setObjectY, 263  
    Type, 261  
    type, 263  
    updatePath, 264  
    updateRubber, 264  
    vulcanize, 264  
position  
    EmbAlignedDim\_, 116  
    EmbAngularDim\_, 117  
    EmbArcLengthDim\_, 118  
    EmbBlock\_, 120  
    EmbDiameterDim\_, 124  
    EmblImage\_, 129  
    EmblInfiniteLine\_, 129  
    EmblLeaderDim\_, 130  
    EmblLinearDim\_, 131  
    EmblOrdinateDim\_, 132  
    EmblPoint\_, 134  
    EmblRadiusDim\_, 135  
    EmblRay\_, 135  
    EmblTextMulti\_, 139  
    EmblTextSingle\_, 139  
    UndoHistory\_, 398  
postitiveXHoopSize  
    VipHeader\_, 422  
postitiveYHoopSize  
    VipHeader\_, 422  
precisionAngle  
    PropertyEditor, 291  
precisionLength  
    PropertyEditor, 291  
prefix  
    CmdPromptInput, 98  
pressPoint  
    View, 414  
pressResizeHistory  
    CmdPromptSplitter, 99  
pressY  
    CmdPromptHandle, 89  
preview  
    imgui\_main.c, 575  
PREVIEW\_CLONE\_NULL  
    imgui\_main.c, 488  
    object-data.h, 610  
PREVIEW\_CLONE\_RUBBER  
    imgui\_main.c, 488  
    object-data.h, 610  
PREVIEW\_CLONE\_SELECTED  
    imgui\_main.c, 488  
    object-data.h, 610  
PREVIEW\_CLONE\_VALUES  
    object-data.h, 610  
preview\_dialog  
    imgui\_main.c, 534  
preview\_display\_bg\_color  
    Settings\_Dialog, 358  
preview\_display\_crosshair\_color  
    Settings\_Dialog, 358  
preview\_display\_selectbox\_alpha  
    Settings\_Dialog, 359  
preview\_display\_selectbox\_left\_color  
    Settings\_Dialog, 359  
preview\_display\_selectbox\_left\_fill  
    Settings\_Dialog, 359  
preview\_display\_selectbox\_right\_color  
    Settings\_Dialog, 359  
preview\_display\_selectbox\_right\_fill  
    Settings\_Dialog, 359  
preview\_display\_show\_scrollbars  
    Settings\_Dialog, 359  
preview\_general\_mdi\_bg\_color  
    Settings\_Dialog, 359  
preview\_general\_mdi\_bg\_use\_color  
    Settings\_Dialog, 359  
preview\_general\_mdi\_bg\_use\_logo  
    Settings\_Dialog, 359  
preview\_general\_mdi\_bg\_use\_texture  
    Settings\_Dialog, 359  
preview\_grid\_color  
    Settings\_Dialog, 359  
preview\_lwt\_real\_render  
    Settings\_Dialog, 360  
preview\_lwt\_show\_lwt  
    Settings\_Dialog, 360  
PREVIEW\_MODE\_MOVE  
    imgui\_main.c, 488  
    object-data.h, 610

PREVIEW\_MODE\_NULL  
     imgui\_main.c, 488  
     object-data.h, 610  
 PREVIEW\_MODE\_OFF  
     imgui\_main.c, 488  
 PREVIEW\_MODE\_ROTATE  
     imgui\_main.c, 488  
     object-data.h, 610  
 PREVIEW\_MODE\_SCALE  
     imgui\_main.c, 488  
     object-data.h, 610  
 PREVIEW\_MODE\_VALUES  
     object-data.h, 610  
 preview\_off  
     imgui\_main.c, 534  
 preview\_on  
     imgui\_main.c, 534  
 preview\_on\_action  
     imgui\_main.c, 535  
 preview\_prompt\_bg\_color  
     Settings\_Dialog, 360  
 preview\_prompt\_font\_family  
     Settings\_Dialog, 360  
 preview\_prompt\_font\_size  
     Settings\_Dialog, 360  
 preview\_prompt\_font\_style  
     Settings\_Dialog, 360  
 preview\_prompt\_text\_color  
     Settings\_Dialog, 360  
 preview\_ruler\_color  
     Settings\_Dialog, 360  
 previewActive  
     View, 414  
 previewData  
     View, 415  
 PreviewDialog, 264  
     ~PreviewDialog, 265  
     imgWidget, 265  
     PreviewDialog, 265  
 previewMode  
     View, 415  
 previewObjectItemGroup  
     View, 415  
 previewObjectList  
     View, 415  
 previewOff  
     View, 407  
 previewOn  
     View, 407  
 previewPoint  
     View, 415  
 print  
     MainWindow, 202  
     MdiWindow, 241  
 print\_action  
     imgui\_main.c, 535  
 print\_area\_action  
     imgui\_main.c, 535  
 printArcResults  
     embroidery\_internal.h, 762  
 PrintArea  
     imgui\_main.c, 535  
 printer  
     MdiWindow, 244  
 printing\_default\_device  
     Settings\_, 324  
 printing\_disable\_bg  
     Settings\_, 325  
 printing\_use\_last\_device  
     Settings\_, 325  
 privacy\_policy.md, 900  
 processInput  
     CmdPrompt, 84  
     CmdPromptInput, 96  
 prompt  
     MainWindow, 222  
 prompt\_input\_prev\_next  
     imgui\_main.c, 535  
 promptDivider  
     CmdPrompt, 87  
 promptHistory  
     CmdPrompt, 87  
     MdiWindow, 245  
 promptHistoryAppended  
     imgui\_main.c, 535  
     MainWindow, 202  
     MdiWindow, 241  
 promptInput  
     CmdPrompt, 87  
 promptInputList  
     MdiWindow, 245  
 promptInputNext  
     imgui\_main.c, 536  
     MainWindow, 202  
     MdiWindow, 241  
 promptInputNum  
     MdiWindow, 245  
 promptInputPrevious  
     imgui\_main.c, 536  
     MainWindow, 202  
     MdiWindow, 242  
 promptInputPrevNext  
     MdiWindow, 242  
 promptSplitter  
     CmdPrompt, 87  
 promptVBoxLayout  
     CmdPrompt, 87  
 property\_editor  
     imgui\_main.c, 536  
 property\_editor\_create\_tool\_buttonPickAdd  
     imgui\_main.c, 536  
 property\_editor\_create\_tool\_buttonQSelect  
     imgui\_main.c, 536  
 property\_editor\_createComboBoxSelected  
     imgui\_main.c, 536  
 property\_editor\_eventFilter

imgui\_main.c, 537  
property\_editor\_hideAllGroups  
    imgui\_main.c, 537  
property\_editor\_set\_selectedItems  
    imgui\_main.c, 537  
property\_editor\_showGroups  
    imgui\_main.c, 537  
property\_editor\_showOneType  
    imgui\_main.c, 537  
property\_editor\_togglePickAddMode  
    imgui\_main.c, 537  
property\_editor\_updateComboBoxBoolIfVaries  
    imgui\_main.c, 537  
property\_editor\_updateComboBoxStrIfVaries  
    imgui\_main.c, 538  
property\_editor\_updateFontComboBoxStrIfVaries  
    imgui\_main.c, 538  
property\_editor\_updateLineEditNumIfVaries  
    imgui\_main.c, 538  
property\_editor\_updateLineEditStrIfVaries  
    imgui\_main.c, 538  
property\_editor\_updatePickAddModeButton  
    imgui\_main.c, 538  
PropertyEditor, 265  
    ~PropertyEditor, 272  
    clearAllFields, 272  
    comboBoxArcClockwise, 278  
    comboBoxGeneralColor, 278  
    comboBoxGeneralLayer, 278  
    comboBoxGeneralLineType, 278  
    comboBoxGeneralLineWidth, 278  
    comboBoxPathClosed, 278  
    comboBoxPathVertexNum, 278  
    comboBoxPolylineClosed, 278  
    comboBoxPolylineVertexNum, 278  
    comboBoxSelected, 279  
    comboBoxTextSingleBackward, 279  
    comboBoxTextSingleFont, 279  
    comboBoxTextSingleJustify, 279  
    comboBoxTextSingleUpsideDown, 279  
    createComboBox, 272  
    createComboBoxSelected, 272  
    createFontComboBox, 272  
    createGroupBoxGeneral, 273  
    createGroupBoxGeometryArc, 273  
    createGroupBoxGeometryBlock, 273  
    createGroupBoxGeometryCircle, 273  
    createGroupBoxGeometryDimAligned, 273  
    createGroupBoxGeometryDimAngular, 273  
    createGroupBoxGeometryDimArcLength, 273  
    createGroupBoxGeometryDimDiameter, 273  
    createGroupBoxGeometryDimLeader, 273  
    createGroupBoxGeometryDimLinear, 273  
    createGroupBoxGeometryDimOrdinate, 274  
    createGroupBoxGeometryDimRadius, 274  
    createGroupBoxGeometryEllipse, 274  
    createGroupBoxGeometryImage, 274  
    createGroupBoxGeometryInfiniteLine, 274  
    createGroupBoxGeometryLine, 274  
    createGroupBoxGeometryPath, 274  
    createGroupBoxGeometryPoint, 274  
    createGroupBoxGeometryPolygon, 274  
    createGroupBoxGeometryPolyline, 274  
    createGroupBoxGeometryRay, 275  
    createGroupBoxGeometryRectangle, 275  
    createGroupBoxGeometryTextMulti, 275  
    createGroupBoxGeometryTextSingle, 275  
    createGroupBoxMiscArc, 275  
    createGroupBoxMiscImage, 275  
    createGroupBoxMiscPath, 275  
    createGroupBoxMiscPolyline, 275  
    createGroupBoxMiscTextSingle, 275  
    createGroupBoxTextTextSingle, 275  
    createLineEdit, 275  
    createToolButton, 276  
    createToolButtonPickAdd, 276  
    createToolButtonQSelect, 276  
    eventFilter, 276  
    fieldEdited, 276  
    fieldNewText, 279  
    fieldNoText, 279  
    fieldOffText, 279  
    fieldOldText, 279  
    fieldOnText, 279  
    fieldVariesText, 279  
    fieldYesText, 280  
    focusWidget, 280  
    groupBoxGeneral, 280  
    groupBoxGeometryArc, 280  
    groupBoxGeometryBlock, 280  
    groupBoxGeometryCircle, 280  
    groupBoxGeometryDimAligned, 280  
    groupBoxGeometryDimAngular, 280  
    groupBoxGeometryDimArcLength, 280  
    groupBoxGeometryDimDiameter, 280  
    groupBoxGeometryDimLeader, 280  
    groupBoxGeometryDimLinear, 281  
    groupBoxGeometryDimOrdinate, 281  
    groupBoxGeometryDimRadius, 281  
    groupBoxGeometryEllipse, 281  
    groupBoxGeometryImage, 281  
    groupBoxGeometryInfiniteLine, 281  
    groupBoxGeometryLine, 281  
    groupBoxGeometryPath, 281  
    groupBoxGeometryPoint, 281  
    groupBoxGeometryPolygon, 281  
    groupBoxGeometryPolyline, 281  
    groupBoxGeometryRay, 282  
    groupBoxGeometryRectangle, 282  
    groupBoxGeometryTextMulti, 282  
    groupBoxGeometryTextSingle, 282  
    groupBoxMiscArc, 282  
    groupBoxMiscImage, 282  
    groupBoxMiscPath, 282  
    groupBoxMiscPolyline, 282  
    groupBoxMiscTextSingle, 282

groupBoxTextTextSingle, 282  
hideAllGroups, 276  
iconDir, 282  
iconSize, 283  
lineEditArcArea, 283  
lineEditArcCenterX, 283  
lineEditArcCenterY, 283  
lineEditArcChord, 283  
lineEditArcEndAngle, 283  
lineEditArcEndX, 283  
lineEditArcEndY, 283  
lineEditArcInclAngle, 283  
lineEditArcLength, 283  
lineEditArcRadius, 283  
lineEditArcStartAngle, 284  
lineEditArcStartX, 284  
lineEditArcStartY, 284  
lineEditBlockX, 284  
lineEditBlockY, 284  
lineEditCircleArea, 284  
lineEditCircleCenterX, 284  
lineEditCircleCenterY, 284  
lineEditCircleCircumference, 284  
lineEditCircleDiameter, 284  
lineEditCircleRadius, 284  
lineEditEllipseCenterX, 285  
lineEditEllipseCenterY, 285  
lineEditEllipseDiameterMajor, 285  
lineEditEllipseDiameterMinor, 285  
lineEditEllipseRadiusMajor, 285  
lineEditEllipseRadiusMinor, 285  
lineEditImageHeight, 285  
lineEditImageName, 285  
lineEditImagePath, 285  
lineEditImageWidth, 285  
lineEditImageX, 285  
lineEditImageY, 286  
lineEditInfiniteLineVectorX, 286  
lineEditInfiniteLineVectorY, 286  
lineEditInfiniteLineX1, 286  
lineEditInfiniteLineX2, 286  
lineEditInfiniteLineY1, 286  
lineEditInfiniteLineY2, 286  
lineEditLineAngle, 286  
lineEditLineDeltaX, 286  
lineEditLineDeltaY, 286  
lineEditLineEndX, 286  
lineEditLineEndY, 287  
lineEditLineLength, 287  
lineEditLineStartX, 287  
lineEditLineStartY, 287  
lineEditPathArea, 287  
lineEditPathLength, 287  
lineEditPathVertexX, 287  
lineEditPathVertexY, 287  
lineEditPointX, 287  
lineEditPointY, 287  
lineEditPolygonCenterX, 287  
lineEditPolygonCenterY, 288  
lineEditPolygonDiameterSide, 288  
lineEditPolygonDiameterVertex, 288  
lineEditPolygonInteriorAngle, 288  
lineEditPolygonRadiusSide, 288  
lineEditPolygonRadiusVertex, 288  
lineEditPolylineArea, 288  
lineEditPolylineLength, 288  
lineEditPolylineVertexX, 288  
lineEditPolylineVertexY, 288  
lineEditRayVectorX, 288  
lineEditRayVectorY, 289  
lineEditRayX1, 289  
lineEditRayX2, 289  
lineEditRayY1, 289  
lineEditRayY2, 289  
lineEditRectangleArea, 289  
lineEditRectangleCorner1X, 289  
lineEditRectangleCorner1Y, 289  
lineEditRectangleCorner2X, 289  
lineEditRectangleCorner2Y, 289  
lineEditRectangleCorner3X, 289  
lineEditRectangleCorner3Y, 290  
lineEditRectangleCorner4X, 290  
lineEditRectangleCorner4Y, 290  
lineEditRectangleHeight, 290  
lineEditRectangleWidth, 290  
lineEditTextMultiX, 290  
lineEditTextMultiY, 290  
lineEditTextSingleContents, 290  
lineEditTextSingleHeight, 290  
lineEditTextSingleRotation, 290  
lineEditTextSingleX, 290  
lineEditTextSingleY, 291  
mapSignal, 276  
pickAdd, 291  
pickAddModeToggled, 276  
precisionAngle, 291  
precisionLength, 291  
PropertyEditor, 272  
propertyEditorButtonStyle, 291  
selectedItemList, 291  
setSelectedItems, 276  
showGroups, 277  
showOneType, 277  
signalMapper, 291  
tempArcObj, 291  
tempBlockObj, 291  
tempCircleObj, 291  
tempDimAlignedObj, 291  
tempDimAngularObj, 292  
tempDimArcLenObj, 292  
tempDimDiamObj, 292  
tempDimLeaderObj, 292  
tempDimLinearObj, 292  
tempDimOrdObj, 292  
tempDimRadiusObj, 292  
tempEllipseArcObj, 292

tempEllipseObj, 292  
tempHatchObj, 292  
tempImageObj, 292  
tempInflLineObj, 293  
tempLineObj, 293  
tempPathObj, 293  
tempPointObj, 293  
tempPolygonObj, 293  
tempPolylineObj, 293  
tempRayObj, 293  
tempRectObj, 293  
tempSplineObj, 293  
tempTextMultiObj, 293  
tempTextSingleObj, 293  
togglePickAddMode, 277  
toolButtonArcArea, 294  
toolButtonArcCenterX, 294  
toolButtonArcCenterY, 294  
toolButtonArcChord, 294  
toolButtonArcClockwise, 294  
toolButtonArcEndAngle, 294  
toolButtonArcEndX, 294  
toolButtonArcEndY, 294  
toolButtonArcIncAngle, 294  
toolButtonArcLength, 294  
toolButtonArcRadius, 294  
toolButtonArcStartAngle, 295  
toolButtonArcStartX, 295  
toolButtonArcStartY, 295  
toolButtonBlockX, 295  
toolButtonBlockY, 295  
toolButtonCircleArea, 295  
toolButtonCircleCenterX, 295  
toolButtonCircleCenterY, 295  
toolButtonCircleCircumference, 295  
toolButtonCircleDiameter, 295  
toolButtonCircleRadius, 295  
toolButtonEllipseCenterX, 296  
toolButtonEllipseCenterY, 296  
toolButtonEllipseDiameterMajor, 296  
toolButtonEllipseDiameterMinor, 296  
toolButtonEllipseRadiusMajor, 296  
toolButtonEllipseRadiusMinor, 296  
toolButtonGeneralColor, 296  
toolButtonGeneralLayer, 296  
toolButtonGeneralLineType, 296  
toolButtonGeneralLineWidth, 296  
toolButtonImageHeight, 296  
toolButtonImageName, 297  
toolButtonImagePath, 297  
toolButtonImageWidth, 297  
toolButtonImageX, 297  
toolButtonImageY, 297  
toolButtonInfiniteLineVectorX, 297  
toolButtonInfiniteLineVectorY, 297  
toolButtonInfiniteLineX1, 297  
toolButtonInfiniteLineX2, 297  
toolButtonInfiniteLineY1, 297  
toolButtonInfiniteLineY2, 297  
toolButtonLineAngle, 298  
toolButtonLineDeltaX, 298  
toolButtonLineDeltaY, 298  
toolButtonLineEndX, 298  
toolButtonLineEndY, 298  
toolButtonLineLength, 298  
toolButtonLineStartX, 298  
toolButtonLineStartY, 298  
toolButtonPathArea, 298  
toolButtonPathClosed, 298  
toolButtonPathLength, 298  
toolButtonPathVertexNum, 299  
toolButtonPathVertexX, 299  
toolButtonPathVertexY, 299  
toolButtonPickAdd, 299  
toolButtonPointX, 299  
toolButtonPointY, 299  
toolButtonPolygonCenterX, 299  
toolButtonPolygonCenterY, 299  
toolButtonPolygonDiameterSide, 299  
toolButtonPolygonDiameterVertex, 299  
toolButtonPolygonInteriorAngle, 299  
toolButtonPolygonRadiusSide, 300  
toolButtonPolygonRadiusVertex, 300  
toolButtonPolylineArea, 300  
toolButtonPolylineClosed, 300  
toolButtonPolylineLength, 300  
toolButtonPolylineVertexNum, 300  
toolButtonPolylineVertexX, 300  
toolButtonPolylineVertexY, 300  
toolButtonQSelect, 300  
toolButtonRayVectorX, 300  
toolButtonRayVectorY, 300  
toolButtonRayX1, 301  
toolButtonRayX2, 301  
toolButtonRayY1, 301  
toolButtonRayY2, 301  
toolButtonRectangleArea, 301  
toolButtonRectangleCorner1X, 301  
toolButtonRectangleCorner1Y, 301  
toolButtonRectangleCorner2X, 301  
toolButtonRectangleCorner2Y, 301  
toolButtonRectangleCorner3X, 301  
toolButtonRectangleCorner3Y, 301  
toolButtonRectangleCorner4X, 302  
toolButtonRectangleCorner4Y, 302  
toolButtonRectangleHeight, 302  
toolButtonRectangleWidth, 302  
toolButtonTextMultiX, 302  
toolButtonTextMultiY, 302  
toolButtonTextSingleBackward, 302  
toolButtonTextSingleContents, 302  
toolButtonTextSingleFont, 302  
toolButtonTextSingleHeight, 302  
toolButtonTextSingleJustify, 302  
toolButtonTextSingleRotation, 303  
toolButtonTextSingleUpsideDown, 303

toolButtonTextSingleX, 303  
 toolButtonTextSingleY, 303  
 updateComboBoxBoolIfVaries, 277  
 updateComboBoxStrIfVaries, 277  
 updateFontComboBoxStrIfVaries, 277  
 updateLineEditNumIfVaries, 277  
 updateLineEditStrIfVaries, 277  
 updatePickAddModeButton, 278  
 propertyEditorButtonStyle  
     PropertyEditor, 291  
  
 qsnap\_aperture\_size  
     Settings\_, 325  
 qsnap\_apparent  
     Settings\_, 325  
 qsnap\_center  
     Settings\_, 325  
 qsnap\_enabled  
     Settings\_, 325  
 qsnap\_endpoint  
     Settings\_, 325  
 qsnap\_extension  
     Settings\_, 325  
 qsnap\_insertion  
     Settings\_, 325  
 qsnap\_intersection  
     Settings\_, 325  
 qsnap\_locator\_color  
     Settings\_, 325  
 qsnap\_locator\_size  
     Settings\_, 326  
 qsnap\_midpoint  
     Settings\_, 326  
 qsnap\_mode  
     View\_, 419  
 qsnap\_nearest  
     Settings\_, 326  
 qsnap\_node  
     Settings\_, 326  
 qsnap\_parallel  
     Settings\_, 326  
 qsnap\_perpendicular  
     Settings\_, 326  
 qsnap\_quadrant  
     Settings\_, 326  
 qsnap\_tangent  
     Settings\_, 326  
 qSnapActive  
     View, 415  
 qsnapApertureSize  
     View, 415  
 qsnapLocatorColor  
     View, 415  
 qsnapLocatorSize  
     View, 415  
 qSnapToggle  
     View, 415  
 qtrack\_mode  
     View\_, 419  
  
 QUADTOCONTROL  
     embroidery\_internal.h, 741  
 QUADTOEND  
     embroidery\_internal.h, 741  
 quickleader\_click  
     imgui\_main.c, 538  
 quickleader\_main  
     imgui\_main.c, 538  
 quickleader\_prompt  
     imgui\_main.c, 539  
 quit  
     MainWindow, 203  
  
 r  
     EmbColor\_, 121  
 radians  
     BaseObject, 69  
     embroidery.h, 713  
     functions.c, 870  
     UndoableRotateCommand, 392  
     View, 407  
 radius  
     EmbCircle\_, 120  
     EmbEllipse\_, 124  
     EmbRect\_, 136  
 random\_uniform  
     imgui\_main.c, 539  
 rapidFireEnabled  
     CmdPromptInput, 98  
 rapidMoveActive  
     View, 415  
 ray\_action  
     imgui\_main.c, 539  
 read100  
     embroidery\_internal.h, 762  
     format\_100.c, 809  
 read10o  
     embroidery\_internal.h, 762  
     format\_10o.c, 810  
 read\_bool\_setting  
     imgui\_main.c, 539  
 read\_dictionary\_setting  
     imgui\_main.c, 539  
 read\_hoop  
     format\_jef.c, 829  
 read\_int\_setting  
     imgui\_main.c, 539  
 read\_settings  
     imgui\_main.c, 539  
 read\_str\_setting  
     imgui\_main.c, 540  
 readArt  
     embroidery\_internal.h, 763  
     format\_art.c, 810  
 readBmc  
     embroidery\_internal.h, 763  
     format\_bmc.c, 811  
 readBro  
     embroidery\_internal.h, 763

format\_bro.c, 811  
readCnd  
embroidery\_internal.h, 763  
format\_cnd.c, 812  
readCol  
embroidery\_internal.h, 763  
format\_col.c, 812  
readCsd  
embroidery\_internal.h, 763  
format\_csd.c, 814  
readCsv  
embroidery\_internal.h, 763  
format\_csv.c, 815  
readDat  
embroidery\_internal.h, 763  
format\_dat.c, 816  
readDem  
embroidery\_internal.h, 764  
format\_dem.c, 816  
readDescriptions  
embroidery\_internal.h, 764  
format\_pes.c, 839  
readDsb  
embroidery\_internal.h, 764  
format\_dsb.c, 817  
readDst  
embroidery\_internal.h, 764  
format\_dst.c, 818  
readDsz  
embroidery\_internal.h, 764  
format\_dsz.c, 819  
readDxf  
embroidery\_internal.h, 764  
format\_dxf.c, 819  
readEdr  
embroidery\_internal.h, 764  
format\_edr.c, 820  
readEmd  
embroidery\_internal.h, 764  
format\_emd.c, 821  
reader\_state  
EmbFormatList\_, 125  
readExp  
embroidery\_internal.h, 765  
format\_exp.c, 821  
readExy  
embroidery\_internal.h, 765  
format\_exy.c, 822  
readEys  
embroidery\_internal.h, 765  
format\_eyc.c, 823  
readFeatherPatterns  
embroidery\_internal.h, 765  
format\_pes.c, 840  
readFullSector  
embroidery\_internal.h, 765  
main.c, 890  
readFxy  
embroidery\_internal.h, 765  
format\_fxy.c, 823  
readGc  
embroidery\_internal.h, 766  
format\_gc.c, 824  
readGnc  
embroidery\_internal.h, 766  
format\_gnc.c, 824  
readGt  
embroidery\_internal.h, 766  
format\_gt.c, 825  
readHoopName  
embroidery\_internal.h, 766  
format\_pes.c, 840  
readHus  
embroidery\_internal.h, 766  
format\_hus.c, 826  
readImageString  
embroidery\_internal.h, 766  
format\_pes.c, 840  
readInb  
embroidery\_internal.h, 766  
format\_inb.c, 827  
readInf  
embroidery\_internal.h, 766  
format\_inf.c, 827  
readJef  
embroidery\_internal.h, 767  
format\_jef.c, 829  
readKsm  
embroidery\_internal.h, 767  
format\_ksm.c, 829  
readLine  
format\_dxf.c, 819  
readMax  
embroidery\_internal.h, 767  
format\_max.c, 830  
readMit  
embroidery\_internal.h, 767  
format\_mit.c, 831  
readMotifPatterns  
embroidery\_internal.h, 767  
format\_pes.c, 840  
readNew  
embroidery\_internal.h, 767  
format\_new.c, 832  
readNextSector  
embroidery\_internal.h, 767  
main.c, 891  
readOfm  
embroidery\_internal.h, 768  
format\_ofm.c, 833  
readPcd  
embroidery\_internal.h, 768  
format\_pcd.c, 834  
readPcm  
embroidery\_internal.h, 768  
format\_pcm.c, 834

readPcq  
    embroidery\_internal.h, 768  
    format\_pcq.c, 835

readPcs  
    embroidery\_internal.h, 768  
    format\_pcs.c, 835

readPec  
    embroidery\_internal.h, 768  
    format\_pec.c, 837

readPecStitches  
    embroidery\_internal.h, 768  
    format\_pec.c, 837

readPel  
    embroidery\_internal.h, 768  
    format\_pel.c, 838

readPem  
    embroidery\_internal.h, 769  
    format\_pem.c, 838

readPes  
    embroidery\_internal.h, 769  
    format\_pes.c, 840

readPESHeaderV10  
    embroidery\_internal.h, 769  
    format\_pes.c, 840

readPESHeaderV5  
    embroidery\_internal.h, 769  
    format\_pes.c, 840

readPESHeaderV6  
    embroidery\_internal.h, 769  
    format\_pes.c, 840

readPESHeaderV7  
    embroidery\_internal.h, 769  
    format\_pes.c, 841

readPESHeaderV8  
    embroidery\_internal.h, 769  
    format\_pes.c, 841

readPESHeaderV9  
    embroidery\_internal.h, 769  
    format\_pes.c, 841

readPhb  
    embroidery\_internal.h, 770  
    format\_phb.c, 842

readPhc  
    embroidery\_internal.h, 770  
    format\_phc.c, 843

readPlt  
    embroidery\_internal.h, 770  
    format\_plt.c, 843

readProgrammableFills  
    embroidery\_internal.h, 770  
    format\_pes.c, 841

readRgb  
    embroidery\_internal.h, 770  
    format\_rgb.c, 844

readSettings  
    MainWindow, 203

readSew  
    embroidery\_internal.h, 770

    format\_sew.c, 844

readShv  
    embroidery\_internal.h, 770  
    format\_shv.c, 845

readSst  
    embroidery\_internal.h, 770  
    format\_sst.c, 846

readStx  
    embroidery\_internal.h, 771  
    format\_stx.c, 847

readSvg  
    embroidery\_internal.h, 771  
    format\_svg.c, 848

readT01  
    embroidery\_internal.h, 771  
    format\_t01.c, 849

readT09  
    embroidery\_internal.h, 771  
    format\_t09.c, 850

readTap  
    embroidery\_internal.h, 771  
    format.tap.c, 850

readThr  
    embroidery\_internal.h, 771  
    format\_thr.c, 851

readThreads  
    embroidery\_internal.h, 771  
    format\_pes.c, 841

readTxt  
    embroidery\_internal.h, 771  
    format\_txt.c, 852

readU00  
    embroidery\_internal.h, 772  
    format\_u00.c, 852

readU01  
    embroidery\_internal.h, 772  
    format\_u01.c, 853

readVip  
    embroidery\_internal.h, 772  
    format\_vip.c, 854

readVp3  
    embroidery\_internal.h, 772  
    format\_vp3.c, 856

readXxx  
    embroidery\_internal.h, 772  
    format\_xxx.c, 857

readZsk  
    embroidery\_internal.h, 772  
    format\_zsk.c, 858

real\_render  
    View\_, 419

real\_render\_pattern  
    imgui\_main.c, 540

realRender  
    BaseObject, 70

recalculateLimits  
    imgui\_main.c, 540  
    View, 407

recentMenu  
    MainWindow, 222  
recentMenuAboutToShow  
    imgui\_main.c, 540  
    MainWindow, 203  
rect  
    BaseObject, 70  
    EmbGeometry\_, 127  
rect.c  
    embRect\_area, 871  
    embRect\_init, 871  
rectangle\_action  
    imgui\_main.c, 540  
rectangle\_click  
    imgui\_main.c, 540  
rectangle\_main  
    imgui\_main.c, 540  
rectangle\_prompt  
    imgui\_main.c, 541  
RECTANGULAR\_GRID  
    imgui\_main.c, 488  
RectObject, 303  
    ~RectObject, 305  
    allGripPoints, 305  
    gripEdit, 305  
    init, 306  
    mouseSnapPoint, 306  
    objectArea, 306  
    objectBottomLeft, 306  
    objectBottomRight, 306  
    objectHeight, 306  
    objectPos, 306  
    objectSavePath, 306  
    objectTopLeft, 306  
    objectTopRight, 307  
    objectWidth, 307  
    paint, 307  
    RectObject, 305  
    setObjectRect, 307  
    Type, 305  
    type, 307  
    updatePath, 307  
    updateRubber, 307  
    vulcanize, 307  
RED\_TERM\_COLOR  
    embroidery\_internal.h, 741  
redo  
    MainWindow, 203  
    UndoableAddCommand, 384  
    UndoableDeleteCommand, 385  
    UndoableGripEditCommand, 386  
    UndoableMirrorCommand, 388  
    UndoableMoveCommand, 389  
    UndoableNavCommand, 391  
    UndoableRotateCommand, 393  
    UndoableScaleCommand, 394  
    UndoEditor, 396  
redo\_action  
    imgui\_main.c, 541  
redo\_navigation  
    imgui\_main.c, 541  
redoPressed  
    CmdPrompt, 84  
    CmdPromptInput, 96  
redoText  
    UndoEditor, 396  
rejectChanges  
    Settings\_Dialog, 346  
releasePoint  
    View, 416  
releaseResizeHistory  
    CmdPromptSplitter, 100  
releaseY  
    CmdPromptHandle, 89  
render\_pattern  
    imgui\_main.c, 541  
render\_shine  
    imgui\_main.c, 541  
RENDER\_TEXT\_EDITOR  
    imgui\_main.c, 488  
RENDER\_UI  
    imgui\_main.c, 489  
repeat\_action  
    imgui\_main.c, 541  
repeatAction  
    View, 407  
report  
    embroidery.h, 713  
reserved  
    ThredExtension\_, 379  
    ThredHeader\_, 379  
reserved1  
    \_bcf\_file\_header, 53  
reserved2  
    \_bcf\_file\_header, 53  
RESET\_TERM\_COLOR  
    embroidery\_internal.h, 741  
resize\_event  
    imgui\_main.c, 541  
resizeEvent  
    MainWindow, 203  
resizeHistory  
    CmdPromptHistory, 91  
resizeTheHistory  
    CmdPrompt, 84  
reverse\_byte\_order  
    encoding.c, 793  
rgb\_main  
    imgui\_main.c, 542  
RGB\_MODE\_BACKGROUND  
    imgui\_main.c, 489  
RGB\_MODE\_CROSSHAIR  
    imgui\_main.c, 489  
RGB\_MODE\_GRID  
    imgui\_main.c, 489  
rgb\_prompt

imgui\_main.c, 542  
 right  
   \_vp3Hoop, 55  
   EmbRect\_, 136  
   hoop\_padding, 142  
 right2  
   \_vp3Hoop, 55  
 rightBrush  
   SelectBox, 315  
 rightBrushColor  
   SelectBox, 315  
 rightPen  
   SelectBox, 315  
 rightPenColor  
   SelectBox, 316  
 rightSiblingId  
   \_bcf\_directory\_entry, 48  
 RobisonAnton\_Polyester  
   embroidery.h, 680  
 RobisonAnton\_Rayon  
   embroidery.h, 680  
 rotate  
   imgui\_main.c, 542  
   UndoableRotateCommand, 393  
 rotate\_click  
   imgui\_main.c, 542  
 rotate\_main  
   imgui\_main.c, 542  
 ROTATE\_MODE\_NORMAL  
   imgui\_main.c, 489  
 ROTATE\_MODE\_REFERENCE  
   imgui\_main.c, 489  
 rotate\_prompt  
   imgui\_main.c, 542  
 rotate\_selected\_action  
   imgui\_main.c, 542  
 rotateAction  
   imgui\_main.c, 543  
   View, 407  
 rotateSelected  
   imgui\_main.c, 543  
   View, 408  
 rotation  
   EmbEllipse\_, 124  
   EmbRect\_, 136  
   UiObject\_, 382  
 rounded\_rectangle\_action  
   imgui\_main.c, 543  
 roundToMultiple  
   imgui\_main.c, 543  
   View, 408  
 rubber\_mode  
   View\_, 419  
 RUBBER\_MODES  
   imgui\_main.c, 489  
 rubber\_point\_action  
   imgui\_main.c, 543  
 RUBBER\_ROOM  
   object-data.h, 614  
 rubber\_text\_action  
   imgui\_main.c, 543  
 rubberRoomList  
   View, 416  
 ruler\_color  
   Settings\_, 326  
 ruler\_metric  
   Settings\_, 326  
 ruler\_mode  
   View\_, 419  
 ruler\_pixel\_size  
   Settings\_, 326  
 ruler\_show\_on\_load  
   Settings\_, 327  
 ruler\_width  
   Settings\_, 327  
 rulerColor  
   View, 416  
 rulerMetric  
   View, 416  
 rulerPixelSize  
   View, 416  
 rules  
   fill.c, 802  
   LSYSTEM, 158  
 run\_script  
   imgui\_main.c, 544  
 runCommand  
   CmdPrompt, 84  
   CmdPromptInput, 96  
   MainWindow, 203  
 runCommandClick  
   MainWindow, 203  
 runCommandContext  
   MainWindow, 203  
 runCommandMain  
   MainWindow, 203  
 runCommandMove  
   MainWindow, 203  
 runCommandPrompt  
   MainWindow, 204  
 running  
   Settings\_, 327  
 safe\_free  
   embroidery\_internal.h, 772  
   formats.c, 808  
 same\_line  
   gui\_backend.cpp, 437  
   gui\_backend.h, 449  
 sandbox\_click  
   imgui\_main.c, 544  
 sandbox\_main  
   imgui\_main.c, 544  
 sandbox\_prompt  
   imgui\_main.c, 544  
 save  
   ImageWidget, 149

SaveObject, 312  
save\_as\_file\_action  
    imgui\_main.c, 545  
save\_bmc  
    imgui\_main.c, 545  
save\_points\_to\_pattern  
    fill.c, 801  
save\_save  
    imgui\_main.c, 545  
save\_toPolyline  
    imgui\_main.c, 545  
saveasfile  
    MainWindow, 204  
saveBMC  
    MdiWindow, 242  
saveFile  
    MdiWindow, 242  
savefile  
    MainWindow, 204  
saveHistory  
    CmdPrompt, 84  
SaveObject, 308  
    ~SaveObject, 309  
    addArc, 309  
    addBlock, 309  
    addCircle, 309  
    addDimAligned, 309  
    addDimAngular, 309  
    addDimArcLength, 309  
    addDimDiameter, 309  
    addDimLeader, 310  
    addDimLinear, 310  
    addDimOrdinate, 310  
    addDimRadius, 310  
    addEllipse, 310  
    addEllipseArc, 310  
    addGrid, 310  
    addHatch, 310  
    addImage, 311  
    addInfiniteLine, 311  
    addLine, 311  
    addPath, 311  
    addPoint, 311  
    addPolygon, 311  
    addPolyline, 311  
    addRay, 311  
    addRectangle, 312  
    addSlot, 312  
    addSpline, 312  
    addTextMulti, 312  
    addTextSingle, 312  
    formatType, 313  
gscene, 313  
save, 312  
SaveObject, 308  
toPolyline, 312  
scale  
    UiObject\_, 382  
    View\_, 419  
scale\_action  
    imgui\_main.c, 546  
scale\_click  
    imgui\_main.c, 546  
scale\_main  
    imgui\_main.c, 546  
SCALE\_MODE\_NORMAL  
    imgui\_main.c, 489  
SCALE\_MODE\_REFERENCE  
    imgui\_main.c, 489  
scale\_prompt  
    imgui\_main.c, 546  
scale\_redo  
    imgui\_main.c, 546  
scale\_selected\_action  
    imgui\_main.c, 547  
scale\_undo  
    imgui\_main.c, 547  
scaleAction  
    imgui\_main.c, 547  
    View, 408  
scaleSelected  
    imgui\_main.c, 547  
    View, 408  
SCENE\_MOUSE\_POINT  
    object-data.h, 614  
SCENE\_QSNAP\_POINT  
    object-data.h, 615  
sceneGripPoint  
    View, 416  
sceneMousePoint  
    View, 416  
sceneMovePoint  
    View, 416  
scenePressPoint  
    View, 416  
sceneReleasePoint  
    View, 416  
second  
    EmbTime\_, 141  
sectionName  
    StxThread\_, 366  
sectorShift  
    \_bcf\_file\_header, 53  
sectorSize  
    \_bcf\_file\_difat, 50  
    main.c, 891  
seekToSector  
    main.c, 891  
selectable  
    gui\_backend.cpp, 437  
    gui\_backend.h, 449  
    UiObject\_, 382  
selectAll  
    MainWindow, 204  
    View, 408  
selectAllPressed

CmdPrompt, 84  
 CmdPromptInput, 97  
**SelectBox**, 313  
 alpha, 315  
 boxDir, 315  
 dirBrush, 315  
 dirPen, 315  
 forceRepaint, 314  
 leftBrush, 315  
 leftBrushColor, 315  
 leftPen, 315  
 leftPenColor, 315  
 paintEvent, 314  
 rightBrush, 315  
 rightBrushColor, 315  
 rightPen, 315  
 rightPenColor, 316  
**SelectBox**, 314  
 setColors, 314  
 setDirection, 314  
**selectBox**  
 View, 416  
**selectbox\_paintEvent**  
 imgui\_main.c, 547  
**selectbox\_SelectBox**  
 imgui\_main.c, 547  
**selectbox\_set\_colors**  
 imgui\_main.c, 547  
**selectbox\_setDirection**  
 imgui\_main.c, 548  
**selected**  
 View, 419  
**selectedItemList**  
 PropertyEditor, 291  
**selectingActive**  
 View, 417  
**selection\_changed**  
 imgui\_main.c, 548  
**selection\_coolgrip\_color**  
 Settings, 327  
**selection\_grip\_size**  
 Settings, 327  
**selection\_hotgrip\_color**  
 Settings, 327  
**selection\_mode\_pickadd**  
 Settings, 327  
**selection\_mode\_pickdrag**  
 Settings, 327  
**selection\_mode\_pickfirst**  
 Settings, 327  
**selection\_pickbox\_size**  
 Settings, 327  
**selectionChanged**  
 View, 408  
**sendCloseMdiWin**  
 MdiWindow, 242  
**SEQUIN**  
 embroidery.h, 680  
**set\_column\_width**  
 gui\_backend.cpp, 437  
 gui\_backend.h, 450  
**set\_crosshair\_color**  
 imgui\_main.c, 548  
**set\_current\_file**  
 imgui\_main.c, 548  
**set\_cursor\_shape\_action**  
 imgui\_main.c, 548  
**set\_dst\_variable**  
 format\_dst.c, 818  
**set\_grid\_color**  
 imgui\_main.c, 548  
**set\_mouse\_coord**  
 imgui\_main.c, 549  
**set\_object\_color**  
 arc.c, 865  
**set\_prompt\_prefix**  
 imgui\_main.c, 549  
**set\_rubber\_mode\_action**  
 imgui\_main.c, 549  
**set\_rubber\_point**  
 imgui\_main.c, 549  
**set\_rubber\_text**  
 imgui\_main.c, 549  
**set\_style**  
 gui\_backend.cpp, 438  
 gui\_backend.h, 450  
**set\_view\_background\_color**  
 imgui\_main.c, 550  
**set\_view\_crosshair\_color**  
 imgui\_main.c, 550  
**set\_view\_selectbox\_colors**  
 imgui\_main.c, 550  
**set\_viewGridColor**  
 imgui\_main.c, 550  
**set\_viewRulerColor**  
 imgui\_main.c, 550  
**setBackgroundColor**  
 imgui\_main.c, 550  
 MdiArea, 236  
 View, 408  
**setBackgroundColor\_**  
 imgui\_main.c, 550  
**setBackgroundLogo**  
 MdiArea, 236  
**setBackgroundTexture**  
 MdiArea, 236  
**setColors**  
 SelectBox, 314  
**setCornerButton**  
 imgui\_main.c, 550  
 View, 408  
**setCrossHairColor**  
 imgui\_main.c, 551  
 View, 408  
**setCrossHairSize**  
 imgui\_main.c, 551

View, 409  
setCurrentColor  
    MdiWindow, 242  
setCurrentFile  
    MdiWindow, 242  
setCurrentLayer  
    MdiWindow, 242  
setCurrentLineType  
    MdiWindow, 242  
setCurrentLineWeight  
    MdiWindow, 242  
setCurrentText  
    CmdPrompt, 84  
setDirection  
    SelectBox, 314  
setGridColor  
    imgui\_main.c, 551  
    View, 409  
setHistory  
    CmdPrompt, 84  
setLine  
    BaseObject, 70  
setMainWin  
    Application, 57  
setMouseCoord  
    StatusBar, 361  
setObjectArea  
    CircleObject, 77  
setObjectCenter  
    ArcObject, 63  
    CircleObject, 77  
    EllipseObject, 114  
setObjectCenterX  
    ArcObject, 64  
    CircleObject, 77  
    EllipseObject, 115  
setObjectCenterY  
    ArcObject, 64  
    CircleObject, 77  
    EllipseObject, 115  
setObjectCircumference  
    CircleObject, 77  
setObjectColor  
    BaseObject, 70  
setObjectColorRGB  
    BaseObject, 70  
setObjectDiameter  
    CircleObject, 77  
setObjectDiameterMajor  
    EllipseObject, 115  
setObjectDiameterMinor  
    EllipseObject, 115  
setObjectEndAngle  
    ArcObject, 64  
setObjectEndPoint  
    ArcObject, 64  
setObjectEndPoint1  
    DimLeaderObject, 107  
LineObject, 156  
setObjectEndPoint2  
    DimLeaderObject, 108  
    LineObject, 156  
setObjectLineType  
    BaseObject, 70  
setObjectLineWeight  
    BaseObject, 70  
setObjectMidPoint  
    ArcObject, 64  
setObjectPath  
    BaseObject, 70  
setObjectPos  
    PathObject, 249  
    PointObject, 253  
    PolygonObject, 258  
    PolylineObject, 263  
    TextSingleObject, 374  
setObjectRadius  
    ArcObject, 64  
    CircleObject, 78  
setObjectRadiusMajor  
    EllipseObject, 115  
setObjectRadiusMinor  
    EllipseObject, 115  
setObjectRect  
    ImageObject, 147  
    RectObject, 307  
setObjectRubberMode  
    BaseObject, 71  
setObjectRubberPoint  
    BaseObject, 71  
setObjectRubberText  
    BaseObject, 71  
setObjectSize  
    EllipseObject, 115  
setObjectStartAngle  
    ArcObject, 64  
setObjectStartPoint  
    ArcObject, 65  
setObjectText  
    TextSingleObject, 374  
setObjectTextBackward  
    TextSingleObject, 374  
setObjectTextBold  
    TextSingleObject, 374  
setObjectTextFont  
    TextSingleObject, 374  
setObjectTextItalic  
    TextSingleObject, 374  
setObjectTextJustify  
    TextSingleObject, 374  
setObjectTextOverline  
    TextSingleObject, 375  
setObjectTextSize  
    TextSingleObject, 375  
setObjectTextStrikeOut  
    TextSingleObject, 375

setObjectTextStyle  
    TextSingleObject, 375  
setObjectTextUnderline  
    TextSingleObject, 375  
setObjectTextUpsideDown  
    TextSingleObject, 375  
setObjectX  
    PathObject, 249  
    PointObject, 253  
    PolygonObject, 258  
    PolylineObject, 263  
    TextSingleObject, 375  
setObjectX1  
    DimLeaderObject, 108  
    LineObject, 156  
setObjectX2  
    DimLeaderObject, 108  
    LineObject, 156  
setObjectY  
    PathObject, 249  
    PointObject, 254  
    PolygonObject, 258  
    PolylineObject, 263  
    TextSingleObject, 375  
setObjectY1  
    DimLeaderObject, 108  
    LineObject, 157  
setObjectY2  
    DimLeaderObject, 108  
    LineObject, 157  
setPrefix  
    CmdPrompt, 85  
setPromptBackgroundColor  
    CmdPrompt, 85  
setPromptFontFamily  
    CmdPrompt, 85  
setPromptFontSize  
    CmdPrompt, 85  
setPromptFontStyle  
    CmdPrompt, 85  
setPromptTextColor  
    CmdPrompt, 85  
setRect  
    BaseObject, 71  
setRubberMode  
    imgui\_main.c, 551  
    View, 409  
setRubberPoint  
    imgui\_main.c, 551  
    View, 409  
setRubberText  
    imgui\_main.c, 551  
    View, 409  
setRulerColor  
    imgui\_main.c, 551  
    View, 409  
setSelectBoxColors  
    imgui\_main.c, 551

        View, 409  
        PropertyEditor, 276  
setSettingsCustomFilter  
    MainWindow, 204  
setSettingsDisplayBGColor  
    MainWindow, 204  
setSettingsDisplayCrossHairColor  
    MainWindow, 204  
setSettingsDisplayCrossHairPercent  
    MainWindow, 204  
setSettingsDisplayRenderHintAA  
    MainWindow, 204  
setSettingsDisplayRenderHintHighAA  
    MainWindow, 204  
setSettingsDisplayRenderHintNonCosmetic  
    MainWindow, 205  
setSettingsDisplayRenderHintSmoothPix  
    MainWindow, 205  
setSettingsDisplayRenderHintTextAA  
    MainWindow, 205  
setSettingsDisplayScrollBarWidgetNum  
    MainWindow, 205  
setSettingsDisplaySelectBoxAlpha  
    MainWindow, 205  
setSettingsDisplaySelectBoxLeftColor  
    MainWindow, 205  
setSettingsDisplaySelectBoxLeftFill  
    MainWindow, 205  
setSettingsDisplaySelectBoxRightColor  
    MainWindow, 205  
setSettingsDisplaySelectBoxRightFill  
    MainWindow, 205  
setSettingsDisplayShowScrollBars  
    MainWindow, 206  
setSettingsDisplayUnits  
    MainWindow, 206  
setSettingsDisplayUseOpenGL  
    MainWindow, 206  
setSettingsDisplayZoomScaleIn  
    MainWindow, 206  
setSettingsDisplayZoomScaleOut  
    MainWindow, 206  
setSettingsGeneralCheckForUpdates  
    MainWindow, 206  
setSettingsGeneralCurrentTip  
    MainWindow, 206  
setSettingsGeneralIconSize  
    MainWindow, 206  
setSettingsGeneralIconTheme  
    MainWindow, 206  
setSettingsGeneralLanguage  
    MainWindow, 206  
setSettingsGeneralMdiBGColor  
    MainWindow, 207  
setSettingsGeneralMdiBGLogo  
    MainWindow, 207  
setSettingsGeneralMdiBGTexture

MainWindow, 207  
setSettingsGeneralMdiBGUseColor  
    MainWindow, 207  
setSettingsGeneralMdiBGUseLogo  
    MainWindow, 207  
setSettingsGeneralMdiBGUseTexture  
    MainWindow, 207  
setSettingsGeneralSystemHelpBrowser  
    MainWindow, 207  
setSettingsGeneralTipOfTheDay  
    MainWindow, 207  
setSettingsGridCenterOnOrigin  
    MainWindow, 207  
setSettingsGridCenterX  
    MainWindow, 207  
setSettingsGridCenterY  
    MainWindow, 208  
setSettingsGridColor  
    MainWindow, 208  
setSettingsGridColorMatchCrossHair  
    MainWindow, 208  
setSettingsGridLoadFromFile  
    MainWindow, 208  
setSettingsGridShowOnLoad  
    MainWindow, 208  
setSettingsGridShowOrigin  
    MainWindow, 208  
setSettingsGridSizeRadius  
    MainWindow, 208  
setSettingsGridSizeX  
    MainWindow, 208  
setSettingsGridSizeY  
    MainWindow, 208  
setSettingsGridSpacingAngle  
    MainWindow, 208  
setSettingsGridSpacingRadius  
    MainWindow, 209  
setSettingsGridSpacingX  
    MainWindow, 209  
setSettingsGridSpacingY  
    MainWindow, 209  
setSettingsGridType  
    MainWindow, 209  
setSettingsLwtDefaultLwt  
    MainWindow, 209  
setSettingsLwtRealRender  
    MainWindow, 209  
setSettingsLwtShowLwt  
    MainWindow, 209  
setSettingsOpenFormat  
    MainWindow, 209  
setSettingsOpenSaveTrimDstNumJumps  
    MainWindow, 209  
setSettingsOpenThumbnail  
    MainWindow, 209  
setSettingsPrintingDefaultDevice  
    MainWindow, 210  
setSettingsPrintingDisableBG  
    MainWindow, 210  
setSettingsPrintingUseLastDevice  
    MainWindow, 210  
setSettingsPromptBGCOLOR  
    MainWindow, 210  
setSettingsPromptFontFamily  
    MainWindow, 210  
setSettingsPromptFontSize  
    MainWindow, 210  
setSettingsPromptFontStyle  
    MainWindow, 210  
setSettingsPromptSaveHistory  
    MainWindow, 210  
setSettingsPromptSaveHistoryAsHTML  
    MainWindow, 210  
setSettingsPromptSaveHistoryFilename  
    MainWindow, 210  
setSettingsPromptTextColor  
    MainWindow, 211  
setSettingsQSnapApertureSize  
    MainWindow, 211  
setSettingsQSnapApparent  
    MainWindow, 211  
setSettingsQSnapCenter  
    MainWindow, 211  
setSettingsQSnapEnabled  
    MainWindow, 211  
setSettingsQSnapEndPoint  
    MainWindow, 211  
setSettingsQSnapExtension  
    MainWindow, 211  
setSettingsQSnapInsertion  
    MainWindow, 211  
setSettingsQSnapIntersection  
    MainWindow, 211  
setSettingsQSnapLocatorColor  
    MainWindow, 211  
setSettingsQSnapLocatorSize  
    MainWindow, 212  
setSettingsQSnapMidPoint  
    MainWindow, 212  
setSettingsQSnapNearest  
    MainWindow, 212  
setSettingsQSnapNode  
    MainWindow, 212  
setSettingsQSnapParallel  
    MainWindow, 212  
setSettingsQSnapPerpendicular  
    MainWindow, 212  
setSettingsQSnapQuadrant  
    MainWindow, 212  
setSettingsQSnapTangent  
    MainWindow, 212  
setSettingsRecentMaxFiles  
    MainWindow, 212  
setSettingsRulerColor  
    MainWindow, 212  
setSettingsRulerMetric

MainWindow, 213  
 setSettingsRulerPixelSize  
     MainWindow, 213  
 setSettingsRulerShowOnLoad  
     MainWindow, 213  
 setSettingsSaveFormat  
     MainWindow, 213  
 setSettingsSaveThumbnail  
     MainWindow, 213  
 setSettingsSelectionCoolGripColor  
     MainWindow, 213  
 setSettingsSelectionGripSize  
     MainWindow, 213  
 setSettingsSelectionHotGripColor  
     MainWindow, 213  
 setSettingsSelectionModePickAdd  
     MainWindow, 213  
 setSettingsSelectionModePickDrag  
     MainWindow, 213  
 setSettingsSelectionModePickFirst  
     MainWindow, 214  
 setSettingsSelectionPickBoxSize  
     MainWindow, 214  
 setSettingsTextAngle  
     MainWindow, 214  
 setSettingsTextFont  
     MainWindow, 214  
 setSettingsTextSize  
     MainWindow, 214  
 setSettingsTextStyleBold  
     MainWindow, 214  
 setSettingsTextStyleItalic  
     MainWindow, 214  
 setSettingsTextStyleOverline  
     MainWindow, 214  
 setSettingsTextStyleStrikeOut  
     MainWindow, 214  
 setSettingsTextStyleUnderline  
     MainWindow, 214  
 setShiftPressed  
     MainWindow, 215  
 setShiftReleased  
     MainWindow, 215  
 setTextAngle  
     MainWindow, 215  
 setTextBold  
     MainWindow, 215  
 setTextFont  
     imgui\_main.c, 552  
     MainWindow, 215  
 setTextItalic  
     MainWindow, 215  
 setTextOverline  
     MainWindow, 215  
 setTextSize  
     imgui\_main.c, 552  
     MainWindow, 215  
 setTextStrikeOut

MainWindow, 215  
 setTextUnderline  
     MainWindow, 215  
 Settings  
     imgui\_main.c, 494  
 settings  
     imgui\_main.c, 575  
 Settings\_, 316  
     assets\_dir, 318  
     current\_directory, 319  
     debug\_mode, 319  
     display\_bg\_color, 319  
     display\_crosshair\_color, 319  
     display\_crosshair\_percent, 319  
     display\_renderhint\_aa, 319  
     display\_renderhint\_high\_aa, 319  
     display\_renderhint\_noncosmetic, 319  
     display\_renderhint\_smooth\_pix, 319  
     display\_renderhint\_text\_aa, 319  
     display\_scrollbar\_widget\_num, 319  
     display\_selectbox\_alpha, 320  
     display\_selectbox\_left\_color, 320  
     display\_selectbox\_left\_fill, 320  
     display\_selectbox\_right\_color, 320  
     display\_selectbox\_right\_fill, 320  
     display\_show\_scrollbars, 320  
     display\_units, 320  
     display\_use\_opengl, 320  
     display\_zoomscale\_in, 320  
     display\_zoomscale\_out, 320  
     general\_check\_for\_updates, 320  
     general\_current\_tip, 321  
     general\_mdi\_bg\_color, 321  
     general\_mdi\_bg\_logo, 321  
     general\_mdi\_bg\_texture, 321  
     general\_system\_help\_browser, 321  
     grid\_center, 321  
     grid\_center\_on\_origin, 321  
     grid\_color, 321  
     grid\_color\_match\_crosshair, 321  
     grid\_load\_from\_file, 321  
     grid\_show\_on\_load, 321  
     grid\_show\_origin, 322  
     grid\_size\_radius, 322  
     grid\_size\_x, 322  
     grid\_size\_y, 322  
     grid\_spacing, 322  
     grid\_spacing\_angle, 322  
     grid\_spacing\_radius, 322  
     grid\_spacing\_x, 322  
     grid\_spacing\_y, 322  
     grid\_type, 322  
     icon\_size, 322  
     icon\_theme, 323  
     language, 323  
     lwt\_default\_lwt, 323  
     lwt\_real\_render, 323  
     lwt\_show\_lwt, 323

major\_tick\_seperation, 323  
mdi\_bg\_use\_color, 323  
mdi\_bg\_use\_logo, 323  
mdi\_bg\_use\_texture, 323  
menu\_action, 323  
needle\_speed, 323  
opensave\_custom\_filter, 324  
opensave\_open\_format, 324  
opensave\_open\_thumbnail, 324  
opensave\_recent\_directory, 324  
opensave\_recent\_list\_of\_files, 324  
opensave\_recent\_max\_files, 324  
opensave\_save\_format, 324  
opensave\_save\_thumbnail, 324  
opensave\_trim\_dst\_num\_jumps, 324  
pattern\_index, 324  
printing\_default\_device, 324  
printing\_disable\_bg, 325  
printing\_use\_last\_device, 325  
qsnap\_aperture\_size, 325  
qsnap\_apparent, 325  
qsnap\_center, 325  
qsnap\_enabled, 325  
qsnap\_endpoint, 325  
qsnap\_extension, 325  
qsnap\_insertion, 325  
qsnap\_intersection, 325  
qsnap\_locator\_color, 325  
qsnap\_locator\_size, 326  
qsnap\_midpoint, 326  
qsnap\_nearest, 326  
qsnap\_node, 326  
qsnap\_parallel, 326  
qsnap\_perpendicular, 326  
qsnap\_quadrant, 326  
qsnap\_tangent, 326  
ruler\_color, 326  
ruler\_metric, 326  
ruler\_pixel\_size, 326  
ruler\_show\_on\_load, 327  
ruler\_width, 327  
running, 327  
selection\_coolgrip\_color, 327  
selection\_grip\_size, 327  
selection\_hotgrip\_color, 327  
selection\_mode\_pickadd, 327  
selection\_mode\_pickdrag, 327  
selection\_mode\_pickfirst, 327  
selection\_pickbox\_size, 327  
shift\_held, 327  
shine\_color, 328  
show\_about\_dialog, 328  
show\_details\_dialog, 328  
show\_editor, 328  
show\_open\_file\_dialog, 328  
show\_settings\_editor, 328  
stitch\_time, 328  
testing, 328  
text\_angle, 328  
text\_font, 328  
text\_size, 328  
text\_style\_bold, 329  
text\_style\_italic, 329  
text\_style\_overline, 329  
text\_style\_strikeout, 329  
text\_style\_underline, 329  
texture\_list, 329  
tick\_depth, 329  
ticks\_color, 329  
tip\_of\_the\_day, 329  
to\_open, 329  
use\_translation, 329  
version, 330  
zoomInLimit, 330  
zoomOutLimit, 330  
Settings\_Dialog, 330  
~Settings\_Dialog, 335  
accept\_display\_bg\_color, 348  
accept\_display\_crosshair\_color, 348  
accept\_display\_selectbox\_left\_color, 349  
accept\_display\_selectbox\_left\_fill, 349  
accept\_display\_selectbox\_right\_color, 349  
accept\_display\_selectbox\_right\_fill, 349  
accept\_general\_mdi\_bg\_color, 349  
accept\_general\_mdi\_bg\_logo, 349  
accept\_general\_mdi\_bg\_texture, 349  
accept\_grid\_color, 349  
accept\_prompt\_bg\_color, 349  
accept\_prompt\_text\_color, 349  
accept\_ruler\_color, 349  
acceptChanges, 336  
addColorsToComboBox, 336  
buttonBox, 350  
buttonCustomFilterClearAll, 336  
buttonCustomFilterClearAllClicked, 336  
buttonCustomFilterSelectAll, 336  
buttonCustomFilterSelectAllClicked, 336  
buttonQSnapClearAll, 336  
buttonQSnapClearAllClicked, 336  
buttonQSnapSelectAll, 336  
buttonQSnapSelectAllClicked, 337  
checkBoxCustomFilterStateChanged, 337  
checkBoxDisableBGStateChanged, 337  
checkBoxGeneralMdiBGUseColorStateChanged,  
337  
checkBoxGeneralMdiBGUseLogoStateChanged,  
337  
checkBoxGeneralMdiBGUseTextureStateChanged,  
337  
checkBoxGridCenterOnOriginStateChanged, 337  
checkBoxGridColorMatchCrossHairStateChanged,  
337  
checkBoxGridLoadFromFileStateChanged, 337  
checkBoxGridShowOnLoadStateChanged, 338  
checkBoxGridShowOriginStateChanged, 338  
checkBoxLwtRealRenderStateChanged, 338

checkBoxLwtShowLwtStateChanged, 338  
checkBoxPromptSaveHistoryAsHtmlStateChanged, 338  
checkBoxPromptSaveHistoryStateChanged, 338  
checkBoxQSnapApparentStateChanged, 338  
checkBoxQSnapCenterStateChanged, 338  
checkBoxQSnapEndPointStateChanged, 338  
checkBoxQSnapExtensionStateChanged, 339  
checkBoxQSnapInsertionStateChanged, 339  
checkBoxQSnapIntersectionStateChanged, 339  
checkBoxQSnapMidPointStateChanged, 339  
checkBoxQSnapNearestStateChanged, 339  
checkBoxQSnapNodeStateChanged, 339  
checkBoxQSnapParallelStateChanged, 339  
checkBoxQSnapPerpendicularStateChanged, 339  
checkBoxQSnapQuadrantStateChanged, 339  
checkBoxQSnapTangentStateChanged, 340  
checkBoxRenderHintAAStateChanged, 340  
checkBoxRenderHintHighAAStateChanged, 340  
checkBoxRenderHintNonCosmeticStateChanged, 340  
checkBoxRenderHintSmoothPixStateChanged, 340  
checkBoxRenderHintTextAAStateChanged, 340  
checkBoxRulerShowOnLoadStateChanged, 340  
checkBoxSelectionModePickAddStateChanged, 340  
checkBoxSelectionModePickDragStateChanged, 340  
checkBoxSelectionModePickFirstStateChanged, 341  
checkBoxShowScrollBarsStateChanged, 341  
checkBoxTipOfTheDayStateChanged, 341  
checkBoxUseOpenGLStateChanged, 341  
chooseDisplayBackgroundColor, 341  
chooseDisplayCrossHairColor, 341  
chooseDisplaySelectBoxLeftColor, 341  
chooseDisplaySelectBoxLeftFill, 341  
chooseDisplaySelectBoxRightColor, 341  
chooseDisplaySelectBoxRightFill, 342  
chooseGeneralMdiBackgroundColor, 342  
chooseGeneralMdiBackgroundLogo, 342  
chooseGeneralMdiBackgroundTexture, 342  
chooseGridColor, 342  
choosePromptBackgroundColor, 342  
choosePromptTextColor, 342  
chooseRulerColor, 342  
comboBoxGridTypeCurrentIndexChanged, 342  
comboBoxIconSizeCurrentIndexChanged, 342  
comboBoxIconThemeCurrentIndexChanged, 343  
comboBoxLanguageCurrentIndexChanged, 343  
comboBoxPromptFontFamilyCurrentIndexChanged, 343  
comboBoxPromptFontSizeCurrentIndexChanged, 343  
comboBoxQSnapLocatorColorCurrentIndexChanged, 343  
comboBoxRulerMetricCurrentIndexChanged, 343  
comboBoxScrollBarWidgetCurrentIndexChanged, 343  
comboBoxSelectionCoolGripColorCurrentIndexChanged, 343  
comboBoxSelectionHotGripColorCurrentIndexChanged, 343  
createTabDisplay, 344  
createTabFilesPaths, 344  
createTabGeneral, 344  
createTabGridRuler, 344  
createTabLineWeight, 344  
createTabOpenSave, 344  
createTabOrthoPolar, 344  
createTabPrinting, 344  
createTabPrompt, 344  
createTabQuickSnap, 344  
createTabQuickTrack, 344  
createTabSelection, 345  
createTabSnap, 345  
currentDisplayBackgroundColorChanged, 345  
currentDisplayCrossHairColorChanged, 345  
currentDisplaySelectBoxLeftColorChanged, 345  
currentDisplaySelectBoxLeftFillChanged, 345  
currentDisplaySelectBoxRightColorChanged, 345  
currentDisplaySelectBoxRightFillChanged, 345  
currentGeneralMdiBackgroundColorChanged, 345  
currentGridColorChanged, 346  
currentPromptBackgroundColorChanged, 346  
currentPromptTextColorChanged, 346  
currentRulerColorChanged, 346  
dialog\_display\_bg\_color, 350  
dialog\_display\_crosshair\_color, 350  
dialog\_display\_crosshair\_percent, 350  
dialog\_display\_renderhint\_aa, 350  
dialog\_display\_renderhint\_high\_aa, 350  
dialog\_display\_renderhint\_noncosmetic, 350  
dialog\_display\_renderhint\_smooth\_pix, 350  
dialog\_display\_renderhint\_text\_aa, 350  
dialog\_display\_scrollbar\_widget\_num, 350  
dialog\_display\_selectbox\_alpha, 350  
dialog\_display\_selectbox\_left\_color, 351  
dialog\_display\_selectbox\_left\_fill, 351  
dialog\_display\_selectbox\_right\_color, 351  
dialog\_display\_selectbox\_right\_fill, 351  
dialog\_display\_show\_scrollbars, 351  
dialog\_display\_units, 351  
dialog\_display\_use\_opengl, 351  
dialog\_display\_zoomscale\_in, 351  
dialog\_display\_zoomscale\_out, 351  
dialog\_general\_icon\_size, 351  
dialog\_general\_icon\_theme, 351  
dialog\_general\_language, 352  
dialog\_general\_mdi\_bg\_color, 352  
dialog\_general\_mdi\_bg\_logo, 352  
dialog\_general\_mdi\_bg\_texture, 352  
dialog\_general\_mdi\_bg\_use\_color, 352  
dialog\_general\_mdi\_bg\_use\_logo, 352  
dialog\_general\_mdi\_bg\_use\_texture, 352

dialog\_general\_system\_help\_browser, 352  
dialog\_general\_tip\_of\_the\_day, 352  
dialog\_grid\_center\_on\_origin, 352  
dialog\_grid\_center\_x, 352  
dialog\_grid\_center\_y, 353  
dialog\_grid\_color, 353  
dialog\_grid\_color\_match\_crosshair, 353  
dialog\_grid\_load\_from\_file, 353  
dialog\_grid\_show\_on\_load, 353  
dialog\_grid\_show\_origin, 353  
dialog\_grid\_size\_radius, 353  
dialog\_grid\_size\_x, 353  
dialog\_grid\_size\_y, 353  
dialog\_grid\_spacing\_angle, 353  
dialog\_grid\_spacing\_radius, 353  
dialog\_grid\_spacing\_x, 354  
dialog\_grid\_spacing\_y, 354  
dialog\_grid\_type, 354  
dialog\_lwt\_default\_lwt, 354  
dialog\_lwt\_real\_render, 354  
dialog\_lwt\_show\_lwt, 354  
dialog\_opensave\_custom\_filter, 354  
dialog\_opensave\_open\_format, 354  
dialog\_opensave\_open\_thumbnail, 354  
dialog\_opensave\_recent\_max\_files, 354  
dialog\_opensave\_save\_format, 354  
dialog\_opensave\_save\_thumbnail, 355  
dialog\_opensave\_trim\_dst\_num\_jumps, 355  
dialog\_printing\_default\_device, 355  
dialog\_printing\_disable\_bg, 355  
dialog\_printing\_use\_last\_device, 355  
dialog\_prompt\_bg\_color, 355  
dialog\_prompt\_font\_family, 355  
dialog\_prompt\_font\_size, 355  
dialog\_prompt\_font\_style, 355  
dialog\_prompt\_save\_history, 355  
dialog\_prompt\_save\_history\_as\_html, 355  
dialog\_prompt\_save\_history\_filename, 356  
dialog\_prompt\_text\_color, 356  
dialog\_qsnap\_aperture\_size, 356  
dialog\_qsnap\_apparent, 356  
dialog\_qsnap\_center, 356  
dialog\_qsnap\_enabled, 356  
dialog\_qsnap\_endpoint, 356  
dialog\_qsnap\_extension, 356  
dialog\_qsnap\_insertion, 356  
dialog\_qsnap\_intersection, 356  
dialog\_qsnap\_locator\_color, 356  
dialog\_qsnap\_locator\_size, 357  
dialog\_qsnap\_midpoint, 357  
dialog\_qsnap\_nearest, 357  
dialog\_qsnap\_node, 357  
dialog\_qsnap\_parallel, 357  
dialog\_qsnap\_perpendicular, 357  
dialog\_qsnap\_quadrant, 357  
dialog\_qsnap\_tangent, 357  
dialog\_ruler\_color, 357  
dialog\_ruler\_metric, 357  
dialog\_ruler\_pixel\_size, 357  
dialog\_ruler\_show\_on\_load, 358  
dialog\_selection\_coolgrip\_color, 358  
dialog\_selection\_grip\_size, 358  
dialog\_selection\_hotgrip\_color, 358  
dialog\_selection\_mode\_pickadd, 358  
dialog\_selection\_mode\_pickdrag, 358  
dialog\_selection\_mode\_pickfirst, 358  
dialog\_selection\_pickbox\_size, 358  
mainWin, 358  
preview\_display\_bg\_color, 358  
preview\_display\_crosshair\_color, 358  
preview\_display\_selectbox\_alpha, 359  
preview\_display\_selectbox\_left\_color, 359  
preview\_display\_selectbox\_left\_fill, 359  
preview\_display\_selectbox\_right\_color, 359  
preview\_display\_selectbox\_right\_fill, 359  
preview\_display\_show\_scrollbars, 359  
preview\_general\_mdi\_bg\_color, 359  
preview\_general\_mdi\_bg\_use\_color, 359  
preview\_general\_mdi\_bg\_use\_logo, 359  
preview\_general\_mdi\_bg\_use\_texture, 359  
preview\_grid\_color, 359  
preview\_lwt\_real\_render, 360  
preview\_lwt\_show\_lwt, 360  
preview\_prompt\_bg\_color, 360  
preview\_prompt\_font\_family, 360  
preview\_prompt\_font\_size, 360  
preview\_prompt\_font\_style, 360  
preview\_prompt\_text\_color, 360  
preview\_ruler\_color, 360  
rejectChanges, 346  
Settings\_Dialog, 335  
sliderQSnapApertureSizeValueChanged, 346  
sliderQSnapLocatorSizeValueChanged, 346  
sliderSelectionGripSizeValueChanged, 346  
sliderSelectionPickBoxSizeValueChanged, 346  
spinBoxDisplaySelectBoxAlphaValueChanged,  
    347  
spinBoxGridCenterXValueChanged, 347  
spinBoxGridCenterYValueChanged, 347  
spinBoxGridRadiusValueChanged, 347  
spinBoxGridSizeXValueChanged, 347  
spinBoxGridSizeYValueChanged, 347  
spinBoxGridSpacingAngleValueChanged, 347  
spinBoxGridSpacingRadiusValueChanged, 347  
spinBoxGridSpacingXValueChanged, 347  
spinBoxGridSpacingYValueChanged, 348  
spinBoxPromptFontSizeValueChanged, 348  
spinBoxRecentMaxFilesValueChanged, 348  
spinBoxRulerPixelSizeValueChanged, 348  
spinBoxTrimDstNumJumpsValueChanged, 348  
spinBoxZoomScaleInValueChanged, 348  
spinBoxZoomScaleOutValueChanged, 348  
tabWidget, 360  
settings\_dialog\_acceptChanges  
    imgui\_main.c, 552  
settings\_dialog\_addColorsToComboBox

imgui\_main.c, 552  
 settings\_dialog\_buttonCustomFilterClearAllClicked  
     imgui\_main.c, 552  
 settings\_dialog\_buttonCustomFilterSelectAllClicked  
     imgui\_main.c, 552  
 settings\_dialog\_buttonQSnapClearAllClicked  
     imgui\_main.c, 553  
 settings\_dialog\_buttonQSnapSelectAllClicked  
     imgui\_main.c, 553  
 settings\_dialog\_checkBoxCustomFilterStateChanged  
     imgui\_main.c, 553  
 settings\_dialog\_checkBoxGeneralMdiBGUseColorStateChanged  
     imgui\_main.c, 553  
 settings\_dialog\_checkBoxGeneralMdiBGUseLogoStateChanged  
     imgui\_main.c, 553  
 settings\_dialog\_checkBoxGeneralMdiBGUseTextureStateChanged  
     imgui\_main.c, 553  
 settings\_dialog\_checkBoxGridCenterOnOriginStateChanged  
     imgui\_main.c, 554  
 settings\_dialog\_checkBoxGridColorMatchCrossHairStateChanged  
     imgui\_main.c, 554  
 settings\_dialog\_checkBoxGridLoadFromFileStateChanged  
     imgui\_main.c, 554  
 settings\_dialog\_checkBoxLwtRealRenderStateChanged  
     imgui\_main.c, 554  
 settings\_dialog\_checkBoxLwtShowLwtStateChanged  
     imgui\_main.c, 554  
 settings\_dialog\_checkBoxShowsScrollbarsStateChanged  
     imgui\_main.c, 554  
 settings\_dialog\_chooseDisplayBackgroundColor  
     imgui\_main.c, 554  
 settings\_dialog\_chooseDisplayCrossHairColor  
     imgui\_main.c, 555  
 settings\_dialog\_chooseDisplaySelectBoxLeftColor  
     imgui\_main.c, 555  
 settings\_dialog\_chooseDisplaySelectBoxLeftFill  
     imgui\_main.c, 555  
 settings\_dialog\_chooseDisplaySelectBoxRightColor  
     imgui\_main.c, 555  
 settings\_dialog\_chooseDisplaySelectBoxRightFill  
     imgui\_main.c, 555  
 settings\_dialog\_chooseGeneralMdiBackgroundColor  
     imgui\_main.c, 555  
 settings\_dialog\_chooseGeneralMdiBackgroundLogo  
     imgui\_main.c, 555  
 settings\_dialog\_chooseGeneralMdiBackgroundTexture  
     imgui\_main.c, 555  
 settings\_dialog\_chooseGridColor  
     imgui\_main.c, 556  
 settings\_dialog\_choosePromptBackgroundColor  
     imgui\_main.c, 556  
 settings\_dialog\_choosePromptTextColor  
     imgui\_main.c, 556  
 settings\_dialog\_chooseRulerColor  
     imgui\_main.c, 556  
 settings\_dialog\_combobox\_selectionCoolGripColorCurrentIndexChanged  
     imgui\_main.c, 556  
 settings\_dialog\_combobox\_selectionHotGripColorCurrentIndexChanged  
     imgui\_main.c, 556  
 settings\_dialog\_comboBoxGridTypeCurrentIndexChanged  
     imgui\_main.c, 557  
 settings\_dialog\_comboBoxIconSizeCurrentIndexChanged  
     imgui\_main.c, 557  
 settings\_dialog\_comboBoxIconThemeCurrentIndexChanged  
     imgui\_main.c, 557  
 settings\_dialog\_comboBoxLanguageCurrentIndexChanged  
     imgui\_main.c, 557  
 settings\_dialog\_comboBoxPromptFontFamilyCurrentIndexChanged  
     imgui\_main.c, 557  
 settings\_dialog\_comboBoxPromptFontSizeValueChanged  
     imgui\_main.c, 557  
 settings\_dialog\_comboBoxPromptFontStyleCurrentIndexChanged  
     imgui\_main.c, 557  
 settings\_dialog\_comboBoxQSnapLocatorColorCurrentIndexChanged  
     imgui\_main.c, 557  
 settings\_dialog\_comboBoxRulerMetricCurrentIndexChanged  
     imgui\_main.c, 558  
 settings\_dialog\_currentDisplayBackgroundColorChanged  
     imgui\_main.c, 558  
 settings\_dialog\_currentDisplayCrossHairColorChanged  
     imgui\_main.c, 558  
 settings\_dialog\_currentDisplaySelectBoxLeftColorChanged  
     imgui\_main.c, 558  
 settings\_dialog\_currentDisplaySelectBoxLeftFillChanged  
     imgui\_main.c, 558  
 settings\_dialog\_currentDisplaySelectBoxRightColorChanged  
     imgui\_main.c, 558  
 settings\_dialog\_currentDisplaySelectBoxRightFillChanged  
     imgui\_main.c, 559  
 settings\_dialog\_currentGeneralMdiBackgroundColorChanged  
     imgui\_main.c, 559  
 settings\_dialog\_currentGridColorChanged  
     imgui\_main.c, 559  
 settings\_dialog\_currentPromptBackgroundColorChanged  
     imgui\_main.c, 559  
 settings\_dialog\_currentPromptTextColorChanged  
     imgui\_main.c, 559  
 settings\_dialog\_currentRulerColorChanged  
     imgui\_main.c, 559  
 settings\_dialog\_rejectChanges  
     imgui\_main.c, 560  
 settings\_dialog\_spinBoxDisplaySelectBoxAlphaValueChanged  
     imgui\_main.c, 560  
 settings\_dialog\_spinBoxPromptFontSizeValueChanged  
     imgui\_main.c, 560  
 settings\_dir  
     imgui\_main.c, 575  
 settings\_display\_bg\_color  
     MainWindow, 223  
 settings\_display\_crosshair\_color  
     MainWindow, 223  
 settings\_display\_crosshair\_percent  
     MainWindow, 223  
 settings\_display\_renderhint\_aa  
     MainWindow, 223  
 settings\_shaded\_renderhint\_high\_aa  
     MainWindow, 223  
 settings\_shaded\_renderhint\_low\_aa  
     MainWindow, 223  
 settings\_shaded\_renderhint\_noncosmetic  
     MainWindow, 223

MainWindow, 223  
settings\_display\_renderhint\_smooth\_pix  
    MainWindow, 223  
settings\_display\_renderhint\_text\_aa  
    MainWindow, 223  
settings\_display\_scrollbar\_widget\_num  
    MainWindow, 223  
settings\_display\_selectbox\_alpha  
    MainWindow, 223  
settings\_display\_selectbox\_left\_color  
    MainWindow, 223  
settings\_display\_selectbox\_left\_fill  
    MainWindow, 224  
settings\_display\_selectbox\_right\_color  
    MainWindow, 224  
settings\_display\_selectbox\_right\_fill  
    MainWindow, 224  
settings\_display\_show\_scrollbars  
    MainWindow, 224  
settings\_display\_units  
    MainWindow, 224  
settings\_display\_use\_opengl  
    MainWindow, 224  
settings\_display\_zoomscale\_in  
    MainWindow, 224  
settings\_display\_zoomscale\_out  
    MainWindow, 224  
settings\_editor  
    imgui\_main.c, 560  
settings\_file  
    imgui\_main.c, 575  
settings\_general\_check\_for\_updates  
    MainWindow, 224  
settings\_general\_current\_tip  
    MainWindow, 224  
settings\_general\_icon\_size  
    MainWindow, 224  
settings\_general\_icon\_theme  
    MainWindow, 225  
settings\_general\_language  
    MainWindow, 225  
settings\_general\_mdi\_bg\_color  
    MainWindow, 225  
settings\_general\_mdi\_bg\_logo  
    MainWindow, 225  
settings\_general\_mdi\_bg\_texture  
    MainWindow, 225  
settings\_general\_mdi\_bg\_use\_color  
    MainWindow, 225  
settings\_general\_mdi\_bg\_use\_logo  
    MainWindow, 225  
settings\_general\_mdi\_bg\_use\_texture  
    MainWindow, 225  
settings\_general\_system\_help\_browser  
    MainWindow, 225  
settings\_general\_tip\_of\_the\_day  
    MainWindow, 225  
settings\_grid\_center\_on\_origin  
    MainWindow, 225  
settings\_grid\_center\_x  
    MainWindow, 226  
settings\_grid\_center\_y  
    MainWindow, 226  
settings\_grid\_color  
    MainWindow, 226  
settings\_grid\_color\_match\_crosshair  
    MainWindow, 226  
settings\_grid\_load\_from\_file  
    MainWindow, 226  
settings\_grid\_show\_on\_load  
    MainWindow, 226  
settings\_grid\_show\_origin  
    MainWindow, 226  
settings\_grid\_size\_radius  
    MainWindow, 226  
settings\_grid\_size\_x  
    MainWindow, 226  
settings\_grid\_size\_y  
    MainWindow, 226  
settings\_grid\_spacing\_angle  
    MainWindow, 226  
settings\_grid\_spacing\_radius  
    MainWindow, 227  
settings\_grid\_spacing\_x  
    MainWindow, 227  
settings\_grid\_spacing\_y  
    MainWindow, 227  
settings\_grid\_type  
    MainWindow, 227  
settings\_lwt\_default\_lwt  
    MainWindow, 227  
settings\_lwt\_real\_render  
    MainWindow, 227  
settings\_lwt\_show\_lwt  
    MainWindow, 227  
settings\_opensave\_custom\_filter  
    MainWindow, 227  
settings\_opensave\_open\_format  
    MainWindow, 227  
settings\_opensave\_open\_thumbnail  
    MainWindow, 227  
settings\_opensave\_recent\_directory  
    MainWindow, 227  
settings\_opensave\_recent\_list\_of\_files  
    MainWindow, 228  
settings\_opensave\_recent\_max\_files  
    MainWindow, 228  
settings\_opensave\_save\_format  
    MainWindow, 228  
settings\_opensave\_save\_thumbnail  
    MainWindow, 228  
settings\_opensave\_trim\_dst\_num\_jumps  
    MainWindow, 228  
settings\_printing\_default\_device  
    MainWindow, 228  
settings\_printing\_disable\_bg

MainWindow, 228  
settings\_printing\_use\_last\_device  
    MainWindow, 228  
settings\_prompt\_bg\_color  
    MainWindow, 228  
settings\_prompt\_font\_family  
    MainWindow, 228  
settings\_prompt\_font\_size  
    MainWindow, 228  
settings\_prompt\_font\_style  
    MainWindow, 229  
settings\_prompt\_save\_history  
    MainWindow, 229  
settings\_prompt\_save\_history\_as\_html  
    MainWindow, 229  
settings\_prompt\_save\_history\_filename  
    MainWindow, 229  
settings\_prompt\_text\_color  
    MainWindow, 229  
settings\_qsnap\_aperture\_size  
    MainWindow, 229  
settings\_qsnap\_apparent  
    MainWindow, 229  
settings\_qsnap\_center  
    MainWindow, 229  
settings\_qsnap\_enabled  
    MainWindow, 229  
settings\_qsnap\_endpoint  
    MainWindow, 229  
settings\_qsnap\_extension  
    MainWindow, 229  
settings\_qsnap\_insertion  
    MainWindow, 230  
settings\_qsnap\_intersection  
    MainWindow, 230  
settings\_qsnap\_locator\_color  
    MainWindow, 230  
settings\_qsnap\_locator\_size  
    MainWindow, 230  
settings\_qsnap\_midpoint  
    MainWindow, 230  
settings\_qsnap\_nearest  
    MainWindow, 230  
settings\_qsnap\_node  
    MainWindow, 230  
settings\_qsnap\_parallel  
    MainWindow, 230  
settings\_qsnap\_perpendicular  
    MainWindow, 230  
settings\_qsnap\_quadrant  
    MainWindow, 230  
settings\_qsnap\_tangent  
    MainWindow, 230  
settings\_ruler\_color  
    MainWindow, 231  
settings\_ruler\_metric  
    MainWindow, 231  
settings\_ruler\_pixel\_size  
    MainWindow, 231  
settings\_ruler\_show\_on\_load  
    MainWindow, 231  
settings\_selection\_coolgrip\_color  
    MainWindow, 231  
settings\_selection\_grip\_size  
    MainWindow, 231  
settings\_selection\_hotgrip\_color  
    MainWindow, 231  
settings\_selection\_mode\_pickadd  
    MainWindow, 231  
settings\_selection\_mode\_pickdrag  
    MainWindow, 231  
settings\_selection\_mode\_pickfirst  
    MainWindow, 231  
settings\_selection\_pickbox\_size  
    MainWindow, 231  
settings\_text\_angle  
    MainWindow, 232  
settings\_text\_font  
    MainWindow, 232  
settings\_text\_size  
    MainWindow, 232  
settings\_text\_style\_bold  
    MainWindow, 232  
settings\_text\_style\_italic  
    MainWindow, 232  
settings\_text\_style\_overline  
    MainWindow, 232  
settings\_text\_style\_strikeout  
    MainWindow, 232  
settings\_text\_style\_underline  
    MainWindow, 232  
settingsDialog  
    MainWindow, 216  
settingsGrid  
    StatusBarButton, 364  
settingsLwt  
    StatusBarButton, 364  
settingsMenu  
    MainWindow, 232  
settingsOrtho  
    StatusBarButton, 364  
settingsPolar  
    StatusBarButton, 364  
settingsPrompt  
    MainWindow, 216  
settingsQSnap  
    StatusBarButton, 364  
settingsQTrack  
    StatusBarButton, 364  
settingsRuler  
    StatusBarButton, 364  
settingsSnap  
    StatusBarButton, 365  
setUndoCleanIcon  
    imgui\_main.c, 560  
    MainWindow, 216

setup\_imgui  
    gui\_backend.cpp, 438  
    gui\_backend.h, 450  
setup\_main\_widget  
    gui\_backend.cpp, 438  
    gui\_backend.h, 450  
setViewBackgroundColor  
    MdiWindow, 243  
setViewCrossHairColor  
    MdiWindow, 243  
setViewGridColor  
    MdiWindow, 243  
setViewRulerColor  
    MdiWindow, 243  
setViewSelectBoxColors  
    MdiWindow, 243  
sewDecode  
    format\_sew.c, 845  
shape  
    BaseObject, 71  
shift\_held  
    Settings\_, 327  
shiftKeyPressedState  
    MainWindow, 232  
shiftPressed  
    CmdPrompt, 85  
    CmdPromptInput, 97  
shiftReleased  
    CmdPrompt, 85  
    CmdPromptInput, 97  
shine\_color  
    Settings\_, 328  
show\_about\_dialog  
    Settings\_, 328  
show\_details\_dialog  
    Settings\_, 328  
show\_editor  
    Settings\_, 328  
show\_int  
    gui\_backend.cpp, 438  
    gui\_backend.h, 450  
show\_open\_file\_dialog  
    Settings\_, 328  
show\_real  
    gui\_backend.cpp, 438  
    gui\_backend.h, 450  
show\_settings\_editor  
    Settings\_, 328  
show\_view\_scrollbars  
    imgui\_main.c, 561  
showGroups  
    PropertyEditor, 277  
showOneType  
    PropertyEditor, 277  
showScrollBars  
    View, 409  
showscrollbars  
    imgui\_main.c, 561  
showSettings  
    CmdPrompt, 85  
    CmdPromptInput, 97  
showViewScrollBars  
    MdiWindow, 243  
shv\_thread  
    embroidery.h, 680  
shvDecode  
    format\_shv.c, 845  
shvDecodeShort  
    format\_shv.c, 845  
shvThreadCount  
    embroidery.h, 715  
    thread-color.c, 900  
shvThreads  
    embroidery.h, 715  
    thread-color.c, 900  
side1  
    EmbSatinOutline\_, 137  
side2  
    EmbSatinOutline\_, 137  
Sigma\_Polyester  
    embroidery.h, 680  
signalMapper  
    PropertyEditor, 291  
signature  
    \_bcf\_file\_header, 53  
sigVersion  
    ThredHeader\_, 379  
simplify\_path  
    imgui\_main.c, 561  
simulate  
    View\_, 420  
simulate\_pattern  
    imgui\_main.c, 561  
simulation\_start  
    View\_, 420  
single\_line\_text\_click  
    imgui\_main.c, 561  
single\_line\_text\_main  
    imgui\_main.c, 561  
SINGLE\_LINE\_TEXT\_MODE\_JUSTIFY  
    imgui\_main.c, 489  
SINGLE\_LINE\_TEXT\_MODE\_RAPID  
    imgui\_main.c, 489  
SINGLE\_LINE\_TEXT\_MODE\_SETFONT  
    imgui\_main.c, 490  
SINGLE\_LINE\_TEXT\_MODE\_SETGEOM  
    imgui\_main.c, 490  
single\_line\_text\_prompt  
    imgui\_main.c, 561  
size\_hint  
    imgui\_main.c, 561  
sizeHint  
    MdiWindow, 243  
sizeOfChainingEntryAtEndOfDifatSector  
    main.c, 892  
sizeOfDifatEntry

main.c, 892  
 sizeOfDirectoryEntry  
     main.c, 892  
 sizeOfFatEntry  
     main.c, 892  
 sliderQSnapApertureSizeValueChanged  
     Settings\_Dialog, 346  
 sliderQSnapLocatorSizeValueChanged  
     Settings\_Dialog, 346  
 sliderSelectionGripSizeValueChanged  
     Settings\_Dialog, 346  
 sliderSelectionPickBoxSizeValueChanged  
     Settings\_Dialog, 346  
 snap\_mode  
     View\_, 420  
 SNAP\_TYPES  
     imgui\_main.c, 490  
 snowflake\_click  
     imgui\_main.c, 562  
 snowflake\_main  
     imgui\_main.c, 562  
 SNOWFLAKE\_MODE\_NUM\_POINTS  
     imgui\_main.c, 490  
 SNOWFLAKE\_MODE\_XSCALE  
     imgui\_main.c, 490  
 SNOWFLAKE\_MODE\_YSCALE  
     imgui\_main.c, 490  
 snowflake\_move  
     imgui\_main.c, 562  
 someInt  
     SubDescriptor\_, 367  
 someNum  
     SubDescriptor\_, 367  
 someOtherInt  
     SubDescriptor\_, 368  
 spare\_rubber  
     imgui\_main.c, 562  
 spare\_rubber\_action  
     imgui\_main.c, 562  
 SPARE\_RUBBER\_OFF  
     imgui\_main.c, 490  
     object-data.h, 610  
 SPARE\_RUBBER\_PATH  
     imgui\_main.c, 490  
     object-data.h, 611  
 SPARE\_RUBBER\_POLYGON  
     imgui\_main.c, 490  
     object-data.h, 611  
 SPARE\_RUBBER\_POLYLINE  
     imgui\_main.c, 490  
     object-data.h, 611  
 SPARE\_RUBBER\_VALUES  
     object-data.h, 610  
 spareRubber  
     View, 409  
 spareRubberList  
     View, 417  
 spinBoxDisplaySelectBoxAlphaValueChanged  
     Settings\_Dialog, 347  
 spinBoxGridCenterXValueChanged  
     Settings\_Dialog, 347  
 spinBoxGridCenterYValueChanged  
     Settings\_Dialog, 347  
 spinBoxGridSizeRadiusValueChanged  
     Settings\_Dialog, 347  
 spinBoxGridSizeXValueChanged  
     Settings\_Dialog, 347  
 spinBoxGridSizeYValueChanged  
     Settings\_Dialog, 347  
 spinBoxGridSpacingAngleValueChanged  
     Settings\_Dialog, 347  
 spinBoxGridSpacingRadiusValueChanged  
     Settings\_Dialog, 347  
 spinBoxGridSpacingXValueChanged  
     Settings\_Dialog, 347  
 spinBoxGridSpacingYValueChanged  
     Settings\_Dialog, 348  
 spinBoxPromptFontSizeValueChanged  
     Settings\_Dialog, 348  
 spinBoxRecentMaxFilesValueChanged  
     Settings\_Dialog, 348  
 spinBoxRulerPixelSizeValueChanged  
     Settings\_Dialog, 348  
 spinBoxTrimDstNumJumpsValueChanged  
     Settings\_Dialog, 348  
 spinBoxZoomScaleInValueChanged  
     Settings\_Dialog, 348  
 spinBoxZoomScaleOutValueChanged  
     Settings\_Dialog, 348  
 spline  
     EmbGeometry\_, 127  
 star\_click  
     imgui\_main.c, 562  
 star\_main  
     imgui\_main.c, 562  
 STAR\_MODE\_CENTER\_PT  
     imgui\_main.c, 490  
 STAR\_MODE\_NUM\_POINTS  
     imgui\_main.c, 491  
 STAR\_MODE\_RAD\_INNER  
     imgui\_main.c, 491  
 STAR\_MODE\_RAD\_OUTER  
     imgui\_main.c, 491  
 star\_move  
     imgui\_main.c, 563  
 star\_prompt  
     imgui\_main.c, 563  
 start  
     EmbArc\_, 117  
     EmbBezier\_, 119  
     EmbLine\_, 131  
 start\_gripping  
     imgui\_main.c, 563  
 startBlinking  
     CmdPrompt, 85  
 startCommand

CmdPrompt, 86  
CmdPromptInput, 97  
startGripping  
    View, 410  
startingSectorLocation  
    \_bcf\_directory\_entry, 49  
startResizeHistory  
    CmdPromptHistory, 91  
startResizingTheHistory  
    CmdPrompt, 86  
stateBits  
    \_bcf\_directory\_entry, 49  
status\_bar  
    imgui\_main.c, 563  
status\_bar\_context\_menu  
    imgui\_main.c, 563  
StatusBar, 361  
    setMouseCoord, 361  
    StatusBar, 361  
        statusBarGridButton, 361  
        statusBarLwtButton, 361  
        statusBarMouseCoord, 362  
        statusBarOrthoButton, 362  
        statusBarPolarButton, 362  
        statusBarQSnapButton, 362  
        statusBarQTrackButton, 362  
        statusBarRulerButton, 362  
        statusBarSnapButton, 362  
statusbar  
    MainWindow, 232  
    StatusBarButton, 366  
StatusBarButton, 362  
    contextMenuEvent, 363  
    disableLwt, 364  
    disableReal, 364  
    enableLwt, 364  
    enableReal, 364  
    mainWin, 366  
    settingsGrid, 364  
    settingsLwt, 364  
    settingsOrtho, 364  
    settingsPolar, 364  
    settingsQSnap, 364  
    settingsQTrack, 364  
    settingsRuler, 364  
    settingsSnap, 365  
    statusbar, 366  
    StatusBarButton, 363  
    toggleGrid, 365  
    toggleLwt, 365  
    toggleOrtho, 365  
    togglePolar, 365  
    toggleQSnap, 365  
    toggleQTrack, 365  
    toggleRuler, 365  
    toggleSnap, 365  
statusBarGridButton  
    StatusBar, 361  
statusBarLwtButton  
    StatusBar, 361  
statusBarMouseCoord  
    StatusBar, 362  
statusBarOrthoButton  
    StatusBar, 362  
statusBarPolarButton  
    StatusBar, 362  
statusBarQSnapButton  
    StatusBar, 362  
statusBarQTrackButton  
    StatusBar, 362  
statusBarRulerButton  
    StatusBar, 362  
statusBarSnapButton  
    StatusBar, 362  
STB\_IMAGE\_IMPLEMENTATION  
    imgui\_main.c, 491  
stitch  
    EmbArray\_, 119  
    EmbGeometry\_, 127  
stitch\_line\_to\_scene  
    imgui\_main.c, 563  
stitch\_list  
    EmbPattern\_, 134  
stitch\_time  
    Settings\_, 328  
stitchesJump  
    EmbDetailsDialog, 123  
stitchesReal  
    EmbDetailsDialog, 123  
stitchesTotal  
    EmbDetailsDialog, 123  
stitchGranularity  
    ThredExtension\_, 379  
STOP  
    embroidery.h, 680  
stop\_gripping  
    imgui\_main.c, 563  
stopBlinking  
    CmdPrompt, 86  
    CmdPromptInput, 97  
stopGripping  
    View, 410  
stopResizeHistory  
    CmdPromptHistory, 91  
stopResizingTheHistory  
    CmdPrompt, 86  
stor  
    imgui\_main.c, 575  
streamSize  
    \_bcf\_directory\_entry, 49  
streamSizeHigh  
    \_bcf\_directory\_entry, 49  
streq  
    imgui\_main.c, 563

**stringInArray**  
 embroidery\_internal.h, 773  
 main.c, 891  
**stringVal**  
 VipHeader\_, 422  
**stub\_implement**  
 imgui\_main.c, 564  
 MainWindow, 216  
**stub\_testing**  
 MainWindow, 216  
**stub\_testing\_action**  
 imgui\_main.c, 564  
**stxColor**  
 StxThread\_, 366  
**stxReadThread**  
 format\_stx.c, 847  
**StxThread**  
 embroidery\_internal.h, 744  
**StxThread\_**, 366  
 colorCode, 366  
 colorName, 366  
 sectionName, 366  
 stxColor, 366  
 subDescriptors, 367  
**styleHash**  
 CmdPrompt, 87  
**SubDescriptor**  
 embroidery\_internal.h, 744  
**SubDescriptor\_**, 367  
 colorCode, 367  
 colorName, 367  
 someInt, 367  
 someNum, 367  
 someOtherInt, 368  
**subDescriptors**  
 StxThread\_, 367  
**subPathList**  
 TextSingleObject, 375  
**Sulky\_Rayon**  
 embroidery.h, 681  
**SVG\_ATTRIBUTE**  
 embroidery\_internal.h, 741  
**SVG\_CATCH\_ALL**  
 embroidery\_internal.h, 742  
**SVG\_Colors**  
 embroidery.h, 681  
**SVG\_CREATOR\_EMBROIDERMODDER**  
 embroidery\_internal.h, 742  
**SVG\_CREATOR\_ILLUSTRATOR**  
 embroidery\_internal.h, 742  
**SVG\_CREATOR\_INKSCAPE**  
 embroidery\_internal.h, 742  
**SVG\_CREATOR\_NULL**  
 embroidery\_internal.h, 742  
**SVG\_ELEMENT**  
 embroidery\_internal.h, 742  
**SVG\_EXPECT\_ATTRIBUTE**  
 embroidery\_internal.h, 742  
**SVG\_EXPECT\_ELEMENT**  
 embroidery\_internal.h, 742  
**SVG\_EXPECT\_NULL**  
 embroidery\_internal.h, 742  
**SVG\_EXPECT\_VALUE**  
 embroidery\_internal.h, 742  
**SVG\_MEDIA\_PROPERTY**  
 embroidery\_internal.h, 742  
**SVG\_NULL**  
 embroidery\_internal.h, 743  
**SVG\_PROPERTY**  
 embroidery\_internal.h, 743  
**SvgAttribute**  
 embroidery\_internal.h, 744  
**SvgAttribute\_**, 368  
 name, 368  
 value, 368  
**svgCreator**  
 format\_svg.c, 848  
**svgExpect**  
 format\_svg.c, 848  
**svgMultiValue**  
 format\_svg.c, 849  
**table**  
 Huffman, 143  
**table\_width**  
 Huffman, 143  
**tabPressed**  
 CmdPrompt, 86  
 CmdPromptInput, 97  
**tabWidget**  
 Settings\_Dialog, 360  
**tempArcObj**  
 PropertyEditor, 291  
**tempBaseObj**  
 View, 417  
**tempBlockObj**  
 PropertyEditor, 291  
**tempCircleObj**  
 PropertyEditor, 291  
**tempDimAlignedObj**  
 PropertyEditor, 291  
**tempDimAngularObj**  
 PropertyEditor, 292  
**tempDimArcLenObj**  
 PropertyEditor, 292  
**tempDimDiamObj**  
 PropertyEditor, 292  
**tempDimLeaderObj**  
 PropertyEditor, 292  
**tempDimLinearObj**  
 PropertyEditor, 292  
**tempDimOrdObj**  
 PropertyEditor, 292  
**tempDimRadiusObj**  
 PropertyEditor, 292  
**tempEllipseArcObj**  
 PropertyEditor, 292

tempEllipseObj  
    PropertyEditor, 292

tempHatchObj  
    PropertyEditor, 292

tempImageObj  
    PropertyEditor, 292

tempInflLineObj  
    PropertyEditor, 293

tempLineObj  
    PropertyEditor, 293

tempPathObj  
    PropertyEditor, 293

tempPointObj  
    PropertyEditor, 293

tempPolygonObj  
    PropertyEditor, 293

tempPolylineObj  
    PropertyEditor, 293

tempRayObj  
    PropertyEditor, 293

tempRectObj  
    PropertyEditor, 293

tempSplineObj  
    PropertyEditor, 293

tempTextMultiObj  
    PropertyEditor, 293

tempTextSingleObj  
    PropertyEditor, 293

test\_translate  
    imgui\_main.c, 564

testEmbCircle  
    embroidery\_internal.h, 773

testEmbCircle\_2  
    embroidery\_internal.h, 773

testEmbFormat  
    embroidery\_internal.h, 773

testGeomArc  
    embroidery\_internal.h, 773

testing  
    Settings\_, 328

testMain  
    embroidery.h, 714

testTangentPoints  
    embroidery\_internal.h, 773

testThreadColor  
    embroidery\_internal.h, 773

text  
    EmbTextMulti\_, 139  
    EmbTextSingle\_, 139  
    UiObject\_, 382

text.c  
    textSingle\_gripEdit, 872  
    textSingle\_mouseSnapPoint, 872  
    textSingle\_paint, 872  
    textSingle\_setJustify, 872  
    textSingle\_setTextBackward, 873  
    textSingle\_setTextBold, 873  
    textSingle\_setTextFont, 873

textSingle\_setTextItalic, 873  
textSingle\_setTextOverline, 873  
textSingle\_setTextSize, 873  
textSingle\_setTextStrikeOut, 873  
textSingle\_setTextStyle, 873  
textSingle\_setTextUnderline, 873  
textSingle\_setTextUpsideDown, 874  
textSingle\_updateRubber, 874

text\_angle  
    Settings\_, 328  
    View\_, 420

text\_angle\_action  
    imgui\_main.c, 564

text\_font  
    Settings\_, 328  
    View\_, 420

text\_font\_action  
    imgui\_main.c, 564

text\_multi\_action  
    imgui\_main.c, 564

text\_single\_action  
    imgui\_main.c, 564

text\_size  
    Settings\_, 328  
    View\_, 420

text\_size\_action  
    imgui\_main.c, 565

text\_style\_bold  
    Settings\_, 329  
    View\_, 420

text\_style\_italic  
    Settings\_, 329  
    View\_, 420

text\_style\_overline  
    Settings\_, 329  
    View\_, 420

text\_style\_strikeout  
    Settings\_, 329  
    View\_, 420

text\_style\_underline  
    Settings\_, 329  
    View\_, 420

textAngle  
    MainWindow, 216

textBold  
    MainWindow, 216

textFont  
    MainWindow, 216  
    UiObject\_, 383

textFontSelector  
    MainWindow, 233

textFontSelectorCurrentFontChanged  
    imgui\_main.c, 565  
    MainWindow, 216

textHeight  
    UiObject\_, 383

textItalic  
    MainWindow, 216

textJustify  
     UiObject\_, 383  
 textOverline  
     MainWindow, 217  
 textRotation  
     UiObject\_, 383  
 textSingle\_gripEdit  
     text.c, 872  
 textSingle\_mouseSnapPoint  
     text.c, 872  
 textSingle\_paint  
     text.c, 872  
 textSingle\_setJustify  
     text.c, 872  
 textSingleSetTextBackward  
     text.c, 873  
 textSingleSetTextBold  
     text.c, 873  
 textSingleSetTextFont  
     text.c, 873  
 textSingleSetTextItalic  
     text.c, 873  
 textSingleSetTextOverline  
     text.c, 873  
 textSingleSetTextSize  
     text.c, 873  
 textSingleSetTextStrikeOut  
     text.c, 873  
 textSingleSetTextStyle  
     text.c, 873  
 textSingleSetTextUnderline  
     text.c, 873  
 textSingleSetTextUpsideDown  
     text.c, 874  
 textSingle\_updateRubber  
     text.c, 874  
 TextSingleObject, 368  
     ~TextSingleObject, 371  
     allGripPoints, 372  
     gripEdit, 372  
     init, 372  
     mouseSnapPoint, 372  
     objectPos, 372  
     objectSavePathList, 372  
     objectText, 372  
     objectTextBackward, 372  
     objectTextBold, 372  
     objectTextFont, 373  
     objectTextItalic, 373  
     objectTextJustify, 373  
     objectTextJustifyList, 373  
     objectTextOverline, 373  
     objectTextSize, 373  
     objectTextStrikeOut, 373  
     objectTextUnderline, 373  
     objectTextUpsideDown, 373  
     objectX, 373  
     objectY, 373  
     objText, 376  
     objTextBackward, 376  
     objTextBold, 376  
     objTextFont, 376  
     objTextItalic, 376  
     objTextJustify, 376  
     objTextOverline, 376  
     objTextPath, 377  
     objTextSize, 377  
     objTextStrikeOut, 377  
     objTextUnderline, 377  
     objTextUpsideDown, 377  
     paint, 374  
     setObjectPos, 374  
     setObjectText, 374  
     setObjectTextBackward, 374  
     setObjectTextBold, 374  
     setObjectTextFont, 374  
     setObjectTextItalic, 374  
     setObjectTextJustify, 374  
     setObjectTextOverline, 375  
     setObjectTextSize, 375  
     setObjectTextStrikeOut, 375  
     setObjectTextStyle, 375  
     setObjectTextUnderline, 375  
     setObjectTextUpsideDown, 375  
     setObjectX, 375  
     setObjectY, 375  
     subPathList, 375  
     TextSingleObject, 371  
     Type, 371  
     type, 376  
     updateRubber, 376  
     vulcanize, 376  
 textSize  
     MainWindow, 217  
 textSizeSelector  
     MainWindow, 233  
 textSizeSelectorIndexChanged  
     imgui\_main.c, 565  
     MainWindow, 217  
 textStrikeOut  
     MainWindow, 217  
 textUnderline  
     MainWindow, 217  
 texture\_id  
     UiObject\_, 383  
 texture\_list  
     Settings\_, 329  
 textures  
     gui\_backend.cpp, 439  
 thread  
     EmbArray\_, 119  
     EmbGeometry\_, 128  
 thread-color.c  
     \_dxsetColorTable, 899  
     brand\_codes, 899  
     brand\_codes\_files, 899

husThreads, 899  
jefThreads, 899  
pcmThreads, 899  
pecThreadCount, 899  
pecThreads, 899  
shvThreadCount, 900  
shvThreads, 900  
threadColor, 898  
threadColorName, 899  
threadColorNum, 899  
thread\_color  
embroidery.h, 685  
thread\_color\_, 377  
hex\_code, 377  
manufacturer\_code, 377  
name, 378  
thread\_list  
EmbPattern\_, 134  
ThreadArt\_Polyester  
embroidery.h, 681  
ThreadArt\_Rayon  
embroidery.h, 681  
threadColor  
embroidery.h, 714  
thread-color.c, 898  
threadColorName  
embroidery.h, 714  
thread-color.c, 899  
threadColorNum  
embroidery.h, 714  
thread-color.c, 899  
ThreaDelight\_Polyester  
embroidery.h, 681  
threadLength  
\_vp3Hoop, 55  
ThredExtension  
embroidery\_internal.h, 744  
ThredExtension\_, 378  
auxFormat, 378  
creatorName, 378  
hoopX, 378  
hoopY, 378  
modifierName, 378  
reserved, 379  
stitchGranularity, 379  
ThredHeader  
embroidery\_internal.h, 744  
ThredHeader\_, 379  
hoopSize, 379  
length, 379  
numStiches, 379  
reserved, 379  
sigVersion, 379  
threshold\_method  
fill.c, 801  
Tick  
DimLeaderObject, 105  
tick\_depth  
Settings\_, 329  
ticks\_color  
Settings\_, 329  
tile  
MdiArea, 236  
tip\_of\_the\_day  
Settings\_, 329  
tip\_of\_the\_day\_dialog  
imgui\_main.c, 565  
TipOfTheDay  
imgui\_main.c, 565  
tipOfTheDay  
MainWindow, 217  
tmpHeight  
CmdPromptHistory, 91  
to\_  
imgui\_main.c, 575  
to\_ImVec2  
gui\_backend.cpp, 438  
to\_open  
imgui\_main.c, 576  
Settings\_, 329  
toCenter  
UndoableNavCommand, 391  
toggleGrid  
imgui\_main.c, 565  
MainWindow, 217  
StatusBarButton, 365  
View, 410  
toggleLwt  
MainWindow, 217  
StatusBarButton, 365  
View, 410  
toggleOrtho  
StatusBarButton, 365  
View, 410  
togglePickAddMode  
PropertyEditor, 277  
togglePolar  
StatusBarButton, 365  
View, 410  
toggleQSnap  
StatusBarButton, 365  
View, 410  
toggleQTrack  
StatusBarButton, 365  
View, 410  
toggleReal  
View, 410  
toggleRuler  
MainWindow, 217  
StatusBarButton, 365  
View, 410  
toggleSnap  
StatusBarButton, 365  
View, 411  
toolbar\_layout  
imgui\_main.c, 576

toolbarEdit  
    MainWindow, 233  
toolbarFile  
    MainWindow, 233  
toolbarHash  
    MainWindow, 233  
toolbarHelp  
    MainWindow, 233  
toolbarIcon  
    MainWindow, 233  
toolbarLayer  
    MainWindow, 233  
toolbarPan  
    MainWindow, 233  
toolbarPrompt  
    MainWindow, 233  
toolbarProperties  
    MainWindow, 233  
toolbarText  
    MainWindow, 234  
toolbarView  
    MainWindow, 234  
toolbarZoom  
    MainWindow, 234  
toolButtonArcArea  
    PropertyEditor, 294  
toolButtonArcCenterX  
    PropertyEditor, 294  
toolButtonArcCenterY  
    PropertyEditor, 294  
toolButtonArcChord  
    PropertyEditor, 294  
toolButtonArcClockwise  
    PropertyEditor, 294  
toolButtonArcEndAngle  
    PropertyEditor, 294  
toolButtonArcEndX  
    PropertyEditor, 294  
toolButtonArcEndY  
    PropertyEditor, 294  
toolButtonArcInAngle  
    PropertyEditor, 294  
toolButtonArcLength  
    PropertyEditor, 294  
toolButtonArcRadius  
    PropertyEditor, 294  
toolButtonArcStartAngle  
    PropertyEditor, 295  
toolButtonArcStartX  
    PropertyEditor, 295  
toolButtonArcStartY  
    PropertyEditor, 295  
toolButtonBlockX  
    PropertyEditor, 295  
toolButtonBlockY  
    PropertyEditor, 295  
toolButtonCircleArea  
    PropertyEditor, 295  
                toolButtonCircleCenterX  
                    PropertyEditor, 295  
                toolButtonCircleCenterY  
                    PropertyEditor, 295  
                toolButtonCircleCircumference  
                    PropertyEditor, 295  
                toolButtonCircleDiameter  
                    PropertyEditor, 295  
                toolButtonCircleRadius  
                    PropertyEditor, 295  
                toolButtonEllipseCenterX  
                    PropertyEditor, 296  
                toolButtonEllipseCenterY  
                    PropertyEditor, 296  
                toolButtonEllipseDiameterMajor  
                    PropertyEditor, 296  
                toolButtonEllipseDiameterMinor  
                    PropertyEditor, 296  
                toolButtonEllipseRadiusMajor  
                    PropertyEditor, 296  
                toolButtonEllipseRadiusMinor  
                    PropertyEditor, 296  
                toolButtonGeneralColor  
                    PropertyEditor, 296  
                toolButtonGeneralLayer  
                    PropertyEditor, 296  
                toolButtonGeneralLineType  
                    PropertyEditor, 296  
                toolButtonGeneralLineWeight  
                    PropertyEditor, 296  
                toolButtonImageHeight  
                    PropertyEditor, 296  
                toolButtonImageName  
                    PropertyEditor, 297  
                toolButtonImagePath  
                    PropertyEditor, 297  
                toolButtonImageWidth  
                    PropertyEditor, 297  
                toolButtonImageX  
                    PropertyEditor, 297  
                toolButtonImageY  
                    PropertyEditor, 297  
                toolButtonInfiniteLineVectorX  
                    PropertyEditor, 297  
                toolButtonInfiniteLineVectorY  
                    PropertyEditor, 297  
                toolButtonInfiniteLineX1  
                    PropertyEditor, 297  
                toolButtonInfiniteLineX2  
                    PropertyEditor, 297  
                toolButtonInfiniteLineY1  
                    PropertyEditor, 297  
                toolButtonInfiniteLineY2  
                    PropertyEditor, 297  
                toolButtonLineAngle  
                    PropertyEditor, 298  
                toolButtonLineDeltaX  
                    PropertyEditor, 298

toolButtonLineDeltaY  
    PropertyEditor, 298  
toolButtonLineEndX  
    PropertyEditor, 298  
toolButtonLineEndY  
    PropertyEditor, 298  
toolButtonLineLength  
    PropertyEditor, 298  
toolButtonLineStartX  
    PropertyEditor, 298  
toolButtonLineStartY  
    PropertyEditor, 298  
toolButtonPathArea  
    PropertyEditor, 298  
toolButtonPathClosed  
    PropertyEditor, 298  
toolButtonPathLength  
    PropertyEditor, 298  
toolButtonPathVertexNum  
    PropertyEditor, 299  
toolButtonPathVertexX  
    PropertyEditor, 299  
toolButtonPathVertexY  
    PropertyEditor, 299  
toolButtonPickAdd  
    PropertyEditor, 299  
toolButtonPointX  
    PropertyEditor, 299  
toolButtonPointY  
    PropertyEditor, 299  
toolButtonPolygonCenterX  
    PropertyEditor, 299  
toolButtonPolygonCenterY  
    PropertyEditor, 299  
toolButtonPolygonDiameterSide  
    PropertyEditor, 299  
toolButtonPolygonDiameterVertex  
    PropertyEditor, 299  
toolButtonPolygonInteriorAngle  
    PropertyEditor, 299  
toolButtonPolygonRadiusSide  
    PropertyEditor, 300  
toolButtonPolygonRadiusVertex  
    PropertyEditor, 300  
toolButtonPolylineArea  
    PropertyEditor, 300  
toolButtonPolylineClosed  
    PropertyEditor, 300  
toolButtonPolylineLength  
    PropertyEditor, 300  
toolButtonPolylineVertexNum  
    PropertyEditor, 300  
toolButtonPolylineVertexX  
    PropertyEditor, 300  
toolButtonPolylineVertexY  
    PropertyEditor, 300  
toolButtonQSelect  
    PropertyEditor, 300  
toolButtonRayVectorX  
    PropertyEditor, 300  
toolButtonRayVectorY  
    PropertyEditor, 300  
toolButtonRayX1  
    PropertyEditor, 301  
toolButtonRayX2  
    PropertyEditor, 301  
toolButtonRayY1  
    PropertyEditor, 301  
toolButtonRayY2  
    PropertyEditor, 301  
toolButtonRectangleArea  
    PropertyEditor, 301  
toolButtonRectangleCorner1X  
    PropertyEditor, 301  
toolButtonRectangleCorner1Y  
    PropertyEditor, 301  
toolButtonRectangleCorner2X  
    PropertyEditor, 301  
toolButtonRectangleCorner2Y  
    PropertyEditor, 301  
toolButtonRectangleCorner3X  
    PropertyEditor, 301  
toolButtonRectangleCorner3Y  
    PropertyEditor, 301  
toolButtonRectangleCorner4X  
    PropertyEditor, 302  
toolButtonRectangleCorner4Y  
    PropertyEditor, 302  
toolButtonRectangleHeight  
    PropertyEditor, 302  
toolButtonRectangleWidth  
    PropertyEditor, 302  
toolButtonTextMultiX  
    PropertyEditor, 302  
toolButtonTextMultiY  
    PropertyEditor, 302  
toolButtonTextSingleBackward  
    PropertyEditor, 302  
toolButtonTextSingleContents  
    PropertyEditor, 302  
toolButtonTextSingleFont  
    PropertyEditor, 302  
toolButtonTextSingleHeight  
    PropertyEditor, 302  
toolButtonTextSingleJustify  
    PropertyEditor, 302  
toolButtonTextSingleRotation  
    PropertyEditor, 303  
toolButtonTextSingleUpsideDown  
    PropertyEditor, 303  
toolButtonTextSingleX  
    PropertyEditor, 303  
toolButtonTextSingleY  
    PropertyEditor, 303  
top  
    \_vp3Hoop, 55

EmbRect\_, 136  
 hoop\_padding, 142  
 top2  
 \_vp3Hoop, 55  
 toPolyline  
 SaveObject, 312  
 toTransform  
 UndoableNavCommand, 391  
 transactionSignatureNumber  
 \_bcf\_file\_header, 53  
 translate  
 gui\_backend.h, 451  
 imgui\_main.c, 566  
 translated\_text  
 gui\_backend.cpp, 438  
 gui\_backend.h, 451  
 translation\_table  
 imgui\_main.c, 576  
 treeView  
 LayerManager, 152  
 triangle\_action  
 imgui\_main.c, 566  
 TRIM  
 embroidery.h, 681  
 Type  
 ArcObject, 60  
 BaseObject, 67  
 CircleObject, 74  
 DimLeaderObject, 105  
 EllipseObject, 112  
 ImageObject, 145  
 LineObject, 154  
 PathObject, 247  
 PointObject, 252  
 PolygonObject, 256  
 PolylineObject, 261  
 RectObject, 305  
 TextSingleObject, 371  
 type  
 ArcObject, 65  
 BaseObject, 71  
 CircleObject, 78  
 DimLeaderObject, 108  
 EllipseObject, 115  
 EmbArray\_, 119  
 EmbFormatList\_, 125  
 EmbGeometry\_ , 128  
 ImageObject, 147  
 LineObject, 157  
 PathObject, 249  
 PointObject, 254  
 PolygonObject, 258  
 PolylineObject, 263  
 RectObject, 307  
 TextSingleObject, 376  
 UiObject\_, 383  
 ui\_mode  
 View\_, 421

UiObject  
 imgui\_main.c, 494  
 UiObject\_, 380  
 center, 381  
 color, 381  
 command, 381  
 controlPointLabels, 381  
 controlPoints, 381  
 firstRun, 381  
 fname, 381  
 id, 381  
 maxPoints, 381  
 minPoints, 382  
 mode, 382  
 n\_controlPoints, 382  
 numPoints, 382  
 object\_index, 382  
 path\_desc, 382  
 pattern\_index, 382  
 rotation, 382  
 scale, 382  
 selectable, 382  
 text, 382  
 textFont, 383  
 textHeight, 383  
 textJustify, 383  
 textRotation, 383  
 texture\_id, 383  
 type, 383  
 UiObject\_free  
 imgui\_main.c, 566  
 UiObject\_init  
 imgui\_main.c, 566  
 undo  
 MainWindow, 217  
 UndoableAddCommand, 384  
 UndoableDeleteCommand, 385  
 UndoableGripEditCommand, 386  
 UndoableMirrorCommand, 388  
 UndoableMoveCommand, 389  
 UndoableNavCommand, 391  
 UndoableRotateCommand, 393  
 UndoableScaleCommand, 394  
 UndoEditor, 396  
 undo\_action  
 imgui\_main.c, 566  
 undo\_editor\_init  
 imgui\_main.c, 566  
 undo\_history  
 View\_, 421  
 undo\_history\_free  
 imgui\_main.c, 566  
 undo\_history\_init  
 imgui\_main.c, 567  
 undo\_history\_viewer  
 imgui\_main.c, 567  
 undo\_navigation  
 imgui\_main.c, 567

undoable\_navigation\_command  
  imgui\_main.c, 567

UndoableAddCommand, 383  
  gview, 384  
  object, 384  
  redo, 384  
  undo, 384  
  UndoableAddCommand, 384

UndoableDeleteCommand, 384  
  gview, 385  
  object, 385  
  redo, 385  
  undo, 385  
  UndoableDeleteCommand, 385

UndoableGripEditCommand, 385  
  after, 386  
  before, 386  
  gview, 387  
  object, 387  
  redo, 386  
  undo, 386  
  UndoableGripEditCommand, 386

UndoableMirrorCommand, 387  
  gview, 388  
  mirror, 388  
  mirrorLine, 388  
  object, 388  
  redo, 388  
  undo, 388  
  UndoableMirrorCommand, 387

UndoableMoveCommand, 388  
  dx, 389  
  dy, 389  
  gview, 389  
  object, 389  
  redo, 389  
  undo, 389  
  UndoableMoveCommand, 389

UndoableNavCommand, 390  
  done, 391  
  fromCenter, 391  
  fromTransform, 391  
  gview, 391  
  id, 390  
  mergeWith, 390  
  navType, 391  
  redo, 391  
  toCenter, 391  
  toTransform, 391  
  undo, 391  
  UndoableNavCommand, 390

UndoableRotateCommand, 392  
  angle, 393  
  gview, 393  
  object, 393  
  pi, 392  
  pivotX, 393  
  pivotY, 393  
    radians, 392  
    redo, 393  
    rotate, 393  
    undo, 393  
    UndoableRotateCommand, 392

UndoableScaleCommand, 394  
  dx, 394  
  dy, 395  
  factor, 395  
  gview, 395  
  object, 395  
  redo, 394  
  undo, 394  
  UndoableScaleCommand, 394

UndoEditor, 395  
  ~UndoEditor, 396  
  addStack, 396  
  canRedo, 396  
  canUndo, 396  
  focusWidget, 397  
  iconDir, 397  
  iconSize, 397  
  redo, 396  
  redoText, 396  
  undo, 396  
  UndoEditor, 396  
  undoGroup, 397  
  undoText, 397  
  undoView, 397  
  updateCleanIcon, 397

undoGroup  
  UndoEditor, 397

UndoHistory  
  imgui\_main.c, 494

UndoHistory\_  
  data, 398  
  length, 398  
  max\_length, 398  
  position, 398

undoPressed  
  CmdPrompt, 86  
  CmdPromptInput, 97

undoStack  
  View, 417

undoText  
  UndoEditor, 397

undoView  
  UndoEditor, 397

unknown  
  VipHeader\_, 422

unknown2  
  \_vp3Hoop, 55

unknown3  
  \_vp3Hoop, 55

unknown4  
  \_vp3Hoop, 56

update\_clean\_icon  
  imgui\_main.c, 567

update\_heart  
     imgui\_main.c, 567  
 update\_menu\_toolbar\_statusbar  
     imgui\_main.c, 567  
 update\_mouse\_coords  
     imgui\_main.c, 568  
 updateAllViewBackgroundColors  
     imgui\_main.c, 568  
     MainWindow, 217  
 updateAllViewCrossHairColors  
     imgui\_main.c, 568  
     MainWindow, 218  
 updateAllViewGridColors  
     imgui\_main.c, 568  
     MainWindow, 218  
 updateAllViewRulerColors  
     imgui\_main.c, 568  
     MainWindow, 218  
 updateAllViewScrollBars  
     MainWindow, 218  
 updateAllViewscrollbars  
     imgui\_main.c, 568  
 updateAllViewSelectBoxColors  
     imgui\_main.c, 568  
     MainWindow, 218  
 updateArcRect  
     ArcObject, 65  
 updateCleanIcon  
     UndoEditor, 397  
 updateColorLinetypeLineweight  
     imgui\_main.c, 569  
     MdiWindow, 243  
 updateComboBoxBoolIfVaries  
     PropertyEditor, 277  
 updateComboBoxStrlIfVaries  
     PropertyEditor, 277  
 updateCurrentText  
     CmdPromptInput, 97  
 updateDolphin  
     imgui\_main.c, 569  
 updateFontComboBoxStrlIfVaries  
     PropertyEditor, 277  
 updateLeader  
     DimLeaderObject, 108  
 updateLineEditNumlIfVaries  
     PropertyEditor, 277  
 updateLineEditStrlIfVaries  
     PropertyEditor, 277  
 updateMenuToolbarStatusbar  
     MainWindow, 218  
 updateMouseCoords  
     View, 411  
 updatePath  
     ArcObject, 65  
     CircleObject, 78  
     EllipseObject, 115  
     ImageObject, 147  
     PathObject, 249  
 PolygonObject, 259  
 PolylineObject, 264  
 RectObject, 307  
 updatePickAddMode  
     imgui\_main.c, 569  
     MainWindow, 218  
 updatePickAddModeButton  
     PropertyEditor, 278  
 updateRubber  
     ArcObject, 65  
     CircleObject, 78  
     DimLeaderObject, 108  
     EllipseObject, 116  
     ImageObject, 148  
     LineObject, 157  
     PathObject, 249  
     PointObject, 254  
     PolygonObject, 259  
     PolylineObject, 264  
     RectObject, 307  
     TextSingleObject, 376  
 updateSnowflake  
     imgui\_main.c, 569  
 updateStar  
     imgui\_main.c, 569  
 updateStyle  
     CmdPrompt, 86  
 upPressed  
     CmdPrompt, 86  
     CmdPromptInput, 97  
 usage  
     imgui\_main.c, 569  
     main.cpp, 578  
 use\_translation  
     Settings\_, 329  
 useBackgroundColor  
     MdiArea, 236  
 useBackgroundLogo  
     MdiArea, 236  
 useBackgroundTexture  
     MdiArea, 237  
 useColor  
     MdiArea, 237  
 useLogo  
     MdiArea, 237  
 useTexture  
     MdiArea, 237  
 valid\_file\_format  
     imgui\_main.c, 569  
 validFormat  
     MainWindow, 218  
 validRGB  
     imgui\_main.c, 570  
 value  
     DictionaryEntry\_, 102  
     IndexEntry\_, 150  
     SvgAttribute\_, 368  
 vector

EmbGeometry\_, 128  
vector.c  
embVector\_add, 874  
embVector\_angle, 874  
embVector\_average, 875  
embVector\_cross, 875  
embVector\_distance, 875  
embVector\_dot, 875  
embVector\_length, 875  
embVector\_multiply, 876  
embVector\_normalize, 876  
embVector\_relativeX, 876  
embVector\_relativeY, 876  
embVector\_subtract, 876  
embVector\_transpose\_product, 877  
embVector\_unit, 877  
version  
main.cpp, 578  
Settings\_, 330  
vertical\_dimension\_action  
imgui\_main.c, 570  
View, 398  
~View, 402  
addObject, 402  
addToRubberRoom, 402  
alignScenePointWithViewPoint, 402  
allowRubber, 402  
allowZoomIn, 402  
allowZoomOut, 402  
center, 402  
centerAt, 403  
clearRubberRoom, 403  
clearSelection, 403  
contextMenuEvent, 403  
copy, 403  
copySelected, 403  
cornerButtonClicked, 403  
createGrid, 403  
createGridIso, 403  
createGridPolar, 403  
createGridRect, 403  
createObjectList, 404  
createOrigin, 404  
createRulerTextPath, 404  
crosshairColor, 412  
crosshairSize, 412  
cut, 404  
cutCopyMousePoint, 412  
deleteObject, 404  
deletePressed, 404  
deleteSelected, 404  
disableMoveRapidFire, 404  
drawBackground, 404  
drawForeground, 404  
enableMoveRapidFire, 405  
enterEvent, 405  
escapePressed, 405  
getUndoStack, 405  
gridColor, 412  
gridPath, 412  
gripBaseObj, 412  
gripColorCool, 413  
gripColorHot, 413  
grippingActive, 413  
gripSize, 413  
gscene, 413  
hashDeletedObjects, 413  
imgui\_main.c, 495  
isLwtEnabled, 405  
isRealEnabled, 405  
loadRulerSettings, 405  
mainWin, 413  
mirrorSelected, 405  
mouseDoubleClickEvent, 405  
mouseMoveEvent, 405  
mousePressEvent, 406  
mouseReleaseEvent, 406  
moveAction, 406  
movePoint, 413  
moveSelected, 406  
movingActive, 413  
numSelected, 406  
originPath, 413  
panDistance, 413  
panDown, 406  
panLeft, 406  
panningActive, 414  
panningPointActive, 414  
panningRealTimeActive, 414  
panPoint, 406  
panRealTime, 406  
panRight, 406  
panStart, 407  
panStartX, 414  
panStartY, 414  
panUp, 407  
paste, 407  
pasteDelta, 414  
pasteObjectItemGroup, 414  
pastingActive, 414  
pi, 407  
pickBoxSize, 414  
pressPoint, 414  
previewActive, 414  
previewData, 415  
previewMode, 415  
previewObjectItemGroup, 415  
previewObjectList, 415  
previewOff, 407  
previewOn, 407  
previewPoint, 415  
qSnapActive, 415  
qsnapApertureSize, 415  
qsnapLocatorColor, 415  
qsnapLocatorSize, 415  
qSnapToggle, 415

radians, 407  
 rapidMoveActive, 415  
 recalculateLimits, 407  
 releasePoint, 416  
 repeatAction, 407  
 rotateAction, 407  
 rotateSelected, 408  
 roundToMultiple, 408  
 rubberRoomList, 416  
 rulerColor, 416  
 rulerMetric, 416  
 rulerPixelSize, 416  
 scaleAction, 408  
 scaleSelected, 408  
 sceneGripPoint, 416  
 sceneMousePoint, 416  
 sceneMovePoint, 416  
 scenePressPoint, 416  
 sceneReleasePoint, 416  
 selectAll, 408  
 selectBox, 416  
 selectingActive, 417  
 selectionChanged, 408  
 setBackgroundColor, 408  
 setCornerButton, 408  
 setCrossHairColor, 408  
 setCrossHairSize, 409  
 setGridColor, 409  
 setRubberMode, 409  
 setRubberPoint, 409  
 setRubberText, 409  
 setRulerColor, 409  
 setSelectBoxColors, 409  
 showScrollBars, 409  
 spareRubber, 409  
 spareRubberList, 417  
 startGripping, 410  
 stopGripping, 410  
 tempBaseObj, 417  
 toggleGrid, 410  
 toggleLwt, 410  
 toggleOrtho, 410  
 togglePolar, 410  
 toggleQSnap, 410  
 toggleQTrack, 410  
 toggleReal, 410  
 toggleRuler, 410  
 toggleSnap, 411  
 undoStack, 417  
 updateMouseCoords, 411  
 View, 402  
 viewMousePoint, 417  
 vulcanizeObject, 411  
 vulcanizeRubberRoom, 411  
 wheelEvent, 411  
 willOverflowInt32, 411  
 willUnderflowInt32, 411  
 zoomExtents, 411

zoomIn, 411  
 zoomOut, 412  
 zoomSelected, 412  
 zoomToPoint, 412  
 zoomWindow, 412  
 zoomWindowActive, 417

**View\_**, 417  
 filename, 418  
 grid\_mode, 418  
 grid\_type, 418  
 lwt\_mode, 418  
 metric, 418  
 n\_selected, 418  
 origin, 419  
 ortho\_mode, 419  
 pattern, 419  
 polar\_mode, 419  
 qsnap\_mode, 419  
 qtrack\_mode, 419  
 real\_render, 419  
 rubber\_mode, 419  
 ruler\_mode, 419  
 scale, 419  
 selected, 419  
 simulate, 420  
 simulation\_start, 420  
 snap\_mode, 420  
 text\_angle, 420  
 text\_font, 420  
 text\_size, 420  
 text\_style\_bold, 420  
 text\_style\_italic, 420  
 text\_style\_overline, 420  
 text\_style\_strikeout, 420  
 text\_style\_underline, 420  
 ui\_mode, 421  
 undo\_history, 421

**View\_**  
 imgui\_main.c, 570

**VIEW\_COLOR\_BACKGROUND**  
 object-data.h, 615

**VIEW\_COLOR\_CROSSHAIR**  
 imgui\_main.c, 491  
 object-data.h, 615

**VIEW\_COLOR\_GRID**  
 imgui\_main.c, 491  
 object-data.h, 615

view\_empty\_double\_click  
 imgui\_main.c, 570

view\_empty\_paint\_event  
 imgui\_main.c, 570

view\_free  
 imgui\_main.c, 571

**VIEW\_MOUSE\_POINT**  
 object-data.h, 615

**VIEW\_STATE\_CLOSEABLE**  
 imgui\_main.c, 491

**VIEW\_STATE\_GRID**

imgui\_main.c, 491  
VIEW\_STATE\_GRIP  
    imgui\_main.c, 491  
VIEW\_STATE\_LWT  
    imgui\_main.c, 491  
VIEW\_STATE\_ORTHO  
    imgui\_main.c, 491  
VIEW\_STATE\_POLAR  
    imgui\_main.c, 492  
VIEW\_STATE\_QSNAP  
    imgui\_main.c, 492  
VIEW\_STATE\_QTRACK  
    imgui\_main.c, 492  
VIEW\_STATE\_REAL  
    imgui\_main.c, 492  
VIEW\_STATE\_RULER  
    imgui\_main.c, 492  
VIEW\_STATE\_SNAP  
    imgui\_main.c, 492  
VIEW\_STATE\_USE\_COLOR  
    imgui\_main.c, 492  
VIEW\_STATE\_USE\_LOGO  
    imgui\_main.c, 492  
VIEW\_STATE\_USE\_TEXTURE  
    imgui\_main.c, 492  
view\_tab  
    gui\_backend.h, 451  
viewMenu  
    MainWindow, 234  
viewMousePoint  
    View, 417  
views  
    imgui\_main.c, 576  
vipCompressData  
    format\_vip.c, 854  
vipDecodeByte  
    format\_vip.c, 854  
vipDecodeStitchType  
    format\_vip.c, 854  
vipDecodingTable  
    embroidery.h, 716  
    format\_vip.c, 855  
vipDecompressData  
    format\_vip.c, 854  
vipEncodeByte  
    format\_vip.c, 854  
vipEncodeStitchType  
    format\_vip.c, 854  
VipHeader  
    embroidery\_internal.h, 744  
VipHeader\_  
    421  
        attributeOffset, 421  
        colorLength, 421  
        magicCode, 421  
        negativeXHoopSize, 422  
        negativeYHoopSize, 422  
        numberOfColors, 422  
        numberOfStitches, 422  
postitiveXHoopSize, 422  
postitiveYHoopSize, 422  
stringVal, 422  
unknown, 422  
xOffset, 422  
yOffset, 422  
vp3Decode  
    format\_vp3.c, 856  
vp3DecodeInt16  
    format\_vp3.c, 856  
vp3Hoop  
    embroidery\_internal.h, 744  
vp3PatchByteCount  
    format\_vp3.c, 856  
vp3ReadHoopSection  
    format\_vp3.c, 856  
vp3ReadString  
    format\_vp3.c, 856  
vp3WriteString  
    format\_vp3.c, 856  
vp3WriteStringLen  
    format\_vp3.c, 856  
vulcanize  
    ArcObject, 65  
    BaseObject, 71  
    CircleObject, 78  
    DimLeaderObject, 109  
    EllipseObject, 116  
    ImageObject, 148  
    imgui\_main.c, 571  
    LineObject, 157  
    PathObject, 249  
    PointObject, 254  
    PolygonObject, 259  
    PolylineObject, 264  
    RectObject, 307  
    TextSingleObject, 376  
vulcanize\_action  
    imgui\_main.c, 571  
vulcanize\_rubber\_room  
    imgui\_main.c, 571  
vulcanizeObject  
    imgui\_main.c, 571  
    View, 411  
vulcanizeRubberRoom  
    View, 411  
whats\_this\_context\_help\_action  
    imgui\_main.c, 571  
whatsThisContextHelp  
    MainWindow, 218  
wheel\_event  
    imgui\_main.c, 571  
wheelEvent  
    View, 411  
WHITESPACE  
    main.c, 892  
WIDGET\_MODE\_BACKGROUND  
    imgui\_main.c, 492

**WIDGET\_MODE\_BLOCK**  
 imgui\_main.c, 492  
**WIDGET\_MODE\_COMBOBOX**  
 imgui\_main.c, 493  
**WIDGET\_MODE\_CONTAINER**  
 imgui\_main.c, 493  
**WIDGET\_MODE\_IMAGE**  
 imgui\_main.c, 493  
**WIDGET\_MODE\_PANEL**  
 imgui\_main.c, 493  
**WIDGET\_MODE\_ROOT**  
 imgui\_main.c, 493  
**WIDGET\_MODE\_SPINBOX**  
 imgui\_main.c, 493  
**WIDGET\_MODE\_SVG**  
 imgui\_main.c, 493  
**WIDGET\_MODE\_TEXT**  
 imgui\_main.c, 493  
**WIDGET\_MODE\_VIEW**  
 imgui\_main.c, 493  
**width**  
 \_vp3Hoop, 56  
 EmblImage\_, 129  
**willOverflowInt32**  
 imgui\_main.c, 572  
 View, 411  
**willUnderflowInt32**  
 imgui\_main.c, 572  
 View, 411  
**window\_action**  
 imgui\_main.c, 572  
**window\_menu\_about\_to\_show**  
 imgui\_main.c, 572  
**window\_menu\_activated**  
 imgui\_main.c, 572  
**windowMenu**  
 MainWindow, 234  
**windowMenuAboutToShow**  
 MainWindow, 219  
**windowMenuActivated**  
 MainWindow, 219  
**wizardTipOfDay**  
 MainWindow, 234  
**write100**  
 embroidery\_internal.h, 773  
 format\_100.c, 809  
**write10o**  
 embroidery\_internal.h, 774  
 format\_10o.c, 810  
**write\_24bit**  
 embroidery\_internal.h, 774  
 encoding.c, 793  
 main.c, 892  
**write\_bool\_setting**  
 imgui\_main.c, 572  
**write\_dictionary\_setting**  
 imgui\_main.c, 572  
**write\_external\_color\_file**  
 EmbFormatList\_, 125  
**write\_float\_setting**  
 imgui\_main.c, 573  
**write\_int\_setting**  
 imgui\_main.c, 573  
**write\_settings**  
 imgui\_main.c, 573  
**write\_str\_setting**  
 imgui\_main.c, 573  
**write\_uint\_setting**  
 imgui\_main.c, 573  
**writeArt**  
 embroidery\_internal.h, 774  
 format\_art.c, 810  
**writeBmc**  
 embroidery\_internal.h, 774  
 format\_bmc.c, 811  
**writeBro**  
 embroidery\_internal.h, 774  
 format\_bro.c, 811  
**writeCnd**  
 embroidery\_internal.h, 774  
 format\_cnd.c, 812  
**writeCol**  
 embroidery\_internal.h, 774  
 format\_col.c, 813  
**writeCsd**  
 embroidery\_internal.h, 775  
 format\_csd.c, 814  
**writeCsv**  
 embroidery\_internal.h, 775  
 format\_csv.c, 815  
**writeDat**  
 embroidery\_internal.h, 775  
 format\_dat.c, 816  
**writeDem**  
 embroidery\_internal.h, 775  
 format\_dem.c, 816  
**writeDsb**  
 embroidery\_internal.h, 775  
 format\_dsb.c, 817  
**writeDst**  
 embroidery\_internal.h, 775  
 format\_dst.c, 818  
**writeDsz**  
 embroidery\_internal.h, 775  
 format\_dsz.c, 819  
**writeDxf**  
 embroidery\_internal.h, 775  
 format\_dxf.c, 820  
**writeEdr**  
 embroidery\_internal.h, 776  
 format\_edr.c, 820  
**writeEmd**  
 embroidery\_internal.h, 776  
 format\_emd.c, 821  
**writeExp**  
 embroidery\_internal.h, 776

format\_exp.c, 821  
writeExy  
embroidery\_internal.h, 776  
format\_exy.c, 822  
writeEys  
embroidery\_internal.h, 776  
format\_eyc.c, 823  
writeFxy  
embroidery\_internal.h, 776  
format\_fxy.c, 823  
writeGc  
embroidery\_internal.h, 776  
format\_gc.c, 824  
writeGnc  
embroidery\_internal.h, 776  
format\_gnc.c, 824  
writeGt  
embroidery\_internal.h, 777  
format\_gt.c, 825  
writeHus  
embroidery\_internal.h, 777  
format\_hus.c, 826  
writeImage  
format\_pec.c, 837  
image.c, 878  
writeInb  
embroidery\_internal.h, 777  
format\_inb.c, 827  
writeInf  
embroidery\_internal.h, 777  
format\_inf.c, 827  
writeJef  
embroidery\_internal.h, 777  
format\_jef.c, 829  
writeKsm  
embroidery\_internal.h, 777  
format\_ksm.c, 830  
writeMax  
embroidery\_internal.h, 777  
format\_max.c, 830  
writeMit  
embroidery\_internal.h, 777  
format\_mit.c, 831  
writeNew  
embroidery\_internal.h, 778  
format\_new.c, 832  
writeOfm  
embroidery\_internal.h, 778  
format\_ofm.c, 833  
writePcd  
embroidery\_internal.h, 778  
format\_pcd.c, 834  
writePcm  
embroidery\_internal.h, 778  
format\_pcm.c, 834  
writePcq  
embroidery\_internal.h, 778  
format\_pcq.c, 835  
writePcs  
embroidery\_internal.h, 778  
format\_pcs.c, 836  
writePec  
embroidery\_internal.h, 778  
format\_pec.c, 837  
writePecStitches  
embroidery\_internal.h, 778  
format\_pec.c, 837  
writePel  
embroidery\_internal.h, 779  
format\_pel.c, 838  
writePem  
embroidery\_internal.h, 779  
format\_pem.c, 838  
writePes  
embroidery\_internal.h, 779  
format\_pes.c, 841  
writePhb  
embroidery\_internal.h, 779  
format\_phb.c, 842  
writePhc  
embroidery\_internal.h, 779  
format\_phc.c, 843  
writePlt  
embroidery\_internal.h, 779  
format\_plt.c, 843  
writer\_state  
EmbFormatList\_, 125  
writeRgb  
embroidery\_internal.h, 779  
format\_rgb.c, 844  
writeSettings  
MainWindow, 219  
writeSew  
embroidery\_internal.h, 779  
format\_sew.c, 845  
writeShv  
embroidery\_internal.h, 780  
format\_shv.c, 846  
writeSst  
embroidery\_internal.h, 780  
format\_sst.c, 846  
writeStx  
embroidery\_internal.h, 780  
format\_stx.c, 847  
writeSvg  
embroidery\_internal.h, 780  
format\_svg.c, 848  
writeT01  
embroidery\_internal.h, 780  
format\_t01.c, 849  
writeT09  
embroidery\_internal.h, 780  
format\_t09.c, 850  
writeTap  
embroidery\_internal.h, 780  
format\_tap.c, 851

writeThr  
     embroidery\_internal.h, 780  
     format\_thr.c, 851

writeTxt  
     embroidery\_internal.h, 781  
     format\_txt.c, 852

writeU00  
     embroidery\_internal.h, 781  
     format\_u00.c, 852

writeU01  
     embroidery\_internal.h, 781  
     format\_u01.c, 853

writeVip  
     embroidery\_internal.h, 781  
     format\_vip.c, 854

writeVp3  
     embroidery\_internal.h, 781  
     format\_vp3.c, 856

writeXxx  
     embroidery\_internal.h, 781  
     format\_xxx.c, 857

writeZsk  
     embroidery\_internal.h, 781  
     format\_zsk.c, 858

x  
     EmbStitch\_, 138  
     EmbVector\_, 141

xOffset  
     \_vp3Hoop, 56  
     VipHeader\_, 422

xxxDecodeByte  
     format\_xxx.c, 857

xxxEncodeDesign  
     format\_xxx.c, 857

xxxEncodeStitch  
     format\_xxx.c, 857

xxxEncodeStop  
     format\_xxx.c, 858

y  
     EmbStitch\_, 138  
     EmbVector\_, 141

year  
     EmbTime\_, 141

YELLOW\_TERM\_COLOR  
     embroidery\_internal.h, 743

yOffset  
     \_vp3Hoop, 56  
     VipHeader\_, 422

Z102\_Isacord\_Polyester  
     embroidery.h, 681

zoom\_action  
     imgui\_main.c, 573

zoom\_extents\_all\_subviews  
     imgui\_main.c, 573

zoom\_to\_point  
     imgui\_main.c, 574

zoomAll  
     MainWindow, 219

zoomCenter  
     MainWindow, 219

zoomDynamic  
     MainWindow, 219

zoomExtents  
     MainWindow, 219  
     View, 411

zoomExtentsAllSubWindows  
     MdiArea, 237

zoomIn  
     MainWindow, 219  
     View, 411

zoomInLimit  
     Settings\_, 330

zoomMenu  
     MainWindow, 234

zoomOut  
     MainWindow, 219  
     View, 412

zoomOutLimit  
     Settings\_, 330

zoomPrevious  
     MainWindow, 219

zoomRealtime  
     MainWindow, 219

zoomScale  
     MainWindow, 220

zoomSelected  
     MainWindow, 220  
     View, 412

zoomToPoint  
     View, 412

zoomWindow  
     MainWindow, 220  
     View, 412

zoomWindowActive  
     View, 417