

Embroidermodder

2.0.0 alpha

Generated by Doxygen 1.9.6

1 Overview	1
1.0.1 License	2
1.0.2 The Embroidermodder Project and Team	2
1.1 About	3
1.1.1 The Embroidermodder Project and Team	3
1.1.2 for Embroidermodder 2, libembroidery and all other related code	4
1.1.3 "Embroidermodder 1"	4
1.1.4 Features	4
1.1.5 "Build and Install"	5
1.2 About	6
1.2.1 "Core Development Team"	6
1.2.2 History	6
1.3 Contact us	7
1.4 Downloads	7
1.4.1 Alpha Build	7
2 Embroidermodder 2	7
3 GNU Free Documentation License	7
3.0.1 ADDENDUM: How to use this License for your documents	12
4 Tutorials	13
4.1 Basic Features	13
4.1.1 Move a single stitch in an existing pattern	13
4.2 Altering a Single Stitch (2022-09-19)	13
4.2.1 Convert one pattern to another format	13
4.3 Advanced Features	13
5 History	13
5.1 Fast Forward (2014-02-13)	14
5.2 Open Collective and New Plan (2021-12-19)	16
5.3 January 2022 Development Notes For Embroidermodder 2 (2022-01-31)	17
5.3.1 Broad Development Goals	17
5.3.2 The New Settings System	18
5.3.3 Reducing Reliance on Qt5	18
5.3.4 Palettes	18
5.3.5 Conclusion	18
5.4 June 2022 Backer Update (2022-06-22)	18
5.4.1 Fill Algorithms	19
5.4.2 Working Render Algorithm	19
5.4.3 Timetable	19
5.5 New Website! (2013-09-09)	19
5.6 Crowdfunding Campaign Coming Soon! (2013-09-09)	20
5.7 Our Kickstarter Crowdfunding Campaign is LIVE! (2014-03-17)	20

5.8 Fast Forward (2014-02-13)	20
6 Changelog	21
7 embedded	21
7.1 Embroiderbot and Libembroidery on Embedded Systems	21
7.1.1 Compatible Boards	21
7.1.2 Arduino Considerations	21
7.1.3 Space	21
7.1.4 Tables	22
7.1.5 Current Pattern Memory Management	22
7.1.6 Special Notes	22
7.1.7 The Assembly Split	22
8 embroider_cli	22
8.1 The <tt>embroider</tt> Command Line Program	22
8.1.1 Embroider pipeline	23
8.1.2 embroider CLI	23
9 Geometry and Algorithms	23
9.1 To Do	23
9.2 Development	24
9.3 Testing	24
9.4 Contributing	24
9.4.1 Funding	24
9.4.2 Programming and Engineering	24
9.4.3 Writing	25
9.5 Embroidermodder Project Coding Standards	25
9.5.1 Where Code Goes	25
9.5.2 Where Non-compiled Files Go	25
9.5.3 Ways in which we break style on purpose	25
9.5.4 Naming Conventions	26
9.6 Code Style	26
9.6.1 Braces	26
9.7 Version Control	26
9.8 Donations	27
9.8.1 Format Support	27
9.9 Embroidermodder Project Coding Standards	27
9.9.1 Naming Conventions	27
9.10 Code Style	27
9.10.1 Braces	28
9.10.2 Version Control	28
9.10.3 Comments	28
9.11 Ideas	29

9.11.1 Why this document	29
9.11.2 googletests	29
9.11.3 Qt and dependencies	29
9.11.4 Documentation	29
9.11.5 Social Platform	29
9.11.6 Identify the meaning of these TODO items	29
9.11.7 Progress Chart	29
9.11.8 Style	30
9.11.9 Standard	30
9.11.10 Image Fitting	30
9.11.11 To Place	30
9.11.12 To Do	31
9.11.13 Basic features	31
9.11.14 Code quality and user friendliness	31
9.11.15 Documentation	32
9.11.16 GUI	32
9.12 Electronics development	32
9.13 Development	32
9.13.1 Contributing	32
9.13.2 Debug	33
9.13.3 Binary download	33
10 Formats	33
10.1 Overview	33
10.2 Read/Write Support Levels	33
10.2.1 Test Support Levels	33
10.2.2 Documentation Support Levels	34
10.2.3 Overall Support	34
10.2.4 Table of Format Support Levels	34
10.3 Toyota Embroidery Format (.100)	35
10.3.1 Toyota Embroidery Format (.10o)	36
10.4 Bernina Embroidery Format (.art)	36
10.5 Bitmap Cache Embroidery Format (.bmc)	36
10.6 Bits and Volts Embroidery Format (.bro)	36
10.7 Melco Embroidery Format (.cnd)	36
10.8 Embroidery Thread Color Format (.col)	37
10.8.1 Example	37
10.9 Singer Embroidery Format (.csd)	37
10.10 Comma Separated Values (.csv)	37
10.10.1 Embroidermodder 2.0 CSV Dialect	37
10.10.2 EmBird CSV Dialect	37
10.11 Barudan Embroidery Format (.dat)	38

10.12 Melco Embroidery Format (.dem)	38
10.13 Barudan Embroidery Format (.dsb)	38
10.14 Tajima Embroidery Format (.dst)	38
10.14.1 Header	38
10.14.2 Stitch Data	39
10.15 ZSK USA Embroidery Format (.dsz)	40
10.16 Drawing Exchange Format (.dxf)	40
11 Contributor Covenant Code of Conduct	40
11.1 Our Pledge	40
11.2 Our Standards	40
11.3 Enforcement Responsibilities	41
11.4 Scope	41
11.5 Enforcement	41
11.6 Enforcement Guidelines	41
11.6.1 1. Correction	41
11.6.2 2. Warning	41
11.6.3 3. Temporary Ban	42
11.6.4 4. Permanent Ban	42
11.7 Attribution	42
12 Privacy Policy for Embroidery Viewer	42
12.0.1 CONTACT US	43
13 Todo List	43
14 Hierarchical Index	50
14.1 Class Hierarchy	50
15 Class Index	53
15.1 Class List	53
16 File Index	57
16.1 File List	57
17 Class Documentation	61
17.1 <code>_bcf_directory</code> Struct Reference	61
17.1.1 Detailed Description	61
17.1.2 Member Data Documentation	61
17.2 <code>_bcf_directory_entry</code> Struct Reference	61
17.2.1 Member Data Documentation	62
17.3 <code>_bcf_file</code> Struct Reference	63
17.3.1 Member Data Documentation	64
17.4 <code>_bcf_file_difat</code> Struct Reference	64
17.4.1 Member Data Documentation	64

17.5 _bcf_file_fat Struct Reference	65
17.5.1 Member Data Documentation	65
17.6 _bcf_file_header Struct Reference	65
17.6.1 Detailed Description	66
17.6.2 Member Data Documentation	66
17.7 _vp3Hoop Struct Reference	68
17.7.1 Member Data Documentation	68
17.8 Application Class Reference	70
17.8.1 Detailed Description	71
17.8.2 Constructor & Destructor Documentation	71
17.8.3 Member Function Documentation	71
17.8.4 Member Data Documentation	72
17.9 ArcObject Class Reference	72
17.9.1 Member Enumeration Documentation	75
17.9.2 Constructor & Destructor Documentation	76
17.9.3 Member Function Documentation	77
17.9.4 Member Data Documentation	84
17.10 BaseObject Class Reference	85
17.10.1 Member Enumeration Documentation	86
17.10.2 Constructor & Destructor Documentation	86
17.10.3 Member Function Documentation	86
17.10.4 Member Data Documentation	91
17.11 CircleObject Class Reference	91
17.11.1 Member Enumeration Documentation	93
17.11.2 Constructor & Destructor Documentation	94
17.11.3 Member Function Documentation	94
17.12 CmdPrompt Class Reference	97
17.12.1 Detailed Description	99
17.12.2 Constructor & Destructor Documentation	99
17.12.3 Member Function Documentation	99
17.12.4 Member Data Documentation	105
17.13 CmdPromptHandle Class Reference	105
17.13.1 Detailed Description	106
17.13.2 Constructor & Destructor Documentation	106
17.13.3 Member Function Documentation	106
17.13.4 Member Data Documentation	107
17.14 CmdPromptHistory Class Reference	107
17.14.1 Detailed Description	108
17.14.2 Constructor & Destructor Documentation	108
17.14.3 Member Function Documentation	108
17.14.4 Member Data Documentation	109
17.15 CmdPromptInput Class Reference	110

17.15.1 Constructor & Destructor Documentation	111
17.15.2 Member Function Documentation	111
17.15.3 Member Data Documentation	116
17.16 CmdPromptSplitter Class Reference	117
17.16.1 Detailed Description	117
17.16.2 Constructor & Destructor Documentation	117
17.16.3 Member Function Documentation	117
17.17 Compress Struct Reference	118
17.17.1 Member Data Documentation	118
17.18 DimLeaderObject Class Reference	119
17.18.1 Member Enumeration Documentation	122
17.18.2 Constructor & Destructor Documentation	122
17.18.3 Member Function Documentation	123
17.18.4 Member Data Documentation	126
17.19 EllipseObject Class Reference	127
17.19.1 Member Enumeration Documentation	129
17.19.2 Constructor & Destructor Documentation	129
17.19.3 Member Function Documentation	130
17.20 EmbAlignedDim_ Struct Reference	132
17.20.1 Member Data Documentation	133
17.21 EmbAngularDim_ Struct Reference	133
17.21.1 Member Data Documentation	133
17.22 EmbArc_ Struct Reference	133
17.22.1 Detailed Description	134
17.22.2 Member Data Documentation	134
17.23 EmbArcLengthDim_ Struct Reference	134
17.23.1 Member Data Documentation	134
17.24 EmbArray_ Struct Reference	134
17.24.1 Member Data Documentation	135
17.25 EmbBezier_ Struct Reference	135
17.25.1 Member Data Documentation	136
17.26 EmbBlock_ Struct Reference	136
17.26.1 Member Data Documentation	136
17.27 EmbCircle_ Struct Reference	137
17.27.1 Member Data Documentation	137
17.28 EmbColor_ Struct Reference	137
17.28.1 Detailed Description	137
17.28.2 Member Data Documentation	137
17.29 EmbDetailsDialog Class Reference	138
17.29.1 Detailed Description	138
17.29.2 Constructor & Destructor Documentation	138
17.29.3 Member Function Documentation	139

17.29.4 Member Data Documentation	139
17.30 EmbDiameterDim_ Struct Reference	140
17.30.1 Member Data Documentation	140
17.31 EmbEllipse_ Struct Reference	140
17.31.1 Member Data Documentation	141
17.32 EmbFormatList_ Struct Reference	141
17.32.1 Member Data Documentation	141
17.33 EmbGeometry_ Struct Reference	142
17.33.1 Member Data Documentation	143
17.34 EmbImage_ Struct Reference	144
17.34.1 Member Data Documentation	145
17.35 EmbInfiniteLine_ Struct Reference	145
17.35.1 Member Data Documentation	146
17.36 EmbLayer_ Struct Reference	146
17.36.1 Member Data Documentation	146
17.37 EmbLeaderDim_ Struct Reference	146
17.37.1 Member Data Documentation	147
17.38 EmbLine_ Struct Reference	147
17.38.1 Member Data Documentation	147
17.39 EmbLinearDim_ Struct Reference	148
17.39.1 Member Data Documentation	148
17.40 EmbOrdinateDim_ Struct Reference	148
17.40.1 Member Data Documentation	148
17.41 EmbPath_ Struct Reference	148
17.41.1 Member Data Documentation	149
17.42 EmbPattern_ Struct Reference	149
17.42.1 Member Data Documentation	150
17.43 EmbPoint_ Struct Reference	150
17.43.1 Member Data Documentation	151
17.44 EmbRadiusDim_ Struct Reference	151
17.44.1 Member Data Documentation	151
17.45 EmbRay_ Struct Reference	152
17.45.1 Member Data Documentation	152
17.46 EmbRect_ Struct Reference	152
17.46.1 Member Data Documentation	152
17.47 EmbSatinOutline_ Struct Reference	153
17.47.1 Member Data Documentation	153
17.48 EmbSpline_ Struct Reference	154
17.48.1 Member Data Documentation	154
17.49 EmbStitch_ Struct Reference	154
17.49.1 Member Data Documentation	154
17.50 EmbTextMulti_ Struct Reference	155

17.50.1 Member Data Documentation	155
17.51 EmbTextSingle_ Struct Reference	155
17.51.1 Member Data Documentation	156
17.52 EmbThread_ Struct Reference	156
17.52.1 Member Data Documentation	156
17.53 EmbTime_ Struct Reference	157
17.53.1 Member Data Documentation	157
17.54 EmbVector_ Struct Reference	158
17.54.1 Detailed Description	158
17.54.2 Member Data Documentation	158
17.55 EmbView_ Struct Reference	158
17.55.1 Detailed Description	159
17.55.2 EmbViews	159
17.55.3 Member Data Documentation	159
17.56 hoop_padding Struct Reference	162
17.56.1 Member Data Documentation	162
17.57 Huffman Struct Reference	163
17.57.1 Member Data Documentation	163
17.58 ImageObject Class Reference	164
17.58.1 Member Enumeration Documentation	166
17.58.2 Constructor & Destructor Documentation	166
17.58.3 Member Function Documentation	167
17.59 ImageWidget Class Reference	169
17.59.1 Detailed Description	169
17.59.2 Constructor & Destructor Documentation	169
17.59.3 Member Function Documentation	170
17.59.4 Member Data Documentation	171
17.60 LayerManager Class Reference	171
17.60.1 Detailed Description	171
17.60.2 Constructor & Destructor Documentation	171
17.60.3 Member Function Documentation	172
17.60.4 Member Data Documentation	172
17.61 LineObject Class Reference	173
17.61.1 Member Enumeration Documentation	175
17.61.2 Constructor & Destructor Documentation	175
17.61.3 Member Function Documentation	176
17.62 LSYSTEM Struct Reference	179
17.62.1 Member Data Documentation	179
17.63 MainWindow Class Reference	179
17.63.1 Detailed Description	189
17.63.2 Constructor & Destructor Documentation	189
17.63.3 Member Function Documentation	190

17.63.4 Member Data Documentation	222
17.64 MdiArea Class Reference	236
17.64.1 Constructor & Destructor Documentation	237
17.64.2 Member Function Documentation	238
17.64.3 Member Data Documentation	240
17.65 MdiWindow Class Reference	241
17.65.1 Constructor & Destructor Documentation	243
17.65.2 Member Function Documentation	243
17.65.3 Member Data Documentation	250
17.66 PathObject Class Reference	251
17.66.1 Member Enumeration Documentation	253
17.66.2 Constructor & Destructor Documentation	254
17.66.3 Member Function Documentation	254
17.66.4 Member Data Documentation	256
17.67 PointObject Class Reference	257
17.67.1 Member Enumeration Documentation	258
17.67.2 Constructor & Destructor Documentation	259
17.67.3 Member Function Documentation	259
17.68 PolygonObject Class Reference	261
17.68.1 Member Enumeration Documentation	263
17.68.2 Constructor & Destructor Documentation	264
17.68.3 Member Function Documentation	264
17.68.4 Member Data Documentation	266
17.69 PolylineObject Class Reference	267
17.69.1 Member Enumeration Documentation	269
17.69.2 Constructor & Destructor Documentation	269
17.69.3 Member Function Documentation	270
17.69.4 Member Data Documentation	272
17.70 PreviewDialog Class Reference	272
17.70.1 Constructor & Destructor Documentation	272
17.70.2 Member Data Documentation	273
17.71 PropertyEditor Class Reference	273
17.71.1 Constructor & Destructor Documentation	280
17.71.2 Member Function Documentation	280
17.71.3 Member Data Documentation	284
17.72 RectObject Class Reference	299
17.72.1 Member Enumeration Documentation	301
17.72.2 Constructor & Destructor Documentation	301
17.72.3 Member Function Documentation	302
17.73 SaveObject Class Reference	303
17.73.1 Constructor & Destructor Documentation	304
17.73.2 Member Function Documentation	305

17.73.3 Member Data Documentation	309
17.74 SelectBox Class Reference	309
17.74.1 Constructor & Destructor Documentation	309
17.74.2 Member Function Documentation	310
17.74.3 Member Data Documentation	310
17.75 Settings_Struct Reference	311
17.75.1 Detailed Description	313
17.75.2 Member Data Documentation	313
17.76 Settings_Dialog Class Reference	320
17.76.1 Constructor & Destructor Documentation	325
17.76.2 Member Function Documentation	326
17.76.3 Member Data Documentation	334
17.77 StatusBar Class Reference	342
17.77.1 Constructor & Destructor Documentation	342
17.77.2 Member Function Documentation	342
17.77.3 Member Data Documentation	343
17.78 StatusBarButton Class Reference	343
17.78.1 Constructor & Destructor Documentation	344
17.78.2 Member Function Documentation	344
17.78.3 Member Data Documentation	346
17.79 StxThread_Struct Reference	346
17.79.1 Member Data Documentation	346
17.80 SubDescriptor_Struct Reference	346
17.80.1 Member Data Documentation	347
17.81 SvgAttribute_Struct Reference	347
17.81.1 Member Data Documentation	347
17.82 TextSingleObject Class Reference	347
17.82.1 Member Enumeration Documentation	350
17.82.2 Constructor & Destructor Documentation	350
17.82.3 Member Function Documentation	350
17.82.4 Member Data Documentation	353
17.83 thread_color_Struct Reference	354
17.83.1 Member Data Documentation	354
17.84 ThredExtension_Struct Reference	355
17.84.1 Member Data Documentation	355
17.85 ThredHeader_Struct Reference	355
17.85.1 Member Data Documentation	356
17.86 UiObject_Struct Reference	356
17.86.1 Detailed Description	357
17.86.2 Member Data Documentation	357
17.87 UndoableAddCommand Class Reference	358
17.87.1 Constructor & Destructor Documentation	359

17.87.2 Member Function Documentation	359
17.87.3 Member Data Documentation	359
17.88 UndoableDeleteCommand Class Reference	359
17.88.1 Constructor & Destructor Documentation	359
17.88.2 Member Function Documentation	360
17.88.3 Member Data Documentation	360
17.89 UndoableGripEditCommand Class Reference	360
17.89.1 Constructor & Destructor Documentation	360
17.89.2 Member Function Documentation	361
17.89.3 Member Data Documentation	361
17.90 UndoableMirrorCommand Class Reference	361
17.90.1 Constructor & Destructor Documentation	361
17.90.2 Member Function Documentation	362
17.90.3 Member Data Documentation	362
17.91 UndoableMoveCommand Class Reference	362
17.91.1 Constructor & Destructor Documentation	362
17.91.2 Member Function Documentation	363
17.91.3 Member Data Documentation	363
17.92 UndoableNavCommand Class Reference	363
17.92.1 Constructor & Destructor Documentation	363
17.92.2 Member Function Documentation	364
17.92.3 Member Data Documentation	364
17.93 UndoableRotateCommand Class Reference	364
17.93.1 Constructor & Destructor Documentation	365
17.93.2 Member Function Documentation	365
17.93.3 Member Data Documentation	365
17.94 UndoableScaleCommand Class Reference	366
17.94.1 Constructor & Destructor Documentation	366
17.94.2 Member Function Documentation	366
17.94.3 Member Data Documentation	366
17.95 UndoEditor Class Reference	367
17.95.1 Constructor & Destructor Documentation	367
17.95.2 Member Function Documentation	367
17.95.3 Member Data Documentation	368
17.96 UndoHistory_ Struct Reference	368
17.96.1 Detailed Description	368
17.96.2 Member Data Documentation	368
17.97 View Class Reference	369
17.97.1 Constructor & Destructor Documentation	372
17.97.2 Member Function Documentation	372
17.97.3 Member Data Documentation	379
17.98 VipHeader_ Struct Reference	382

17.98.1 Member Data Documentation	383
18 File Documentation	383
18.1 CODE_OF_CONDUCT.md File Reference	383
18.2 embroidermodder2/cmdprompt.cpp File Reference	383
18.3 embroidermodder2/docs/fdl-1.3.md File Reference	384
18.4 embroidermodder2/embdetails-dialog.cpp File Reference	384
18.5 embroidermodder2/embroidermodder.cpp File Reference	384
18.5.1 Detailed Description	384
18.5.2 Function Documentation	384
18.5.3 Variable Documentation	385
18.6 embroidermodder2/embroidermodder.h File Reference	385
18.6.1 Detailed Description	389
18.6.2 Typedef Documentation	389
18.6.3 EmbViews	389
18.6.4 Enumeration Type Documentation	390
18.6.5 Function Documentation	396
18.6.6 Variable Documentation	397
18.7 embroidermodder.h	397
18.8 embroidermodder2/imagewidget.cpp File Reference	438
18.8.1 Detailed Description	438
18.9 embroidermodder2/layer-manager.cpp File Reference	438
18.9.1 Detailed Description	438
18.10 embroidermodder2/mainwindow-actions.cpp File Reference	438
18.10.1 Detailed Description	438
18.11 embroidermodder2/mainwindow-commands.cpp File Reference	438
18.11.1 Detailed Description	438
18.12 embroidermodder2/mainwindow-menus.cpp File Reference	438
18.12.1 Detailed Description	439
18.13 embroidermodder2/mainwindow-settings.cpp File Reference	439
18.13.1 Detailed Description	439
18.14 embroidermodder2/mainwindow-toolbars.cpp File Reference	439
18.14.1 Detailed Description	439
18.15 embroidermodder2/mainwindow.cpp File Reference	439
18.15.1 Detailed Description	439
18.15.2 Function Documentation	439
18.15.3 Variable Documentation	440
18.16 embroidermodder2/mdiarea.cpp File Reference	440
18.16.1 Detailed Description	440
18.17 embroidermodder2/mdiwindow.cpp File Reference	440
18.17.1 Detailed Description	440
18.18 embroidermodder2/object-arc.cpp File Reference	440

18.18.1 Detailed Description	440
18.18.2 Function Documentation	440
18.19 embroidermodder2/object-base.cpp File Reference	441
18.20 embroidermodder2/object-circle.cpp File Reference	441
18.20.1 Detailed Description	441
18.21 embroidermodder2/object-dimleader.cpp File Reference	441
18.22 embroidermodder2/object-ellipse.cpp File Reference	441
18.23 embroidermodder2/object-image.cpp File Reference	441
18.24 embroidermodder2/object-line.cpp File Reference	441
18.25 embroidermodder2/object-path.cpp File Reference	441
18.25.1 Detailed Description	442
18.26 embroidermodder2/object-point.cpp File Reference	442
18.27 embroidermodder2/object-polygon.cpp File Reference	442
18.28 embroidermodder2/object-polyline.cpp File Reference	442
18.29 embroidermodder2/object-rect.cpp File Reference	442
18.29.1 Detailed Description	442
18.30 embroidermodder2/object-save.cpp File Reference	442
18.31 embroidermodder2/object-textsingle.cpp File Reference	442
18.32 embroidermodder2/preview-dialog.cpp File Reference	442
18.33 embroidermodder2/property-editor.cpp File Reference	442
18.34 embroidermodder2/docs/README.md File Reference	443
18.35 embroidermodder2/README.md File Reference	443
18.36 embroidermodder2/selectbox.cpp File Reference	443
18.37 embroidermodder2/settings-dialog.cpp File Reference	443
18.38 embroidermodder2/statusbar-button.cpp File Reference	443
18.39 embroidermodder2/statusbar.cpp File Reference	443
18.40 embroidermodder2/undo-commands.cpp File Reference	443
18.40.1 Detailed Description	443
18.41 embroidermodder2/undo-editor.cpp File Reference	443
18.41.1 Detailed Description	443
18.42 embroidermodder2/utility.cpp File Reference	443
18.42.1 Function Documentation	444
18.42.2 Variable Documentation	445
18.43 embroidermodder2/view.cpp File Reference	447
18.43.1 Detailed Description	447
18.44 extern/libembroidery/src/array.c File Reference	447
18.44.1 Function Documentation	447
18.45 extern/libembroidery/src/compress.c File Reference	451
18.45.1 Function Documentation	452
18.45.2 Variable Documentation	455
18.46 extern/libembroidery/src/embedded.md File Reference	455
18.47 extern/libembroidery/src/embroider_cli.md File Reference	455

18.48 extern/libembroidery/src/embroidery.h File Reference	455
18.48.1 Macro Definition Documentation	462
18.48.2 Typedef Documentation	470
18.48.3 Function Documentation	472
18.48.4 Variable Documentation	492
18.49 embroidery.h	493
18.50 extern/libembroidery/src/embroidery_internal.h File Reference	501
18.50.1 Macro Definition Documentation	508
18.50.2 Typedef Documentation	516
18.50.3 Enumeration Type Documentation	517
18.50.4 Function Documentation	517
18.50.5 Variable Documentation	546
18.51 embroidery_internal.h	547
18.52 extern/libembroidery/src/encoding.c File Reference	554
18.52.1 Function Documentation	554
18.53 extern/libembroidery/src/fill.c File Reference	558
18.53.1 Function Documentation	559
18.53.2 Variable Documentation	565
18.54 extern/libembroidery/src/formats.c File Reference	565
18.54.1 Function Documentation	566
18.54.2 Variable Documentation	570
18.55 extern/libembroidery/src/formats/format_100.c File Reference	571
18.55.1 Function Documentation	571
18.56 extern/libembroidery/src/formats/format_10o.c File Reference	571
18.56.1 Function Documentation	571
18.57 extern/libembroidery/src/formats/format_art.c File Reference	571
18.57.1 Function Documentation	572
18.58 extern/libembroidery/src/formats/format_bmc.c File Reference	572
18.58.1 Function Documentation	572
18.59 extern/libembroidery/src/formats/format_bro.c File Reference	572
18.59.1 Function Documentation	572
18.60 extern/libembroidery/src/formats/format_cnd.c File Reference	573
18.60.1 Function Documentation	573
18.61 extern/libembroidery/src/formats/format_col.c File Reference	573
18.61.1 Function Documentation	573
18.62 extern/libembroidery/src/formats/format_csd.c File Reference	574
18.62.1 Macro Definition Documentation	574
18.62.2 Function Documentation	574
18.62.3 Variable Documentation	575
18.63 extern/libembroidery/src/formats/format_csv.c File Reference	575
18.63.1 Function Documentation	575
18.64 extern/libembroidery/src/formats/format_dat.c File Reference	576

18.64.1 Function Documentation	576
18.65 extern/libembroidery/src/formats/format_dem.c File Reference	576
18.65.1 Function Documentation	576
18.66 extern/libembroidery/src/formats/format_dsb.c File Reference	577
18.66.1 Function Documentation	577
18.67 extern/libembroidery/src/formats/format_dst.c File Reference	577
18.67.1 Macro Definition Documentation	577
18.67.2 Function Documentation	577
18.68 extern/libembroidery/src/formats/format_dsz.c File Reference	578
18.68.1 Function Documentation	578
18.69 extern/libembroidery/src/formats/format_dxf.c File Reference	578
18.69.1 Function Documentation	579
18.70 extern/libembroidery/src/formats/format_edr.c File Reference	579
18.70.1 Function Documentation	579
18.71 extern/libembroidery/src/formats/format_emd.c File Reference	579
18.71.1 Function Documentation	580
18.72 extern/libembroidery/src/formats/format_exp.c File Reference	580
18.72.1 Function Documentation	580
18.73 extern/libembroidery/src/formats/format_exy.c File Reference	581
18.73.1 Function Documentation	581
18.74 extern/libembroidery/src/formats/format_eyc.c File Reference	581
18.74.1 Function Documentation	581
18.75 extern/libembroidery/src/formats/format_fxy.c File Reference	582
18.75.1 Function Documentation	582
18.76 extern/libembroidery/src/formats/format_gc.c File Reference	582
18.76.1 Function Documentation	582
18.77 extern/libembroidery/src/formats/format_gnc.c File Reference	582
18.77.1 Function Documentation	583
18.78 extern/libembroidery/src/formats/format_gt.c File Reference	583
18.78.1 Function Documentation	583
18.79 extern/libembroidery/src/formats/format_hus.c File Reference	583
18.79.1 Function Documentation	584
18.80 extern/libembroidery/src/formats/format_inb.c File Reference	584
18.80.1 Function Documentation	585
18.81 extern/libembroidery/src/formats/format_inf.c File Reference	585
18.81.1 Function Documentation	585
18.82 extern/libembroidery/src/formats/format_jef.c File Reference	585
18.82.1 Function Documentation	586
18.83 extern/libembroidery/src/formats/format_ksm.c File Reference	586
18.83.1 Function Documentation	586
18.84 extern/libembroidery/src/formats/format_max.c File Reference	587
18.84.1 Function Documentation	587

18.84.2 Variable Documentation	587
18.85 extern/libembroidery/src/formats/format_mit.c File Reference	588
18.85.1 Function Documentation	588
18.86 extern/libembroidery/src/formats/format_new.c File Reference	588
18.86.1 Function Documentation	588
18.87 extern/libembroidery/src/formats/format_ofm.c File Reference	589
18.87.1 Function Documentation	589
18.88 extern/libembroidery/src/formats/format_pcd.c File Reference	590
18.88.1 Function Documentation	590
18.89 extern/libembroidery/src/formats/format_pcm.c File Reference	590
18.89.1 Function Documentation	590
18.90 extern/libembroidery/src/formats/format_pcq.c File Reference	591
18.90.1 Function Documentation	591
18.91 extern/libembroidery/src/formats/format_pcs.c File Reference	591
18.91.1 Function Documentation	591
18.92 extern/libembroidery/src/formats/format_pec.c File Reference	592
18.92.1 Function Documentation	592
18.93 extern/libembroidery/src/formats/format_pel.c File Reference	593
18.93.1 Function Documentation	593
18.94 extern/libembroidery/src/formats/format_pem.c File Reference	593
18.94.1 Function Documentation	593
18.95 extern/libembroidery/src/formats/format_pes.c File Reference	594
18.95.1 Function Documentation	594
18.95.2 Variable Documentation	596
18.96 extern/libembroidery/src/formats/format_phb.c File Reference	596
18.96.1 Function Documentation	596
18.97 extern/libembroidery/src/formats/format_phc.c File Reference	597
18.97.1 Function Documentation	597
18.98 extern/libembroidery/src/formats/format_plt.c File Reference	597
18.98.1 Function Documentation	597
18.99 extern/libembroidery/src/formats/format_rgb.c File Reference	598
18.99.1 Function Documentation	598
18.100 extern/libembroidery/src/formats/format_sew.c File Reference	598
18.100.1 Function Documentation	598
18.101 extern/libembroidery/src/formats/format_shv.c File Reference	599
18.101.1 Function Documentation	599
18.102 extern/libembroidery/src/formats/format_sst.c File Reference	599
18.102.1 Function Documentation	599
18.103 extern/libembroidery/src/formats/format_stx.c File Reference	600
18.103.1 Function Documentation	600
18.104 extern/libembroidery/src/formats/format_svg.c File Reference	600
18.104.1 Function Documentation	601

18.104.2 Variable Documentation	601
18.105 extern/libembroidery/src/formats/format_t01.c File Reference	601
18.105.1 Function Documentation	601
18.106 extern/libembroidery/src/formats/format_t09.c File Reference	602
18.106.1 Function Documentation	602
18.107 extern/libembroidery/src/formats/format_tap.c File Reference	602
18.107.1 Function Documentation	602
18.108 extern/libembroidery/src/formats/format_thr.c File Reference	603
18.108.1 Function Documentation	603
18.109 extern/libembroidery/src/formats/format_txt.c File Reference	603
18.109.1 Function Documentation	603
18.110 extern/libembroidery/src/formats/format_u00.c File Reference	604
18.110.1 Function Documentation	604
18.111 extern/libembroidery/src/formats/format_u01.c File Reference	604
18.111.1 Function Documentation	604
18.112 extern/libembroidery/src/formats/format_vip.c File Reference	605
18.112.1 Function Documentation	605
18.112.2 Variable Documentation	606
18.113 extern/libembroidery/src/formats/format_vp3.c File Reference	606
18.113.1 Function Documentation	607
18.114 extern/libembroidery/src/formats/format_xxx.c File Reference	607
18.114.1 Function Documentation	608
18.115 extern/libembroidery/src/formats/format_zsk.c File Reference	608
18.115.1 Function Documentation	608
18.116 extern/libembroidery/src/formats/format.md File Reference	609
18.117 extern/libembroidery/src/geometry.c File Reference	609
18.117.1 Function Documentation	609
18.118 extern/libembroidery/src/geometry/arc.c File Reference	610
18.118.1 Function Documentation	611
18.119 extern/libembroidery/src/geometry/circle.c File Reference	614
18.119.1 Function Documentation	614
18.120 extern/libembroidery/src/geometry/ellipse.c File Reference	615
18.120.1 Function Documentation	615
18.121 extern/libembroidery/src/geometry/functions.c File Reference	617
18.121.1 Function Documentation	617
18.122 extern/libembroidery/src/geometry/geometry.md File Reference	617
18.123 extern/libembroidery/src/geometry/line.c File Reference	617
18.123.1 Function Documentation	617
18.124 extern/libembroidery/src/geometry/path.c File Reference	618
18.125 extern/libembroidery/src/geometry/polygon.c File Reference	618
18.126 extern/libembroidery/src/geometry/polyline.c File Reference	618
18.127 extern/libembroidery/src/geometry/rect.c File Reference	618

18.127.1 Function Documentation	618
18.128 extern/libembroidery/src/geometry/text.c File Reference	619
18.128.1 Function Documentation	619
18.129 extern/libembroidery/src/geometry/vector.c File Reference	620
18.129.1 Function Documentation	621
18.130 extern/libembroidery/src/image.c File Reference	623
18.130.1 Function Documentation	623
18.131 extern/libembroidery/src/main.c File Reference	624
18.131.1 Macro Definition Documentation	626
18.131.2 Function Documentation	628
18.131.3 Variable Documentation	637
18.132 extern/libembroidery/src/pattern.c File Reference	638
18.132.1 Function Documentation	639
18.133 extern/libembroidery/src/thread-color.c File Reference	643
18.133.1 Function Documentation	644
18.133.2 Variable Documentation	644
18.134 privacy_policy.md File Reference	645
Bibliography	646
Index	647

1 Overview

Version

2.0.0-alpha

Author

The Embroidermodder Team

This folder contains the GUI and application code for the development version Embroidermodder 2 using Dear ImGui and GLFW.

Stuff that is now supposed to be generated by Doxygen:

Todo Bibliography style to plainnat.

Todo Serif font for printed docs.

Todo US letter paper version of printed docs.

(*UNDER MAJOR RESTRUCTURING, PLEASE WAIT FOR VERSION 2*)

<http://www.libembroidery.org>

Embroidermodder is a free machine embroidery application. The newest version, Embroidermodder 2 can:

- edit and create embroidery designs
- estimate the amount of thread and machine time needed to stitch a design
- convert embroidery files to a variety of formats
- upscale or downscale designs
- run on Windows, Mac and Linux

Embroidermodder 2 is very much a work in progress since we're doing a ground up rewrite to an interface in C using the GUI toolkit SDL2. The reasoning for this is detailed in the issues tab.

For a more in-depth look at what we are developing read our [website]\url{ <https://www.libembroidery.org>} which includes these docs as well as the up-to date printer-friendly versions. These discuss recent changes, plans and has user and developer guides for all the Embroidermodder projects.

To see what we're focussing on right now, see the [Open Collective News]\url{ <https://opencollective.com/embroidermodder>}.

The current printer-friendly version of the manual is (here)[https://www.libembroidery.org/embroidermodder_2.0.0-alpha_manual.pdf].

1.0.1 License

The source code is under the terms of the zlib license: see `LICENSE.md` in the source code directory.

Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts.

A copy of the license is included in the section entitled "GNU Free Documentation License".

1.0.2 The Embroidermodder Project and Team

The *Embroidermodder 2* project is a collection of small software utilities for manipulating, converting and creating embroidery files in all major embroidery machine formats. The program *Embroidermodder 2* itself is a larger graphical user interface (GUI) which is at the heart of the project.

The tools and associated documents are:

- This website (www.libembroidery.org), which is maintained [here](#).
- [The manual](#) covering all these projects.
- The GUI (`embroidermodder`), maintained [here](#).
- The core library of low-level functions: [libembroidery](#).
- The CLI `embroider` which is part of [libembroidery](#).
- Mobile embroidery format viewers and tools ([EmbroideryMobile](#))).
- Specs for an open hardware embroidery machine called Embroiderbot (not started yet) which is also part of [libembroidery](#).

They are all tools to make the standard user experience of working with an embroidery machine better without expensive software which is locked to specific manufacturers and formats. But ultimately we hope that the core *Embroidermodder 2* is a practical, ever-present tool in larger workshops, small cottage industry workshops and personal hobbyist's bedrooms.

Embroidermodder 2 is licensed under the zlib license and we aim to keep all of our tools open source and free of charge. If you would like to support the project check out our [Open Collective](#) group. If you would like to help, please join us on GitHub. This document is written as developer training as well helping new users (see the last sections) so this is the place to learn how to start changing the code.

The Embroidermodder Team is the collection of people who've submitted patches, artwork and documentation to our three projects. The team was established by Jonathan Greig and Josh Varga. The full list of contributors who wish to be credited is [here](#).

1.1 About

1.1.1 The Embroidermodder Project and Team

The *Embroidermodder 2* project is a collection of small software utilities for manipulating, converting and creating embroidery files in all major embroidery machine formats. The program *Embroidermodder 2* itself is a larger graphical user interface (GUI) which is at the heart of the project.

The tools and associated documents are:

- This manual which covers all subprojects.
- The website (www.libembroidery.org), which is maintained [here](#).
- Mobile embroidery format viewers and tools [EmbroideryMobile](#).
- The core library of functions ([libembroidery](#)) and its manual.
- The Python version of the library of functions (`libembroidery-python`) which is part of [libembroidery](#).
- The CLI (`embroider`) which is part of [libembroidery](#).
- Specs for an open hardware embroidery machine called Embroiderbot (not started yet) which is part of [libembroidery](#).
- The GUI (`embroidermodder`), this repository.

They all tools to make the standard user experience of working with an embroidery machine better without expensive software which is locked to specific manufacturers and formats. But ultimately we hope that the core *Embroidermodder 2* is a practical, ever-present tool in larger workshops, small cottage industry workshops and personal hobbyist's bedrooms.

Embroidermodder 2 is licensed under the zlib license and we aim to keep all of our tools open source and free of charge. If you would like to support the project check out our [Open Collective](#) group. If you would like to help, please join us on GitHub. This document is written as developer training as well helping new users (see the last sections) so this is the place to learn how to start changing the code.

The Embroidermodder Team is the collection of people who've submitted patches, artwork and documentation to our three projects. The team was established by Jonathan Greig and Josh Varga. The full list is actively maintained below.

1.1.2 for Embroidermodder 2, libembroidery and all other related code

If you have contributed and wish to be added to this list, alter the [README on Embroidermodder github page](#) and we'll copy it to the libembroidery source code since that is credited to "The Embroidermodder Team".

1.1.3 "Embroidermodder 1"

The Embroidermodder Team is also inspired by the original Embroidermodder that was built by Mark Pontius and the same Josh Varga on SourceForge which unfortunately appears to have died from linkrot. We may create a distribution on here to be the official "legacy" Embroidermodder code but likely in a separate repository because it's GNU GPL v3 and this code is written to be zlib (that is, permissive licensed) all the way down.

One reason why this is useful is that the rewrite by Jonathan Greig, John Varga and Robin Swift for Embroidermodder 2 should have no regressions: no features present in v1 should be missing in v2.

1.1.4 Features

Embroidermodder 2 has many advanced features that enable you to create awesome designs quicker, tweak existing designs to perfection, and can be fully customized to fit your workflow.

A summary of these features:

- Cross Platform
- Realistic rendering
- Various grid types and auto-adjusting rulers
- Many measurement tools
- Add text to any design
- Supports many formats
- Batch Conversion
- Scripting API

1.1.4.1 Cross Platform If you use multiple operating systems, it's important to choose software that works on all of them.

Embroidermodder 2 runs on Windows, Linux and Mac OS X. Let's not forget the [Raspberry Pi](#).

1.1.4.2 Realistic Rendering It is important to be able to visualize what a design will look like when stitched and our pseudo '3D' realistic rendering helps achieve this.

Realistic rendering sample #1:

Realistic rendering sample #2:

Realistic rendering sample #3:

Various grid types and auto-adjusting rulers

Making use of the automatically adjusting ruler in conjunction with the grid will ensure your design is properly sized and fits within your embroidery hoop area.

Use rectangular, circular or isometric grids to construct your masterpiece!

Multiple grids and rulers in action:

1.1.4.3 Realistic Rendering Taking measurements is a critical part of creating great designs. Whether you are designing mission critical embroidered space suits for NASA or some other far out design for your next meet-up, you will have precise measurement tools at your command to make it happen. You can locate individual points or find distances between any 2 points anywhere in the design!

Take quick and accurate measurements:

1.1.4.4 Realistic Rendering Need to make company apparel for all of your employees with individual names on them? No sweat. Just simply add text to your existing design or create one from scratch, quickly and easily. Didn't get it the right size or made a typo? No problem. Just select the text and update it with the property editor.

Add text and adjust its properties quickly:

1.1.4.5 Realistic Rendering Embroidery machines all accept different formats. There are so many formats available that it can sometimes be confusing whether a design will work with your machine.

Embroidermodder 2 supports a wide variety of embroidery formats as well as several vector formats, such as SVG and DXF. This allows you to worry less about which designs you can use.

1.1.4.6 Batch Conversion Need to send a client several different formats? Just use libembroidery-convert, our command line utility which supports batch file conversion.

There are a multitude of formats to choose from:

1.1.4.7 Scripting API If you've got programming skills and there is a feature that isn't currently available that you absolutely cannot live without, you have the capability to create your own custom commands for Embroidermodder 2. We provide an QtScript API which exposes various application functionality so that it is possible to extend the application without requiring a new release. If you have created a command that you think is worth including in the next release, just [contact us](#) and we will review it for functionality, bugs, and finally inclusion.

An Embroidermodder 2 command excerpt:

1.1.5 "Build and Install"

Assuming you already have the SDL2 libraries you can proceed to using the fast build, which assumes you want to build and test locally.

The fast build should be:

```
bash build.sh
```

or, on Windows:

```
.\build.bat
```

Then run using the `run.bat` or `run.sh` scripts in the build/ directory.

Otherwise, follow the instructions below.

If you plan to install the dev version to your system (we recommend you wait for the official installers and beta release first) then use the CMake build instead.

1.1.5.1 Install on Desktop We recommend that if you want to install the development version you use the CMake build. Like this:

```
git submodule init  
git submodule update  
  
mkdir build  
cd build  
cmake ..  
cmake --build .  
sudo cmake --install .
```

These lines are written into the file:

```
./build_install.sh
```

On Windows use the next section.

1.2 About

1.2.1 "Core Development Team"

Embroidermodder 2:

- Jonathan Greig
- Josh Varga
- Robin Swift

Embroidermodder 1:

- Josh Varga
- Mark Pontius

1.2.2 History

Embroidermodder 1 was started by Mark Pontius in 2004 while staying up all night with his son in his first couple months. When Mark returned to his day job, he lacked the time to continue the project. Mark made the decision to focus on his family and work, and in 2005, Mark gave full control of the project to Josh Varga so that Embroidermodder could continue its growth.

Embroidermodder 2 was conceived in mid 2011 when Jonathan Greig and Josh Varga discussed the possibility of making a cross-platform version. It is currently in active development and will run on GNU/Linux, Mac OS X, Microsoft Windows and Raspberry Pi.

All [Embroidermodder downloads](#) are hosted on SourceForge.

The [source code for Embroidermodder 1](#) has always been hosted on Sourceforge.

The [source code for Embroidermodder 2](#) was moved to GitHub on July 18, 2013.

The [website for Embroidermodder](#) was moved to GitHub on September 9, 2013.

1.3 Contact us

For general questions email:

`embroidermodder at gmail.com`

To request a new feature [open an issue on the main Embroidermodder GitHub repository](#). We'll move it to the correct repository.

1.4 Downloads

1.4.1 Alpha Build

This is a highly experimental build: we recommend users wait for the beta release when the basic features are functional.

Visit our [GitHub Releases page](#) for the current build. Unfortunately, earlier builds went down with the Sourceforge page we hosted them on.

2 Embroidermodder 2

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

3 GNU Free Documentation License

Version 1.3, 3 November 2008

Copyright (C) 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc. <https://fsf.org/>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

3.0.0.1 0. PREAMBLE The purpose of this License is to make a manual, textbook, or other functional and useful document "free" in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondly, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

3.0.0.2 1. APPLICABILITY AND DEFINITIONS This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you". You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, La \leftarrow TeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History".) To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

3.0.0.3 2. VERBATIM COPYING You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

3.0.0.4 3. COPYING IN QUANTITY If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

3.0.0.5 4. MODIFICATIONS You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

- A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.
- B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.
- C. State on the Title page the name of the publisher of the Modified Version, as the publisher.
- D. Preserve all the copyright notices of the Document.
- E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.
- F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.
- G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.
- H. Include an unaltered copy of this License.

- I. Preserve the section Entitled "History", Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.
- J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.
- K. For any section Entitled "Acknowledgements" or "Dedications", Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.
- L. Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.
- M. Delete any section Entitled "Endorsements". Such a section may not be included in the Modified Version.
- N. Do not retitle any existing section to be Entitled "Endorsements" or to conflict in title with any Invariant Section.
- O. Preserve any Warranty Disclaimers.

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties—for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

3.0.0.6 5. COMBINING DOCUMENTS You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History" in the various original documents, forming one section Entitled "History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements".

3.0.0.7 6. COLLECTIONS OF DOCUMENTS You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

3.0.0.8 7. AGGREGATION WITH INDEPENDENT WORKS A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

3.0.0.9 8. TRANSLATION Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

3.0.0.10 9. TERMINATION You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

3.0.0.11 10. FUTURE REVISIONS OF THIS LICENSE The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See <https://www.gnu.org/licenses/>.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

3.0.0.12 11. RELICENSING "Massive Multiauthor Collaboration Site" (or "MMC Site") means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A "Massive Multiauthor Collaboration" (or "MMC") contained in the site means any set of copyrightable works thus published on the MMC site.

"CC-BY-SA" means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

"Incorporate" means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is "eligible for relicensing" if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

3.0.1 ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

Copyright (C) YEAR YOUR NAME.
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3
or any later version published by the Free Software Foundation;
with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts.
A copy of the license is included in the section entitled "GNU
Free Documentation License".

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the "with ... Texts." line with this:

with the Invariant Sections being LIST THEIR TITLES, with the
Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST.

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

4 Tutorials

4.1 Basic Features

4.1.1 Move a single stitch in an existing pattern

1. In the File menu, click Open.... When the open dialog appears find and select your file by double clicking the name of the file. Alternatively, left click the file once then click the Open button.
- 2.
3. In the 'File' menu

TIP: For users who prefer

4.2 Altering a Single Stitch (2022-09-19)

In this tutorial we cover the scenarios where:

1. you have a design that you want to move a few points in but make no major changes
2. you have a design that you want to remove a few stitches from
3. you have a design that has some stitches in the wrong colour

In all cases, open Embroidermodder 2 and use File > Open to get the open file dialog.

(TO BE COMPLETED.)

4.2.1 Convert one pattern to another format

1. In the File menu, click Open....
2. The
3. In the dropdown menu within the save dialog select the

4.3 Advanced Features

5 History

\seciton open-collective Open Collective and New Plan (2021-12-19)

Hi, welcome to our first update after switching to Open Collective.

I hope that we can get people excited about open software and hardware for embroidery again. Clearly there was some real talent and effort from Jonathon, Mark and other contributors in making this happen. Hopefully, Josh and I can make these programs a standard fixture of garage workshops by making them easy to install, modify, build and distribute.

I've sketched out a timetable for the development of Embroidermodder, I feel I should share it with everyone:

Date	Event
Dec 2021 - Jan 2022	libembroidery 1.0 features, particularly the basic file format support and fills Bugfixing, Testing, QA for libembroidery
31st of Jan 2022	libembroidery 1.0 will be released, then updates will slow down and the Embroidermodder 2 development version will be fixed to the API of this version.
Feb 2022	An overview of what has changed will be written up for the website as a news update Better documentation of libembroidery.
Feb-April 2022	Finish the conversion to new GUI toolkit
April-May 2022	Finish all the targets in the Design, or assign them to 2.1.
May-June 2022	Stop pushing new features. Bugfixing, Testing, QA for Embroidermodder 2
Summer Solstice (21st of June) 2022	Embroidermodder 2 is officially released. Distribute NSIS installer, debian package, fedora package, mac bundle and source archives
July 2022	News and Documentation work for Embroidermodder 2

Embroidermodder 2 is a zlib licensed software and we endeavour to keep it free and well documented. Check out our [main github page](#) to see.

Cheers,

Robin

5.1 Fast Forward (2014-02-13)

There have been some changes that happened over the past several months:

The launch of the Kickstarter campaign was delayed but is still going to happen. Unless there are other unforeseen setbacks, the revised plan is to launch our campaign on March 17.

We have started setup of a nightly build/continuous integration system using Travis-CI. This is important as it will allow quicker bug fixes and increased stability long term. Currently this is only available for 64-bit Linux builds but will eventually include OSX, Windows and Arduino.

We have also improved the stability and improved the API of our backend library: libembroidery. The API is still changing but we now can produce standalone static and shared versions of libembroidery. Another notable change is that there are now experimental Delphi and Lazarus(FreePascal) bindings in the works for libembroidery, contributed by [x2nie](#).

Last but not least, I have a demonstration of our libembroidery code embedded on an Arduino. The video below simulates the stitching by drawing it to a 2.8" TFT display (v1) made by [Adafruit](https://adafruit.com). It's really fast so I slowed it down for the video. Instead of drawing, we could change it to control motors and other hardware to create an open source embroidery machine. This is what the brain of an embroidery machine looks like and it just needs a heart and body. Enjoy the [video](https://www.youtube.com/watch?v=KqiKfn4lxBk)! [frameborder="0" allowfullscreen></iframe>](https://www.youtube.com/embed/KqiKfn4lxBk) Jonathan [Permanent link to this article](news0.html::demo) @section jan22news January 2022 Development Notes For Embroidermodder 2 (2022-01-31) Hi backers, since the last update development has been focused on mostly not user-facing aspects of the program. This is what we planned in the timetable, aiming to release the libembroidery library for the end of the month. The idea being that if we can fix an API for libembroidery early, it will focus development into a program that remains more consistent by the height of the Summer. Unfortunately, this was too ambitious. But we can discuss what has changed, and why a later date is better than focusing on hitting this milestone. @subsection broad-development-goals Broad Development Goals We want: * A small codebase. * A separation of code and data in procedural style. * A separation of basic library functions

from GUI code. * A build system without non-standard dependencies (i.e. not including windows.h, X11, GL). * A software that runs without installation * A software that can keep records of its state that can be loaded on reboot To meet these goals we are making a C/FreeGLUT application: * Runs on more systems because it has less (and less high level) dependencies. * Requires less specialist knowledge from our potential new developers of Qt, C++ and the build system. * Compiles with less faff since the only dependencies are the graphics libraries of the host system (meeting broad development goal 4). Other decisions made to meet these goals are detailed below. @subsection new-settings-system The New Settings System In the attempt to convert the mostly C++ codebase to C, we developed a basic system for storing the data of Embroidermodder (including all the icons) as a single JSON file weighing in at about 6Mb. This allows the second broad development goal to be met. @subsection reducing-reliance-on-qt5 Reducing Reliance on Qt5 The FreeGLUT variant of the code (in gui.c) will eventually be the software. The broad development goals should make that very complex change a sequence of smaller, less complex changes. For example: breaking apart highly object-oriented code that relies on high level Qt function calls into data and code and then separating out the code parts into C and C++ functions. @subsection color-palettes Color Palettes Using a custom script we converted all the icons into xpm, then using another reduced their palettes down to 16 colors + transparency. This hasn't affected their appearance significantly, and makes making a global GUI palette feasible. With a global GUI palette we can make icon themes be a simple remap of the palette. @subsection conclusion Conclusion Overall, the software is easier to understand. But not easy enough for it to be worth committing to extensive documentation that will likely have to change. This also makes deciding on a API difficult. Based on this, a short term aim can be writing more high level documentation like this update to clarify (even just to the team) why we made the decisions we have. Cheers, Robin Swift The Embroidermodder Team @section June 2022 Backer Update (2022-06-22) Hi backers, since it's mainly me developing as a hobbyist at the moment successes are rare so I thought it would be good to share these with you. @subsection working-fill-algorithm Working Fill Algorithms I've managed to get two fills working from the command line using the commands: @icode \$ embroider -fill input_image.ppm 130 output.dst \$ embroider --cross-stitch input_image.ppm 130 output.dst @endicode So given this version of the banner logo: It is cross-stitched like this: There are major limitations, it requires an input that has depth 8 and is 1000x1000 pixels and it only takes in ppm format images. Your other format images could be converted to this format using: @icode \$ convert input.png -depth 8 -geometry 1000x1000 output.ppm @endicode A command like this will be embedded into the software to allow more image types but it would require the user to install imagemagick first. Here's another example using the imagemagick wizard: @subsection working-render-algorithm Working Render Algorithm The renders shown above were also made by the program using the commands: @icode \$ embroider --render input.dst output.ppm \$ convert output.ppm output.png @endicode @subsection timetable Timetable As for the timetable, obviously that was too ambitious given the lack of a large team and the slow growth of interest. A tentative timetable is on the README, but that's uncertain as long as the major rewrite to C/SDL2 is underway, hopefully it'll still be a 2.0 release this year. I'll try and share some more examples next month! Cheers, Robin @subpage kickstarter-live Our Kickstarter Crowdfunding Campaign is LIVE!"

Author

Jonathan and Josh

date = "2014-03-17"

We have launched our crowdfunding campaign on Kickstarter! It will be running until Sunday, April 20th. The way Kickstarter operates is that we need to reach our funding goal to receive any funds. There are downloads available for Windows (32-bit), Linux (32 and 64-bit), Mac OS X (64-bit) and Raspberry Pi (Raspbian) on the Kickstarter page. There has been a ton of work done to get to this point and to ensure a timely and stable delivery, this campaign needs to succeed. We really want to shake up the embroidery world and we hope you agree. The link to our campaign is: <https://www.kickstarter.com/projects/redteam316/embroidermodder-2-for-windows-mac-linux-pi-and-ard>

... also check out our shamrockin' embroidery design created with Embroidermodder 2 using work-in-progress manual satin command!

Lucky you! [Download Here.](#)

–Jonathan and Josh

[Permanent link to this article](#)

[New Website! \(2013-09-09\)](#) New Website! (2013-09-09)

Author

Jonathan

The Embroidermodder website now has a fresh new look. The content has been updated to reflect the upcoming version, Embroidermodder 2. Check out our [features page](#) for a summary of what to expect with Embroidermodder 2.

The background is a tiled image of an actual design that was stitched out during the pre-alpha stage. It was created by Nina Paley and Theodore Gray using Mathematica in conjunction with our software. They have graciously allowed us to use it for the project in whichever way we wish. We thought it looked so good, that it has become the new theme for Embroidermodder 2. To check out some of the more interesting embroidery projects they are working on, [look here](#).

The old website which was for Embroidermodder 1 has been preserved and can be found [here](#) for anyone interested.

–Jonathan

[Permanent link to this article](#)

[crowdfunding-1](#) Crowdfunding Campaign Coming Soon!

Author

Jonathan

There has been a considerable amount of development time put into Embroidermodder 2 over the past several months. To be able to keep up this momentum, there needs to be at least one full time developer working on it. We are planning on launching a Kickstarter campaign in early October if everything goes according to plan. We also plan to release an alpha version during this timeframe, so there are many good things on the horizon! Successful funding will have a major impact on how soon the final version will be released.

The preview link to our campaign is [here](#), feel free to leave feedback and spread the word via Twitter, Facebook, email, or word of mouth. Keep an eye out, because it's coming!

–Jonathan (2013-09-09)

[Permanent link to this article](#)

5.2 Open Collective and New Plan (2021-12-19)

Hi, welcome to our first update after switching to Open Collective.

I hope that we can get people excited about open software and hardware for embroidery again. Clearly there was some real talent and effort from Jonathon, Mark and other contributors in making this happen. Hopefully, Josh and I can make these programs a standard fixture of garage workshops by making them easy to install, modify, build and distribute.

I've sketched out a timetable for the development of Embroidermodder, I feel I should share it with everyone:

Date	Event
Dec 2021 - Jan 2022	libembroidery 1.0 features, particularly the basic file format support and fills Bugfixing, Testing, QA for libembroidery
31st of Jan 2022	libembroidery 1.0 will be released, then updates will slow down and the Embroidermodder 2 development version will be fixed to the API of this version.
Feb 2022	An overview of what has changed will be written up for the website as a news update Better documentation of libembroidery.
Feb-April 2022	Finish the conversion to new GUI toolkit
April-May 2022	Finish all the targets in the Design, or assign them to 2.1.
May-June 2022	Stop pushing new features. Bugfixing, Testing, QA for Embroidermodder 2
Summer Solstice (21st of June) 2022	Embroidermodder 2 is officially released. Distribute NSIS installer, debian package, fedora package, mac bundle and source archives
July 2022	News and Documentation work for Embroidermodder 2

Embroidermodder 2 is a zlib licensed software and we endeavour to keep it free and well documented. Check out our [main github page](#) to see.

Cheers,

Robin

5.3 January 2022 Development Notes For Embroidermodder 2 (2022-01-31)

Hi backers,

since the last update development has been focused on mostly not user-facing aspects of the program. This is what we planned in the timetable, aiming to release the libembroidery library for the end of the month.

The idea being that if we can fix an API for libembroidery early, it will focus development into a program that remains more consistent by the height of the Summer.

Unfortunately, this was too ambitious. But we can discuss what has changed, and why a later date is better than focusing on hitting this milestone.

5.3.1 Broad Development Goals

We want:

- A small codebase.
- A separation of code and data in procedural style.
- A separation of basic library functions from GUI code.
- A build system without non-standard dependencies (i.e. not including windows.h, X11, GL).
- A software that runs without installation
- A software that can keep records of its state that can be loaded on reboot

To meet these goals we are making a C/FreeGLUT application:

- Runs on more systems because it has less (and less high level) dependencies.
- Requires less specialist knowledge from our potential new developers of Qt, C++ and the build system.
- Compiles with less faff since the only dependencies are the graphics libraries of the host system (meeting broad development goal 4).

Other decisions made to meet these goals are detailed below.

5.3.2 The New Settings System

In the attempt to convert the mostly C++ codebase to C, we developed a basic system for storing the data of Embroidermudder (including all the icons) as a single JSON file weighing in at about 6Mb.

This allows the second broad development goal to be met.

5.3.3 Reducing Reliance on Qt5

The FreeGLUT variant of the code (in gui.c) will eventually be the software.

The broad development goals should make that very complex change a sequence of smaller, less complex changes. For example: breaking apart highly object-oriented code that relies on high level Qt function calls into data and code and then separating out the code parts into C and C++ functions.

5.3.4 Palettes

Using a custom script we converted all the icons into xpm, then using another reduced their palettes down to 16 colors + transparency.

This hasn't affected their appearance significantly, and makes making a global GUI palette feasible. With a global GUI palette we can make icon themes be a simple remap of the palette.

5.3.5 Conclusion

Overall, the software is easier to understand. But not easy enough for it to be worth committing to extensive documentation that will likely have to change. This also makes deciding on a API difficult.

Based on this, a short term aim can be writing more high level documentation like this update to clarify (even just to the team) why we made the decisions we have.

Cheers,

Robin Swift

The Embroidermudder Team

5.4 June 2022 Backer Update (2022-06-22)

Hi backers,

since it's mainly me developing as a hobbyist at the moment successes are rare so I thought it would be good to share these with you.

5.4.1 Fill Algorithms

I've managed to get two fills working from the command line using the commands:

```
$ embroider --fill input_image.ppm 130 output.dst  
$ embroider --cross-stitch input_image.ppm 130 output.dst
```

So given this version of the banner logo:

It is cross-stitched like this:

There are major limitations, it requires an input that has depth 8 and is 1000x1000 pixels and it only takes in ppm format images. Your other format images could be converted to this format using:

```
$ convert input.png -depth 8 -geometry 1000x1000 output.ppm
```

A command like this will be embedded into the software to allow more image types but it would require the user to install imagemagick first.

Here's another example using the imagemagick wizard:

5.4.2 Working Render Algorithm

The renders shown above were also made by the program using the commands:

```
$ embroider --render input.dst output.ppm  
$ convert output.ppm output.png
```

5.4.3 Timetable

As for the timetable, obviously that was too ambitious given the lack of a large team and the slow growth of interest. A tentative timetable is on the README, but that's uncertain as long as the major rewrite to C/SDL2 is underway, hopefully it'll still be a 2.0 release this year.

I'll try and share some more examples next month!

Cheers,

Robin

5.5 New Website! (2013-09-09)

The Embroidermodder website now has a fresh new look. The content has been updated to reflect the upcoming version, Embroidermodder 2. Check out our [features page](#) for a summary of what to expect with Embroidermodder 2.

The background is a tiled image of an actual design that was stitched out during the pre-alpha stage. It was created by Nina Paley and Theodore Gray using Mathematica in conjunction with our software. They have graciously allowed us to use it for the project in whichever way we wish. We thought it looked so good, that it has become the new theme for Embroidermodder 2. To check out some of the more interesting embroidery projects they are working on, [look here](#).

The old website which was for Embroidermodder 1 has been preserved and can be found [here](#) for anyone interested.

–Jonathan

[Permanent link to this article](#)

5.6 Crowdfunding Campaign Coming Soon! (2013-09-09)

There has been a considerable amount of development time put into Embroidermodder 2 over the past several months. To be able to keep up this momentum, there needs to be at least one full time developer working on it. We are planning on launching a Kickstarter campaign in early October if everything goes according to plan. We also plan to release an alpha version during this timeframe, so there are many good things on the horizon! Successful funding will have a major impact on how soon the final version will be released.

The preview link to our campaign is [here](#), feel free to leave feedback and spread the word via Twitter, Facebook, email, or word of mouth. Keep an eye out, because it's coming!

–Jonathan

[Permanent link to this article](#)

5.7 Our Kickstarter Crowdfunding Campaign is LIVE! (2014-03-17)

We have launched our crowdfunding campaign on Kickstarter! It will be running until Sunday, April 20th. The way Kickstarter operates is that we need to reach our funding goal to receive any funds. There are downloads available for Windows (32-bit), Linux (32 and 64-bit), Mac OS X (64-bit) and Raspberry Pi (Raspbian) on the Kickstarter page. There has been a ton of work done to get to this point and to ensure a timely and stable delivery, this campaign needs to succeed. We really want to shake up the embroidery world and we hope you agree. The link to our campaign is: <https://www.kickstarter.com/projects/redteam316/embroidermodder-2-for-windows-mac-linux-pi-and-ard>

... also check out our shamrockin' embroidery design created with Embroidermodder 2 using work-in-progress manual satin command!

Lucky you! [Download Here.](#)

–Jonathan and Josh

[Permanent link to this article](#)

5.8 Fast Forward (2014-02-13)

There have been some changes that happened over the past several months:

The launch of the Kickstarter campaign was delayed but is still going to happen. Unless there are other unforeseen setbacks, the revised plan is to launch our campaign on March 17.

We have started setup of a nightly build/continuous integration system using Travis-CI. This is important as it will allow quicker bug fixes and increased stability long term. Currently this is only available for 64-bit Linux builds but will eventually include OSX, Windows and Arduino.

We have also improved the stability and improved the API of our backend library: libembroidery. The API is still changing but we now can produce standalone static and shared versions of libembroidery. Another notable change is that there are now experimental Delphi and Lazarus(FreePascal) bindings in the works for libembroidery, contributed by [x2nie](#).

Last but not least, I have a demonstration of our libembroidery code embedded on an Arduino. The video below simulates the stitching by drawing it to a 2.8" TFT display (v1) made by [Adafruit](https://adafruit.com). It's really fast so I slowed it down for the video. Instead of drawing, we could change it to control motors and other hardware to create an open source embroidery machine. This is what the brain of an embroidery machine looks like and it just needs a heart and body. Enjoy the [video](https://www.youtube.com/watch?v=KqiKfn4lxBk)! <div class="video"><iframe src="https://www.youtube.com/embed/KqiKfn4lxBk" frameborder="0" allowfullscreen></iframe></div> – Jonathan [news0.html::fast-forward](#) >Permanent link to this article.

6 Changelog

7 embedded

7.1 Embroiderbot and Libembroidery on Embedded Systems

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

7.1.1 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.

7.1.2 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>.

7.1.3 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.

7.1.4 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.

7.1.5 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.

7.1.6 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.

7.1.7 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.

8 `embroider_cli`

8.1 The `<tt>embroider</tt>` Command Line Program

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

8.1.1 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`.

8.1.2 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.

9 Geometry and Algorithms

9.1 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{_loadExternalColorFile()}

Arduino leak note for more info.

9.2 Development

If you wish to develop with us you can chat via the contact email on the [website][url{ https://libembroidery.org }](https://libembroidery.org) or in the issues tab on the [github page][url{ https://github.com/Embroidermodder/Embroidermodder/issues }](https://github.com/Embroidermodder/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.

9.3 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.

9.4 Contributing

9.4.1 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.

9.4.2 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 `EmbroiderBot`.
- 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).

9.4.3 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!

9.5 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.

9.5.1 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`.

9.5.2 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.

9.5.3 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.

9.5.4 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.

9.6 Code Style

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

9.6.1 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.

9.7 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...

9.8 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 (`\url{ https://opencollective.com/embroidermodder }`).

9.8.1 Format Support

Support for Singer FHE, CHE (Compucon) formats?

9.9 Embroidermodder Project Coding Standards

A basic set of guidelines to use when submitting code.

9.9.1 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.

9.10 Code Style

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

9.10.1 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.

9.10.2 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...

9.10.3 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.
*/
```

9.11 Ideas

9.11.1 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.

9.11.2 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.

9.11.3 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.

9.11.4 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.

9.11.5 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.

9.11.6 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

9.11.7 Progress Chart

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

9.11.8 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.

9.11.9 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.

9.11.10 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 .

9.11.11 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 '`'`.

9.11.12 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

9.11.13 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.

9.11.14 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.

9.11.15 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.

9.11.16 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.

9.12 Electronics development

- Currently experimenting with Fritzing8, 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.

9.13 Development

9.13.1 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.

9.13.2 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.

9.13.3 Binary download

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

10 Formats

10.1 Overview

10.2 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.

10.2.1 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.

10.2.2 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.

10.2.3 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.

10.2.4 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

10.3 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.

10.3.1 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.

10.4 Bernina Embroidery Format (.art)

\index{art}\index{Bernina}

We don't know much about this format.

Todo Find a source.

10.5 Bitmap Cache Embroidery Format (.bmc)

\index{bmc}\index{Bitmap Cache}

We don't know much about this format.

Todo Find a source.

10.6 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

10.7 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.

10.8 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 seperated 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.

10.8.1 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
```

10.9 Singer Embroidery Format (.csd)

\index{csd} \index{Singer}

Stitch Only Format

10.10 Comma Separated Values (.csv)

\index{csv}

Comma Seperated 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.

10.10.1 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.
```

10.10.2 EmBird CSV Dialect

\index{Embird}

10.11 Barudan Embroidery Format (.dat)

\index{dat}\index{Barudan}

Stitch Only Format

10.12 Melco Embroidery Format (.dem)

\index{dem}\index{Melco}

Stitch Only Format

10.13 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

10.14 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 who's notes appeared at <http://www.wotsit.org> under Tajima Format.

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

10.14.1 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.

Label	Size	Description	Example
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 </td> <td class="markdownTableBody
None"> \ilinebr </td> </tr></table> 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>	

10.14.2 Stitch Data

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

Bit	7	6	5	4	3	2	1	0
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.

10.15 ZSK USA Embroidery Format (.dsz)

\index{dsz}\index{ZSK USA}

The ZSK USA dsz format is stitch-only.

10.16 Drawing Exchange Format (.dxf)

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

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

11 Contributor Covenant Code of Conduct

11.1 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.

11.2 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

11.3 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.

11.4 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.

11.5 Enforcement

Instances of abusive, harassing, or otherwise unacceptable behavior may be reported to the community leaders responsible for enforcement at 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.

11.6 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:

11.6.1 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.

11.6.2 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.

11.6.3 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.

11.6.4 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.

11.7 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.

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>.

12 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.

12.0.1 CONTACT US

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

Embroidermodder@gmail.com

13 Todo List

Member `ArcObject::gripEdit (const QPointF &before, const QPointF &after)`

`gripEdit()` for `ArcObject`

Member `ArcObject::updateRubber (QPainter *painter=0)`

Arc Rubber Modes

`updateRubber()` gripping for `ArcObject`

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 `emblInt_read`

Member `binaryWriteIntBE (FILE *f, int data)`

replace with `emblInt_read`

Member `binaryWriteShort (FILE *f, short data)`

replace with `emblInt_read`

Member `binaryWriteUInt (FILE *f, unsigned int data)`

replace with `emblInt_read`

Member `binaryWriteUIntBE (FILE *f, unsigned int data)`

replace with `emblInt_read`

Member `binaryWriteUShort (FILE *f, unsigned short data)`

replace with `emblInt_read`

Member `binaryWriteUShortBE (FILE *f, unsigned short data)`

replace with `emblInt_read`

Member `copy_trim (char const *s)`

description

Member `emb_clamp (EmbReal lower, EmbReal x, EmbReal upper)`

Move to libembroidery.

Member `embArc_print (EmbArc arc)`

move to `arc.c`

Page `embedded`

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

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.

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.

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 *f`)

replace with emblnt_read

Member `fread_uint16` (`FILE *f`)

replace with emblnt_read

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

find citation for paper folding method

Page [Geometry and Algorithms](#)

(Arduino) Fix thread-color files

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

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

(Arduino) Smoothieboard experiments

(Arduino) Fix emb-outline files

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()\}}

Arduino leak note for more info.

Member [Index](#)

document this.

Member [just_opened](#)

Move to the settings struct.

Member `MdiWindow::loadFile` (`const QString &fileName`)

reincorporate `embPattern_moveStitchListToPolylines(p);` //TODO: Test more

Member [MdiWindow::saveBMC \(\)](#)

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?

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

page [Overview](#)

(2.0.0-rc1) Update language translations

(2.0.0-rc1) CAD Command review: line

(2.0.0-rc1) CAD Command review: circle

(2.0.0-rc1) CAD Command review: rectangle

(2.0.0-rc1) CAD Command review: polygon

(2.0.0-rc1) CAD Command review: polyline

(2.0.0-rc1) CAD Command review: point

(2.0.0-rc1) CAD Command review: ellipse

(2.0.0-rc1) CAD Command review: arc

(2.0.0-rc1) CAD Command review: locatepoint

(2.0.0-rc1) CAD Command review: move

(2.0.0-rc1) CAD Command review: rgb

(2.0.0-rc1) CAD Command review: rotate

(2.0.0-rc1) CAD Command review: scale

(2.0.0-rc1) CAD Command review: singlelinetext

(2.0.0-rc1) CAD Command review: star

(2.0.0-rc1) Clean up all compiler warning messages, right now theres plenty :P

(2.0) tar.gz archive

(2.0) zip archive

(2.0) Debian Package (rt)

(2.0) NSIS Installer (rt)

(2.0) Mac Bundle?

(2.0) press release

(2.x/ideas) libembroidery.mk for MXE project (refer to qt submodule packages for qmake based building. Also refer to plibc.mk for example of how write an update macro for github.)

(2.x/ideas) libembroidery safeguard for all writers - check if the last stitch is an END stitch. If not, add an end

stitch in the writer and modify the header data if necessary.

- (2.x/ideas) Cut/Copy - Allow Post-selection
- (2.x/ideas) CAD Command: Array
- (2.x/ideas) CAD Command: Offset
- (2.x/ideas) CAD Command: Extend
- (2.x/ideas) CAD Command: Trim
- (2.x/ideas) CAD Command: BreakAtPoint
- (2.x/ideas) CAD Command: Break2Points
- (2.x/ideas) CAD Command: Fillet
- (2.x/ideas) CAD Command: Chamfer
- (2.x/ideas) CAD Command: Split
- (2.x/ideas) CAD Command: Area
- (2.x/ideas) CAD Command: Time
- (2.x/ideas) CAD Command: PickAdd
- (2.x/ideas) CAD Command: Product
- (2.x/ideas) CAD Command: Program
- (2.x/ideas) CAD Command: ZoomFactor
- (2.x/ideas) CAD Command: GripHot
- (2.x/ideas) CAD Command: GripColor | GripCool
- (2.x/ideas) CAD Command: GripSize
- (2.x/ideas) CAD Command: Highlight
- (2.x/ideas) CAD Command: Units
- (2.x/ideas) CAD Command: Grid
- (2.x/ideas) CAD Command: Find
- (2.x/ideas) CAD Command: Divide
- (2.x/ideas) CAD Command: ZoomWindow (Move out of [view.cpp](#))
- (2.x/ideas) Command: Web (Generates Spiderweb patterns)
- (2.x/ideas) Command: Guilloche (Generates Guilloche patterns)
- (2.x/ideas) Command: Celtic Knots
- (2.x/ideas) Command: Knotted Wreath
- (2.x/ideas) Lego Mindstorms NXT/EV3 ports and/or commands.
- (2.x/ideas) native function that flashes the command prompt to get users attention when using the prompt is required for a command.
- (2.x/ideas) libembroidery-composer like app that combines multiple files into one.
- (2.x/ideas) Settings Dialog, it would be nice to have it notify you when switching tabs that a setting has been

changed. Adding an Apply button is what would make sense for this to happen.

(2.x/ideas) Keyboard Zooming/Panning

(2.x/ideas) G-Code format?

(2.x/ideas) 3D Raised Embroidery

(2.x/ideas) Gradient Filling Algorithms

(2.0.0-rc1) CAD Command review: distance

(2.x/ideas) RPM packages?

(2.x/ideas) Reports?

(2.x/ideas) Record and Playback Commands

(2.x/ideas) Settings option for reversing zoom scrolling direction

(2.x/ideas) Qt GUI for libembroidery-convert

(2.x/ideas) EPS format? Look at using Ghostscript as an optional add-on to libembroidery...

(2.x/ideas) optional compile option for including LGPL/GPL libs etc... with warning to user about license requirements.

(2.x/ideas) Realistic Visualization - Bump Mapping/OpenGL/Gradients?

(2.x/ideas) Stippling Fill

(2.x/ideas) User Designed Custom Fill

(2.x/ideas) Honeycomb Fill

(2.x/ideas) Hilbert Curve Fill

(2.x/ideas) Sierpinski Triangle fill

(2.x/ideas) Circle Grid Fill

(2.x/ideas) Spiral Fill

(2.x/ideas) Offset Fill

(2.x/ideas) Brick Fill

(2.x/ideas) Trim jumps over a certain length.

(2.x/ideas) FAQ about setting high number of jumps for more controlled trimming.

(2.x/ideas) Minimum stitch length option. (Many machines also have this option too)

(2.x/ideas) Add 'Design Details' functionality to libembroidery-convert

(2.x/ideas) Add 'Batch convert many to one format' functionality to libembroidery-convert

(2.x/ideas) EmbroideryFLOSS - Color picker that displays catalog numbers and names.

(beta) Realistic Visualization - Bump Mapping/OpenGL/Gradients?

(beta) Get undo history widget back (BUG).

(beta) Mac Bundle, .tar.gz and .zip source archive.

(beta) NSIS installer for Windows, Debian package, RPM package

(beta) GUI frontend for embroidery features that aren't supported by embroidermodder: flag selector from a table

(beta) Update all formats without color to check for edr or rgb files.

(beta) Setting for reverse scrolling direction (for zoom, vertical pan)

(beta) Keyboard zooming, panning

(beta) New embroidermodder2.ico 16x16 logo that looks good at that scale.

(beta) Saving dst, pes, jef.

(beta) Settings dialog: notify when the user is switching tabs that the setting has been changed, adding apply

button is what would make sense for this to happen.

(beta) Update language translations.

(beta) Replace KDE4 thumbnailer.

(beta) Import raster image.

(beta) Statistics from 1.0, needs histogram.

(beta) SNAP/ORTHO/POLAR.

(beta) Cut/copy allow post-selection.

(beta) Layout into config.

(beta) Notify user of data loss if not saving to an object format.

(beta) Add which formats to work with to preferences.

(beta) Cannot open file with # in the name when opening multiple files but works with opening a single file.

(beta) Closing settings dialog with the X in the window saves settings rather than discarding them.

(beta) Otto theme icons: units, render, selectors, what's this icon doesn't scale.

(beta) Layer manager and Layer switcher dock widget.

(beta) Test that all formats read data in correct scale (format details should match other programs).

(beta) Custom filter bug – doesn't save changes in some cases.

(beta) Tools to find common problems in the source code and suggest fixes to the developers. For example, a translation miss: that is, for any language other than English a missing entry in the translation table should supply a clear warning to developers.

(beta) Converting Qt C++ version to native GUI C throughout.

(beta) OpenGL Rendering: Real rendering to see what the embroidery looks like, Icons and toolbars, Menu bar.

(beta) Libembroidery interfacing: get all classes to use the proper libembroidery types within them. So Ellipse has EmbEllipse as public data within it.

(beta) GUI frontend for embroider features that aren't supported by embroidermodder: flag selector from a table

(beta) Update all formats without color to check for edr or rgb files.

(beta) Setting for reverse scrolling direction (for zoom, vertical pan)

(beta) Keyboard zooming, panning

(beta) Better integrated help: I don't think the help should backend to a html file somewhere on the user's system. A better system would be a custom widget within the program that's searchable.

(beta) New embroidermodder2.ico 16x16 logo that looks good at that scale.

(beta) Settings dialog: notify when the user is switching tabs that the setting has been changed, adding apply button is what would make sense for this to happen.

(beta) Libembroidery 1.0.

(beta) Better integrated help: I don't think the help should backend to a html file somewhere on the user's system. A better system would be a custom widget within the program that's searchable.

(beta) EmbroideryFLOSS - Color picker that displays catalog numbers and names.

(beta) Custom filter bug – doesn't save changes in some cases.

(beta) Advanced printing.

(beta) Stitching simulation.

(2.x/ideas) User designed custom fill.

(2.0.0-alpha2) Reading DXF

Bibliography style to plainnat.

Serif font for printed docs.

US letter paper version of printed docs.

Screenshot a working draft to demonstrate.

(2.x/ideas) Stitching Simulation

(perennial) Check for memory leaks

(perennial) Clear compiler warnings on -Wall -ansi -pedantic for C.

(perennial) Write new tests for new code.

(perennial) Get Embroidermodder onto the current version of libembroidery.

(perennial) PEP7 compliance.

(perennial) Better documentation with more photos/screencaps.

sort todo list.

(2.0.0-alpha1) Statistics from 1.0, needs histogram

(2.0.0-alpha1) Saving DST/PES/JEF (varga)

(2.0.0-alpha1) Saving CSV/SVG (rt) + CSV read/write UNKNOWN interpreted as COLOR bug

(2.0.0-alpha2) Notify user of data loss if not saving to an object format.

(2.0.0-alpha2) Import Raster Image

(2.0.0-alpha2) SNAP/ORTHO/POLAR

(2.0.0-alpha2) Layer Manager + LayerSwitcher DockWidget

(2.0.0-alpha3) Writing DXF

(2.0.0-alpha3) Up and Down keys cycle thru commands in the command prompt

(2.0.0-alpha3) Amount of Thread | Machine Time Estimation (also allow customizable times for setup, color changes, manually trimming jump threads, etc...that way a realistic total time can be estimated)

(2.0.0-alpha3) Otto Theme Icons - whatsthis icon doesn't scale well, needs redone

(2.0.0-alpha3) embroidermodder2.ico 16 x 16 looks horrible

(2.0.0-alpha4) CAD Command: Arc (rt)

(2.0.0-alpha4) automate changelog and write to a javascript file for the docs: git log --pretty=format:'`s'`

(2.0.0-beta1) Custom Filter Bug - doesn't save changes in some cases

(2.0.0-beta1) Cannot open file with # in name when opening multiple files (works fine when opening the single file)

(2.0.0-beta1) Closing Settings Dialog with the X in the window saves settings rather than discards them

(2.0.0-beta1) Advanced Printing

(2.0.0-beta1) Filling Algorithms (varga)

(2.0.0-beta1) Otto Theme Icons - beta (rt) - Units, Render, Selectors

(2.0.0-rc1) QDoc Comments

(2.0.0-rc1) Review KDE4 Thumbnailer

(2.0.0-rc1) Documentation for libembroidery | formats

(2.0.0-rc1) HTML Help files

(beta) Move calculations of rotation and scaling into EmbVector calls.

Member `random_uniform (void)`

move to libembroidery.

Member `RectObject::allGripPoints ()`

make return value a `std::vector<std::string>`

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 `SaveObject::toPolyline (EmbPattern *pattern, const QPointF &objPos, const QPainterPath &objPath, const QString &layer, const QColor &color, const QString &lineType, const QString &lineWeight)`

FIX EmbPolyline* polyObject = embPolyline_init(pointList, color_out, 1); //TODO: proper lineType embPattern_addPolylineAbs(pattern, polyObject);

Member SubDescriptor_::colorCode

better variable naming

Member SubDescriptor_::someInt

better variable naming

Member SubDescriptor_::someOtherInt

better variable naming

Member UndoHistory

document this.

14 Hierarchical Index

14.1 Class Hierarchy

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

_bcf_directory	61
_bcf_directory_entry	61
_bcf_file	63
_bcf_file_difat	64
_bcf_file_fat	65
_bcf_file_header	65
_vp3Hoop	68
Compress	118
EmbAlignedDim_	132
EmbAngularDim_	133
EmbArc_	133
EmbArcLengthDim_	134
EmbArray_	134
EmbBezier_	135
EmbBlock_	136
EmbCircle_	137
EmbColor_	137
EmbDiameterDim_	140
EmbEllipse_	140
EmbFormatList_	141
EmbGeometry_	142

EmblImage_	144
EmblInfiniteLine_	145
EmbLayer_	146
EmbLeaderDim_	146
EmbLine_	147
EmbLinearDim_	148
EmbOrdinateDim_	148
EmbPath_	148
EmbPattern_	149
EmbPoint_	150
EmbRadiusDim_	151
EmbRay_	152
EmbRect_	152
EmbSatinOutline_	153
EmbSpline_	154
EmbStitch_	154
EmbTextMulti_	155
EmbTextSingle_	155
EmbThread_	156
EmbTime_	157
EmbVector_	158
EmbView_	158
hoop_padding	162
Huffman	163
LSYSTEM	179
QApplication	
Application	70
QDialog	
EmbDetailsDialog	138
LayerManager	171
Settings_Dialog	320
QDockWidget	
PropertyEditor	273

UndoEditor	367
QFileDialog	
PreviewDialog	272
QGraphicsPathItem	
BaseObject	85
ArcObject	72
CircleObject	91
DimLeaderObject	119
EllipseObject	127
ImageObject	164
LineObject	173
PathObject	251
PointObject	257
PolygonObject	261
PolylineObject	267
RectObject	299
TextSingleObject	347
QGraphicsView	
View	369
QLineEdit	
CmdPromptInput	110
QMainWindow	
MainWindow	179
QMdiArea	
MdiArea	236
QMdiSubWindow	
MdiWindow	241
QObject	
SaveObject	303
QRubberBand	
SelectBox	309
QSplitter	
CmdPromptSplitter	117
QSplitterHandle	
CmdPromptHandle	105
QStatusBar	
StatusBar	342
QTextBrowser	

CmdPromptHistory	107
QToolButton	
StatusBarButton	343
QUndoCommand	
UndoableAddCommand	358
UndoableDeleteCommand	359
UndoableGripEditCommand	360
UndoableMirrorCommand	361
UndoableMoveCommand	362
UndoableNavCommand	363
UndoableRotateCommand	364
UndoableScaleCommand	366
QWidget	
CmdPrompt	97
ImageWidget	169
Settings_	311
StxThread_	346
SubDescriptor_	346
SvgAttribute_	347
thread_color_	354
ThredExtension_	355
ThredHeader_	355
UiObject_	356
UndoHistory_	368
VipHeader_	382

15 Class Index

15.1 Class List

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

_bcf_directory	61
_bcf_directory_entry	61
_bcf_file	63

_bcf_file_difat	64
_bcf_file_fat	65
_bcf_file_header	65
_vp3Hoop	68
Application	70
ArcObject	72
BaseObject	85
CircleObject	91
CmdPrompt	
97	
CmdPromptHandle	
105	
CmdPromptHistory	
The Command Prompt History class	107
CmdPromptInput	
110	
CmdPromptSplitter	
117	
Compress	
118	
DimLeaderObject	
119	
EllipseObject	
127	
EmbAlignedDim_	
132	
EmbAngularDim_	
133	
EmbArc_	
Absolute position (not relative)	133
EmbArcLengthDim_	
134	
EmbArray_	
134	
EmbBezier_	
135	
EmbBlock_	
136	
EmbCircle_	
137	
EmbColor_	
137	
EmbDetailsDialog	
138	
EmbDiameterDim_	
140	
EmbEllipse_	
140	
EmbFormatList_	
141	

EmbGeometry_	142
EmblImage_	144
EmblInfiniteLine_	145
EmbLayer_	146
EmbLeaderDim_	146
EmbLine_	147
EmbLinearDim_	148
EmbOrdinateDim_	148
EmbPath_	148
EmbPattern_	149
EmbPoint_	150
EmbRadiusDim_	151
EmbRay_	152
EmbRect_	152
EmbSatinOutline_	153
EmbSpline_	154
EmbStitch_	154
EmbTextMulti_	155
EmbTextSingle_	155
EmbThread_	156
EmbTime_	157
EmbVector_	158
EmbView_	158
hoop_padding	162
Huffman	163
ImageObject	164
ImageWidget	
169	
LayerManager	
171	
LineObject	173
LSYSTEM	179

MainWindow	
The MainWindow class	179
MdiArea	236
MdiWindow	241
PathObject	251
PointObject	257
PolygonObject	261
PolylineObject	267
PreviewDialog	272
PropertyEditor	273
RectObject	299
SaveObject	303
SelectBox	309
Settings_	
Settings System	311
Settings_Dialog	320
StatusBar	342
StatusBarButton	343
StxThread_	346
SubDescriptor_	346
SvgAttribute_	347
TextSingleObject	347
thread_color_	354
ThredExtension_	355
ThredHeader_	355
UiObject_	
This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events	356
UndoableAddCommand	358
UndoableDeleteCommand	359
UndoableGripEditCommand	360
UndoableMirrorCommand	361
UndoableMoveCommand	362
UndoableNavCommand	363

UndoableRotateCommand	364
UndoableScaleCommand	366
UndoEditor	367
UndoHistory_	368
View	369
VipHeader_	382

16 File Index

16.1 File List

Here is a list of all files with brief descriptions:

embroidermodder2/cmdprompt.cpp	383
embroidermodder2/embdetails-dialog.cpp	384
embroidermodder2/embroidermodder.cpp	384
embroidermodder2/embroidermodder.h	385
embroidermodder2/imagewidget.cpp	438
embroidermodder2/layer-manager.cpp	438
embroidermodder2/mainwindow-actions.cpp	438
embroidermodder2/mainwindow-commands.cpp	438
embroidermodder2/mainwindow-menus.cpp	438
embroidermodder2/mainwindow-settings.cpp	439
embroidermodder2/mainwindow-toolbars.cpp	439
embroidermodder2/mainwindow.cpp	439
embroidermodder2/mdiarea.cpp	440
embroidermodder2 mdiwindow.cpp	440
embroidermodder2/object-arc.cpp	440
embroidermodder2/object-base.cpp	441
embroidermodder2/object-circle.cpp	441
embroidermodder2/object-dimleader.cpp	441
embroidermodder2/object-ellipse.cpp	441
embroidermodder2/object-image.cpp	441
embroidermodder2/object-line.cpp	441

embroidermodder2/object-path.cpp	441
embroidermodder2/object-point.cpp	442
embroidermodder2/object-polygon.cpp	442
embroidermodder2/object-polyline.cpp	442
embroidermodder2/object-rect.cpp	442
embroidermodder2/object-save.cpp	442
embroidermodder2/object-textsingle.cpp	442
embroidermodder2/preview-dialog.cpp	442
embroidermodder2/property-editor.cpp	442
embroidermodder2/selectbox.cpp	443
embroidermodder2/settings-dialog.cpp	443
embroidermodder2/statusbar-button.cpp	443
embroidermodder2/statusbar.cpp	443
embroidermodder2/undo-commands.cpp	443
embroidermodder2/undo-editor.cpp	443
embroidermodder2/utility.cpp	443
embroidermodder2/view.cpp	447
extern/libembroidery/src/array.c	447
extern/libembroidery/src/compress.c	451
extern/libembroidery/src/embroidery.h	455
extern/libembroidery/src/embroidery_internal.h	501
extern/libembroidery/src/encoding.c	554
extern/libembroidery/src/fill.c	558
extern/libembroidery/src/formats.c	565
extern/libembroidery/src/geometry.c	609
extern/libembroidery/src/image.c	623
extern/libembroidery/src/main.c	624
extern/libembroidery/src/pattern.c	638
extern/libembroidery/src/thread-color.c	643
extern/libembroidery/src/formats/format_100.c	571
extern/libembroidery/src/formats/format_10o.c	571
extern/libembroidery/src/formats/format_art.c	571

extern/libembroidery/src/formats/format_bmc.c	572
extern/libembroidery/src/formats/format_bro.c	572
extern/libembroidery/src/formats/format_cnd.c	573
extern/libembroidery/src/formats/format_col.c	573
extern/libembroidery/src/formats/format_csd.c	574
extern/libembroidery/src/formats/format_csv.c	575
extern/libembroidery/src/formats/format_dat.c	576
extern/libembroidery/src/formats/format_dem.c	576
extern/libembroidery/src/formats/format_dsb.c	577
extern/libembroidery/src/formats/format_dst.c	577
extern/libembroidery/src/formats/format_dsz.c	578
extern/libembroidery/src/formats/format_dxf.c	578
extern/libembroidery/src/formats/format_edr.c	579
extern/libembroidery/src/formats/format_emd.c	579
extern/libembroidery/src/formats/format_exp.c	580
extern/libembroidery/src/formats/format_exy.c	581
extern/libembroidery/src/formats/format_eyc.c	581
extern/libembroidery/src/formats/format_fxy.c	582
extern/libembroidery/src/formats/format_gc.c	582
extern/libembroidery/src/formats/format_gnc.c	582
extern/libembroidery/src/formats/format_gt.c	583
extern/libembroidery/src/formats/format_hus.c	583
extern/libembroidery/src/formats/format_inb.c	584
extern/libembroidery/src/formats/format_inf.c	585
extern/libembroidery/src/formats/format_jef.c	585
extern/libembroidery/src/formats/format_ksm.c	586
extern/libembroidery/src/formats/format_max.c	587
extern/libembroidery/src/formats/format_mit.c	588
extern/libembroidery/src/formats/format_new.c	588
extern/libembroidery/src/formats/format_ofm.c	589
extern/libembroidery/src/formats/format_pcd.c	590
extern/libembroidery/src/formats/format_pcm.c	590

extern/libembroidery/src/formats/ format_pcq.c	591
extern/libembroidery/src/formats/ format_pcs.c	591
extern/libembroidery/src/formats/ format_pec.c	592
extern/libembroidery/src/formats/ format_pel.c	593
extern/libembroidery/src/formats/ format_pem.c	593
extern/libembroidery/src/formats/ format_pes.c	594
extern/libembroidery/src/formats/ format_phb.c	596
extern/libembroidery/src/formats/ format_phc.c	597
extern/libembroidery/src/formats/ format_plt.c	597
extern/libembroidery/src/formats/ format_rgb.c	598
extern/libembroidery/src/formats/ format_sew.c	598
extern/libembroidery/src/formats/ format_shv.c	599
extern/libembroidery/src/formats/ format_sst.c	599
extern/libembroidery/src/formats/ format_stx.c	600
extern/libembroidery/src/formats/ format_svg.c	600
extern/libembroidery/src/formats/ format_t01.c	601
extern/libembroidery/src/formats/ format_t09.c	602
extern/libembroidery/src/formats/ format_tap.c	602
extern/libembroidery/src/formats/ format_thr.c	603
extern/libembroidery/src/formats/ format_txt.c	603
extern/libembroidery/src/formats/ format_u00.c	604
extern/libembroidery/src/formats/ format_u01.c	604
extern/libembroidery/src/formats/ format_vip.c	605
extern/libembroidery/src/formats/ format_vp3.c	606
extern/libembroidery/src/formats/ format_xxx.c	607
extern/libembroidery/src/formats/ format_zsk.c	608
extern/libembroidery/src/geometry/ arc.c	610
extern/libembroidery/src/geometry/ circle.c	614
extern/libembroidery/src/geometry/ ellipse.c	615
extern/libembroidery/src/geometry/ functions.c	617
extern/libembroidery/src/geometry/ line.c	617
extern/libembroidery/src/geometry/ path.c	618

extern/libembroidery/src/geometry/ polygon.c	618
extern/libembroidery/src/geometry/ polyline.c	618
extern/libembroidery/src/geometry/ rect.c	618
extern/libembroidery/src/geometry/ text.c	619
extern/libembroidery/src/geometry/ vector.c	620

17 Class Documentation

17.1 [_bcf_directory](#) Struct Reference

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

Public Attributes

- [bcf_directory_entry](#) * dirEntries
- unsigned int [maxNumberOfDirectoryEntries](#)

17.1.1 Detailed Description

Todo possibly add a directory tree in the future.

17.1.2 Member Data Documentation

17.1.2.1 [dirEntries](#) [bcf_directory_entry*](#) dirEntries

17.1.2.2 [maxNumberOfDirectoryEntries](#) unsigned int maxNumberOfDirectoryEntries

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.2 [_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`

17.2.1 Member Data Documentation

17.2.1.1 `childId` unsigned int `childId`

17.2.1.2 `CLSID` unsigned char `CLSID`[16]

17.2.1.3 `colorFlag` unsigned char `colorFlag`

17.2.1.4 `creationTime` `EmbTime creationTime`

17.2.1.5 `directoryEntryName` char `directoryEntryName`[32]

17.2.1.6 `directoryEntryNameLength` unsigned short `directoryEntryNameLength`

17.2.1.7 `leftSiblingId` unsigned int leftSiblingId

17.2.1.8 `modifiedTime` [EmbTime](#) modifiedTime

17.2.1.9 `next` struct [_bcf_directory_entry](#)* next

17.2.1.10 `objectType` unsigned char objectType

17.2.1.11 `rightSiblingId` unsigned int rightSiblingId

17.2.1.12 `startingSectorLocation` unsigned int startingSectorLocation

17.2.1.13 `stateBits` unsigned int stateBits

17.2.1.14 `streamSize` unsigned long streamSize

17.2.1.15 `streamSizeHigh` unsigned int streamSizeHigh

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.3 _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`

17.3.1 Member Data Documentation

17.3.1.1 `difat bcf_file_difat* difat`

The header for the CompoundFile

17.3.1.2 `directory bcf_directory* directory`

The File Allocation Table for the Compound File

17.3.1.3 `fat bcf_file_fat* fat`

The "Double Indirect FAT" for the CompoundFile

17.3.1.4 `header bcf_file_header header`

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

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

17.4 `_bcf_file_difat` Struct Reference

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

Public Attributes

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

17.4.1 Member Data Documentation

17.4.1.1 fatSectorCount unsigned int fatSectorCount

17.4.1.2 fatSectorEntries unsigned int fatSectorEntries[109]

17.4.1.3 sectorSize unsigned int sectorSize

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.5 _bcf_file_fat Struct Reference

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

Public Attributes

- int [fatEntryCount](#)
- unsigned int [fatEntries](#) [255]
- unsigned int [numberOfEntriesInFatSector](#)

17.5.1 Member Data Documentation

17.5.1.1 fatEntries unsigned int fatEntries[255]

17.5.1.2 fatEntryCount int fatEntryCount

17.5.1.3 numberOfEntriesInFatSector unsigned int numberOfEntriesInFatSector

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.6 _bcf_file_header Struct Reference

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

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`

17.6.1 Detailed Description

Todo CLSID should be a separate type.

17.6.2 Member Data Documentation

17.6.2.1 `byteOrder` unsigned short `byteOrder`

17.6.2.2 `CLSID` unsigned char `CLSID`[16]

17.6.2.3 `firstDifatSectorLocation` unsigned int `firstDifatSectorLocation`

17.6.2.4 `firstDirectorySectorLocation` unsigned int `firstDirectorySectorLocation`

17.6.2.5 `firstMiniFATSectorLocation` unsigned int `firstMiniFATSectorLocation`

17.6.2.6 `majorVersion` unsigned short majorVersion

17.6.2.7 `miniSectorShift` unsigned short miniSectorShift

17.6.2.8 `miniStreamCutoffSize` unsigned int miniStreamCutoffSize

17.6.2.9 `minorVersion` unsigned short minorVersion

17.6.2.10 `numberOfDifatSectors` unsigned int numberOfDifatSectors

17.6.2.11 `numberOfDirectorySectors` unsigned int numberOfDirectorySectors

17.6.2.12 `numberOfFATSectors` unsigned int numberOfFATSectors

17.6.2.13 `numberOfMiniFatSectors` unsigned int numberOfMiniFatSectors

17.6.2.14 `reserved1` unsigned short reserved1

17.6.2.15 `reserved2` unsigned int reserved2

17.6.2.16 `sectorShift` unsigned short sectorShift

17.6.2.17 signature unsigned char signature[8]

17.6.2.18 transactionSignatureNumber unsigned int transactionSignatureNumber

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

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

17.7 _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`

17.7.1 Member Data Documentation

17.7.1.1 bottom int `bottom`

17.7.1.2 bottom2 int `bottom2`

17.7.1.3 byte1 unsigned char byte1

17.7.1.4 byte2 unsigned char byte2

17.7.1.5 byte3 unsigned char byte3

17.7.1.6 height int height

17.7.1.7 left int left

17.7.1.8 left2 int left2

17.7.1.9 numberOfBytesRemaining int numberOfBytesRemaining

17.7.1.10 numberOfColors unsigned char numberOfColors

17.7.1.11 right int right

17.7.1.12 right2 int right2

17.7.1.13 threadLength int threadLength

17.7.1.14 top int top

17.7.1.15 top2 int top2

17.7.1.16 unknown2 char unknown2

17.7.1.17 unknown3 unsigned short unknown3

17.7.1.18 unknown4 int unknown4

17.7.1.19 width int width

17.7.1.20 xOffset int xOffset

17.7.1.21 yOffset int yOffset

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.8 Application Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

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

Public Attributes

- `MainWindow * _mainWin`

Protected Member Functions

- `virtual bool event (QEvent *e)`

Application::event.

17.8.1 Detailed Description**Note**

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.

17.8.2 Constructor & Destructor Documentation**17.8.2.1 Application()**

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

Application::Application.

Parameters

<code>argc</code>	<input type="text"/>
<code>argv</code>	<input type="text"/>

17.8.3 Member Function Documentation**17.8.3.1 event()**

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

Application::event.

Parameters

<code>event</code>	<input type="text"/>
--------------------	----------------------

Returns

17.8.3.2 setMainWin() void setMainWin (
 MainWindow * mainWin) [inline]

17.8.4 Member Data Documentation

17.8.4.1 _mainWin MainWindow* _mainWin

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

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

17.9 ArcObject Class Reference

```
#include <embroidermodder.h>
```

Public Types

- enum { [Type](#) = OBJ_TYPE_ARC }

Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ_TYPE_BASE }

Public Member Functions

- `ArcObject (EmbArc arc, QRgb rgb, QGraphicsItem *parent=0)`
ArcObject::ArcObject.
- `ArcObject (EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX, EmbReal endY, QRgb rgb, QGraphicsItem *parent=0)`
ArcObject::ArcObject.
- `ArcObject (ArcObject *obj, QGraphicsItem *parent=0)`
ArcObject::ArcObject.
- `~ArcObject ()`
ArcObject::~ArcObject.
- `virtual int type () const`
- `void init (EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX, EmbReal endY, QRgb rgb, Qt::PenStyle lineType)`
ArcObject::init.
- `void updatePath ()`
ArcObject::updatePath.
- `void calculateArcData (EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX, EmbReal endY)`
ArcObject::calculateArcData.
- `void updateArcRect (EmbReal radius)`
ArcObject::updateArcRect.
- `EmbReal objectRadius () const`
- `EmbReal objectStartAngle () const`
ArcObject::objectStartAngle.
- `EmbReal objectEndAngle () const`
ArcObject::objectEndAngle.
- `QPointF objectStartPoint () const`
ArcObject::objectStartPoint.
- `EmbReal objectStartX () const`
ArcObject::objectStartX.
- `EmbReal objectStartY () const`
ArcObject::objectStartY.
- `QPointF objectMidPoint () const`
ArcObject::objectMidPoint.
- `EmbReal objectMidX () const`
ArcObject::objectMidX.
- `EmbReal objectMidY () const`
ArcObject::objectMidY.
- `QPointF objectEndPoint () const`
ArcObject::objectEndPoint.
- `EmbReal objectEndX () const`
ArcObject::objectEndX.
- `EmbReal objectEndY () const`
ArcObject::objectEndY.
- `EmbReal objectArea () const`
ArcObject::objectArea.
- `EmbReal objectArcLength () const`
ArcObject::objectArcLength.
- `EmbReal objectChord () const`
ArcObject::objectChord.

- `EmbReal objectIncludedAngle () const`
`ArcObject::objectIncludedAngle.`
- `bool objectClockwise () const`
`ArcObject::objectClockwise.`
- `void setObjectRadius (EmbReal radius)`
- `void setObjectStartAngle (EmbReal angle)`
- `void setObjectEndAngle (EmbReal angle)`
- `void setObjectStartPoint (const QPointF &point)`
- `void setObjectStartPoint (EmbReal pointX, EmbReal pointY)`
- `void setObjectMidPoint (const QPointF &point)`
- `void setObjectMidPoint (EmbReal pointX, EmbReal pointY)`
- `void setObjectEndPoint (const QPointF &point)`
`ArcObject::setObjectEndPoint.`
- `void setObjectEndPoint (EmbReal pointX, EmbReal pointY)`
`ArcObject::setObjectEndPoint.`
- `void updateRubber (QPainter *painter=0)`
`ArcObject::updateRubber.`
- `virtual void vulcanize ()`
`ArcObject::vulcanize.`
- `virtual QPointF mouseSnapPoint (const QPointF &mousePoint)`
`ArcObject::mouseSnapPoint.`
- `virtual QList< QPointF > allGripPoints ()`
`ArcObject::allGripPoints.`
- `virtual void gripEdit (const QPointF &before, const QPointF &after)`
`ArcObject::gripEdit.`

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`
- `EmbReal objectLineWidth () const`
- `QPainterPath objectPath () const`
- `int objectRubberMode () const`
- `QPointF objectRubberPoint (const QString &key) const`
- `QString objectRubberText (const QString &key) const`
- `QPointF objectCenter () const`
- `EmbReal objectCenterX () const`
- `EmbReal objectCenterY () const`
- `void setObjectCenter (EmbVector center)`
- `void setObjectCenterX (EmbReal centerX)`
- `void setObjectCenterY (EmbReal centerY)`
- `QRectF rect () const`
- `void setRect (const QRectF &r)`
- `void setRect (EmbReal x, EmbReal y, EmbReal w, EmbReal h)`
- `QLineF line () const`
- `void setLine (const QLineF &li)`

- void `setLine` (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)
- void `setObjectColor` (const QColor &color)
- void `setObjectColorRGB` (QRgb rgb)
- void `setObjectLineType` (Qt::PenStyle lineType)
- void `setObjectLineWeight` (EmbReal 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

Public Attributes

- QPointF `arcStartPoint`
- QPointF `arcMidPoint`
- QPointF `arcEndPoint`

Public Attributes inherited from `BaseObject`

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

Protected Member Functions

- void `paint` (QPainter *, const QStyleOptionGraphicsItem *, QWidget *)
ArcObject::paint.

Protected Member Functions inherited from `BaseObject`

- QPen `lineWeightPen` () const
- void `realRender` (QPainter *painter, const QPainterPath &renderPath)

17.9.1 Member Enumeration Documentation

17.9.1.1 anonymous enum anonymous enum

Enumerator

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

17.9.2 Constructor & Destructor Documentation**17.9.2.1 ArcObject() [1/3]** [ArcObject](#) (

```
    EmbArc arc,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

ArcObject::ArcObject.

Parameters

<i>arc</i>	<input type="button" value=""/>
<i>rgb</i>	<input type="button" value=""/>
<i>parent</i>	<input type="button" value=""/>

17.9.2.2 ArcObject() [2/3] [ArcObject](#) (

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

ArcObject::ArcObject.

Parameters

<i>startX</i>	<input type="button" value=""/>
<i>startY</i>	<input type="button" value=""/>
<i>midX</i>	<input type="button" value=""/>
<i>midY</i>	<input type="button" value=""/>
<i>endX</i>	<input type="button" value=""/>
<i>endY</i>	<input type="button" value=""/>
<i>rgb</i>	<input type="button" value=""/>
<i>parent</i>	<input type="button" value=""/>

```
17.9.2.3 ArcObject() [3/3] ArcObject (
    ArcObject * obj,
    QGraphicsItem * parent = 0 )
```

[ArcObject::ArcObject](#).

Parameters

<i>obj</i>	
<i>parent</i>	

```
17.9.2.4 ~ArcObject() ~ArcObject ( )
```

[ArcObject::~ArcObject](#).

17.9.3 Member Function Documentation

```
17.9.3.1 allGripPoints() QList< QPointF > allGripPoints ( ) [virtual]
```

[ArcObject::allGripPoints](#).

Returns

Implements [BaseObject](#).

```
17.9.3.2 calculateArcData() void calculateArcData (
    EmbReal startX,
    EmbReal startY,
    EmbReal midX,
    EmbReal midY,
    EmbReal endX,
    EmbReal endY )
```

[ArcObject::calculateArcData](#).

Parameters

<i>startX</i>	
<i>startY</i>	
<i>midX</i>	
<i>midY</i>	
<i>endX</i>	
<i>endY</i>	

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

[ArcObject::gripEdit](#).

Parameters

<i>before</i>	
<i>after</i>	

Todo `gripEdit()` for [ArcObject](#)

Implements [BaseObject](#).

```
17.9.3.4 init() void init (
    EmbReal startX,
    EmbReal startY,
    EmbReal midX,
    EmbReal midY,
    EmbReal endX,
    EmbReal endY,
    QRgb rgb,
    Qt::PenStyle lineType )
```

[ArcObject::init](#).

Parameters

<i>startX</i>	
<i>startY</i>	
<i>midX</i>	
<i>midY</i>	
<i>endX</i>	
<i>endY</i>	
<i>rgb</i>	
<i>lineType</i>	

```
17.9.3.5 mouseSnapPoint() QPointF mouseSnapPoint (
    const QPointF & mousePoint ) [virtual]
```

[ArcObject::mouseSnapPoint](#).

Parameters

mousePoint

Returns

the closest snap point to the mouse point.

Implements [BaseObject](#).

17.9.3.6 objectArcLength() `EmbReal objectArcLength () const`

[ArcObject::objectArcLength](#).

Returns**17.9.3.7 objectArea()** `EmbReal objectArea () const`

[ArcObject::objectArea](#).

Returns**17.9.3.8 objectChord()** `EmbReal objectChord () const`

[ArcObject::objectChord](#).

Returns**17.9.3.9 objectClockwise()** `bool objectClockwise () const`

[ArcObject::objectClockwise](#).

Returns

17.9.3.10 objectEndAngle() `EmbReal` `objectEndAngle () const`

`ArcObject::objectEndAngle.`

Returns

17.9.3.11 objectEndPoint() `QPointF` `objectEndPoint () const`

`ArcObject::objectEndPoint.`

Returns

17.9.3.12 objectEndX() `EmbReal` `objectEndX () const`

`ArcObject::objectEndX.`

Returns

17.9.3.13 objectEndY() `EmbReal` `objectEndY () const`

`ArcObject::objectEndY.`

Returns

17.9.3.14 objectIncludedAngle() `EmbReal` `objectIncludedAngle () const`

`ArcObject::objectIncludedAngle.`

Returns

17.9.3.15 objectMidPoint() `QPointF objectMidPoint () const`
`ArcObject::objectMidPoint.`

Returns

17.9.3.16 objectMidX() `EmbReal objectMidX () const`
`ArcObject::objectMidX.`

Returns

17.9.3.17 objectMidY() `EmbReal objectMidY () const`
`ArcObject::objectMidY.`

Returns

17.9.3.18 objectRadius() `EmbReal objectRadius () const [inline]`

17.9.3.19 objectStartAngle() `EmbReal objectStartAngle () const`
`ArcObject::objectStartAngle.`

Returns

17.9.3.20 objectStartPoint() `QPointF objectStartPoint () const`
`ArcObject::objectStartPoint.`

Returns

17.9.3.21 objectStartX() `EmbReal` `objectStartX () const`

[ArcObject::objectStartX](#).

Returns

17.9.3.22 objectStartY() `EmbReal` `objectStartY () const`

[ArcObject::objectStartY](#).

Returns

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

[ArcObject::paint](#).

Parameters

<code>painter</code>	
<code>option</code>	

17.9.3.24 setObjectEndAngle() `void` `setObjectEndAngle (`
 `EmbReal angle)`

17.9.3.25 setObjectEndPoint() `[1/2]` `void` `setObjectEndPoint (`
 `const QPointF & point)`

[ArcObject::setObjectEndPoint](#).

Parameters

<code>point</code>	
--------------------	--

```
17.9.3.26 setObjectEndPoint() [2/2] void setObjectEndPoint (
    EmbReal pointX,
    EmbReal pointY )
```

[ArcObject::setObjectEndPoint](#).

Parameters

<i>pointX</i>	
<i>pointY</i>	

```
17.9.3.27 setObjectMidPoint() [1/2] void setObjectMidPoint (
    const QPointF & point )
```

```
17.9.3.28 setObjectMidPoint() [2/2] void setObjectMidPoint (
    EmbReal pointX,
    EmbReal pointY )
```

```
17.9.3.29 setObjectRadius() void setObjectRadius (
    EmbReal radius )
```

```
17.9.3.30 setObjectStartAngle() void setObjectStartAngle (
    EmbReal angle )
```

```
17.9.3.31 setObjectStartPoint() [1/2] void setObjectStartPoint (
    const QPointF & point )
```

```
17.9.3.32 setObjectStartPoint() [2/2] void setObjectStartPoint (
    EmbReal pointX,
    EmbReal pointY )
```

```
17.9.3.33 type() virtual int type ( ) const [inline], [virtual]
Reimplemented from BaseObject.
```

```
17.9.3.34 updateArcRect() void updateArcRect (
    EmbReal radius )
```

[ArcObject::updateArcRect](#).

Parameters

<i>radius</i>	<input type="text"/>
---------------	----------------------

17.9.3.35 updatePath() void updatePath ()

[ArcObject::updatePath](#).

17.9.3.36 updateRubber() void updateRubber (
 *QPainter * painter = 0*)

[ArcObject::updateRubber](#).

Parameters

<i>painter</i>	<input type="text"/>
----------------	----------------------

Todo Arc Rubber Modes

Todo [updateRubber\(\)](#) gripping for ArcObject

17.9.3.37 vulcanize() void vulcanize () [virtual]

[ArcObject::vulcanize](#).

Implements [BaseObject](#).

17.9.4 Member Data Documentation**17.9.4.1 arcEndPoint** QPointF arcEndPoint**17.9.4.2 arcMidPoint** QPointF arcMidPoint

17.9.4.3 arcStartPoint QPointF arcStartPoint

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

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

17.10 BaseObject Class Reference

```
#include <embroidermodder.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
- EmbReal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QPointF [objectCenter](#) () const
- EmbReal [objectCenterX](#) () const
- EmbReal [objectCenterY](#) () const
- void [setObjectCenter](#) (EmbVector center)
- void [setObjectCenterX](#) (EmbReal centerX)
- void [setObjectCenterY](#) (EmbReal centerY)
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (EmbReal x, EmbReal y, EmbReal w, EmbReal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (EmbReal 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

Public Attributes

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

Protected Member Functions

- QPen `lineWeightPen () const`
- void `realRender (QPainter *painter, const QPainterPath &renderPath)`

17.10.1 Member Enumeration Documentation

17.10.1.1 anonymous enum anonymous enum

Enumerator

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

17.10.2 Constructor & Destructor Documentation

17.10.2.1 BaseObject() `BaseObject (` `QGraphicsItem * parent = 0)`

17.10.2.2 ~BaseObject() `~BaseObject () [virtual]`

17.10.3 Member Function Documentation

17.10.3.1 allGripPoints() `virtual QList<QPointF> allGripPoints () [pure virtual]`

Implemented in `ArcObject`, `CircleObject`, `DimLeaderObject`, `EllipseObject`, `ImageObject`, `LineObject`, `PathObject`, `PointObject`, `PolygonObject`, `PolylineObject`, `RectObject`, and `TextSingleObject`.

17.10.3.2 boundingRect() `QRectF boundingRect () const [virtual]`

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

17.10.3.4 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](#).

17.10.3.5 line() `QLineF line () const [inline]`

17.10.3.6 lineWeightPen() `QPen lineWeightPen () const [inline], [protected]`

17.10.3.7 mouseSnapPoint() `virtual QPointF mouseSnapPoint (`
 `const QPointF & mousePoint) [pure virtual]`

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

17.10.3.8 objectCenter() `QPointF objectCenter () const [inline]`

17.10.3.9 objectCenterX() `EmbReal objectCenterX () const [inline]`

17.10.3.10 objectCenterY() `EmbReal objectCenterY () const [inline]`

17.10.3.11 `objectColor()` QColor objectColor () const [inline]

17.10.3.12 `objectColorRGB()` QRgb objectColorRGB () const [inline]

17.10.3.13 `objectID()` qint64 objectID () const [inline]

17.10.3.14 `objectLineType()` Qt::PenStyle objectLineType () const [inline]

17.10.3.15 `objectLineWidth()` EmbReal objectLineWidth () const [inline]

17.10.3.16 `objectPath()` QPainterPath objectPath () const [inline]

17.10.3.17 `objectPen()` QPen objectPen () const [inline]

17.10.3.18 `objectRubberMode()` int objectRubberMode () const [inline]

17.10.3.19 `objectRubberPoint()` QPointF objectRubberPoint (const QString & key) const

17.10.3.20 `objectRubberText()` QString objectRubberText (const QString & key) const

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

17.10.3.22 rect() QRectF rect () const [inline]

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

17.10.3.24 setLine() [2/2] void setLine (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2) [inline]

17.10.3.25 setObjectCenter() void setObjectCenter (EmbVector center) [inline]

17.10.3.26 setObjectCenterX() void setObjectCenterX (EmbReal centerX) [inline]

17.10.3.27 setObjectCenterY() void setObjectCenterY (EmbReal centerY) [inline]

17.10.3.28 setObjectColor() void setObjectColor (const QColor & color)

17.10.3.29 setObjectColorRGB() void setObjectColorRGB (QRgb rgb)

17.10.3.30 setObjectLineType() void setObjectLineType (Qt::PenStyle lineType)

17.10.3.31 `setObjectLineWeight()` void setObjectLineWeight (EmbReal lineWeight)

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

17.10.3.33 `setObjectRubberMode()` void setObjectRubberMode (int mode) [inline]

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

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

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

17.10.3.37 `setRect()` [2/2] void setRect (EmbReal x, EmbReal y, EmbReal w, EmbReal h) [inline]

17.10.3.38 `shape()` virtual QPainterPath shape () const [inline], [virtual]

17.10.3.39 `type()` virtual int type () const [inline], [virtual]

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

17.10.3.40 vulcanize() virtual void vulcanize () [pure virtual]

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

17.10.4 Member Data Documentation

17.10.4.1 lwtPen QPen lwtPen

17.10.4.2 objID qint64 objID

17.10.4.3 objLine QLineF objLine

17.10.4.4 objPen QPen objPen

17.10.4.5 objRubberMode int objRubberMode

17.10.4.6 objRubberPoints QHash<QString, QPointF> objRubberPoints

17.10.4.7 objRubberTexts QHash<QString, QString> objRubberTexts

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

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

17.11 CircleObject Class Reference

```
#include <embroidermodder.h>
```

Public Types

- enum { `Type` = `OBJ_TYPE_CIRCLE` }

Public Types inherited from `BaseObject`

- enum { `Type` = `OBJ_TYPE_BASE` }

Public Member Functions

- `CircleObject` (`EmbReal` `centerX`, `EmbReal` `centerY`, `EmbReal` `radius`, `QRgb` `rgb`, `QGraphicsItem` *`parent`=0)
- `CircleObject` (`CircleObject` *`obj`, `QGraphicsItem` *`parent`=0)
- `~CircleObject` ()
- void `init` (`EmbReal` `centerX`, `EmbReal` `centerY`, `EmbReal` `radius`, `QRgb` `rgb`, `Qt::PenStyle` `lineType`)
- void `updatePath` ()
- virtual int `type` () const
- `QPainterPath` `objectSavePath` () const
- `EmbReal` `objectRadius` () const
- `EmbReal` `objectDiameter` () const
- `EmbReal` `objectArea` () const
- `EmbReal` `objectCircumference` () const
- `QPointF` `objectQuadrant0` () const
- `QPointF` `objectQuadrant90` () const
- `QPointF` `objectQuadrant180` () const
- `QPointF` `objectQuadrant270` () const
- void `setObjectRadius` (`EmbReal` `radius`)
- void `setObjectDiameter` (`EmbReal` `diameter`)
- void `setObjectArea` (`EmbReal` `area`)
- void `setObjectCircumference` (`EmbReal` `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
- `EmbReal` `objectLineWidth` () const
- `QPainterPath` `objectPath` () const
- int `objectRubberMode` () const
- `QPointF` `objectRubberPoint` (const `QString` &`key`) const
- `QString` `objectRubberText` (const `QString` &`key`) const
- `QPointF` `objectCenter` () const

- `EmbReal objectCenterX () const`
- `EmbReal objectCenterY () const`
- `void setObjectCenter (EmbVector center)`
- `void setObjectCenterX (EmbReal centerX)`
- `void setObjectCenterY (EmbReal centerY)`
- `QRectF rect () const`
- `void setRect (const QRectF &r)`
- `void setRect (EmbReal x, EmbReal y, EmbReal w, EmbReal h)`
- `QLineF line () const`
- `void setLine (const QLineF &li)`
- `void setLine (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `void setObjectColor (const QColor &color)`
- `void setObjectColorRGB (QRgb rgb)`
- `void setObjectLineType (Qt::PenStyle lineType)`
- `void setObjectLineWeight (EmbReal 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`
- `void realRender (QPainter *painter, const QPainterPath &renderPath)`

Additional Inherited Members

Public Attributes inherited from `BaseObject`

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

17.11.1 Member Enumeration Documentation

17.11.1.1 anonymous enum anonymous enum

Enumerator

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

17.11.2 Constructor & Destructor Documentation

17.11.2.1 `CircleObject()` [1/2] `CircleObject` (

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

17.11.2.2 `CircleObject()` [2/2] `CircleObject` (

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

17.11.2.3 `~CircleObject()` `~CircleObject` ()

17.11.3 Member Function Documentation

17.11.3.1 `allGripPoints()` `QList< QPointF > allGripPoints ()` [virtual]

Implements [BaseObject](#).

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

Implements [BaseObject](#).

17.11.3.3 init() void init (

```
EmbReal centerX,
EmbReal centerY,
EmbReal radius,
QRgb rgb,
Qt::PenStyle lineType )
```

17.11.3.4 mouseSnapPoint() QPointF mouseSnapPoint (

```
const QPointF & mousePoint ) [virtual]
```

Implements [BaseObject](#).

17.11.3.5 objectArea() EmbReal objectArea () const [inline]

17.11.3.6 objectCircumference() EmbReal objectCircumference () const [inline]

17.11.3.7 objectDiameter() EmbReal objectDiameter () const [inline]

17.11.3.8 objectQuadrant0() QPointF objectQuadrant0 () const [inline]

17.11.3.9 objectQuadrant180() QPointF objectQuadrant180 () const [inline]

17.11.3.10 objectQuadrant270() QPointF objectQuadrant270 () const [inline]

17.11.3.11 objectQuadrant90() QPointF objectQuadrant90 () const [inline]

17.11.3.12 objectRadius() EmbReal objectRadius () const [inline]

17.11.3.13 `objectSavePath()` `QPainterPath objectSavePath () const`

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

17.11.3.15 `setObjectArea()` `void setObjectArea (`
 `EmbReal area)`

17.11.3.16 `setObjectCircumference()` `void setObjectCircumference (`
 `EmbReal circumference)`

17.11.3.17 `setObjectDiameter()` `void setObjectDiameter (`
 `EmbReal diameter)`

17.11.3.18 `setObjectRadius()` `void setObjectRadius (`
 `EmbReal radius)`

17.11.3.19 `type()` `virtual int type () const [inline], [virtual]`

Reimplemented from [BaseObject](#).

17.11.3.20 `updatePath()` `void updatePath ()`

17.11.3.21 `updateRubber()` `void updateRubber (`
 `QPainter * painter = 0)`

17.11.3.22 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

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

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

17.12 CmdPrompt Class Reference

```
#include <embroidermodder.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` ()
- void `updateStyle` ()

Public Attributes

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

17.12.1 Detailed Description**17.12.2 Constructor & Destructor Documentation****17.12.2.1 CmdPrompt()** `CmdPrompt (QWidget * parent = 0)`**17.12.2.2 ~CmdPrompt()** `~CmdPrompt ()`**17.12.3 Member Function Documentation****17.12.3.1 activeCommand** `QString activeCommand () [inline], [slot]`**17.12.3.2 addCommand** `void addCommand (const QString & alias, const QString & cmd) [inline], [slot]`**17.12.3.3 alert** `void alert (const QString & txt) [slot]`**17.12.3.4 appendHistory** `void appendHistory (const QString & txt) [slot]`**17.12.3.5 appendTheHistory** `void appendTheHistory (const QString & txt, int prefixLength) [signal]`**17.12.3.6 blink** `void blink () [slot]`

17.12.3.7 `copyPressed` void copyPressed () [signal]

17.12.3.8 `cutPressed` void cutPressed () [signal]

17.12.3.9 `deletePressed` void deletePressed () [signal]

17.12.3.10 `disableRapidFire` void disableRapidFire () [inline], [slot]

17.12.3.11 `downPressed` void downPressed () [signal]

17.12.3.12 `enableRapidFire` void enableRapidFire () [inline], [slot]

17.12.3.13 `endCommand` void endCommand () [inline], [slot]

17.12.3.14 `escapePressed` void escapePressed () [signal]

17.12.3.15 `F10Pressed` void F10Pressed () [signal]

17.12.3.16 `F11Pressed` void F11Pressed () [signal]

17.12.3.17 `F12Pressed` void F12Pressed () [signal]

17.12.3.18 F1Pressed void F1Pressed () [signal]

17.12.3.19 F2Pressed void F2Pressed () [signal]

17.12.3.20 F3Pressed void F3Pressed () [signal]

17.12.3.21 F4Pressed void F4Pressed () [signal]

17.12.3.22 F5Pressed void F5Pressed () [signal]

17.12.3.23 F6Pressed void F6Pressed () [signal]

17.12.3.24 F7Pressed void F7Pressed () [signal]

17.12.3.25 F8Pressed void F8Pressed () [signal]

17.12.3.26 F9Pressed void F9Pressed () [signal]

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

17.12.3.28 getCurrentText QString getCurrentText () [inline], [slot]

17.12.3.29 `getHistory` `QString getHistory () [inline], [slot]`

17.12.3.30 `getPrefix` `QString getPrefix () [inline], [slot]`

17.12.3.31 `historyAppended` `void historyAppended (const QString & txt) [signal]`

17.12.3.32 `isCommandActive` `bool isCommandActive () [inline], [slot]`

17.12.3.33 `isRapidFireEnabled` `bool isRapidFireEnabled () [inline], [slot]`

17.12.3.34 `lastCommand` `QString lastCommand () [inline], [slot]`

17.12.3.35 `pastePressed` `void pastePressed () [signal]`

17.12.3.36 `processInput` `void processInput () [inline], [slot]`

17.12.3.37 `redoPressed` `void redoPressed () [signal]`

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

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

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

17.12.3.41 `selectAllPressed` void selectAllPressed () [signal]

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

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

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

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

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

17.12.3.47 `setPromptFontSize` void setPromptFontSize (int *size*) [slot]

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

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

17.12.3.50 shiftPressed void shiftPressed () [signal]

17.12.3.51 shiftReleased void shiftReleased () [signal]

17.12.3.52 showSettings void showSettings () [signal]

17.12.3.53 startBlinking void startBlinking () [slot]

17.12.3.54 startCommand void startCommand (const QString & cmd) [signal]

17.12.3.55 startResizingTheHistory void startResizingTheHistory (int y) [inline], [slot]

17.12.3.56 stopBlinking void stopBlinking () [slot]

17.12.3.57 stopResizingTheHistory void stopResizingTheHistory (int y) [inline], [slot]

17.12.3.58 tabPressed void tabPressed () [signal]

17.12.3.59 undoPressed void undoPressed () [signal]

17.12.3.60 updateStyle() void updateStyle ()

17.12.3.61 upPressed void upPressed () [signal]

17.12.4 Member Data Documentation

17.12.4.1 blinkState bool blinkState

17.12.4.2 blinkTimer QTimer* blinkTimer

17.12.4.3 promptDivider QFrame* promptDivider

17.12.4.4 promptHistory CmdPromptHistory* promptHistory

17.12.4.5 promptInput CmdPromptInput* promptInput

17.12.4.6 promptSplitter CmdPromptSplitter* promptSplitter

17.12.4.7 promptVBoxLayout QVBoxLayout* promptVBoxLayout

17.12.4.8 styleHash QHash<QString, QString>* styleHash

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

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

17.13 CmdPromptHandle Class Reference

```
#include <embroidermodder.h>
```

Signals

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

Public Member Functions

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

Public Attributes

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

Protected Member Functions

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

17.13.1 Detailed Description

17.13.2 Constructor & Destructor Documentation

17.13.2.1 `CmdPromptHandle()` `CmdPromptHandle` (
 Qt::Orientation *orientation*,
 QSplitter * *parent*)

17.13.2.2 `~CmdPromptHandle()` `~CmdPromptHandle` ()

17.13.3 Member Function Documentation

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

17.13.3.2 handlePressed void handlePressed (int y) [signal]

17.13.3.3 handleReleased void handleReleased (int y) [signal]

17.13.3.4 mouseMoveEvent() void mouseMoveEvent (QMouseEvent * e) [protected]

17.13.3.5 mousePressEvent() void mousePressEvent (QMouseEvent * e) [protected]

17.13.3.6 mouseReleaseEvent() void mouseReleaseEvent (QMouseEvent * e) [protected]

17.13.4 Member Data Documentation

17.13.4.1 moveY int moveY

17.13.4.2 pressY int pressY

17.13.4.3 releaseY int releaseY

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

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

17.14 CmdPromptHistory Class Reference

The Command Prompt History class.

```
#include <embroidermodder.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](#) ()
- QString [applyFormatting](#) (const QString &txt, int prefixLength)

Public Attributes

- int [tmpHeight](#)

Protected Member Functions

- void [contextMenuEvent](#) (QContextMenuEvent *event)

17.14.1 Detailed Description

The Command Prompt History class.

17.14.2 Constructor & Destructor Documentation

17.14.2.1 [CmdPromptHistory\(\)](#) [CmdPromptHistory](#) (

```
QWidget * parent = 0 )
```

17.14.2.2 [~CmdPromptHistory\(\)](#) [~CmdPromptHistory](#) ()

17.14.3 Member Function Documentation

17.14.3.1 appendHistory void appendHistory (const QString & txt, int prefixLength) [slot]

17.14.3.2 applyFormatting() QString applyFormatting (const QString & txt, int prefixLength)

17.14.3.3 contextMenuEvent() void contextMenuEvent (QContextMenuEvent * event) [protected]

17.14.3.4 historyAppended void historyAppended (const QString & txt) [signal]

17.14.3.5 resizeHistory void resizeHistory (int y) [slot]

17.14.3.6 startResizeHistory void startResizeHistory (int y) [slot]

17.14.3.7 stopResizeHistory void stopResizeHistory (int y) [slot]

17.14.4 Member Data Documentation

17.14.4.1 tmpHeight int tmpHeight

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

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

17.15 CmdPromptInput Class Reference

```
#include <embroidermodder.h>
```

Public Slots

- void `addCommand` (const QString &alias, const QString &cmd)
- void `endCommand` ()
- void `processInput` (void)
- 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 ()`
- `void changeFormatting (const QList< QTextLayout::FormatRange > &formats)`
- `void clearFormatting ()`
- `void applyFormatting ()`

Public Attributes

- `QString curText`
- `QString defaultPrefix`
- `QString prefix`
- `QString lastCmd`
- `QString curCmd`
- `bool cmdActive`
- `bool rapidFireEnabled`
- `bool isBlinking`
- `QHash< QString, QString > * aliasHash`

Protected Member Functions

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

Private Slots

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

17.15.1 Constructor & Destructor Documentation

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

17.15.1.2 ~CmdPromptInput() `~CmdPromptInput ()`

17.15.2 Member Function Documentation

17.15.2.1 addCommand void addCommand (const QString & alias, const QString & cmd) [slot]

17.15.2.2 appendHistory void appendHistory (const QString & txt, int prefixLength) [signal]

17.15.2.3 applyFormatting() void applyFormatting ()

17.15.2.4 changeFormatting() void changeFormatting (const QList< QTextLayout::FormatRange > & formats)

17.15.2.5 checkChangedText void checkChangedText (const QString & txt) [slot]

17.15.2.6 checkCursorPosition void checkCursorPosition (int oldpos, int newpos) [slot]

17.15.2.7 checkEditedText void checkEditedText (const QString & txt) [slot]

17.15.2.8 checkSelection void checkSelection () [slot]

17.15.2.9 clearFormatting() void clearFormatting ()

17.15.2.10 contextMenuEvent() void contextMenuEvent (QContextMenuEvent * event) [protected]

17.15.2.11 copyClip void copyClip () [private], [slot]

17.15.2.12 copyPressed void copyPressed () [signal]

17.15.2.13 cutPressed void cutPressed () [signal]

17.15.2.14 deletePressed void deletePressed () [signal]

17.15.2.15 downPressed void downPressed () [signal]

17.15.2.16 endCommand void endCommand () [slot]

17.15.2.17 escapePressed void escapePressed () [signal]

17.15.2.18 eventFilter() bool eventFilter (QObject * obj, QEEvent * event) [protected]

17.15.2.19 F10Pressed void F10Pressed () [signal]

17.15.2.20 F11Pressed void F11Pressed () [signal]

17.15.2.21 F12Pressed void F12Pressed () [signal]

17.15.2.22 F1Pressed void F1Pressed () [signal]

17.15.2.23 F2Pressed void F2Pressed () [signal]

17.15.2.24 F3Pressed void F3Pressed () [signal]

17.15.2.25 F4Pressed void F4Pressed () [signal]

17.15.2.26 F5Pressed void F5Pressed () [signal]

17.15.2.27 F6Pressed void F6Pressed () [signal]

17.15.2.28 F7Pressed void F7Pressed () [signal]

17.15.2.29 F8Pressed void F8Pressed () [signal]

17.15.2.30 F9Pressed void F9Pressed () [signal]

17.15.2.31 pasteClip void pasteClip () [private], [slot]

17.15.2.32 pastePressed void pastePressed () [signal]

17.15.2.33 processInput void processInput (void) [slot]

17.15.2.34 redoPressed void redoPressed () [signal]

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

17.15.2.36 selectAllPressed void selectAllPressed () [signal]

17.15.2.37 shiftPressed void shiftPressed () [signal]

17.15.2.38 shiftReleased void shiftReleased () [signal]

17.15.2.39 showSettings void showSettings () [signal]

17.15.2.40 startCommand void startCommand (const QString & cmd) [signal]

17.15.2.41 stopBlinking void stopBlinking () [signal]

17.15.2.42 tabPressed void tabPressed () [signal]

17.15.2.43 undoPressed void undoPressed () [signal]

17.15.2.44 updateCurrentText void updateCurrentText (const QString & txt) [slot]

17.15.2.45 upPressed void upPressed () [signal]

17.15.3 Member Data Documentation

17.15.3.1 aliasHash QHash<QString, QString>* aliasHash

17.15.3.2 cmdActive bool cmdActive

17.15.3.3 curCmd QString curCmd

17.15.3.4 curText QString curText

17.15.3.5 defaultPrefix QString defaultPrefix

17.15.3.6 isBlinking bool isBlinking

17.15.3.7 lastCmd QString lastCmd

17.15.3.8 prefix QString prefix

17.15.3.9 rapidFireEnabled bool rapidFireEnabled

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

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

17.16 CmdPromptSplitter Class Reference

```
#include <embroidermodder.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](#) ()

17.16.1 Detailed Description

17.16.2 Constructor & Destructor Documentation

17.16.2.1 CmdPromptSplitter() [CmdPromptSplitter](#) (QWidget * parent = 0)**17.16.2.2 ~CmdPromptSplitter()** [~CmdPromptSplitter](#) ()

17.16.3 Member Function Documentation

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

17.16.3.2 `moveResizeHistory()` `void moveResizeHistory (int y) [signal]`

17.16.3.3 `pressResizeHistory()` `void pressResizeHistory (int y) [signal]`

17.16.3.4 `releaseResizeHistory()` `void releaseResizeHistory (int y) [signal]`

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

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

17.17 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](#)

17.17.1 Member Data Documentation

17.17.1.1 `bit_position` `int bit_position`

17.17.1.2 bits_total int bits_total

17.17.1.3 block_elements int block_elements

17.17.1.4 character_huffman [huffman](#) character_huffman

17.17.1.5 character_length_huffman [huffman](#) character_length_huffman

17.17.1.6 distance_huffman [huffman](#) distance_huffman

17.17.1.7 input_data char* input_data

17.17.1.8 input_length int input_length

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.18 DimLeaderObject Class Reference

```
#include <embroidermodder.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 (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, QRgb rgb, QGraphicsItem *parent=0)`
- `DimLeaderObject (DimLeaderObject *obj, QGraphicsItem *parent=0)`
- `~DimLeaderObject ()`
- `void init (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, QRgb rgb, Qt::PenStyle lineType)`
- `void updateLeader ()`
- `virtual int type () const`
- `QPointF objectEndPoint1 () const`
- `QPointF objectEndPoint2 () const`
- `QPointF objectMidPoint () const`
- `EmbReal objectX1 () const`
- `EmbReal objectY1 () const`
- `EmbReal objectX2 () const`
- `EmbReal objectY2 () const`
- `EmbReal objectDeltaX () const`
- `EmbReal objectDeltaY () const`
- `EmbReal objectAngle () const`
- `EmbReal objectLength () const`
- `void setObjectEndPoint1 (const QPointF &endPt1)`
- `void setObjectEndPoint1 (EmbReal x1, EmbReal y1)`
- `void setObjectEndPoint2 (const QPointF &endPt2)`
- `void setObjectEndPoint2 (EmbReal x2, EmbReal y2)`
- `void setObjectX1 (EmbReal x)`
- `void setObjectY1 (EmbReal y)`
- `void setObjectX2 (EmbReal x)`
- `void setObjectY2 (EmbReal 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`
- `EmbReal objectLineWidth () const`
- `QPainterPath objectPath () const`
- `int objectRubberMode () const`
- `QPointF objectRubberPoint (const QString &key) const`
- `QString objectRubberText (const QString &key) const`
- `QPointF objectCenter () const`
- `EmbReal objectCenterX () const`
- `EmbReal objectCenterY () const`
- `void setObjectCenter (EmbVector center)`

- void `setObjectCenterX` (`EmbReal` centerX)
- void `setObjectCenterY` (`EmbReal` centerY)
- `QRectF rect` () const
- void `setRect` (const `QRectF` &r)
- void `setRect` (`EmbReal` x, `EmbReal` y, `EmbReal` w, `EmbReal` h)
- `QLineF line` () const
- void `setLine` (const `QLineF` &li)
- void `setLine` (`EmbReal` x1, `EmbReal` y1, `EmbReal` x2, `EmbReal` y2)
- void `setObjectColor` (const `QColor` &color)
- void `setObjectColorRGB` (`QRgb` rgb)
- void `setObjectLineType` (`Qt::PenStyle` lineType)
- void `setObjectLineWeight` (`EmbReal` 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

Public Attributes

- bool `curved`
- bool `filled`
- `QPainterPath` `lineStylePath`
- `QPainterPath` `arrowStylePath`
- `EmbReal` `arrowStyleAngle`
- `EmbReal` `arrowStyleLength`
- `EmbReal` `lineStyleAngle`
- `EmbReal` `lineStyleLength`

Public Attributes inherited from `BaseObject`

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

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

- QPen [lineWeightPen \(\) const](#)
- void [realRender \(QPainter *painter, const QPainterPath &renderPath\)](#)

17.18.1 Member Enumeration Documentation**17.18.1.1 anonymous enum [anonymous enum](#)**

Enumerator

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

17.18.1.2 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=""/>

17.18.1.3 [lineStyle](#) [enum lineStyle](#)

Enumerator

NoLine	<input type="button" value=""/>
Flared	<input type="button" value=""/>
Fletching	<input type="button" value=""/>

17.18.2 Constructor & Destructor Documentation**17.18.2.1 DimLeaderObject() [1/2] [DimLeaderObject](#) (**
EmReal x1,

```
    EmbReal y1,
    EmbReal x2,
    EmbReal y2,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

17.18.2.2 DimLeaderObject() [2/2] `DimLeaderObject (`
 `DimLeaderObject * obj,`
 `QGraphicsItem * parent = 0)`

17.18.2.3 ~DimLeaderObject() `~DimLeaderObject ()`

17.18.3 Member Function Documentation

17.18.3.1 allGripPoints() `QList< QPointF > allGripPoints () [virtual]`

Implements [BaseObject](#).

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

Implements [BaseObject](#).

17.18.3.3 init() `void init (`
 `EmbReal x1,`
 `EmbReal y1,`
 `EmbReal x2,`
 `EmbReal y2,`
 `QRgb rgb,`
 `Qt::PenStyle lineType)`

17.18.3.4 mouseSnapPoint() `QPointF mouseSnapPoint (`
 `const QPointF & mousePoint) [virtual]`

Implements [BaseObject](#).

17.18.3.5 objectAngle() `EmbReal` `objectAngle () const`

17.18.3.6 objectDeltaX() `EmbReal` `objectDeltaX () const [inline]`

17.18.3.7 objectDeltaY() `EmbReal` `objectDeltaY () const [inline]`

17.18.3.8 objectEndPoint1() `QPointF` `objectEndPoint1 () const`

17.18.3.9 objectEndPoint2() `QPointF` `objectEndPoint2 () const`

17.18.3.10 objectLength() `EmbReal` `objectLength () const [inline]`

17.18.3.11 objectMidPoint() `QPointF` `objectMidPoint () const`

17.18.3.12 objectX1() `EmbReal` `objectX1 () const [inline]`

17.18.3.13 objectX2() `EmbReal` `objectX2 () const [inline]`

17.18.3.14 objectY1() `EmbReal` `objectY1 () const [inline]`

17.18.3.15 objectY2() `EmbReal` `objectY2 () const [inline]`

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

17.18.3.17 `setObjectEndPoint1()` [1/2] void setObjectEndPoint1 (const QPointF & endPt1)

17.18.3.18 `setObjectEndPoint1()` [2/2] void setObjectEndPoint1 (EmbReal x1, EmbReal y1)

17.18.3.19 `setObjectEndPoint2()` [1/2] void setObjectEndPoint2 (const QPointF & endPt2)

17.18.3.20 `setObjectEndPoint2()` [2/2] void setObjectEndPoint2 (EmbReal x2, EmbReal y2)

17.18.3.21 `setObjectX1()` void setObjectX1 (EmbReal x) [inline]

17.18.3.22 `setObjectX2()` void setObjectX2 (EmbReal x) [inline]

17.18.3.23 `setObjectY1()` void setObjectY1 (EmbReal y) [inline]

17.18.3.24 `setObjectY2()` void setObjectY2 (EmbReal y) [inline]

17.18.3.25 `type()` `virtual int type () const [inline], [virtual]`

Reimplemented from [BaseObject](#).

17.18.3.26 `updateLeader()` `void updateLeader ()`

17.18.3.27 `updateRubber()` `void updateRubber (`
`QPainter * painter = 0)`

17.18.3.28 `vulcanize()` `void vulcanize () [virtual]`

Implements [BaseObject](#).

17.18.4 Member Data Documentation

17.18.4.1 `arrowStyleAngle` [EmbReal](#) `arrowStyleAngle`

17.18.4.2 `arrowStyleLength` [EmbReal](#) `arrowStyleLength`

17.18.4.3 `arrowStylePath` `QPainterPath arrowStylePath`

17.18.4.4 `curved` `bool curved`

17.18.4.5 `filled` `bool filled`

17.18.4.6 `lineStyleAngle` [EmbReal](#) `lineStyleAngle`

17.18.4.7 lineStyleLength `EmbReal` `lineStyleLength`**17.18.4.8 lineStylePath** `QPainterPath` `lineStylePath`

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

- `embroidermodder2/embroidermodder.h`
- `embroidermodder2/object-dimleader.cpp`

17.19 EllipseObject Class Reference

```
#include <embroidermodder.h>
```

Public Types

- enum { `Type` = `OBJ_TYPE_ELLIPSE` }

Public Types inherited from `BaseObject`

- enum { `Type` = `OBJ_TYPE_BASE` }

Public Member Functions

- `EllipseObject` (`EmbReal` `centerX`, `EmbReal` `centerY`, `EmbReal` `width`, `EmbReal` `height`, `QRgb` `rgb`, `QGraphicsItem` *`parent`=0)
- `EllipseObject` (`EllipseObject` *`obj`, `QGraphicsItem` *`parent`=0)
- `~EllipseObject` ()
- void `init` (`EmbReal` `centerX`, `EmbReal` `centerY`, `EmbReal` `width`, `EmbReal` `height`, `QRgb` `rgb`, `Qt::PenStyle` `lineType`)
- void `updatePath` ()
- virtual int `type` () const
- `QPainterPath` `objectSavePath` () const
- `EmbReal` `objectRadiusMajor` () const
- `EmbReal` `objectRadiusMinor` () const
- `EmbReal` `objectDiameterMajor` () const
- `EmbReal` `objectDiameterMinor` () const
- `EmbReal` `objectWidth` () const
- `EmbReal` `objectHeight` () const
- `QPointF` `objectQuadrant0` () const
- `QPointF` `objectQuadrant90` () const
- `QPointF` `objectQuadrant180` () const
- `QPointF` `objectQuadrant270` () const
- void `setObjectSize` (`EmbReal` `width`, `EmbReal` `height`)
- void `setObjectRadiusMajor` (`EmbReal` `radius`)
- void `setObjectRadiusMinor` (`EmbReal` `radius`)
- void `setObjectDiameterMajor` (`EmbReal` `diameter`)
- void `setObjectDiameterMinor` (`EmbReal` `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
- [EmbReal objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QPointF [objectCenter](#) () const
- [EmbReal objectCenterX](#) () const
- [EmbReal objectCenterY](#) () const
- void [setObjectCenter](#) ([EmbVector](#) center)
- void [setObjectCenterX](#) ([EmbReal](#) centerX)
- void [setObjectCenterY](#) ([EmbReal](#) centerY)
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) ([EmbReal](#) x, [EmbReal](#) y, [EmbReal](#) w, [EmbReal](#) h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &l)
- void [setLine](#) ([EmbReal](#) x1, [EmbReal](#) y1, [EmbReal](#) x2, [EmbReal](#) y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) ([EmbReal](#) 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
- void [realRender](#) (QPainter *painter, const QPainterPath &renderPath)

Additional Inherited Members

Public Attributes inherited from [BaseObject](#)

- QPen [objPen](#)
- QPen [lwtPen](#)
- QLineF [objLine](#)
- int [objRubberMode](#)
- QHash<QString, QPointF> [objRubberPoints](#)
- QHash<QString, QString> [objRubberTexts](#)
- qint64 [objID](#)

17.19.1 Member Enumeration Documentation

17.19.1.1 anonymous enum [anonymous enum](#)

Enumerator

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

17.19.2 Constructor & Destructor Documentation

17.19.2.1 [EllipseObject\(\)](#) [1/2] [EllipseObject](#) (

```
    EmbReal centerX,
    EmbReal centerY,
    EmbReal width,
    EmbReal height,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

17.19.2.2 [EllipseObject\(\)](#) [2/2] [EllipseObject](#) (

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

17.19.2.3 [~EllipseObject\(\)](#) [~EllipseObject](#) ()

17.19.3 Member Function Documentation

17.19.3.1 allGripPoints() `QList< QPointF > allGripPoints () [virtual]`

Implements [BaseObject](#).

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

Implements [BaseObject](#).

17.19.3.3 init() `void init (EmbReal centerX, EmbReal centerY, EmbReal width, EmbReal height, QRgb rgb, Qt::PenStyle lineType)`

17.19.3.4 mouseSnapPoint() `QPointF mouseSnapPoint (const QPointF & mousePoint) [virtual]`

Implements [BaseObject](#).

17.19.3.5 objectDiameterMajor() `EmbReal objectDiameterMajor () const [inline]`

17.19.3.6 objectDiameterMinor() `EmbReal objectDiameterMinor () const [inline]`

17.19.3.7 objectHeight() `EmbReal objectHeight () const [inline]`

17.19.3.8 objectQuadrant0() QPointF objectQuadrant0 () const

17.19.3.9 objectQuadrant180() QPointF objectQuadrant180 () const

17.19.3.10 objectQuadrant270() QPointF objectQuadrant270 () const

17.19.3.11 objectQuadrant90() QPointF objectQuadrant90 () const

17.19.3.12 objectRadiusMajor() EmbReal objectRadiusMajor () const [inline]

17.19.3.13 objectRadiusMinor() EmbReal objectRadiusMinor () const [inline]

17.19.3.14 objectSavePath() QPainterPath objectSavePath () const

17.19.3.15 objectWidth() EmbReal objectWidth () const [inline]

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

17.19.3.17 setObjectDiameterMajor() void setObjectDiameterMajor (
 EmbReal diameter)

17.19.3.18 setObjectDiameterMinor() void setObjectDiameterMinor (EmbReal diameter)

17.19.3.19 setObjectRadiusMajor() void setObjectRadiusMajor (EmbReal radius)

17.19.3.20 setObjectRadiusMinor() void setObjectRadiusMinor (EmbReal radius)

17.19.3.21 setObjectSize() void setObjectSize (EmbReal width, EmbReal height)

17.19.3.22 type() virtual int type () const [inline], [virtual]

Reimplemented from [BaseObject](#).

17.19.3.23 updatePath() void updatePath ()

17.19.3.24 updateRubber() void updateRubber (QPainter * painter = 0)

17.19.3.25 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

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

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

17.20 EmbAlignedDim_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- [EmbVector position](#)

17.20.1 Member Data Documentation**17.20.1.1 position [EmbVector](#) position**

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

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

17.21 EmbAngularDim_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- [EmbVector position](#)

17.21.1 Member Data Documentation**17.21.1.1 position [EmbVector](#) position**

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

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

17.22 EmbArc_ Struct Reference

absolute position (not relative)

```
#include <embroidery.h>
```

Public Attributes

- [EmbVector start](#)
- [EmbVector mid](#)
- [EmbVector end](#)

17.22.1 Detailed Description

absolute position (not relative)

17.22.2 Member Data Documentation

17.22.2.1 end [EmbVector](#) end

17.22.2.2 mid [EmbVector](#) mid

17.22.2.3 start [EmbVector](#) start

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

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

17.23 EmbArcLengthDim_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- [EmbVector](#) position

17.23.1 Member Data Documentation

17.23.1.1 position [EmbVector](#) position

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

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

17.24 EmbArray_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbGeometry * geometry`
- `EmbStitch * stitch`
- `EmbThread * thread`
- `int count`
- `int length`
- `int type`

17.24.1 Member Data Documentation

17.24.1.1 count `int count`

17.24.1.2 geometry `EmbGeometry* geometry`

17.24.1.3 length `int length`

17.24.1.4 stitch `EmbStitch* stitch`

17.24.1.5 thread `EmbThread* thread`

17.24.1.6 type `int type`

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

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

17.25 EmbBezier_Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- EmbVector start
- EmbVector control1
- EmbVector control2
- EmbVector end

17.25.1 Member Data Documentation**17.25.1.1 control1** EmbVector control1**17.25.1.2 control2** EmbVector control2**17.25.1.3 end** EmbVector end**17.25.1.4 start** EmbVector start

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

- extern/libembroidery/src/embroidery.h

17.26 EmbBlock_Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- EmbVector position

17.26.1 Member Data Documentation**17.26.1.1 position** EmbVector position

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

- extern/libembroidery/src/embroidery.h

17.27 EmbCircle_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbVector center`
- `EmbReal radius`

17.27.1 Member Data Documentation

17.27.1.1 `center` `EmbVector center`

17.27.1.2 `radius` `EmbReal radius`

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

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

17.28 EmbColor_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `unsigned char r`
- `unsigned char g`
- `unsigned char b`

17.28.1 Detailed Description

EmbColor uses the light primaries: red, green, blue in that order.

17.28.2 Member Data Documentation

17.28.2.1 `b` `unsigned char b`

17.28.2.2 g unsigned char g

17.28.2.3 r unsigned char r

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

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

17.29 EmbDetailsDialog Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- `EmbDetailsDialog (QGraphicsScene *theScene, QWidget *parent=0)`
- `~EmbDetailsDialog ()`
- `void getInfo ()`
- `QWidget * createMainWidget ()`
- `QWidget * createHistogram ()`

Public Attributes

- `QWidget * mainWidget`
- `QDialogButtonBox * buttonBox`
- `quint32 stitchesTotal`
- `quint32 stitchesReal`
- `quint32 stitchesJump`
- `quint32 stitchesTrim`
- `quint32 colorTotal`
- `quint32 colorChanges`
- `QRectF boundingRect`

17.29.1 Detailed Description

17.29.2 Constructor & Destructor Documentation

17.29.2.1 EmbDetailsDialog() `EmbDetailsDialog (`

```
    QGraphicsScene * theScene,  
    QWidget * parent = 0 )
```

17.29.2.2 ~EmbDetailsDialog() `~EmbDetailsDialog ()`

17.29.3 Member Function Documentation

17.29.3.1 `createHistogram()` QWidget * createHistogram ()

17.29.3.2 `createMainWidget()` QWidget * createMainWidget ()

17.29.3.3 `getInfo()` void getInfo ()

17.29.4 Member Data Documentation

17.29.4.1 `boundingRect` QRectF boundingRect

17.29.4.2 `buttonBox` QDialogButtonBox* buttonBox

17.29.4.3 `colorChanges` quint32 colorChanges

17.29.4.4 `colorTotal` quint32 colorTotal

17.29.4.5 `mainWidget` QWidget* mainWidget

17.29.4.6 `stitchesJump` quint32 stitchesJump

17.29.4.7 `stitchesReal` `quint32 stitchesReal`

17.29.4.8 `stitchesTotal` `quint32 stitchesTotal`

17.29.4.9 `stitchesTrim` `quint32 stitchesTrim`

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

- `embroidermodder2/embroidermodder.h`
- `embroidermodder2/embdetails-dialog.cpp`

17.30 `EmbDiameterDim_` Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbVector position`

17.30.1 Member Data Documentation

17.30.1.1 `position` `EmbVector position`

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

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

17.31 `EmbEllipse_` Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbVector center`
- `EmbVector radius`
- `EmbReal rotation`

17.31.1 Member Data Documentation

17.31.1.1 center `EmbVector` center

17.31.1.2 radius `EmbVector` radius

17.31.1.3 rotation `EmbReal` rotation

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

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

17.32 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`

17.32.1 Member Data Documentation

17.32.1.1 check_for_color_file int check_for_color_file

17.32.1.2 color_only int color_only

17.32.1.3 description char description[[EMBFORMAT_MAXDESC](#)]

17.32.1.4 extension char extension[2+[EMBFORMAT_MAXEXT](#)]

17.32.1.5 reader_state char reader_state

17.32.1.6 type int type

17.32.1.7 write_external_color_file int write_external_color_file

17.32.1.8 writer_state char writer_state

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

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

17.33 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}
- [EmbStitch](#) stitch
- [EmbThread](#) thread
- int [flag](#)
- int [type](#)
- int [lineType](#)

17.33.1 Member Data Documentation

17.33.1.1 arc [EmbArc](#) arc

17.33.1.2 circle [EmbCircle](#) circle

17.33.1.3 color [EmbColor](#) color

17.33.1.4 ellipse [EmbEllipse](#) ellipse

17.33.1.5 flag int flag

17.33.1.6 line [EmbLine](#) line

17.33.1.7 lineType int lineType

17.33.1.8 union { ... } object

17.33.1.9 path [EmbPath](#) path

17.33.1.10 point [EmbPoint](#) point

17.33.1.11 polygon [EmbPolygon](#) polygon

17.33.1.12 polyline [EmbPolyline](#) polyline

17.33.1.13 rect [EmbRect](#) rect

17.33.1.14 spline [EmbSpline](#) spline

17.33.1.15 stitch [EmbStitch](#) stitch

17.33.1.16 thread [EmbThread](#) thread

17.33.1.17 type int type

17.33.1.18 vector [EmbVector](#) vector

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

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

17.34 EmbImage_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- [EmbVector position](#)
- [EmbVector dimensions](#)
- [unsigned char * data](#)
- [int width](#)
- [int height](#)
- [char path \[200\]](#)
- [char name \[200\]](#)

17.34.1 Member Data Documentation

17.34.1.1 data `unsigned char* data`

17.34.1.2 dimensions `EmbVector dimensions`

17.34.1.3 height `int height`

17.34.1.4 name `char name[200]`

17.34.1.5 path `char path[200]`

17.34.1.6 position `EmbVector position`

17.34.1.7 width `int width`

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

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

17.35 EmbInfiniteLine_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbVector position`

17.35.1 Member Data Documentation

17.35.1.1 position `EmbVector` position

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

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

17.36 EmbLayer_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `char name [100]`
- `EmbArray * geometry`

17.36.1 Member Data Documentation

17.36.1.1 geometry `EmbArray*` geometry

17.36.1.2 name `char name[100]`

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

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

17.37 EmbLeaderDim_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbVector position`

17.37.1 Member Data Documentation

17.37.1.1 position `EmbVector` position

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

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

17.38 EmbLine_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbVector start`
- `EmbVector end`
- `int lineType`
- `EmbColor color`

17.38.1 Member Data Documentation

17.38.1.1 color `EmbColor` color

17.38.1.2 end `EmbVector` end

17.38.1.3 lineType `int` lineType

17.38.1.4 start `EmbVector` start

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

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

17.39 EmbLinearDim_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- EmbVector position

17.39.1 Member Data Documentation

17.39.1.1 position EmbVector position

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

- extern/libembroidery/src/embroidery.h

17.40 EmbOrdinateDim_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- EmbVector position

17.40.1 Member Data Documentation

17.40.1.1 position EmbVector position

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

- extern/libembroidery/src/embroidery.h

17.41 EmbPath_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbArray * pointList`
- `EmbArray * flagList`
- `int lineType`
- `EmbColor color`

17.41.1 Member Data Documentation**17.41.1.1 color** `EmbColor color`**17.41.1.2 flagList** `EmbArray* flagList`**17.41.1.3 lineType** `int lineType`**17.41.1.4 pointList** `EmbArray* pointList`

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

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

17.42 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`

17.42.1 Member Data Documentation

17.42.1.1 currentColorIndex int currentColorIndex

17.42.1.2 dstJumpsPerTrim unsigned int dstJumpsPerTrim

17.42.1.3 geometry EmbArray* geometry

17.42.1.4 home EmbVector home

17.42.1.5 hoop_height EmbReal hoop_height

17.42.1.6 hoop_width EmbReal hoop_width

17.42.1.7 layer EmbLayer layer[EMB_MAX_LAYERS]

17.42.1.8 stitch_list EmbArray* stitch_list

17.42.1.9 thread_list EmbArray* thread_list

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

- extern/libembroidery/src/embroidery.h

17.43 EmbPoint_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- [EmbVector position](#)
- int [lineType](#)
- [EmbColor color](#)

17.43.1 Member Data Documentation**17.43.1.1 color** [EmbColor](#) `color`**17.43.1.2 lineType** int `lineType`**17.43.1.3 position** [EmbVector](#) `position`

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

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

17.44 EmbRadiusDim_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- [EmbVector position](#)

17.44.1 Member Data Documentation**17.44.1.1 position** [EmbVector](#) `position`

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

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

17.45 EmbRay_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- [EmbVector position](#)

17.45.1 Member Data Documentation

17.45.1.1 **position** [EmbVector](#) position

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

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

17.46 EmbRect_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- [EmbReal top](#)
- [EmbReal left](#)
- [EmbReal bottom](#)
- [EmbReal right](#)
- [EmbReal rotation](#)
- [EmbReal radius](#)

17.46.1 Member Data Documentation

17.46.1.1 **bottom** [EmbReal](#) bottom

17.46.1.2 **left** [EmbReal](#) left

17.46.1.3 radius `EmbReal` `radius`

17.46.1.4 right `EmbReal` `right`

17.46.1.5 rotation `EmbReal` `rotation`

17.46.1.6 top `EmbReal` `top`

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

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

17.47 EmbSatinOutline_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `int length`
- `EmbArray * side1`
- `EmbArray * side2`

17.47.1 Member Data Documentation

17.47.1.1 length `int` `length`

17.47.1.2 side1 `EmbArray*` `side1`

17.47.1.3 side2 `EmbArray*` `side2`

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

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

17.48 EmbSpline_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbArray * beziers`

17.48.1 Member Data Documentation

17.48.1.1 **beziers** `EmbArray* beziers`

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

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

17.49 EmbStitch_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `int flags`
- `EmbReal x`
- `EmbReal y`
- `int color`

17.49.1 Member Data Documentation

17.49.1.1 **color** `int color`

positive is up, units are in mm

17.49.1.2 **flags** `int flags`

17.49.1.3 x EmbReal x

uses codes defined above

17.49.1.4 y EmbReal y

absolute position (not relative)

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

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

17.50 EmbTextMulti_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbVector position`
- `char text [200]`

17.50.1 Member Data Documentation

17.50.1.1 position EmbVector position

17.50.1.2 text char text[200]

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

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

17.51 EmbTextSingle_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbVector position`
- `char text [200]`

17.51.1 Member Data Documentation

17.51.1.1 position `EmbVector position`

17.51.1.2 text `char text[200]`

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

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

17.52 EmbThread_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- `EmbColor color`
- `char description [50]`
- `char catalogNumber [30]`

17.52.1 Member Data Documentation

17.52.1.1 catalogNumber `char catalogNumber[30]`

17.52.1.2 color `EmbColor color`

17.52.1.3 description `char description[50]`

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

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

17.53 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**

17.53.1 Member Data Documentation

17.53.1.1 day unsigned int day

17.53.1.2 hour unsigned int hour

17.53.1.3 minute unsigned int minute

17.53.1.4 month unsigned int month

17.53.1.5 second unsigned int second

17.53.1.6 year unsigned int year

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

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

17.54 EmbVector_ Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- EmbReal x
- EmbReal y

17.54.1 Detailed Description

The basic type to represent points absolutely or represent directions.

Positive y is up, units are in mm.

17.54.2 Member Data Documentation

17.54.2.1 x EmbReal x

17.54.2.2 y EmbReal y

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

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

17.55 EmbView_ Struct Reference

```
#include <embroidermodder.h>
```

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`

17.55.1 Detailed Description

17.55.2 EmbViews

The EmbView describes how the render is displayed.

17.55.3 Member Data Documentation

17.55.3.1 `filename` `char filename[200]`

17.55.3.2 `grid_mode` `bool grid_mode`

17.55.3.3 `grid_type` `char grid_type[200]`

17.55.3.4 `lwt_mode` `bool lwt_mode`

17.55.3.5 `metric` `bool metric`

17.55.3.6 `n_selected` `int n_selected`

17.55.3.7 `origin` `EmbVector origin`

17.55.3.8 `ortho_mode` `bool ortho_mode`

17.55.3.9 `pattern` `EmbPattern* pattern`

17.55.3.10 `polar_mode` `bool polar_mode`

17.55.3.11 `qsnap_mode` `bool qsnap_mode`

17.55.3.12 `qtrack_mode` `bool qtrack_mode`

17.55.3.13 `real_render` `bool real_render`

17.55.3.14 rubber_mode int rubber_mode

17.55.3.15 ruler_mode bool ruler_mode

17.55.3.16 scale float scale

17.55.3.17 selected int selected[100]

17.55.3.18 simulate bool simulate

17.55.3.19 simulation_start clock_t simulation_start

17.55.3.20 snap_mode bool snap_mode

17.55.3.21 text_angle float text_angle

17.55.3.22 text_font char text_font[200]

17.55.3.23 text_size float text_size

17.55.3.24 text_style_bold bool text_style_bold

17.55.3.25 `text_style_italic` bool `text_style_italic`

17.55.3.26 `text_style_overline` bool `text_style_overline`

17.55.3.27 `text_style_strikeout` bool `text_style_strikeout`

17.55.3.28 `text_style_underline` bool `text_style_underline`

17.55.3.29 `ui_mode` int `ui_mode`

17.55.3.30 `undo_history` [UndoHistory](#) `undo_history`

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

- `embroidermodder2/embroidermodder.h`

17.56 `hoop_padding` Struct Reference

Public Attributes

- int `left`
- int `right`
- int `top`
- int `bottom`

17.56.1 Member Data Documentation

17.56.1.1 `bottom` int `bottom`

17.56.1.2 `left` int `left`

17.56.1.3 right int right

17.56.1.4 top int top

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

- `extern/libembroidery/src/formats/format_jef.c`

17.57 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`

17.57.1 Member Data Documentation

17.57.1.1 default_value int default_value

17.57.1.2 lengths int lengths[1000]

17.57.1.3 nlengths int nlengths

17.57.1.4 ntable int ntable

17.57.1.5 table int table[1000]

17.57.1.6 table_width int table_width

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.58 ImageObject Class Reference

```
#include <embroidermodder.h>
```

Public Types

- enum { [Type](#) = OBJ_TYPE_IMAGE }

Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ_TYPE_BASE }

Public Member Functions

- [ImageObject \(EmbReal x, EmbReal y, EmbReal w, EmbReal h, QRgb rgb, QGraphicsItem *parent=0\)](#)
- [ImageObject \(ImageObject *obj, QGraphicsItem *parent=0\)](#)
- [~ImageObject \(\)](#)
- void [init \(EmbReal x, EmbReal y, EmbReal w, EmbReal h, QRgb rgb, Qt::PenStyle lineType\)](#)
- void [updatePath \(\)](#)
- virtual int [type \(\) const](#)
- QPointF [objectTopLeft \(\) const](#)
- QPointF [objectTopRight \(\) const](#)
- QPointF [objectBottomLeft \(\) const](#)
- QPointF [objectBottomRight \(\) const](#)
- EmbReal [objectWidth \(\) const](#)
- EmbReal [objectHeight \(\) const](#)
- EmbReal [objectArea \(\) const](#)
- void [setObjectRect \(EmbReal x, EmbReal y, EmbReal w, EmbReal h\)](#)
- 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
- EmbReal `objectLineWidth` () const
- QPainterPath `objectPath` () const
- int `objectRubberMode` () const
- QPointF `objectRubberPoint` (const QString &key) const
- QString `objectRubberText` (const QString &key) const
- QPointF `objectCenter` () const
- EmbReal `objectCenterX` () const
- EmbReal `objectCenterY` () const
- void `setObjectCenter` (EmbVector center)
- void `setObjectCenterX` (EmbReal centerX)
- void `setObjectCenterY` (EmbReal centerY)
- QRectF `rect` () const
- void `setRect` (const QRectF &r)
- void `setRect` (EmbReal x, EmbReal y, EmbReal w, EmbReal h)
- QLineF `line` () const
- void `setLine` (const QLineF &li)
- void `setLine` (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)
- void `setObjectColor` (const QColor &color)
- void `setObjectColorRGB` (QRgb rgb)
- void `setObjectLineType` (Qt::PenStyle lineType)
- void `setObjectLineWidth` (EmbReal 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
- void `realRender` (QPainter *painter, const QPainterPath &renderPath)

Additional Inherited Members

Public Attributes inherited from [BaseObject](#)

- QPen [objPen](#)
- QPen [lwtPen](#)
- QLineF [objLine](#)
- int [objRubberMode](#)
- QHash<QString, QPointF> [objRubberPoints](#)
- QHash<QString, QString> [objRubberTexts](#)
- qint64 [objID](#)

17.58.1 Member Enumeration Documentation

17.58.1.1 anonymous enum [anonymous enum](#)

Enumerator

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

17.58.2 Constructor & Destructor Documentation

17.58.2.1 [ImageObject\(\)](#) [1/2] [ImageObject](#) (

```
EmbReal x,  
EmbReal y,  
EmbReal w,  
EmbReal h,  
QRgb rgb,  
QGraphicsItem * parent = 0 )
```

17.58.2.2 [ImageObject\(\)](#) [2/2] [ImageObject](#) (

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

17.58.2.3 [~ImageObject\(\)](#) [~ImageObject](#) ()

17.58.3 Member Function Documentation

17.58.3.1 allGripPoints() `QList< QPointF > allGripPoints () [virtual]`

Implements [BaseObject](#).

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

Implements [BaseObject](#).

17.58.3.3 init() `void init (EmbReal x, EmbReal y, EmbReal w, EmbReal h, QRgb rgb, Qt::PenStyle lineType)`

17.58.3.4 mouseSnapPoint() `QPointF mouseSnapPoint (const QPointF & mousePoint) [virtual]`

Implements [BaseObject](#).

17.58.3.5 objectArea() `EmbReal objectArea () const [inline]`

17.58.3.6 objectBottomLeft() `QPointF objectBottomLeft () const`

17.58.3.7 objectBottomRight() `QPointF objectBottomRight () const`

17.58.3.8 objectHeight() `EmbReal objectHeight () const [inline]`

17.58.3.9 objectTopLeft() `QPointF objectTopLeft () const`

17.58.3.10 objectTopRight() `QPointF objectTopRight () const`

17.58.3.11 objectWidth() `EmbReal objectWidth () const [inline]`

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

17.58.3.13 setObjectRect() `void setObjectRect (`
 `EmbReal x,`
 `EmbReal y,`
 `EmbReal w,`
 `EmbReal h)`

17.58.3.14 type() `virtual int type () const [inline], [virtual]`

Reimplemented from [BaseObject](#).

17.58.3.15 updatePath() `void updatePath ()`

17.58.3.16 updateRubber() `void updateRubber (`
 `QPainter * painter = 0)`

17.58.3.17 `vulcanize()` `void vulcanize () [virtual]`

Implements [BaseObject](#).

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

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

17.59 ImageWidget Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- `ImageWidget (const QString &filename, QWidget *parent=0)`
ImageWidget::ImageWidget.
- `~ImageWidget ()`
ImageWidget::~ImageWidget.
- `bool load (const QString &fileName)`
ImageWidget::load.
- `bool save (const QString &fileName)`
ImageWidget::save.

Public Attributes

- `QImage img`

Protected Member Functions

- `void paintEvent (QPaintEvent *event)`
ImageWidget::paintEvent.

17.59.1 Detailed Description

17.59.2 Constructor & Destructor Documentation

17.59.2.1 `ImageWidget()` `ImageWidget (`
 `const QString & filename,`
 `QWidget * parent = 0)`

ImageWidget::ImageWidget.

Parameters

<i>filename</i>	<input type="text"/>
<i>parent</i>	<input type="text"/>

17.59.2.2 ~ImageWidget() ~ImageWidget ()

ImageWidget::~ImageWidget.

17.59.3 Member Function Documentation**17.59.3.1 load()** bool load (
 const QString & *fileName*)

ImageWidget::load.

Parameters

<i>fileName</i>	<input type="text"/>
-----------------	----------------------

Returns**17.59.3.2 paintEvent()** void paintEvent (
 QPaintEvent * *event*) [protected]

ImageWidget::paintEvent.

17.59.3.3 save() bool save (
 const QString & *fileName*)

ImageWidget::save.

Parameters

<i>fileName</i>	<input type="text"/>
-----------------	----------------------

Returns

17.59.4 Member Data Documentation

17.59.4.1 img QImage img

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

- [embroidermodder2/embroidermodder.h](#)
- [embroidermodder2/imagewidget.cpp](#)

17.60 LayerManager Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- [LayerManager \(MainWindow *mw, QWidget *parent=0\)](#)
LayerManager::LayerManager.
- [~LayerManager \(\)](#)
LayerManager::~LayerManager.
- void [addLayer \(const QString &name, const bool visible, const bool frozen, const EmbReal zValue, const QRgb color, const QString &lineType, const QString &lineWeight, const bool print\)](#)
LayerManager::addLayer.

Public Attributes

- QStandardItemModel * [layerModel](#)
- QSortFilterProxyModel * [layerModelSorted](#)
- QTreeView * [treeView](#)

17.60.1 Detailed Description

17.60.2 Constructor & Destructor Documentation

17.60.2.1 LayerManager() [LayerManager \(](#)

```
MainWindow * mw,
QWidget * parent = 0 )
```

LayerManager::LayerManager.

Parameters

<i>mw</i>	
<i>parent</i>	

17.60.2.2 ~LayerManager() ~[LayerManager](#) ()

[LayerManager](#)::~[LayerManager](#).

17.60.3 Member Function Documentation**17.60.3.1 addLayer()** void addLayer (

```
    const QString & name,
    const bool visible,
    const bool frozen,
    const EmbReal zValue,
    const QRgb color,
    const QString & lineType,
    const QString & lineWeight,
    const bool print )
```

[LayerManager](#)::addLayer.

Parameters

<i>name</i>	
<i>visible</i>	
<i>frozen</i>	
<i>zValue</i>	
<i>color</i>	
<i>lineType</i>	
<i>lineWeight</i>	
<i>print</i>	

17.60.4 Member Data Documentation**17.60.4.1 layerModel** QStandardItemModel* layerModel

17.60.4.2 layerModelSorted `QSortFilterProxyModel* layerModelSorted`**17.60.4.3 treeView** `QTreeView* treeView`

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

- `embroidermodder2/embroidermodder.h`
- `embroidermodder2/layer-manager.cpp`

17.61 LineObject Class Reference

```
#include <embroidermodder.h>
```

Public Types

- enum { `Type` = `OBJ_TYPE_LINE` }

Public Types inherited from `BaseObject`

- enum { `Type` = `OBJ_TYPE_BASE` }

Public Member Functions

- `LineObject (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, QRgb rgb, QGraphicsItem *parent=0)`
- `LineObject (LineObject *obj, QGraphicsItem *parent=0)`
- `~LineObject ()`
- void `init (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, QRgb rgb, Qt::PenStyle lineType)`
- virtual int `type () const`
- `QPainterPath objectSavePath () const`
- `QPointF objectEndPoint1 () const`
- `QPointF objectEndPoint2 () const`
- `QPointF objectMidPoint () const`
- `EmbReal objectX1 () const`
- `EmbReal objectY1 () const`
- `EmbReal objectX2 () const`
- `EmbReal objectY2 () const`
- `EmbReal objectDeltaX () const`
- `EmbReal objectDeltaY () const`
- `EmbReal objectAngle () const`
- `EmbReal objectLength () const`
- void `setObjectEndPoint1 (const QPointF &endPt1)`
- void `setObjectEndPoint1 (EmbReal x1, EmbReal y1)`
- void `setObjectEndPoint2 (const QPointF &endPt2)`
- void `setObjectEndPoint2 (EmbReal x2, EmbReal y2)`
- void `setObjectX1 (EmbReal x)`
- void `setObjectY1 (EmbReal y)`
- void `setObjectX2 (EmbReal x)`
- void `setObjectY2 (EmbReal 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
- [EmbReal objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QPointF [objectCenter](#) () const
- [EmbReal objectCenterX](#) () const
- [EmbReal objectCenterY](#) () const
- void [setObjectCenter](#) ([EmbVector](#) center)
- void [setObjectCenterX](#) ([EmbReal](#) centerX)
- void [setObjectCenterY](#) ([EmbReal](#) centerY)
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) ([EmbReal](#) x, [EmbReal](#) y, [EmbReal](#) w, [EmbReal](#) h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &l)
- void [setLine](#) ([EmbReal](#) x1, [EmbReal](#) y1, [EmbReal](#) x2, [EmbReal](#) y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) ([EmbReal](#) 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
- void [realRender](#) (QPainter *painter, const QPainterPath &renderPath)

Additional Inherited Members

Public Attributes inherited from [BaseObject](#)

- QPen [objPen](#)
- QPen [lwtPen](#)
- QLineF [objLine](#)
- int [objRubberMode](#)
- QHash<QString, QPointF> [objRubberPoints](#)
- QHash<QString, QString> [objRubberTexts](#)
- qint64 [objID](#)

17.61.1 Member Enumeration Documentation

17.61.1.1 anonymous enum [anonymous enum](#)

Enumerator

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

17.61.2 Constructor & Destructor Documentation

17.61.2.1 [LineObject\(\)](#) [1/2] [LineObject](#) (

```
    EmbReal x1,  
    EmbReal y1,  
    EmbReal x2,  
    EmbReal y2,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

17.61.2.2 [LineObject\(\)](#) [2/2] [LineObject](#) (

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

17.61.2.3 [~LineObject\(\)](#) [~LineObject](#) ()

17.61.3 Member Function Documentation

17.61.3.1 allGripPoints() `QList< QPointF > allGripPoints () [virtual]`

Implements [BaseObject](#).

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

Implements [BaseObject](#).

17.61.3.3 init() `void init (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, QRgb rgb, Qt::PenStyle lineType)`

17.61.3.4 mouseSnapPoint() `QPointF mouseSnapPoint (const QPointF & mousePoint) [virtual]`

Implements [BaseObject](#).

17.61.3.5 objectAngle() `EmbReal objectAngle () const`

17.61.3.6 objectDeltaX() `EmbReal objectDeltaX () const [inline]`

17.61.3.7 objectDeltaY() `EmbReal objectDeltaY () const [inline]`

17.61.3.8 objectEndPoint1() QPointF objectEndPoint1 () const [inline]

17.61.3.9 objectEndPoint2() QPointF objectEndPoint2 () const

17.61.3.10 objectLength() EmbReal objectLength () const [inline]

17.61.3.11 objectMidPoint() QPointF objectMidPoint () const

17.61.3.12 objectSavePath() QPainterPath objectSavePath () const

17.61.3.13 objectX1() EmbReal objectX1 () const [inline]

17.61.3.14 objectX2() EmbReal objectX2 () const [inline]

17.61.3.15 objectY1() EmbReal objectY1 () const [inline]

17.61.3.16 objectY2() EmbReal objectY2 () const [inline]

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

17.61.3.18 setObjectEndPoint1() [1/2] void setObjectEndPoint1 (
 const QPointF & endPt1)

17.61.3.19 setObjectEndPoint1() [2/2] void setObjectEndPoint1 (EmbReal x1, EmbReal y1)

17.61.3.20 setObjectEndPoint2() [1/2] void setObjectEndPoint2 (const QPointF & endPt2)

17.61.3.21 setObjectEndPoint2() [2/2] void setObjectEndPoint2 (EmbReal x2, EmbReal y2)

17.61.3.22 setObjectX1() void setObjectX1 (EmbReal x) [inline]

17.61.3.23 setObjectX2() void setObjectX2 (EmbReal x) [inline]

17.61.3.24 setObjectY1() void setObjectY1 (EmbReal y) [inline]

17.61.3.25 setObjectY2() void setObjectY2 (EmbReal y) [inline]

17.61.3.26 type() virtual int type () const [inline], [virtual]

Reimplemented from [BaseObject](#).

17.61.3.27 updateRubber() void updateRubber (QPainter * painter = 0)

17.61.3.28 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

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

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

17.62 LSYSTEM Struct Reference

```
#include <embroidery.h>
```

Public Attributes

- char [axiom](#)
- char * [alphabet](#)
- char * [constants](#)
- char ** [rules](#)

17.62.1 Member Data Documentation

17.62.1.1 **alphabet** char* alphabet

17.62.1.2 **axiom** char axiom

17.62.1.3 **constants** char* constants

17.62.1.4 **rules** char** rules

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

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

17.63 MainWindow Class Reference

The [MainWindow](#) class.

```
#include <embroidermodder.h>
```

Public Slots

- void `enablePromptRapidFire ()`
- void `disablePromptRapidFire ()`
- void `enableMoveRapidFire ()`
- void `disableMoveRapidFire ()`
- void `onCloseWindow ()`
`MainWindow::onCloseWindow.`
- virtual void `onCloseMdiWin (MdiWindow *)`
`MainWindow::onCloseMdiWin.`
- void `recentMenuAboutToShow ()`
`MainWindow::recentMenuAboutToShow.`
- void `onWindowActivated (QMdiSubWindow *w)`
`MainWindow::onWindowActivated.`
- void `windowMenuAboutToShow ()`
`MainWindow::windowMenuAboutToShow.`
- void `windowMenuActivated (bool checked)`
`MainWindow::windowMenuActivated.`
- QAction * `getAction (int actionEnum)`
`MainWindow::getAction.`
- 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 ()`
`MainWindow::readSettings.`
- void `writeSettings ()`
`MainWindow::writeSettings.`
- static bool `validFileFormat (const QString &fileName)`
`MainWindow::validFileFormat.`
- void `stub_implement (QString txt)`
`MainWindow::stub_implement.`
- void `stub_testing ()`
`MainWindow::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, EmbReal x, EmbReal y)`
- void `runCommandMove (const QString &cmd, EmbReal x, EmbReal y)`
- void `runCommandContext (const QString &cmd, const QString &str)`
- void `runCommandPrompt (const QString &cmd, const QString &str)`
- void `newFile ()`
`MainWindow::newFile.`
- void `openFile (bool recent=false, const QString &recentFile="")`

- void **openFile** ()
MainWindow::openFile.
- void **openFilesSelected** (const QStringList &)
MainWindow::openFilesSelected.
- void **openrecentfile** ()
MainWindow::openrecentfile.
- void **savefile** ()
MainWindow::savefile.
- void **saveasfile** ()
MainWindow::saveasfile.
- void **print** ()
- void **designDetails** ()
- void **exit** ()
MainWindow::exit.
- void **quit** ()
MainWindow::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 *)
MainWindow::closeToolBar.
- void **floatingChangedToolBar** (bool)
MainWindow::floatingChangedToolBar.
- 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 **linewidthSelectorIndexChanged** (int index)
- void **textFontSelectorCurrentFontChanged** (const QFont &font)
- void **textSizeSelectorIndexChanged** (int index)
- QString **textFont** ()
- EmbReal **textSize** ()
- EmbReal **textAngle** ()
- bool **textBold** ()
- bool **textItalic** ()
- bool **textUnderline** ()

- bool `textStrikeOut ()`
- bool `textOverline ()`
- void `setTextFont (const QString &str)`
- void `setTextSize (EmbReal num)`
- void `setTextAngle (EmbReal 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 `getCurrentLineWeight ()`
- 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 ()`
 MainWindow::panDown.
- void `dayVision ()`
 MainWindow::dayVision.
- void `nightVision ()`
 MainWindow::nightVision.
- void `doNothing ()`

Public Member Functions

- `MainWindow ()`
MainWindow::MainWindow.
- `~MainWindow ()`
MainWindow::~MainWindow.
- `MdiArea * getMdiArea ()`
MainWindow::getMdiArea.
- `MainWindow * getApplication ()`
MainWindow::getApplication.
- `MdiWindow * activeMdiWindow ()`
- `View * activeView ()`
- `QGraphicsScene * activeScene ()`
- `QUndoStack * activeUndoStack ()`
- `void setUndoCleanIcon (bool opened)`
- `virtual void updateMenuToolbarStatusbar ()`
MainWindow::updateMenuToolbarStatusbar.
- `std::string actuator (std::string command)`
MainWindow::actuator.
- `std::string run_script_file (std::string fname)`
MainWindow::run_script_file.
- `std::string run_script (std::vector< std::string > script)`
A basic line-by-line script processor to allow for extensions to the program.
 - `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 nativeTipOfDay ()`
 - `void nativeWindowCascade ()`
 - `void nativeWindowTile ()`
 - `void nativeWindowClose ()`
 - `void nativeWindowCloseAll ()`
 - `void nativeWindowNext ()`
 - `void nativeWindowPrevious ()`
 - `void nativeMessageBox (const QString &type, const QString &title, const QString &text)`
MainWindow::nativeMessageBox.
 - `void nativePrintArea (EmbReal x, EmbReal y, EmbReal w, EmbReal h)`
MainWindow::nativePrintArea.
 - `void nativeSetBackgroundColor (uint8_t r, uint8_t g, uint8_t b)`
 - `void nativeSetCrossHairColor (uint8_t r, uint8_t g, uint8_t b)`
 - `void nativeSetGridColor (uint8_t r, uint8_t g, uint8_t b)`

- `QString nativeTextFont ()`
- `EmbReal nativeTextSize ()`
- `EmbReal nativeTextAngle ()`
- `bool nativeTextBold ()`
- `bool nativeTextItalic ()`
- `bool nativeTextUnderline ()`
- `bool nativeTextStrikeOut ()`
- `bool nativeTextOverline ()`
- `void nativePreviewOn (int clone, int mode, EmbReal x, EmbReal y, EmbReal data)`
- `void nativePreviewOff ()`
- `void nativeVulcanize ()`
- `void nativeClearRubber ()`
- `bool nativeAllowRubber ()`
- `void nativeSpareRubber (qint64 id)`
- `void nativeSetRubberMode (int mode)`
- `void nativeSetRubberPoint (const QString &key, EmbReal x, EmbReal y)`
- `void nativeSetRubberText (const QString &key, const QString &txt)`
- `void nativeAddTextMulti (const QString &str, EmbReal x, EmbReal y, EmbReal rot, bool fill, int rubberMode)`
- `void nativeAddTextSingle (const QString &str, EmbReal x, EmbReal y, EmbReal rot, bool fill, int rubberMode)`
- `void nativeAddInfiniteLine (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot)`
- `void nativeAddRay (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot)`
- `void nativeAddLine (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot, int rubberMode)`
- `void nativeAddTriangle (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal x3, EmbReal y3, EmbReal rot, bool fill)`
- `void nativeAddRectangle (EmbReal x, EmbReal y, EmbReal w, EmbReal h, EmbReal rot, bool fill, int rubberMode)`
- `void nativeAddRoundedRectangle (EmbReal x, EmbReal y, EmbReal w, EmbReal h, EmbReal rad, EmbReal rot, bool fill)`
- `void nativeAddArc (EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX, EmbReal endY, int rubberMode)`
- `void nativeAddCircle (EmbReal centerX, EmbReal centerY, EmbReal radius, bool fill, int rubberMode)`
- `void nativeAddSlot (EmbReal centerX, EmbReal centerY, EmbReal diameter, EmbReal length, EmbReal rot, bool fill, int rubberMode)`
- `void nativeAddEllipse (EmbReal centerX, EmbReal centerY, EmbReal width, EmbReal height, EmbReal rot, bool fill, int rubberMode)`
- `void nativeAddPoint (EmbReal x, EmbReal y)`
- `void nativeAddRegularPolygon (EmbReal centerX, EmbReal centerY, quint16 sides, uint8_t mode, EmbReal rad, EmbReal rot, bool fill)`
- `void nativeAddPolygon (EmbReal startX, EmbReal startY, const QPainterPath &p, int rubberMode)`
- `void nativeAddPolyline (EmbReal startX, EmbReal startY, const QPainterPath &p, int rubberMode)`
- `void nativeAddPath (EmbReal startX, EmbReal startY, const QPainterPath &p, int rubberMode)`
- `void nativeAddHorizontalDimension (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal legHeight)`
- `void nativeAddVerticalDimension (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal legHeight)`
- `void nativeAddImage (const QString &img, EmbReal x, EmbReal y, EmbReal w, EmbReal h, EmbReal rot)`
- `void nativeAddDimLeader (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot, int rubberMode)`
- `void nativeSetCursorShape (const QString &str)`
- `EmbReal nativeCalculateAngle (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `EmbReal nativeCalculateDistance (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `EmbReal nativePerpendicularDistance (EmbReal px, EmbReal py, EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `int nativeNumSelected ()`
- `void nativeSelectAll ()`
- `void nativeAddToSelection (const QPainterPath path, Qt::ItemSelectionMode mode)`

- void nativeClearSelection ()
MainWindow::nativeDeleteSelected.
- void nativeDeleteSelected ()
MainWindow::nativeDeleteSelected.
- void nativeCutSelected (EmbReal x, EmbReal y)
MainWindow::nativeCutSelected.
- void nativeCopySelected (EmbReal x, EmbReal y)
MainWindow::nativeCopySelected.
- void nativePasteSelected (EmbReal x, EmbReal y)
MainWindow::nativePasteSelected.
- void nativeMoveSelected (EmbReal dx, EmbReal dy)
MainWindow::nativeMoveSelected.
- void nativeScaleSelected (EmbReal x, EmbReal y, EmbReal factor)
MainWindow::nativeScaleSelected.
- void nativeRotateSelected (EmbReal x, EmbReal y, EmbReal rot)
MainWindow::nativeRotateSelected.
- void nativeMirrorSelected (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)
MainWindow::nativeMirrorSelected.
- EmbReal nativeQSnapX ()
MainWindow::nativeQSnapX.
- EmbReal nativeQSnapY ()
MainWindow::nativeQSnapY.
- EmbReal nativeMouseX ()
MainWindow::nativeMouseX.
- EmbReal nativeMouseY ()
MainWindow::nativeMouseY.

Public 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`
- uint8_t `settings_display_selectbox_alpha`
- EmbReal `settings_display_zoomscale_in`
- EmbReal `settings_display_zoomscale_out`
- uint8_t `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`
- uint8_t `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`
- uint8_t `settings_opensave_recent_max_files`
- QStringList `settings_opensave_recent_list_of_files`
- QString `settings_opensave_recent_directory`
- uint8_t `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`
- EmbReal `settings_grid_center_x`
- EmbReal `settings_grid_center_y`
- EmbReal `settings_grid_size_x`
- EmbReal `settings_grid_size_y`
- EmbReal `settings_grid_spacing_x`
- EmbReal `settings_grid_spacing_y`
- EmbReal `settings_grid_size_radius`
- EmbReal `settings_grid_spacing_radius`
- EmbReal `settings_grid_spacing_angle`
- bool `settings_ruler_show_on_load`
- bool `settings_ruler_metric`
- QRgb `settings_ruler_color`
- uint8_t `settings_ruler_pixel_size`
- bool `settings_qsnap_enabled`
- QRgb `settings_qsnap_locator_color`
- uint8_t `settings_qsnap_locator_size`
- uint8_t `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`
- EmbReal `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`
- uint8_t `settings_selection_grip_size`
- uint8_t `settings_selection_pickbox_size`
- QString `settings_text_font`
- EmbReal `settings_text_size`
- EmbReal `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`
- 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 *)
MainWindow::resizeEvent.
- void `closeEvent` (QCloseEvent *event)
MainWindow::closeEvent.
- QAction * `getFileSeparator` ()
MainWindow::getFileSeparator.
- void `loadFormats` ()
MainWindow::loadFormats.
- QMdiSubWindow * `findMdiWindow` (const QString &fileName)
MainWindow::findMdiWindow.

- void `createAllActions ()`
MainWindow::createAllActions.
- QAction * `createAction (const QString icon, const QString toolTip, const QString statusTip, bool scripted=false)`
MainWindow::createAction.
- void `createAllToolbars ()`
MainWindow::createAllToolbars.
- void `createFileToolbar ()`
MainWindow::createFileToolbar.
- void `createEditToolbar ()`
MainWindow::createEditToolbar.
- void `createViewToolbar ()`
- void `createZoomToolbar ()`
- void `createPanToolbar ()`
MainWindow::createPanToolbar.
- void `createIconToolbar ()`
MainWindow::createIconToolbar.
- void `createHelpToolbar ()`
MainWindow::createHelpToolbar.
- void `createLayerToolbar ()`
MainWindow::createLayerToolbar.
- void `createPropertiesToolbar ()`
MainWindow::createPropertiesToolbar.
- void `createTextToolbar ()`
MainWindow::createTextToolbar.
- void `createPromptToolbar ()`
MainWindow::createPromptToolbar.
- void `createAllMenus ()`
- void `createFileMenu ()`
MainWindow::createFileMenu.
- void `createEditMenu ()`
- void `createViewMenu ()`
- void `createSettingsMenu ()`
- void `createWindowMenu ()`
- void `createHelpMenu ()`

Protected Attributes

- bool `shiftKeyPressedState`
- QByteArray `layoutState`
- int `numOfDocs`
- int `docIndex`
- QList< MdiWindow * > `listMdiWin`
- QString `openFilePath`
- QAction * `myFileSeparator`
- QWizard * `wizardTipOfTheDay`
- QLabel * `labelTipOfTheDay`
- QCheckBox * `checkBoxTipOfTheDay`
- QStringList `listTipOfTheDay`
- const int `file_toolbar` = 0
- const int `edit_toolbar` = 1
- const int `view_toolbar` = 2

- const int `zoom_toolbar` = 3
- 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`

Private Slots

- void `hideUnimplemented ()`
MainWindow::hideUnimplemented.

17.63.1 Detailed Description

The [MainWindow](#) class.

17.63.2 Constructor & Destructor Documentation

17.63.2.1 `MainWindow()` [MainWindow](#) ()

[MainWindow](#)::[MainWindow](#).

17.63.2.2 `~MainWindow()` [~MainWindow](#) ()

[MainWindow](#)::[~MainWindow](#).

17.63.3 Member Function Documentation

17.63.3.1 about void about () [slot]

17.63.3.2 activeCommand() `QString activeCommand () [inline]`

17.63.3.3 activeMdiWindow() `MdiWindow * activeMdiWindow ()`

17.63.3.4 activeScene() `QGraphicsScene * activeScene ()`

17.63.3.5 activeUndoStack() `QUndoStack * activeUndoStack ()`

17.63.3.6 activeView() `View * activeView ()`

17.63.3.7 actuator() `std::string actuator (std::string command)`

MainWindow::actuator.

Parameters

<code>command</code>	<input type="text"/>
----------------------	----------------------

17.63.3.8 buttonTipOfDayClicked void buttonTipOfDayClicked (`int button) [slot]`

17.63.3.9 changelog void changelog () [slot]

17.63.3.10 checkBoxTipOfTheDayStateChanged void checkBoxTipOfTheDayStateChanged (int *checked*) [slot]

17.63.3.11 checkForUpdates void checkForUpdates () [slot]

17.63.3.12 closeEvent() void closeEvent (QCloseEvent * *event*) [protected]

MainWindow::closeEvent.

Parameters

<i>event</i>	<input type="button" value=""/>
--------------	---------------------------------

17.63.3.13 closeToolBar void closeToolBar (QAction * *action*) [slot]

MainWindow::closeToolBar.

Parameters

<i>action</i>	<input type="button" value=""/>
---------------	---------------------------------

17.63.3.14 colorSelectorIndexChanged void colorSelectorIndexChanged (int *index*) [slot]

17.63.3.15 copy void copy () [slot]

17.63.3.16 createAction() QAction * createAction (const QString *icon*, const QString *toolTip*, const QString *statusTip*, bool *scripted* = false) [protected]

MainWindow::createAction.

Parameters

<i>icon</i>	
<i>toolTip</i>	
<i>statusTip</i>	
<i>scripted</i>	

Returns**17.63.3.17 `createAllActions()`** void createAllActions () [protected][MainWindow::createAllActions.](#)**17.63.3.18 `createAllMenus()`** void createAllMenus () [protected]**17.63.3.19 `createAllToolbars()`** void createAllToolbars () [protected][MainWindow::createAllToolbars.](#)**17.63.3.20 `createEditMenu()`** void createEditMenu () [protected]**17.63.3.21 `createEditToolbar()`** void createEditToolbar () [protected][MainWindow::createEditToolbar.](#)**17.63.3.22 `createFileMenu()`** void createFileMenu () [protected][MainWindow::createFileMenu.](#)

17.63.3.23 `createFileToolbar()` void createFileToolbar () [protected]

[MainWindow::createFileToolbar](#).

17.63.3.24 `createHelpMenu()` void createHelpMenu () [protected]

17.63.3.25 `createHelpToolbar()` void createHelpToolbar () [protected]

[MainWindow::createHelpToolbar](#).

17.63.3.26 `createIconToolbar()` void createIconToolbar () [protected]

[MainWindow::createIconToolbar](#).

17.63.3.27 `createLayerToolbar()` void createLayerToolbar () [protected]

[MainWindow::createLayerToolbar](#).

17.63.3.28 `createPanToolbar()` void createPanToolbar () [protected]

[MainWindow::createPanToolbar](#).

17.63.3.29 `createPromptToolbar()` void createPromptToolbar () [protected]

[MainWindow::createPromptToolbar](#).

17.63.3.30 `createPropertiesToolbar()` void createPropertiesToolbar () [protected]

[MainWindow::createPropertiesToolbar](#).

17.63.3.31 `createSettingsMenu()` void createSettingsMenu () [protected]

17.63.3.32 `createTextToolbar()` void createTextToolbar () [protected]

[MainWindow::createTextToolbar](#).

17.63.3.33 `createViewMenu()` void createViewMenu () [protected]

17.63.3.34 `createViewToolbar()` void createViewToolbar () [protected]

17.63.3.35 `createWindowMenu()` void createWindowMenu () [protected]

17.63.3.36 `createZoomToolbar()` void createZoomToolbar () [protected]

17.63.3.37 `cut` void cut () [slot]

17.63.3.38 `dayVision` void dayVision () [slot]

[MainWindow::dayVision](#).

17.63.3.39 `deletePressed` void deletePressed () [slot]

17.63.3.40 `designDetails` void designDetails () [slot]

17.63.3.41 `disableMoveRapidFire` void disableMoveRapidFire () [slot]

17.63.3.42 `disablePromptRapidFire` void disablePromptRapidFire () [slot]

17.63.3.43 doNothing void doNothing () [slot]

17.63.3.44 enableMoveRapidFire void enableMoveRapidFire () [slot]

17.63.3.45 enablePromptRapidFire void enablePromptRapidFire () [slot]

17.63.3.46 escapePressed void escapePressed () [slot]

17.63.3.47 exit void exit () [slot]

[MainWindow::exit](#).

17.63.3.48 findMdiWindow() QMdiSubWindow * findMdiWindow (const QString & *fileName*) [protected]

[MainWindow::findMdiWindow](#).

Parameters

<i>fileName</i>	
-----------------	--

Returns

17.63.3.49 floatingChangedToolBar void floatingChangedToolBar (bool *isFloating*) [slot]

[MainWindow::floatingChangedToolBar](#).

Parameters

<i>isFloating</i>	
-------------------	--

17.63.3.50 `getAction` QAction * getAction (int *actionEnum*) [slot]

[MainWindow::getAction](#).

Parameters

actionEnum

Returns

17.63.3.51 `getApplication()` MainWindow * getApplication ()

[MainWindow::getApplication](#).

Returns

17.63.3.52 `getCurrentColor` QRgb getCurrentColor () [slot]

17.63.3.53 `getCurrentLayer` QString getCurrentLayer () [slot]

17.63.3.54 `getCurrentLineType` QString getCurrentLineType () [slot]

17.63.3.55 `getCurrentLineWeight` QString getCurrentLineWeight () [slot]

17.63.3.56 `getFileSeparator()` QAction * getFileSeparator () [protected]

[MainWindow::getFileSeparator](#).

Returns

17.63.3.57 getMdiArea() `MdiArea * getMdiArea ()`

[MainWindow::getMdiArea](#).

Returns

17.63.3.58 help `void help () [slot]`

17.63.3.59 hideUnimplemented `void hideUnimplemented () [private], [slot]`

[MainWindow::hideUnimplemented](#).

17.63.3.60 icon128 `void icon128 () [slot]`

17.63.3.61 icon16 `void icon16 () [slot]`

17.63.3.62 icon24 `void icon24 () [slot]`

17.63.3.63 icon32 `void icon32 () [slot]`

17.63.3.64 icon48 `void icon48 () [slot]`

17.63.3.65 icon64 `void icon64 () [slot]`

17.63.3.66 iconResize void iconResize (int *iconSize*) [slot]

17.63.3.67 isCommandActive() bool isCommandActive () [inline]

17.63.3.68 isShiftPressed bool isShiftPressed () [slot]

17.63.3.69 layerManager void layerManager () [slot]

17.63.3.70 layerPrevious void layerPrevious () [slot]

17.63.3.71 layerSelectorIndexChanged void layerSelectorIndexChanged (int *index*) [slot]

17.63.3.72 linetypeSelectorIndexChanged void linetypeSelectorIndexChanged (int *index*) [slot]

17.63.3.73 linewidthSelectorIndexChanged void linewidthSelectorIndexChanged (int *index*) [slot]

17.63.3.74 loadFormats() void loadFormats () [protected]

MainWindow::loadFormats.

17.63.3.75 logPromptInput void logPromptInput (const QString & *txt*) [slot]

17.63.3.76 makeLayerActive void makeLayerActive () [slot]

17.63.3.77 nativeAddArc() void nativeAddArc (

```
EmbReal startX,
EmbReal startY,
EmbReal midX,
EmbReal midY,
EmbReal endX,
EmbReal endY,
int rubberMode )
```

17.63.3.78 nativeAddCircle() void nativeAddCircle (

```
EmbReal centerX,
EmbReal centerY,
EmbReal radius,
bool fill,
int rubberMode )
```

17.63.3.79 nativeAddDimLeader() void nativeAddDimLeader (

```
EmbReal x1,
EmbReal y1,
EmbReal x2,
EmbReal y2,
EmbReal rot,
int rubberMode )
```

17.63.3.80 nativeAddEllipse() void nativeAddEllipse (

```
EmbReal centerX,
EmbReal centerY,
EmbReal width,
EmbReal height,
EmbReal rot,
bool fill,
int rubberMode )
```

17.63.3.81 nativeAddHorizontalDimension() void nativeAddHorizontalDimension (

```
EmbReal x1,
EmbReal y1,
EmbReal x2,
EmbReal y2,
EmbReal legHeight )
```

```
17.63.3.82 nativeAddImage() void nativeAddImage (
    const QString & img,
    EmbReal x,
    EmbReal y,
    EmbReal w,
    EmbReal h,
    EmbReal rot )
```

```
17.63.3.83 nativeAddInfiniteLine() void nativeAddInfiniteLine (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2,
    EmbReal rot )
```

```
17.63.3.84 nativeAddLine() void nativeAddLine (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2,
    EmbReal rot,
    int rubberMode )
```

```
17.63.3.85 nativeAddPath() void nativeAddPath (
    EmbReal startX,
    EmbReal startY,
    const QPainterPath & p,
    int rubberMode )
```

```
17.63.3.86 nativeAddPoint() void nativeAddPoint (
    EmbReal x,
    EmbReal y )
```

```
17.63.3.87 nativeAddPolygon() void nativeAddPolygon (
    EmbReal startX,
    EmbReal startY,
    const QPainterPath & p,
    int rubberMode )
```

```
17.63.3.88 nativeAddPolyline() void nativeAddPolyline (
    EmbReal startX,
    EmbReal startY,
    const QPainterPath & p,
    int rubberMode )
```

```
17.63.3.89 nativeAddRay() void nativeAddRay (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2,
    EmbReal rot )
```

```
17.63.3.90 nativeAddRectangle() void nativeAddRectangle (
    EmbReal x,
    EmbReal y,
    EmbReal w,
    EmbReal h,
    EmbReal rot,
    bool fill,
    int rubberMode )
```

```
17.63.3.91 nativeAddRegularPolygon() void nativeAddRegularPolygon (
    EmbReal centerX,
    EmbReal centerY,
    quint16 sides,
    uint8_t mode,
    EmbReal rad,
    EmbReal rot,
    bool fill )
```

```
17.63.3.92 nativeAddRoundedRectangle() void nativeAddRoundedRectangle (
    EmbReal x,
    EmbReal y,
    EmbReal w,
    EmbReal h,
    EmbReal rad,
    EmbReal rot,
    bool fill )
```

```
17.63.3.93 nativeAddSlot() void nativeAddSlot (
```

```
    EmbReal centerX,
```

```
    EmbReal centerY,
```

```
    EmbReal diameter,
```

```
    EmbReal length,
```

```
    EmbReal rot,
```

```
    bool fill,
```

```
    int rubberMode )
```

```
17.63.3.94 nativeAddTextMulti() void nativeAddTextMulti (
```

```
    const QString & str,
```

```
    EmbReal x,
```

```
    EmbReal y,
```

```
    EmbReal rot,
```

```
    bool fill,
```

```
    int rubberMode )
```

```
17.63.3.95 nativeAddTextSingle() void nativeAddTextSingle (
```

```
    const QString & str,
```

```
    EmbReal x,
```

```
    EmbReal y,
```

```
    EmbReal rot,
```

```
    bool fill,
```

```
    int rubberMode )
```

```
17.63.3.96 nativeAddToSelection() void nativeAddToSelection (
```

```
    const QPainterPath path,
```

```
    Qt::ItemSelectionMode mode )
```

```
17.63.3.97 nativeAddTriangle() void nativeAddTriangle (
```

```
    EmbReal x1,
```

```
    EmbReal y1,
```

```
    EmbReal x2,
```

```
    EmbReal y2,
```

```
    EmbReal x3,
```

```
    EmbReal y3,
```

```
    EmbReal rot,
```

```
    bool fill )
```

17.63.3.98 nativeAddVerticalDimension() void nativeAddVerticalDimension (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal legHeight)

17.63.3.99 nativeAlert() void nativeAlert (const QString & txt)

17.63.3.100 nativeAllowRubber() bool nativeAllowRubber ()

17.63.3.101 nativeAppendPromptHistory() void nativeAppendPromptHistory (const QString & txt)

17.63.3.102 nativeBlinkPrompt() void nativeBlinkPrompt ()

17.63.3.103 nativeCalculateAngle() EmbReal nativeCalculateAngle (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)

17.63.3.104 nativeCalculateDistance() EmbReal nativeCalculateDistance (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)

17.63.3.105 nativeClearRubber() void nativeClearRubber ()

17.63.3.106 nativeClearSelection() void nativeClearSelection ()

17.63.3.107 nativeCopySelected() void nativeCopySelected (EmbReal x, EmbReal y)

MainWindow::nativeCopySelected.

Parameters

x	
y	

17.63.3.108 nativeCutSelected() void nativeCutSelected (EmbReal x, EmbReal y)

[MainWindow::nativeCutSelected](#).

Parameters

x	
y	

17.63.3.109 nativeDeleteSelected() void nativeDeleteSelected ()

[MainWindow::nativeDeleteSelected](#).

17.63.3.110 nativeDisableMoveRapidFire() void nativeDisableMoveRapidFire ()

17.63.3.111 nativeDisablePromptRapidFire() void nativeDisablePromptRapidFire ()

17.63.3.112 nativeEnableMoveRapidFire() void nativeEnableMoveRapidFire ()

17.63.3.113 nativeEnablePromptRapidFire() void nativeEnablePromptRapidFire ()

17.63.3.114 nativeEndCommand() void nativeEndCommand ()

17.63.3.115 nativeExit() void nativeExit ()

17.63.3.116 nativeInitCommand() void nativeInitCommand ()

17.63.3.117 nativeMessageBox() void nativeMessageBox (
 const QString & type,
 const QString & title,
 const QString & text)

[MainWindow::nativeMessageBox.](#)

Parameters

<i>type</i>	
<i>title</i>	
<i>text</i>	

17.63.3.118 nativeMirrorSelected() void nativeMirrorSelected (
 EmbReal x1,
 EmbReal y1,
 EmbReal x2,
 EmbReal y2)

[MainWindow::nativeMirrorSelected.](#)

Parameters

<i>x1</i>	
<i>y1</i>	
<i>x2</i>	
<i>y2</i>	

17.63.3.119 nativeMouseX() EmbReal nativeMouseX ()

[MainWindow::nativeMouseX.](#)

Returns

17.63.3.120 nativeMouseY() `EmbReal nativeMouseY ()`

[MainWindow::nativeMouseY.](#)

Returns

17.63.3.121 nativeMoveSelected() `void nativeMoveSelected (`

`EmbReal dx,`
`EmbReal dy)`

[MainWindow::nativeMoveSelected.](#)

Parameters

<code>dx</code>	
<code>dy</code>	

17.63.3.122 nativeNewFile() `void nativeNewFile ()`**17.63.3.123 nativeNumSelected()** `int nativeNumSelected ()`**17.63.3.124 nativeOpenFile()** `void nativeOpenFile ()`**17.63.3.125 nativePasteSelected()** `void nativePasteSelected (`

`EmbReal x,`
`EmbReal y)`

[MainWindow::nativePasteSelected.](#)

Parameters

<code>x</code>	
<code>y</code>	

```
17.63.3.126 nativePerpendicularDistance() EmbReal nativePerpendicularDistance (
    EmbReal px,
    EmbReal py,
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2 )
```

```
17.63.3.127 nativePreviewOff() void nativePreviewOff ( )
```

```
17.63.3.128 nativePreviewOn() void nativePreviewOn (
    int clone,
    int mode,
    EmbReal x,
    EmbReal y,
    EmbReal data )
```

```
17.63.3.129 nativePrintArea() void nativePrintArea (
    EmbReal x,
    EmbReal y,
    EmbReal w,
    EmbReal h )
```

MainWindow::nativePrintArea.

Parameters

x	
y	
w	
h	

```
17.63.3.130 nativeQSnapX() EmbReal nativeQSnapX ( )
```

MainWindow::nativeQSnapX.

Returns

17.63.3.131 nativeQSnapY() `EmbReal nativeQSnapY ()`

[MainWindow::nativeQSnapY.](#)

Returns**17.63.3.132 nativeRotateSelected()** `void nativeRotateSelected (`

```
    EmbReal x,  
    EmbReal y,  
    EmbReal rot )
```

[MainWindow::nativeRotateSelected.](#)

Parameters

<i>x</i>	
<i>y</i>	
<i>rot</i>	

17.63.3.133 nativeScaleSelected() `void nativeScaleSelected (`

```
    EmbReal x,  
    EmbReal y,  
    EmbReal factor )
```

[MainWindow::nativeScaleSelected.](#)

Parameters

<i>x</i>	
<i>y</i>	
<i>factor</i>	

17.63.3.134 nativeSelectAll() `void nativeSelectAll ()`**17.63.3.135 nativeSetBackgroundColor()** `void nativeSetBackgroundColor (`

```
    uint8_t r,  
    uint8_t g,  
    uint8_t b )
```

17.63.3.136 nativeSetCrossHairColor() void nativeSetCrossHairColor (uint8_t *r*, uint8_t *g*, uint8_t *b*)

17.63.3.137 nativeSetCursorShape() void nativeSetCursorShape (const QString & *str*)

17.63.3.138 nativeSetGridColor() void nativeSetGridColor (uint8_t *r*, uint8_t *g*, uint8_t *b*)

17.63.3.139 nativeSetPromptPrefix() void nativeSetPromptPrefix (const QString & *txt*)

17.63.3.140 nativeSetRubberMode() void nativeSetRubberMode (int *mode*)

17.63.3.141 nativeSetRubberPoint() void nativeSetRubberPoint (const QString & *key*, EmbReal *x*, EmbReal *y*)

17.63.3.142 nativeSetRubberText() void nativeSetRubberText (const QString & *key*, const QString & *txt*)

17.63.3.143 nativeSpareRubber() void nativeSpareRubber (qint64 *id*)

17.63.3.144 nativeTextAngle() EmbReal nativeTextAngle ()

17.63.3.145 nativeTextBold() bool nativeTextBold ()

17.63.3.146 nativeTextFont() QString nativeTextFont ()

17.63.3.147 nativeTextItalic() bool nativeTextItalic ()

17.63.3.148 nativeTextOverline() bool nativeTextOverline ()

17.63.3.149 nativeTextSize() EmbReal nativeTextSize ()

17.63.3.150 nativeTextStrikeOut() bool nativeTextStrikeOut ()

17.63.3.151 nativeTextUnderline() bool nativeTextUnderline ()

17.63.3.152 nativeTipOfDay() void nativeTipOfDay ()

17.63.3.153 nativeVulcanize() void nativeVulcanize ()

17.63.3.154 nativeWindowCascade() void nativeWindowCascade ()

17.63.3.155 nativeWindowClose() void nativeWindowClose ()

17.63.3.156 nativeWindowCloseAll() void nativeWindowCloseAll ()

17.63.3.157 nativeWindowNext() void nativeWindowNext ()

17.63.3.158 nativeWindowPrevious() void nativeWindowPrevious ()

17.63.3.159 nativeWindowTile() void nativeWindowTile ()

17.63.3.160 newFile void newFile () [slot]

[MainWindow::newFile](#).

17.63.3.161 nightVision void nightVision () [slot]

[MainWindow::nightVision](#).

17.63.3.162 onCloseMdiWin void onCloseMdiWin (
 [MdiWindow](#) * theMdiWin) [virtual], [slot]

[MainWindow::onCloseMdiWin](#).

Parameters

[theMdiWin](#)

17.63.3.163 onCloseWindow void onCloseWindow () [slot]

[MainWindow::onCloseWindow](#).

17.63.3.164 onWindowActivated void onWindowActivated (
 [QMdiSubWindow](#) * w) [slot]

[MainWindow::onWindowActivated](#).

Parameters

<i>w</i>	<input type="text"/>
----------	----------------------

```
17.63.3.165 openFile void openFile (
    bool recent = false,
    const QString & recentFile = "") [slot]
```

[MainWindow::openFile](#).

Parameters

<i>recent</i>	<input type="text"/>
<i>recentFile</i>	<input type="text"/>

```
17.63.3.166 openFilesSelected void openFilesSelected (
    const QStringList & filesToOpen) [slot]
```

[MainWindow::openFilesSelected](#).

Parameters

<i>filesToOpen</i>	<input type="text"/>
--------------------	----------------------

```
17.63.3.167 openrecentfile void openrecentfile () [slot]
```

[MainWindow::openrecentfile](#).

```
17.63.3.168 panDown void panDown () [slot]
```

[MainWindow::panDown](#).

```
17.63.3.169 panLeft void panLeft () [slot]
```

17.63.3.170 panpoint void panpoint () [slot]

17.63.3.171 panrealtime void panrealtime () [slot]

17.63.3.172 panRight void panRight () [slot]

17.63.3.173 panUp void panUp () [slot]

17.63.3.174 paste void paste () [slot]

17.63.3.175 pickAddModeToggled void pickAddModeToggled () [slot]

17.63.3.176 platformString() QString platformString ()

17.63.3.177 print void print () [slot]

17.63.3.178 promptHistoryAppended void promptHistoryAppended (const QString & txt) [slot]

17.63.3.179 promptInputNext void promptInputNext () [slot]

17.63.3.180 promptInputPrevious void promptInputPrevious () [slot]

17.63.3.181 quit void quit () [slot]

[MainWindow::quit](#).

17.63.3.182 readSettings void readSettings () [slot]

[MainWindow::readSettings](#).

17.63.3.183 recentMenuAboutToShow void recentMenuAboutToShow () [slot]

[MainWindow::recentMenuAboutToShow](#).

17.63.3.184 redo void redo () [slot]

17.63.3.185 resizeEvent() void resizeEvent (QResizeEvent * e) [protected], [virtual]

[MainWindow::resizeEvent](#).

Parameters

e	
---	--

17.63.3.186 run_script() std::string run_script (std::vector< std::string > script)

A basic line-by-line script processor to allow for extensions to the program.

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 or 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
```

17.63.3.187 `run_script_file()` `std::string run_script_file (`
`std::string fname)`

[MainWindow::run_script_file](#).

Parameters

<code>fname</code>	The path of the script to run.
--------------------	--------------------------------

17.63.3.188 `runCommand` `void runCommand () [slot]`

17.63.3.189 `runCommandClick` `void runCommandClick (`
`const QString & cmd,`
`EmbrReal x,`
`EmbrReal y) [slot]`

17.63.3.190 `runCommandContext` `void runCommandContext (`
`const QString & cmd,`
`const QString & str) [slot]`

17.63.3.191 `runCommandMain` `void runCommandMain (`
`const QString & cmd) [slot]`

17.63.3.192 `runCommandMove` `void runCommandMove (`
`const QString & cmd,`
`EmbrReal x,`
`EmbrReal y) [slot]`

```
17.63.3.193 runCommandPrompt void runCommandPrompt (
    const QString & cmd,
    const QString & str ) [slot]
```

```
17.63.3.194 saveasfile void saveasfile () [slot]
```

[MainWindow::saveasfile](#).

```
17.63.3.195 savefile void savefile () [slot]
```

[MainWindow::savefile](#).

```
17.63.3.196 selectAll void selectAll () [slot]
```

```
17.63.3.197 setShiftPressed void setShiftPressed () [slot]
```

```
17.63.3.198 setShiftReleased void setShiftReleased () [slot]
```

```
17.63.3.199 setTextAngle void setTextAngle (
    EmbReal num ) [slot]
```

```
17.63.3.200 setTextBold void setTextBold (
    bool val ) [slot]
```

```
17.63.3.201 setTextFont void setTextFont (
    const QString & str ) [slot]
```

```
17.63.3.202 setTextItalic void setTextItalic (
    bool val ) [slot]
```

17.63.3.203 `setTextOverline` void setTextOverline (bool val) [slot]

17.63.3.204 `setTextSize` void setTextSize (EmbReal num) [slot]

17.63.3.205 `setTextStrikeOut` void setTextStrikeOut (bool val) [slot]

17.63.3.206 `setTextUnderline` void setTextUnderline (bool val) [slot]

17.63.3.207 `settingsDialog` void settingsDialog (const QString & showTab = QString()) [slot]

17.63.3.208 `settingsPrompt` void settingsPrompt () [slot]

17.63.3.209 `setUndoCleanIcon()` void setUndoCleanIcon (bool opened)

17.63.3.210 `stub_implement` void stub_implement (QString txt) [slot]

MainWindow::[stub_implement](#).

Parameters

<i>txt</i>	<input type="text"/>
------------	----------------------

17.63.3.211 `stub_testing` void stub_testing () [slot]

MainWindow::stub_testing.

17.63.3.212 textAngle `EmbReal textAngle () [slot]`

17.63.3.213 textBold `bool textBold () [slot]`

17.63.3.214 textFont `QString textFont () [slot]`

17.63.3.215 textFontSelectorCurrentFontChanged `void textFontSelectorCurrentFontChanged (const QFont & font) [slot]`

17.63.3.216 textItalic `bool textItalic () [slot]`

17.63.3.217 textOverline `bool textOverline () [slot]`

17.63.3.218 textSize `EmbReal textSize () [slot]`

17.63.3.219 textSizeSelectorIndexChanged `void textSizeSelectorIndexChanged (int index) [slot]`

17.63.3.220 textStrikeOut `bool textStrikeOut () [slot]`

17.63.3.221 textUnderline `bool textUnderline () [slot]`

17.63.3.222 tipOfDay void tipOfDay () [slot]

17.63.3.223 toggleGrid void toggleGrid () [slot]

17.63.3.224 toggleLwt void toggleLwt () [slot]

17.63.3.225 toggleRuler void toggleRuler () [slot]

17.63.3.226 undo void undo () [slot]

17.63.3.227 updateAllViewBackgroundColors void updateAllViewBackgroundColors (QRgb color) [slot]

17.63.3.228 updateAllViewCrossHairColors void updateAllViewCrossHairColors (QRgb color) [slot]

17.63.3.229 updateAllViewGridColors void updateAllViewGridColors (QRgb color) [slot]

17.63.3.230 updateAllViewRulerColors void updateAllViewRulerColors (QRgb color) [slot]

17.63.3.231 updateAllViewScrollBars void updateAllViewScrollBars (bool val) [slot]

```
17.63.3.232 updateAllViewSelectBoxColors void updateAllViewSelectBoxColors (
    QRgb colorL,
    QRgb fillL,
    QRgb colorR,
    QRgb fillR,
    int alpha ) [slot]
```

17.63.3.233 updateMenuToolbarStatusbar() void updateMenuToolbarStatusbar () [virtual]

[MainWindow::updateMenuToolbarStatusbar](#).

```
17.63.3.234 updatePickAddMode void updatePickAddMode (
    bool val ) [slot]
```

```
17.63.3.235 validFileFormat bool validFileFormat (
    const QString & fileName ) [static], [slot]
```

[MainWindow::validFileFormat](#).

Parameters

<i>fileName</i>	<input type="text"/>
-----------------	----------------------

Returns

```
17.63.3.236 whatsThisContextHelp void whatsThisContextHelp ( ) [slot]
```

17.63.3.237 windowMenuAboutToShow void windowMenuAboutToShow () [slot]

[MainWindow::windowMenuAboutToShow](#).

```
17.63.3.238 windowMenuActivated void windowMenuActivated (
    bool checked ) [slot]
```

[MainWindow::windowMenuActivated](#).

Parameters

<i>checked</i>	<input type="checkbox"/>
----------------	--------------------------

17.63.3.239 writeSettings void writeSettings () [slot]

MainWindow::writeSettings.

17.63.3.240 zoomAll void zoomAll () [slot]**17.63.3.241 zoomCenter** void zoomCenter () [slot]**17.63.3.242 zoomDynamic** void zoomDynamic () [slot]**17.63.3.243 zoomExtents** void zoomExtents () [slot]**17.63.3.244 zoomIn** void zoomIn () [slot]**17.63.3.245 zoomOut** void zoomOut () [slot]**17.63.3.246 zoomPrevious** void zoomPrevious () [slot]**17.63.3.247 zoomRealtime** void zoomRealtime () [slot]

17.63.3.248 zoomScale void zoomScale () [slot]

17.63.3.249 zoomSelected void zoomSelected () [slot]

17.63.3.250 zoomWindow void zoomWindow () [slot]

17.63.4 Member Data Documentation

17.63.4.1 actionHash QHash<int, QAction*> actionHash

17.63.4.2 checkBoxTipOfDay QCheckBox* checkBoxTipOfDay [protected]

17.63.4.3 colorSelector QComboBox* colorSelector [protected]

17.63.4.4 cutCopyObjectList QList<QGraphicsItem*> cutCopyObjectList

17.63.4.5 docIndex int docIndex [protected]

17.63.4.6 dockPropEdit [PropertyEditor*](#) dockPropEdit

17.63.4.7 dockUndoEdit [UndoEditor*](#) dockUndoEdit

17.63.4.8 edit_toolbar const int edit_toolbar = 1 [protected]

17.63.4.9 editMenu QMenu* editMenu [protected]

17.63.4.10 file_toolbar const int file_toolbar = 0 [protected]

17.63.4.11 fileMenu QMenu* fileMenu [protected]

17.63.4.12 formatFilterOpen QString formatFilterOpen

17.63.4.13 formatFilterSave QString formatFilterSave

17.63.4.14 helpMenu QMenu* helpMenu [protected]

17.63.4.15 labelTipOfDay QLabel* labelTipOfDay [protected]

17.63.4.16 layerSelector QComboBox* layerSelector [protected]

17.63.4.17 layoutState QByteArray layoutState [protected]

17.63.4.18 linetypeSelector QComboBox* linetypeSelector [protected]

17.63.4.19 linewidthSelector QComboBox* linewidthSelector [protected]

17.63.4.20 **listMdiWin** `QList<MdiWindow*> listMdiWin [protected]`

17.63.4.21 **listTipOfDay** `QStringList listTipOfDay [protected]`

17.63.4.22 **mainWin** `MainWindow* mainWin`

17.63.4.23 **mdiArea** `MdiArea* mdiArea`

17.63.4.24 **menuHash** `QHash<QString, QMenu*> menuHash`

17.63.4.25 **myFileSeparator** `QAction* myFileSeparator [protected]`

17.63.4.26 **numOfDocs** `int numOfDocs [protected]`

17.63.4.27 **openFilesPath** `QString openFilesPath [protected]`

17.63.4.28 **panMenu** `QMenu* panMenu [protected]`

17.63.4.29 **prompt** `CmdPrompt* prompt`

17.63.4.30 **recentMenu** `QMenu* recentMenu [protected]`

17.63.4.31 **settings_display_bg_color** QRgb settings_display_bg_color

17.63.4.32 **settings_display_crosshair_color** QRgb settings_display_crosshair_color

17.63.4.33 **settings_display_crosshair_percent** uint8_t settings_display_crosshair_percent

17.63.4.34 **settings_display_renderhint_aa** bool settings_display_renderhint_aa

17.63.4.35 **settings_display_renderhint_high_aa** bool settings_display_renderhint_high_aa

17.63.4.36 **settings_display_renderhint_noncosmetic** bool settings_display_renderhint_noncosmetic

17.63.4.37 **settings_display_renderhint_smooth_pix** bool settings_display_renderhint_smooth_pix

17.63.4.38 **settings_display_renderhint_text_aa** bool settings_display_renderhint_text_aa

17.63.4.39 **settings_display_scrollbar_widget_num** int settings_display_scrollbar_widget_num

17.63.4.40 **settings_display_selectbox_alpha** uint8_t settings_display_selectbox_alpha

17.63.4.41 **settings_display_selectbox_left_color** QRgb settings_display_selectbox_left_color

17.63.4.42 **settings_display_selectbox_left_fill** QRgb settings_display_selectbox_left_fill

17.63.4.43 **settings_display_selectbox_right_color** QRgb settings_display_selectbox_right_color

17.63.4.44 **settings_display_selectbox_right_fill** QRgb settings_display_selectbox_right_fill

17.63.4.45 **settings_display_show_scrollbars** bool settings_display_show_scrollbars

17.63.4.46 **settings_display_units** QString settings_display_units

17.63.4.47 **settings_display_use_opengl** bool settings_display_use_opengl

17.63.4.48 **settings_display_zoomscale_in** EmbReal settings_display_zoomscale_in

17.63.4.49 **settings_display_zoomscale_out** EmbReal settings_display_zoomscale_out

17.63.4.50 **settings_general_check_for_updates** bool settings_general_check_for_updates

17.63.4.51 **settings_general_current_tip** quint16 settings_general_current_tip

17.63.4.52 **settings_general_icon_size** int settings_general_icon_size

17.63.4.53 settings_general_icon_theme `QString settings_general_icon_theme`

17.63.4.54 settings_general_language `QString settings_general_language`

17.63.4.55 settings_general_mdi_bg_color `QRgb settings_general_mdi_bg_color`

17.63.4.56 settings_general_mdi_bg_logo `QString settings_general_mdi_bg_logo`

17.63.4.57 settings_general_mdi_bg_texture `QString settings_general_mdi_bg_texture`

17.63.4.58 settings_general_mdi_bg_use_color `bool settings_general_mdi_bg_use_color`

17.63.4.59 settings_general_mdi_bg_use_logo `bool settings_general_mdi_bg_use_logo`

17.63.4.60 settings_general_mdi_bg_use_texture `bool settings_general_mdi_bg_use_texture`

17.63.4.61 settings_general_system_help_browser `bool settings_general_system_help_browser`

17.63.4.62 settings_general_tip_of_the_day `bool settings_general_tip_of_the_day`

17.63.4.63 settings_grid_center_on_origin `bool settings_grid_center_on_origin`

17.63.4.64 **settings_grid_center_x** `EmbReal` `settings_grid_center_x`

17.63.4.65 **settings_grid_center_y** `EmbReal` `settings_grid_center_y`

17.63.4.66 **settings_grid_color** `QRgb` `settings_grid_color`

17.63.4.67 **settings_grid_color_match_crosshair** `bool` `settings_grid_color_match_crosshair`

17.63.4.68 **settings_grid_load_from_file** `bool` `settings_grid_load_from_file`

17.63.4.69 **settings_grid_show_on_load** `bool` `settings_grid_show_on_load`

17.63.4.70 **settings_grid_show_origin** `bool` `settings_grid_show_origin`

17.63.4.71 **settings_grid_size_radius** `EmbReal` `settings_grid_size_radius`

17.63.4.72 **settings_grid_size_x** `EmbReal` `settings_grid_size_x`

17.63.4.73 **settings_grid_size_y** `EmbReal` `settings_grid_size_y`

17.63.4.74 **settings_grid_spacing_angle** `EmbReal` `settings_grid_spacing_angle`

17.63.4.75 settings_grid_spacing_radius `EmbReal` `settings_grid_spacing_radius`

17.63.4.76 settings_grid_spacing_x `EmbReal` `settings_grid_spacing_x`

17.63.4.77 settings_grid_spacing_y `EmbReal` `settings_grid_spacing_y`

17.63.4.78 settings_grid_type `QString` `settings_grid_type`

17.63.4.79 settings_lwt_default_lwt `EmbReal` `settings_lwt_default_lwt`

17.63.4.80 settings_lwt_real_render `bool` `settings_lwt_real_render`

17.63.4.81 settings_lwt_show_lwt `bool` `settings_lwt_show_lwt`

17.63.4.82 settings_opensave_custom_filter `QString` `settings_opensave_custom_filter`

17.63.4.83 settings_opensave_open_format `QString` `settings_opensave_open_format`

17.63.4.84 settings_opensave_open_thumbnail `bool` `settings_opensave_open_thumbnail`

17.63.4.85 settings_opensave_recent_directory `QString` `settings_opensave_recent_directory`

17.63.4.86 settings_opensave_recent_list_of_files QStringList settings_opensave_recent_list_of_files

17.63.4.87 settings_opensave_recent_max_files uint8_t settings_opensave_recent_max_files

17.63.4.88 settings_opensave_save_format QString settings_opensave_save_format

17.63.4.89 settings_opensave_save_thumbnail bool settings_opensave_save_thumbnail

17.63.4.90 settings_opensave_trim_dst_num_jumps uint8_t settings_opensave_trim_dst_num_jumps

17.63.4.91 settings_printing_default_device QString settings_printing_default_device

17.63.4.92 settings_printing_disable_bg bool settings_printing_disable_bg

17.63.4.93 settings_printing_use_last_device bool settings_printing_use_last_device

17.63.4.94 settings_prompt_bg_color QRgb settings_prompt_bg_color

17.63.4.95 settings_prompt_font_family QString settings_prompt_font_family

17.63.4.96 settings_prompt_font_size uint8_t settings_prompt_font_size

17.63.4.97 **settings_prompt_font_style** `QString settings_prompt_font_style`

17.63.4.98 **settings_prompt_save_history** `bool settings_prompt_save_history`

17.63.4.99 **settings_prompt_save_history_as_html** `bool settings_prompt_save_history_as_html`

17.63.4.100 **settings_prompt_save_history_filename** `QString settings_prompt_save_history_filename`

17.63.4.101 **settings_prompt_text_color** `QRgb settings_prompt_text_color`

17.63.4.102 **settings_qsnap_aperture_size** `uint8_t settings_qsnap_aperture_size`

17.63.4.103 **settings_qsnap_apparent** `bool settings_qsnap_apparent`

17.63.4.104 **settings_qsnap_center** `bool settings_qsnap_center`

17.63.4.105 **settings_qsnap_enabled** `bool settings_qsnap_enabled`

17.63.4.106 **settings_qsnap_endpoint** `bool settings_qsnap_endpoint`

17.63.4.107 **settings_qsnap_extension** `bool settings_qsnap_extension`

17.63.4.108 **settings_qsnap_insertion** bool settings_qsnap_insertion

17.63.4.109 **settings_qsnap_intersection** bool settings_qsnap_intersection

17.63.4.110 **settings_qsnap_locator_color** QRgb settings_qsnap_locator_color

17.63.4.111 **settings_qsnap_locator_size** uint8_t settings_qsnap_locator_size

17.63.4.112 **settings_qsnap_midpoint** bool settings_qsnap_midpoint

17.63.4.113 **settings_qsnap_nearest** bool settings_qsnap_nearest

17.63.4.114 **settings_qsnap_node** bool settings_qsnap_node

17.63.4.115 **settings_qsnap_parallel** bool settings_qsnap_parallel

17.63.4.116 **settings_qsnap_perpendicular** bool settings_qsnap_perpendicular

17.63.4.117 **settings_qsnap_quadrant** bool settings_qsnap_quadrant

17.63.4.118 **settings_qsnap_tangent** bool settings_qsnap_tangent

17.63.4.119 **settings_ruler_color** QRgb settings_ruler_color

17.63.4.120 **settings_ruler_metric** bool settings_ruler_metric

17.63.4.121 **settings_ruler_pixel_size** uint8_t settings_ruler_pixel_size

17.63.4.122 **settings_ruler_show_on_load** bool settings_ruler_show_on_load

17.63.4.123 **settings_selection_coolgrip_color** QRgb settings_selection_coolgrip_color

17.63.4.124 **settings_selection_grip_size** uint8_t settings_selection_grip_size

17.63.4.125 **settings_selection_hotgrip_color** QRgb settings_selection_hotgrip_color

17.63.4.126 **settings_selection_mode_pickadd** bool settings_selection_mode_pickadd

17.63.4.127 **settings_selection_mode_pickdrag** bool settings_selection_mode_pickdrag

17.63.4.128 **settings_selection_mode_pickfirst** bool settings_selection_mode_pickfirst

17.63.4.129 **settings_selection_pickbox_size** uint8_t settings_selection_pickbox_size

17.63.4.130 **settings_text_angle** `EmbReal settings_text_angle`

17.63.4.131 **settings_text_font** `QString settings_text_font`

17.63.4.132 **settings_text_size** `EmbReal settings_text_size`

17.63.4.133 **settings_text_style_bold** `bool settings_text_style_bold`

17.63.4.134 **settings_text_style_italic** `bool settings_text_style_italic`

17.63.4.135 **settings_text_style_overline** `bool settings_text_style_overline`

17.63.4.136 **settings_text_style_strikeout** `bool settings_text_style_strikeout`

17.63.4.137 **settings_text_style_underline** `bool settings_text_style_underline`

17.63.4.138 **settingsMenu** `QMenu* settingsMenu [protected]`

17.63.4.139 **shiftKeyPressedState** `bool shiftKeyPressedState [protected]`

17.63.4.140 **statusbar** `StatusBar* statusbar`

17.63.4.141 `textFontSelector` QFontComboBox* textFontSelector [protected]

17.63.4.142 `textSizeSelector` QComboBox* textSizeSelector [protected]

17.63.4.143 `toolbarEdit` QToolBar* toolbarEdit [protected]

17.63.4.144 `toolbarFile` QToolBar* toolbarFile [protected]

17.63.4.145 `toolbarHash` QHash<QString, QToolBar*> toolbarHash

17.63.4.146 `toolbarHelp` QToolBar* toolbarHelp [protected]

17.63.4.147 `toolbarIcon` QToolBar* toolbarIcon [protected]

17.63.4.148 `toolbarLayer` QToolBar* toolbarLayer [protected]

17.63.4.149 `toolbarPan` QToolBar* toolbarPan [protected]

17.63.4.150 `toolbarPrompt` QToolBar* toolbarPrompt [protected]

17.63.4.151 `toolbarProperties` QToolBar* toolbarProperties [protected]

17.63.4.152 toolbarText QToolBar* toolbarText [protected]

17.63.4.153 toolbarView QToolBar* toolbarView [protected]

17.63.4.154 toolbarZoom QToolBar* toolbarZoom [protected]

17.63.4.155 view_toolbar const int view_toolbar = 2 [protected]

17.63.4.156 viewMenu QMenu* viewMenu [protected]

17.63.4.157 windowMenu QMenu* windowMenu [protected]

17.63.4.158 wizardTipOfDay QWizard* wizardTipOfDay [protected]

17.63.4.159 zoom_toolbar const int zoom_toolbar = 3 [protected]

17.63.4.160 zoomMenu QMenu* zoomMenu [protected]

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

- [embroidermodder2/embroidermodder.h](#)
- [embroidermodder2/mainwindow-actions.cpp](#)
- [embroidermodder2/mainwindow-commands.cpp](#)
- [embroidermodder2/mainwindow-menus.cpp](#)
- [embroidermodder2/mainwindow-settings.cpp](#)
- [embroidermodder2/mainwindow-toolbars.cpp](#)
- [embroidermodder2/mainwindow.cpp](#)

17.64 MdiArea Class Reference

```
#include <embroidermodder.h>
```

Public Slots

- void `cascade ()`
MdiArea::cascade.
- void `tile ()`
MdiArea::tile.

Public Member Functions

- void `zoomExtentsAllSubWindows ()`
MdiArea::zoomExtentsAllSubWindows.
- void `forceRepaint ()`
MdiArea::forceRepaint.
- `MdiArea (MainWindow *mw, QWidget *parent=0)`
MdiArea::MdiArea.
- `~MdiArea ()`
MdiArea::~MdiArea.
- void `useBackgroundLogo (bool use)`
MdiArea::useBackgroundLogo.
- void `useBackgroundTexture (bool use)`
MdiArea::useBackgroundTexture.
- void `useBackgroundColor (bool use)`
- void `setBackgroundLogo (const QString &fileName)`
MdiArea::setBackgroundLogo.
- void `setBackgroundTexture (const QString &fileName)`
MdiArea::setBackgroundTexture.
- void `setBackgroundColor (const QColor &color)`
MdiArea::setBackgroundColor.

Public Attributes

- `MainWindow * mainWin`
- bool `useLogo`
- bool `useTexture`
- bool `useColor`
- QPixmap `bgLogo`
- QPixmap `bgTexture`
- QColor `bgColor`

Protected Member Functions

- virtual void `mouseDoubleClickEvent (QMouseEvent *e)`
MdiArea::mouseDoubleClickEvent.
- virtual void `paintEvent (QPaintEvent *e)`
MdiArea::paintEvent.

17.64.1 Constructor & Destructor Documentation

```
17.64.1.1 MdiArea() MdiArea (
    MainWindow * mw,
    QWidget * parent = 0 )
```

MdiArea::MdiArea.

Parameters

<i>mw</i>	
<i>parent</i>	

17.64.1.2 ~MdiArea() ~MdiArea ()

[MdiArea::~MdiArea.](#)

17.64.2 Member Function Documentation**17.64.2.1 cascade void cascade () [slot]**

[MdiArea::cascade.](#)

17.64.2.2 forceRepaint() void forceRepaint ()

[MdiArea::forceRepaint.](#)

17.64.2.3 mouseDoubleClickEvent() void mouseDoubleClickEvent (QMouseEvent * e) [protected], [virtual]

[MdiArea::mouseDoubleClickEvent.](#)

17.64.2.4 paintEvent() void paintEvent (QPaintEvent * e) [protected], [virtual]

[MdiArea::paintEvent.](#)

17.64.2.5 setBackgroundColor() void setBackgroundColor (const QColor & color)

[MdiArea::setBackgroundColor.](#)

Parameters

<i>color</i>	<input type="text"/>
--------------	----------------------

17.64.2.6 setBackgroundLogo() void setBackgroundLogo (const QString & *fileName*)

[MdiArea::setBackgroundLogo](#).

Parameters

<i>fileName</i>	<input type="text"/>
-----------------	----------------------

17.64.2.7 setBackgroundTexture() void setBackgroundTexture (const QString & *fileName*)

[MdiArea::setBackgroundTexture](#).

Parameters

<i>fileName</i>	<input type="text"/>
-----------------	----------------------

17.64.2.8 tile void tile () [slot]

[MdiArea::tile](#).

17.64.2.9 useBackgroundColor() void useBackgroundColor (bool *use*)

17.64.2.10 useBackgroundLogo() void useBackgroundLogo (bool *use*)

[MdiArea::useBackgroundLogo](#).

Parameters

<i>use</i>	<input type="text"/>
------------	----------------------

17.64.2.11 useBackgroundTexture() void useBackgroundTexture (bool use)

MdiArea::useBackgroundTexture.

Parameters

<i>use</i>	
------------	--

17.64.2.12 zoomExtentsAllSubWindows() void zoomExtentsAllSubWindows ()

MdiArea::zoomExtentsAllSubWindows.

17.64.3 Member Data Documentation

17.64.3.1 bgColor QColor bgColor

17.64.3.2 bgLogo QPixmap bgLogo

17.64.3.3 bgTexture QPixmap bgTexture

17.64.3.4 mainWin MainWindow* mainWin

17.64.3.5 useColor bool useColor

17.64.3.6 useLogo bool useLogo

17.64.3.7 useTexture bool useTexture

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

- embroidermodder2/[embroidermodder.h](#)
- embroidermodder2/[mdiarea.cpp](#)

17.65 MdiWindow Class Reference

```
#include <embroidermodder.h>
```

Public Slots

- void [closeEvent](#) (QCloseEvent *e)
MdiWindow::closeEvent.
- void [onWindowActivated](#) ()
MdiWindow::onWindowActivated.
- void [currentLayerChanged](#) (const QString &layer)
MdiWindow::currentLayerChanged.
- void [currentColorChanged](#) (const QRgb &color)
MdiWindow::currentColorChanged.
- void [currentLinetypeChanged](#) (const QString &type)
MdiWindow::currentLinetypeChanged.
- void [currentLinewidthChanged](#) (const QString &weight)
MdiWindow::currentLinewidthChanged.
- 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](#) ()
MdiWindow::print.
- void [saveBMC](#) ()
MdiWindow::saveBMC.
- void [promptHistoryAppended](#) (const QString &txt)
- void [logPromptInput](#) (const QString &txt)
- void [promptInputPrevious](#) ()
- void [promptInputNext](#) ()
MdiWindow::promptInputNext.

Signals

- void [sendCloseMdiWin](#) (MdiWindow *)

Public Member Functions

- `MdiWindow` (const int theIndex, `MainWindow` *mw, `QMdiArea` *parent, `Qt::WindowFlags` wflags)
- `~MdiWindow` ()
MdiWindow::~MdiWindow.
- virtual `QSize sizeHint` () const
MdiWindow::sizeHint.
- `QString getCurrentFile` ()
- `QString getShortCurrentFile` ()
MdiWindow::getShortCurrentFile.
- `View * getView` ()
- `QGraphicsScene * getScene` ()
- `QString getCurrentLayer` ()
- `QRgb getCurrentColor` ()
- `QString getCurrentLineType` ()
- `QString getCurrentLineWidth` ()
- void `setCurrentLayer` (const `QString` &layer)
- void `setCurrentColor` (const `QRgb` &color)
- void `setCurrentLineType` (const `QString` &lineType)
- void `setCurrentLineWidth` (const `QString` &lineWeight)
- void `designDetails` ()
- bool `loadFile` (const `QString` &fileName)
MdiWindow::loadFile.
- bool `saveFile` (const `QString` &fileName)
MdiWindow::saveFile.

Private Member Functions

- void `setCurrentFile` (const `QString` &fileName)
MdiWindow::setCurrentFile.
- `QString fileExtension` (const `QString` &fileName)
MdiWindow::fileExtension.
- void `promptInputPrevNext` (bool prev)
MdiWindow::promptInputPrevNext.

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 curLineWidth`

17.65.1 Constructor & Destructor Documentation

17.65.1.1 **MdiWindow()** [MdiWindow](#) (

```
    const int theIndex,
    MainWindow * mw,
    QMdiArea * parent,
    Qt::WindowFlags wflags )
```

17.65.1.2 **~MdiWindow()** [~MdiWindow](#) ()

[MdiWindow::~MdiWindow](#).

17.65.2 Member Function Documentation

17.65.2.1 **closeEvent** void [closeEvent](#) (

```
    QCLOSEEvent * e ) [slot]
```

[MdiWindow::closeEvent](#).

17.65.2.2 **currentColorChanged** void [currentColorChanged](#) (

```
    const QRgb & color ) [slot]
```

[MdiWindow::currentColorChanged](#).

Parameters

<i>color</i>	<input type="text"/>
--------------	----------------------

17.65.2.3 **currentLayerChanged** void [currentLayerChanged](#) (

```
    const QString & layer ) [slot]
```

[MdiWindow::currentLayerChanged](#).

Parameters

<i>layer</i>	<input type="text"/>
--------------	----------------------

17.65.2.4 currentLinetypeChanged void currentLinetypeChanged (const QString & *type*) [slot]

MdiWindow::currentLinetypeChanged.

Parameters

<i>type</i>	<input type="text"/>
-------------	----------------------

17.65.2.5 currentLinewidthChanged void currentLinewidthChanged (const QString & *weight*) [slot]

MdiWindow::currentLinewidthChanged.

Parameters

<i>weight</i>	<input type="text"/>
---------------	----------------------

17.65.2.6 deletePressed void deletePressed () [slot]

17.65.2.7 designDetails() void designDetails ()

17.65.2.8 escapePressed void escapePressed () [slot]

17.65.2.9 fileExtension() QString fileExtension (const QString & *fileName*) [private]

MdiWindow::fileExtension.

Parameters

<i>fileName</i>	<input type="text"/>
-----------------	----------------------

Returns

17.65.2.10 `getCurrentColor()` `QRgb getCurrentColor () [inline]`

17.65.2.11 `getCurrentFile()` `QString getCurrentFile () [inline]`

17.65.2.12 `getCurrentLayer()` `QString getCurrentLayer () [inline]`

17.65.2.13 `getCurrentLineType()` `QString getCurrentLineType () [inline]`

17.65.2.14 `getCurrentLineWeight()` `QString getCurrentLineWeight () [inline]`

17.65.2.15 `getScene()` `QGraphicsScene * getScene () [inline]`

17.65.2.16 `getShortCurrentFile()` `QString getShortCurrentFile ()`

[MdiWindow::getShortCurrentFile.](#)

Returns

17.65.2.17 `getView()` `View * getView () [inline]`

17.65.2.18 `loadFile()` `bool loadFile (const QString & fileName)`

[MdiWindow::loadFile.](#)

Parameters

fileName	<input type="text"/>
----------	----------------------

Returns

Todo reincorporate embPattern_moveStitchListToPolylines(p); //TODO: Test more

17.65.2.19 logPromptInput void logPromptInput (const QString & txt) [slot]

17.65.2.20 onWindowActivated void onWindowActivated () [slot]

[MdiWindow::onWindowActivated.](#)

17.65.2.21 print void print () [slot]

[MdiWindow::print.](#)

17.65.2.22 promptHistoryAppended void promptHistoryAppended (const QString & txt) [slot]

17.65.2.23 promptInputNext void promptInputNext () [slot]

[MdiWindow::promptInputNext.](#)

17.65.2.24 promptInputPrevious void promptInputPrevious () [slot]

17.65.2.25 promptInputPrevNext() void promptInputPrevNext (bool prev) [private]

[MdiWindow::promptInputPrevNext.](#)

Parameters

<i>prev</i>	<input type="text"/>
-------------	----------------------

17.65.2.26 saveBMC void saveBMC () [slot]

[MdiWindow::saveBMC](#).

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?

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)

17.65.2.27 saveFile() bool saveFile (const QString & *fileName*)

[MdiWindow::saveFile](#).

Parameters

<i>fileName</i>	<input type="text"/>
-----------------	----------------------

Returns**17.65.2.28 sendCloseMdiWin** void sendCloseMdiWin (MdiWindow *) [signal]**17.65.2.29 setCurrentColor()** void setCurrentColor (const QRgb & *color*) [inline]

```
17.65.2.30 setCurrentFile() void setCurrentFile (
```

```
    const QString & fileName ) [private]
```

MdiWindow::setCurrentFile.

Parameters

fileName	<input type="text"/>
----------	----------------------

17.65.2.31 `setCurrentLayer()` void setCurrentLayer (const QString & layer) [inline]

17.65.2.32 `setCurrentLineType()` void setCurrentLineType (const QString & lineType) [inline]

17.65.2.33 `setCurrentLineWeight()` void setCurrentLineWeight (const QString & lineWeight) [inline]

17.65.2.34 `setViewBackgroundColor` void setViewBackgroundColor (QRgb color) [slot]

17.65.2.35 `setViewCrossHairColor` void setViewCrossHairColor (QRgb color) [slot]

17.65.2.36 `setViewGridColor` void setViewGridColor (QRgb color) [slot]

17.65.2.37 `setViewRulerColor` void setViewRulerColor (QRgb color) [slot]

17.65.2.38 `setViewSelectBoxColors` void setViewSelectBoxColors (QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha) [slot]

17.65.2.39 showViewScrollBars void showViewScrollBars (bool val) [slot]

17.65.2.40 sizeHint() QSize sizeHint () const [virtual]

[MdiWindow::sizeHint](#).

Returns

17.65.2.41 updateColorLinetypeLinewidth void updateColorLinetypeLinewidth () [slot]

17.65.3 Member Data Documentation

17.65.3.1 curColor QRgb curColor [private]

17.65.3.2 curFile QString curFile [private]

17.65.3.3 curLayer QString curLayer [private]

17.65.3.4 curLineType QString curLineType [private]

17.65.3.5 curLineWeight QString curLineWeight [private]

17.65.3.6 fileWasLoaded bool fileWasLoaded [private]

17.65.3.7 gscene `QGraphicsScene* gscene [private]`

17.65.3.8 gview `View* gview [private]`

17.65.3.9 mainWin `MainWindow* mainWin [private]`

17.65.3.10 mdiArea `QMdiArea* mdiArea [private]`

17.65.3.11 myIndex `int myIndex [private]`

17.65.3.12 printer `QPrinter printer [private]`

17.65.3.13 promptHistory `QString promptHistory [private]`

17.65.3.14 promptInputList `QList<QString> promptInputList [private]`

17.65.3.15 promptInputNum `int promptInputNum [private]`

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

- `embroidermodder2/embroidermodder.h`
- `embroidermodder2/mdiwindow.cpp`

17.66 PathObject Class Reference

```
#include <embroidermodder.h>
```

Public Types

- enum { `Type` = `OBJ_TYPE_PATH` }

Public Types inherited from `BaseObject`

- enum { `Type` = `OBJ_TYPE_BASE` }

Public Member Functions

- `PathObject (EmbReal x, EmbReal y, const QPainterPath p, QRgb rgb, QGraphicsItem *parent=0)`
- `PathObject (PathObject *obj, QGraphicsItem *parent=0)`
- `~PathObject ()`
- virtual int `type () const`
- void `init (EmbReal x, EmbReal y, const QPainterPath &p, QRgb rgb, Qt::PenStyle lineType)`
- void `updatePath (const QPainterPath &p)`
- `QPainterPath objectCopyPath () const`
- `QPainterPath objectSavePath () const`
- `QPointF objectPos () const`
- `EmbReal objectX () const`
- `EmbReal objectY () const`
- void `setObjectPos (const QPointF &point)`
- void `setObjectPos (EmbReal x, EmbReal y)`
- void `setObjectX (EmbReal x)`
- void `setObjectY (EmbReal y)`
- void `updateRubber (Painter *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`
- `EmbReal objectLineWidth () const`
- `QPainterPath objectPath () const`
- int `objectRubberMode () const`
- `QPointF objectRubberPoint (const QString &key) const`
- `QString objectRubberText (const QString &key) const`
- `QPointF objectCenter () const`
- `EmbReal objectCenterX () const`
- `EmbReal objectCenterY () const`
- void `setObjectCenter (EmbVector center)`
- void `setObjectCenterX (EmbReal centerX)`

- void `setObjectCenterY` (`EmbReal` centerY)
- `QRectF rect` () const
- void `setRect` (const `QRectF` &r)
- void `setRect` (`EmbReal` x, `EmbReal` y, `EmbReal` w, `EmbReal` h)
- `QLineF line` () const
- void `setLine` (const `QLineF` &li)
- void `setLine` (`EmbReal` x1, `EmbReal` y1, `EmbReal` x2, `EmbReal` y2)
- void `setObjectColor` (const `QColor` &color)
- void `setObjectColorRGB` (`QRgb` rgb)
- void `setObjectLineType` (`Qt::PenStyle` lineType)
- void `setObjectLineWidth` (`EmbReal` 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

Public Attributes

- `QPainterPath normalPath`

Public Attributes inherited from `BaseObject`

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

Protected Member Functions

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

Protected Member Functions inherited from `BaseObject`

- `QPen lineWeightPen` () const
- void `realRender` (`QPainter` *painter, const `QPainterPath` &renderPath)

17.66.1 Member Enumeration Documentation

17.66.1.1 anonymous enum anonymous enum

Enumerator

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

17.66.2 Constructor & Destructor Documentation

17.66.2.1 PathObject() [1/2] `PathObject (`
 `EmbReal x,`
 `EmbReal y,`
 `const QPainterPath p,`
 `QRgb rgb,`
 `QGraphicsItem * parent = 0)`

17.66.2.2 PathObject() [2/2] `PathObject (`
 `PathObject * obj,`
 `QGraphicsItem * parent = 0)`

17.66.2.3 ~PathObject() `~PathObject ()`

17.66.3 Member Function Documentation

17.66.3.1 allGripPoints() `QList< QPointF > allGripPoints () [virtual]`

Implements [BaseObject](#).

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

Implements [BaseObject](#).

```
17.66.3.3 init() void init (
    EmbReal x,
    EmbReal y,
    const QPainterPath & p,
    QRgb rgb,
    Qt::PenStyle lineType )
```

```
17.66.3.4 mouseSnapPoint() QPointF mouseSnapPoint (
    const QPointF & mousePoint ) [virtual]
```

Implements [BaseObject](#).

```
17.66.3.5 objectCopyPath() QPainterPath objectCopyPath () const
```

```
17.66.3.6 objectPos() QPointF objectPos () const [inline]
```

```
17.66.3.7 objectSavePath() QPainterPath objectSavePath () const
```

```
17.66.3.8 objectX() EmbReal objectX () const [inline]
```

```
17.66.3.9 objectY() EmbReal objectY () const [inline]
```

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

```
17.66.3.11 setObjectPos() [1/2] void setObjectPos (
    const QPointF & point ) [inline]
```

17.66.3.12 setObjectPos() [2/2] void setObjectPos (

```
EmbReal x,  
EmbReal y ) [inline]
```

17.66.3.13 setObjectX() void setObjectX (

```
EmbReal x ) [inline]
```

17.66.3.14 setObjectY() void setObjectY (

```
EmbReal y ) [inline]
```

17.66.3.15 type() virtual int type () const [inline], [virtual]

Reimplemented from [BaseObject](#).

17.66.3.16 updatePath() void updatePath (

```
const QPainterPath & p )
```

17.66.3.17 updateRubber() void updateRubber (

```
QPainter * painter = 0 )
```

17.66.3.18 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

17.66.4 Member Data Documentation

17.66.4.1 normalPath QPainterPath normalPath

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

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

17.67 PointObject Class Reference

```
#include <embroidermodder.h>
```

Public Types

- enum { [Type](#) = OBJ_TYPE_POINT }

Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ_TYPE_BASE }

Public Member Functions

- [PointObject](#) ([EmbReal](#) x, [EmbReal](#) y, [QRgb](#) rgb, [QGraphicsItem](#) *parent=0)
- [PointObject](#) ([PointObject](#) *obj, [QGraphicsItem](#) *parent=0)
- [~PointObject](#) ()
- void [init](#) ([EmbReal](#) x, [EmbReal](#) y, [QRgb](#) rgb, [Qt::PenStyle](#) lineType)
- virtual int [type](#) () const
- [QPainterPath](#) [objectSavePath](#) () const
- [QPointF](#) [objectPos](#) () const
- [EmbReal](#) [objectX](#) () const
- [EmbReal](#) [objectY](#) () const
- void [setObjectPos](#) (const [QPointF](#) &point)
- void [setObjectPos](#) ([EmbReal](#) x, [EmbReal](#) y)
- void [setObjectX](#) ([EmbReal](#) x)
- void [setObjectY](#) ([EmbReal](#) y)
- void [updateRubber](#) ([Painter](#) *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
- [EmbReal](#) [objectLineWidth](#) () const
- [QPainterPath](#) [objectPath](#) () const
- int [objectRubberMode](#) () const
- [QPointF](#) [objectRubberPoint](#) (const [QString](#) &key) const
- [QString](#) [objectRubberText](#) (const [QString](#) &key) const
- [QPointF](#) [objectCenter](#) () const
- [EmbReal](#) [objectCenterX](#) () const

- `EmbReal objectCenterY () const`
- `void setObjectCenter (EmbVector center)`
- `void setObjectCenterX (EmbReal centerX)`
- `void setObjectCenterY (EmbReal centerY)`
- `QRectF rect () const`
- `void setRect (const QRectF &r)`
- `void setRect (EmbReal x, EmbReal y, EmbReal w, EmbReal h)`
- `QLineF line () const`
- `void setLine (const QLineF &li)`
- `void setLine (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `void setObjectColor (const QColor &color)`
- `void setObjectColorRGB (QRgb rgb)`
- `void setObjectLineType (Qt::PenStyle lineType)`
- `void setObjectLineWeight (EmbReal 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 lineWidthPen () const`
- `void realRender (QPainter *painter, const QPainterPath &renderPath)`

Additional Inherited Members

Public Attributes inherited from [BaseObject](#)

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

17.67.1 Member Enumeration Documentation

17.67.1.1 anonymous enum anonymous enum

Enumerator

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

17.67.2 Constructor & Destructor Documentation

17.67.2.1 PointObject() [1/2] [PointObject](#) (

```
    EmbReal x,  
    EmbReal y,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

17.67.2.2 PointObject() [2/2] [PointObject](#) (

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

17.67.2.3 ~PointObject() [~PointObject](#) ()

17.67.3 Member Function Documentation

17.67.3.1 allGripPoints() [QList< QPointF > allGripPoints \(\)](#) [virtual]

Implements [BaseObject](#).

17.67.3.2 gripEdit() [void gripEdit \(](#)
[const QPointF & before,](#)
[const QPointF & after \)](#) [virtual]

Implements [BaseObject](#).

17.67.3.3 init() [void init \(](#)
[EmbReal x,](#)
[EmbReal y,](#)
[QRgb rgb,](#)
[Qt::PenStyle lineType \)](#)

17.67.3.4 `mouseSnapPoint()` `QPointF mouseSnapPoint (`
 `const QPointF & mousePoint)` [virtual]

Implements [BaseObject](#).

17.67.3.5 `objectPos()` `QPointF objectPos () const` [inline]

17.67.3.6 `objectSavePath()` `QPainterPath objectSavePath () const`

17.67.3.7 `objectX()` `EmbReal objectX () const` [inline]

17.67.3.8 `objectY()` `EmbReal objectY () const` [inline]

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

17.67.3.10 `setObjectPos()` [1/2] `void setObjectPos (`
 `const QPointF & point)` [inline]

17.67.3.11 `setObjectPos()` [2/2] `void setObjectPos (`
 `EmbReal x,`
 `EmbReal y)` [inline]

17.67.3.12 `setObjectX()` `void setObjectX (`
 `EmbReal x)` [inline]

17.67.3.13 setObjectY() void setObjectY (EmbReal y) [inline]

17.67.3.14 type() virtual int type () const [inline], [virtual]

Reimplemented from [BaseObject](#).

17.67.3.15 updateRubber() void updateRubber (QPainter * painter = 0)

17.67.3.16 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

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

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

17.68 PolygonObject Class Reference

#include <embroidermodder.h>

Public Types

- enum { [Type](#) = OBJ_TYPE_POLYGON }

Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ_TYPE_BASE }

Public Member Functions

- `PolygonObject (EmbReal x, EmbReal y, const QPainterPath &p, QRgb rgb, QGraphicsItem *parent=0)`
- `PolygonObject (PolygonObject *obj, QGraphicsItem *parent=0)`
- `~PolygonObject ()`
- `virtual int type () const`
- `void init (EmbReal x, EmbReal y, const QPainterPath &p, QRgb rgb, Qt::PenStyle lineType)`
- `void updatePath (const QPainterPath &p)`
- `int findIndex (const QPointF &point)`
- `QPainterPath objectCopyPath () const`
- `QPainterPath objectSavePath () const`
- `QPointF objectPos () const`
- `EmbReal objectX () const`
- `EmbReal objectY () const`
- `void setObjectPos (const QPointF &point)`
- `void setObjectPos (EmbReal x, EmbReal y)`
- `void setObjectX (EmbReal x)`
- `void setObjectY (EmbReal 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`
- `EmbReal objectLineWidth () const`
- `QPainterPath objectPath () const`
- `int objectRubberMode () const`
- `QPointF objectRubberPoint (const QString &key) const`
- `QString objectRubberText (const QString &key) const`
- `QPointF objectCenter () const`
- `EmbReal objectCenterX () const`
- `EmbReal objectCenterY () const`
- `void setObjectCenter (EmbVector center)`
- `void setObjectCenterX (EmbReal centerX)`
- `void setObjectCenterY (EmbReal centerY)`
- `QRectF rect () const`
- `void setRect (const QRectF &r)`
- `void setRect (EmbReal x, EmbReal y, EmbReal w, EmbReal h)`
- `QLineF line () const`
- `void setLine (const QLineF &li)`
- `void setLine (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `void setObjectColor (const QColor &color)`
- `void setObjectColorRGB (QRgb rgb)`

- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (EmbReal 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

Public Attributes

- QPainterPath [normalPath](#)
- int [gripIndex](#)

Public Attributes inherited from [BaseObject](#)

- QPen [objPen](#)
- QPen [lwtPen](#)
- QLineF [objLine](#)
- int [objRubberMode](#)
- QHash< QString, QPointF > [objRubberPoints](#)
- QHash< QString, QString > [objRubberTexts](#)
- qint64 [objID](#)

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

- QPen [lineWeightPen](#) () const
- void [realRender](#) (QPainter *painter, const QPainterPath &renderPath)

17.68.1 Member Enumeration Documentation

17.68.1.1 anonymous enum anonymous enum

Enumerator

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

17.68.2 Constructor & Destructor Documentation

17.68.2.1 **PolygonObject()** [1/2] `PolygonObject (`

```
    EmbReal x,
    EmbReal y,
    const QPainterPath & p,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

17.68.2.2 **PolygonObject()** [2/2] `PolygonObject (`

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

17.68.2.3 `~PolygonObject()` `~PolygonObject ()`

17.68.3 Member Function Documentation

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

Implements [BaseObject](#).

17.68.3.2 **findIndex()** `int findIndex (` `const QPointF & point)`

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

Implements [BaseObject](#).

```
17.68.3.4 init() void init (
    EmbReal x,
    EmbReal y,
    const QPainterPath & p,
    QRgb rgb,
    Qt::PenStyle lineType )
```

```
17.68.3.5 mouseSnapPoint() QPointF mouseSnapPoint (
    const QPointF & mousePoint ) [virtual]
```

Implements [BaseObject](#).

```
17.68.3.6 objectCopyPath() QPainterPath objectCopyPath () const
```

```
17.68.3.7 objectPos() QPointF objectPos () const [inline]
```

```
17.68.3.8 objectSavePath() QPainterPath objectSavePath () const
```

```
17.68.3.9 objectX() EmbReal objectX () const [inline]
```

```
17.68.3.10 objectY() EmbReal objectY () const [inline]
```

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

```
17.68.3.12 setObjectPos() [1/2] void setObjectPos (
    const QPointF & point ) [inline]
```

17.68.3.13 `setObjectPos()` [2/2] void setObjectPos (EmbReal x, EmbReal y) [inline]

17.68.3.14 `setObjectX()` void setObjectX (EmbReal x) [inline]

17.68.3.15 `setObjectY()` void setObjectY (EmbReal y) [inline]

17.68.3.16 `type()` virtual int type () const [inline], [virtual]

Reimplemented from [BaseObject](#).

17.68.3.17 `updatePath()` void updatePath (const QPainterPath & p)

17.68.3.18 `updateRubber()` void updateRubber (QPainter * painter = 0)

17.68.3.19 `vulcanize()` void vulcanize () [virtual]

Implements [BaseObject](#).

17.68.4 Member Data Documentation

17.68.4.1 `gripIndex` int gripIndex

17.68.4.2 normalPath QPainterPath normalPath

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

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

17.69 PolylineObject Class Reference

```
#include <embroidermodder.h>
```

Public Types

- enum { [Type](#) = OBJ_TYPE_POLYLINE }

Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ_TYPE_BASE }

Public Member Functions

- [PolylineObject \(EmbReal x, EmbReal y, const QPainterPath &p, QRgb rgb, QGraphicsItem *parent=0\)](#)
- [PolylineObject \(PolylineObject *obj, QGraphicsItem *parent=0\)](#)
- [~PolylineObject \(\)](#)
- virtual int [type \(\) const](#)
- void [init \(EmbReal x, EmbReal y, const QPainterPath &p, QRgb rgb, Qt::PenStyle lineType\)](#)
- void [updatePath \(const QPainterPath &p\)](#)
- int [findIndex \(const QPointF &point\)](#)
- QPainterPath [objectCopyPath \(\) const](#)
- QPainterPath [objectSavePath \(\) const](#)
- QPointF [objectPos \(\) const](#)
- [EmbReal objectX \(\) const](#)
- [EmbReal objectY \(\) const](#)
- void [setObjectPos \(const QPointF &point\)](#)
- void [setObjectPos \(EmbReal x, EmbReal y\)](#)
- void [setObjectX \(EmbReal x\)](#)
- void [setObjectY \(EmbReal y\)](#)
- void [updateRubber \(Painter *painter=0\)](#)
- 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
- EmbReal `objectLineWidth` () const
- QPainterPath `objectPath` () const
- int `objectRubberMode` () const
- QPointF `objectRubberPoint` (const QString &key) const
- QString `objectRubberText` (const QString &key) const
- QPointF `objectCenter` () const
- EmbReal `objectCenterX` () const
- EmbReal `objectCenterY` () const
- void `setObjectCenter` (EmbVector center)
- void `setObjectCenterX` (EmbReal centerX)
- void `setObjectCenterY` (EmbReal centerY)
- QRectF `rect` () const
- void `setRect` (const QRectF &r)
- void `setRect` (EmbReal x, EmbReal y, EmbReal w, EmbReal h)
- QLineF `line` () const
- void `setLine` (const QLineF &li)
- void `setLine` (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)
- void `setObjectColor` (const QColor &color)
- void `setObjectColorRGB` (QRgb rgb)
- void `setObjectLineType` (Qt::PenStyle lineType)
- void `setObjectLineWidth` (EmbReal 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

Public Attributes

- QPainterPath `normalPath`
- int `gripIndex`

Public Attributes inherited from BaseObject

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

Protected Member Functions

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

Protected Member Functions inherited from BaseObject

- QPen `lineWeightPen () const`
- void `realRender` (QPainter *painter, const QPainterPath &renderPath)

17.69.1 Member Enumeration Documentation**17.69.1.1 anonymous enum** anonymous enum**Enumerator**

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

17.69.2 Constructor & Destructor Documentation**17.69.2.1 PolylineObject() [1/2]** `PolylineObject (`

```
    EmbReal x,
    EmbReal y,
    const QPainterPath & p,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

17.69.2.2 PolylineObject() [2/2] `PolylineObject (`

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

17.69.2.3 ~PolylineObject() ~[PolylineObject](#) ()

17.69.3 Member Function Documentation

17.69.3.1 allGripPoints() QList< [QPointF](#) > allGripPoints () [virtual]

Implements [BaseObject](#).

17.69.3.2 findIndex() int findIndex (const [QPointF](#) & point)

17.69.3.3 gripEdit() void gripEdit (const [QPointF](#) & before, const [QPointF](#) & after) [virtual]

Implements [BaseObject](#).

17.69.3.4 init() void init ([EmbReal](#) x, [EmbReal](#) y, const [QPainterPath](#) & p, [QRgb](#) rgb, [Qt::PenStyle](#) lineType)

17.69.3.5 mouseSnapPoint() [QPointF](#) mouseSnapPoint (const [QPointF](#) & mousePoint) [virtual]

Implements [BaseObject](#).

17.69.3.6 objectCopyPath() [QPainterPath](#) objectCopyPath () const

17.69.3.7 objectPos() [QPointF](#) objectPos () const [inline]

17.69.3.8 objectSavePath() QPainterPath objectSavePath () const

17.69.3.9 objectX() EmbReal objectX () const [inline]

17.69.3.10 objectY() EmbReal objectY () const [inline]

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

17.69.3.12 setObjectPos() [1/2] void setObjectPos (
 const QPointF & point) [inline]

17.69.3.13 setObjectPos() [2/2] void setObjectPos (
 EmbReal x,
 EmbReal y) [inline]

17.69.3.14 setObjectX() void setObjectX (
 EmbReal x) [inline]

17.69.3.15 setObjectY() void setObjectY (
 EmbReal y) [inline]

17.69.3.16 type() virtual int type () const [inline], [virtual]

Reimplemented from [BaseObject](#).

```
17.69.3.17 updatePath() void updatePath (
    const QPainterPath & p )
```

```
17.69.3.18 updateRubber() void updateRubber (
    QPainter * painter = 0 )
```

```
17.69.3.19 vulcanize() void vulcanize ( ) [virtual]
```

Implements [BaseObject](#).

17.69.4 Member Data Documentation

```
17.69.4.1 gripIndex int gripIndex
```

```
17.69.4.2 normalPath QPainterPath normalPath
```

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

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

17.70 PreviewDialog Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- [PreviewDialog](#) (QWidget *parent=0, const QString &caption=QString(), const QString &directory=QString(), const QString &filter=QString())
- [~PreviewDialog](#) ()

Public Attributes

- [ImageWidget](#) * imgWidget

17.70.1 Constructor & Destructor Documentation

```
17.70.1.1 PreviewDialog() PreviewDialog (   
     QWidget * parent = 0,  
     const QString & caption = QString(),  
     const QString & directory = QString(),  
     const QString & filter = QString() )
```

```
17.70.1.2 ~PreviewDialog() ~PreviewDialog ( )
```

17.70.2 Member Data Documentation

```
17.70.2.1 imgWidget ImageWidget* imgWidget
```

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

- [embroidermodder2/embroidermodder.h](#)
- [embroidermodder2/preview-dialog.cpp](#)

17.71 PropertyEditor Class Reference

```
#include <embroidermodder.h>
```

Public Slots

- void [setSelectedItems](#) (QList< QGraphicssItem * > itemList)
- void [updatePickAddModeButton](#) (bool pickAddMode)

Signals

- void [pickAddModeToggled](#) ()

Public Member Functions

- [PropertyEditor](#) (const QString &iconDirectory=QString(), bool pickAddMode=true, QWidget *widgetToFocus=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, `EmbReal` 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 * `createGroupBoxMiscImage` ()
- 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`

17.71.1 Constructor & Destructor Documentation

17.71.1.1 `PropertyEditor()` `PropertyEditor (`

```
    const QString & iconDirectory = QString(),
    bool pickAddMode = true,
    QWidget * widgetToFocus = 0,
    QWidget * parent = 0 )
```

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/>

17.71.1.2 `~PropertyEditor()` `~PropertyEditor ()`

17.71.2 Member Function Documentation

17.71.2.1 `clearAllFields` `void clearAllFields () [private], [slot]`

17.71.2.2 `createComboBox()` `QComboBox * createComboBox (`

```
    bool disable = false ) [private]
```

17.71.2.3 `createComboBoxSelected()` `QComboBox * createComboBoxSelected () [private]`

17.71.2.4 `createFontComboBox()` `QFontComboBox * createFontComboBox (`

```
    bool disable = false ) [private]
```

17.71.2.5 `createGroupBoxGeneral()` `QGroupBox * createGroupBoxGeneral () [private]`

17.71.2.6 `createGroupBoxGeometryArc()` `QGroupBox * createGroupBoxGeometryArc () [private]`

17.71.2.7 `createGroupBoxGeometryBlock()` `QGroupBox * createGroupBoxGeometryBlock () [private]`

17.71.2.8 `createGroupBoxGeometryCircle()` `QGroupBox * createGroupBoxGeometryCircle () [private]`

17.71.2.9 `createGroupBoxGeometryDimAligned()` `QGroupBox * createGroupBoxGeometryDimAligned ()`
[private]

17.71.2.10 `createGroupBoxGeometryDimAngular()` `QGroupBox * createGroupBoxGeometryDimAngular ()`
[private]

17.71.2.11 `createGroupBoxGeometryDimArcLength()` `QGroupBox * createGroupBoxGeometryDimArcLength ()`
[private]

17.71.2.12 `createGroupBoxGeometryDimDiameter()` `QGroupBox * createGroupBoxGeometryDimDiameter ()`
[private]

17.71.2.13 `createGroupBoxGeometryDimLeader()` `QGroupBox * createGroupBoxGeometryDimLeader ()`
[private]

17.71.2.14 `createGroupBoxGeometryDimLinear()` `QGroupBox * createGroupBoxGeometryDimLinear ()`
[private]

17.71.2.15 `createGroupBoxGeometryDimOrdinate()` `QGroupBox * createGroupBoxGeometryDimOrdinate ()`
[private]

17.71.2.16 `createGroupBoxGeometryDimRadius()` `QGroupBox * createGroupBoxGeometryDimRadius ()`
[private]

17.71.2.17 `createGroupBoxGeometryEllipse()` `QGroupBox * createGroupBoxGeometryEllipse ()` [private]

17.71.2.18 `createGroupBoxGeometryImage()` `QGroupBox * createGroupBoxGeometryImage ()` [private]

17.71.2.19 `createGroupBoxGeometryInfiniteLine()` `QGroupBox * createGroupBoxGeometryInfiniteLine ()`
[private]

17.71.2.20 `createGroupBoxGeometryLine()` `QGroupBox * createGroupBoxGeometryLine ()` [private]

17.71.2.21 `createGroupBoxGeometryPath()` `QGroupBox * createGroupBoxGeometryPath ()` [private]

17.71.2.22 `createGroupBoxGeometryPoint()` `QGroupBox * createGroupBoxGeometryPoint ()` [private]

17.71.2.23 `createGroupBoxGeometryPolygon()` `QGroupBox * createGroupBoxGeometryPolygon ()`
[private]

17.71.2.24 `createGroupBoxGeometryPolyline()` `QGroupBox * createGroupBoxGeometryPolyline ()`
[private]

17.71.2.25 `createGroupBoxGeometryRay()` `QGroupBox * createGroupBoxGeometryRay ()` [private]

17.71.2.26 `createGroupBoxGeometryRectangle()` `QGroupBox * createGroupBoxGeometryRectangle ()`
[private]

17.71.2.27 `createGroupBoxGeometryTextMulti()` `QGroupBox * createGroupBoxGeometryTextMulti ()`
[private]

17.71.2.28 `createGroupBoxGeometryTextSingle()` `QGroupBox * createGroupBoxGeometryTextSingle ()`
[private]

17.71.2.29 `createGroupBoxMiscArc()` `QGroupBox * createGroupBoxMiscArc ()` [private]

17.71.2.30 `createGroupBoxMiscImage()` `QGroupBox * createGroupBoxMiscImage ()` [private]

17.71.2.31 `createGroupBoxMiscPath()` `QGroupBox * createGroupBoxMiscPath ()` [private]

17.71.2.32 `createGroupBoxMiscPolyline()` `QGroupBox * createGroupBoxMiscPolyline ()` [private]

17.71.2.33 `createGroupBoxMiscTextSingle()` `QGroupBox * createGroupBoxMiscTextSingle ()` [private]

17.71.2.34 `createGroupBoxTextTextSingle()` `QGroupBox * createGroupBoxTextTextSingle ()` [private]

17.71.2.35 `createLineEdit()` `QLineEdit * createLineEdit (`
 `const QString & validatorType = QString(),`
 `bool readOnly = false)` [private]

17.71.2.36 `createToolButton()` `QToolButton * createToolButton (`
 `const QString & iconName,`
 `const QString & txt)` [private]

17.71.2.37 `createToolButtonPickAdd()` `QToolButton * createToolButtonPickAdd ()` [private]

17.71.2.38 `createToolButtonQSelect()` `QToolButton * createToolButtonQSelect ()` [private]

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

17.71.2.40 fieldEdited void fieldEdited (QObject * *fieldObj*) [private], [slot]

17.71.2.41 hideAllGroups void hideAllGroups () [private], [slot]

17.71.2.42 mapSignal() void mapSignal (QObject * *fieldObj*, const QString & *name*, QVariant *value*) [private]

17.71.2.43 pickAddModeToggled void pickAddModeToggled () [signal]

17.71.2.44 setSelectedItems void setSelectedItems (QList< QGraphicsItem * > *itemList*) [slot]

17.71.2.45 showGroups void showGroups (int *objType*) [private], [slot]

17.71.2.46 showOneType void showOneType (int *index*) [private], [slot]

17.71.2.47 togglePickAddMode void togglePickAddMode () [private], [slot]

17.71.2.48 updateComboBoxBoolIfVaries() void updateComboBoxBoolIfVaries (QComboBox * *comboBox*, bool *val*, bool *yesOrNoText*) [private]

17.71.2.49 updateComboBoxStrIfVaries() void updateComboBoxStrIfVaries (QComboBox * *comboBox*, const QString & *str*, const QStringList & *strList*) [private]

17.71.2.50 updateFontComboBoxStrIfVaries() void updateFontComboBoxStrIfVaries (QFontComboBox * *fontComboBox*, const QString & *str*) [private]

17.71.2.51 updateLineEditNumIfVaries() void updateLineEditNumIfVaries (QLineEdit * *lineEdit*, EmbReal *num*, bool *useAnglePrecision*) [private]

17.71.2.52 updateLineEditStrIfVaries() void updateLineEditStrIfVaries (QLineEdit * *lineEdit*, const QString & *str*) [private]

17.71.2.53 updatePickAddModeButton void updatePickAddModeButton (bool *pickAddMode*) [slot]

17.71.3 Member Data Documentation

17.71.3.1 comboBoxArcClockwise QComboBox* *comboBoxArcClockwise* [private]

17.71.3.2 comboBoxGeneralColor QComboBox* *comboBoxGeneralColor* [private]

17.71.3.3 comboBoxGeneralLayer QComboBox* *comboBoxGeneralLayer* [private]

17.71.3.4 comboBoxGeneralLineType QComboBox* *comboBoxGeneralLineType* [private]

17.71.3.5 comboBoxGeneralLineWidth QComboBox* *comboBoxGeneralLineWidth* [private]

17.71.3.6 comboBoxPathClosed QComboBox* *comboBoxPathClosed* [private]

17.71.3.7 comboBoxPathVertexNum QComboBox* *comboBoxPathVertexNum* [private]

17.71.3.8 comboBoxPolylineClosed QComboBox* *comboBoxPolylineClosed* [private]

17.71.3.9 comboBoxPolylineVertexNum QComboBox* *comboBoxPolylineVertexNum* [private]

17.71.3.10 comboBoxSelected QComboBox* *comboBoxSelected* [private]

17.71.3.11 comboBoxTextSingleBackward QComboBox* *comboBoxTextSingleBackward* [private]

17.71.3.12 comboBoxTextSingleFont QFontComboBox* *comboBoxTextSingleFont* [private]

17.71.3.13 comboBoxTextSingleJustify QComboBox* comboBoxTextSingleJustify [private]

17.71.3.14 comboBoxTextSingleUpsideDown QComboBox* comboBoxTextSingleUpsideDown [private]

17.71.3.15 fieldNewText QString fieldNewText [private]

17.71.3.16 fieldNoText QString fieldNoText [private]

17.71.3.17 fieldOffText QString fieldOffText [private]

17.71.3.18 fieldOldText QString fieldOldText [private]

17.71.3.19 fieldOnText QString fieldOnText [private]

17.71.3.20 fieldVariesText QString fieldVariesText [private]

17.71.3.21 fieldYesText QString fieldYesText [private]

17.71.3.22 focusWidget QWidget* focusWidget [private]

17.71.3.23 groupBoxGeneral QGroupBox* groupBoxGeneral [private]

17.71.3.24 groupBoxGeometryArc QGroupBox* groupBoxGeometryArc [private]

17.71.3.25 groupBoxGeometryBlock QGroupBox* groupBoxGeometryBlock [private]

17.71.3.26 groupBoxGeometryCircle QGroupBox* groupBoxGeometryCircle [private]

17.71.3.27 groupBoxGeometryDimAligned QGroupBox* groupBoxGeometryDimAligned [private]

17.71.3.28 groupBoxGeometryDimAngular QGroupBox* groupBoxGeometryDimAngular [private]

17.71.3.29 groupBoxGeometryDimArcLength QGroupBox* groupBoxGeometryDimArcLength [private]

17.71.3.30 groupBoxGeometryDimDiameter QGroupBox* groupBoxGeometryDimDiameter [private]

17.71.3.31 groupBoxGeometryDimLeader QGroupBox* groupBoxGeometryDimLeader [private]

17.71.3.32 groupBoxGeometryDimLinear QGroupBox* groupBoxGeometryDimLinear [private]

17.71.3.33 groupBoxGeometryDimOrdinate QGroupBox* groupBoxGeometryDimOrdinate [private]

17.71.3.34 groupBoxGeometryDimRadius QGroupBox* groupBoxGeometryDimRadius [private]

17.71.3.35 groupBoxGeometryEllipse QGroupBox* groupBoxGeometryEllipse [private]

17.71.3.36 groupBoxGeometryImage QGroupBox* groupBoxGeometryImage [private]

17.71.3.37 groupBoxGeometryInfiniteLine QGroupBox* groupBoxGeometryInfiniteLine [private]

17.71.3.38 groupBoxGeometryLine QGroupBox* groupBoxGeometryLine [private]

17.71.3.39 groupBoxGeometryPath QGroupBox* groupBoxGeometryPath [private]

17.71.3.40 groupBoxGeometryPoint QGroupBox* groupBoxGeometryPoint [private]

17.71.3.41 groupBoxGeometryPolygon QGroupBox* groupBoxGeometryPolygon [private]

17.71.3.42 groupBoxGeometryPolyline QGroupBox* groupBoxGeometryPolyline [private]

17.71.3.43 groupBoxGeometryRay QGroupBox* groupBoxGeometryRay [private]

17.71.3.44 groupBoxGeometryRectangle QGroupBox* groupBoxGeometryRectangle [private]

17.71.3.45 groupBoxGeometryTextMulti QGroupBox* groupBoxGeometryTextMulti [private]

17.71.3.46 groupBoxGeometryTextSingle QGroupBox* groupBoxGeometryTextSingle [private]

17.71.3.47 groupBoxMiscArc QGroupBox* groupBoxMiscArc [private]

17.71.3.48 groupBoxMiscImage QGroupBox* groupBoxMiscImage [private]

17.71.3.49 groupBoxMiscPath QGroupBox* groupBoxMiscPath [private]

17.71.3.50 groupBoxMiscPolyline QGroupBox* groupBoxMiscPolyline [private]

17.71.3.51 groupBoxMiscTextSingle QGroupBox* groupBoxMiscTextSingle [private]

17.71.3.52 groupBoxTextTextSingle QGroupBox* groupBoxTextTextSingle [private]

17.71.3.53 iconDir QString iconDir [private]

17.71.3.54 iconSize int iconSize [private]

17.71.3.55 lineEditArcArea QLineEdit* lineEditArcArea [private]

17.71.3.56 lineEditArcCenterX QLineEdit* lineEditArcCenterX [private]

17.71.3.57 lineEditArcCenterY QLineEdit* lineEditArcCenterY [private]

17.71.3.58 lineEditArcChord QLineEdit* lineEditArcChord [private]

17.71.3.59 lineEditArcEndAngle QLineEdit* lineEditArcEndAngle [private]

17.71.3.60 lineEditArcEndX QLineEdit* lineEditArcEndX [private]

17.71.3.61 lineEditArcEndY QLineEdit* lineEditArcEndY [private]

17.71.3.62 lineEditArcIncAngle QLineEdit* lineEditArcIncAngle [private]

17.71.3.63 lineEditArcLength QLineEdit* lineEditArcLength [private]

17.71.3.64 lineEditArcRadius QLineEdit* lineEditArcRadius [private]

17.71.3.65 lineEditArcStartAngle QLineEdit* lineEditArcStartAngle [private]

17.71.3.66 lineEditArcStartX QLineEdit* lineEditArcStartX [private]

17.71.3.67 `lineEditArcStartY` `QLineEdit* lineEditArcStartY` [private]

17.71.3.68 `lineEditBlockX` `QLineEdit* lineEditBlockX` [private]

17.71.3.69 `lineEditBlockY` `QLineEdit* lineEditBlockY` [private]

17.71.3.70 `lineEditCircleArea` `QLineEdit* lineEditCircleArea` [private]

17.71.3.71 `lineEditCircleCenterX` `QLineEdit* lineEditCircleCenterX` [private]

17.71.3.72 `lineEditCircleCenterY` `QLineEdit* lineEditCircleCenterY` [private]

17.71.3.73 `lineEditCircleCircumference` `QLineEdit* lineEditCircleCircumference` [private]

17.71.3.74 `lineEditCircleDiameter` `QLineEdit* lineEditCircleDiameter` [private]

17.71.3.75 `lineEditCircleRadius` `QLineEdit* lineEditCircleRadius` [private]

17.71.3.76 `lineEditEllipseCenterX` `QLineEdit* lineEditEllipseCenterX` [private]

17.71.3.77 `lineEditEllipseCenterY` `QLineEdit* lineEditEllipseCenterY` [private]

17.71.3.78 `lineEditEllipseDiameterMajor` `QLineEdit* lineEditEllipseDiameterMajor` [private]

17.71.3.79 `lineEditEllipseDiameterMinor` `QLineEdit* lineEditEllipseDiameterMinor` [private]

17.71.3.80 `lineEditEllipseRadiusMajor` `QLineEdit* lineEditEllipseRadiusMajor` [private]

17.71.3.81 `lineEditEllipseRadiusMinor` `QLineEdit* lineEditEllipseRadiusMinor` [private]

17.71.3.82 `lineEditImageHeight` `QLineEdit* lineEditImageHeight` [private]

17.71.3.83 `lineEditImageName` `QLineEdit* lineEditImageName` [private]

17.71.3.84 `lineEditImagePath` `QLineEdit* lineEditImagePath` [private]

17.71.3.85 `lineEditImageWidth` `QLineEdit* lineEditImageWidth [private]`

17.71.3.86 `lineEditImageX` `QLineEdit* lineEditImageX [private]`

17.71.3.87 `lineEditImageY` `QLineEdit* lineEditImageY [private]`

17.71.3.88 `lineEditInfiniteLineVectorX` `QLineEdit* lineEditInfiniteLineVectorX [private]`

17.71.3.89 `lineEditInfiniteLineVectorY` `QLineEdit* lineEditInfiniteLineVectorY [private]`

17.71.3.90 `lineEditInfiniteLineX1` `QLineEdit* lineEditInfiniteLineX1 [private]`

17.71.3.91 `lineEditInfiniteLineX2` `QLineEdit* lineEditInfiniteLineX2 [private]`

17.71.3.92 `lineEditInfiniteLineY1` `QLineEdit* lineEditInfiniteLineY1 [private]`

17.71.3.93 `lineEditInfiniteLineY2` `QLineEdit* lineEditInfiniteLineY2 [private]`

17.71.3.94 `lineEditLineAngle` `QLineEdit* lineEditLineAngle [private]`

17.71.3.95 `lineEditLineDeltaX` `QLineEdit* lineEditLineDeltaX [private]`

17.71.3.96 `lineEditLineDeltaY` `QLineEdit* lineEditLineDeltaY [private]`

17.71.3.97 `lineEditLineEndX` `QLineEdit* lineEditLineEndX [private]`

17.71.3.98 `lineEditLineEndY` `QLineEdit* lineEditLineEndY [private]`

17.71.3.99 `lineEditLineLength` `QLineEdit* lineEditLineLength [private]`

17.71.3.100 `lineEditLineStartX` `QLineEdit* lineEditLineStartX [private]`

17.71.3.101 `lineEditLineStartY` `QLineEdit* lineEditLineStartY [private]`

17.71.3.102 `lineEditPathArea` `QLineEdit* lineEditPathArea [private]`

17.71.3.103 `lineEditPathLength` `QLineEdit* lineEditPathLength` [private]

17.71.3.104 `lineEditPathVertexX` `QLineEdit* lineEditPathVertexX` [private]

17.71.3.105 `lineEditPathVertexY` `QLineEdit* lineEditPathVertexY` [private]

17.71.3.106 `lineEditPointX` `QLineEdit* lineEditPointX` [private]

17.71.3.107 `lineEditPointY` `QLineEdit* lineEditPointY` [private]

17.71.3.108 `lineEditPolygonCenterX` `QLineEdit* lineEditPolygonCenterX` [private]

17.71.3.109 `lineEditPolygonCenterY` `QLineEdit* lineEditPolygonCenterY` [private]

17.71.3.110 `lineEditPolygonDiameterSide` `QLineEdit* lineEditPolygonDiameterSide` [private]

17.71.3.111 `lineEditPolygonDiameterVertex` `QLineEdit* lineEditPolygonDiameterVertex` [private]

17.71.3.112 `lineEditPolygonInteriorAngle` `QLineEdit* lineEditPolygonInteriorAngle` [private]

17.71.3.113 `lineEditPolygonRadiusSide` `QLineEdit* lineEditPolygonRadiusSide` [private]

17.71.3.114 `lineEditPolygonRadiusVertex` `QLineEdit* lineEditPolygonRadiusVertex` [private]

17.71.3.115 `lineEditPolylineArea` `QLineEdit* lineEditPolylineArea` [private]

17.71.3.116 `lineEditPolylineLength` `QLineEdit* lineEditPolylineLength` [private]

17.71.3.117 `lineEditPolylineVertexX` `QLineEdit* lineEditPolylineVertexX` [private]

17.71.3.118 `lineEditPolylineVertexY` `QLineEdit* lineEditPolylineVertexY` [private]

17.71.3.119 `lineEditRayVectorX` `QLineEdit* lineEditRayVectorX` [private]

17.71.3.120 `lineEditRayVectorY` `QLineEdit* lineEditRayVectorY` [private]

17.71.3.121 `lineEditRayX1` QLineEdit* lineEditRayX1 [private]

17.71.3.122 `lineEditRayX2` QLineEdit* lineEditRayX2 [private]

17.71.3.123 `lineEditRayY1` QLineEdit* lineEditRayY1 [private]

17.71.3.124 `lineEditRayY2` QLineEdit* lineEditRayY2 [private]

17.71.3.125 `lineEditRectangleArea` QLineEdit* lineEditRectangleArea [private]

17.71.3.126 `lineEditRectangleCorner1X` QLineEdit* lineEditRectangleCorner1X [private]

17.71.3.127 `lineEditRectangleCorner1Y` QLineEdit* lineEditRectangleCorner1Y [private]

17.71.3.128 `lineEditRectangleCorner2X` QLineEdit* lineEditRectangleCorner2X [private]

17.71.3.129 `lineEditRectangleCorner2Y` QLineEdit* lineEditRectangleCorner2Y [private]

17.71.3.130 `lineEditRectangleCorner3X` QLineEdit* lineEditRectangleCorner3X [private]

17.71.3.131 `lineEditRectangleCorner3Y` QLineEdit* lineEditRectangleCorner3Y [private]

17.71.3.132 `lineEditRectangleCorner4X` QLineEdit* lineEditRectangleCorner4X [private]

17.71.3.133 `lineEditRectangleCorner4Y` QLineEdit* lineEditRectangleCorner4Y [private]

17.71.3.134 `lineEditRectangleHeight` QLineEdit* lineEditRectangleHeight [private]

17.71.3.135 `lineEditRectangleWidth` QLineEdit* lineEditRectangleWidth [private]

17.71.3.136 `lineEditTextMultiX` QLineEdit* lineEditTextMultiX [private]

17.71.3.137 `lineEditTextMultiY` QLineEdit* lineEditTextMultiY [private]

17.71.3.138 `lineEditTextSingleContents` QLineEdit* lineEditTextSingleContents [private]

17.71.3.139 **lineEditTextSingleHeight** QLineEdit* lineEditTextSingleHeight [private]

17.71.3.140 **lineEditTextSingleRotation** QLineEdit* lineEditTextSingleRotation [private]

17.71.3.141 **lineEditTextSingleX** QLineEdit* lineEditTextSingleX [private]

17.71.3.142 **lineEditTextSingleY** QLineEdit* lineEditTextSingleY [private]

17.71.3.143 **pickAdd** bool pickAdd [private]

17.71.3.144 **precisionAngle** int precisionAngle [private]

17.71.3.145 **precisionLength** int precisionLength [private]

17.71.3.146 **propertyEditorButtonStyle** Qt::ToolButtonStyle propertyEditorButtonStyle [private]

17.71.3.147 **selectedItemList** QList<QGraphicsItem*> selectedItemList [private]

17.71.3.148 **signalMapper** QSignalMapper* signalMapper [private]

17.71.3.149 **tempArcObj** ArcObject* tempArcObj [private]

17.71.3.150 **tempBlockObj** BlockObject* tempBlockObj [private]

17.71.3.151 **tempCircleObj** CircleObject* tempCircleObj [private]

17.71.3.152 **tempDimAlignedObj** DimAlignedObject* tempDimAlignedObj [private]

17.71.3.153 **tempDimAngularObj** DimAngularObject* tempDimAngularObj [private]

17.71.3.154 **tempDimArcLenObj** DimArcLengthObject* tempDimArcLenObj [private]

17.71.3.155 **tempDimDiamObj** DimDiameterObject* tempDimDiamObj [private]

17.71.3.156 **tempDimLeaderObj** DimLeaderObject* tempDimLeaderObj [private]

17.71.3.157 tempDimLinearObj DimLinearObject* tempDimLinearObj [private]

17.71.3.158 tempDimOrdObj DimOrdinateObject* tempDimOrdObj [private]

17.71.3.159 tempDimRadiusObj DimRadiusObject* tempDimRadiusObj [private]

17.71.3.160 tempEllipseArcObj EllipseArcObject* tempEllipseArcObj [private]

17.71.3.161 tempEllipseObj EllipseObject* tempEllipseObj [private]

17.71.3.162 tempHatchObj HatchObject* tempHatchObj [private]

17.71.3.163 tempImageObj ImageObject* tempImageObj [private]

17.71.3.164 tempInfLineObj InfiniteLineObject* tempInfLineObj [private]

17.71.3.165 tempLineObj LineObject* tempLineObj [private]

17.71.3.166 tempPathObj PathObject* tempPathObj [private]

17.71.3.167 tempPointObj PointObject* tempPointObj [private]

17.71.3.168 tempPolygonObj PolygonObject* tempPolygonObj [private]

17.71.3.169 tempPolylineObj PolylineObject* tempPolylineObj [private]

17.71.3.170 tempRayObj RayObject* tempRayObj [private]

17.71.3.171 tempRectObj RectObject* tempRectObj [private]

17.71.3.172 tempSplineObj SplineObject* tempSplineObj [private]

17.71.3.173 tempTextMultiObj TextMultiObject* tempTextMultiObj [private]

17.71.3.174 tempTextSingleObj TextSingleObject* tempTextSingleObj [private]

17.71.3.175 `toolButtonArcArea` QToolButton* `toolButtonArcArea` [private]

17.71.3.176 `toolButtonArcCenterX` QToolButton* `toolButtonArcCenterX` [private]

17.71.3.177 `toolButtonArcCenterY` QToolButton* `toolButtonArcCenterY` [private]

17.71.3.178 `toolButtonArcChord` QToolButton* `toolButtonArcChord` [private]

17.71.3.179 `toolButtonArcClockwise` QToolButton* `toolButtonArcClockwise` [private]

17.71.3.180 `toolButtonArcEndAngle` QToolButton* `toolButtonArcEndAngle` [private]

17.71.3.181 `toolButtonArcEndX` QToolButton* `toolButtonArcEndX` [private]

17.71.3.182 `toolButtonArcEndY` QToolButton* `toolButtonArcEndY` [private]

17.71.3.183 `toolButtonArcIncAngle` QToolButton* `toolButtonArcIncAngle` [private]

17.71.3.184 `toolButtonArcLength` QToolButton* `toolButtonArcLength` [private]

17.71.3.185 `toolButtonArcRadius` QToolButton* `toolButtonArcRadius` [private]

17.71.3.186 `toolButtonArcStartAngle` QToolButton* `toolButtonArcStartAngle` [private]

17.71.3.187 `toolButtonArcStartX` QToolButton* `toolButtonArcStartX` [private]

17.71.3.188 `toolButtonArcStartY` QToolButton* `toolButtonArcStartY` [private]

17.71.3.189 `toolButtonBlockX` QToolButton* `toolButtonBlockX` [private]

17.71.3.190 `toolButtonBlockY` QToolButton* `toolButtonBlockY` [private]

17.71.3.191 `toolButtonCircleArea` QToolButton* `toolButtonCircleArea` [private]

17.71.3.192 `toolButtonCircleCenterX` QToolButton* `toolButtonCircleCenterX` [private]

17.71.3.193 toolButtonCircleCenterY QToolButton* toolButtonCircleCenterY [private]

17.71.3.194 toolButtonCircleCircumference QToolButton* toolButtonCircleCircumference [private]

17.71.3.195 toolButtonCircleDiameter QToolButton* toolButtonCircleDiameter [private]

17.71.3.196 toolButtonCircleRadius QToolButton* toolButtonCircleRadius [private]

17.71.3.197 toolButtonEllipseCenterX QToolButton* toolButtonEllipseCenterX [private]

17.71.3.198 toolButtonEllipseCenterY QToolButton* toolButtonEllipseCenterY [private]

17.71.3.199 toolButtonEllipseDiameterMajor QToolButton* toolButtonEllipseDiameterMajor [private]

17.71.3.200 toolButtonEllipseDiameterMinor QToolButton* toolButtonEllipseDiameterMinor [private]

17.71.3.201 toolButtonEllipseRadiusMajor QToolButton* toolButtonEllipseRadiusMajor [private]

17.71.3.202 toolButtonEllipseRadiusMinor QToolButton* toolButtonEllipseRadiusMinor [private]

17.71.3.203 toolButtonGeneralColor QToolButton* toolButtonGeneralColor [private]

17.71.3.204 toolButtonGeneralLayer QToolButton* toolButtonGeneralLayer [private]

17.71.3.205 toolButtonGeneralLineType QToolButton* toolButtonGeneralLineType [private]

17.71.3.206 toolButtonGeneralLineWidth QToolButton* toolButtonGeneralLineWidth [private]

17.71.3.207 toolButtonImageHeight QToolButton* toolButtonImageHeight [private]

17.71.3.208 toolButtonImageName QToolButton* toolButtonImageName [private]

17.71.3.209 toolButtonImagePath QToolButton* toolButtonImagePath [private]

17.71.3.210 toolButtonImageWidth QToolButton* toolButtonImageWidth [private]

17.71.3.211 toolButtonImageX QToolButton* toolButtonImageX [private]

17.71.3.212 toolButtonImageY QToolButton* toolButtonImageY [private]

17.71.3.213 toolButtonInfiniteLineVectorX QToolButton* toolButtonInfiniteLineVectorX [private]

17.71.3.214 toolButtonInfiniteLineVectorY QToolButton* toolButtonInfiniteLineVectorY [private]

17.71.3.215 toolButtonInfiniteLineX1 QToolButton* toolButtonInfiniteLineX1 [private]

17.71.3.216 toolButtonInfiniteLineX2 QToolButton* toolButtonInfiniteLineX2 [private]

17.71.3.217 toolButtonInfiniteLineY1 QToolButton* toolButtonInfiniteLineY1 [private]

17.71.3.218 toolButtonInfiniteLineY2 QToolButton* toolButtonInfiniteLineY2 [private]

17.71.3.219 toolButtonLineAngle QToolButton* toolButtonLineAngle [private]

17.71.3.220 toolButtonLineDeltaX QToolButton* toolButtonLineDeltaX [private]

17.71.3.221 toolButtonLineDeltaY QToolButton* toolButtonLineDeltaY [private]

17.71.3.222 toolButtonLineEndX QToolButton* toolButtonLineEndX [private]

17.71.3.223 toolButtonLineEndY QToolButton* toolButtonLineEndY [private]

17.71.3.224 toolButtonLineLength QToolButton* toolButtonLineLength [private]

17.71.3.225 toolButtonLineStartX QToolButton* toolButtonLineStartX [private]

17.71.3.226 toolButtonLineStartY QToolButton* toolButtonLineStartY [private]

17.71.3.227 toolButtonPathArea QToolButton* toolButtonPathArea [private]

17.71.3.228 toolButtonPathClosed QToolButton* toolButtonPathClosed [private]

17.71.3.229 toolButtonPathLength QToolButton* toolButtonPathLength [private]

17.71.3.230 toolButtonPathVertexNum QToolButton* toolButtonPathVertexNum [private]

17.71.3.231 toolButtonPathVertexX QToolButton* toolButtonPathVertexX [private]

17.71.3.232 toolButtonPathVertexY QToolButton* toolButtonPathVertexY [private]

17.71.3.233 toolButtonPickAdd QToolButton* toolButtonPickAdd [private]

17.71.3.234 toolButtonPointX QToolButton* toolButtonPointX [private]

17.71.3.235 toolButtonPointY QToolButton* toolButtonPointY [private]

17.71.3.236 toolButtonPolygonCenterX QToolButton* toolButtonPolygonCenterX [private]

17.71.3.237 toolButtonPolygonCenterY QToolButton* toolButtonPolygonCenterY [private]

17.71.3.238 toolButtonPolygonDiameterSide QToolButton* toolButtonPolygonDiameterSide [private]

17.71.3.239 toolButtonPolygonDiameterVertex QToolButton* toolButtonPolygonDiameterVertex [private]

17.71.3.240 toolButtonPolygonInteriorAngle QToolButton* toolButtonPolygonInteriorAngle [private]

17.71.3.241 toolButtonPolygonRadiusSide QToolButton* toolButtonPolygonRadiusSide [private]

17.71.3.242 toolButtonPolygonRadiusVertex QToolButton* toolButtonPolygonRadiusVertex [private]

17.71.3.243 toolButtonPolylineArea QToolButton* toolButtonPolylineArea [private]

17.71.3.244 toolButtonPolylineClosed QToolButton* toolButtonPolylineClosed [private]

17.71.3.245 toolButtonPolylineLength QToolButton* toolButtonPolylineLength [private]

17.71.3.246 toolButtonPolylineVertexNum QToolButton* toolButtonPolylineVertexNum [private]

17.71.3.247 toolButtonPolylineVertexX QToolButton* toolButtonPolylineVertexX [private]

17.71.3.248 toolButtonPolylineVertexY QToolButton* toolButtonPolylineVertexY [private]

17.71.3.249 toolButtonQSelect QToolButton* toolButtonQSelect [private]

17.71.3.250 toolButtonRayVectorX QToolButton* toolButtonRayVectorX [private]

17.71.3.251 toolButtonRayVectorY QToolButton* toolButtonRayVectorY [private]

17.71.3.252 toolButtonRayX1 QToolButton* toolButtonRayX1 [private]

17.71.3.253 toolButtonRayX2 QToolButton* toolButtonRayX2 [private]

17.71.3.254 toolButtonRayY1 QToolButton* toolButtonRayY1 [private]

17.71.3.255 toolButtonRayY2 QToolButton* toolButtonRayY2 [private]

17.71.3.256 toolButtonRectangleArea QToolButton* toolButtonRectangleArea [private]

17.71.3.257 toolButtonRectangleCorner1X QToolButton* toolButtonRectangleCorner1X [private]

17.71.3.258 toolButtonRectangleCorner1Y QToolButton* toolButtonRectangleCorner1Y [private]

17.71.3.259 toolButtonRectangleCorner2X QToolButton* toolButtonRectangleCorner2X [private]

17.71.3.260 toolButtonRectangleCorner2Y QToolButton* toolButtonRectangleCorner2Y [private]

17.71.3.261 toolButtonRectangleCorner3X QToolButton* toolButtonRectangleCorner3X [private]

17.71.3.262 toolButtonRectangleCorner3Y QToolButton* toolButtonRectangleCorner3Y [private]

17.71.3.263 toolButtonRectangleCorner4X QToolButton* toolButtonRectangleCorner4X [private]

17.71.3.264 toolButtonRectangleCorner4Y QToolButton* toolButtonRectangleCorner4Y [private]

17.71.3.265 toolButtonRectangleHeight QToolButton* toolButtonRectangleHeight [private]

17.71.3.266 toolButtonRectangleWidth QToolButton* toolButtonRectangleWidth [private]

17.71.3.267 toolButtonTextMultiX QToolButton* toolButtonTextMultiX [private]

17.71.3.268 toolButtonTextMultiY QToolButton* toolButtonTextMultiY [private]

17.71.3.269 toolButtonTextSingleBackward QToolButton* toolButtonTextSingleBackward [private]

17.71.3.270 toolButtonTextSingleContents QToolButton* toolButtonTextSingleContents [private]

17.71.3.271 toolButtonTextSingleFont QToolButton* toolButtonTextSingleFont [private]

17.71.3.272 toolButtonTextSingleHeight QToolButton* toolButtonTextSingleHeight [private]

17.71.3.273 toolButtonTextSingleJustify QToolButton* toolButtonTextSingleJustify [private]

17.71.3.274 toolButtonTextSingleRotation QToolButton* toolButtonTextSingleRotation [private]

17.71.3.275 toolButtonTextSingleUpsideDown QToolButton* toolButtonTextSingleUpsideDown [private]

17.71.3.276 toolButtonTextSingleX QToolButton* toolButtonTextSingleX [private]

17.71.3.277 toolButtonTextSingleY QToolButton* toolButtonTextSingleY [private]

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

- [embroidermodder2/embroidermodder.h](#)
- [embroidermodder2/property-editor.cpp](#)

17.72 RectObject Class Reference

```
#include <embroidermodder.h>
```

Public Types

- enum { [Type](#) = OBJ_TYPE_RECTANGLE }

Public Types inherited from [BaseObject](#)

- enum { [Type](#) = OBJ_TYPE_BASE }

Public Member Functions

- `RectObject (EmbReal x, EmbReal y, EmbReal w, EmbReal h, QRgb rgb, QGraphicsItem *parent=0)`
- `RectObject (RectObject *obj, QGraphicsItem *parent=0)`
- `~RectObject ()`
RectObject destructor.
- `virtual int type () const`
- `QPainterPath objectSavePath () const`
- `void init (EmbReal x, EmbReal y, EmbReal w, EmbReal h, QRgb rgb, Qt::PenStyle lineType)`
- `void updatePath ()`
- `QPointF objectPos () const`
- `QPointF objectTopLeft () const`
- `QPointF objectTopRight () const`
- `QPointF objectBottomLeft () const`
- `QPointF objectBottomRight () const`
- `EmbReal objectWidth () const`
- `EmbReal objectHeight () const`
- `EmbReal objectArea () const`
- `void setObjectRect (EmbReal x, EmbReal y, EmbReal w, EmbReal 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`
- `EmbReal objectLineWidth () const`
- `QPainterPath objectPath () const`
- `int objectRubberMode () const`
- `QPointF objectRubberPoint (const QString &key) const`
- `QString objectRubberText (const QString &key) const`
- `QPointF objectCenter () const`
- `EmbReal objectCenterX () const`
- `EmbReal objectCenterY () const`
- `void setObjectCenter (EmbVector center)`
- `void setObjectCenterX (EmbReal centerX)`
- `void setObjectCenterY (EmbReal centerY)`
- `QRectF rect () const`
- `void setRect (const QRectF &r)`
- `void setRect (EmbReal x, EmbReal y, EmbReal w, EmbReal h)`
- `QLineF line () const`
- `void setLine (const QLineF &li)`
- `void setLine (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `void setObjectColor (const QColor &color)`
- `void setObjectColorRGB (QRgb rgb)`
- `void setObjectLineType (Qt::PenStyle lineType)`

- void `setObjectLineWeight` (`EmbReal` `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
- void `realRender` (`QPainter *painter, const QPainterPath &renderPath`)

Additional Inherited Members

Public Attributes inherited from `BaseObject`

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

17.72.1 Member Enumeration Documentation

17.72.1.1 anonymous enum anonymous enum

Enumerator

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

17.72.2 Constructor & Destructor Documentation

17.72.2.1 `RectObject()` [1/2] `RectObject (`

```
    EmbReal x,
    EmbReal y,
    EmbReal w,
    EmbReal h,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

17.72.2.2 RectObject() [2/2] `RectObject (`
 `RectObject * obj,`
 `QGraphicsItem * parent = 0)`

17.72.2.3 ~RectObject() `~RectObject ()`
`RectObject` destructor.

17.72.3 Member Function Documentation

17.72.3.1 allGripPoints() `QList< QPointF > allGripPoints () [virtual]`

Returns

A list of all grip points for the object.

Todo make return value a `std::vector<std::string>`

Implements `BaseObject`.

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

Implements `BaseObject`.

17.72.3.3 init() `void init (`
 `EmbReal x,`
 `EmbReal y,`
 `EmbReal w,`
 `EmbReal h,`
 `QRgb rgb,`
 `Qt::PenStyle lineType)`

17.72.3.4 mouseSnapPoint() `QPointF mouseSnapPoint (`
 `const QPointF & mousePoint) [virtual]`

Returns

The closest snap point to the mouse point.

Implements `BaseObject`.

17.72.3.5 objectArea() `EmbReal objectArea () const [inline]`

17.72.3.6 objectBottomLeft() `QPointF objectBottomLeft () const`

17.72.3.7 objectBottomRight() `QPointF objectBottomRight () const`

17.72.3.8 objectHeight() `EmbReal objectHeight () const [inline]`

17.72.3.9 objectPos() QPointF objectPos () const [inline]

17.72.3.10 objectSavePath() QPainterPath objectSavePath () const

17.72.3.11 objectTopLeft() QPointF objectTopLeft () const

Returns

The top left corner location as a QPointF.

17.72.3.12 objectTopRight() QPointF objectTopRight () const

17.72.3.13 objectWidth() EmbReal objectWidth () const [inline]

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

17.72.3.15 setObjectRect() void setObjectRect (
 EmbReal x,
 EmbReal y,
 EmbReal w,
 EmbReal h)

17.72.3.16 type() virtual int type () const [inline], [virtual]
Reimplemented from [BaseObject](#).

17.72.3.17 updatePath() void updatePath ()

17.72.3.18 updateRubber() void updateRubber (
 QPainter * painter = 0)

17.72.3.19 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

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

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

17.73 SaveObject Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- `SaveObject` (QGraphicsScene *theScene, QObject *parent=0)
- `~SaveObject` ()
- bool `save` (const QString &fileName)
- void `addArc` (EmbPattern *pattern, QGraphicsItem *item)
 - SaveObject::addArc.*
- void `addBlock` (EmbPattern *pattern, QGraphicsItem *item)
 - SaveObject::addBlock.*
- void `addCircle` (EmbPattern *pattern, QGraphicsItem *item)
 - SaveObject::addCircle.*
- void `addDimAligned` (EmbPattern *pattern, QGraphicsItem *item)
 - SaveObject::addDimAligned.*
- void `addDimAngular` (EmbPattern *pattern, QGraphicsItem *item)
 - SaveObject::addDimAngular.*
- void `addDimArcLength` (EmbPattern *pattern, QGraphicsItem *item)
 - SaveObject::addDimArcLength.*
- void `addDimDiameter` (EmbPattern *pattern, QGraphicsItem *item)
 - SaveObject::addDimDiameter.*
- void `addDimLeader` (EmbPattern *pattern, QGraphicsItem *item)
 - SaveObject::addDimLeader.*
- 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)
- void `toPolyline` (EmbPattern *pattern, const QPointF &objPos, const QPainterPath &objPath, const QString &layer, const QColor &color, const QString &lineType, const QString &lineWeight)

Public Attributes

- QGraphicsScene * `gscene`
- int `formatType`

17.73.1 Constructor & Destructor Documentation

17.73.1.1 `SaveObject()` `SaveObject (`
 `QGraphicsScene * theScene,`
 `QObject * parent = 0)`

17.73.1.2 `~SaveObject()` `~SaveObject ()`

17.73.2 Member Function Documentation

17.73.2.1 `addArc()` `void addArc (`
 `EmbPattern * pattern,`
 `QGraphicsItem * item)`

`SaveObject::addArc.`

Parameters

<code>pattern</code>	<input type="text"/>
<code>item</code>	<input type="text"/>

17.73.2.2 `addBlock()` `void addBlock (`
 `EmbPattern * pattern,`
 `QGraphicsItem * item)`

`SaveObject::addBlock.`

Parameters

<code>pattern</code>	<input type="text"/>
<code>item</code>	<input type="text"/>

17.73.2.3 `addCircle()` `void addCircle (`
 `EmbPattern * pattern,`
 `QGraphicsItem * item)`

`SaveObject::addCircle.`

Parameters

<code>pattern</code>	<input type="text"/>
<code>item</code>	<input type="text"/>

17.73.2.4 `addDimAligned()` `void addDimAligned (`
 `EmbPattern * pattern,`
 `QGraphicsItem * item)`

`SaveObject::addDimAligned.`

Parameters

<code>pattern</code>	<input type="text"/>
<code>item</code>	<input type="text"/>

17.73.2.5 addDimAngular() void addDimAngular (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

SaveObject::addDimAngular.

Parameters

<i>pattern</i>	<input type="text"/>
<i>item</i>	<input type="text"/>

17.73.2.6 addDimArcLength() void addDimArcLength (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

SaveObject::addDimArcLength.

Parameters

<i>pattern</i>	<input type="text"/>
<i>item</i>	<input type="text"/>

17.73.2.7 addDimDiameter() void addDimDiameter (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

SaveObject::addDimDiameter.

Parameters

<i>pattern</i>	<input type="text"/>
<i>item</i>	<input type="text"/>

17.73.2.8 addDimLeader() void addDimLeader (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

SaveObject::addDimLeader.

Parameters

<i>pattern</i>	<input type="text"/>
<i>item</i>	<input type="text"/>

17.73.2.9 addDimLinear() void addDimLinear (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.10 addDimOrdinate() void addDimOrdinate (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.11 addDimRadius() void addDimRadius (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.12 addEllipse() void addEllipse (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.13 addEllipseArc() void addEllipseArc (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.14 addGrid() void addGrid (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.15 addHatch() void addHatch (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.16 addImage() void addImage (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.17 addInfiniteLine() void addInfiniteLine (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.18 addLine() void addLine (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.19 addPath() void addPath (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.73.2.20 addPoint() void addPoint (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

```
17.73.2.21 addPolygon() void addPolygon (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.73.2.22 addPolyline() void addPolyline (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.73.2.23 addRay() void addRay (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.73.2.24 addRectangle() void addRectangle (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.73.2.25 addSlot() void addSlot (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.73.2.26 addSpline() void addSpline (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.73.2.27 addTextMulti() void addTextMulti (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.73.2.28 addTextSingle() void addTextSingle (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.73.2.29 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.

```
17.73.2.30 toPolyline() void toPolyline (
    EmbPattern * pattern,
    const QPointF & objPos,
    const QPainterPath & objPath,
    const QString & layer,
```

```
    const QColor & color,
    const QString & lineType,
    const QString & lineWeight )
```

Todo FIX EmbPolyline* polyObject = embPolyline_init(pointList, color_out, 1); //TODO: proper lineType emb←
Pattern_addPolylineAbs(pattern, polyObject);

17.73.3 Member Data Documentation

17.73.3.1 `formatType` int formatType

17.73.3.2 `gscene` QGraphicsScene* gscene

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

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

17.74 SelectBox Class Reference

```
#include <embroidermodder.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)
- void [forceRepaint](#) ()

Public 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](#)

Protected Member Functions

- void [paintEvent](#) (QPaintEvent *)

17.74.1 Constructor & Destructor Documentation

```
17.74.1.1 SelectBox() SelectBox (
```

```
    Shape s,
```

```
    QWidget * parent = 0 )
```

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/>

17.74.2 Member Function Documentation

17.74.2.1 forceRepaint() void forceRepaint ()

17.74.2.2 paintEvent() void paintEvent (

```
    QPaintEvent * ) [protected]
```

17.74.2.3 setColors() void setColors (

```
    const QColor & colorL,
```

```
    const QColor & fillL,
```

```
    const QColor & colorR,
```

```
    const QColor & fillR,
```

```
    int newAlpha ) [slot]
```

17.74.2.4 setDirection() void setDirection (

```
    int dir ) [slot]
```

17.74.3 Member Data Documentation

17.74.3.1 alpha quint8 alpha

17.74.3.2 boxDir bool boxDir

17.74.3.3 dirBrush QBrush dirBrush

17.74.3.4 dirPen QPen dirPen

17.74.3.5 leftBrush QBrush leftBrush

17.74.3.6 leftBrushColor QColor leftBrushColor

17.74.3.7 leftPen QPen leftPen

17.74.3.8 leftPenColor QColor leftPenColor

17.74.3.9 rightBrush QBrush rightBrush

17.74.3.10 rightBrushColor QColor rightBrushColor

17.74.3.11 rightPen QPen rightPen

17.74.3.12 rightPenColor QColor rightPenColor

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

- embroidermodder2/[embroidermodder.h](#)
- embroidermodder2/[selectbox.cpp](#)

17.75 Settings_Struct Reference

Settings System.

```
#include <embroidermodder.h>
```

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`

17.75.1 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.

17.75.2 Member Data Documentation

17.75.2.1 assets_dir char assets_dir[200]

17.75.2.2 current_directory char current_directory[200]

17.75.2.3 debug_mode int debug_mode

17.75.2.4 display_bg_color unsigned int display_bg_color

17.75.2.5 display_crosshair_color unsigned int display_crosshair_color

17.75.2.6 display_crosshair_percent unsigned char display_crosshair_percent

17.75.2.7 display_renderhint_aa bool display_renderhint_aa

17.75.2.8 display_renderhint_high_aa bool display_renderhint_high_aa

17.75.2.9 display_renderhint_noncosmetic bool display_renderhint_noncosmetic

17.75.2.10 display_renderhint_smooth_pix bool display_renderhint_smooth_pix

17.75.2.11 display_renderhint_text_aa bool display_renderhint_text_aa

17.75.2.12 display_scrollbar_widget_num int display_scrollbar_widget_num

17.75.2.13 display_selectbox_alpha unsigned char display_selectbox_alpha

17.75.2.14 display_selectbox_left_color unsigned int display_selectbox_left_color

17.75.2.15 display_selectbox_left_fill unsigned int display_selectbox_left_fill

17.75.2.16 display_selectbox_right_color unsigned int display_selectbox_right_color

17.75.2.17 display_selectbox_right_fill unsigned int display_selectbox_right_fill

17.75.2.18 display_show_scrollbars bool display_show_scrollbars

17.75.2.19 display_units char display_units[200]

17.75.2.20 **display_use_opengl** bool display_use_opengl

17.75.2.21 **display_zoomscale_in** float display_zoomscale_in

17.75.2.22 **display_zoomscale_out** float display_zoomscale_out

17.75.2.23 **general_check_for_updates** bool general_check_for_updates

17.75.2.24 **general_current_tip** unsigned int general_current_tip

17.75.2.25 **general_mdi_bg_color** unsigned int general_mdi_bg_color

17.75.2.26 **general_mdi_bg_logo** char general_mdi_bg_logo[200]

17.75.2.27 **general_mdi_bg_texture** char general_mdi_bg_texture[200]

17.75.2.28 **general_system_help_browser** bool general_system_help_browser

17.75.2.29 **grid_center** [EmbVector](#) grid_center

17.75.2.30 **grid_center_on_origin** bool grid_center_on_origin

17.75.2.31 **grid_color** unsigned int grid_color

17.75.2.32 **grid_color_match_crosshair** bool grid_color_match_crosshair

17.75.2.33 **grid_load_from_file** bool grid_load_from_file

17.75.2.34 **grid_show_on_load** bool grid_show_on_load

17.75.2.35 **grid_show_origin** bool grid_show_origin

17.75.2.36 **grid_size_radius** float grid_size_radius

17.75.2.37 **grid_size_x** float grid_size_x

17.75.2.38 `grid_size_y` float grid_size_y

17.75.2.39 `grid_spacing` EmbVector grid_spacing

17.75.2.40 `grid_spacing_angle` float grid_spacing_angle

17.75.2.41 `grid_spacing_radius` float grid_spacing_radius

17.75.2.42 `grid_spacing_x` float grid_spacing_x

17.75.2.43 `grid_spacing_y` float grid_spacing_y

17.75.2.44 `grid_type` char grid_type[200]

17.75.2.45 `icon_size` int icon_size

17.75.2.46 `icon_theme` char icon_theme[200]

17.75.2.47 `language` char language[200]

17.75.2.48 `lwt_default_lwt` float lwt_default_lwt

17.75.2.49 `lwt_real_render` bool lwt_real_render

17.75.2.50 `lwt_show_lwt` bool lwt_show_lwt

17.75.2.51 `major_tick_seperation` float major_tick_seperation

17.75.2.52 `mdi_bg_use_color` bool mdi_bg_use_color

17.75.2.53 `mdi_bg_use_logo` bool mdi_bg_use_logo

17.75.2.54 `mdi_bg_use_texture` bool mdi_bg_use_texture

17.75.2.55 `menu_action` char menu_action[200]

17.75.2.56 needle_speed float needle_speed

17.75.2.57 opensave_custom_filter char opensave_custom_filter[200]

17.75.2.58 opensave_open_format char opensave_open_format[200]

17.75.2.59 opensave_open_thumbnail bool opensave_open_thumbnail

17.75.2.60 opensave_recent_directory char opensave_recent_directory[200]

17.75.2.61 opensave_recent_list_of_files char opensave_recent_list_of_files[20][200]

17.75.2.62 opensave_recent_max_files unsigned char opensave_recent_max_files

17.75.2.63 opensave_save_format char opensave_save_format[200]

17.75.2.64 opensave_save_thumbnail bool opensave_save_thumbnail

17.75.2.65 opensave_trim_dst_num_jumps unsigned char opensave_trim_dst_num_jumps

17.75.2.66 pattern_index int pattern_index

17.75.2.67 printing_default_device char printing_default_device[200]

17.75.2.68 printing_disable_bg bool printing_disable_bg

17.75.2.69 printing_use_last_device bool printing_use_last_device

17.75.2.70 qsnap_aperture_size unsigned char qsnap_aperture_size

17.75.2.71 qsnap_apparent bool qsnap_apparent

17.75.2.72 qsnap_center bool qsnap_center

17.75.2.73 qsnap_enabled bool qsnap_enabled

17.75.2.74 `qsnap_endpoint` `bool qsnap_endpoint`

17.75.2.75 `qsnap_extension` `bool qsnap_extension`

17.75.2.76 `qsnap_insertion` `bool qsnap_insertion`

17.75.2.77 `qsnap_intersection` `bool qsnap_intersection`

17.75.2.78 `qsnap_locator_color` `unsigned int qsnap_locator_color`

17.75.2.79 `qsnap_locator_size` `unsigned char qsnap_locator_size`

17.75.2.80 `qsnap_midpoint` `bool qsnap_midpoint`

17.75.2.81 `qsnap_nearest` `bool qsnap_nearest`

17.75.2.82 `qsnap_node` `bool qsnap_node`

17.75.2.83 `qsnap_parallel` `bool qsnap_parallel`

17.75.2.84 `qsnap_perpendicular` `bool qsnap_perpendicular`

17.75.2.85 `qsnap_quadrant` `bool qsnap_quadrant`

17.75.2.86 `qsnap_tangent` `bool qsnap_tangent`

17.75.2.87 `ruler_color` `unsigned int ruler_color`

17.75.2.88 `ruler_metric` `bool ruler_metric`

17.75.2.89 `ruler_pixel_size` `unsigned char ruler_pixel_size`

17.75.2.90 `ruler_show_on_load` `bool ruler_show_on_load`

17.75.2.91 `ruler_width` `float ruler_width`

17.75.2.92 **running** bool running

17.75.2.93 **selection_coolgrip_color** unsigned int selection_coolgrip_color

17.75.2.94 **selection_grip_size** unsigned char selection_grip_size

17.75.2.95 **selection_hotgrip_color** unsigned int selection_hotgrip_color

17.75.2.96 **selection_mode_pickadd** bool selection_mode_pickadd

17.75.2.97 **selection_mode_pickdrag** bool selection_mode_pickdrag

17.75.2.98 **selection_mode_pickfirst** bool selection_mode_pickfirst

17.75.2.99 **selection_pickbox_size** unsigned char selection_pickbox_size

17.75.2.100 **shift_held** bool shift_held

17.75.2.101 **shine_color** unsigned int shine_color

17.75.2.102 **show_about_dialog** bool show_about_dialog

17.75.2.103 **show_details_dialog** bool show_details_dialog

17.75.2.104 **show_editor** bool show_editor

17.75.2.105 **show_open_file_dialog** bool show_open_file_dialog

17.75.2.106 **show_settings_editor** bool show_settings_editor

17.75.2.107 **stitch_time** float stitch_time

17.75.2.108 **testing** bool testing

17.75.2.109 **text_angle** float text_angle

17.75.2.110 **text_font** char text_font[200]

17.75.2.111 **text_size** float text_size

17.75.2.112 **text_style_bold** bool text_style_bold

17.75.2.113 **text_style_italic** bool text_style_italic

17.75.2.114 **text_style_overline** bool text_style_overline

17.75.2.115 **text_style_strikeout** bool text_style_strikeout

17.75.2.116 **text_style_underline** bool text_style_underline

17.75.2.117 **texture_list** [Dictionary](#)* texture_list

17.75.2.118 **tick_depth** float tick_depth

17.75.2.119 **ticks_color** unsigned int ticks_color

17.75.2.120 **tip_of_the_day** bool tip_of_the_day

17.75.2.121 **to_open** char to_open[200]

17.75.2.122 **use_translation** bool use_translation

17.75.2.123 **version** char version[200]

17.75.2.124 **zoomInLimit** [EmbReal](#) zoomInLimit

17.75.2.125 **zoomOutLimit** [EmbReal](#) zoomOutLimit

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

- [embroidermodder2/embroidermodder.h](#)

17.76 Settings_Dialog Class Reference

#include <embroidermodder.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 ()`
- `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)`

Public 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`
- `EmbReal dialog_display_zoomscale_in`
- `EmbReal 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`
- EmbReal `dialog_grid_center_x`
- EmbReal `dialog_grid_center_y`
- EmbReal `dialog_grid_size_x`
- EmbReal `dialog_grid_size_y`
- EmbReal `dialog_grid_spacing_x`
- EmbReal `dialog_grid_spacing_y`
- EmbReal `dialog_grid_size_radius`
- EmbReal `dialog_grid_spacing_radius`
- EmbReal `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`
- EmbReal `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`

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 `comboBoxSelectionCoolGripColorCurrentIndexChanged` (int)
- void `comboBoxSelectionHotGripColorCurrentIndexChanged` (int)
- void `sliderSelectionGripSizeValueChanged` (int)
- void `sliderSelectionPickBoxSizeValueChanged` (int)
- void `acceptChanges` ()
- void `rejectChanges` ()

17.76.1 Constructor & Destructor Documentation

17.76.1.1 Settings_Dialog() `Settings_Dialog (`

```
    MainWindow * mw,
    const QString & showTab = QString(),
    QWidget * parent = 0 )
```

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/>

17.76.1.2 ~Settings_Dialog() `~Settings_Dialog ()`**17.76.2 Member Function Documentation****17.76.2.1 acceptChanges** `void acceptChanges () [private], [slot]`**17.76.2.2 addColorsToComboBox()** `void addColorsToComboBox (`

```
    QComboBox * comboBox )
```

17.76.2.3 buttonCustomFilterClearAll `void buttonCustomFilterClearAll (`

```
    bool ) [signal]
```

17.76.2.4 buttonCustomFilterClearAllClicked `void buttonCustomFilterClearAllClicked () [private], [slot]`**17.76.2.5 buttonCustomFilterSelectAll** `void buttonCustomFilterSelectAll (`

```
    bool ) [signal]
```

17.76.2.6 buttonCustomFilterSelectAllClicked `void buttonCustomFilterSelectAllClicked () [private], [slot]`**17.76.2.7 buttonQSnapClearAll** `void buttonQSnapClearAll (`

```
    bool ) [signal]
```

17.76.2.8 buttonQSnapClearAllClicked `void buttonQSnapClearAllClicked () [private], [slot]`**17.76.2.9 buttonQSnapSelectAll** `void buttonQSnapSelectAll (`

```
    bool ) [signal]
```

17.76.2.10 buttonQSnapSelectAllClicked `void buttonQSnapSelectAllClicked () [private], [slot]`**17.76.2.11 checkBoxCustomFilterStateChanged** `void checkBoxCustomFilterStateChanged (`

```
    int checked ) [private], [slot]
```

17.76.2.12 checkBoxDisableBGStateChanged void checkBoxDisableBGStateChanged (int checked) [private], [slot]

17.76.2.13 checkBoxGeneralMdiBGUseColorStateChanged void checkBoxGeneralMdiBGUseColorStateChanged (int checked) [private], [slot]

17.76.2.14 checkBoxGeneralMdiBGUseLogoStateChanged void checkBoxGeneralMdiBGUseLogoStateChanged (int checked) [private], [slot]

17.76.2.15 checkBoxGeneralMdiBGUseTextureStateChanged void checkBoxGeneralMdiBGUseTextureStateChanged (int checked) [private], [slot]

17.76.2.16 checkBoxGridCenterOnOriginStateChanged void checkBoxGridCenterOnOriginStateChanged (int checked) [private], [slot]

17.76.2.17 checkBoxGridColorMatchCrossHairStateChanged void checkBoxGridColorMatchCrossHairStateChanged (int checked) [private], [slot]

17.76.2.18 checkBoxGridLoadFromFileStateChanged void checkBoxGridLoadFromFileStateChanged (int checked) [private], [slot]

17.76.2.19 checkBoxGridShowOnLoadStateChanged void checkBoxGridShowOnLoadStateChanged (int checked) [private], [slot]

17.76.2.20 checkBoxGridShowOriginStateChanged void checkBoxGridShowOriginStateChanged (int checked) [private], [slot]

17.76.2.21 checkBoxLwtRealRenderStateChanged void checkBoxLwtRealRenderStateChanged (int checked) [private], [slot]

17.76.2.22 checkBoxLwtShowLwtStateChanged void checkBoxLwtShowLwtStateChanged (int checked) [private], [slot]

17.76.2.23 checkBoxPromptSaveHistoryAsHtmlStateChanged void checkBoxPromptSaveHistoryAsHtmlStateChanged (int checked) [private], [slot]

```
17.76.2.24 checkBoxPromptSaveHistoryStateChanged void checkBoxPromptSaveHistoryStateChanged  
(  
    int checked ) [private], [slot]  
  
17.76.2.25 checkBoxQSnapApparentStateChanged void checkBoxQSnapApparentStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.26 checkBoxQSnapCenterStateChanged void checkBoxQSnapCenterStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.27 checkBoxQSnapEndPointStateChanged void checkBoxQSnapEndPointStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.28 checkBoxQSnapExtensionStateChanged void checkBoxQSnapExtensionStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.29 checkBoxQSnapInsertionStateChanged void checkBoxQSnapInsertionStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.30 checkBoxQSnapIntersectionStateChanged void checkBoxQSnapIntersectionStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.31 checkBoxQSnapMidPointStateChanged void checkBoxQSnapMidPointStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.32 checkBoxQSnapNearestStateChanged void checkBoxQSnapNearestStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.33 checkBoxQSnapNodeStateChanged void checkBoxQSnapNodeStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.34 checkBoxQSnapParallelStateChanged void checkBoxQSnapParallelStateChanged (  
    int checked ) [private], [slot]  
  
17.76.2.35 checkBoxQSnapPerpendicularStateChanged void checkBoxQSnapPerpendicularState←  
Changed (  
    int checked ) [private], [slot]  
  
17.76.2.36 checkBoxQSnapQuadrantStateChanged void checkBoxQSnapQuadrantStateChanged (  
    int checked ) [private], [slot]
```

17.76.2.37 checkBoxQSnapTangentStateChanged void checkBoxQSnapTangentStateChanged (int checked) [private], [slot]

17.76.2.38 checkBoxRenderHintAAStateChanged void checkBoxRenderHintAAStateChanged (int checked) [private], [slot]

17.76.2.39 checkBoxRenderHintHighAAStateChanged void checkBoxRenderHintHighAAStateChanged (int checked) [private], [slot]

17.76.2.40 checkBoxRenderHintNonCosmeticStateChanged void checkBoxRenderHintNonCosmeticStateChanged (int checked) [private], [slot]

17.76.2.41 checkBoxRenderHintSmoothPixStateChanged void checkBoxRenderHintSmoothPixStateChanged (int checked) [private], [slot]

17.76.2.42 checkBoxRenderHintTextAAStateChanged void checkBoxRenderHintTextAAStateChanged (int checked) [private], [slot]

17.76.2.43 checkBoxRulerShowOnLoadStateChanged void checkBoxRulerShowOnLoadStateChanged (int checked) [private], [slot]

17.76.2.44 checkBoxSelectionModePickAddStateChanged void checkBoxSelectionModePickAddStateChanged (int checked) [private], [slot]

17.76.2.45 checkBoxSelectionModePickDragStateChanged void checkBoxSelectionModePickDragStateChanged (int checked) [private], [slot]

17.76.2.46 checkBoxSelectionModePickFirstStateChanged void checkBoxSelectionModePickFirstStateChanged (int checked) [private], [slot]

17.76.2.47 checkBoxShowScrollBarsStateChanged void checkBoxShowScrollBarsStateChanged (int checked) [private], [slot]

17.76.2.48 checkBoxTipOfTheDayStateChanged void checkBoxTipOfTheDayStateChanged (int checked) [private], [slot]

17.76.2.49 checkBoxUseOpenGLStateChanged void checkBoxUseOpenGLStateChanged (int checked) [private], [slot]

17.76.2.50 chooseDisplayBackgroundColor void chooseDisplayBackgroundColor () [private], [slot]

17.76.2.51 chooseDisplayCrossHairColor void chooseDisplayCrossHairColor () [private], [slot]

17.76.2.52 chooseDisplaySelectBoxLeftColor void chooseDisplaySelectBoxLeftColor () [private], [slot]

17.76.2.53 chooseDisplaySelectBoxLeftFill void chooseDisplaySelectBoxLeftFill () [private], [slot]

17.76.2.54 chooseDisplaySelectBoxRightColor void chooseDisplaySelectBoxRightColor () [private], [slot]

17.76.2.55 chooseDisplaySelectBoxRightFill void chooseDisplaySelectBoxRightFill () [private], [slot]

17.76.2.56 chooseGeneralMdiBackgroundColor void chooseGeneralMdiBackgroundColor () [private], [slot]

17.76.2.57 chooseGeneralMdiBackgroundLogo void chooseGeneralMdiBackgroundLogo () [private], [slot]

17.76.2.58 chooseGeneralMdiBackgroundTexture void chooseGeneralMdiBackgroundTexture () [private], [slot]

17.76.2.59 chooseGridColor void chooseGridColor () [private], [slot]

17.76.2.60 choosePromptBackgroundColor void choosePromptBackgroundColor () [private], [slot]

17.76.2.61 choosePromptTextColor void choosePromptTextColor () [private], [slot]

17.76.2.62 chooseRulerColor void chooseRulerColor () [private], [slot]

17.76.2.63 comboBoxGridTypeCurrentIndexChanged void comboBoxGridTypeCurrentIndexChanged (const QString & type) [private], [slot]

17.76.2.64 comboBoxIconSizeCurrentIndexChanged void comboBoxIconSizeCurrentIndexChanged (int index) [private], [slot]

17.76.2.65 comboBoxIconThemeCurrentIndexChanged void comboBoxIconThemeCurrentIndexChanged (const QString & theme) [private], [slot]

17.76.2.66 comboBoxLanguageCurrentIndexChanged void comboBoxLanguageCurrentIndexChanged (const QString & lang) [private], [slot]

17.76.2.67 comboBoxPromptFontFamilyCurrentIndexChanged void comboBoxPromptFontFamilyCurrentIndexChanged (const QString & family) [private], [slot]

17.76.2.68 comboBoxPromptFontStyleCurrentIndexChanged void comboBoxPromptFontStyleCurrentIndexChanged (const QString & style) [private], [slot]

17.76.2.69 comboBoxQSnapLocatorColorCurrentIndexChanged void comboBoxQSnapLocatorColorCurrentIndexChanged (int index) [private], [slot]

17.76.2.70 comboBoxRulerMetricCurrentIndexChanged void comboBoxRulerMetricCurrentIndexChanged (int index) [private], [slot]

17.76.2.71 comboBoxScrollBarWidgetCurrentIndexChanged void comboBoxScrollBarWidgetCurrentIndexChanged (int index) [private], [slot]

17.76.2.72 comboBoxSelectionCoolGripColorCurrentIndexChanged void comboBoxSelectionCoolGripColorCurrentIndexChanged (int index) [private], [slot]

17.76.2.73 comboBoxSelectionHotGripColorCurrentIndexChanged void comboBoxSelectionHotGripColorCurrentIndexChanged (int index) [private], [slot]

17.76.2.74 createTabDisplay() QWidget * createTabDisplay ()

17.76.2.75 createTabFilesPaths() QWidget * createTabFilesPaths ()

17.76.2.76 createTabGeneral() QWidget * createTabGeneral ()

17.76.2.77 createTabGridRuler() QWidget * createTabGridRuler ()

17.76.2.78 `createTabLineWeight()` QWidget * createTabLineWeight ()

17.76.2.79 `createTabOpenSave()` QWidget * createTabOpenSave ()

17.76.2.80 `createTabOrthoPolar()` QWidget * createTabOrthoPolar ()

17.76.2.81 `createTabPrinting()` QWidget * createTabPrinting ()

17.76.2.82 `createTabPrompt()` QWidget * createTabPrompt ()

17.76.2.83 `createTabQuickSnap()` QWidget * createTabQuickSnap ()

17.76.2.84 `createTabQuickTrack()` QWidget * createTabQuickTrack ()

17.76.2.85 `createTabSelection()` QWidget * createTabSelection ()

17.76.2.86 `createTabSnap()` QWidget * createTabSnap ()

17.76.2.87 `currentDisplayBackgroundColorChanged` void currentDisplayBackgroundColorChanged (const QColor & color) [private], [slot]

17.76.2.88 `currentDisplayCrossHairColorChanged` void currentDisplayCrossHairColorChanged (const QColor & color) [private], [slot]

17.76.2.89 `currentDisplaySelectBoxLeftColorChanged` void currentDisplaySelectBoxLeftColorChanged (const QColor & color) [private], [slot]

17.76.2.90 `currentDisplaySelectBoxLeftFillChanged` void currentDisplaySelectBoxLeftFillChanged (const QColor & color) [private], [slot]

17.76.2.91 `currentDisplaySelectBoxRightColorChanged` void currentDisplaySelectBoxRightColorChanged (const QColor & color) [private], [slot]

17.76.2.92 `currentDisplaySelectBoxRightFillChanged` void currentDisplaySelectBoxRightFillChanged (const QColor & color) [private], [slot]

- 17.76.2.93 currentGeneralMdiBackgroundColorChanged** void currentGeneralMdiBackgroundColorChanged (const QColor & color) [private], [slot]
- 17.76.2.94 currentGridColorChanged** void currentGridColorChanged (const QColor & color) [private], [slot]
- 17.76.2.95 currentPromptBackgroundColorChanged** void currentPromptBackgroundColorChanged (const QColor & color) [private], [slot]
- 17.76.2.96 currentPromptTextColorChanged** void currentPromptTextColorChanged (const QColor & color) [private], [slot]
- 17.76.2.97 currentRulerColorChanged** void currentRulerColorChanged (const QColor & color) [private], [slot]
- 17.76.2.98 rejectChanges** void rejectChanges () [private], [slot]
- 17.76.2.99 sliderQSnapApertureSizeValueChanged** void sliderQSnapApertureSizeValueChanged (int value) [private], [slot]
- 17.76.2.100 sliderQSnapLocatorSizeValueChanged** void sliderQSnapLocatorSizeValueChanged (int value) [private], [slot]
- 17.76.2.101 sliderSelectionGripSizeValueChanged** void sliderSelectionGripSizeValueChanged (int value) [private], [slot]
- 17.76.2.102 sliderSelectionPickBoxSizeValueChanged** void sliderSelectionPickBoxSizeValueChanged (int value) [private], [slot]
- 17.76.2.103 spinBoxDisplaySelectBoxAlphaValueChanged** void spinBoxDisplaySelectBoxAlphaValueChanged (int value) [private], [slot]
- 17.76.2.104 spinBoxGridCenterXValueChanged** void spinBoxGridCenterXValueChanged (double value) [private], [slot]
- 17.76.2.105 spinBoxGridCenterYValueChanged** void spinBoxGridCenterYValueChanged (double value) [private], [slot]

17.76.2.106 spinBoxGridSizeRadiusValueChanged void spinBoxGridSizeRadiusValueChanged (double value) [private], [slot]

17.76.2.107 spinBoxGridSizeXValueChanged void spinBoxGridSizeXValueChanged (double value) [private], [slot]

17.76.2.108 spinBoxGridSizeYValueChanged void spinBoxGridSizeYValueChanged (double value) [private], [slot]

17.76.2.109 spinBoxGridSpacingAngleValueChanged void spinBoxGridSpacingAngleValueChanged (double value) [private], [slot]

17.76.2.110 spinBoxGridSpacingRadiusValueChanged void spinBoxGridSpacingRadiusValueChanged (double value) [private], [slot]

17.76.2.111 spinBoxGridSpacingXValueChanged void spinBoxGridSpacingXValueChanged (double value) [private], [slot]

17.76.2.112 spinBoxGridSpacingYValueChanged void spinBoxGridSpacingYValueChanged (double value) [private], [slot]

17.76.2.113 spinBoxPromptFontSizeValueChanged void spinBoxPromptFontSizeValueChanged (int value) [private], [slot]

17.76.2.114 spinBoxRecentMaxFilesValueChanged void spinBoxRecentMaxFilesValueChanged (int value) [private], [slot]

17.76.2.115 spinBoxRulerPixelSizeValueChanged void spinBoxRulerPixelSizeValueChanged (double value) [private], [slot]

17.76.2.116 spinBoxTrimDstNumJumpsValueChanged void spinBoxTrimDstNumJumpsValueChanged (int value) [private], [slot]

17.76.2.117 spinBoxZoomScaleInValueChanged void spinBoxZoomScaleInValueChanged (double value) [private], [slot]

17.76.2.118 spinBoxZoomScaleOutValueChanged void spinBoxZoomScaleOutValueChanged (double value) [private], [slot]

17.76.3 Member Data Documentation

17.76.3.1 accept_display_bg_color QRgb accept_display_bg_color

17.76.3.2 accept_display_crosshair_color QRgb accept_display_crosshair_color

17.76.3.3 accept_display_selectbox_left_color QRgb accept_display_selectbox_left_color

17.76.3.4 accept_display_selectbox_left_fill QRgb accept_display_selectbox_left_fill

17.76.3.5 accept_display_selectbox_right_color QRgb accept_display_selectbox_right_color

17.76.3.6 accept_display_selectbox_right_fill QRgb accept_display_selectbox_right_fill

17.76.3.7 accept_general_mdi_bg_color QRgb accept_general_mdi_bg_color

17.76.3.8 accept_general_mdi_bg_logo QString accept_general_mdi_bg_logo

17.76.3.9 accept_general_mdi_bg_texture QString accept_general_mdi_bg_texture

17.76.3.10 accept_grid_color QRgb accept_grid_color

17.76.3.11 accept_prompt_bg_color QRgb accept_prompt_bg_color

17.76.3.12 accept_prompt_text_color QRgb accept_prompt_text_color

17.76.3.13 accept_ruler_color QRgb accept_ruler_color

17.76.3.14 buttonBox QDialogButtonBox* buttonBox

17.76.3.15 dialog_display_bg_color QRgb dialog_display_bg_color

17.76.3.16 dialog_display_crosshair_color QRgb dialog_display_crosshair_color

17.76.3.17 dialog_display_crosshair_percent quint8 dialog_display_crosshair_percent

17.76.3.18 dialog_display_renderhint_aa bool dialog_display_renderhint_aa

17.76.3.19 **dialog_display_renderhint_high_aa** bool dialog_display_renderhint_high_aa

17.76.3.20 **dialog_display_renderhint_noncosmetic** bool dialog_display_renderhint_noncosmetic

17.76.3.21 **dialog_display_renderhint_smooth_pix** bool dialog_display_renderhint_smooth_pix

17.76.3.22 **dialog_display_renderhint_text_aa** bool dialog_display_renderhint_text_aa

17.76.3.23 **dialog_display_scrollbar_widget_num** int dialog_display_scrollbar_widget_num

17.76.3.24 **dialog_display_selectbox_alpha** quint8 dialog_display_selectbox_alpha

17.76.3.25 **dialog_display_selectbox_left_color** QRgb dialog_display_selectbox_left_color

17.76.3.26 **dialog_display_selectbox_left_fill** QRgb dialog_display_selectbox_left_fill

17.76.3.27 **dialog_display_selectbox_right_color** QRgb dialog_display_selectbox_right_color

17.76.3.28 **dialog_display_selectbox_right_fill** QRgb dialog_display_selectbox_right_fill

17.76.3.29 **dialog_display_show_scrollbars** bool dialog_display_show_scrollbars

17.76.3.30 **dialog_display_units** QString dialog_display_units

17.76.3.31 **dialog_display_use_opengl** bool dialog_display_use_opengl

17.76.3.32 **dialog_display_zoomscale_in** EmbReal dialog_display_zoomscale_in

17.76.3.33 **dialog_display_zoomscale_out** EmbReal dialog_display_zoomscale_out

17.76.3.34 **dialog_general_icon_size** int dialog_general_icon_size

17.76.3.35 **dialog_general_icon_theme** QString dialog_general_icon_theme

17.76.3.36 **dialog_general_language** QString dialog_general_language

17.76.3.37 **dialog_general_mdi_bg_color** `QRgb dialog_general_mdi_bg_color`

17.76.3.38 **dialog_general_mdi_bg_logo** `QString dialog_general_mdi_bg_logo`

17.76.3.39 **dialog_general_mdi_bg_texture** `QString dialog_general_mdi_bg_texture`

17.76.3.40 **dialog_general_mdi_bg_use_color** `bool dialog_general_mdi_bg_use_color`

17.76.3.41 **dialog_general_mdi_bg_use_logo** `bool dialog_general_mdi_bg_use_logo`

17.76.3.42 **dialog_general_mdi_bg_use_texture** `bool dialog_general_mdi_bg_use_texture`

17.76.3.43 **dialog_general_system_help_browser** `bool dialog_general_system_help_browser`

17.76.3.44 **dialog_general_tip_of_the_day** `bool dialog_general_tip_of_the_day`

17.76.3.45 **dialog_grid_center_on_origin** `bool dialog_grid_center_on_origin`

17.76.3.46 **dialog_grid_center_x** `EmbReal dialog_grid_center_x`

17.76.3.47 **dialog_grid_center_y** `EmbReal dialog_grid_center_y`

17.76.3.48 **dialog_grid_color** `QRgb dialog_grid_color`

17.76.3.49 **dialog_grid_color_match_crosshair** `bool dialog_grid_color_match_crosshair`

17.76.3.50 **dialog_grid_load_from_file** `bool dialog_grid_load_from_file`

17.76.3.51 **dialog_grid_show_on_load** `bool dialog_grid_show_on_load`

17.76.3.52 **dialog_grid_show_origin** `bool dialog_grid_show_origin`

17.76.3.53 **dialog_grid_size_radius** `EmbReal dialog_grid_size_radius`

17.76.3.54 **dialog_grid_size_x** `EmbReal dialog_grid_size_x`

17.76.3.55 **dialog_grid_size_y** `EmbReal dialog_grid_size_y`

17.76.3.56 **dialog_grid_spacing_angle** `EmbReal dialog_grid_spacing_angle`

17.76.3.57 **dialog_grid_spacing_radius** `EmbReal dialog_grid_spacing_radius`

17.76.3.58 **dialog_grid_spacing_x** `EmbReal dialog_grid_spacing_x`

17.76.3.59 **dialog_grid_spacing_y** `EmbReal dialog_grid_spacing_y`

17.76.3.60 **dialog_grid_type** `QString dialog_grid_type`

17.76.3.61 **dialog_lwt_default_lwt** `EmbReal dialog_lwt_default_lwt`

17.76.3.62 **dialog_lwt_real_render** `bool dialog_lwt_real_render`

17.76.3.63 **dialog_lwt_show_lwt** `bool dialog_lwt_show_lwt`

17.76.3.64 **dialog_opensave_custom_filter** `QString dialog_opensave_custom_filter`

17.76.3.65 **dialog_opensave_open_format** `QString dialog_opensave_open_format`

17.76.3.66 **dialog_opensave_open_thumbnail** `bool dialog_opensave_open_thumbnail`

17.76.3.67 **dialog_opensave_recent_max_files** `quint8 dialog_opensave_recent_max_files`

17.76.3.68 **dialog_opensave_save_format** `QString dialog_opensave_save_format`

17.76.3.69 **dialog_opensave_save_thumbnail** `bool dialog_opensave_save_thumbnail`

17.76.3.70 **dialog_opensave_trim_dst_num_jumps** `quint8 dialog_opensave_trim_dst_num_jumps`

17.76.3.71 **dialog_printing_default_device** `QString dialog_printing_default_device`

17.76.3.72 **dialog_printing_disable_bg** `bool dialog_printing_disable_bg`

17.76.3.73 **dialog_printing_use_last_device** bool dialog_printing_use_last_device

17.76.3.74 **dialog_prompt_bg_color** QRgb dialog_prompt_bg_color

17.76.3.75 **dialog_prompt_font_family** QString dialog_prompt_font_family

17.76.3.76 **dialog_prompt_font_size** quint8 dialog_prompt_font_size

17.76.3.77 **dialog_prompt_font_style** QString dialog_prompt_font_style

17.76.3.78 **dialog_prompt_save_history** bool dialog_prompt_save_history

17.76.3.79 **dialog_prompt_save_history_as_html** bool dialog_prompt_save_history_as_html

17.76.3.80 **dialog_prompt_save_history_filename** QString dialog_prompt_save_history_filename

17.76.3.81 **dialog_prompt_text_color** QRgb dialog_prompt_text_color

17.76.3.82 **dialog_qsnap_aperture_size** quint8 dialog_qsnap_aperture_size

17.76.3.83 **dialog_qsnap_apparent** bool dialog_qsnap_apparent

17.76.3.84 **dialog_qsnap_center** bool dialog_qsnap_center

17.76.3.85 **dialog_qsnap_enabled** bool dialog_qsnap_enabled

17.76.3.86 **dialog_qsnap_endpoint** bool dialog_qsnap_endpoint

17.76.3.87 **dialog_qsnap_extension** bool dialog_qsnap_extension

17.76.3.88 **dialog_qsnap_insertion** bool dialog_qsnap_insertion

17.76.3.89 **dialog_qsnap_intersection** bool dialog_qsnap_intersection

17.76.3.90 **dialog_qsnap_locator_color** QRgb dialog_qsnap_locator_color

17.76.3.91 **dialog_qsnap_locator_size** quint8 dialog_qsnap_locator_size

17.76.3.92 **dialog_qsnap_midpoint** bool dialog_qsnap_midpoint

17.76.3.93 **dialog_qsnap_nearest** bool dialog_qsnap_nearest

17.76.3.94 **dialog_qsnap_node** bool dialog_qsnap_node

17.76.3.95 **dialog_qsnap_parallel** bool dialog_qsnap_parallel

17.76.3.96 **dialog_qsnap_perpendicular** bool dialog_qsnap_perpendicular

17.76.3.97 **dialog_qsnap_quadrant** bool dialog_qsnap_quadrant

17.76.3.98 **dialog_qsnap_tangent** bool dialog_qsnap_tangent

17.76.3.99 **dialog_ruler_color** QRgb dialog_ruler_color

17.76.3.100 **dialog_ruler_metric** bool dialog_ruler_metric

17.76.3.101 **dialog_ruler_pixel_size** quint8 dialog_ruler_pixel_size

17.76.3.102 **dialog_ruler_show_on_load** bool dialog_ruler_show_on_load

17.76.3.103 **dialog_selection_coolgrip_color** QRgb dialog_selection_coolgrip_color

17.76.3.104 **dialog_selection_grip_size** quint8 dialog_selection_grip_size

17.76.3.105 **dialog_selection_hotgrip_color** QRgb dialog_selection_hotgrip_color

17.76.3.106 **dialog_selection_mode_pickadd** bool dialog_selection_mode_pickadd

17.76.3.107 **dialog_selection_mode_pickdrag** bool dialog_selection_mode_pickdrag

17.76.3.108 **dialog_selection_mode_pickfirst** bool dialog_selection_mode_pickfirst

17.76.3.109 **dialog_selection_pickbox_size** quint8 dialog_selection_pickbox_size

17.76.3.110 **mainWin** MainWindow* mainWin

17.76.3.111 **preview_display_bg_color** QRgb preview_display_bg_color

17.76.3.112 **preview_display_crosshair_color** QRgb preview_display_crosshair_color

17.76.3.113 **preview_display_selectbox_alpha** quint8 preview_display_selectbox_alpha

17.76.3.114 **preview_display_selectbox_left_color** QRgb preview_display_selectbox_left_color

17.76.3.115 **preview_display_selectbox_left_fill** QRgb preview_display_selectbox_left_fill

17.76.3.116 **preview_display_selectbox_right_color** QRgb preview_display_selectbox_right_color

17.76.3.117 **preview_display_selectbox_right_fill** QRgb preview_display_selectbox_right_fill

17.76.3.118 **preview_display_show_scrollbars** bool preview_display_show_scrollbars

17.76.3.119 **preview_general_mdi_bg_color** QRgb preview_general_mdi_bg_color

17.76.3.120 **preview_general_mdi_bg_use_color** bool preview_general_mdi_bg_use_color

17.76.3.121 **preview_general_mdi_bg_use_logo** bool preview_general_mdi_bg_use_logo

17.76.3.122 **preview_general_mdi_bg_use_texture** bool preview_general_mdi_bg_use_texture

17.76.3.123 **preview_grid_color** QRgb preview_grid_color

17.76.3.124 **preview_lwt_real_render** bool preview_lwt_real_render

17.76.3.125 **preview_lwt_show_lwt** bool preview_lwt_show_lwt

17.76.3.126 **preview_prompt_bg_color** QRgb preview_prompt_bg_color

17.76.3.127 preview_prompt_font_family `QString preview_prompt_font_family`

17.76.3.128 preview_prompt_font_size `quint8 preview_prompt_font_size`

17.76.3.129 preview_prompt_font_style `QString preview_prompt_font_style`

17.76.3.130 preview_prompt_text_color `QRgb preview_prompt_text_color`

17.76.3.131 preview_ruler_color `QRgb preview_ruler_color`

17.76.3.132 tabWidget `QTabWidget* tabWidget`

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

- embroiderymodder2/[embroidermodder.h](#)
- embroiderymodder2/[settings-dialog.cpp](#)

17.77 StatusBar Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- [StatusBar \(MainWindow *mw, QWidget *parent=0\)](#)
- [void setMouseCoord \(EmbReal x, EmbReal y\)](#)

Public Attributes

- [StatusBarButton * statusBarSnapButton](#)
- [StatusBarButton * statusBarGridButton](#)
- [StatusBarButton * statusBarRulerButton](#)
- [StatusBarButton * statusBarOrthoButton](#)
- [StatusBarButton * statusBarPolarButton](#)
- [StatusBarButton * statusBarQSnapButton](#)
- [StatusBarButton * statusBarQTrackButton](#)
- [StatusBarButton * statusBarLwtButton](#)
- [QLabel * statusBarMouseCoord](#)

17.77.1 Constructor & Destructor Documentation

17.77.1.1 StatusBar() `StatusBar (`

```
    MainWindow * mw,  
    QWidget * parent = 0 )
```

[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/>

17.77.2 Member Function Documentation

```
17.77.2.1 setMouseCoord() void setMouseCoord (
    EmbReal x,
    EmbReal y )
```

17.77.3 Member Data Documentation

17.77.3.1 **statusBarGridButton** StatusBarButton* statusBarGridButton

17.77.3.2 **statusBarLwtButton** StatusBarButton* statusBarLwtButton

17.77.3.3 **statusBarMouseCoord** QLabel* statusBarMouseCoord

17.77.3.4 **statusBarOrthoButton** StatusBarButton* statusBarOrthoButton

17.77.3.5 **statusBarPolarButton** StatusBarButton* statusBarPolarButton

17.77.3.6 **statusBarQSnapButton** StatusBarButton* statusBarQSnapButton

17.77.3.7 **statusBarQTrackButton** StatusBarButton* statusBarQTrackButton

17.77.3.8 **statusBarRulerButton** StatusBarButton* statusBarRulerButton

17.77.3.9 **statusBarSnapButton** StatusBarButton* statusBarSnapButton

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

- [embroidermodder2/embroidermodder.h](#)
- [embroidermodder2/statusbar.cpp](#)

17.78 StatusBarButton Class Reference

```
#include <embroidermodder.h>
```

Public Slots

- void [enableLwt \(\)](#)
- void [disableLwt \(\)](#)
- void [enableReal \(\)](#)
- void [disableReal \(\)](#)

Public Member Functions

- [StatusBarButton \(QString buttonText, MainWindow *mw, StatusBar *statbar, QWidget *parent=0\)](#)

Public Attributes

- [MainWindow * mainWin](#)
- [StatusBar * statusbar](#)

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)

17.78.1 Constructor & Destructor Documentation

```
17.78.1.1 StatusBarButton() StatusBarButton (
    QString buttonText,
    MainWindow * mw,
    StatusBar * statbar,
    QWidget * parent = 0 )
```

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/>

17.78.2 Member Function Documentation

```
17.78.2.1 contextMenuEvent() void contextMenuEvent (
    QContextMenuEvent * event = 0 ) [protected]
```

```
17.78.2.2 disableLwt void disableLwt () [slot]
```

```
17.78.2.3 disableReal void disableReal () [slot]
```

```
17.78.2.4 enableLwt void enableLwt () [slot]
```

```
17.78.2.5 enableReal void enableReal () [slot]
```

17.78.2.6 settingsGrid void settingsGrid () [private], [slot]

17.78.2.7 settingsLwt void settingsLwt () [private], [slot]

17.78.2.8 settingsOrtho void settingsOrtho () [private], [slot]

17.78.2.9 settingsPolar void settingsPolar () [private], [slot]

17.78.2.10 settingsQSnap void settingsQSnap () [private], [slot]

17.78.2.11 settingsQTrack void settingsQTrack () [private], [slot]

17.78.2.12 settingsRuler void settingsRuler () [private], [slot]

17.78.2.13 settingsSnap void settingsSnap () [private], [slot]

17.78.2.14 toggleGrid void toggleGrid (
 bool on) [private], [slot]

17.78.2.15 toggleLwt void toggleLwt (
 bool on) [private], [slot]

17.78.2.16 toggleOrtho void toggleOrtho (
 bool on) [private], [slot]

17.78.2.17 togglePolar void togglePolar (
 bool on) [private], [slot]

17.78.2.18 toggleQSnap void toggleQSnap (
 bool on) [private], [slot]

17.78.2.19 toggleQTrack void toggleQTrack (
 bool on) [private], [slot]

17.78.2.20 toggleRuler void toggleRuler (
 bool on) [private], [slot]

17.78.2.21 toggleSnap void toggleSnap (
 bool on) [private], [slot]

17.78.3 Member Data Documentation

17.78.3.1 mainWin `MainWindow*` mainWin

17.78.3.2 statusbar `StatusBar*` statusbar

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

- `embroidermodder2/embroidermodder.h`
- `embroidermodder2/statusbar-button.cpp`

17.79 StxThread_ Struct Reference

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

Public Attributes

- `char* colorCode`
- `char* colorName`
- `char* sectionName`
- `SubDescriptor* subDescriptors`
- `EmbColor stxColor`

17.79.1 Member Data Documentation

17.79.1.1 colorCode `char* colorCode`

17.79.1.2 colorName `char* colorName`

17.79.1.3 sectionName `char* sectionName`

17.79.1.4 stxColor `EmbColor stxColor`

17.79.1.5 subDescriptors `SubDescriptor* subDescriptors`

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

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

17.80 SubDescriptor_ Struct Reference

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

Public Attributes

- `int someNum`
- `int someInt`
- `int someOtherInt`
- `char* colorCode`
- `char* colorName`

17.80.1 Member Data Documentation

17.80.1.1 colorCode char* colorCode

Todo better variable naming

17.80.1.2 colorName char* colorName

17.80.1.3 someInt int someInt

Todo better variable naming

17.80.1.4 someNum int someNum

17.80.1.5 someOtherInt int someOtherInt

Todo better variable naming

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.81 SvgAttribute_ Struct Reference

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

Public Attributes

- [char * name](#)
- [char * value](#)

17.81.1 Member Data Documentation

17.81.1.1 name char* name

17.81.1.2 value char* value

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.82 TextSingleObject Class Reference

```
#include <embroidermodder.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, **EmbReal** x, **EmbReal** y, QRgb rgb, QGraphicsItem *parent=0)
- **TextSingleObject** (**TextSingleObject** *obj, QGraphicsItem *parent=0)
- **~TextSingleObject** ()
- virtual int **type** () const
- void **init** (const QString &str, **EmbReal** x, **EmbReal** y, QRgb rgb, Qt::PenStyle lineType)
- QList< QPainterPath > **objectSavePathList** () const
- QList< QPainterPath > **subPathList** () const
- QString **objectText** () const
- QString **objectTextFont** () const
- QString **objectTextJustify** () const
- **EmbReal** **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
- **EmbReal** **objectX** () const
- **EmbReal** **objectY** () const
- QStringList **objectTextJustifyList** () const
- void **setObjectText** (const QString &str)
- void **setObjectTextFont** (const QString &font)
- void **setObjectTextJustify** (const QString &justify)
- void **setObjectTextSize** (**EmbReal** 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** (**EmbReal** x, **EmbReal** y)
- void **setObjectX** (**EmbReal** x)
- void **setObjectY** (**EmbReal** 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`
- `EmbReal objectLineWidth () const`
- `QPainterPath objectPath () const`
- `int objectRubberMode () const`
- `QPointF objectRubberPoint (const QString &key) const`
- `QString objectRubberText (const QString &key) const`
- `QPointF objectCenter () const`
- `EmbReal objectCenterX () const`
- `EmbReal objectCenterY () const`
- `void setObjectCenter (EmbVector center)`
- `void setObjectCenterX (EmbReal centerX)`
- `void setObjectCenterY (EmbReal centerY)`
- `QRectF rect () const`
- `void setRect (const QRectF &r)`
- `void setRect (EmbReal x, EmbReal y, EmbReal w, EmbReal h)`
- `QLineF line () const`
- `void setLine (const QLineF &li)`
- `void setLine (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `void setObjectColor (const QColor &color)`
- `void setObjectColorRGB (QRgb rgb)`
- `void setObjectLineType (Qt::PenStyle lineType)`
- `void setObjectLineWidth (EmbReal 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`

Public Attributes

- `QString objText`
- `QString objTextFont`
- `QString objTextJustify`
- `EmbReal objTextSize`
- `bool objTextBold`
- `bool objTextItalic`
- `bool objTextUnderline`
- `bool objTextStrikeOut`
- `bool objTextOverline`
- `bool objTextBackward`
- `bool objTextUpsideDown`
- `QPainterPath objTextPath`

Public Attributes inherited from BaseObject

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

Protected Member Functions

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

Protected Member Functions inherited from BaseObject

- QPen `lineWeightPen () const`
- void `realRender` (QPainter *painter, const QPainterPath &renderPath)

17.82.1 Member Enumeration Documentation**17.82.1.1 anonymous enum** anonymous enum

Enumerator

Type	
------	--

17.82.2 Constructor & Destructor Documentation**17.82.2.1 TextSingleObject() [1/2]** `TextSingleObject (`
 `const QString & str,`
 `EmbReal x,`
 `EmbReal y,`
 `QRgb rgb,`
 `QGraphicsItem * parent = 0)`

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/>**17.82.2.2 TextSingleObject() [2/2]** `TextSingleObject (`
 `TextSingleObject * obj,`
 `QGraphicsItem * parent = 0)`**17.82.2.3 ~TextSingleObject()** `~TextSingleObject ()`**17.82.3 Member Function Documentation**

17.82.3.1 allGripPoints() `QList< QPointF > allGripPoints () [virtual]`
Implements [BaseObject](#).

17.82.3.2 gripEdit() `void gripEdit (const QPointF & before, const QPointF & after) [virtual]`
Implements [BaseObject](#).

17.82.3.3 init() `void init (const QString & str, EmbReal x, EmbReal y, QRgb rgb, Qt::PenStyle lineType)`

17.82.3.4 mouseSnapPoint() `QPointF mouseSnapPoint (const QPointF & mousePoint) [virtual]`
Implements [BaseObject](#).

17.82.3.5 objectPos() `QPointF objectPos () const [inline]`

17.82.3.6 objectSavePathList() `QList< QPainterPath > objectSavePathList () const [inline]`

17.82.3.7 objectText() `QString objectText () const [inline]`

17.82.3.8 objectTextBackward() `bool objectTextBackward () const [inline]`

17.82.3.9 objectTextBold() `bool objectTextBold () const [inline]`

17.82.3.10 objectTextFont() `QString objectTextFont () const [inline]`

17.82.3.11 objectTextItalic() `bool objectTextItalic () const [inline]`

17.82.3.12 objectTextJustify() `QString objectTextJustify () const [inline]`

17.82.3.13 objectTextJustifyList() `QStringList objectTextJustifyList () const`

17.82.3.14 objectTextOverline() `bool objectTextOverline () const [inline]`

17.82.3.15 objectTextSize() `EmbReal objectTextSize () const [inline]`

17.82.3.16 `objectTextStrikeOut()` `bool objectTextStrikeOut () const [inline]`

17.82.3.17 `objectTextUnderline()` `bool objectTextUnderline () const [inline]`

17.82.3.18 `objectTextUpsideDown()` `bool objectTextUpsideDown () const [inline]`

17.82.3.19 `objectX()` `EmbReal objectX () const [inline]`

17.82.3.20 `objectY()` `EmbReal objectY () const [inline]`

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

17.82.3.22 `setObjectPos()` [1/2] `void setObjectPos (`
 `const QPointF & point) [inline]`

17.82.3.23 `setObjectPos()` [2/2] `void setObjectPos (`
 `EmbReal x,`
 `EmbReal y) [inline]`

17.82.3.24 `setObjectText()` `void setObjectText (`
 `const QString & str)`

17.82.3.25 `setObjectTextBackward()` `void setObjectTextBackward (`
 `bool val)`

17.82.3.26 `setObjectTextBold()` `void setObjectTextBold (`
 `bool val)`

17.82.3.27 `setObjectTextFont()` `void setObjectTextFont (`
 `const QString & font)`

17.82.3.28 `setObjectTextItalic()` `void setObjectTextItalic (`
 `bool val)`

17.82.3.29 `setObjectTextJustify()` `void setObjectTextJustify (`
 `const QString & justify)`

17.82.3.30 `setObjectTextOverline()` void setObjectTextOverline (bool val)

17.82.3.31 `setObjectTextSize()` void setObjectTextSize (EmbReal size)

17.82.3.32 `setObjectTextStrikeOut()` void setObjectTextStrikeOut (bool val)

17.82.3.33 `setObjectTextStyle()` void setObjectTextStyle (bool bold, bool italic, bool under, bool strike, bool over)

17.82.3.34 `setObjectTextUnderline()` void setObjectTextUnderline (bool val)

17.82.3.35 `setObjectTextUpsideDown()` void setObjectTextUpsideDown (bool val)

17.82.3.36 `setObjectX()` void setObjectX (EmbReal x) [inline]

17.82.3.37 `setObjectY()` void setObjectY (EmbReal y) [inline]

17.82.3.38 `subPathList()` QList< QPainterPath > subPathList () const

17.82.3.39 `type()` virtual int type () const [inline], [virtual]
Reimplemented from [BaseObject](#).

17.82.3.40 `updateRubber()` void updateRubber (QPainter * painter = 0)

17.82.3.41 `vulcanize()` void vulcanize () [virtual]
Implements [BaseObject](#).

17.82.4 Member Data Documentation

17.82.4.1 `objText` QString objText

17.82.4.2 objTextBackward bool objTextBackward

17.82.4.3 objTextBold bool objTextBold

17.82.4.4 objTextFont QString objTextFont

17.82.4.5 objTextItalic bool objTextItalic

17.82.4.6 objTextJustify QString objTextJustify

17.82.4.7 objTextOverline bool objTextOverline

17.82.4.8 objTextPath QPainterPath objTextPath

17.82.4.9 objTextSize EmbReal objTextSize

17.82.4.10 objTextStrikeOut bool objTextStrikeOut

17.82.4.11 objTextUnderline bool objTextUnderline

17.82.4.12 objTextUpsideDown bool objTextUpsideDown

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

- embroiderymodder2/[embroidermodder.h](#)
- embroiderymodder2/[object-textsingle.cpp](#)

17.83 thread_color_ Struct Reference

#include <embroidery.h>

Public Attributes

- char [name](#) [22]
- unsigned int [hex_code](#)
- int [manufacturer_code](#)

17.83.1 Member Data Documentation

17.83.1.1 hex_code unsigned int hex_code

17.83.1.2 manufacturer_code int manufacturer_code

17.83.1.3 name char name[22]

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

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

17.84 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]

17.84.1 Member Data Documentation

17.84.1.1 auxFormat char auxFormat**17.84.1.2 creatorName** char creatorName[50]**17.84.1.3 hoopX** float hoopX**17.84.1.4 hoopY** float hoopY**17.84.1.5 modifierName** char modifierName[50]**17.84.1.6 reserved** char reserved[31]**17.84.1.7 stitchGranularity** float stitchGranularity

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.85 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]

17.85.1 Member Data Documentation

17.85.1.1 hoopSize unsigned short hoopSize

17.85.1.2 length unsigned int length

17.85.1.3 numStiches unsigned short numStiches

17.85.1.4 reserved unsigned short reserved[7]

17.85.1.5 sigVersion unsigned int sigVersion

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

- [extern/libembroidery/src/embroidery_internal.h](#)

17.86 UiObject_ Struct Reference

This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.

```
#include <embroidermodder.h>
```

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](#)
- char [id](#) [200]
- int [pattern_index](#)
- char [type](#) [200]
- int [object_index](#)
- bool [selectable](#)
- [EmbColor color](#)

17.86.1 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)

17.86.1.1 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.

17.86.2 Member Data Documentation

17.86.2.1 center `EmbVector` center

17.86.2.2 color `EmbColor` color

17.86.2.3 command `char` command[200]

17.86.2.4 controlPointLabels `char` controlPointLabels[10][200]

17.86.2.5 controlPoints `EmbVector` controlPoints[10]

17.86.2.6 firstRun `bool` firstRun

17.86.2.7 fname `char` fname[200]

17.86.2.8 id `char` id[200]

17.86.2.9 maxPoints `int` maxPoints

17.86.2.10 minPoints `int` minPoints

17.86.2.11 mode `unsigned int` mode

17.86.2.12 n_controlPoints int n_controlPoints

17.86.2.13 numPoints int numPoints

17.86.2.14 object_index int object_index

17.86.2.15 path_desc char path_desc[1000]

17.86.2.16 pattern_index int pattern_index

17.86.2.17 rotation EmbReal rotation

17.86.2.18 scale EmbVector scale

17.86.2.19 selectable bool selectable

17.86.2.20 text char text[200]

17.86.2.21 textFont char textFont[200]

17.86.2.22 textHeight float textHeight

17.86.2.23 textJustify int textJustify

17.86.2.24 textRotation float textRotation

17.86.2.25 type char type[200]

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

- [embroidermodder2/embroidermodder.h](#)

17.87 UndoableAddCommand Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- [UndoableAddCommand](#) (const QString &text, [BaseObject](#) *obj, [View](#) *v, [QUndoCommand](#) *parent=0)
- void [undo](#) ()
- void [redo](#) ()

Public Attributes

- `BaseObject * object`
- `View * gview`

17.87.1 Constructor & Destructor Documentation**17.87.1.1 UndoableAddCommand()** `UndoableAddCommand (`

```
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

17.87.2 Member Function Documentation**17.87.2.1 redo()** `void redo ()`**17.87.2.2 undo()** `void undo ()`**17.87.3 Member Data Documentation****17.87.3.1 gview** `View* gview`**17.87.3.2 object** `BaseObject* object`

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

- `embroidermodder2/embroidermodder.h`
- `embroidermodder2/undo-commands.cpp`

17.88 UndoableDeleteCommand Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- `UndoableDeleteCommand (const QString &text, BaseObject *obj, View *v, QUndoCommand *parent=0)`
- `void undo ()`
- `void redo ()`

Public Attributes

- `BaseObject * object`
- `View * gview`

17.88.1 Constructor & Destructor Documentation

```
17.88.1.1 UndoableDeleteCommand() UndoableDeleteCommand (
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

17.88.2 Member Function Documentation

17.88.2.1 **redo()** void redo ()

17.88.2.2 **undo()** void undo ()

17.88.3 Member Data Documentation

17.88.3.1 **gview** View* gview

17.88.3.2 **object** BaseObject* object

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

- embroidermodder2/embroidermodder.h
- embroidermodder2/undo-commands.cpp

17.89 UndoableGripEditCommand Class Reference

```
#include <embroidermodder.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** ()

Public Attributes

- BaseObject * object
- View * gview
- QPointF before
- QPointF after

17.89.1 Constructor & Destructor Documentation

```
17.89.1.1 UndoableGripEditCommand() UndoableGripEditCommand (
    const QPointF beforePoint,
    const QPointF afterPoint,
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

17.89.2 Member Function Documentation

17.89.2.1 redo() void redo ()

17.89.2.2 undo() void undo ()

17.89.3 Member Data Documentation

17.89.3.1 after QPointF after

17.89.3.2 before QPointF before

17.89.3.3 gview View* gview

17.89.3.4 object BaseObject* object

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

- embroidermodder2/embroidermodder.h
- embroidermodder2/undo-commands.cpp

17.90 UndoableMirrorCommand Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- UndoableMirrorCommand (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, const QString &text, BaseObject *obj, View *v, QUndoCommand *parent=0)
- void **undo** ()
- void **redo** ()
- void **mirror** ()

Public Attributes

- BaseObject * **object**
- View * **gview**
- QLineF **mirrorLine**

17.90.1 Constructor & Destructor Documentation

17.90.1.1 UndoableMirrorCommand() UndoableMirrorCommand (

```
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2,
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

17.90.2 Member Function Documentation

17.90.2.1 mirror() void mirror ()

17.90.2.2 redo() void redo ()

17.90.2.3 undo() void undo ()

17.90.3 Member Data Documentation

17.90.3.1 gview [View*](#) gview

17.90.3.2 mirrorLine [QLineF](#) mirrorLine

17.90.3.3 object [BaseObject*](#) object

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

- [embroidermodder2/embroidermodder.h](#)
- [embroidermodder2/undo-commands.cpp](#)

17.91 UndoableMoveCommand Class Reference

#include <embroidermodder.h>

Public Member Functions

- [UndoableMoveCommand](#) ([EmbReal](#) deltaX, [EmbReal](#) deltaY, const [QString](#) &text, [BaseObject](#) *obj, [View](#) *v, [QUndoCommand](#) *parent=0)
- void [undo](#) ()
- void [redo](#) ()

Public Attributes

- [BaseObject](#) * object
- [View](#) * gview
- [EmbReal](#) dx
- [EmbReal](#) dy

17.91.1 Constructor & Destructor Documentation

17.91.1.1 UndoableMoveCommand() [UndoableMoveCommand](#) (

```
    EmbReal deltaX,
    EmbReal deltaY,
    const QString &text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

17.91.2 Member Function Documentation

17.91.2.1 redo() void redo ()

17.91.2.2 undo() void undo ()

17.91.3 Member Data Documentation

17.91.3.1 dx EmbReal dx

17.91.3.2 dy EmbReal dy

17.91.3.3 gview View* gview

17.91.3.4 object BaseObject* object

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

- [embroidermodder2/embroidermodder.h](#)
- [embroidermodder2/undo-commands.cpp](#)

17.92 UndoableNavCommand Class Reference

```
#include <embroidermodder.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](#) ()

Public Attributes

- QString [navType](#)
- QTransform [fromTransform](#)
- QTransform [toTransform](#)
- QPointF [fromCenter](#)
- QPointF [toCenter](#)
- bool [done](#)
- [View](#) * [gview](#)

17.92.1 Constructor & Destructor Documentation

17.92.1.1 UndoableNavCommand() [UndoableNavCommand](#) (

```
    const QString & type,
    View * v,
    QUndoCommand * parent = 0 )
```

17.92.2 Member Function Documentation

17.92.2.1 id() int id () const [inline]

17.92.2.2 mergeWith() bool mergeWith (
const QUndoCommand * command)

17.92.2.3 redo() void redo ()

17.92.2.4 undo() void undo ()

17.92.3 Member Data Documentation

17.92.3.1 done bool done

17.92.3.2 fromCenter QPointF fromCenter

17.92.3.3 fromTransform QTransform fromTransform

17.92.3.4 gview [View*](#) gview

17.92.3.5 navType QString navType

17.92.3.6 toCenter QPointF toCenter

17.92.3.7 toTransform QTransform toTransform

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

- [embroidermodder2/embroidermodder.h](#)
- [embroidermodder2/undo-commands.cpp](#)

17.93 UndoableRotateCommand Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- [UndoableRotateCommand](#) ([EmbReal](#) pivotPointX, [EmbReal](#) pivotPointY, [EmbReal](#) rotAngle, const [QString](#) &text, [BaseObject](#) *obj, [View](#) *v, [QUndoCommand](#) *parent=0)
- void [undo](#) ()
- void [redo](#) ()
- void [rotate](#) ([EmbReal](#) x, [EmbReal](#) y, [EmbReal](#) rot)

Public Attributes

- `BaseObject * object`
- `View * gview`
- `EmbReal pivotX`
- `EmbReal pivotY`
- `EmbReal angle`

17.93.1 Constructor & Destructor Documentation**17.93.1.1 UndoableRotateCommand()** `UndoableRotateCommand (`

```
    EmbReal pivotPointX,  
    EmbReal pivotPointY,  
    EmbReal rotAngle,  
    const QString & text,  
    BaseObject * obj,  
    View * v,  
    QUndoCommand * parent = 0 )
```

17.93.2 Member Function Documentation**17.93.2.1 redo()** `void redo ()`**17.93.2.2 rotate()** `void rotate (`

```
    EmbReal x,  
    EmbReal y,  
    EmbReal rot )
```

17.93.2.3 undo() `void undo ()`**17.93.3 Member Data Documentation****17.93.3.1 angle** `EmbReal angle`**17.93.3.2 gview** `View* gview`**17.93.3.3 object** `BaseObject* object`**17.93.3.4 pivotX** `EmbReal pivotX`**17.93.3.5 pivotY** `EmbReal pivotY`

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

- `embroidermodder2/embroidermodder.h`
- `embroidermodder2/undo-commands.cpp`

17.94 UndoableScaleCommand Class Reference

```
#include <embroidermodder.h>
```

Public Member Functions

- `UndoableScaleCommand (EmbReal x, EmbReal y, EmbReal scaleFactor, const QString &text, BaseObject *obj, View *v, QUndoCommand *parent=0)`
- `void undo ()`
- `void redo ()`

Public Attributes

- `BaseObject * object`
- `View * gview`
- `EmbReal dx`
- `EmbReal dy`
- `EmbReal factor`

17.94.1 Constructor & Destructor Documentation

```
17.94.1.1 UndoableScaleCommand() UndoableScaleCommand (
```

```
    EmbReal x,
```

```
    EmbReal y,
```

```
    EmbReal scaleFactor,
```

```
    const QString & text,
```

```
    BaseObject * obj,
```

```
    View * v,
```

```
    QUndoCommand * parent = 0 )
```

17.94.2 Member Function Documentation

```
17.94.2.1 redo() void redo ( )
```

```
17.94.2.2 undo() void undo ( )
```

17.94.3 Member Data Documentation

```
17.94.3.1 dx EmbReal dx
```

```
17.94.3.2 dy EmbReal dy
```

```
17.94.3.3 factor EmbReal factor
```

```
17.94.3.4 gview View* gview
```

17.94.3.5 object `BaseObject*` `object`

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

- `embroidermodder2/embroidermodder.h`
- `embroidermodder2/undo-commands.cpp`

17.95 UndoEditor Class Reference

```
#include <embroidermodder.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`

Public Attributes

- `QWidget * focusWidget`
- `QString iconDir`
- `int iconSize`
- `QUndoGroup * undoGroup`
- `QUndoView * undoView`

17.95.1 Constructor & Destructor Documentation

17.95.1.1 UndoEditor() `UndoEditor (`

```
    const QString & iconDirectory = QString(),
    QWidget * widgetToFocus = 0,
    QWidget * parent = 0 )
```

17.95.1.2 ~UndoEditor() `~UndoEditor ()`

17.95.2 Member Function Documentation

17.95.2.1 addStack() `void addStack (`

```
    QUndoStack * stack )
```

17.95.2.2 canRedo() `bool canRedo () const`

17.95.2.3 canUndo() bool canUndo () const

17.95.2.4 redo void redo () [slot]

17.95.2.5 redoText() QString redoText () const

17.95.2.6 undo void undo () [slot]

17.95.2.7 undoText() QString undoText () const

17.95.2.8 updateCleanIcon void updateCleanIcon (
 bool opened) [slot]

17.95.3 Member Data Documentation

17.95.3.1 focusWidget QWidget* focusWidget

17.95.3.2 iconDir QString iconDir

17.95.3.3 iconSize int iconSize

17.95.3.4 undoGroup QUndoGroup* undoGroup

17.95.3.5 undoView QUndoView* undoView

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

- embroiderymodder2/[embroidermodder.h](#)
- embroiderymodder2/[undo-editor.cpp](#)

17.96 UndoHistory_ Struct Reference

#include <embroidermodder.h>

Public Attributes

- std::vector< std::string > [data](#)
- int [position](#)

17.96.1 Detailed Description

Todo document this.

17.96.2 Member Data Documentation

17.96.2.1 data std::vector<std::string> data**17.96.2.2 position** int position

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

- [embroidermodder2/embroidermodder.h](#)

17.97 View Class Reference

```
#include <embroidermodder.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](#) (EmbReal dx, EmbReal dy)
- void [cut](#) ()
- void [copy](#) ()
- void [paste](#) ()
- void [repeatAction](#) ()
- void [moveAction](#) ()
- void [scaleAction](#) ()
- void [scaleSelected](#) (EmbReal x, EmbReal y, EmbReal factor)
- void [rotateAction](#) ()
- void [rotateSelected](#) (EmbReal x, EmbReal y, EmbReal rot)
- void [mirrorSelected](#) (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal 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, EmbReal x, EmbReal y, EmbReal 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 ¢erPoint)
- 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)`

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`
- EmbReal `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`

17.97.1 Constructor & Destructor Documentation

17.97.1.1 `View() View (`

```
    MainWindow * mw,
    QGraphicsScene * theScene,
    QWidget * parent )
```

17.97.1.2 `~View() ~View ()`

17.97.2 Member Function Documentation

17.97.2.1 `addObject() void addObject (`

```
    BaseObject * obj )
```

17.97.2.2 `addToRubberRoom() void addToRubberRoom (`

```
    QGraphicsItem * item ) [slot]
```

17.97.2.3 `alignScenePointWithViewPoint() void alignScenePointWithViewPoint (`

```
    const QPointF & scenePoint,
    const QPoint & viewPoint ) [private]
```

17.97.2.4 `allowRubber() bool allowRubber () [slot]`

17.97.2.5 `allowZoomIn()` `bool allowZoomIn ()`

17.97.2.6 `allowZoomOut()` `bool allowZoomOut ()`

17.97.2.7 `center()` `QPointF center () [inline]`

17.97.2.8 `centerAt()` `void centerAt (const QPointF & centerPoint)`

17.97.2.9 `clearRubberRoom()` `void clearRubberRoom () [slot]`

17.97.2.10 `clearSelection()` `void clearSelection () [slot]`

17.97.2.11 `contextMenuEvent()` `void contextMenuEvent (QContextMenuEvent * event) [protected]`

17.97.2.12 `copy()` `void copy () [slot]`

17.97.2.13 `copySelected()` `void copySelected () [private]`

17.97.2.14 `cornerButtonClicked()` `void cornerButtonClicked () [slot]`

17.97.2.15 `createGrid()` `void createGrid (const QString & gridType) [slot]`

17.97.2.16 `createGridIso()` `void createGridIso () [private]`

17.97.2.17 `createGridPolar()` `void createGridPolar () [private]`

17.97.2.18 `createGridRect()` `void createGridRect () [private]`

17.97.2.19 `createObjectList()` `QList< QGraphicsItem * > createObjectList (QList< QGraphicsItem * > list) [private]`

17.97.2.20 `createOrigin()` `void createOrigin () [private]`

17.97.2.21 **createRulerTextPath()** QPainterPath createRulerTextPath (float x, float y, QString str, float height) [private]

17.97.2.22 **cut** void cut () [slot]

17.97.2.23 **deleteObject()** void deleteObject (BaseObject * obj)

17.97.2.24 **deletePressed** void deletePressed () [slot]

17.97.2.25 **deleteSelected** void deleteSelected () [slot]

17.97.2.26 **disableMoveRapidFire** void disableMoveRapidFire () [slot]

17.97.2.27 **drawBackground()** void drawBackground (QPainter * painter, const QRectF & rect) [protected]

17.97.2.28 **drawForeground()** void drawForeground (QPainter * painter, const QRectF & rect) [protected]

17.97.2.29 **enableMoveRapidFire** void enableMoveRapidFire () [slot]

17.97.2.30 **enterEvent()** void enterEvent (QEvent * event) [protected]

17.97.2.31 **escapePressed** void escapePressed () [slot]

17.97.2.32 **getUndoStack()** QUndoStack * getUndoStack () [inline]

17.97.2.33 **isLwtEnabled** bool isLwtEnabled () [slot]

17.97.2.34 **isRealEnabled** bool isRealEnabled () [slot]

17.97.2.35 **loadRulerSettings()** void loadRulerSettings () [private]

17.97.2.36 `mirrorSelected` void mirrorSelected (

```
EmbReal x1,
EmbReal y1,
EmbReal x2,
EmbReal y2 ) [slot]
```

17.97.2.37 `mouseDoubleClickEvent()` void mouseDoubleClickEvent (

```
QMouseEvent * event ) [protected]
```

17.97.2.38 `mouseMoveEvent()` void mouseMoveEvent (

```
QMouseEvent * event ) [protected]
```

17.97.2.39 `mousePressEvent()` void mousePressEvent (

```
QMouseEvent * event ) [protected]
```

17.97.2.40 `mouseReleaseEvent()` void mouseReleaseEvent (

```
QMouseEvent * event ) [protected]
```

17.97.2.41 `moveAction` void moveAction () [slot]

17.97.2.42 `moveSelected` void moveSelected (

```
EmbReal dx,
EmbReal dy ) [slot]
```

17.97.2.43 `numSelected` int numSelected () [slot]

17.97.2.44 `panDown` void panDown () [slot]

17.97.2.45 `panLeft` void panLeft () [slot]

17.97.2.46 `panPoint` void panPoint () [slot]

17.97.2.47 `panRealTime` void panRealTime () [slot]

17.97.2.48 `panRight` void panRight () [slot]

17.97.2.49 `panStart()` void panStart (

```
const QPoint & point ) [private]
```

17.97.2.50 `panUp` void panUp () [slot]

17.97.2.51 **paste** void paste () [slot]

17.97.2.52 **previewOff** void previewOff () [slot]

17.97.2.53 **previewOn** void previewOn (
 int *clone*,
 int *mode*,
 EmbReal *x*,
 EmbReal *y*,
 EmbReal *data*) [slot]

17.97.2.54 **recalculateLimits()** void recalculateLimits ()

17.97.2.55 **repeatAction** void repeatAction () [slot]

17.97.2.56 **rotateAction** void rotateAction () [slot]

17.97.2.57 **rotateSelected** void rotateSelected (
 EmbReal *x*,
 EmbReal *y*,
 EmbReal *rot*) [slot]

17.97.2.58 **roundToMultiple()** int roundToMultiple (
 bool *roundUp*,
 int *numToRound*,
 int *multiple*) [private]

17.97.2.59 **scaleAction** void scaleAction () [slot]

17.97.2.60 **scaleSelected** void scaleSelected (
 EmbReal *x*,
 EmbReal *y*,
 EmbReal *factor*) [slot]

17.97.2.61 **selectAll** void selectAll () [slot]

17.97.2.62 **selectionChanged** void selectionChanged () [slot]

17.97.2.63 **setBackgroundColor** void setBackgroundColor (
 QRgb *color*) [slot]

17.97.2.64 setCornerButton void setCornerButton () [slot]

17.97.2.65 setCrossHairColor void setCrossHairColor (QRgb color) [slot]

17.97.2.66 setCrossHairSize void setCrossHairSize (quint8 percent) [slot]

17.97.2.67 setGridColor void setGridColor (QRgb color) [slot]

17.97.2.68 setRubberMode void setRubberMode (int mode) [slot]

17.97.2.69 setRubberPoint void setRubberPoint (const QString & key, const QPointF & point) [slot]

17.97.2.70 setRubberText void setRubberText (const QString & key, const QString & txt) [slot]

17.97.2.71 setRulerColor void setRulerColor (QRgb color) [slot]

17.97.2.72 setSelectBoxColors void setSelectBoxColors (QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha) [slot]

17.97.2.73 showScrollBars void showScrollBars (bool val) [slot]

17.97.2.74 spareRubber void spareRubber (qint64 id) [slot]

17.97.2.75 startGripping() void startGripping (BaseObject * obj) [private]

17.97.2.76 stopGripping() void stopGripping (bool accept = false) [private]

17.97.2.77 `toggleGrid` void toggleGrid (bool on) [slot]

17.97.2.78 `toggleLwt` void toggleLwt (bool on) [slot]

17.97.2.79 `toggleOrtho` void toggleOrtho (bool on) [slot]

17.97.2.80 `togglePolar` void togglePolar (bool on) [slot]

17.97.2.81 `toggleQSnap` void toggleQSnap (bool on) [slot]

17.97.2.82 `toggleQTrack` void toggleQTrack (bool on) [slot]

17.97.2.83 `toggleReal` void toggleReal (bool on) [slot]

17.97.2.84 `toggleRuler` void toggleRuler (bool on) [slot]

17.97.2.85 `toggleSnap` void toggleSnap (bool on) [slot]

17.97.2.86 `updateMouseCoords()` void updateMouseCoords (int x, int y) [private]

17.97.2.87 `vulcanizeObject()` void vulcanizeObject (BaseObject * obj)

17.97.2.88 `vulcanizeRubberRoom` void vulcanizeRubberRoom () [slot]

17.97.2.89 `wheelEvent()` void wheelEvent (QWheelEvent * event) [protected]

17.97.2.90 `willOverflowInt32()` bool willOverflowInt32 (qint64 a, qint64 b) [private]

17.97.2.91 willUnderflowInt32() bool willUnderflowInt32 (

```
    qint64 a,
    qint64 b ) [private]
```

17.97.2.92 zoomExtents void zoomExtents () [slot]

17.97.2.93 zoomIn void zoomIn () [slot]

17.97.2.94 zoomOut void zoomOut () [slot]

17.97.2.95 zoomSelected void zoomSelected () [slot]

17.97.2.96 zoomToPoint() void zoomToPoint (

```
    const QPoint & mousePoint,
    int zoomDir )
```

17.97.2.97 zoomWindow void zoomWindow () [slot]

17.97.3 Member Data Documentation

17.97.3.1 crosshairColor QRgb crosshairColor [private]

17.97.3.2 crosshairSize quint32 crosshairSize [private]

17.97.3.3 cutCopyMousePoint QPointF cutCopyMousePoint [private]

17.97.3.4 gridColor QColor gridColor [private]

17.97.3.5 gridPath QPainterPath gridPath [private]

17.97.3.6 gripBaseObj [BaseObject](#)* gripBaseObj [private]

17.97.3.7 gripColorCool QRgb gripColorCool [private]

17.97.3.8 gripColorHot QRgb gripColorHot [private]

17.97.3.9 grippingActive bool grippingActive [private]

17.97.3.10 **gripSize** quint8 gripSize [private]

17.97.3.11 **gscene** QGraphicsScene* gscene [private]

17.97.3.12 **hashDeletedObjects** QHash<qint64, QGraphicsItem*> hashDeletedObjects [private]

17.97.3.13 **mainWin** MainWindow* mainWin [private]

17.97.3.14 **movePoint** QPoint movePoint [private]

17.97.3.15 **movingActive** bool movingActive [private]

17.97.3.16 **originPath** QPainterPath originPath [private]

17.97.3.17 **panDistance** int panDistance [private]

17.97.3.18 **panningActive** bool panningActive [private]

17.97.3.19 **panningPointActive** bool panningPointActive [private]

17.97.3.20 **panningRealTimeActive** bool panningRealTimeActive [private]

17.97.3.21 **panStartX** int panStartX [private]

17.97.3.22 **panStartY** int panStartY [private]

17.97.3.23 **pasteDelta** QPointF pasteDelta [private]

17.97.3.24 **pasteObjectItemGroup** QGraphicsItemGroup* pasteObjectItemGroup [private]

17.97.3.25 **pastingActive** bool pastingActive [private]

17.97.3.26 **pickBoxSize** quint8 pickBoxSize [private]

17.97.3.27 **pressPoint** QPoint pressPoint [private]

17.97.3.28 previewActive bool previewActive [private]

17.97.3.29 previewData EmbReal previewData [private]

17.97.3.30 previewMode int previewMode [private]

17.97.3.31 previewObjectItemGroup QGraphicsItemGroup* previewObjectItemGroup [private]

17.97.3.32 previewObjectList QList<QGraphicsItem*> previewObjectList [private]

17.97.3.33 previewPoint QPointF previewPoint [private]

17.97.3.34 qSnapActive bool qSnapActive [private]

17.97.3.35 qsnapApertureSize quint8 qsnapApertureSize [private]

17.97.3.36 qsnapLocatorColor QRgb qsnapLocatorColor [private]

17.97.3.37 qsnapLocatorSize quint8 qsnapLocatorSize [private]

17.97.3.38 qSnapToggle bool qSnapToggle [private]

17.97.3.39 rapidMoveActive bool rapidMoveActive [private]

17.97.3.40 releasePoint QPoint releasePoint [private]

17.97.3.41 rubberRoomList QList<QGraphicsItem*> rubberRoomList [private]

17.97.3.42 rulerColor QColor rulerColor [private]

17.97.3.43 rulerMetric bool rulerMetric [private]

17.97.3.44 rulerPixelSize quint8 rulerPixelSize [private]

17.97.3.45 sceneGripPoint QPointF sceneGripPoint [private]

17.97.3.46 sceneMousePoint QPointF sceneMousePoint [private]

17.97.3.47 sceneMovePoint QPointF sceneMovePoint [private]

17.97.3.48 scenePressPoint QPointF scenePressPoint [private]

17.97.3.49 sceneReleasePoint QPointF sceneReleasePoint [private]

17.97.3.50 selectBox SelectBox* selectBox [private]

17.97.3.51 selectingActive bool selectingActive [private]

17.97.3.52 spareRubberList QList<qint64> spareRubberList [private]

17.97.3.53 tempBaseObj BaseObject* tempBaseObj [private]

17.97.3.54 undoStack QUndoStack* undoStack [private]

17.97.3.55 viewMousePoint QPoint viewMousePoint [private]

17.97.3.56 zoomWindowActive bool zoomWindowActive [private]

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

- embroidery2/embroidermodder.h
- embroidery2/view.cpp

17.98 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](#)

17.98.1 Member Data Documentation**17.98.1.1 attributeOffset** int attributeOffset**17.98.1.2 colorLength** int colorLength**17.98.1.3 magicCode** int magicCode**17.98.1.4 negativeXHoopSize** short negativeXHoopSize**17.98.1.5 negativeYHoopSize** short negativeYHoopSize**17.98.1.6 numberOfColors** int numberOfColors**17.98.1.7 numberOfStitches** int numberOfStitches**17.98.1.8 positiveXHoopSize** short positiveXHoopSize**17.98.1.9 positiveYHoopSize** short positiveYHoopSize**17.98.1.10 stringVal** unsigned char stringVal[8]**17.98.1.11 unknown** short unknown**17.98.1.12 xOffset** int xOffset**17.98.1.13 yOffset** int yOffset

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

- [extern/libembroidery/src/embroidery_internal.h](#)

18 File Documentation

18.1 CODE_OF_CONDUCT.md File Reference

18.2 embroidermodder2/cmdprompt.cpp File Reference

```
#include "embroidermodder.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>
```

18.3 embroidermodder2/docs/fdl-1.3.md File Reference

18.4 embroidermodder2/embdetails-dialog.cpp File Reference

```
#include <QGridLayout>
#include <QLabel>
#include <QDialogButtonBox>
#include <QScrollArea>
#include <QGroupBox>
#include "embroidermodder.h"
```

18.5 embroidermodder2/embroidermodder.cpp File Reference

```
#include "embroidermodder.h"
```

Functions

- static void **usage** (void)
usage
- static void **version** ()
version
- int **main** (int argc, char *argv[])
qMain

Variables

- static const char * **_appName_** = "Embroidermodder"
- static const char * **_appVer_** = "v2.0 alpha"
- static bool **exitApp** = false

18.5.1 Detailed Description

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/>

18.5.2 Function Documentation

18.5.2.1 main() int main (

```
    int argc,
    char * argv[ ] )
```

qMain

Parameters

<i>argc</i>	
<i>argv</i>	

Returns

18.5.2.2 `usage()` static void usage (void) [static]
usage

18.5.2.3 `version()` static void version () [static]
version

18.5.3 Variable Documentation

18.5.3.1 `_appName_` const char* `_appName_` = "Embroidermodder" [static]

18.5.3.2 `_appVer_` const char* `_appVer_` = "v2.0 alpha" [static]

18.5.3.3 `exitApp` bool `exitApp` = false [static]

18.6 embroidermodder2/embroidermodder.h File Reference

```
#include <cstdio>
#include <cstdlib>
#include <cstring>
#include <cstdint>
#include <cmath>
#include <ctime>
#include <cinttypes>
#include <vector>
#include <unordered_map>
#include <string>
#include <filesystem>
#include "embroidery.h"
#include "toml.h"
#include <QAction>
#include <QApplication>
#include <QComboBox>
#include <QDialogButtonBox>
#include <QGraphicsScene>
#include <QGraphicsPathItem>
#include <QGroupBox>
#include <QLineEdit>
#include <QList>
#include <QMainWindow>
#include <QMdiArea>
```

```
#include <QMessageBox>
#include <QMetaObject>
#include <QObject>
#include <QTextLayout>
#include <QToolBar>
#include <QSplitter>
#include <QUndoStack>
#include <QVBoxLayout>
#include <QtPrintSupport>
```

Classes

- struct [UndoHistory_](#)
- struct [UiObject_](#)

This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.

- struct [EmbView_](#)
- struct [Settings_](#)

Settings System.

- class [BaseObject](#)
- class [ArcObject](#)
- class [CircleObject](#)
- class [DimLeaderObject](#)
- class [EllipseObject](#)
- class [ImageObject](#)
- class [LineObject](#)
- class [PathObject](#)
- class [PointObject](#)
- class [PolygonObject](#)
- class [PolylineObject](#)
- class [RectObject](#)
- class [SaveObject](#)
- class [TextSingleObject](#)
- class [Application](#)
- class [CmdPromptInput](#)
- class [CmdPromptHistory](#)

The Command Prompt History class.

- class [CmdPromptSplitter](#)
- class [CmdPromptHandle](#)
- class [CmdPrompt](#)
- class [EmbDetailsDialog](#)
- class [ImageWidget](#)
- class [LayerManager](#)
- class [MainWindow](#)

The MainWindow class.

- class [MdiWindow](#)
- class [MdiArea](#)
- class [PreviewDialog](#)
- class [PropertyEditor](#)
- class [SelectBox](#)
- class [Settings_Dialog](#)
- class [StatusBar](#)
- class [StatusBarButton](#)
- class [UndoEditor](#)
- class [UndoableAddCommand](#)

- class [UndoableDeleteCommand](#)
- class [UndoableMoveCommand](#)
- class [UndoableRotateCommand](#)
- class [UndoableScaleCommand](#)
- class [UndoableNavCommand](#)
- class [UndoableGripEditCommand](#)
- class [UndoableMirrorCommand](#)
- class [View](#)

Typedefs

- typedef std::unordered_map< std::string, std::string > [Dictionary](#)
- typedef struct [UndoHistory_UndoHistory](#)
- typedef std::unordered_map< std::string, [Dictionary](#) > [Index](#)
- typedef struct [UiObject_UiObject](#)

This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.
- typedef struct [EmbView_EmbView](#)
- typedef struct [Settings_Settings](#)

Settings System.

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_linetypeselector , 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 }
- enum [UiMode](#) {
 DEFAULT_MODE , CIRCLE_MODE_1P_RAD , CIRCLE_MODE_1P_DIA , CIRCLE_MODE_2P ,
 CIRCLE_MODE_3P , CIRCLE_MODE_TTR , ELLIPSE_MODE_MAJORDIAMETER_MINORRADIUS ,
 ELLIPSE_MODE_MAJORRADIUS_MINORRADIUS ,
 ELLIPSE_MODE_ELLIPSE_ROTATION , DOLPHIN_MODE_NUM_POINTS , DOLPHIN_MODE_XSCALE ,
 DOLPHIN_MODE_YSCALE ,
 HEART_MODE_NUM_POINTS , HEART_MODE_STYLE , HEART_MODE_XSCALE , HEART_MODE_YSCALE ,
 ROTATE_MODE_NORMAL , ROTATE_MODE_REFERENCE , SCALE_MODE_NORMAL , SCALE_MODE_REFERENCE ,
 SINGLE_LINE_TEXT_MODE_JUSTIFY , SINGLE_LINE_TEXT_MODE_SETFONT , SINGLE_LINE_TEXT_MODE_SETGEOM ,
 SINGLE_LINE_TEXT_MODE_RAPID ,
 STAR_MODE_NUM_POINTS , STAR_MODE_CENTER_PT , STAR_MODE_RAD_OUTER , STAR_MODE_RAD_INNER ,
 SNOWFLAKE_MODE_NUM_POINTS , SNOWFLAKE_MODE_XSCALE , SNOWFLAKE_MODE_YSCALE }

- enum `OBJ_KEYS` {
 `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` }

Functions

- int `read_settings (const char *settings_file)`
Read the settings from file which aren't editable by the user. These files need to be placed in the install folder.
- void `write_settings (const char *fname)`
- `QPointF to_QPointF (EmbVector a)`
- `EmbVector to_EmbVector (QPointF a)`
- `EmbVector operator+ (EmbVector a, EmbVector b)`
- `EmbVector operator- (EmbVector a, EmbVector b)`
- `EmbReal radians (EmbReal degrees)`
- `EmbReal degrees (EmbReal radian)`
- `MainWindow * mainWin ()`
mainWin

Variables

- static const `EmbReal emb_constant_pi = 3.14159265358979323846`

18.6.1 Detailed Description

Embroidermodder 2.

Copyright 2013-2023 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/>

The only header for the GUI part: a good overview of this source code.

18.6.2 Typedef Documentation

18.6.2.1 Dictionary `typedef std::unordered_map<std::string, std::string> Dictionary`

18.6.2.2 EmbView `typedef struct EmbView_ EmbView`

18.6.3 EmbViews

The EmbView describes how the render is displayed.

18.6.3.1 Index `typedef std::unordered_map<std::string, Dictionary> Index`

Todo document this.

18.6.3.2 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.

18.6.3.3 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)

18.6.3.4 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.

18.6.3.5 UndoHistory `typedef struct UndoHistory_ UndoHistory`

Todo document this.

18.6.4 Enumeration Type Documentation**18.6.4.1 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	
ACTION_changelog	
ACTION_tipoftheday	
ACTION_about	
ACTION_whatsthis	

Enumerator

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_linetypeselector	
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	

18.6.4.2 OBJ_KEYS enum [OBJ_KEYS](#)

Enumerator

OBJ_TYPE	
OBJ_NAME	
OBJ_LAYER	
OBJ_COLOR	
OBJ_LTYPE	
OBJ_LWT	
OBJ_RUBBER	

18.6.4.3 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	

18.6.4.4 OBJ_LWT_VALUES enum [OBJ_LWT_VALUES](#)

Enumerator

OBJ_LWT_BYLAYER	
OBJ_LWT_BYBLOCK	
OBJ_LWT_DEFAULT	
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	

Enumerator

OBJ_LWT_17	
OBJ_LWT_18	
OBJ_LWT_19	
OBJ_LWT_20	
OBJ_LWT_21	
OBJ_LWT_22	
OBJ_LWT_23	
OBJ_LWT_24	

18.6.4.5 OBJ_RUBBER_VALUES enum [OBJ_RUBBER_VALUES](#)

Enumerator

OBJ_RUBBER_OFF	
OBJ_RUBBER_ON	
OBJ_RUBBER_CIRCLE_1P_RAD	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.
OBJ_RUBBER_CIRCLE_1P_DIA	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.
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	
OBJ_RUBBER_POLYGON_CIRCUMSCRIBE	
OBJ_RUBBER_POLYLINE	
OBJ_RUBBER_IMAGE	
OBJ_RUBBER_RECTANGLE	
OBJ_RUBBER_TEXTSINGLE	

18.6.4.6 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	

18.6.4.7 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	
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	

Enumerator

OBJ_TYPE_TEXTMULTI	
OBJ_TYPE_TEXTSINGLE	

18.6.4.8 PREVIEW_CLONE_VALUES enum [PREVIEW_CLONE_VALUES](#)

Enumerator

PREVIEW_CLONE_NULL	
PREVIEW_CLONE_SELECTED	
PREVIEW_CLONE_RUBBER	

18.6.4.9 PREVIEW_MODE_VALUES enum [PREVIEW_MODE_VALUES](#)

Enumerator

PREVIEW_MODE_NULL	
PREVIEW_MODE_MOVE	
PREVIEW_MODE_ROTATE	
PREVIEW_MODE_SCALE	

18.6.4.10 SPARE_RUBBER_VALUES enum [SPARE_RUBBER_VALUES](#)

Enumerator

SPARE_RUBBER_OFF	
SPARE_RUBBER_PATH	
SPARE_RUBBER_POLYGON	
SPARE_RUBBER_POLYLINE	

18.6.4.11 UiMode enum [UiMode](#)

Enumerator

DEFAULT_MODE	
CIRCLE_MODE_1P_RAD	
CIRCLE_MODE_1P_DIA	
CIRCLE_MODE_2P	
CIRCLE_MODE_3P	
CIRCLE_MODE_TTR	
ELLIPSE_MODE_MAJORDIAMETER_MINORRADIUS	
ELLIPSE_MODE_MAJORRADIUS_MINORRADIUS	
ELLIPSE_MODE_ELLIPSE_ROTATION	
DOLPHIN_MODE_NUM_POINTS	
DOLPHIN_MODE_XSCALE	

Enumerator

DOLPHIN_MODE_YSCALE	
HEART_MODE_NUM_POINTS	
HEART_MODE_STYLE	
HEART_MODE_XSCALE	
HEART_MODE_YSCALE	
ROTATE_MODE_NORMAL	
ROTATE_MODE_REFERENCE	
SCALE_MODE_NORMAL	
SCALE_MODE_REFERENCE	
SINGLE_LINE_TEXT_MODE_JUSTIFY	
SINGLE_LINE_TEXT_MODE_SETFONT	
SINGLE_LINE_TEXT_MODE_SETGEOM	
SINGLE_LINE_TEXT_MODE_RAPID	
STAR_MODE_NUM_POINTS	
STAR_MODE_CENTER_PT	
STAR_MODE_RAD_OUTER	
STAR_MODE_RAD_INNER	
SNOWFLAKE_MODE_NUM_POINTS	
SNOWFLAKE_MODE_XSCALE	
SNOWFLAKE_MODE_YSCALE	

18.6.5 Function Documentation

18.6.5.1 degrees() `EmbReal degrees (EmbReal radian) [inline]`

18.6.5.2 mainWin() `MainWindow * mainWin ()`
mainWin

Returns

18.6.5.3 operator+() `EmbVector operator+ (EmbVector a, EmbVector b) [inline]`

18.6.5.4 operator-() `EmbVector operator- (EmbVector a, EmbVector b) [inline]`

18.6.5.5 radians() `EmbReal radians (EmbReal degrees) [inline]`

```
18.6.5.6 read_settings() int read_settings (
    const char * settings_file )
```

Read the settings from file which aren't editable by the user. These files need to be placed in the install folder.

```
18.6.5.7 to_EmbVector() EmbVector to_EmbVector (
    QPointF a ) [inline]
```

```
18.6.5.8 to_QPointF() QPointF to_QPointF (
    EmbVector a ) [inline]
```

```
18.6.5.9 write_settings() void write_settings (
    const char * fname )
```

18.6.6 Variable Documentation

```
18.6.6.1 emb_constant_pi const EmbReal emb_constant_pi = 3.14159265358979323846 [static]
```

18.7 embroidermodder.h

[Go to the documentation of this file.](#)

```
00001
00021 #ifndef __EMBROIDERMODDER.Utility_H__
00022 #define __EMBROIDERMODDER.Utility_H__
00023
00024 #include <cstdio>
00025 #include <cstdlib>
00026 #include <cstring>
00027 #include <cstdint>
00028 #include <cmath>
00029 #include <ctime>
00030 #include <cinttypes>
00031
00032 #include <vector>
00033 #include <unordered_map>
00034 #include <string>
00035 #include <filesystem>
00036
00037 #include "embroidery.h"
00038 #include "toml.h"
00039
00040 #include <QAction>
00041 #include <QApplication>
00042 #include <QComboBox>
00043 #include <QDialogButtonBox>
00044 #include <QGraphicsScene>
00045 #include <QGraphicsPathItem>
00046 #include <QGroupBox>
00047 #include <QLineEdit>
00048 #include <QList>
00049 #include <QMainWindow>
00050 #include <QMdiArea>
00051 #include <QMessageBox>
00052 #include <QMetaObject>
00053 #include <QObject>
00054 #include <QTextLayout>
00055 #include <QToolBar>
00056 #include <QSplitter>
00057 #include <QUndoStack>
00058 #include <QVBoxLayout>
00059
00060 #include <QtPrintSupport>
00061
00062 class ImageWidget;
00063 class MdiArea;
00064 class MdiWindow;
00065 class View;
00066 class StatusBar;
00067 class StatusBarButton;
00068 class CmdPrompt;
```

```

00069 class PropertyEditor;
00070 class UndoEditor;
00071 class MainWindow;
00072
00073 class BaseObject;
00074 class SelectBox;
00075 class ArcObject;
00076 class BlockObject;
00077 class CircleObject;
00078 class DimAlignedObject;
00079 class DimAngularObject;
00080 class DimArcLengthObject;
00081 class DimDiameterObject;
00082 class DimLeaderObject;
00083 class DimLinearObject;
00084 class DimOrdinateObject;
00085 class DimRadiusObject;
00086 class EllipseObject;
00087 class EllipseArcObject;
00088 class HatchObject;
00089 class ImageObject;
00090 class InfiniteLineObject;
00091 class LineObject;
00092 class PathObject;
00093 class PointObject;
00094 class PolygonObject;
00095 class PolylineObject;
00096 class RayObject;
00097 class RectObject;
00098 class SplineObject;
00099 class TextMultiObject;
00100 class TextSingleObject;
00101
00106 typedef std::unordered_map<std::string, std::string> Dictionary;
00107
00111 typedef struct UndoHistory_ {
00112     std::vector<std::string> data; /*< \todo document this */
00113     int position; /*< \todo document this */
00114 } UndoHistory;
00115
00119 typedef std::unordered_map<std::string, Dictionary> Index;
00120
00153 typedef struct UiObject_ {
00154     char fname[200]; /*< \todo document this */
00155     char command[200]; /*< \todo document this */
00156     bool firstRun; /*< If this UiObject has been put through the
00157                     user interaction processor. */
00158     EmbVector controlPoints[10]; /*< Storage for however many Rubber Points the
00159                             design needs. */
00160     char controlPointLabels[10][200]; /*< Storage for the labels for the Rubber Points
00161                             using the same indexing. */
00162     int n_controlPoints; /*< The number of entries in the controlPoints
00163                         and controlPointLabels. */
00164     int numPoints; /*< The number of points if we consider the object as a Polygon. */
00165     int minPoints; /*< The minimum number of points needed to make the
00166                     polygon look somewhat like the design. */
00167     int maxPoints; /*< The maximum number of points before adding more will
00168                     do nothing but slow down the program. */
00169     EmbVector center; /*< Where the polygon is centered. */
00170     EmbVector scale; /*< The scale of the object: note that the default
00171                     may not be (1.0, 1.0). */
00172     EmbReal rotation; /*< \todo document this */
00173     unsigned int mode; /*< The mode argument records what kind of design we are
00174                         using and how to interact with it. */
00175     char path_desc[1000]; /*< The SVG style path spec. */
00176     char text[200]; /*< The text to be rendered to the scene. */
00177     int textJustify; /*< One of the JUSTIFY_* constants representing what kind
00178                         of alignment to use. */
00179     char textFont[200]; /*< The file name of the font to use. */
00180     float textHeight; /*< The text height. */
00181     float textRotation; /*< The rotation of the text in the scene. */
00182     //GLuint texture_id; /*< Pointer to a texture that may be rendered to the object. */
00183     char id[200]; /*< \todo document this */
00184     int pattern_index; /*< \todo document this */
00185     char type[200]; /*< \todo document this */
00186     int object_index; /*< \todo document this */
00187     bool selectable; /*< \todo document this */
00188     EmbColor color; /*< \todo document this */
00189 } UiObject;
00190
00198 typedef struct EmbView_ {
00199     EmbPattern *pattern; /*< \todo document this */
00200     EmbVector origin; /*< \todo document this */
00201     float scale; /*< \todo document this */
00202     char grid_type[200]; /*< \todo document this */
00203     int ui_mode; /*< \todo document this */
00204     bool snap_mode; /*< \todo document this */

```

```

00205     bool grid_mode; /*< \todo document this */
00206     bool ruler_mode; /*< \todo document this */
00207     bool ortho_mode; /*< \todo document this */
00208     bool polar_mode; /*< \todo document this */
00209     bool qsnap_mode; /*< \todo document this */
00210     bool gtrack_mode; /*< \todo document this */
00211     bool lwt_mode; /*< \todo document this */
00212     bool real_render; /*< \todo document this */
00213     bool metric; /*< \todo document this */
00214     bool simulate; /*< \todo document this */
00215     clock_t simulation_start; /*< \todo document this */
00216     char text_font[200]; /*< \todo document this */
00217     float text_size; /*< \todo document this */
00218     float text_angle; /*< \todo document this */
00219     bool text_style_bold; /*< \todo document this */
00220     bool text_style_italic; /*< \todo document this */
00221     bool text_style_underline; /*< \todo document this */
00222     bool text_style_overline; /*< \todo document this */
00223     bool text_style_strikeout; /*< \todo document this */
00224     char filename[200]; /*< \todo document this */
00225     UndoHistory undo_history; /*< \todo document this */
00226     int selected[100]; /*< \todo document this */
00227     int n_selected; /*< \todo document this */
00228     int rubber_mode; /*< . */
00229 } EmbView;
0030
00241 typedef struct Settings_ {
00242     char version[200]; /*< \todo document this */
00243     bool running; /*< \todo document this */
00244     bool testing; /*< \todo document this */
00245     int debug_mode; /*< \todo document this */
00246     bool show_about_dialog; /*< \todo document this */
00247     bool show_settings_editor; /*< \todo document this */
00248     bool show_editor; /*< \todo document this */
00249     bool show_details_dialog; /*< \todo document this */
00250     bool show_open_file_dialog; /*< \todo document this */
00251     int icon_size; /*< \todo document this */
00252     char icon_theme[200]; /*< \todo document this */
00253     int pattern_index; /*< \todo document this */
00254     char assets_dir[200]; /*< \todo document this */
00255     bool use_translation; /*< \todo document this */
00256     char language[200]; /*< \todo document this */
00257     bool mdi_bg_use_logo; /*< \todo document this */
00258     bool mdi_bg_use_texture; /*< \todo document this */
00259     bool mdi_bg_use_color; /*< \todo document this */
00260     char general_mdi_bg_logo[200]; /*< \todo document this */
00261     char general_mdi_bg_texture[200]; /*< \todo document this */
00262     unsigned int general_mdi_bg_color; /*< \todo document this */
00263     bool tip_of_the_day; /*< \todo document this */
00264     unsigned int general_current_tip; /*< \todo document this */
00265     bool general_system_help_browser; /*< \todo document this */
00266     bool general_check_for_updates; /*< \todo document this */
00267     bool display_use_opengl; /*< \todo document this */
00268     bool display_renderhint_aa; /*< \todo document this */
00269     bool display_renderhint_text_aa; /*< \todo document this */
00270     bool display_renderhint_smooth_pix; /*< \todo document this */
00271     bool display_renderhint_high_aa; /*< \todo document this */
00272     bool display_renderhint_noncosmetic; /*< \todo document this */
00273     bool display_show_scrollbars; /*< \todo document this */
00274     int display_scrollbar_widget_num; /*< \todo document this */
00275     unsigned int display_crosshair_color; /*< \todo document this */
00276     unsigned int display_bg_color; /*< \todo document this */
00277     unsigned int display_selectbox_left_color; /*< \todo document this */
00278     unsigned int display_selectbox_left_fill; /*< \todo document this */
00279     unsigned int display_selectbox_right_color; /*< \todo document this */
00280     unsigned int display_selectbox_right_fill; /*< \todo document this */
00281     unsigned char display_selectbox_alpha; /*< \todo document this */
00282     float display_zoomscale_in; /*< \todo document this */
00283     float display_zoomscale_out; /*< \todo document this */
00284     unsigned char display_crossover_percent; /*< \todo document this */
00285     char display_units[200]; /*< \todo document this */
00286     char opensave_custom_filter[200]; /*< \todo document this */
00287     char opensave_open_format[200]; /*< \todo document this */
00288     bool opensave_open_thumbnail; /*< \todo document this */
00289     char opensave_save_format[200]; /*< \todo document this */
00290     bool opensave_save_thumbnail; /*< \todo document this */
00291     unsigned char opensave_recent_max_files; /*< \todo document this */
00292     char opensave_recent_list_of_files[20][200]; /*< \todo document this */
00293     char opensave_recent_directory[200]; /*< \todo document this */
00294     unsigned char opensave_trim_dst_num_jumps; /*< \todo document this */
00295     char printing_default_device[200]; /*< \todo document this */
00296     bool printing_use_last_device; /*< \todo document this */
00297     bool printing_disable_bg; /*< \todo document this */
00298     bool grid_show_on_load; /*< \todo document this */
00299     bool grid_show_origin; /*< \todo document this */
00300     bool grid_color_match_crosshair; /*< \todo document this */
00301     unsigned int grid_color; /*< \todo document this */

```

```

00302     bool grid_load_from_file; /*< \todo document this */
00303     char grid_type[200]; /*< \todo document this */
00304     bool grid_center_on_origin; /*< \todo document this */
00305     EmbVector grid_center; /*< \todo document this */
00306     float grid_size_x; /*< \todo document this */
00307     float grid_size_y; /*< \todo document this */
00308     float grid_spacing_x; /*< \todo document this */
00309     float grid_spacing_y; /*< \todo document this */
00310     float grid_size_radius; /*< \todo document this */
00311     float grid_spacing_radius; /*< \todo document this */
00312     float grid_spacing_angle; /*< \todo document this */
00313     bool ruler_show_on_load; /*< \todo document this */
00314     bool ruler_metric; /*< \todo document this */
00315     unsigned int ruler_color; /*< \todo document this */
00316     unsigned char ruler_pixel_size; /*< \todo document this */
00317     bool qsnap_enabled; /*< \todo document this */
00318     unsigned int qsnap_locator_color; /*< \todo document this */
00319     unsigned char qsnap_locator_size; /*< \todo document this */
00320     unsigned char qsnap_aperture_size; /*< \todo document this */
00321     bool qsnap_endpoint; /*< \todo document this */
00322     bool qsnap_midpoint; /*< \todo document this */
00323     bool qsnap_center; /*< \todo document this */
00324     bool qsnap_node; /*< \todo document this */
00325     bool qsnap_quadrant; /*< \todo document this */
00326     bool qsnap_intersection; /*< \todo document this */
00327     bool qsnap_extension; /*< \todo document this */
00328     bool qsnap_insertion; /*< \todo document this */
00329     bool qsnap_perpendicular; /*< \todo document this */
00330     bool qsnap_tangent; /*< \todo document this */
00331     bool qsnap_nearest; /*< \todo document this */
00332     bool qsnap_apparent; /*< \todo document this */
00333     bool qsnap_parallel; /*< \todo document this */
00334     bool lwt_show_lwt; /*< \todo document this */
00335     bool lwt_real_render; /*< \todo document this */
00336     bool shift_hold; /*< \todo document this */
00337     float lwt_default_lwt; /*< \todo document this */
00338     bool selection_mode_pickfirst; /*< \todo document this */
00339     bool selection_mode_pickadd; /*< \todo document this */
00340     bool selection_mode_pickdrag; /*< \todo document this */
00341     unsigned int selection_coolgrip_color; /*< \todo document this */
00342     unsigned int selection_hotgrip_color; /*< \todo document this */
00343     unsigned char selection_grip_size; /*< \todo document this */
00344     unsigned char selection_pickbox_size; /*< \todo document this */
00345     char text_font[200]; /*< \todo document this */
00346     float text_size; /*< \todo document this */
00347     float text_angle; /*< \todo document this */
00348     bool text_style_bold; /*< \todo document this */
00349     bool text_style_italic; /*< \todo document this */
00350     bool text_style_underline; /*< \todo document this */
00351     bool text_style_overline; /*< \todo document this */
00352     bool text_style_strikeout; /*< \todo document this */
00353     Dictionary *texture_list; /*< \todo document this */
00354     unsigned int ticks_color; /*< \todo document this */
00355     unsigned int shine_color; /*< \todo document this */
00356     char to_open[200]; /*< \todo document this */
00357     char menu_action[200]; /*< \todo document this */
00358     char current_directory[200]; /*< \todo document this */
00359     EmbReal zoomInLimit; /*< */
00360     EmbReal zoomOutLimit; /*< */
00361     EmbVector grid_spacing; /*< */
00362     float ruler_width; /*< */
00363     float tick_depth; /*< */
00364     float major_tick_seperation; /*< */
00365     float needle_speed; /*< */
00366     float stitch_time; /*< */
00367 } Settings;
00368
00369 enum COMMAND_ACTIONS
00370 {
00371     ACTION_donothing,
00372     ACTION_new,
00373     ACTION_open,
00374     ACTION_save,
00375     ACTION_saveas,
00376     ACTION_print,
00377     ACTION_designdetails,
00378     ACTION_exit,
00379     ACTION_cut,
00380     ACTION_copy,
00381     ACTION_paste,
00382     ACTION_undo,
00383     ACTION_redo,
00384     // Window Menu
00385     ACTION_windowclose,
00386 }
```

```
00389     ACTION_windowcloseall,
00390     ACTION_windowcascade,
00391     ACTION_windowtile,
00392     ACTION_windownext,
00393     ACTION_windowprevious,
00394     // Help Menu
00395     ACTION_help,
00396     ACTION_changelog,
00397     ACTION_tipoftheday,
00398     ACTION_about,
00399     ACTION_whatsthis,
00400     // Icons
00401     ACTION_icon16,
00402     ACTION_icon24,
00403     ACTION_icon32,
00404     ACTION_icon48,
00405     ACTION_icon64,
00406     ACTION_icon128,
00407
00408     ACTION_settingsdialog,
00409
00410     // LayerToolBar
00411     ACTION_makelayercurrent,
00412     ACTION_layers,
00413     ACTION_layerselector,
00414     ACTION_layerprevious,
00415     ACTION_colorselector,
00416     ACTION_linetypeselector,
00417     ACTION_lineweightselector,
00418     ACTION_hidealllayers,
00419     ACTION_showalllayers,
00420     ACTION_freezealllayers,
00421     ACTION_thawalllayers,
00422     ACTION_lockalllayers,
00423     ACTION_unlockalllayers,
00424     //TextToolBar
00425     ACTION_textbold,
00426     ACTION_textitalic,
00427     ACTION_textunderline,
00428     ACTION_textstrikeout,
00429     ACTION_textoverline,
00430     //ZoomToolBar
00431     ACTION_zoomrealtime,
00432     ACTION_zompprevious,
00433     ACTION_zoomwindow,
00434     ACTION_zoomdynamic,
00435     ACTION_zoomscale,
00436     ACTION_zoomcenter,
00437     ACTION_zoomin,
00438     ACTION_zoomout,
00439     ACTION_zoomselected,
00440     ACTION_zoomall,
00441     ACTION_zoomextents,
00442     //PanSubMenu
00443     ACTION_panrealtime,
00444     ACTION_panpoint,
00445     ACTION_panleft,
00446     ACTION_panright,
00447     ACTION_panup,
00448     ACTION_pandown,
00449
00450     ACTION_day,
00451     ACTION_night,
00452
00453     //TODO: ACTION_spellcheck,
00454     //TODO: ACTION_quickselect,
00455
00456     ACTION_null
00457 };
00458
00459 enum UiMode {
00460     DEFAULT_MODE,
00461
00462     CIRCLE_MODE_1P_RAD,
00463     CIRCLE_MODE_1P_DIA,
00464     CIRCLE_MODE_2P,
00465     CIRCLE_MODE_3P,
00466     CIRCLE_MODE_TTR,
00467
00468     ELLIPSE_MODE_MAJORDIAMETER_MINORRADIUS,
00469     ELLIPSE_MODE_MAJORRADIUS_MINORRADIUS,
00470     ELLIPSE_MODE_ELLIPSE_ROTATION,
00471
00472     DOLPHIN_MODE_NUM_POINTS,
00473     DOLPHIN_MODE_XSCALE,
00474     DOLPHIN_MODE_YSCALE,
00475
```

```

00476     HEART_MODE_NUM_POINTS,
00477     HEART_MODE_STYLE,
00478     HEART_MODE_XSCALE,
00479     HEART_MODE_YSCALE,
00480
00481     ROTATE_MODE_NORMAL,
00482     ROTATE_MODE_REFERENCE,
00483
00484     SCALE_MODE_NORMAL,
00485     SCALE_MODE_REFERENCE,
00486
00487     SINGLE_LINE_TEXT_MODE_JUSTIFY,
00488     SINGLE_LINE_TEXT_MODE_SETFONT,
00489     SINGLE_LINE_TEXT_MODE_SETGEOM,
00490     SINGLE_LINE_TEXT_MODE_RAPID,
00491
00492     STAR_MODE_NUM_POINTS,
00493     STAR_MODE_CENTER_PT,
00494     STAR_MODE_RAD_OUTER,
00495     STAR_MODE_RAD_INNER,
00496
00497     SNOWFLAKE_MODE_NUM_POINTS,
00498     SNOWFLAKE_MODE_XSCALE,
00499     SNOWFLAKE_MODE_YSCALE
00500 };
00501
00502 //Custom Data used in QGraphicsItems
00503
00504 //          (      int, const QVariant)
00505 //I.E. object.setData(OBJ_TYPE, OBJ_TYPE_LINE);
00506 //I.E. object.setData(OBJ_LAYER, "OUTLINE");
00507 //I.E. object.setData(OBJ_COLOR, 123);
00508 //I.E. object.setData(OBJ_LTYPE, OBJ_LTYPE_CONT);
00509
00510 //Keys
00511 enum OBJ_KEYS {
00512     OBJ_TYPE = 0, //value type - int: See OBJ_TYPE_VALUES
00513     OBJ_NAME = 1, //value type - str: See OBJ_NAME_VALUES
00514     OBJ_LAYER = 2, //value type - str: "USER", "DEFINED", "STRINGS", etc...
00515     OBJ_COLOR = 3, //value type - int: 0-255 //TODO: Use color chart in formats/format-dxf.h for this
00516     OBJ_LTYPE = 4, //value type - int: See OBJ_LTYPE_VALUES
00517     OBJ_LWT = 5, //value type - int: 0-27
00518     OBJ_RUBBER = 6 //value type - int: See OBJ_RUBBER_VALUES
00519 };
00520
00521 //Values
00522 enum OBJ_TYPE_VALUES {
00523     OBJ_TYPE_NULL = 0,
00524     /*< NOTE: Allow this enum to evaluate false */
00525     OBJ_TYPE_BASE = 100000,
00526     /*< NOTE: Values >= 65536 ensure compatibility with qgraphicsitem_cast() */
00527     OBJ_TYPE_ARC = 100001,
00528     OBJ_TYPE_BLOCK = 100002,
00529     /*< For the block type, that has to exist for SVG. */
00530     OBJ_TYPE_CIRCLE = 100003,
00531     OBJ_TYPE_DIMALIGNED = 100004,
00532     /*< For the Aligned Dimension, that has to exist for DXF drawings. */
00533     OBJ_TYPE_DIMANGULAR = 100005,
00534     /*< For the Angular Dimension, that has to exist for DXF drawings. */
00535     OBJ_TYPE_DIMARCLENGTH = 100006,
00536     /*< For the Arc Length Dimension, that has to exist for DXF drawings. */
00537     OBJ_TYPE_DIMDIAMETER = 100007,
00538     OBJ_TYPE_DIMLEADER = 100008,
00539     OBJ_TYPE_DIMLINEAR = 100009,
00540     /*< For the Linear Dimension, that has to exist for DXF drawings. */
00541     OBJ_TYPE_DIMORDINATE = 100010,
00542     /*< For the Ordinate Dimension, that has to exist for DXF drawings. */
00543     OBJ_TYPE_DIMRADIUS = 100011,
00544     /*< For the Radial Dimension, that has to exist for DXF drawings. */
00545     OBJ_TYPE_ELLIPSE = 100012,
00546     OBJ_TYPE_ELLIPSEARC = 100013,
00547     OBJ_TYPE_RUBBER = 100014,
00548     OBJ_TYPE_GRID = 100015,
00549     OBJ_TYPE_HATCH = 100016,
00550     OBJ_TYPE_IMAGE = 100017,
00551     OBJ_TYPE_INFINITELINE = 100018,
00552     /*< For the Infinite Line object. Which should be removed from output as it exists
00553     for drafting reasons. */
00554     OBJ_TYPE_LINE = 100019,
00555     OBJ_TYPE_PATH = 100020,
00556     OBJ_TYPE_POINT = 100021,
00557     OBJ_TYPE_POLYGON = 100022,
00558     OBJ_TYPE_POLYLINE = 100023,
00559     OBJ_TYPE_RAY = 100024,
00560     /*< For the Ray object. */
00561     OBJ_TYPE_RECTANGLE = 100025,
00562     OBJ_TYPE_SLOT = 100026,

```

```
00563 OBJ_TYPE_SPLINE = 100027,
00564 OBJ_TYPE_TEXTMULTI = 100028,
00565 OBJ_TYPE_TEXTSINGLE = 100029
00566 };
00567
00568 enum OBJ_LTYPE_VALUES {
00569 //CAD Linetypes
00570 OBJ_LTYPE_CONT = 0,
00571 OBJ_LTYPE_CENTER = 1,
00572 OBJ_LTYPE_DOT = 2,
00573 OBJ_LTYPE_HIDDEN = 3,
00574 OBJ_LTYPE_PHANTOM = 4,
00575 OBJ_LTYPE_ZIGZAG = 5,
00576 //Embroidery Stitchtypes
00577 OBJ_LTYPE_RUNNING = 6, // _____
00578 OBJ_LTYPE_SATIN = 7, // vvvvvvvvvv
00579 OBJ_LTYPE_FISHBONE = 8, // >>>>>
00580 };
00581
00582 enum OBJ_LWT_VALUES {
00583 OBJ_LWT_BYLAYER = -2,
00584 OBJ_LWT_BYBLOCK = -1,
00585 OBJ_LWT_DEFAULT = 0,
00586 OBJ_LWT_01 = 1,
00587 OBJ_LWT_02 = 2,
00588 OBJ_LWT_03 = 3,
00589 OBJ_LWT_04 = 4,
00590 OBJ_LWT_05 = 5,
00591 OBJ_LWT_06 = 6,
00592 OBJ_LWT_07 = 7,
00593 OBJ_LWT_08 = 8,
00594 OBJ_LWT_09 = 9,
00595 OBJ_LWT_10 = 10,
00596 OBJ_LWT_11 = 11,
00597 OBJ_LWT_12 = 12,
00598 OBJ_LWT_13 = 13,
00599 OBJ_LWT_14 = 14,
00600 OBJ_LWT_15 = 15,
00601 OBJ_LWT_16 = 16,
00602 OBJ_LWT_17 = 17,
00603 OBJ_LWT_18 = 18,
00604 OBJ_LWT_19 = 19,
00605 OBJ_LWT_20 = 20,
00606 OBJ_LWT_21 = 21,
00607 OBJ_LWT_22 = 22,
00608 OBJ_LWT_23 = 23,
00609 OBJ_LWT_24 = 24
00610 };
00611
00612 enum OBJ_SNAP_VALUES {
00613 OBJ_SNAP_NULL = 0, //NOTE: Allow this enum to evaluate false
00614 OBJ_SNAP_ENDPOINT = 1,
00615 OBJ_SNAP_MIDPOINT = 2,
00616 OBJ_SNAP_CENTER = 3,
00617 OBJ_SNAP_NODE = 4,
00618 OBJ_SNAP_QUADRANT = 5,
00619 OBJ_SNAP_INTERSECTION = 6,
00620 OBJ_SNAP_EXTENSION = 7,
00621 OBJ_SNAP_INSERTION = 8,
00622 OBJ_SNAP_PERPENDICULAR = 9,
00623 OBJ_SNAP_TANGENT = 10,
00624 OBJ_SNAP_NEAREST = 11,
00625 OBJ_SNAP_APPINTERSECTION = 12,
00626 OBJ_SNAP_PARALLEL = 13
00627 };
00628
00629 enum OBJ_RUBBER_VALUES {
00630 OBJ_RUBBER_OFF = 0, //NOTE: Allow this enum to evaluate false
00631 OBJ_RUBBER_ON = 1, //NOTE: Allow this enum to evaluate true
00632
00633 OBJ_RUBBER_CIRCLE_1P_RAD,
00637 OBJ_RUBBER_CIRCLE_1P_DIA,
00642 OBJ_RUBBER_CIRCLE_2P,
00643 OBJ_RUBBER_CIRCLE_3P,
00644 OBJ_RUBBER_CIRCLE_TTR,
00645 OBJ_RUBBER_CIRCLE_TTT,
00646
00647 OBJ_RUBBER_DIMLEADER_LINE,
00648
00649 OBJ_RUBBER_ELLIPSE_LINE,
00650 OBJ_RUBBER_ELLIPSE_MAJORDIAMETER_MINORRADIUS,
00651 OBJ_RUBBER_ELLIPSE_MAJORRADUS_MINORRADIUS,
00652 OBJ_RUBBER_ELLIPSE_ROTATION,
00653
00654 OBJ_RUBBER_GRIP,
00655
00656 OBJ_RUBBER_LINE,
```

```

00657
00658     OBJ_RUBBER_POLYGON,
00659     OBJ_RUBBER_POLYGON_INSCRIBE,
00660     OBJ_RUBBER_POLYGON_CIRCUMSCRIBE,
00661
00662     OBJ_RUBBER_POLYLINE,
00663
00664     OBJ_RUBBER_IMAGE,
00665
00666     OBJ_RUBBER_RECTANGLE,
00667
00668     OBJ_RUBBER_TEXTSINGLE
00669 };
00670
00671 enum SPARE_RUBBER_VALUES {
00672     SPARE_RUBBER_OFF = 0, //NOTE: Allow this enum to evaluate false
00673     SPARE_RUBBER_PATH,
00674     SPARE_RUBBER_POLYGON,
00675     SPARE_RUBBER_POLYLINE
00676 };
00677
00678 enum PREVIEW_CLONE_VALUES {
00679     PREVIEW_CLONE_NULL = 0, //NOTE: Allow this enum to evaluate false
00680     PREVIEW_CLONE_SELECTED,
00681     PREVIEW_CLONE_RUBBER
00682 };
00683
00684 enum PREVIEW_MODE_VALUES {
00685     PREVIEW_MODE_NULL = 0, //NOTE: Allow this enum to evaluate false
00686     PREVIEW_MODE_MOVE,
00687     PREVIEW_MODE_ROTATE,
00688     PREVIEW_MODE_SCALE
00689 };
00690
00691 int read_settings(const char *settings_file);
00692 void write_settings(const char *fname);
00693
00694 static const EmbReal emb_constant_pi = 3.14159265358979323846;
00695
00696 /**
00697  * \brief Convert \a a to a QPointF.
00698 */
00699 inline QPointF
00700 to_QPointF(EmbVector a)
00701 {
00702     QPointF result(a.x(), a.y());
00703     return result;
00704 }
00705
00706 /**
00707  * \brief Convert \a a to an EmbVector.
00708 */
00709 inline EmbVector
00710 to_EmbVector(QPointF a)
00711 {
00712     EmbVector v;
00713     v.x() = a.x();
00714     v.y() = a.y();
00715     return v;
00716 }
00717
00718 /**
00719  * \brief Wrapper for embVector_add to use the syntax \a a + \a b.
00720 */
00721 inline EmbVector
00722 operator+(EmbVector a, EmbVector b)
00723 {
00724     return embVector_add(a, b);
00725 }
00726
00727 /**
00728  * \brief Wrapper for embVector_subtract to use the syntax \a a - \a b.
00729 */
00730 inline EmbVector
00731 operator-(EmbVector a, EmbVector b)
00732 {
00733     return embVector_subtract(a, b);
00734 }
00735
00736 inline EmbReal
00737 radians(EmbReal degrees)
00738 {
00739     return (degrees*emb_constant_pi/180.0);
00740 }
00741
00742 inline EmbReal
00743 degrees(EmbReal radian)
00744

```

```

00750 {
00751     return (radian*180.0/emb_constant_pi);
00752 }
00753
00754 class BaseObject : public QGraphicsPathItem
00755 {
00756     public:
00757         BaseObject(QGraphicsItem* parent = 0);
00758         virtual ~BaseObject();
00759
00760         enum { Type = OBJ_TYPE_BASE };
00761         virtual int type() const { return Type; }
00762
00763         QPen objPen;
00764         QPen lwtPen;
00765         QLineF objLine;
00766         int objRubberMode;
00767         QHash<QString, QPointF> objRubberPoints;
00768         QHash<QString, QString> objRubberTexts;
00769         qint64 objID;
00770
00771         qint64 objectID() const { return objID; }
00772         QPen objectPen() const { return objPen; }
00773         QColor objectColor() const { return objPen.color(); }
00774         QRgb objectColorRGB() const { return objPen.color().rgb(); }
00775         Qt::PenStyle objectLineType() const { return objPen.style(); }
00776         EmbReal objectLineWidth() const { return lwtPen.widthF(); }
00777
00778         QPainterPath objectPath() const { return path(); }
00779         int objectRubberMode() const { return objRubberMode; }
00780         QPointF objectRubberPoint(const QString& key) const;
00781         QString objectRubberText(const QString& key) const;
00782
00783         QPointF objectCenter() const { return scenePos(); }
00784         EmbReal objectCenterX() const { return scenePos().x(); }
00785         EmbReal objectCenterY() const { return scenePos().y(); }
00786
00787         void setObjectCenter(EmbVector center)
00788         {
00789             setPos(center.x, center.y);
00790         }
00791         void setObjectCenterX(EmbReal centerX) { setX(centerX); }
00792         void setObjectCenterY(EmbReal centerY) { setY(centerY); }
00793
00794         QRectF rect() const { return path().boundingRect(); }
00795         void setRect(const QRectF& r) { QPainterPath p; p.addRect(r); setPath(p); }
00796         void setRect(EmbReal x, EmbReal y, EmbReal w, EmbReal h) { QPainterPath p; p.addRect(x,y,w,h);
00797             setPath(p); }
00798         QLineF line() const { return objLine; }
00799         void setLine(const QLineF& li) { QPainterPath p; p.moveTo(li.p1()); p.lineTo(li.p2()); setPath(p);
00800             objLine = li; }
00801         void setLine(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2) { QPainterPath p; p.moveTo(x1,y1);
00802             p.lineTo(x2,y2); setPath(p); objLine.setLine(x1,y1,x2,y2); }
00803
00804         void setObjectColor(const QColor& color);
00805         void setObjectColorRGB(QRgb rgb);
00806         void setObjectLineType(Qt::PenStyle lineType);
00807         void setObjectLineWidth(EmbReal lineWidth);
00808         void setObjectPath(const QPainterPath& p) { setPath(p); }
00809         void setObjectRubberPoint(const QString& key, const QPointF& point) { objRubberPoints.insert(key,
00810             point); }
00811         void setObjectRubberText(const QString& key, const QString& txt) { objRubberTexts.insert(key,
00812             txt); }
00813
00814         virtual QRectF boundingRect() const;
00815         virtual QPainterPath shape() const { return path(); }
00816
00817         void drawRubberLine(const QLineF& rubLine, QPainter* painter = 0, const char* colorFromScene = 0);
00818         virtual void vulcanize() = 0;
00819         virtual QPointF mouseSnapPoint(const QPointF& mousePoint) = 0;
00820         virtual QList<QPointF> allGripPoints() = 0;
00821         virtual void gripEdit(const QPointF& before, const QPointF& after) = 0;
00822     protected:
00823         QPen lineWidthPen() const { return lwtPen; }
00824         void realRender(QPainter* painter, const QPainterPath& renderPath);
00825
00826
00827 class ArcObject : public BaseObject
00828 {
00829     public:
00830         QPointF arcStartPoint;
00831         QPointF arcMidPoint;
00832         QPointF arcEndPoint;
00833
00834         ArcObject(EmbArc arc, QRgb rgb, QGraphicsItem* parent = 0);
00835
00836
00837

```

```

00838     ArcObject(EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX, EmbReal endY,
00839     QRgb rgb, QGraphicsItem* parent = 0);
00840     ArcObject(ArcObject* obj, QGraphicsItem* parent = 0);
00841     ~ArcObject();
00842 
00843     enum { Type = OBJ_TYPE_ARC };
00844     virtual int type() const { return Type; }
00845 
00846     void init(EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX, EmbReal endY,
00847     QRgb rgb, Qt::PenStyle lineType);
00848     void updatePath();
00849 
00850     void calculateArcData(EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX,
00851     EmbReal endY);
00852     void updateArcRect(EmbReal radius);
00853 
00854     EmbReal objectRadius() const { return rect().width()/2.0*scale(); }
00855     EmbReal objectStartAngle() const;
00856     EmbReal objectEndAngle() const;
00857     QPointF object startPoint() const;
00858     EmbReal objectStartX() const;
00859     EmbReal objectStartY() const;
00860     QPointF objectMidPoint() const;
00861     EmbReal objectMidX() const;
00862     EmbReal objectMidY() const;
00863     QPointF objectEndPoint() const;
00864     EmbReal objectEndX() const;
00865     EmbReal objectEndY() const;
00866     EmbReal objectArea() const;
00867     EmbReal objectArcLength() const;
00868     EmbReal objectChord() const;
00869     EmbReal objectIncludedAngle() const;
00870     bool objectClockwise() const;
00871 
00872     void setObjectRadius(EmbReal radius);
00873     void setObjectStartAngle(EmbReal angle);
00874     void setObjectEndAngle(EmbReal angle);
00875     void setObject startPoint(const QPointF& point);
00876     void setObjectEndPoint(EmbReal pointX, EmbReal pointY);
00877     void setObjectMidPoint(EmbReal pointX, EmbReal pointY);
00878     void setObjectEndPoint(EmbReal pointX, EmbReal pointY);
00879     void updateRubber(QPainter* painter = 0);
00880     virtual void vulcanize();
00881     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00882     virtual QList<QPointF> allGripPoints();
00883     virtual void gripEdit(const QPointF& before, const QPointF& after);
00884 protected:
00885     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00886 };
00887 
00888 
00889 class CircleObject : public BaseObject
00890 {
00891 public:
00892     CircleObject(EmbReal centerX, EmbReal centerY, EmbReal radius, QRgb rgb, QGraphicsItem* parent =
00893     0);
00894     CircleObject(CircleObject* obj, QGraphicsItem* parent = 0);
00895     ~CircleObject();
00896 
00897     void init(EmbReal centerX, EmbReal centerY, EmbReal radius, QRgb rgb, Qt::PenStyle lineType);
00898     void updatePath();
00899 
00900     enum { Type = OBJ_TYPE_CIRCLE };
00901     virtual int type() const { return Type; }
00902 
00903     QPainterPath objectSavePath() const;
00904 
00905     EmbReal objectRadius() const { return rect().width()/2.0*scale(); }
00906     EmbReal objectDiameter() const { return rect().width()*scale(); }
00907     EmbReal objectArea() const { return emb_constant_pi*objectRadius()*objectRadius(); }
00908     EmbReal objectCircumference() const { return emb_constant_pi*objectDiameter(); }
00909     QPointF objectQuadrant0() const { return objectCenter() + QPointF(objectRadius(), 0); }
00910     QPointF objectQuadrant90() const { return objectCenter() + QPointF(0, -objectRadius()); }
00911     QPointF objectQuadrant180() const { return objectCenter() + QPointF(-objectRadius(), 0); }
00912     QPointF objectQuadrant270() const { return objectCenter() + QPointF(0, objectRadius()); }
00913 
00914     void setObjectRadius(EmbReal radius);
00915     void setObjectDiameter(EmbReal diameter);
00916     void setObjectArea(EmbReal area);
00917     void setObjectCircumference(EmbReal circumference);
00918 
00919     void updateRubber(QPainter* painter = 0);
00920     virtual void vulcanize();
00921     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);

```

```

00921     virtual QList<QPointF> allGripPoints();
00922     virtual void gripEdit(const QPointF& before, const QPointF& after);
00923 protected:
00924     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00925 };
00926
00930 class DimLeaderObject : public BaseObject
00931 {
00932 public:
00933     DimLeaderObject(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, QRgb rgb, QGraphicsItem* parent = 0);
00934     DimLeaderObject(DimLeaderObject* obj, QGraphicsItem* parent = 0);
00935     ~DimLeaderObject();
00936
00937     void init(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, QRgb rgb, Qt::PenStyle lineType);
00938
00939     bool curved;
00940     bool filled;
00941     void updateLeader();
00942     QPainterPath lineStylePath;
00943     QPainterPath arrowStylePath;
00944     EmbReal arrowStyleAngle;
00945     EmbReal arrowStyleLength;
00946     EmbReal lineStyleAngle;
00947     EmbReal lineStyleLength;
00948
00949     enum ArrowStyle
00950     {
00951         NoArrow, //NOTE: Allow this enum to evaluate false
00952         Open,
00953         Closed,
00954         Dot,
00955         Box,
00956         Tick
00957     };
00958
00959     enum lineStyle
00960     {
00961         NoLine, //NOTE: Allow this enum to evaluate false
00962         Flared,
00963         Fletching
00964     };
00965
00966     enum { Type = OBJ_TYPE_DIMLEADER };
00967     virtual int type() const { return Type; }
00968
00969     QPointF objectEndPoint1() const;
00970     QPointF objectEndPoint2() const;
00971     QPointF objectMidPoint() const;
00972     EmbReal objectX1() const { return objectEndPoint1().x(); }
00973     EmbReal objectY1() const { return objectEndPoint1().y(); }
00974     EmbReal objectX2() const { return objectEndPoint2().x(); }
00975     EmbReal objectY2() const { return objectEndPoint2().y(); }
00976     EmbReal objectDeltaX() const { return (objectX2() - objectX1()); }
00977     EmbReal objectDeltaY() const { return (objectY2() - objectY1()); }
00978     EmbReal objectAngle() const;
00979     EmbReal objectLength() const { return line().length(); }
00980
00981     void setObjectEndPoint1(const QPointF& endPt1);
00982     void setObjectEndPoint1(EmbReal x1, EmbReal y1);
00983     void setObjectEndPoint2(const QPointF& endPt2);
00984     void setObjectEndPoint2(EmbReal x2, EmbReal y2);
00985     void setObjectX1(EmbReal x) { setObjectEndPoint1(x, objectY1()); }
00986     void setObjectY1(EmbReal y) { setObjectEndPoint1(objectX1(), y); }
00987     void setObjectX2(EmbReal x) { setObjectEndPoint2(x, objectY2()); }
00988     void setObjectY2(EmbReal y) { setObjectEndPoint2(objectX2(), y); }
00989
00990     void updateRubber(QPainter* painter = 0);
00991     virtual void vulcanize();
00992     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00993     virtual QList<QPointF> allGripPoints();
00994     virtual void gripEdit(const QPointF& before, const QPointF& after);
00995 protected:
00996     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00997 };
00998
00999
01003 class EllipseObject : public BaseObject
01004 {
01005 public:
01006     EllipseObject(EmbReal centerX, EmbReal centerY, EmbReal width, EmbReal height, QRgb rgb,
01007     QGraphicsItem* parent = 0);
01007     EllipseObject(EllipseObject* obj, QGraphicsItem* parent = 0);
01008     ~EllipseObject();
01009
01010     void init(EmbReal centerX, EmbReal centerY, EmbReal width, EmbReal height, QRgb rgb, Qt::PenStyle
lineType);

```

```

01011     void updatePath();
01012
01013     enum { Type = OBJ_TYPE_ELLIPSE };
01014     virtual int type() const { return Type; }
01015
01016     QPainterPath objectSavePath() const;
01017
01018     EmbReal objectRadiusMajor() const { return qMax(rect().width(), rect().height())/2.0*scale(); }
01019     EmbReal objectRadiusMinor() const { return qMin(rect().width(), rect().height())/2.0*scale(); }
01020     EmbReal objectDiameterMajor() const { return qMax(rect().width(), rect().height())*scale(); }
01021     EmbReal objectDiameterMinor() const { return qMin(rect().width(), rect().height())*scale(); }
01022     EmbReal objectWidth() const { return rect().width()*scale(); }
01023     EmbReal objectHeight() const { return rect().height()*scale(); }
01024     QPointF objectQuadrant0() const;
01025     QPointF objectQuadrant90() const;
01026     QPointF objectQuadrant180() const;
01027     QPointF objectQuadrant270() const;
01028
01029     void setObjectSize(EmbReal width, EmbReal height);
01030     void setObjectRadiusMajor(EmbReal radius);
01031     void setObjectRadiusMinor(EmbReal radius);
01032     void setObjectDiameterMajor(EmbReal diameter);
01033     void setObjectDiameterMinor(EmbReal diameter);
01034
01035     void updateRubber(QPainter* painter = 0);
01036     virtual void vulcanize();
01037     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
01038     virtual QList<QPointF> allGripPoints();
01039     virtual void gripEdit(const QPointF& before, const QPointF& after);
01040 protected:
01041     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
01042 };
01043
01044
01045 class ImageObject : public BaseObject
01046 {
01047 public:
01048     ImageObject(EmbReal x, EmbReal y, EmbReal w, EmbReal h, QRgb rgb, QGraphicsItem* parent = 0);
01049     ImageObject(ImageObject* obj, QGraphicsItem* parent = 0);
01050     ~ImageObject();
01051
01052     void init(EmbReal x, EmbReal y, EmbReal w, EmbReal h, QRgb rgb, Qt::PenStyle lineType);
01053     void updatePath();
01054
01055     enum { Type = OBJ_TYPE_IMAGE };
01056     virtual int type() const { return Type; }
01057
01058     QPointF objectTopLeft() const;
01059     QPointF objectTopRight() const;
01060     QPointF objectBottomLeft() const;
01061     QPointF objectBottomRight() const;
01062     EmbReal objectWidth() const { return rect().width()*scale(); }
01063     EmbReal objectHeight() const { return rect().height()*scale(); }
01064     EmbReal objectArea() const { return qAbs(objectWidth()*objectHeight()); }
01065
01066     void setObjectRect(EmbReal x, EmbReal y, EmbReal w, EmbReal h);
01067
01068     void updateRubber(QPainter* painter = 0);
01069     virtual void vulcanize();
01070     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
01071     virtual QList<QPointF> allGripPoints();
01072     virtual void gripEdit(const QPointF& before, const QPointF& after);
01073 protected:
01074     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
01075 };
01076
01077
01078
01079
01080
01081
01082
01083
01084 class LineObject : public BaseObject
01085 {
01086 public:
01087     LineObject(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, QRgb rgb, QGraphicsItem* parent = 0);
01088     LineObject(LineObject* obj, QGraphicsItem* parent = 0);
01089     ~LineObject();
01090
01091     void init(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, QRgb rgb, Qt::PenStyle lineType);
01092
01093     enum { Type = OBJ_TYPE_LINE };
01094     virtual int type() const { return Type; }
01095
01096     QPainterPath objectSavePath() const;
01097
01098     QPointF objectEndPoint1() const { return scenePos(); }
01099     QPointF objectEndPoint2() const;
01100     QPointF objectMidPoint() const;
01101     EmbReal objectX1() const { return objectEndPoint1().x(); }
01102     EmbReal objectY1() const { return objectEndPoint1().y(); }
01103     EmbReal objectX2() const { return objectEndPoint2().x(); }

```

```

01104     EmbReal objectY2() const { return objectEndPoint2().y(); }
01105     EmbReal objectDeltaX() const { return (objectX2() - objectX1()); }
01106     EmbReal objectDeltaY() const { return (objectY2() - objectY1()); }
01107     EmbReal objectAngle() const;
01108     EmbReal objectLength() const { return line().length()*scale(); }
01109
01110     void setObjectEndPoint1(const QPointF& endPt1);
01111     void setObjectEndPoint1(EmbReal x1, EmbReal y1);
01112     void setObjectEndPoint2(const QPointF& endPt2);
01113     void setObjectEndPoint2(EmbReal x2, EmbReal y2);
01114     void setObjectX1(EmbReal x) { setObjectEndPoint1(x, objectY1()); }
01115     void setObjectY1(EmbReal y) { setObjectEndPoint1(objectX1(), y); }
01116     void setObjectX2(EmbReal x) { setObjectEndPoint2(x, objectY2()); }
01117     void setObjectY2(EmbReal y) { setObjectEndPoint2(objectX2(), y); }
01118
01119     void updateRubber(QPainter* painter = 0);
01120     virtual void vulcanize();
01121     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
01122     virtual QList<QPointF> allGripPoints();
01123     virtual void gripEdit(const QPointF& before, const QPointF& after);
01124 protected:
01125     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*) override;
01126 };
01127
01128
01129 class PathObject : public BaseObject
01130 {
01131 public:
01132     PathObject(EmbReal x, EmbReal y, const QPainterPath p, QRgb rgb, QGraphicsItem* parent = 0);
01133     PathObject(PathObject* obj, QGraphicsItem* parent = 0);
01134     ~PathObject();
01135
01136     enum { Type = OBJ_TYPE_PATH };
01137     virtual int type() const { return Type; }
01138
01139     void init(EmbReal x, EmbReal y, const QPainterPath& p, QRgb rgb, Qt::PenStyle lineType);
01140     void updatePath(const QPainterPath& p);
01141     QPainterPath normalPath();
01142     //TODO: make paths similar to polylines. Review and implement any missing functions/members.
01143
01144     QPainterPath objectCopyPath() const;
01145     QPainterPath objectSavePath() const;
01146
01147     QPointF objectPos() const { return scenePos(); }
01148     EmbReal objectX() const { return scenePos().x(); }
01149     EmbReal objectY() const { return scenePos().y(); }
01150
01151     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
01152     void setObjectPos(EmbReal x, EmbReal y) { setPos(x, y); }
01153     void setObjectX(EmbReal x) { setObjectPos(x, objectY()); }
01154     void setObjectY(EmbReal y) { setObjectPos(objectX(), y); }
01155
01156     void updateRubber(QPainter* painter = 0);
01157     virtual void vulcanize();
01158     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
01159     virtual QList<QPointF> allGripPoints();
01160     virtual void gripEdit(const QPointF& before, const QPointF& after);
01161 protected:
01162     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*) override;
01163 };
01164
01165
01166 class PointObject : public BaseObject
01167 {
01168
01169 class PointObject : public BaseObject
01170 {
01171 public:
01172     PointObject(EmbReal x, EmbReal y, QRgb rgb, QGraphicsItem* parent = 0);
01173     PointObject(PointObject* obj, QGraphicsItem* parent = 0);
01174     ~PointObject();
01175
01176     void init(EmbReal x, EmbReal y, QRgb rgb, Qt::PenStyle lineType);
01177
01178     enum { Type = OBJ_TYPE_POINT };
01179     virtual int type() const { return Type; }
01180
01181     QPainterPath objectSavePath() const;
01182
01183     QPointF objectPos() const { return scenePos(); }
01184     EmbReal objectX() const { return scenePos().x(); }
01185     EmbReal objectY() const { return scenePos().y(); }
01186
01187     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
01188     void setObjectPos(EmbReal x, EmbReal y) { setPos(x, y); }
01189     void setObjectX(EmbReal x) { setObjectPos(x, objectY()); }
01190     void setObjectY(EmbReal y) { setObjectPos(objectX(), y); }
01191
01192     void updateRubber(QPainter* painter = 0);
01193     virtual void vulcanize();

```

```

01197     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
01198     virtual QList<QPointF> allGripPoints();
01199     virtual void gripEdit(const QPointF& before, const QPointF& after);
01200 protected:
01201     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
01202 };
01203
01204
01205 class PolygonObject : public BaseObject
01206 {
01207 public:
01208     PolygonObject(EmbReal x, EmbReal y, const QPainterPath& p, QRgb rgb, QGraphicsItem* parent = 0);
01209     PolygonObject(PolygonObject* obj, QGraphicsItem* parent = 0);
01210     ~PolygonObject();
01211
01212     enum { Type = OBJ_TYPE_POLYGON };
01213     virtual int type() const { return Type; }
01214
01215     void init(EmbReal x, EmbReal y, const QPainterPath& p, QRgb rgb, Qt::PenStyle lineType);
01216     void updatePath(const QPainterPath& p);
01217     QPainterPath normalPath;
01218     int findIndex(const QPointF& point);
01219     int gripIndex;
01220
01221     QPainterPath objectCopyPath() const;
01222     QPainterPath objectSavePath() const;
01223
01224     QPointF objectPos() const { return scenePos(); }
01225     EmbReal objectX() const { return scenePos().x(); }
01226     EmbReal objectY() const { return scenePos().y(); }
01227
01228     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
01229     void setObjectPos(EmbReal x, EmbReal y) { setPos(x, y); }
01230     void setObjectX(EmbReal x) { setObjectPos(x, objectY()); }
01231     void setObjectY(EmbReal y) { setObjectPos(objectX(), y); }
01232
01233     void updateRubber(QPainter* painter = 0);
01234     virtual void vulcanize();
01235     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
01236     virtual QList<QPointF> allGripPoints();
01237     virtual void gripEdit(const QPointF& before, const QPointF& after);
01238 protected:
01239     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
01240 };
01241
01242
01243 class PolylineObject : public BaseObject
01244 {
01245 public:
01246     PolylineObject(EmbReal x, EmbReal y, const QPainterPath& p, QRgb rgb, QGraphicsItem* parent = 0);
01247     PolylineObject(PolylineObject* obj, QGraphicsItem* parent = 0);
01248     ~PolylineObject();
01249
01250     enum { Type = OBJ_TYPE_POLYLINE };
01251     virtual int type() const { return Type; }
01252
01253     void init(EmbReal x, EmbReal y, const QPainterPath& p, QRgb rgb, Qt::PenStyle lineType);
01254     void updatePath(const QPainterPath& p);
01255     QPainterPath normalPath;
01256     int findIndex(const QPointF& point);
01257     int gripIndex;
01258
01259     QPainterPath objectCopyPath() const;
01260     QPainterPath objectSavePath() const;
01261
01262     QPointF objectPos() const { return scenePos(); }
01263     EmbReal objectX() const { return scenePos().x(); }
01264     EmbReal objectY() const { return scenePos().y(); }
01265
01266     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
01267     void setObjectPos(EmbReal x, EmbReal y) { setPos(x, y); }
01268     void setObjectX(EmbReal x) { setObjectPos(x, objectY()); }
01269     void setObjectY(EmbReal y) { setObjectPos(objectX(), y); }
01270
01271     void updateRubber(QPainter* painter = 0);
01272     virtual void vulcanize();
01273     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
01274     virtual QList<QPointF> allGripPoints();
01275     virtual void gripEdit(const QPointF& before, const QPointF& after);
01276 protected:
01277     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
01278 };
01279
01280
01281 class RectObject : public BaseObject
01282 {
01283 public:
01284     RectObject(EmbReal x, EmbReal y, EmbReal w, EmbReal h, QRgb rgb, QGraphicsItem* parent = 0);
01285     RectObject(RectObject* obj, QGraphicsItem* parent = 0);
01286
01287     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
01288 };
01289
01290
01291 
```

```

01293     ~RectObject();
01294
01295     enum { Type = OBJ_TYPE_RECTANGLE };
01296     virtual int type() const { return Type; }
01297
01298     QPainterPath objectSavePath() const;
01299
01300     void init(EmbReal x, EmbReal y, EmbReal w, EmbReal h, QRgb rgb, Qt::PenStyle lineType);
01301     void updatePath();
01302
01303     QPointF objectPos() const { return scenePos(); }
01304
01305     QPointF objectTopLeft() const;
01306     QPointF objectTopRight() const;
01307     QPointF objectBottomLeft() const;
01308     QPointF objectBottomRight() const;
01309     EmbReal objectWidth() const { return rect().width()*scale(); }
01310     EmbReal objectHeight() const { return rect().height()*scale(); }
01311     EmbReal objectArea() const { return qAbs(objectWidth()*objectHeight()); }
01312
01313     void setObjectRect(EmbReal x, EmbReal y, EmbReal w, EmbReal h);
01314
01315     void updateRubber(QPainter* painter = 0);
01316     virtual void vulcanize();
01317     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
01318     virtual QList<QPointF> allGripPoints();
01319     virtual void gripEdit(const QPointF& before, const QPointF& after);
01320 protected:
01321     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*) override;
01322 };
01323
01324 class SaveObject : public QObject
01325 {
01326     Q_OBJECT
01327
01328 public:
01329     SaveObject(QGraphicsScene* theScene, QObject* parent = 0);
01330     ~SaveObject();
01331
01332     bool save(const QString &fileName);
01333
01334     void addArc          (EmbPattern* pattern, QGraphicsItem* item);
01335     void addBlock         (EmbPattern* pattern, QGraphicsItem* item);
01336     void addCircle        (EmbPattern* pattern, QGraphicsItem* item);
01337     void addDimAligned   (EmbPattern* pattern, QGraphicsItem* item);
01338     void addDimAngular   (EmbPattern* pattern, QGraphicsItem* item);
01339     void addDimArcLength (EmbPattern* pattern, QGraphicsItem* item);
01340     void addDimDiameter  (EmbPattern* pattern, QGraphicsItem* item);
01341     void addDimLeader    (EmbPattern* pattern, QGraphicsItem* item);
01342     void addDimLinear    (EmbPattern* pattern, QGraphicsItem* item);
01343     void addDimOrdinate  (EmbPattern* pattern, QGraphicsItem* item);
01344     void addDimRadius    (EmbPattern* pattern, QGraphicsItem* item);
01345     void addEllipse       (EmbPattern* pattern, QGraphicsItem* item);
01346     void addEllipseArc   (EmbPattern* pattern, QGraphicsItem* item);
01347     void addGrid          (EmbPattern* pattern, QGraphicsItem* item);
01348     void addHatch         (EmbPattern* pattern, QGraphicsItem* item);
01349     void addImage         (EmbPattern* pattern, QGraphicsItem* item);
01350     void addInfiniteLine (EmbPattern* pattern, QGraphicsItem* item);
01351     void addLine          (EmbPattern* pattern, QGraphicsItem* item);
01352     void addPath          (EmbPattern* pattern, QGraphicsItem* item);
01353     void addPoint         (EmbPattern* pattern, QGraphicsItem* item);
01354     void addPolygon        (EmbPattern* pattern, QGraphicsItem* item);
01355     void addPolyline       (EmbPattern* pattern, QGraphicsItem* item);
01356     void addRay            (EmbPattern* pattern, QGraphicsItem* item);
01357     void addRectangle      (EmbPattern* pattern, QGraphicsItem* item);
01358     void addSlot           (EmbPattern* pattern, QGraphicsItem* item);
01359     void addSpline          (EmbPattern* pattern, QGraphicsItem* item);
01360     void addTextMulti     (EmbPattern* pattern, QGraphicsItem* item);
01361     void addTextSingle    (EmbPattern* pattern, QGraphicsItem* item);
01362
01363     QGraphicsScene* gscene;
01364     int formatType;
01365
01366     void toPolyline(EmbPattern* pattern, const QPointF& objPos, const QPainterPath& objPath, const
01367                     QString& layer, const QColor& color, const QString& lineType, const QString& lineWeight);
01368 };
01369
01370
01371 class TextSingleObject : public BaseObject
01372 {
01373 public:
01374     TextSingleObject(const QString& str, EmbReal x, EmbReal y, QRgb rgb, QGraphicsItem* parent = 0);
01375     TextSingleObject(TextSingleObject* obj, QGraphicsItem* parent = 0);
01376     ~TextSingleObject();
01377
01378     enum { Type = OBJ_TYPE_TEXTSINGLE };
01379     virtual int type() const { return Type; }
01380
01381
01382
01383
01384

```

```

01385     void init(const QString& str, EmbReal x, EmbReal y, QRgb rgb, Qt::PenStyle lineType);
01386
01387     QString objText;
01388     QString objTextFont;
01389     QString objTextJustify;
01390     EmbReal objTextSize;
01391     bool objTextBold;
01392     bool objTextItalic;
01393     bool objTextUnderline;
01394     bool objTextStrikeOut;
01395     bool objTextOverline;
01396     bool objTextBackward;
01397     bool objTextUpsideDown;
01398     QPainterPath objTextPath;
01399
01400     QList<QPainterPath> objectSavePathList() const { return subPathList(); }
01401     QList<QPainterPath> subPathList() const;
01402
01403     QString objectText() const { return objText; }
01404     QString objectTextFont() const { return objTextFont; }
01405     QString objectTextJustify() const { return objTextJustify; }
01406     EmbReal objectTextSize() const { return objTextSize; }
01407     bool objectTextBold() const { return objTextBold; }
01408     bool objectTextItalic() const { return objTextItalic; }
01409     bool objectTextUnderline() const { return objTextUnderline; }
01410     bool objectTextStrikeOut() const { return objTextStrikeOut; }
01411     bool objectTextOverline() const { return objTextOverline; }
01412     bool objectTextBackward() const { return objTextBackward; }
01413     bool objectTextUpsideDown() const { return objTextUpsideDown; }
01414     QPointF objectPos() const { return scenePos(); }
01415     EmbReal objectX() const { return scenePos().x(); }
01416     EmbReal objectY() const { return scenePos().y(); }
01417
01418     QStringList objectTextJustifyList() const;
01419
01420     void setObjectText(const QString& str);
01421     void setObjectTextFont(const QString& font);
01422     void setObjectTextJustify(const QString& justify);
01423     void setObjectTextSize(EmbReal size);
01424     void setObjectTextStyle(bool bold, bool italic, bool under, bool strike, bool over);
01425     void setObjectTextBold(bool val);
01426     void setObjectTextItalic(bool val);
01427     void setObjectTextUnderline(bool val);
01428     void setObjectTextStrikeOut(bool val);
01429     void setObjectTextOverline(bool val);
01430     void setObjectTextBackward(bool val);
01431     void setObjectTextUpsideDown(bool val);
01432     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
01433     void setObjectPos(EmbReal x, EmbReal y) { setPos(x, y); }
01434     void setObjectX(EmbReal x) { setObjectPos(x, objectY()); }
01435     void setObjectY(EmbReal y) { setObjectPos(objectX(), y); }
01436
01437     void updateRubber(QPainter* painter = 0);
01438     virtual void vulcanize();
01439     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
01440     virtual QList<QPointF> allGripPoints();
01441     virtual void gripEdit(const QPointF& before, const QPointF& after);
01442 protected:
01443     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
01444 };
01445
01451 class Application : public QApplication
01452 {
01453     Q_OBJECT
01454 public:
01455     Application(int argc, char **argv);
01456     void setMainWin(MainWindow* mainWin) { _mainWin = mainWin; }
01457     MainWindow* _mainWin;
01458 protected:
01459     virtual bool event(QEvent *e);
01460 };
01461
01462
01466 class CmdPromptInput : public QLineEdit
01467 {
01468     Q_OBJECT
01469
01470 public:
01471     CmdPromptInput(QWidget* parent = 0);
01472     ~CmdPromptInput();
01473
01474     QString curText;
01475     QString defaultPrefix;
01476     QString prefix;
01477
01478     QString lastCmd;
01479     QString curCmd;

```

```
01480     bool cmdActive;
01481
01482     bool rapidFireEnabled;
01483     bool isBlinking;
01484
01485     QHash<QString, QString>* aliasHash;
01486
01487     void changeFormatting(const QList<QTextLayout::FormatRange>& formats);
01488     void clearFormatting();
01489     void applyFormatting();
01490
01491 protected:
01492     void contextMenuEvent(QContextMenuEvent *event);
01493     bool eventFilter(QObject *obj, QEvent *event);
01494
01495 signals:
01496     void appendHistory(const QString& txt, int prefixLength);
01497
01498 //These connect to the CmdPrompt signals
01499     void startCommand(const QString& cmd);
01500     void runCommand(const QString& cmd, const QString& cmdtxt);
01501     void deletePressed();
01502     void tabPressed();
01503     void escapePressed();
01504     void upPressed();
01505     void downPressed();
01506     void F1Pressed();
01507     void F2Pressed();
01508     void F3Pressed();
01509     void F4Pressed();
01510     void F5Pressed();
01511     void F6Pressed();
01512     void F7Pressed();
01513     void F8Pressed();
01514     void F9Pressed();
01515     void F10Pressed();
01516     void F11Pressed();
01517     void F12Pressed();
01518     void cutPressed();
01519     void copyPressed();
01520     void pastePressed();
01521     void selectAllPressed();
01522     void undoPressed();
01523     void redoPressed();
01524
01525     void shiftPressed();
01526     void shiftReleased();
01527
01528     void showSettings();
01529
01530     void stopBlinking();
01531
01532 public slots:
01533     void addCommand(const QString& alias, const QString& cmd);
01534     void endCommand();
01535     void processInput(void);
01536     void checkSelection();
01537     void updateCurrentText(const QString& txt);
01538     void checkEditedText(const QString& txt);
01539     void checkChangedText(const QString& txt);
01540     void checkCursorPosition(int oldpos, int newpos);
01541 private slots:
01542     void copyClip();
01543     void pasteClip();
01544 };
01545
01546 class CmdPromptHistory : public QTextBrowser
01547 {
01548     Q_OBJECT
01549
01550     public:
01551         CmdPromptHistory(QWidget* parent = 0);
01552         ~CmdPromptHistory();
01553
01554         int tmpHeight;
01555         QString applyFormatting(const QString& txt, int prefixLength);
01556
01557     protected:
01558         void contextMenuEvent(QContextMenuEvent* event);
01559
01560 public slots:
01561     void appendHistory(const QString& txt, int prefixLength);
01562     void startResizeHistory(int y);
01563     void stopResizeHistory(int y);
01564     void resizeHistory(int y);
01565
01566 signals:
```

```

01570     void historyAppended(const QString& txt);
01571 };
01572
01573 class CmdPromptSplitter : public QSplitter
01574 {
01575     Q_OBJECT
01576
01577 public:
01578     CmdPromptSplitter(QWidget* parent = 0);
01579     ~CmdPromptSplitter();
01580
01581 protected:
01582     QSplitterHandle* createHandle();
01583
01584 signals:
01585     void pressResizeHistory(int y);
01586     void releaseResizeHistory(int y);
01587     void moveResizeHistory(int y);
01588 };
01589
01590 class CmdPromptHandle : public QSplitterHandle
01591 {
01592     Q_OBJECT
01593
01594 public:
01595     CmdPromptHandle(Qt::Orientation orientation, QSplitter* parent);
01596     ~CmdPromptHandle();
01597
01598     int pressY;
01599     int releaseY;
01600     int moveY;
01601
01602 protected:
01603     void mousePressEvent(QMouseEvent* e);
01604     void mouseReleaseEvent(QMouseEvent* e);
01605     void mouseMoveEvent(QMouseEvent* e);
01606
01607 signals:
01608     void handlePressed(int y);
01609     void handleReleased(int y);
01610     void handleMoved(int y);
01611 };
01612
01613 class CmdPrompt : public QWidget
01614 {
01615     Q_OBJECT
01616
01617 public:
01618     CmdPrompt(QWidget* parent = 0);
01619     ~CmdPrompt();
01620
01621     CmdPromptInput* promptInput;
01622     CmdPromptHistory* promptHistory;
01623     QVBoxLayout* promptVBoxLayout;
01624     QFrame* promptDivider;
01625
01626     CmdPromptSplitter* promptSplitter;
01627
01628     QHash<QString, QString>* styleHash;
01629     void updateStyle();
01630     QTimer* blinkTimer;
01631     bool blinkState;
01632
01633 protected:
01634
01635 public slots:
01636     QString getHistory() { return promptHistory->toHtml(); }
01637     QString getPrefix() { return promptInput->prefix; }
01638     QString getCurrentText() { return promptInput->curText; }
01639     void setCurrentText(const QString& txt) { promptInput->curText = promptInput->prefix + txt;
01640     promptInput->setText(promptInput->curText); }
01641     void setHistory(const QString& txt) { promptHistory->setHtml(txt);
01642     promptHistory->moveCursor(QTextCursor::End, QTextCursor::MoveAnchor); }
01643     void setPrefix(const QString& txt);
01644     void appendHistory(const QString& txt);
01645     void startResizingTheHistory(int y) { promptHistory->startResizeHistory(y); }
01646     void stopResizingTheHistory(int y) { promptHistory->stopResizeHistory(y); }
01647     void resizeTheHistory(int y) { promptHistory->resizeHistory(y); }
01648     void addCommand(const QString& alias, const QString& cmd) { promptInput->addCommand(alias, cmd); }
01649     void endCommand() { promptInput->endCommand(); }
01650     bool isCommandActive() { return promptInput->cmdActive; }
01651     QString activeCommand() { return promptInput->curCmd; }
01652     QString lastCommand() { return promptInput->lastCmd; }
01653     void processInput() { promptInput->processInput(); }
01654     void enableRapidFire() { promptInput->rapidFireEnabled = true; }
01655     void disableRapidFire() { promptInput->rapidFireEnabled = false; }
01656     bool isRapidFireEnabled() { return promptInput->rapidFireEnabled; }
01657
01658
01659
01660
01661
01662
01663
01664
01665
01666
01667
01668
01669
01670
01671
01672
01673
01674
01675
01676
01677
01678
01679
01680
01681
01682
01683
01684
01685
01686
01687
01688
01689
01690
01691
01692
01693
01694
01695
01696
01697
01698
01699
01700
01701
01702
01703
01704
01705
01706
01707
01708
01709
01710
01711
01712
01713
01714
01715
01716
01717
01718
01719
01720
01721
01722
01723
01724
01725
01726
01727
01728
01729
01730
01731
01732
01733
01734
01735
01736
01737
01738
01739
01740
01741
01742
01743
01744
01745
01746
01747
01748
01749
01750
01751
01752
01753
01754
01755
01756
01757
01758
01759
01760
01761
01762
01763
01764
01765
01766
01767
01768
01769
01770
01771
01772
01773
01774
01775
01776
01777
01778
01779
01780
01781
01782
01783
01784
01785
01786
01787
01788
01789
01790
01791
01792
01793
01794
01795
01796
01797
01798
01799
01800
01801
01802
01803
01804
01805
01806
01807
01808
01809
01810
01811
01812
01813
01814
01815
01816
01817
01818
01819
01820
01821
01822
01823
01824
01825
01826
01827
01828
01829
01830
01831
01832
01833
01834
01835
01836
01837
01838
01839
01840
01841
01842
01843
01844
01845
01846
01847
01848
01849
01850
01851
01852
01853
01854
01855
01856
01857
01858
01859
01860
01861
01862
01863
01864
01865
01866
01867
01868
01869
01870
01871
01872
01873
01874
01875
01876
01877
01878
01879
01880
01881
01882
01883
01884
01885
01886
01887
01888
01889
01890
01891
01892
01893
01894
01895
01896
01897
01898
01899
01900
01901
01902
01903
01904
01905
01906
01907
01908
01909
01910
01911
01912
01913
01914
01915
01916
01917
01918
01919
01920
01921
01922
01923
01924
01925
01926
01927
01928
01929
01930
01931
01932
01933
01934
01935
01936
01937
01938
01939
01940
01941
01942
01943
01944
01945
01946
01947
01948
01949
01950
01951
01952
01953
01954
01955
01956
01957
01958
01959
01960
01961
01962
01963
01964
01965
01966
01967
01968
01969
01970
01971
01972
01973
01974
01975
01976
01977
01978
01979
01980
01981
01982
01983
01984
01985
01986
01987
01988
01989
01990
01991
01992
01993
01994
01995
01996
01997
01998
01999
01999
02000
02001
02002
02003
02004
02005
02006
02007
02008
02009
02009
02010
02011
02012
02013
02014
02015
02016
02017
02018
02019
02019
02020
02021
02022
02023
02024
02025
02026
02027
02028
02029
02029
02030
02031
02032
02033
02034
02035
02036
02037
02038
02039
02039
02040
02041
02042
02043
02044
02045
02046
02047
02048
02049
02049
02050
02051
02052
02053
02054
02055
02056
02057
02058
02059
02059
02060
02061
02062
02063
02064
02065
02066
02067
02068
02069
02069
02070
02071
02072
02073
02074
02075
02076
02077
02078
02079
02079
02080
02081
02082
02083
02084
02085
02086
02087
02088
02089
02089
02090
02091
02092
02093
02094
02095
02096
02097
02098
02099
02099
02100
02101
02102
02103
02104
02105
02106
02107
02108
02109
02109
02110
02111
02112
02113
02114
02115
02116
02117
02118
02119
02119
02120
02121
02122
02123
02124
02125
02126
02127
02128
02129
02129
02130
02131
02132
02133
02134
02135
02136
02137
02138
02139
02139
02140
02141
02142
02143
02144
02145
02146
02147
02148
02149
02149
02150
02151
02152
02153
02154
02155
02156
02157
02158
02159
02159
02160
02161
02162
02163
02164
02165
02166
02167
02168
02169
02169
02170
02171
02172
02173
02174
02175
02176
02177
02178
02179
02179
02180
02181
02182
02183
02184
02185
02186
02187
02188
02189
02189
02190
02191
02192
02193
02194
02195
02196
02197
02198
02199
02199
02200
02201
02202
02203
02204
02205
02206
02207
02208
02209
02209
02210
02211
02212
02213
02214
02215
02216
02217
02218
02219
02219
02220
02221
02222
02223
02224
02225
02226
02227
02228
02229
02229
02230
02231
02232
02233
02234
02235
02236
02237
02238
02239
02239
02240
02241
02242
02243
02244
02245
02246
02247
02248
02249
02249
02250
02251
02252
02253
02254
02255
02256
02257
02258
02259
02259
02260
02261
02262
02263
02264
02265
02266
02267
02268
02269
02269
02270
02271
02272
02273
02274
02275
02276
02277
02278
02279
02279
02280
02281
02282
02283
02284
02285
02286
02287
02288
02289
02289
02290
02291
02292
02293
02294
02295
02296
02297
02298
02299
02299
02300
02301
02302
02303
02304
02305
02306
02307
02308
02309
02309
02310
02311
02312
02313
02314
02315
02316
02317
02318
02319
02319
02320
02321
02322
02323
02324
02325
02326
02327
02328
02329
02329
02330
02331
02332
02333
02334
02335
02336
02337
02338
02339
02339
02340
02341
02342
02343
02344
02345
02346
02347
02348
02349
02349
02350
02351
02352
02353
02354
02355
02356
02357
02358
02359
02359
02360
02361
02362
02363
02364
02365
02366
02367
02368
02369
02369
02370
02371
02372
02373
02374
02375
02376
02377
02378
02379
02379
02380
02381
02382
02383
02384
02385
02386
02387
02388
02389
02389
02390
02391
02392
02393
02394
02395
02396
02397
02398
02399
02399
02400
02401
02402
02403
02404
02405
02406
02407
02408
02409
02409
02410
02411
02412
02413
02414
02415
02416
02417
02418
02419
02419
02420
02421
02422
02423
02424
02425
02426
02427
02428
02429
02429
02430
02431
02432
02433
02434
02435
02436
02437
02438
02439
02439
02440
02441
02442
02443
02444
02445
02446
02447
02448
02449
02449
02450
02451
02452
02453
02454
02455
02456
02457
02458
02459
02459
02460
02461
02462
02463
02464
02465
02466
02467
02468
02469
02469
02470
02471
02472
02473
02474
02475
02476
02477
02478
02479
02479
02480
02481
02482
02483
02484
02485
02486
02487
02488
02489
02489
02490
02491
02492
02493
02494
02495
02496
02497
02498
02499
02499
02500
02501
02502
02503
02504
02505
02506
02507
02508
02509
02509
02510
02511
02512
02513
02514
02515
02516
02517
02518
02519
02519
02520
02521
02522
02523
02524
02525
02526
02527
02528
02529
02529
02530
02531
02532
02533
02534
02535
02536
02537
02538
02539
02539
02540
02541
02542
02543
02544
02545
02546
02547
02548
02549
02549
02550
02551
02552
02553
02554
02555
02556
02557
02558
02559
02559
02560
02561
02562
02563
02564
02565
02566
02567
02568
02569
02569
02570
02571
02572
02573
02574
02575
02576
02577
02578
02579
02579
02580
02581
02582
02583
02584
02585
02586
02587
02588
02589
02589
02590
02591
02592
02593
02594
02595
02596
02597
02598
02599
02599
02600
02601
02602
02603
02604
02605
02606
02607
02608
02609
02610
02611
02612
02613
02614
02615
02616
02617
02618
02619
02619
02620
02621
02622
02623
02624
02625
02626
02627
02628
02629
02629
02630
02631
02632
02633
02634
02635
02636
02637
02638
02639
02639
02640
02641
02642
02643
02644
02645
02646
02647
02648
02649
02649
02650
02651
02652
02653
02654
02655
02656
02657
02658
02659
02659
02660
02661
02662
02663
02664
02665
02666
02667
02668
02669
02669
02670
02671
02672
02673
02674
02675
02676
02677
02678
02679
02679
02680
02681
02682
02683
02684
02685
02686
02687
02688
02689
02689
02690
02691
02692
02693
02694
02695
02696
02697
02698
02699
02699
02700
02701
02702
02703
02704
02705
02706
02707
02708
02709
02709
02710
02711
02712
02713
02714
02715
02716
02717
02718
02719
02719
02720
02721
02722
02723
02724
02725
02726
02727
02728
02729
02729
02730
02731
02732
02733
02734
02735
02736
02737
02738
02739
02739
02740
02741
02742
02743
02744
02745
02746
02747
02748
02749
02749
02750
02751
02752
02753
02754
02755
02756
02757
02758
02759
02759
02760
02761
02762
02763
02764
02765
02766
02767
02768
02769
02769
02770
02771
02772
02773
02774
02775
02776
02777
02778
02779
02779
02780
02781
02782
02783
02784
02785
02786
02787
02788
02789
02789
02790
02791
02792
02793
02794
02795
02796
02797
02798
02799
02799
02800
02801
02802
02803
02804
02805
02806
02807
02808
02809
02809
02810
02811
02812
02813
02814
02815
02816
02817
02818
02819
02819
02820
02821
02822
02823
02824
02825
02826
02827
02828
02829
02829
02830
02831
02832
02833
02834
02835
02836
02837
02838
02839
02839
02840
02841
02842
02843
02844
02845
02846
02847
02848
02849
02849
02850
02851
02852
02853
02854
02855
02856
02857
02858
02859
02859
02860
02861
02862
02863
02864
02865
02866
02867
02868
02869
02869
02870
02871
02872
02873
02874
02875
02876
02877
02878
02879
02879
02880
02881
02882
02883
02884
02885
02886
02887
02888
02889
02889
02890
02891
02892
02893
02894
02895
02896
02897
02898
02899
02899
02900
02901
02902
02903
02904
02905
02906
02907
02908
02909
02909
02910
02911
02912
02913
02914
02915
02916
02917
02918
02919
02919
02920
02921
02922
02923
02924
02925
02926
02927
02928
02929
02929
02930
02931
02932
02933
02934
02935
02936
02937
02938
02939
02939
02940
02941
02942
02943
02944
02945
02946
02947
02948
02949
02949
02950
02951
02952
02953
02954
02955
02956
02957
02958
02959
02959
02960
02961
02962
02963
02964
02965
02966
02967
02968
02969
02969
02970
02971
02972
02973
02974
02975
02976
02977
02978
02979
02979
02980
02981
02982
02983
02984
02985
02986
02987
02988
02989
02989
02990
02991
02992
02993
02994
02995
02996
02997
02998
02999
02999
03000
03001
03002
03003
03004
03005
03006
03007
03008
03009
03009
03010
03011
03012
03013
03014
03015
03016
03017
03018
03019
03019
03020
03021
03022
03023
03024
03025
03026
03027
03028
03029
03029
03030
03031
03032
03033
03034
03035
03036
03037
03038
03039
03039
03040
03041
03042
03043
03044
03045
03046
03047
03048
03049
03049
03050
03051
03052
03053
03054
03055
03056
03057
03058
03059
03059
03060
03061
03062
03063
03064
03065
03066
03067
03068
03069
03069
03070
03071
03072
03073
03074
03075
03076
03077
03078
03079
03079
03080
03081
03082
03083
03084
03085
03086
03087
03088
03089
03089
03090
03091
03092
03093
03094
03095
03096
03097
03098
03099
03099
03100
03101
03102
03103
03104
03105
03106
03107
03108
03109
03109
03110
03111
03112
03113
03114
03115
03116
03117
03118
03119
03119
03120
03121
03122
03123
03124
03125
03126
03127
03128
03129
03129
03130
03131
03132
03133
03134
03135
03136
03137
03138
03139
03139
03140
03141
03142
03143
03144
03145
03146
03147
03148
03149
03149
03150
03151
03152
03153
03154
03155
03156
03157
03158
03159
03159
03160
03161
03162
03163
03164
03165
03166
03167
03168
03169
03169
03170
03171
03172
03173
03174
03175
03176
03177
03178
03179
03179
03180
03181
03182
03183
03184
03185
03186
03187
03188
03189
03189
03190
03191
03192
03193
03194
03195
03196
03197
03198
03199
03199
03200
0320
```

```
01664     void alert(const QString& txt);
01665
01666     void startBlinking();
01667     void stopBlinking();
01668     void blink();
01669
01670     void setPromptTextColor(const QColor&);
01671     void setPromptBackgroundColor(const QColor&);
01672     void setPromptFontFamily(const QString&);
01673     void setPromptFontSize(const QString&);
01674     void setPromptFontStyle(const QString&);
01675     void setPromptFontSize(int);
01676
01677     void floatingChanged(bool);
01678
01679     void saveHistory(const QString& fileName, bool html);
01680
01681 private slots:
01682
01683 signals:
01684     void appendTheHistory(const QString& txt, int prefixLength);
01685
01686 //For connecting outside of command prompt
01687     void startCommand(const QString& cmd);
01688     void runCommand(const QString& cmd, const QString& cmdtxt);
01689     void deletePressed();
01690     void tabPressed();
01691     void escapePressed();
01692     void upPressed();
01693     void downPressed();
01694     void F1Pressed();
01695     void F2Pressed();
01696     void F3Pressed();
01697     void F4Pressed();
01698     void F5Pressed();
01699     void F6Pressed();
01700     void F7Pressed();
01701     void F8Pressed();
01702     void F9Pressed();
01703     void F10Pressed();
01704     void F11Pressed();
01705     void F12Pressed();
01706     void cutPressed();
01707     void copyPressed();
01708     void pastePressed();
01709     void selectAllPressed();
01710     void undoPressed();
01711     void redoPressed();
01712
01713     void shiftPressed();
01714     void shiftReleased();
01715
01716     void showSettings();
01717
01718     void historyAppended(const QString& txt);
01719 };
01720
01724 class EmbDetailsDialog : public QDialog
01725 {
01726     Q_OBJECT
01727
01728 public:
01729     EmbDetailsDialog(QGraphicsScene* theScene, QWidget *parent = 0);
01730     ~EmbDetailsDialog();
01731
01732     QWidget* mainWidget;
01733
01734     void getInfo();
01735     QWidget* createMainWidget();
01736     QWidget* createHistogram();
01737
01738     QDialogButtonBox* buttonBox;
01739
01740     quint32 stitchesTotal;
01741     quint32 stitchesReal;
01742     quint32 stitchesJump;
01743     quint32 stitchesTrim;
01744     quint32 colorTotal;
01745     quint32 colorChanges;
01746
01747     QRectF boundingRect;
01748 };
01749
01753 class ImageWidget : public QWidget
01754 {
01755     Q_OBJECT
01756
```

```

01757 public:
01758     QImage img;
01759     ImageWidget(const QString &filename, QWidget* parent = 0);
01760     ~ImageWidget();
01761
01762     bool load(const QString &fileName);
01763     bool save(const QString &fileName);
01764
01765 protected:
01766     void paintEvent(QPaintEvent* event);
01767 };
01768
01769 class LayerManager : public QDialog
01770 {
01771     Q_OBJECT
01772
01773     public:
01774         QStandardItemModel* layerModel;
01775         QSortFilterProxyModel* layerModelSorted;
01776         QTreeView* treeView;
01777
01778     LayerManager(MainWindow* mw, QWidget *parent = 0);
01779     ~LayerManager();
01780
01781     void addLayer(const QString& name,
01782                 const bool visible,
01783                 const bool frozen,
01784                 const EmbReal zValue,
01785                 const QRgb color,
01786                 const QString& lineType,
01787                 const QString& lineWeight,
01788                 const bool print);
01789
01790 };
01791
01792 class MainWindow: public QMainWindow
01793 {
01794     Q_OBJECT
01795
01796     public:
01797         MainWindow();
01798         ~MainWindow();
01799
01800         QString settings_general_language;
01801         QString settings_general_icon_theme;
01802         int settings_general_icon_size;
01803         bool settings_general_mdi_bg_use_logo;
01804         bool settings_general_mdi_bg_use_texture;
01805         bool settings_general_mdi_bg_use_color;
01806         QString settings_general_mdi_bg_logo;
01807         QString settings_general_mdi_bg_texture;
01808         QRgb settings_general_mdi_bg_color;
01809         bool settings_general_tip_of_the_day;
01810         quint16 settings_general_current_tip;
01811         bool settings_general_system_help_browser;
01812         bool settings_general_check_for_updates;
01813         bool settings_display_use_opengl;
01814         bool settings_display_renderhint_aa;
01815         bool settings_display_renderhint_text_aa;
01816         bool settings_display_renderhint_smooth_pix;
01817         bool settings_display_renderhint_high_aa;
01818         bool settings_display_renderhint_noncosmetic;
01819         bool settings_display_show_scrollbars;
01820         int settings_display_scrollbar_widget_num;
01821         QRgb settings_display_crosshair_color;
01822         QRgb settings_display_bg_color;
01823         QRgb settings_display_selectbox_left_color;
01824         QRgb settings_display_selectbox_left_fill;
01825         QRgb settings_display_selectbox_right_color;
01826         QRgb settings_display_selectbox_right_fill;
01827         uint8_t settings_display_selectbox_alpha;
01828         EmbReal settings_display_zoomscale_in;
01829         EmbReal settings_display_zoomscale_out;
01830         uint8_t settings_display_crosshair_percent;
01831         QString settings_display_units;
01832         QRgb settings_prompt_text_color;
01833         QRgb settings_prompt_bg_color;
01834         QString settings_prompt_font_family;
01835         QString settings_prompt_font_style;
01836         uint8_t settings_prompt_font_size;
01837         bool settings_prompt_save_history;
01838         bool settings_prompt_save_history_as_html;
01839         QString settings_prompt_save_history_filename;
01840         QString settings_opensave_custom_filter;
01841         QString settings_opensave_open_format;
01842         bool settings_opensave_open_thumbnail;
01843         QString settings_opensave_save_format;
01844         bool settings_opensave_save_thumbnail;

```

```
01850     uint8_t settings_opensave_recent_max_files;
01851     QStringList settings_opensave_recent_list_of_files;
01852     QString settings_opensave_recent_directory;
01853     uint8_t settings_opensave_trim_dst_num_jumps;
01854     QString settings_printing_default_device;
01855     bool settings_printing_use_last_device;
01856     bool settings_printing_disable_bg;
01857     bool settings_grid_show_on_load;
01858     bool settings_grid_show_origin;
01859     bool settings_grid_color_match_crosshair;
01860     QRgb settings_grid_color;
01861     bool settings_grid_load_from_file;
01862     QString settings_grid_type;
01863     bool settings_grid_center_on_origin;
01864     EmbReal settings_grid_center_x;
01865     EmbReal settings_grid_center_y;
01866     EmbReal settings_grid_size_x;
01867     EmbReal settings_grid_size_y;
01868     EmbReal settings_grid_spacing_x;
01869     EmbReal settings_grid_spacing_y;
01870     EmbReal settings_grid_size_radius;
01871     EmbReal settings_grid_spacing_radius;
01872     EmbReal settings_grid_spacing_angle;
01873     bool settings_ruler_show_on_load;
01874     bool settings_ruler_metric;
01875     QRgb settings_ruler_color;
01876     uint8_t settings_ruler_pixel_size;
01877     bool settings_qsnap_enabled;
01878     QRgb settings_qsnap_locator_color;
01879     uint8_t settings_qsnap_locator_size;
01880     uint8_t settings_qsnap_aperture_size;
01881     bool settings_qsnap_endpoint;
01882     bool settings_qsnap_midpoint;
01883     bool settings_qsnap_center;
01884     bool settings_qsnap_node;
01885     bool settings_qsnap_quadrant;
01886     bool settings_qsnap_intersection;
01887     bool settings_qsnap_extension;
01888     bool settings_qsnap_insertion;
01889     bool settings_qsnap_perpendicular;
01890     bool settings_qsnap_tangent;
01891     bool settings_qsnap_nearest;
01892     bool settings_qsnap_apparent;
01893     bool settings_qsnap_parallel;
01894     bool settings_lwt_show_lwt;
01895     bool settings_lwt_real_render;
01896     EmbReal settings_lwt_default_lwt;
01897     bool settings_selection_mode_pickfirst;
01898     bool settings_selection_mode_pickadd;
01899     bool settings_selection_mode_pickdrag;
01900     QRgb settings_selection_coolgrip_color;
01901     QRgb settings_selection_hotgrip_color;
01902     uint8_t settings_selection_grip_size;
01903     uint8_t settings_selection_pickbox_size;
01904     QString settings_text_font;
01905     EmbReal settings_text_size;
01906     EmbReal settings_text_angle;
01907     bool settings_text_style_bold;
01908     bool settings_text_style_italic;
01909     bool settings_text_style_underline;
01910     bool settings_text_style_overline;
01911     bool settings_text_style_strikeout;
01912
01913     MdiArea* getMdiArea();
01914     MainWindow* getApplication();
01915     MdiWindow* activeMdiWindow();
01916     View* activeView();
01917     QGraphicsScene* activeScene();
01918     QUndoStack* activeUndoStack();
01919
01920     void setUndoCleanIcon(bool opened);
01921
01922     virtual void updateMenuToolbarStatusbar();
01923
01924     MainWindow* mainWin;
01925     MdiArea* mdiArea;
01926     CmdPrompt* prompt;
01927     PropertyEditor* dockPropEdit;
01928     UndoEditor* dockUndoEdit;
01929     StatusBar* statusbar;
01930
01931     QList<QGraphicsItem*> cutCopyObjectList;
01932
01933     std::string actuator(std::string command);
01934     std::string run_script_file(std::string fname);
01935     std::string run_script(std::vector<std::string> script);
01936
```

```

01937     QHash<int, QAction*> actionHash;
01938     QHash<QString, QToolBar*> toolbarHash;
01939     QHash<QString, QMenu*> menuHash;
01940
01941     QString formatFilterOpen;
01942     QString formatFilterSave;
01943
01944     bool isCommandActive() { return prompt->isCommandActive(); }
01945     QString activeCommand() { return prompt->activeCommand(); }
01946
01947     QString platformString();
01948
01949 public slots:
01950
01951     void enablePromptRapidFire();
01952     void disablePromptRapidFire();
01953
01954     void enableMoveRapidFire();
01955     void disableMoveRapidFire();
01956
01957     void onCloseWindow();
01958     virtual void onCloseMdiWin(MdiWindow*);
01959
01960     void recentMenuAboutToShow();
01961
01962     void onWindowActivated(QMdiSubWindow* w);
01963     void windowMenuAboutToShow();
01964     void windowMenuActivated( bool checked/*int id*/ );
01965     QAction* getAction(int actionEnum);
01966
01967     void updateAllViewScrollBars(bool val);
01968     void updateAllViewCrossHairColors(QRgb color);
01969     void updateAllViewBackgroundColors(QRgb color);
01970     void updateAllViewSelectBoxColors(QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha);
01971     void updateAllViewGridColors(QRgb color);
01972     void updateAllViewRulerColors(QRgb color);
01973
01974     void updatePickAddMode(bool val);
01975     void pickAddModeToggled();
01976
01977     void settingsPrompt();
01978
01979     void settingsDialog(const QString& showTab = QString());
01980     void readSettings();
01981     void writeSettings();
01982
01983     static bool validFileFormat(const QString &fileName);
01984
01985 protected:
01986     virtual void resizeEvent(QResizeEvent* );
01987     void closeEvent(QCloseEvent *event);
01988     QAction* getFileSeparator();
01989     void loadFormats();
01990
01991     bool shiftKeyPressedState;
01992
01993     QByteArray layoutState;
01994
01995     int numOfDocs;
01996     int docIndex;
01997
01998     QList<MdiWindow*> listMdiWin;
01999     QMdiSubWindow* findMdiWindow(const QString &fileName);
02000     QString openFilesPath;
02001
02002     QAction* myFileSeparator;
02003
02004     QWizard* wizardTipOfDay;
02005     QLabel* labelTipOfDay;
02006     QCheckBox* checkBoxTipOfDay;
02007     QStringList listTipOfDay;
02008
02009     void createAllActions();
02010     QAction* createAction(const QString icon, const QString toolTip, const QString statusTip, bool
02011     scripted = false);
02012
02013 //=====
02014     void createAllToolbars();
02015     void createFileToolbar();
02016     void createEditToolbar();
02017     void createViewToolbar();
02018     void createZoomToolbar();
02019     void createPanToolbar();
02020     void createIconToolbar();
02021     void createHelpToolbar();
02022     void createLayerToolbar();

```

```
02023     void createPropertiesToolbar();
02024     void createTextToolbar();
02025     void createPromptToolbar();
02026
02027     const int file_toolbar = 0;
02028     const int edit_toolbar = 1;
02029     const int view_toolbar = 2;
02030     const int zoom_toolbar = 3;
02031
02032     QToolBar* toolbarFile;
02033     QToolBar* toolbarEdit;
02034     QToolBar* toolbarView;
02035     QToolBar* toolbarZoom;
02036     QToolBar* toolbarPan;
02037     QToolBar* toolbarIcon;
02038     QToolBar* toolbarHelp;
02039     QToolBar* toolbarLayer;
02040     QToolBar* toolbarText;
02041     QToolBar* toolbarProperties;
02042     QToolBar* toolbarPrompt;
02043
02044     //Selectors
02045 //=====
02046     QComboBox* layerSelector;
02047     QComboBox* colorSelector;
02048     QComboBox* linetypeSelector;
02049     QComboBox* linewidthSelector;
02050     QFontComboBox* textFontSelector;
02051     QComboBox* textSizeSelector;
02052
02053     //Menus
02054 //=====
02055     void createAllMenus();
02056     void createFileMenu();
02057     void createEditMenu();
02058     void createViewMenu();
02059     void createSettingsMenu();
02060     void createWindowMenu();
02061     void createHelpMenu();
02062
02063     QMenu* fileMenu;
02064     QMenu* editMenu;
02065     QMenu* viewMenu;
02066     QMenu* settingsMenu;
02067     QMenu* windowMenu;
02068     QMenu* helpMenu;
02069
02070     //SubMenus
02071 //=====
02072     QMenu* recentMenu;
02073     QMenu* zoomMenu;
02074     QMenu* panMenu;
02075
02076     private slots:
02077         void hideUnimplemented();
02078
02079     public slots:
02080
02081         void stub_implement(QString txt);
02082         void stub_testing();
02083
02084         void promptHistoryAppended(const QString& txt);
02085         void logPromptInput(const QString& txt);
02086         void promptInputPrevious();
02087         void promptInputNext();
02088
02089         void runCommand();
02090         void runCommandMain(const QString& cmd);
02091         void runCommandClick(const QString& cmd, EmbReal x, EmbReal y);
02092         void runCommandMove(const QString& cmd, EmbReal x, EmbReal y);
02093         void runCommandContext(const QString& cmd, const QString& str);
02094         void runCommandPrompt(const QString& cmd, const QString& str);
02095
02096         void newFile();
02097         void openFile(bool recent = false, const QString& recentFile = "");
02098         void openFileSelected(const QStringList&);
02099         void openrecentfile();
02100         void savefile();
02101         void saveasfile();
02102         void print();
02103         void designDetails();
02104         void exit();
02105         void quit();
02106         void checkForUpdates();
02107         // Help Menu
02108         void tipOfTheDay();
02109         void buttonTipOfDayClicked(int);
```

```

02110 void checkBoxTipOfDayStateChanged(int);
02111 void help();
02112 void changelog();
02113 void about();
02114 void whatsThisContextHelp();
02115
02116 void cut();
02117 void copy();
02118 void paste();
02119 void selectAll();
02120
02121 void closeToolBar(QAction*);
02122 void floatingChangedToolBar(bool);
02123
02124 void toggleGrid();
02125 void toggleRuler();
02126 void toggleLwt();
02127
02128 // Icons
02129 void iconResize(int iconSize);
02130 void icon16();
02131 void icon24();
02132 void icon32();
02133 void icon48();
02134 void icon64();
02135 void icon128();
02136
02137 // Selectors
02138 void layerSelectorIndexChanged(int index);
02139 void colorSelectorIndexChanged(int index);
02140 void linetypeSelectorIndexChanged(int index);
02141 void linewidthSelectorIndexChanged(int index);
02142 void textFontSelectorCurrentFontChanged(const QFont& font);
02143 void textSizeSelectorIndexChanged(int index);
02144
02145 QString textFont();
02146 EmbReal textSize();
02147 EmbReal textAngle();
02148 bool textBold();
02149 bool textItalic();
02150 bool textUnderline();
02151 bool textStrikeOut();
02152 bool textOverline();
02153
02154 void setTextFont(const QString& str);
02155 void setTextSize(EmbReal num);
02156 void setTextAngle(EmbReal num);
02157 void setTextBold(bool val);
02158 void setTextItalic(bool val);
02159 void setTextUnderline(bool val);
02160 void setTextStrikeOut(bool val);
02161 void setTextOverline(bool val);
02162
02163 QString getCurrentLayer();
02164 QRgb getCurrentColor();
02165 QString getCurrentLineType();
02166 QString getCurrentLineWeight();
02167
02168 // Standard Slots
02169 void undo();
02170 void redo();
02171
02172 bool isShiftPressed();
02173 void setShiftPressed();
02174 void setShiftReleased();
02175
02176 void deletePressed();
02177 void escapePressed();
02178
02179 // Layer Toolbar
02180 void makeLayerActive();
02181 void layerManager();
02182 void layerPrevious();
02183 // Zoom Toolbar
02184 void zoomRealtime();
02185 void zoomPrevious();
02186 void zoomWindow();
02187 void zoomDynamic();
02188 void zoomScale();
02189 void zoomCenter();
02190 void zoomIn();
02191 void zoomOut();
02192 void zoomSelected();
02193 void zoomAll();
02194 void zoomExtents();
02195 // Pan SubMenu
02196 void panrealtime();

```

```

02197     void panpoint();
02198     void panLeft();
02199     void panRight();
02200     void panUp();
02201     void panDown();
02202
02203     void dayVision();
02204     void nightVision();
02205
02206     void doNothing();
02207
02208 public:
02209     //Natives
02210     void nativeAlert(const QString& txt);
02211     void nativeBlinkPrompt();
02212     void nativeSetPromptPrefix(const QString& txt);
02213     void nativeAppendPromptHistory(const QString& txt);
02214     void nativeEnablePromptRapidFire();
02215     void nativeDisablePromptRapidFire();
02216     void nativeInitCommand();
02217     void nativeEndCommand();
02218
02219     void nativeEnableMoveRapidFire();
02220     void nativeDisableMoveRapidFire();
02221
02222     void nativeNewFile();
02223     void nativeOpenFile();
02224
02225     void nativeExit();
02226     void nativeTipOfTheDay();
02227     void nativeWindowCascade();
02228     void nativeWindowTile();
02229     void nativeWindowClose();
02230     void nativeWindowCloseAll();
02231     void nativeWindowNext();
02232     void nativeWindowPrevious();
02233
02234     void nativeMessageBox(const QString& type, const QString& title, const QString& text);
02235
02236     void nativePrintArea(EmbReal x, EmbReal y, EmbReal w, EmbReal h);
02237
02238     void nativeSetBackgroundColor(uint8_t r, uint8_t g, uint8_t b);
02239     void nativeSetCrossHairColor(uint8_t r, uint8_t g, uint8_t b);
02240     void nativeSetGridColor(uint8_t r, uint8_t g, uint8_t b);
02241
02242     QString nativeTextFont();
02243     EmbReal nativeTextSize();
02244     EmbReal nativeTextAngle();
02245     bool nativeTextBold();
02246     bool nativeTextItalic();
02247     bool nativeTextUnderline();
02248     bool nativeTextStrikeOut();
02249     bool nativeTextOverline();
02250
02251     void nativePreviewOn(int clone, int mode, EmbReal x, EmbReal y, EmbReal data);
02252     void nativePreviewOff();
02253
02254     void nativeVulcanize();
02255     void nativeClearRubber();
02256     bool nativeAllowRubber();
02257     void nativeSpareRubber(qint64 id);
02258     //TODO: void nativeSetRubberFilter(qint64 id); //TODO: This is so more than 1 rubber object can
02259     //exist at one time without updating all rubber objects at once
02260     void nativeSetRubberMode(int mode);
02261     void nativeSetRubberPoint(const QString& key, EmbReal x, EmbReal y);
02262     void nativeSetRubberText(const QString& key, const QString& txt);
02263
02264     void nativeAddTextMulti(const QString& str, EmbReal x, EmbReal y, EmbReal rot, bool fill, int
02265     rubberMode);
02266     void nativeAddTextSingle(const QString& str, EmbReal x, EmbReal y, EmbReal rot, bool fill, int
02267     rubberMode);
02268     void nativeAddInfiniteLine(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot);
02269     void nativeAddRay(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot);
02270     void nativeAddLine(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot, int rubberMode);
02271     void nativeAddTriangle(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal x3, EmbReal y3,
02272     EmbReal rot, bool fill);
02273     void nativeAddRectangle(EmbReal x, EmbReal y, EmbReal w, EmbReal h, EmbReal rot, bool fill, int
02274     rubberMode);
02275     void nativeAddRoundedRectangle(EmbReal x, EmbReal y, EmbReal w, EmbReal h, EmbReal rad, EmbReal
02276     rot, bool fill);
02277     void nativeAddArc(EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX,
02278     EmbReal endY, int rubberMode);
02279     void nativeAddCircle(EmbReal centerX, EmbReal centerY, EmbReal radius, bool fill, int rubberMode);
02280     void nativeAddSlot(EmbReal centerX, EmbReal centerY, EmbReal diameter, EmbReal length, EmbReal
02281     rot, bool fill, int rubberMode);
02282     void nativeAddEllipse(EmbReal centerX, EmbReal centerY, EmbReal width, EmbReal height, EmbReal

```

```

        rot, bool fill, int rubberMode);
02276     void nativeAddPoint(EmbReal x, EmbReal y);
02277     void nativeAddRegularPolygon(EmbReal centerX, EmbReal centerY, quint16 sides, uint8_t mode,
02278         EmbReal rad, EmbReal rot, bool fill);
02279     void nativeAddPolygon(EmbReal startX, EmbReal startY, const QPainterPath& p, int rubberMode);
02280     void nativeAddPolyline(EmbReal startX, EmbReal startY, const QPainterPath& p, int rubberMode);
02281     void nativeAddPath(EmbReal startX, EmbReal startY, const QPainterPath& p, int rubberMode);
02282     void nativeAddHorizontalDimension(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal
02283         legHeight);
02284     void nativeAddVerticalDimension(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal
02285         legHeight);
02286     void nativeAddImage(const QString& img, EmbReal x, EmbReal y, EmbReal w, EmbReal h, EmbReal rot);
02287     void nativeAddDimLeader(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot, int
02288         rubberMode);
02289     void nativeSetCursorShape(const QString& str);
02290     EmbReal nativeCalculateAngle(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2);
02291     EmbReal nativeCalculateDistance(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2);
02292     EmbReal nativePerpendicularDistance(EmbReal px, EmbReal py, EmbReal x1, EmbReal y1, EmbReal x2,
02293         EmbReal y2);
02294     int nativeNumSelected();
02295     void nativeSelectAll();
02296     void nativeAddToSelection(const QPainterPath path, Qt::ItemSelectionMode mode);
02297     void nativeClearSelection();
02298     void nativeDeleteSelected();
02299     void nativeCutSelected(EmbReal x, EmbReal y);
02300     void nativeCopySelected(EmbReal x, EmbReal y);
02301     void nativePasteSelected(EmbReal x, EmbReal y);
02302     void nativeMoveSelected(EmbReal dx, EmbReal dy);
02303     void nativeScaleSelected(EmbReal x, EmbReal y, EmbReal factor);
02304     void nativeRotateSelected(EmbReal x, EmbReal y, EmbReal rot);
02305     void nativeMirrorSelected(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2);
02306     EmbReal nativeQSnapX();
02307     EmbReal nativeQSnapY();
02308     EmbReal nativeMouseX();
02309     EmbReal nativeMouseY();
02310 }
02311 MainWindow* mainWin();
02312
02313
02314 class MdiWindow: public QMdiSubWindow
02315 {
02316     Q_OBJECT
02317
02318 public:
02319     MdiWindow(const int theIndex, MainWindow* mw, QMdiArea* parent, Qt::WindowFlags wflags);
02320     ~MdiWindow();
02321
02322     virtual QSize           sizeHint() const;
02323     QString    getCurrentFile() { return curFile; }
02324     QString    getShortCurrentFile();
02325     View*      getView() { return gview; }
02326     QGraphicsScene*   getScene() { return gscene; }
02327     QString    getCurrentLayer() { return curLayer; }
02328     QRgb      getCurrentColor() { return curColor; }
02329     QString    getCurrentLineType() { return curLineType; }
02330     QString    getCurrentLineWidth() { return curLineWidth; }
02331     void      setCurrentLayer(const QString& layer) { curLayer = layer; }
02332     void      setCurrentColor(const QRgb& color) { curColor = color; }
02333     void      setCurrentLineType(const QString& lineType) { curLineType = lineType; }
02334     void      setCurrentLineWidth(const QString& lineWidth) { curLineWidth = lineWidth; }
02335     void      designDetails();
02336     bool     loadFile(const QString &fileName);
02337     bool     saveFile(const QString &fileName);
02338 signals:
02339     void sendCloseMdiWin(MdiWindow* );
02340
02341 public slots:
02342     void closeEvent(QCloseEvent* e);
02343     void onWindowActivated();
02344
02345     void currentLayerChanged(const QString& layer);
02346     void currentColorChanged(const QRgb& color);
02347     void currentLinetypeChanged(const QString& type);
02348     void currentLinewidthChanged(const QString& weight);
02349
02350     void updateColorLinetypeLinewidth();
02351     void deletePressed();
02352     void escapePressed();
02353
02354     void showViewScrollBars(bool val);
02355     void setViewCrossHairColor(QRgb color);
02356     void setViewBackgroundColor(QRgb color);

```

```
02357     void setViewSelectBoxColors(QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha);
02358     void setViewGridColor(QRgb color);
02359     void setViewRulerColor(QRgb color);
02360
02361     void print();
02362     void saveBMC();
02363
02364     void promptHistoryAppended(const QString& txt);
02365     void logPromptInput(const QString& txt);
02366     void promptInputPrevious();
02367     void promptInputNext();
02368
02369 protected:
02370
02371 private:
02372     MainWindow*           mainWin;
02373     QMdiArea*             mdiArea;
02374     QGraphicsScene*        gscene;
02375     View*                 gview;
02376
02377     bool fileWasLoaded;
02378
02379     QString promptHistory;
02380     QList<QString> promptInputList;
02381     int promptInputNum;
02382
02383     QPrinter               printer;
02384
02385     QString curFile;
02386     void setCurrentFile(const QString& fileName);
02387     QString fileExtension(const QString& fileName);
02388
02389     int myIndex;
02390
02391     QString curLayer;
02392     QRgb curColor;
02393     QString curLineType;
02394     QString curLineWeight;
02395
02396     void promptInputPrevNext(bool prev);
02397 };
02398
02402 class MdiArea : public QMdiArea
02403 {
02404     Q_OBJECT
02405
02406 public:
02407     MainWindow* mainWin;
02408
02409     bool useLogo;
02410     bool useTexture;
02411     bool useColor;
02412
02413     QPixmap bgLogo;
02414     QPixmap bgTexture;
02415     QColor  bgColor;
02416
02417     void zoomExtentsAllSubWindows();
02418     void forceRepaint();
02419
02420     MdiArea(MainWindow* mw, QWidget* parent = 0);
02421     ~MdiArea();
02422
02423     void useBackgroundLogo(bool use);
02424     void useBackgroundTexture(bool use);
02425     void useBackgroundColor(bool use);
02426
02427     void setBackgroundLogo(const QString& fileName);
02428     void setBackgroundTexture(const QString& fileName);
02429     void setBackgroundColor(const QColor& color);
02430
02431 public slots:
02432     void cascade();
02433     void tile();
02434 protected:
02435     virtual void mouseDoubleClickEvent(QMouseEvent* e);
02436     virtual void paintEvent(QPaintEvent* e);
02437 };
02438
02442 class PreviewDialog : public QFileDialog
02443 {
02444     Q_OBJECT
02445
02446 public:
02447     PreviewDialog(QWidget* parent = 0,
02448                  const QString& caption = QString(),
02449                  const QString& directory = QString(),
```

```

02450     const QString& filter = QString();
02451     ~PreviewDialog();
02452
02453     ImageWidget* imgWidget;
02454 };
02455
02456
02457 class PropertyEditor : public QDockWidget
02458 {
02459     Q_OBJECT
02460
02461 public:
02462     PropertyEditor(const QString& iconDirectory = QString(), bool pickAddMode = true, QWidget*
02463     widgetToFocus = 0, QWidget* parent = 0); //, Qt::WindowFlags flags = 0);
02464     ~PropertyEditor();
02465
02466 protected:
02467     bool eventFilter(QObject *obj, QEvent *event);
02468
02469 signals:
02470     void pickAddModeToggled();
02471
02472 public slots:
02473     void setSelectedItems(QList<QGraphicsItem*> itemList);
02474     void updatePickAddModeButton(bool pickAddMode);
02475
02476 private slots:
02477     void fieldEdited(QObject* fieldObj);
02478     void showGroups(int objType);
02479     void showOneType(int index);
02480     void hideAllGroups();
02481     void clearAllFields();
02482     void togglePickAddMode();
02483
02484     QWidget* focusWidget;
02485
02486     QString iconDir;
02487     int iconSize;
02488     Qt::ToolButtonStyle propertyEditorButtonStyle;
02489
02490     bool pickAdd;
02491
02492     QList<QGraphicsItem*> selectedItemList;
02493
02494     ArcObject* tempArcObj;
02495     BlockObject* tempBlockObj;
02496     CircleObject* tempCircleObj;
02497     DimAlignedObject* tempDimAlignedObj;
02498     DimAngularObject* tempDimAngularObj;
02499     DimArcLengthObject* tempDimArcLenObj;
02500     DimDiameterObject* tempDimDiamObj;
02501     DimLeaderObject* tempDimLeaderObj;
02502     DimLinearObject* tempDimLinearObj;
02503     DimOrdinateObject* tempDimOrdObj;
02504     DimRadiusObject* tempDimRadiusObj;
02505     EllipseObject* tempEllipseObj;
02506     EllipseArcObject* tempEllipseArcObj;
02507     HatchObject* tempHatchObj;
02508     ImageObject* tempImageObj;
02509     InfiniteLineObject* tempInflLineObj;
02510     LineObject* tempLineObj;
02511     PathObject* tempPathObj;
02512     PointObject* tempPointObj;
02513     PolygonObject* tempPolygonObj;
02514     PolylineObject* tempPolylineObj;
02515     RayObject* tempRayObj;
02516     RectObject* tempRectObj;
02517     SplineObject* tempSplineObj;
02518     TextMultiObject* tempTextMultiObj;
02519     TextSingleObject* tempTextSingleObj;
02520
02521 //Helper functions
02522     QToolButton* createToolBar(const QString& iconName, const QString& txt);
02523     QLineEdit* createLineEdit(const QString& validatorType = QString(), bool readOnly = false);
02524     QComboBox* createComboBox(bool disable = false);
02525     QFontComboBox* createFontComboBox(bool disable = false);
02526
02527     int precisionAngle;
02528     int precisionLength;
02529
02530 //Used when checking if fields vary
02531     QString fieldOldText;
02532     QString fieldNewText;
02533     QString fieldVariesText;
02534     QString fieldYesText;
02535     QString fieldNoText;

```

```
02536     QString fieldOnText;
02537     QString fieldOffText;
02538
02539     void updateLineEditStrIfVaries(QLineEdit* lineEdit, const QString& str);
02540     void updateLineEditNumIfVaries(QLineEdit* lineEdit, EmbReal num, bool useAnglePrecision);
02541     void updateFontComboBoxStrIfVaries(QFontComboBox* fontComboBox, const QString& str);
02542     void updateComboBoxStrIfVaries(QComboBox* comboBox, const QString& str, const QStringList&
02543     strList);
02543     void updateComboBoxBoolIfVaries(QComboBox* comboBox, bool val, bool yesOrNoText);
02544
02545     QSignalMapper* signalMapper;
02546     void mapSignal(QObject* fieldObj, const QString& name, QVariant value);
02547
02548 //=====
02549 //Selection
02550 //=====
02551     QComboBox* createComboBoxSelected();
02552     QToolButton* createToolButtonQSelect();
02553     QToolButton* createToolButtonPickAdd();
02554
02555     QComboBox* comboBoxSelected;
02556     QToolButton* toolButtonQSelect;
02557     QToolButton* toolButtonPickAdd;
02558
02559 //TODO: Alphabetic/Categorized TabWidget
02560
02561 //=====
02562 //General
02563 //=====
02564     QGroupBox* createGroupBoxGeneral();
02565     QGroupBox* groupBoxGeneral;
02566
02567     QToolButton* toolButtonGeneralLayer;
02568     QToolButton* toolButtonGeneralColor;
02569     QToolButton* toolButtonGeneralLineType;
02570     QToolButton* toolButtonGeneralLineWidth;
02571
02572     QComboBox* comboBoxGeneralLayer;
02573     QComboBox* comboBoxGeneralColor;
02574     QComboBox* comboBoxGeneralLineType;
02575     QComboBox* comboBoxGeneralLineWidth;
02576
02577 //=====
02578 //Geometry
02579 //=====
02580
02581 //Arc
02582     QGroupBox* createGroupBoxGeometryArc();
02583     QGroupBox* groupBoxGeometryArc;
02584
02585     QToolButton* toolButtonArcCenterX;
02586     QToolButton* toolButtonArcCenterY;
02587     QToolButton* toolButtonArcRadius;
02588     QToolButton* toolButtonArcStartAngle;
02589     QToolButton* toolButtonArcEndAngle;
02590     QToolButton* toolButtonArcStartX;
02591     QToolButton* toolButtonArcStartY;
02592     QToolButton* toolButtonArcEndX;
02593     QToolButton* toolButtonArcEndY;
02594     QToolButton* toolButtonArcArea;
02595     QToolButton* toolButtonArcLength;
02596     QToolButton* toolButtonArcChord;
02597     QToolButton* toolButtonArcIncAngle;
02598
02599     QLineEdit* lineEditArcCenterX;
02600     QLineEdit* lineEditArcCenterY;
02601     QLineEdit* lineEditArcRadius;
02602     QLineEdit* lineEditArcStartAngle;
02603     QLineEdit* lineEditArcEndAngle;
02604     QLineEdit* lineEditArcStartX;
02605     QLineEdit* lineEditArcStartY;
02606     QLineEdit* lineEditArcEndX;
02607     QLineEdit* lineEditArcEndY;
02608     QLineEdit* lineEditArcArea;
02609     QLineEdit* lineEditArcLength;
02610     QLineEdit* lineEditArcChord;
02611     QLineEdit* lineEditArcIncAngle;
02612
02613     QGroupBox* createGroupBoxMiscArc();
02614     QGroupBox* groupBoxMiscArc;
02615
02616     QToolButton* toolButtonArcClockwise;
02617
02618     QComboBox* comboBoxArcClockwise;
02619
02620 //Block
02621     QGroupBox* createGroupBoxGeometryBlock();
```

```

02622     QGroupBox* groupBoxGeometryBlock;
02623
02624     QToolButton* toolButtonBlockX;
02625     QToolButton* toolButtonBlockY;
02626
02627     QLineEdit*lineEditBlockX;
02628     QLineEdit*lineEditBlockY;
02629
02630     //Circle
02631     QGroupBox* createGroupBoxGeometryCircle();
02632     QGroupBox* groupBoxGeometryCircle;
02633
02634     QToolButton* toolButtonCircleCenterX;
02635     QToolButton* toolButtonCircleCenterY;
02636     QToolButton* toolButtonCircleRadius;
02637     QToolButton* toolButtonCircleDiameter;
02638     QToolButton* toolButtonCircleArea;
02639     QToolButton* toolButtonCircleCircumference;
02640
02641     QLineEdit*lineEditCircleCenterX;
02642     QLineEdit*lineEditCircleCenterY;
02643     QLineEdit*lineEditCircleRadius;
02644     QLineEdit*lineEditCircleDiameter;
02645     QLineEdit*lineEditCircleArea;
02646     QLineEdit*lineEditCircleCircumference;
02647
02648     //DimAligned
02649     QGroupBox* createGroupBoxGeometryDimAligned();
02650     QGroupBox* groupBoxGeometryDimAligned;
02651
02652     //TODO: toolButtons and lineEdits for DimAligned
02653
02654     //DimAngular
02655     QGroupBox* createGroupBoxGeometryDimAngular();
02656     QGroupBox* groupBoxGeometryDimAngular;
02657
02658     //TODO: toolButtons and lineEdits for DimAngular
02659
02660     //DimArcLength
02661     QGroupBox* createGroupBoxGeometryDimArcLength();
02662     QGroupBox* groupBoxGeometryDimArcLength;
02663
02664     //TODO: toolButtons and lineEdits for DimArcLength
02665
02666     //DimDiameter
02667     QGroupBox* createGroupBoxGeometryDimDiameter();
02668     QGroupBox* groupBoxGeometryDimDiameter;
02669
02670     //TODO: toolButtons and lineEdits for DimDiameter
02671
02672     //DimLeader
02673     QGroupBox* createGroupBoxGeometryDimLeader();
02674     QGroupBox* groupBoxGeometryDimLeader;
02675
02676     //TODO: toolButtons and lineEdits for DimLeader
02677
02678     //DimLinear
02679     QGroupBox* createGroupBoxGeometryDimLinear();
02680     QGroupBox* groupBoxGeometryDimLinear;
02681
02682     //TODO: toolButtons and lineEdits for DimLinear
02683
02684     //DimOrdinate
02685     QGroupBox* createGroupBoxGeometryDimOrdinate();
02686     QGroupBox* groupBoxGeometryDimOrdinate;
02687
02688     //TODO: toolButtons and lineEdits for DimOrdinate
02689
02690     //DimRadius
02691     QGroupBox* createGroupBoxGeometryDimRadius();
02692     QGroupBox* groupBoxGeometryDimRadius;
02693
02694     //TODO: toolButtons and lineEdits for DimRadius
02695
02696     //Ellipse
02697     QGroupBox* createGroupBoxGeometryEllipse();
02698     QGroupBox* groupBoxGeometryEllipse;
02699
02700     QToolButton* toolButtonEllipseCenterX;
02701     QToolButton* toolButtonEllipseCenterY;
02702     QToolButton* toolButtonEllipseRadiusMajor;
02703     QToolButton* toolButtonEllipseRadiusMinor;
02704     QToolButton* toolButtonEllipseDiameterMajor;
02705     QToolButton* toolButtonEllipseDiameterMinor;
02706
02707     QLineEdit*lineEditEllipseCenterX;
02708     QLineEdit*lineEditEllipseCenterY;

```

```
02709     QLineEdit*    lineEditEllipseRadiusMajor;
02710     QLineEdit*    lineEditEllipseRadiusMinor;
02711     QLineEdit*    lineEditEllipseDiameterMajor;
02712     QLineEdit*    lineEditEllipseDiameterMinor;
02713
02714     //Image
02715     QGroupBox*    createGroupBoxGeometryImage();
02716     QGroupBox*    groupBoxGeometryImage;
02717
02718     QToolButton*   toolButtonImageX;
02719     QToolButton*   toolButtonImageY;
02720     QToolButton*   toolButtonImageWidth;
02721     QToolButton*   toolButtonImageHeight;
02722
02723     QLineEdit*    lineEditImageX;
02724     QLineEdit*    lineEditImageY;
02725     QLineEdit*    lineEditImageWidth;
02726     QLineEdit*    lineEditImageHeight;
02727
02728     QGroupBox*    createGroupBoxMiscImage();
02729     QGroupBox*    groupBoxMiscImage;
02730
02731     QToolButton*   toolButtonImageName;
02732     QToolButton*   toolButtonImagePath;
02733
02734     QLineEdit*    lineEditImageName;
02735     QLineEdit*    lineEditImagePath;
02736
02737     //Infinite Line
02738     QGroupBox*    createGroupBoxGeometryInfiniteLine();
02739     QGroupBox*    groupBoxGeometryInfiniteLine;
02740
02741     QToolButton*   toolButtonInfiniteLineX1;
02742     QToolButton*   toolButtonInfiniteLineY1;
02743     QToolButton*   toolButtonInfiniteLineX2;
02744     QToolButton*   toolButtonInfiniteLineY2;
02745     QToolButton*   toolButtonInfiniteLineVectorX;
02746     QToolButton*   toolButtonInfiniteLineVectorY;
02747
02748     QLineEdit*    lineEditInfiniteLineX1;
02749     QLineEdit*    lineEditInfiniteLineY1;
02750     QLineEdit*    lineEditInfiniteLineX2;
02751     QLineEdit*    lineEditInfiniteLineY2;
02752     QLineEdit*    lineEditInfiniteLineVectorX;
02753     QLineEdit*    lineEditInfiniteLineVectorY;
02754
02755     //Line
02756     QGroupBox*    createGroupBoxGeometryLine();
02757     QGroupBox*    groupBoxGeometryLine;
02758
02759     QToolButton*   toolButtonLineStartX;
02760     QToolButton*   toolButtonLineStartY;
02761     QToolButton*   toolButtonLineEndX;
02762     QToolButton*   toolButtonLineEndY;
02763     QToolButton*   toolButtonLineDeltaX;
02764     QToolButton*   toolButtonLineDeltaY;
02765     QToolButton*   toolButtonLineAngle;
02766     QToolButton*   toolButtonLineLength;
02767
02768     QLineEdit*    lineEditLineStartX;
02769     QLineEdit*    lineEditLineStartY;
02770     QLineEdit*    lineEditLineEndX;
02771     QLineEdit*    lineEditLineEndY;
02772     QLineEdit*    lineEditLineDeltaX;
02773     QLineEdit*    lineEditLineDeltaY;
02774     QLineEdit*    lineEditLineAngle;
02775     QLineEdit*    lineEditLineLength;
02776
02777     //Path
02778     QGroupBox*    createGroupBoxGeometryPath();
02779     QGroupBox*    groupBoxGeometryPath;
02780
02781     QToolButton*   toolButtonPathVertexNum;
02782     QToolButton*   toolButtonPathVertexX;
02783     QToolButton*   toolButtonPathVertexY;
02784     QToolButton*   toolButtonPathArea;
02785     QToolButton*   toolButtonPathLength;
02786
02787     QComboBox*    comboBoxPathVertexNum;
02788     QLineEdit*    lineEditPathVertexX;
02789     QLineEdit*    lineEditPathVertexY;
02790     QLineEdit*    lineEditPathArea;
02791     QLineEdit*    lineEditPathLength;
02792
02793     QGroupBox*    createGroupBoxMiscPath();
02794     QGroupBox*    groupBoxMiscPath;
02795
```

```
02796     QToolButton* toolButtonPathClosed;
02797
02798     QComboBox* comboBoxPathClosed;
02799
02800     //Point
02801     QGroupBox* createGroupBoxGeometryPoint();
02802     QGroupBox* groupBoxGeometryPoint;
02803
02804     QToolButton* toolButtonPointX;
02805     QToolButton* toolButtonPointY;
02806
02807     QLineEdit* lineEditPointX;
02808     QLineEdit* lineEditPointY;
02809
02810     //Polygon
02811     QGroupBox* createGroupBoxGeometryPolygon();
02812     QGroupBox* groupBoxGeometryPolygon;
02813
02814     QToolButton* toolButtonPolygonCenterX;
02815     QToolButton* toolButtonPolygonCenterY;
02816     QToolButton* toolButtonPolygonRadiusVertex;
02817     QToolButton* toolButtonPolygonRadiusSide;
02818     QToolButton* toolButtonPolygonDiameterVertex;
02819     QToolButton* toolButtonPolygonDiameterSide;
02820     QToolButton* toolButtonPolygonInteriorAngle;
02821
02822     QLineEdit* lineEditPolygonCenterX;
02823     QLineEdit* lineEditPolygonCenterY;
02824     QLineEdit* lineEditPolygonRadiusVertex;
02825     QLineEdit* lineEditPolygonRadiusSide;
02826     QLineEdit* lineEditPolygonDiameterVertex;
02827     QLineEdit* lineEditPolygonDiameterSide;
02828     QLineEdit* lineEditPolygonInteriorAngle;
02829
02830     //Polyline
02831     QGroupBox* createGroupBoxGeometryPolyline();
02832     QGroupBox* groupBoxGeometryPolyline;
02833
02834     QToolButton* toolButtonPolylineVertexNum;
02835     QToolButton* toolButtonPolylineVertexX;
02836     QToolButton* toolButtonPolylineVertexY;
02837     QToolButton* toolButtonPolylineArea;
02838     QToolButton* toolButtonPolylineLength;
02839
02840     QComboBox* comboBoxPolylineVertexNum;
02841     QLineEdit* lineEditPolylineVertexX;
02842     QLineEdit* lineEditPolylineVertexY;
02843     QLineEdit* lineEditPolylineArea;
02844     QLineEdit* lineEditPolylineLength;
02845
02846     QGroupBox* createGroupBoxMiscPolyline();
02847     QGroupBox* groupBoxMiscPolyline;
02848
02849     QToolButton* toolButtonPolylineClosed;
02850
02851     QComboBox* comboBoxPolylineClosed;
02852
02853     //Ray
02854     QGroupBox* createGroupBoxGeometryRay();
02855     QGroupBox* groupBoxGeometryRay;
02856
02857     QToolButton* toolButtonRayX1;
02858     QToolButton* toolButtonRayY1;
02859     QToolButton* toolButtonRayX2;
02860     QToolButton* toolButtonRayY2;
02861     QToolButton* toolButtonRayVectorX;
02862     QToolButton* toolButtonRayVectorY;
02863
02864     QLineEdit* lineEditRayX1;
02865     QLineEdit* lineEditRayY1;
02866     QLineEdit* lineEditRayX2;
02867     QLineEdit* lineEditRayY2;
02868     QLineEdit* lineEditRayVectorX;
02869     QLineEdit* lineEditRayVectorY;
02870
02871     //Rectangle
02872     QGroupBox* createGroupBoxGeometryRectangle();
02873     QGroupBox* groupBoxGeometryRectangle;
02874
02875     QToolButton* toolButtonRectangleCorner1X;
02876     QToolButton* toolButtonRectangleCorner1Y;
02877     QToolButton* toolButtonRectangleCorner2X;
02878     QToolButton* toolButtonRectangleCorner2Y;
02879     QToolButton* toolButtonRectangleCorner3X;
02880     QToolButton* toolButtonRectangleCorner3Y;
02881     QToolButton* toolButtonRectangleCorner4X;
02882     QToolButton* toolButtonRectangleCorner4Y;
```

```
02883     QToolButton* toolButtonRectangleWidth;
02884     QToolButton* toolButtonRectangleHeight;
02885     QToolButton* toolButtonRectangleArea;
02886
02887     QLineEdit*    lineEditRectangleCorner1X;
02888     QLineEdit*    lineEditRectangleCorner1Y;
02889     QLineEdit*    lineEditRectangleCorner2X;
02890     QLineEdit*    lineEditRectangleCorner2Y;
02891     QLineEdit*    lineEditRectangleCorner3X;
02892     QLineEdit*    lineEditRectangleCorner3Y;
02893     QLineEdit*    lineEditRectangleCorner4X;
02894     QLineEdit*    lineEditRectangleCorner4Y;
02895     QLineEdit*    lineEditRectangleWidth;
02896     QLineEdit*    lineEditRectangleHeight;
02897     QLineEdit*    lineEditRectangleArea;
02898
02899 //Text Multi
02900     QGroupBox*    createGroupBoxGeometryTextMulti();
02901     QGroupBox*    groupBoxGeometryTextMulti;
02902
02903     QToolButton*   toolButtonTextMultiX;
02904     QToolButton*   toolButtonTextMultiY;
02905
02906     QLineEdit*    lineEditTextMultiX;
02907     QLineEdit*    lineEditTextMultiY;
02908
02909 //Text Single
02910     QGroupBox*    createGroupBoxTextTextSingle();
02911     QGroupBox*    groupBoxTextTextSingle;
02912
02913     QToolButton*   toolButtonTextSingleContents;
02914     QToolButton*   toolButtonTextSingleFont;
02915     QToolButton*   toolButtonTextSingleJustify;
02916     QToolButton*   toolButtonTextSingleHeight;
02917     QToolButton*   toolButtonTextSingleRotation;
02918
02919     QLineEdit*    lineEditTextSingleContents;
02920     QFontComboBox* comboBoxTextSingleFont;
02921     QComboBox*    comboBoxTextSingleJustify;
02922     QLineEdit*    lineEditTextSingleHeight;
02923     QLineEdit*    lineEditTextSingleRotation;
02924
02925     QGroupBox*    createGroupBoxGeometryTextSingle();
02926     QGroupBox*    groupBoxGeometryTextSingle;
02927
02928     QToolButton*   toolButtonTextSingleX;
02929     QToolButton*   toolButtonTextSingleY;
02930
02931     QLineEdit*    lineEditTextSingleX;
02932     QLineEdit*    lineEditTextSingleY;
02933
02934     QGroupBox*    createGroupBoxMiscTextSingle();
02935     QGroupBox*    groupBoxMiscTextSingle;
02936
02937     QToolButton*   toolButtonTextSingleBackward;
02938     QToolButton*   toolButtonTextSingleUpsideDown;
02939
02940     QComboBox*    comboBoxTextSingleBackward;
02941     QComboBox*    comboBoxTextSingleUpsideDown;
02942 };
02943
02944
02945 class SelectBox : public QRubberBand
02946 {
02947     Q_OBJECT
02948
02949 public:
02950     SelectBox(Shape s, QWidget* parent = 0);
02951
02952     QColor leftBrushColor;
02953     QColor rightBrushColor;
02954     QColor leftPenColor;
02955     QColor rightPenColor;
02956     quint8 alpha;
02957
02958     QBrush dirBrush;
02959     QBrush leftBrush;
02960     QBrush rightBrush;
02961
02962     QPen dirPen;
02963     QPen leftPen;
02964     QPen rightPen;
02965
02966     bool boxDir;
02967
02968     void forceRepaint();
02969 }
```

```

02970 public slots:
02971     void setDirection(int dir);
02972     void setColors(const QColor& colorL, const QColor& fillL, const QColor& colorR, const QColor&
02973         fillR, int newAlpha);
02974 protected:
02975     void paintEvent(QPaintEvent* );
02976 };
02977
02981 class Settings_Dialog : public QDialog
02982 {
02983     Q_OBJECT
02984
02985 public:
02986     Settings_Dialog(MainWindow* mw, const QString& showTab = QString(), QWidget *parent = 0);
02987     ~Settings_Dialog();
02988
02989     MainWindow* mainWin;
02990
02991     QTabWidget* tabWidget;
02992
02993     QWidget* createTabGeneral();
02994     QWidget* createTabFilePaths();
02995     QWidget* createTabDisplay();
02996     QWidget* createTabPrompt();
02997     QWidget* createTabOpenSave();
02998     QWidget* createTabPrinting();
02999     QWidget* createTabSnap();
03000     QWidget* createTabGridRuler();
03001     QWidget* createTabOrthoPolar();
03002     QWidget* createTabQuickSnap();
03003     QWidget* createTabQuickTrack();
03004     QWidget* createTabLineWeight();
03005     QWidget* createTabSelection();
03006
03007     QDialogButtonBox* buttonBox;
03008
03009     void addColorsToComboBox(QComboBox* comboBox);
03010
03011 //Temporary for instant preview
03012     bool preview_general_mdi_bg_use_logo;
03013     bool preview_general_mdi_bg_use_texture;
03014     bool preview_general_mdi_bg_use_color;
03015
03016     QString accept_general_mdi_bg_logo;
03017     QString accept_general_mdi_bg_texture;
03018     QRgb preview_general_mdi_bg_color;
03019     QRgb accept_general_mdi_bg_color;
03020
03021     bool preview_display_show_scrollbars;
03022
03023     QRgb preview_display_crosshair_color;
03024     QRgb accept_display_crosshair_color;
03025     QRgb preview_display_bg_color;
03026     QRgb accept_display_bg_color;
03027
03028     QRgb preview_display_selectbox_left_color;
03029     QRgb accept_display_selectbox_left_color;
03030     QRgb preview_display_selectbox_left_fill;
03031     QRgb accept_display_selectbox_left_fill;
03032     QRgb preview_display_selectbox_right_color;
03033     QRgb accept_display_selectbox_right_color;
03034     QRgb preview_display_selectbox_right_fill;
03035     QRgb accept_display_selectbox_right_fill;
03036     quint8 preview_display_selectbox_alpha;
03037
03038     QRgb preview_prompt_text_color;
03039     QRgb accept_prompt_text_color;
03040
03041     QRgb preview_prompt_bg_color;
03042     QRgb accept_prompt_bg_color;
03043
03044     QString preview_prompt_font_family;
03045     QString preview_prompt_font_style;
03046     quint8 preview_prompt_font_size;
03047
03048     QRgb preview_grid_color;
03049     QRgb accept_grid_color;
03050
03051     QRgb preview_ruler_color;
03052     QRgb accept_ruler_color;
03053
03054     bool preview_lwt_show_lwt;
03055     bool preview_lwt_real_render;
03056
03057 //Temporary until changes are accepted
03058     QString dialog_general_language;

```

```
03059 QString dialog_general_icon_theme;
03060 int dialog_general_icon_size;
03061 bool dialog_general_mdi_bg_use_logo;
03062 bool dialog_general_mdi_bg_use_texture;
03063 bool dialog_general_mdi_bg_use_color;
03064 QString dialog_general_mdi_bg_logo;
03065 QString dialog_general_mdi_bg_texture;
03066 QRgb dialog_general_mdi_bg_color;
03067 bool dialog_general_tip_of_the_day;
03068 bool dialog_general_system_help_browser;
03069 bool dialog_display_use_opengl;
03070 bool dialog_display_renderhint_aa;
03071 bool dialog_display_renderhint_text_aa;
03072 bool dialog_display_renderhint_smooth_pix;
03073 bool dialog_display_renderhint_high_aa;
03074 bool dialog_display_renderhint_noncosmetic;
03075 bool dialog_display_show_scrollbars;
03076 int dialog_display_scrollbar_widget_num;
03077 QRgb dialog_display_crosshair_color;
03078 QRgb dialog_display_bg_color;
03079 QRgb dialog_display_selectbox_left_color;
03080 QRgb dialog_display_selectbox_left_fill;
03081 QRgb dialog_display_selectbox_right_color;
03082 QRgb dialog_display_selectbox_right_fill;
03083 quint8 dialog_display_selectbox_alpha;
03084 EmbReal dialog_display_zoomscale_in;
03085 EmbReal dialog_display_zoomscale_out;
03086 quint8 dialog_display_crosshair_percent;
03087 QString dialog_display_units;
03088 QRgb dialog_prompt_text_color;
03089 QRgb dialog_prompt_bg_color;
03090 QString dialog_prompt_font_family;
03091 QString dialog_prompt_font_style;
03092 quint8 dialog_prompt_font_size;
03093 bool dialog_prompt_save_history;
03094 bool dialog_prompt_save_history_as_html;
03095 QString dialog_prompt_save_history_filename;
03096 QString dialog_opensave_custom_filter;
03097 QString dialog_opensave_open_format;
03098 bool dialog_opensave_open_thumbnail;
03099 QString dialog_opensave_save_format;
03100 bool dialog_opensave_save_thumbnail;
03101 quint8 dialog_opensave_recent_max_files;
03102 quint8 dialog_opensave_trim_dst_num_jumps;
03103 QString dialog_printing_default_device;
03104 bool dialog_printing_use_last_device;
03105 bool dialog_printing_disable_bg;
03106 bool dialog_grid_show_on_load;
03107 bool dialog_grid_show_origin;
03108 bool dialog_grid_color_match_crosshair;
03109 QRgb dialog_grid_color;
03110 bool dialog_grid_load_from_file;
03111 QString dialog_grid_type;
03112 bool dialog_grid_center_on_origin;
03113 EmbReal dialog_grid_center_x;
03114 EmbReal dialog_grid_center_y;
03115 EmbReal dialog_grid_size_x;
03116 EmbReal dialog_grid_size_y;
03117 EmbReal dialog_grid_spacing_x;
03118 EmbReal dialog_grid_spacing_y;
03119 EmbReal dialog_grid_size_radius;
03120 EmbReal dialog_grid_spacing_radius;
03121 EmbReal dialog_grid_spacing_angle;
03122 bool dialog_ruler_show_on_load;
03123 bool dialog_ruler_metric;
03124 QRgb dialog_ruler_color;
03125 quint8 dialog_ruler_pixel_size;
03126 bool dialog_qsnap_enabled;
03127 QRgb dialog_qsnap_locator_color;
03128 quint8 dialog_qsnap_locator_size;
03129 quint8 dialog_qsnap_aperture_size;
03130 bool dialog_qsnap_endpoint;
03131 bool dialog_qsnap_midpoint;
03132 bool dialog_qsnap_center;
03133 bool dialog_qsnap_node;
03134 bool dialog_qsnap_quadrant;
03135 bool dialog_qsnap_intersection;
03136 bool dialog_qsnap_extension;
03137 bool dialog_qsnap_insertion;
03138 bool dialog_qsnap_perpendicular;
03139 bool dialog_qsnap_tangent;
03140 bool dialog_qsnap_nearest;
03141 bool dialog_qsnap_apparent;
03142 bool dialog_qsnap_parallel;
03143 bool dialog_lwt_show_lwt;
03144 bool dialog_lwt_real_render;
03145 EmbReal dialog_lwt_default_lwt;
```

```

03146     bool dialog_selection_mode_pickfirst;
03147     bool dialog_selection_mode_pickadd;
03148     bool dialog_selection_mode_pickdrag;
03149     QRgb dialog_selection_coolgrip_color;
03150     QRgb dialog_selection_hotgrip_color;
03151     quint8 dialog_selection_grip_size;
03152     quint8 dialog_selection_pickbox_size;
03153
03154 private slots:
03155     void comboBoxLanguageCurrentIndexChanged(const QString&);
03156     void comboBoxIconThemeCurrentIndexChanged(const QString&);
03157     void comboBoxIconSizeCurrentIndexChanged(int);
03158     void checkBoxGeneralMdiBGUseLogoStateChanged(int);
03159     void chooseGeneralMdiBackgroundLogo();
03160     void checkBoxGeneralMdiBGUseTextureStateChanged(int);
03161     void chooseGeneralMdiBackgroundTexture();
03162     void checkBoxGeneralMdiBGUseColorStateChanged(int);
03163     void chooseGeneralMdiBackgroundColor();
03164     void currentGeneralMdiBackgroundColorChanged(const QColor&);
03165     void checkBoxTipOfTheDayStateChanged(int);
03166     void checkBoxUseOpenGLStateChanged(int);
03167     void checkBoxRenderHintAAStateChanged(int);
03168     void checkBoxRenderHintTextAAStateChanged(int);
03169     void checkBoxRenderHintSmoothPixStateChanged(int);
03170     void checkBoxRenderHintHighAAStateChanged(int);
03171     void checkBoxRenderHintNonCosmeticStateChanged(int);
03172     void checkBoxShowScrollBarsStateChanged(int);
03173     void comboBoxScrollBarWidgetCurrentIndexChanged(int);
03174     void spinBoxZoomScaleInValueChanged(double);
03175     void spinBoxZoomScaleOutValueChanged(double);
03176     void checkBoxDisableBGStateChanged(int);
03177     void chooseDisplayCrossHairColor();
03178     void currentDisplayCrossHairColorChanged(const QColor&);
03179     void chooseDisplayBackgroundColor();
03180     void currentDisplayBackgroundColorChanged(const QColor&);
03181     void chooseDisplaySelectBoxLeftColor();
03182     void currentDisplaySelectBoxLeftColorChanged(const QColor&);
03183     void chooseDisplaySelectBoxLeftFill();
03184     void currentDisplaySelectBoxLeftFillChanged(const QColor&);
03185     void chooseDisplaySelectBoxRightColor();
03186     void currentDisplaySelectBoxRightColorChanged(const QColor&);
03187     void chooseDisplaySelectBoxRightFill();
03188     void currentDisplaySelectBoxRightFillChanged(const QColor&);
03189     void spinBoxDisplaySelectBoxAlphaValueChanged(int);
03190     void choosePromptTextColor();
03191     void currentPromptTextColorChanged(const QColor&);
03192     void choosePromptBackgroundColor();
03193     void currentPromptBackgroundColorChanged(const QColor&);
03194     void comboBoxPromptFontFamilyCurrentIndexChanged(const QString&);
03195     void comboBoxPromptFontStyleCurrentIndexChanged(const QString&);
03196     void spinBoxPromptFontSizeValueChanged(int);
03197     void checkBoxPromptSaveHistoryStateChanged(int);
03198     void checkBoxPromptSaveHistoryAsHtmlStateChanged(int);
03199     void checkBoxCustomFilterStateChanged(int);
03200     void buttonCustomFilterSelectAllClicked();
03201     void buttonCustomFilterClearAllClicked();
03202     void spinBoxRecentMaxFilesValueChanged(int);
03203     void spinBoxTrimDstNumJumpsValueChanged(int);
03204     void checkBoxGridShowOnLoadStateChanged(int);
03205     void checkBoxGridShowOriginStateChanged(int);
03206     void checkBoxGridColorMatchCrossHairStateChanged(int);
03207     void chooseGridColor();
03208     void currentGridColorChanged(const QColor&);
03209     void checkBoxGridLoadFromFileStateChanged(int);
03210     void comboBoxGridTypeCurrentIndexChanged(const QString&);
03211     void checkBoxGridCenterOnOriginStateChanged(int);
03212     void spinBoxGridCenterXValueChanged(double);
03213     void spinBoxGridCenterYValueChanged(double);
03214     void spinBoxGridSizeXValueChanged(double);
03215     void spinBoxGridSizeYValueChanged(double);
03216     void spinBoxGridSpacingXValueChanged(double);
03217     void spinBoxGridSpacingYValueChanged(double);
03218     void spinBoxGridSizeRadiusValueChanged(double);
03219     void spinBoxGridSpacingRadiusValueChanged(double);
03220     void spinBoxGridSpacingAngleValueChanged(double);
03221     void checkBoxRulerShowOnLoadStateChanged(int);
03222     void comboBoxRulerMetricCurrentIndexChanged(int);
03223     void chooseRulerColor();
03224     void currentRulerColorChanged(const QColor&);
03225     void spinBoxRulerPixelSizeValueChanged(double);
03226     void checkBoxQSnapEndPointStateChanged(int);
03227     void checkBoxQSnapMidPointStateChanged(int);
03228     void checkBoxQSnapCenterStateChanged(int);
03229     void checkBoxQSnapNodeStateChanged(int);
03230     void checkBoxQSnapQuadrantStateChanged(int);
03231     void checkBoxQSnapIntersectionStateChanged(int);
03232     void checkBoxQSnapExtensionStateChanged(int);

```

```
03233     void checkBoxQSnapInsertionStateChanged(int);
03234     void checkBoxQSnapPerpendicularStateChanged(int);
03235     void checkBoxQSnapTangentStateChanged(int);
03236     void checkBoxQSnapNearestStateChanged(int);
03237     void checkBoxQSnapApparentStateChanged(int);
03238     void checkBoxQSnapParallelStateStateChanged(int);
03239     void buttonQSnapSelectAllClicked();
03240     void buttonQSnapClearAllClicked();
03241     void comboBoxQSnapLocatorColorCurrentIndexChanged(int);
03242     void sliderQSnapLocatorsSizeValueChanged(int);
03243     void sliderQSnapApertureSizeValueChanged(int);
03244     void checkBoxLwtShowLwtStateChanged(int);
03245     void checkBoxLwtRealRenderStateChanged(int);
03246     void checkBoxSelectionModePickFirstStateChanged(int);
03247     void checkBoxSelectionModePickAddStateChanged(int);
03248     void checkBoxSelectionModePickDragStateChanged(int);
03249     void comboBoxSelectionModeCoolGripColorCurrentIndexChanged(int);
03250     void comboBoxSelectionModeHotGripColorCurrentIndexChanged(int);
03251     void sliderSelectionGripSizeValueChanged(int);
03252     void sliderSelectionPickBoxSizeValueChanged(int);
03253
03254     void acceptChanges();
03255     void rejectChanges();
03256
03257 signals:
03258     void buttonCustomFilterSelectAll(bool);
03259     void buttonCustomFilterClearAll(bool);
03260     void buttonQSnapSelectAll(bool);
03261     void buttonQSnapClearAll(bool);
03262 };
03263
03264
03265 class StatusBar : public QStatusBar
03266 {
03267     Q_OBJECT
03268
03269 public:
03270     StatusBar(MainWindow* mw, QWidget* parent = 0);
03271
03272     StatusBarButton* statusBarSnapButton;
03273     StatusBarButton* statusBarGridButton;
03274     StatusBarButton* statusBarRulerButton;
03275     StatusBarButton* statusBarOrthoButton;
03276     StatusBarButton* statusBarPolarButton;
03277     StatusBarButton* statusBarQSnapButton;
03278     StatusBarButton* statusBarQTrackButton;
03279     StatusBarButton* statusBarLwtButton;
03280     QLabel* statusBarMouseCoord;
03281
03282     void setMouseCoord(EmbReal x, EmbReal y);
03283 };
03284
03285 class StatusBarButton : public QToolButton
03286 {
03287     Q_OBJECT
03288
03289 public:
03290     StatusBarButton(QString buttonText, MainWindow* mw, StatusBar* statbar, QWidget *parent = 0);
03291
03292     MainWindow* mainWin;
03293     StatusBar* statusbar;
03294
03295 protected:
03296     void contextMenuEvent(QContextMenuEvent *event = 0);
03297
03298 private slots:
03299     void settingsSnap();
03300     void settingsGrid();
03301     void settingsRuler();
03302     void settingsOrtho();
03303     void settingsPolar();
03304     void settingsQSnap();
03305     void settingsQTrack();
03306     void settingsLwt();
03307     void toggleSnap(bool on);
03308     void toggleGrid(bool on);
03309     void toggleRuler(bool on);
03310     void toggleOrtho(bool on);
03311     void togglePolar(bool on);
03312     void toggleQSnap(bool on);
03313     void toggleQTrack(bool on);
03314     void toggleLwt(bool on);
03315
03316 public slots:
03317     void enableLwt();
03318     void disableLwt();
03319     void enableReal();
03320     void disableReal();
```

```

03323 };
03324
03325 class UndoEditor : public QDockWidget
03326 {
03327     Q_OBJECT
03328
03329 public:
03330     UndoEditor(const QString& iconDirectory = QString(), QWidget* widgetToFocus = 0, QWidget* parent =
03331         0); //, Qt::WindowFlags flags = 0);
03332     ~UndoEditor();
03333
03334     void addStack(QUndoStack* stack);
03335
03336     bool canUndo() const;
03337     bool canRedo() const;
03338
03339     QWidget* focusWidget;
03340
03341     QString iconDir;
03342     int iconSize;
03343
03344     QUndoGroup* undoGroup;
03345     QUndoView* undoView;
03346
03347     QString undoText() const;
03348     QString redoText() const;
03349
03350 protected:
03351
03352 public slots:
03353     void undo();
03354     void redo();
03355
03356     void updateCleanIcon(bool opened);
03357 };
03358
03359 class UndoableAddCommand : public QUndoCommand
03360 {
03361 public:
03362     UndoableAddCommand(const QString& text, BaseObject* obj, View* v, QUndoCommand* parent = 0);
03363
03364     void undo();
03365     void redo();
03366
03367     BaseObject* object;
03368     View* gview;
03369 };
03370
03371 class UndoableDeleteCommand : public QUndoCommand
03372 {
03373 public:
03374     UndoableDeleteCommand(const QString& text, BaseObject* obj, View* v, QUndoCommand* parent = 0);
03375
03376     void undo();
03377     void redo();
03378
03379     BaseObject* object;
03380     View* gview;
03381 };
03382
03383 class UndoableMoveCommand : public QUndoCommand
03384 {
03385 public:
03386     UndoableMoveCommand(EmbReal deltaX, EmbReal deltaY, const QString& text, BaseObject* obj, View* v,
03387     QUndoCommand* parent = 0);
03388
03389     void undo();
03390     void redo();
03391
03392     BaseObject* object;
03393     View* gview;
03394     EmbReal dx;
03395     EmbReal dy;
03396 };
03397
03398 class UndoableRotateCommand : public QUndoCommand
03399 {
03400 public:
03401     UndoableRotateCommand(EmbReal pivotPointX, EmbReal pivotPointY, EmbReal rotAngle, const QString&
03402     text, BaseObject* obj, View* v, QUndoCommand* parent = 0);
03403
03404     void undo();
03405     void redo();
03406
03407     void rotate(EmbReal x, EmbReal y, EmbReal rot);
03408
03409     BaseObject* object;
03410     View* gview;
03411
03412
03413
03414
03415
03416
03417
03418
03419
03420
03421

```

```
03422     EmbReal pivotX;
03423     EmbReal pivotY;
03424     EmbReal angle;
03425 };
03426
03427 class UndoableScaleCommand : public QUndoCommand
03428 {
03429     public:
03430         UndoableScaleCommand(EmbReal x, EmbReal y, EmbReal scaleFactor, const QString& text, BaseObject*
03431             obj, View* v, QUndoCommand* parent = 0);
03432
03433         void undo();
03434         void redo();
03435
03436     BaseObject* object;
03437     View* gview;
03438     EmbReal dx;
03439     EmbReal dy;
03440     EmbReal factor;
03441 };
03442
03443 class UndoableNavCommand : public QUndoCommand
03444 {
03445     public:
03446         UndoableNavCommand(const QString& type, View* v, QUndoCommand* parent = 0);
03447
03448         int id() const { return 1234; }
03449         bool mergeWith(const QUndoCommand* command);
03450         void undo();
03451         void redo();
03452
03453         QString navType;
03454         QTransform fromTransform;
03455         QTransform toTransform;
03456         QPointF fromCenter;
03457         QPointF toCenter;
03458         bool done;
03459         View* gview;
03460 };
03461
03462 class UndoableGripEditCommand : public QUndoCommand
03463 {
03464     public:
03465         UndoableGripEditCommand(const QPointF beforePoint, const QPointF afterPoint, const QString& text,
03466             BaseObject* obj, View* v, QUndoCommand* parent = 0);
03467
03468         void undo();
03469         void redo();
03470
03471     BaseObject* object;
03472     View* gview;
03473     QPointF before;
03474     QPointF after;
03475 };
03476
03477 class UndoableMirrorCommand : public QUndoCommand
03478 {
03479     public:
03480         UndoableMirrorCommand(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, const QString& text,
03481             BaseObject* obj, View* v, QUndoCommand* parent = 0);
03482
03483         void undo();
03484         void redo();
03485         void mirror();
03486
03487     BaseObject* object;
03488     View* gview;
03489     QLineF mirrorLine;
03490 };
03491
03492 class View : public QGraphicsView
03493 {
03494     Q_OBJECT
03495
03496     public:
03497         View(MainWindow* mw, QGraphicsScene* theScene, QWidget* parent);
03498         ~View();
03499
03500     bool allowZoomIn();
03501     bool allowZoomOut();
03502
03503     void recalculateLimits();
03504     void zoomToPoint(const QPoint& mousePoint, int zoomDir);
03505     void centerAt(const QPointF& centerPoint);
03506     QPointF center() { return mapToScene(rect().center()); }
03507 }
```

```

03521     QUndoStack* getUndoStack() { return undoStack; }
03522     void addObject(BaseObject* obj);
03523     void deleteObject(BaseObject* obj);
03524     void vulcanizeObject(BaseObject* obj);
03525
03526     public slots:
03527     void zoomIn();
03528     void zoomOut();
03529     void zoomWindow();
03530     void zoomSelected();
03531     void zoomExtents();
03532     void panRealTime();
03533     void panPoint();
03534     void panLeft();
03535     void panRight();
03536     void panUp();
03537     void panDown();
03538     void selectAll();
03539     void selectionChanged();
03540     void clearSelection();
03541     void deleteSelected();
03542     void moveSelected(EmbReal dx, EmbReal dy);
03543     void cut();
03544     void copy();
03545     void paste();
03546     void repeatAction();
03547     void moveAction();
03548     void scaleAction();
03549     void scaleSelected(EmbReal x, EmbReal y, EmbReal factor);
03550     void rotateAction();
03551     void rotateSelected(EmbReal x, EmbReal y, EmbReal rot);
03552     void mirrorSelected(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2);
03553     int numSelected();
03554
03555     void deletePressed();
03556     void escapePressed();
03557
03558     void cornerButtonClicked();
03559
03560     void showScrollBars(bool val);
03561     void setCornerButton();
03562     void setCrossHairColor(QRgb color);
03563     void setCrossHairSize(quint8 percent);
03564     void setBackgroundColor(QRgb color);
03565     void setSelectBoxColors(QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha);
03566     void toggleSnap(bool on);
03567     void toggleGrid(bool on);
03568     void toggleRuler(bool on);
03569     void toggleOrtho(bool on);
03570     void togglePolar(bool on);
03571     void toggleQSnap(bool on);
03572     void toggleQTrack(bool on);
03573     void toggleLwt(bool on);
03574     void toggleReal(bool on);
03575     bool isLwtEnabled();
03576     bool isRealEnabled();
03577
03578     void setGridColor(QRgb color);
03579     void createGrid(const QString& gridType);
03580     void setRulerColor(QRgb color);
03581
03582     void previewOn(int clone, int mode, EmbReal x, EmbReal y, EmbReal data);
03583     void previewOff();
03584
03585     void enableMoveRapidFire();
03586     void disableMoveRapidFire();
03587
03588     bool allowRubber();
03589     void addToRubberRoom(QGraphicsItem* item);
03590     void vulcanizeRubberRoom();
03591     void clearRubberRoom();
03592     void spareRubber(qint64 id);
03593     void setRubberMode(int mode);
03594     void setRubberPoint(const QString& key, const QPointF& point);
03595     void setRubberText(const QString& key, const QString& txt);
03596
03597     protected:
03598     void mouseDoubleClickEvent(QMouseEvent* event);
03599     void mousePressEvent(QMouseEvent* event);
03600     void mouseMoveEvent(QMouseEvent* event);
03601     void mouseReleaseEvent(QMouseEvent* event);
03602     void wheelEvent(QWheelEvent* event);
03603     void contextMenuEvent(QContextMenuEvent* event);
03604     void drawBackground(QPainter* painter, const QRectF& rect);
03605     void drawForeground(QPainter* painter, const QRectF& rect);
03606     void enterEvent(QEvent* event);
03607

```

```
03608 private:
03609     QHash<qint64, QGraphicsItem*> hashDeletedObjects;
03610
03611     QList<qint64> spareRubberList;
03612
03613     QColor gridColor;
03614     QPainterPath gridPath;
03615     void createGridRect();
03616     void createGridPolar();
03617     void createGridIso();
03618     QPainterPath originPath;
03619     void createOrigin();
03620
03621     bool rulerMetric;
03622     QColor rulerColor;
03623     quint8 rulerPixelSize;
03624     void loadRulerSettings();
03625
03626     bool willUnderflowInt32(qint64 a, qint64 b);
03627     bool willOverflowInt32(qint64 a, qint64 b);
03628     int roundToMultiple(bool roundUp, int numToRound, int multiple);
03629     QPainterPath createRulerTextPath(float x, float y, QString str, float height);
03630
03631     QList<QGraphicsItem*> previewObjectList;
03632     QGraphicsItemGroup* previewObjectItemGroup;
03633     QPointF previewPoint;
03634     EmbReal previewData;
03635     int previewMode;
03636
03637     QList<QGraphicsItem*> createObjectList(QList<QGraphicsItem*> list);
03638     QPointF cutCopyMousePoint;
03639     QGraphicsItemGroup* pasteObjectItemGroup;
03640     QPointF pasteDelta;
03641
03642     QList<QGraphicsItem*> rubberRoomList;
03643
03644     void copySelected();
03645
03646     bool grippingActive;
03647     bool rapidMoveActive;
03648     bool previewActive;
03649     bool pastingActive;
03650     bool movingActive;
03651     bool selectingActive;
03652     bool zoomWindowActive;
03653     bool panningRealTimeActive;
03654     bool panningPointActive;
03655     bool panningActive;
03656     bool qSnapActive;
03657     bool qSnapToggle;
03658
03659     void startGripping(BaseObject* obj);
03660     void stopGripping(bool accept = false);
03661
03662     BaseObject* gripBaseObj;
03663     BaseObject* tempBaseObj;
03664
03665     MainWindow* mainWin;
03666     QGraphicsScene* gscene;
03667     QUndoStack* undoStack;
03668
03669     SelectBox* selectBox;
03670     QPointF scenePressPoint;
03671     QPoint pressPoint;
03672     QPointF sceneMovePoint;
03673     QPoint movePoint;
03674     QPointF sceneReleasePoint;
03675     QPoint releasePoint;
03676     QPointF sceneGripPoint;
03677
03678     void updateMouseCoords(int x, int y);
03679     QPoint viewMousePoint;
03680     QPointF sceneMousePoint;
03681     QRgb qsnapLocatorColor;
03682     quint8 qsnapLocatorSize;
03683     quint8 qsnapApertureSize;
03684     QRgb gripColorCool;
03685     QRgb gripColorHot;
03686     quint8 gripSize;
03687     quint8 pickBoxSize;
03688     QRgb crosshairColor;
03689     quint32 crosshairSize;
03690
03691     void panStart(const QPoint& point);
03692     int panDistance;
03693     int panStartX;
03694     int panStartY;
```

```
03695     void alignScenePointWithViewPoint(const QPointF& scenePoint, const QPoint& viewPoint);  
03696 };  
03698  
03699 #endif
```

18.8 embroidermodder2/imagewidget.cpp File Reference

```
#include "embroidermodder.h"
```

18.8.1 Detailed Description

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/>

18.9 embroidermodder2/layer-manager.cpp File Reference

```
#include "embroidermodder.h"
```

18.9.1 Detailed Description

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/>

18.10 embroidermodder2/mainwindow-actions.cpp File Reference

```
#include "embroidermodder.h"
```

18.10.1 Detailed Description

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/>

18.11 embroidermodder2/mainwindow-commands.cpp File Reference

```
#include "embroidermodder.h"
```

18.11.1 Detailed Description

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/>

18.12 embroidermodder2/mainwindow-menus.cpp File Reference

```
#include "embroidermodder.h"  
#include <QMenu>  
#include <QMenuBar>  
#include <QAction>
```

18.12.1 Detailed Description

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/>

18.13 embroidermodder2/mainwindow-settings.cpp File Reference

```
#include "embroidermodder.h"
```

18.13.1 Detailed Description

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/>

18.14 embroidermodder2/mainwindow-toolbars.cpp File Reference

```
#include "embroidermodder.h"
```

18.14.1 Detailed Description

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/>

18.15 embroidermodder2/mainwindow.cpp File Reference

```
#include "embroidermodder.h"
#include <fstream>
```

Functions

- `MainWindow * mainWin ()`
mainWin
- `std::string Error (std::vector< std::string > args)`
- `std::string Todo (std::vector< std::string > args)`

Variables

- `MainWindow * _mainWin = 0`

18.15.1 Detailed Description

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/>

18.15.2 Function Documentation

```
18.15.2.1 Error() std::string Error (
    std::vector< std::string > args )
"debug": qDebug("%s", qPrintable(args(0).toString()));
```

18.15.2.2 mainWin() `MainWindow * mainWin ()`
mainWin

Returns

18.15.2.3 Todo() `std::string Todo (`
`std::vector< std::string > args)`

18.15.3 Variable Documentation

18.15.3.1 _mainWin `MainWindow* _mainWin = 0`

18.16 embroidermodder2/mdiarea.cpp File Reference

`#include "embroidermodder.h"`

18.16.1 Detailed Description

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/>

18.17 embroidermodder2/mdiwindow.cpp File Reference

`#include "embroidermodder.h"`

18.17.1 Detailed Description

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/>

18.18 embroidermodder2/object-arc.cpp File Reference

`#include "embroidermodder.h"`

Functions

- `EmbVector rotate_vector (EmbVector v, EmbReal alpha)`

18.18.1 Detailed Description

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/>

18.18.2 Function Documentation

```
18.18.2.1 rotate_vector() EmbVector rotate_vector (
    EmbVector v,
    EmbReal alpha )
```

Returns

18.19 embroidermodder2/object-base.cpp File Reference

```
#include "embroidermodder.h"
#include <QDebug>
#include <QGraphicsScene>
#include <QMMessageBox>
#include <QDateTime>
#include <QPainter>
```

18.20 embroidermodder2/object-circle.cpp File Reference

```
#include "embroidermodder.h"
```

18.20.1 Detailed Description

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/>

18.21 embroidermodder2/object-dimleader.cpp File Reference

```
#include "embroidermodder.h"
```

18.22 embroidermodder2/object-ellipse.cpp File Reference

```
#include "embroidermodder.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
```

18.23 embroidermodder2/object-image.cpp File Reference

```
#include "embroidermodder.h"
```

18.24 embroidermodder2/object-line.cpp File Reference

```
#include "embroidermodder.h"
```

18.25 embroidermodder2/object-path.cpp File Reference

```
#include "embroidermodder.h"
```

18.25.1 Detailed Description

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/>

18.26 **embroidermodder2/object-point.cpp** File Reference

```
#include "embroidermodder.h"
```

18.27 **embroidermodder2/object-polygon.cpp** File Reference

```
#include "embroidermodder.h"
```

18.28 **embroidermodder2/object-polyline.cpp** File Reference

```
#include "embroidermodder.h"
```

18.29 **embroidermodder2/object-rect.cpp** File Reference

```
#include "embroidermodder.h"
```

18.29.1 Detailed Description

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/>

18.30 **embroidermodder2/object-save.cpp** File Reference

```
#include "embroidermodder.h"
```

18.31 **embroidermodder2/object-textsingle.cpp** File Reference

```
#include "embroidermodder.h"
```

18.32 **embroidermodder2/preview-dialog.cpp** File Reference

```
#include "embroidermodder.h"
```

18.33 **embroidermodder2/property-editor.cpp** File Reference

```
#include "embroidermodder.h"
```

18.34 `embroidermodder2/docs/README.md` File Reference**18.35 `embroidermodder2/README.md` File Reference****18.36 `embroidermodder2/selectbox.cpp` File Reference**

```
#include "embroidermodder.h"
```

18.37 `embroidermodder2/settings-dialog.cpp` File Reference

```
#include "embroidermodder.h"
```

18.38 `embroidermodder2/statusbar-button.cpp` File Reference

```
#include "embroidermodder.h"
```

18.39 `embroidermodder2/statusbar.cpp` File Reference

```
#include "embroidermodder.h"
```

18.40 `embroidermodder2/undo-commands.cpp` File Reference

```
#include "embroidermodder.h"
```

18.40.1 Detailed Description

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/>

18.41 `embroidermodder2/undo-editor.cpp` File Reference

```
#include "embroidermodder.h"
```

18.41.1 Detailed Description

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/>

18.42 `embroidermodder2/utility.cpp` File Reference

```
#include "embroidermodder.h"
```

Functions

- [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.

- void `c_split` (char input[200], int *argc, char argv[10][200])

- 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.

- void `simplify_path` (char *path)

Simplifies a path by removing the .. and . symbols in place.

- int `read_settings` (const char *settings_file)

Read the settings from file which aren't editable by the user. These files need to be placed in the install folder.

- bool `validRGB` (int r, int g, int b)

Variables

- Settings settings
- Index * menu_layout
- Index * toolbar_layout
- EmbView 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]
- Settings dialog
- Settings preview
- bool just_opened = true
- Dictionary * translation_table
- EmbView * active_view = NULL

18.42.1 Function Documentation

18.42.1.1 `c_split()`

```
void c_split (
    char input[200],
    int * argc,
    char argv[10][200] )
```

18.42.1.2 `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.

```
18.42.1.3 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.

```
18.42.1.4 read_settings() int read_settings (
    const char * settings_file )
```

Read the settings from file which aren't editable by the user. These files need to be placed in the install folder.

```
18.42.1.5 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.

```
18.42.1.6 simplify_path() void simplify_path (
    char * path )
```

Simplifies a path by removing the .. and . symbols in place.

path The character array to operate on.

```
18.42.1.7 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.

```
18.42.1.8 validRGB() bool validRGB (
    int r,
    int g,
    int b )
```

```
18.42.1.9 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.

```
18.42.1.10 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.

18.42.2 Variable Documentation

18.42.2.1 active_view `EmbView* 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.

18.42.2.2 current_directory `char current_directory[200] = "/"`**18.42.2.3 dialog** `Settings dialog`

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.

18.42.2.4 just_opened `bool just_opened = true`

Todo Move to the settings struct.

18.42.2.5 menu_action `char menu_action[200]`**18.42.2.6 menu_layout** `Index* menu_layout`**18.42.2.7 n_views** `int n_views = 0`**18.42.2.8 preview** `Settings preview`**18.42.2.9 settings** `Settings settings`

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/> The actuator changes the program state via these global variables.

18.42.2.10 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".

18.42.2.11 settings_file `char settings_file[200]`

This file needs to be read from the users home directory to ensure it is writable.

18.42.2.12 to_open `char to_open[200] = ""`**18.42.2.13 toolbar_layout** `Index* toolbar_layout`**18.42.2.14 translation_table** `Dictionary* translation_table`**18.42.2.15 views** `EmbView views[50]`

18.43 embroidermodder2/view.cpp File Reference

```
#include "embroidermodder.h"
```

18.43.1 Detailed Description

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/>

18.44 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)`

18.44.1 Function Documentation

18.44.1.1 embArray_addArc() `int embArray_addArc (`

```
    EmbArray * a,
    EmbArc b )
```

Parameters

<code>a</code>	
<code>b</code>	

Returns

`int`

18.44.1.2 embArray_addCircle() `int embArray_addCircle (`

```
EmbArray * a,  
EmbCircle b )
```

Parameters

a	
b	

Returns

int

18.44.1.3 embArray_addEllipse() int embArray_addEllipse (

```
EmbArray * a,  
EmbEllipse b )
```

Parameters

a	
b	

Returns

int

18.44.1.4 embArray_addFlag() int embArray_addFlag (

```
EmbArray * a,  
EmbFlag b )
```

Parameters

a	
b	

Returns

int

18.44.1.5 embArray_addLine() int embArray_addLine (

```
EmbArray * a,  
EmbLine b )
```

Parameters

a	
b	

Returns

int

18.44.1.6 embArray_addPath() int embArray_addPath (

```
EmbArray * a,
EmbPath b )
```

Parameters

a	
b	

Returns

int

18.44.1.7 embArray_addPoint() int embArray_addPoint (

```
EmbArray * a,
EmbPoint b )
```

Parameters

a	
b	

Returns

int

18.44.1.8 embArray_addPolygon() int embArray_addPolygon (

```
EmbArray * a,
EmbPolygon b )
```

Parameters

a	
b	

Returns

int

18.44.1.9 embArray_addPolyline() int embArray_addPolyline (

```
EmbArray * a,
EmbPolyline b )
```

Parameters

a	
b	

Returns

int

18.44.1.10 embArray_addRect() int embArray_addRect (

```
EmbArray * a,  
EmbRect b )
```

Parameters

a	
b	

Returns

int

18.44.1.11 embArray_addStitch() int embArray_addStitch (

```
EmbArray * a,  
EmbStitch b )
```

Parameters

a	
b	

Returns

int

18.44.1.12 embArray_addVector() int embArray_addVector (

```
EmbArray * a,  
EmbVector b )
```

Parameters

a	
b	

Returns

int

18.44.1.13 embArray_copy() void embArray_copy (

```
EmbArray * dst,  
EmbArray * src )
```

Parameters

dst	
src	

18.44.1.14 embArray_create() `EmbArray * embArray_create (int type)`

Parameters

<code>type</code>	
-------------------	--

Returns

`EmbArray*`

18.44.1.15 embArray_free() `void embArray_free (EmbArray * a)`

Parameters

<code>a</code>	
----------------	--

18.44.1.16 embArray_resize() `int embArray_resize (EmbArray * a)`

Parameters

<code>a</code>	
----------------	--

Returns

`int`

18.45 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]

18.45.1 Function Documentation

18.45.1.1 compress_get_bits() int `compress_get_bits` (
 `compress * c,`
 `int length`)

Parameters

<code>c</code>	
<code>length</code>	

Returns

int

18.45.1.2 compress_get_position() int `compress_get_position` (
 `compress * c`)

Parameters

<code>c</code>	
----------------	--

Returns

int

18.45.1.3 compress_get_token() int `compress_get_token` (
 `compress * c`)

Parameters

<code>c</code>	
----------------	--

Returns

int

18.45.1.4 compress_init() void `compress_init` ()

18.45.1.5 compress_load_block() void compress_load_block (compress * c)

Parameters

c	
---	--

18.45.1.6 compress_load_character_huffman() void compress_load_character_huffman (compress * c)

Parameters

c	
---	--

18.45.1.7 compress_load_character_length_huffman() void compress_load_character_length_huffman (compress * c)

Parameters

c	
---	--

18.45.1.8 compress_load_distance_huffman() void compress_load_distance_huffman (compress * c)

Parameters

c	
---	--

18.45.1.9 compress_peek() int compress_peek (compress * c, int bit_count)

Parameters

c	
bit_count	

Returns

int

18.45.1.10 compress_pop() int compress_pop (compress * c, int bit_count)

Parameters

<i>c</i>	
<i>bit_count</i>	

Returns

int

18.45.1.11 compress_read_variable_length() int compress_read_variable_length (compress * *c*)**Parameters**

<i>c</i>	
----------	--

Returns

int

18.45.1.12 huffman_build_table() void huffman_build_table (huffman * *h*)These next 2 functions represent the [Huffman](#) class in tartarize's code.**Parameters**

<i>h</i>	
----------	--

18.45.1.13 huffman_lookup() int * huffman_lookup (huffman *h*, int *byte_lookup*)**Parameters**

<i>h</i>	
<i>byte_lookup</i>	

Returns

int*

18.45.1.14 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).

```
18.45.1.15 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

18.45.2 Variable Documentation

```
18.45.2.1 huffman_lookup_data int huffman_lookup_data[2]
```

18.46 extern/libembroidery/src/embedded.md File Reference

18.47 extern/libembroidery/src/embroider_cli.md File Reference

18.48 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 `EmbInfiniteLine_`
- 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 EmblImage emblImage_create (int, int)
- EMB_PUBLIC void emblImage_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, EmbImage *, int threshhold)
- EMB_PUBLIC void embPattern_horizontal_fill (EmbPattern *pattern, EmbImage *, 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.*

18.48.1 Macro Definition Documentation

18.48.1.1 Arc_Polyester #define Arc_Polyester 0

18.48.1.2 Arc_Rayon #define Arc_Rayon 1

18.48.1.3 CHUNK_SIZE #define CHUNK_SIZE 128

18.48.1.4 CoatsAndClark_Rayon #define CoatsAndClark_Rayon 2

18.48.1.5 dxf_color #define dxf_color 29

18.48.1.6 EMB_ARC #define EMB_ARC 1

18.48.1.7 EMB_ARRAY #define EMB_ARRAY 0

18.48.1.8 EMB_CIRCLE #define EMB_CIRCLE 2

18.48.1.9 EMB_DIM_DIAMETER #define EMB_DIM_DIAMETER 3

18.48.1.10 EMB_DIM_LEADER #define EMB_DIM_LEADER 4

18.48.1.11 EMB_ELLIPSE #define EMB_ELLIPSE 5

18.48.1.12 EMB_FLAG #define EMB_FLAG 6

18.48.1.13 EMB_FORMAT_100 #define EMB_FORMAT_100 0
Format identifiers

18.48.1.14 EMB_FORMAT_10O #define EMB_FORMAT_10O 1

18.48.1.15 EMB_FORMAT_ART #define EMB_FORMAT_ART 2

18.48.1.16 EMB_FORMAT_BMC #define EMB_FORMAT_BMC 3

18.48.1.17 EMB_FORMAT_BRO #define EMB_FORMAT_BRO 4

18.48.1.18 EMB_FORMAT_CND #define EMB_FORMAT_CND 5

18.48.1.19 EMB_FORMAT_COL #define EMB_FORMAT_COL 6

18.48.1.20 EMB_FORMAT_CSD #define EMB_FORMAT_CSD 7

18.48.1.21 EMB_FORMAT_CSV #define EMB_FORMAT_CSV 8

18.48.1.22 EMB_FORMAT_DAT #define EMB_FORMAT_DAT 9

18.48.1.23 EMB_FORMATDEM #define EMB_FORMATDEM 10

18.48.1.24 EMB_FORMAT_DSB #define EMB_FORMAT_DSB 11

18.48.1.25 EMB_FORMAT_DST #define EMB_FORMAT_DST 12

18.48.1.26 EMB_FORMAT_DSZ #define EMB_FORMAT_DSZ 13

18.48.1.27 EMB_FORMAT_DXF #define EMB_FORMAT_DXF 14

18.48.1.28 EMB_FORMAT_EDR #define EMB_FORMAT_EDR 15

18.48.1.29 EMB_FORMAT_EMD #define EMB_FORMAT_EMD 16

18.48.1.30 EMB_FORMAT_EXP #define EMB_FORMAT_EXP 17

18.48.1.31 EMB_FORMAT_EXY #define EMB_FORMAT_EXY 18

18.48.1.32 EMB_FORMAT_EYS #define EMB_FORMAT_EYS 19

18.48.1.33 EMB_FORMAT_FXY #define EMB_FORMAT_FXY 20

18.48.1.34 EMB_FORMAT_GC #define EMB_FORMAT_GC 21

18.48.1.35 EMB_FORMAT_GNC #define EMB_FORMAT_GNC 22

18.48.1.36 EMB_FORMAT_GT #define EMB_FORMAT_GT 23

18.48.1.37 EMB_FORMAT_HUS #define EMB_FORMAT_HUS 24

18.48.1.38 EMB_FORMAT_INB #define EMB_FORMAT_INB 25

18.48.1.39 EMB_FORMAT_INF #define EMB_FORMAT_INF 26

18.48.1.40 EMB_FORMAT_JEF #define EMB_FORMAT_JEF 27

18.48.1.41 EMB_FORMAT_KSM #define EMB_FORMAT_KSM 28

18.48.1.42 EMB_FORMAT_MAX #define EMB_FORMAT_MAX 29

18.48.1.43 EMB_FORMAT_MIT #define EMB_FORMAT_MIT 30

18.48.1.44 EMB_FORMAT_NEW #define EMB_FORMAT_NEW 31

18.48.1.45 EMB_FORMAT_OFM #define EMB_FORMAT_OFM 32

18.48.1.46 EMB_FORMAT_PCD #define EMB_FORMAT_PCD 33

18.48.1.47 EMB_FORMAT_PCM #define EMB_FORMAT_PCM 34

18.48.1.48 EMB_FORMAT_PCQ #define EMB_FORMAT_PCQ 35

18.48.1.49 EMB_FORMAT_PCS #define EMB_FORMAT_PCS 36

18.48.1.50 EMB_FORMAT_PEC #define EMB_FORMAT_PEC 37

18.48.1.51 EMB_FORMAT_PEL #define EMB_FORMAT_PEL 38

18.48.1.52 EMB_FORMAT_PEM #define EMB_FORMAT_PEM 39

18.48.1.53 EMB_FORMAT_PES #define EMB_FORMAT_PES 40

18.48.1.54 EMB_FORMAT_PHB #define EMB_FORMAT_PHB 41

18.48.1.55 EMB_FORMAT_PHC #define EMB_FORMAT_PHC 42

18.48.1.56 EMB_FORMAT_PLT #define EMB_FORMAT_PLT 43

18.48.1.57 EMB_FORMAT_RGB #define EMB_FORMAT_RGB 44

18.48.1.58 EMB_FORMAT_SEW #define EMB_FORMAT_SEW 45

18.48.1.59 EMB_FORMAT_SHV #define EMB_FORMAT_SHV 46

18.48.1.60 EMB_FORMAT_SST #define EMB_FORMAT_SST 47

18.48.1.61 EMB_FORMAT_STX #define EMB_FORMAT_STX 48

18.48.1.62 EMB_FORMAT_SVG #define EMB_FORMAT_SVG 49

18.48.1.63 EMB_FORMAT_T01 #define EMB_FORMAT_T01 50

18.48.1.64 EMB_FORMAT_T09 #define EMB_FORMAT_T09 51

18.48.1.65 EMB_FORMAT_TAP #define EMB_FORMAT_TAP 52

18.48.1.66 EMB_FORMAT_THR #define EMB_FORMAT_THR 53

18.48.1.67 EMB_FORMAT_TXT #define EMB_FORMAT_TXT 54

18.48.1.68 EMB_FORMAT_U00 #define EMB_FORMAT_U00 55

18.48.1.69 EMB_FORMAT_U01 #define EMB_FORMAT_U01 56

18.48.1.70 EMB_FORMAT_VIP #define EMB_FORMAT_VIP 57

18.48.1.71 EMB_FORMAT_VP3 #define EMB_FORMAT_VP3 58

18.48.1.72 EMB_FORMAT_XXX #define EMB_FORMAT_XXX 59

18.48.1.73 EMB_FORMAT_ZSK #define EMB_FORMAT_ZSK 60

18.48.1.74 EMB_IMAGE #define EMB_IMAGE 8

18.48.1.75 EMB_LINE #define EMB_LINE 7

18.48.1.76 EMB_MAX_LAYERS #define EMB_MAX_LAYERS 10

18.48.1.77 EMB_PATH #define EMB_PATH 9

18.48.1.79 EMB_POLYGON #define EMB_POLYGON 11

18.48.1.80 EMB_POLYLINE #define EMB_POLYLINE 12

18.48.1.81 EMB_PUBLIC #define EMB_PUBLIC

18.48.1.82 EMB_RECT #define EMB_RECT 13

18.48.1.83 EMB_SPLINE #define EMB_SPLINE 14

18.48.1.84 EMB_STITCH #define EMB_STITCH 15

18.48.1.85 EMB_TEXT_MULTI #define EMB_TEXT_MULTI 17

18.48.1.86 EMB_TEXT_SINGLE #define EMB_TEXT_SINGLE 16

18.48.1.87 EMB_THREAD #define EMB_THREAD 19

18.48.1.88 EMB_VECTOR #define EMB_VECTOR 18

18.48.1.89 EMBFORMAT_MAXDESC #define EMBFORMAT_MAXDESC 50

18.48.1.90 EMBFORMAT_MAXEXT #define EMBFORMAT_MAXEXT 3

18.48.1.91 EMBFORMAT_OBJECTONLY #define EMBFORMAT_OBJECTONLY 2

18.48.1.92 EMBFORMAT_STCHANDOBJ #define EMBFORMAT_STCHANDOBJ 3 /* binary operation←
: 1+2=3 */

18.48.1.93 EMBFORMAT_STITCHONLY #define EMBFORMAT_STITCHONLY 1

18.48.1.94 EMBFORMAT_UNSUPPORTED #define EMBFORMAT_UNSUPPORTED 0

18.48.1.95 END #define END 16 /*! end of program */

18.48.1.96 Exquisite_Polyester #define Exquisite_Polyester 3

18.48.1.97 Fufu_Polyester #define Fufu_Polyester 4

18.48.1.98 Fufu_Rayon #define Fufu_Rayon 5

18.48.1.99 Hemingworth_Polyester #define Hemingworth_Polyester 6

18.48.1.100 hus_thread #define hus_thread 24

18.48.1.101 Isacord_Polyester #define Isacord_Polyester 7

18.48.1.102 Isafil_Rayon #define Isafil_Rayon 8

18.48.1.103 jef_thread #define jef_thread 25

18.48.1.104 JUMP #define JUMP 1 /*! move to (x, y) */

18.48.1.105 LIBEMBROIDERY_EMBEDDED_VERSION #define LIBEMBROIDERY_EMBEDDED_VERSION 0

18.48.1.106 Madeira_Polyester #define Madeira_Polyester 11

18.48.1.107 Madeira_Rayon #define Madeira_Rayon 12

18.48.1.108 Marathon_Polyester #define Marathon_Polyester 9

18.48.1.109 Marathon_Rayon #define Marathon_Rayon 10

18.48.1.110 MAX_STITCHES #define MAX_STITCHES 1000000

18.48.1.111 MAX_THREADS #define MAX_THREADS 256

18.48.1.112 Metro_Polyester #define Metro_Polyester 13

18.48.1.113 NORMAL #define NORMAL 0 /*! stitch to (x, y) */
Machine codes for stitch flags

18.48.1.114 numberOfFormats #define numberOfFormats 61

18.48.1.115 Pantone #define Pantone 14

18.48.1.116 pcm_thread #define pcm_thread 26

18.48.1.117 pec_thread #define pec_thread 27

18.48.1.118 RobisonAnton_Polyester #define RobisonAnton_Polyester 15

18.48.1.119 RobisonAnton_Rayon #define RobisonAnton_Rayon 16

18.48.1.120 SEQUIN #define SEQUIN 8 /*! sequin */

18.48.1.121 shv_thread #define shv_thread 28

18.48.1.122 Sigma_Polyester #define Sigma_Polyester 17

18.48.1.123 STOP #define STOP 4 /*! pause machine for thread change */

18.48.1.124 Sulky_Rayon #define Sulky_Rayon 18

18.48.1.125 SVG_Colors #define SVG_Colors 23

18.48.1.126 ThreadArt_Polyester #define ThreadArt_Polyester 20

18.48.1.127 ThreadArt_Rayon #define ThreadArt_Rayon 19

18.48.1.128 ThreaDelight_Polyester #define ThreaDelight_Polyester 21

18.48.1.129 TRIM #define TRIM 2 /*! trim + move to (x, y) */

18.48.1.130 Z102_Isacord_Polyester #define Z102_Isacord_Polyester 22

18.48.2 Typedef Documentation

18.48.2.1 EmbAlignedDim typedef struct EmbAlignedDim_ EmbAlignedDim

18.48.2.2 EmbAngularDim typedef struct EmbAngularDim_ EmbAngularDim

18.48.2.3 EmbArc typedef struct EmbArc_ EmbArc
absolute position (not relative)

18.48.2.4 EmbArcLengthDim typedef struct EmbArcLengthDim_ EmbArcLengthDim

18.48.2.5 EmbArray typedef struct EmbArray_ EmbArray
The basic array type.

18.48.2.6 EmbBezier typedef struct EmbBezier_ EmbBezier

18.48.2.7 EmbBlock typedef struct EmbBlock_ EmbBlock

18.48.2.8 EmbCircle typedef struct EmbCircle_ EmbCircle

18.48.2.9 EmbColor typedef struct EmbColor_ EmbColor
EmbColor uses the light primaries: red, green, blue in that order.

18.48.2.10 EmbDiameterDim typedef struct EmbDiameterDim_ EmbDiameterDim

18.48.2.11 EmbEllipse typedef struct EmbEllipse_ EmbEllipse

18.48.2.12 EmbFlag typedef int EmbFlag

18.48.2.13 EmbFormatList typedef struct EmbFormatList_ EmbFormatList

18.48.2.14 EmbGeometry `typedef struct EmbGeometry_ EmbGeometry`

18.48.2.15 EmbImage `typedef struct EmbImage_ EmbImage`

18.48.2.16 EmbInfiniteLine `typedef struct EmbInfiniteLine_ EmbInfiniteLine`

18.48.2.17 EmbLayer `typedef struct EmbLayer_ EmbLayer`

18.48.2.18 EmbLeaderDim `typedef struct EmbLeaderDim_ EmbLeaderDim`

18.48.2.19 EmbLine `typedef struct EmbLine_ EmbLine`

18.48.2.20 EmbLinearDim `typedef struct EmbLinearDim_ EmbLinearDim`

18.48.2.21 EmbOrdinateDim `typedef struct EmbOrdinateDim_ EmbOrdinateDim`

18.48.2.22 EmbPath `typedef struct EmbPath_ EmbPath`

18.48.2.23 EmbPattern `typedef struct EmbPattern_ EmbPattern`

18.48.2.24 EmbPoint `typedef struct EmbPoint_ EmbPoint`

18.48.2.25 EmbPolygon `typedef EmbPath EmbPolygon`

18.48.2.26 EmbPolyline `typedef EmbPath EmbPolyline`

18.48.2.27 EmbRadiusDim `typedef struct EmbRadiusDim_ EmbRadiusDim`

18.48.2.28 EmbRay `typedef struct EmbRay_ EmbRay`

18.48.2.29 EmbReal `typedef float EmbReal`

18.48.2.30 EmbRect `typedef struct EmbRect_ EmbRect`

18.48.2.31 EmbSatinOutline `typedef struct EmbSatinOutline_ EmbSatinOutline`

18.48.2.32 EmbSpline `typedef struct EmbSpline_ EmbSpline`

18.48.2.33 EmbStitch `typedef struct EmbStitch_ EmbStitch`

18.48.2.34 EmbTextMulti `typedef struct EmbTextMulti_ EmbTextMulti`

18.48.2.35 EmbTextSingle `typedef struct EmbTextSingle_ EmbTextSingle`

18.48.2.36 EmbThread `typedef struct EmbThread_ EmbThread`

18.48.2.37 EmbTime `typedef struct EmbTime_ EmbTime`

18.48.2.38 EmbVector `typedef struct EmbVector_ EmbVector`

The basic type to represent points absolutely or represent directions.
Positive y is up, units are in mm.

18.48.2.39 L_system `typedef struct LSYSTEM L_system`

18.48.2.40 thread_color `typedef struct thread_color_ thread_color`

18.48.3 Function Documentation

18.48.3.1 convert() `EMB_PUBLIC int convert (`

```
const char * inf,  
const char * outf )
```

18.48.3.2 degrees() `EMB_PUBLIC EmbReal degrees (`

```
EmbReal radian ) [inline]
```

18.48.3.3 emb_identify_format() `EMB_PUBLIC int emb_identify_format (`

```
const char * fileName )
```

Parameters

<code>fileName</code>	<input type="text"/>
-----------------------	----------------------

Returns

`int`

18.48.3.4 emb_round() `EMB_PUBLIC int emb_round (`

```
EmbReal x )
```

18.48.3.5 embArc_clockwise() `EMB_PUBLIC char embArc_clockwise (EmbArc arc)`

18.48.3.6 embArc_init() `EMB_PUBLIC EmbArc embArc_init (void)`

18.48.3.7 embArray_addArc() `EMB_PUBLIC int embArray_addArc (EmbArray * a, EmbArc b)`

Parameters

<code>a</code>	
<code>b</code>	

Returns

`int`

18.48.3.8 embArray_addCircle() `EMB_PUBLIC int embArray_addCircle (EmbArray * a, EmbCircle b)`

Parameters

<code>a</code>	
<code>b</code>	

Returns

`int`

18.48.3.9 embArray_addEllipse() `EMB_PUBLIC int embArray_addEllipse (EmbArray * a, EmbEllipse b)`

Parameters

<code>a</code>	
<code>b</code>	

Returns

`int`

18.48.3.10 embArray_addFlag() `EMB_PUBLIC int embArray_addFlag (EmbArray * a, EmbFlag b)`

Parameters

a	
b	

Returns

int

18.48.3.11 embArray_addLine() `EMB_PUBLIC int embArray_addLine (``EmbArray * a,`
`EmbLine b)`**Parameters**

a	
b	

Returns

int

18.48.3.12 embArray_addPath() `EMB_PUBLIC int embArray_addPath (``EmbArray * a,`
`EmbPath b)`**Parameters**

a	
b	

Returns

int

18.48.3.13 embArray_addPoint() `EMB_PUBLIC int embArray_addPoint (``EmbArray * a,`
`EmbPoint b)`**Parameters**

a	
b	

Returns

int

18.48.3.14 embArray_addPolygon() `EMB_PUBLIC int embArray_addPolygon (``EmbArray * a,`

```
EmbPolygon b )
```

Parameters

a	
b	

Returns

int

18.48.3.15 embArray_addPolyline() EMB_PUBLIC int embArray_addPolyline (

```
EmbArray * a,  
EmbPolyline b )
```

Parameters

a	
b	

Returns

int

18.48.3.16 embArray_addRect() EMB_PUBLIC int embArray_addRect (

```
EmbArray * a,  
EmbRect b )
```

Parameters

a	
b	

Returns

int

18.48.3.17 embArray_addStitch() EMB_PUBLIC int embArray_addStitch (

```
EmbArray * a,  
EmbStitch b )
```

Parameters

a	
b	

Returns

int

18.48.3.18 embArray_addThread() `EMB_PUBLIC int embArray_addThread (`
`EmbArray * g,`
`EmbThread p)`

18.48.3.19 embArray_addVector() `EMB_PUBLIC int embArray_addVector (`
`EmbArray * a,`
`EmbVector b)`

Parameters

<code>a</code>	
<code>b</code>	

Returns

`int`

18.48.3.20 embArray_copy() `EMB_PUBLIC void embArray_copy (`
`EmbArray * dst,`
`EmbArray * src)`

Parameters

<code>dst</code>	
<code>src</code>	

18.48.3.21 embArray_create() `EMB_PUBLIC EmbArray * embArray_create (`
`int type)`

Parameters

<code>type</code>	
-------------------	--

Returns

`EmbArray*`

18.48.3.22 embArray_free() `EMB_PUBLIC void embArray_free (`
`EmbArray * a)`

Parameters

<code>a</code>	
----------------	--

18.48.3.23 embArray_resize() `EMB_PUBLIC int embArray_resize (`
`EmbArray * a)`

Parameters

a	
---	--

Returns

int

18.48.3.24 embCircle_init() `EMB_PUBLIC EmbCircle embCircle_init (void)`

18.48.3.25 embColor_create() `EMB_PUBLIC EmbColor * embColor_create (unsigned char r, unsigned char g, unsigned char b)`

18.48.3.26 embColor_distance() `EMB_PUBLIC int embColor_distance (EmbColor a, EmbColor b)`

Parameters

a	
b	

Returns

int

18.48.3.27 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

val	6 byte code describing the color as a hex string, doesn't require null termination.
-----	---

Returns

EmbColor the same color as our internal type.

18.48.3.28 embColor_make() `EMB_PUBLIC EmbColor embColor_make (unsigned char r, unsigned char g, unsigned char b)`

18.48.3.29 embEllipse_area() `EMB_PUBLIC EmbReal embEllipse_area (EmbEllipse ellipse)`

18.48.3.30 `embEllipse_diameterX()` `EMB_PUBLIC EmbReal embEllipse_diameterX (`
`EmbEllipse ellipse)`

18.48.3.31 `embEllipse_diameterY()` `EMB_PUBLIC EmbReal embEllipse_diameterY (`
`EmbEllipse ellipse)`

18.48.3.32 `embEllipse_height()` `EMB_PUBLIC EmbReal embEllipse_height (`
`EmbEllipse ellipse)`

18.48.3.33 `embEllipse_init()` `EMB_PUBLIC EmbEllipse embEllipse_init (`
`void)`

18.48.3.34 `embEllipse_make()` `EMB_PUBLIC EmbEllipse embEllipse_make (`
`EmbReal cx,`
`EmbReal cy,`
`EmbReal rx,`
`EmbReal ry)`

18.48.3.35 `embEllipse_perimeter()` `EMB_PUBLIC EmbReal embEllipse_perimeter (`
`EmbEllipse ellipse)`

18.48.3.36 `embEllipse_width()` `EMB_PUBLIC EmbReal embEllipse_width (`
`EmbEllipse ellipse)`

18.48.3.37 `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).

18.48.3.38 `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.
------------	-----------------------------

18.48.3.39 `embGeometry_init()` `EMB_PUBLIC EmbGeometry * embGeometry_init (`

```
int type_in )
```

Our generic object interface backends to each individual type.

Parameters

<i>type</i>	<i>in</i>

Returns

`EmbGeometry*`

18.48.3.40 `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.

18.48.3.41 `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.

18.48.3.42 `emblImage_create()` `EMB_PUBLIC EmbImage embImage_create (`
`int ,`
`int)`

18.48.3.43 `emblImage_free()` `EMB_PUBLIC void embImage_free (`
`EmbImage * image)`

18.48.3.44 `emblImage_read()` `EMB_PUBLIC void embImage_read (`
`EmbImage * image,`
`char * fname)`

18.48.3.45 `emblImage_write()` `EMB_PUBLIC int embImage_write (`
`EmbImage * image,`
`char * fname)`

18.48.3.46 embLine_intersectionPoint() `EMB_PUBLIC EmbVector embLine_intersectionPoint (`
 `EmbLine line1,`
 `EmbLine line2)`

18.48.3.47 embLine_make() `EMB_PUBLIC EmbLine embLine_make (`
 `EmbReal x1,`
 `EmbReal y1,`
 `EmbReal x2,`
 `EmbReal y2)`

18.48.3.48 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)

18.48.3.49 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.

18.48.3.50 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.

18.48.3.51 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.

18.48.3.52 embPattern_addPathAbs() `EMB_PUBLIC void embPattern_addPathAbs (`
 `EmbPattern * p,`
 `EmbPath obj)`

18.48.3.53 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.

18.48.3.54 embPattern_addPolygonAbs() `EMB_PUBLIC void embPattern_addPolygonAbs (`
 `EmbPattern * p,`
 `EmbPolygon obj)`

18.48.3.55 embPattern_addPolylineAbs() `EMB_PUBLIC void embPattern_addPolylineAbs (`
 `EmbPattern * p,`
 `EmbPolyline obj)`

18.48.3.56 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.

18.48.3.57 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.

18.48.3.58 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.

18.48.3.59 embPattern_addThread() `EMB_PUBLIC int embPattern_addThread (`
`EmbPattern * pattern,`
`EmbThread thread)`

Parameters

<i>pattern</i>	
<i>thread</i>	

Returns

`int`

18.48.3.60 embPattern_calcBoundingBox() `EMB_PUBLIC EmbRect embPattern_calcBoundingBox (`
`EmbPattern * p)`

Returns an EmbRect that encapsulates all stitches and objects in the pattern (*p*).

18.48.3.61 embPattern_center() `EMB_PUBLIC void embPattern_center (`
`EmbPattern * p)`

18.48.3.62 embPattern_changeColor() `EMB_PUBLIC void embPattern_changeColor (`
`EmbPattern * p,`
`int index)`

Parameters

<i>p</i>	
<i>index</i>	

18.48.3.63 embPattern_color_count() `EMB_PUBLIC int embPattern_color_count (`
 `EmbPattern * pattern,`
 `EmbColor startColor)`

18.48.3.64 embPattern_combine() `EMB_PUBLIC EmbPattern * embPattern_combine (`
 `EmbPattern * p1,`
 `EmbPattern * p2)`

Parameters

<code>p1</code>	
<code>p2</code>	

Returns

`EmbPattern*`

18.48.3.65 embPattern_combineJumpStitches() `EMB_PUBLIC void embPattern_combineJumpStitches (`
 `EmbPattern * p)`

18.48.3.66 embPattern_convertGeometry() `EMB_PUBLIC void embPattern_convertGeometry (`
 `EmbPattern * p)`

Parameters

<code>p</code>	
----------------	--

18.48.3.67 embPattern_copyPolylinesToStitchList() `EMB_PUBLIC void embPattern_copyPolylinesTo←`
`StitchList (`
 `EmbPattern * pattern)`

18.48.3.68 embPattern_copyStitchListToPolylines() `EMB_PUBLIC void embPattern_copyStitchListTo←`
`Polylines (`
 `EmbPattern * pattern)`

18.48.3.69 embPattern_correctForMaxStitchLength() `EMB_PUBLIC void embPattern_correctForMax←`
`StitchLength (`
 `EmbPattern * p,`
 `EmbReal maxStitchLength,`
 `EmbReal maxJumpLength)`

18.48.3.70 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*`**18.48.3.71 embPattern_crossstitch()** `EMB_PUBLIC void embPattern_crossstitch (`

```
    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 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.

18.48.3.72 embPattern_designDetails() `EMB_PUBLIC void embPattern_designDetails (`

```
    EmbPattern * p )
```

18.48.3.73 embPattern_end() `EMB_PUBLIC void embPattern_end (`

```
    EmbPattern * p )
```

18.48.3.74 embPattern_fixColorCount() `EMB_PUBLIC void embPattern_fixColorCount (`

```
    EmbPattern * p )
```

Parameters

<i>p</i>	
----------	--

18.48.3.75 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.

18.48.3.76 embPattern_flipHorizontal() `EMB_PUBLIC void embPattern_flipHorizontal (`

```
    EmbPattern * p )
```

Flips the entire pattern (*p*) horizontally about the y-axis.

18.48.3.77 embPattern_flipVertical() `EMB_PUBLIC void embPattern_flipVertical (`

```
    EmbPattern * p )
```

Flips the entire pattern (*p*) vertically about the x-axis.

18.48.3.78 embPattern_free() `EMB_PUBLIC void embPattern_free (`

```
    EmbPattern * p )
```

Frees all memory allocated in the pattern (*p*).

```
18.48.3.79 embPattern_hideStitchesOverLength() EMB_PUBLIC void embPattern_hideStitchesOver←
Length (
    EmbPattern * p,
    int length )
```

Parameters

<i>p</i>	
<i>length</i>	

```
18.48.3.80 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 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) x (-30, 30).

Use render then image difference to see how well it passes.

```
18.48.3.81 embPattern_jumpStitches() EMB_PUBLIC int embPattern_jumpStitches (
    EmbPattern * pattern )
```

```
18.48.3.82 embPattern_lengthHistogram() EMB_PUBLIC void embPattern_lengthHistogram (
    EmbPattern * pattern,
    int * bin,
    int NUMBINS )
```

```
18.48.3.83 embPattern_loadExternalColorFile() EMB_PUBLIC void embPattern_loadExternalColorFile (
    EmbPattern * p,
    const char * fileName )
```

```
18.48.3.84 embPattern_maximumStitchLength() EMB_PUBLIC EmbReal embPattern_maximumStitchLength (
(
    EmbPattern * pattern )
```

```
18.48.3.85 embPattern_minimumStitchLength() EMB_PUBLIC EmbReal embPattern_minimumStitchLength (
(
    EmbPattern * pattern )
```

```
18.48.3.86 embPattern_movePolylinesToStitchList() EMB_PUBLIC void embPattern_movePolylinesTo←
StitchList (
    EmbPattern * pattern )
```

18.48.3.87 embPattern_moveStitchListToPolylines() `EMB_PUBLIC void embPattern_moveStitchListToPolylines (EmbPattern * pattern)`

18.48.3.88 embPattern_read() `EMB_PUBLIC char embPattern_read (EmbPattern * pattern, const char * fileName, int format)`

Parameters

<i>pattern</i>	
<i>fileName</i>	
<i>format</i>	

Returns

`char`

18.48.3.89 embPattern_readAuto() `EMB_PUBLIC char embPattern_readAuto (EmbPattern * pattern, const char * fileName)`

Parameters

<i>pattern</i>	
<i>fileName</i>	

Returns

`char`

18.48.3.90 embPattern_realStitches() `EMB_PUBLIC int embPattern_realStitches (EmbPattern * pattern)`

18.48.3.91 embPattern_render() `EMB_PUBLIC int embPattern_render (EmbPattern * pattern, char * fname)`

18.48.3.92 embPattern_scale() `EMB_PUBLIC void embPattern_scale (EmbPattern * p, EmbReal scale)`

18.48.3.93 embPattern_simulate() `EMB_PUBLIC int embPattern_simulate (EmbPattern * pattern, char * fname)`

18.48.3.94 embPattern_totalStitchLength() `EMB_PUBLIC EmbReal embPattern_totalStitchLength (`
`EmbPattern * pattern)`

Parameters

<code>pattern</code>	<input type="text"/>
----------------------	----------------------

Returns

`float`

18.48.3.95 embPattern_trimStitches() `EMB_PUBLIC int embPattern_trimStitches (`
`EmbPattern * pattern)`

18.48.3.96 embPattern_write() `EMB_PUBLIC char embPattern_write (`
`EmbPattern * pattern,`
`const char * fileName,`
`int format)`

Parameters

<code>pattern</code>	<input type="text"/>
<code>fileName</code>	<input type="text"/>
<code>format</code>	<input type="text"/>

Returns

`char`

18.48.3.97 embPattern_writeAuto() `EMB_PUBLIC char embPattern_writeAuto (`
`EmbPattern * pattern,`
`const char * fileName)`

Parameters

<code>pattern</code>	<input type="text"/>
<code>fileName</code>	<input type="text"/>

Returns

`char`

18.48.3.98 embRect_area() `EMB_PUBLIC EmbReal embRect_area (`
`EmbRect rect)`

18.48.3.99 embRect_init() `EMB_PUBLIC EmbRect embRect_init (`
`void)`

```
18.48.3.100 embSatinOutline_generateSatinOutline() EMB_PUBLIC void embSatinOutline_generate←
SatinOutline (
    EmbArray * lines,
    EmbReal thickness,
    EmbSatinOutline * result )
```

Parameters

<i>lines</i>	
<i>thickness</i>	
<i>result</i>	

```
18.48.3.101 embSatinOutline_renderStitches() EMB_PUBLIC EmbArray * embSatinOutline_render←
Stitches (
    EmbSatinOutline * result,
    EmbReal density )
```

Parameters

<i>result</i>	
<i>density</i>	

Returns

EmbArray*

```
18.48.3.102 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.

```
18.48.3.103 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

18.48.3.104 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.

18.48.3.105 embTime_initNow() EMB_PUBLIC void embTime_initNow (EmbTime * t)**Parameters**

<i>t</i>	
----------	--

18.48.3.106 embTime_time() EMB_PUBLIC EmbTime embTime_time (EmbTime * t)**Parameters**

<i>t</i>	
----------	--

Returns

EmbTime

18.48.3.107 embVector_add() EMB_PUBLIC EmbVector embVector_add (EmbVector a, EmbVector b)

The sum of vectors *a* and *b* returned as a vector.

Equivalent to:

$$\mathbf{c} = \mathbf{a} + \mathbf{b} = \begin{pmatrix} a_x + b_x \\ a_y + b_y \end{pmatrix}$$

18.48.3.108 embVector_angle() EMB_PUBLIC EmbReal embVector_angle (EmbVector v)

The angle, measured anti-clockwise from the x-axis, of a vector *v*.

```
18.48.3.109 embVector_average() EMB_PUBLIC EmbVector embVector_average (
    EmbVector a,
    EmbVector b )
```

The average of vectors $v1$ and $v2$ returned as a vector.

Equivalent to:

$$\mathbf{c} = \frac{\mathbf{a} + \mathbf{b}}{2} = \begin{pmatrix} \frac{a_x+b_x}{2} \\ \frac{a_y+b_y}{2} \end{pmatrix}$$

```
18.48.3.110 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:

$$|c| = \left| \begin{pmatrix} a_x \\ a_y \\ 0 \end{pmatrix} \times \begin{pmatrix} b_x \\ b_y \\ 0 \end{pmatrix} \right| = \left| \begin{pmatrix} 0 \\ 0 \\ a_x b_y - a_y b_x \end{pmatrix} \right| = a_x b_y - a_y b_x$$

```
18.48.3.111 embVector_distance() EMB_PUBLIC EmbReal embVector_distance (
    EmbVector a,
    EmbVector b )
```

The distance between a and b returned as a real value.

$$d = |\mathbf{a} - \mathbf{b}| = \sqrt{(a_x - b_x)^2 + (a_y - b_y)^2}$$

```
18.48.3.112 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:

$$c = \mathbf{a} \cdot \mathbf{b} = a_x b_x + a_y b_y$$

```
18.48.3.113 embVector_length() EMB_PUBLIC EmbReal embVector_length (
    EmbVector vector )
```

The length or absolute value of the vector $vector$.

Equivalent to:

$$|v| = \sqrt{v_x^2 + v_y^2}$$

```
18.48.3.114 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.

```
18.48.3.115 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.

```
18.48.3.116 embVector_relativeX() EMB_PUBLIC EmbReal embVector_relativeX (
    EmbVector a1,
    EmbVector a2,
    EmbVector a3 )
```

The x-component of the vector

```
18.48.3.117 embVector_relativeY() EMB_PUBLIC EmbReal embVector_relativeY (
    EmbVector a1,
    EmbVector a2,
    EmbVector a3 )
```

The y-component of the vector

```
18.48.3.118 embVector_subtract() EMB_PUBLIC EmbVector embVector_subtract (
    EmbVector v1,
    EmbVector v2 )
```

The difference between vectors *v1* and *v2* returned as *result*.

Equivalent to:

$$\mathbf{c} = \mathbf{a} - \mathbf{b} = \begin{pmatrix} a_x - b_x \\ a_y - b_y \end{pmatrix}$$

```
18.48.3.119 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 $(1 \ 0) \cdot (a) = (x \ y) \cdot (0 \ 1) \cdot (b) = (y \ b)$

```
18.48.3.120 embVector_unit() EMB_PUBLIC EmbVector embVector_unit (
    EmbReal alpha )
```

The unit vector in the direction *angle*.

$$\mathbf{a}_\alpha = \begin{pmatrix} \cos(\alpha) \\ \sin(\alpha) \end{pmatrix}$$

```
18.48.3.121 full_test_matrix() EMB_PUBLIC int full_test_matrix (
    char * fname )
```

```
18.48.3.122 getArcCenter() EMB_PUBLIC void getArcCenter (
    EmbArc arc,
    EmbVector * arcCenter )
```

```
18.48.3.123 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 )
```

```
18.48.3.124 getCircleCircleIntersections() EMB_PUBLIC int getCircleCircleIntersections (
    EmbCircle c0,
    EmbCircle c1,
    EmbVector * v0,
    EmbVector * v1 )
```

```
18.48.3.125 getCircleTangentPoints() EMB_PUBLIC int getCircleTangentPoints (
    EmbCircle c,
    EmbVector p,
    EmbVector * v0,
    EmbVector * v1 )
```

```
18.48.3.126 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

Using the Lindenmayer System, so we can save work across different functions.

```
18.48.3.127 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.

18.48.3.128 radians() `EMB_PUBLIC EmbReal radians (`
`EmbReal degrees) [inline]`

18.48.3.129 report() `EMB_PUBLIC void report (`
`int result,`
`char * label)`

18.48.3.130 testMain() `EMB_PUBLIC void testMain (`
`int level)`

18.48.3.131 threadColor() `EMB_PUBLIC int threadColor (`
`const char * name,`
`int brand)`

18.48.3.132 threadColorName() `EMB_PUBLIC const char * threadColorName (`
`unsigned int color,`
`int brand)`

18.48.3.133 threadColorNum() `EMB_PUBLIC int threadColorNum (`
`unsigned int color,`
`int brand)`

18.48.4 Variable Documentation

18.48.4.1 _dxfColorTable `const unsigned char _dxfColorTable[][3] [extern]`

18.48.4.2 black_thread `EmbThread black_thread [extern]`

18.48.4.3 emb_error `int emb_error [extern]`
Error code storage for optional control flow blocking.

18.48.4.4 emb_verbose `int emb_verbose [extern]`
Verbosity level.

18.48.4.5 embConstantPi `const EmbReal embConstantPi [extern]`

18.48.4.6 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). *

18.48.4.7 husThreads `const EmbThread` `husThreads[]` [extern]**18.48.4.8 jefThreads** `const EmbThread` `jefThreads[]` [extern]**18.48.4.9 pcmThreads** `const EmbThread` `pcmThreads[]` [extern]**18.48.4.10 pecThreadCount** `const int` `pecThreadCount` [extern]**18.48.4.11 pecThreads** `const EmbThread` `pecThreads[]` [extern]**18.48.4.12 shvThreadCount** `const int` `shvThreadCount` [extern]**18.48.4.13 shvThreads** `const EmbThread` `shvThreads[]` [extern]**18.48.4.14 vipDecodingTable** `const unsigned char` `vipDecodingTable[]` [extern]

18.49 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
00213 typedef struct EmbBlock_ {
00214     EmbVector position;
00215     EmbVector dimensions;
00216 }
00217
00218
00219
00220
00221
00222
00223
00224
00225
00226
00227
00228
00229
00230
00231
00232
00233
00234
00235
00236
```

```
00237 } EmbAlignedDim;
00238
00243 typedef struct EmbAngularDim_ {
00244     EmbVector position;
00245 } EmbAngularDim;
00246
00251 typedef struct EmbArcLengthDim_ {
00252     EmbVector position;
00253 } EmbArcLengthDim;
00254
00259 typedef struct EmbDiameterDim_ {
00260     EmbVector position;
00261 } EmbDiameterDim;
00262
00267 typedef struct EmbLeaderDim_ {
00268     EmbVector position;
00269 } EmbLeaderDim;
00270
00275 typedef struct EmbLinearDim_ {
00276     EmbVector position;
00277 } EmbLinearDim;
00278
00283 typedef struct EmbOrdinateDim_ {
00284     EmbVector position;
00285 } EmbOrdinateDim;
00286
00291 typedef struct EmbRadiusDim_ {
00292     EmbVector position;
00293 } EmbRadiusDim;
00294
00299 typedef struct EmbInfiniteLine_ {
00300     EmbVector position;
00301 } EmbInfiniteLine;
00302
00307 typedef struct EmbRay_ {
00308     EmbVector position;
00309 } EmbRay;
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;
```

```
00389 } 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;
```

```

00532     EmbRect rect;
00533     EmbSpline spline;
00534     EmbVector vector;
00535 } object;
00536 EmbStitch stitch;
00537 EmbThread thread;
00538 int flag;
00539 int type;
00540 int lineType;
00541 EmbColor color;
00542 } EmbGeometry;
00543
00548 struct EmbArray_ {
00549     EmbGeometry *geometry;
00550     EmbStitch *stitch;
00551     EmbThread *thread;
00552     int count;
00553     int length;
00554     int type;
00555 };
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,               EmbReal* chordMidX,
00666             EmbReal* chordMidY,           EmbReal* sagitta,
00667             EmbReal* apothem,             EmbReal* incAngleInDegrees,
00668             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 EMB_PUBLIC EmbGeometry *embGeometry_init(int type_in);
00704 EMB_PUBLIC void embGeometry_free(EmbGeometry *obj);
00705 EMB_PUBLIC void embGeometry_move(EmbGeometry *obj, EmbVector delta);
00706 EMB_PUBLIC EmbRect embGeometry_boundingRect(EmbGeometry *obj);
00707 EMB_PUBLIC void embGeometry_vulcanize(EmbGeometry *obj);
00708
00709 EMB_PUBLIC EmbPattern* embPattern_create(void);
00710 EMB_PUBLIC void embPattern_hideStitchesOverLength(EmbPattern* p, int length);
00711 EMB_PUBLIC void embPattern_fixColorCount(EmbPattern* p);
00712 EMB_PUBLIC int embPattern_addThread(EmbPattern* p, EmbThread thread);
00713 EMB_PUBLIC void embPattern_addStitchAbs(EmbPattern* p, EmbReal x, EmbReal y, int flags, int
00714             isAutoColorIndex);
00714 EMB_PUBLIC void embPattern_addStitchRel(EmbPattern* p, EmbReal dx, EmbReal dy, int flags, int
00715             isAutoColorIndex);
00715 EMB_PUBLIC void embPattern_changeColor(EmbPattern* p, int index);
00716 EMB_PUBLIC void embPattern_free(EmbPattern* p);
00717 EMB_PUBLIC void embPattern_scale(EmbPattern* p, EmbReal scale);
00718 EMB_PUBLIC EmbReal embPattern_totalStitchLength(EmbPattern *pattern);
```

```

00719 EMB_PUBLIC EmbReal embPattern_minimumStitchLength(EmbPattern *pattern);
00720 EMB_PUBLIC EmbReal embPattern_maximumStitchLength(EmbPattern *pattern);
00721 EMB_PUBLIC void embPattern_lengthHistogram(EmbPattern *pattern, int *bin, int NUMBINS);
00722 EMB_PUBLIC int embPattern_realstitches(EmbPattern *pattern);
00723 EMB_PUBLIC int embPattern_jumpStitches(EmbPattern *pattern);
00724 EMB_PUBLIC int embPattern_trimStitches(EmbPattern *pattern);
00725 EMB_PUBLIC EmbRect embPattern_calcBoundingBox(EmbPattern* p);
00726 EMB_PUBLIC void embPattern_flipHorizontal(EmbPattern* p);
00727 EMB_PUBLIC void embPattern_flipVertical(EmbPattern* p);
00728 EMB_PUBLIC void embPattern_flip(EmbPattern* p, int horz, int vert);
00729 EMB_PUBLIC void embPattern_combineJumpStitches(EmbPattern* p);
00730 EMB_PUBLIC void embPattern_correctForMaxStitchLength(EmbPattern* p, EmbReal maxStitchLength, EmbReal
maxJumpLength);
00731 EMB_PUBLIC void embPattern_center(EmbPattern* p);
00732 EMB_PUBLIC void embPattern_loadExternalColorFile(EmbPattern* p, const char* fileName);
00733 EMB_PUBLIC void embPattern_convertGeometry(EmbPattern* p);
00734 EMB_PUBLIC void embPattern_designDetails(EmbPattern *p);
00735 EMB_PUBLIC EmbPattern *embPattern_combine(EmbPattern *p1, EmbPattern *p2);
00736 EMB_PUBLIC int embPattern_color_count(EmbPattern *pattern, EmbColor startColor);
00737 EMB_PUBLIC void embPattern_end(EmbPattern* p);
00738 EMB_PUBLIC void embPattern_crossstitch(EmbPattern *pattern, EmbImage *, int threshhold);
00739 EMB_PUBLIC void embPattern_horizontal_fill(EmbPattern *pattern, EmbImage *, int threshhold);
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

```

18.50 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 0xFFFFFFFFFA`
- `#define CompoundFileSector_DIFAT_Sector 0xFFFFFFFFFC`
- `#define CompoundFileSector_FAT_Sector 0xFFFFFFFFFD`
- `#define CompoundFileSector_EndOfChain 0xFFFFFFFFFE`
- `#define CompoundFileSector_FreeSector 0xFFFFFFFFFF`
- `#define ObjectTypeUnknown 0x00`
- `#define ObjectTypeStorage 0x01`
- `#define ObjectTypeStream 0x02`
- `#define ObjectTypeRootEntry 0x05`
- `#define CompoundFileStreamId_MaxRegularStreamId 0xFFFFFFFFFA`
- `#define CompoundFileStreamId_NoStream 0xFFFFFFFFFF`
- `#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 "\x1B[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 * `CompoundFileDialogEntry` (FILE *file)
- bcf_directory * `CompoundFileDialog` (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 `writeInb` (`EmbPattern` *pattern, `FILE` *file)
- char `readInf` (`EmbPattern` *pattern, `FILE` *file)
- char `writeInf` (`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]

18.50.1 Macro Definition Documentation

18.50.1.1 BULGETOCONTROL #define BULGETOCONTROL 2

18.50.1.2 BULGETOEND #define BULGETOEND 4

18.50.1.3 CompoundFileSector_DIFAT_Sector #define CompoundFileSector_DIFAT_Sector 0xFFFFFFFFFC

18.50.1.4 CompoundFileSector_EndOfChain #define CompoundFileSector_EndOfChain 0xFFFFFFFFFE

18.50.1.5 CompoundFileSector_FAT_Sector #define CompoundFileSector_FAT_Sector 0xFFFFFFFFFD

18.50.1.6 CompoundFileSector_FreeSector #define CompoundFileSector_FreeSector 0xFFFFFFFFFF

18.50.1.7 CompoundFileSector_MaxRegSector #define CompoundFileSector_MaxRegSector 0xFFFFFFFFFA

Type of sector

18.50.1.8 CompoundFileStreamId_MaxRegularStreamId #define CompoundFileStreamId_MaxRegularStreamId 0xFFFFFFFFFA
Special values for Stream Identifiers All real stream Ids are less than this

18.50.1.9 CompoundFileStreamId_NoStream #define CompoundFileStreamId_NoStream 0xFFFFFFFFFF
There is no valid stream Id

18.50.1.10 CUBICTOCONTROL1 #define CUBICTOCONTROL1 32

18.50.1.11 CUBICTOCONTROL2 #define CUBICTOCONTROL2 64

18.50.1.12 CUBICTOEND #define CUBICTOEND 128

18.50.1.13 DXF_VERSION_2000 #define DXF_VERSION_2000 "AC1015"

18.50.1.14 DXF_VERSION_2002 #define DXF_VERSION_2002 "AC1015"

18.50.1.15 DXF_VERSION_2004 #define DXF_VERSION_2004 "AC1018"

18.50.1.16 DXF_VERSION_2006 #define DXF_VERSION_2006 "AC1018"

18.50.1.17 DXF_VERSION_2007 #define DXF_VERSION_2007 "AC1021"

18.50.1.18 DXF_VERSION_2009 #define DXF_VERSION_2009 "AC1021"

18.50.1.19 DXF_VERSION_2010 #define DXF_VERSION_2010 "AC1024"

18.50.1.20 DXF_VERSION_2013 #define DXF_VERSION_2013 "AC1027"

18.50.1.21 DXF_VERSION_R10 #define DXF_VERSION_R10 "AC1006"

18.50.1.22 DXF_VERSION_R11 #define DXF_VERSION_R11 "AC1009"

18.50.1.23 DXF_VERSION_R12 #define DXF_VERSION_R12 "AC1009"

18.50.1.24 DXF_VERSION_R13 #define DXF_VERSION_R13 "AC1012"

18.50.1.25 DXF_VERSION_R14 #define DXF_VERSION_R14 "AC1014"

18.50.1.26 DXF_VERSION_R15 #define DXF_VERSION_R15 "AC1015"

18.50.1.27 DXF_VERSION_R18 #define DXF_VERSION_R18 "AC1018"

18.50.1.28 DXF_VERSION_R21 #define DXF_VERSION_R21 "AC1021"

18.50.1.29 DXF_VERSION_R24 #define DXF_VERSION_R24 "AC1024"

18.50.1.30 DXF_VERSION_R27 #define DXF_VERSION_R27 "AC1027"

18.50.1.31 ELEMENT_A #define ELEMENT_A 1

18.50.1.32 ELEMENT_ANIMATE #define ELEMENT_ANIMATE 2

18.50.1.33 ELEMENT_ANIMATECOLOR #define ELEMENT_ANIMATECOLOR 3

18.50.1.34 ELEMENT_ANIMATEMOTION #define ELEMENT_ANIMATEMOTION 4

18.50.1.35 ELEMENT_ANIMATETRANSFORM #define ELEMENT_ANIMATETRANSFORM 5

18.50.1.36 ELEMENT_ANIMATION #define ELEMENT_ANIMATION 6

18.50.1.37 ELEMENT_AUDIO #define ELEMENT_AUDIO 7

18.50.1.38 ELEMENT_CIRCLE #define ELEMENT_CIRCLE 8

18.50.1.39 ELEMENT_DEFS #define ELEMENT_DEFS 9

18.50.1.40 ELEMENT_DESC #define ELEMENT_DESC 10

18.50.1.41 ELEMENT_DISCARD #define ELEMENT_DISCARD 11

18.50.1.42 ELEMENT_ELLIPSE #define ELEMENT_ELLIPSE 12

18.50.1.43 ELEMENT_FONT #define ELEMENT_FONT 13

18.50.1.44 ELEMENT_FONT_FACE #define ELEMENT_FONT_FACE 14

18.50.1.45 ELEMENT_FONT_FACE_SRC #define ELEMENT_FONT_FACE_SRC 15

18.50.1.46 ELEMENT_FONT_FACE_URI #define ELEMENT_FONT_FACE_URI 16

18.50.1.47 ELEMENT_FOREIGN_OBJECT #define ELEMENT_FOREIGN_OBJECT 17

18.50.1.48 ELEMENT_G #define ELEMENT_G 18

18.50.1.49 ELEMENT_GLYPH #define ELEMENT_GLYPH 19

18.50.1.50 ELEMENT_HANDLER #define ELEMENT_HANDLER 20

18.50.1.51 ELEMENT_HKERN #define ELEMENT_HKERN 21

18.50.1.52 ELEMENT_IMAGE #define ELEMENT_IMAGE 22

18.50.1.53 ELEMENT_LINE #define ELEMENT_LINE 23

18.50.1.54 ELEMENT_LINEAR_GRADIENT #define ELEMENT_LINEAR_GRADIENT 24

18.50.1.55 ELEMENT_LISTENER #define ELEMENT_LISTENER 25

18.50.1.56 ELEMENT_METADATA #define ELEMENT_METADATA 26

18.50.1.57 ELEMENT_MISSING_GLYPH #define ELEMENT_MISSING_GLYPH 27

18.50.1.58 ELEMENT_MPATH #define ELEMENT_MPATH 28

18.50.1.59 ELEMENT_PATH #define ELEMENT_PATH 29

18.50.1.60 ELEMENT_POLYGON #define ELEMENT_POLYGON 30

18.50.1.61 ELEMENT_POLYLINE #define ELEMENT_POLYLINE 31

18.50.1.62 ELEMENT_PREFETCH #define ELEMENT_PREFETCH 32

18.50.1.63 ELEMENT_RADIAL_GRADIENT #define ELEMENT_RADIAL_GRADIENT 33

18.50.1.64 ELEMENT_RECT #define ELEMENT_RECT 34

18.50.1.65 ELEMENT_SCRIPT #define ELEMENT_SCRIPT 35

18.50.1.66 ELEMENT_SET #define ELEMENT_SET 36

18.50.1.67 ELEMENT_SOLID_COLOR #define ELEMENT_SOLID_COLOR 37

18.50.1.68 ELEMENT_STOP #define ELEMENT_STOP 38

18.50.1.69 ELEMENT_SVG #define ELEMENT_SVG 39

18.50.1.70 ELEMENT_SWITCH #define ELEMENT_SWITCH 40

18.50.1.71 ELEMENT_TBREAK #define ELEMENT_TBREAK 41

18.50.1.72 ELEMENT_TEXT #define ELEMENT_TEXT 42

18.50.1.73 ELEMENT_TEXT_AREA #define ELEMENT_TEXT_AREA 43

18.50.1.74 ELEMENT_TITLE #define ELEMENT_TITLE 44

18.50.1.75 ELEMENT_TSPAN #define ELEMENT_TSPAN 45

18.50.1.76 ELEMENT_USE #define ELEMENT_USE 46

18.50.1.77 ELEMENT_VIDEO #define ELEMENT_VIDEO 47

18.50.1.78 ELEMENT_XML #define ELEMENT_XML 0

18.50.1.79 ELLIPSETOEND #define ELLIPSETOEND 16

18.50.1.80 ELLIPSETORAD #define ELLIPSETORAD 8

18.50.1.81 EMB_BIG_ENDIAN #define EMB_BIG_ENDIAN 0

18.50.1.82 EMB_INT16_BIG #define EMB_INT16_BIG 2

18.50.1.83 EMB_INT16_LITTLE #define EMB_INT16_LITTLE 3

18.50.1.84 EMB_INT32_BIG #define EMB_INT32_BIG 4

18.50.1.85 EMB_INT32_LITTLE #define EMB_INT32_LITTLE 5

18.50.1.86 EMB_LITTLE_ENDIAN #define EMB_LITTLE_ENDIAN 1

18.50.1.87 EMB_MAX #define EMB_MAX(
 A,
 B) (((A) > (B)) ? (A) : (B))

18.50.1.88 EMB_MIN #define EMB_MIN(
 A,
 B) (((A) < (B)) ? (A) : (B))

18.50.1.89 ENDIAN_HOST #define ENDIAN_HOST EMB_LITTLE_ENDIAN

18.50.1.90 GREEN_TERM_COLOR #define GREEN_TERM_COLOR "\x1B[0;32m"

18.50.1.91 HOOP_110X110 #define HOOP_110X110 1

18.50.1.92 HOOP_126X110 #define HOOP_126X110 0

18.50.1.93 HOOP_140X200 #define HOOP_140X200 3

18.50.1.94 HOOP_230X200 #define HOOP_230X200 4

18.50.1.95 HOOP_50X50 #define HOOP_50X50 2

18.50.1.96 LINETO #define LINETO 0

18.50.1.97 MOVETO #define MOVETO 1

18.50.1.98 N_PES VERSIONS #define N_PES_VERSIONS 13

18.50.1.99 ObjectTypeRootEntry #define ObjectTypeRootEntry 0x05
the root entry

18.50.1.100 ObjectTypeStorage #define ObjectTypeStorage 0x01
a directory type object

18.50.1.101 ObjectTypeStream #define ObjectTypeStream 0x02
a file type object

18.50.1.102 ObjectTypeUnknown #define ObjectTypeUnknown 0x00
Type of directory object Probably unallocated

18.50.1.103 PES0001 #define PES0001 0

18.50.1.104 PES0020 #define PES0020 1

18.50.1.105 PES0022 #define PES0022 2

18.50.1.106 PES0030 #define PES0030 3

18.50.1.107 PES0040 #define PES0040 4

18.50.1.108 PES0050 #define PES0050 5

18.50.1.109 PES0055 #define PES0055 6

18.50.1.110 PES0056 #define PES0056 7

18.50.1.111 PES0060 #define PES0060 8

18.50.1.112 PES0070 #define PES0070 9

18.50.1.113 PES0080 #define PES0080 10

18.50.1.114 PES0090 #define PES0090 11

18.50.1.115 PES0100 #define PES0100 12

18.50.1.116 QUADTOCONTROL #define QUADTOCONTROL 256

18.50.1.117 QUADTOEND #define QUADTOEND 512

18.50.1.118 RED_TERM_COLOR #define RED_TERM_COLOR "\x1B[0;31m"

18.50.1.119 RESET_TERM_COLOR #define RESET_TERM_COLOR "\033[0m"

18.50.1.120 SVG_ATTRIBUTE #define SVG_ATTRIBUTE 4

18.50.1.121 SVG_CATCH_ALL #define SVG_CATCH_ALL 5

18.50.1.122 SVG_CREATOR_EMBROIDERMODDER #define SVG_CREATOR_EMBROIDERMODDER 1

18.50.1.123 SVG_CREATOR_ILLUSTRATOR #define SVG_CREATOR_ILLUSTRATOR 2

18.50.1.124 SVG_CREATOR_INKSCAPE #define SVG_CREATOR_INKSCAPE 3

18.50.1.125 SVG_CREATOR_NULL #define SVG_CREATOR_NULL 0

18.50.1.126 SVG_ELEMENT #define SVG_ELEMENT 1

18.50.1.127 SVG_EXPECT_ATTRIBUTE #define SVG_EXPECT_ATTRIBUTE 2

18.50.1.128 SVG_EXPECT_ELEMENT #define SVG_EXPECT_ELEMENT 1

18.50.1.129 SVG_EXPECT_NULL #define SVG_EXPECT_NULL 0

18.50.1.130 SVG_EXPECT_VALUE #define SVG_EXPECT_VALUE 3

18.50.1.131 SVG_MEDIA_PROPERTY `#define SVG_MEDIA_PROPERTY 3`

18.50.1.132 SVG_NULL `#define SVG_NULL 0`

18.50.1.133 SVG_PROPERTY `#define SVG_PROPERTY 2`

18.50.1.134 YELLOW_TERM_COLOR `#define YELLOW_TERM_COLOR "\x1B[1;33m"`

18.50.2 Typedef Documentation

18.50.2.1 bcf_directory `typedef struct _bcf_directory bcf_directory`

Todo possibly add a directory tree in the future.

18.50.2.2 bcf_directory_entry `typedef struct _bcf_directory_entry bcf_directory_entry`

18.50.2.3 bcf_file `typedef struct _bcf_file bcf_file`

18.50.2.4 bcf_file_difat `typedef struct _bcf_file_difat bcf_file_difat`

18.50.2.5 bcf_file_fat `typedef struct _bcf_file_fat bcf_file_fat`

18.50.2.6 bcf_file_header `typedef struct _bcf_file_header bcf_file_header`

Todo CLSID should be a separate type.

18.50.2.7 compress `typedef struct Compress compress`

18.50.2.8 huffman `typedef struct Huffman huffman`

18.50.2.9 StxThread `typedef struct StxThread_ StxThread`

18.50.2.10 SubDescriptor `typedef struct SubDescriptor_ SubDescriptor`

18.50.2.11 SvgAttribute `typedef struct SvgAttribute_ SvgAttribute`

18.50.2.12 ThredExtension `typedef struct ThredExtension_ ThredExtension`

18.50.2.13 ThredHeader `typedef struct ThredHeader_ ThredHeader`

18.50.2.14 VipHeader `typedef struct VipHeader_ VipHeader`

18.50.2.15 vp3Hoop `typedef struct _vp3Hoop vp3Hoop`

18.50.3 Enumeration Type Documentation

18.50.3.1 CSV_EXPECT `enum CSV_EXPECT`

Enumerator

CSV_EXPECT_NULL	
CSV_EXPECT_QUOTE1	
CSV_EXPECT_QUOTE2	
CSV_EXPECT_COMMAS	

18.50.3.2 CSV_MODE `enum CSV_MODE`

Enumerator

CSV_MODE_NULL	
CSV_MODE_COMMENT	
CSV_MODE_VARIABLE	
CSV_MODE_THREAD	
CSV_MODE_STITCH	

18.50.4 Function Documentation

18.50.4.1 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*`

18.50.4.2 `bcf_directory_free()` `void bcf_directory_free (`
`bcf_directory ** dir)`

Parameters

<code>dir</code>	<input type="text"/>
------------------	----------------------

18.50.4.3 `bcf_file_difat_free()` `void bcf_file_difat_free (`
`bcf_file_difat * difat)`

18.50.4.4 `bcf_file_fat_free()` `void bcf_file_fat_free (`
`bcf_file_fat ** fat)`

18.50.4.5 `bcf_file_free()` `void bcf_file_free (`
`bcf_file * bcfFile)`

Parameters

<code>bcfFile</code>	<input type="text"/>
----------------------	----------------------

18.50.4.6 `bcfFile_read()` `int bcfFile_read (`
`FILE * file,`
`bcf_file * bcfFile)`

Parameters

<code>file</code>	<input type="text"/>
<code>bcfFile</code>	<input type="text"/>

Returns

`int`

18.50.4.7 `bcfFileFat_create()` `bcf_file_fat * bcfFileFat_create (`
`const unsigned int sectorSize)`

Parameters

<code>sectorSize</code>	<input type="text"/>
-------------------------	----------------------

Returns`bcf_file_fat*`**18.50.4.8 bcfFileHeader_isValid()** `int bcfFileHeader_isValid (`
`bcf_file_header header)`**18.50.4.9 bcfFileHeader_read()** `bcf_file_header bcfFileHeader_read (`
`FILE * file)`**Parameters**

<code>file</code>	
-------------------	--

Returns`bcf_file_header`**18.50.4.10 binaryReadString()** `void binaryReadString (`
`FILE * file,`
`char * buffer,`
`int maxLength)`**Parameters**

<code>file</code>	
<code>buffer</code>	
<code>maxLength</code>	

18.50.4.11 binaryReadUnicodeString() `void binaryReadUnicodeString (`
`FILE * file,`
`char * buffer,`
`const int stringLength)`**Parameters**

<code>file</code>	
<code>buffer</code>	
<code>stringLength</code>	

18.50.4.12 binaryWriteInt() `void binaryWriteInt (`
`FILE * f,`
`int data)`**Parameters**

<code>f</code>	
<code>data</code>	

Todo replace with emblnt_read

18.50.4.13 binaryWriteIntBE() void binaryWriteIntBE (FILE * *f*, int *data*)

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

18.50.4.14 binaryWriteShort() void binaryWriteShort (FILE * *f*, short *data*)

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

18.50.4.15 binaryWriteUInt() void binaryWriteUInt (FILE * *f*, unsigned int *data*)

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

18.50.4.16 binaryWriteUIntBE() void binaryWriteUIntBE (FILE * *f*, unsigned int *data*)

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

18.50.4.17 binaryWriteUShort() void binaryWriteUShort (FILE * *f*, unsigned short *data*)

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

18.50.4.18 binaryWriteUShortBE() void binaryWriteUShortBE (FILE * *f*, unsigned short *data*)

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

18.50.4.19 check_header_present() int check_header_present (FILE * *file*, int *minimum_header_length*)

Parameters

<i>file</i>	
<i>minimum_header_length</i>	

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.

18.50.4.20 CompoundFileDirectory() *bcf_directory* * CompoundFileDirectory (const unsigned int *maxNumberOfDirectoryEntries*)

Parameters

<i>maxNumberOfDirectoryEntries</i>	
------------------------------------	--

Returns

*bcf_directory**

18.50.4.21 CompoundFileDirectoryEntry() `bcf_directory_entry * CompoundFileDirectoryEntry (FILE * file)`

Parameters

<code>file</code>	<input type="text"/>
-------------------	----------------------

Returns

`bcf_directory_entry*`

18.50.4.22 compress_get_bits() `int compress_get_bits (compress * c, int length)`

Parameters

<code>c</code>	<input type="text"/>
<code>length</code>	<input type="text"/>

Returns

`int`

18.50.4.23 compress_get_position() `int compress_get_position (compress * c)`

Parameters

<code>c</code>	<input type="text"/>
----------------	----------------------

Returns

`int`

18.50.4.24 compress_get_token() `int compress_get_token (compress * c)`

Parameters

<code>c</code>	<input type="text"/>
----------------	----------------------

Returns

`int`

18.50.4.25 compress_load_block() `void compress_load_block (compress * c)`

Parameters

c	
---	--

18.50.4.26 compress_load_character_huffman() void compress_load_character_huffman (compress * c)

Parameters

c	
---	--

18.50.4.27 compress_load_character_length_huffman() void compress_load_character_length_huffman (compress * c)

Parameters

c	
---	--

18.50.4.28 compress_load_distance_huffman() void compress_load_distance_huffman (compress * c)

Parameters

c	
---	--

18.50.4.29 compress_pop() int compress_pop (compress * c, int bit_count)

Parameters

c	
bit_count	

Returns

int

18.50.4.30 compress_read_variable_length() int compress_read_variable_length (compress * c)

Parameters

c	
---	--

Returns

int

18.50.4.31 copy_trim() `char * copy_trim (char const * s)`

Parameters

<code>s</code>	
----------------	--

Returns

`char*`

Todo description

18.50.4.32 create_test_file_1() `int create_test_file_1 (const char * outf)`

18.50.4.33 create_test_file_2() `int create_test_file_2 (const char * outf)`

18.50.4.34 create_test_file_3() `int create_test_file_3 (const char * outf)`

18.50.4.35 decode_t01_record() `int decode_t01_record (unsigned char b[3], int * x, int * y, int * flags)`

Parameters

<code>b</code>	
<code>x</code>	
<code>y</code>	
<code>flags</code>	

Returns

int

18.50.4.36 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>	

18.50.4.37 decodeNewStitch() `int decodeNewStitch (`
`unsigned char value)`**Parameters**

<i>value</i>	
--------------	--

Returns`int`**18.50.4.38 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

<i>num</i>	
<i>str</i>	

Returns`char*`**18.50.4.39 emb_readline()** `int emb_readline (`
`FILE * file,`
`char * line,`
`int maxLength)`**Parameters**

<i>file</i>	
<i>line</i>	
<i>maxLength</i>	

Returns`int`**18.50.4.40 embColor_read()** `void embColor_read (`
`FILE * f,`

```
EmbColor * c,  
int toRead )
```

Parameters

<i>f</i>	
<i>c</i>	
<i>toRead</i>	

```
18.50.4.41 embColor_write() void embColor_write (
    FILE * f,
    EmbColor c,
    int toWrite )
```

Parameters

<i>f</i>	
<i>c</i>	
<i>toWrite</i>	

```
18.50.4.42 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.

```
18.50.4.43 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>	

```
18.50.4.44 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>	

18.50.4.45 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`

18.50.4.46 entriesInDifatSector() `unsigned int entriesInDifatSector (`
 `bcf_file_difat * fat)`

Parameters

<i>fat</i>	
------------	--

Returns

`unsigned int`

18.50.4.47 fpad() `void fpad (`
 `FILE * file,`
 `char c,`
 `int n)`

Parameters

<i>f</i>	
----------	--

Returns

`int`

18.50.4.48 fread_int16() short fread_int16 (FILE * *f*)

Parameters

<i>f</i>	
----------	--

Returns

short

18.50.4.49 fread_int32_be() int fread_int32_be (FILE * *f*)

Parameters

<i>f</i>	
----------	--

Returns

int

Todo replace with emblnt_read

18.50.4.50 fread_uint16() unsigned short fread_uint16 (FILE * *f*)

Parameters

<i>f</i>	
----------	--

Returns

unsigned short

Todo replace with emblnt_read

18.50.4.51 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*****18.50.4.52 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"/>
----------------	----------------------

18.50.4.53 huffman_table_lookup() `int * huffman_table_lookup (`
 `huffman * h,`
 `int byte_lookup,`
 `int * lengths)`**18.50.4.54 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

<code>data</code>	<input type="text"/>
<code>length</code>	<input type="text"/>
<code>output</code>	<input type="text"/>
<code>output_length</code>	<input type="text"/>

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).

18.50.4.55 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

18.50.4.56 loadFatFromSector() void loadFatFromSector (
 bcf_file_fat * *fat*,
 FILE * *file*)**Parameters**

<i>fat</i>	
<i>file</i>	

18.50.4.57 mitDecodeStitch() int mitDecodeStitch (
 unsigned char *value*)**Parameters**

<i>value</i>	
--------------	--

Returns

int

18.50.4.58 mitEncodeStitch() unsigned char mitEncodeStitch (
 EmbReal *value*)**Parameters**

<i>value</i>	
--------------	--

Returns

unsigned char

18.50.4.59 numberOfEntriesInDifatSector() unsigned int numberOfEntriesInDifatSector (
 bcf_file_difat * *fat*)**18.50.4.60 pfaffDecode()** **EmbReal** pfaffDecode (
 unsigned char *a1*,

```
    unsigned char a2,
    unsigned char a3 )
```

Parameters

a1	
a2	
a3	

Returns

EmbReal

18.50.4.61 pfaffEncode() void pfaffEncode (

```
    FILE * file,
    int dx,
    int dy,
    int flags )
```

Parameters

file	
dx	
dy	
flags	

18.50.4.62 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 )
```

18.50.4.63 read100() char read100 (

```
    EmbPattern * pattern,
    FILE * file )
```

18.50.4.64 read10o() char read10o (

```
    EmbPattern * pattern,
    FILE * file )
```

18.50.4.65 readArt() char readArt (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.66 readBmc() char readBmc (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.67 readBro() char readBro (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.68 readCnd() char readCnd (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.69 readCol() char readCol (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.70 readCsd() char readCsd (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.71 readCsv() char readCsv (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.72 readDat() char readDat (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.73 readDem() char readDem (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.74 readDescriptions() void readDescriptions (

```
FILE * file,
EmbPattern * pattern )
```

18.50.4.75 readDsb() char readDsb (

```
EmbPattern * pattern,
FILE * file )
```

```
18.50.4.76 readDst() char readDst (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.77 readDsz() char readDsz (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.78 readDxf() char readDxf (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.79 readEdr() char readEdr (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.80 readEmd() char readEmd (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.81 readExp() char readExp (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.82 readExy() char readExy (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.83 readEys() char readEys (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.84 readFeatherPatterns() void readFeatherPatterns (
    FILE * file,
    EmbPattern * pattern )
```

```
18.50.4.85 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

18.50.4.86 `readFxy()` char readFxy (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.87 `readGc()` char readGc (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.88 `readGnc()` char readGnc (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.89 `readGt()` char readGt (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.90 `readHoopName()` void readHoopName (

```
FILE * file,
EmbPattern * pattern )
```

18.50.4.91 `readHus()` char readHus (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.92 `readImageString()` void readImageString (

```
FILE * file,
EmbPattern * pattern )
```

18.50.4.93 `readInb()` char readInb (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.94 `readInf()` char readInf (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.95 `readJef()` char readJef (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.96 `readKsm()` `char readKsm (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.97 `readMax()` `char readMax (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.98 `readMit()` `char readMit (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.99 `readMotifPatterns()` `void readMotifPatterns (`
 `FILE * file,`
 `EmbPattern * pattern)`

18.50.4.100 `readNew()` `char readNew (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.101 `readNextSector()` `void readNextSector (`
 `FILE * file,`
 `bcf_directory * dir)`

Parameters

<code>file</code>	
<code>dir</code>	

18.50.4.102 `readOfm()` `char readOfm (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.103 `readPcd()` `char readPcd (`
 `EmbPattern * pattern,`
 `const char * fileName,`
 `FILE * file)`

18.50.4.104 `readPcm()` `char readPcm (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.105 `readPcq()` `char readPcq (`
 `EmbPattern * pattern,`
 `const char * fileName,`
 `FILE * file)`

```
18.50.4.106 readPcs() char readPcs (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )

18.50.4.107 readPec() char readPec (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )

18.50.4.108 readPecStitches() void readPecStitches (
    EmbPattern * pattern,
    FILE * file )

18.50.4.109 readPel() char readPel (
    EmbPattern * pattern,
    FILE * file )

18.50.4.110 readPem() char readPem (
    EmbPattern * pattern,
    FILE * file )

18.50.4.111 readPes() char readPes (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )

18.50.4.112 readPESHeaderV10() void readPESHeaderV10 (
    FILE * file,
    EmbPattern * pattern )

18.50.4.113 readPESHeaderV5() void readPESHeaderV5 (
    FILE * file,
    EmbPattern * pattern )

18.50.4.114 readPESHeaderV6() void readPESHeaderV6 (
    FILE * file,
    EmbPattern * pattern )

18.50.4.115 readPESHeaderV7() void readPESHeaderV7 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.50.4.116 readPESHeaderV8() void readPESHeaderV8 (
    FILE * file,
    EmbPattern * pattern )

18.50.4.117 readPESHeaderV9() void readPESHeaderV9 (
    FILE * file,
    EmbPattern * pattern )

18.50.4.118 readPhb() char readPhb (
    EmbPattern * pattern,
    FILE * file )

18.50.4.119 readPhc() char readPhc (
    EmbPattern * pattern,
    FILE * file )

18.50.4.120 readPlt() char readPlt (
    EmbPattern * pattern,
    FILE * file )

18.50.4.121 readProgrammableFills() void readProgrammableFills (
    FILE * file,
    EmbPattern * pattern )

18.50.4.122 readRgb() char readRgb (
    EmbPattern * pattern,
    FILE * file )

18.50.4.123 readSew() char readSew (
    EmbPattern * pattern,
    FILE * file )

18.50.4.124 readShv() char readShv (
    EmbPattern * pattern,
    FILE * file )

18.50.4.125 readSst() char readSst (
    EmbPattern * pattern,
    FILE * file )

18.50.4.126 readStx() char readStx (
    EmbPattern * pattern,
    FILE * file )
```

18.50.4.127 readSvg() char readSvg (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.128 readT01() char readT01 (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.129 readT09() char readT09 (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.130 readTap() char readTap (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.131 readThr() char readThr (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.132 readThreads() void readThreads (

```
FILE * file,
EmbPattern * pattern )
```

18.50.4.133 readTxt() char readTxt (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.134 readU00() char readU00 (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.135 readU01() char readU01 (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.136 readVip() char readVip (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.137 readVp3() char readVp3 (

```
EmbPattern * pattern,
FILE * file )
```

```
18.50.4.138 readXxx() char readXxx (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.139 readZsk() char readZsk (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.140 safe_free() void safe_free (
    void * data )
```

Parameters

<code>data</code>	<input type="text"/>
-------------------	----------------------

```
18.50.4.141 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.

```
18.50.4.142 testEmbCircle() int testEmbCircle (
    void )
```

```
18.50.4.143 testEmbCircle_2() int testEmbCircle_2 (
    void )
```

```
18.50.4.144 testEmbFormat() int testEmbFormat (
    void )
```

```
18.50.4.145 testGeomArc() int testGeomArc (
    void )
```

```
18.50.4.146 testTangentPoints() void testTangentPoints (
    EmbCircle c,
    EmbVector p,
    EmbVector * t0,
    EmbVector * t1 )
```

```
18.50.4.147 testThreadColor() int testThreadColor (
    void )
```

```
18.50.4.148 write100() char write100 (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.149 write10o() char write10o (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.150 write_24bit() void write_24bit (
    FILE * file,
    int x )
```

Parameters

file	
x	

```
18.50.4.151 writeArt() char writeArt (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.152 writeBmc() char writeBmc (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.153 writeBro() char writeBro (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.154 writeCnd() char writeCnd (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.155 writeCol() char writeCol (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.156 writeCsd() char writeCsd (
    EmbPattern * pattern,
    FILE * file )
```

```
18.50.4.157 writeCsv() char writeCsv (
    EmbPattern * pattern,
    FILE * file )
```

18.50.4.158 `writeDat()` `char writeDat (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.159 `writeDem()` `char writeDem (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.160 `writeDsb()` `char writeDsb (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.161 `writeDst()` `char writeDst (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.162 `writeDsz()` `char writeDsz (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.163 `writeDxf()` `char writeDxf (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.164 `writeEdr()` `char writeEdr (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.165 `writeEmd()` `char writeEmd (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.166 `writeExp()` `char writeExp (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.167 `writeExy()` `char writeExy (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.168 `writeEys()` `char writeEys (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.169 writeFxy() char writeFxy (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.170 writeGc() char writeGc (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.171 writeGnc() char writeGnc (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.172 writeGt() char writeGt (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.173 writeHus() char writeHus (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.174 writelnb() char writelnb (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.175 writelnf() char writelnf (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.176 writeJef() char writeJef (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.177 writeKsm() char writeKsm (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.178 writeMax() char writeMax (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.179 writeMit() char writeMit (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.180 `writeNew()` `char writeNew (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.181 `writeOfm()` `char writeOfm (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.182 `writePcd()` `char writePcd (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.183 `writePcm()` `char writePcm (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.184 `writePcq()` `char writePcq (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.185 `writePcs()` `char writePcs (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.186 `writePec()` `char writePec (`
 `EmbPattern * pattern,`
 `const char * fileName,`
 `FILE * file)`

18.50.4.187 `writePecStitches()` `void writePecStitches (`
 `EmbPattern * pattern,`
 `FILE * file,`
 `const char * filename)`

18.50.4.188 `writePel()` `char writePel (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.189 `writePem()` `char writePem (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.50.4.190 `writePes()` `char writePes (`
 `EmbPattern * pattern,`
 `const char * fileName,`
 `FILE * file)`

18.50.4.191 writePhb() char writePhb (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.192 writePhc() char writePhc (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.193 writePlt() char writePlt (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.194 writeRgb() char writeRgb (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.195 writeSew() char writeSew (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.196 writeShv() char writeShv (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.197 writeSst() char writeSst (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.198 writeStx() char writeStx (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.199 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`.

18.50.4.200 writeT01() char writeT01 (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.201 writeT09() char writeT09 (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.202 writeTap() char writeTap (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.203 writeThr() char writeThr (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.204 writeTxt() char writeTxt (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.205 writeU00() char writeU00 (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.206 writeU01() char writeU01 (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.207 writeVip() char writeVip (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.208 writeVp3() char writeVp3 (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.209 writeXxx() char writeXxx (

```
EmbPattern * pattern,
FILE * file )
```

18.50.4.210 writeZsk() char writeZsk (

```
EmbPattern * pattern,
FILE * file )
```

18.50.5 Variable Documentation

18.50.5.1 imageWithFrame const char imageWithFrame[38][48] [extern]

18.51 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 0xFFFFFFFFFA
00013 #define CompoundFileSector_DIFAT_Sector 0xFFFFFFFFFC
00014 #define CompoundFileSector_FAT_Sector 0xFFFFFFFFFD
00015 #define CompoundFileSector_EndOfChain 0xFFFFFFFFFE
00016 #define CompoundFileSector_FreeSector 0xFFFFFFFFFF
00017
00021 #define ObjectTypeUnknown 0x00
00022 #define ObjectTypeStorage 0x01
00023 #define ObjectTypeStream 0x02
00024 #define ObjectTypeRootEntry 0x05
00029 #define CompoundFileStreamId_MaxRegularStreamId 0xFFFFFFFFFA
00030 #define CompoundFileStreamId_NoStream 0xFFFFFFFFFF
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_ANIMATETRANSFORM 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
00177 /* STRUCTS
00178 *****/
00179
00180 /* double-indirection file allocation table references */
00181
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     EmbrTime    creationTime;
00220     EmbrTime    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 numStiches; /* 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* numberDifatEntriesStillToRead);
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

```

18.52 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 **pfaaffEncode** (FILE *file, int dx, int dy, int flags)
- EmbReal **pfaaffDecode** (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)

18.52.1 Function Documentation

18.52.1.1 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

18.52.1.2 decode_tajima_ternary() void decode_tajima_ternary (

```
unsigned char b[3],
int * x,
int * y )
```

Parameters

<i>b</i>	<input type="text"/>
<i>x</i>	<input type="text"/>
<i>y</i>	<input type="text"/>

18.52.1.3 decodeNewStitch() int decodeNewStitch (

```
unsigned char value )
```

Parameters

<i>value</i>	<input type="text"/>
--------------	----------------------

Returns

int

18.52.1.4 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.

18.52.1.5 embInt_read() void embInt_read (

```
FILE * f,
char * label,
void * b,
int mode )
```

Parameters

<i>f</i>	<input type="text"/>
<i>label</i>	<input type="text"/>
<i>b</i>	<input type="text"/>
<i>mode</i>	<input type="text"/>

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.

```
18.52.1.6 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>	

```
18.52.1.7 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>	

```
18.52.1.8 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

```
18.52.1.9 mitDecodeStitch() int mitDecodeStitch (
    unsigned char value )
```

Parameters

<i>value</i>	<input type="text"/>
--------------	----------------------

Returns

int

18.52.1.10 mitEncodeStitch() `unsigned char mitEncodeStitch (EmbReal value)`**Parameters**

<i>value</i>	<input type="text"/>
--------------	----------------------

Returns

unsigned char

18.52.1.11 pfaffDecode() `EmbReal pfaffDecode (unsigned char a1, unsigned char a2, unsigned char a3)`**Parameters**

<i>a1</i>	<input type="text"/>
<i>a2</i>	<input type="text"/>
<i>a3</i>	<input type="text"/>

Returns

EmbReal

18.52.1.12 pfaffEncode() `void pfaffEncode (FILE * file, int dx, int dy, int flags)`**Parameters**

<i>file</i>	<input type="text"/>
<i>dx</i>	<input type="text"/>
<i>dy</i>	<input type="text"/>
<i>flags</i>	<input type="text"/>

18.52.1.13 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.

```
18.52.1.14 write_24bit() void write_24bit (
    FILE * file,
    int x )
```

Parameters

<i>file</i>	
<i>x</i>	

18.53 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 \(EmbPattern *pattern, EmblImage *image, int threshhold\)](#)
- 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**

18.53.1 Function Documentation**18.53.1.1 dragon_curve()** int dragon_curve (int *iterations*)**Parameters**

<i>iterations</i>	
-------------------	--

Returns

int

18.53.1.2 embPattern_combine() EmbPattern * embPattern_combine (EmbPattern * *p1*, EmbPattern * *p2*)**Parameters**

<i>p1</i>	
<i>p2</i>	

Returns

EmbPattern*

18.53.1.3 embPattern_convertGeometry() void embPattern_convertGeometry (EmbPattern * *p*)**Parameters**

<i>p</i>	
----------	--

18.53.1.4 embPattern_crossstitch() void embPattern_crossstitch (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 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.

18.53.1.5 `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) x (-30, 30).

Use render then image difference to see how well it passes.

18.53.1.6 `embPattern_stitchArc()`

```
void embPattern_stitchArc (
    EmbPattern * p,
    EmbArc arc,
    int thread_index,
    int style )
```

p arc thread_index style

18.53.1.7 `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 seperation 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.

18.53.1.8 `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

18.53.1.9 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

18.53.1.10 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

18.53.1.11 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

18.53.1.12 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.

18.53.1.13 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>	

18.53.1.14 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".

```
18.53.1.15 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.

```
18.53.1.16 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

```
18.53.1.17 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>	

18.53.1.18 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.

```
18.53.1.19 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

Using the Lindenmayer System, so we can save work across different functions.

18.53.1.20 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.

18.53.1.21 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.

18.53.1.22 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>	

```
18.53.1.23 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.

18.53.2 Variable Documentation

18.53.2.1 hilbert_curve_l_system `L_system hilbert_curve_l_system`

Initial value:

```
= {
    'A', "AB", "F+-", (char**)rules
}
```

18.53.2.2 rules const char* rules[] = {"+BF-AFA-FB+", "-AF+BFB+FA-"}

18.54 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]

18.54.1 Function Documentation

18.54.1.1 `binaryWriteInt()` void binaryWriteInt (
 FILE * f,
 int data)

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

18.54.1.2 `binaryWriteIntBE()` void binaryWriteIntBE (
 FILE * f,
 int data)

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

18.54.1.3 `binaryWriteShort()` void binaryWriteShort (
 FILE * f,
 short data)

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

```
18.54.1.4 binaryWriteUInt() void binaryWriteUInt ( FILE * f,  
                                                 unsigned int data )
```

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

```
18.54.1.5 binaryWriteUIntBE() void binaryWriteUIntBE ( FILE * f,  
                                                 unsigned int data )
```

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

```
18.54.1.6 binaryWriteUShort() void binaryWriteUShort ( FILE * f,  
                                                 unsigned short data )
```

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

```
18.54.1.7 binaryWriteUShortBE() void binaryWriteUShortBE ( FILE * f,  
                                                 unsigned short data )
```

Parameters

<i>f</i>	
<i>data</i>	

Todo replace with emblnt_read

18.54.1.8 emb_identify_format() `int emb_identify_format (`
 `const char * fileName)`

Parameters

<i>fileName</i>	
-----------------	--

Returns

int

18.54.1.9 embFormat_getExtension() `int embFormat_getExtension (`
 `const char * fileName,`
 `char * ending)`

Parameters

<i>fileName</i>	
<i>ending</i>	

Returns

int

18.54.1.10 embPattern_read() `char embPattern_read (`
 `EmbPattern * pattern,`
 `const char * fileName,`
 `int format)`

Parameters

<i>pattern</i>	
<i>fileName</i>	
<i>format</i>	

Returns

char

18.54.1.11 embPattern_readAuto() `char embPattern_readAuto (`
 `EmbPattern * pattern,`
 `const char * fileName)`

Parameters

<i>pattern</i>	
<i>fileName</i>	

Returns

char

18.54.1.12 embPattern_write() char embPattern_write (

```
EmbPattern * pattern,  
const char * fileName,  
int format )
```

Parameters

<i>pattern</i>	
<i>fileName</i>	
<i>format</i>	

Returns

char

18.54.1.13 embPattern_writeAuto() char embPattern_writeAuto (

```
EmbPattern * pattern,  
const char * fileName )
```

Parameters

<i>pattern</i>	
<i>fileName</i>	

Returns

char

18.54.1.14 fpad() void fpad (

```
FILE * file,  
char c,  
int n )
```

Parameters

<i>f</i>	
----------	--

Returns

int

18.54.1.15 fread_int16() short fread_int16 (

```
FILE * f )
```

Parameters

<i>f</i>	
----------	--

Returns

short

18.54.1.16 fread_int32_be() int fread_int32_be (FILE * *f*)

Parameters

<i>f</i>	<input type="text"/>
----------	----------------------

Returns

int

Todo replace with emblnt_read

18.54.1.17 fread_uint16() unsigned short fread_uint16 (FILE * *f*)

Parameters

<i>f</i>	<input type="text"/>
----------	----------------------

Returns

unsigned short

Todo replace with emblnt_read

18.54.1.18 safe_free() void safe_free (void * *data*)

Parameters

<i>data</i>	<input type="text"/>
-------------	----------------------

18.54.2 Variable Documentation

18.54.2.1 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). *

18.54.2.2 imageWithFrame const char imageWithFrame[38][48]

18.55 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*)

18.55.1 Function Documentation

```
18.55.1.1 read100() char read100 (
    EmbPattern * pattern,
    FILE * file )
```

```
18.55.1.2 write100() char write100 (
    EmbPattern * pattern,
    FILE * file )
```

18.56 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*)

18.56.1 Function Documentation

```
18.56.1.1 read10o() char read10o (
    EmbPattern * pattern,
    FILE * file )
```

```
18.56.1.2 write10o() char write10o (
    EmbPattern * pattern,
    FILE * file )
```

18.57 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)

18.57.1 Function Documentation

18.57.1.1 `readArt()` char `readArt` (
 `EmbPattern` * pattern,
 `FILE` * file)

18.57.1.2 `writeArt()` char `writeArt` (
 `EmbPattern` * pattern,
 `FILE` * file)

18.58 `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)

18.58.1 Function Documentation

18.58.1.1 `readBmc()` char `readBmc` (
 `EmbPattern` * pattern,
 `FILE` * file)

18.58.1.2 `writeBmc()` char `writeBmc` (
 `EmbPattern` * pattern,
 `FILE` * file)

18.59 `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)

18.59.1 Function Documentation

```
18.59.1.1 readBro() char readBro (
    EmbPattern * pattern,
    FILE * file )
```

```
18.59.1.2 writeBro() char writeBro (
    EmbPattern * pattern,
    FILE * file )
```

18.60 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)

18.60.1 Function Documentation

```
18.60.1.1 readCnd() char readCnd (
    EmbPattern * pattern,
    FILE * file )
```

```
18.60.1.2 writeCnd() char writeCnd (
    EmbPattern * pattern,
    FILE * file )
```

18.61 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)

18.61.1 Function Documentation

```
18.61.1.1 readCol() char readCol (
    EmbPattern * pattern,
    FILE * file )
```

```
18.61.1.2 writeCol() char writeCol (
    EmbPattern * pattern,
    FILE * file )
```

18.62 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 []

18.62.1 Macro Definition Documentation

18.62.1.1 CsdSubMaskSize #define CsdSubMaskSize 479

18.62.1.2 CsdXorMaskSize #define CsdXorMaskSize 501

18.62.2 Function Documentation

18.62.2.1 BuildDecryptionTable() void BuildDecryptionTable (int seed)

18.62.2.2 DecodeCsdByte() unsigned char DecodeCsdByte (long fileOffset, unsigned char val, int type)

18.62.2.3 readCsd() char readCsd (EmbPattern * pattern, FILE * file)

```
18.62.2.4 writeCsd() char writeCsd (
    EmbPattern * pattern,
    FILE * file )
```

18.62.3 Variable Documentation

18.62.3.1 _subMask char _subMask[CsdSubMaskSize]

18.62.3.2 _xorMask char _xorMask[CsdXorMaskSize]

18.62.3.3 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,
    0x05, 0x02, 0xAE, 0xA3, 0xC1, 0xF0, 0xF4, 0xE8, 0xF8, 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, 0x05, 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
}
```

18.63 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)

18.63.1 Function Documentation

18.63.1.1 csvStitchFlagToStr() char * csvStitchFlagToStr (
 int flags)

18.63.1.2 csvStrToStitchFlag() int csvStrToStitchFlag (
 const char * str)

```
18.63.1.3 readCsv() char readCsv (
    EmbPattern * pattern,
    FILE * file )
```

```
18.63.1.4 writeCsv() char writeCsv (
    EmbPattern * pattern,
    FILE * file )
```

18.64 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)

18.64.1 Function Documentation

```
18.64.1.1 readDat() char readDat (
    EmbPattern * pattern,
    FILE * file )
```

```
18.64.1.2 writeDat() char writeDat (
    EmbPattern * pattern,
    FILE * file )
```

18.65 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)

18.65.1 Function Documentation

```
18.65.1.1 readDem() char readDem (
    EmbPattern * pattern,
    FILE * file )
```

```
18.65.1.2 writeDem() char writeDem (
    EmbPattern * pattern,
    FILE * file )
```

18.66 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)

18.66.1 Function Documentation

18.66.1.1 `readDsb()` char `readDsb` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.66.1.2 `writeDsb()` char `writeDsb` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.67 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)

18.67.1 Macro Definition Documentation

18.67.1.1 `cci` #define `cci`(

```
    c1,
    c2 ) (c1*256+c2)
```

18.67.2 Function Documentation

```
18.67.2.1 decode_record_flags() int decode_record_flags (
    unsigned char b2 )
```

```
18.67.2.2 encode_record() void encode_record (
    FILE * file,
    int x,
    int y,
    int flags )
```

```
18.67.2.3 readDst() char readDst (
    EmbPattern * pattern,
    FILE * file )
```

```
18.67.2.4 set_dst_variable() void set_dst_variable (
    EmbPattern * pattern,
    char * var,
    char * val )
```

```
18.67.2.5 writeDst() char writeDst (
    EmbPattern * pattern,
    FILE * file )
```

18.68 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)

18.68.1 Function Documentation

```
18.68.1.1 readDsz() char readDsz (
    EmbPattern * pattern,
    FILE * file )
```

```
18.68.1.2 writeDsz() char writeDsz (
    EmbPattern * pattern,
    FILE * file )
```

18.69 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)

18.69.1 Function Documentation

18.69.1.1 `readDxf()` char `readDxf` (
 EmbPattern * *pattern*,
 FILE * *file*)

18.69.1.2 `readLine()` void `readLine` (
 FILE * *file*,
 char * *str*)

18.69.1.3 `writeDxf()` char `writeDxf` (
 EmbPattern * *pattern*,
 FILE * *file*)

18.70 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)

18.70.1 Function Documentation

18.70.1.1 `readEdr()` char `readEdr` (
 EmbPattern * *pattern*,
 FILE * *file*)

18.70.1.2 `writeEdr()` char `writeEdr` (
 EmbPattern * *pattern*,
 FILE * *file*)

18.71 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`)

18.71.1 Function Documentation

18.71.1.1 `emdDecode()` char `emdDecode` (
 unsigned char *inputByte*)

18.71.1.2 `readEmd()` char `readEmd` (
 `EmbPattern * pattern`,
 `FILE * file`)

18.71.1.3 `writeEmd()` char `writeEmd` (
 `EmbPattern * pattern`,
 `FILE * file`)

18.72 `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`)

18.72.1 Function Documentation

18.72.1.1 `expDecode()` char `expDecode` (
 unsigned char `a1`)

18.72.1.2 `readExp()` char `readExp` (
 `EmbPattern * pattern`,
 `FILE * file`)

18.72.1.3 `writeExp()` char `writeExp` (
 `EmbPattern * pattern`,
 `FILE * file`)

18.73 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)

18.73.1 Function Documentation

18.73.1.1 decode_exy_flags() int decode_exy_flags (

```
    unsigned char b2 )
```

18.73.1.2 readExy() char readExy (

```
    EmbPattern * pattern,
    FILE * file )
```

18.73.1.3 writeExy() char writeExy (

```
    EmbPattern * pattern,
    FILE * file )
```

18.74 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)

18.74.1 Function Documentation

18.74.1.1 readEys() char readEys (

```
    EmbPattern * pattern,
    FILE * file )
```

18.74.1.2 writeEys() char writeEys (

```
    EmbPattern * pattern,
    FILE * file )
```

18.75 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)`

18.75.1 Function Documentation

18.75.1.1 `readFxy()` char `readFxy (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.75.1.2 `writeFxy()` char `writeFxy (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.76 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)`

18.76.1 Function Documentation

18.76.1.1 `readGc()` char `readGc (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.76.1.2 `writeGc()` char `writeGc (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.77 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)

18.77.1 Function Documentation

18.77.1.1 `readGnc()` char `readGnc` (
`EmbPattern` * pattern,
`FILE` * file)

18.77.1.2 `writeGnc()` char `writeGnc` (
`EmbPattern` * pattern,
`FILE` * file)

18.78 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)

18.78.1 Function Documentation

18.78.1.1 `readGt()` char `readGt` (
`EmbPattern` * pattern,
`FILE` * file)

18.78.1.2 `writeGt()` char `writeGt` (
`EmbPattern` * pattern,
`FILE` * file)

18.79 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`)

18.79.1 Function Documentation

18.79.1.1 `husCompressData()` `unsigned char * husCompressData (`
 `unsigned char * input,`
 `int decompressedInputSize,`
 `int * compressedSize)`

18.79.1.2 `husDecodeByte()` `int husDecodeByte (`
 `unsigned char b)`

18.79.1.3 `husDecodeStitchType()` `int husDecodeStitchType (`
 `unsigned char b)`

18.79.1.4 `husDecompressData()` `unsigned char * husDecompressData (`
 `unsigned char * input,`
 `int compressedInputLength,`
 `int decompressedContentLength)`

18.79.1.5 `husEncodeByte()` `unsigned char husEncodeByte (`
 `EmbReal f)`

18.79.1.6 `husEncodeStitchType()` `unsigned char husEncodeStitchType (`
 `int st)`

18.79.1.7 `readHus()` `char readHus (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.79.1.8 `writeHus()` `char writeHus (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.80 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 `writeInb` (`EmbPattern *pattern, FILE *file`)

18.80.1 Function Documentation

18.80.1.1 readInb() `char readInb (`
`EmbPattern * pattern,`
`FILE * file)`

18.80.1.2 writelnb() `char writeInb (`
`EmbPattern * pattern,`
`FILE * file)`

18.81 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 writelnf (EmbPattern *pattern, FILE *file)`

18.81.1 Function Documentation

18.81.1.1 readInf() `char readInf (`
`EmbPattern * pattern,`
`FILE * file)`

18.81.1.2 writelnf() `char writeInf (`
`EmbPattern * pattern,`
`FILE * file)`

18.82 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)`

18.82.1 Function Documentation

18.82.1.1 `jefDecode()` `char jefDecode (`
`unsigned char inputByte)`

18.82.1.2 `jefEncode()` `void jefEncode (`
`unsigned char * b,`
`char dx,`
`char dy,`
`int flags)`

18.82.1.3 `jefGetHoopSize()` `int jefGetHoopSize (`
`int width,`
`int height)`

18.82.1.4 `jefSetHoopFromId()` `void jefSetHoopFromId (`
`EmbPattern * pattern,`
`int hoopCode)`

18.82.1.5 `read_hoop()` `void read_hoop (`
`FILE * file,`
`struct hoop_padding * hoop,`
`char * label)`

18.82.1.6 `readJef()` `char readJef (`
`EmbPattern * pattern,`
`FILE * file)`

18.82.1.7 `writeJef()` `char writeJef (`
`EmbPattern * pattern,`
`FILE * file)`

18.83 `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)`

18.83.1 Function Documentation

```
18.83.1.1 ksmEncode() void ksmEncode (
    unsigned char * b,
    char dx,
    char dy,
    int flags )
```

```
18.83.1.2 readKsm() char readKsm (
    EmbPattern * pattern,
    FILE * file )
```

```
18.83.1.3 writeKsm() char writeKsm (
    EmbPattern * pattern,
    FILE * file )
```

18.84 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** []

18.84.1 Function Documentation

```
18.84.1.1 readMax() char readMax (
    EmbPattern * pattern,
    FILE * file )
```

```
18.84.1.2 writeMax() char writeMax (
    EmbPattern * pattern,
    FILE * file )
```

18.84.2 Variable Documentation

18.84.2.1 max_header const unsigned char max_header[]

Initial value:

```
= {
    0x56, 0x43, 0x53, 0x4D, 0xFC, 0x03, 0x00, 0x00, 0x01, 0x00, 0x00, 0x00, 0x01, 0x00, 0x00, 0x00,
    0xF6, 0x25, 0x00, 0x00,
    0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
    0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
    0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
    0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
    0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
    0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
    0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
```

```
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x4D,0x61,0x64,0x65,0x69,0x72,0x61,0x20,
0x52,0x61,0x79,0x6F,0x6E,0x20,0x34,0x30,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
0x01,0x38,0x09,0x31,0x33,0x30,0x2F,0x37,0x30,0x35,0x20,0x48,0xFA,0x00,0x00,0x00,
0x00,0x00,0x00,0x00,0x00}
```

{}

18.85 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)

18.85.1 Function Documentation

18.85.1.1 readMit() char readMit (
 EmbPattern * *pattern*,
 FILE * *file*)

18.85.1.2 writeMit() char writeMit (
 EmbPattern * *pattern*,
 FILE * *file*)

18.86 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)

18.86.1 Function Documentation

18.86.1.1 readNew() char readNew (
 EmbPattern * *pattern*,
 FILE * *file*)

18.86.1.2 writeNew() char writeNew (
 EmbPattern * *pattern*,
 FILE * *file*)

18.87 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)

18.87.1 Function Documentation

18.87.1.1 ofmDecode() EmbReal **ofmDecode** (
 unsigned char *b1*,
 unsigned char *b2*)

18.87.1.2 ofmReadBlockHeader() void **ofmReadBlockHeader** (
 FILE * *file*)

18.87.1.3 ofmReadClass() static int **ofmReadClass** (
 FILE * *file*) [static]

18.87.1.4 ofmReadColorChange() void **ofmReadColorChange** (
 FILE * *file*,
 EmbPattern * *pattern*)

18.87.1.5 ofmReadExpanded() void **ofmReadExpanded** (
 FILE * *file*,
 EmbPattern * *p*)

18.87.1.6 ofmReadLibrary() char * **ofmReadLibrary** (
 FILE * *file*)

18.87.1.7 ofmReadThreads() void **ofmReadThreads** (
 FILE * *file*,
 EmbPattern * *p*)

```
18.87.1.8 readOfm() char readOfm (
    EmbPattern * pattern,
    FILE * fileCompound )
```

```
18.87.1.9 writeOfm() char writeOfm (
    EmbPattern * pattern,
    FILE * file )
```

18.88 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)

18.88.1 Function Documentation

```
18.88.1.1 readPcd() char readPcd (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.88.1.2 writePcd() char writePcd (
    EmbPattern * pattern,
    FILE * file )
```

18.89 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)

18.89.1 Function Documentation

```
18.89.1.1 readPcm() char readPcm (
    EmbPattern * pattern,
    FILE * file )
```

```
18.89.1.2 writePcm() char writePcm (
    EmbPattern * pattern,
    FILE * file )
```

18.90 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)

18.90.1 Function Documentation

```
18.90.1.1 readPcq() char readPcq (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.90.1.2 writePcq() char writePcq (
    EmbPattern * pattern,
    FILE * file )
```

18.91 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)

18.91.1 Function Documentation

```
18.91.1.1 readPcs() char readPcs (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.91.1.2 writePcs() char writePcs (
    EmbPattern * pattern,
    FILE * file )
```

18.92 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)

18.92.1 Function Documentation

18.92.1.1 `pecEncode()` void `pecEncode` (
 `FILE` * *file*,
 `EmbPattern` * *p*)

18.92.1.2 `pecEncodeJump()` void `pecEncodeJump` (
 `FILE` * *file*,
 int *x*,
 int *types*)

18.92.1.3 `pecEncodeStop()` void `pecEncodeStop` (
 `FILE` * *file*,
 unsigned char *val*)

18.92.1.4 `readPec()` char `readPec` (
 `EmbPattern` * *pattern*,
 const char * *fileName*,
 `FILE` * *file*)

18.92.1.5 `readPecStitches()` void `readPecStitches` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

18.92.1.6 `writelImage()` void `writelImage` (
 `FILE` * *file*,
 unsigned char *image*[][48])

Parameters

<i>file</i>	
<i>image</i>	

for the PES embedded

```
18.92.1.7 writePec() char writePec (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.92.1.8 writePecStitches() void writePecStitches (
    EmbPattern * pattern,
    FILE * file,
    const char * fileName )
```

18.93 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`)

18.93.1 Function Documentation

```
18.93.1.1 readPel() char readPel (
    EmbPattern * pattern,
    FILE * file )
```

```
18.93.1.2 writePel() char writePel (
    EmbPattern * pattern,
    FILE * file )
```

18.94 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`)

18.94.1 Function Documentation

```
18.94.1.1 readPem() char readPem (
    EmbPattern * pattern,
    FILE * file )
```

```
18.94.1.2 writePem() char writePem (
    EmbPattern * pattern,
    FILE * file )
```

18.95 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`

18.95.1 Function Documentation

```
18.95.1.1 pesWriteEmbOneSection() void pesWriteEmbOneSection (
    EmbPattern * pattern,
    FILE * file )
```

```
18.95.1.2 pesWriteSewSegSection() void pesWriteSewSegSection (
    EmbPattern * pattern,
    FILE * file )
```

```
18.95.1.3 readDescriptions() void readDescriptions (
    FILE * file,
    EmbPattern * pattern )
```

18.95.1.4 `readFeatherPatterns()` void readFeatherPatterns (FILE * *file*, EmbPattern * *pattern*)

18.95.1.5 `readHoopName()` void readHoopName (FILE * *file*, EmbPattern * *pattern*)

18.95.1.6 `readImageString()` void readImageString (FILE * *file*, EmbPattern * *pattern*)

18.95.1.7 `readMotifPatterns()` void readMotifPatterns (FILE * *file*, EmbPattern * *pattern*)

18.95.1.8 `readPes()` char readPes (EmbPattern * *pattern*, const char * *fileName*, FILE * *file*)

18.95.1.9 `readPESHeaderV10()` void readPESHeaderV10 (FILE * *file*, EmbPattern * *pattern*)

18.95.1.10 `readPESHeaderV5()` void readPESHeaderV5 (FILE * *file*, EmbPattern * *pattern*)

18.95.1.11 `readPESHeaderV6()` void readPESHeaderV6 (FILE * *file*, EmbPattern * *pattern*)

18.95.1.12 `readPESHeaderV7()` void readPESHeaderV7 (FILE * *file*, EmbPattern * *pattern*)

18.95.1.13 `readPESHeaderV8()` void readPESHeaderV8 (FILE * *file*, EmbPattern * *pattern*)

18.95.1.14 `readPESHeaderV9()` void readPESHeaderV9 (FILE * *file*, EmbPattern * *pattern*)

```
18.95.1.15 readProgrammableFills() void readProgrammableFills (
    FILE * file,
    EmbPattern * pattern )
```

```
18.95.1.16 readThreads() void readThreads (
    FILE * file,
    EmbPattern * pattern )
```

```
18.95.1.17 writePes() char writePes (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

18.95.2 Variable Documentation

```
18.95.2.1 pes_version int pes_version = PES0001
```

```
18.95.2.2 pes_version_strings const char* pes_version_strings[]
```

Initial value:

```
= {
    "#PES0001",
    "#PES0020",
    "#PES0022",
    "#PES0030",
    "#PES0040",
    "#PES0050",
    "#PES0055",
    "#PES0056",
    "#PES0060",
    "#PES0070",
    "#PES0080",
    "#PES0090",
    "#PES0100",
}
```

18.96 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)

18.96.1 Function Documentation

```
18.96.1.1 readPhb() char readPhb (
    EmbPattern * pattern,
    FILE * file )
```

```
18.96.1.2 writePhb() char writePhb (
    EmbPattern * pattern,
    FILE * file )
```

18.97 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`)

18.97.1 Function Documentation

```
18.97.1.1 readPhc() char readPhc (
    EmbPattern * pattern,
    FILE * file )
```

```
18.97.1.2 writePhc() char writePhc (
    EmbPattern * pattern,
    FILE * file )
```

18.98 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`)

18.98.1 Function Documentation

```
18.98.1.1 readPlt() char readPlt (
    EmbPattern * pattern,
    FILE * file )
```

```
18.98.1.2 writePlt() char writePlt (
    EmbPattern * pattern,
    FILE * file )
```

18.99 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*)

18.99.1 Function Documentation

18.99.1.1 `readRgb()` char `readRgb` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

18.99.1.2 `writeRgb()` char `writeRgb` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

18.100 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*)

18.100.1 Function Documentation

18.100.1.1 `readSew()` char `readSew` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

18.100.1.2 `sewDecode()` char `sewDecode` (
 unsigned char *inputByte*)

18.100.1.3 `writeSew()` char `writeSew` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

18.101 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*)

18.101.1 Function Documentation

```
18.101.1.1 readShv() char readShv (
    EmbPattern * pattern,
    FILE * file )
```

```
18.101.1.2 shvDecode() char shvDecode (
    unsigned char inputByte )
```

```
18.101.1.3 shvDecodeShort() short shvDecodeShort (
    unsigned short inputByte )
```

```
18.101.1.4 writeShv() char writeShv (
    EmbPattern * pattern,
    FILE * file )
```

18.102 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*)

18.102.1 Function Documentation

```
18.102.1.1 readSst() char readSst (
    EmbPattern * pattern,
    FILE * file )
```

```
18.102.1.2 writeSst() char writeSst (
    EmbPattern * pattern,
    FILE * file )
```

18.103 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`)

18.103.1 Function Documentation

```
18.103.1.1 readStx() char readStx (
    EmbPattern * pattern,
    FILE * file )
```

```
18.103.1.2 stxReadThread() int stxReadThread (
    StxThread * thread,
    FILE * file )
```

```
18.103.1.3 writeStx() char writeStx (
    EmbPattern * pattern,
    FILE * file )
```

18.104 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]`

18.104.1 Function Documentation

18.104.1.1 `readSvg()` char `readSvg` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.104.1.2 `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`.

18.104.2 Variable Documentation

18.104.2.1 `attributeList` `SvgAttribute` `attributeList[1000]`

18.104.2.2 `current_element_id` int `current_element_id`

18.104.2.3 `currentAttribute` char `currentAttribute[1000]`

18.104.2.4 `currentValue` char `currentValue[1000]`

18.104.2.5 `n_attributes` int `n_attributes = 0`

18.104.2.6 `svgCreator` int `svgCreator`

18.104.2.7 `svgExpect` int `svgExpect`

18.104.2.8 `svgMultiValue` int `svgMultiValue`

18.105 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`)

18.105.1 Function Documentation

```
18.105.1.1 readT01() char readT01 (
    EmbPattern * pattern,
    FILE * file )
```

```
18.105.1.2 writeT01() char writeT01 (
    EmbPattern * pattern,
    FILE * file )
```

18.106 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)

18.106.1 Function Documentation

```
18.106.1.1 readT09() char readT09 (
    EmbPattern * pattern,
    FILE * file )
```

```
18.106.1.2 writeT09() char writeT09 (
    EmbPattern * pattern,
    FILE * file )
```

18.107 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)

18.107.1 Function Documentation

```
18.107.1.1 decode_tap_record_flags() int decode_tap_record_flags (
    unsigned char b2 )
```

```
18.107.1.2 encode_tap_record() void encode_tap_record (
    FILE * file,
    int x,
    int y,
    int flags )
```

```
18.107.1.3 readTap() char readTap (
    EmbPattern * pattern,
    FILE * file )
```

```
18.107.1.4 writeTap() char writeTap (
    EmbPattern * pattern,
    FILE * file )
```

18.108 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)

18.108.1 Function Documentation

```
18.108.1.1 readThr() char readThr (
    EmbPattern * pattern,
    FILE * file )
```

```
18.108.1.2 writeThr() char writeThr (
    EmbPattern * pattern,
    FILE * file )
```

18.109 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)

18.109.1 Function Documentation

```
18.109.1.1 readTxt() char readTxt (
    EmbPattern * pattern,
    FILE * file )
```

```
18.109.1.2 writeTxt() char writeTxt (
    EmbPattern * pattern,
    FILE * file )
```

18.110 **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)

18.110.1 Function Documentation

```
18.110.1.1 readU00() char readU00 (
    EmbPattern * pattern,
    FILE * file )
```

```
18.110.1.2 writeU00() char writeU00 (
    EmbPattern * pattern,
    FILE * file )
```

18.111 **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)

18.111.1 Function Documentation

```
18.111.1.1 readU01() char readU01 (
    EmbPattern * pattern,
    FILE * file )
```

```
18.111.1.2 writeU01() char writeU01 (
    EmbPattern * pattern,
    FILE * file )
```

18.112 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** []

18.112.1 Function Documentation

```
18.112.1.1 readVip() char readVip (
    EmbPattern * pattern,
    FILE * file )
```

```
18.112.1.2 vipCompressData() unsigned char * vipCompressData (
    unsigned char * input,
    int decompressedInputSize,
    int * compressedSize )
```

```
18.112.1.3 vipDecodeByte() int vipDecodeByte (
    unsigned char b )
```

```
18.112.1.4 vipDecodeStitchType() int vipDecodeStitchType (
    unsigned char b )
```

```
18.112.1.5 vipDecompressData() unsigned char * vipDecompressData (
    unsigned char * input,
    int compressedInputLength,
    int decompressedContentLength )
```

18.112.1.6 `vipEncodeByte()` `unsigned char vipEncodeByte (`
`EmbReal f)`

18.112.1.7 `vipEncodeStitchType()` `unsigned char vipEncodeStitchType (`
`int st)`

18.112.1.8 `writeVip()` `char writeVip (`
`EmbPattern * pattern,`
`FILE * file)`

18.112.2 Variable Documentation

18.112.2.1 `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, 0x89, 0xB4, 0x95, 0xF0, 0x3E, 0xEF,  
    0xF7, 0x40, 0x24, 0x18, 0x39, 0x31, 0xBB, 0xE1, 0x53, 0xA8, 0x1F, 0xB1, 0x3A, 0x07, 0xFB, 0xCB,  
    0xE6, 0x00, 0x81, 0x50, 0x0E, 0x40, 0xE1, 0x2C, 0x73, 0x50, 0x0D, 0x91, 0xD6, 0x0A, 0x5D, 0xD6,  
    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, 0xC9, 0x43, 0xE4,  
    0x2D, 0xCB, 0x95, 0xB6, 0x74, 0x0D, 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, 0xA4, 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, 0xAA, 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, 0xD5, 0x16, 0x02, 0x6D, 0xF2, 0x4D, 0xE1, 0x0E, 0x96, 0x4F, 0xA1,  
    0x3A, 0xA0, 0x60, 0x59, 0x64, 0x04, 0x1A, 0xE4, 0x67, 0xB6, 0xED, 0x3F, 0x74, 0x20, 0x55, 0x1F,  
    0xFB, 0x23, 0x92, 0x91, 0x53, 0xC8, 0x65, 0xAB, 0x9D, 0x51, 0x6D, 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  
}
```

18.113 `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)`

18.113.1 Function Documentation**18.113.1.1 readVp3()** `char readVp3 (`
`EmbPattern * pattern,`
`FILE * file)`**18.113.1.2 vp3Decode()** `int vp3Decode (`
`unsigned char inputByte)`**18.113.1.3 vp3DecodeInt16()** `short vp3DecodeInt16 (`
`unsigned short inputByte)`**18.113.1.4 vp3PatchByteCount()** `void vp3PatchByteCount (`
`FILE * file,`
`int offset,`
`int adjustment)`**18.113.1.5 vp3ReadHoopSection()** `vp3Hoop vp3ReadHoopSection (`
`FILE * file)`**18.113.1.6 vp3ReadString()** `unsigned char * vp3ReadString (`
`FILE * file)`**18.113.1.7 vp3WriteString()** `void vp3WriteString (`
`FILE * file,`
`const char * str)`**18.113.1.8 vp3WriteStringLen()** `void vp3WriteStringLen (`
`FILE * file,`
`const char * str,`
`int len)`**18.113.1.9 writeVp3()** `char writeVp3 (`
`EmbPattern * pattern,`
`FILE * file)`**18.114 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`)

18.114.1 Function Documentation

18.114.1.1 `readXxx()` char `readXxx` (
 `EmbPattern` * `pattern`,
 `FILE` * `file`)

18.114.1.2 `writeXxx()` char `writeXxx` (
 `EmbPattern` * `pattern`,
 `FILE` * `file`)

18.114.1.3 `xxxDecodeByte()` char `xxxDecodeByte` (
 unsigned char `inputByte`)

18.114.1.4 `xxxEncodeDesign()` void `xxxEncodeDesign` (
 `FILE` * `file`,
 `EmbPattern` * `p`)

18.114.1.5 `xxxEncodeStitch()` void `xxxEncodeStitch` (
 `FILE` * `file`,
 `EmbReal` `deltaX`,
 `EmbReal` `deltaY`,
 int `flags`)

18.114.1.6 `xxxEncodeStop()` void `xxxEncodeStop` (
 `FILE` * `file`,
 `EmbStitch` `s`)

18.115 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`)

18.115.1 Function Documentation

```
18.115.1.1 readZsk() char readZsk (
    EmbPattern * pattern,
    FILE * file )
```

```
18.115.1.2 writeZsk() char writeZsk (
    EmbPattern * pattern,
    FILE * file )
```

18.116 extern/libembroidery/src/formats/formats.md File Reference

18.117 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.

18.117.1 Function Documentation

18.117.1.1 embGeometry_boundingRect() `EmbRect embGeometry_boundingRect (`
 `EmbGeometry * obj)`

Calculate the bounding box of geometry *obj* based on what kind of geometric object it is.

Parameters

<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).

18.117.1.2 embGeometry_free() `void embGeometry_free (`
 `EmbGeometry * obj)`

Free the memory occupied by a non-stitch geometry object.

Parameters

<i>obj</i>	Pointer to geometry memory.
------------	-----------------------------

18.117.1.3 embGeometry_init() `EmbGeometry * embGeometry_init (`
 `int type_in)`

Our generic object interface backends to each individual type.

Parameters

<code>type_in</code>	<input type="text"/>
----------------------	----------------------

Returns

`EmbGeometry*`

18.117.1.4 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.

18.117.1.5 embGeometry_vulcanize() `void embGeometry_vulcanize (`
 `EmbGeometry * obj)`

Toggle the rubber mode of the object.

Parameters

<code>obj</code>	<input type="text"/>
------------------	----------------------

Todo Review. This could be controlled by a simple flag.

18.118 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`)

18.118.1 Function Documentation

18.118.1.1 Arc_clockwise() `char Arc_clockwise ()`

18.118.1.2 Base_objectRubberPoint() `EmbVector Base_objectRubberPoint (`
`EmbGeometry * obj,`
`const char * key)`

18.118.1.3 Base_objectRubberText() `const char * Base_objectRubberText (`
`EmbGeometry * obj,`
`const char * key)`

18.118.1.4 Base_setLineType() `void Base_setLineType (`
`EmbGeometry * obj,`
`int lineType)`

18.118.1.5 Base_setLineWidth() `void Base_setLineWidth (`
`EmbGeometry * obj,`
`float lineWidth)`

18.118.1.6 `clockwise()` `char clockwise (`
`EmbGeometry * obj)`

18.118.1.7 `embArc_arcLength()` `float embArc_arcLength (`
`EmbArc arc)`

18.118.1.8 `embArc_area()` `float embArc_area (`
`EmbArc arc)`

18.118.1.9 `embArc_chord()` `float embArc_chord (`
`EmbArc arc)`

18.118.1.10 `embArc_clockwise()` `char embArc_clockwise (`
`EmbArc arc)`

18.118.1.11 `embArc_endAngle()` `float embArc_endAngle (`
`EmbArc arc)`

18.118.1.12 `embArc_gripEdit()` `void embArc_gripEdit (`
`EmbArc * arc,`
`EmbVector before,`
`EmbVector after)`

18.118.1.13 `embArc_includedAngle()` `float embArc_includedAngle (`
`EmbArc arc)`

18.118.1.14 `embArc_init()` `EmbArc embArc_init (`
`void)`

18.118.1.15 `embArc_mouseSnapPoint()` `EmbVector embArc_mouseSnapPoint (`
`EmbArc arc,`
`EmbVector mousePoint)`

18.118.1.16 `embArc_paint()` `void embArc_paint (`
`void)`

18.118.1.17 `embArc_setCenter()` `void embArc_setCenter (`
`EmbArc * arc,`
`EmbVector point)`

18.118.1.18 `embArc_setEndAngle()` `void embArc_setEndAngle (`
`EmbArc * arc,`
`float angle)`

18.118.1.19 embArc_setRadius() void embArc_setRadius (

```
EmbArc * arc,
float radius )
```

18.118.1.20 embArc_setStartAngle() void embArc_setStartAngle (

```
EmbArc * arc,
float angle )
```

18.118.1.21 embArc_startAngle() float embArc_startAngle (

```
EmbArc arc )
```

18.118.1.22 embArc_updatePath() void embArc_updatePath (

```
EmbArc arc )
```

18.118.1.23 embArc_updateRubber() void embArc_updateRubber (

```
EmbArc arc,
int pattern,
int layer,
int index )
```

18.118.1.24 embBaseSetColorRGB() void embBaseSetColorRGB (

```
EmbGeometry * obj,
unsigned int rgb )
```

18.118.1.25 embCircle_prompt() void embCircle_prompt (

```
const char * str )
```

18.118.1.26 embCircle_setArea() void embCircle_setArea (

```
EmbCircle * circle,
float area )
```

18.118.1.27 embCircle_setCircumference() void embCircle_setCircumference (

```
EmbCircle * circle,
float circumference )
```

18.118.1.28 embEllipse_click() void embEllipse_click (

```
float x,
float y )
```

18.118.1.29 embEllipse_main() void embEllipse_main ()

18.118.1.30 embRect_bottomLeft() EmbVector embRect_bottomLeft (

```
EmbRect rect )
```

```
18.118.1.31 embRect_bottomRight() EmbVector embRect_bottomRight (
    EmbRect rect )
```

```
18.118.1.32 getArcCenter() void getArcCenter (
    EmbArc arc,
    EmbVector * arcCenter )
```

```
18.118.1.33 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 )
```

```
18.118.1.34 set_object_color() void set_object_color (
    EmbGeometry * obj,
    EmbColor color )
```

18.119 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)

18.119.1 Function Documentation

```
18.119.1.1 embCircle_area() EmbReal embCircle_area (
    EmbCircle circle )
```

```
18.119.1.2 embCircle_circumference() EmbReal embCircle_circumference (
    EmbCircle circle )
```

18.119.1.3 embCircle_init() `EmbCircle` `embCircle_init (`
`void)`

18.119.1.4 getCircleCircleIntersections() `int` `getCircleCircleIntersections (`
`EmbCircle c0,`
`EmbCircle c1,`
`EmbVector * p0,`
`EmbVector * p1)`

18.119.1.5 getCircleTangentPoints() `int` `getCircleTangentPoints (`
`EmbCircle c,`
`EmbVector point,`
`EmbVector * t0,`
`EmbVector * t1)`

18.120 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 ()`

18.120.1 Function Documentation

18.120.1.1 ellipse_objectQuadrant0() `EmbVector` `ellipse_objectQuadrant0 (`
`EmbEllipse * ellipse)`

18.120.1.2 ellipse_objectQuadrant180() `EmbVector` `ellipse_objectQuadrant180 (`
`EmbEllipse * ellipse)`

18.120.1.3 `ellipse_objectQuadrant270()` `EmbVector ellipse_objectQuadrant270 (`
`EmbEllipse * ellipse)`

18.120.1.4 `ellipse_objectQuadrant90()` `EmbVector ellipse_objectQuadrant90 (`
`EmbEllipse * ellipse)`

18.120.1.5 `embEllipse_area()` `EmbReal embEllipse_area (`
`EmbEllipse ellipse)`

18.120.1.6 `embEllipse_diameterX()` `EmbReal embEllipse_diameterX (`
`EmbEllipse ellipse)`

18.120.1.7 `embEllipse_diameterY()` `EmbReal embEllipse_diameterY (`
`EmbEllipse ellipse)`

18.120.1.8 `embEllipse_height()` `EmbReal embEllipse_height (`
`EmbEllipse ellipse)`

18.120.1.9 `embEllipse_init()` `EmbEllipse embEllipse_init (`
`void)`

18.120.1.10 `embEllipse_perimeter()` `EmbReal embEllipse_perimeter (`
`EmbEllipse ellipse)`

18.120.1.11 `embEllipse_setDiameterMajor()` `void embEllipse_setDiameterMajor (`
`EmbEllipse * ellipse,`
`float diameter)`

18.120.1.12 `embEllipse_setDiameterMinor()` `void embEllipse_setDiameterMinor (`
`EmbEllipse * ellipse,`
`float diameter)`

18.120.1.13 `embEllipse_setRadiusMajor()` `void embEllipse_setRadiusMajor (`
`float radius)`

18.120.1.14 `embEllipse_setRadiusMinor()` `void embEllipse_setRadiusMinor (`
`float radius)`

18.120.1.15 `embEllipse_setSize()` `void embEllipse_setSize (`
`float width,`
`float height)`

18.120.1.16 embEllipse_updatePath() void embEllipse_updatePath ()

18.120.1.17 embEllipse_width() EmbReal embEllipse_width (EmbEllipse ellipse)

18.121 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)

18.121.1 Function Documentation

18.121.1.1 degrees() EmbReal degrees (EmbReal radian) [inline]

18.121.1.2 emb_round() int emb_round (EmbReal x)

18.121.1.3 radians() EmbReal radians (EmbReal degree) [inline]

18.122 extern/libembroidery/src/geometry/geometry.md File Reference

18.123 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)

18.123.1 Function Documentation

```
18.123.1.1 embLine_intersectionPoint() EmbVector embLine_intersectionPoint (
    EmbLine line1,
    EmbLine line2 )
```

```
18.123.1.2 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)

```
18.123.1.3 embLine_toVector() EmbVector embLine_toVector (
    EmbLine line )
```

18.124 `extern/libembroidery/src/geometry/path.c` File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

18.125 `extern/libembroidery/src/geometry/polygon.c` File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

18.126 `extern/libembroidery/src/geometry/polyline.c` File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

18.127 `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)

18.127.1 Function Documentation

```
18.127.1.1 embRect_area() EmbReal embRect_area (
    EmbRect rect )
```

```
18.127.1.2 embRect_init() EmbRect embRect_init (
    void )
```

18.128 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)

18.128.1 Function Documentation

```
18.128.1.1 textSingle_gripEdit() void textSingle_gripEdit (
    EmbVector before,
    EmbVector after )
```

```
18.128.1.2 textSingle_mouseSnapPoint() EmbVector textSingle_mouseSnapPoint (
    EmbVector mousePoint )
```

```
18.128.1.3 textSingle_paint() void textSingle_paint ( )
```

```
18.128.1.4 textSingle_setJustify() void textSingle_setJustify (
    const char * justify )
```

```
18.128.1.5 textSingle_setTextBackward() void textSingle_setTextBackward (
    char val )
```

```
18.128.1.6 textSingle_setTextBold() void textSingle_setTextBold (
    char val )
```

- 18.128.1.7 `textSingle_setTextFont()`** void textSingle_setTextFont (const char * font)
- 18.128.1.8 `textSingle_setTextItalic()`** void textSingle_setTextItalic (char val)
- 18.128.1.9 `textSingle_setTextOverline()`** void textSingle_setTextOverline (char val)
- 18.128.1.10 `textSingle_setTextSize()`** void textSingle_setTextSize (float size)
- 18.128.1.11 `textSingle_setTextStrikeOut()`** void textSingle_setTextStrikeOut (char val)
- 18.128.1.12 `textSingle_setTextStyle()`** void textSingle_setTextStyle (char bold, char italic, char under, char strike, char over)
- 18.128.1.13 `textSingle_setTextUnderline()`** void textSingle_setTextUnderline (char val)
- 18.128.1.14 `textSingle_setTextUpsideDown()`** void textSingle_setTextUpsideDown (char val)
- 18.128.1.15 `textSingle_updateRubber()`** void textSingle_updateRubber ()

18.129 `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)`

18.129.1 Function Documentation

18.129.1.1 `embVector_add()` `EmbVector embVector_add (`

```
    EmbVector a,
    EmbVector b )
```

The sum of vectors *a* and *b* returned as a vector.

Equivalent to:

$$\mathbf{c} = \mathbf{a} + \mathbf{b} = \begin{pmatrix} a_x + b_x \\ a_y + b_y \end{pmatrix}$$

18.129.1.2 `embVector_angle()` `EmbReal embVector_angle (`

```
    EmbVector v )
```

The angle, measured anti-clockwise from the x-axis, of a vector *v*.

18.129.1.3 `embVector_average()` `EmbVector embVector_average (`

```
    EmbVector a,
    EmbVector b )
```

The average of vectors *v1* and *v2* returned as a vector.

Equivalent to:

$$\mathbf{c} = \frac{\mathbf{a} + \mathbf{b}}{2} = \begin{pmatrix} \frac{a_x+b_x}{2} \\ \frac{a_y+b_y}{2} \end{pmatrix}$$

18.129.1.4 `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:

$$|c| = \left| \begin{pmatrix} a_x \\ a_y \\ 0 \end{pmatrix} \times \begin{pmatrix} b_x \\ b_y \\ 0 \end{pmatrix} \right| = \left| \begin{pmatrix} 0 \\ 0 \\ a_x b_y - a_y b_x \end{pmatrix} \right| = a_x b_y - a_y b_x$$

18.129.1.5 `embVector_distance()` `EmbReal embVector_distance (`

```
    EmbVector a,
    EmbVector b )
```

The distance between *a* and *b* returned as a real value.

$$d = |\mathbf{a} - \mathbf{b}| = \sqrt{(a_x - b_x)^2 + (a_y - b_y)^2}$$

```
18.129.1.6 embVector_dot() EmbReal embVector_dot (
    EmbVector a,
    EmbVector b )
```

The dot product as vectors *v1* and *v2* returned as a EmbReal.

Equivalent to:

$$c = \mathbf{a} \cdot \mathbf{b} = a_x b_x + a_y b_y$$

```
18.129.1.7 embVector_length() EmbReal embVector_length (
    EmbVector vector )
```

The length or absolute value of the vector *vector*.

Equivalent to:

$$|v| = \sqrt{v_x^2 + v_y^2}$$

```
18.129.1.8 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.

```
18.129.1.9 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.

```
18.129.1.10 embVector_relativeX() EmbReal embVector_relativeX (
    EmbVector a1,
    EmbVector a2,
    EmbVector a3 )
```

The x-component of the vector

```
18.129.1.11 embVector_relativeY() EmbReal embVector_relativeY (
    EmbVector a1,
    EmbVector a2,
    EmbVector a3 )
```

The y-component of the vector

```
18.129.1.12 embVector_subtract() EmbVector embVector_subtract (
    EmbVector v1,
    EmbVector v2 )
```

The difference between vectors *v1* and *v2* returned as *result*.

Equivalent to:

$$\mathbf{c} = \mathbf{a} - \mathbf{b} = \begin{pmatrix} a_x - b_x \\ a_y - b_y \end{pmatrix}$$

```
18.129.1.13 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 $v1^T \cdot v2$ for our vectors $v1$ and $v2$ so a "component-wise product". The result is stored at the pointer *result*. That is $(1\ 0) \cdot (a) = (xa\ (x\ y)(0\ 1)\cdot(b)\ (yb))$

```
18.129.1.14 embVector_unit() EmbVector embVector_unit (
    EmbReal alpha )
```

The unit vector in the direction *angle*.

$$\mathbf{a}_\alpha = \begin{pmatrix} \cos(\alpha) \\ \sin(\alpha) \end{pmatrix}$$

18.130 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)

18.130.1 Function Documentation

```
18.130.1.1 image_diff() float image_diff (
    unsigned char * a,
    unsigned char * b,
    int size )
```

Parameters

a	
b	
size	

Returns

float

```
18.130.1.2 writelImage() void writeImage (
    FILE * file,
    unsigned char image[][48] )
```

Parameters

<i>file</i>	
<i>image</i>	

for the PES embedded

18.131 extern/libembroidery/src/main.c File Reference

```
#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 `WHITESPACE` [] = "\t\n\r"

18.131.1 Macro Definition Documentation

18.131.1.1 FLAG_CIRCLE #define FLAG_CIRCLE 12

18.131.1.2 FLAG_CIRCLE_SHORT #define FLAG_CIRCLE_SHORT 13

18.131.1.3 FLAG_COMBINE #define FLAG_COMBINE 35

18.131.1.4 FLAG_CROSS_STITCH #define FLAG_CROSS_STITCH 36

18.131.1.5 FLAG_ELLIPSE #define FLAG_ELLIPSE 14

18.131.1.6 FLAG_ELLIPSE_SHORT #define FLAG_ELLIPSE_SHORT 15

18.131.1.7 FLAG_FILL #define FLAG_FILL 32

18.131.1.8 FLAG_FILL_SHORT #define FLAG_FILL_SHORT 33

18.131.1.9 FLAG_FORMATS #define FLAG_FORMATS 4

18.131.1.10 FLAG_FORMATS_SHORT #define FLAG_FORMATS_SHORT 5

18.131.1.11 FLAG_FULL_TEST_SUITE #define FLAG_FULL_TEST_SUITE 29

18.131.1.12 FLAG_HELP #define FLAG_HELP 2

18.131.1.13 FLAG_HELP_SHORT #define FLAG_HELP_SHORT 3

18.131.1.14 FLAG_HILBERT_CURVE #define FLAG_HILBERT_CURVE 30

18.131.1.15 FLAG_LINE #define FLAG_LINE 16

18.131.1.16 FLAG_LINE_SHORT #define FLAG_LINE_SHORT 17

18.131.1.17 FLAG_POLYGON #define FLAG_POLYGON 18

18.131.1.18 FLAG_POLYGON_SHORT #define FLAG_POLYGON_SHORT 19

18.131.1.19 FLAG_POLYLINE #define FLAG_POLYLINE 20

18.131.1.20 FLAG_POLYLINE_SHORT #define FLAG_POLYLINE_SHORT 21

18.131.1.21 FLAG QUIET #define FLAG QUIET 6

18.131.1.22 FLAG QUIET_SHORT #define FLAG QUIET_SHORT 7

18.131.1.23 FLAG_RENDER #define FLAG_RENDER 22

18.131.1.24 FLAG_RENDER_SHORT #define FLAG_RENDER_SHORT 23

18.131.1.25 FLAG_SATIN #define FLAG_SATIN 24

18.131.1.26 FLAG_SATIN_SHORT #define FLAG_SATIN_SHORT 25

18.131.1.27 FLAG_SIERPINSKI_TRIANGLE #define FLAG_SIERPINSKI_TRIANGLE 31

18.131.1.28 FLAG_SIMULATE #define FLAG_SIMULATE 34

18.131.1.29 FLAG_STITCH #define FLAG_STITCH 26

18.131.1.30 FLAG_STITCH_SHORT #define FLAG_STITCH_SHORT 27

18.131.1.31 FLAG_TEST #define FLAG_TEST 28

18.131.1.32 FLAG_TO #define FLAG_TO 0

18.131.1.33 FLAG_TO_SHORT #define FLAG_TO_SHORT 1

18.131.1.34 FLAG_VERBOSE #define FLAG_VERBOSE 8

18.131.1.35 FLAG_VERBOSE_SHORT #define FLAG_VERBOSE_SHORT 9

18.131.1.36 FLAG_VERSION #define FLAG_VERSION 10

18.131.1.37 FLAG_VERSION_SHORT #define FLAG_VERSION_SHORT 11

18.131.1.38 NUM_FLAGS #define NUM_FLAGS 37

18.131.2 Function Documentation

18.131.2.1 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*`

18.131.2.2 bcf_directory_free() `void bcf_directory_free (bcf_directory ** dir)`

Parameters

<i>dir</i>	
------------	--

18.131.2.3 bcf_file_free() `void bcf_file_free (bcf_file * bcfFile)`

Parameters

<i>bcfFile</i>	
----------------	--

18.131.2.4 bcfFile_read() `int bcfFile_read (FILE * file, bcf_file * bcfFile)`

Parameters

<i>file</i>	
<i>bcfFile</i>	

Returns

int

18.131.2.5 bcfFileFat_create() `bcf_file_fat * bcfFileFat_create (`
`const unsigned int sectorSize)`**Parameters**

<i>sectorSize</i>	
-------------------	--

Returns`bcf_file_fat*`**18.131.2.6 bcfFileHeader_read()** `bcf_file_header bcfFileHeader_read (`
`FILE * file)`**Parameters**

<i>file</i>	
-------------	--

Returns`bcf_file_header`**18.131.2.7 binaryReadString()** `void binaryReadString (`
`FILE * file,`
`char * buffer,`
`int maxLength)`**Parameters**

<i>file</i>	
<i>buffer</i>	
<i>maxLength</i>	

18.131.2.8 binaryReadUnicodeString() `void binaryReadUnicodeString (`
`FILE * file,`
`char * buffer,`
`const int stringLength)`

Parameters

<i>file</i>	<input type="text"/>
<i>buffer</i>	<input type="text"/>
<i>stringLength</i>	<input type="text"/>

18.131.2.9 `check_header_present()` `int check_header_present (FILE * file, int minimum_header_length)`

Parameters

<i>file</i>	<input type="text"/>
<i>minimum_header_length</i>	<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.

18.131.2.10 `CompoundFileDirectory()` `bcf_directory * CompoundFileDirectory (const unsigned int maxNumberOfDirectoryEntries)`

Parameters

<i>maxNumberOfDirectoryEntries</i>	<input type="text"/>
------------------------------------	----------------------

Returns

`bcf_directory*`

18.131.2.11 `CompoundFileDirectoryEntry()` `bcf_directory_entry * CompoundFileDirectoryEntry (FILE * file)`

Parameters

<i>file</i>	<input type="text"/>
-------------	----------------------

Returns

`bcf_directory_entry*`

18.131.2.12 `copy_trim()` `char * copy_trim (char const * s)`

Parameters

<i>s</i>	<input type="text"/>
----------	----------------------

Returns`char*`**Todo** description

18.131.2.13 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*`

18.131.2.14 emb_readline() `int emb_readline (`
`FILE * file,`
`char * line,`
`int maxLength)`

Parameters

<code>file</code>	
<code>line</code>	
<code>maxLength</code>	

Returns`int`

18.131.2.15 embArc_print() `void embArc_print (`
`EmbArc arc)`

Parameters

<code>arc</code>	
------------------	--

Todo move to `arc.c`

18.131.2.16 embColor_distance() `int embColor_distance (`
`EmbColor a,`
`EmbColor b)`

Parameters

a	<input type="text"/>
b	<input type="text"/>

Returns

int

18.131.2.17 embColor_read() void embColor_read (

```
FILE * f,  
EmbColor * c,  
int toRead )
```

Parameters

f	<input type="text"/>
c	<input type="text"/>
toRead	<input type="text"/>

18.131.2.18 embColor_write() void embColor_write (

```
FILE * f,  
EmbColor c,  
int toWrite )
```

Parameters

f	<input type="text"/>
c	<input type="text"/>
toWrite	<input type="text"/>

18.131.2.19 embSatinOutline_generateSatinOutline() void embSatinOutline_generateSatinOutline (

```
EmbArray * lines,  
EmbReal thickness,  
EmbSatinOutline * result )
```

Parameters

lines	<input type="text"/>
thickness	<input type="text"/>
result	<input type="text"/>

18.131.2.20 embSatinOutline_renderStitches() EmbArray * embSatinOutline_renderStitches (

```
EmbSatinOutline * result,  
EmbReal density )
```

Parameters

result	<input type="text"/>
--------	----------------------

Parameters

<i>density</i>	<input type="checkbox"/>
----------------	--------------------------

Returns

EmbArray*

```
18.131.2.21 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.

```
18.131.2.22 embThread_findNearestThread() int embThread_findNearestThread (
    EmbColor color,
    EmbThread * thread_list,
    int n_threads )
```

Parameters

<i>color</i>	<input type="checkbox"/>
<i>thread_list</i>	<input type="checkbox"/>
<i>n_threads</i>	<input type="checkbox"/>

Returns

int

```
18.131.2.23 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.

18.131.2.24 embTime_initNow() void embTime_initNow (EmbTime * t)

Parameters

t	
---	--

18.131.2.25 embTime_time() EmbTime embTime_time (EmbTime * t)

Parameters

t	
---	--

Returns

EmbTime

18.131.2.26 embVector_print() void embVector_print (EmbVector v, char * label)

Parameters

v	
label	

move to [vector.c](#)

18.131.2.27 entriesInDifatSector() unsigned int entriesInDifatSector (bcf_file_difat * fat)

Parameters

fat	
-----	--

Returns

unsigned int

18.131.2.28 get_trim_bounds() void get_trim_bounds (char const * s, char const ** firstWord, char const ** trailingSpace)

Get the trim bounds object.

Parameters

s	
firstWord	
trailingSpace	

```
18.131.2.29 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*

```
18.131.2.30 haveExtraDIFATSectors() int haveExtraDIFATSectors (
    bcf_file * file )
```

Parameters

<i>file</i>	
-------------	--

Returns

int

```
18.131.2.31 loadFatFromSector() void loadFatFromSector (
    bcf_file_fat * fat,
    FILE * file )
```

Parameters

<i>fat</i>	
<i>file</i>	

```
18.131.2.32 parseDIFATSectors() void parseDIFATSectors (
    FILE * file,
    bcf_file * bcfFile )
```

Parameters

<i>file</i>	
<i>bcfFile</i>	

```
18.131.2.33 parseDirectoryEntryName() void parseDirectoryEntryName (
```

```
FILE * file,
bcf_directory_entry * dir )
```

Parameters

<i>file</i>	
<i>dir</i>	

18.131.2.34 parseTime() `EmbTime parseTime (`
`FILE * file)`

Parameters

<i>file</i>	
-------------	--

Returns

`EmbTime`

18.131.2.35 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`

18.131.2.36 readNextSector() `void readNextSector (`
`FILE * file,`
`bcf_directory * dir)`

Parameters

<i>file</i>	
<i>dir</i>	

18.131.2.37 sectorSize() `unsigned int sectorSize (`
`bcf_file * bcfFile)`

Parameters

<i>bcfFile</i>	
----------------	--

Returns

```
unsigned int
```

18.131.2.38 seekToSector() `int seekToSector (`
 `bcf_file * bcfFile,`
 `FILE * file,`
 `const unsigned int sector)`

Parameters

<i>bcfFile</i>	
<i>file</i>	
<i>sector</i>	

Returns

```
int
```

18.131.2.39 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.

18.131.2.40 write_24bit() `void write_24bit (`
 `FILE * file,`
 `int x)`

Parameters

<i>file</i>	
<i>x</i>	

18.131.3 Variable Documentation

18.131.3.1 black_thread `EmbThread black_thread = { { 0, 0, 0 }, "Black", "Black" }`

18.131.3.2 difatEntriesInHeader `const unsigned int difatEntriesInHeader = 109`

18.131.3.3 emb_error `int emb_error = 0`

Error code storage for optional control flow blocking.

18.131.3.4 emb_verbose int emb_verbose = 0
Verbosity level.

18.131.3.5 embConstantPi const EmbReal embConstantPi = 3.1415926535

18.131.3.6 sizeOfChainingEntryAtEndOfDifatSector const unsigned int sizeOfChainingEntryAtEndOfDifatSector = 4

18.131.3.7 sizeOfDifatEntry const unsigned int sizeOfDifatEntry = 4

18.131.3.8 sizeOfDirectoryEntry const unsigned int sizeOfDirectoryEntry = 128

18.131.3.9 sizeOfFatEntry const unsigned int sizeOfFatEntry = sizeof(unsigned int)

18.131.3.10 WHITESPACE char const WHITESPACE[] = "\t\n\r"

18.132 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*)

18.132.1 Function Documentation

18.132.1.1 `convert()` int `convert` (

```
    const char * inf,
    const char * outf )
```

18.132.1.2 `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.

18.132.1.3 `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.

18.132.1.4 `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.

18.132.1.5 `embPattern_addPathAbs()` void `embPattern_addPathAbs` (

```
    EmbPattern * p,
    EmbPath obj )
```

18.132.1.6 `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.

18.132.1.7 `embPattern_addPolygonAbs()` void embPattern_addPolygonAbs (

```
EmbPattern * p,
EmbPolygon obj )
```

18.132.1.8 `embPattern_addPolylineObjectAbs()` void embPattern_addPolylineObjectAbs (

```
EmbPattern * p,
EmbPolyline obj )
```

18.132.1.9 `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.

18.132.1.10 `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.

18.132.1.11 `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.

18.132.1.12 `embPattern_addThread()` int embPattern_addThread (

```
EmbPattern * pattern,
EmbThread thread )
```

Parameters

<i>pattern</i>	
<i>thread</i>	

Returns

int

18.132.1.13 `embPattern_calcBoundingBox()` EmbRect embPattern_calcBoundingBox (

```
EmbPattern * p )
```

Returns an EmbRect that encapsulates all stitches and objects in the pattern (*p*).

18.132.1.14 embPattern_center() void embPattern_center (EmbPattern * *p*)

18.132.1.15 embPattern_changeColor() void embPattern_changeColor (EmbPattern * *p*, int *index*)

Parameters

<i>p</i>	
<i>index</i>	

18.132.1.16 embPattern_color_count() int embPattern_color_count (EmbPattern * *pattern*, EmbColor *startColor*)

18.132.1.17 embPattern_combineJumpStitches() void embPattern_combineJumpStitches (EmbPattern * *p*)

18.132.1.18 embPattern_copyPolylineObjectListToStitch_list() void embPattern_copyPolylineObjectListToStitch_list (EmbPattern * *p*)

Copies all of the EmbPolylineObjectList data to Embstitch_list data for pattern (*p*).

18.132.1.19 embPattern_copyStitch_listToPolylineObjectList() void embPattern_copyStitch_listToPolylineObjectList (EmbPattern * *p*)

Copies all of the Embstitch_list data to EmbPolylineObjectList data for pattern (*p*).

Parameters

<i>p</i>	
----------	--

18.132.1.20 embPattern_correctForMaxStitchLength() void embPattern_correctForMaxStitchLength (EmbPattern * *p*, EmbReal *maxStitchLength*, EmbReal *maxJumpLength*)

18.132.1.21 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*

18.132.1.22 embPattern_designDetails() void embPattern_designDetails (EmbPattern * *pattern*)

18.132.1.23 `embPattern_end()` void embPattern_end (
 EmbPattern * p)

18.132.1.24 `embPattern_fixColorCount()` void embPattern_fixColorCount (
 EmbPattern * p)

Parameters

<i>p</i>	
----------	--

18.132.1.25 `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.

18.132.1.26 `embPattern_flipHorizontal()` void embPattern_flipHorizontal (
 EmbPattern * p)

Flips the entire pattern (*p*) horizontally about the y-axis.

18.132.1.27 `embPattern_flipVertical()` void embPattern_flipVertical (
 EmbPattern * p)

Flips the entire pattern (*p*) vertically about the x-axis.

18.132.1.28 `embPattern_free()` void embPattern_free (
 EmbPattern * p)

Frees all memory allocated in the pattern (*p*).

18.132.1.29 `embPattern_hideStitchesOverLength()` void embPattern_hideStitchesOverLength (
 EmbPattern * p,
 int length)

Parameters

<i>p</i>	
<i>length</i>	

18.132.1.30 `embPattern_jumpStitches()` int embPattern_jumpStitches (
 EmbPattern * pattern)

18.132.1.31 `embPattern_lengthHistogram()` void embPattern_lengthHistogram (
 EmbPattern * pattern,
 int * bin,
 int NUMBINS)

18.132.1.32 `embPattern_loadExternalColorFile()` void embPattern_loadExternalColorFile (
 EmbPattern * p,
 const char * fileName)

18.132.1.33 embPattern_maximumStitchLength() float embPattern_maximumStitchLength (EmbPattern * pattern)

18.132.1.34 embPattern_minimumStitchLength() float embPattern_minimumStitchLength (EmbPattern * pattern)

18.132.1.35 embPattern_movePolylinesToStitch_list() void embPattern_movePolylinesToStitch_list (EmbPattern * p)

Moves all of the EmbPolylineObjectList data to Embstitch_list data for pattern (p).

18.132.1.36 embPattern_movingStitch_listToPolylines() void embPattern_movingStitch_listToPolylines (EmbPattern * p)

Moves all of the Embstitch_list data to EmbPolylineObjectList data for pattern (p).

18.132.1.37 embPattern_realStitches() int embPattern_realStitches (EmbPattern * pattern)

18.132.1.38 embPattern_scale() void embPattern_scale (EmbPattern * p, EmbReal scale)

18.132.1.39 embPattern_totalStitchLength() float embPattern_totalStitchLength (EmbPattern * pattern)

Parameters

pattern	<input type="text"/>
---------	----------------------

Returns

float

18.132.1.40 embPattern_trimStitches() int embPattern_trimStitches (EmbPattern * pattern)

18.133 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` `jefThreads` [] = {{{ 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` []

18.133.1 Function Documentation

18.133.1.1 `threadColor()` int `threadColor` (
 const char * `name`,
 int `brand`)

18.133.1.2 `threadColorName()` const char * `threadColorName` (
 unsigned int `color`,
 int `brand`)

18.133.1.3 `threadColorNum()` int `threadColorNum` (
 unsigned int `color`,
 int `brand`)

18.133.2 Variable Documentation

18.133.2.1 `_dxfColorTable` const unsigned char `_dxfColorTable`[][3] = {{ 0, 0, 0 }}

18.133.2.2 `brand_codes` `thread_color`* `brand_codes` []

18.133.2.3 `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",
"ThreaDelight_Polyester_colors.csv",
"Z102_Isacord_Polyester_colors.csv",
"svg_color_colors.csv"
}
```

18.133.2.4 husThreads const `EmbThread` husThreads[] = {{ { 0, 0, 0 }, "END", "END" }}

18.133.2.5 jefThreads const `EmbThread` jefThreads[] = {{ { 0, 0, 0 }, "END", "END" }}

18.133.2.6 pcmThreads const `EmbThread` pcmThreads[] = {{ { 0, 0, 0 }, "END", "END" }}

18.133.2.7 pecThreadCount const int pecThreadCount = 65

18.133.2.8 pecThreads const `EmbThread` pecThreads[] = {{ { 0, 0, 0 }, "END", "END" }}

18.133.2.9 shvThreadCount const int shvThreadCount = 42

18.133.2.10 shvThreads const `EmbThread` shvThreads[] = {{ { 0, 0, 0 }, "END", "END" }}

18.134 **privacy_policy.md** File Reference

References

Index

_appName
 embroidermodder.cpp, 385
_appVer
 embroidermodder.cpp, 385
_bcf_directory, 61
 dirEntries, 61
 maxNumberOfDirectoryEntries, 61
_bcf_directory_entry, 61
 childId, 62
 CLSID, 62
 colorFlag, 62
 creationTime, 62
 directoryEntryName, 62
 directoryEntryNameLength, 62
 leftSiblingId, 62
 modifiedTime, 63
 next, 63
 objectType, 63
 rightSiblingId, 63
 startingSectorLocation, 63
 stateBits, 63
 streamSize, 63
 streamSizeHigh, 63
_bcf_file, 63
 difat, 64
 directory, 64
 fat, 64
 header, 64
_bcf_file_difat, 64
 fatSectorCount, 64
 fatSectorEntries, 65
 sectorSize, 65
_bcf_file_fat, 65
 fatEntries, 65
 fatEntryCount, 65
 numberOfEntriesInFatSector, 65
_bcf_file_header, 65
 byteOrder, 66
 CLSID, 66
 firstDifatSectorLocation, 66
 firstDirectorySectorLocation, 66
 firstMiniFATSectorLocation, 66
 majorVersion, 66
 miniSectorShift, 67
 miniStreamCutoffSize, 67
 minorVersion, 67
 numberOfDifatSectors, 67
 numberOfDirectorySectors, 67
 numberOfFATSectors, 67
 numberOfMiniFatSectors, 67
 reserved1, 67
 reserved2, 67
 sectorShift, 67
 signature, 67
 transactionSignatureNumber, 68
_dxIColorTable
 embroidery.h, 492
 thread-color.c, 644
_mainWin
 Application, 72
 mainwindow.cpp, 440
_subMask
 format_csd.c, 575
_vp3Hoop, 68
 bottom, 68
 bottom2, 68
 byte1, 68
 byte2, 69
 byte3, 69
 height, 69
 left, 69
 left2, 69
 numberOfBytesRemaining, 69
 numberOfColors, 69
 right, 69
 right2, 69
 threadLength, 69
 top, 69
 top2, 70
 unknown2, 70
 unknown3, 70
 unknown4, 70
 width, 70
 xOffset, 70
 yOffset, 70
_xorMask
 format_csd.c, 575
~ArcObject
 ArcObject, 77
~BaseObject
 BaseObject, 86
~CircleObject
 CircleObject, 94
~CmdPrompt
 CmdPrompt, 99
~CmdPromptHandle
 CmdPromptHandle, 106
~CmdPromptHistory
 CmdPromptHistory, 108
~CmdPromptInput
 CmdPromptInput, 111
~CmdPromptSplitter
 CmdPromptSplitter, 117
~DimLeaderObject
 DimLeaderObject, 123
~EllipseObject
 EllipseObject, 129
~EmbDetailsDialog
 EmbDetailsDialog, 138
~ImageObject

ImageObject, 166
 ~ImageWidget
 ImageWidget, 170
 ~LayerManager
 LayerManager, 172
 ~LineObject
 LineObject, 175
 ~MainWindow
 MainWindow, 189
 ~MdiArea
 MdiArea, 238
 ~MdiWindow
 MdiWindow, 243
 ~PathObject
 PathObject, 254
 ~PointObject
 PointObject, 259
 ~PolygonObject
 PolygonObject, 264
 ~PolylineObject
 PolylineObject, 269
 ~PreviewDialog
 PreviewDialog, 273
 ~PropertyEditor
 PropertyEditor, 280
 ~RectObject
 RectObject, 302
 ~SaveObject
 SaveObject, 305
 ~Settings_Dialog
 Settings_Dialog, 326
 ~TextSingleObject
 TextSingleObject, 350
 ~UndoEditor
 UndoEditor, 367
 ~View
 View, 372

 about
 MainWindow, 190
 accept_display_bg_color
 Settings_Dialog, 334
 accept_display_crosshair_color
 Settings_Dialog, 335
 accept_display_selectbox_left_color
 Settings_Dialog, 335
 accept_display_selectbox_left_fill
 Settings_Dialog, 335
 accept_display_selectbox_right_color
 Settings_Dialog, 335
 accept_display_selectbox_right_fill
 Settings_Dialog, 335
 accept_general_mdi_bg_color
 Settings_Dialog, 335
 accept_general_mdi_bg_logo
 Settings_Dialog, 335
 accept_general_mdi_bg_texture
 Settings_Dialog, 335
 accept_grid_color

 Settings_Dialog, 335
 accept_prompt_bg_color
 Settings_Dialog, 335
 accept_prompt_text_color
 Settings_Dialog, 335
 accept_ruler_color
 Settings_Dialog, 335
 acceptChanges
 Settings_Dialog, 326
 ACTION_about
 embroidermodder.h, 390
 ACTION_changelog
 embroidermodder.h, 390
 ACTION_coloselector
 embroidermodder.h, 391
 ACTION_copy
 embroidermodder.h, 390
 ACTION_cut
 embroidermodder.h, 390
 ACTION_day
 embroidermodder.h, 391
 ACTION_designdetails
 embroidermodder.h, 390
 ACTION_donothing
 embroidermodder.h, 390
 ACTION_exit
 embroidermodder.h, 390
 ACTION_freezealllayers
 embroidermodder.h, 391
 ACTION_help
 embroidermodder.h, 390
 ACTION_hidealllayers
 embroidermodder.h, 391
 ACTION_icon128
 embroidermodder.h, 391
 ACTION_icon16
 embroidermodder.h, 391
 ACTION_icon24
 embroidermodder.h, 391
 ACTION_icon32
 embroidermodder.h, 391
 ACTION_icon48
 embroidermodder.h, 391
 ACTION_icon64
 embroidermodder.h, 391
 ACTION_layerprevious
 embroidermodder.h, 391
 ACTION_layers
 embroidermodder.h, 391
 ACTION_layerselector
 embroidermodder.h, 391
 ACTION_linetypeselector
 embroidermodder.h, 391
 ACTION_lineweightselector
 embroidermodder.h, 391
 ACTION_lockalllayers
 embroidermodder.h, 391
 ACTION_makelayercurrent

embroidermodder.h, 391
ACTION_new
 embroidermodder.h, 390
ACTION_night
 embroidermodder.h, 391
ACTION_null
 embroidermodder.h, 391
ACTION_open
 embroidermodder.h, 390
ACTION_pardown
 embroidermodder.h, 391
ACTION_panleft
 embroidermodder.h, 391
ACTION_panpoint
 embroidermodder.h, 391
ACTION_panrealtime
 embroidermodder.h, 391
ACTION_panright
 embroidermodder.h, 391
ACTION_panup
 embroidermodder.h, 391
ACTION_paste
 embroidermodder.h, 390
ACTION_print
 embroidermodder.h, 390
ACTION_redo
 embroidermodder.h, 390
ACTION_save
 embroidermodder.h, 390
ACTION_saveas
 embroidermodder.h, 390
ACTION_settingsdialog
 embroidermodder.h, 391
ACTION_showalllayers
 embroidermodder.h, 391
ACTION_textbold
 embroidermodder.h, 391
ACTION_textitalic
 embroidermodder.h, 391
ACTION_textoverline
 embroidermodder.h, 391
ACTION_textstrikeout
 embroidermodder.h, 391
ACTION_textunderline
 embroidermodder.h, 391
ACTION_thawalllayers
 embroidermodder.h, 391
ACTION_tipoftheday
 embroidermodder.h, 390
ACTION_undo
 embroidermodder.h, 390
ACTION_unlockalllayers
 embroidermodder.h, 391
ACTION_whatsthis
 embroidermodder.h, 390
ACTION_windowcascade
 embroidermodder.h, 390
ACTION_windowclose

 embroidermodder.h, 390
ACTION_windowcloseall
 embroidermodder.h, 390
ACTION_windownext
 embroidermodder.h, 390
ACTION_windowprevious
 embroidermodder.h, 390
ACTION_windowtile
 embroidermodder.h, 390
ACTION_zoomall
 embroidermodder.h, 391
ACTION_zoomcenter
 embroidermodder.h, 391
ACTION_zoomdynamic
 embroidermodder.h, 391
ACTION_zoomextents
 embroidermodder.h, 391
ACTION_zoomin
 embroidermodder.h, 391
ACTION_zoomout
 embroidermodder.h, 391
ACTION_zoomprevious
 embroidermodder.h, 391
ACTION_zoomrealtime
 embroidermodder.h, 391
ACTION_zoomscale
 embroidermodder.h, 391
ACTION_zoomselected
 embroidermodder.h, 391
ACTION_zoomwindow
 embroidermodder.h, 391
actionHash
 MainWindow, 222
active_view
 utility.cpp, 445
activeCommand
 CmdPrompt, 99
 MainWindow, 190
activeMdiWindow
 MainWindow, 190
activeScene
 MainWindow, 190
activeUndoStack
 MainWindow, 190
activeView
 MainWindow, 190
actuator
 MainWindow, 190
addArc
 SaveObject, 305
addBlock
 SaveObject, 305
addCircle
 SaveObject, 305
addColorsToComboBox
 Settings_Dialog, 326
addCommand
 CmdPrompt, 99

CmdPromptInput, 111
addDimAligned
 SaveObject, 305
addDimAngular
 SaveObject, 306
addDimArcLength
 SaveObject, 306
addDimDiameter
 SaveObject, 306
addDimLeader
 SaveObject, 306
addDimLinear
 SaveObject, 306
addDimOrdinate
 SaveObject, 306
addDimRadius
 SaveObject, 307
addEllipse
 SaveObject, 307
addEllipseArc
 SaveObject, 307
addGrid
 SaveObject, 307
addHatch
 SaveObject, 307
addImage
 SaveObject, 307
addInfiniteLine
 SaveObject, 307
addLayer
 LayerManager, 172
addLine
 SaveObject, 307
addObject
 View, 372
addPath
 SaveObject, 307
addPoint
 SaveObject, 307
addPolygon
 SaveObject, 307
addPolyline
 SaveObject, 308
addRay
 SaveObject, 308
addRectangle
 SaveObject, 308
addSlot
 SaveObject, 308
addSpline
 SaveObject, 308
addStack
 UndoEditor, 367
addTextMulti
 SaveObject, 308
addTextSingle
 SaveObject, 308
addToRubberRoom
 View, 372
after
 UndoableGripEditCommand, 361
alert
 CmdPrompt, 99
aliasHash
 CmdPromptInput, 116
alignScenePointWithViewPoint
 View, 372
allGripPoints
 ArcObject, 77
 BaseObject, 86
 CircleObject, 94
 DimLeaderObject, 123
 EllipseObject, 130
 ImageObject, 167
 LineObject, 176
 PathObject, 254
 PointObject, 259
 PolygonObject, 264
 PolylineObject, 270
 RectObject, 302
 TextSingleObject, 350
allowRubber
 View, 372
allowZoomIn
 View, 372
allowZoomOut
 View, 373
alpha
 SelectBox, 310
alphabet
 LSYSTEM, 179
angle
 UndoableRotateCommand, 365
appendHistory
 CmdPrompt, 99
 CmdPromptHistory, 108
 CmdPromptInput, 112
appendTheHistory
 CmdPrompt, 99
Application, 70
 _mainWin, 72
 Application, 71
 event, 71
 setMainWin, 72
applyFormatting
 CmdPromptHistory, 109
 CmdPromptInput, 112
arc
 EmbGeometry_, 143
arc.c
 Arc_clockwise, 611
 Base_objectRubberPoint, 611
 Base_objectRubberText, 611
 Base_setLineType, 611
 Base_setLineWidth, 611
 clockwise, 611

embArc_arcLength, 612
embArc_area, 612
embArc_chord, 612
embArc_clockwise, 612
embArc_endAngle, 612
embArc_gripEdit, 612
embArc_includedAngle, 612
embArc_init, 612
embArc_mouseSnapPoint, 612
embArc_paint, 612
embArc_setCenter, 612
embArc_setEndAngle, 612
embArc_setRadius, 612
embArc_setStartAngle, 613
embArc_startAngle, 613
embArc_updatePath, 613
embArc_updateRubber, 613
embBaseSetColorRGB, 613
embCircle_prompt, 613
embCircle_setArea, 613
embCircle_setCircumference, 613
embEllipse_click, 613
embEllipse_main, 613
embRect_bottomLeft, 613
embRect_bottomRight, 613
getArcCenter, 614
getArcDataFromBulge, 614
set_object_color, 614
Arc_clockwise
 arc.c, 611
Arc_Polyester
 embroidery.h, 462
Arc_Rayon
 embroidery.h, 463
arcEndPoint
 ArcObject, 84
arcMidPoint
 ArcObject, 84
ArcObject, 72
 ~ArcObject, 77
 allGripPoints, 77
 arcEndPoint, 84
 arcMidPoint, 84
 ArcObject, 76
 arc startPoint, 84
 calculateArcData, 77
 gripEdit, 78
 init, 78
 mouseSnapPoint, 78
 objectArcLength, 79
 objectArea, 79
 objectChord, 79
 objectClockwise, 79
 objectEndAngle, 79
 objectEndPoint, 80
 objectEndX, 80
 objectEndY, 80
 objectIncludedAngle, 80
 objectMidPoint, 80
 objectMidX, 81
 objectMidY, 81
 objectRadius, 81
 objectStartAngle, 81
 objectStartPoint, 81
 objectStartX, 81
 objectStartY, 82
 paint, 82
 setObjectEndAngle, 82
 setObjectEndPoint, 82, 83
 setObjectMidPoint, 83
 setObjectRadius, 83
 setObjectStartAngle, 83
 setObjectStartPoint, 83
 Type, 76
 type, 83
 updateArcRect, 83
 updatePath, 84
 updateRubber, 84
 vulcanize, 84
arc startPoint
 ArcObject, 84
array.c
 embArray_addArc, 447
 embArray_addCircle, 447
 embArray_addEllipse, 448
 embArray_addFlag, 448
 embArray_addLine, 448
 embArray_addPath, 448
 embArray_addPoint, 449
 embArray_addPolygon, 449
 embArray_addPolyline, 449
 embArray_addRect, 450
 embArray_addStitch, 450
 embArray_addVector, 450
 embArray_copy, 450
 embArray_create, 451
 embArray_free, 451
 embArray_resize, 451
ArrowStyle
 DimLeaderObject, 122
arrowStyleAngle
 DimLeaderObject, 126
arrowStyleLength
 DimLeaderObject, 126
arrowStylePath
 DimLeaderObject, 126
assets_dir
 Settings_, 313
attributeList
 format_svg.c, 601
attributeOffset
 VipHeader_, 383
auxFormat
 ThredExtension_, 355
axiom
 LSYSTEM, 179

b
EmbColor_, 137
Base_objectRubberPoint
 arc.c, 611
Base_objectRubberText
 arc.c, 611
Base_setLineType
 arc.c, 611
Base_setLineWeight
 arc.c, 611
BaseObject, 85
 ~BaseObject, 86
 allGripPoints, 86
 BaseObject, 86
 boundingRect, 86
 drawRubberLine, 87
 gripEdit, 87
 line, 87
 lineWeightPen, 87
 lwtPen, 91
 mouseSnapPoint, 87
 objectCenter, 87
 objectCenterX, 87
 objectCenterY, 87
 objectColor, 87
 objectColorRGB, 88
 objectID, 88
 objectLineType, 88
 objectLineWeight, 88
 objectPath, 88
 objectPen, 88
 objectRubberMode, 88
 objectRubberPoint, 88
 objectRubberText, 88
 objID, 91
 objLine, 91
 objPen, 91
 objRubberMode, 91
 objRubberPoints, 91
 objRubberTexts, 91
 realRender, 88
 rect, 88
 setLine, 89
 setObjectCenter, 89
 setObjectCenterX, 89
 setObjectCenterY, 89
 setObjectColor, 89
 setObjectColorRGB, 89
 setObjectLineType, 89
 setObjectLineWeight, 89
 setObjectPath, 90
 setObjectRubberMode, 90
 setObjectRubberPoint, 90
 setObjectRubberText, 90
 setRect, 90
 shape, 90
 Type, 86
 type, 90
vulcanize, 90
bcf_difat_create
 embroidery_internal.h, 517
 main.c, 628
bcf_directory
 embroidery_internal.h, 516
bcf_directory_entry
 embroidery_internal.h, 516
bcf_directory_free
 embroidery_internal.h, 518
 main.c, 628
bcf_file
 embroidery_internal.h, 516
bcf_file_difat
 embroidery_internal.h, 516
bcf_file_difat_free
 embroidery_internal.h, 518
bcf_file_fat
 embroidery_internal.h, 516
bcf_file_fat_free
 embroidery_internal.h, 518
bcf_file_free
 embroidery_internal.h, 518
 main.c, 628
bcf_file_header
 embroidery_internal.h, 516
bcfFile_read
 embroidery_internal.h, 518
 main.c, 628
bcfFileFat_create
 embroidery_internal.h, 518
 main.c, 629
bcfFileHeader_isValid
 embroidery_internal.h, 519
bcfFileHeader_read
 embroidery_internal.h, 519
 main.c, 629
before
 UndoableGripEditCommand, 361
beziers
 EmbSpline_, 154
bgColor
 MdiArea, 240
bgLogo
 MdiArea, 240
bgTexture
 MdiArea, 240
binaryReadString
 embroidery_internal.h, 519
 main.c, 629
binaryReadUnicodeString
 embroidery_internal.h, 519
 main.c, 629
binaryWriteInt
 embroidery_internal.h, 519
 formats.c, 566
binaryWriteIntBE
 embroidery_internal.h, 520

formats.c, 566
binaryWriteShort
embroidery_internal.h, 520
formats.c, 566
binaryWriteUInt
embroidery_internal.h, 520
formats.c, 567
binaryWriteUIntBE
embroidery_internal.h, 520
formats.c, 567
binaryWriteUShort
embroidery_internal.h, 520
formats.c, 567
binaryWriteUShortBE
embroidery_internal.h, 521
formats.c, 567
bit_position
Compress, 118
bits_total
Compress, 118
black_thread
embroidery.h, 492
main.c, 637
blink
CmdPrompt, 99
blinkState
CmdPrompt, 105
blinkTimer
CmdPrompt, 105
block_elements
Compress, 119
bottom
_vp3Hoop, 68
EmbRect_, 152
hoop_padding, 162
bottom2
_vp3Hoop, 68
boundingRect
BaseObject, 86
EmbDetailsDialog, 139
Box
DimLeaderObject, 122
boxDir
SelectBox, 310
brand_codes
thread-color.c, 644
brand_codes_files
thread-color.c, 644
BuildDecryptionTable
format_csd.c, 574
BULGETOCONTROL
embroidery_internal.h, 508
BULGETOEND
embroidery_internal.h, 508
buttonBox
EmbDetailsDialog, 139
Settings_Dialog, 335
buttonCustomFilterClearAll
Settings_Dialog, 326
buttonCustomFilterClearAllClicked
Settings_Dialog, 326
buttonCustomFilterSelectAll
Settings_Dialog, 326
buttonCustomFilterSelectAllClicked
Settings_Dialog, 326
buttonQSnapClearAll
Settings_Dialog, 326
buttonQSnapClearAllClicked
Settings_Dialog, 326
buttonQSnapSelectAll
Settings_Dialog, 326
buttonQSnapSelectAllClicked
Settings_Dialog, 326
buttonTipOfTheDayClicked
MainWindow, 190
byte1
_vp3Hoop, 68
byte2
_vp3Hoop, 69
byte3
_vp3Hoop, 69
byteOrder
_bcf_file_header, 66
c_split
utility.cpp, 444
calculateArcData
ArcObject, 77
canRedo
UndoEditor, 367
canUndo
UndoEditor, 367
cascade
MdiArea, 238
catalogNumber
EmbThread_, 156
cci
format_dst.c, 577
center
EmbCircle_, 137
EmbEllipse_, 141
UiObject_, 357
View, 373
centerAt
View, 373
changeFormatting
CmdPromptInput, 112
changelog
MainWindow, 190
character_huffman
Compress, 119
character_length_huffman
Compress, 119
check_for_color_file
EmbFormatList_, 141
check_header_present
embroidery_internal.h, 521

main.c, 630
checkBoxCustomFilterStateChanged
 Settings_Dialog, 326
checkBoxDisableBGStateChanged
 Settings_Dialog, 326
checkBoxGeneralMdiBGUseColorStateChanged
 Settings_Dialog, 327
checkBoxGeneralMdiBGUseLogoStateChanged
 Settings_Dialog, 327
checkBoxGeneralMdiBGUseTextureStateChanged
 Settings_Dialog, 327
checkBoxGridCenterOnOriginStateChanged
 Settings_Dialog, 327
checkBoxGridColorMatchCrossHairStateChanged
 Settings_Dialog, 327
checkBoxGridLoadFromFileStateChanged
 Settings_Dialog, 327
checkBoxGridShowOnLoadStateChanged
 Settings_Dialog, 327
checkBoxGridShowOriginStateChanged
 Settings_Dialog, 327
checkBoxLwtRealRenderStateChanged
 Settings_Dialog, 327
checkBoxLwtShowLwtStateChanged
 Settings_Dialog, 327
checkBoxPromptSaveHistoryAsHtmlStateChanged
 Settings_Dialog, 327
checkBoxPromptSaveHistoryStateChanged
 Settings_Dialog, 327
checkBoxQSnapApparentStateChanged
 Settings_Dialog, 328
checkBoxQSnapCenterStateChanged
 Settings_Dialog, 328
checkBoxQSnapEndPointStateChanged
 Settings_Dialog, 328
checkBoxQSnapExtensionStateChanged
 Settings_Dialog, 328
checkBoxQSnapInsertionStateChanged
 Settings_Dialog, 328
checkBoxQSnapIntersectionStateChanged
 Settings_Dialog, 328
checkBoxQSnapMidPointStateChanged
 Settings_Dialog, 328
checkBoxQSnapNearestStateChanged
 Settings_Dialog, 328
checkBoxQSnapNodeStateChanged
 Settings_Dialog, 328
checkBoxQSnapParallelStateChanged
 Settings_Dialog, 328
checkBoxQSnapPerpendicularStateChanged
 Settings_Dialog, 328
checkBoxQSnapQuadrantStateChanged
 Settings_Dialog, 328
checkBoxQSnapTangentStateChanged
 Settings_Dialog, 328
checkBoxRenderHintAAStateChanged
 Settings_Dialog, 329
checkBoxRenderHintHighAAStateChanged
 Settings_Dialog, 329
Settings_Dialog, 329
checkBoxRenderHintNonCosmeticStateChanged
 Settings_Dialog, 329
checkBoxRenderHintSmoothPixStateChanged
 Settings_Dialog, 329
checkBoxRenderHintTextAAStateChanged
 Settings_Dialog, 329
checkBoxRulerShowOnLoadStateChanged
 Settings_Dialog, 329
checkBoxSelectionModePickAddStateChanged
 Settings_Dialog, 329
checkBoxSelectionModePickDragStateChanged
 Settings_Dialog, 329
checkBoxSelectionModePickFirstStateChanged
 Settings_Dialog, 329
checkBoxShowScrollBarsStateChanged
 Settings_Dialog, 329
checkBoxTipOfDay
 MainWindow, 222
checkBoxTipOfDayStateChanged
 MainWindow, 190
 Settings_Dialog, 329
checkBoxUseOpenGLStateChanged
 Settings_Dialog, 329
checkChangedText
 CmdPromptInput, 112
checkCursorPosition
 CmdPromptInput, 112
checkEditedText
 CmdPromptInput, 112
checkForUpdates
 MainWindow, 191
checkSelection
 CmdPromptInput, 112
childId
 _bcf_directory_entry, 62
chooseDisplayBackgroundColor
 Settings_Dialog, 329
chooseDisplayCrossHairColor
 Settings_Dialog, 330
chooseDisplaySelectBoxLeftColor
 Settings_Dialog, 330
chooseDisplaySelectBoxLeftFill
 Settings_Dialog, 330
chooseDisplaySelectBoxRightColor
 Settings_Dialog, 330
chooseDisplaySelectBoxRightFill
 Settings_Dialog, 330
chooseGeneralMdiBackgroundColor
 Settings_Dialog, 330
chooseGeneralMdiBackgroundLogo
 Settings_Dialog, 330
chooseGeneralMdiBackgroundTexture
 Settings_Dialog, 330
chooseGridColor
 Settings_Dialog, 330
choosePromptBackgroundColor
 Settings_Dialog, 330

choosePromptTextColor
 Settings_Dialog, 330
chooseRulerColor
 Settings_Dialog, 330
CHUNK_SIZE
 embroidery.h, 463
circle
 EmbGeometry_, 143
circle.c
 embCircle_area, 614
 embCircle_circumference, 614
 embCircle_init, 614
 getCircleCircleIntersections, 615
 getCircleTangentPoints, 615
CIRCLE_MODE_1P_DIA
 embroidermodder.h, 395
CIRCLE_MODE_1P_RAD
 embroidermodder.h, 395
CIRCLE_MODE_2P
 embroidermodder.h, 395
CIRCLE_MODE_3P
 embroidermodder.h, 395
CIRCLE_MODE_TTR
 embroidermodder.h, 395
CircleObject, 91
 ~CircleObject, 94
 allGripPoints, 94
 CircleObject, 94
 gripEdit, 94
 init, 94
 mouseSnapPoint, 95
 objectArea, 95
 objectCircumference, 95
 objectDiameter, 95
 objectQuadrant0, 95
 objectQuadrant180, 95
 objectQuadrant270, 95
 objectQuadrant90, 95
 objectRadius, 95
 objectSavePath, 95
 paint, 96
 setObjectArea, 96
 setObjectCircumference, 96
 setObjectDiameter, 96
 setObjectRadius, 96
 Type, 94
 type, 96
 updatePath, 96
 updateRubber, 96
 vulcanize, 96
clearAllFields
 PropertyEditor, 280
clearFormatting
 CmdPromptInput, 112
clearRubberRoom
 View, 373
clearSelection
 View, 373
clockwise
 arc.c, 611
Closed
 DimLeaderObject, 122
closeEvent
 MainWindow, 191
 MdiWindow, 243
closeToolBar
 MainWindow, 191
CLSID
 _bcf_directory_entry, 62
 _bcf_file_header, 66
cmdActive
 CmdPromptInput, 116
CmdPrompt, 97
 ~CmdPrompt, 99
 activeCommand, 99
 addCommand, 99
 alert, 99
 appendHistory, 99
 appendTheHistory, 99
 blink, 99
 blinkState, 105
 blinkTimer, 105
 CmdPrompt, 99
 copyPressed, 99
 cutPressed, 100
 deletePressed, 100
 disableRapidFire, 100
 downPressed, 100
 enableRapidFire, 100
 endCommand, 100
 escapePressed, 100
 F10Pressed, 100
 F11Pressed, 100
 F12Pressed, 100
 F1Pressed, 100
 F2Pressed, 101
 F3Pressed, 101
 F4Pressed, 101
 F5Pressed, 101
 F6Pressed, 101
 F7Pressed, 101
 F8Pressed, 101
 F9Pressed, 101
 floatingChanged, 101
 getCurrentText, 101
 getHistory, 101
 getPrefix, 102
 historyAppended, 102
 isCommandActive, 102
 isRapidFireEnabled, 102
 lastCommand, 102
 pastePressed, 102
 processInput, 102
 promptDivider, 105
 promptHistory, 105
 promptInput, 105

promptSplitter, 105
promptVBoxLayout, 105
redoPressed, 102
resizeTheHistory, 102
runCommand, 102
saveHistory, 102
selectAllPressed, 103
setCurrentText, 103
setHistory, 103
setPrefix, 103
setPromptBackgroundColor, 103
setPromptFontFamily, 103
setPromptFontSize, 103
setPromptFontStyle, 103
setPromptTextColor, 103
shiftPressed, 103
shiftReleased, 104
showSettings, 104
startBlinking, 104
startCommand, 104
startResizingTheHistory, 104
stopBlinking, 104
stopResizingTheHistory, 104
styleHash, 105
tabPressed, 104
undoPressed, 104
updateStyle, 104
upPressed, 104
CmdPromptHandle, 105
~CmdPromptHandle, 106
CmdPromptHandle, 106
handleMoved, 106
handlePressed, 106
handleReleased, 107
mouseMoveEvent, 107
mousePressEvent, 107
mouseReleaseEvent, 107
moveY, 107
pressY, 107
releaseY, 107
CmdPromptHistory, 107
~CmdPromptHistory, 108
appendHistory, 108
applyFormatting, 109
CmdPromptHistory, 108
contextMenuEvent, 109
historyAppended, 109
resizeHistory, 109
startResizeHistory, 109
stopResizeHistory, 109
tmpHeight, 109
CmdPromptInput, 110
~CmdPromptInput, 111
addCommand, 111
aliasHash, 116
appendHistory, 112
applyFormatting, 112
changeFormatting, 112
checkChangedText, 112
checkCursorPosition, 112
checkEditedText, 112
checkSelection, 112
clearFormatting, 112
cmdActive, 116
CmdPromptInput, 111
contextMenuEvent, 112
copyClip, 112
copyPressed, 113
curCmd, 116
curText, 116
cutPressed, 113
defaultPrefix, 116
deletePressed, 113
downPressed, 113
endCommand, 113
escapePressed, 113
eventFilter, 113
F10Pressed, 113
F11Pressed, 113
F12Pressed, 113
F1Pressed, 113
F2Pressed, 114
F3Pressed, 114
F4Pressed, 114
F5Pressed, 114
F6Pressed, 114
F7Pressed, 114
F8Pressed, 114
F9Pressed, 114
isBlinking, 116
lastCmd, 116
pasteClip, 114
pastePressed, 114
prefix, 116
processInput, 114
rapidFireEnabled, 116
redoPressed, 115
runCommand, 115
selectAllPressed, 115
shiftPressed, 115
shiftReleased, 115
showSettings, 115
startCommand, 115
stopBlinking, 115
tabPressed, 115
undoPressed, 115
updateCurrentText, 115
upPressed, 116
CmdPromptSplitter, 117
~CmdPromptSplitter, 117
CmdPromptSplitter, 117
createHandle, 117
moveResizeHistory, 118
pressResizeHistory, 118
releaseResizeHistory, 118
CoatsAndClark_Rayon

embroidery.h, 463
CODE_OF_CONDUCT.md, 383
color
 EmbGeometry_, 143
 EmbLine_, 147
 EmbPath_, 149
 EmbPoint_, 151
 EmbStitch_, 154
 EmbThread_, 156
 UiObject_, 357
color_only
 EmbFormatList_, 141
colorChanges
 EmbDetailsDialog, 139
colorCode
 StxThread_, 346
 SubDescriptor_, 347
colorFlag
 _bcf_directory_entry, 62
colorLength
 VipHeader_, 383
colorName
 StxThread_, 346
 SubDescriptor_, 347
colorSelector
 MainWindow, 222
colorSelectorIndexChanged
 MainWindow, 191
colorTotal
 EmbDetailsDialog, 139
comboBoxArcClockwise
 PropertyEditor, 284
comboBoxGeneralColor
 PropertyEditor, 284
comboBoxGeneralLayer
 PropertyEditor, 284
comboBoxGeneralLineType
 PropertyEditor, 284
comboBoxGeneralLineWidth
 PropertyEditor, 284
comboBoxGridTypeCurrentIndexChanged
 Settings_Dialog, 330
comboBoxIconSizeCurrentIndexChanged
 Settings_Dialog, 330
comboBoxIconThemeCurrentIndexChanged
 Settings_Dialog, 330
comboBoxLanguageCurrentIndexChanged
 Settings_Dialog, 331
comboBoxPathClosed
 PropertyEditor, 284
comboBoxPathVertexNum
 PropertyEditor, 284
comboBoxPolylineClosed
 PropertyEditor, 284
comboBoxPolylineVertexNum
 PropertyEditor, 284
comboBoxPromptFontFamilyCurrentIndexChanged
 Settings_Dialog, 331
comboBoxPromptFontSizeCurrentIndexChanged
 Settings_Dialog, 331
comboBoxQSnapLocatorColorCurrentIndexChanged
 Settings_Dialog, 331
comboBoxRulerMetricCurrentIndexChanged
 Settings_Dialog, 331
comboBoxScrollBarWidgetCurrentIndexChanged
 Settings_Dialog, 331
comboBoxSelected
 PropertyEditor, 284
comboBoxSelectionCoolGripColorCurrentIndexChanged
 Settings_Dialog, 331
comboBoxSelectionHotGripColorCurrentIndexChanged
 Settings_Dialog, 331
comboBoxTextSingleBackward
 PropertyEditor, 284
comboBoxTextSingleFont
 PropertyEditor, 284
comboBoxTextSingleJustify
 PropertyEditor, 284
comboBoxTextSingleUpsideDown
 PropertyEditor, 285
command
 UiObject_, 357
COMMAND_ACTIONS
 embroidermodder.h, 390
CompoundFileDirectory
 embroidery_internal.h, 521
 main.c, 630
CompoundFileDirectoryEntry
 embroidery_internal.h, 521
 main.c, 630
CompoundFileSector_DIFAT_Sector
 embroidery_internal.h, 508
CompoundFileSector_EndOfChain
 embroidery_internal.h, 508
CompoundFileSector_FAT_Sector
 embroidery_internal.h, 508
CompoundFileSector_FreeSector
 embroidery_internal.h, 508
CompoundFileSector_MaxRegSector
 embroidery_internal.h, 508
CompoundFileStreamId_MaxRegularStreamId
 embroidery_internal.h, 508
CompoundFileStreamId_NoStream
 embroidery_internal.h, 509
Compress, 118
 bit_position, 118
 bits_total, 118
 block_elements, 119
 character_huffman, 119
 character_length_huffman, 119
 distance_huffman, 119
 input_data, 119
 input_length, 119
compress
 embroidery_internal.h, 516
compress.c

compress_get_bits, 452
 compress_get_position, 452
 compress_get_token, 452
 compress_init, 452
 compress_load_block, 452
 compress_load_character_huffman, 453
 compress_load_character_length_huffman, 453
 compress_load_distance_huffman, 453
 compress_peek, 453
 compress_pop, 453
 compress_read_variable_length, 454
 huffman_build_table, 454
 huffman_lookup, 454
 huffman_lookup_data, 455
 hus_compress, 454
 hus_decompress, 455
 compress_get_bits
 compress.c, 452
 embroidery_internal.h, 522
 compress_get_position
 compress.c, 452
 embroidery_internal.h, 522
 compress_get_token
 compress.c, 452
 embroidery_internal.h, 522
 compress_init
 compress.c, 452
 compress_load_block
 compress.c, 452
 embroidery_internal.h, 522
 compress_load_character_huffman
 compress.c, 453
 embroidery_internal.h, 523
 compress_load_character_length_huffman
 compress.c, 453
 embroidery_internal.h, 523
 compress_load_distance_huffman
 compress.c, 453
 embroidery_internal.h, 523
 compress_peek
 compress.c, 453
 compress_pop
 compress.c, 453
 embroidery_internal.h, 523
 compress_read_variable_length
 compress.c, 454
 embroidery_internal.h, 523
 constants
 LSYSTEM, 179
 contextMenuEvent
 CmdPromptHistory, 109
 CmdPromptInput, 112
 StatusBarButton, 344
 View, 373
 control1
 EmbBezier_, 136
 control2
 EmbBezier_, 136
 controlPointLabels
 UiObject_, 357
 controlPoints
 UiObject_, 357
 convert
 embroidery.h, 472
 pattern.c, 639
 copy
 MainWindow, 191
 View, 373
 copy_trim
 embroidery_internal.h, 524
 main.c, 630
 copyClip
 CmdPromptInput, 112
 copyPressed
 CmdPrompt, 99
 CmdPromptInput, 113
 copySelected
 View, 373
 cornerButtonClicked
 View, 373
 count
 EmbArray_, 135
 create_test_file_1
 embroidery_internal.h, 524
 create_test_file_2
 embroidery_internal.h, 524
 create_test_file_3
 embroidery_internal.h, 524
 createAction
 MainWindow, 191
 createAllActions
 MainWindow, 192
 createAllMenus
 MainWindow, 192
 createAllToolbars
 MainWindow, 192
 createComboBox
 PropertyEditor, 280
 createComboBoxSelected
 PropertyEditor, 280
 createEditMenu
 MainWindow, 192
 createEditToolbar
 MainWindow, 192
 createFileMenu
 MainWindow, 192
 createFileToolbar
 MainWindow, 192
 createFontComboBox
 PropertyEditor, 280
 createGrid
 View, 373
 createGridIso
 View, 373
 createGridPolar
 View, 373

createGridRect
 View, 373
createGroupBoxGeneral
 PropertyEditor, 280
createGroupBoxGeometryArc
 PropertyEditor, 280
createGroupBoxGeometryBlock
 PropertyEditor, 280
createGroupBoxGeometryCircle
 PropertyEditor, 280
createGroupBoxGeometryDimAligned
 PropertyEditor, 280
createGroupBoxGeometryDimAngular
 PropertyEditor, 281
createGroupBoxGeometryDimArcLength
 PropertyEditor, 281
createGroupBoxGeometryDimDiameter
 PropertyEditor, 281
createGroupBoxGeometryDimLeader
 PropertyEditor, 281
createGroupBoxGeometryDimLinear
 PropertyEditor, 281
createGroupBoxGeometryDimOrdinate
 PropertyEditor, 281
createGroupBoxGeometryDimRadius
 PropertyEditor, 281
createGroupBoxGeometryEllipse
 PropertyEditor, 281
createGroupBoxGeometryImage
 PropertyEditor, 281
createGroupBoxGeometryInfiniteLine
 PropertyEditor, 281
createGroupBoxGeometryLine
 PropertyEditor, 281
createGroupBoxGeometryPath
 PropertyEditor, 281
createGroupBoxGeometryPoint
 PropertyEditor, 281
createGroupBoxGeometryPolygon
 PropertyEditor, 281
createGroupBoxGeometryPolyline
 PropertyEditor, 281
createGroupBoxGeometryRay
 PropertyEditor, 282
createGroupBoxGeometryRectangle
 PropertyEditor, 282
createGroupBoxGeometryTextMulti
 PropertyEditor, 282
createGroupBoxGeometryTextSingle
 PropertyEditor, 282
createGroupBoxMiscArc
 PropertyEditor, 282
createGroupBoxMisclImage
 PropertyEditor, 282
createGroupBoxMiscPath
 PropertyEditor, 282
createGroupBoxMiscPolyline
 PropertyEditor, 282
createGroupBoxMiscTextSingle
 PropertyEditor, 282
createGroupBoxTextTextSingle
 PropertyEditor, 282
createHandle
 CmdPromptSplitter, 117
createHelpMenu
 MainWindow, 193
createHelpToolbar
 MainWindow, 193
createHistogram
 EmbDetailsDialog, 139
createIconToolbar
 MainWindow, 193
createLayerToolbar
 MainWindow, 193
createLineEdit
 PropertyEditor, 282
createMainWidget
 EmbDetailsDialog, 139
createObjectList
 View, 373
createOrigin
 View, 373
createPanToolbar
 MainWindow, 193
createPromptToolbar
 MainWindow, 193
createPropertiesToolbar
 MainWindow, 193
createRulerTextPath
 View, 373
createSettingsMenu
 MainWindow, 193
createTabDisplay
 Settings_Dialog, 331
createTabFilesPaths
 Settings_Dialog, 331
createTabGeneral
 Settings_Dialog, 331
createTabGridRuler
 Settings_Dialog, 331
createTabLineWeight
 Settings_Dialog, 331
createTabOpenSave
 Settings_Dialog, 332
createTabOrthoPolar
 Settings_Dialog, 332
createTabPrinting
 Settings_Dialog, 332
createTabPrompt
 Settings_Dialog, 332
createTabQuickSnap
 Settings_Dialog, 332
createTabQuickTrack
 Settings_Dialog, 332
createTabSelection
 Settings_Dialog, 332

createTabSnap
 Settings_Dialog, 332
 createTextToolbar
 MainWindow, 193
 createToolButton
 PropertyEditor, 282
 createToolButtonPickAdd
 PropertyEditor, 282
 createToolButtonQSelect
 PropertyEditor, 282
 createViewMenu
 MainWindow, 194
 createViewToolbar
 MainWindow, 194
 createWindowMenu
 MainWindow, 194
 createZoomToolbar
 MainWindow, 194
 creationTime
 _bcf_directory_entry, 62
 creatorName
 ThredExtension_, 355
 crosshairColor
 View, 379
 crosshairSize
 View, 379
 csd_decryptArray
 format_csd.c, 575
 CsdSubMaskSize
 format_csd.c, 574
 CsdXorMaskSize
 format_csd.c, 574
 CSV_EXPECT
 embroidery_internal.h, 517
 CSV_EXPECT_COMMA
 embroidery_internal.h, 517
 CSV_EXPECT_NULL
 embroidery_internal.h, 517
 CSV_EXPECT_QUOTE1
 embroidery_internal.h, 517
 CSV_EXPECT_QUOTE2
 embroidery_internal.h, 517
 CSV_MODE
 embroidery_internal.h, 517
 CSV_MODE_COMMENT
 embroidery_internal.h, 517
 CSV_MODE_NULL
 embroidery_internal.h, 517
 CSV_MODE_STITCH
 embroidery_internal.h, 517
 CSV_MODE_THREAD
 embroidery_internal.h, 517
 CSV_MODE_VARIABLE
 embroidery_internal.h, 517
 csvStitchFlagToStr
 format_csv.c, 575
 csvStrToStitchFlag
 format_csv.c, 575
 CUBICTOCONTROL1
 embroidery_internal.h, 509
 CUBICTOCONTROL2
 embroidery_internal.h, 509
 CUBICTOEND
 embroidery_internal.h, 509
 curCmd
 CmdPromptInput, 116
 curColor
 MdiWindow, 250
 curFile
 MdiWindow, 250
 curLayer
 MdiWindow, 250
 curLineType
 MdiWindow, 250
 curLineWeight
 MdiWindow, 250
 current_directory
 Settings_, 313
 utility.cpp, 446
 current_element_id
 format_svg.c, 601
 currentAttribute
 format_svg.c, 601
 currentColorChanged
 MdiWindow, 243
 currentColorIndex
 EmbPattern_, 150
 currentDisplayBackgroundColorChanged
 Settings_Dialog, 332
 currentDisplayCrossHairColorChanged
 Settings_Dialog, 332
 currentDisplaySelectBoxLeftColorChanged
 Settings_Dialog, 332
 currentDisplaySelectBoxLeftFillChanged
 Settings_Dialog, 332
 currentDisplaySelectBoxRightColorChanged
 Settings_Dialog, 332
 currentDisplaySelectBoxRightFillChanged
 Settings_Dialog, 332
 currentGeneralMdiBackgroundColorChanged
 Settings_Dialog, 332
 currentGridColorChanged
 Settings_Dialog, 333
 currentLayerChanged
 MdiWindow, 243
 currentLinetypeChanged
 MdiWindow, 244
 currentLineweightChanged
 MdiWindow, 244
 currentPromptBackgroundColorChanged
 Settings_Dialog, 333
 currentPromptTextColorChanged
 Settings_Dialog, 333
 currentRulerColorChanged
 Settings_Dialog, 333
 currentValue

format_svg.c, 601
curText
 CmdPromptInput, 116
curved
 DimLeaderObject, 126
cut
 MainWindow, 194
 View, 374
cutCopyMousePoint
 View, 379
cutCopyObjectList
 MainWindow, 222
cutPressed
 CmdPrompt, 100
 CmdPromptInput, 113

data
 EmblImage_, 145
 UndoHistory_, 368
day
 EmbTime_, 157
dayVision
 MainWindow, 194
debug_mode
 Settings_, 314
decode_exy_flags
 format_exy.c, 581
decode_record_flags
 format_dst.c, 577
decode_t01_record
 embroidery_internal.h, 524
 encoding.c, 554
decode_tajima_ternary
 embroidery_internal.h, 524
 encoding.c, 555
decode_tap_record_flags
 format_tap.c, 602
DecodeCsdByte
 format_csd.c, 574
decodeNewStitch
 embroidery_internal.h, 525
 encoding.c, 555
DEFAULT_MODE
 embroidermodder.h, 395
default_value
 Huffman, 163
defaultPrefix
 CmdPromptInput, 116
degrees
 embroidermodder.h, 396
 embroidery.h, 472
 functions.c, 617
deleteObject
 View, 374
deletePressed
 CmdPrompt, 100
 CmdPromptInput, 113
 MainWindow, 194
 MdiWindow, 244
 View, 374
deleteSelected
 View, 374
description
 EmbFormatList_, 141
 EmbThread_, 156
designDetails
 MainWindow, 194
 MdiWindow, 244
dialog
 utility.cpp, 446
dialog_display_bg_color
 Settings_Dialog, 335
dialog_display_crosshair_color
 Settings_Dialog, 335
dialog_display_crosshair_percent
 Settings_Dialog, 335
dialog_display_renderhint_aa
 Settings_Dialog, 335
dialog_display_renderhint_high_aa
 Settings_Dialog, 335
dialog_display_renderhint_noncosmetic
 Settings_Dialog, 336
dialog_display_renderhint_smooth_pix
 Settings_Dialog, 336
dialog_display_renderhint_text_aa
 Settings_Dialog, 336
dialog_display_scrollbar_widget_num
 Settings_Dialog, 336
dialog_display_selectbox_alpha
 Settings_Dialog, 336
dialog_display_selectbox_left_color
 Settings_Dialog, 336
dialog_display_selectbox_right_color
 Settings_Dialog, 336
dialog_display_selectbox_right_fill
 Settings_Dialog, 336
dialog_display_show_scrollbars
 Settings_Dialog, 336
dialog_display_units
 Settings_Dialog, 336
dialog_display_use_opengl
 Settings_Dialog, 336
dialog_display_zoomscale_in
 Settings_Dialog, 336
dialog_display_zoomscale_out
 Settings_Dialog, 336
dialog_general_icon_size
 Settings_Dialog, 336
dialog_general_icon_theme
 Settings_Dialog, 336
dialog_general_language
 Settings_Dialog, 336
dialog_general_mdi_bg_color
 Settings_Dialog, 336
dialog_general_mdi_bg_logo

Settings_Dialog, 337
dialog_general_mdi_bg_texture
 Settings_Dialog, 337
dialog_general_mdi_bg_use_color
 Settings_Dialog, 337
dialog_general_mdi_bg_use_logo
 Settings_Dialog, 337
dialog_general_mdi_bg_use_texture
 Settings_Dialog, 337
dialog_general_system_help_browser
 Settings_Dialog, 337
dialog_general_tip_of_the_day
 Settings_Dialog, 337
dialog_grid_center_on_origin
 Settings_Dialog, 337
dialog_grid_center_x
 Settings_Dialog, 337
dialog_grid_center_y
 Settings_Dialog, 337
dialog_grid_color
 Settings_Dialog, 337
dialog_grid_color_match_crosshair
 Settings_Dialog, 337
dialog_grid_load_from_file
 Settings_Dialog, 337
dialog_grid_show_on_load
 Settings_Dialog, 337
dialog_grid_show_origin
 Settings_Dialog, 337
dialog_grid_size_radius
 Settings_Dialog, 337
dialog_grid_size_x
 Settings_Dialog, 337
dialog_grid_size_y
 Settings_Dialog, 337
dialog_grid_spacing_angle
 Settings_Dialog, 338
dialog_grid_spacing_radius
 Settings_Dialog, 338
dialog_grid_spacing_x
 Settings_Dialog, 338
dialog_grid_spacing_y
 Settings_Dialog, 338
dialog_grid_type
 Settings_Dialog, 338
dialog_lwt_default_lwt
 Settings_Dialog, 338
dialog_lwt_real_render
 Settings_Dialog, 338
dialog_lwt_show_lwt
 Settings_Dialog, 338
dialog_opensave_custom_filter
 Settings_Dialog, 338
dialog_opensave_open_format
 Settings_Dialog, 338
dialog_opensave_open_thumbnail
 Settings_Dialog, 338
dialog_opensave_recent_max_files
 Settings_Dialog, 338
dialog_opensave_save_format
 Settings_Dialog, 338
dialog_opensave_save_thumbnail
 Settings_Dialog, 338
dialog_opensave_trim_dst_num_jumps
 Settings_Dialog, 338
dialog_printing_default_device
 Settings_Dialog, 338
dialog_printing_disable_bg
 Settings_Dialog, 338
dialog_printing_use_last_device
 Settings_Dialog, 338
dialog_prompt_bg_color
 Settings_Dialog, 339
dialog_prompt_font_family
 Settings_Dialog, 339
dialog_prompt_font_size
 Settings_Dialog, 339
dialog_prompt_font_style
 Settings_Dialog, 339
dialog_prompt_save_history
 Settings_Dialog, 339
dialog_prompt_save_history_as_html
 Settings_Dialog, 339
dialog_prompt_save_history_filename
 Settings_Dialog, 339
dialog_prompt_text_color
 Settings_Dialog, 339
dialog_qsnap_aperture_size
 Settings_Dialog, 339
dialog_qsnap_apparent
 Settings_Dialog, 339
dialog_qsnap_center
 Settings_Dialog, 339
dialog_qsnap_enabled
 Settings_Dialog, 339
dialog_qsnap_endpoint
 Settings_Dialog, 339
dialog_qsnap_extension
 Settings_Dialog, 339
dialog_qsnap_insertion
 Settings_Dialog, 339
dialog_qsnap_intersection
 Settings_Dialog, 339
dialog_qsnap_locator_color
 Settings_Dialog, 339
dialog_qsnap_locator_size
 Settings_Dialog, 339
dialog_qsnap_midpoint
 Settings_Dialog, 340
dialog_qsnap_nearest
 Settings_Dialog, 340
dialog_qsnap_node
 Settings_Dialog, 340
dialog_qsnap_parallel
 Settings_Dialog, 340
dialog_qsnap_perpendicular

Settings_Dialog, 340
dialog_qsnap_quadrant
 Settings_Dialog, 340
dialog_qsnap_tangent
 Settings_Dialog, 340
dialog_ruler_color
 Settings_Dialog, 340
dialog_ruler_metric
 Settings_Dialog, 340
dialog_ruler_pixel_size
 Settings_Dialog, 340
dialog_ruler_show_on_load
 Settings_Dialog, 340
dialog_selection_coolgrip_color
 Settings_Dialog, 340
dialog_selection_grip_size
 Settings_Dialog, 340
dialog_selection_hotgrip_color
 Settings_Dialog, 340
dialog_selection_mode_pickadd
 Settings_Dialog, 340
dialog_selection_mode_pickdrag
 Settings_Dialog, 340
dialog_selection_mode_pickfirst
 Settings_Dialog, 340
dialog_selection_pickbox_size
 Settings_Dialog, 340
Dictionary
 embroidermodder.h, 389
difat
 _bcf_file, 64
difatEntriesInHeader
 main.c, 637
dimensions
 EmblImage_, 145
DimLeaderObject, 119
 ~DimLeaderObject, 123
 allGripPoints, 123
 ArrowStyle, 122
 arrowStyleAngle, 126
 arrowStyleLength, 126
 arrowStylePath, 126
 Box, 122
 Closed, 122
 curved, 126
 DimLeaderObject, 122, 123
 Dot, 122
 filled, 126
 Flared, 122
 Fletching, 122
 gripEdit, 123
 init, 123
 lineStyle, 122
 lineStyleAngle, 126
 lineStyleLength, 126
 lineStylePath, 127
 mouseSnapPoint, 123
 NoArrow, 122
 NoLine, 122
 objectAngle, 123
 objectDeltaX, 124
 objectDeltaY, 124
 objectEndPoint1, 124
 objectEndPoint2, 124
 objectLength, 124
 objectMidPoint, 124
 objectX1, 124
 objectX2, 124
 objectY1, 124
 objectY2, 124
 Open, 122
 paint, 124
 setObjectEndPoint1, 125
 setObjectEndPoint2, 125
 setObjectX1, 125
 setObjectX2, 125
 setObjectY1, 125
 setObjectY2, 125
 Tick, 122
 Type, 122
 type, 125
 updateLeader, 126
 updateRubber, 126
 vulcanize, 126
dirBrush
 SelectBox, 310
directory
 _bcf_file, 64
directoryEntryName
 _bcf_directory_entry, 62
directoryEntryNameLength
 _bcf_directory_entry, 62
dirEntries
 _bcf_directory, 61
dirPen
 SelectBox, 310
disableLwt
 StatusBarButton, 344
disableMoveRapidFire
 MainWindow, 194
 View, 374
disablePromptRapidFire
 MainWindow, 194
disableRapidFire
 CmdPrompt, 100
disableReal
 StatusBarButton, 344
display_bg_color
 Settings_, 314
display_crosshair_color
 Settings_, 314
display_crosshair_percent
 Settings_, 314
display_renderhint_aa
 Settings_, 314
display_renderhint_high_aa

Settings_, 314
 display_renderhint_noncosmetic
 Settings_, 314
 display_renderhint_smooth_pix
 Settings_, 314
 display_renderhint_text_aa
 Settings_, 314
 display_scrollbar_widget_num
 Settings_, 314
 display_selectbox_alpha
 Settings_, 314
 display_selectbox_left_color
 Settings_, 314
 display_selectbox_left_fill
 Settings_, 314
 display_selectbox_right_color
 Settings_, 314
 display_selectbox_right_fill
 Settings_, 314
 display_show_scrollbars
 Settings_, 314
 display_units
 Settings_, 314
 display_use_opengl
 Settings_, 314
 display_zoomscale_in
 Settings_, 315
 display_zoomscale_out
 Settings_, 315
 distance_huffman
 Compress, 119
 docIndex
 MainWindow, 222
 dockPropEdit
 MainWindow, 222
 dockUndoEdit
 MainWindow, 222
 DOLPHIN_MODE_NUM_POINTS
 embroidermodder.h, 395
 DOLPHIN_MODE_XSCALE
 embroidermodder.h, 395
 DOLPHIN_MODE_YSCALE
 embroidermodder.h, 396
 done
 UndoableNavCommand, 364
 doNothing
 MainWindow, 194
 Dot
 DimLeaderObject, 122
 downPressed
 CmdPrompt, 100
 CmdPromptInput, 113
 dragon_curve
 fill.c, 559
 drawBackground
 View, 374
 drawForeground
 View, 374
 drawRubberLine
 BaseObject, 87
 dstJumpsPerTrim
 EmbPattern_, 150
 dx
 UndoableMoveCommand, 363
 UndoableScaleCommand, 366
 dxf_color
 embroidery.h, 463
 DXF_VERSION_2000
 embroidery_internal.h, 509
 DXF_VERSION_2002
 embroidery_internal.h, 509
 DXF_VERSION_2004
 embroidery_internal.h, 509
 DXF_VERSION_2006
 embroidery_internal.h, 509
 DXF_VERSION_2007
 embroidery_internal.h, 509
 DXF_VERSION_2009
 embroidery_internal.h, 509
 DXF_VERSION_2010
 embroidery_internal.h, 509
 DXF_VERSION_2013
 embroidery_internal.h, 509
 DXF_VERSION_R10
 embroidery_internal.h, 509
 DXF_VERSION_R11
 embroidery_internal.h, 509
 DXF_VERSION_R12
 embroidery_internal.h, 509
 DXF_VERSION_R13
 embroidery_internal.h, 509
 DXF_VERSION_R14
 embroidery_internal.h, 509
 DXF_VERSION_R15
 embroidery_internal.h, 510
 DXF_VERSION_R18
 embroidery_internal.h, 510
 DXF_VERSION_R21
 embroidery_internal.h, 510
 DXF_VERSION_R24
 embroidery_internal.h, 510
 DXF_VERSION_R27
 embroidery_internal.h, 510
 dy
 UndoableMoveCommand, 363
 UndoableScaleCommand, 366
 edit_toolbar
 MainWindow, 222
 editMenu
 MainWindow, 222
 ELEMENT_A
 embroidery_internal.h, 510
 ELEMENT_ANIMATE
 embroidery_internal.h, 510
 ELEMENT_ANIMATECOLOR
 embroidery_internal.h, 510

ELEMENT_ANIMATEMOTION
embroidery_internal.h, 510

ELEMENT_ANIMATETRANSFORM
embroidery_internal.h, 510

ELEMENT_ANIMATION
embroidery_internal.h, 510

ELEMENT_AUDIO
embroidery_internal.h, 510

ELEMENT_CIRCLE
embroidery_internal.h, 510

ELEMENT_DEFS
embroidery_internal.h, 510

ELEMENT_DESC
embroidery_internal.h, 510

ELEMENT_DISCARD
embroidery_internal.h, 510

ELEMENT_ELLIPSE
embroidery_internal.h, 510

ELEMENT_FONT
embroidery_internal.h, 510

ELEMENT_FONT_FACE
embroidery_internal.h, 511

ELEMENT_FONT_FACE_SRC
embroidery_internal.h, 511

ELEMENT_FONT_FACE_URI
embroidery_internal.h, 511

ELEMENT_FOREIGN_OBJECT
embroidery_internal.h, 511

ELEMENT_G
embroidery_internal.h, 511

ELEMENT_GLYPH
embroidery_internal.h, 511

ELEMENT_HANDLER
embroidery_internal.h, 511

ELEMENT_HKERN
embroidery_internal.h, 511

ELEMENT_IMAGE
embroidery_internal.h, 511

ELEMENT_LINE
embroidery_internal.h, 511

ELEMENT_LINEAR_GRADIENT
embroidery_internal.h, 511

ELEMENT_LISTENER
embroidery_internal.h, 511

ELEMENT_METADATA
embroidery_internal.h, 511

ELEMENT_MISSING_GLYPH
embroidery_internal.h, 511

ELEMENT_MPATH
embroidery_internal.h, 511

ELEMENT_PATH
embroidery_internal.h, 511

ELEMENT_POLYGON
embroidery_internal.h, 511

ELEMENT_POLYLINE
embroidery_internal.h, 511

ELEMENT_PREFETCH
embroidery_internal.h, 512

ELEMENT_RADIAL_GRADIENT
embroidery_internal.h, 512

ELEMENT_RECT
embroidery_internal.h, 512

ELEMENT_SCRIPT
embroidery_internal.h, 512

ELEMENT_SET
embroidery_internal.h, 512

ELEMENT_SOLID_COLOR
embroidery_internal.h, 512

ELEMENT_STOP
embroidery_internal.h, 512

ELEMENT_SVG
embroidery_internal.h, 512

ELEMENT_SWITCH
embroidery_internal.h, 512

ELEMENT_TBREAK
embroidery_internal.h, 512

ELEMENT_TEXT
embroidery_internal.h, 512

ELEMENT_TEXT_AREA
embroidery_internal.h, 512

ELEMENT_TITLE
embroidery_internal.h, 512

ELEMENT_TSPAN
embroidery_internal.h, 512

ELEMENT_USE
embroidery_internal.h, 512

ELEMENT_VIDEO
embroidery_internal.h, 512

ELEMENT_XML
embroidery_internal.h, 512

ellipse
EmbGeometry_, 143

ellipse.c
ellipse_objectQuadrant0, 615
ellipse_objectQuadrant180, 615
ellipse_objectQuadrant270, 615
ellipse_objectQuadrant90, 616
embEllipse_area, 616
embEllipse_diameterX, 616
embEllipse_diameterY, 616
embEllipse_height, 616
embEllipse_init, 616
embEllipse_perimeter, 616
embEllipse_setDiameterMajor, 616
embEllipse_setDiameterMinor, 616
embEllipse_setRadiusMajor, 616
embEllipse_setRadiusMinor, 616
embEllipse_setSize, 616
embEllipse_updatePath, 616
embEllipse_width, 617

ELLIPSE_MODE_ELLIPSE_ROTATION
embroidermodder.h, 395

ELLIPSE_MODE_MAJORDIAMETER_MINORRADIUS
embroidermodder.h, 395

ELLIPSE_MODE_MAJORRADIUS_MINORRADIUS
embroidermodder.h, 395

ellipse_objectQuadrant0
 ellipse.c, 615
ellipse_objectQuadrant180
 ellipse.c, 615
ellipse_objectQuadrant270
 ellipse.c, 615
ellipse_objectQuadrant90
 ellipse.c, 616
EllipseObject, 127
 ~EllipseObject, 129
 allGripPoints, 130
 EllipseObject, 129
 gripEdit, 130
 init, 130
 mouseSnapPoint, 130
 objectDiameterMajor, 130
 objectDiameterMinor, 130
 objectHeight, 130
 objectQuadrant0, 130
 objectQuadrant180, 131
 objectQuadrant270, 131
 objectQuadrant90, 131
 objectRadiusMajor, 131
 objectRadiusMinor, 131
 objectSavePath, 131
 objectWidth, 131
 paint, 131
 setObjectDiameterMajor, 131
 setObjectDiameterMinor, 131
 setObjectRadiusMajor, 132
 setObjectRadiusMinor, 132
 setObjectSize, 132
 Type, 129
 type, 132
 updatePath, 132
 updateRubber, 132
 vulcanize, 132
ELLIPSETOEND
 embroidery_internal.h, 512
ELLIPSETORAD
 embroidery_internal.h, 513
EMB_ARC
 embroidery.h, 463
EMB_ARRAY
 embroidery.h, 463
EMB_BIG_ENDIAN
 embroidery_internal.h, 513
EMB_CIRCLE
 embroidery.h, 463
emb_clamp
 utility.cpp, 444
emb_constant_pi
 embroidermodder.h, 397
EMB_DIM_DIAMETER
 embroidery.h, 463
EMB_DIM_LEADER
 embroidery.h, 463
EMB_ELLIPSE
 embroidery.h, 463
emb_error
 embroidery.h, 492
 main.c, 637
EMB_FLAG
 embroidery.h, 463
EMB_FORMAT_100
 embroidery.h, 463
EMB_FORMAT_10O
 embroidery.h, 463
EMB_FORMAT_ART
 embroidery.h, 463
EMB_FORMAT_BMC
 embroidery.h, 463
EMB_FORMAT_BRO
 embroidery.h, 463
EMB_FORMAT_CND
 embroidery.h, 463
EMB_FORMAT_COL
 embroidery.h, 463
EMB_FORMAT_CSD
 embroidery.h, 464
EMB_FORMAT_CSV
 embroidery.h, 464
EMB_FORMAT_DAT
 embroidery.h, 464
EMB_FORMAT_DEM
 embroidery.h, 464
EMB_FORMAT_DSB
 embroidery.h, 464
EMB_FORMAT_DST
 embroidery.h, 464
EMB_FORMAT_DSZ
 embroidery.h, 464
EMB_FORMAT_DXF
 embroidery.h, 464
EMB_FORMAT_EDR
 embroidery.h, 464
EMB_FORMAT_EMD
 embroidery.h, 464
EMB_FORMAT_EXP
 embroidery.h, 464
EMB_FORMAT_EXY
 embroidery.h, 464
EMB_FORMAT_EYS
 embroidery.h, 464
EMB_FORMAT_FXY
 embroidery.h, 464
EMB_FORMAT_GC
 embroidery.h, 464
EMB_FORMAT_GNC
 embroidery.h, 464
EMB_FORMAT_GT
 embroidery.h, 464
EMB_FORMAT_HUS
 embroidery.h, 464
EMB_FORMAT_INB
 embroidery.h, 465

EMB_FORMAT_INF
embroidery.h, 465
EMB_FORMAT_JEF
embroidery.h, 465
EMB_FORMAT_KSM
embroidery.h, 465
EMB_FORMAT_MAX
embroidery.h, 465
EMB_FORMAT_MIT
embroidery.h, 465
EMB_FORMAT_NEW
embroidery.h, 465
EMB_FORMAT_OFM
embroidery.h, 465
EMB_FORMAT_PCD
embroidery.h, 465
EMB_FORMAT_PCM
embroidery.h, 465
EMB_FORMAT_PCQ
embroidery.h, 465
EMB_FORMAT_PCS
embroidery.h, 465
EMB_FORMAT_PEC
embroidery.h, 465
EMB_FORMAT_PEL
embroidery.h, 465
EMB_FORMAT_PEM
embroidery.h, 465
EMB_FORMAT_PES
embroidery.h, 465
EMB_FORMAT_PHB
embroidery.h, 465
EMB_FORMAT_PHC
embroidery.h, 465
EMB_FORMAT_PLT
embroidery.h, 466
EMB_FORMAT_RGB
embroidery.h, 466
EMB_FORMAT_SEW
embroidery.h, 466
EMB_FORMAT_SHV
embroidery.h, 466
EMB_FORMAT_SST
embroidery.h, 466
EMB_FORMAT_STX
embroidery.h, 466
EMB_FORMAT_SVG
embroidery.h, 466
EMB_FORMAT_T01
embroidery.h, 466
EMB_FORMAT_T09
embroidery.h, 466
EMB_FORMAT_TAP
embroidery.h, 466
EMB_FORMAT_THR
embroidery.h, 466
EMB_FORMAT_TXT
embroidery.h, 466
EMB_FORMAT_U00
embroidery.h, 466
EMB_FORMAT_U01
embroidery.h, 466
EMB_FORMAT_VIP
embroidery.h, 466
EMB_FORMAT_VP3
embroidery.h, 466
EMB_FORMAT_XXX
embroidery.h, 466
EMB_FORMAT_ZSK
embroidery.h, 466
emb_identify_format
embroidery.h, 472
formats.c, 567
EMB_IMAGE
embroidery.h, 467
EMB_INT16_BIG
embroidery_internal.h, 513
EMB_INT16_LITTLE
embroidery_internal.h, 513
EMB_INT32_BIG
embroidery_internal.h, 513
EMB_INT32_LITTLE
embroidery_internal.h, 513
EMB_LINE
embroidery.h, 467
EMB_LITTLE_ENDIAN
embroidery_internal.h, 513
EMB_MAX
embroidery_internal.h, 513
EMB_MAX_LAYERS
embroidery.h, 467
EMB_MIN
embroidery_internal.h, 513
emb_optOut
embroidery_internal.h, 525
main.c, 631
EMB_PATH
embroidery.h, 467
EMB_POINT
embroidery.h, 467
EMB_POLYGON
embroidery.h, 467
EMB_POLYLINE
embroidery.h, 467
EMB_PUBLIC
embroidery.h, 467
emb_readline
embroidery_internal.h, 525
main.c, 631
EMB_RECT
embroidery.h, 467
emb_round
embroidery.h, 472
functions.c, 617
EMB_SPLINE
embroidery.h, 467

EMB_STITCH
embroidery.h, 467

EMB_TEXT_MULTI
embroidery.h, 467

EMB_TEXT_SINGLE
embroidery.h, 467

EMB_THREAD
embroidery.h, 467

EMB_VECTOR
embroidery.h, 467

emb_verbose
embroidery.h, 492
main.c, 637

EmbAlignedDim
embroidery.h, 470

EmbAlignedDim_, 132
position, 133

EmbAngularDim
embroidery.h, 470

EmbAngularDim_, 133
position, 133

EmbArc
embroidery.h, 470

EmbArc_, 133
end, 134
mid, 134
start, 134

embArc_arcLength
arc.c, 612

embArc_area
arc.c, 612

embArc_chord
arc.c, 612

embArc_clockwise
arc.c, 612
embroidery.h, 472

embArc_endAngle
arc.c, 612

embArc_gripEdit
arc.c, 612

embArc_includedAngle
arc.c, 612

embArc_init
arc.c, 612
embroidery.h, 473

embArc_mouseSnapPoint
arc.c, 612

embArc_paint
arc.c, 612

embArc_print
main.c, 631

embArc_setCenter
arc.c, 612

embArc_setEndAngle
arc.c, 612

embArc_setRadius
arc.c, 612

embArc_setStartAngle
arc.c, 613

embArc_startAngle
arc.c, 613

embArc_updatePath
arc.c, 613

embArc_updateRubber
arc.c, 613

EmbArcLengthDim
embroidery.h, 470

EmbArcLengthDim_, 134
position, 134

EmbArray
embroidery.h, 470

EmbArray_, 134
count, 135
geometry, 135
length, 135
stitch, 135
thread, 135
type, 135

embArray_addArc
array.c, 447
embroidery.h, 473

embArray_addCircle
array.c, 447
embroidery.h, 473

embArray_addEllipse
array.c, 448
embroidery.h, 473

embArray_addFlag
array.c, 448
embroidery.h, 473

embArray_addLine
array.c, 448
embroidery.h, 474

embArray_addPath
array.c, 448
embroidery.h, 474

embArray_addPoint
array.c, 449
embroidery.h, 474

embArray_addPolygon
array.c, 449
embroidery.h, 474

embArray_addPolyline
array.c, 449
embroidery.h, 475

embArray_addRect
array.c, 450
embroidery.h, 475

embArray_addStitch
array.c, 450
embroidery.h, 475

embArray_addThread
embroidery.h, 475

embArray_addVector
array.c, 450
embroidery.h, 476

embArray_copy
array.c, 450
embroidery.h, 476
embArray_create
array.c, 451
embroidery.h, 476
embArray_free
array.c, 451
embroidery.h, 476
embArray_resize
array.c, 451
embroidery.h, 476
embBaseSetColorRGB
arc.c, 613
EmbBezier
embroidery.h, 470
EmbBezier_, 135
control1, 136
control2, 136
end, 136
start, 136
EmbBlock
embroidery.h, 470
EmbBlock_, 136
position, 136
EmbCircle
embroidery.h, 470
EmbCircle_, 137
center, 137
radius, 137
embCircle_area
circle.c, 614
embCircle_circumference
circle.c, 614
embCircle_init
circle.c, 614
embroidery.h, 477
embCircle_prompt
arc.c, 613
embCircle_setArea
arc.c, 613
embCircle_setCircumference
arc.c, 613
EmbColor
embroidery.h, 470
EmbColor_, 137
b, 137
g, 137
r, 138
embColor_create
embroidery.h, 477
embColor_distance
embroidery.h, 477
main.c, 631
embColor_fromHexStr
embroidery.h, 477
encoding.c, 555
embColor_make
embroidery.h, 477
embColor_read
embroidery_internal.h, 525
main.c, 632
embColor_write
embroidery_internal.h, 527
main.c, 632
embConstantPi
embroidery.h, 492
main.c, 638
EmbDetailsDialog, 138
~EmbDetailsDialog, 138
boundingRect, 139
buttonBox, 139
colorChanges, 139
colorTotal, 139
createHistogram, 139
createMainWidget, 139
EmbDetailsDialog, 138
getInfo, 139
mainWidget, 139
stitchesJump, 139
stitchesReal, 139
stitchesTotal, 140
stitchesTrim, 140
EmbDiameterDim
embroidery.h, 470
EmbDiameterDim_, 140
position, 140
EmbEllipse
embroidery.h, 470
EmbEllipse_, 140
center, 141
radius, 141
rotation, 141
embEllipse_area
ellipse.c, 616
embroidery.h, 477
embEllipse_click
arc.c, 613
embEllipse_diameterX
ellipse.c, 616
embroidery.h, 477
embEllipse_diameterY
ellipse.c, 616
embroidery.h, 478
embEllipse_height
ellipse.c, 616
embroidery.h, 478
embEllipse_init
ellipse.c, 616
embroidery.h, 478
embEllipse_main
arc.c, 613
embEllipse_make
embroidery.h, 478
embEllipse_perimeter
ellipse.c, 616

embroidery.h, 478
embEllipse_setDiameterMajor
 ellipse.c, 616
embEllipse_setDiameterMinor
 ellipse.c, 616
embEllipse_setRadiusMajor
 ellipse.c, 616
embEllipse_setRadiusMinor
 ellipse.c, 616
embEllipse_setSize
 ellipse.c, 616
embEllipse_updatePath
 ellipse.c, 616
embEllipse_width
 ellipse.c, 617
 embroidery.h, 478
EmbFlag
 embroidery.h, 470
embFormat_getExtension
 formats.c, 568
EMBFORMAT_MAXDESC
 embroidery.h, 467
EMBFORMAT_MAXEXT
 embroidery.h, 467
EMBFORMAT_OBJECTONLY
 embroidery.h, 467
EMBFORMAT_STCHANDOBJ
 embroidery.h, 468
EMBFORMAT_STITCHONLY
 embroidery.h, 468
EMBFORMAT_UNSUPPORTED
 embroidery.h, 468
EmbFormatList
 embroidery.h, 470
EmbFormatList_, 141
 check_for_color_file, 141
 color_only, 141
 description, 141
 extension, 142
 reader_state, 142
 type, 142
 write_external_color_file, 142
 writer_state, 142
EmbGeometry
 embroidery.h, 470
EmbGeometry_, 142
 arc, 143
 circle, 143
 color, 143
 ellipse, 143
 flag, 143
 line, 143
 lineType, 143
 object, 143
 path, 143
 point, 143
 polygon, 143
 polyline, 144
 rect, 144
 spline, 144
 stitch, 144
 thread, 144
 type, 144
 vector, 144
embGeometry_boundingRect
 embroidery.h, 478
 geometry.c, 609
embGeometry_free
 embroidery.h, 478
 geometry.c, 609
embGeometry_init
 embroidery.h, 478
 geometry.c, 610
embGeometry_move
 embroidery.h, 479
 geometry.c, 610
embGeometry_vulcanize
 embroidery.h, 479
 geometry.c, 610
EmblImage
 embroidery.h, 471
EmblImage_, 144
 data, 145
 dimensions, 145
 height, 145
 name, 145
 path, 145
 position, 145
 width, 145
emblImage_create
 embroidery.h, 479
emblImage_free
 embroidery.h, 479
emblImage_read
 embroidery.h, 479
emblImage_write
 embroidery.h, 479
EmblInfiniteLine
 embroidery.h, 471
EmblInfiniteLine_, 145
 position, 146
emblInt_read
 embroidery_internal.h, 527
 encoding.c, 555
emblInt_write
 embroidery_internal.h, 527
 encoding.c, 556
EmbLayer
 embroidery.h, 471
EmbLayer_, 146
 geometry, 146
 name, 146
EmbLeaderDim
 embroidery.h, 471
EmbLeaderDim_, 146
 position, 147

EmbLine
embroidery.h, 471

EmbLine_, 147
color, 147
end, 147
lineType, 147
start, 147

embLine_intersectionPoint
embroidery.h, 479
line.c, 617

embLine_make
embroidery.h, 480

embLine_normalVector
embroidery.h, 480
line.c, 618

embLine_toVector
line.c, 618

EmbLinearDim
embroidery.h, 471

EmbLinearDim_, 148
position, 148

EmbOrdinateDim
embroidery.h, 471

EmbOrdinateDim_, 148
position, 148

EmbPath
embroidery.h, 471

EmbPath_, 148
color, 149
flagList, 149
lineType, 149
pointList, 149

EmbPattern
embroidery.h, 471

EmbPattern_, 149
currentColorIndex, 150
dstJumpsPerTrim, 150
geometry, 150
home, 150
hoop_height, 150
hoop_width, 150
layer, 150
stitch_list, 150
thread_list, 150

embPattern_addCircleAbs
embroidery.h, 480
pattern.c, 639

embPattern_addEllipseAbs
embroidery.h, 480
pattern.c, 639

embPattern_addLineAbs
embroidery.h, 480
pattern.c, 639

embPattern_addPathAbs
embroidery.h, 480
pattern.c, 639

embPattern_addPointAbs
embroidery.h, 480

pattern.c, 639

embPattern_addPolygonAbs
embroidery.h, 480
pattern.c, 640

embPattern_addPolylineAbs
embroidery.h, 480

embPattern_addPolylineObjectAbs
pattern.c, 640

embPattern_addRectAbs
embroidery.h, 480
pattern.c, 640

embPattern_addStitchAbs
embroidery.h, 481
pattern.c, 640

embPattern_addStitchRel
embroidery.h, 481
pattern.c, 640

embPattern_addThread
embroidery.h, 481
pattern.c, 640

embPattern_calcBoundingBox
embroidery.h, 481
pattern.c, 640

embPattern_center
embroidery.h, 481
pattern.c, 640

embPattern_changeColor
embroidery.h, 481
pattern.c, 641

embPattern_color_count
embroidery.h, 481
pattern.c, 641

embPattern_combine
embroidery.h, 482
fill.c, 559

embPattern_combineJumpStitches
embroidery.h, 482
pattern.c, 641

embPattern_convertGeometry
embroidery.h, 482
fill.c, 559

embPattern_copyPolylinesToStitch_list
pattern.c, 641

embPattern_copyPolylinesToStitchList
embroidery.h, 482

embPattern_copystitch_listToPolylines
pattern.c, 641

embPattern_copyStitchListToPolylines
embroidery.h, 482

embPattern_correctForMaxStitchLength
embroidery.h, 482
pattern.c, 641

embPattern_create
embroidery.h, 482
pattern.c, 641

embPattern_crossstitch
embroidery.h, 483
fill.c, 559

embPattern_designDetails
 embroidery.h, 483
 pattern.c, 641
embPattern_end
 embroidery.h, 483
 pattern.c, 641
embPattern_fixColorCount
 embroidery.h, 483
 pattern.c, 642
embPattern_flip
 embroidery.h, 483
 pattern.c, 642
embPattern_flipHorizontal
 embroidery.h, 483
 pattern.c, 642
embPattern_flipVertical
 embroidery.h, 483
 pattern.c, 642
embPattern_free
 embroidery.h, 483
 pattern.c, 642
embPattern_hideStitchesOverLength
 embroidery.h, 483
 pattern.c, 642
embPattern_horizontal_fill
 embroidery.h, 484
 fill.c, 560
embPattern_jumpStitches
 embroidery.h, 484
 pattern.c, 642
embPattern_lengthHistogram
 embroidery.h, 484
 pattern.c, 642
embPattern_loadExternalColorFile
 embroidery.h, 484
 pattern.c, 642
embPattern_maximumStitchLength
 embroidery.h, 484
 pattern.c, 643
embPattern_minimumStitchLength
 embroidery.h, 484
 pattern.c, 643
embPattern_movePolylinesToStitch_list
 pattern.c, 643
embPattern_movePolylinesToStitchList
 embroidery.h, 484
embPattern_movestitch_listToPolylines
 pattern.c, 643
embPattern_moveStitchListToPolylines
 embroidery.h, 485
embPattern_read
 embroidery.h, 485
 formats.c, 568
embPattern_readAuto
 embroidery.h, 485
 formats.c, 568
embPattern_realStitches
 embroidery.h, 485
 pattern.c, 643
embPattern_render
 embroidery.h, 485
embPattern_scale
 embroidery.h, 485
 pattern.c, 643
embPattern_simulate
 embroidery.h, 485
embPattern_stitchArc
 fill.c, 560
embPattern_stitchCircle
 fill.c, 560
embPattern_stitchEllipse
 fill.c, 560
embPattern_stitchPath
 fill.c, 561
embPattern_stitchPolygon
 fill.c, 561
embPattern_stitchPolyline
 fill.c, 561
embPattern_stitchRect
 fill.c, 562
embPattern_stitchText
 fill.c, 562
embPattern_totalStitchLength
 embroidery.h, 485
 pattern.c, 643
embPattern_trimStitches
 embroidery.h, 486
 pattern.c, 643
embPattern_write
 embroidery.h, 486
 formats.c, 569
embPattern_writeAuto
 embroidery.h, 486
 formats.c, 569
EmbPoint
 embroidery.h, 471
EmbPoint_
 color, 151
 lineType, 151
 position, 151
EmbPolygon
 embroidery.h, 471
embPolygon_reduceByDistance
 fill.c, 562
embPolygon_reduceByNth
 fill.c, 562
EmbPolyline
 embroidery.h, 471
EmbRadiusDim
 embroidery.h, 471
EmbRadiusDim_
 position, 151
EmbRay
 embroidery.h, 471
EmbRay_
 position, 152

EmbReal
embroidery.h, 471

EmbRect
embroidery.h, 471

EmbRect_, 152
bottom, 152
left, 152
radius, 152
right, 153
rotation, 153
top, 153

embRect_area
embroidery.h, 486
rect.c, 618

embRect_bottomLeft
arc.c, 613

embRect_bottomRight
arc.c, 613

embRect_init
embroidery.h, 486
rect.c, 618

embroidermodder.cpp
appName, 385
appVer, 385
exitApp, 385
main, 384
usage, 385
version, 385

embroidermodder.h
ACTION_about, 390
ACTION_changelog, 390
ACTION_colorselector, 391
ACTION_copy, 390
ACTION_cut, 390
ACTION_day, 391
ACTION_designdetails, 390
ACTION_donothing, 390
ACTION_exit, 390
ACTION_freezealllayers, 391
ACTION_help, 390
ACTION_hidealllayers, 391
ACTION_icon128, 391
ACTION_icon16, 391
ACTION_icon24, 391
ACTION_icon32, 391
ACTION_icon48, 391
ACTION_icon64, 391
ACTION_layerprevious, 391
ACTION_layers, 391
ACTION_layerselector, 391
ACTION_linetypeselector, 391
ACTION_lineweightselector, 391
ACTION_lockalllayers, 391
ACTION_makelayercurrent, 391
ACTION_new, 390
ACTION_night, 391
ACTION_null, 391
ACTION_open, 390

ACTION_pandown, 391
ACTION_panleft, 391
ACTION_panpoint, 391
ACTION_panrealtime, 391
ACTION_panright, 391
ACTION_panup, 391
ACTION_paste, 390
ACTION_print, 390
ACTION_redo, 390
ACTION_save, 390
ACTION_saveas, 390
ACTION_settingsdialog, 391
ACTION_showalllayers, 391
ACTION_textbold, 391
ACTION_textitalic, 391
ACTION_textoverline, 391
ACTION_textstrikeout, 391
ACTION_textunderline, 391
ACTION_thawalllayers, 391
ACTION_tipoftheday, 390
ACTION_undo, 390
ACTION_unlockalllayers, 391
ACTION_whatsthis, 390
ACTION_windowcascade, 390
ACTION_windowclose, 390
ACTION_windowcloseall, 390
ACTION_windownext, 390
ACTION_windowprevious, 390
ACTION_windowtile, 390
ACTION_zoomall, 391
ACTION_zoomcenter, 391
ACTION_zoomdynamic, 391
ACTION_zoomextents, 391
ACTION_zoomin, 391
ACTION_zoomout, 391
ACTION_zooprevious, 391
ACTION_zoomrealtime, 391
ACTION_zoomscale, 391
ACTION_zoomselected, 391
ACTION_zoomwindow, 391
CIRCLE_MODE_1P_DIA, 395
CIRCLE_MODE_1P_RAD, 395
CIRCLE_MODE_2P, 395
CIRCLE_MODE_3P, 395
CIRCLE_MODE_TTR, 395
COMMAND_ACTIONS, 390
DEFAULT_MODE, 395
degrees, 396
Dictionary, 389
DOLPHIN_MODE_NUM_POINTS, 395
DOLPHIN_MODE_XSCALE, 395
DOLPHIN_MODE_YSCALE, 396
ELLIPSE_MODE_ELLIPSE_ROTATION, 395
ELLIPSE_MODE_MAJORDIAMETER_MINORRADIUS, 395
ELLIPSE_MODE_MAJORRADIUS_MINORRADIUS, 395
emb_constant_pi, 397

EmbView, 389
 HEART_MODE_NUM_POINTS, 396
 HEART_MODE_STYLE, 396
 HEART_MODE_XSCALE, 396
 HEART_MODE_YSCALE, 396
 Index, 389
 mainWin, 396
 OBJ_COLOR, 392
 OBJ_KEYS, 391
 OBJ_LAYER, 392
 OBJ_LTYPE, 392
 OBJ_LTYPE_CENTER, 392
 OBJ_LTYPE_CONT, 392
 OBJ_LTYPE_DOT, 392
 OBJ_LTYPE_FISHBONE, 392
 OBJ_LTYPE_HIDDEN, 392
 OBJ_LTYPE_PHANTOM, 392
 OBJ_LTYPE_RUNNING, 392
 OBJ_LTYPE_SATIN, 392
 OBJ_LTYPE_VALUES, 392
 OBJ_LTYPE_ZIGZAG, 392
 OBJ_LWT, 392
 OBJ_LWT_01, 392
 OBJ_LWT_02, 392
 OBJ_LWT_03, 392
 OBJ_LWT_04, 392
 OBJ_LWT_05, 392
 OBJ_LWT_06, 392
 OBJ_LWT_07, 392
 OBJ_LWT_08, 392
 OBJ_LWT_09, 392
 OBJ_LWT_10, 392
 OBJ_LWT_11, 392
 OBJ_LWT_12, 392
 OBJ_LWT_13, 392
 OBJ_LWT_14, 392
 OBJ_LWT_15, 392
 OBJ_LWT_16, 392
 OBJ_LWT_17, 393
 OBJ_LWT_18, 393
 OBJ_LWT_19, 393
 OBJ_LWT_20, 393
 OBJ_LWT_21, 393
 OBJ_LWT_22, 393
 OBJ_LWT_23, 393
 OBJ_LWT_24, 393
 OBJ_LWT_BYBLOCK, 392
 OBJ_LWT_BYLAYER, 392
 OBJ_LWT_DEFAULT, 392
 OBJ_LWT_VALUES, 392
 OBJ_NAME, 392
 OBJ_RUBBER, 392
 OBJ_RUBBER_CIRCLE_1P_DIA, 393
 OBJ_RUBBER_CIRCLE_1P_RAD, 393
 OBJ_RUBBER_CIRCLE_2P, 393
 OBJ_RUBBER_CIRCLE_3P, 393
 OBJ_RUBBER_CIRCLE_TTR, 393
 OBJ_RUBBER_CIRCLE_TTT, 393
 OBJ_RUBBER_DIMLEADER_LINE, 393
 OBJ_RUBBER_ELLIPSE_LINE, 393
 OBJ_RUBBER_ELLIPSE_MAJORDIAMETER_MINORRADIUS, 393
 OBJ_RUBBER_ELLIPSE_MAJORRADIUS_MINORRADIUS, 393
 OBJ_RUBBER_ELLIPSE_ROTATION, 393
 OBJ_RUBBER_GRIP, 393
 OBJ_RUBBER_IMAGE, 393
 OBJ_RUBBER_LINE, 393
 OBJ_RUBBER_OFF, 393
 OBJ_RUBBER_ON, 393
 OBJ_RUBBER_POLYGON, 393
 OBJ_RUBBER_POLYGON_CIRCUMSCRIBE, 393
 OBJ_RUBBER_POLYGON_INSCRIBE, 393
 OBJ_RUBBER_POLYLINE, 393
 OBJ_RUBBER_RECTANGLE, 393
 OBJ_RUBBER_TEXTSINGLE, 393
 OBJ_RUBBER_VALUES, 393
 OBJ_SNAP_APPINTERSECTION, 394
 OBJ_SNAP_CENTER, 394
 OBJ_SNAP_ENDPOINT, 394
 OBJ_SNAP_EXTENSION, 394
 OBJ_SNAP_INSERTION, 394
 OBJ_SNAP_INTERSECTION, 394
 OBJ_SNAP_MIDPOINT, 394
 OBJ_SNAP_NEAREST, 394
 OBJ_SNAP_NODE, 394
 OBJ_SNAP_NULL, 394
 OBJ_SNAP_PARALLEL, 394
 OBJ_SNAP_PERPENDICULAR, 394
 OBJ_SNAP_QUADRANT, 394
 OBJ_SNAP_TANGENT, 394
 OBJ_SNAP_VALUES, 393
 OBJ_TYPE, 392
 OBJ_TYPE_ARC, 394
 OBJ_TYPE_BASE, 394
 OBJ_TYPE_BLOCK, 394
 OBJ_TYPE_CIRCLE, 394
 OBJ_TYPE_DIMALIGNED, 394
 OBJ_TYPE_DIMANGULAR, 394
 OBJ_TYPE_DIMARCLENGTH, 394
 OBJ_TYPE_DIMDIAMETER, 394
 OBJ_TYPE_DIMLEADER, 394
 OBJ_TYPE_DIMLINEAR, 394
 OBJ_TYPE_DIMORDINATE, 394
 OBJ_TYPE_DIMRADIUS, 394
 OBJ_TYPE_ELLIPSE, 394
 OBJ_TYPE_ELLIPSEARC, 394
 OBJ_TYPE_GRID, 394
 OBJ_TYPE_HATCH, 394
 OBJ_TYPE_IMAGE, 394
 OBJ_TYPE_INFINITELINE, 394
 OBJ_TYPE_LINE, 394
 OBJ_TYPE_NULL, 394
 OBJ_TYPE_PATH, 394
 OBJ_TYPE_POINT, 394
 OBJ_TYPE_POLYGON, 394

OBJ_TYPE_POLYLINE, 394
OBJ_TYPE_RAY, 394
OBJ_TYPE_RECTANGLE, 394
OBJ_TYPE_RUBBER, 394
OBJ_TYPE_SLOT, 394
OBJ_TYPE_SPLINE, 394
OBJ_TYPE_TEXTMULTI, 395
OBJ_TYPE_TEXTSINGLE, 395
OBJ_TYPE_VALUES, 394
operator+, 396
operator-, 396
PREVIEW_CLONE_NULL, 395
PREVIEW_CLONE_RUBBER, 395
PREVIEW_CLONE_SELECTED, 395
PREVIEW_CLONE_VALUES, 395
PREVIEW_MODE_MOVE, 395
PREVIEW_MODE_NULL, 395
PREVIEW_MODE_ROTATE, 395
PREVIEW_MODE_SCALE, 395
PREVIEW_MODE_VALUES, 395
radians, 396
read_settings, 396
ROTATE_MODE_NORMAL, 396
ROTATE_MODE_REFERENCE, 396
SCALE_MODE_NORMAL, 396
SCALE_MODE_REFERENCE, 396
Settings, 389
SINGLE_LINE_TEXT_MODE_JUSTIFY, 396
SINGLE_LINE_TEXT_MODE_RAPID, 396
SINGLE_LINE_TEXT_MODE_SETFONT, 396
SINGLE_LINE_TEXT_MODE_SETGEOM, 396
SNOWFLAKE_MODE_NUM_POINTS, 396
SNOWFLAKE_MODE_XSCALE, 396
SNOWFLAKE_MODE_YSCALE, 396
SPARE_RUBBER_OFF, 395
SPARE_RUBBER_PATH, 395
SPARE_RUBBER_POLYGON, 395
SPARE_RUBBER_POLYLINE, 395
SPARE_RUBBER_VALUES, 395
STAR_MODE_CENTER_PT, 396
STAR_MODE_NUM_POINTS, 396
STAR_MODE_RAD_INNER, 396
STAR_MODE_RAD_OUTER, 396
to_EmbVector, 397
to_QPointF, 397
UiMode, 395
UiObject, 389
UndoHistory, 390
write_settings, 397
embroidermodder2/cmdprompt.cpp, 383
embroidermodder2/docs/fdl-1.3.md, 384
embroidermodder2/docs/README.md, 443
embroidermodder2/embeddetails-dialog.cpp, 384
embroidermodder2/embroidermodder.cpp, 384
embroidermodder2/embroidermodder.h, 385, 397
embroidermodder2/imagewidget.cpp, 438
embroidermodder2/layer-manager.cpp, 438
embroidermodder2/mainwindow-actions.cpp, 438
embroidermodder2/mainwindow-commands.cpp, 438
embroidermodder2/mainwindow-menus.cpp, 438
embroidermodder2/mainwindow-settings.cpp, 439
embroidermodder2/mainwindow-toolbars.cpp, 439
embroidermodder2/mainwindow.cpp, 439
embroidermodder2/mdiarea.cpp, 440
embroidermodder2/mdiwindow.cpp, 440
embroidermodder2/object-arc.cpp, 440
embroidermodder2/object-base.cpp, 441
embroidermodder2/object-circle.cpp, 441
embroidermodder2/object-dimleader.cpp, 441
embroidermodder2/object-ellipse.cpp, 441
embroidermodder2/object-image.cpp, 441
embroidermodder2/object-line.cpp, 441
embroidermodder2/object-path.cpp, 441
embroidermodder2/object-point.cpp, 442
embroidermodder2/object-polygon.cpp, 442
embroidermodder2/object-polyline.cpp, 442
embroidermodder2/object-rect.cpp, 442
embroidermodder2/object-save.cpp, 442
embroidermodder2/object-textsingle.cpp, 442
embroidermodder2/preview-dialog.cpp, 442
embroidermodder2/property-editor.cpp, 442
embroidermodder2/README.md, 443
embroidermodder2/selectbox.cpp, 443
embroidermodder2/settings-dialog.cpp, 443
embroidermodder2/statusbar-button.cpp, 443
embroidermodder2/statusbar.cpp, 443
embroidermodder2/undo-commands.cpp, 443
embroidermodder2/undo-editor.cpp, 443
embroidermodder2/utility.cpp, 443
embroidermodder2/view.cpp, 447
embroidery.h
 _dxsetColorTable, 492
 Arc_Polyester, 462
 Arc_Rayon, 463
 black_thread, 492
 CHUNK_SIZE, 463
 CoatsAndClark_Rayon, 463
 convert, 472
 degrees, 472
 dxf_color, 463
 EMB_ARC, 463
 EMB_ARRAY, 463
 EMB_CIRCLE, 463
 EMB_DIM_DIAMETER, 463
 EMB_DIM_LEADER, 463
 EMB_ELLIPSE, 463
 emb_error, 492
 EMB_FLAG, 463
 EMB_FORMAT_100, 463
 EMB_FORMAT_10O, 463
 EMB_FORMAT_ART, 463
 EMB_FORMAT_BMC, 463
 EMB_FORMAT_BRO, 463
 EMB_FORMAT_CND, 463
 EMB_FORMAT_COL, 463
 EMB_FORMAT_CSD, 464

EMB_FORMAT_CSV, 464
EMB_FORMAT_DAT, 464
EMB_FORMAT_DEM, 464
EMB_FORMAT_DSB, 464
EMB_FORMAT_DST, 464
EMB_FORMAT_DSZ, 464
EMB_FORMAT_DXF, 464
EMB_FORMAT_EDR, 464
EMB_FORMAT_EMD, 464
EMB_FORMAT_EXP, 464
EMB_FORMAT_EXY, 464
EMB_FORMAT_EYS, 464
EMB_FORMAT_FXY, 464
EMB_FORMAT_GC, 464
EMB_FORMAT_GNC, 464
EMB_FORMAT_GT, 464
EMB_FORMAT_HUS, 464
EMB_FORMAT_INB, 465
EMB_FORMAT_INF, 465
EMB_FORMAT_JEF, 465
EMB_FORMAT_KSM, 465
EMB_FORMAT_MAX, 465
EMB_FORMAT_MIT, 465
EMB_FORMAT_NEW, 465
EMB_FORMAT_OFM, 465
EMB_FORMAT_PCD, 465
EMB_FORMAT_PCM, 465
EMB_FORMAT_PCQ, 465
EMB_FORMAT_PCS, 465
EMB_FORMAT_PEC, 465
EMB_FORMAT_PEL, 465
EMB_FORMAT_PEM, 465
EMB_FORMAT_PES, 465
EMB_FORMAT_PHB, 465
EMB_FORMAT_PHC, 465
EMB_FORMAT_PLT, 466
EMB_FORMAT_RGB, 466
EMB_FORMAT_SEW, 466
EMB_FORMAT_SHV, 466
EMB_FORMAT_SST, 466
EMB_FORMAT_STX, 466
EMB_FORMAT_SVG, 466
EMB_FORMAT_T01, 466
EMB_FORMAT_T09, 466
EMB_FORMAT_TAP, 466
EMB_FORMAT_THR, 466
EMB_FORMAT_TXT, 466
EMB_FORMAT_U00, 466
EMB_FORMAT_U01, 466
EMB_FORMAT_VIP, 466
EMB_FORMAT_VP3, 466
EMB_FORMAT_XXX, 466
EMB_FORMAT_ZSK, 466
emb_identify_format, 472
EMB_IMAGE, 467
EMB_LINE, 467
EMB_MAX_LAYERS, 467
EMB_PATH, 467
EMB_POINT, 467
EMB_POLYGON, 467
EMB_POLYLINE, 467
EMB_PUBLIC, 467
EMB_RECT, 467
emb_round, 472
EMB_SPLINE, 467
EMB_STITCH, 467
EMB_TEXT_MULTI, 467
EMB_TEXT_SINGLE, 467
EMB_THREAD, 467
EMB_VECTOR, 467
emb_verbose, 492
EmbAlignedDim, 470
EmbAngularDim, 470
EmbArc, 470
embArc_clockwise, 472
embArc_init, 473
EmbArcLengthDim, 470
EmbArray, 470
embArray_addArc, 473
embArray_addCircle, 473
embArray_addEllipse, 473
embArray_addFlag, 473
embArray_addLine, 474
embArray_addPath, 474
embArray_addPoint, 474
embArray_addPolygon, 474
embArray_addPolyline, 475
embArray_addRect, 475
embArray_addStitch, 475
embArray_addThread, 475
embArray_addVector, 476
embArray_copy, 476
embArray_create, 476
embArray_free, 476
embArray_resize, 476
EmbBezier, 470
EmbBlock, 470
EmbCircle, 470
embCircle_init, 477
EmbColor, 470
embColor_create, 477
embColor_distance, 477
embColor_fromHexStr, 477
embColor_make, 477
embConstantPi, 492
EmbDiameterDim, 470
EmbEllipse, 470
embEllipse_area, 477
embEllipse_diameterX, 477
embEllipse_diameterY, 478
embEllipse_height, 478
embEllipse_init, 478
embEllipse_make, 478
embEllipse_perimeter, 478
embEllipse_width, 478
EmbFlag, 470

EMBFORMAT_MAXDESC, 467
EMBFORMAT_MAXEXT, 467
EMBFORMAT_OBJECTONLY, 467
EMBFORMAT_STCHANDOBJ, 468
EMBFORMAT_STITCHONLY, 468
EMBFORMAT_UNSUPPORTED, 468
EmbFormatList, 470
EmbGeometry, 470
embGeometry_boundingRect, 478
embGeometry_free, 478
embGeometry_init, 478
embGeometry_move, 479
embGeometry_vulcanize, 479
EmblImage, 471
emblImage_create, 479
emblImage_free, 479
emblImage_read, 479
emblImage_write, 479
EmblInfiniteLine, 471
EmbLayer, 471
EmbLeaderDim, 471
EmbLine, 471
embLine_intersectionPoint, 479
embLine_make, 480
embLine_normalVector, 480
EmbLinearDim, 471
EmbOrdinateDim, 471
EmbPath, 471
EmbPattern, 471
embPattern_addCircleAbs, 480
embPattern_addEllipseAbs, 480
embPattern_addLineAbs, 480
embPattern_addPathAbs, 480
embPattern_addPointAbs, 480
embPattern_addPolygonAbs, 480
embPattern_addPolylineAbs, 480
embPattern_addRectAbs, 480
embPattern_addStitchAbs, 481
embPattern_addStitchRel, 481
embPattern_addThread, 481
embPattern_calcBoundingBox, 481
embPattern_center, 481
embPattern_changeColor, 481
embPattern_color_count, 481
embPattern_combine, 482
embPattern_combineJumpStitches, 482
embPattern_convertGeometry, 482
embPattern_copyPolylinesToStitchList, 482
embPattern_copyStitchListToPolylines, 482
embPattern_correctForMaxStitchLength, 482
embPattern_create, 482
embPattern_crossstitch, 483
embPattern_designDetails, 483
embPattern_end, 483
embPattern_fixColorCount, 483
embPattern_flip, 483
embPattern_flipHorizontal, 483
embPattern_flipVertical, 483
embPattern_free, 483
embPattern_hideStitchesOverLength, 483
embPattern_horizontal_fill, 484
embPattern_jumpStitches, 484
embPattern_lengthHistogram, 484
embPattern_loadExternalColorFile, 484
embPattern_maximumStitchLength, 484
embPattern_minimumStitchLength, 484
embPattern_movePolylinesToStitchList, 484
embPattern_moveStitchListToPolylines, 485
embPattern_read, 485
embPattern_readAuto, 485
embPattern_realStitches, 485
embPattern_render, 485
embPattern_scale, 485
embPattern_simulate, 485
embPattern_totalStitchLength, 485
embPattern_trimStitches, 486
embPattern_write, 486
embPattern_writeAuto, 486
EmbPoint, 471
EmbPolygon, 471
EmbPolyline, 471
EmbRadiusDim, 471
EmbRay, 471
EmbReal, 471
EmbRect, 471
embRect_area, 486
embRect_init, 486
EmbSatinOutline, 471
embSatinOutline_generateSatinOutline, 486
embSatinOutline_renderStitches, 487
EmbSpline, 471
EmbStitch, 472
EmbTextMulti, 472
EmbTextSingle, 472
EmbThread, 472
embThread_findNearestColor, 487
embThread_findNearestThread, 487
embThread_getRandom, 488
EmbTime, 472
embTime_initNow, 488
embTime_time, 488
EmbVector, 472
embVector_add, 488
embVector_angle, 488
embVector_average, 488
embVector_cross, 489
embVector_distance, 489
embVector_dot, 489
embVector_length, 489
embVector_multiply, 489
embVector_normalize, 489
embVector_relativeX, 490
embVector_relativeY, 490
embVector_subtract, 490
embVector_transpose_product, 490
embVector_unit, 490

END, 468
 Exquisite_Polyester, 468
 formatTable, 492
 Fufu_Polyester, 468
 Fufu_Rayon, 468
 full_test_matrix, 490
 getArcCenter, 490
 getArcDataFromBulge, 490
 getCircleCircleIntersections, 491
 getCircleTangentPoints, 491
 Hemingworth_Polyester, 468
 hilbert_curve, 491
 hus_thread, 468
 husThreads, 493
 Isacord_Polyester, 468
 Isafil_Rayon, 468
 jef_thread, 468
 jefThreads, 493
 JUMP, 468
 L_system, 472
 LIBEMBROIDERY_EMBEDDED_VERSION, 468
 lindenmayer_system, 491
 Madeira_Polyester, 468
 Madeira_Rayon, 468
 Marathon_Polyester, 468
 Marathon_Rayon, 468
 MAX_STITCHES, 469
 MAX_THREADS, 469
 Metro_Polyester, 469
 NORMAL, 469
 numberFormats, 469
 Pantone, 469
 pcm_thread, 469
 pcmThreads, 493
 pec_thread, 469
 pecThreadCount, 493
 pecThreads, 493
 radians, 492
 report, 492
 RobisonAnton_Polyester, 469
 RobisonAnton_Rayon, 469
 SEQUIN, 469
 shv_thread, 469
 shvThreadCount, 493
 shvThreads, 493
 Sigma_Polyester, 469
 STOP, 469
 Sulky_Rayon, 469
 SVG_Colors, 469
 testMain, 492
 thread_color, 472
 ThreadArt_Polyester, 469
 ThreadArt_Rayon, 469
 threadColor, 492
 threadColorName, 492
 threadColorNum, 492
 ThreaDelight_Polyester, 470
 TRIM, 470
 vipDecodingTable, 493
 Z102_Isacord_Polyester, 470
 embroidery_internal.h
 bcf_difat_create, 517
 bcf_directory, 516
 bcf_directory_entry, 516
 bcf_directory_free, 518
 bcf_file, 516
 bcf_file_difat, 516
 bcf_file_difat_free, 518
 bcf_file_fat, 516
 bcf_file_fat_free, 518
 bcf_file_free, 518
 bcf_file_header, 516
 bcfFile_read, 518
 bcfFileFat_create, 518
 bcfFileHeader_isValid, 519
 bcfFileHeader_read, 519
 binaryReadString, 519
 binaryReadUnicodeString, 519
 binaryWriteInt, 519
 binaryWriteIntBE, 520
 binaryWriteShort, 520
 binaryWriteUInt, 520
 binaryWriteUIntBE, 520
 binaryWriteUShort, 520
 binaryWriteUShortBE, 521
 BULGETOCONTROL, 508
 BULGETOEND, 508
 check_header_present, 521
 CompoundFileDirectory, 521
 CompoundFileDirectoryEntry, 521
 CompoundFileSector_DIFAT_Sector, 508
 CompoundFileSector_EndOfChain, 508
 CompoundFileSector_FAT_Sector, 508
 CompoundFileSector_FreeSector, 508
 CompoundFileSector_MaxRegSector, 508
 CompoundFileStreamId_MaxRegularStreamId, 508
 CompoundFileStreamId_NoStream, 509
 compress, 516
 compress_get_bits, 522
 compress_get_position, 522
 compress_get_token, 522
 compress_load_block, 522
 compress_load_character_huffman, 523
 compress_load_character_length_huffman, 523
 compress_load_distance_huffman, 523
 compress_pop, 523
 compress_read_variable_length, 523
 copy_trim, 524
 create_test_file_1, 524
 create_test_file_2, 524
 create_test_file_3, 524
 CSV_EXPECT, 517
 CSV_EXPECT_COMMA, 517
 CSV_EXPECT_NULL, 517
 CSV_EXPECT_QUOTE1, 517

CSV_EXPECT_QUOTE2, 517
CSV_MODE, 517
CSV_MODE_COMMENT, 517
CSV_MODE_NULL, 517
CSV_MODE_STITCH, 517
CSV_MODE_THREAD, 517
CSV_MODE_VARIABLE, 517
CUBICTOCONTROL1, 509
CUBICTOCONTROL2, 509
CUBICTOEND, 509
decode_t01_record, 524
decode_tajima_ternary, 524
decodeNewStitch, 525
DXF_VERSION_2000, 509
DXF_VERSION_2002, 509
DXF_VERSION_2004, 509
DXF_VERSION_2006, 509
DXF_VERSION_2007, 509
DXF_VERSION_2009, 509
DXF_VERSION_2010, 509
DXF_VERSION_2013, 509
DXF_VERSION_R10, 509
DXF_VERSION_R11, 509
DXF_VERSION_R12, 509
DXF_VERSION_R13, 509
DXF_VERSION_R14, 509
DXF_VERSION_R15, 510
DXF_VERSION_R18, 510
DXF_VERSION_R21, 510
DXF_VERSION_R24, 510
DXF_VERSION_R27, 510
ELEMENT_A, 510
ELEMENT_ANIMATE, 510
ELEMENT_ANIMATECOLOR, 510
ELEMENT_ANIMATEMOTION, 510
ELEMENT_ANIMATETRANSFORM, 510
ELEMENT_ANIMATION, 510
ELEMENT_AUDIO, 510
ELEMENT_CIRCLE, 510
ELEMENT_DEFS, 510
ELEMENT_DESC, 510
ELEMENT_DISCARD, 510
ELEMENT_ELLIPSE, 510
ELEMENT_FONT, 510
ELEMENT_FONT_FACE, 511
ELEMENT_FONT_FACE_SRC, 511
ELEMENT_FONT_FACE_URI, 511
ELEMENT_FOREIGN_OBJECT, 511
ELEMENT_G, 511
ELEMENT_GLYPH, 511
ELEMENT_HANDLER, 511
ELEMENT_HKERN, 511
ELEMENT_IMAGE, 511
ELEMENT_LINE, 511
ELEMENT_LINEAR_GRADIENT, 511
ELEMENT_LISTENER, 511
ELEMENT_METADATA, 511
ELEMENT_MISSING_GLYPH, 511
ELEMENT_MPATH, 511
ELEMENT_PATH, 511
ELEMENT_POLYGON, 511
ELEMENT_POLYLINE, 511
ELEMENT_PREFETCH, 512
ELEMENT_RADIAL_GRADIENT, 512
ELEMENT_RECT, 512
ELEMENT_SCRIPT, 512
ELEMENT_SET, 512
ELEMENT_SOLID_COLOR, 512
ELEMENT_STOP, 512
ELEMENT_SVG, 512
ELEMENT_SWITCH, 512
ELEMENT_TBREAK, 512
ELEMENT_TEXT, 512
ELEMENT_TEXT_AREA, 512
ELEMENT_TITLE, 512
ELEMENT_TSPAN, 512
ELEMENT_USE, 512
ELEMENT_VIDEO, 512
ELEMENT_XML, 512
ELLIPSETOEND, 512
ELLIPSETORAD, 513
EMB_BIG_ENDIAN, 513
EMB_INT16_BIG, 513
EMB_INT16_LITTLE, 513
EMB_INT32_BIG, 513
EMB_INT32_LITTLE, 513
EMB_LITTLE_ENDIAN, 513
EMB_MAX, 513
EMB_MIN, 513
emb_optOut, 525
emb_readline, 525
embColor_read, 525
embColor_write, 527
emblnt_read, 527
emblnt_write, 527
encode_t01_record, 527
encode_tajima_ternary, 528
ENDIAN_HOST, 513
entriesInDifatSector, 528
fpad, 528
fread_int16, 528
fread_int32_be, 529
fread_uint16, 529
GetFile, 529
GREEN_TERM_COLOR, 513
HOOP_110X110, 513
HOOP_126X110, 513
HOOP_140X200, 513
HOOP_230X200, 513
HOOP_50X50, 513
huffman, 516
huffman_build_table, 530
huffman_table_lookup, 530
hus_compress, 530
hus_decompress, 530
imageWithFrame, 546

LINETO, 513
loadFatFromSector, 531
mitDecodeStitch, 531
mitEncodeStitch, 531
MOVETO, 514
N_PES VERSIONS, 514
numberOfEntriesInDifatSector, 531
ObjectTypeRootEntry, 514
ObjectTypeStorage, 514
ObjectTypeStream, 514
ObjectTypeUnknown, 514
PES0001, 514
PES0020, 514
PES0022, 514
PES0030, 514
PES0040, 514
PES0050, 514
PES0055, 514
PES0056, 514
PES0060, 514
PES0070, 514
PES0080, 514
PES0090, 515
PES0100, 515
pfaffDecode, 531
pfaffEncode, 532
printArcResults, 532
QUADTOCONTROL, 515
QUADTOEND, 515
read100, 532
read10o, 532
readArt, 532
readBmc, 533
readBro, 533
readCnd, 533
readCol, 533
readCsd, 533
readCsv, 533
readDat, 533
readDem, 533
readDescriptions, 533
readDsb, 533
readDst, 533
readDsz, 534
readDxf, 534
readEdr, 534
readEmd, 534
readExp, 534
readExy, 534
readEys, 534
readFeatherPatterns, 534
readFullSector, 534
readFxy, 535
readGc, 535
readGnc, 535
readGt, 535
readHoopName, 535
readHus, 535
readImageString, 535
readInb, 535
readInf, 535
readJef, 535
readKsm, 535
readMax, 536
readMit, 536
readMotifPatterns, 536
readNew, 536
readNextSector, 536
readOfm, 536
readPcd, 536
readPcm, 536
readPcq, 536
readPcs, 537
readPec, 537
readPecStitches, 537
readPel, 537
readPem, 537
readPes, 537
readPESHeaderV10, 537
readPESHeaderV5, 537
readPESHeaderV6, 537
readPESHeaderV7, 537
readPESHeaderV8, 537
readPESHeaderV9, 538
readPhb, 538
readPhc, 538
readPlt, 538
readProgrammableFills, 538
readRgb, 538
readSew, 538
readShv, 538
readSst, 538
readStx, 538
readSvg, 538
readT01, 539
readT09, 539
readTap, 539
readThr, 539
readThreads, 539
readTxt, 539
readU00, 539
readU01, 539
readVip, 539
readVp3, 539
readXxx, 539
readZsk, 540
RED_TERM_COLOR, 515
RESET_TERM_COLOR, 515
safe_free, 540
stringInArray, 540
StxThread, 516
SubDescriptor, 516
SVG_ATTRIBUTE, 515
SVG_CATCH_ALL, 515
SVG_CREATOR_EMBROIDERMODDER, 515
SVG_CREATOR_ILLUSTRATOR, 515

SVG_CREATOR_INKSCAPE, 515
SVG_CREATOR_NULL, 515
SVG_ELEMENT, 515
SVG_EXPECT_ATTRIBUTE, 515
SVG_EXPECT_ELEMENT, 515
SVG_EXPECT_NULL, 515
SVG_EXPECT_VALUE, 515
SVG_MEDIA_PROPERTY, 515
SVG_NULL, 516
SVG_PROPERTY, 516
SvgAttribute, 516
testEmbCircle, 540
testEmbCircle_2, 540
testEmbFormat, 540
testGeomArc, 540
testTangentPoints, 540
testThreadColor, 540
ThredExtension, 516
ThredHeader, 516
VipHeader, 517
vp3Hoop, 517
write100, 540
write10o, 541
write_24bit, 541
writeArt, 541
writeBmc, 541
writeBro, 541
writeCnd, 541
writeCol, 541
writeCsd, 541
writeCsv, 541
writeDat, 541
writeDem, 542
writeDsb, 542
writeDst, 542
writeDsz, 542
writeDxf, 542
writeEdr, 542
writeEmd, 542
writeExp, 542
writeExy, 542
writeEys, 542
writeFxy, 542
writeGc, 543
writeGnc, 543
writeGt, 543
writeHus, 543
writeInb, 543
writeInf, 543
writeJef, 543
writeKsm, 543
writeMax, 543
writeMit, 543
writeNew, 543
writeOfm, 544
writePcd, 544
writePcm, 544
writePcq, 544
writePcs, 544
writePec, 544
writePecStitches, 544
writePel, 544
writePem, 544
writePes, 544
writePhb, 545
writePhc, 545
writePlt, 545
writeRgb, 545
writeSew, 545
writeShv, 545
writeSst, 545
writeStx, 545
writeSvg, 545
writeT01, 545
writeT09, 545
writeTap, 546
writeThr, 546
writeTxt, 546
writeU00, 546
writeU01, 546
writeVip, 546
writeVp3, 546
writeXxx, 546
writeZsk, 546
YELLOW_TERM_COLOR, 516
EmbSatinOutline
 embroidery.h, 471
EmbSatinOutline_
 length, 153
 side1, 153
 side2, 153
embSatinOutline_generateSatinOutline
 embroidery.h, 486
 main.c, 632
embSatinOutline_renderStitches
 embroidery.h, 487
 main.c, 632
EmbSpline
 embroidery.h, 471
EmbSpline_
 beziers, 154
EmbStitch
 embroidery.h, 472
EmbStitch_
 color, 154
 flags, 154
 x, 154
 y, 155
EmbTextMulti
 embroidery.h, 472
EmbTextMulti_
 position, 155
 text, 155
EmbTextSingle
 embroidery.h, 472
EmbTextSingle_

position, 156
 text, 156
EmbThread
 embroidery.h, 472
EmbThread_, 156
 catalogNumber, 156
 color, 156
 description, 156
embThread_findNearestColor
 embroidery.h, 487
 main.c, 633
embThread_findNearestThread
 embroidery.h, 487
 main.c, 633
embThread_getRandom
 embroidery.h, 488
 main.c, 633
EmbTime
 embroidery.h, 472
EmbTime_, 157
 day, 157
 hour, 157
 minute, 157
 month, 157
 second, 157
 year, 157
embTime_initNow
 embroidery.h, 488
 main.c, 633
embTime_time
 embroidery.h, 488
 main.c, 634
EmbVector
 embroidery.h, 472
EmbVector_, 158
 x, 158
 y, 158
embVector_add
 embroidery.h, 488
 vector.c, 621
embVector_angle
 embroidery.h, 488
 vector.c, 621
embVector_average
 embroidery.h, 488
 vector.c, 621
embVector_cross
 embroidery.h, 489
 vector.c, 621
embVector_distance
 embroidery.h, 489
 vector.c, 621
embVector_dot
 embroidery.h, 489
 vector.c, 621
embVector_length
 embroidery.h, 489
 vector.c, 622
embVector_multiply
 embroidery.h, 489
 vector.c, 622
embVector_normalize
 embroidery.h, 489
 vector.c, 622
embVector_print
 main.c, 634
embVector_relativeX
 embroidery.h, 490
 vector.c, 622
embVector_relativeY
 embroidery.h, 490
 vector.c, 622
embVector_subtract
 embroidery.h, 490
 vector.c, 622
embVector_transpose_product
 embroidery.h, 490
 vector.c, 623
embVector_unit
 embroidery.h, 490
 vector.c, 623
EmbView
 embroidermodder.h, 389
EmbView_, 158
 filename, 159
 grid_mode, 159
 grid_type, 159
 lwt_mode, 160
 metric, 160
 n_selected, 160
 origin, 160
 ortho_mode, 160
 pattern, 160
 polar_mode, 160
 qsnap_mode, 160
 qtrack_mode, 160
 real_render, 160
 rubber_mode, 160
 ruler_mode, 161
 scale, 161
 selected, 161
 simulate, 161
 simulation_start, 161
 snap_mode, 161
 text_angle, 161
 text_font, 161
 text_size, 161
 text_style_bold, 161
 text_style_italic, 161
 text_style_overline, 162
 text_style_strikeout, 162
 text_style_underline, 162
 ui_mode, 162
 undo_history, 162
emdDecode
 format_emd.c, 580

enableLwt
 StatusBarButton, 344

enableMoveRapidFire
 MainWindow, 195
 View, 374

enablePromptRapidFire
 MainWindow, 195

enableRapidFire
 CmdPrompt, 100

enableReal
 StatusBarButton, 344

encode_record
 format_dst.c, 578

encode_t01_record
 embroidery_internal.h, 527
 encoding.c, 556

encode_tajima_ternary
 embroidery_internal.h, 528
 encoding.c, 556

encode_tap_record
 format_tap.c, 602

encoding.c
 decode_t01_record, 554
 decode_tajima_ternary, 555
 decodeNewStitch, 555
 embColor_fromHexStr, 555
 emblnt_read, 555
 emblnt_write, 556
 encode_t01_record, 556
 encode_tajima_ternary, 556
 mitDecodeStitch, 556
 mitEncodeStitch, 557
 pfaffDecode, 557
 pfaffEncode, 557
 reverse_byte_order, 557
 write_24bit, 558

END
 embroidery.h, 468

end
 EmbArc_, 134
 EmbBezier_, 136
 EmbLine_, 147

endCommand
 CmdPrompt, 100
 CmdPromptInput, 113

ENDIAN_HOST
 embroidery_internal.h, 513

enterEvent
 View, 374

entriesInDifatSector
 embroidery_internal.h, 528
 main.c, 634

Error
 mainwindow.cpp, 439

escapePressed
 CmdPrompt, 100
 CmdPromptInput, 113
 MainWindow, 195

MdiWindow, 244

View, 374

event
 Application, 71

eventFilter
 CmdPromptInput, 113
 PropertyEditor, 282

exit
 MainWindow, 195

exitApp
 embroidermodder.cpp, 385

expDecode
 format_exp.c, 580

Exquisite_Polyester
 embroidery.h, 468

extension
 EmbFormatList_, 142

extern/libembroidery/src/array.c, 447

extern/libembroidery/src/compress.c, 451

extern/libembroidery/src/embedded.md, 455

extern/libembroidery/src/embroider_cli.md, 455

extern/libembroidery/src/embroidery.h, 455, 493

extern/libembroidery/src/embroidery_internal.h, 501, 547

extern/libembroidery/src/encoding.c, 554

extern/libembroidery/src/fill.c, 558

extern/libembroidery/src/formats.c, 565

extern/libembroidery/src/formats/format_100.c, 571

extern/libembroidery/src/formats/format_100.c, 571

extern/libembroidery/src/formats/format_art.c, 571

extern/libembroidery/src/formats/format_bmc.c, 572

extern/libembroidery/src/formats/format_bro.c, 572

extern/libembroidery/src/formats/format_cnd.c, 573

extern/libembroidery/src/formats/format_col.c, 573

extern/libembroidery/src/formats/format_csd.c, 574

extern/libembroidery/src/formats/format_csv.c, 575

extern/libembroidery/src/formats/format_dat.c, 576

extern/libembroidery/src/formats/format_dem.c, 576

extern/libembroidery/src/formats/format_dsb.c, 577

extern/libembroidery/src/formats/format_dst.c, 577

extern/libembroidery/src/formats/format_dsz.c, 578

extern/libembroidery/src/formats/format_dxf.c, 578

extern/libembroidery/src/formats/format_edr.c, 579

extern/libembroidery/src/formats/format_emd.c, 579

extern/libembroidery/src/formats/format_exp.c, 580

extern/libembroidery/src/formats/format_exy.c, 581

extern/libembroidery/src/formats/format_eyc.c, 581

extern/libembroidery/src/formats/format_fxy.c, 582

extern/libembroidery/src/formats/format_gc.c, 582

extern/libembroidery/src/formats/format_gnc.c, 582

extern/libembroidery/src/formats/format_gt.c, 583

extern/libembroidery/src/formats/format_hus.c, 583

extern/libembroidery/src/formats/format_inb.c, 584

extern/libembroidery/src/formats/format_inf.c, 585

extern/libembroidery/src/formats/format_jef.c, 585

extern/libembroidery/src/formats/format_ksm.c, 586

extern/libembroidery/src/formats/format_max.c, 587

extern/libembroidery/src/formats/format_mit.c, 588

extern/libembroidery/src/formats/format_new.c, 588
 extern/libembroidery/src/formats/format_ofm.c, 589
 extern/libembroidery/src/formats/format_pcd.c, 590
 extern/libembroidery/src/formats/format_pcm.c, 590
 extern/libembroidery/src/formats/format_pcq.c, 591
 extern/libembroidery/src/formats/format_pcs.c, 591
 extern/libembroidery/src/formats/format_pec.c, 592
 extern/libembroidery/src/formats/format_pel.c, 593
 extern/libembroidery/src/formats/format_pem.c, 593
 extern/libembroidery/src/formats/format_pes.c, 594
 extern/libembroidery/src/formats/format_phb.c, 596
 extern/libembroidery/src/formats/format_phc.c, 597
 extern/libembroidery/src/formats/format_plt.c, 597
 extern/libembroidery/src/formats/format_rgb.c, 598
 extern/libembroidery/src/formats/format_sew.c, 598
 extern/libembroidery/src/formats/format_shv.c, 599
 extern/libembroidery/src/formats/format_sst.c, 599
 extern/libembroidery/src/formats/format_stx.c, 600
 extern/libembroidery/src/formats/format_svg.c, 600
 extern/libembroidery/src/formats/format_t01.c, 601
 extern/libembroidery/src/formats/format_t09.c, 602
 extern/libembroidery/src/formats/format_tap.c, 602
 extern/libembroidery/src/formats/format_thr.c, 603
 extern/libembroidery/src/formats/format_txt.c, 603
 extern/libembroidery/src/formats/format_u00.c, 604
 extern/libembroidery/src/formats/format_u01.c, 604
 extern/libembroidery/src/formats/format_vip.c, 605
 extern/libembroidery/src/formats/format_vp3.c, 606
 extern/libembroidery/src/formats/format_xxx.c, 607
 extern/libembroidery/src/formats/format_zsk.c, 608
 extern/libembroidery/src/formats/format_zts.c, 609
 extern/libembroidery/src/geometry.c, 609
 extern/libembroidery/src/geometry/arc.c, 610
 extern/libembroidery/src/geometry/circle.c, 614
 extern/libembroidery/src/geometry/ellipse.c, 615
 extern/libembroidery/src/geometry/functions.c, 617
 extern/libembroidery/src/geometry/geometry.md, 617
 extern/libembroidery/src/geometry/line.c, 617
 extern/libembroidery/src/geometry/path.c, 618
 extern/libembroidery/src/geometry/polygon.c, 618
 extern/libembroidery/src/geometry/polyline.c, 618
 extern/libembroidery/src/geometry/rect.c, 618
 extern/libembroidery/src/geometry/text.c, 619
 extern/libembroidery/src/geometry/vector.c, 620
 extern/libembroidery/src/image.c, 623
 extern/libembroidery/src/main.c, 624
 extern/libembroidery/src/pattern.c, 638
 extern/libembroidery/src/thread-color.c, 643

F10Pressed
 CmdPrompt, 100
 CmdPromptInput, 113

F11Pressed
 CmdPrompt, 100
 CmdPromptInput, 113

F12Pressed
 CmdPrompt, 100
 CmdPromptInput, 113

F1Pressed

CmdPrompt, 100
 CmdPromptInput, 113

F2Pressed
 CmdPrompt, 101
 CmdPromptInput, 114

F3Pressed
 CmdPrompt, 101
 CmdPromptInput, 114

F4Pressed
 CmdPrompt, 101
 CmdPromptInput, 114

F5Pressed
 CmdPrompt, 101
 CmdPromptInput, 114

F6Pressed
 CmdPrompt, 101
 CmdPromptInput, 114

F7Pressed
 CmdPrompt, 101
 CmdPromptInput, 114

F8Pressed
 CmdPrompt, 101
 CmdPromptInput, 114

F9Pressed
 CmdPrompt, 101
 CmdPromptInput, 114

factor
 UndoableScaleCommand, 366

fat
 _bcf_file, 64

fatEntries
 _bcf_file_fat, 65

fatEntryCount
 _bcf_file_fat, 65

fatSectorCount
 _bcf_file_difat, 64

fatSectorEntries
 _bcf_file_difat, 65

fieldEdited
 PropertyEditor, 283

fieldNewText
 PropertyEditor, 285

fieldNoText
 PropertyEditor, 285

fieldOffText
 PropertyEditor, 285

fieldOldText
 PropertyEditor, 285

fieldOnText
 PropertyEditor, 285

fieldVariesText
 PropertyEditor, 285

fieldYesText
 PropertyEditor, 285

file_toolbar
 MainWindow, 223

fileExtension
 MdiWindow, 244

fileMenu
 MainWindow, 223
filename
 EmbView_, 159
fileWasLoaded
 MdiWindow, 250
fill.c
 dragon_curve, 559
 embPattern_combine, 559
 embPattern_convertGeometry, 559
 embPattern_crossstitch, 559
 embPattern_horizontal_fill, 560
 embPattern_stitchArc, 560
 embPattern_stitchCircle, 560
 embPattern_stitchEllipse, 560
 embPattern_stitchPath, 561
 embPattern_stitchPolygon, 561
 embPattern_stitchPolyline, 561
 embPattern_stitchRect, 562
 embPattern_stitchText, 562
 embPolygon_reduceByDistance, 562
 embPolygon_reduceByNth, 562
 generate_dragon_curve, 563
 greedy_algorithm, 563
 hilbert_curve, 563
 hilbert_curve_l_system, 565
 join_short_stitches, 564
 lindenmayer_system, 564
 rules, 565
 save_points_to_pattern, 564
 threshold_method, 565
filled
 DimLeaderObject, 126
findIndex
 PolygonObject, 264
 PolylineObject, 270
findMdiWindow
 MainWindow, 195
firstDifatSectorLocation
 _bcf_file_header, 66
firstDirectorySectorLocation
 _bcf_file_header, 66
firstMiniFATSectorLocation
 _bcf_file_header, 66
firstRun
 UiObject_, 357
flag
 EmbGeometry_, 143
FLAG_CIRCLE
 main.c, 626
FLAG_CIRCLE_SHORT
 main.c, 626
FLAG_COMBINE
 main.c, 626
FLAG_CROSS_STITCH
 main.c, 626
FLAG_ELLIPSE
 main.c, 626
FLAG_ELLIPSE_SHORT
 main.c, 626
FLAG_FILL
 main.c, 626
FLAG_FILL_SHORT
 main.c, 626
FLAG_FORMATS
 main.c, 626
FLAG_FORMATS_SHORT
 main.c, 626
FLAG_FULL_TEST_SUITE
 main.c, 626
FLAG_HELP
 main.c, 626
FLAG_HELP_SHORT
 main.c, 626
FLAG_HILBERT_CURVE
 main.c, 626
FLAG_LINE
 main.c, 626
FLAG_LINE_SHORT
 main.c, 626
FLAG_POLYGON
 main.c, 627
FLAG_POLYGON_SHORT
 main.c, 627
FLAG_POLYLINE
 main.c, 627
FLAG_POLYLINE_SHORT
 main.c, 627
FLAG QUIET
 main.c, 627
FLAG QUIET_SHORT
 main.c, 627
FLAG_RENDER
 main.c, 627
FLAG_RENDER_SHORT
 main.c, 627
FLAG_SATIN
 main.c, 627
FLAG_SATIN_SHORT
 main.c, 627
FLAG_SIERPINSKI_TRIANGLE
 main.c, 627
FLAG_SIMULATE
 main.c, 627
FLAG_STITCH
 main.c, 627
FLAG_STITCH_SHORT
 main.c, 627
FLAG_TEST
 main.c, 627
FLAG_TO
 main.c, 627
FLAG_TO_SHORT
 main.c, 627
FLAG_VERBOSE
 main.c, 627

FLAG_VERBOSE_SHORT
 main.c, 628
FLAG_VERSION
 main.c, 628
FLAG_VERSION_SHORT
 main.c, 628
flagList
 EmbPath_, 149
flags
 EmbStitch_, 154
Flared
 DimLeaderObject, 122
Fletching
 DimLeaderObject, 122
floatingChanged
 CmdPrompt, 101
floatingChangedToolBar
 MainWindow, 195
fname
 UiObject_, 357
focusWidget
 PropertyEditor, 285
 UndoEditor, 368
forceRepaint
 MdiArea, 238
 SelectBox, 310
format_100.c
 read100, 571
 write100, 571
format_10o.c
 read10o, 571
 write10o, 571
format_art.c
 readArt, 572
 writeArt, 572
format_bmc.c
 readBmc, 572
 writeBmc, 572
format_bro.c
 readBro, 572
 writeBro, 573
format_cnd.c
 readCnd, 573
 writeCnd, 573
format_col.c
 readCol, 573
 writeCol, 573
format_csd.c
 _subMask, 575
 _xorMask, 575
 BuildDecryptionTable, 574
 csd_decryptArray, 575
 CsdSubMaskSize, 574
 CsdXorMaskSize, 574
 DecodeCsdByte, 574
 readCsd, 574
 writeCsd, 574
format_csv.c
 csvStitchFlagToStr, 575
 csvStrToStitchFlag, 575
 readCsv, 575
 writeCsv, 576
format_dat.c
 readDat, 576
 writeDat, 576
format_dem.c
 readDem, 576
 writeDem, 576
format_dsb.c
 readDsb, 577
 writeDsb, 577
format_dst.c
 cc1, 577
 decode_record_flags, 577
 encode_record, 578
 readDst, 578
 set_dst_variable, 578
 writeDst, 578
format_dsz.c
 readDsz, 578
 writeDsz, 578
format_dxf.c
 readDxf, 579
 readLine, 579
 writeDxf, 579
format_edr.c
 readEdr, 579
 writeEdr, 579
format_emd.c
 emdDecode, 580
 readEmd, 580
 writeEmd, 580
format_exp.c
 expDecode, 580
 readExp, 580
 writeExp, 580
format_exy.c
 decode_exy_flags, 581
 readExy, 581
 writeExy, 581
format_eys.c
 readEys, 581
 writeEys, 581
format_fxy.c
 readFxy, 582
 writeFxy, 582
format_gc.c
 readGc, 582
 writeGc, 582
format_gnc.c
 readGnc, 583
 writeGnc, 583
format_gt.c
 readGt, 583
 writeGt, 583
format_hus.c

husCompressData, 584
 husDecodeByte, 584
 husDecodeStitchType, 584
 husDecompressData, 584
 husEncodeByte, 584
 husEncodeStitchType, 584
 readHus, 584
 writeHus, 584
format_inb.c
 readInb, 585
 writeInb, 585
format_inf.c
 readInf, 585
 writeInf, 585
format_jef.c
 jefDecode, 586
 jefEncode, 586
 jefGetHoopSize, 586
 jefSetHoopFromId, 586
 read_hoop, 586
 readJef, 586
 writeJef, 586
format_ksm.c
 ksmEncode, 586
 readKsm, 587
 writeKsm, 587
format_max.c
 max_header, 587
 readMax, 587
 writeMax, 587
format_mit.c
 readMit, 588
 writeMit, 588
format_new.c
 readNew, 588
 writeNew, 588
format_ofm.c
 ofmDecode, 589
 ofmReadBlockHeader, 589
 ofmReadClass, 589
 ofmReadColorChange, 589
 ofmReadExpanded, 589
 ofmReadLibrary, 589
 ofmReadThreads, 589
 readOfm, 589
 writeOfm, 590
format_pcd.c
 readPcd, 590
 writePcd, 590
format_pcm.c
 readPcm, 590
 writePcm, 590
format_pcq.c
 readPcq, 591
 writePcq, 591
format_pcs.c
 readPcs, 591
 writePcs, 591
format_pec.c
 pecEncode, 592
 pecEncodeJump, 592
 pecEncodeStop, 592
 readPec, 592
 readPecStitches, 592
 writeImage, 592
 writePec, 593
 writePecStitches, 593
format_pel.c
 readPel, 593
 writePel, 593
format_pem.c
 readPem, 593
 writePem, 593
format_pes.c
 pes_version, 596
 pes_version_strings, 596
 pesWriteEmbOneSection, 594
 pesWriteSewSegSection, 594
 readDescriptions, 594
 readFeatherPatterns, 594
 readHoopName, 595
 readImageString, 595
 readMotifPatterns, 595
 readPes, 595
 readPESHeaderV10, 595
 readPESHeaderV5, 595
 readPESHeaderV6, 595
 readPESHeaderV7, 595
 readPESHeaderV8, 595
 readPESHeaderV9, 595
 readProgrammableFills, 595
 readThreads, 596
 writePes, 596
format_phb.c
 readPhb, 596
 writePhb, 596
format_phc.c
 readPhc, 597
 writePhc, 597
format_plt.c
 readPlt, 597
 writePlt, 597
format_rgb.c
 readRgb, 598
 writeRgb, 598
format_sew.c
 readSew, 598
 sewDecode, 598
 writeSew, 598
format_shv.c
 readShv, 599
 shvDecode, 599
 shvDecodeShort, 599
 writeShv, 599
format_sst.c
 readSst, 599

writeSst, 599
format_stx.c
 readStx, 600
 stxReadThread, 600
 writeStx, 600
format_svg.c
 attributeList, 601
 current_element_id, 601
 currentAttribute, 601
 currentValue, 601
 n_attributes, 601
 readSvg, 601
 svgCreator, 601
 svgExpect, 601
 svgMultiValue, 601
 writeSvg, 601
format_t01.c
 readT01, 601
 writeT01, 602
format_t09.c
 readT09, 602
 writeT09, 602
format_tap.c
 decode_tap_record_flags, 602
 encode_tap_record, 602
 readTap, 603
 writeTap, 603
format_thr.c
 readThr, 603
 writeThr, 603
format_txt.c
 readTxt, 603
 writeTxt, 604
format_u00.c
 readU00, 604
 writeU00, 604
format_u01.c
 readU01, 604
 writeU01, 604
format_vip.c
 readVip, 605
 vipCompressData, 605
 vipDecodeByte, 605
 vipDecodeStitchType, 605
 vipDecodingTable, 606
 vipDecompressData, 605
 vipEncodeByte, 605
 vipEncodeStitchType, 606
 writeVip, 606
format_vp3.c
 readVp3, 607
 vp3Decode, 607
 vp3DecodeInt16, 607
 vp3PatchByteCount, 607
 vp3ReadHoopSection, 607
 vp3ReadString, 607
 vp3WriteString, 607
 vp3WriteStringLen, 607
 writeVp3, 607
format_xxx.c
 readXxx, 608
 writeXxx, 608
 xxxDecodeByte, 608
 xxxEncodeDesign, 608
 xxxEncodeStitch, 608
 xxxEncodeStop, 608
format_zsk.c
 readZsk, 608
 writeZsk, 609
formatFilterOpen
 MainWindow, 223
formatFilterSave
 MainWindow, 223
formats.c
 binaryWriteInt, 566
 binaryWriteIntBE, 566
 binaryWriteShort, 566
 binaryWriteUInt, 567
 binaryWriteUIntBE, 567
 binaryWriteUShort, 567
 binaryWriteUShortBE, 567
 emb_identify_format, 567
 embFormat_getExtension, 568
 embPattern_read, 568
 embPattern_readAuto, 568
 embPattern_write, 569
 embPattern_writeAuto, 569
 formatTable, 570
 fpad, 569
 fread_int16, 569
 fread_int32_be, 570
 fread_uint16, 570
 imageWithFrame, 570
 safe_free, 570
formatTable
 embroidery.h, 492
 formats.c, 570
formatType
 SaveObject, 309
fpad
 embroidery_internal.h, 528
 formats.c, 569
fread_int16
 embroidery_internal.h, 528
 formats.c, 569
fread_int32_be
 embroidery_internal.h, 529
 formats.c, 570
fread_uint16
 embroidery_internal.h, 529
 formats.c, 570
fromCenter
 UndoableNavCommand, 364
fromTransform
 UndoableNavCommand, 364
Fufu_Polyester

embroidery.h, 468
Fufu_Rayon
 embroidery.h, 468
full_test_matrix
 embroidery.h, 490
functions.c
 degrees, 617
 emb_round, 617
 radians, 617

g
 EmbColor_, 137
general_check_for_updates
 Settings_, 315
general_current_tip
 Settings_, 315
general_mdi_bg_color
 Settings_, 315
general_mdi_bg_logo
 Settings_, 315
general_mdi_bg_texture
 Settings_, 315
general_system_help_browser
 Settings_, 315
generate_dragon_curve
 fill.c, 563
geometry
 EmbArray_, 135
 EmbLayer_, 146
 EmbPattern_, 150
geometry.c
 embGeometry_boundingRect, 609
 embGeometry_free, 609
 embGeometry_init, 610
 embGeometry_move, 610
 embGeometry_vulcanize, 610
get_trim_bounds
 main.c, 634
getAction
 MainWindow, 195
getApplication
 MainWindow, 196
getArcCenter
 arc.c, 614
 embroidery.h, 490
getArcDataFromBulge
 arc.c, 614
 embroidery.h, 490
getCircleCircleIntersections
 circle.c, 615
 embroidery.h, 491
getCircleTangentPoints
 circle.c, 615
 embroidery.h, 491
getCurrentColor
 MainWindow, 196
 MdiWindow, 245
getCurrentFile
 MdiWindow, 245
getCurrentLayer
 MainWindow, 196
 MdiWindow, 245
getCurrentLineType
 MainWindow, 196
 MdiWindow, 245
getCurrentLineWeight
 MainWindow, 196
 MdiWindow, 245
getCurrentText
 CmdPrompt, 101
GetFile
 embroidery_internal.h, 529
 main.c, 635
getFileSeparator
 MainWindow, 196
getHistory
 CmdPrompt, 101
getInfo
 EmbDetailsDialog, 139
getMdiArea
 MainWindow, 196
getPrefix
 CmdPrompt, 102
getScene
 MdiWindow, 245
getShortCurrentFile
 MdiWindow, 245
getUndoStack
 View, 374
getView
 MdiWindow, 245
greedy_algorithm
 fill.c, 563
GREEN_TERM_COLOR
 embroidery_internal.h, 513
grid_center
 Settings_, 315
grid_center_on_origin
 Settings_, 315
grid_color
 Settings_, 315
grid_color_match_crosshair
 Settings_, 315
grid_load_from_file
 Settings_, 315
grid_mode
 EmbView_, 159
grid_show_on_load
 Settings_, 315
grid_show_origin
 Settings_, 315
grid_size_radius
 Settings_, 315
grid_size_x
 Settings_, 315
grid_size_y
 Settings_, 315

grid_spacing
 Settings_, 316
grid_spacing_angle
 Settings_, 316
grid_spacing_radius
 Settings_, 316
grid_spacing_x
 Settings_, 316
grid_spacing_y
 Settings_, 316
grid_type
 EmbView_, 159
 Settings_, 316
gridColor
 View, 379
gridPath
 View, 379
gripBaseObj
 View, 379
gripColorCool
 View, 379
gripColorHot
 View, 379
gripEdit
 ArcObject, 78
 BaseObject, 87
 CircleObject, 94
 DimLeaderObject, 123
 EllipseObject, 130
 ImageObject, 167
 LineObject, 176
 PathObject, 254
 PointObject, 259
 PolygonObject, 264
 PolylineObject, 270
 RectObject, 302
 TextSingleObject, 351
gripIndex
 PolygonObject, 266
 PolylineObject, 272
grippingActive
 View, 379
gripSize
 View, 379
groupBoxGeneral
 PropertyEditor, 285
groupBoxGeometryArc
 PropertyEditor, 285
groupBoxGeometryBlock
 PropertyEditor, 285
groupBoxGeometryCircle
 PropertyEditor, 285
groupBoxGeometryDimAligned
 PropertyEditor, 285
groupBoxGeometryDimAngular
 PropertyEditor, 285
groupBoxGeometryDimArcLength
 PropertyEditor, 285
groupBoxGeometryDimDiameter
 PropertyEditor, 285
groupBoxGeometryDimLeader
 PropertyEditor, 285
groupBoxGeometryDimLinear
 PropertyEditor, 286
groupBoxGeometryDimOrdinate
 PropertyEditor, 286
groupBoxGeometryDimRadius
 PropertyEditor, 286
groupBoxGeometryEllipse
 PropertyEditor, 286
groupBoxGeometryImage
 PropertyEditor, 286
groupBoxGeometryInfiniteLine
 PropertyEditor, 286
groupBoxGeometryLine
 PropertyEditor, 286
groupBoxGeometryPath
 PropertyEditor, 286
groupBoxGeometryPoint
 PropertyEditor, 286
groupBoxGeometryPolygon
 PropertyEditor, 286
groupBoxGeometryPolyline
 PropertyEditor, 286
groupBoxGeometryRay
 PropertyEditor, 286
groupBoxGeometryRectangle
 PropertyEditor, 286
groupBoxGeometryTextMulti
 PropertyEditor, 286
groupBoxGeometryTextSingle
 PropertyEditor, 286
groupBoxMiscArc
 PropertyEditor, 286
groupBoxMiscImage
 PropertyEditor, 286
groupBoxMiscPath
 PropertyEditor, 286
groupBoxMiscPolyline
 PropertyEditor, 287
groupBoxMiscTextSingle
 PropertyEditor, 287
groupBoxTextTextSingle
 PropertyEditor, 287
gscene
 MdiWindow, 250
 SaveObject, 309
 View, 380
gview
 MdiWindow, 251
 UndoableAddCommand, 359
 UndoableDeleteCommand, 360
 UndoableGripEditCommand, 361
 UndoableMirrorCommand, 362
 UndoableMoveCommand, 363
 UndoableNavCommand, 364

UndoableRotateCommand, 365
UndoableScaleCommand, 366

handleMoved
 CmdPromptHandle, 106

handlePressed
 CmdPromptHandle, 106

handleReleased
 CmdPromptHandle, 107

hashDeletedObjects
 View, 380

haveExtraDIFATSectors
 main.c, 635

header
 _bcf_file, 64

HEART_MODE_NUM_POINTS
 embroidermodder.h, 396

HEART_MODE_STYLE
 embroidermodder.h, 396

HEART_MODE_XSCALE
 embroidermodder.h, 396

HEART_MODE_YSCALE
 embroidermodder.h, 396

height
 _vp3Hoop, 69
 EmblImage_, 145

help
 MainWindow, 197

helpMenu
 MainWindow, 223

Hemingworth_Polyester
 embroidery.h, 468

hex_code
 thread_color_, 354

hideAllGroups
 PropertyEditor, 283

hideUnimplemented
 MainWindow, 197

hilbert_curve
 embroidery.h, 491
 fill.c, 563

hilbert_curve_l_system
 fill.c, 565

historyAppended
 CmdPrompt, 102
 CmdPromptHistory, 109

home
 EmbPattern_, 150

HOOP_110X110
 embroidery_internal.h, 513

HOOP_126X110
 embroidery_internal.h, 513

HOOP_140X200
 embroidery_internal.h, 513

HOOP_230X200
 embroidery_internal.h, 513

HOOP_50X50
 embroidery_internal.h, 513

hoop_height
 EmbPattern_, 150
 hoop_padding, 162
 bottom, 162
 left, 162
 right, 162
 top, 163

 hoop_width
 EmbPattern_, 150

 hoopSize
 ThredHeader_, 356

 hoopX
 ThredExtension_, 355

 hoopY
 ThredExtension_, 355

hour
 EmbTime_, 157

Huffman, 163
 default_value, 163
 lengths, 163
 nlengths, 163
 ntable, 163
 table, 163
 table_width, 163

huffman
 embroidery_internal.h, 516

huffman_build_table
 compress.c, 454
 embroidery_internal.h, 530

huffman_lookup
 compress.c, 454

huffman_lookup_data
 compress.c, 455

huffman_table_lookup
 embroidery_internal.h, 530

hus_compress
 compress.c, 454
 embroidery_internal.h, 530

hus_decompress
 compress.c, 455
 embroidery_internal.h, 530

hus_thread
 embroidery.h, 468

husCompressData
 format_hus.c, 584

husDecodeByte
 format_hus.c, 584

husDecodeStitchType
 format_hus.c, 584

husDecompressData
 format_hus.c, 584

husEncodeByte
 format_hus.c, 584

husEncodeStitchType
 format_hus.c, 584

husThreads
 embroidery.h, 493
 thread-color.c, 645

icon128

MainWindow, 197
 icon16
 MainWindow, 197
 icon24
 MainWindow, 197
 icon32
 MainWindow, 197
 icon48
 MainWindow, 197
 icon64
 MainWindow, 197
 icon_size
 Settings_, 316
 icon_theme
 Settings_, 316
 iconDir
 PropertyEditor, 287
 UndoEditor, 368
 iconResize
 MainWindow, 197
 iconSize
 PropertyEditor, 287
 UndoEditor, 368
 id
 UiObject_, 357
 UndoableNavCommand, 364
 image.c
 image_diff, 623
 writeImage, 623
 image_diff
 image.c, 623
 ImageObject, 164
 ~ImageObject, 166
 allGripPoints, 167
 gripEdit, 167
 ImageObject, 166
 init, 167
 mouseSnapPoint, 167
 objectArea, 167
 objectBottomLeft, 167
 objectBottomRight, 167
 objectHeight, 167
 objectTopLeft, 168
 objectTopRight, 168
 objectWidth, 168
 paint, 168
 setObjectRect, 168
 Type, 166
 type, 168
 updatePath, 168
 updateRubber, 168
 vulcanize, 168
 ImageWidget, 169
 ~ImageWidget, 170
 ImageWidget, 169
 img, 171
 load, 170
 paintEvent, 170
 save, 170
 imageWithFrame
 embroidery_internal.h, 546
 formats.c, 570
 img
 ImageWidget, 171
 imgWidget
 PreviewDialog, 273
 Index
 embroidermodder.h, 389
 init
 ArcObject, 78
 CircleObject, 94
 DimLeaderObject, 123
 EllipseObject, 130
 ImageObject, 167
 LineObject, 176
 PathObject, 254
 PointObject, 259
 PolygonObject, 264
 PolylineObject, 270
 RectObject, 302
 TextSingleObject, 351
 input_data
 Compress, 119
 input_length
 Compress, 119
 Isacord_Polyester
 embroidery.h, 468
 Isafil_Rayon
 embroidery.h, 468
 isBlinking
 CmdPromptInput, 116
 isCommandActive
 CmdPrompt, 102
 MainWindow, 198
 isLwtEnabled
 View, 374
 isRapidFireEnabled
 CmdPrompt, 102
 isRealEnabled
 View, 374
 isShiftPressed
 MainWindow, 198
 jef_thread
 embroidery.h, 468
 jefDecode
 format_jef.c, 586
 jefEncode
 format_jef.c, 586
 jefGetHoopSize
 format_jef.c, 586
 jefSetHoopFromId
 format_jef.c, 586
 jefThreads
 embroidery.h, 493
 thread-color.c, 645
 join_short_stitches

fill.c, 564
JUMP
embroidery.h, 468
just_opened
utility.cpp, 446

ksmEncode
format_ksm.c, 586

L_system
embroidery.h, 472
labelTipOfTheDay
MainWindow, 223
language
Settings_, 316
lastCmd
CmdPromptInput, 116
lastCommand
CmdPrompt, 102
layer
EmbPattern_, 150
LayerManager, 171
~LayerManager, 172
addLayer, 172
LayerManager, 171
layerModel, 172
layerModelSorted, 172
treeView, 173
layerManager
MainWindow, 198
layerModel
LayerManager, 172
layerModelSorted
LayerManager, 172
layerPrevious
MainWindow, 198
layerSelector
MainWindow, 223
layerSelectorIndexChanged
MainWindow, 198
layoutState
MainWindow, 223
left
_vp3Hoop, 69
EmbRect_, 152
hoop_padding, 162
left2
_vp3Hoop, 69
leftBrush
SelectBox, 310
leftBrushColor
SelectBox, 310
leftPen
SelectBox, 310
leftPenColor
SelectBox, 310
leftSiblingId
_bcf_directory_entry, 62
length
EmbArray_, 135
EmbSatinOutline_, 153
ThredHeader_, 356
lengths
Huffman, 163
LIBEMBROIDERY_EMBEDDED_VERSION
embroidery.h, 468
lindenmayer_system
embroidery.h, 491
fill.c, 564
line
BaseObject, 87
EmbGeometry_, 143
line.c
embLine_intersectionPoint, 617
embLine_normalVector, 618
embLine_toVector, 618
lineEditArcArea
PropertyEditor, 287
lineEditArcCenterX
PropertyEditor, 287
lineEditArcCenterY
PropertyEditor, 287
lineEditArcChord
PropertyEditor, 287
lineEditArcEndAngle
PropertyEditor, 287
lineEditArcEndX
PropertyEditor, 287
lineEditArcEndY
PropertyEditor, 287
lineEditArcIncAngle
PropertyEditor, 287
lineEditArcLength
PropertyEditor, 287
lineEditArcRadius
PropertyEditor, 287
lineEditArcStartAngle
PropertyEditor, 287
lineEditArcStartX
PropertyEditor, 287
lineEditArcStartY
PropertyEditor, 287
lineEditBlockX
PropertyEditor, 288
lineEditBlockY
PropertyEditor, 288
lineEditCircleArea
PropertyEditor, 288
lineEditCircleCenterX
PropertyEditor, 288
lineEditCircleCenterY
PropertyEditor, 288
lineEditCircleCircumference
PropertyEditor, 288
lineEditCircleDiameter
PropertyEditor, 288
lineEditCircleRadius

PropertyEditor, 288
lineEditEllipseCenterX
 PropertyEditor, 288
lineEditEllipseCenterY
 PropertyEditor, 288
lineEditEllipseDiameterMajor
 PropertyEditor, 288
lineEditEllipseDiameterMinor
 PropertyEditor, 288
lineEditEllipseRadiusMajor
 PropertyEditor, 288
lineEditEllipseRadiusMinor
 PropertyEditor, 288
lineEditImageHeight
 PropertyEditor, 288
lineEditImageName
 PropertyEditor, 288
lineEditImagePath
 PropertyEditor, 288
lineEditImageWidth
 PropertyEditor, 288
lineEditImageX
 PropertyEditor, 289
lineEditImageY
 PropertyEditor, 289
lineEditInfiniteLineVectorX
 PropertyEditor, 289
lineEditInfiniteLineVectorY
 PropertyEditor, 289
lineEditInfiniteLineX1
 PropertyEditor, 289
lineEditInfiniteLineX2
 PropertyEditor, 289
lineEditInfiniteLineY1
 PropertyEditor, 289
lineEditInfiniteLineY2
 PropertyEditor, 289
lineEditLineAngle
 PropertyEditor, 289
lineEditLineDeltaX
 PropertyEditor, 289
lineEditLineDeltaY
 PropertyEditor, 289
lineEditLineEndX
 PropertyEditor, 289
lineEditLineEndY
 PropertyEditor, 289
lineEditLineLength
 PropertyEditor, 289
lineEditLineStartX
 PropertyEditor, 289
lineEditLineStartY
 PropertyEditor, 289
lineEditPathArea
 PropertyEditor, 289
lineEditPathLength
 PropertyEditor, 289
lineEditPathVertexX
 PropertyEditor, 290
lineEditPathVertexY
 PropertyEditor, 290
lineEditPointX
 PropertyEditor, 290
lineEditPointY
 PropertyEditor, 290
lineEditPolygonCenterX
 PropertyEditor, 290
lineEditPolygonCenterY
 PropertyEditor, 290
lineEditPolygonDiameterSide
 PropertyEditor, 290
lineEditPolygonDiameterVertex
 PropertyEditor, 290
lineEditPolygonInteriorAngle
 PropertyEditor, 290
lineEditPolygonRadiusSide
 PropertyEditor, 290
lineEditPolygonRadiusVertex
 PropertyEditor, 290
lineEditPolylineArea
 PropertyEditor, 290
lineEditPolylineLength
 PropertyEditor, 290
lineEditPolylineVertexX
 PropertyEditor, 290
lineEditPolylineVertexY
 PropertyEditor, 290
lineEditRayVectorX
 PropertyEditor, 290
lineEditRayVectorY
 PropertyEditor, 290
lineEditRayX1
 PropertyEditor, 290
lineEditRayX2
 PropertyEditor, 291
lineEditRayY1
 PropertyEditor, 291
lineEditRayY2
 PropertyEditor, 291
lineEditRectangleArea
 PropertyEditor, 291
lineEditRectangleCorner1X
 PropertyEditor, 291
lineEditRectangleCorner1Y
 PropertyEditor, 291
lineEditRectangleCorner2X
 PropertyEditor, 291
lineEditRectangleCorner2Y
 PropertyEditor, 291
lineEditRectangleCorner3X
 PropertyEditor, 291
lineEditRectangleCorner3Y
 PropertyEditor, 291
lineEditRectangleCorner4X
 PropertyEditor, 291
lineEditRectangleCorner4Y
 PropertyEditor, 291

PropertyEditor, 291
lineEditRectangleHeight
PropertyEditor, 291
lineEditRectangleWidth
PropertyEditor, 291
lineEditTextMultiX
PropertyEditor, 291
lineEditTextMultiY
PropertyEditor, 291
lineEditTextSingleContents
PropertyEditor, 291
lineEditTextSingleHeight
PropertyEditor, 291
lineEditTextSingleRotation
PropertyEditor, 292
lineEditTextSingleX
PropertyEditor, 292
lineEditTextSingleY
PropertyEditor, 292
LineObject, 173
~LineObject, 175
allGripPoints, 176
gripEdit, 176
init, 176
LineObject, 175
mouseSnapPoint, 176
objectAngle, 176
objectDeltaX, 176
objectDeltaY, 176
objectEndPoint1, 176
objectEndPoint2, 177
objectLength, 177
objectMidPoint, 177
objectSavePath, 177
objectX1, 177
objectX2, 177
objectY1, 177
objectY2, 177
paint, 177
setObjectEndPoint1, 177
setObjectEndPoint2, 178
setObjectX1, 178
setObjectX2, 178
setObjectY1, 178
setObjectY2, 178
Type, 175
type, 178
updateRubber, 178
vulcanize, 178
lineStyle
DimLeaderObject, 122
lineStyleAngle
DimLeaderObject, 126
lineStyleLength
DimLeaderObject, 126
lineStylePath
DimLeaderObject, 127
LINETO
embroidery_internal.h, 513
lineType
EmbGeometry_, 143
EmbLine_, 147
EmbPath_, 149
EmbPoint_, 151
linetypeSelector
MainWindow, 223
linetypeSelectorIndexChanged
MainWindow, 198
lineWeightPen
BaseObject, 87
lineweightSelector
MainWindow, 223
lineweightSelectorIndexChanged
MainWindow, 198
listMdiWin
MainWindow, 223
listTipOfDay
MainWindow, 224
load
ImageWidget, 170
loadFatFromSector
embroidery_internal.h, 531
main.c, 635
loadFile
MdiWindow, 245
loadFormats
MainWindow, 198
loadRulerSettings
View, 374
logPromptInput
MainWindow, 198
MdiWindow, 246
LSYSTEM, 179
alphabet, 179
axiom, 179
constants, 179
rules, 179
lwt_default_lwt
Settings_, 316
lwt_mode
EmbView_, 160
lwt_real_render
Settings_, 316
lwt_show_lwt
Settings_, 316
lwtPen
BaseObject, 91
Madeira_Polyester
embroidery.h, 468
Madeira_Rayon
embroidery.h, 468
magicCode
VipHeader_, 383
main
embroidermodder.cpp, 384
main.c

bcf_difat_create, 628
 bcf_directory_free, 628
 bcf_file_free, 628
 bcfFile_read, 628
 bcfFileFat_create, 629
 bcfFileHeader_read, 629
 binaryReadString, 629
 binaryReadUnicodeString, 629
 black_thread, 637
 check_header_present, 630
 CompoundFileDirectory, 630
 CompoundFileDirectoryEntry, 630
 copy_trim, 630
 difatEntriesInHeader, 637
 emb_error, 637
 emb_optOut, 631
 emb_readline, 631
 emb_verbose, 637
 embArc_print, 631
 embColor_distance, 631
 embColor_read, 632
 embColor_write, 632
 embConstantPi, 638
 embSatinOutline_generateSatinOutline, 632
 embSatinOutline_renderStitches, 632
 embThread_findNearestColor, 633
 embThread_findNearestThread, 633
 embThread_getRandom, 633
 embTime_initNow, 633
 embTime_time, 634
 embVector_print, 634
 entriesInDifatSector, 634
 FLAG_CIRCLE, 626
 FLAG_CIRCLE_SHORT, 626
 FLAG_COMBINE, 626
 FLAG_CROSS_STITCH, 626
 FLAG_ELLIPSE, 626
 FLAG_ELLIPSE_SHORT, 626
 FLAG_FILL, 626
 FLAG_FILL_SHORT, 626
 FLAG_FORMATS, 626
 FLAG_FORMATS_SHORT, 626
 FLAG_FULL_TEST_SUITE, 626
 FLAG_HELP, 626
 FLAG_HELP_SHORT, 626
 FLAG_HILBERT_CURVE, 626
 FLAG_LINE, 626
 FLAG_LINE_SHORT, 626
 FLAG_POLYGON, 627
 FLAG_POLYGON_SHORT, 627
 FLAG_POLYLINE, 627
 FLAG_POLYLINE_SHORT, 627
 FLAG QUIET, 627
 FLAG QUIET_SHORT, 627
 FLAG_RENDER, 627
 FLAG_RENDER_SHORT, 627
 FLAG_SATIN, 627
 FLAG_SATIN_SHORT, 627
 FLAG_SIERPINSKI_TRIANGLE, 627
 FLAG_SIMULATE, 627
 FLAG_STITCH, 627
 FLAG_STITCH_SHORT, 627
 FLAG_TEST, 627
 FLAG_TO, 627
 FLAG_TO_SHORT, 627
 FLAG_VERBOSE, 627
 FLAG_VERBOSE_SHORT, 628
 FLAG_VERSION, 628
 FLAG_VERSION_SHORT, 628
 get_trim_bounds, 634
 GetFile, 635
 haveExtraDIFATSectors, 635
 loadFatFromSector, 635
 NUM_FLAGS, 628
 parseDIFATSectors, 635
 parseDirectoryEntryName, 635
 parseTime, 636
 readFullSector, 636
 readNextSector, 636
 sectorSize, 636
 seekToSector, 637
 sizeOfChainingEntryAtEndOfDifatSector, 638
 sizeOfDifatEntry, 638
 sizeOfDirectoryEntry, 638
 sizeOfFatEntry, 638
 stringInArray, 637
 WHITESPACE, 638
 write_24bit, 637
 mainWidget
 EmbDetailsDialog, 139
 mainWin
 embroidermodder.h, 396
 MainWindow, 224
 mainwindow.cpp, 439
 MdiArea, 240
 MdiWindow, 251
 Settings_Dialog, 341
 StatusBarButton, 346
 View, 380
 MainWindow, 179
 ~MainWindow, 189
 about, 190
 actionHash, 222
 activeCommand, 190
 activeMdiWindow, 190
 activeScene, 190
 activeUndoStack, 190
 activeView, 190
 actuator, 190
 buttonTipOfTheDayClicked, 190
 changelog, 190
 checkBoxTipOfTheDay, 222
 checkBoxTipOfTheDayStateChanged, 190
 checkForUpdates, 191
 closeEvent, 191
 closeToolBar, 191

colorSelector, 222
colorSelectorIndexChanged, 191
copy, 191
createAction, 191
createAllActions, 192
createAllMenus, 192
createAllToolbars, 192
createEditMenu, 192
createEditToolbar, 192
createFileMenu, 192
createFileToolbar, 192
createHelpMenu, 193
createHelpToolbar, 193
createIconToolbar, 193
createLayerToolbar, 193
createPanToolbar, 193
createPromptToolbar, 193
createPropertiesToolbar, 193
createSettingsMenu, 193
createTextToolbar, 193
createViewMenu, 194
createViewToolbar, 194
createWindowMenu, 194
createZoomToolbar, 194
cut, 194
cutCopyObjectList, 222
dayVision, 194
deletePressed, 194
designDetails, 194
disableMoveRapidFire, 194
disablePromptRapidFire, 194
docIndex, 222
dockPropEdit, 222
dockUndoEdit, 222
doNothing, 194
edit_toolbar, 222
editMenu, 222
enableMoveRapidFire, 195
enablePromptRapidFire, 195
escapePressed, 195
exit, 195
file_toolbar, 223
fileMenu, 223
findMdiWindow, 195
floatingChangedToolBar, 195
formatFilterOpen, 223
formatFilterSave, 223
getAction, 195
getApplication, 196
getCurrentColor, 196
getCurrentLayer, 196
getCurrentLineType, 196
getCurrentLineWeight, 196
getFileSeparator, 196
getMdiArea, 196
help, 197
helpMenu, 223
hideUnimplemented, 197
icon128, 197
icon16, 197
icon24, 197
icon32, 197
icon48, 197
icon64, 197
iconResize, 197
isCommandActive, 198
isShiftPressed, 198
labelTipOfTheDay, 223
layerManager, 198
layerPrevious, 198
layerSelector, 223
layerSelectorIndexChanged, 198
layoutState, 223
linetypeSelector, 223
linetypeSelectorIndexChanged, 198
lineweightSelector, 223
lineweightSelectorIndexChanged, 198
listMdiWin, 223
listTipOfTheDay, 224
loadFormats, 198
logPromptInput, 198
mainWin, 224
MainWindow, 189
makeLayerActive, 198
mdiArea, 224
menuHash, 224
myFileSeparator, 224
nativeAddArc, 199
nativeAddCircle, 199
nativeAddDimLeader, 199
nativeAddEllipse, 199
nativeAddHorizontalDimension, 199
nativeAddImage, 199
nativeAddInfiniteLine, 200
nativeAddLine, 200
nativeAddPath, 200
nativeAddPoint, 200
nativeAddPolygon, 200
nativeAddPolyline, 200
nativeAddRay, 201
nativeAddRectangle, 201
nativeAddRegularPolygon, 201
nativeAddRoundedRectangle, 201
nativeAddSlot, 201
nativeAddTextMulti, 202
nativeAddTextSingle, 202
nativeAddToSelection, 202
nativeAddTriangle, 202
nativeAddVerticalDimension, 202
nativeAlert, 203
nativeAllowRubber, 203
nativeAppendPromptHistory, 203
nativeBlinkPrompt, 203
nativeCalculateAngle, 203
nativeCalculateDistance, 203
nativeClearRubber, 203

nativeClearSelection, 203
nativeCopySelected, 203
nativeCutSelected, 204
nativeDeleteSelected, 204
nativeDisableMoveRapidFire, 204
nativeDisablePromptRapidFire, 204
nativeEnableMoveRapidFire, 204
nativeEnablePromptRapidFire, 204
nativeEndCommand, 204
nativeExit, 204
nativeInitCommand, 205
nativeMessageBox, 205
nativeMirrorSelected, 205
nativeMouseX, 205
nativeMouseY, 205
nativeMoveSelected, 206
nativeNewFile, 206
nativeNumSelected, 206
nativeOpenFile, 206
nativePasteSelected, 206
nativePerpendicularDistance, 206
nativePreviewOff, 207
nativePreviewOn, 207
nativePrintArea, 207
nativeQSnapX, 207
nativeQSnapY, 207
nativeRotateSelected, 208
nativeScaleSelected, 208
nativeSelectAll, 208
nativeSetBackgroundColor, 208
nativeSetCrossHairColor, 208
nativeSetCursorShape, 209
nativeSetGridColor, 209
nativeSetPromptPrefix, 209
nativeSetRubberMode, 209
nativeSetRubberPoint, 209
nativeSetRubberText, 209
nativeSpareRubber, 209
nativeTextAngle, 209
nativeTextBold, 209
nativeTextFont, 210
nativeTextItalic, 210
nativeTextOverline, 210
nativeTextSize, 210
nativeTextStrikeOut, 210
nativeTextUnderline, 210
nativeTipOfTheDay, 210
nativeVulcanize, 210
nativeWindowCascade, 210
nativeWindowClose, 210
nativeWindowCloseAll, 210
nativeWindowNext, 211
nativeWindowPrevious, 211
nativeWindowTile, 211
newFile, 211
nightVision, 211
numOfDocs, 224
onCloseMdiWin, 211
onCloseWindow, 211
onWindowActivated, 211
openFile, 212
openFilePath, 224
openFilesSelected, 212
openrecentfile, 212
panDown, 212
panLeft, 212
panMenu, 224
panpoint, 212
panrealtime, 213
panRight, 213
panUp, 213
paste, 213
pickAddModeToggled, 213
platformString, 213
print, 213
prompt, 224
promptHistoryAppended, 213
promptInputNext, 213
promptInputPrevious, 213
quit, 213
readSettings, 214
recentMenu, 224
recentMenuAboutToShow, 214
redo, 214
resizeEvent, 214
run_script, 214
run_script_file, 215
runCommand, 215
runCommandClick, 215
runCommandContext, 215
runCommandMain, 215
runCommandMove, 215
runCommandPrompt, 215
saveasfile, 216
savefile, 216
selectAll, 216
setShiftPressed, 216
setShiftReleased, 216
setTextAngle, 216
setTextBold, 216
setTextFont, 216
setTextItalic, 216
setTextOverline, 216
setTextSize, 217
setTextStrikeOut, 217
setTextUnderline, 217
settings_display_bg_color, 224
settings_display_crosshair_color, 225
settings_display_crosshair_percent, 225
settings_display_renderhint_aa, 225
settings_display_renderhint_high_aa, 225
settings_display_renderhint_noncosmetic, 225
settings_display_renderhint_smooth_pix, 225
settings_display_renderhint_text_aa, 225
settings_display_scrollbar_widget_num, 225
settings_display_selectbox_alpha, 225

settings_display_selectbox_left_color, 225
settings_display_selectbox_left_fill, 225
settings_display_selectbox_right_color, 226
settings_display_selectbox_right_fill, 226
settings_display_show_scrollbars, 226
settings_display_units, 226
settings_display_use_opengl, 226
settings_display_zoomscale_in, 226
settings_display_zoomscale_out, 226
settings_general_check_for_updates, 226
settings_general_current_tip, 226
settings_general_icon_size, 226
settings_general_icon_theme, 226
settings_general_language, 227
settings_general_mdi_bg_color, 227
settings_general_mdi_bg_logo, 227
settings_general_mdi_bg_texture, 227
settings_general_mdi_bg_use_color, 227
settings_general_mdi_bg_use_logo, 227
settings_general_mdi_bg_use_texture, 227
settings_general_system_help_browser, 227
settings_general_tip_of_the_day, 227
settings_grid_center_on_origin, 227
settings_grid_center_x, 227
settings_grid_center_y, 228
settings_grid_color, 228
settings_grid_color_match_crosshair, 228
settings_grid_load_from_file, 228
settings_grid_show_on_load, 228
settings_grid_show_origin, 228
settings_grid_size_radius, 228
settings_grid_size_x, 228
settings_grid_size_y, 228
settings_grid_spacing_angle, 228
settings_grid_spacing_radius, 228
settings_grid_spacing_x, 229
settings_grid_spacing_y, 229
settings_grid_type, 229
settings_lwt_default_lwt, 229
settings_lwt_real_render, 229
settings_lwt_show_lwt, 229
settings_opensave_custom_filter, 229
settings_opensave_open_format, 229
settings_opensave_open_thumbnail, 229
settings_opensave_recent_directory, 229
settings_opensave_recent_list_of_files, 229
settings_opensave_recent_max_files, 230
settings_opensave_save_format, 230
settings_opensave_save_thumbnail, 230
settings_opensave_trim_dst_num_jumps, 230
settings_printing_default_device, 230
settings_printing_disable_bg, 230
settings_printing_use_last_device, 230
settings_prompt_bg_color, 230
settings_prompt_font_family, 230
settings_prompt_font_size, 230
settings_prompt_font_style, 230
settings_prompt_save_history, 231
settings_prompt_save_history_as_html, 231
settings_prompt_save_history_filename, 231
settings_prompt_text_color, 231
settings_qsnap_aperture_size, 231
settings_qsnap_apparent, 231
settings_qsnap_center, 231
settings_qsnap_enabled, 231
settings_qsnap_endpoint, 231
settings_qsnap_extension, 231
settings_qsnap_insertion, 231
settings_qsnap_intersection, 232
settings_qsnap_locator_color, 232
settings_qsnap_locator_size, 232
settings_qsnap_midpoint, 232
settings_qsnap_nearest, 232
settings_qsnap_node, 232
settings_qsnap_parallel, 232
settings_qsnap_perpendicular, 232
settings_qsnap_quadrant, 232
settings_qsnap_tangent, 232
settings_ruler_color, 232
settings_ruler_metric, 233
settings_ruler_pixel_size, 233
settings_ruler_show_on_load, 233
settings_selection_coolgrip_color, 233
settings_selection_grip_size, 233
settings_selection_hotgrip_color, 233
settings_selection_mode_pickadd, 233
settings_selection_mode_pickdrag, 233
settings_selection_mode_pickfirst, 233
settings_selection_pickbox_size, 233
settings_text_angle, 233
settings_text_font, 234
settings_text_size, 234
settings_text_style_bold, 234
settings_text_style_italic, 234
settings_text_style_overline, 234
settings_text_style_strikeout, 234
settings_text_style_underline, 234
settingsDialog, 217
settingsMenu, 234
settingsPrompt, 217
setUndoCleanIcon, 217
shiftKeyPressedState, 234
statusbar, 234
stub_implement, 217
stub_testing, 217
textAngle, 218
textBold, 218
textFont, 218
textFontSelector, 234
textFontSelectorCurrentFontChanged, 218
textItalic, 218
textOverline, 218
textSize, 218
textSizeSelector, 235
textSizeSelectorIndexChanged, 218
textStrikeOut, 218

textUnderline, 218
tipOfTheDay, 218
toggleGrid, 219
toggleLwt, 219
toggleRuler, 219
toolbarEdit, 235
toolbarFile, 235
toolbarHash, 235
toolbarHelp, 235
toolbarIcon, 235
toolbarLayer, 235
toolbarPan, 235
toolbarPrompt, 235
toolbarProperties, 235
toolbarText, 235
toolbarView, 236
toolbarZoom, 236
undo, 219
updateAllViewBackgroundColors, 219
updateAllViewCrossHairColors, 219
updateAllViewGridColors, 219
updateAllViewRulerColors, 219
updateAllViewScrollBars, 219
updateAllViewSelectBoxColors, 219
updateMenuToolbarStatusbar, 220
updatePickAddMode, 220
validFileFormat, 220
view_toolbar, 236
viewMenu, 236
whatsThisContextHelp, 220
windowMenu, 236
windowMenuAboutToShow, 220
windowMenuActivated, 220
wizardTipOfTheDay, 236
writeSettings, 221
zoom_toolbar, 236
zoomAll, 221
zoomCenter, 221
zoomDynamic, 221
zoomExtents, 221
zoomIn, 221
zoomMenu, 236
zoomOut, 221
zoomPrevious, 221
zoomRealtime, 221
zoomScale, 221
zoomSelected, 222
zoomWindow, 222
mainwindow.cpp
 _mainWin, 440
 Error, 439
 mainWin, 439
 Todo, 440
major_tick_seperation
 Settings_, 316
majorVersion
 _bcf_file_header, 66
makeLayerActive
 MainWindow, 198
manufacturer_code
 thread_color_, 354
mapSignal
 PropertyEditor, 283
Marathon_Polyester
 embroidery.h, 468
Marathon_Rayon
 embroidery.h, 468
max_header
 format_max.c, 587
MAX_STITCHES
 embroidery.h, 469
MAX_THREADS
 embroidery.h, 469
maxNumberOfDirectoryEntries
 _bcf_directory, 61
maxPoints
 UiObject_, 357
mdi_bg_use_color
 Settings_, 316
mdi_bg_use_logo
 Settings_, 316
mdi_bg_use_texture
 Settings_, 316
MdiArea, 236
 ~MdiArea, 238
 bgColor, 240
 bgLogo, 240
 bgTexture, 240
 cascade, 238
 forceRepaint, 238
 mainWin, 240
 MdiArea, 237
 mouseDoubleClickEvent, 238
 paintEvent, 238
 setBackgroundColor, 238
 setBackgroundLogo, 239
 setBackgroundTexture, 239
 tile, 239
 useBackgroundColor, 239
 useBackgroundLogo, 239
 useBackgroundTexture, 240
 useColor, 240
 useLogo, 240
 useTexture, 240
 zoomExtentsAllSubWindows, 240
mdiArea
 MainWindow, 224
 MdiWindow, 251
MdiWindow, 241
 ~MdiWindow, 243
 closeEvent, 243
 curColor, 250
 curFile, 250
 curLayer, 250
 curlLineType, 250
 curlLineWeight, 250

currentColorChanged, 243
currentLayerChanged, 243
currentLinetypeChanged, 244
currentLineweightChanged, 244
deletePressed, 244
designDetails, 244
escapePressed, 244
fileExtension, 244
fileWasLoaded, 250
getCurrentColor, 245
getCurrentFile, 245
getCurrentLayer, 245
getCurrentLineType, 245
getCurrentLineWeight, 245
getScene, 245
getShortCurrentFile, 245
getView, 245
gscene, 250
gview, 251
loadFile, 245
logPromptInput, 246
mainWin, 251
mdiArea, 251
MdiWindow, 243
myIndex, 251
onWindowActivated, 246
print, 246
printer, 251
promptHistory, 251
promptHistoryAppended, 246
promptInputList, 251
promptInputNext, 246
promptInputNum, 251
promptInputPrevious, 246
promptInputPrevNext, 246
saveBMC, 247
saveFile, 247
sendCloseMdiWin, 247
setCurrentColor, 247
setCurrentFile, 247
setCurrentLayer, 249
setCurrentLineType, 249
setCurrentLineWeight, 249
setViewBackgroundColor, 249
setViewCrossHairColor, 249
setViewGridColor, 249
setViewRulerColor, 249
setViewSelectBoxColors, 249
showViewScrollBars, 249
sizeHint, 250
updateColorLinetypeLinewidth, 250
menu_action
 Settings_, 316
 utility.cpp, 446
menu_layout
 utility.cpp, 446
menuHash
 MainWindow, 224
mergeWith
 UndoableNavCommand, 364
metric
 EmbView_, 160
Metro_Polyester
 embroidery.h, 469
mid
 EmbArc_, 134
miniSectorShift
 _bcf_file_header, 67
miniStreamCutoffSize
 _bcf_file_header, 67
minorVersion
 _bcf_file_header, 67
minPoints
 UiObject_, 357
minute
 EmbTime_, 157
mirror
 UndoableMirrorCommand, 362
mirrorLine
 UndoableMirrorCommand, 362
mirrorSelected
 View, 374
mitDecodeStitch
 embroidery_internal.h, 531
 encoding.c, 556
mitEncodeStitch
 embroidery_internal.h, 531
 encoding.c, 557
mode
 UiObject_, 357
modifiedTime
 _bcf_directory_entry, 63
modifierName
 ThredExtension_, 355
month
 EmbTime_, 157
mouseDoubleClickEvent
 MdiArea, 238
 View, 375
mouseMoveEvent
 CmdPromptHandle, 107
 View, 375
mousePressEvent
 CmdPromptHandle, 107
 View, 375
mouseReleaseEvent
 CmdPromptHandle, 107
 View, 375
mouseSnapPoint
 ArcObject, 78
 BaseObject, 87
 CircleObject, 95
 DimLeaderObject, 123
 EllipseObject, 130
 ImageObject, 167
 LineObject, 176

PathObject, 255
 PointObject, 259
 PolygonObject, 265
 PolylineObject, 270
 RectObject, 302
 TextSingleObject, 351
 moveAction
 View, 375
 movePoint
 View, 380
 moveResizeHistory
 CmdPromptSplitter, 118
 moveSelected
 View, 375
 MOVETO
 embroidery_internal.h, 514
 moveY
 CmdPromptHandle, 107
 movingActive
 View, 380
 myFileSeparator
 MainWindow, 224
 myIndex
 MdiWindow, 251
 n_attributes
 format_svg.c, 601
 n_controlPoints
 UiObject_, 357
 N_PES_VERSIONS
 embroidery_internal.h, 514
 n_selected
 EmbView_, 160
 n_views
 utility.cpp, 446
 name
 EmblImage_, 145
 EmbLayer_, 146
 SvgAttribute_, 347
 thread_color_, 354
 nativeAddArc
 MainWindow, 199
 nativeAddCircle
 MainWindow, 199
 nativeAddDimLeader
 MainWindow, 199
 nativeAddEllipse
 MainWindow, 199
 nativeAddHorizontalDimension
 MainWindow, 199
 nativeAddImage
 MainWindow, 199
 nativeAddInfiniteLine
 MainWindow, 200
 nativeAddLine
 MainWindow, 200
 nativeAddPath
 MainWindow, 200
 nativeAddPoint
 MainWindow, 200
 nativeAddPolygon
 MainWindow, 200
 nativeAddPolyline
 MainWindow, 200
 nativeAddRay
 MainWindow, 201
 nativeAddRectangle
 MainWindow, 201
 nativeAddRegularPolygon
 MainWindow, 201
 nativeAddRoundedRectangle
 MainWindow, 201
 nativeAddSlot
 MainWindow, 201
 nativeAddTextMulti
 MainWindow, 202
 nativeAddTextSingle
 MainWindow, 202
 nativeAddToSelection
 MainWindow, 202
 nativeAddTriangle
 MainWindow, 202
 nativeAddVerticalDimension
 MainWindow, 202
 nativeAlert
 MainWindow, 203
 nativeAllowRubber
 MainWindow, 203
 nativeAppendPromptHistory
 MainWindow, 203
 nativeBlinkPrompt
 MainWindow, 203
 nativeCalculateAngle
 MainWindow, 203
 nativeCalculateDistance
 MainWindow, 203
 nativeClearRubber
 MainWindow, 203
 nativeClearSelection
 MainWindow, 203
 nativeCopySelected
 MainWindow, 203
 nativeCutSelected
 MainWindow, 204
 nativeDeleteSelected
 MainWindow, 204
 nativeDisableMoveRapidFire
 MainWindow, 204
 nativeDisablePromptRapidFire
 MainWindow, 204
 nativeEnableMoveRapidFire
 MainWindow, 204
 nativeEnablePromptRapidFire
 MainWindow, 204
 nativeEndCommand
 MainWindow, 204
 nativeExit

MainWindow, 204
nativeInitCommand
 MainWindow, 205
nativeMessageBox
 MainWindow, 205
nativeMirrorSelected
 MainWindow, 205
nativeMouseX
 MainWindow, 205
nativeMouseY
 MainWindow, 205
nativeMoveSelected
 MainWindow, 206
nativeNewFile
 MainWindow, 206
nativeNumSelected
 MainWindow, 206
nativeOpenFile
 MainWindow, 206
nativePasteSelected
 MainWindow, 206
nativePerpendicularDistance
 MainWindow, 206
nativePreviewOff
 MainWindow, 207
nativePreviewOn
 MainWindow, 207
nativePrintArea
 MainWindow, 207
nativeQSnapX
 MainWindow, 207
nativeQSnapY
 MainWindow, 207
nativeRotateSelected
 MainWindow, 208
nativeScaleSelected
 MainWindow, 208
nativeSelectAll
 MainWindow, 208
nativeSetBackgroundColor
 MainWindow, 208
nativeSetCrossHairColor
 MainWindow, 208
nativeSetCursorShape
 MainWindow, 209
nativeSetGridColor
 MainWindow, 209
nativeSetPromptPrefix
 MainWindow, 209
nativeSetRubberMode
 MainWindow, 209
nativeSetRubberPoint
 MainWindow, 209
nativeSetRubberText
 MainWindow, 209
nativeSpareRubber
 MainWindow, 209
nativeTextAngle
 MainWindow, 209
nativeTextBold
 MainWindow, 209
nativeTextFont
 MainWindow, 210
nativeTextItalic
 MainWindow, 210
nativeTextOverline
 MainWindow, 210
nativeTextSize
 MainWindow, 210
nativeTextStrikeOut
 MainWindow, 210
nativeTextUnderline
 MainWindow, 210
nativeTipOfDay
 MainWindow, 210
nativeVulcanize
 MainWindow, 210
nativeWindowCascade
 MainWindow, 210
nativeWindowClose
 MainWindow, 210
nativeWindowCloseAll
 MainWindow, 210
nativeWindowNext
 MainWindow, 211
nativeWindowPrevious
 MainWindow, 211
nativeWindowTitle
 MainWindow, 211
navType
 UndoableNavCommand, 364
needle_speed
 Settings_, 316
negativeXHoopSize
 VipHeader_, 383
negativeYHoopSize
 VipHeader_, 383
newFile
 MainWindow, 211
next
 _bcf_directory_entry, 63
nightVision
 MainWindow, 211
nlenghts
 Huffman, 163
NoArrow
 DimLeaderObject, 122
NoLine
 DimLeaderObject, 122
NORMAL
 embroidery.h, 469
normalPath
 PathObject, 256
 PolygonObject, 266
 PolylineObject, 272
ntable

Huffman, 163
NUM_FLAGS
 main.c, 628
numberOfBytesRemaining
 _vp3Hoop, 69
numberOfColors
 _vp3Hoop, 69
 VipHeader_, 383
numberOfDifatSectors
 _bcf_file_header, 67
numberOfDirectorySectors
 _bcf_file_header, 67
numberOfEntriesInDifatSector
 embroidery_internal.h, 531
numberOfEntriesInFatSector
 _bcf_file_fat, 65
numberOfFATSectors
 _bcf_file_header, 67
numberOfFormats
 embroidery.h, 469
numberOfMiniFatSectors
 _bcf_file_header, 67
numberOfStitches
 VipHeader_, 383
numOfDocs
 MainWindow, 224
numPoints
 UiObject_, 358
numSelected
 View, 375
numStiches
 ThredHeader_, 356

OBJ_COLOR
 embroidermodder.h, 392
OBJ_KEYS
 embroidermodder.h, 391
OBJ_LAYER
 embroidermodder.h, 392
OBJ_LTYPE
 embroidermodder.h, 392
OBJ_LTYPE_CENTER
 embroidermodder.h, 392
OBJ_LTYPE_CONT
 embroidermodder.h, 392
OBJ_LTYPE_DOT
 embroidermodder.h, 392
OBJ_LTYPE_FISHBONE
 embroidermodder.h, 392
OBJ_LTYPE_HIDDEN
 embroidermodder.h, 392
OBJ_LTYPE_PHANTOM
 embroidermodder.h, 392
OBJ_LTYPE_RUNNING
 embroidermodder.h, 392
OBJ_LTYPE_SATIN
 embroidermodder.h, 392
OBJ_LTYPE_VALUES
 embroidermodder.h, 392

OBJ_LTYPE_ZIGZAG
 embroidermodder.h, 392
OBJ_LWT
 embroidermodder.h, 392
OBJ_LWT_01
 embroidermodder.h, 392
OBJ_LWT_02
 embroidermodder.h, 392
OBJ_LWT_03
 embroidermodder.h, 392
OBJ_LWT_04
 embroidermodder.h, 392
OBJ_LWT_05
 embroidermodder.h, 392
OBJ_LWT_06
 embroidermodder.h, 392
OBJ_LWT_07
 embroidermodder.h, 392
OBJ_LWT_08
 embroidermodder.h, 392
OBJ_LWT_09
 embroidermodder.h, 392
OBJ_LWT_10
 embroidermodder.h, 392
OBJ_LWT_11
 embroidermodder.h, 392
OBJ_LWT_12
 embroidermodder.h, 392
OBJ_LWT_13
 embroidermodder.h, 392
OBJ_LWT_14
 embroidermodder.h, 392
OBJ_LWT_15
 embroidermodder.h, 392
OBJ_LWT_16
 embroidermodder.h, 392
OBJ_LWT_17
 embroidermodder.h, 393
OBJ_LWT_18
 embroidermodder.h, 393
OBJ_LWT_19
 embroidermodder.h, 393
OBJ_LWT_20
 embroidermodder.h, 393
OBJ_LWT_21
 embroidermodder.h, 393
OBJ_LWT_22
 embroidermodder.h, 393
OBJ_LWT_23
 embroidermodder.h, 393
OBJ_LWT_24
 embroidermodder.h, 393
OBJ_LWT_BYBLOCK
 embroidermodder.h, 392
OBJ_LWT_BYLAYER
 embroidermodder.h, 392
OBJ_LWT_DEFAULT
 embroidermodder.h, 392

OBJ_LWT_VALUES
embroidermodder.h, 392

OBJ_NAME
embroidermodder.h, 392

OBJ_RUBBER
embroidermodder.h, 392

OBJ_RUBBER_CIRCLE_1P_DIA
embroidermodder.h, 393

OBJ_RUBBER_CIRCLE_1P_RAD
embroidermodder.h, 393

OBJ_RUBBER_CIRCLE_2P
embroidermodder.h, 393

OBJ_RUBBER_CIRCLE_3P
embroidermodder.h, 393

OBJ_RUBBER_CIRCLE_TTR
embroidermodder.h, 393

OBJ_RUBBER_CIRCLE_TTT
embroidermodder.h, 393

OBJ_RUBBER_DIMLEADER_LINE
embroidermodder.h, 393

OBJ_RUBBER_ELLIPSE_LINE
embroidermodder.h, 393

OBJ_RUBBER_ELLIPSE_MAJOR_DIAMETER_MINOR_RADIUS_SNAP_VALUES
embroidermodder.h, 393

OBJ_RUBBER_ELLIPSE_MAJOR_RADIUS_MINOR_RADIUS_SBJ_TYPE
embroidermodder.h, 393

OBJ_RUBBER_ELLIPSE_ROTATION
embroidermodder.h, 393

OBJ_RUBBER_GRIP
embroidermodder.h, 393

OBJ_RUBBER_IMAGE
embroidermodder.h, 393

OBJ_RUBBER_LINE
embroidermodder.h, 393

OBJ_RUBBER_OFF
embroidermodder.h, 393

OBJ_RUBBER_ON
embroidermodder.h, 393

OBJ_RUBBER_POLYGON
embroidermodder.h, 393

OBJ_RUBBER_POLYGON_CIRCUMSCRIBE
embroidermodder.h, 393

OBJ_RUBBER_POLYGON_INSCRIBE
embroidermodder.h, 393

OBJ_RUBBER_POLYLINE
embroidermodder.h, 393

OBJ_RUBBER_RECTANGLE
embroidermodder.h, 393

OBJ_RUBBER_TEXTSINGLE
embroidermodder.h, 393

OBJ_RUBBER_VALUES
embroidermodder.h, 393

OBJ_SNAP_APPINTERSECTION
embroidermodder.h, 394

OBJ_SNAP_CENTER
embroidermodder.h, 394

OBJ_SNAP_ENDPOINT
embroidermodder.h, 394

OBJ_SNAP_EXTENSION
embroidermodder.h, 394

OBJ_SNAP_INSERTION
embroidermodder.h, 394

OBJ_SNAP_INTERSECTION
embroidermodder.h, 394

OBJ_SNAP_MIDPOINT
embroidermodder.h, 394

OBJ_SNAP_NEAREST
embroidermodder.h, 394

OBJ_SNAP_NODE
embroidermodder.h, 394

OBJ_SNAP_NULL
embroidermodder.h, 394

OBJ_SNAP_PARALLEL
embroidermodder.h, 394

OBJ_SNAP_PERPENDICULAR
embroidermodder.h, 394

OBJ_SNAP_QUADRANT
embroidermodder.h, 394

OBJ_SNAP_TANGENT
embroidermodder.h, 394

OBJ_TYPE_SNAP_VALUES
embroidermodder.h, 393

OBJ_TYPE_SBJ_TYPE
embroidermodder.h, 392

OBJ_TYPE_ARC
embroidermodder.h, 394

OBJ_TYPE_BASE
embroidermodder.h, 394

OBJ_TYPE_BLOCK
embroidermodder.h, 394

OBJ_TYPE_CIRCLE
embroidermodder.h, 394

OBJ_TYPE_DIMALIGNED
embroidermodder.h, 394

OBJ_TYPE_DIMANGULAR
embroidermodder.h, 394

OBJ_TYPE_DIMARCLENGTH
embroidermodder.h, 394

OBJ_TYPE_DIMDIAMETER
embroidermodder.h, 394

OBJ_TYPE_DIMLEADER
embroidermodder.h, 394

OBJ_TYPE_DIMLINEAR
embroidermodder.h, 394

OBJ_TYPE_DIMORDINATE
embroidermodder.h, 394

OBJ_TYPE_DIMRADIUS
embroidermodder.h, 394

OBJ_TYPE_ELLIPSE
embroidermodder.h, 394

OBJ_TYPE_ELLIPSEARC
embroidermodder.h, 394

OBJ_TYPE_GRID
embroidermodder.h, 394

OBJ_TYPE_HATCH
embroidermodder.h, 394

OBJ_TYPE_IMAGE
 embroidermodder.h, 394
OBJ_TYPE_INFINITELINE
 embroidermodder.h, 394
OBJ_TYPE_LINE
 embroidermodder.h, 394
OBJ_TYPE_NULL
 embroidermodder.h, 394
OBJ_TYPE_PATH
 embroidermodder.h, 394
OBJ_TYPE_POINT
 embroidermodder.h, 394
OBJ_TYPE_POLYGON
 embroidermodder.h, 394
OBJ_TYPE_POLYLINE
 embroidermodder.h, 394
OBJ_TYPE_RAY
 embroidermodder.h, 394
OBJ_TYPE_RECTANGLE
 embroidermodder.h, 394
OBJ_TYPE_RUBBER
 embroidermodder.h, 394
OBJ_TYPE_SLOT
 embroidermodder.h, 394
OBJ_TYPE_SPLINE
 embroidermodder.h, 394
OBJ_TYPE_TEXTMULTI
 embroidermodder.h, 395
OBJ_TYPE_TEXTSINGLE
 embroidermodder.h, 395
OBJ_TYPE_VALUES
 embroidermodder.h, 394
object
 EmbGeometry_, 143
 UndoableAddCommand, 359
 UndoableDeleteCommand, 360
 UndoableGripEditCommand, 361
 UndoableMirrorCommand, 362
 UndoableMoveCommand, 363
 UndoableRotateCommand, 365
 UndoableScaleCommand, 366
object-arc.cpp
 rotate_vector, 440
object_index
 UiObject_, 358
objectAngle
 DimLeaderObject, 123
 LineObject, 176
objectArcLength
 ArcObject, 79
objectArea
 ArcObject, 79
 CircleObject, 95
 ImageObject, 167
 RectObject, 302
objectBottomLeft
 ImageObject, 167
 RectObject, 302
objectBottomRight
 ImageObject, 167
 RectObject, 302
objectCenter
 BaseObject, 87
objectCenterX
 BaseObject, 87
objectCenterY
 BaseObject, 87
objectChord
 ArcObject, 79
objectCircumference
 CircleObject, 95
objectClockwise
 ArcObject, 79
objectColor
 BaseObject, 87
objectColorRGB
 BaseObject, 88
objectCopyPath
 PathObject, 255
 PolygonObject, 265
 PolylineObject, 270
objectDeltaX
 DimLeaderObject, 124
 LineObject, 176
objectDeltaY
 DimLeaderObject, 124
 LineObject, 176
objectDiameter
 CircleObject, 95
objectDiameterMajor
 EllipseObject, 130
objectDiameterMinor
 EllipseObject, 130
objectEndAngle
 ArcObject, 79
objectEndPoint
 ArcObject, 80
objectEndPoint1
 DimLeaderObject, 124
 LineObject, 176
objectEndPoint2
 DimLeaderObject, 124
 LineObject, 177
objectEndX
 ArcObject, 80
objectEndY
 ArcObject, 80
objectHeight
 EllipseObject, 130
 ImageObject, 167
 RectObject, 302
objectID
 BaseObject, 88
objectIncludedAngle
 ArcObject, 80
objectLength

DimLeaderObject, 124
LineObject, 177
objectLineType
 BaseObject, 88
objectLineWidth
 BaseObject, 88
objectMidPoint
 ArcObject, 80
 DimLeaderObject, 124
 LineObject, 177
objectMidX
 ArcObject, 81
objectMidY
 ArcObject, 81
objectPath
 BaseObject, 88
objectPen
 BaseObject, 88
objectPos
 PathObject, 255
 PointObject, 260
 PolygonObject, 265
 PolylineObject, 270
 RectObject, 302
 TextSingleObject, 351
objectQuadrant0
 CircleObject, 95
 EllipseObject, 130
objectQuadrant180
 CircleObject, 95
 EllipseObject, 131
objectQuadrant270
 CircleObject, 95
 EllipseObject, 131
objectQuadrant90
 CircleObject, 95
 EllipseObject, 131
objectRadius
 ArcObject, 81
 CircleObject, 95
objectRadiusMajor
 EllipseObject, 131
objectRadiusMinor
 EllipseObject, 131
objectRubberMode
 BaseObject, 88
objectRubberPoint
 BaseObject, 88
objectRubberText
 BaseObject, 88
objectSavePath
 CircleObject, 95
 EllipseObject, 131
 LineObject, 177
 PathObject, 255
 PointObject, 260
 PolygonObject, 265
 PolylineObject, 270
 RectObject, 303
 TextSingleObject, 351
objectSavePathList
 TextSingleObject, 351
objectStartAngle
 ArcObject, 81
objectStartPoint
 ArcObject, 81
objectStartX
 ArcObject, 81
objectStartY
 ArcObject, 82
objectText
 TextSingleObject, 351
objectTextBackward
 TextSingleObject, 351
objectTextBold
 TextSingleObject, 351
objectTextFont
 TextSingleObject, 351
objectTextItalic
 TextSingleObject, 351
objectTextJustify
 TextSingleObject, 351
objectTextJustifyList
 TextSingleObject, 351
objectTextOverline
 TextSingleObject, 351
objectTextSize
 TextSingleObject, 351
objectTextStrikeOut
 TextSingleObject, 351
objectTextUnderline
 TextSingleObject, 352
objectTextUpsideDown
 TextSingleObject, 352
objectTopLeft
 ImageObject, 168
 RectObject, 303
objectTopRight
 ImageObject, 168
 RectObject, 303
objectType
 _bcf_directory_entry, 63
ObjectTypeRootEntry
 embroidery_internal.h, 514
ObjectTypeStorage
 embroidery_internal.h, 514
ObjectTypeStream
 embroidery_internal.h, 514
ObjectTypeUnknown
 embroidery_internal.h, 514
objectWidth
 EllipseObject, 131
 ImageObject, 168
 RectObject, 303
objectX
 PathObject, 255
 PointObject, 260

PolygonObject, 265
PolylineObject, 271
TextSingleObject, 352
objectX1
 DimLeaderObject, 124
 LineObject, 177
objectX2
 DimLeaderObject, 124
 LineObject, 177
objectY
 PathObject, 255
 PointObject, 260
 PolygonObject, 265
 PolylineObject, 271
 TextSingleObject, 352
objectY1
 DimLeaderObject, 124
 LineObject, 177
objectY2
 DimLeaderObject, 124
 LineObject, 177
objID
 BaseObject, 91
objLine
 BaseObject, 91
objPen
 BaseObject, 91
objRubberMode
 BaseObject, 91
objRubberPoints
 BaseObject, 91
objRubberTexts
 BaseObject, 91
objText
 TextSingleObject, 353
objTextBackward
 TextSingleObject, 353
objTextBold
 TextSingleObject, 354
objTextFont
 TextSingleObject, 354
objTextItalic
 TextSingleObject, 354
objTextJustify
 TextSingleObject, 354
objTextOverline
 TextSingleObject, 354
objTextPath
 TextSingleObject, 354
objTextSize
 TextSingleObject, 354
objTextStrikeOut
 TextSingleObject, 354
objTextUnderline
 TextSingleObject, 354
objTextUpsideDown
 TextSingleObject, 354
ofmDecode
 format_ofm.c, 589
ofmReadBlockHeader
 format_ofm.c, 589
ofmReadClass
 format_ofm.c, 589
ofmReadColorChange
 format_ofm.c, 589
ofmReadExpanded
 format_ofm.c, 589
ofmReadLibrary
 format_ofm.c, 589
ofmReadThreads
 format_ofm.c, 589
onCloseMdiWin
 MainWindow, 211
onCloseWindow
 MainWindow, 211
onWindowActivated
 MainWindow, 211
 MdiWindow, 246
Open
 DimLeaderObject, 122
openFile
 MainWindow, 212
openFilesPath
 MainWindow, 224
openFilesSelected
 MainWindow, 212
openrecentfile
 MainWindow, 212
opensave_custom_filter
 Settings_, 317
opensave_open_format
 Settings_, 317
opensave_open_thumbnail
 Settings_, 317
opensave_recent_directory
 Settings_, 317
opensave_recent_list_of_files
 Settings_, 317
opensave_recent_max_files
 Settings_, 317
opensave_save_format
 Settings_, 317
opensave_save_thumbnail
 Settings_, 317
opensave_trim_dst_num_jumps
 Settings_, 317
operator+
 embroidermodder.h, 396
operator-
 embroidermodder.h, 396
origin
 EmbView_, 160
originPath
 View, 380
ortho_mode
 EmbView_, 160

paint
ArcObject, 82
CircleObject, 96
DimLeaderObject, 124
EllipseObject, 131
ImageObject, 168
LineObject, 177
PathObject, 255
PointObject, 260
PolygonObject, 265
PolylineObject, 271
RectObject, 303
TextSingleObject, 352

paintEvent
ImageWidget, 170
MdiArea, 238
SelectBox, 310

panDistance
View, 380

panDown
MainWindow, 212
View, 375

panLeft
MainWindow, 212
View, 375

panMenu
MainWindow, 224

panningActive
View, 380

panningPointActive
View, 380

panningRealTimeActive
View, 380

panPoint
View, 375

panpoint
MainWindow, 212

panRealTime
View, 375

panrealtime
MainWindow, 213

panRight
MainWindow, 213
View, 375

panStart
View, 375

panStartX
View, 380

panStartY
View, 380

Pantone
embroidery.h, 469

panUp
MainWindow, 213
View, 375

parseDIFATSectors
main.c, 635

parseDirectoryEntryName

main.c, 635

parseTime
main.c, 636

paste
MainWindow, 213
View, 375

pasteClip
CmdPromptInput, 114

pasteDelta
View, 380

pasteObjectItemGroup
View, 380

pastePressed
CmdPrompt, 102
CmdPromptInput, 114

pastingActive
View, 380

path
EmbGeometry_, 143
EmblImage_, 145

path_desc
UiObject_, 358

PathObject, 251
~PathObject, 254
allGripPoints, 254
gripEdit, 254
init, 254
mouseSnapPoint, 255
normalPath, 256
objectCopyPath, 255
objectPos, 255
objectSavePath, 255
objectX, 255
objectY, 255
paint, 255
PathObject, 254
setObjectPos, 255
setObjectX, 256
setObjectY, 256
Type, 254
type, 256
updatePath, 256
updateRubber, 256
vulcanize, 256

pattern
EmbView_, 160

pattern.c
convert, 639
embPattern_addCircleAbs, 639
embPattern_addEllipseAbs, 639
embPattern_addLineAbs, 639
embPattern_addPathAbs, 639
embPattern_addPointAbs, 639
embPattern_addPolygonAbs, 640
embPattern_addPolylineObjectAbs, 640
embPattern_addRectAbs, 640
embPattern_addStitchAbs, 640
embPattern_addStitchRel, 640

embPattern_addThread, 640
 embPattern_calcBoundingBox, 640
 embPattern_center, 640
 embPattern_changeColor, 641
 embPattern_color_count, 641
 embPattern_combineJumpStitches, 641
 embPattern_copyPolylinesToStitch_list, 641
 embPattern_copystitch_listToPolylines, 641
 embPattern_correctForMaxStitchLength, 641
 embPattern_create, 641
 embPattern_designDetails, 641
 embPattern_end, 641
 embPattern_fixColorCount, 642
 embPattern_flip, 642
 embPattern_flipHorizontal, 642
 embPattern_flipVertical, 642
 embPattern_free, 642
 embPattern_hideStitchesOverLength, 642
 embPattern_jumpStitches, 642
 embPattern_lengthHistogram, 642
 embPattern_loadExternalColorFile, 642
 embPattern_maximumStitchLength, 643
 embPattern_minimumStitchLength, 643
 embPattern_movePolylinesToStitch_list, 643
 embPattern_movestitch_listToPolylines, 643
 embPattern_realStitches, 643
 embPattern_scale, 643
 embPattern_totalStitchLength, 643
 embPattern_trimStitches, 643
pattern_index
 Settings_, 317
 UiObject_, 358
pcm_thread
 embroidery.h, 469
pcmThreads
 embroidery.h, 493
 thread-color.c, 645
pec_thread
 embroidery.h, 469
pecEncode
 format_pec.c, 592
pecEncodeJump
 format_pec.c, 592
pecEncodeStop
 format_pec.c, 592
pecThreadCount
 embroidery.h, 493
 thread-color.c, 645
pecThreads
 embroidery.h, 493
 thread-color.c, 645
PES0001
 embroidery_internal.h, 514
PES0020
 embroidery_internal.h, 514
PES0022
 embroidery_internal.h, 514
PES0030
 embroidery_internal.h, 514
PES0040
 embroidery_internal.h, 514
PES0050
 embroidery_internal.h, 514
PES0055
 embroidery_internal.h, 514
PES0056
 embroidery_internal.h, 514
PES0060
 embroidery_internal.h, 514
PES0070
 embroidery_internal.h, 514
PES0080
 embroidery_internal.h, 514
PES0090
 embroidery_internal.h, 515
PES0100
 embroidery_internal.h, 515
pes_version
 format_pes.c, 596
pes_version_strings
 format_pes.c, 596
pesWriteEmbOneSection
 format_pes.c, 594
pesWriteSewSegSection
 format_pes.c, 594
pfaffDecode
 embroidery_internal.h, 531
 encoding.c, 557
pfaffEncode
 embroidery_internal.h, 532
 encoding.c, 557
pickAdd
 PropertyEditor, 292
pickAddModeToggled
 MainWindow, 213
 PropertyEditor, 283
pickBoxSize
 View, 380
pivotX
 UndoableRotateCommand, 365
pivotY
 UndoableRotateCommand, 365
platformString
 MainWindow, 213
point
 EmbGeometry_, 143
pointList
 EmbPath_, 149
PointObject, 257
 ~PointObject, 259
 allGripPoints, 259
 gripEdit, 259
 init, 259
 mouseSnapPoint, 259
 objectPos, 260
 objectSavePath, 260

objectX, 260
objectY, 260
paint, 260
PointObject, 259
setObjectPos, 260
setObjectX, 260
setObjectY, 260
Type, 259
type, 261
updateRubber, 261
vulcanize, 261
polar_mode
 EmbView_, 160
polygon
 EmbGeometry_, 143
PolygonObject, 261
 ~PolygonObject, 264
 allGripPoints, 264
 findIndex, 264
 gripEdit, 264
 gripIndex, 266
 init, 264
 mouseSnapPoint, 265
 normalPath, 266
 objectCopyPath, 265
 objectPos, 265
 objectSavePath, 265
 objectX, 265
 objectY, 265
 paint, 265
 PolygonObject, 264
 setObjectPos, 265
 setObjectX, 266
 setObjectY, 266
 Type, 263
 type, 266
 updatePath, 266
 updateRubber, 266
 vulcanize, 266
polyline
 EmbGeometry_, 144
PolylineObject, 267
 ~PolylineObject, 269
 allGripPoints, 270
 findIndex, 270
 gripEdit, 270
 gripIndex, 272
 init, 270
 mouseSnapPoint, 270
 normalPath, 272
 objectCopyPath, 270
 objectPos, 270
 objectSavePath, 270
 objectX, 271
 objectY, 271
 paint, 271
 PolylineObject, 269
 setObjectPos, 271
setObjectX, 271
setObjectY, 271
Type, 269
type, 271
updatePath, 271
updateRubber, 272
vulcanize, 272
position
 EmbAlignedDim_, 133
 EmbAngularDim_, 133
 EmbArcLengthDim_, 134
 EmbBlock_, 136
 EmbDiameterDim_, 140
 EmblImage_, 145
 EmblInfiniteLine_, 146
 EmbLeaderDim_, 147
 EmbLinearDim_, 148
 EmbOrdinateDim_, 148
 EmbPoint_, 151
 EmbRadiusDim_, 151
 EmbRay_, 152
 EmbTextMulti_, 155
 EmbTextSingle_, 156
 UndoHistory_, 369
positiveXHoopSize
 VipHeader_, 383
positiveYHoopSize
 VipHeader_, 383
precisionAngle
 PropertyEditor, 292
precisionLength
 PropertyEditor, 292
prefix
 CmdPromptInput, 116
pressPoint
 View, 380
pressResizeHistory
 CmdPromptSplitter, 118
pressY
 CmdPromptHandle, 107
preview
 utility.cpp, 446
PREVIEW_CLONE_NULL
 embroidermodder.h, 395
PREVIEW_CLONE_RUBBER
 embroidermodder.h, 395
PREVIEW_CLONE_SELECTED
 embroidermodder.h, 395
PREVIEW_CLONE_VALUES
 embroidermodder.h, 395
preview_display_bg_color
 Settings_Dialog, 341
preview_display_crosshair_color
 Settings_Dialog, 341
preview_display_selectbox_alpha
 Settings_Dialog, 341
preview_display_selectbox_left_color
 Settings_Dialog, 341

preview_display_selectbox_left_fill
 Settings_Dialog, 341
 preview_display_selectbox_right_color
 Settings_Dialog, 341
 preview_display_selectbox_right_fill
 Settings_Dialog, 341
 preview_display_show_scrollbars
 Settings_Dialog, 341
 preview_general_mdi_bg_color
 Settings_Dialog, 341
 preview_general_mdi_bg_use_color
 Settings_Dialog, 341
 preview_general_mdi_bg_use_logo
 Settings_Dialog, 341
 preview_general_mdi_bg_use_texture
 Settings_Dialog, 341
 preview_grid_color
 Settings_Dialog, 341
 preview_lwt_real_render
 Settings_Dialog, 341
 preview_lwt_show_lwt
 Settings_Dialog, 341
 PREVIEW_MODE_MOVE
 embroidermodder.h, 395
 PREVIEW_MODE_NULL
 embroidermodder.h, 395
 PREVIEW_MODE_ROTATE
 embroidermodder.h, 395
 PREVIEW_MODE_SCALE
 embroidermodder.h, 395
 PREVIEW_MODE_VALUES
 embroidermodder.h, 395
 preview_prompt_bg_color
 Settings_Dialog, 341
 preview_prompt_font_family
 Settings_Dialog, 341
 preview_prompt_font_size
 Settings_Dialog, 342
 preview_prompt_font_style
 Settings_Dialog, 342
 preview_prompt_text_color
 Settings_Dialog, 342
 preview_ruler_color
 Settings_Dialog, 342
 previewActive
 View, 380
 previewData
 View, 381
 PreviewDialog, 272
 ~PreviewDialog, 273
 imgWidget, 273
 PreviewDialog, 272
 previewMode
 View, 381
 previewObjectItemGroup
 View, 381
 previewObjectList
 View, 381
 previewOff
 View, 376
 previewOn
 View, 376
 previewPoint
 View, 381
 print
 MainWindow, 213
 MdiWindow, 246
 printArcResults
 embroidery_internal.h, 532
 printer
 MdiWindow, 251
 printing_default_device
 Settings_, 317
 printing_disable_bg
 Settings_, 317
 printing_use_last_device
 Settings_, 317
 privacy_policy.md, 645
 processInput
 CmdPrompt, 102
 CmdPromptInput, 114
 prompt
 MainWindow, 224
 promptDivider
 CmdPrompt, 105
 promptHistory
 CmdPrompt, 105
 MdiWindow, 251
 promptHistoryAppended
 MainWindow, 213
 MdiWindow, 246
 promptInput
 CmdPrompt, 105
 promptInputList
 MdiWindow, 251
 promptInputNext
 MainWindow, 213
 MdiWindow, 246
 promptInputNum
 MdiWindow, 251
 promptInputPrevious
 MainWindow, 213
 MdiWindow, 246
 promptInputPrevNext
 MdiWindow, 246
 promptSplitter
 CmdPrompt, 105
 promptVBoxLayout
 CmdPrompt, 105
 PropertyEditor, 273
 ~PropertyEditor, 280
 clearAllFields, 280
 comboBoxArcClockwise, 284
 comboBoxGeneralColor, 284
 comboBoxGeneralLayer, 284
 comboBoxGeneralLineType, 284

comboBoxGeneralLineWeight, 284
comboBoxPathClosed, 284
comboBoxPathVertexNum, 284
comboBoxPolylineClosed, 284
comboBoxPolylineVertexNum, 284
comboBoxSelected, 284
comboBoxTextSingleBackward, 284
comboBoxTextSingleFont, 284
comboBoxTextSingleJustify, 284
comboBoxTextSingleUpsideDown, 285
createComboBox, 280
createComboBoxSelected, 280
createFontComboBox, 280
createGroupBoxGeneral, 280
createGroupBoxGeometryArc, 280
createGroupBoxGeometryBlock, 280
createGroupBoxGeometryCircle, 280
createGroupBoxGeometryDimAligned, 280
createGroupBoxGeometryDimAngular, 281
createGroupBoxGeometryDimArcLength, 281
createGroupBoxGeometryDimDiameter, 281
createGroupBoxGeometryDimLeader, 281
createGroupBoxGeometryDimLinear, 281
createGroupBoxGeometryDimOrdinate, 281
createGroupBoxGeometryDimRadius, 281
createGroupBoxGeometryEllipse, 281
createGroupBoxGeometryImage, 281
createGroupBoxGeometryInfiniteLine, 281
createGroupBoxGeometryLine, 281
createGroupBoxGeometryPath, 281
createGroupBoxGeometryPoint, 281
createGroupBoxGeometryPolygon, 281
createGroupBoxGeometryPolyline, 281
createGroupBoxGeometryRay, 282
createGroupBoxGeometryRectangle, 282
createGroupBoxGeometryTextMulti, 282
createGroupBoxGeometryTextSingle, 282
createGroupBoxMiscArc, 282
createGroupBoxMisclImage, 282
createGroupBoxMiscPath, 282
createGroupBoxMiscPolyline, 282
createGroupBoxMiscTextSingle, 282
createGroupBoxTextTextSingle, 282
createLineEdit, 282
createToolButton, 282
createToolButtonPickAdd, 282
createToolButtonQSelect, 282
eventFilter, 282
fieldEdited, 283
fieldNewText, 285
fieldNoText, 285
fieldOffText, 285
fieldOldText, 285
fieldOnText, 285
fieldVariesText, 285
fieldYesText, 285
focusWidget, 285
groupBoxGeneral, 285
groupBoxGeometryArc, 285
groupBoxGeometryBlock, 285
groupBoxGeometryCircle, 285
groupBoxGeometryDimAligned, 285
groupBoxGeometryDimAngular, 285
groupBoxGeometryDimArcLength, 285
groupBoxGeometryDimDiameter, 285
groupBoxGeometryDimLeader, 285
groupBoxGeometryDimLinear, 286
groupBoxGeometryDimOrdinate, 286
groupBoxGeometryDimRadius, 286
groupBoxGeometryEllipse, 286
groupBoxGeometryImage, 286
groupBoxGeometryInfiniteLine, 286
groupBoxGeometryLine, 286
groupBoxGeometryPath, 286
groupBoxGeometryPoint, 286
groupBoxGeometryPolygon, 286
groupBoxGeometryPolyline, 286
groupBoxGeometryRay, 286
groupBoxGeometryRectangle, 286
groupBoxGeometryTextMulti, 286
groupBoxGeometryTextSingle, 286
groupBoxMiscArc, 286
groupBoxMisclImage, 286
groupBoxMiscPath, 286
groupBoxMiscPolyline, 287
groupBoxMiscTextSingle, 287
groupBoxTextTextSingle, 287
hideAllGroups, 283
iconDir, 287
iconSize, 287
lineEditArcArea, 287
lineEditArcCenterX, 287
lineEditArcCenterY, 287
lineEditArcChord, 287
lineEditArcEndAngle, 287
lineEditArcEndX, 287
lineEditArcEndY, 287
lineEditArcIncAngle, 287
lineEditArcLength, 287
lineEditArcRadius, 287
lineEditArcStartAngle, 287
lineEditArcStartX, 287
lineEditArcStartY, 287
lineEditBlockX, 288
lineEditBlockY, 288
lineEditCircleArea, 288
lineEditCircleCenterX, 288
lineEditCircleCenterY, 288
lineEditCircleCircumference, 288
lineEditCircleDiameter, 288
lineEditCircleRadius, 288
lineEditEllipseCenterX, 288
lineEditEllipseCenterY, 288
lineEditEllipseDiameterMajor, 288
lineEditEllipseDiameterMinor, 288
lineEditEllipseRadiusMajor, 288

lineEditEllipseRadiusMinor, 288
lineEditImageHeight, 288
lineEditImageName, 288
lineEditImagePath, 288
lineEditImageWidth, 288
lineEditImageX, 289
lineEditImageY, 289
lineEditInfiniteLineVectorX, 289
lineEditInfiniteLineVectorY, 289
lineEditInfiniteLineX1, 289
lineEditInfiniteLineX2, 289
lineEditInfiniteLineY1, 289
lineEditInfiniteLineY2, 289
lineEditLineAngle, 289
lineEditLineDeltaX, 289
lineEditLineDeltaY, 289
lineEditLineEndX, 289
lineEditLineEndY, 289
lineEditLineLength, 289
lineEditLineStartX, 289
lineEditLineStartY, 289
lineEditPathArea, 289
lineEditPathLength, 289
lineEditPathVertexX, 290
lineEditPathVertexY, 290
lineEditPointX, 290
lineEditPointY, 290
lineEditPolygonCenterX, 290
lineEditPolygonCenterY, 290
lineEditPolygonDiameterSide, 290
lineEditPolygonDiameterVertex, 290
lineEditPolygonInteriorAngle, 290
lineEditPolygonRadiusSide, 290
lineEditPolygonRadiusVertex, 290
lineEditPolylineArea, 290
lineEditPolylineLength, 290
lineEditPolylineVertexX, 290
lineEditPolylineVertexY, 290
lineEditRayVectorX, 290
lineEditRayVectorY, 290
lineEditRayX1, 290
lineEditRayX2, 291
lineEditRayY1, 291
lineEditRayY2, 291
lineEditRectangleArea, 291
lineEditRectangleCorner1X, 291
lineEditRectangleCorner1Y, 291
lineEditRectangleCorner2X, 291
lineEditRectangleCorner2Y, 291
lineEditRectangleCorner3X, 291
lineEditRectangleCorner3Y, 291
lineEditRectangleCorner4X, 291
lineEditRectangleCorner4Y, 291
lineEditRectangleHeight, 291
lineEditRectangleWidth, 291
lineEditTextMultiX, 291
lineEditTextMultiY, 291
lineEditTextSingleContents, 291
lineEditTextSingleHeight, 291
lineEditTextSingleRotation, 292
lineEditTextSingleX, 292
lineEditTextSingleY, 292
mapSignal, 283
pickAdd, 292
pickAddModeToggled, 283
precisionAngle, 292
precisionLength, 292
PropertyEditor, 280
propertyEditorButtonStyle, 292
selectedItemList, 292
setSelectedItems, 283
showGroups, 283
showOneType, 283
signalMapper, 292
tempArcObj, 292
tempBlockObj, 292
tempCircleObj, 292
tempDimAlignedObj, 292
tempDimAngularObj, 292
tempDimArcLenObj, 292
tempDimDiamObj, 292
tempDimLeaderObj, 292
tempDimLinearObj, 292
tempDimOrdObj, 293
tempDimRadiusObj, 293
tempEllipseArcObj, 293
tempEllipseObj, 293
tempHatchObj, 293
tempImageObj, 293
tempInfLineObj, 293
tempLineObj, 293
tempPathObj, 293
tempPointObj, 293
tempPolygonObj, 293
tempPolylineObj, 293
tempRayObj, 293
tempRectObj, 293
tempSplineObj, 293
tempTextMultiObj, 293
tempTextSingleObj, 293
togglePickAddMode, 283
toolButtonArcArea, 293
toolButtonArcCenterX, 294
toolButtonArcCenterY, 294
toolButtonArcChord, 294
toolButtonArcClockwise, 294
toolButtonArcEndAngle, 294
toolButtonArcEndX, 294
toolButtonArcEndY, 294
toolButtonArcIncAngle, 294
toolButtonArcLength, 294
toolButtonArcRadius, 294
toolButtonArcStartAngle, 294
toolButtonArcStartX, 294
toolButtonArcStartY, 294
toolButtonBlockX, 294

toolButtonBlockY, 294
toolButtonCircleArea, 294
toolButtonCircleCenterX, 294
toolButtonCircleCenterY, 294
toolButtonCircleCircumference, 295
toolButtonCircleDiameter, 295
toolButtonCircleRadius, 295
toolButtonEllipseCenterX, 295
toolButtonEllipseCenterY, 295
toolButtonEllipseDiameterMajor, 295
toolButtonEllipseDiameterMinor, 295
toolButtonEllipseRadiusMajor, 295
toolButtonEllipseRadiusMinor, 295
toolButtonGeneralColor, 295
toolButtonGeneralLayer, 295
toolButtonGeneralLineType, 295
toolButtonGeneralLineWidth, 295
toolButtonImageHeight, 295
toolButtonImageName, 295
toolButtonImagePath, 295
toolButtonImageWidth, 295
toolButtonImageX, 295
toolButtonImageY, 296
toolButtonInfiniteLineVectorX, 296
toolButtonInfiniteLineVectorY, 296
toolButtonInfiniteLineX1, 296
toolButtonInfiniteLineX2, 296
toolButtonInfiniteLineY1, 296
toolButtonInfiniteLineY2, 296
toolButtonLineAngle, 296
toolButtonLineDeltaX, 296
toolButtonLineDeltaY, 296
toolButtonLineEndX, 296
toolButtonLineEndY, 296
toolButtonLineLength, 296
toolButtonLineStartX, 296
toolButtonLineStartY, 296
toolButtonPathArea, 296
toolButtonPathClosed, 296
toolButtonPathLength, 296
toolButtonPathVertexNum, 297
toolButtonPathVertexX, 297
toolButtonPathVertexY, 297
toolButtonPickAdd, 297
toolButtonPointX, 297
toolButtonPointY, 297
toolButtonPolygonCenterX, 297
toolButtonPolygonCenterY, 297
toolButtonPolygonDiameterSide, 297
toolButtonPolygonDiameterVertex, 297
toolButtonPolygonInteriorAngle, 297
toolButtonPolygonRadiusSide, 297
toolButtonPolygonRadiusVertex, 297
toolButtonPolylineArea, 297
toolButtonPolylineClosed, 297
toolButtonPolylineLength, 297
toolButtonPolylineVertexNum, 297
toolButtonPolylineVertexX, 297
toolButtonPolylineVertexY, 298
toolButtonQSelect, 298
toolButtonRayVectorX, 298
toolButtonRayVectorY, 298
toolButtonRayX1, 298
toolButtonRayX2, 298
toolButtonRayY1, 298
toolButtonRayY2, 298
toolButtonRectangleArea, 298
toolButtonRectangleCorner1X, 298
toolButtonRectangleCorner1Y, 298
toolButtonRectangleCorner2X, 298
toolButtonRectangleCorner2Y, 298
toolButtonRectangleCorner3X, 298
toolButtonRectangleCorner3Y, 298
toolButtonRectangleCorner4X, 298
toolButtonRectangleCorner4Y, 298
toolButtonRectangleHeight, 298
toolButtonRectangleWidth, 299
toolButtonTextMultiX, 299
toolButtonTextMultiY, 299
toolButtonTextSingleBackward, 299
toolButtonTextSingleContents, 299
toolButtonTextSingleFont, 299
toolButtonTextSingleHeight, 299
toolButtonTextSingleJustify, 299
toolButtonTextSingleRotation, 299
toolButtonTextSingleUpsideDown, 299
toolButtonTextSingleX, 299
toolButtonTextSingleY, 299
updateComboBoxBoolIfVaries, 283
updateComboBoxStrIfVaries, 283
updateFontComboBoxStrIfVaries, 283
updateLineEditNumIfVaries, 283
updateLineEditStrIfVaries, 284
updatePickAddModeButton, 284
propertyEditorButtonStyle
 PropertyEditor, 292

qsnap_aperture_size
 Settings_, 317
qsnap_apparent
 Settings_, 317
qsnap_center
 Settings_, 317
qsnap_enabled
 Settings_, 317
qsnap_endpoint
 Settings_, 317
qsnap_extension
 Settings_, 318
qsnap_insertion
 Settings_, 318
qsnap_intersection
 Settings_, 318
qsnap_locator_color
 Settings_, 318
qsnap_locator_size
 Settings_, 318

qsnap_midpoint
 Settings_, 318
 qsnap_mode
 EmbView_, 160
 qsnap_nearest
 Settings_, 318
 qsnap_node
 Settings_, 318
 qsnap_parallel
 Settings_, 318
 qsnap_perpendicular
 Settings_, 318
 qsnap_quadrant
 Settings_, 318
 qsnap_tangent
 Settings_, 318
 qSnapActive
 View, 381
 qsnapApertureSize
 View, 381
 qsnapLocatorColor
 View, 381
 qsnapLocatorSize
 View, 381
 qSnapToggle
 View, 381
 qtrack_mode
 EmbView_, 160
 QUADTOCONTROL
 embroidery_internal.h, 515
 QUADTOEND
 embroidery_internal.h, 515
 quit
 MainWindow, 213

 r
 EmbColor_, 138
 radians
 embroidermodder.h, 396
 embroidery.h, 492
 functions.c, 617
 radius
 EmbCircle_, 137
 EmbEllipse_, 141
 EmbRect_, 152
 random_uniform
 utility.cpp, 444
 rapidFireEnabled
 CmdPromptInput, 116
 rapidMoveActive
 View, 381
 read100
 embroidery_internal.h, 532
 format_100.c, 571
 read10o
 embroidery_internal.h, 532
 format_10o.c, 571
 read_hoop
 format_jef.c, 586

 read_settings
 embroidermodder.h, 396
 utility.cpp, 445
 readArt
 embroidery_internal.h, 532
 format_art.c, 572
 readBmc
 embroidery_internal.h, 533
 format_bmc.c, 572
 readBro
 embroidery_internal.h, 533
 format_bro.c, 572
 readCnd
 embroidery_internal.h, 533
 format_cnd.c, 573
 readCol
 embroidery_internal.h, 533
 format_col.c, 573
 readCsd
 embroidery_internal.h, 533
 format_csd.c, 574
 readCsv
 embroidery_internal.h, 533
 format_csv.c, 575
 readDat
 embroidery_internal.h, 533
 format_dat.c, 576
 readDem
 embroidery_internal.h, 533
 format_dem.c, 576
 readDescriptions
 embroidery_internal.h, 533
 format_pes.c, 594
 readDsb
 embroidery_internal.h, 533
 format_dsb.c, 577
 readDst
 embroidery_internal.h, 533
 format_dst.c, 578
 readDsz
 embroidery_internal.h, 534
 format_dsz.c, 578
 readDxf
 embroidery_internal.h, 534
 format_dxf.c, 579
 readEdr
 embroidery_internal.h, 534
 format_edr.c, 579
 readEmd
 embroidery_internal.h, 534
 format_emd.c, 580
 reader_state
 EmbFormatList_, 142
 readExp
 embroidery_internal.h, 534
 format_exp.c, 580
 readExy
 embroidery_internal.h, 534

format_exy.c, 581
readEys
embroidery_internal.h, 534
format_eyc.c, 581
readFeatherPatterns
embroidery_internal.h, 534
format_pes.c, 594
readFullSector
embroidery_internal.h, 534
main.c, 636
readFxy
embroidery_internal.h, 535
format_fxy.c, 582
readGc
embroidery_internal.h, 535
format_gc.c, 582
readGnc
embroidery_internal.h, 535
format_gnc.c, 583
readGt
embroidery_internal.h, 535
format_gt.c, 583
readHoopName
embroidery_internal.h, 535
format_pes.c, 595
readHus
embroidery_internal.h, 535
format_hus.c, 584
readImageString
embroidery_internal.h, 535
format_pes.c, 595
readInb
embroidery_internal.h, 535
format_inb.c, 585
readInf
embroidery_internal.h, 535
format_inf.c, 585
readJef
embroidery_internal.h, 535
format_jef.c, 586
readKsm
embroidery_internal.h, 535
format_ksm.c, 587
readLine
format_dxf.c, 579
readMax
embroidery_internal.h, 536
format_max.c, 587
readMit
embroidery_internal.h, 536
format_mit.c, 588
readMotifPatterns
embroidery_internal.h, 536
format_pes.c, 595
readNew
embroidery_internal.h, 536
format_new.c, 588
readNextSector
embroidery_internal.h, 536
main.c, 636
readOfm
embroidery_internal.h, 536
format_ofm.c, 589
readPcd
embroidery_internal.h, 536
format_pcd.c, 590
readPcm
embroidery_internal.h, 536
format_pcm.c, 590
readPcq
embroidery_internal.h, 536
format_pcq.c, 591
readPcs
embroidery_internal.h, 537
format_pcs.c, 591
readPec
embroidery_internal.h, 537
format_pec.c, 592
readPecStitches
embroidery_internal.h, 537
format_pec.c, 592
readPel
embroidery_internal.h, 537
format_pel.c, 593
readPem
embroidery_internal.h, 537
format_pem.c, 593
readPes
embroidery_internal.h, 537
format_pes.c, 595
readPESHeaderV10
embroidery_internal.h, 537
format_pes.c, 595
readPESHeaderV5
embroidery_internal.h, 537
format_pes.c, 595
readPESHeaderV6
embroidery_internal.h, 537
format_pes.c, 595
readPESHeaderV7
embroidery_internal.h, 537
format_pes.c, 595
readPESHeaderV8
embroidery_internal.h, 537
format_pes.c, 595
readPESHeaderV9
embroidery_internal.h, 538
format_pes.c, 595
readPhb
embroidery_internal.h, 538
format_phb.c, 596
readPhc
embroidery_internal.h, 538
format_phc.c, 597
readPlt
embroidery_internal.h, 538

format_plt.c, 597
readProgrammableFills
 embroidery_internal.h, 538
 format_pes.c, 595
readRgb
 embroidery_internal.h, 538
 format_rgb.c, 598
readSettings
 MainWindow, 214
readSew
 embroidery_internal.h, 538
 format_sew.c, 598
readShv
 embroidery_internal.h, 538
 format_shv.c, 599
readSst
 embroidery_internal.h, 538
 format_sst.c, 599
readStx
 embroidery_internal.h, 538
 format_stx.c, 600
readSvg
 embroidery_internal.h, 538
 format_svg.c, 601
readT01
 embroidery_internal.h, 539
 format_t01.c, 601
readT09
 embroidery_internal.h, 539
 format_t09.c, 602
readTap
 embroidery_internal.h, 539
 format_tap.c, 603
readThr
 embroidery_internal.h, 539
 format_thr.c, 603
readThreads
 embroidery_internal.h, 539
 format_pes.c, 596
readTxt
 embroidery_internal.h, 539
 format_txt.c, 603
readU00
 embroidery_internal.h, 539
 format_u00.c, 604
readU01
 embroidery_internal.h, 539
 format_u01.c, 604
readVip
 embroidery_internal.h, 539
 format_vip.c, 605
readVp3
 embroidery_internal.h, 539
 format_vp3.c, 607
readXxx
 embroidery_internal.h, 539
 format_xxx.c, 608
readZsk
 embroidery_internal.h, 540
 format_zsk.c, 608
real_render
 EmbView_, 160
realRender
 BaseObject, 88
recalculateLimits
 View, 376
recentMenu
 MainWindow, 224
recentMenuAboutToShow
 MainWindow, 214
rect
 BaseObject, 88
 EmbGeometry_, 144
rect.c
 embRect_area, 618
 embRect_init, 618
RectObject, 299
 ~RectObject, 302
 allGripPoints, 302
 gripEdit, 302
 init, 302
 mouseSnapPoint, 302
 objectArea, 302
 objectBottomLeft, 302
 objectBottomRight, 302
 objectHeight, 302
 objectPos, 302
 objectSavePath, 303
 objectTopLeft, 303
 objectTopRight, 303
 objectWidth, 303
 paint, 303
 RectObject, 301
 setObjectRect, 303
 Type, 301
 type, 303
 updatePath, 303
 updateRubber, 303
 vulcanize, 303
RED_TERM_COLOR
 embroidery_internal.h, 515
redo
 MainWindow, 214
 UndoableAddCommand, 359
 UndoableDeleteCommand, 360
 UndoableGripEditCommand, 361
 UndoableMirrorCommand, 362
 UndoableMoveCommand, 363
 UndoableNavCommand, 364
 UndoableRotateCommand, 365
 UndoableScaleCommand, 366
 UndoEditor, 368
redoPressed
 CmdPrompt, 102
 CmdPromptInput, 115
redoText

UndoEditor, 368
rejectChanges
 Settings_Dialog, 333
releasePoint
 View, 381
releaseResizeHistory
 CmdPromptSplitter, 118
releaseY
 CmdPromptHandle, 107
repeatAction
 View, 376
report
 embroidery.h, 492
reserved
 ThredExtension_, 355
 ThredHeader_, 356
reserved1
 _bcf_file_header, 67
reserved2
 _bcf_file_header, 67
RESET_TERM_COLOR
 embroidery_internal.h, 515
resizeEvent
 MainWindow, 214
resizeHistory
 CmdPromptHistory, 109
resizeTheHistory
 CmdPrompt, 102
reverse_byte_order
 encoding.c, 557
right
 _vp3Hoop, 69
 EmbRect_, 153
 hoop_padding, 162
right2
 _vp3Hoop, 69
rightBrush
 SelectBox, 311
rightBrushColor
 SelectBox, 311
rightPen
 SelectBox, 311
rightPenColor
 SelectBox, 311
rightSiblingId
 _bcf_directory_entry, 63
RobisonAnton_Polyester
 embroidery.h, 469
RobisonAnton_Rayon
 embroidery.h, 469
rotate
 UndoableRotateCommand, 365
ROTATE_MODE_NORMAL
 embroidermodder.h, 396
ROTATE_MODE_REFERENCE
 embroidermodder.h, 396
rotate_vector
 object-arc.cpp, 440
rotateAction
 View, 376
rotateSelected
 View, 376
rotation
 EmbEllipse_, 141
 EmbRect_, 153
 UiObject_, 358
roundToMultiple
 utility.cpp, 445
 View, 376
rubber_mode
 EmbView_, 160
rubberRoomList
 View, 381
ruler_color
 Settings_, 318
ruler_metric
 Settings_, 318
ruler_mode
 EmbView_, 161
ruler_pixel_size
 Settings_, 318
ruler_show_on_load
 Settings_, 318
ruler_width
 Settings_, 318
rulerColor
 View, 381
rulerMetric
 View, 381
rulerPixelSize
 View, 381
rules
 fill.c, 565
 LSYSTEM, 179
run_script
 MainWindow, 214
run_script_file
 MainWindow, 215
runCommand
 CmdPrompt, 102
 CmdPromptInput, 115
 MainWindow, 215
runCommandClick
 MainWindow, 215
runCommandContext
 MainWindow, 215
runCommandMain
 MainWindow, 215
runCommandMove
 MainWindow, 215
runCommandPrompt
 MainWindow, 215
running
 Settings_, 318
safe_free
 embroidery_internal.h, 540

formats.c, 570
save
 ImageWidget, 170
 SaveObject, 308
save_points_to_pattern
 fill.c, 564
saveasfile
 MainWindow, 216
saveBMC
 MdiWindow, 247
saveFile
 MdiWindow, 247
savefile
 MainWindow, 216
saveHistory
 CmdPrompt, 102
SaveObject, 303
 ~SaveObject, 305
 addArc, 305
 addBlock, 305
 addCircle, 305
 addDimAligned, 305
 addDimAngular, 306
 addDimArcLength, 306
 addDimDiameter, 306
 addDimLeader, 306
 addDimLinear, 306
 addDimOrdinate, 306
 addDimRadius, 307
 addEllipse, 307
 addEllipseArc, 307
 addGrid, 307
 addHatch, 307
 addImage, 307
 addInfiniteLine, 307
 addLine, 307
 addPath, 307
 addPoint, 307
 addPolygon, 307
 addPolyline, 308
 addRay, 308
 addRectangle, 308
 addSlot, 308
 addSpline, 308
 addTextMulti, 308
 addTextSingle, 308
formatType, 309
gscene, 309
save, 308
SaveObject, 304
 toPolyline, 308
scale
 EmbView_, 161
 UiObject_, 358
SCALE_MODE_NORMAL
 embroidermodder.h, 396
SCALE_MODE_REFERENCE
 embroidermodder.h, 396
scaleAction
 View, 376
scaleSelected
 View, 376
sceneGripPoint
 View, 381
sceneMousePoint
 View, 381
sceneMovePoint
 View, 382
scenePressPoint
 View, 382
sceneReleasePoint
 View, 382
second
 EmbTime_, 157
sectionName
 StxThread_, 346
sectorShift
 _bcf_file_header, 67
sectorSize
 _bcf_file_difat, 65
 main.c, 636
seekToSector
 main.c, 637
selectable
 UiObject_, 358
selectAll
 MainWindow, 216
 View, 376
selectAllPressed
 CmdPrompt, 103
 CmdPromptInput, 115
SelectBox, 309
 alpha, 310
 boxDir, 310
 dirBrush, 310
 dirPen, 310
 forceRepaint, 310
 leftBrush, 310
 leftBrushColor, 310
 leftPen, 310
 leftPenColor, 310
 paintEvent, 310
 rightBrush, 311
 rightBrushColor, 311
 rightPen, 311
 rightPenColor, 311
 SelectBox, 309
 setColors, 310
 setDirection, 310
selectBox
 View, 382
selected
 EmbView_, 161
selectedItemList
 PropertyEditor, 292
selectingActive

View, 382
selection_coolgrip_color
 Settings, 319
selection_grip_size
 Settings, 319
selection_hotgrip_color
 Settings, 319
selection_mode_pickadd
 Settings, 319
selection_mode_pickdrag
 Settings, 319
selection_mode_pickfirst
 Settings, 319
selection_pickbox_size
 Settings, 319
selectionChanged
 View, 376
sendCloseMdiWin
 MdiWindow, 247
SEQUIN
 embroidery.h, 469
set_dst_variable
 format_dst.c, 578
set_object_color
 arc.c, 614
setBackgroundColor
 MdiArea, 238
 View, 376
setBackgroundLogo
 MdiArea, 239
setBackgroundTexture
 MdiArea, 239
setColors
 SelectBox, 310
setCornerButton
 View, 376
setCrossHairColor
 View, 377
setCrossHairSize
 View, 377
setCurrentColor
 MdiWindow, 247
setCurrentFile
 MdiWindow, 247
setCurrentLayer
 MdiWindow, 249
setCurrentLineType
 MdiWindow, 249
setCurrentLineWeight
 MdiWindow, 249
setCurrentText
 CmdPrompt, 103
setDirection
 SelectBox, 310
setGridColor
 View, 377
setHistory
 CmdPrompt, 103
setLine
 BaseObject, 89
setMainWin
 Application, 72
setMouseCoord
 StatusBar, 342
setObjectArea
 CircleObject, 96
setObjectCenter
 BaseObject, 89
setObjectCenterX
 BaseObject, 89
setObjectCenterY
 BaseObject, 89
setObjectCircumference
 CircleObject, 96
setObjectColor
 BaseObject, 89
setObjectColorRGB
 BaseObject, 89
setObjectDiameter
 CircleObject, 96
setObjectDiameterMajor
 EllipseObject, 131
setObjectDiameterMinor
 EllipseObject, 131
setObjectEndAngle
 ArcObject, 82
setObjectEndPoint
 ArcObject, 82, 83
setObjectEndPoint1
 DimLeaderObject, 125
 LineObject, 177
setObjectEndPoint2
 DimLeaderObject, 125
 LineObject, 178
setObjectLineType
 BaseObject, 89
setObjectLineWidth
 BaseObject, 89
setObjectMidPoint
 ArcObject, 83
setObjectPath
 BaseObject, 90
setObjectPos
 PathObject, 255
 PointObject, 260
 PolygonObject, 265
 PolylineObject, 271
 TextSingleObject, 352
setObjectRadius
 ArcObject, 83
 CircleObject, 96
setObjectRadiusMajor
 EllipseObject, 132
setObjectRadiusMinor
 EllipseObject, 132
setObjectRect

ImageObject, 168
RectObject, 303
setObjectRubberMode
 BaseObject, 90
setObjectRubberPoint
 BaseObject, 90
setObjectRubberText
 BaseObject, 90
setObjectSize
 EllipseObject, 132
setObjectStartAngle
 ArcObject, 83
setObjectStartPoint
 ArcObject, 83
setObjectText
 TextSingleObject, 352
setObjectTextBackward
 TextSingleObject, 352
setObjectTextBold
 TextSingleObject, 352
setObjectTextFont
 TextSingleObject, 352
setObjectTextItalic
 TextSingleObject, 352
setObjectTextJustify
 TextSingleObject, 352
setObjectTextOverline
 TextSingleObject, 352
setObjectTextSize
 TextSingleObject, 353
setObjectTextStrikeOut
 TextSingleObject, 353
setObjectTextStyle
 TextSingleObject, 353
setObjectTextUnderline
 TextSingleObject, 353
setObjectTextUpsideDown
 TextSingleObject, 353
setObjectX
 PathObject, 256
 PointObject, 260
 PolygonObject, 266
 PolylineObject, 271
 TextSingleObject, 353
setObjectX1
 DimLeaderObject, 125
 LineObject, 178
setObjectX2
 DimLeaderObject, 125
 LineObject, 178
setObjectY
 PathObject, 256
 PointObject, 260
 PolygonObject, 266
 PolylineObject, 271
 TextSingleObject, 353
setObjectY1
 DimLeaderObject, 125
LineObject, 178
setObjectY2
 DimLeaderObject, 125
 LineObject, 178
setPrefix
 CmdPrompt, 103
setPromptBackgroundColor
 CmdPrompt, 103
setPromptFontFamily
 CmdPrompt, 103
setPromptFontSize
 CmdPrompt, 103
setPromptFontStyle
 CmdPrompt, 103
setPromptTextColor
 CmdPrompt, 103
setRect
 BaseObject, 90
setRubberMode
 View, 377
setRubberPoint
 View, 377
setRubberText
 View, 377
setRulerColor
 View, 377
setSelectBoxColors
 View, 377
setSelectedItems
 PropertyEditor, 283
setShiftPressed
 MainWindow, 216
setShiftReleased
 MainWindow, 216
setTextAngle
 MainWindow, 216
setTextBold
 MainWindow, 216
setTextFont
 MainWindow, 216
setTextItalic
 MainWindow, 216
setTextOverline
 MainWindow, 216
setTextSize
 MainWindow, 217
setTextStrikeOut
 MainWindow, 217
setTextUnderline
 MainWindow, 217
Settings
 embroidermodder.h, 389
settings
 utility.cpp, 446
Settings_
311
 assets_dir, 313
 current_directory, 313
 debug_mode, 314

display_bg_color, 314
display_crosshair_color, 314
display_crosshair_percent, 314
display_renderhint_aa, 314
display_renderhint_high_aa, 314
display_renderhint_noncosmetic, 314
display_renderhint_smooth_pix, 314
display_renderhint_text_aa, 314
display_scrollbar_widget_num, 314
display_selectbox_alpha, 314
display_selectbox_left_color, 314
display_selectbox_left_fill, 314
display_selectbox_right_color, 314
display_selectbox_right_fill, 314
display_show_scrollbars, 314
display_units, 314
display_use_opengl, 314
display_zoomscale_in, 315
display_zoomscale_out, 315
general_check_for_updates, 315
general_current_tip, 315
general_mdi_bg_color, 315
general_mdi_bg_logo, 315
general_mdi_bg_texture, 315
general_system_help_browser, 315
grid_center, 315
grid_center_on_origin, 315
grid_color, 315
grid_color_match_crosshair, 315
grid_load_from_file, 315
grid_show_on_load, 315
grid_show_origin, 315
grid_size_radius, 315
grid_size_x, 315
grid_size_y, 315
grid_spacing, 316
grid_spacing_angle, 316
grid_spacing_radius, 316
grid_spacing_x, 316
grid_spacing_y, 316
grid_type, 316
icon_size, 316
icon_theme, 316
language, 316
lwt_default_lwt, 316
lwt_real_render, 316
lwt_show_lwt, 316
major_tick_seperation, 316
mdi_bg_use_color, 316
mdi_bg_use_logo, 316
mdi_bg_use_texture, 316
menu_action, 316
needle_speed, 316
opensave_custom_filter, 317
opensave_open_format, 317
opensave_open_thumbnail, 317
opensave_recent_directory, 317
opensave_recent_list_of_files, 317
opensave_recent_max_files, 317
opensave_save_format, 317
opensave_save_thumbnail, 317
opensave_trim_dst_num_jumps, 317
pattern_index, 317
printing_default_device, 317
printing_disable_bg, 317
printing_use_last_device, 317
qsnap_aperture_size, 317
qsnap_apparent, 317
qsnap_center, 317
qsnap_enabled, 317
qsnap_endpoint, 317
qsnap_extension, 318
qsnap_insertion, 318
qsnap_intersection, 318
qsnap_locator_color, 318
qsnap_locator_size, 318
qsnap_midpoint, 318
qsnap_nearest, 318
qsnap_node, 318
qsnap_parallel, 318
qsnap_perpendicular, 318
qsnap_quadrant, 318
qsnap_tangent, 318
ruler_color, 318
ruler_metric, 318
ruler_pixel_size, 318
ruler_show_on_load, 318
ruler_width, 318
running, 318
selection_coolgrip_color, 319
selection_grip_size, 319
selection_hotgrip_color, 319
selection_mode_pickadd, 319
selection_mode_pickdrag, 319
selection_mode_pickfirst, 319
selection_pickbox_size, 319
shift_held, 319
shine_color, 319
show_about_dialog, 319
show_details_dialog, 319
show_editor, 319
show_open_file_dialog, 319
show_settings_editor, 319
stitch_time, 319
testing, 319
text_angle, 319
text_font, 319
text_size, 320
text_style_bold, 320
text_style_italic, 320
text_style_overline, 320
text_style_strikeout, 320
text_style_underline, 320
texture_list, 320
tick_depth, 320
ticks_color, 320

tip_of_the_day, 320
 to_open, 320
 use_translation, 320
 version, 320
 zoomInLimit, 320
 zoomOutLimit, 320
Settings_Dialog, 320
 ~Settings_Dialog, 326
 accept_display_bg_color, 334
 accept_display_crosshair_color, 335
 accept_display_selectbox_left_color, 335
 accept_display_selectbox_left_fill, 335
 accept_display_selectbox_right_color, 335
 accept_display_selectbox_right_fill, 335
 accept_general_mdi_bg_color, 335
 accept_general_mdi_bg_logo, 335
 accept_general_mdi_bg_texture, 335
 accept_grid_color, 335
 accept_prompt_bg_color, 335
 accept_prompt_text_color, 335
 accept_ruler_color, 335
 acceptChanges, 326
 addColorsToComboBox, 326
 buttonBox, 335
 buttonCustomFilterClearAll, 326
 buttonCustomFilterClearAllClicked, 326
 buttonCustomFilterSelectAll, 326
 buttonCustomFilterSelectAllClicked, 326
 buttonQSnapClearAll, 326
 buttonQSnapClearAllClicked, 326
 buttonQSnapSelectAll, 326
 buttonQSnapSelectAllClicked, 326
 checkBoxCustomFilterStateChanged, 326
 checkBoxDisableBGStateChanged, 326
 checkBoxGeneralMdiBGUseColorStateChanged,
 327
 checkBoxGeneralMdiBGUseLogoStateChanged,
 327
 checkBoxGeneralMdiBGUseTextureStateChanged,
 327
 checkBoxGridCenterOnOriginStateChanged, 327
 checkBoxGridColumnMatchCrossHairStateChanged,
 327
 checkBoxGridLoadFromFileStateChanged, 327
 checkBoxGridShowOnLoadStateChanged, 327
 checkBoxGridShowOriginStateChanged, 327
 checkBoxLwtRealRenderStateChanged, 327
 checkBoxLwtShowLwtStateChanged, 327
 checkBoxPromptSaveHistoryAsHtmlStateChanged,
 327
 checkBoxPromptSaveHistoryStateChanged, 327
 checkBoxQSnapApparentStateChanged, 328
 checkBoxQSnapCenterStateChanged, 328
 checkBoxQSnapEndPointStateChanged, 328
 checkBoxQSnapExtensionStateChanged, 328
 checkBoxQSnapInsertionStateChanged, 328
 checkBoxQSnapIntersectionStateChanged, 328
 checkBoxQSnapMidPointStateChanged, 328
 checkBoxQSnapNearestStateChanged, 328
 checkBoxQSnapNodeStateChanged, 328
 checkBoxQSnapParallelStateChanged, 328
 checkBoxQSnapPerpendicularStateChanged, 328
 checkBoxQSnapQuadrantStateChanged, 328
 checkBoxQSnapTangentStateChanged, 328
 checkBoxRenderHintAAStateChanged, 329
 checkBoxRenderHintHighAAStateChanged, 329
 checkBoxRenderHintNonCosmeticStateChanged,
 329
 checkBoxRenderHintSmoothPixStateChanged,
 329
 checkBoxRenderHintTextAAStateChanged, 329
 checkBoxRulerShowOnLoadStateChanged, 329
 checkBoxSelectionModePickAddStateChanged,
 329
 checkBoxSelectionModePickDragStateChanged,
 329
 checkBoxSelectionModePickFirstStateChanged,
 329
 checkBoxShowScrollBarsStateChanged, 329
 checkBoxTipOfDayStateChanged, 329
 checkBoxUseOpenGLStateChanged, 329
 chooseDisplayBackgroundColor, 329
 chooseDisplayCrossHairColor, 330
 chooseDisplaySelectBoxLeftColor, 330
 chooseDisplaySelectBoxLeftFill, 330
 chooseDisplaySelectBoxRightColor, 330
 chooseDisplaySelectBoxRightFill, 330
 chooseGeneralMdiBackgroundColor, 330
 chooseGeneralMdiBackgroundLogo, 330
 chooseGeneralMdiBackgroundTexture, 330
 chooseGridColor, 330
 choosePromptBackgroundColor, 330
 choosePromptTextColor, 330
 chooseRulerColor, 330
 comboBoxGridTypeCurrentIndexChanged, 330
 comboBoxIconSizeCurrentIndexChanged, 330
 comboBoxIconThemeCurrentIndexChanged, 330
 comboBoxLanguageCurrentIndexChanged, 331
 comboBoxPromptFontFamilyCurrentIndexChanged,
 331
 comboBoxPromptFontSizeCurrentIndexChanged,
 331
 comboBoxQSnapLocatorColorCurrentIndex-
 Changed, 331
 comboBoxRulerMetricCurrentIndexChanged, 331
 comboBoxScrollBarWidgetCurrentIndexChanged,
 331
 comboBoxSelectionCoolGripColorCurrentIndex-
 Changed, 331
 comboBoxSelectionHotGripColorCurrentIndex-
 Changed, 331
 createTabDisplay, 331
 createTabFilePaths, 331
 createTabGeneral, 331
 createTabGridRuler, 331
 createTabLineWeight, 331

createTabOpenSave, 332
createTabOrthoPolar, 332
createTabPrinting, 332
createTabPrompt, 332
createTabQuickSnap, 332
createTabQuickTrack, 332
createTabSelection, 332
createTabSnap, 332
currentDisplayBackgroundColorChanged, 332
currentDisplayCrossHairColorChanged, 332
currentDisplaySelectBoxLeftColorChanged, 332
currentDisplaySelectBoxLeftFillChanged, 332
currentDisplaySelectBoxRightColorChanged, 332
currentDisplaySelectBoxRightFillChanged, 332
currentGeneralMdiBackgroundColorChanged, 332
currentGridColorChanged, 333
currentPromptBackgroundColorChanged, 333
currentPromptTextColorChanged, 333
currentRulerColorChanged, 333
dialog_display_bg_color, 335
dialog_display_crosshair_color, 335
dialog_display_crosshair_percent, 335
dialog_display_renderhint_aa, 335
dialog_display_renderhint_high_aa, 335
dialog_display_renderhint_noncosmetic, 336
dialog_display_renderhint_smooth_pix, 336
dialog_display_renderhint_text_aa, 336
dialog_display_scrollbar_widget_num, 336
dialog_display_selectbox_alpha, 336
dialog_display_selectbox_left_color, 336
dialog_display_selectbox_left_fill, 336
dialog_display_selectbox_right_color, 336
dialog_display_selectbox_right_fill, 336
dialog_display_show_scrollbars, 336
dialog_display_units, 336
dialog_display_use_opengl, 336
dialog_display_zoomscale_in, 336
dialog_display_zoomscale_out, 336
dialog_general_icon_size, 336
dialog_general_icon_theme, 336
dialog_general_language, 336
dialog_general_mdi_bg_color, 336
dialog_general_mdi_bg_logo, 337
dialog_general_mdi_bg_texture, 337
dialog_general_mdi_bg_use_color, 337
dialog_general_mdi_bg_use_logo, 337
dialog_general_mdi_bg_use_texture, 337
dialog_general_system_help_browser, 337
dialog_general_tip_of_the_day, 337
dialog_grid_center_on_origin, 337
dialog_grid_center_x, 337
dialog_grid_center_y, 337
dialog_grid_color, 337
dialog_grid_color_match_crosshair, 337
dialog_grid_load_from_file, 337
dialog_grid_show_on_load, 337
dialog_grid_show_origin, 337
dialog_grid_size_radius, 337
dialog_grid_size_x, 337
dialog_grid_size_y, 337
dialog_grid_spacing_angle, 338
dialog_grid_spacing_radius, 338
dialog_grid_spacing_x, 338
dialog_grid_spacing_y, 338
dialog_grid_type, 338
dialog_lwt_default_lwt, 338
dialog_lwt_real_render, 338
dialog_lwt_show_lwt, 338
dialog_opensave_custom_filter, 338
dialog_opensave_open_format, 338
dialog_opensave_open_thumbnail, 338
dialog_opensave_recent_max_files, 338
dialog_opensave_save_format, 338
dialog_opensave_save_thumbnail, 338
dialog_opensave_trim_dst_num_jumps, 338
dialog_printing_default_device, 338
dialog_printing_disable_bg, 338
dialog_printing_use_last_device, 338
dialog_prompt_bg_color, 339
dialog_prompt_font_family, 339
dialog_prompt_font_size, 339
dialog_prompt_font_style, 339
dialog_prompt_save_history, 339
dialog_prompt_save_history_as_html, 339
dialog_prompt_save_history_filename, 339
dialog_prompt_text_color, 339
dialog_qsnap_aperture_size, 339
dialog_qsnap_apparent, 339
dialog_qsnap_center, 339
dialog_qsnap_enabled, 339
dialog_qsnap_endpoint, 339
dialog_qsnap_extension, 339
dialog_qsnap_insertion, 339
dialog_qsnap_intersection, 339
dialog_qsnap_locator_color, 339
dialog_qsnap_locator_size, 339
dialog_qsnap_midpoint, 340
dialog_qsnap_nearest, 340
dialog_qsnap_node, 340
dialog_qsnap_parallel, 340
dialog_qsnap_perpendicular, 340
dialog_qsnap_quadrant, 340
dialog_qsnap_tangent, 340
dialog_ruler_color, 340
dialog_ruler_metric, 340
dialog_ruler_pixel_size, 340
dialog_ruler_show_on_load, 340
dialog_selection_coolgrip_color, 340
dialog_selection_grip_size, 340
dialog_selection_hotgrip_color, 340
dialog_selection_mode_pickadd, 340
dialog_selection_mode_pickdrag, 340
dialog_selection_mode_pickfirst, 340
dialog_selection_pickbox_size, 340
mainWin, 341
preview_display_bg_color, 341

preview_display_crosshair_color, 341
preview_display_selectbox_alpha, 341
preview_display_selectbox_left_color, 341
preview_display_selectbox_left_fill, 341
preview_display_selectbox_right_color, 341
preview_display_selectbox_right_fill, 341
preview_display_show_scrollbars, 341
preview_general_mdi_bg_color, 341
preview_general_mdi_bg_use_color, 341
preview_general_mdi_bg_use_logo, 341
preview_general_mdi_bg_use_texture, 341
preview_grid_color, 341
preview_lwt_real_render, 341
preview_lwt_show_lwt, 341
preview_prompt_bg_color, 341
preview_prompt_font_family, 341
preview_prompt_font_size, 342
preview_prompt_font_style, 342
preview_prompt_text_color, 342
preview_ruler_color, 342
rejectChanges, 333
Settings_Dialog, 325
sliderQSnapApertureSizeValueChanged, 333
sliderQSnapLocatorSizeValueChanged, 333
sliderSelectionGripSizeValueChanged, 333
sliderSelectionPickBoxSizeValueChanged, 333
spinBoxDisplaySelectBoxAlphaValueChanged,
 333
spinBoxGridCenterXValueChanged, 333
spinBoxGridCenterYValueChanged, 333
spinBoxGridSizeRadiusValueChanged, 333
spinBoxGridSizeXValueChanged, 334
spinBoxGridSizeYValueChanged, 334
spinBoxGridSpacingAngleValueChanged, 334
spinBoxGridSpacingRadiusValueChanged, 334
spinBoxGridSpacingXValueChanged, 334
spinBoxGridSpacingYValueChanged, 334
spinBoxPromptFontSizeValueChanged, 334
spinBoxRecentMaxFilesValueChanged, 334
spinBoxRulerPixelSizeValueChanged, 334
spinBoxTrimDstNumJumpsValueChanged, 334
spinBoxZoomScaleInValueChanged, 334
spinBoxZoomScaleOutValueChanged, 334
tabWidget, 342
settings_dir
 utility.cpp, 446
settings_display_bg_color
 MainWindow, 224
settings_display_crosshair_color
 MainWindow, 225
settings_display_crosshair_percent
 MainWindow, 225
settings_display_renderhint_aa
 MainWindow, 225
settings_display_renderhint_high_aa
 MainWindow, 225
settings_display_renderhint_noncosmetic
 MainWindow, 225
settings_display_renderhint_smooth_pix
 MainWindow, 225
settings_display_renderhint_text_aa
 MainWindow, 225
settings_display_scrollbar_widget_num
 MainWindow, 225
settings_display_selectbox_alpha
 MainWindow, 225
settings_display_selectbox_left_color
 MainWindow, 225
settings_display_selectbox_left_fill
 MainWindow, 225
settings_display_selectbox_right_color
 MainWindow, 226
settings_display_selectbox_right_fill
 MainWindow, 226
settings_display_show_scrollbars
 MainWindow, 226
settings_display_units
 MainWindow, 226
settings_display_use_opengl
 MainWindow, 226
settings_display_zoomscale_in
 MainWindow, 226
settings_display_zoomscale_out
 MainWindow, 226
settings_file
 utility.cpp, 446
settings_general_check_for_updates
 MainWindow, 226
settings_general_current_tip
 MainWindow, 226
settings_general_icon_size
 MainWindow, 226
settings_general_icon_theme
 MainWindow, 226
settings_general_language
 MainWindow, 227
settings_general_mdi_bg_color
 MainWindow, 227
settings_general_mdi_bg_logo
 MainWindow, 227
settings_general_mdi_bg_texture
 MainWindow, 227
settings_general_mdi_bg_use_color
 MainWindow, 227
settings_general_mdi_bg_use_logo
 MainWindow, 227
settings_general_mdi_bg_use_texture
 MainWindow, 227
settings_general_system_help_browser
 MainWindow, 227
settings_general_tip_of_the_day
 MainWindow, 227
settings_grid_center_on_origin
 MainWindow, 227
settings_grid_center_x
 MainWindow, 227

settings_grid_center_y
 MainWindow, 228
settings_grid_color
 MainWindow, 228
settings_grid_color_match_crosshair
 MainWindow, 228
settings_grid_load_from_file
 MainWindow, 228
settings_grid_show_on_load
 MainWindow, 228
settings_grid_show_origin
 MainWindow, 228
settings_grid_size_radius
 MainWindow, 228
settings_grid_size_x
 MainWindow, 228
settings_grid_size_y
 MainWindow, 228
settings_grid_spacing_angle
 MainWindow, 228
settings_grid_spacing_radius
 MainWindow, 228
settings_grid_spacing_x
 MainWindow, 229
settings_grid_spacing_y
 MainWindow, 229
settings_grid_type
 MainWindow, 229
settings_lwt_default_lwt
 MainWindow, 229
settings_lwt_real_render
 MainWindow, 229
settings_lwt_show_lwt
 MainWindow, 229
settings_opensave_custom_filter
 MainWindow, 229
settings_opensave_open_format
 MainWindow, 229
settings_opensave_open_thumbnail
 MainWindow, 229
settings_opensave_recent_directory
 MainWindow, 229
settings_opensave_recent_list_of_files
 MainWindow, 229
settings_opensave_recent_max_files
 MainWindow, 230
settings_opensave_save_format
 MainWindow, 230
settings_opensave_save_thumbnail
 MainWindow, 230
settings_opensave_trim_dst_num_jumps
 MainWindow, 230
settings_printing_default_device
 MainWindow, 230
settings_printing_disable_bg
 MainWindow, 230
settings_printing_use_last_device
 MainWindow, 230
settings_prompt_bg_color
 MainWindow, 230
settings_prompt_font_family
 MainWindow, 230
settings_prompt_font_size
 MainWindow, 230
settings_prompt_font_style
 MainWindow, 230
settings_prompt_save_history
 MainWindow, 231
settings_prompt_save_history_as_html
 MainWindow, 231
settings_prompt_save_history_filename
 MainWindow, 231
settings_prompt_text_color
 MainWindow, 231
settings_qsnap_aperture_size
 MainWindow, 231
settings_qsnap_apparent
 MainWindow, 231
settings_qsnap_center
 MainWindow, 231
settings_qsnap_enabled
 MainWindow, 231
settings_qsnap_endpoint
 MainWindow, 231
settings_qsnap_extension
 MainWindow, 231
settings_qsnap_insertion
 MainWindow, 231
settings_qsnap_intersection
 MainWindow, 232
settings_qsnap_locator_color
 MainWindow, 232
settings_qsnap_locator_size
 MainWindow, 232
settings_qsnap_midpoint
 MainWindow, 232
settings_qsnap_nearest
 MainWindow, 232
settings_qsnap_node
 MainWindow, 232
settings_qsnap_parallel
 MainWindow, 232
settings_qsnap_perpendicular
 MainWindow, 232
settings_qsnap_quadrant
 MainWindow, 232
settings_qsnap_tangent
 MainWindow, 232
settings_ruler_color
 MainWindow, 232
settings_ruler_metric
 MainWindow, 233
settings_ruler_pixel_size
 MainWindow, 233
settings_ruler_show_on_load
 MainWindow, 233

settings_selection_coolgrip_color
 MainWindow, 233
 settings_selection_grip_size
 MainWindow, 233
 settings_selection_hotgrip_color
 MainWindow, 233
 settings_selection_mode_pickadd
 MainWindow, 233
 settings_selection_mode_pickdrag
 MainWindow, 233
 settings_selection_mode_pickfirst
 MainWindow, 233
 settings_selection_pickbox_size
 MainWindow, 233
 settings_text_angle
 MainWindow, 233
 settings_text_font
 MainWindow, 234
 settings_text_size
 MainWindow, 234
 settings_text_style_bold
 MainWindow, 234
 settings_text_style_italic
 MainWindow, 234
 settings_text_style_overline
 MainWindow, 234
 settings_text_style_strikeout
 MainWindow, 234
 settings_text_style_underline
 MainWindow, 234
 settingsDialog
 MainWindow, 217
 settingsGrid
 StatusBarButton, 344
 settingsLwt
 StatusBarButton, 345
 settingsMenu
 MainWindow, 234
 settingsOrtho
 StatusBarButton, 345
 settingsPolar
 StatusBarButton, 345
 settingsPrompt
 MainWindow, 217
 settingsQSnap
 StatusBarButton, 345
 settingsQTrack
 StatusBarButton, 345
 settingsRuler
 StatusBarButton, 345
 settingsSnap
 StatusBarButton, 345
 setUndoCleanIcon
 MainWindow, 217
 setViewBackgroundColor
 MdiWindow, 249
 setViewCrossHairColor
 MdiWindow, 249
 setViewGridColor
 MdiWindow, 249
 setViewRulerColor
 MdiWindow, 249
 setViewSelectBoxColors
 MdiWindow, 249
 sewDecode
 format_sew.c, 598
 shape
 BaseObject, 90
 shift_held
 Settings_, 319
 shiftKeyPressedState
 MainWindow, 234
 shiftPressed
 CmdPrompt, 103
 CmdPromptInput, 115
 shiftReleased
 CmdPrompt, 104
 CmdPromptInput, 115
 shine_color
 Settings_, 319
 show_about_dialog
 Settings_, 319
 show_details_dialog
 Settings_, 319
 show_editor
 Settings_, 319
 show_open_file_dialog
 Settings_, 319
 show_settings_editor
 Settings_, 319
 showGroups
 PropertyEditor, 283
 showOneType
 PropertyEditor, 283
 showScrollBars
 View, 377
 showSettings
 CmdPrompt, 104
 CmdPromptInput, 115
 showViewScrollBars
 MdiWindow, 249
 shv_thread
 embroidery.h, 469
 shvDecode
 format_shv.c, 599
 shvDecodeShort
 format_shv.c, 599
 shvThreadCount
 embroidery.h, 493
 thread-color.c, 645
 shvThreads
 embroidery.h, 493
 thread-color.c, 645
 side1
 EmbSatinOutline_, 153
 side2

EmbSatinOutline_, 153
Sigma_Polyester
embroidery.h, 469
signalMapper
PropertyEditor, 292
signature
_bcf_file_header, 67
sigVersion
ThredHeader_, 356
simplify_path
utility.cpp, 445
simulate
EmbView_, 161
simulation_start
EmbView_, 161
SINGLE_LINE_TEXT_MODE_JUSTIFY
embroidermodder.h, 396
SINGLE_LINE_TEXT_MODE_RAPID
embroidermodder.h, 396
SINGLE_LINE_TEXT_MODE_SETFONT
embroidermodder.h, 396
SINGLE_LINE_TEXT_MODE_SETGEOM
embroidermodder.h, 396
sizeHint
MdiWindow, 250
sizeOfChainingEntryAtEndOfDifatSector
main.c, 638
sizeOfDifatEntry
main.c, 638
sizeOfDirectoryEntry
main.c, 638
sizeOfFatEntry
main.c, 638
sliderQSnapApertureSizeValueChanged
Settings_Dialog, 333
sliderQSnapLocatorSizeValueChanged
Settings_Dialog, 333
sliderSelectionGripSizeValueChanged
Settings_Dialog, 333
sliderSelectionPickBoxSizeValueChanged
Settings_Dialog, 333
snap_mode
EmbView_, 161
SNOWFLAKE_MODE_NUM_POINTS
embroidermodder.h, 396
SNOWFLAKE_MODE_XSCALE
embroidermodder.h, 396
SNOWFLAKE_MODE_YSCALE
embroidermodder.h, 396
someInt
SubDescriptor_, 347
someNum
SubDescriptor_, 347
someOtherInt
SubDescriptor_, 347
SPARE_RUBBER_OFF
embroidermodder.h, 395
SPARE_RUBBER_PATH
embroidermodder.h, 395
SPARE_RUBBER_POLYGON
embroidermodder.h, 395
SPARE_RUBBER_POLYLINE
embroidermodder.h, 395
SPARE_RUBBER_VALUES
embroidermodder.h, 395
spareRubber
View, 377
spareRubberList
View, 382
spinBoxDisplaySelectBoxAlphaValueChanged
Settings_Dialog, 333
spinBoxGridCenterXValueChanged
Settings_Dialog, 333
spinBoxGridCenterYValueChanged
Settings_Dialog, 333
spinBoxGridSizeRadiusValueChanged
Settings_Dialog, 333
spinBoxGridSizeXValueChanged
Settings_Dialog, 334
spinBoxGridSizeYValueChanged
Settings_Dialog, 334
spinBoxGridSpacingAngleValueChanged
Settings_Dialog, 334
spinBoxGridSpacingRadiusValueChanged
Settings_Dialog, 334
spinBoxGridSpacingXValueChanged
Settings_Dialog, 334
spinBoxGridSpacingYValueChanged
Settings_Dialog, 334
spinBoxPromptFontSizeValueChanged
Settings_Dialog, 334
spinBoxRecentMaxFilesValueChanged
Settings_Dialog, 334
spinBoxRulerPixelSizeValueChanged
Settings_Dialog, 334
spinBoxTrimDstNumJumpsValueChanged
Settings_Dialog, 334
spinBoxZoomScaleInValueChanged
Settings_Dialog, 334
spinBoxZoomScaleOutValueChanged
Settings_Dialog, 334
spline
EmbGeometry_, 144
STAR_MODE_CENTER_PT
embroidermodder.h, 396
STAR_MODE_NUM_POINTS
embroidermodder.h, 396
STAR_MODE_RAD_INNER
embroidermodder.h, 396
STAR_MODE_RAD_OUTER
embroidermodder.h, 396
start
EmbArc_, 134
EmbBezier_, 136
EmbLine_, 147
startBlinking

CmdPrompt, 104
startCommand
 CmdPrompt, 104
 CmdPromptInput, 115
startGripping
 View, 377
startingSectorLocation
 _bcf_directory_entry, 63
startResizeHistory
 CmdPromptHistory, 109
startResizingTheHistory
 CmdPrompt, 104
stateBits
 _bcf_directory_entry, 63
StatusBar, 342
 setMouseCoord, 342
 StatusBar, 342
 statusBarGridButton, 343
 statusBarLwtButton, 343
 statusBarMouseCoord, 343
 statusBarOrthoButton, 343
 statusBarPolarButton, 343
 statusBarQSnapButton, 343
 statusBarQTrackButton, 343
 statusBarRulerButton, 343
 statusBarSnapButton, 343
statusbar
 MainWindow, 234
 StatusBarButton, 346
StatusBarButton, 343
 contextMenuEvent, 344
 disableLwt, 344
 disableReal, 344
 enableLwt, 344
 enableReal, 344
 mainWin, 346
 settingsGrid, 344
 settingsLwt, 345
 settingsOrtho, 345
 settingsPolar, 345
 settingsQSnap, 345
 settingsQTrack, 345
 settingsRuler, 345
 settingsSnap, 345
 statusbar, 346
 StatusBarButton, 344
 toggleGrid, 345
 toggleLwt, 345
 toggleOrtho, 345
 togglePolar, 345
 toggleQSnap, 345
 toggleQTrack, 345
 toggleRuler, 345
 toggleSnap, 345
statusBarGridButton
 StatusBar, 343
statusBarLwtButton
 StatusBar, 343
statusBarMouseCoord
 StatusBar, 343
statusBarOrthoButton
 StatusBar, 343
statusBarPolarButton
 StatusBar, 343
statusBarQSnapButton
 StatusBar, 343
statusBarQTrackButton
 StatusBar, 343
statusBarRulerButton
 StatusBar, 343
statusBarSnapButton
 StatusBar, 343
stitch
 EmbArray_, 135
 EmbGeometry_, 144
stitch_list
 EmbPattern_, 150
stitch_time
 Settings_, 319
stitchesJump
 EmbDetailsDialog, 139
stitchesReal
 EmbDetailsDialog, 139
stitchesTotal
 EmbDetailsDialog, 140
stitchesTrim
 EmbDetailsDialog, 140
stitchGranularity
 ThredExtension_, 355
STOP
 embroidery.h, 469
stopBlinking
 CmdPrompt, 104
 CmdPromptInput, 115
stopGripping
 View, 377
stopResizeHistory
 CmdPromptHistory, 109
stopResizingTheHistory
 CmdPrompt, 104
streamSize
 _bcf_directory_entry, 63
streamSizeHigh
 _bcf_directory_entry, 63
stringInArray
 embroidery_internal.h, 540
 main.c, 637
stringVal
 VipHeader_, 383
stub_implement
 MainWindow, 217
stub_testing
 MainWindow, 217
stxColor
 StxThread_, 346
stxReadThread

format_stx.c, 600
StxThread
embroidery_internal.h, 516
StxThread_, 346
colorCode, 346
colorName, 346
sectionName, 346
stxColor, 346
subDescriptors, 346
styleHash
CmdPrompt, 105
SubDescriptor
embroidery_internal.h, 516
SubDescriptor_, 346
colorCode, 347
colorName, 347
someInt, 347
someNum, 347
someOtherInt, 347
subDescriptors
StxThread_, 346
subPathList
TextSingleObject, 353
Sulky_Rayon
embroidery.h, 469
SVG_ATTRIBUTE
embroidery_internal.h, 515
SVG_CATCH_ALL
embroidery_internal.h, 515
SVG_Colors
embroidery.h, 469
SVG_CREATOR_EMBROIDERMODDER
embroidery_internal.h, 515
SVG_CREATOR_ILLUSTRATOR
embroidery_internal.h, 515
SVG_CREATOR_INKSCAPE
embroidery_internal.h, 515
SVG_CREATOR_NULL
embroidery_internal.h, 515
SVG_ELEMENT
embroidery_internal.h, 515
SVG_EXPECT_ATTRIBUTE
embroidery_internal.h, 515
SVG_EXPECT_ELEMENT
embroidery_internal.h, 515
SVG_EXPECT_NULL
embroidery_internal.h, 515
SVG_EXPECT_VALUE
embroidery_internal.h, 515
SVG_MEDIA_PROPERTY
embroidery_internal.h, 515
SVG_NULL
embroidery_internal.h, 516
SVG_PROPERTY
embroidery_internal.h, 516
SvgAttribute
embroidery_internal.h, 516
SvgAttribute_, 347
name, 347
value, 347
svgCreator
format_svg.c, 601
svgExpect
format_svg.c, 601
svgMultiValue
format_svg.c, 601
table
Huffman, 163
table_width
Huffman, 163
tabPressed
CmdPrompt, 104
CmdPromptInput, 115
tabWidget
Settings_Dialog, 342
tempArcObj
PropertyEditor, 292
tempBaseObj
View, 382
tempBlockObj
PropertyEditor, 292
tempCircleObj
PropertyEditor, 292
tempDimAlignedObj
PropertyEditor, 292
tempDimAngularObj
PropertyEditor, 292
tempDimArcLenObj
PropertyEditor, 292
tempDimDiamObj
PropertyEditor, 292
tempDimLeaderObj
PropertyEditor, 292
tempDimLinearObj
PropertyEditor, 292
tempDimOrdObj
PropertyEditor, 293
tempDimRadiusObj
PropertyEditor, 293
tempEllipseArcObj
PropertyEditor, 293
tempEllipseObj
PropertyEditor, 293
tempHatchObj
PropertyEditor, 293
tempImageObj
PropertyEditor, 293
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
 testEmbCircle
 embroidery_internal.h, 540
 testEmbCircle_2
 embroidery_internal.h, 540
 testEmbFormat
 embroidery_internal.h, 540
 testGeomArc
 embroidery_internal.h, 540
 testing
 Settings_, 319
 testMain
 embroidery.h, 492
 testTangentPoints
 embroidery_internal.h, 540
 testThreadColor
 embroidery_internal.h, 540
 text
 EmbTextMulti_, 155
 EmbTextSingle_, 156
 UiObject_, 358
 text.c
 textSingle_gripEdit, 619
 textSingle_mouseSnapPoint, 619
 textSingle_paint, 619
 textSingle_setJustify, 619
 textSingle_setTextBackward, 619
 textSingle_setTextBold, 619
 textSingle_setTextFont, 619
 textSingle_setTextItalic, 620
 textSingle_setTextOverline, 620
 textSingle_setTextSize, 620
 textSingle_setTextStrikeOut, 620
 textSingle_setTextStyle, 620
 textSingle_setTextUnderline, 620
 textSingle_setTextUpsideDown, 620
 textSingle_updateRubber, 620
 text_angle
 EmbView_, 161
 Settings_, 319
 text_font
 EmbView_, 161
 Settings_, 319
 text_size
 EmbView_, 161
 Settings_, 320
 text_style_bold
 EmbView_, 161
 Settings_, 320
 text_style_italic
 EmbView_, 161
 Settings_, 320
 text_style_overline
 EmbView_, 162
 Settings_, 320
 text_style_strikeout
 EmbView_, 162
 Settings_, 320
 text_style_underline
 EmbView_, 162
 Settings_, 320
 textAngle
 MainWindow, 218
 textBold
 MainWindow, 218
 textFont
 MainWindow, 218
 UiObject_, 358
 textFontSelector
 MainWindow, 234
 textFontSelectorCurrentFontChanged
 MainWindow, 218
 textHeight
 UiObject_, 358
 textItalic
 MainWindow, 218
 textJustify
 UiObject_, 358
 textOverline
 MainWindow, 218
 textRotation
 UiObject_, 358
 textSingle_gripEdit
 text.c, 619
 textSingle_mouseSnapPoint
 text.c, 619
 textSingle_paint
 text.c, 619
 textSingle_setJustify
 text.c, 619
 textSingle_setTextBackward
 text.c, 619
 textSingle_setTextBold
 text.c, 619
 textSingle_setTextFont
 text.c, 619
 textSingle_setTextItalic
 text.c, 620
 textSingle_setTextOverline
 text.c, 620
 textSingle_setTextSize
 text.c, 620
 textSingle_setTextStrikeOut
 text.c, 620

textSingle_setTextStyle
 text.c, 620
textSingle_setTextUnderline
 text.c, 620
textSingle_setTextUpsideDown
 text.c, 620
textSingle_updateRubber
 text.c, 620
TextSingleObject, 347
 ~TextSingleObject, 350
 allGripPoints, 350
 gripEdit, 351
 init, 351
 mouseSnapPoint, 351
 objectPos, 351
 objectSavePathList, 351
 objectText, 351
 objectTextBackward, 351
 objectTextBold, 351
 objectTextFont, 351
 objectTextItalic, 351
 objectTextJustify, 351
 objectTextJustifyList, 351
 objectTextOverline, 351
 objectTextSize, 351
 objectTextStrikeOut, 351
 objectTextUnderline, 352
 objectTextUpsideDown, 352
 objectX, 352
 objectY, 352
 objText, 353
 objTextBackward, 353
 objTextBold, 354
 objTextFont, 354
 objTextItalic, 354
 objTextJustify, 354
 objTextOverline, 354
 objTextPath, 354
 objTextSize, 354
 objTextStrikeOut, 354
 objTextUnderline, 354
 objTextUpsideDown, 354
 paint, 352
 setObjectPos, 352
 setObjectText, 352
 setObjectTextBackward, 352
 setObjectTextBold, 352
 setObjectTextFont, 352
 setObjectTextItalic, 352
 setObjectTextJustify, 352
 setObjectTextOverline, 352
 setObjectTextSize, 353
 setObjectTextStrikeOut, 353
 setObjectTextStyle, 353
 setObjectTextUnderline, 353
 setObjectTextUpsideDown, 353
 setObjectX, 353
 setObjectY, 353
subPathList, 353
TextSingleObject, 350
Type, 350
type, 353
updateRubber, 353
vulcanize, 353
textSize
 MainWindow, 218
textSizeSelector
 MainWindow, 235
textSizeSelectorIndexChanged
 MainWindow, 218
textStrikeOut
 MainWindow, 218
textUnderline
 MainWindow, 218
texture_list
 Settings_, 320
thread
 EmbArray_, 135
 EmbGeometry_, 144
thread-color.c
 _dxIColorTable, 644
 brand_codes, 644
 brand_codes_files, 644
 husThreads, 645
 jefThreads, 645
 pcmThreads, 645
 pecThreadCount, 645
 pecThreads, 645
 shvThreadCount, 645
 shvThreads, 645
 threadColor, 644
 threadColorName, 644
 threadColorNum, 644
thread_color
 embroidery.h, 472
thread_color_
 hex_code, 354
 manufacturer_code, 354
 name, 354
thread_list
 EmbPattern_, 150
ThreadArt_Polyester
 embroidery.h, 469
ThreadArt_Rayon
 embroidery.h, 469
threadColor
 embroidery.h, 492
 thread-color.c, 644
threadColorName
 embroidery.h, 492
 thread-color.c, 644
threadColorNum
 embroidery.h, 492
 thread-color.c, 644
ThreaDelight_Polyester
 embroidery.h, 470

threadLength
 _vp3Hoop, 69
 ThredExtension
 embroidery_internal.h, 516
 ThredExtension_-, 355
 auxFormat, 355
 creatorName, 355
 hoopX, 355
 hoopY, 355
 modifierName, 355
 reserved, 355
 stitchGranularity, 355
 ThredHeader
 embroidery_internal.h, 516
 ThredHeader_-, 355
 hoopSize, 356
 length, 356
 numStiches, 356
 reserved, 356
 sigVersion, 356
 threshold_method
 fill.c, 565
 Tick
 DimLeaderObject, 122
 tick_depth
 Settings_-, 320
 ticks_color
 Settings_-, 320
 tile
 MdiArea, 239
 tip_of_the_day
 Settings_-, 320
 tipOfDay
 MainWindow, 218
 tmpHeight
 CmdPromptHistory, 109
 to_EmbVector
 embroidermodder.h, 397
 to_open
 Settings_-, 320
 utility.cpp, 446
 to_QPointF
 embroidermodder.h, 397
 toCenter
 UndoableNavCommand, 364
 Todo
 mainwindow.cpp, 440
 toggleGrid
 MainWindow, 219
 StatusBarButton, 345
 View, 377
 toggleLwt
 MainWindow, 219
 StatusBarButton, 345
 View, 378
 toggleOrtho
 StatusBarButton, 345
 View, 378
 togglePickAddMode
 PropertyEditor, 283
 togglePolar
 StatusBarButton, 345
 View, 378
 toggleQSnap
 StatusBarButton, 345
 View, 378
 toggleQTrack
 StatusBarButton, 345
 View, 378
 toggleReal
 View, 378
 toggleRuler
 MainWindow, 219
 StatusBarButton, 345
 View, 378
 toggleSnap
 StatusBarButton, 345
 View, 378
 toolbar_layout
 utility.cpp, 446
 toolbarEdit
 MainWindow, 235
 toolbarFile
 MainWindow, 235
 toolbarHash
 MainWindow, 235
 toolbarHelp
 MainWindow, 235
 toolbarIcon
 MainWindow, 235
 toolbarLayer
 MainWindow, 235
 toolbarPan
 MainWindow, 235
 toolbarPrompt
 MainWindow, 235
 toolbarProperties
 MainWindow, 235
 toolbarText
 MainWindow, 235
 toolbarView
 MainWindow, 236
 toolbarZoom
 MainWindow, 236
 toolButtonArcArea
 PropertyEditor, 293
 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, 294
toolButtonArcStartX
 PropertyEditor, 294
toolButtonArcStartY
 PropertyEditor, 294
toolButtonBlockX
 PropertyEditor, 294
toolButtonBlockY
 PropertyEditor, 294
toolButtonCircleArea
 PropertyEditor, 294
toolButtonCircleCenterX
 PropertyEditor, 294
toolButtonCircleCenterY
 PropertyEditor, 294
toolButtonCircleCircumference
 PropertyEditor, 295
toolButtonCircleDiameter
 PropertyEditor, 295
toolButtonCircleRadius
 PropertyEditor, 295
toolButtonEllipseCenterX
 PropertyEditor, 295
toolButtonEllipseCenterY
 PropertyEditor, 295
toolButtonEllipseDiameterMajor
 PropertyEditor, 295
toolButtonEllipseDiameterMinor
 PropertyEditor, 295
toolButtonEllipseRadiusMajor
 PropertyEditor, 295
toolButtonEllipseRadiusMinor
 PropertyEditor, 295
toolButtonGeneralColor
 PropertyEditor, 295
toolButtonGeneralLayer
 PropertyEditor, 295
toolButtonGeneralLineType
 PropertyEditor, 295
toolButtonGeneralLineWidth
 PropertyEditor, 295
toolButtonImageHeight
 PropertyEditor, 295
toolButtonImageName
 PropertyEditor, 295
toolButtonImagePath
 PropertyEditor, 295
toolButtonImageWidth
 PropertyEditor, 295
toolButtonImageX
 PropertyEditor, 295
toolButtonImageY
 PropertyEditor, 295
toolButtonInfiniteLineVectorX
 PropertyEditor, 296
toolButtonInfiniteLineVectorY
 PropertyEditor, 296
toolButtonInfiniteLineX1
 PropertyEditor, 296
toolButtonInfiniteLineX2
 PropertyEditor, 296
toolButtonInfiniteLineY1
 PropertyEditor, 296
toolButtonInfiniteLineY2
 PropertyEditor, 296
toolButtonLineAngle
 PropertyEditor, 296
toolButtonLineDeltaX
 PropertyEditor, 296
toolButtonLineDeltaY
 PropertyEditor, 296
toolButtonLineEndX
 PropertyEditor, 296
toolButtonLineEndY
 PropertyEditor, 296
toolButtonLineLength
 PropertyEditor, 296
toolButtonLineStartX
 PropertyEditor, 296
toolButtonLineStartY
 PropertyEditor, 296
toolButtonPathArea
 PropertyEditor, 296
toolButtonPathClosed
 PropertyEditor, 296
toolButtonPathLength
 PropertyEditor, 296
toolButtonPathVertexNum
 PropertyEditor, 297
toolButtonPathVertexX
 PropertyEditor, 297
toolButtonPathVertexY
 PropertyEditor, 297
toolButtonPickAdd
 PropertyEditor, 297
toolButtonPointX
 PropertyEditor, 297
toolButtonPointY
 PropertyEditor, 297
toolButtonPolygonCenterX
 PropertyEditor, 297
toolButtonPolygonCenterY
 PropertyEditor, 297
toolButtonPolygonDiameterSide
 PropertyEditor, 297

toolButtonPolygonDiameterVertex
 PropertyEditor, 297
toolButtonPolygonInteriorAngle
 PropertyEditor, 297
toolButtonPolygonRadiusSide
 PropertyEditor, 297
toolButtonPolygonRadiusVertex
 PropertyEditor, 297
toolButtonPolylineArea
 PropertyEditor, 297
toolButtonPolylineClosed
 PropertyEditor, 297
toolButtonPolylineLength
 PropertyEditor, 297
toolButtonPolylineVertexNum
 PropertyEditor, 297
toolButtonPolylineVertexX
 PropertyEditor, 297
toolButtonPolylineVertexY
 PropertyEditor, 298
toolButtonQSelect
 PropertyEditor, 298
toolButtonRayVectorX
 PropertyEditor, 298
toolButtonRayVectorY
 PropertyEditor, 298
toolButtonRayX1
 PropertyEditor, 298
toolButtonRayX2
 PropertyEditor, 298
toolButtonRayY1
 PropertyEditor, 298
toolButtonRayY2
 PropertyEditor, 298
toolButtonRectangleArea
 PropertyEditor, 298
toolButtonRectangleCorner1X
 PropertyEditor, 298
toolButtonRectangleCorner1Y
 PropertyEditor, 298
toolButtonRectangleCorner2X
 PropertyEditor, 298
toolButtonRectangleCorner2Y
 PropertyEditor, 298
toolButtonRectangleCorner3X
 PropertyEditor, 298
toolButtonRectangleCorner3Y
 PropertyEditor, 298
toolButtonRectangleCorner4X
 PropertyEditor, 298
toolButtonRectangleCorner4Y
 PropertyEditor, 298
toolButtonRectangleHeight
 PropertyEditor, 298
toolButtonRectangleWidth
 PropertyEditor, 299
toolButtonTextMultiX
 PropertyEditor, 299
toolButtonTextMultiY
 PropertyEditor, 299
toolButtonTextSingleBackward
 PropertyEditor, 299
toolButtonTextSingleContents
 PropertyEditor, 299
toolButtonTextSingleFont
 PropertyEditor, 299
toolButtonTextSingleHeight
 PropertyEditor, 299
toolButtonTextSingleJustify
 PropertyEditor, 299
toolButtonTextSingleRotation
 PropertyEditor, 299
toolButtonTextSingleUpsideDown
 PropertyEditor, 299
toolButtonTextSingleX
 PropertyEditor, 299
toolButtonTextSingleY
 PropertyEditor, 299
top
 _vp3Hoop, 69
 EmbRect_, 153
 hoop_padding, 163
top2
 _vp3Hoop, 70
toPolyline
 SaveObject, 308
toTransform
 UndoableNavCommand, 364
transactionSignatureNumber
 _bcf_file_header, 68
translation_table
 utility.cpp, 446
treeView
 LayerManager, 173
TRIM
 embroidery.h, 470
Type
 ArcObject, 76
 BaseObject, 86
 CircleObject, 94
 DimLeaderObject, 122
 EllipseObject, 129
 ImageObject, 166
 LineObject, 175
 PathObject, 254
 PointObject, 259
 PolygonObject, 263
 PolylineObject, 269
 RectObject, 301
 TextSingleObject, 350
type
 ArcObject, 83
 BaseObject, 90
 CircleObject, 96
 DimLeaderObject, 125
 EllipseObject, 132

EmbArray_, 135
EmbFormatList_, 142
EmbGeometry_, 144
ImageObject, 168
LineObject, 178
PathObject, 256
PointObject, 261
PolygonObject, 266
PolylineObject, 271
RectObject, 303
TextSingleObject, 353
UiObject_, 358

ui_mode
 EmbView_, 162

UiMode
 embroidermodder.h, 395

UiObject
 embroidermodder.h, 389

UiObject_, 356
 center, 357
 color, 357
 command, 357
 controlPointLabels, 357
 controlPoints, 357
 firstRun, 357
 fname, 357
 id, 357
 maxPoints, 357
 minPoints, 357
 mode, 357
 n_controlPoints, 357
 numPoints, 358
 object_index, 358
 path_desc, 358
 pattern_index, 358
 rotation, 358
 scale, 358
 selectable, 358
 text, 358
 textFont, 358
 textHeight, 358
 textJustify, 358
 textRotation, 358
 type, 358

undo
 MainWindow, 219
 UndoableAddCommand, 359
 UndoableDeleteCommand, 360
 UndoableGripEditCommand, 361
 UndoableMirrorCommand, 362
 UndoableMoveCommand, 363
 UndoableNavCommand, 364
 UndoableRotateCommand, 365
 UndoableScaleCommand, 366
 UndoEditor, 368

undo_history
 EmbView_, 162

UndoableAddCommand, 358

gview, 359
object, 359
redo, 359
undo, 359
UndoableAddCommand, 359

UndoableDeleteCommand, 359
 gview, 360
 object, 360
 redo, 360
 undo, 360
 UndoableDeleteCommand, 359

UndoableGripEditCommand, 360
 after, 361
 before, 361
 gview, 361
 object, 361
 redo, 361
 undo, 361
 UndoableGripEditCommand, 360

UndoableMirrorCommand, 361
 gview, 362
 mirror, 362
 mirrorLine, 362
 object, 362
 redo, 362
 undo, 362
 UndoableMirrorCommand, 361

UndoableMoveCommand, 362
 dx, 363
 dy, 363
 gview, 363
 object, 363
 redo, 363
 undo, 363
 UndoableMoveCommand, 362

UndoableNavCommand, 363
 done, 364
 fromCenter, 364
 fromTransform, 364
 gview, 364
 id, 364
 mergeWith, 364
 navType, 364
 redo, 364
 toCenter, 364
 toTransform, 364
 undo, 364
 UndoableNavCommand, 363

UndoableRotateCommand, 364
 angle, 365
 gview, 365
 object, 365
 pivotX, 365
 pivotY, 365
 redo, 365
 rotate, 365
 undo, 365
 UndoableRotateCommand, 365

UndoableScaleCommand, 366
 dx, 366
 dy, 366
 factor, 366
 gview, 366
 object, 366
 redo, 366
 undo, 366
 UndoableScaleCommand, 366
UndoEditor, 367
 ~UndoEditor, 367
 addStack, 367
 canRedo, 367
 canUndo, 367
 focusWidget, 368
 iconDir, 368
 iconSize, 368
 redo, 368
 redoText, 368
 undo, 368
 UndoEditor, 367
 undoGroup, 368
 undoText, 368
 undoView, 368
 updateCleanIcon, 368
undoGroup
 UndoEditor, 368
UndoHistory
 embroidermodder.h, 390
UndoHistory_ , 368
 data, 368
 position, 369
undoPressed
 CmdPrompt, 104
 CmdPromptInput, 115
undoStack
 View, 382
undoText
 UndoEditor, 368
undoView
 UndoEditor, 368
unknown
 VipHeader_ , 383
unknown2
 _vp3Hoop, 70
unknown3
 _vp3Hoop, 70
unknown4
 _vp3Hoop, 70
updateAllViewBackgroundColors
 MainWindow, 219
updateAllViewCrossHairColors
 MainWindow, 219
updateAllViewGridColors
 MainWindow, 219
updateAllViewRulerColors
 MainWindow, 219
updateAllViewScrollBars
 MainWindow, 219
 MainWindow, 219
 updateAllViewSelectBoxColors
 MainWindow, 219
 updateArcRect
 ArcObject, 83
 updateCleanIcon
 UndoEditor, 368
 updateColorLinetypeLineweight
 MdiWindow, 250
 updateComboBoxBoolIfVaries
 PropertyEditor, 283
 updateComboBoxStrIfVaries
 PropertyEditor, 283
 updateCurrentText
 CmdPromptInput, 115
 updateFontComboBoxStrIfVaries
 PropertyEditor, 283
 updateLeader
 DimLeaderObject, 126
 updateLineEditNumIfVaries
 PropertyEditor, 283
 updateLineEditStrIfVaries
 PropertyEditor, 284
 updateMenuToolbarStatusbar
 MainWindow, 220
 updateMouseCoords
 View, 378
 updatePath
 ArcObject, 84
 CircleObject, 96
 EllipseObject, 132
 ImageObject, 168
 PathObject, 256
 PolygonObject, 266
 PolylineObject, 271
 RectObject, 303
 updatePickAddMode
 MainWindow, 220
 updatePickAddModeButton
 PropertyEditor, 284
 updateRubber
 ArcObject, 84
 CircleObject, 96
 DimLeaderObject, 126
 EllipseObject, 132
 ImageObject, 168
 LineObject, 178
 PathObject, 256
 PointObject, 261
 PolygonObject, 266
 PolylineObject, 272
 RectObject, 303
 TextSingleObject, 353
 updateStyle
 CmdPrompt, 104
 upPressed
 CmdPrompt, 104
 CmdPromptInput, 116

usage
embroidermodder.cpp, 385

use_translation
Settings_, 320

useBackgroundColor
MdiArea, 239

useBackgroundLogo
MdiArea, 239

useBackgroundTexture
MdiArea, 240

useColor
MdiArea, 240

useLogo
MdiArea, 240

useTexture
MdiArea, 240

utility.cpp
active_view, 445
c_split, 444
current_directory, 446
dialog, 446
emb_clamp, 444
just_opened, 446
menu_action, 446
menu_layout, 446
n_views, 446
preview, 446
random_uniform, 444
read_settings, 445
roundToMultiple, 445
settings, 446
settings_dir, 446
settings_file, 446
simplify_path, 445
to_open, 446
toolbar_layout, 446
translation_table, 446
valid_file_format, 445
validRGB, 445
views, 446
willOverflowInt32, 445
willUnderflowInt32, 445

valid_file_format
utility.cpp, 445

validFileFormat
MainWindow, 220

validRGB
utility.cpp, 445

value
SvgAttribute_, 347

vector
EmbGeometry_, 144

vector.c
embVector_add, 621
embVector_angle, 621
embVector_average, 621
embVector_cross, 621
embVector_distance, 621

embVector_dot, 621
embVector_length, 622
embVector_multiply, 622
embVector_normalize, 622
embVector_relativeX, 622
embVector_relativeY, 622
embVector_subtract, 622
embVector_transpose_product, 623
embVector_unit, 623

version
embroidermodder.cpp, 385
Settings_, 320

View, 369
~View, 372
addObject, 372
addToRubberRoom, 372
alignScenePointWithViewPoint, 372
allowRubber, 372
allowZoomIn, 372
allowZoomOut, 373
center, 373
centerAt, 373
clearRubberRoom, 373
clearSelection, 373
contextMenuEvent, 373
copy, 373
copySelected, 373
cornerButtonClicked, 373
createGrid, 373
createGridIso, 373
createGridPolar, 373
createGridRect, 373
createObjectList, 373
createOrigin, 373
createRulerTextPath, 373
crosshairColor, 379
crosshairSize, 379
cut, 374
cutCopyMousePoint, 379
deleteObject, 374
deletePressed, 374
deleteSelected, 374
disableMoveRapidFire, 374
drawBackground, 374
drawForeground, 374
enableMoveRapidFire, 374
enterEvent, 374
escapePressed, 374
getUndoStack, 374
gridColor, 379
gridPath, 379
gripBaseObj, 379
gripColorCool, 379
gripColorHot, 379
grippingActive, 379
gripSize, 379
gscene, 380
hashDeletedObjects, 380

isLwtEnabled, 374
isRealEnabled, 374
loadRulerSettings, 374
mainWin, 380
mirrorSelected, 374
mouseDoubleClickEvent, 375
mouseMoveEvent, 375
mousePressEvent, 375
mouseReleaseEvent, 375
moveAction, 375
movePoint, 380
moveSelected, 375
movingActive, 380
numSelected, 375
originPath, 380
panDistance, 380
panDown, 375
panLeft, 375
panningActive, 380
panningPointActive, 380
panningRealTimeActive, 380
panPoint, 375
panRealTime, 375
panRight, 375
panStart, 375
panStartX, 380
panStartY, 380
panUp, 375
paste, 375
pasteDelta, 380
pasteObjectItemGroup, 380
pastingActive, 380
pickBoxSize, 380
pressPoint, 380
previewActive, 380
previewData, 381
previewMode, 381
previewObjectItemGroup, 381
previewObjectList, 381
previewOff, 376
previewOn, 376
previewPoint, 381
qSnapActive, 381
qsnapApertureSize, 381
qsnapLocatorColor, 381
qsnapLocatorSize, 381
qSnapToggle, 381
rapidMoveActive, 381
recalculateLimits, 376
releasePoint, 381
repeatAction, 376
rotateAction, 376
rotateSelected, 376
roundToMultiple, 376
rubberRoomList, 381
rulerColor, 381
rulerMetric, 381
rulerPixelSize, 381
scaleAction, 376
scaleSelected, 376
sceneGripPoint, 381
sceneMousePoint, 381
sceneMovePoint, 382
scenePressPoint, 382
sceneReleasePoint, 382
selectAll, 376
selectBox, 382
selectingActive, 382
selectionChanged, 376
setBackgroundColor, 376
setCornerButton, 376
setCrossHairColor, 377
setCrossHairSize, 377
setGridColor, 377
setRubberMode, 377
setRubberPoint, 377
setRubberText, 377
setRulerColor, 377
setSelectBoxColors, 377
showScrollBars, 377
spareRubber, 377
spareRubberList, 382
startGripping, 377
stopGripping, 377
tempBaseObj, 382
toggleGrid, 377
toggleLwt, 378
toggleOrtho, 378
togglePolar, 378
toggleQSnap, 378
toggleQTrack, 378
toggleReal, 378
toggleRuler, 378
toggleSnap, 378
undoStack, 382
updateMouseCoords, 378
View, 372
viewMousePoint, 382
vulcanizeObject, 378
vulcanizeRubberRoom, 378
wheelEvent, 378
willOverflowInt32, 378
willUnderflowInt32, 378
zoomExtents, 379
zoomIn, 379
zoomOut, 379
zoomSelected, 379
zoomToPoint, 379
zoomWindow, 379
zoomWindowActive, 382
view_toolbar
 MainWindow, 236
viewMenu
 MainWindow, 236
viewMousePoint
 View, 382

views
 utility.cpp, 446
vipCompressData
 format_vip.c, 605
vipDecodeByte
 format_vip.c, 605
vipDecodeStitchType
 format_vip.c, 605
vipDecodingTable
 embroidery.h, 493
 format_vip.c, 606
vipDecompressData
 format_vip.c, 605
vipEncodeByte
 format_vip.c, 605
vipEncodeStitchType
 format_vip.c, 606
VipHeader
 embroidery_internal.h, 517
VipHeader_
 attributeOffset, 383
 colorLength, 383
 magicCode, 383
 negativeXHoopSize, 383
 negativeYHoopSize, 383
 numberOfColors, 383
 numberOfStitches, 383
 positiveXHoopSize, 383
 positiveYHoopSize, 383
 stringVal, 383
 unknown, 383
 xOffset, 383
 yOffset, 383
vp3Decode
 format_vp3.c, 607
vp3DecodeInt16
 format_vp3.c, 607
vp3Hoop
 embroidery_internal.h, 517
vp3PatchByteCount
 format_vp3.c, 607
vp3ReadHoopSection
 format_vp3.c, 607
vp3ReadString
 format_vp3.c, 607
vp3WriteString
 format_vp3.c, 607
vp3WriteStringLen
 format_vp3.c, 607
vulcanize
 ArcObject, 84
 BaseObject, 90
 CircleObject, 96
 DimLeaderObject, 126
 EllipseObject, 132
 ImageObject, 168
 LineObject, 178
 PathObject, 256
 PointObject, 261
 PolygonObject, 266
 PolylineObject, 272
 RectObject, 303
 TextSingleObject, 353
vulcanizeObject
 View, 378
vulcanizeRubberRoom
 View, 378
whatsThisContextHelp
 MainWindow, 220
wheelEvent
 View, 378
WHITESPACE
 main.c, 638
width
 _vp3Hoop, 70
 EmblImage_, 145
willOverflowInt32
 utility.cpp, 445
 View, 378
willUnderflowInt32
 utility.cpp, 445
 View, 378
windowMenu
 MainWindow, 236
windowMenuAboutToShow
 MainWindow, 220
windowMenuActivated
 MainWindow, 220
wizardTipOfDay
 MainWindow, 236
write100
 embroidery_internal.h, 540
 format_100.c, 571
write10o
 embroidery_internal.h, 541
 format_10o.c, 571
write_24bit
 embroidery_internal.h, 541
 encoding.c, 558
 main.c, 637
write_external_color_file
 EmbFormatList_, 142
write_settings
 embroidermodder.h, 397
writeArt
 embroidery_internal.h, 541
 format_art.c, 572
writeBmc
 embroidery_internal.h, 541
 format_bmc.c, 572
writeBro
 embroidery_internal.h, 541
 format_bro.c, 573
writeCnd
 embroidery_internal.h, 541
 format_cnd.c, 573

writeCol
 embroidery_internal.h, 541
 format_col.c, 573

writeCsd
 embroidery_internal.h, 541
 format_csd.c, 574

writeCsv
 embroidery_internal.h, 541
 format_csv.c, 576

writeDat
 embroidery_internal.h, 541
 format_dat.c, 576

writeDem
 embroidery_internal.h, 542
 format_dem.c, 576

writeDsb
 embroidery_internal.h, 542
 format_dsb.c, 577

writeDst
 embroidery_internal.h, 542
 format_dst.c, 578

writeDsz
 embroidery_internal.h, 542
 format_dsz.c, 578

writeDxf
 embroidery_internal.h, 542
 format_dxf.c, 579

writeEdr
 embroidery_internal.h, 542
 format_edr.c, 579

writeEmd
 embroidery_internal.h, 542
 format_emd.c, 580

writeExp
 embroidery_internal.h, 542
 format_exp.c, 580

writeExy
 embroidery_internal.h, 542
 format_exy.c, 581

writeEys
 embroidery_internal.h, 542
 format_eys.c, 581

writeFxy
 embroidery_internal.h, 542
 format_fxy.c, 582

writeGc
 embroidery_internal.h, 543
 format_gc.c, 582

writeGnc
 embroidery_internal.h, 543
 format_gnc.c, 583

writeGt
 embroidery_internal.h, 543
 format_gt.c, 583

writeHus
 embroidery_internal.h, 543
 format_hus.c, 584

writelImage
 format_pec.c, 592
 image.c, 623

writelnb
 embroidery_internal.h, 543
 format_inb.c, 585

writelnf
 embroidery_internal.h, 543
 format_inf.c, 585

writeJef
 embroidery_internal.h, 543
 format_jef.c, 586

writeKsm
 embroidery_internal.h, 543
 format_ksm.c, 587

writeMax
 embroidery_internal.h, 543
 format_max.c, 587

writeMit
 embroidery_internal.h, 543
 format_mit.c, 588

writeNew
 embroidery_internal.h, 543
 format_new.c, 588

writeOfm
 embroidery_internal.h, 544
 format_ofm.c, 590

writePcd
 embroidery_internal.h, 544
 format_pcd.c, 590

writePcm
 embroidery_internal.h, 544
 format_pcm.c, 590

writePcq
 embroidery_internal.h, 544
 format_pcq.c, 591

writePcs
 embroidery_internal.h, 544
 format_pcs.c, 591

writePec
 embroidery_internal.h, 544
 format_pec.c, 593

writePecStitches
 embroidery_internal.h, 544
 format_pec.c, 593

writePel
 embroidery_internal.h, 544
 format_pel.c, 593

writePem
 embroidery_internal.h, 544
 format_pem.c, 593

writePes
 embroidery_internal.h, 544
 format_pes.c, 596

writePhb
 embroidery_internal.h, 545
 format_phb.c, 596

writePhc
 embroidery_internal.h, 545

format_phc.c, 597
writePlt
embroidery_internal.h, 545
format_plt.c, 597
writer_state
EmbFormatList_, 142
writeRgb
embroidery_internal.h, 545
format_rgb.c, 598
writeSettings
MainWindow, 221
writeSew
embroidery_internal.h, 545
format_sew.c, 598
writeShv
embroidery_internal.h, 545
format_shv.c, 599
writeSst
embroidery_internal.h, 545
format_sst.c, 599
writeStx
embroidery_internal.h, 545
format_stx.c, 600
writeSvg
embroidery_internal.h, 545
format_svg.c, 601
writeT01
embroidery_internal.h, 545
format_t01.c, 602
writeT09
embroidery_internal.h, 545
format_t09.c, 602
writeTap
embroidery_internal.h, 546
format_tap.c, 603
writeThr
embroidery_internal.h, 546
format_thr.c, 603
writeTxt
embroidery_internal.h, 546
format_txt.c, 604
writeU00
embroidery_internal.h, 546
format_u00.c, 604
writeU01
embroidery_internal.h, 546
format_u01.c, 604
writeVip
embroidery_internal.h, 546
format_vip.c, 606
writeVp3
embroidery_internal.h, 546
format_vp3.c, 607
writeXxx
embroidery_internal.h, 546
format_xxx.c, 608
writeZsk
embroidery_internal.h, 546
format_zsk.c, 609

x
EmbStitch_, 154
EmbVector_, 158
xOffset
_vp3Hoop, 70
VipHeader_, 383
xxxDecodeByte
format_xxx.c, 608
xxxEncodeDesign
format_xxx.c, 608
xxxEncodeStitch
format_xxx.c, 608
xxxEncodeStop
format_xxx.c, 608

y
EmbStitch_, 155
EmbVector_, 158
year
EmbTime_, 157
YELLOW_TERM_COLOR
embroidery_internal.h, 516
yOffset
_vp3Hoop, 70
VipHeader_, 383

Z102_Isacord_Polyester
embroidery.h, 470
zoom_toolbar
MainWindow, 236
zoomAll
MainWindow, 221
zoomCenter
MainWindow, 221
zoomDynamic
MainWindow, 221
zoomExtents
MainWindow, 221
View, 379
zoomExtentsAllSubWindows
MdiArea, 240
zoomIn
MainWindow, 221
View, 379
zoomInLimit
Settings_, 320
zoomMenu
MainWindow, 236
zoomOut
MainWindow, 221
View, 379
zoomOutLimit
Settings_, 320
zoomPrevious
MainWindow, 221
zoomRealtime
MainWindow, 221

zoomScale
 MainWindow, [221](#)
zoomSelected
 MainWindow, [222](#)
 View, [379](#)
zoomToPoint
 View, [379](#)
zoomWindow
 MainWindow, [222](#)
 View, [379](#)
zoomWindowActive
 View, [382](#)