

Embroidermodder

2.0.0 alpha

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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.

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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.

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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.

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Version 1.3, 3 November 2008

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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"

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... 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](#).

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–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.

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

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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!

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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>

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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>](https://www.youtube.com/embed/KqiKfn4lxBk) – 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

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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.

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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 (.bcmc) | 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\n0,0,0\r\n1,255,0,0\r\n2,0,255,0\r\n3,0,0,255\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()}\br/>Arduino leak note for more info.

Member `Index`

document this.

Member `IndexEntry`

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 ()

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

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

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

page Overview

(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
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(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
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- (2.x/ideas) CAD Command: PickAdd
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- (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
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- (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 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) 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.

(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.
(2.x/ideas) Stitching Simulation
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:'
(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
(2.0.0-rc1) Update language translations
(beta) Move calculations of rotation and scaling into EmbVector calls.

Member `random_uniform (void)`

move to libembroidery.

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:

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15.1 Class List

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16.1 File List

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| extern/libembroidery/src/formats/ format_phc.c | 775 |
| extern/libembroidery/src/formats/ format_plt.c | 776 |
| extern/libembroidery/src/formats/ format_rgb.c | 777 |
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|---|-----|
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| extern/libembroidery/src/formats/format_txt.c | 784 |
| extern/libembroidery/src/formats/format_u00.c | 785 |
| extern/libembroidery/src/formats/format_u01.c | 786 |
| extern/libembroidery/src/formats/format_vip.c | 786 |
| extern/libembroidery/src/formats/format_vp3.c | 788 |
| extern/libembroidery/src/formats/format_xxx.c | 790 |
| extern/libembroidery/src/formats/format_zsk.c | 791 |
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| extern/libembroidery/src/geometry/circle.c | 799 |
| extern/libembroidery/src/geometry/ellipse.c | 800 |
| extern/libembroidery/src/geometry/functions.c | 802 |
| extern/libembroidery/src/geometry/line.c | 803 |
| extern/libembroidery/src/geometry/path.c | 804 |
| extern/libembroidery/src/geometry/polygon.c | 804 |
| extern/libembroidery/src/geometry/polyline.c | 804 |
| extern/libembroidery/src/geometry/rect.c | 804 |
| extern/libembroidery/src/geometry/text.c | 805 |
| extern/libembroidery/src/geometry/vector.c | 807 |

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 <application.h>
```

Public Member Functions

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

Protected Member Functions

- `virtual bool event (QEvent *e)`
Application::event.

Private Attributes

- `MainWindow * _mainWin`

17.8.1 Constructor & Destructor Documentation

17.8.1.1 Application() `Application (`

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

Application::Application.

Parameters

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

17.8.2 Member Function Documentation

17.8.2.1 event() `bool event (`

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

Application::event.

Parameters

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

Returns

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

17.8.3 Member Data Documentation

17.8.3.1 _mainWin MainWindow* _mainWin [private]

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

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

17.9 ArcObject Class Reference

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

Public Types

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

Public Types inherited from [BaseObject](#)

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

Public Member Functions

- `ArcObject` (qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, QRgb rgb, QGraphicsItem *parent=0)
ArcObject::ArcObject.
- `ArcObject` (`ArcObject` *obj, QGraphicsItem *parent=0)
ArcObject::ArcObject.
- `~ArcObject` ()
ArcObject::~ArcObject.
- `virtual int type () const`
- `QPointF objectCenter () const`
- `qreal objectCenterX () const`
- `qreal objectCenterY () const`
- `qreal objectRadius () const`
- `qreal objectStartAngle () const`
ArcObject::objectStartAngle.
- `qreal objectEndAngle () const`
ArcObject::objectEndAngle.
- `QPointF objectStartPoint () const`
ArcObject::objectStartPoint.
- `qreal objectStartX () const`
ArcObject::objectStartX.
- `qreal objectStartY () const`
ArcObject::objectStartY.
- `QPointF objectMidPoint () const`
ArcObject::objectMidPoint.
- `qreal objectMidX () const`
ArcObject::objectMidX.
- `qreal objectMidY () const`
ArcObject::objectMidY.
- `QPointF objectEndPoint () const`
ArcObject::objectEndPoint.
- `qreal objectEndX () const`
ArcObject::objectEndX.
- `qreal objectEndY () const`
ArcObject::objectEndY.
- `qreal objectArea () const`
ArcObject::objectArea.
- `qreal objectArcLength () const`
ArcObject::objectArcLength.
- `qreal objectChord () const`
ArcObject::objectChord.
- `qreal objectIncludedAngle () const`
ArcObject::objectIncludedAngle.
- `bool objectClockwise () const`
ArcObject::objectClockwise.
- `void setObjectCenter (const QPointF &point)`
ArcObject::setObjectCenter.
- `void setObjectCenter (qreal pointX, qreal pointY)`
- `void setObjectCenterX (qreal pointX)`
- `void setObjectCenterY (qreal pointY)`
- `void setObjectRadius (qreal radius)`

- void `setObjectStartAngle` (qreal angle)
- void `setObjectEndAngle` (qreal angle)
- void `setObjectStartPoint` (const QPointF &point)
- void `setObjectStartPoint` (qreal pointX, qreal pointY)
- void `setObjectMidPoint` (const QPointF &point)
- void `setObjectMidPoint` (qreal pointX, qreal pointY)
- void `setObjectEndPoint` (const QPointF &point)
 - ArcObject::setObjectEndPoint.*
- void `setObjectEndPoint` (qreal pointX, qreal 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
- qreal `objectLineWidth` () const
- QPainterPath `objectPath` () const
- int `objectRubberMode` () const
- QPointF `objectRubberPoint` (const QString &key) const
- QString `objectRubberText` (const QString &key) const
- QRectF `rect` () const
- void `setRect` (const QRectF &r)
- void `setRect` (qreal x, qreal y, qreal w, qreal h)
- QLineF `line` () const
- void `setLine` (const QLineF &li)
- void `setLine` (qreal x1, qreal y1, qreal x2, qreal y2)
- void `setObjectColor` (const QColor &color)
- void `setObjectColorRGB` (QRgb rgb)
- void `setObjectLineType` (Qt::PenStyle lineType)
- void `setObjectLineWidth` (qreal lineWidth)
- void `setObjectPath` (const QPainterPath &p)
- void `setObjectRubberMode` (int mode)
- void `setObjectRubberPoint` (const QString &key, const QPointF &point)
- void `setObjectRubberText` (const QString &key, const QString &txt)
- virtual QRectF `boundingRect` () const
- virtual QPainterPath `shape` () const
- void `drawRubberLine` (const QLineF &rubLine, QPainter *painter=0, const char *colorFromScene=0)
- virtual void `vulcanize` ()=0
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)=0
- virtual QList< QPointF > `allGripPoints` ()=0
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)=0

Protected Member Functions

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

Protected Member Functions inherited from `BaseObject`

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

Private Member Functions

- void `init` (qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, QRgb rgb, Qt::PenStyle lineType)
ArcObject::init.
- void `updatePath` ()
ArcObject::updatePath.
- void `calculateArcData` (qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY)
ArcObject::calculateArcData.
- void `updateArcRect` (qreal radius)
ArcObject::updateArcRect.

Private Attributes

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

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() [1/2] ArcObject (
    qreal startX,
    qreal startY,
    qreal midX,
    qreal midY,
    qreal endX,
    qreal endY,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

ArcObject::ArcObject.

Parameters

| | |
|---------------|--|
| <i>startX</i> | |
| <i>startY</i> | |
| <i>midX</i> | |
| <i>midY</i> | |
| <i>endX</i> | |
| <i>endY</i> | |
| <i>rgb</i> | |
| <i>parent</i> | |

```
17.9.2.2 ArcObject() [2/2] ArcObject (
    ArcObject * obj,
    QGraphicsItem * parent = 0 )
```

ArcObject::ArcObject.

Parameters

| | |
|---------------|--|
| <i>obj</i> | |
| <i>parent</i> | |

```
17.9.2.3 ~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 (qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY) [private]

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

[ArcObject::init](#).

Parameters

| | |
|-----------------|----------------------|
| <i>startX</i> | <input type="text"/> |
| <i>startY</i> | <input type="text"/> |
| <i>midX</i> | <input type="text"/> |
| <i>midY</i> | <input type="text"/> |
| <i>endX</i> | <input type="text"/> |
| <i>endY</i> | <input type="text"/> |
| <i>rgb</i> | <input type="text"/> |
| <i>lineType</i> | <input type="text"/> |

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

[ArcObject::mouseSnapPoint](#).

Parameters

| | |
|-------------------|----------------------|
| <i>mousePoint</i> | <input type="text"/> |
|-------------------|----------------------|

Returns

the closest snap point to the mouse point.

Implements [BaseObject](#).

```
17.9.3.6 objectArcLength() qreal objectArcLength ( ) const
```

[ArcObject::objectArcLength](#).

Returns

17.9.3.7 objectArea() qreal objectArea () const
[ArcObject::objectArea](#).

Returns

17.9.3.8 objectCenter() QPointF objectCenter () const [inline]

17.9.3.9 objectCenterX() qreal objectCenterX () const [inline]

17.9.3.10 objectCenterY() qreal objectCenterY () const [inline]

17.9.3.11 objectChord() qreal objectChord () const
[ArcObject::objectChord](#).

Returns

17.9.3.12 objectClockwise() bool objectClockwise () const
[ArcObject::objectClockwise](#).

Returns

17.9.3.13 objectEndAngle() qreal objectEndAngle () const
[ArcObject::objectEndAngle](#).

Returns

17.9.3.14 objectEndPoint() QPointF objectEndPoint () const

[ArcObject::objectEndPoint](#).

Returns

17.9.3.15 objectEndX() qreal objectEndX () const

[ArcObject::objectEndX](#).

Returns

17.9.3.16 objectEndY() qreal objectEndY () const

[ArcObject::objectEndY](#).

Returns

17.9.3.17 objectIncludedAngle() qreal objectIncludedAngle () const

[ArcObject::objectIncludedAngle](#).

Returns

17.9.3.18 objectMidPoint() QPointF objectMidPoint () const

[ArcObject::objectMidPoint](#).

Returns

17.9.3.19 objectMidX() qreal objectMidX () const
[ArcObject::objectMidX](#).

Returns

17.9.3.20 objectMidY() qreal objectMidY () const
[ArcObject::objectMidY](#).

Returns

17.9.3.21 objectRadius() qreal objectRadius () const [inline]

17.9.3.22 objectStartAngle() qreal objectStartAngle () const
[ArcObject::objectStartAngle](#).

Returns

17.9.3.23 objectStartPoint() QPointF objectStartPoint () const
[ArcObject::objectStartPoint](#).

Returns

17.9.3.24 objectStartX() qreal objectStartX () const
[ArcObject::objectStartX](#).

Returns

17.9.3.25 objectStartY() `qreal objectStartY () const`

[ArcObject::objectStartY](#).

Returns

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

[ArcObject::paint](#).

Parameters

| | |
|----------------------|----------------------|
| <code>painter</code> | <input type="text"/> |
| <code>option</code> | <input type="text"/> |

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

[ArcObject::setObjectCenter](#).

Parameters

| | |
|--------------------|----------------------|
| <code>point</code> | <input type="text"/> |
|--------------------|----------------------|

17.9.3.28 setObjectCenter() [2/2] `void setObjectCenter (`
 `qreal pointX,`
 `qreal pointY)`

17.9.3.29 setObjectCenterX() `void setObjectCenterX (`
 `qreal pointX)`

17.9.3.30 setObjectCenterY() `void setObjectCenterY (`
 `qreal pointY)`

17.9.3.31 setObjectEndAngle() void setObjectEndAngle (qreal angle)

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

ArcObject::setObjectEndPoint.

Parameters

| | |
|-------|----------------------|
| point | <input type="text"/> |
|-------|----------------------|

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

ArcObject::setObjectEndPoint.

Parameters

| | |
|--------|----------------------|
| pointX | <input type="text"/> |
| pointY | <input type="text"/> |

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

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

17.9.3.36 setObjectRadius() void setObjectRadius (qreal radius)

17.9.3.37 setObjectStartAngle() void setObjectStartAngle (qreal angle)

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

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

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

Reimplemented from [BaseObject](#).

17.9.3.41 updateArcRect() void updateArcRect (qreal radius) [private]

[ArcObject::updateArcRect](#).

Parameters

| | |
|--------|---------------------------------|
| radius | <input type="button" value=""/> |
|--------|---------------------------------|

17.9.3.42 updatePath() void updatePath () [private]

[ArcObject::updatePath](#).

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

[ArcObject::updateRubber](#).

Parameters

| | |
|---------|---------------------------------|
| painter | <input type="button" value=""/> |
|---------|---------------------------------|

Todo Arc Rubber Modes

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

17.9.3.44 vulcanize() void vulcanize () [virtual]

ArcObject::vulcanize.

Implements [BaseObject](#).

17.9.4 Member Data Documentation

17.9.4.1 arcEndPoint QPointF arcEndPoint [private]

17.9.4.2 arcMidPoint QPointF arcMidPoint [private]

17.9.4.3 arcStartPoint QPointF arcStartPoint [private]

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

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

17.10 BaseObject Class Reference

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

Public Types

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

Public Member Functions

- `BaseObject` (QGraphicsItem *parent=0)
- virtual `~BaseObject` ()
- virtual int `type` () const
- qint64 `objectID` () const
- QPen `objectPen` () const
- QColor `objectColor` () const
- QRgb `objectColorRGB` () const
- Qt::PenStyle `objectLineType` () const
- qreal `objectLineWidth` () const
- QPainterPath `objectPath` () const
- int `objectRubberMode` () const
- QPointF `objectRubberPoint` (const QString &key) const
- QString `objectRubberText` (const QString &key) const
- QRectF `rect` () const
- void `setRect` (const QRectF &r)
- void `setRect` (qreal x, qreal y, qreal w, qreal h)
- QLineF `line` () const
- void `setLine` (const QLineF &li)
- void `setLine` (qreal x1, qreal y1, qreal x2, qreal y2)
- void `setObjectColor` (const QColor &color)
- void `setObjectColorRGB` (QRgb rgb)
- void `setObjectLineType` (Qt::PenStyle lineType)
- void `setObjectLineWidth` (qreal 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

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

Private Attributes

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

17.10.1 Member Enumeration Documentation

17.10.1.1 anonymous enum anonymous enum

Enumerator

| | |
|------|--|
| Type | |
|------|--|

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 degrees() qreal degrees (

```
qreal radian ) const [inline], [protected]
```

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

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

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

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

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

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

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

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

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

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

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

17.10.3.13 objectLineWeight() qreal objectLineWeight () const [inline]

17.10.3.14 objectPath() QPainterPath objectPath () const [inline]

17.10.3.15 objectPen() QPen objectPen () const [inline]

17.10.3.16 objectRubberMode() int objectRubberMode () const [inline]

17.10.3.17 objectRubberPoint() QPointF objectRubberPoint (const QString & key) const

17.10.3.18 objectRubberText() QString objectRubberText (const QString & key) const

17.10.3.19 pi() qreal pi () const [inline], [protected]

17.10.3.20 radians() qreal radians (qreal degree) const [inline], [protected]

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 (qreal *x1*, qreal *y1*, qreal *x2*, qreal *y2*) [inline]

17.10.3.25 `setObjectColor()` void setObjectColor (const QColor & *color*)

17.10.3.26 `setObjectColorRGB()` void setObjectColorRGB (QRgb *rgb*)

17.10.3.27 `setObjectLineType()` void setObjectLineType (Qt::PenStyle *lineType*)

17.10.3.28 `setObjectLineWeight()` void setObjectLineWeight (qreal *lineWeight*)

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

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

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

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

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

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

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

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

```
17.10.3.37 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 [private]
```

```
17.10.4.2 objID qint64 objID [private]
```

17.10.4.3 objLine `QLineF objLine [private]`

17.10.4.4 objPen `QPen objPen [private]`

17.10.4.5 objRubberMode `int objRubberMode [private]`

17.10.4.6 objRubberPoints `QHash<QString, QPointF> objRubberPoints [private]`

17.10.4.7 objRubberTexts `QHash<QString, QString> objRubberTexts [private]`

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

- `embroidermodder2/object-base.h`
- `embroidermodder2/object-base.cpp`

17.11 CircleObject Class Reference

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

Public Types

- enum { `Type` = `OBJ_TYPE_CIRCLE` }

Public Types inherited from `BaseObject`

- enum { `Type` = `OBJ_TYPE_BASE` }

Public Member Functions

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

Public Member Functions inherited from `BaseObject`

- `BaseObject` (QGraphicsItem *parent=0)
- virtual `~BaseObject` ()
- virtual int `type` () const
- qint64 `objectID` () const
- QPen `objectPen` () const
- QColor `objectColor` () const
- QRgb `objectColorRGB` () const
- Qt::PenStyle `objectLineType` () const
- qreal `objectLineWidth` () const
- QPainterPath `objectPath` () const
- int `objectRubberMode` () const
- QPointF `objectRubberPoint` (const QString &key) const
- QString `objectRubberText` (const QString &key) const
- QRectF `rect` () const
- void `setRect` (const QRectF &r)
- void `setRect` (qreal x, qreal y, qreal w, qreal h)
- QLineF `line` () const
- void `setLine` (const QLineF &li)
- void `setLine` (qreal x1, qreal y1, qreal x2, qreal y2)

- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter *painter=0, const char *colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

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

Private Member Functions

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

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

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

Implements [BaseObject](#).

17.11.3.5 `objectArea()` `qreal objectArea () const [inline]`

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

17.11.3.7 `objectCenterX()` `qreal objectCenterX () const [inline]`

17.11.3.8 `objectCenterY()` `qreal objectCenterY () const [inline]`

17.11.3.9 `objectCircumference()` `qreal objectCircumference () const [inline]`

17.11.3.10 `objectDiameter()` `qreal objectDiameter () const [inline]`

17.11.3.11 `objectQuadrant0()` `QPointF objectQuadrant0 () const [inline]`

17.11.3.12 `objectQuadrant180()` `QPointF objectQuadrant180 () const [inline]`

17.11.3.13 `objectQuadrant270()` `QPointF objectQuadrant270 () const [inline]`

17.11.3.14 `objectQuadrant90()` `QPointF objectQuadrant90 () const [inline]`

17.11.3.15 `objectRadius()` `qreal objectRadius () const [inline]`

17.11.3.16 `objectSavePath()` `QPainterPath objectSavePath () const`

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

17.11.3.18 `setObjectArea()` `void setObjectArea (`
 `qreal area)`

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

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

17.11.3.21 `setObjectCenterX()` `void setObjectCenterX (`
 `qreal centerX)`

17.11.3.22 `setObjectCenterY()` `void setObjectCenterY (`
 `qreal centerY)`

17.11.3.23 `setObjectCircumference()` `void setObjectCircumference (`
 `qreal circumference)`

17.11.3.24 `setObjectDiameter()` `void setObjectDiameter (`
 `qreal diameter)`

17.11.3.25 `setObjectRadius()` void setObjectRadius (qreal radius)

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

Reimplemented from [BaseObject](#).

17.11.3.27 `updatePath()` void updatePath () [private]

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

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

Implements [BaseObject](#).

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

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

17.12 CmdPrompt Class Reference

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

Public Slots

- [QString getHistory \(\)](#)
- [QString getPrefix \(\)](#)
- [QString getCurrentText \(\)](#)
- [void setCurrentText \(const QString &txt\)](#)
- [void setHistory \(const QString &txt\)](#)
- [void setPrefix \(const QString &txt\)](#)
- [void appendHistory \(const QString &txt\)](#)
- [void startResizingTheHistory \(int y\)](#)
- [void stopResizingTheHistory \(int y\)](#)
- [void resizeTheHistory \(int y\)](#)
- [void addCommand \(const QString &alias, const QString &cmd\)](#)
- [void endCommand \(\)](#)
- [bool isCommandActive \(\)](#)
- [QString activeCommand \(\)](#)

- `QString lastCommand ()`
- `void processInput ()`
- `void enableRapidFire ()`
- `void disableRapidFire ()`
- `bool isRapidFireEnabled ()`
- `void alert (const QString &txt)`
- `void startBlinking ()`
- `void stopBlinking ()`
- `void blink ()`
- `void setPromptTextColor (const QColor &)`
- `void setPromptBackgroundColor (const QColor &)`
- `void setPromptFontFamily (const QString &)`
- `void setPromptFontStyle (const QString &)`
- `void setPromptFontSize (int)`
- `void floatingChanged (bool)`
- `void saveHistory (const QString &fileName, bool html)`

Signals

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

Public Member Functions

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

Private Member Functions

- void `updateStyle ()`

Private Attributes

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

17.12.1 Constructor & Destructor Documentation

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

17.12.1.2 ~CmdPrompt() `~CmdPrompt ()`

17.12.2 Member Function Documentation

17.12.2.1 activeCommand `QString activeCommand () [inline], [slot]`

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

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

17.12.2.4 appendHistory void appendHistory (const QString & txt) [slot]

17.12.2.5 appendTheHistory void appendTheHistory (const QString & txt, int prefixLength) [signal]

17.12.2.6 blink void blink () [slot]

17.12.2.7 copyPressed void copyPressed () [signal]

17.12.2.8 cutPressed void cutPressed () [signal]

17.12.2.9 deletePressed void deletePressed () [signal]

17.12.2.10 disableRapidFire void disableRapidFire () [inline], [slot]

17.12.2.11 downPressed void downPressed () [signal]

17.12.2.12 enableRapidFire void enableRapidFire () [inline], [slot]

17.12.2.13 endCommand void endCommand () [inline], [slot]

17.12.2.14 escapePressed void escapePressed () [signal]

17.12.2.15 F10Pressed void F10Pressed () [signal]

17.12.2.16 F11Pressed void F11Pressed () [signal]

17.12.2.17 F12Pressed void F12Pressed () [signal]

17.12.2.18 F1Pressed void F1Pressed () [signal]

17.12.2.19 F2Pressed void F2Pressed () [signal]

17.12.2.20 F3Pressed void F3Pressed () [signal]

17.12.2.21 F4Pressed void F4Pressed () [signal]

17.12.2.22 F5Pressed void F5Pressed () [signal]

17.12.2.23 F6Pressed void F6Pressed () [signal]

17.12.2.24 F7Pressed void F7Pressed () [signal]

17.12.2.25 F8Pressed void F8Pressed () [signal]

17.12.2.26 F9Pressed void F9Pressed () [signal]

17.12.2.27 floatingChanged void floatingChanged (bool isFloating) [slot]

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

17.12.2.29 getHistory QString getHistory () [inline], [slot]

17.12.2.30 getPrefix QString getPrefix () [inline], [slot]

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

17.12.2.32 isCommandActive bool isCommandActive () [inline], [slot]

17.12.2.33 isRapidFireEnabled bool isRapidFireEnabled () [inline], [slot]

17.12.2.34 lastCommand QString lastCommand () [inline], [slot]

17.12.2.35 pastePressed void pastePressed () [signal]

17.12.2.36 processInput void processInput () [inline], [slot]

17.12.2.37 redoPressed void redoPressed () [signal]

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

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

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

17.12.2.41 selectAllPressed void selectAllPressed () [signal]

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

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

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

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

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

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

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

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

17.12.2.50 shiftPressed void shiftPressed () [signal]

17.12.2.51 shiftReleased void shiftReleased () [signal]

17.12.2.52 showSettings void showSettings () [signal]

17.12.2.53 startBlinking void startBlinking () [slot]

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

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

17.12.2.56 stopBlinking void stopBlinking () [slot]

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

17.12.2.58 tabPressed void tabPressed () [signal]

17.12.2.59 undoPressed void undoPressed () [signal]

17.12.2.60 updateStyle() void updateStyle () [private]

17.12.2.61 upPressed void upPressed () [signal]

17.12.3 Member Data Documentation

17.12.3.1 blinkState bool blinkState [private]

17.12.3.2 blinkTimer QTimer* blinkTimer [private]

17.12.3.3 promptDivider QFrame* promptDivider [private]

17.12.3.4 promptHistory CmdPromptHistory* promptHistory [private]

17.12.3.5 promptInput CmdPromptInput* promptInput [private]

17.12.3.6 promptSplitter `CmdPromptSplitter* promptSplitter [private]`

17.12.3.7 promptVBoxLayout `QVBoxLayout* promptVBoxLayout [private]`

17.12.3.8 styleHash `QHash<QString, QString>* styleHash [private]`

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

- `embroidermodder2/cmdprompt.h`
- `embroidermodder2/cmdprompt.cpp`

17.13 CmdPromptHandle Class Reference

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

Signals

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

Public Member Functions

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

Protected Member Functions

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

Private Attributes

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

17.13.1 Constructor & Destructor Documentation

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

17.13.1.2 ~CmdPromptHandle() `~CmdPromptHandle ()`

17.13.2 Member Function Documentation

17.13.2.1 handleMoved `void handleMoved (`
 `int y) [signal]`

17.13.2.2 handlePressed `void handlePressed (`
 `int y) [signal]`

17.13.2.3 handleReleased `void handleReleased (`
 `int y) [signal]`

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

17.13.2.5 mousePressEvent() `void mousePressEvent (`
 `QMouseEvent * e) [protected]`

17.13.2.6 mouseReleaseEvent() `void mouseReleaseEvent (`
 `QMouseEvent * e) [protected]`

17.13.3 Member Data Documentation

17.13.3.1 moveY int moveY [private]

17.13.3.2 pressY int pressY [private]

17.13.3.3 releaseY int releaseY [private]

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

- embroidermodder2/cmdprompt.h
- embroidermodder2/cmdprompt.cpp

17.14 CmdPromptHistory Class Reference

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

Public Slots

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

Signals

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

Public Member Functions

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

Protected Member Functions

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

Private Member Functions

- QString [applyFormatting](#) (const QString &txt, int prefixLength)

Private Attributes

- int [tmpHeight](#)

17.14.1 Constructor & Destructor Documentation

17.14.1.1 `CmdPromptHistory()` `CmdPromptHistory(`
 `QWidget * parent = 0)`

17.14.1.2 `~CmdPromptHistory()` `~CmdPromptHistory()`

17.14.2 Member Function Documentation

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

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

17.14.2.3 `contextMenuEvent()` `void contextMenuEvent(`
 `QContextMenuEvent * event) [protected]`

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

17.14.2.5 `resizeHistory()` `void resizeHistory(`
 `int y) [slot]`

17.14.2.6 `startResizeHistory()` `void startResizeHistory(`
 `int y) [slot]`

```
17.14.2.7 stopResizeHistory void stopResizeHistory (
    int y ) [slot]
```

17.14.3 Member Data Documentation

17.14.3.1 tmpHeight int tmpHeight [private]

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

- embroiderymodder2/cmdprompt.h
- embroiderymodder2/cmdprompt.cpp

17.15 CmdPromptInput Class Reference

```
#include <cmdprompt.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 ()`

Public Attributes

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

Protected Member Functions

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

Private Slots

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

Private Member Functions

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

Private Attributes

- `QHash<QString, QString> * aliasHash`

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 () [private]`

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

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 () [private]

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,   
    QEvent * 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 [private]

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:

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

17.16 CmdPromptSplitter Class Reference

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

Signals

- void [pressResizeHistory](#) (int y)
- void [releaseResizeHistory](#) (int y)
- void [moveResizeHistory](#) (int y)

Public Member Functions

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

Protected Member Functions

- [QSplitterHandle * createHandle](#) ()

17.16.1 Constructor & Destructor Documentation

17.16.1.1 CmdPromptSplitter() `CmdPromptSplitter (QWidget * parent = 0)`

17.16.1.2 ~CmdPromptSplitter() `~CmdPromptSplitter ()`

17.16.2 Member Function Documentation

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

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

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

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

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

- [embroidermodder2/cmdprompt.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 Dictionary_ Struct Reference

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

Public Attributes

- `DictionaryEntry * data`
- `int length`
- `int max_length`

17.18.1 Member Data Documentation**17.18.1.1 data** `DictionaryEntry* data`**17.18.1.2 length** `int length`**17.18.1.3 max_length** `int max_length`

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

- `embroidermodder2/embroidermodder.h`

17.19 DictionaryEntry_ Struct Reference

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

Public Attributes

- `char key [200]`
- `char value [200]`

17.19.1 Member Data Documentation**17.19.1.1 key** `char key[200]`**17.19.1.2 value** `char value[200]`

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

- `embroidermodder2/embroidermodder.h`

17.20 DimLeaderObject Class Reference

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

Public Types

- enum `ArrowStyle` {
 NoArrow , Open , Closed , Dot ,
 Box , Tick }
- enum `lineStyle` { NoLine , Flared , Fletching }
- enum { `Type` = OBJ_TYPE_DIMLEADER }

Public Types inherited from `BaseObject`

- enum { `Type` = OBJ_TYPE_BASE }

Public Member Functions

- `DimLeaderObject` (qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, QGraphicsItem *parent=0)
- `DimLeaderObject` (`DimLeaderObject` *obj, QGraphicsItem *parent=0)
- `~DimLeaderObject` ()
- virtual int `type` () const
- `QPointF objectEndPoint1` () const
- `QPointF objectEndPoint2` () const
- `QPointF objectMidPoint` () const
- qreal `objectX1` () const
- qreal `objectY1` () const
- qreal `objectX2` () const
- qreal `objectY2` () const
- qreal `objectDeltaX` () const
- qreal `objectDeltaY` () const
- qreal `objectAngle` () const
- qreal `objectLength` () const
- void `setObjectEndPoint1` (const `QPointF` &endPt1)
- void `setObjectEndPoint1` (qreal x1, qreal y1)
- void `setObjectEndPoint2` (const `QPointF` &endPt2)
- void `setObjectEndPoint2` (qreal x2, qreal y2)
- void `setObjectX1` (qreal x)
- void `setObjectY1` (qreal y)
- void `setObjectX2` (qreal x)
- void `setObjectY2` (qreal y)
- void `updateRubber` (QPainter *painter=0)
- virtual void `vulcanize` ()
- virtual `QPointF mouseSnapPoint` (const `QPointF` &mousePoint)
- virtual `QList< QPointF >` `allGripPoints` ()
- virtual void `gripEdit` (const `QPointF` &before, const `QPointF` &after)

Public Member Functions inherited from BaseObject

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

Protected Member Functions

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

Protected Member Functions inherited from BaseObject

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

Private Member Functions

- void [init](#) (qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, Qt::PenStyle lineType)
- void [updateLeader](#) ()

Private Attributes

- bool [curved](#)
- bool [filled](#)
- QPainterPath [lineStylePath](#)
- QPainterPath [arrowStylePath](#)
- qreal [arrowStyleAngle](#)
- qreal [arrowStyleLength](#)
- qreal [lineStyleAngle](#)
- qreal [lineStyleLength](#)

17.20.1 Member Enumeration Documentation

17.20.1.1 anonymous enum [anonymous enum](#)

Enumerator

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

17.20.1.2 ArrowStyle [enum ArrowStyle](#)

Enumerator

| | |
|---------|---------------------------------|
| NoArrow | <input type="button" value=""/> |
| Open | <input type="button" value=""/> |
| Closed | <input type="button" value=""/> |
| Dot | <input type="button" value=""/> |
| Box | <input type="button" value=""/> |
| Tick | <input type="button" value=""/> |

17.20.1.3 lineStyle [enum linestyle](#)

Enumerator

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

17.20.2 Constructor & Destructor Documentation

17.20.2.1 **DimLeaderObject()** [1/2] [DimLeaderObject](#) (

```
    qreal x1,  
    qreal y1,  
    qreal x2,  
    qreal y2,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

17.20.2.2 **DimLeaderObject()** [2/2] [DimLeaderObject](#) (

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

17.20.2.3 **~DimLeaderObject()** [~DimLeaderObject](#) ()

17.20.3 Member Function Documentation

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

Implements [BaseObject](#).

17.20.3.2 **gripEdit()** void gripEdit (

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

Implements [BaseObject](#).

17.20.3.3 **init()** void init (

```
    qreal x1,  
    qreal y1,  
    qreal x2,  
    qreal y2,  
    QRgb rgb,  
    Qt::PenStyle lineType ) [private]
```

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

Implements [BaseObject](#).

17.20.3.5 `objectAngle()` `qreal objectAngle () const`

17.20.3.6 `objectDeltaX()` `qreal objectDeltaX () const` [inline]

17.20.3.7 `objectDeltaY()` `qreal objectDeltaY () const` [inline]

17.20.3.8 `objectEndPoint1()` `QPointF objectEndPoint1 () const`

17.20.3.9 `objectEndPoint2()` `QPointF objectEndPoint2 () const`

17.20.3.10 `objectLength()` `qreal objectLength () const` [inline]

17.20.3.11 `objectMidPoint()` `QPointF objectMidPoint () const`

17.20.3.12 `objectX1()` `qreal objectX1 () const` [inline]

17.20.3.13 `objectX2()` `qreal objectX2 () const` [inline]

17.20.3.14 `objectY1()` `qreal objectY1 () const` [inline]

17.20.3.15 `objectY2()` `qreal objectY2 () const [inline]`

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

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

17.20.3.18 `setObjectEndPoint1()` [2/2] `void setObjectEndPoint1 (`
 `qreal x1,`
 `qreal y1)`

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

17.20.3.20 `setObjectEndPoint2()` [2/2] `void setObjectEndPoint2 (`
 `qreal x2,`
 `qreal y2)`

17.20.3.21 `setObjectX1()` `void setObjectX1 (`
 `qreal x) [inline]`

17.20.3.22 `setObjectX2()` `void setObjectX2 (`
 `qreal x) [inline]`

17.20.3.23 `setObjectY1()` `void setObjectY1 (`
 `qreal y) [inline]`

17.20.3.24 setObjectY2() void setObjectY2 (qreal y) [inline]

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

Reimplemented from [BaseObject](#).

17.20.3.26 updateLeader() void updateLeader () [private]

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

17.20.3.28 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

17.20.4 Member Data Documentation

17.20.4.1 arrowStyleAngle qreal arrowStyleAngle [private]

17.20.4.2 arrowStyleLength qreal arrowStyleLength [private]

17.20.4.3 arrowStylePath QPainterPath arrowStylePath [private]

17.20.4.4 curved bool curved [private]

17.20.4.5 filled bool filled [private]

17.20.4.6 lineStyleAngle qreal lineStyleAngle [private]

17.20.4.7 lineStyleLength qreal lineStyleLength [private]

17.20.4.8 lineStylePath QPainterPath lineStylePath [private]

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

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

17.21 EllipseObject Class Reference

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

Public Types

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

Public Types inherited from [BaseObject](#)

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

Public Member Functions

- [EllipseObject](#) (qreal centerX, qreal centerY, qreal width, qreal height, QRgb rgb, QGraphicsItem *parent=0)
- [EllipseObject](#) ([EllipseObject](#) *obj, QGraphicsItem *parent=0)
- [~EllipseObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectCenter](#) () const
- qreal [objectCenterX](#) () const
- qreal [objectCenterY](#) () const
- qreal [objectRadiusMajor](#) () const
- qreal [objectRadiusMinor](#) () const
- qreal [objectDiameterMajor](#) () const
- qreal [objectDiameterMinor](#) () const
- qreal [objectWidth](#) () const
- qreal [objectHeight](#) () const

- `QPointF objectQuadrant0 () const`
- `QPointF objectQuadrant90 () const`
- `QPointF objectQuadrant180 () const`
- `QPointF objectQuadrant270 () const`
- `void setObjectSize (qreal width, qreal height)`
- `void setObjectCenter (const QPointF ¢er)`
- `void setObjectCenter (qreal centerX, qreal centerY)`
- `void setObjectCenterX (qreal centerX)`
- `void setObjectCenterY (qreal centerY)`
- `void setObjectRadiusMajor (qreal radius)`
- `void setObjectRadiusMinor (qreal radius)`
- `void setObjectDiameterMajor (qreal diameter)`
- `void setObjectDiameterMinor (qreal diameter)`
- `void updateRubber (QPainter *painter=0)`
- `virtual void vulcanize ()`
- `virtual QPointF mouseSnapPoint (const QPointF &mousePoint)`
- `virtual QList< QPointF > allGripPoints ()`
- `virtual void gripEdit (const QPointF &before, const QPointF &after)`

Public Member Functions inherited from [BaseObject](#)

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

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

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

Private Member Functions

- void [init](#) (qreal centerX, qreal centerY, qreal width, qreal height, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) ()

17.21.1 Member Enumeration Documentation**17.21.1.1 anonymous enum** anonymous enum

Enumerator

| | |
|------|--|
| Type | |
|------|--|

17.21.2 Constructor & Destructor Documentation**17.21.2.1 EllipseObject() [1/2]** [EllipseObject](#) (

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

17.21.2.2 EllipseObject() [2/2] [EllipseObject](#) (

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

17.21.2.3 ~EllipseObject() ~EllipseObject()**17.21.3 Member Function Documentation****17.21.3.1 allGripPoints() QList< QPointF > allGripPoints() [virtual]**

Implements [BaseObject](#).

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

Implements [BaseObject](#).

17.21.3.3 init() void init(qreal centerX, qreal centerY, qreal width, qreal height, QRgb rgb, Qt::PenStyle lineType) [private]**17.21.3.4 mouseSnapPoint() QPointF mouseSnapPoint(const QPointF & mousePoint) [virtual]**

Implements [BaseObject](#).

17.21.3.5 objectCenter() QPointF objectCenter() const [inline]**17.21.3.6 objectCenterX() qreal objectCenterX() const [inline]****17.21.3.7 objectCenterY() qreal objectCenterY() const [inline]**

17.21.3.8 objectDiameterMajor() qreal objectDiameterMajor () const [inline]

17.21.3.9 objectDiameterMinor() qreal objectDiameterMinor () const [inline]

17.21.3.10 objectHeight() qreal objectHeight () const [inline]

17.21.3.11 objectQuadrant0() QPointF objectQuadrant0 () const

17.21.3.12 objectQuadrant180() QPointF objectQuadrant180 () const

17.21.3.13 objectQuadrant270() QPointF objectQuadrant270 () const

17.21.3.14 objectQuadrant90() QPointF objectQuadrant90 () const

17.21.3.15 objectRadiusMajor() qreal objectRadiusMajor () const [inline]

17.21.3.16 objectRadiusMinor() qreal objectRadiusMinor () const [inline]

17.21.3.17 objectSavePath() QPainterPath objectSavePath () const

17.21.3.18 objectWidth() qreal objectWidth () const [inline]

17.21.3.19 `paint()` void paint (

```
QPainter * painter,
const QStyleOptionGraphicsItem * option,
QWidget * ) [protected]
```

17.21.3.20 `setObjectCenter()` [1/2] void setObjectCenter (

```
const QPointF & center )
```

17.21.3.21 `setObjectCenter()` [2/2] void setObjectCenter (

```
qreal centerX,
qreal centerY )
```

17.21.3.22 `setObjectCenterX()` void setObjectCenterX (

```
qreal centerX )
```

17.21.3.23 `setObjectCenterY()` void setObjectCenterY (

```
qreal centerY )
```

17.21.3.24 `setObjectDiameterMajor()` void setObjectDiameterMajor (

```
qreal diameter )
```

17.21.3.25 `setObjectDiameterMinor()` void setObjectDiameterMinor (

```
qreal diameter )
```

17.21.3.26 `setObjectRadiusMajor()` void setObjectRadiusMajor (

```
qreal radius )
```

17.21.3.27 `setObjectRadiusMinor()` void setObjectRadiusMinor (

```
qreal radius )
```

```
17.21.3.28 setObjectSize() void setObjectSize (
    qreal width,
    qreal height )
```

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

Reimplemented from [BaseObject](#).

```
17.21.3.30 updatePath() void updatePath ( ) [private]
```

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

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

Implements [BaseObject](#).

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

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

17.22 EmbAction_ Struct Reference

Public Attributes

- [EmbString init](#)
- [EmbString main](#)
- [EmbString mouse](#)
- [EmbString click](#)
- [EmbString prompt](#)

17.22.1 Detailed Description

17.22.2 Member Data Documentation

17.22.2.1 click `EmbString` click

17.22.2.2 init `EmbString` init

17.22.2.3 main `EmbString` main

17.22.2.4 mouse `EmbString` mouse

17.22.2.5 prompt `EmbString` prompt

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

- `embroidermodder2/mainwindow.cpp`

17.23 EmbAlignedDim_ 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 EmbAngularDim_ Struct Reference

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

Public Attributes

- EmbVector position

17.24.1 Member Data Documentation**17.24.1.1 position EmbVector position**

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

- extern/libembroidery/src/embroidery.h

17.25 EmbArc_ Struct Reference

absolute position (not relative)

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

Public Attributes

- EmbVector start
- EmbVector mid
- EmbVector end

17.25.1 Detailed Description

absolute position (not relative)

17.25.2 Member Data Documentation**17.25.2.1 end EmbVector end****17.25.2.2 mid EmbVector mid**

17.25.2.3 **start** `EmbVector` start

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

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

17.26 EmbArcLengthDim_ 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 EmbArray_ Struct Reference

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

Public Attributes

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

17.27.1 Member Data Documentation

17.27.1.1 **count** `int count`

17.27.1.2 geometry `EmbGeometry*` `geometry`

17.27.1.3 length `int` `length`

17.27.1.4 stitch `EmbStitch*` `stitch`

17.27.1.5 thread `EmbThread*` `thread`

17.27.1.6 type `int` `type`

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

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

17.28 EmbBezier_ Struct Reference

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

Public Attributes

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

17.28.1 Member Data Documentation

17.28.1.1 control1 `EmbVector` `control1`

17.28.1.2 control2 `EmbVector` `control2`

17.28.1.3 end [EmbVector](#) **end**

17.28.1.4 start [EmbVector](#) **start**

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

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

17.29 EmbBlock_ Struct Reference

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

Public Attributes

- [EmbVector position](#)

17.29.1 Member Data Documentation

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

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

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

17.30 EmbCircle_ Struct Reference

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

Public Attributes

- [EmbVector center](#)
- [EmbReal radius](#)

17.30.1 Member Data Documentation

17.30.1.1 center [EmbVector](#) **center**

17.30.1.2 radius `EmbReal radius`

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

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

17.31 EmbColor_Struct Reference

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

Public Attributes

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

17.31.1 Detailed Description

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

17.31.2 Member Data Documentation

17.31.2.1 b

`unsigned char b`

17.31.2.2 g

`unsigned char g`

17.31.2.3 r

`unsigned char r`

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

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

17.32 EmbDetailsDialog Class Reference

```
#include <embdetails-dialog.h>
```

Public Member Functions

- `EmbDetailsDialog` (`QGraphicsScene *theScene, QWidget *parent=0`)
- `~EmbDetailsDialog ()`

Private Member Functions

- void `getInfo ()`
- `QWidget * createMainWidget ()`
- `QWidget * createHistogram ()`

Private Attributes

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

17.32.1 Constructor & Destructor Documentation

17.32.1.1 `EmbDetailsDialog()` `EmbDetailsDialog (`

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

17.32.1.2 `~EmbDetailsDialog()` `~EmbDetailsDialog ()`

17.32.2 Member Function Documentation

17.32.2.1 `createHistogram()` `QWidget * createHistogram () [private]`

17.32.2.2 `createMainWidget()` `QWidget * createMainWidget () [private]`

17.32.2.3 getInfo() void getInfo () [private]

17.32.3 Member Data Documentation

17.32.3.1 boundingRect QRectF boundingRect [private]

17.32.3.2 buttonBox QDialogButtonBox* buttonBox [private]

17.32.3.3 colorChanges quint32 colorChanges [private]

17.32.3.4 colorTotal quint32 colorTotal [private]

17.32.3.5 mainWidget QWidget* mainWidget [private]

17.32.3.6 stitchesJump quint32 stitchesJump [private]

17.32.3.7 stitchesReal quint32 stitchesReal [private]

17.32.3.8 stitchesTotal quint32 stitchesTotal [private]

17.32.3.9 stitchesTrim quint32 stitchesTrim [private]

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

- [embroidermodder2/embdetails-dialog.h](#)
- [embroidermodder2/embdetails-dialog.cpp](#)

17.33 EmbDiameterDim_ Struct Reference

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

Public Attributes

- [EmbVector position](#)

17.33.1 Member Data Documentation

17.33.1.1 position [EmbVector](#) position

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

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

17.34 EmbEllipse_ Struct Reference

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

Public Attributes

- [EmbVector center](#)
- [EmbVector radius](#)
- [EmbReal rotation](#)

17.34.1 Member Data Documentation

17.34.1.1 center [EmbVector](#) center

17.34.1.2 radius [EmbVector](#) radius

17.34.1.3 rotation [EmbReal](#) rotation

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

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

17.35 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`

17.35.1 Member Data Documentation

17.35.1.1 `check_for_color_file` int `check_for_color_file`

17.35.1.2 `color_only` int `color_only`

17.35.1.3 `description` char `description`[`EMBFORMAT_MAXDESC`]

17.35.1.4 `extension` char `extension`[2+`EMBFORMAT_MAXEXT`]

17.35.1.5 `reader_state` char `reader_state`

17.35.1.6 `type` int `type`

17.35.1.7 `write_external_color_file` int `write_external_color_file`

17.35.1.8 writer_state char writer_state

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

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

17.36 EmbFunction_ Struct Reference

Public Attributes

- [EmbString label](#)
- int [arguments](#)
- std::vector< [EmbString](#) > [body](#)

17.36.1 Detailed Description

17.36.2 Member Data Documentation

17.36.2.1 arguments int arguments

17.36.2.2 body std::vector<[EmbString](#)> body

17.36.2.3 label [EmbString](#) label

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

- [embroidermodder2/mainwindow.cpp](#)

17.37 EmbGeometry_ Struct Reference

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

Public Attributes

- union {
 EmbArc arc
 EmbCircle circle
 EmbColor color
 EmbEllipse ellipse
 EmbLine line
 EmbPath path
 EmbPoint point
 EmbPolygon polygon
 EmbPolyline polyline
 EmbRect rect
 EmbSpline spline
 EmbVector vector
} object
- EmbStitch stitch
- EmbThread thread
- int flag
- int type
- int lineType

17.37.1 Member Data Documentation**17.37.1.1 arc** `EmbArc arc`**17.37.1.2 circle** `EmbCircle circle`**17.37.1.3 color** `EmbColor color`**17.37.1.4 ellipse** `EmbEllipse ellipse`**17.37.1.5 flag** `int flag`**17.37.1.6 line** `EmbLine line`

17.37.1.7 **lineType** int lineType

17.37.1.8 union { ... } object

17.37.1.9 **path** EmbPath path

17.37.1.10 **point** EmbPoint point

17.37.1.11 **polygon** EmbPolygon polygon

17.37.1.12 **polyline** EmbPolyline polyline

17.37.1.13 **rect** EmbRect rect

17.37.1.14 **spline** EmbSpline spline

17.37.1.15 **stitch** EmbStitch stitch

17.37.1.16 **thread** EmbThread thread

17.37.1.17 **type** int type

17.37.1.18 vector EmbVector vector

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

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

17.38 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]`

17.38.1 Member Data Documentation**17.38.1.1 data unsigned char* data****17.38.1.2 dimensions EmbVector dimensions****17.38.1.3 height int height****17.38.1.4 name char name[200]****17.38.1.5 path char path[200]**

17.38.1.6 position `EmbVector` `position`

17.38.1.7 width `int width`

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

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

17.39 EmbInfiniteLine_ 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 EmbLayer_ Struct Reference

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

Public Attributes

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

17.40.1 Member Data Documentation

17.40.1.1 geometry `EmbArray*` `geometry`

17.40.1.2 name char name[100]

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

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

17.41 EmbLeaderDim_ Struct Reference

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

Public Attributes

- [EmbVector position](#)

17.41.1 Member Data Documentation**17.41.1.1 position** [EmbVector](#) position

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

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

17.42 EmbLine_ Struct Reference

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

Public Attributes

- [EmbVector start](#)
- [EmbVector end](#)
- int [lineType](#)
- [EmbColor color](#)

17.42.1 Member Data Documentation**17.42.1.1 color** [EmbColor](#) color

17.42.1.2 end `EmbVector` **end**

17.42.1.3 lineType `int` `lineType`

17.42.1.4 start `EmbVector` **start**

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

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

17.43 EmbLinearDim_ Struct Reference

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

Public Attributes

- `EmbVector position`

17.43.1 Member Data Documentation

17.43.1.1 position `EmbVector` `position`

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

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

17.44 EmbOrdinateDim_ 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 EmbPath_ Struct Reference

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

Public Attributes

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

17.45.1 Member Data Documentation**17.45.1.1 color** `EmbColor` color**17.45.1.2 flagList** `EmbArray*` flagList**17.45.1.3 lineType** int lineType**17.45.1.4 pointList** `EmbArray*` pointList

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

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

17.46 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`

17.46.1 Member Data Documentation

17.46.1.1 `currentColorIndex` int `currentColorIndex`

17.46.1.2 `dstJumpsPerTrim` unsigned int `dstJumpsPerTrim`

17.46.1.3 `geometry` `EmbArray*` `geometry`

17.46.1.4 `home` `EmbVector` `home`

17.46.1.5 `hoop_height` `EmbReal` `hoop_height`

17.46.1.6 `hoop_width` `EmbReal` `hoop_width`

17.46.1.7 `layer` `EmbLayer` `layer [EMB_MAX_LAYERS]`

17.46.1.8 `stitch_list` `EmbArray*` `stitch_list`

17.46.1.9 thread_list `EmbArray* thread_list`

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

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

17.47 EmbPoint_Struct Reference

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

Public Attributes

- `EmbVector position`
- `int lineType`
- `EmbColor color`

17.47.1 Member Data Documentation**17.47.1.1 color** `EmbColor color`**17.47.1.2 lineType** `int lineType`**17.47.1.3 position** `EmbVector position`

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

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

17.48 EmbRadiusDim_Struct Reference

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

Public Attributes

- `EmbVector position`

17.48.1 Member Data Documentation

17.48.1.1 position `EmbVector` position

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

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

17.49 EmbRay_ Struct Reference

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

Public Attributes

- `EmbVector` position

17.49.1 Member Data Documentation

17.49.1.1 position `EmbVector` position

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

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

17.50 EmbRect_ Struct Reference

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

Public Attributes

- `EmbReal` top
- `EmbReal` left
- `EmbReal` bottom
- `EmbReal` right
- `EmbReal` rotation
- `EmbReal` radius

17.50.1 Member Data Documentation

17.50.1.1 bottom `EmbReal` bottom

17.50.1.2 left `EmbReal` left

17.50.1.3 radius `EmbReal` radius

17.50.1.4 right `EmbReal` right

17.50.1.5 rotation `EmbReal` rotation

17.50.1.6 top `EmbReal` top

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

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

17.51 EmbSatinOutline_Struct Reference

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

Public Attributes

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

17.51.1 Member Data Documentation

17.51.1.1 length `int` length

17.51.1.2 side1 [EmbArray*](#) side1**17.51.1.3 side2** [EmbArray*](#) side2

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

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

17.52 EmbScriptContext_ Struct Reference**Public Attributes**

- [std::vector< std::string > arguments](#)
- [std::vector< EmbFunction > functions](#)

17.52.1 Detailed Description**17.52.2 Member Data Documentation****17.52.2.1 arguments** [std::vector<std::string>](#) arguments**17.52.2.2 functions** [std::vector<EmbFunction>](#) functions

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

- [embroidermodder2/mainwindow.cpp](#)

17.53 EmbSpline_ Struct Reference

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

Public Attributes

- [EmbArray * beziers](#)

17.53.1 Member Data Documentation

17.53.1.1 beziers `EmbArray*` `beziers`

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

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

17.54 EmbStitch_Struct Reference

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

Public Attributes

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

17.54.1 Member Data Documentation**17.54.1.1 color** `int color`

positive is up, units are in mm

17.54.1.2 flags `int flags`**17.54.1.3 x** `EmbReal x`

uses codes defined above

17.54.1.4 y `EmbReal y`

absolute position (not relative)

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

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

17.55 EmbTextMulti_Struct Reference

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

Public Attributes

- [EmbVector position](#)
- char [text](#) [200]

17.55.1 Member Data Documentation**17.55.1.1 position [EmbVector](#) position****17.55.1.2 text char text[200]**

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

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

17.56 EmbTextSingle_ Struct Reference

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

Public Attributes

- [EmbVector position](#)
- char [text](#) [200]

17.56.1 Member Data Documentation**17.56.1.1 position [EmbVector](#) position****17.56.1.2 text char text[200]**

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

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

17.57 EmbThread_Struct Reference

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

Public Attributes

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

17.57.1 Member Data Documentation

17.57.1.1 catalogNumber `char catalogNumber[30]`

17.57.1.2 color `EmbColor color`

17.57.1.3 description `char description[50]`

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

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

17.58 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`

17.58.1 Member Data Documentation

17.58.1.1 day unsigned int day

17.58.1.2 hour unsigned int hour

17.58.1.3 minute unsigned int minute

17.58.1.4 month unsigned int month

17.58.1.5 second unsigned int second

17.58.1.6 year unsigned int year

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

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

17.59 EmbVector_ Struct Reference

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

Public Attributes

- [EmbReal x](#)
- [EmbReal y](#)

17.59.1 Detailed Description

The basic type to represent points absolutely or represent directions.

Positive y is up, units are in mm.

17.59.2 Member Data Documentation

17.59.2.1 x EmbReal x**17.59.2.2 y EmbReal y**

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

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

17.60 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`

17.60.1 Detailed Description

17.60.2 EmbViews

The EmbView describes how the render is displayed.

17.60.3 Member Data Documentation

17.60.3.1 filename char filename[200]

17.60.3.2 grid_mode bool grid_mode

17.60.3.3 grid_type char grid_type[200]

17.60.3.4 lwt_mode bool lwt_mode

17.60.3.5 metric bool metric

17.60.3.6 n_selected int n_selected

17.60.3.7 origin [EmbVector](#) origin

17.60.3.8 ortho_mode bool ortho_mode

17.60.3.9 pattern [EmbPattern*](#) pattern

17.60.3.10 polar_mode bool polar_mode

17.60.3.11 qsnap_mode bool qsnap_mode

17.60.3.12 qtrack_mode bool qtrack_mode

17.60.3.13 real_render bool real_render

17.60.3.14 rubber_mode int rubber_mode

17.60.3.15 ruler_mode bool ruler_mode

17.60.3.16 scale float scale

17.60.3.17 selected int selected[100]

17.60.3.18 simulate bool simulate

17.60.3.19 simulation_start clock_t simulation_start

17.60.3.20 snap_mode bool snap_mode

17.60.3.21 `text_angle` float `text_angle`

17.60.3.22 `text_font` char `text_font[200]`

17.60.3.23 `text_size` float `text_size`

17.60.3.24 `text_style_bold` bool `text_style_bold`

17.60.3.25 `text_style_italic` bool `text_style_italic`

17.60.3.26 `text_style_overline` bool `text_style_overline`

17.60.3.27 `text_style_strikethrough` bool `text_style_strikethrough`

17.60.3.28 `text_style_underline` bool `text_style_underline`

17.60.3.29 `ui_mode` int `ui_mode`

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

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

- embroidermodder2/[embroidermodder.h](#)

17.61 hoop_padding Struct Reference

Public Attributes

- int [left](#)
- int [right](#)
- int [top](#)
- int [bottom](#)

17.61.1 Member Data Documentation

17.61.1.1 bottom int bottom

17.61.1.2 left int left

17.61.1.3 right int right

17.61.1.4 top int top

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

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

17.62 Huffman Struct Reference

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

Public Attributes

- int [default_value](#)
- int [lengths](#) [1000]
- int [nlenghts](#)
- int [table](#) [1000]
- int [table_width](#)
- int [ntable](#)

17.62.1 Member Data Documentation

17.62.1.1 default_value int default_value

17.62.1.2 lengths int lengths[1000]

17.62.1.3 nlengths int nlengths

17.62.1.4 ntable int ntable

17.62.1.5 table int table[1000]

17.62.1.6 table_width int table_width

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

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

17.63 ImageObject Class Reference

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

Public Types

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

Public Types inherited from [BaseObject](#)

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

Public Member Functions

- `ImageObject` (qreal x, qreal y, qreal w, qreal h, QRgb rgb, QGraphicsItem *parent=0)
- `ImageObject` (`ImageObject` *obj, QGraphicsItem *parent=0)
- `~ImageObject` ()
- virtual int `type` () const
- QPointF `objectTopLeft` () const
- QPointF `objectTopRight` () const
- QPointF `objectBottomLeft` () const
- QPointF `objectBottomRight` () const
- qreal `objectWidth` () const
- qreal `objectHeight` () const
- qreal `objectArea` () const
- void `setObjectRect` (qreal x, qreal y, qreal w, qreal h)
- void `updateRubber` (QPainter *painter=0)
- virtual void `vulcanize` ()
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)
- virtual QList< QPointF > `allGripPoints` ()
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)

Public Member Functions inherited from `BaseObject`

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

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

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

Private Member Functions

- void [init](#) (qreal x, qreal y, qreal w, qreal h, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) ()

17.63.1 Member Enumeration Documentation

17.63.1.1 anonymous enum [anonymous enum](#)

Enumerator

| | |
|------|--|
| Type | |
|------|--|

17.63.2 Constructor & Destructor Documentation

17.63.2.1 [ImageObject\(\)](#) [1/2] [ImageObject](#) (

```
    qreal x,  
    qreal y,  
    qreal w,  
    qreal h,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

17.63.2.2 [ImageObject\(\)](#) [2/2] [ImageObject](#) (

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

17.63.2.3 ~ImageObject() ~ImageObject()**17.63.3 Member Function Documentation****17.63.3.1 allGripPoints() QList< QPointF > allGripPoints() [virtual]**

Implements [BaseObject](#).

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

Implements [BaseObject](#).

17.63.3.3 init() void init(
 qreal x,
 qreal y,
 qreal w,
 qreal h,
 QRgb rgb,
 Qt::PenStyle lineType) [private]**17.63.3.4 mouseSnapPoint() QPointF mouseSnapPoint(**
 const QPointF & mousePoint) [virtual]

Implements [BaseObject](#).

17.63.3.5 objectArea() qreal objectArea() const [inline]**17.63.3.6 objectBottomLeft() QPointF objectBottomLeft() const****17.63.3.7 objectBottomRight() QPointF objectBottomRight() const**

17.63.3.8 `objectHeight()` `qreal objectHeight () const [inline]`

17.63.3.9 `objectTopLeft()` `QPointF objectTopLeft () const`

17.63.3.10 `objectTopRight()` `QPointF objectTopRight () const`

17.63.3.11 `objectWidth()` `qreal objectWidth () const [inline]`

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

17.63.3.13 `setObjectRect()` `void setObjectRect (`
 `qreal x,`
 `qreal y,`
 `qreal w,`
 `qreal h)`

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

Reimplemented from [BaseObject](#).

17.63.3.15 `updatePath()` `void updatePath () [private]`

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

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

Implements [BaseObject](#).

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

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

17.64 ImageWidget Class Reference

```
#include <imagewidget.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.

Protected Member Functions

- [`void paintEvent`](#) (`QPaintEvent *event`)
ImageWidget::paintEvent.

Private Attributes

- [`QImage img`](#)

17.64.1 Constructor & Destructor Documentation

17.64.1.1 `ImageWidget()` [`ImageWidget`](#) (
 `const QString & filename,`
 `QWidget * parent = 0`)

ImageWidget::ImageWidget.

Parameters

| | |
|-----------------|--|
| <i>filename</i> | |
| <i>parent</i> | |

17.64.1.2 ~ImageWidget() ~[ImageWidget](#)()

[ImageWidget](#)::~[ImageWidget](#).

17.64.2 Member Function Documentation**17.64.2.1 load() bool load(const QString & fileName)**

[ImageWidget](#)::load.

Parameters

| | |
|-----------------|----------------------|
| <i>fileName</i> | <input type="text"/> |
|-----------------|----------------------|

Returns**17.64.2.2 paintEvent() void paintEvent(QPaintEvent * event) [protected]**

[ImageWidget](#)::paintEvent.

17.64.2.3 save() bool save(const QString & fileName)

[ImageWidget](#)::save.

Parameters

| | |
|-----------------|----------------------|
| <i>fileName</i> | <input type="text"/> |
|-----------------|----------------------|

Returns**17.64.3 Member Data Documentation**

17.64.3.1 img QImage img [private]

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

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

17.65 Index_Struct Reference

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

Public Attributes

- [IndexEntry * data](#)
- int [length](#)
- int [max_length](#)

17.65.1 Detailed Description

Todo document this.

17.65.2 Member Data Documentation**17.65.2.1 data** [IndexEntry*](#) data**17.65.2.2 length** int length**17.65.2.3 max_length** int max_length

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

- embroidermodder2/[embroidermodder.h](#)

17.66 IndexEntry_Struct Reference

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

Public Attributes

- char `key` [200]
- `Dictionary` * `value`

17.66.1 Detailed Description

Todo document this.

17.66.2 Member Data Documentation

17.66.2.1 `key` char `key`[200]

17.66.2.2 `value` `Dictionary`* `value`

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

- `embroidermodder2/embroidermodder.h`

17.67 LayerManager Class Reference

```
#include <layer-manager.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 `qreal` `zValue`, const `QRgb` `color`, const `QString` &`lineType`, const `QString` &`lineWeight`, const bool `print`)
LayerManager::addLayer.

Private Attributes

- `QStandardItemModel` * `layerModel`
- `QSortFilterProxyModel` * `layerModelSorted`
- `QTreeView` * `treeView`

17.67.1 Constructor & Destructor Documentation

17.67.1.1 `LayerManager()` `LayerManager` (

```
MainWindow * mw,
QWidget * parent = 0 )
```

LayerManager::LayerManager.

Parameters

| | |
|---------------|--|
| <i>mw</i> | |
| <i>parent</i> | |

17.67.1.2 ~LayerManager() ~LayerManager()

[LayerManager::~LayerManager.](#)

17.67.2 Member Function Documentation**17.67.2.1 addLayer() void addLayer(**

```
    const QString & name,
    const bool visible,
    const bool frozen,
    const qreal zValue,
    const QRgb color,
    const QString & lineType,
    const QString & lineWeight,
    const bool print )
```

[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> | |

17.67.3 Member Data Documentation**17.67.3.1 layerModel QStandardItemModel* layerModel [private]**

17.67.3.2 layerModelSorted QSortFilterProxyModel* layerModelSorted [private]

17.67.3.3 treeView QTreeView* treeView [private]

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

- [embroidermodder2/layer-manager.h](#)
- [embroidermodder2/layer-manager.cpp](#)

17.68 LineObject Class Reference

#include <object-line.h>

Public Types

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

Public Types inherited from [BaseObject](#)

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

Public Member Functions

- [LineObject](#) (qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, QGraphicsItem *parent=0)
- [LineObject](#) ([LineObject](#) *obj, QGraphicsItem *parent=0)
- [~LineObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectEndPoint1](#) () const
- QPointF [objectEndPoint2](#) () const
- QPointF [objectMidPoint](#) () const
- qreal [objectX1](#) () const
- qreal [objectY1](#) () const
- qreal [objectX2](#) () const
- qreal [objectY2](#) () const
- qreal [objectDeltaX](#) () const
- qreal [objectDeltaY](#) () const
- qreal [objectAngle](#) () const
- qreal [objectLength](#) () const
- void [setObjectEndPoint1](#) (const QPointF &endPt1)
- void [setObjectEndPoint1](#) (qreal x1, qreal y1)
- void [setObjectEndPoint2](#) (const QPointF &endPt2)
- void [setObjectEndPoint2](#) (qreal x2, qreal y2)
- void [setObjectX1](#) (qreal x)
- void [setObjectY1](#) (qreal y)
- void [setObjectX2](#) (qreal x)
- void [setObjectY2](#) (qreal y)
- void [updateRubber](#) (QPainter *painter=0)
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

Public Member Functions inherited from [BaseObject](#)

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

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

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

Private Member Functions

- void [init](#) (qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, Qt::PenStyle lineType)

17.68.1 Member Enumeration Documentation

17.68.1.1 anonymous enum anonymous enum

Enumerator

| | |
|------|--|
| Type | |
|------|--|

17.68.2 Constructor & Destructor Documentation

17.68.2.1 LineObject() [1/2] [LineObject](#) (

```
    qreal x1,  
    qreal y1,  
    qreal x2,  
    qreal y2,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

17.68.2.2 LineObject() [2/2] [LineObject](#) (

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

17.68.2.3 ~LineObject() [~LineObject](#) ()

17.68.3 Member Function Documentation

17.68.3.1 allGripPoints() [QList< QPointF >](#) allGripPoints () [virtual]

Implements [BaseObject](#).

17.68.3.2 gripEdit() void gripEdit (

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

Implements [BaseObject](#).

```
17.68.3.3 init() void init (
    qreal x1,
    qreal y1,
    qreal x2,
    qreal y2,
    QRgb rgb,
    Qt::PenStyle lineType ) [private]
```

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

Implements [BaseObject](#).

```
17.68.3.5 objectAngle() qreal objectAngle () const
```

```
17.68.3.6 objectDeltaX() qreal objectDeltaX () const [inline]
```

```
17.68.3.7 objectDeltaY() qreal objectDeltaY () const [inline]
```

```
17.68.3.8 objectEndPoint1() QPointF objectEndPoint1 () const [inline]
```

```
17.68.3.9 objectEndPoint2() QPointF objectEndPoint2 () const
```

```
17.68.3.10 objectLength() qreal objectLength () const [inline]
```

```
17.68.3.11 objectMidPoint() QPointF objectMidPoint () const
```

```
17.68.3.12 objectSavePath() QPainterPath objectSavePath () const
```

17.68.3.13 `objectX1()` `qreal objectX1 () const [inline]`

17.68.3.14 `objectX2()` `qreal objectX2 () const [inline]`

17.68.3.15 `objectY1()` `qreal objectY1 () const [inline]`

17.68.3.16 `objectY2()` `qreal objectY2 () const [inline]`

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

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

17.68.3.19 `setObjectEndPoint1()` [2/2] `void setObjectEndPoint1 (`
 `qreal x1,`
 `qreal y1)`

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

17.68.3.21 `setObjectEndPoint2()` [2/2] `void setObjectEndPoint2 (`
 `qreal x2,`
 `qreal y2)`

17.68.3.22 `setObjectX1()` `void setObjectX1 (`
 `qreal x) [inline]`

17.68.3.23 setObjectX2() void setObjectX2 (qreal x) [inline]

17.68.3.24 setObjectY1() void setObjectY1 (qreal y) [inline]

17.68.3.25 setObjectY2() void setObjectY2 (qreal y) [inline]

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

Reimplemented from [BaseObject](#).

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

17.68.3.28 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

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

- embroidery2/[object-line.h](#)
- embroidery2/[object-line.cpp](#)

17.69 LSYSTEM Struct Reference

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

Public Attributes

- char [axiom](#)
- char * [alphabet](#)
- char * [constants](#)
- char ** [rules](#)

17.69.1 Member Data Documentation

17.69.1.1 alphabet char* alphabet

17.69.1.2 axiom char axiom

17.69.1.3 constants char* constants

17.69.1.4 rules char** rules

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

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

17.70 MainWindow Class Reference

The [MainWindow](#) class.

```
#include <mainwindow.h>
```

Public Slots

- void `enablePromptRapidFire ()`
MainWindow::enablePromptRapidFire.
- void `disablePromptRapidFire ()`
MainWindow::disablePromptRapidFire.
- void `enableMoveRapidFire ()`
MainWindow::enableMoveRapidFire.
- void `disableMoveRapidFire ()`
MainWindow::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)`

- 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="")
 - 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 `tipOfDay` ()
- void `buttonTipOfDayClicked` (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 `lineweightSelectorIndexChanged` (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.

- `QString getSettingsGeneralLanguage ()`
- `QString getSettingsGeneralIconTheme ()`
- `int getSettingsGeneralIconSize ()`
- `bool getSettingsGeneralMdiBGUseLogo ()`
- `bool getSettingsGeneralMdiBGUseTexture ()`
- `bool getSettingsGeneralMdiBGUseColor ()`
- `QString getSettingsGeneralMdiBGLogo ()`
- `QString getSettingsGeneralMdiBGTTexture ()`
- `QRgb getSettingsGeneralMdiBGColor ()`
- `bool getSettingsGeneralTipOfTheDay ()`
- `int getSettingsGeneralCurrentTip ()`
- `bool getSettingsGeneralSystemHelpBrowser ()`
- `bool getSettingsGeneralCheckForUpdates ()`
- `bool getSettingsDisplayUseOpenGL ()`
- `bool getSettingsDisplayRenderHintAA ()`
- `bool getSettingsDisplayRenderHintTextAA ()`
- `bool getSettingsDisplayRenderHintSmoothPix ()`
- `bool getSettingsDisplayRenderHintHighAA ()`
- `bool getSettingsDisplayRenderHintNonCosmetic ()`
- `bool getSettingsDisplayShowScrollBars ()`
- `int getSettingsDisplayScrollBarWidgetNum ()`
- `QRgb getSettingsDisplayCrossHairColor ()`
- `QRgb getSettingsDisplayBGColor ()`
- `QRgb getSettingsDisplaySelectBoxLeftColor ()`
- `QRgb getSettingsDisplaySelectBoxLeftFill ()`
- `QRgb getSettingsDisplaySelectBoxRightColor ()`
- `QRgb getSettingsDisplaySelectBoxRightFill ()`
- `uint8_t getSettingsDisplaySelectBoxAlpha ()`
- `EmbReal getSettingsDisplayZoomScaleIn ()`
- `EmbReal getSettingsDisplayZoomScaleOut ()`
- `uint8_t getSettingsDisplayCrossHairPercent ()`
- `QString getSettingsDisplayUnits ()`
- `QRgb getSettingsPromptTextColor ()`
- `QRgb getSettingsPromptBGColor ()`
- `QString getSettingsPromptFontFamily ()`
- `QString getSettingsPromptFontStyle ()`
- `uint8_t getSettingsPromptFontSize ()`
- `bool getSettingsPromptSaveHistory ()`
- `bool getSettingsPromptSaveHistoryAsHtml ()`
- `QString getSettingsPromptSaveHistoryFilename ()`
- `QString getSettingsCustomFilter ()`
- `QString getSettingsOpenFormat ()`
- `bool getSettingsOpenThumbnail ()`
- `QString getSettingsSaveFormat ()`
- `bool getSettingsSaveThumbnail ()`
- `uint8_t getSettingsRecentMaxFiles ()`
- `uint8_t getSettingsOpenSaveTrimDstNumJumps ()`
- `QString getSettingsPrintingDefaultDevice ()`
- `bool getSettingsPrintingUseLastDevice ()`
- `bool getSettingsPrintingDisableBG ()`
- `bool getSettingsGridShowOnLoad ()`
- `bool getSettingsGridShowOrigin ()`
- `bool getSettingsGridColorMatchCrossHair ()`
- `QRgb getSettingsGridColor ()`
- `bool getSettingsGridLoadFromFile ()`

- `QString getSettingsGridType ()`
- `bool getSettingsGridCenterOnOrigin ()`
- `EmbReal getSettingsGridCenterX ()`
- `EmbReal getSettingsGridCenterY ()`
- `EmbReal getSettingsGridSizeX ()`
- `EmbReal getSettingsGridSizeY ()`
- `EmbReal getSettingsGridSpacingX ()`
- `EmbReal getSettingsGridSpacingY ()`
- `EmbReal getSettingsGridSizeRadius ()`
- `EmbReal getSettingsGridSpacingRadius ()`
- `EmbReal getSettingsGridSpacingAngle ()`
- `bool getSettingsRulerShowOnLoad ()`
- `bool getSettingsRulerMetric ()`
- `QRgb getSettingsRulerColor ()`
- `uint8_t getSettingsRulerPixelSize ()`
- `bool getSettingsQSnapEnabled ()`
- `QRgb getSettingsQSnapLocatorColor ()`
- `uint8_t getSettingsQSnapLocatorSize ()`
- `uint8_t getSettingsQSnapApertureSize ()`
- `bool getSettingsQSnapEndPoint ()`
- `bool getSettingsQSnapMidPoint ()`
- `bool getSettingsQSnapCenter ()`
- `bool getSettingsQSnapNode ()`
- `bool getSettingsQSnapQuadrant ()`
- `bool getSettingsQSnapIntersection ()`
- `bool getSettingsQSnapExtension ()`
- `bool getSettingsQSnapInsertion ()`
- `bool getSettingsQSnapPerpendicular ()`
- `bool getSettingsQSnapTangent ()`
- `bool getSettingsQSnapNearest ()`
- `bool getSettingsQSnapApparent ()`
- `bool getSettingsQSnapParallel ()`
- `bool getSettingsLwtShowLwt ()`
- `bool getSettingsLwtRealRender ()`
- `EmbReal getSettingsLwtDefaultLwt ()`
- `bool getSettingsSelectionModePickFirst ()`
- `bool getSettingsSelectionModePickAdd ()`
- `bool getSettingsSelectionModePickDrag ()`
- `QRgb getSettingsSelectionCoolGripColor ()`
- `QRgb getSettingsSelectionHotGripColor ()`
- `uint8_t getSettingsSelectionGripSize ()`
- `uint8_t getSettingsSelectionPickBoxSize ()`
- `QString getSettingsTextFont ()`
- `EmbReal getSettingsTextSize ()`
- `EmbReal getSettingsTextAngle ()`
- `bool getSettingsTextStyleBold ()`
- `bool getSettingsTextStyleItalic ()`
- `bool getSettingsTextStyleUnderline ()`
- `bool getSettingsTextStyleStrikeOut ()`
- `bool getSettingsTextStyleOverline ()`
- `void setSettingsGeneralLanguage (const QString &newValue)`
- `void setSettingsGeneralIconTheme (const QString &newValue)`
- `void setSettingsGeneralIconSize (int newValue)`
- `void setSettingsGeneralMdiBGUseLogo (bool newValue)`
- `void setSettingsGeneralMdiBGUseTexture (bool newValue)`

- void `setSettingsGeneralMdiBGUseColor` (bool newValue)
- void `setSettingsGeneralMdiBGLogo` (const QString &newValue)
- void `setSettingsGeneralMdiBGTexture` (const QString &newValue)
- void `setSettingsGeneralMdiBGColor` (QRgb newValue)
- void `setSettingsGeneralTipOfTheDay` (bool newValue)
- void `setSettingsGeneralCurrentTip` (int newValue)
- void `setSettingsGeneralSystemHelpBrowser` (bool newValue)
- void `setSettingsGeneralCheckForUpdates` (bool newValue)
- void `setSettingsDisplayUseOpenGL` (bool newValue)
- void `setSettingsDisplayRenderHintAA` (bool newValue)
- void `setSettingsDisplayRenderHintTextAA` (bool newValue)
- void `setSettingsDisplayRenderHintSmoothPix` (bool newValue)
- void `setSettingsDisplayRenderHintHighAA` (bool newValue)
- void `setSettingsDisplayRenderHintNonCosmetic` (bool newValue)
- void `setSettingsDisplayShowScrollBars` (bool newValue)
- void `setSettingsDisplayScrollBarWidgetNum` (int newValue)
- void `setSettingsDisplayCrossHairColor` (QRgb newValue)
- void `setSettingsDisplayBGColor` (QRgb newValue)
- void `setSettingsDisplaySelectBoxLeftColor` (QRgb newValue)
- void `setSettingsDisplaySelectBoxLeftFill` (QRgb newValue)
- void `setSettingsDisplaySelectBoxRightColor` (QRgb newValue)
- void `setSettingsDisplaySelectBoxRightFill` (QRgb newValue)
- void `setSettingsDisplaySelectBoxAlpha` (uint8_t newValue)
- void `setSettingsDisplayZoomScaleIn` (EmbReal newValue)
- void `setSettingsDisplayZoomScaleOut` (EmbReal newValue)
- void `setSettingsDisplayCrossHairPercent` (uint8_t newValue)
- void `setSettingsDisplayUnits` (const QString &newValue)
- void `setSettingsPromptTextColor` (QRgb newValue)
- void `setSettingsPromptBGColor` (QRgb newValue)
- void `setSettingsPromptFontFamily` (const QString &newValue)
- void `setSettingsPromptFontSize` (const QString &newValue)
- void `setSettingsPromptFontSize` (uint8_t newValue)
- void `setSettingsPromptSaveHistory` (bool newValue)
- void `setSettingsPromptSaveHistoryAsHtml` (bool newValue)
- void `setSettingsPromptSaveHistoryFilename` (const QString &newValue)
- void `setSettingsCustomFilter` (const QString &newValue)
- void `setSettingsOpenFormat` (const QString &newValue)
- void `setSettingsOpenThumbnail` (bool newValue)
- void `setSettingsSaveFormat` (const QString &newValue)
- void `setSettingsSaveThumbnail` (bool newValue)
- void `setSettingsRecentMaxFiles` (uint8_t newValue)
- void `setSettingsOpenSaveTrimDstNumJumps` (uint8_t newValue)
- void `setSettingsPrintingDefaultDevice` (const QString &newValue)
- void `setSettingsPrintingUseLastDevice` (bool newValue)
- void `setSettingsPrintingDisableBG` (bool newValue)
- void `setSettingsGridShowOnLoad` (bool newValue)
- void `setSettingsGridShowOrigin` (bool newValue)
- void `setSettingsGridColumnMatchCrossHair` (bool newValue)
- void `setSettingsGridColumn` (QRgb newValue)
- void `setSettingsGridLoadFromFile` (bool newValue)
- void `setSettingsGridType` (const QString &newValue)
- void `setSettingsGridCenterOnOrigin` (bool newValue)
- void `setSettingsGridCenterX` (EmbReal newValue)
- void `setSettingsGridCenterY` (EmbReal newValue)
- void `setSettingsGridSizeX` (EmbReal newValue)

- void `setSettingsGridSizeY` (EmbReal newValue)
- void `setSettingsGridSpacingX` (EmbReal newValue)
- void `setSettingsGridSpacingY` (EmbReal newValue)
- void `setSettingsGridSizeRadius` (EmbReal newValue)
- void `setSettingsGridSpacingRadius` (EmbReal newValue)
- void `setSettingsGridSpacingAngle` (EmbReal newValue)
- void `setSettingsRulerShowOnLoad` (bool newValue)
- void `setSettingsRulerMetric` (bool newValue)
- void `setSettingsRulerColor` (QRgb newValue)
- void `setSettingsRulerPixelSize` (uint8_t newValue)
- void `setSettingsQSnapEnabled` (bool newValue)
- void `setSettingsQSnapLocatorColor` (QRgb newValue)
- void `setSettingsQSnapLocatorSize` (uint8_t newValue)
- void `setSettingsQSnapApertureSize` (uint8_t newValue)
- void `setSettingsQSnapEndPoint` (bool newValue)
- void `setSettingsQSnapMidPoint` (bool newValue)
- void `setSettingsQSnapCenter` (bool newValue)
- void `setSettingsQSnapNode` (bool newValue)
- void `setSettingsQSnapQuadrant` (bool newValue)
- void `setSettingsQSnapIntersection` (bool newValue)
- void `setSettingsQSnapExtension` (bool newValue)
- void `setSettingsQSnapInsertion` (bool newValue)
- void `setSettingsQSnapPerpendicular` (bool newValue)
- void `setSettingsQSnapTangent` (bool newValue)
- void `setSettingsQSnapNearest` (bool newValue)
- void `setSettingsQSnapApparent` (bool newValue)
- void `setSettingsQSnapParallel` (bool newValue)
- void `setSettingsLwtShowLwt` (bool newValue)
- void `setSettingsLwtRealRender` (bool newValue)
- void `setSettingsLwtDefaultLwt` (EmbReal newValue)
- void `setSettingsSelectionModePickFirst` (bool newValue)
- void `setSettingsSelectionModePickAdd` (bool newValue)
- void `setSettingsSelectionModePickDrag` (bool newValue)
- void `setSettingsSelectionCoolGripColor` (QRgb newValue)
- void `setSettingsSelectionHotGripColor` (QRgb newValue)
- void `setSettingsSelectionGripSize` (uint8_t newValue)
- void `setSettingsSelectionPickBoxSize` (uint8_t newValue)
- void `setSettingsTextFont` (const QString &newValue)
- void `setSettingsTextSize` (EmbReal newValue)
- void `setSettingsTextAngle` (EmbReal newValue)
- void `setSettingsTextStyleBold` (bool newValue)
- void `setSettingsTextStyleItalic` (bool newValue)
- void `setSettingsTextStyleUnderline` (bool newValue)
- void `setSettingsTextStyleStrikeOut` (bool newValue)
- void `setSettingsTextStyleOverline` (bool newValue)
- bool `isCommandActive` ()
- QString `activeCommand` ()
- QString `platformString` ()
- void `nativeAlert` (const QString &txt)
- void `nativeBlinkPrompt` ()
- void `nativeSetPromptPrefix` (const QString &txt)
- void `nativeAppendPromptHistory` (const QString &txt)
- void `nativeEnablePromptRapidFire` ()
- void `nativeDisablePromptRapidFire` ()
- void `nativeInitCommand` ()

- void `nativeEndCommand` ()
- void `nativeEnableMoveRapidFire` ()
- void `nativeDisableMoveRapidFire` ()
- void `nativeNewFile` ()
- void `nativeOpenFile` ()
- void `nativeExit` ()
- void `nativeTipOfTheDay` ()
- 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 `nativeUndo` ()
- void `nativeRedo` ()
- void `nativelcon16` ()
- void `nativelcon24` ()
- void `nativelcon32` ()
- void `nativelcon48` ()
- void `nativelcon64` ()
- void `nativelcon128` ()
- void `nativePanLeft` ()
- void `nativePanRight` ()
- void `nativePanUp` ()
- void `nativePanDown` ()
- void `nativeZoomIn` ()
MainWindow::nativeZoomIn.
- void `nativeZoomOut` ()
MainWindow::nativeZoomOut.
- void `nativeZoomExtents` ()
MainWindow::nativeZoomExtents.
- void `nativePrintArea` (EmbReal x, EmbReal y, EmbReal w, EmbReal h)
MainWindow::nativePrintArea.
- void `nativeDayVision` ()
- void `nativeNightVision` ()
- 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 `nativeSetTextFont` (const QString &str)
- void `nativeSetTextSize` (EmbReal num)
- void `nativeSetTextAngle` (EmbReal num)
- void `nativeSetTextBold` (bool val)
- void `nativeSetTextItalic` (bool val)
- void `nativeSetTextUnderline` (bool val)

- void nativeSetTextStrikeOut (bool val)
- void nativeSetTextOverline (bool val)
- void nativePreviewOn (int clone, int mode, 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 ()
- void nativeDeleteSelected ()
 MainWindow::nativeDeleteSelected.
- void nativeCutSelected (EmbReal x, EmbReal y)
 MainWindow::nativeCutSelected.
- void nativeCopySelected (EmbReal x, EmbReal y)

- 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

- 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.

Private Slots

- void hideUnimplemented ()
MainWindow::hideUnimplemented.

Private Member Functions

- `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 ()`
- `void javaInitNatives (QScriptEngine *engine)`
- `void javaLoadCommand (const QString &cmdName)`

Private Attributes

- `QString settings_general_language`
- `QString settings_general_icon_theme`
- `int settings_general_icon_size`
- `bool settings_general_mdi_bg_use_logo`
- `bool settings_general_mdi_bg_use_texture`
- `bool settings_general_mdi_bg_use_color`
- `QString settings_general_mdi_bg_logo`
- `QString settings_general_mdi_bg_texture`

- QRgb `settings_general_mdi_bg_color`
- bool `settings_general_tip_of_the_day`
- quint16 `settings_general_current_tip`
- bool `settings_general_system_help_browser`
- bool `settings_general_check_for_updates`
- bool `settings_display_use_opengl`
- bool `settings_display_renderhint_aa`
- bool `settings_display_renderhint_text_aa`
- bool `settings_display_renderhint_smooth_pix`
- bool `settings_display_renderhint_high_aa`
- bool `settings_display_renderhint_noncosmetic`
- bool `settings_display_show_scrollbars`
- int `settings_display_scrollbar_widget_num`
- QRgb `settings_display_crosshair_color`
- QRgb `settings_display_bg_color`
- QRgb `settings_display_selectbox_left_color`
- QRgb `settings_display_selectbox_left_fill`
- QRgb `settings_display_selectbox_right_color`
- QRgb `settings_display_selectbox_right_fill`
- 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`
- `bool shiftKeyPressedState`
- `QByteArray layoutState`
- `int numOfDocs`
- `int docIndex`
- `QList< MdiWindow * > listMdiWin`
- `QString openFilePath`
- `QAction * myFileSeparator`
- `QWizard * wizardTipOfTheDay`
- `QLabel * labelTipOfTheDay`
- `QCheckBox * checkBoxTipOfTheDay`
- `QStringList listTipOfTheDay`

- QToolBar * `toolbarFile`
- QToolBar * `toolbarEdit`
- QToolBar * `toolbarView`
- QToolBar * `toolbarZoom`
- QToolBar * `toolbarPan`
- QToolBar * `toolbarIcon`
- QToolBar * `toolbarHelp`
- QToolBar * `toolbarLayer`
- QToolBar * `toolbarText`
- QToolBar * `toolbarProperties`
- QToolBar * `toolbarPrompt`
- QComboBox * `layerSelector`
- QComboBox * `colorSelector`
- QComboBox * `linetypeSelector`
- QComboBox * `lineweightSelector`
- QFontComboBox * `textFontSelector`
- QComboBox * `textSizeSelector`
- QMenu * `fileMenu`
- QMenu * `editMenu`
- QMenu * `viewMenu`
- QMenu * `settingsMenu`
- QMenu * `windowMenu`
- QMenu * `helpMenu`
- QMenu * `recentMenu`
- QMenu * `zoomMenu`
- QMenu * `panMenu`
- QScriptEngine * `engine`
- QScriptEngineDebugger * `debugger`

17.70.1 Detailed Description

The [MainWindow](#) class.

17.70.2 Constructor & Destructor Documentation

17.70.2.1 `MainWindow() ~MainWindow()`

[MainWindow](#)::[MainWindow](#).

17.70.2.2 `~MainWindow() ~MainWindow()`

[MainWindow](#)::[~MainWindow](#).

17.70.3 Member Function Documentation

17.70.3.1 about void about () [slot]

17.70.3.2 activeCommand() QString activeCommand () [inline]

17.70.3.3 activeMdiWindow() MdiWindow * activeMdiWindow ()

17.70.3.4 activeScene() QGraphicsScene * activeScene ()

17.70.3.5 activeUndoStack() QUndoStack * activeUndoStack ()

17.70.3.6 activeView() View * activeView ()

17.70.3.7 actuator() std::string actuator (std::string command)

MainWindow::actuator.

Parameters

command

17.70.3.8 buttonTipOfTheDayClicked void buttonTipOfTheDayClicked (int button) [slot]

17.70.3.9 changelog void changelog () [slot]

17.70.3.10 checkBoxTipOfTheDayStateChanged void checkBoxTipOfTheDayStateChanged (int checked) [slot]

17.70.3.11 checkForUpdates void checkForUpdates () [slot]

17.70.3.12 closeEvent() void closeEvent (QCloseEvent * event) [protected]

[MainWindow::closeEvent](#).

Parameters

| | |
|--------------|--|
| <i>event</i> | |
|--------------|--|

17.70.3.13 closeToolBar void closeToolBar (QAction * action) [slot]

[MainWindow::closeToolBar](#).

Parameters

| | |
|---------------|--|
| <i>action</i> | |
|---------------|--|

17.70.3.14 colorSelectorIndexChanged void colorSelectorIndexChanged (int index) [slot]

17.70.3.15 copy void copy () [slot]

17.70.3.16 createAction() QAction * createAction (const QString &icon, const QString &toolTip, const QString &statusTip, bool scripted = false) [private]

[MainWindow::createAction](#).

Parameters

| | |
|------------------|--|
| <i>icon</i> | |
| <i>toolTip</i> | |
| <i>statusTip</i> | |
| <i>scripted</i> | |

Returns

17.70.3.17 `createAllActions()` void createAllActions () [private]

[MainWindow::createAllActions.](#)

17.70.3.18 `createAllMenus()` void createAllMenus () [private]

17.70.3.19 `createAllToolbars()` void createAllToolbars () [private]

[MainWindow::createAllToolbars.](#)

17.70.3.20 `createEditMenu()` void createEditMenu () [private]

17.70.3.21 `createEditToolbar()` void createEditToolbar () [private]

[MainWindow::createEditToolbar.](#)

17.70.3.22 `createFileMenu()` void createFileMenu () [private]

[MainWindow::createFileMenu.](#)

17.70.3.23 `createFileToolbar()` void createFileToolbar () [private]

[MainWindow::createFileToolbar.](#)

17.70.3.24 `createHelpMenu()` void createHelpMenu () [private]

17.70.3.25 `createHelpToolbar()` void createHelpToolbar () [private]

MainWindow::createHelpToolbar.

17.70.3.26 `createIconToolbar()` void createIconToolbar () [private]

MainWindow::createIconToolbar.

17.70.3.27 `createLayerToolbar()` void createLayerToolbar () [private]

MainWindow::createLayerToolbar.

17.70.3.28 `createPanToolbar()` void createPanToolbar () [private]

MainWindow::createPanToolbar.

17.70.3.29 `createPromptToolbar()` void createPromptToolbar () [private]

MainWindow::createPromptToolbar.

17.70.3.30 `createPropertiesToolbar()` void createPropertiesToolbar () [private]

MainWindow::createPropertiesToolbar.

17.70.3.31 `createSettingsMenu()` void createSettingsMenu () [private]

17.70.3.32 `createTextToolbar()` void createTextToolbar () [private]

MainWindow::createTextToolbar.

17.70.3.33 `createViewMenu()` void createViewMenu () [private]

17.70.3.34 `createViewToolbar()` void createViewToolbar () [private]

17.70.3.35 `createWindowMenu()` void createWindowMenu () [private]

17.70.3.36 `createZoomToolbar()` void createZoomToolbar () [private]

17.70.3.37 `cut` void cut () [slot]

17.70.3.38 `dayVision` void dayVision () [slot]

MainWindow::dayVision.

17.70.3.39 `deletePressed` void deletePressed () [slot]

17.70.3.40 `designDetails` void designDetails () [slot]

17.70.3.41 `disableMoveRapidFire` void disableMoveRapidFire () [slot]

17.70.3.42 `disablePromptRapidFire` void disablePromptRapidFire () [slot]

17.70.3.43 `doNothing` void doNothing () [slot]

17.70.3.44 `enableMoveRapidFire` void enableMoveRapidFire () [slot]

17.70.3.45 enablePromptRapidFire void enablePromptRapidFire () [slot]

17.70.3.46 escapePressed void escapePressed () [slot]

17.70.3.47 exit void exit () [slot]

[MainWindow::exit](#).

17.70.3.48 findMdiWindow() QMdiSubWindow * findMdiWindow (const QString & *fileName*) [private]

[MainWindow::findMdiWindow](#).

Parameters

| | |
|-----------------|---------------------------------|
| <i>fileName</i> | <input type="button" value=""/> |
|-----------------|---------------------------------|

Returns

17.70.3.49 floatingChangedToolBar void floatingChangedToolBar (bool *isFloating*) [slot]

[MainWindow::floatingChangedToolBar](#).

Parameters

| | |
|-------------------|---------------------------------|
| <i>isFloating</i> | <input type="button" value=""/> |
|-------------------|---------------------------------|

17.70.3.50 getAction QAction * getAction (int *actionEnum*) [slot]

[MainWindow::getAction](#).

Parameters

| | |
|-------------------|---------------------------------|
| <i>actionEnum</i> | <input type="button" value=""/> |
|-------------------|---------------------------------|

Returns

17.70.3.51 getApplication() `MainWindow * getApplication ()`

[MainWindow::getApplication](#).

Returns

17.70.3.52 getCurrentColor `QRgb getCurrentColor () [slot]`**17.70.3.53 getCurrentLayer** `QString getCurrentLayer () [slot]`**17.70.3.54 getCurrentLineType** `QString getCurrentLineType () [slot]`**17.70.3.55 getCurrentLineWeight** `QString getCurrentLineWeight () [slot]`**17.70.3.56 getFileSeparator()** `QAction * getFileSeparator () [protected]`

[MainWindow::getFileSeparator](#).

Returns

17.70.3.57 getMdiArea() `MdiArea * getMdiArea ()`

[MainWindow::getMdiArea](#).

Returns

17.70.3.58 `getSettingsCustomFilter()` `QString getSettingsCustomFilter ()` [inline]

17.70.3.59 `getSettingsDisplayBGColor()` `QRgb getSettingsDisplayBGColor ()` [inline]

17.70.3.60 `getSettingsDisplayCrossHairColor()` `QRgb getSettingsDisplayCrossHairColor ()` [inline]

17.70.3.61 `getSettingsDisplayCrossHairPercent()` `uint8_t getSettingsDisplayCrossHairPercent ()`
[inline]

17.70.3.62 `getSettingsDisplayRenderHintAA()` `bool getSettingsDisplayRenderHintAA ()` [inline]

17.70.3.63 `getSettingsDisplayRenderHintHighAA()` `bool getSettingsDisplayRenderHintHighAA ()`
[inline]

17.70.3.64 `getSettingsDisplayRenderHintNonCosmetic()` `bool getSettingsDisplayRenderHintNonCosmetic ()` [inline]

17.70.3.65 `getSettingsDisplayRenderHintSmoothPix()` `bool getSettingsDisplayRenderHintSmoothPix ()` [inline]

17.70.3.66 `getSettingsDisplayRenderHintTextAA()` `bool getSettingsDisplayRenderHintTextAA ()`
[inline]

17.70.3.67 `getSettingsDisplayScrollBarWidgetNum()` `int getSettingsDisplayScrollBarWidgetNum ()`
[inline]

17.70.3.68 getSettingsDisplaySelectBoxAlpha() `uint8_t getSettingsDisplaySelectBoxAlpha () [inline]`

17.70.3.69 getSettingsDisplaySelectBoxLeftColor() `QRgb getSettingsDisplaySelectBoxLeftColor () [inline]`

17.70.3.70 getSettingsDisplaySelectBoxLeftFill() `QRgb getSettingsDisplaySelectBoxLeftFill () [inline]`

17.70.3.71 getSettingsDisplaySelectBoxRightColor() `QRgb getSettingsDisplaySelectBoxRightColor () [inline]`

17.70.3.72 getSettingsDisplaySelectBoxRightFill() `QRgb getSettingsDisplaySelectBoxRightFill () [inline]`

17.70.3.73 getSettingsDisplayShowScrollBars() `bool getSettingsDisplayShowScrollBars () [inline]`

17.70.3.74 getSettingsDisplayUnits() `QString getSettingsDisplayUnits () [inline]`

17.70.3.75 getSettingsDisplayUseOpenGL() `bool getSettingsDisplayUseOpenGL () [inline]`

17.70.3.76 getSettingsDisplayZoomScaleIn() `EmbReal getSettingsDisplayZoomScaleIn () [inline]`

17.70.3.77 getSettingsDisplayZoomScaleOut() `EmbReal getSettingsDisplayZoomScaleOut () [inline]`

17.70.3.78 `getSettingsGeneralCheckForUpdates()` bool getSettingsGeneralCheckForUpdates ()
[inline]

17.70.3.79 `getSettingsGeneralCurrentTip()` int getSettingsGeneralCurrentTip () [inline]

17.70.3.80 `getSettingsGeneralIconSize()` int getSettingsGeneralIconSize () [inline]

17.70.3.81 `getSettingsGeneralIconTheme()` QString getSettingsGeneralIconTheme () [inline]

17.70.3.82 `getSettingsGeneralLanguage()` QString getSettingsGeneralLanguage () [inline]

17.70.3.83 `getSettingsGeneralMdiBGColor()` QRgb getSettingsGeneralMdiBGColor () [inline]

17.70.3.84 `getSettingsGeneralMdiBGLogo()` QString getSettingsGeneralMdiBGLogo () [inline]

17.70.3.85 `getSettingsGeneralMdiBGTexture()` QString getSettingsGeneralMdiBGTexture () [inline]

17.70.3.86 `getSettingsGeneralMdiBGUseColor()` bool getSettingsGeneralMdiBGUseColor () [inline]

17.70.3.87 `getSettingsGeneralMdiBGUseLogo()` bool getSettingsGeneralMdiBGUseLogo () [inline]

17.70.3.88 `getSettingsGeneralMdiBGUseTexture()` bool getSettingsGeneralMdiBGUseTexture ()
[inline]

17.70.3.89 `getSettingsGeneralSystemHelpBrowser()` `bool getSettingsGeneralSystemHelpBrowser ()`
[inline]

17.70.3.90 `getSettingsGeneralTipOfDay()` `bool getSettingsGeneralTipOfDay ()` [inline]

17.70.3.91 `getSettingsGridCenterOnOrigin()` `bool getSettingsGridCenterOnOrigin ()` [inline]

17.70.3.92 `getSettingsGridCenterX()` `EmbReal getSettingsGridCenterX ()` [inline]

17.70.3.93 `getSettingsGridCenterY()` `EmbReal getSettingsGridCenterY ()` [inline]

17.70.3.94 `getSettingsGridColor()` `QRgb getSettingsGridColor ()` [inline]

17.70.3.95 `getSettingsGridColorMatchCrossHair()` `bool getSettingsGridColorMatchCrossHair ()`
[inline]

17.70.3.96 `getSettingsGridLoadFromFile()` `bool getSettingsGridLoadFromFile ()` [inline]

17.70.3.97 `getSettingsGridShowOnLoad()` `bool getSettingsGridShowOnLoad ()` [inline]

17.70.3.98 `getSettingsGridShowOrigin()` `bool getSettingsGridShowOrigin ()` [inline]

17.70.3.99 `getSettingsGridSizeRadius()` `EmbReal getSettingsGridSizeRadius ()` [inline]

17.70.3.100 `getSettingsGridSizeX()` `EmbReal` `getSettingsGridSizeX ()` [inline]

17.70.3.101 `getSettingsGridSizeY()` `EmbReal` `getSettingsGridSizeY ()` [inline]

17.70.3.102 `getSettingsGridSpacingAngle()` `EmbReal` `getSettingsGridSpacingAngle ()` [inline]

17.70.3.103 `getSettingsGridSpacingRadius()` `EmbReal` `getSettingsGridSpacingRadius ()` [inline]

17.70.3.104 `getSettingsGridSpacingX()` `EmbReal` `getSettingsGridSpacingX ()` [inline]

17.70.3.105 `getSettingsGridSpacingY()` `EmbReal` `getSettingsGridSpacingY ()` [inline]

17.70.3.106 `getSettingsGridType()` `QString` `getSettingsGridType ()` [inline]

17.70.3.107 `getSettingsLwtDefaultLwt()` `EmbReal` `getSettingsLwtDefaultLwt ()` [inline]

17.70.3.108 `getSettingsLwtRealRender()` `bool` `getSettingsLwtRealRender ()` [inline]

17.70.3.109 `getSettingsLwtShowLwt()` `bool` `getSettingsLwtShowLwt ()` [inline]

17.70.3.110 `getSettingsOpenFormat()` `QString` `getSettingsOpenFormat ()` [inline]

17.70.3.111 `getSettingsOpenSaveTrimDstNumJumps()` `uint8_t getSettingsOpenSaveTrimDstNumJumps()` [inline]

17.70.3.112 `getSettingsOpenThumbnail()` `bool getSettingsOpenThumbnail ()` [inline]

17.70.3.113 `getSettingsPrintingDefaultDevice()` `QString getSettingsPrintingDefaultDevice ()` [inline]

17.70.3.114 `getSettingsPrintingDisableBG()` `bool getSettingsPrintingDisableBG ()` [inline]

17.70.3.115 `getSettingsPrintingUseLastDevice()` `bool getSettingsPrintingUseLastDevice ()` [inline]

17.70.3.116 `getSettingsPromptBGCOLOR()` `QRgb getSettingsPromptBGCOLOR ()` [inline]

17.70.3.117 `getSettingsPromptFontFamily()` `QString getSettingsPromptFontFamily ()` [inline]

17.70.3.118 `getSettingsPromptFontSize()` `uint8_t getSettingsPromptFontSize ()` [inline]

17.70.3.119 `getSettingsPromptFontStyle()` `QString getSettingsPromptFontStyle ()` [inline]

17.70.3.120 `getSettingsPromptSaveHistory()` `bool getSettingsPromptSaveHistory ()` [inline]

17.70.3.121 `getSettingsPromptSaveHistoryAsHtml()` `bool getSettingsPromptSaveHistoryAsHtml ()` [inline]

17.70.3.122 getSettingsPromptSaveHistoryFilename() `QString getSettingsPromptSaveHistoryFilename()` [inline]

17.70.3.123 getSettingsPromptTextColor() `QRgb getSettingsPromptTextColor ()` [inline]

17.70.3.124 getSettingsQSnapApertureSize() `uint8_t getSettingsQSnapApertureSize ()` [inline]

17.70.3.125 getSettingsQSnapApparent() `bool getSettingsQSnapApparent ()` [inline]

17.70.3.126 getSettingsQSnapCenter() `bool getSettingsQSnapCenter ()` [inline]

17.70.3.127 getSettingsQSnapEnabled() `bool getSettingsQSnapEnabled ()` [inline]

17.70.3.128 getSettingsQSnapEndPoint() `bool getSettingsQSnapEndPoint ()` [inline]

17.70.3.129 getSettingsQSnapExtension() `bool getSettingsQSnapExtension ()` [inline]

17.70.3.130 getSettingsQSnapInsertion() `bool getSettingsQSnapInsertion ()` [inline]

17.70.3.131 getSettingsQSnapIntersection() `bool getSettingsQSnapIntersection ()` [inline]

17.70.3.132 getSettingsQSnapLocatorColor() `QRgb getSettingsQSnapLocatorColor ()` [inline]

17.70.3.133 `getSettingsQSnapLocatorSize()` `uint8_t getSettingsQSnapLocatorSize () [inline]`

17.70.3.134 `getSettingsQSnapMidPoint()` `bool getSettingsQSnapMidPoint () [inline]`

17.70.3.135 `getSettingsQSnapNearest()` `bool getSettingsQSnapNearest () [inline]`

17.70.3.136 `getSettingsQSnapNode()` `bool getSettingsQSnapNode () [inline]`

17.70.3.137 `getSettingsQSnapParallel()` `bool getSettingsQSnapParallel () [inline]`

17.70.3.138 `getSettingsQSnapPerpendicular()` `bool getSettingsQSnapPerpendicular () [inline]`

17.70.3.139 `getSettingsQSnapQuadrant()` `bool getSettingsQSnapQuadrant () [inline]`

17.70.3.140 `getSettingsQSnapTangent()` `bool getSettingsQSnapTangent () [inline]`

17.70.3.141 `getSettingsRecentMaxFiles()` `uint8_t getSettingsRecentMaxFiles () [inline]`

17.70.3.142 `getSettingsRulerColor()` `QRgb getSettingsRulerColor () [inline]`

17.70.3.143 `getSettingsRulerMetric()` `bool getSettingsRulerMetric () [inline]`

17.70.3.144 `getSettingsRulerPixelSize()` `uint8_t getSettingsRulerPixelSize () [inline]`

17.70.3.145 `getSettingsRulerShowOnLoad()` `bool getSettingsRulerShowOnLoad () [inline]`

17.70.3.146 `getSettingsSaveFormat()` `QString getSettingsSaveFormat () [inline]`

17.70.3.147 `getSettingsSaveThumbnail()` `bool getSettingsSaveThumbnail () [inline]`

17.70.3.148 `getSettingsSelectionCoolGripColor()` `QRgb getSettingsSelectionCoolGripColor () [inline]`

17.70.3.149 `getSettingsSelectionGripSize()` `uint8_t getSettingsSelectionGripSize () [inline]`

17.70.3.150 `getSettingsSelectionHotGripColor()` `QRgb getSettingsSelectionHotGripColor () [inline]`

17.70.3.151 `getSettingsSelectionModePickAdd()` `bool getSettingsSelectionModePickAdd () [inline]`

17.70.3.152 `getSettingsSelectionModePickDrag()` `bool getSettingsSelectionModePickDrag () [inline]`

17.70.3.153 `getSettingsSelectionModePickFirst()` `bool getSettingsSelectionModePickFirst () [inline]`

17.70.3.154 `getSettingsSelectionPickBoxSize()` `uint8_t getSettingsSelectionPickBoxSize () [inline]`

17.70.3.155 getSettingsTextAngle() `EmbReal getSettingsTextAngle () [inline]`

17.70.3.156 getSettingsTextFont() `QString getSettingsTextFont () [inline]`

17.70.3.157 getSettingsTextSize() `EmbReal getSettingsTextSize () [inline]`

17.70.3.158 getSettingsTextStyleBold() `bool getSettingsTextStyleBold () [inline]`

17.70.3.159 getSettingsTextStyleItalic() `bool getSettingsTextStyleItalic () [inline]`

17.70.3.160 getSettingsTextStyleOverline() `bool getSettingsTextStyleOverline () [inline]`

17.70.3.161 getSettingsTextStyleStrikeOut() `bool getSettingsTextStyleStrikeOut () [inline]`

17.70.3.162 getSettingsTextStyleUnderline() `bool getSettingsTextStyleUnderline () [inline]`

17.70.3.163 help `void help () [slot]`

17.70.3.164 hideUnimplemented `void hideUnimplemented () [private], [slot]`

MainWindow::[hideUnimplemented](#).

17.70.3.165 icon128 `void icon128 () [slot]`

17.70.3.166 icon16 void icon16 () [slot]

17.70.3.167 icon24 void icon24 () [slot]

17.70.3.168 icon32 void icon32 () [slot]

17.70.3.169 icon48 void icon48 () [slot]

17.70.3.170 icon64 void icon64 () [slot]

17.70.3.171 iconResize void iconResize (int iconSize) [slot]

17.70.3.172 isCommandActive() bool isCommandActive () [inline]

17.70.3.173 isShiftPressed bool isShiftPressed () [slot]

17.70.3.174 javaInitNatives() void javaInitNatives (QScriptEngine * engine) [private]

17.70.3.175 javaLoadCommand() void javaLoadCommand (const QString & cmdName) [private]

17.70.3.176 layerManager void layerManager () [slot]

17.70.3.177 layerPrevious void layerPrevious () [slot]

17.70.3.178 layerSelectorIndexChanged void layerSelectorIndexChanged (int index) [slot]

17.70.3.179 linetypeSelectorIndexChanged void linetypeSelectorIndexChanged (int index) [slot]

17.70.3.180 linewidthSelectorIndexChanged void linewidthSelectorIndexChanged (int index) [slot]

17.70.3.181 loadFormats() void loadFormats () [protected]

MainWindow::loadFormats.

17.70.3.182 logPromptInput void logPromptInput (const QString & txt) [slot]

17.70.3.183 makeLayerActive void makeLayerActive () [slot]

17.70.3.184 nativeAddArc() void nativeAddArc (EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX, EmbReal endY, int rubberMode)

17.70.3.185 nativeAddCircle() void nativeAddCircle (

```
EmbReal centerX,  
EmbReal centerY,  
EmbReal radius,  
bool fill,  
int rubberMode )
```

17.70.3.186 nativeAddDimLeader() void nativeAddDimLeader (

```
EmbReal x1,  
EmbReal y1,  
EmbReal x2,  
EmbReal y2,  
EmbReal rot,  
int rubberMode )
```

17.70.3.187 nativeAddEllipse() void nativeAddEllipse (

```
EmbReal centerX,  
EmbReal centerY,  
EmbReal width,  
EmbReal height,  
EmbReal rot,  
bool fill,  
int rubberMode )
```

17.70.3.188 nativeAddHorizontalDimension() void nativeAddHorizontalDimension (

```
EmbReal x1,  
EmbReal y1,  
EmbReal x2,  
EmbReal y2,  
EmbReal legHeight )
```

17.70.3.189 nativeAddImage() void nativeAddImage (

```
const QString & img,  
EmbReal x,  
EmbReal y,  
EmbReal w,  
EmbReal h,  
EmbReal rot )
```

17.70.3.190 nativeAddInfiniteLine() void nativeAddInfiniteLine (

```
EmbReal x1,  
EmbReal y1,  
EmbReal x2,  
EmbReal y2,  
EmbReal rot )
```

17.70.3.191 nativeAddLine() void nativeAddLine (

```
EmbReal x1,  
EmbReal y1,  
EmbReal x2,  
EmbReal y2,  
EmbReal rot,  
int rubberMode )
```

17.70.3.192 nativeAddPath() void nativeAddPath (

```
EmbReal startX,  
EmbReal startY,  
const QPainterPath & p,  
int rubberMode )
```

17.70.3.193 nativeAddPoint() void nativeAddPoint (

```
EmbReal x,  
EmbReal y )
```

17.70.3.194 nativeAddPolygon() void nativeAddPolygon (

```
EmbReal startX,  
EmbReal startY,  
const QPainterPath & p,  
int rubberMode )
```

17.70.3.195 nativeAddPolyline() void nativeAddPolyline (

```
EmbReal startX,  
EmbReal startY,  
const QPainterPath & p,  
int rubberMode )
```

17.70.3.196 nativeAddRay() void nativeAddRay (

```
EmbReal x1,
EmbReal y1,
EmbReal x2,
EmbReal y2,
EmbReal rot )
```

17.70.3.197 nativeAddRectangle() void nativeAddRectangle (

```
EmbReal x,
EmbReal y,
EmbReal w,
EmbReal h,
EmbReal rot,
bool fill,
int rubberMode )
```

17.70.3.198 nativeAddRegularPolygon() void nativeAddRegularPolygon (

```
EmbReal centerX,
EmbReal centerY,
quint16 sides,
uint8_t mode,
EmbReal rad,
EmbReal rot,
bool fill )
```

17.70.3.199 nativeAddRoundedRectangle() void nativeAddRoundedRectangle (

```
EmbReal x,
EmbReal y,
EmbReal w,
EmbReal h,
EmbReal rad,
EmbReal rot,
bool fill )
```

17.70.3.200 nativeAddSlot() void nativeAddSlot (

```
EmbReal centerX,
EmbReal centerY,
EmbReal diameter,
EmbReal length,
EmbReal rot,
bool fill,
int rubberMode )
```

```
17.70.3.201 nativeAddTextMulti() void nativeAddTextMulti (
    const QString & str,
    EmbReal x,
    EmbReal y,
    EmbReal rot,
    bool fill,
    int rubberMode )
```

```
17.70.3.202 nativeAddTextSingle() void nativeAddTextSingle (
    const QString & str,
    EmbReal x,
    EmbReal y,
    EmbReal rot,
    bool fill,
    int rubberMode )
```

```
17.70.3.203 nativeAddToSelection() void nativeAddToSelection (
    const QPainterPath path,
    Qt::ItemSelectionMode mode )
```

```
17.70.3.204 nativeAddTriangle() void nativeAddTriangle (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2,
    EmbReal x3,
    EmbReal y3,
    EmbReal rot,
    bool fill )
```

```
17.70.3.205 nativeAddVerticalDimension() void nativeAddVerticalDimension (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2,
    EmbReal legHeight )
```

```
17.70.3.206 nativeAlert() void nativeAlert (
    const QString & txt )
```

17.70.3.207 nativeAllowRubber() bool nativeAllowRubber ()

17.70.3.208 nativeAppendPromptHistory() void nativeAppendPromptHistory (const QString & txt)

17.70.3.209 nativeBlinkPrompt() void nativeBlinkPrompt ()

17.70.3.210 nativeCalculateAngle() EmbReal nativeCalculateAngle (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)

17.70.3.211 nativeCalculateDistance() EmbReal nativeCalculateDistance (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)

17.70.3.212 nativeClearRubber() void nativeClearRubber ()

17.70.3.213 nativeClearSelection() void nativeClearSelection ()

17.70.3.214 nativeCopySelected() void nativeCopySelected (EmbReal x, EmbReal y)

MainWindow::nativeCopySelected.

Parameters

| | |
|---|--|
| x | |
| y | |

```
17.70.3.215 nativeCutSelected() void nativeCutSelected (
    EmbReal x,
    EmbReal y )
```

[MainWindow::nativeCutSelected](#).

Parameters

| | |
|---|--|
| x | |
| y | |

```
17.70.3.216 nativeDayVision() void nativeDayVision ( )
```

```
17.70.3.217 nativeDeleteSelected() void nativeDeleteSelected ( )
```

[MainWindow::nativeDeleteSelected](#).

```
17.70.3.218 nativeDisableMoveRapidFire() void nativeDisableMoveRapidFire ( )
```

```
17.70.3.219 nativeDisablePromptRapidFire() void nativeDisablePromptRapidFire ( )
```

```
17.70.3.220 nativeEnableMoveRapidFire() void nativeEnableMoveRapidFire ( )
```

```
17.70.3.221 nativeEnablePromptRapidFire() void nativeEnablePromptRapidFire ( )
```

```
17.70.3.222 nativeEndCommand() void nativeEndCommand ( )
```

17.70.3.223 nativeExit() void nativeExit ()

17.70.3.224 nativeIcon128() void nativeIcon128 ()

17.70.3.225 nativeIcon16() void nativeIcon16 ()

17.70.3.226 nativeIcon24() void nativeIcon24 ()

17.70.3.227 nativeIcon32() void nativeIcon32 ()

17.70.3.228 nativeIcon48() void nativeIcon48 ()

17.70.3.229 nativeIcon64() void nativeIcon64 ()

17.70.3.230 nativeInitCommand() void nativeInitCommand ()

17.70.3.231 nativeMessageBox() void nativeMessageBox (
 const QString & type,
 const QString & title,
 const QString & text)

MainWindow::nativeMessageBox.

Parameters

| | |
|--------------|--|
| <i>type</i> | |
| <i>title</i> | |
| <i>text</i> | |

```
17.70.3.232 nativeMirrorSelected() void nativeMirrorSelected (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2 )
```

MainWindow::nativeMirrorSelected.

Parameters

| | |
|----|--|
| x1 | |
| y1 | |
| x2 | |
| y2 | |

```
17.70.3.233 nativeMouseX() EmbReal nativeMouseX ( )
```

MainWindow::nativeMouseX.

Returns

```
17.70.3.234 nativeMouseY() EmbReal nativeMouseY ( )
```

MainWindow::nativeMouseY.

Returns

```
17.70.3.235 nativeMoveSelected() void nativeMoveSelected (
    EmbReal dx,
    EmbReal dy )
```

MainWindow::nativeMoveSelected.

Parameters

| | |
|----|--|
| dx | |
| dy | |

17.70.3.236 nativeNewFile() void nativeNewFile ()

17.70.3.237 nativeNightVision() void nativeNightVision ()

17.70.3.238 nativeNumSelected() int nativeNumSelected ()

17.70.3.239 nativeOpenFile() void nativeOpenFile ()

17.70.3.240 nativePanDown() void nativePanDown ()

17.70.3.241 nativePanLeft() void nativePanLeft ()

17.70.3.242 nativePanRight() void nativePanRight ()

17.70.3.243 nativePanUp() void nativePanUp ()

17.70.3.244 nativePasteSelected() void nativePasteSelected (
 EmbrReal x,
 EmbrReal y)

MainWindow::nativePasteSelected.

Parameters

| | |
|---|--|
| x | |
| y | |

17.70.3.245 nativePerpendicularDistance() EmbrReal nativePerpendicularDistance (

```
EmbReal px,  
EmbReal py,  
EmbReal x1,  
EmbReal y1,  
EmbReal x2,  
EmbReal y2 )
```

17.70.3.246 nativePreviewOff() void nativePreviewOff ()**17.70.3.247 nativePreviewOn()** void nativePreviewOn (
int clone,
int mode,
EmbReal x,
EmbReal y,
EmbReal data)**17.70.3.248 nativePrintArea()** void nativePrintArea (
EmbReal x,
EmbReal y,
EmbReal w,
EmbReal h)

MainWindow::nativePrintArea.

Parameters

| | |
|---|--|
| x | |
| y | |
| w | |
| h | |

17.70.3.249 nativeQSnapX() EmbReal nativeQSnapX ()

MainWindow::nativeQSnapX.

Returns

17.70.3.250 nativeQSnapY() `EmbReal nativeQSnapY ()`

`MainWindow::nativeQSnapY.`

Returns

17.70.3.251 nativeRedo() `void nativeRedo ()`

17.70.3.252 nativeRotateSelected() `void nativeRotateSelected (`

```
    EmbReal x,  
    EmbReal y,  
    EmbReal rot )
```

`MainWindow::nativeRotateSelected.`

Parameters

| | |
|------------|--|
| <i>x</i> | |
| <i>y</i> | |
| <i>rot</i> | |

17.70.3.253 nativeScaleSelected() `void nativeScaleSelected (`

```
    EmbReal x,  
    EmbReal y,  
    EmbReal factor )
```

`MainWindow::nativeScaleSelected.`

Parameters

| | |
|---------------|--|
| <i>x</i> | |
| <i>y</i> | |
| <i>factor</i> | |

17.70.3.254 nativeSelectAll() `void nativeSelectAll ()`

17.70.3.255 nativeSetBackgroundColor() void nativeSetBackgroundColor (uint8_t r, uint8_t g, uint8_t b)

17.70.3.256 nativeSetCrossHairColor() void nativeSetCrossHairColor (uint8_t r, uint8_t g, uint8_t b)

17.70.3.257 nativeSetCursorShape() void nativeSetCursorShape (const QString & str)

17.70.3.258 nativeSetGridColor() void nativeSetGridColor (uint8_t r, uint8_t g, uint8_t b)

17.70.3.259 nativeSetPromptPrefix() void nativeSetPromptPrefix (const QString & txt)

17.70.3.260 nativeSetRubberMode() void nativeSetRubberMode (int mode)

17.70.3.261 nativeSetRubberPoint() void nativeSetRubberPoint (const QString & key, EmbReal x, EmbReal y)

17.70.3.262 nativeSetRubberText() void nativeSetRubberText (const QString & key, const QString & txt)

17.70.3.263 nativeSetTextAngle() void nativeSetTextAngle (

EmbReal num)

17.70.3.264 nativeSetTextBold() void nativeSetTextBold (

bool val)

17.70.3.265 nativeSetFont() void nativeSetFont (

const QString & str)

17.70.3.266 nativeSetTextItalic() void nativeSetTextItalic (

bool val)

17.70.3.267 nativeSetTextOverline() void nativeSetTextOverline (

bool val)

17.70.3.268 nativeSetTextSize() void nativeSetTextSize (

EmbReal num)

17.70.3.269 nativeSetTextStrikeOut() void nativeSetTextStrikeOut (

bool val)

17.70.3.270 nativeSetTextUnderline() void nativeSetTextUnderline (

bool val)

17.70.3.271 nativeSpareRubber() void nativeSpareRubber (

qint64 id)

17.70.3.272 nativeTextAngle() EmbReal nativeTextAngle ()

17.70.3.273 nativeTextBold() bool nativeTextBold ()

17.70.3.274 nativeTextFont() QString nativeTextFont ()

17.70.3.275 nativeTextItalic() bool nativeTextItalic ()

17.70.3.276 nativeTextOverline() bool nativeTextOverline ()

17.70.3.277 nativeTextSize() EmbReal nativeTextSize ()

17.70.3.278 nativeTextStrikeOut() bool nativeTextStrikeOut ()

17.70.3.279 nativeTextUnderline() bool nativeTextUnderline ()

17.70.3.280 nativeTipOfDay() void nativeTipOfDay ()

17.70.3.281 nativeUndo() void nativeUndo ()

17.70.3.282 nativeVulcanize() void nativeVulcanize ()

17.70.3.283 nativeWindowCascade() void nativeWindowCascade ()

17.70.3.284 nativeWindowClose() void nativeWindowClose ()

17.70.3.285 nativeWindowCloseAll() void nativeWindowCloseAll ()

17.70.3.286 nativeWindowNext() void nativeWindowNext ()

17.70.3.287 nativeWindowPrevious() void nativeWindowPrevious ()

17.70.3.288 nativeWindowTile() void nativeWindowTile ()

17.70.3.289 nativeZoomExtents() void nativeZoomExtents ()

[MainWindow::nativeZoomExtents](#).

17.70.3.290 nativeZoomIn() void nativeZoomIn ()

[MainWindow::nativeZoomIn](#).

17.70.3.291 nativeZoomOut() void nativeZoomOut ()

[MainWindow::nativeZoomOut](#).

17.70.3.292 newFile void newFile () [slot]

[MainWindow::newFile](#).

17.70.3.293 nightVision void nightVision () [slot]

[MainWindow::nightVision](#).

17.70.3.294 onCloseMdiWin void onCloseMdiWin (
 [MdiWindow](#) * theMdiWin) [virtual], [slot]

[MainWindow::onCloseMdiWin](#).

Parameters

| | |
|------------------|---------------------------------|
| <i>theMdiWin</i> | <input type="button" value=""/> |
|------------------|---------------------------------|

17.70.3.295 onCloseWindow void onCloseWindow () [slot][MainWindow::onCloseWindow.](#)**17.70.3.296 onWindowActivated** void onWindowActivated (QMdiSubWindow * *w*) [slot][MainWindow::onWindowActivated.](#)**Parameters**

| | |
|----------|---------------------------------|
| <i>w</i> | <input type="button" value=""/> |
|----------|---------------------------------|

17.70.3.297 openFile void openFile (bool *recent* = *false*, const QString & *recentFile* = "") [slot][MainWindow::openFile.](#)**Parameters**

| | |
|-------------------|---------------------------------|
| <i>recent</i> | <input type="button" value=""/> |
| <i>recentFile</i> | <input type="button" value=""/> |

17.70.3.298 openFilesSelected void openFilesSelected (const QStringList & *filesToOpen*) [slot][MainWindow::openFilesSelected.](#)**Parameters**

| | |
|--------------------|---------------------------------|
| <i>filesToOpen</i> | <input type="button" value=""/> |
|--------------------|---------------------------------|

17.70.3.299 openrecentfile void openrecentfile () [slot]

[MainWindow::openrecentfile](#).

17.70.3.300 panDown void panDown () [slot]

[MainWindow::panDown](#).

17.70.3.301 panLeft void panLeft () [slot]

17.70.3.302 panpoint void panpoint () [slot]

17.70.3.303 panrealtime void panrealtime () [slot]

17.70.3.304 panRight void panRight () [slot]

17.70.3.305 panUp void panUp () [slot]

17.70.3.306 paste void paste () [slot]

17.70.3.307 pickAddModeToggled void pickAddModeToggled () [slot]

17.70.3.308 platformString() QString platformString ()

17.70.3.309 print void print () [slot]

17.70.3.310 promptHistoryAppended void promptHistoryAppended (const QString & txt) [slot]

17.70.3.311 promptInputNext void promptInputNext () [slot]

17.70.3.312 promptInputPrevious void promptInputPrevious () [slot]

17.70.3.313 quit void quit () [slot]

[MainWindow::quit](#).

17.70.3.314 readSettings void readSettings () [slot]

[MainWindow::readSettings](#).

17.70.3.315 recentMenuAboutToShow void recentMenuAboutToShow () [slot]

[MainWindow::recentMenuAboutToShow](#).

17.70.3.316 redo void redo () [slot]

17.70.3.317 resizeEvent() void resizeEvent (QResizeEvent * e) [protected], [virtual]

[MainWindow::resizeEvent](#).

Parameters

| | |
|---|--|
| e | |
|---|--|

17.70.3.318 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
-----
```

17.70.3.319 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. |
|--------------------|--------------------------------|

17.70.3.320 runCommand `void runCommand () [slot]`

17.70.3.321 runCommandClick `void runCommandClick (const QString & cmd, EmbReal x, EmbReal y) [slot]`

17.70.3.322 runCommandContext `void runCommandContext (const QString & cmd, const QString & str) [slot]`

17.70.3.323 runCommandMain void runCommandMain (const QString & *cmd*) [slot]

17.70.3.324 runCommandMove void runCommandMove (const QString & *cmd*, EmbReal *x*, EmbReal *y*) [slot]

17.70.3.325 runCommandPrompt void runCommandPrompt (const QString & *cmd*, const QString & *str*) [slot]

17.70.3.326 saveasfile void saveasfile () [slot]

[MainWindow::saveasfile](#).

17.70.3.327 savefile void savefile () [slot]

[MainWindow::savefile](#).

17.70.3.328 selectAll void selectAll () [slot]

17.70.3.329 setSettingsCustomFilter() void setSettingsCustomFilter (const QString & *newValue*) [inline]

17.70.3.330 setSettingsDisplayBGColor() void setSettingsDisplayBGColor (QRgb *newValue*) [inline]

17.70.3.331 setSettingsDisplayCrossHairColor() void setSettingsDisplayCrossHairColor (QRgb *newValue*) [inline]

17.70.3.332 `setSettingsDisplayCrossHairPercent()` void setSettingsDisplayCrossHairPercent (uint8_t newValue) [inline]

17.70.3.333 `setSettingsDisplayRenderHintAA()` void setSettingsDisplayRenderHintAA (bool newValue) [inline]

17.70.3.334 `setSettingsDisplayRenderHintHighAA()` void setSettingsDisplayRenderHintHighAA (bool newValue) [inline]

17.70.3.335 `setSettingsDisplayRenderHintNonCosmetic()` void setSettingsDisplayRenderHintNonCosmetic (bool newValue) [inline]

17.70.3.336 `setSettingsDisplayRenderHintSmoothPix()` void setSettingsDisplayRenderHintSmoothPix (bool newValue) [inline]

17.70.3.337 `setSettingsDisplayRenderHintTextAA()` void setSettingsDisplayRenderHintTextAA (bool newValue) [inline]

17.70.3.338 `setSettingsDisplayScrollBarWidgetNum()` void setSettingsDisplayScrollBarWidgetNum (int newValue) [inline]

17.70.3.339 `setSettingsDisplaySelectBoxAlpha()` void setSettingsDisplaySelectBoxAlpha (uint8_t newValue) [inline]

17.70.3.340 `setSettingsDisplaySelectBoxLeftColor()` void setSettingsDisplaySelectBoxLeftColor (QRgb newValue) [inline]

17.70.3.341 `setSettingsDisplaySelectBoxLeftFill()` void setSettingsDisplaySelectBoxLeftFill (QRgb newValue) [inline]

17.70.3.342 `setSettingsDisplaySelectBoxRightColor()` void setSettingsDisplaySelectBoxRightColor (QRgb newValue) [inline]

17.70.3.343 `setSettingsDisplaySelectBoxRightFill()` void setSettingsDisplaySelectBoxRightFill (QRgb newValue) [inline]

17.70.3.344 `setSettingsDisplayShowScrollBars()` void setSettingsDisplayShowScrollBars (bool newValue) [inline]

17.70.3.345 `setSettingsDisplayUnits()` void setSettingsDisplayUnits (const QString & newValue) [inline]

17.70.3.346 `setSettingsDisplayUseOpenGL()` void setSettingsDisplayUseOpenGL (bool newValue) [inline]

17.70.3.347 `setSettingsDisplayZoomScaleIn()` void setSettingsDisplayZoomScaleIn (EmbReal newValue) [inline]

17.70.3.348 `setSettingsDisplayZoomScaleOut()` void setSettingsDisplayZoomScaleOut (EmbReal newValue) [inline]

17.70.3.349 `setSettingsGeneralCheckForUpdates()` void setSettingsGeneralCheckForUpdates (bool newValue) [inline]

17.70.3.350 `setSettingsGeneralCurrentTip()` void setSettingsGeneralCurrentTip (int newValue) [inline]

- 17.70.3.351 `setSettingsGeneralIconSize()`** void setSettingsGeneralIconSize (int newValue) [inline]
- 17.70.3.352 `setSettingsGeneralIconTheme()`** void setSettingsGeneralIconTheme (const QString & newValue) [inline]
- 17.70.3.353 `setSettingsGeneralLanguage()`** void setSettingsGeneralLanguage (const QString & newValue) [inline]
- 17.70.3.354 `setSettingsGeneralMdiBGColor()`** void setSettingsGeneralMdiBGColor (QRgb newValue) [inline]
- 17.70.3.355 `setSettingsGeneralMdiBGLogo()`** void setSettingsGeneralMdiBGLogo (const QString & newValue) [inline]
- 17.70.3.356 `setSettingsGeneralMdiBGTexture()`** void setSettingsGeneralMdiBGTexture (const QString & newValue) [inline]
- 17.70.3.357 `setSettingsGeneralMdiBGUseColor()`** void setSettingsGeneralMdiBGUseColor (bool newValue) [inline]
- 17.70.3.358 `setSettingsGeneralMdiBGUseLogo()`** void setSettingsGeneralMdiBGUseLogo (bool newValue) [inline]
- 17.70.3.359 `setSettingsGeneralMdiBGUseTexture()`** void setSettingsGeneralMdiBGUseTexture (bool newValue) [inline]
- 17.70.3.360 `setSettingsGeneralSystemHelpBrowser()`** void setSettingsGeneralSystemHelpBrowser (bool newValue) [inline]

17.70.3.361 `setSettingsGeneralTipOfTheDay()` void setSettingsGeneralTipOfTheDay (bool newValue) [inline]

17.70.3.362 `setSettingsGridCenterOnOrigin()` void setSettingsGridCenterOnOrigin (bool newValue) [inline]

17.70.3.363 `setSettingsGridCenterX()` void setSettingsGridCenterX (EmbReal newValue) [inline]

17.70.3.364 `setSettingsGridCenterY()` void setSettingsGridCenterY (EmbReal newValue) [inline]

17.70.3.365 `setSettingsGridColor()` void setSettingsGridColor (QRgb newValue) [inline]

17.70.3.366 `setSettingsGridColorMatchCrossHair()` void setSettingsGridColorMatchCrossHair (bool newValue) [inline]

17.70.3.367 `setSettingsGridLoadFromFile()` void setSettingsGridLoadFromFile (bool newValue) [inline]

17.70.3.368 `setSettingsGridShowOnLoad()` void setSettingsGridShowOnLoad (bool newValue) [inline]

17.70.3.369 `setSettingsGridShowOrigin()` void setSettingsGridShowOrigin (bool newValue) [inline]

17.70.3.370 `setSettingsGridSizeRadius()` void setSettingsGridSizeRadius (EmbReal newValue) [inline]

17.70.3.371 `setSettingsGridSizeX()` void setSettingsGridSizeX (EmbReal newValue) [inline]

17.70.3.372 `setSettingsGridSizeY()` void setSettingsGridSizeY (EmbReal newValue) [inline]

17.70.3.373 `setSettingsGridSpacingAngle()` void setSettingsGridSpacingAngle (EmbReal newValue) [inline]

17.70.3.374 `setSettingsGridSpacingRadius()` void setSettingsGridSpacingRadius (EmbReal newValue) [inline]

17.70.3.375 `setSettingsGridSpacingX()` void setSettingsGridSpacingX (EmbReal newValue) [inline]

17.70.3.376 `setSettingsGridSpacingY()` void setSettingsGridSpacingY (EmbReal newValue) [inline]

17.70.3.377 `setSettingsGridType()` void setSettingsGridType (const QString & newValue) [inline]

17.70.3.378 `setSettingsLwtDefaultLwt()` void setSettingsLwtDefaultLwt (EmbReal newValue) [inline]

17.70.3.379 `setSettingsLwtRealRender()` void setSettingsLwtRealRender (bool newValue) [inline]

17.70.3.380 `setSettingsLwtShowLwt()` void setSettingsLwtShowLwt (bool newValue) [inline]

17.70.3.381 `setSettingsOpenFormat()` void setSettingsOpenFormat (const QString & newValue) [inline]

17.70.3.382 `setSettingsOpenSaveTrimDstNumJumps()` void setSettingsOpenSaveTrimDstNumJumps (uint8_t newValue) [inline]

17.70.3.383 `setSettingsOpenThumbnail()` void setSettingsOpenThumbnail (bool newValue) [inline]

17.70.3.384 `setSettingsPrintingDefaultDevice()` void setSettingsPrintingDefaultDevice (const QString & newValue) [inline]

17.70.3.385 `setSettingsPrintingDisableBG()` void setSettingsPrintingDisableBG (bool newValue) [inline]

17.70.3.386 `setSettingsPrintingUseLastDevice()` void setSettingsPrintingUseLastDevice (bool newValue) [inline]

17.70.3.387 `setSettingsPromptBColor()` void setSettingsPromptBColor (QRgb newValue) [inline]

17.70.3.388 `setSettingsPromptFontFamily()` void setSettingsPromptFontFamily (const QString & newValue) [inline]

17.70.3.389 `setSettingsPromptFontSize()` void setSettingsPromptFontSize (uint8_t newValue) [inline]

17.70.3.390 `setSettingsPromptFontStyle()` void setSettingsPromptFontStyle (const QString & newValue) [inline]

17.70.3.391 `setSettingsPromptSaveHistory()` void setSettingsPromptSaveHistory (bool newValue) [inline]

17.70.3.392 `setSettingsPromptSaveHistoryAsHtml()` void setSettingsPromptSaveHistoryAsHtml (bool newValue) [inline]

17.70.3.393 `setSettingsPromptSaveHistoryFilename()` void setSettingsPromptSaveHistoryFilename (const QString & newValue) [inline]

17.70.3.394 `setSettingsPromptTextColor()` void setSettingsPromptTextColor (QRgb newValue) [inline]

17.70.3.395 `setSettingsQSnapApertureSize()` void setSettingsQSnapApertureSize (uint8_t newValue) [inline]

17.70.3.396 `setSettingsQSnapApparent()` void setSettingsQSnapApparent (bool newValue) [inline]

17.70.3.397 `setSettingsQSnapCenter()` void setSettingsQSnapCenter (bool newValue) [inline]

17.70.3.398 `setSettingsQSnapEnabled()` void setSettingsQSnapEnabled (bool newValue) [inline]

17.70.3.399 `setSettingsQSnapEndPoint()` void setSettingsQSnapEndPoint (bool newValue) [inline]

17.70.3.400 `setSettingsQSnapExtension()` void setSettingsQSnapExtension (bool newValue) [inline]

17.70.3.401 `setSettingsQSnapInsertion()` void setSettingsQSnapInsertion (bool newValue) [inline]

17.70.3.402 `setSettingsQSnapIntersection()` void setSettingsQSnapIntersection (bool newValue) [inline]

17.70.3.403 `setSettingsQSnapLocatorColor()` void setSettingsQSnapLocatorColor (QRgb newValue) [inline]

17.70.3.404 `setSettingsQSnapLocatorSize()` void setSettingsQSnapLocatorSize (uint8_t newValue) [inline]

17.70.3.405 `setSettingsQSnapMidPoint()` void setSettingsQSnapMidPoint (bool newValue) [inline]

17.70.3.406 `setSettingsQSnapNearest()` void setSettingsQSnapNearest (bool newValue) [inline]

17.70.3.407 `setSettingsQSnapNode()` void setSettingsQSnapNode (bool newValue) [inline]

17.70.3.408 `setSettingsQSnapParallel()` void setSettingsQSnapParallel (bool newValue) [inline]

17.70.3.409 `setSettingsQSnapPerpendicular()` void setSettingsQSnapPerpendicular (bool newValue) [inline]

17.70.3.410 `setSettingsQSnapQuadrant()` void setSettingsQSnapQuadrant (bool newValue) [inline]

17.70.3.411 `setSettingsQSnapTangent()` void setSettingsQSnapTangent (bool newValue) [inline]

17.70.3.412 `setSettingsRecentMaxFiles()` void setSettingsRecentMaxFiles (uint8_t newValue) [inline]

17.70.3.413 `setSettingsRulerColor()` void setSettingsRulerColor (QRgb newValue) [inline]

17.70.3.414 `setSettingsRulerMetric()` void setSettingsRulerMetric (bool newValue) [inline]

17.70.3.415 `setSettingsRulerPixelSize()` void setSettingsRulerPixelSize (uint8_t newValue) [inline]

17.70.3.416 `setSettingsRulerShowOnLoad()` void setSettingsRulerShowOnLoad (bool newValue) [inline]

17.70.3.417 `setSettingsSaveFormat()` void setSettingsSaveFormat (const QString & newValue) [inline]

17.70.3.418 `setSettingsSaveThumbnail()` void setSettingsSaveThumbnail (bool newValue) [inline]

17.70.3.419 `setSettingsSelectionCoolGripColor()` void setSettingsSelectionCoolGripColor (QRgb newValue) [inline]

17.70.3.420 `setSettingsSelectionGripSize()` void setSettingsSelectionGripSize (uint8_t newValue) [inline]

17.70.3.421 `setSettingsSelectionHotGripColor()` void setSettingsSelectionHotGripColor (QRgb newValue) [inline]

17.70.3.422 `setSettingsSelectionModePickAdd()` void setSettingsSelectionModePickAdd (bool newValue) [inline]

17.70.3.423 `setSettingsSelectionModePickDrag()` void setSettingsSelectionModePickDrag (bool newValue) [inline]

17.70.3.424 `setSettingsSelectionModePickFirst()` void setSettingsSelectionModePickFirst (bool newValue) [inline]

17.70.3.425 `setSettingsSelectionPickBoxSize()` void setSettingsSelectionPickBoxSize (uint8_t newValue) [inline]

17.70.3.426 `setSettingsTextAngle()` void setSettingsTextAngle (EmbReal newValue) [inline]

17.70.3.427 `setSettingsTextFont()` void setSettingsTextFont (const QString & newValue) [inline]

17.70.3.428 `setSettingsTextSize()` void setSettingsTextSize (EmbReal newValue) [inline]

17.70.3.429 `setSettingsTextStyleBold()` void setSettingsTextStyleBold (bool newValue) [inline]

17.70.3.430 `setSettingsTextStyleItalic()` void setSettingsTextStyleItalic (bool newValue) [inline]

17.70.3.431 `setSettingsTextStyleOverline()` void setSettingsTextStyleOverline (bool newValue) [inline]

17.70.3.432 `setSettingsTextStyleStrikeOut()` void setSettingsTextStyleStrikeOut (bool newValue) [inline]

17.70.3.433 `setSettingsTextStyleUnderline()` void setSettingsTextStyleUnderline (bool newValue) [inline]

17.70.3.434 `setShiftPressed` void setShiftPressed () [slot]

17.70.3.435 `setShiftReleased` void setShiftReleased () [slot]

17.70.3.436 `setTextAngle` void setTextAngle (EmbReal num) [slot]

17.70.3.437 `setTextBold` void setTextBold (bool val) [slot]

17.70.3.438 `setTextFont` void setTextFont (const QString & str) [slot]

17.70.3.439 `setTextItalic` void setTextItalic (bool val) [slot]

17.70.3.440 `setTextOverline` void setTextOverline (bool val) [slot]

17.70.3.441 `setTextSize` void setTextSize (
 EmbReal num) [slot]

17.70.3.442 `setTextStrikeOut` void setTextStrikeOut (
 bool val) [slot]

17.70.3.443 `setTextUnderline` void setTextUnderline (
 bool val) [slot]

17.70.3.444 `settingsDialog` void settingsDialog (
 const **QString** & showTab = **QString()**) [slot]

17.70.3.445 `settingsPrompt` void settingsPrompt () [slot]

17.70.3.446 `setUndoCleanIcon()` void setUndoCleanIcon (
 bool opened)

17.70.3.447 `stub_implement` void stub_implement (
 QString txt) [slot]

[MainWindow::stub_implement](#).

Parameters

| | |
|------------|----------------------|
| <i>txt</i> | <input type="text"/> |
|------------|----------------------|

17.70.3.448 `stub_testing` void stub_testing () [slot]

[MainWindow::stub_testing](#).

17.70.3.449 `textAngle` `EmbReal textAngle () [slot]`

17.70.3.450 `textBold` `bool textBold () [slot]`

17.70.3.451 `textFont` `QString textFont () [slot]`

17.70.3.452 `textFontSelectorCurrentFontChanged` `void textFontSelectorCurrentFontChanged (const QFont & font) [slot]`

17.70.3.453 `textItalic` `bool textItalic () [slot]`

17.70.3.454 `textOverline` `bool textOverline () [slot]`

17.70.3.455 `textSize` `EmbReal textSize () [slot]`

17.70.3.456 `textSizeSelectorIndexChanged` `void textSizeSelectorIndexChanged (int index) [slot]`

17.70.3.457 `textStrikeOut` `bool textStrikeOut () [slot]`

17.70.3.458 `textUnderline` `bool textUnderline () [slot]`

17.70.3.459 `tipOfDay` `void tipOfDay () [slot]`

17.70.3.460 toggleGrid void toggleGrid () [slot]

17.70.3.461 toggleLwt void toggleLwt () [slot]

17.70.3.462 toggleRuler void toggleRuler () [slot]

17.70.3.463 undo void undo () [slot]

17.70.3.464 updateAllViewBackgroundColors void updateAllViewBackgroundColors (QRgb color) [slot]

17.70.3.465 updateAllViewCrossHairColors void updateAllViewCrossHairColors (QRgb color) [slot]

17.70.3.466 updateAllViewGridColors void updateAllViewGridColors (QRgb color) [slot]

17.70.3.467 updateAllViewRulerColors void updateAllViewRulerColors (QRgb color) [slot]

17.70.3.468 updateAllViewScrollBars void updateAllViewScrollBars (bool val) [slot]

17.70.3.469 updateAllViewSelectBoxColors void updateAllViewSelectBoxColors (QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha) [slot]

17.70.3.470 updateMenuToolbarStatusbar() void updateMenuToolbarStatusbar () [virtual]

[MainWindow::updateMenuToolbarStatusbar](#).

17.70.3.471 updatePickAddMode void updatePickAddMode (bool val) [slot]

17.70.3.472 validFileFormat bool validFileFormat (const QString & *fileName*) [static], [slot]

[MainWindow::validFileFormat](#).

Parameters

| | |
|-----------------|----------------------|
| <i>fileName</i> | <input type="text"/> |
|-----------------|----------------------|

Returns

17.70.3.473 whatsThisContextHelp void whatsThisContextHelp () [slot]

17.70.3.474 windowMenuAboutToShow void windowMenuAboutToShow () [slot]

[MainWindow::windowMenuAboutToShow](#).

17.70.3.475 windowMenuActivated void windowMenuActivated (bool *checked*) [slot]

[MainWindow::windowMenuActivated](#).

Parameters

| | |
|----------------|--------------------------|
| <i>checked</i> | <input type="checkbox"/> |
|----------------|--------------------------|

17.70.3.476 writeSettings void writeSettings () [slot]

MainWindow::writeSettings.

17.70.3.477 zoomAll void zoomAll () [slot]

17.70.3.478 zoomCenter void zoomCenter () [slot]

17.70.3.479 zoomDynamic void zoomDynamic () [slot]

17.70.3.480 zoomExtents void zoomExtents () [slot]

17.70.3.481 zoomIn void zoomIn () [slot]

17.70.3.482 zoomOut void zoomOut () [slot]

17.70.3.483 zoomPrevious void zoomPrevious () [slot]

17.70.3.484 zoomRealtime void zoomRealtime () [slot]

17.70.3.485 zoomScale void zoomScale () [slot]

17.70.3.486 zoomSelected void zoomSelected () [slot]

17.70.3.487 zoomWindow void zoomWindow () [slot]

17.70.4 Member Data Documentation

17.70.4.1 actionHash `QHash<int, QAction*> actionHash`

17.70.4.2 checkBoxTipOfDay `QCheckBox* checkBoxTipOfDay [private]`

17.70.4.3 colorSelector `QComboBox* colorSelector [private]`

17.70.4.4 cutCopyObjectList `QList<QGraphicsItem*> cutCopyObjectList`

17.70.4.5 debugger `QScriptEngineDebugger* debugger [private]`

17.70.4.6 docIndex `int docIndex [private]`

17.70.4.7 dockPropEdit `PropertyEditor* dockPropEdit`

17.70.4.8 dockUndoEdit `UndoEditor* dockUndoEdit`

17.70.4.9 editMenu `QMenu* editMenu [private]`

17.70.4.10 engine `QScriptEngine* engine [private]`

17.70.4.11 fileMenu `QMenu* fileMenu [private]`

17.70.4.12 formatFilterOpen `QString formatFilterOpen`

17.70.4.13 formatFilterSave `QString formatFilterSave`

17.70.4.14 helpMenu `QMenu* helpMenu [private]`

17.70.4.15 labelTipOfDay `QLabel* labelTipOfDay [private]`

17.70.4.16 layerSelector `QComboBox* layerSelector [private]`

17.70.4.17 layoutState `QByteArray layoutState [private]`

17.70.4.18 linetypeSelector `QComboBox* linetypeSelector [private]`

17.70.4.19 linewidthSelector `QComboBox* linewidthSelector [private]`

17.70.4.20 listMdiWin `QList<MdiWindow*> listMdiWin [private]`

17.70.4.21 listTipOfDay `QStringList listTipOfDay [private]`

17.70.4.22 mainWin `MainWindow*` `mainWin`

17.70.4.23 mdiArea `MdiArea*` `mdiArea`

17.70.4.24 menuHash `QHash<QString, QMenu*>` `menuHash`

17.70.4.25 myFileSeparator `QAction*` `myFileSeparator` [private]

17.70.4.26 numOfDocs `int` `numOfDocs` [private]

17.70.4.27 openFilesPath `QString` `openFilesPath` [private]

17.70.4.28 panMenu `QMenu*` `panMenu` [private]

17.70.4.29 prompt `CmdPrompt*` `prompt`

17.70.4.30 recentMenu `QMenu*` `recentMenu` [private]

17.70.4.31 settings_display_bg_color `QRgb` `settings_display_bg_color` [private]

17.70.4.32 settings_display_crosshair_color `QRgb` `settings_display_crosshair_color` [private]

17.70.4.33 settings_display_crosshair_percent uint8_t settings_display_crosshair_percent [private]

17.70.4.34 settings_display_renderhint_aa bool settings_display_renderhint_aa [private]

17.70.4.35 settings_display_renderhint_high_aa bool settings_display_renderhint_high_aa [private]

17.70.4.36 settings_display_renderhint_noncosmetic bool settings_display_renderhint_noncosmetic [private]

17.70.4.37 settings_display_renderhint_smooth_pix bool settings_display_renderhint_smooth_pix [private]

17.70.4.38 settings_display_renderhint_text_aa bool settings_display_renderhint_text_aa [private]

17.70.4.39 settings_display_scrollbar_widget_num int settings_display_scrollbar_widget_num [private]

17.70.4.40 settings_display_selectbox_alpha uint8_t settings_display_selectbox_alpha [private]

17.70.4.41 settings_display_selectbox_left_color QRgb settings_display_selectbox_left_color [private]

17.70.4.42 settings_display_selectbox_left_fill QRgb settings_display_selectbox_left_fill [private]

17.70.4.43 settings_display_selectbox_right_color QRgb settings_display_selectbox_right_color [private]

17.70.4.44 **settings_display_selectbox_right_fill** QRgb settings_display_selectbox_right_fill [private]

17.70.4.45 **settings_display_show_scrollbars** bool settings_display_show_scrollbars [private]

17.70.4.46 **settings_display_units** QString settings_display_units [private]

17.70.4.47 **settings_display_use_opengl** bool settings_display_use_opengl [private]

17.70.4.48 **settings_display_zoomscale_in** EmbReal settings_display_zoomscale_in [private]

17.70.4.49 **settings_display_zoomscale_out** EmbReal settings_display_zoomscale_out [private]

17.70.4.50 **settings_general_check_for_updates** bool settings_general_check_for_updates [private]

17.70.4.51 **settings_general_current_tip** quint16 settings_general_current_tip [private]

17.70.4.52 **settings_general_icon_size** int settings_general_icon_size [private]

17.70.4.53 **settings_general_icon_theme** QString settings_general_icon_theme [private]

17.70.4.54 **settings_general_language** QString settings_general_language [private]

17.70.4.55 **settings_general_mdi_bg_color** QRgb settings_general_mdi_bg_color [private]

17.70.4.56 **settings_general_mdi_bg_logo** QString settings_general_mdi_bg_logo [private]

17.70.4.57 **settings_general_mdi_bg_texture** QString settings_general_mdi_bg_texture [private]

17.70.4.58 **settings_general_mdi_bg_use_color** bool settings_general_mdi_bg_use_color [private]

17.70.4.59 **settings_general_mdi_bg_use_logo** bool settings_general_mdi_bg_use_logo [private]

17.70.4.60 **settings_general_mdi_bg_use_texture** bool settings_general_mdi_bg_use_texture [private]

17.70.4.61 **settings_general_system_help_browser** bool settings_general_system_help_browser [private]

17.70.4.62 **settings_general_tip_of_the_day** bool settings_general_tip_of_the_day [private]

17.70.4.63 **settings_grid_center_on_origin** bool settings_grid_center_on_origin [private]

17.70.4.64 **settings_grid_center_x** EmbReal settings_grid_center_x [private]

17.70.4.65 **settings_grid_center_y** EmbReal settings_grid_center_y [private]

17.70.4.66 **settings_grid_color** `QRgb settings_grid_color [private]`

17.70.4.67 **settings_grid_color_match_crosshair** `bool settings_grid_color_match_crosshair [private]`

17.70.4.68 **settings_grid_load_from_file** `bool settings_grid_load_from_file [private]`

17.70.4.69 **settings_grid_show_on_load** `bool settings_grid_show_on_load [private]`

17.70.4.70 **settings_grid_show_origin** `bool settings_grid_show_origin [private]`

17.70.4.71 **settings_grid_size_radius** `EmbReal settings_grid_size_radius [private]`

17.70.4.72 **settings_grid_size_x** `EmbReal settings_grid_size_x [private]`

17.70.4.73 **settings_grid_size_y** `EmbReal settings_grid_size_y [private]`

17.70.4.74 **settings_grid_spacing_angle** `EmbReal settings_grid_spacing_angle [private]`

17.70.4.75 **settings_grid_spacing_radius** `EmbReal settings_grid_spacing_radius [private]`

17.70.4.76 **settings_grid_spacing_x** `EmbReal settings_grid_spacing_x [private]`

17.70.4.77 settings_grid_spacing_y `EmbReal` `settings_grid_spacing_y` [private]

17.70.4.78 settings_grid_type `QString` `settings_grid_type` [private]

17.70.4.79 settings_lwt_default_lwt `EmbReal` `settings_lwt_default_lwt` [private]

17.70.4.80 settings_lwt_real_render `bool` `settings_lwt_real_render` [private]

17.70.4.81 settings_lwt_show_lwt `bool` `settings_lwt_show_lwt` [private]

17.70.4.82 settings_opensave_custom_filter `QString` `settings_opensave_custom_filter` [private]

17.70.4.83 settings_opensave_open_format `QString` `settings_opensave_open_format` [private]

17.70.4.84 settings_opensave_open_thumbnail `bool` `settings_opensave_open_thumbnail` [private]

17.70.4.85 settings_opensave_recent_directory `QString` `settings_opensave_recent_directory` [private]

17.70.4.86 settings_opensave_recent_list_of_files `QStringList` `settings_opensave_recent_list_of_files` [private]

17.70.4.87 settings_opensave_recent_max_files `uint8_t` `settings_opensave_recent_max_files` [private]

17.70.4.88 **settings_opensave_save_format** `QString settings_opensave_save_format [private]`

17.70.4.89 **settings_opensave_save_thumbnail** `bool settings_opensave_save_thumbnail [private]`

17.70.4.90 **settings_opensave_trim_dst_num_jumps** `uint8_t settings_opensave_trim_dst_num_jumps [private]`

17.70.4.91 **settings_printing_default_device** `QString settings_printing_default_device [private]`

17.70.4.92 **settings_printing_disable_bg** `bool settings_printing_disable_bg [private]`

17.70.4.93 **settings_printing_use_last_device** `bool settings_printing_use_last_device [private]`

17.70.4.94 **settings_prompt_bg_color** `QRgb settings_prompt_bg_color [private]`

17.70.4.95 **settings_prompt_font_family** `QString settings_prompt_font_family [private]`

17.70.4.96 **settings_prompt_font_size** `uint8_t settings_prompt_font_size [private]`

17.70.4.97 **settings_prompt_font_style** `QString settings_prompt_font_style [private]`

17.70.4.98 **settings_prompt_save_history** `bool settings_prompt_save_history [private]`

17.70.4.99 **settings_prompt_save_history_as_html** bool settings_prompt_save_history_as_html [private]

17.70.4.100 **settings_prompt_save_history_filename** QString settings_prompt_save_history_filename [private]

17.70.4.101 **settings_prompt_text_color** QRgb settings_prompt_text_color [private]

17.70.4.102 **settings_qsnap_aperture_size** uint8_t settings_qsnap_aperture_size [private]

17.70.4.103 **settings_qsnap_apparent** bool settings_qsnap_apparent [private]

17.70.4.104 **settings_qsnap_center** bool settings_qsnap_center [private]

17.70.4.105 **settings_qsnap_enabled** bool settings_qsnap_enabled [private]

17.70.4.106 **settings_qsnap_endpoint** bool settings_qsnap_endpoint [private]

17.70.4.107 **settings_qsnap_extension** bool settings_qsnap_extension [private]

17.70.4.108 **settings_qsnap_insertion** bool settings_qsnap_insertion [private]

17.70.4.109 **settings_qsnap_intersection** bool settings_qsnap_intersection [private]

17.70.4.110 **settings_qsnap_locator_color** QRgb settings_qsnap_locator_color [private]

17.70.4.111 **settings_qsnap_locator_size** uint8_t settings_qsnap_locator_size [private]

17.70.4.112 **settings_qsnap_midpoint** bool settings_qsnap_midpoint [private]

17.70.4.113 **settings_qsnap_nearest** bool settings_qsnap_nearest [private]

17.70.4.114 **settings_qsnap_node** bool settings_qsnap_node [private]

17.70.4.115 **settings_qsnap_parallel** bool settings_qsnap_parallel [private]

17.70.4.116 **settings_qsnap_perpendicular** bool settings_qsnap_perpendicular [private]

17.70.4.117 **settings_qsnap_quadrant** bool settings_qsnap_quadrant [private]

17.70.4.118 **settings_qsnap_tangent** bool settings_qsnap_tangent [private]

17.70.4.119 **settings_ruler_color** QRgb settings_ruler_color [private]

17.70.4.120 **settings_ruler_metric** bool settings_ruler_metric [private]

17.70.4.121 **settings_ruler_pixel_size** uint8_t settings_ruler_pixel_size [private]

17.70.4.122 **settings_ruler_show_on_load** bool settings_ruler_show_on_load [private]

17.70.4.123 **settings_selection_coolgrip_color** QRgb settings_selection_coolgrip_color [private]

17.70.4.124 **settings_selection_grip_size** uint8_t settings_selection_grip_size [private]

17.70.4.125 **settings_selection_hotgrip_color** QRgb settings_selection_hotgrip_color [private]

17.70.4.126 **settings_selection_mode_pickadd** bool settings_selection_mode_pickadd [private]

17.70.4.127 **settings_selection_mode_pickdrag** bool settings_selection_mode_pickdrag [private]

17.70.4.128 **settings_selection_mode_pickfirst** bool settings_selection_mode_pickfirst [private]

17.70.4.129 **settings_selection_pickbox_size** uint8_t settings_selection_pickbox_size [private]

17.70.4.130 **settings_text_angle** EmbReal settings_text_angle [private]

17.70.4.131 **settings_text_font** QString settings_text_font [private]

17.70.4.132 **settings_text_size** `EmbReal settings_text_size [private]`

17.70.4.133 **settings_text_style_bold** `bool settings_text_style_bold [private]`

17.70.4.134 **settings_text_style_italic** `bool settings_text_style_italic [private]`

17.70.4.135 **settings_text_style_overline** `bool settings_text_style_overline [private]`

17.70.4.136 **settings_text_style_strikeout** `bool settings_text_style_strikeout [private]`

17.70.4.137 **settings_text_style_underline** `bool settings_text_style_underline [private]`

17.70.4.138 **settingsMenu** `QMenu* settingsMenu [private]`

17.70.4.139 **shiftKeyPressedState** `bool shiftKeyPressedState [private]`

17.70.4.140 **statusbar** `StatusBar* statusbar`

17.70.4.141 **textFontSelector** `QFontComboBox* textFontSelector [private]`

17.70.4.142 **textSizeSelector** `QComboBox* textSizeSelector [private]`

17.70.4.143 toolbarEdit QToolBar* toolbarEdit [private]

17.70.4.144 toolbarFile QToolBar* toolbarFile [private]

17.70.4.145 toolbarHash QHash<QString, QToolBar*> toolbarHash

17.70.4.146 toolbarHelp QToolBar* toolbarHelp [private]

17.70.4.147 toolbarIcon QToolBar* toolbarIcon [private]

17.70.4.148 toolbarLayer QToolBar* toolbarLayer [private]

17.70.4.149 toolbarPan QToolBar* toolbarPan [private]

17.70.4.150 toolbarPrompt QToolBar* toolbarPrompt [private]

17.70.4.151 toolbarProperties QToolBar* toolbarProperties [private]

17.70.4.152 toolbarText QToolBar* toolbarText [private]

17.70.4.153 toolbarView QToolBar* toolbarView [private]

17.70.4.154 toolbarZoom QToolBar* toolbarZoom [private]

17.70.4.155 viewMenu QMenu* viewMenu [private]

17.70.4.156 windowMenu QMenu* windowMenu [private]

17.70.4.157 wizardTipOfDay QWizard* wizardTipOfDay [private]

17.70.4.158 zoomMenu QMenu* zoomMenu [private]

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

- [embroidermodder2/mainwindow.h](#)
- [embroidermodder2/mainwindow-actions.cpp](#)
- [embroidermodder2/mainwindow-commands.cpp](#)
- [embroidermodder2/mainwindow-menus.cpp](#)
- [embroidermodder2/mainwindow-settings.cpp](#)
- [embroidermodder2/mainwindow-toolbars.cpp](#)
- [embroidermodder2/mainwindow.cpp](#)

17.71 MdiArea Class Reference

```
#include <mdiarea.h>
```

Public Slots

- void [cascade \(\)](#)
MdiArea::cascade.
- void [tile \(\)](#)
MdiArea::tile.

Public Member Functions

- `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.

Protected Member Functions

- `virtual void mouseDoubleClickEvent (QMouseEvent *e)`
MdiArea::mouseDoubleClickEvent.
- `virtual void paintEvent (QPaintEvent *e)`
MdiArea::paintEvent.

Private Member Functions

- `void zoomExtentsAllSubWindows ()`
MdiArea::zoomExtentsAllSubWindows.
- `void forceRepaint ()`
MdiArea::forceRepaint.

Private Attributes

- `MainWindow * mainWin`
- `bool useLogo`
- `bool useTexture`
- `bool useColor`
- `QPixmap bgLogo`
- `QPixmap bgTexture`
- `QColor bgColor`

17.71.1 Constructor & Destructor Documentation

```
17.71.1.1 MdiArea() MdiArea (
    MainWindow * mw,
    QWidget * parent = 0 )
```

MdiArea::MdiArea.

Parameters

| | |
|---------------|--|
| <i>mw</i> | |
| <i>parent</i> | |

17.71.1.2 ~MdiArea() ~MdiArea ()

[MdiArea::~MdiArea.](#)

17.71.2 Member Function Documentation**17.71.2.1 cascade void cascade () [slot]**

[MdiArea::cascade.](#)

17.71.2.2 forceRepaint() void forceRepaint () [private]

[MdiArea::forceRepaint.](#)

17.71.2.3 mouseDoubleClickEvent() void mouseDoubleClickEvent (QMouseEvent * e) [protected], [virtual]

[MdiArea::mouseDoubleClickEvent.](#)

17.71.2.4 paintEvent() void paintEvent (QPaintEvent * e) [protected], [virtual]

[MdiArea::paintEvent.](#)

17.71.2.5 setBackgroundColor() void setBackgroundColor (const QColor & color)

[MdiArea::setBackgroundColor.](#)

Parameters

| | |
|--------------|----------------------|
| <i>color</i> | <input type="text"/> |
|--------------|----------------------|

17.71.2.6 setBackgroundLogo() void setBackgroundLogo (const QString & *fileName*)

[MdiArea::setBackgroundLogo](#).

Parameters

| | |
|-----------------|----------------------|
| <i>fileName</i> | <input type="text"/> |
|-----------------|----------------------|

17.71.2.7 setBackgroundTexture() void setBackgroundTexture (const QString & *fileName*)

[MdiArea::setBackgroundTexture](#).

Parameters

| | |
|-----------------|----------------------|
| <i>fileName</i> | <input type="text"/> |
|-----------------|----------------------|

17.71.2.8 tile void tile () [slot]

[MdiArea::tile](#).

17.71.2.9 useBackgroundColor() void useBackgroundColor (bool *use*)

17.71.2.10 useBackgroundLogo() void useBackgroundLogo (bool *use*)

[MdiArea::useBackgroundLogo](#).

Parameters

| | |
|------------|----------------------|
| <i>use</i> | <input type="text"/> |
|------------|----------------------|

17.71.2.11 useBackgroundTexture() void useBackgroundTexture (bool use)

MdiArea::useBackgroundTexture.

Parameters

| | |
|------------|--|
| <i>use</i> | |
|------------|--|

17.71.2.12 zoomExtentsAllSubWindows() void zoomExtentsAllSubWindows () [private]

MdiArea::zoomExtentsAllSubWindows.

17.71.3 Member Data Documentation

17.71.3.1 bgColor QColor bgColor [private]

17.71.3.2 bgLogo QPixmap bgLogo [private]

17.71.3.3 bgTexture QPixmap bgTexture [private]

17.71.3.4 mainWin MainWindow* mainWin [private]

17.71.3.5 useColor bool useColor [private]

17.71.3.6 useLogo bool useLogo [private]

17.71.3.7 useTexture bool useTexture [private]

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

- embroidermodder2/mdiarea.h
- embroidermodder2/mdiarea.cpp

17.72 MdiWindow Class Reference

```
#include <mdiwindow.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`

17.72.1 Constructor & Destructor Documentation

17.72.1.1 **MdiWindow()** [MdiWindow](#) (

```
    const int theIndex,
    MainWindow * mw,
    QMdiArea * parent,
    Qt::WindowFlags wflags )
```

17.72.1.2 **~MdiWindow()** [~MdiWindow](#) ()

[MdiWindow::~MdiWindow](#).

17.72.2 Member Function Documentation

17.72.2.1 **closeEvent** void [closeEvent](#) (

```
    QCLOSEEvent * e ) [slot]
```

[MdiWindow::closeEvent](#).

17.72.2.2 **currentColorChanged** void [currentColorChanged](#) (

```
    const QRgb & color ) [slot]
```

[MdiWindow::currentColorChanged](#).

Parameters

| | |
|--------------|----------------------|
| <i>color</i> | <input type="text"/> |
|--------------|----------------------|

17.72.2.3 **currentLayerChanged** void [currentLayerChanged](#) (

```
    const QString & layer ) [slot]
```

[MdiWindow::currentLayerChanged](#).

Parameters

| | |
|--------------|----------------------|
| <i>layer</i> | <input type="text"/> |
|--------------|----------------------|

17.72.2.4 currentLinetypeChanged void currentLinetypeChanged (const QString & *type*) [slot]

MdiWindow::currentLinetypeChanged.

Parameters

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

17.72.2.5 currentLinewidthChanged void currentLinewidthChanged (const QString & *weight*) [slot]

MdiWindow::currentLinewidthChanged.

Parameters

| | |
|---------------|----------------------|
| <i>weight</i> | <input type="text"/> |
|---------------|----------------------|

17.72.2.6 deletePressed void deletePressed () [slot]

17.72.2.7 designDetails() void designDetails ()

17.72.2.8 escapePressed void escapePressed () [slot]

17.72.2.9 fileExtension() QString fileExtension (const QString & *fileName*) [private]

MdiWindow::fileExtension.

Parameters

| | |
|-----------------|----------------------|
| <i>fileName</i> | <input type="text"/> |
|-----------------|----------------------|

Returns

17.72.2.10 `getCurrentColor()` `QRgb getCurrentColor () [inline]`

17.72.2.11 `getCurrentFile()` `QString getCurrentFile () [inline]`

17.72.2.12 `getCurrentLayer()` `QString getCurrentLayer () [inline]`

17.72.2.13 `getCurrentLineType()` `QString getCurrentLineType () [inline]`

17.72.2.14 `getCurrentLineWeight()` `QString getCurrentLineWeight () [inline]`

17.72.2.15 `getScene()` `QGraphicsScene * getScene () [inline]`

17.72.2.16 `getShortCurrentFile()` `QString getShortCurrentFile ()`

[MdiWindow::getShortCurrentFile.](#)

Returns

17.72.2.17 `getView()` `View * getView () [inline]`

17.72.2.18 `loadFile()` `bool loadFile (const QString & fileName)`

[MdiWindow::loadFile.](#)

Parameters

| | |
|----------|----------------------|
| fileName | <input type="text"/> |
|----------|----------------------|

Returns

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

17.72.2.19 logPromptInput void logPromptInput (const QString & txt) [slot]

17.72.2.20 onWindowActivated void onWindowActivated () [slot]

[MdiWindow::onWindowActivated.](#)

17.72.2.21 print void print () [slot]

[MdiWindow::print.](#)

17.72.2.22 promptHistoryAppended void promptHistoryAppended (const QString & txt) [slot]

17.72.2.23 promptInputNext void promptInputNext () [slot]

[MdiWindow::promptInputNext.](#)

17.72.2.24 promptInputPrevious void promptInputPrevious () [slot]

17.72.2.25 promptInputPrevNext() void promptInputPrevNext (bool prev) [private]

[MdiWindow::promptInputPrevNext.](#)

Parameters

| | |
|-------------|----------------------|
| <i>prev</i> | <input type="text"/> |
|-------------|----------------------|

17.72.2.26 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)

17.72.2.27 saveFile() bool saveFile (const QString & *fileName*)

MdiWindow::saveFile.

Parameters

| | |
|-----------------|----------------------|
| <i>fileName</i> | <input type="text"/> |
|-----------------|----------------------|

Returns**17.72.2.28 sendCloseMdiWin** void sendCloseMdiWin (MdiWindow *) [signal]**17.72.2.29 setCurrentColor()** void setCurrentColor (const QRgb & *color*) [inline]

17.72.2.30 `setCurrentFile()` void setCurrentFile (const QString & *fileName*) [private]

MdiWindow::setCurrentFile.

Parameters

| | |
|----------|----------------------|
| fileName | <input type="text"/> |
|----------|----------------------|

17.72.2.31 `setCurrentLayer()` void setCurrentLayer (const QString & layer) [inline]

17.72.2.32 `setCurrentLineType()` void setCurrentLineType (const QString & lineType) [inline]

17.72.2.33 `setCurrentLineWeight()` void setCurrentLineWeight (const QString & lineWeight) [inline]

17.72.2.34 `setViewBackgroundColor` void setViewBackgroundColor (QRgb color) [slot]

17.72.2.35 `setViewCrossHairColor` void setViewCrossHairColor (QRgb color) [slot]

17.72.2.36 `setViewGridColor` void setViewGridColor (QRgb color) [slot]

17.72.2.37 `setViewRulerColor` void setViewRulerColor (QRgb color) [slot]

17.72.2.38 `setViewSelectBoxColors` void setViewSelectBoxColors (QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha) [slot]

17.72.2.39 showViewScrollBars void showViewScrollBars (bool val) [slot]

17.72.2.40 sizeHint() QSize sizeHint () const [virtual]

[MdiWindow::sizeHint](#).

Returns

17.72.2.41 updateColorLinetypeLinewidth void updateColorLinetypeLinewidth () [slot]

17.72.3 Member Data Documentation

17.72.3.1 curColor QRgb curColor [private]

17.72.3.2 curFile QString curFile [private]

17.72.3.3 curLayer QString curLayer [private]

17.72.3.4 curLineType QString curLineType [private]

17.72.3.5 curLineWeight QString curLineWeight [private]

17.72.3.6 fileWasLoaded bool fileWasLoaded [private]

17.72.3.7 gscene `QGraphicsScene* gscene` [private]

17.72.3.8 gview `View* gview` [private]

17.72.3.9 mainWin `MainWindow* mainWin` [private]

17.72.3.10 mdiArea `QMdiArea* mdiArea` [private]

17.72.3.11 myIndex `int myIndex` [private]

17.72.3.12 printer `QPrinter printer` [private]

17.72.3.13 promptHistory `QString promptHistory` [private]

17.72.3.14 promptInputList `QList<QString> promptInputList` [private]

17.72.3.15 promptInputNum `int promptInputNum` [private]

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

- `embroidermodder2/mdiwindow.h`
- `embroidermodder2/mdiwindow.cpp`

17.73 PathObject Class Reference

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

Public Types

- enum { `Type` = `OBJ_TYPE_PATH` }

Public Types inherited from `BaseObject`

- enum { `Type` = `OBJ_TYPE_BASE` }

Public Member Functions

- `PathObject` (qreal x, qreal y, const QPainterPath p, QRgb rgb, QGraphicsItem *parent=0)
- `PathObject` (`PathObject` *obj, QGraphicsItem *parent=0)
- `~PathObject` ()
- virtual int `type` () const
- QPainterPath `objectCopyPath` () const
- QPainterPath `objectSavePath` () const
- QPointF `objectPos` () const
- qreal `objectX` () const
- qreal `objectY` () const
- void `setObjectPos` (const QPointF &point)
- void `setObjectPos` (qreal x, qreal y)
- void `setObjectX` (qreal x)
- void `setObjectY` (qreal y)
- void `updateRubber` (QPainter *painter=0)
- virtual void `vulcanize` ()
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)
- virtual QList< QPointF > `allGripPoints` ()
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)

Public Member Functions inherited from `BaseObject`

- `BaseObject` (QGraphicsItem *parent=0)
- virtual `~BaseObject` ()
- virtual int `type` () const
- qint64 `objectID` () const
- QPen `objectPen` () const
- QColor `objectColor` () const
- QRgb `objectColorRGB` () const
- Qt::PenStyle `objectLineType` () const
- qreal `objectLineWidth` () const
- QPainterPath `objectPath` () const
- int `objectRubberMode` () const
- QPointF `objectRubberPoint` (const QString &key) const
- QString `objectRubberText` (const QString &key) const
- QRectF `rect` () const
- void `setRect` (const QRectF &r)
- void `setRect` (qreal x, qreal y, qreal w, qreal h)
- QLineF `line` () const
- void `setLine` (const QLineF &li)
- void `setLine` (qreal x1, qreal y1, qreal x2, qreal y2)
- void `setObjectColor` (const QColor &color)

- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWeight](#) (qreal lineWeight)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)
- void [setObjectRubberText](#) (const QString &key, const QString &txt)
- virtual QRectF [boundingRect](#) () const
- virtual QPainterPath [shape](#) () const
- void [drawRubberLine](#) (const QLineF &rubLine, QPainter *painter=0, const char *colorFromScene=0)
- virtual void [vulcanize](#) ()=0
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)=0
- virtual QList< QPointF > [allGripPoints](#) ()=0
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)=0

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

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

Private Member Functions

- void [init](#) (qreal x, qreal y, const QPainterPath &p, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) (const QPainterPath &p)

Private Attributes

- QPainterPath [normalPath](#)

17.73.1 Member Enumeration Documentation

17.73.1.1 anonymous enum anonymous enum

Enumerator

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

17.73.2 Constructor & Destructor Documentation

17.73.2.1 PathObject() [1/2] [PathObject](#) (

```
    qreal x,  
    qreal y,  
    const QPainterPath p,  
    QRgb rgb,  
    QGraphicsItem * parent = 0 )
```

17.73.2.2 PathObject() [2/2] [PathObject](#) (

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

17.73.2.3 ~PathObject() [~PathObject](#) ()

17.73.3 Member Function Documentation

17.73.3.1 allGripPoints() [QList< QPointF >](#) allGripPoints () [virtual]

Implements [BaseObject](#).

17.73.3.2 gripEdit() [void](#) gripEdit (

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

Implements [BaseObject](#).

17.73.3.3 init() [void](#) init (

```
    qreal x,  
    qreal y,  
    const QPainterPath & p,  
    QRgb rgb,  
    Qt::PenStyle lineType ) [private]
```

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

Implements [BaseObject](#).

17.73.3.5 objectCopyPath() QPainterPath objectCopyPath () const

17.73.3.6 objectPos() QPointF objectPos () const [inline]

17.73.3.7 objectSavePath() QPainterPath objectSavePath () const

17.73.3.8 objectX() qreal objectX () const [inline]

17.73.3.9 objectY() qreal objectY () const [inline]

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

17.73.3.11 setObjectPos() [1/2] void setObjectPos (const QPointF & *point*) [inline]

17.73.3.12 setObjectPos() [2/2] void setObjectPos (qreal *x*, qreal *y*) [inline]

17.73.3.13 setObjectX() void setObjectX (qreal *x*) [inline]

```
17.73.3.14 setObjectY() void setObjectY (
    qreal y ) [inline]
```

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

Reimplemented from [BaseObject](#).

```
17.73.3.16 updatePath() void updatePath (
    const QPainterPath & p ) [private]
```

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

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

Implements [BaseObject](#).

17.73.4 Member Data Documentation

```
17.73.4.1 normalPath QPainterPath normalPath [private]
```

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

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

17.74 PointObject Class Reference

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

Public Types

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

Public Types inherited from [BaseObject](#)

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

Public Member Functions

- [PointObject](#) (qreal x, qreal y, QRgb rgb, QGraphicsItem *parent=0)
- [PointObject](#) ([PointObject](#) *obj, QGraphicsItem *parent=0)
- [~PointObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectPos](#) () const
- qreal [objectX](#) () const
- qreal [objectY](#) () const
- void [setObjectPos](#) (const QPointF &point)
- void [setObjectPos](#) (qreal x, qreal y)
- void [setObjectX](#) (qreal x)
- void [setObjectY](#) (qreal y)
- void [updateRubber](#) (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
- qreal [objectLineWidth](#) () const
- QPainterPath [objectPath](#) () const
- int [objectRubberMode](#) () const
- QPointF [objectRubberPoint](#) (const QString &key) const
- QString [objectRubberText](#) (const QString &key) const
- QRectF [rect](#) () const
- void [setRect](#) (const QRectF &r)
- void [setRect](#) (qreal x, qreal y, qreal w, qreal h)
- QLineF [line](#) () const
- void [setLine](#) (const QLineF &li)
- void [setLine](#) (qreal x1, qreal y1, qreal x2, qreal y2)
- void [setObjectColor](#) (const QColor &color)
- void [setObjectColorRGB](#) (QRgb rgb)
- void [setObjectLineType](#) (Qt::PenStyle lineType)
- void [setObjectLineWidth](#) (qreal lineWidth)
- void [setObjectPath](#) (const QPainterPath &p)
- void [setObjectRubberMode](#) (int mode)
- void [setObjectRubberPoint](#) (const QString &key, const QPointF &point)

- void `setObjectRubberText` (const QString &key, const QString &txt)
- virtual QRectF `boundingRect` () const
- virtual QPainterPath `shape` () const
- void `drawRubberLine` (const QLineF &rubLine, QPainter *painter=0, const char *colorFromScene=0)
- virtual void `vulcanize` ()=0
- virtual QPointF `mouseSnapPoint` (const QPointF &mousePoint)=0
- virtual QList< QPointF > `allGripPoints` ()=0
- virtual void `gripEdit` (const QPointF &before, const QPointF &after)=0

Protected Member Functions

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

Protected Member Functions inherited from `BaseObject`

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

Private Member Functions

- void `init` (qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType)

17.74.1 Member Enumeration Documentation

17.74.1.1 anonymous enum anonymous enum

Enumerator

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

17.74.2 Constructor & Destructor Documentation

17.74.2.1 PointObject() [1/2] `PointObject` (

```
qreal x,
qreal y,
QRgb rgb,
QGraphicsItem * parent = 0 )
```

17.74.2.2 PointObject() [2/2] `PointObject (`
 `PointObject * obj,`
 `QGraphicsItem * parent = 0)`

17.74.2.3 ~PointObject() `~PointObject ()`

17.74.3 Member Function Documentation

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

Implements [BaseObject](#).

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

Implements [BaseObject](#).

17.74.3.3 init() `void init (`
 `qreal x,`
 `qreal y,`
 `QRgb rgb,`
 `Qt::PenStyle lineType) [private]`

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

Implements [BaseObject](#).

17.74.3.5 objectPos() `QPointF objectPos () const [inline]`

17.74.3.6 objectSavePath() `QPainterPath objectSavePath () const`

17.74.3.7 `objectX()` `qreal objectX() const [inline]`

17.74.3.8 `objectY()` `qreal objectY() const [inline]`

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

17.74.3.10 `setObjectPos()` [1/2] `void setObjectPos(`
 `const QPointF & point) [inline]`

17.74.3.11 `setObjectPos()` [2/2] `void setObjectPos(`
 `qreal x,`
 `qreal y) [inline]`

17.74.3.12 `setObjectX()` `void setObjectX(`
 `qreal x) [inline]`

17.74.3.13 `setObjectY()` `void setObjectY(`
 `qreal y) [inline]`

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

Reimplemented from [BaseObject](#).

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

17.74.3.16 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

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

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

17.75 PolygonObject Class Reference

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

Public Types

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

Public Types inherited from [BaseObject](#)

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

Public Member Functions

- [PolygonObject](#) (qreal x, qreal y, const QPainterPath &p, QRgb rgb, QGraphicsItem *parent=0)
- [PolygonObject](#) ([PolygonObject](#) *obj, QGraphicsItem *parent=0)
- [~PolygonObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectCopyPath](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectPos](#) () const
- qreal [objectX](#) () const
- qreal [objectY](#) () const
- void [setObjectPos](#) (const QPointF &point)
- void [setObjectPos](#) (qreal x, qreal y)
- void [setObjectX](#) (qreal x)
- void [setObjectY](#) (qreal y)
- void [updateRubber](#) (QPainter *painter=0)
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

Public Member Functions inherited from [BaseObject](#)

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

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

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

Private Member Functions

- void `init` (qreal x, qreal y, const QPainterPath &p, QRgb rgb, Qt::PenStyle lineType)
- void `updatePath` (const QPainterPath &p)
- int `findIndex` (const QPointF &point)

Private Attributes

- QPainterPath `normalPath`
- int `gripIndex`

17.75.1 Member Enumeration Documentation

17.75.1.1 anonymous enum anonymous enum

Enumerator

| | |
|------|--|
| Type | |
|------|--|

17.75.2 Constructor & Destructor Documentation

17.75.2.1 PolygonObject() [1/2] `PolygonObject` (

```
    qreal x,
    qreal y,
    const QPainterPath & p,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

17.75.2.2 PolygonObject() [2/2] `PolygonObject` (

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

17.75.2.3 ~PolygonObject() `~PolygonObject` ()

17.75.3 Member Function Documentation

17.75.3.1 allGripPoints() QList< QPointF > allGripPoints () [virtual]

Implements [BaseObject](#).

17.75.3.2 findIndex() int findIndex (const QPointF & *point*) [private]

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

Implements [BaseObject](#).

17.75.3.4 init() void init (qreal *x*, qreal *y*, const QPainterPath & *p*, QRgb *rgb*, Qt::PenStyle *lineType*) [private]

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

Implements [BaseObject](#).

17.75.3.6 objectCopyPath() QPainterPath objectCopyPath () const

17.75.3.7 objectPos() QPointF objectPos () const [inline]

17.75.3.8 objectSavePath() QPainterPath objectSavePath () const

17.75.3.9 `objectX()` `qreal objectX() const [inline]`

17.75.3.10 `objectY()` `qreal objectY() const [inline]`

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

17.75.3.12 `setObjectPos()` [1/2] `void setObjectPos(`
 `const QPointF & point) [inline]`

17.75.3.13 `setObjectPos()` [2/2] `void setObjectPos(`
 `qreal x,`
 `qreal y) [inline]`

17.75.3.14 `setObjectX()` `void setObjectX(`
 `qreal x) [inline]`

17.75.3.15 `setObjectY()` `void setObjectY(`
 `qreal y) [inline]`

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

Reimplemented from [BaseObject](#).

17.75.3.17 `updatePath()` `void updatePath(`
 `const QPainterPath & p) [private]`

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

17.75.3.19 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

17.75.4 Member Data Documentation

17.75.4.1 gripIndex int gripIndex [private]

17.75.4.2 normalPath QPainterPath normalPath [private]

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

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

17.76 PolylineObject Class Reference

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

Public Types

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

Public Types inherited from [BaseObject](#)

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

Public Member Functions

- [PolylineObject](#) (qreal x, qreal y, const QPainterPath &p, QRgb rgb, QGraphicsItem *parent=0)
- [PolylineObject](#) ([PolylineObject](#) *obj, QGraphicsItem *parent=0)
- [~PolylineObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectCopyPath](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectPos](#) () const
- qreal [objectX](#) () const
- qreal [objectY](#) () const
- void [setObjectPos](#) (const QPointF &point)
- void [setObjectPos](#) (qreal x, qreal y)
- void [setObjectX](#) (qreal x)
- void [setObjectY](#) (qreal y)
- void [updateRubber](#) (QPainter *painter=0)
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

Public Member Functions inherited from [BaseObject](#)

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

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

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

Private Member Functions

- void [init](#) (qreal x, qreal y, const QPainterPath &p, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) (const QPainterPath &p)
- int [findIndex](#) (const QPointF &point)

Private Attributes

- QPainterPath [normalPath](#)
- int [gripIndex](#)

17.76.1 Member Enumeration Documentation

17.76.1.1 anonymous enum anonymous enum

Enumerator

| | |
|------|---------------------------------|
| Type | <input type="button" value=""/> |
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17.76.2 Constructor & Destructor Documentation

17.76.2.1 PolylineObject() [1/2] [PolylineObject](#) (

```
    qreal x,
    qreal y,
    const QPainterPath & p,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

17.76.2.2 PolylineObject() [2/2] `PolylineObject (`
 `PolylineObject * obj,`
 `QGraphicsItem * parent = 0)`

17.76.2.3 ~PolylineObject() `~PolylineObject ()`

17.76.3 Member Function Documentation

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

Implements [BaseObject](#).

17.76.3.2 findIndex() `int findIndex (`
 `const QPointF & point) [private]`

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

Implements [BaseObject](#).

17.76.3.4 init() `void init (`
 `qreal x,`
 `qreal y,`
 `const QPainterPath & p,`
 `QRgb rgb,`
 `Qt::PenStyle lineType) [private]`

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

Implements [BaseObject](#).

17.76.3.6 `objectCopyPath()` QPainterPath `objectCopyPath() const`

17.76.3.7 `objectPos()` QPointF `objectPos() const [inline]`

17.76.3.8 `objectSavePath()` QPainterPath `objectSavePath() const`

17.76.3.9 `objectX()` qreal `objectX() const [inline]`

17.76.3.10 `objectY()` qreal `objectY() const [inline]`

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

17.76.3.12 `setObjectPos()` [1/2] void `setObjectPos(`
 const QPointF & point) [inline]

17.76.3.13 `setObjectPos()` [2/2] void `setObjectPos(`
 qreal x,
 qreal y) [inline]

17.76.3.14 `setObjectX()` void `setObjectX(`
 qreal x) [inline]

17.76.3.15 `setObjectY()` void `setObjectY(`
 qreal y) [inline]

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

Reimplemented from [BaseObject](#).

17.76.3.17 updatePath() void updatePath (
const QPainterPath & p) [private]

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

17.76.3.19 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

17.76.4 Member Data Documentation

17.76.4.1 gripIndex int gripIndex [private]

17.76.4.2 normalPath QPainterPath normalPath [private]

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

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

17.77 PreviewDialog Class Reference

```
#include <preview-dialog.h>
```

Public Member Functions

- [PreviewDialog](#) (QWidget *parent=0, const QString &caption=QString(), const QString &directory=QString(), const QString &filter=QString())
- [~PreviewDialog](#) ()

Private Attributes

- `ImageWidget * imgWidget`

17.77.1 Constructor & Destructor Documentation

17.77.1.1 `PreviewDialog()` `PreviewDialog (`

```
QWidget * parent = 0,
const QString & caption = QString(),
const QString & directory = QString(),
const QString & filter = QString() )
```

17.77.1.2 `~PreviewDialog()` `~PreviewDialog ()`

17.77.2 Member Data Documentation

17.77.2.1 `imgWidget` `ImageWidget* imgWidget [private]`

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

- `embroidermodder2/preview-dialog.h`
- `embroidermodder2/preview-dialog.cpp`

17.78 PropertyEditor Class Reference

```
#include <property-editor.h>
```

Public Slots

- `void setSelectedItems (QList< QGraphicsItem * > itemList)`
- `void updatePickAddModeButton (bool pickAddMode)`

Signals

- `void pickAddModeToggled ()`

Public Member Functions

- `PropertyEditor` (const `QString &iconDirectory=QString()`, bool `pickAddMode=true`, `QWidget *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`, `qreal num`, bool `useAnglePrecision`)
- void `updateFontComboBoxStrIfVaries` (`QFontComboBox *fontComboBox`, const `QString &str`)
- void `updateComboBoxStrIfVaries` (`QComboBox *comboBox`, const `QString &str`, const `QStringList &strList`)
- void `updateComboBoxBoolIfVaries` (`QComboBox *comboBox`, bool `val`, bool `yesOrNoText`)
- void `mapSignal` (`QObject *fieldObj`, const `QString &name`, `QVariant value`)
- `QComboBox * createComboBoxSelected ()`
- `QToolButton * createToolButtonQSelect ()`
- `QToolButton * createToolButtonPickAdd ()`
- `QGroupBox * createGroupBoxGeneral ()`
- `QGroupBox * createGroupBoxGeometryArc ()`
- `QGroupBox * createGroupBoxMiscArc ()`
- `QGroupBox * createGroupBoxGeometryBlock ()`
- `QGroupBox * createGroupBoxGeometryCircle ()`
- `QGroupBox * createGroupBoxGeometryDimAligned ()`
- `QGroupBox * createGroupBoxGeometryDimAngular ()`
- `QGroupBox * createGroupBoxGeometryDimArcLength ()`
- `QGroupBox * createGroupBoxGeometryDimDiameter ()`
- `QGroupBox * createGroupBoxGeometryDimLeader ()`
- `QGroupBox * createGroupBoxGeometryDimLinear ()`
- `QGroupBox * createGroupBoxGeometryDimOrdinate ()`
- `QGroupBox * createGroupBoxGeometryDimRadius ()`
- `QGroupBox * createGroupBoxGeometryEllipse ()`
- `QGroupBox * createGroupBoxGeometryImage ()`
- `QGroupBox * createGroupBoxMisclImage ()`
- `QGroupBox * createGroupBoxGeometryInfiniteLine ()`
- `QGroupBox * createGroupBoxGeometryLine ()`

- QGroupBox * `createGroupBoxGeometryPath ()`
- QGroupBox * `createGroupBoxMiscPath ()`
- QGroupBox * `createGroupBoxGeometryPoint ()`
- QGroupBox * `createGroupBoxGeometryPolygon ()`
- QGroupBox * `createGroupBoxGeometryPolyline ()`
- QGroupBox * `createGroupBoxMiscPolyline ()`
- QGroupBox * `createGroupBoxGeometryRay ()`
- QGroupBox * `createGroupBoxGeometryRectangle ()`
- QGroupBox * `createGroupBoxGeometryTextMulti ()`
- QGroupBox * `createGroupBoxTextTextSingle ()`
- QGroupBox * `createGroupBoxGeometryTextSingle ()`
- QGroupBox * `createGroupBoxMiscTextSingle ()`

Private Attributes

- QWidget * `focusWidget`
- QString `iconDir`
- int `iconSize`
- Qt::ToolButtonStyle `propertyEditorButtonStyle`
- bool `pickAdd`
- QList< QGraphicsItem * > `selectedItemList`
- `ArcObject` * `tempArcObj`
- `BlockObject` * `tempBlockObj`
- `CircleObject` * `tempCircleObj`
- `DimAlignedObject` * `tempDimAlignedObj`
- `DimAngularObject` * `tempDimAngularObj`
- `DimArcLengthObject` * `tempDimArcLenObj`
- `DimDiameterObject` * `tempDimDiamObj`
- `DimLeaderObject` * `tempDimLeaderObj`
- `DimLinearObject` * `tempDimLinearObj`
- `DimOrdinateObject` * `tempDimOrdObj`
- `DimRadiusObject` * `tempDimRadiusObj`
- `EllipseObject` * `tempEllipseObj`
- `EllipseArcObject` * `tempEllipseArcObj`
- `HatchObject` * `tempHatchObj`
- `ImageObject` * `tempImageObj`
- `InfiniteLineObject` * `tempInflLineObj`
- `LineObject` * `tempLineObj`
- `PathObject` * `tempPathObj`
- `PointObject` * `tempPointObj`
- `PolygonObject` * `tempPolygonObj`
- `PolylineObject` * `tempPolylineObj`
- `RayObject` * `tempRayObj`
- `RectObject` * `tempRectObj`
- `SplineObject` * `tempSplineObj`
- `TextMultiObject` * `tempTextMultiObj`
- `TextSingleObject` * `tempTextSingleObj`
- int `precisionAngle`
- int `precisionLength`
- QString `fieldOldText`
- QString `fieldNewText`
- QString `fieldVariesText`
- QString `fieldYesText`
- QString `fieldNoText`

- `QString fieldOnText`
- `QString fieldOffText`
- `QSignalMapper * signalMapper`
- `QComboBox * comboBoxSelected`
- `QToolButton * toolButtonQSelect`
- `QToolButton * toolButtonPickAdd`
- `QGroupBox * groupBoxGeneral`
- `QToolButton * toolButtonGeneralLayer`
- `QToolButton * toolButtonGeneralColor`
- `QToolButton * toolButtonGeneralLineType`
- `QToolButton * toolButtonGeneralLineWeight`
- `QComboBox * comboBoxGeneralLayer`
- `QComboBox * comboBoxGeneralColor`
- `QComboBox * comboBoxGeneralLineType`
- `QComboBox * comboBoxGeneralLineWeight`
- `QGroupBox * groupBoxGeometryArc`
- `QToolButton * toolButtonArcCenterX`
- `QToolButton * toolButtonArcCenterY`
- `QToolButton * toolButtonArcRadius`
- `QToolButton * toolButtonArcStartAngle`
- `QToolButton * toolButtonArcEndAngle`
- `QToolButton * toolButtonArcStartX`
- `QToolButton * toolButtonArcStartY`
- `QToolButton * toolButtonArcEndX`
- `QToolButton * toolButtonArcEndY`
- `QToolButton * toolButtonArcArea`
- `QToolButton * toolButtonArcLength`
- `QToolButton * toolButtonArcChord`
- `QToolButton * toolButtonArcIncAngle`
- `QLineEdit * lineEditArcCenterX`
- `QLineEdit * lineEditArcCenterY`
- `QLineEdit * lineEditArcRadius`
- `QLineEdit * lineEditArcStartAngle`
- `QLineEdit * lineEditArcEndAngle`
- `QLineEdit * lineEditArcStartX`
- `QLineEdit * lineEditArcStartY`
- `QLineEdit * lineEditArcEndX`
- `QLineEdit * lineEditArcEndY`
- `QLineEdit * lineEditArcArea`
- `QLineEdit * lineEditArcLength`
- `QLineEdit * lineEditArcChord`
- `QLineEdit * lineEditArcIncAngle`
- `QGroupBox * groupBoxMiscArc`
- `QToolButton * toolButtonArcClockwise`
- `QComboBox * comboBoxArcClockwise`
- `QGroupBox * groupBoxGeometryBlock`
- `QToolButton * toolButtonBlockX`
- `QToolButton * toolButtonBlockY`
- `QLineEdit * lineEditBlockX`
- `QLineEdit * lineEditBlockY`
- `QGroupBox * groupBoxGeometryCircle`
- `QToolButton * toolButtonCircleCenterX`
- `QToolButton * toolButtonCircleCenterY`
- `QToolButton * toolButtonCircleRadius`
- `QToolButton * toolButtonCircleDiameter`

- QToolButton * `toolButtonCircleArea`
- QToolButton * `toolButtonCircleCircumference`
- QLineEdit * `lineEditCircleCenterX`
- QLineEdit * `lineEditCircleCenterY`
- QLineEdit * `lineEditCircleRadius`
- QLineEdit * `lineEditCircleDiameter`
- QLineEdit * `lineEditCircleArea`
- QLineEdit * `lineEditCircleCircumference`
- QGroupBox * `groupBoxGeometryDimAligned`
- QGroupBox * `groupBoxGeometryDimAngular`
- QGroupBox * `groupBoxGeometryDimArcLength`
- QGroupBox * `groupBoxGeometryDimDiameter`
- QGroupBox * `groupBoxGeometryDimLeader`
- QGroupBox * `groupBoxGeometryDimLinear`
- QGroupBox * `groupBoxGeometryDimOrdinate`
- QGroupBox * `groupBoxGeometryDimRadius`
- QGroupBox * `groupBoxGeometryEllipse`
- QToolButton * `toolButtonEllipseCenterX`
- QToolButton * `toolButtonEllipseCenterY`
- QToolButton * `toolButtonEllipseRadiusMajor`
- QToolButton * `toolButtonEllipseRadiusMinor`
- QToolButton * `toolButtonEllipseDiameterMajor`
- QToolButton * `toolButtonEllipseDiameterMinor`
- QLineEdit * `lineEditEllipseCenterX`
- QLineEdit * `lineEditEllipseCenterY`
- QLineEdit * `lineEditEllipseRadiusMajor`
- QLineEdit * `lineEditEllipseRadiusMinor`
- QLineEdit * `lineEditEllipseDiameterMajor`
- QLineEdit * `lineEditEllipseDiameterMinor`
- QGroupBox * `groupBoxGeometryImage`
- QToolButton * `toolButtonImageX`
- QToolButton * `toolButtonImageY`
- QToolButton * `toolButtonImageWidth`
- QToolButton * `toolButtonImageHeight`
- QLineEdit * `lineEditImageX`
- QLineEdit * `lineEditImageY`
- QLineEdit * `lineEditImageWidth`
- QLineEdit * `lineEditImageHeight`
- QGroupBox * `groupBoxMisclImage`
- QToolButton * `toolButtonImageName`
- QToolButton * `toolButtonImagePath`
- QLineEdit * `lineEditImageName`
- QLineEdit * `lineEditImagePath`
- QGroupBox * `groupBoxGeometryInfiniteLine`
- QToolButton * `toolButtonInfiniteLineX1`
- QToolButton * `toolButtonInfiniteLineY1`
- QToolButton * `toolButtonInfiniteLineX2`
- QToolButton * `toolButtonInfiniteLineY2`
- QToolButton * `toolButtonInfiniteLineVectorX`
- QToolButton * `toolButtonInfiniteLineVectorY`
- QLineEdit * `lineEditInfiniteLineX1`
- QLineEdit * `lineEditInfiniteLineY1`
- QLineEdit * `lineEditInfiniteLineX2`
- QLineEdit * `lineEditInfiniteLineY2`
- QLineEdit * `lineEditInfiniteLineVectorX`

- QLineEdit * `lineEditInfiniteLineVectorY`
- QGroupBox * `groupBoxGeometryLine`
- QToolButton * `toolButtonLineStartX`
- QToolButton * `toolButtonLineStartY`
- QToolButton * `toolButtonLineEndX`
- QToolButton * `toolButtonLineEndY`
- QToolButton * `toolButtonLineDeltaX`
- QToolButton * `toolButtonLineDeltaY`
- QToolButton * `toolButtonLineAngle`
- QToolButton * `toolButtonLineLength`
- QLineEdit * `lineEditLineStartX`
- QLineEdit * `lineEditLineStartY`
- QLineEdit * `lineEditLineEndX`
- QLineEdit * `lineEditLineEndY`
- QLineEdit * `lineEditLineDeltaX`
- QLineEdit * `lineEditLineDeltaY`
- QLineEdit * `lineEditLineAngle`
- QLineEdit * `lineEditLineLength`
- QGroupBox * `groupBoxGeometryPath`
- QToolButton * `toolButtonPathVertexNum`
- QToolButton * `toolButtonPathVertexX`
- QToolButton * `toolButtonPathVertexY`
- QToolButton * `toolButtonPathArea`
- QToolButton * `toolButtonPathLength`
- QComboBox * `comboBoxPathVertexNum`
- QLineEdit * `lineEditPathVertexX`
- QLineEdit * `lineEditPathVertexY`
- QLineEdit * `lineEditPathArea`
- QLineEdit * `lineEditPathLength`
- QGroupBox * `groupBoxMiscPath`
- QToolButton * `toolButtonPathClosed`
- QComboBox * `comboBoxPathClosed`
- QGroupBox * `groupBoxGeometryPoint`
- QToolButton * `toolButtonPointX`
- QToolButton * `toolButtonPointY`
- QLineEdit * `lineEditPointX`
- QLineEdit * `lineEditPointY`
- QGroupBox * `groupBoxGeometryPolygon`
- QToolButton * `toolButtonPolygonCenterX`
- QToolButton * `toolButtonPolygonCenterY`
- QToolButton * `toolButtonPolygonRadiusVertex`
- QToolButton * `toolButtonPolygonRadiusSide`
- QToolButton * `toolButtonPolygonDiameterVertex`
- QToolButton * `toolButtonPolygonDiameterSide`
- QToolButton * `toolButtonPolygonInteriorAngle`
- QLineEdit * `lineEditPolygonCenterX`
- QLineEdit * `lineEditPolygonCenterY`
- QLineEdit * `lineEditPolygonRadiusVertex`
- QLineEdit * `lineEditPolygonRadiusSide`
- QLineEdit * `lineEditPolygonDiameterVertex`
- QLineEdit * `lineEditPolygonDiameterSide`
- QLineEdit * `lineEditPolygonInteriorAngle`
- QGroupBox * `groupBoxGeometryPolyline`
- QToolButton * `toolButtonPolylineVertexNum`
- QToolButton * `toolButtonPolylineVertexX`

- QToolButton * `toolButtonPolylineVertexY`
- QToolButton * `toolButtonPolylineArea`
- QToolButton * `toolButtonPolylineLength`
- QComboBox * `comboBoxPolylineVertexNum`
- QLineEdit * `lineEditPolylineVertexX`
- QLineEdit * `lineEditPolylineVertexY`
- QLineEdit * `lineEditPolylineArea`
- QLineEdit * `lineEditPolylineLength`
- QGroupBox * `groupBoxMiscPolyline`
- QToolButton * `toolButtonPolylineClosed`
- QComboBox * `comboBoxPolylineClosed`
- QGroupBox * `groupBoxGeometryRay`
- QToolButton * `toolButtonRayX1`
- QToolButton * `toolButtonRayY1`
- QToolButton * `toolButtonRayX2`
- QToolButton * `toolButtonRayY2`
- QToolButton * `toolButtonRayVectorX`
- QToolButton * `toolButtonRayVectorY`
- QLineEdit * `lineEditRayX1`
- QLineEdit * `lineEditRayY1`
- QLineEdit * `lineEditRayX2`
- QLineEdit * `lineEditRayY2`
- QLineEdit * `lineEditRayVectorX`
- QLineEdit * `lineEditRayVectorY`
- QGroupBox * `groupBoxGeometryRectangle`
- QToolButton * `toolButtonRectangleCorner1X`
- QToolButton * `toolButtonRectangleCorner1Y`
- QToolButton * `toolButtonRectangleCorner2X`
- QToolButton * `toolButtonRectangleCorner2Y`
- QToolButton * `toolButtonRectangleCorner3X`
- QToolButton * `toolButtonRectangleCorner3Y`
- QToolButton * `toolButtonRectangleCorner4X`
- QToolButton * `toolButtonRectangleCorner4Y`
- QToolButton * `toolButtonRectangleWidth`
- QToolButton * `toolButtonRectangleHeight`
- QToolButton * `toolButtonRectangleArea`
- QLineEdit * `lineEditRectangleCorner1X`
- QLineEdit * `lineEditRectangleCorner1Y`
- QLineEdit * `lineEditRectangleCorner2X`
- QLineEdit * `lineEditRectangleCorner2Y`
- QLineEdit * `lineEditRectangleCorner3X`
- QLineEdit * `lineEditRectangleCorner3Y`
- QLineEdit * `lineEditRectangleCorner4X`
- QLineEdit * `lineEditRectangleCorner4Y`
- QLineEdit * `lineEditRectangleWidth`
- QLineEdit * `lineEditRectangleHeight`
- QLineEdit * `lineEditRectangleArea`
- QGroupBox * `groupBoxGeometryTextMulti`
- QToolButton * `toolButtonTextMultiX`
- QToolButton * `toolButtonTextMultiY`
- QLineEdit * `lineEditTextMultiX`
- QLineEdit * `lineEditTextMultiY`
- QGroupBox * `groupBoxTextTextSingle`
- QToolButton * `toolButtonTextSingleContents`
- QToolButton * `toolButtonTextSingleFont`

- QToolButton * `toolButtonTextSingleJustify`
- QToolButton * `toolButtonTextSingleHeight`
- QToolButton * `toolButtonTextSingleRotation`
- QLineEdit * `lineEditTextSingleContents`
- QFontComboBox * `comboBoxTextSingleFont`
- QComboBox * `comboBoxTextSingleJustify`
- QLineEdit * `lineEditTextSingleHeight`
- QLineEdit * `lineEditTextSingleRotation`
- QGroupBox * `groupBoxGeometryTextSingle`
- QToolButton * `toolButtonTextSingleX`
- QToolButton * `toolButtonTextSingleY`
- QLineEdit * `lineEditTextSingleX`
- QLineEdit * `lineEditTextSingleY`
- QGroupBox * `groupBoxMiscTextSingle`
- QToolButton * `toolButtonTextSingleBackward`
- QToolButton * `toolButtonTextSingleUpsideDown`
- QComboBox * `comboBoxTextSingleBackward`
- QComboBox * `comboBoxTextSingleUpsideDown`

17.78.1 Constructor & Destructor Documentation

```
17.78.1.1 PropertyEditor() PropertyEditor (
```

```
    const QString & iconDirectory = QString(),  
    bool pickAddMode = true,  
    QWidget * widgetToFocus = 0,  
    QWidget * parent = 0 )
```

```
17.78.1.2 ~PropertyEditor() ~PropertyEditor ( )
```

17.78.2 Member Function Documentation

```
17.78.2.1 clearAllFields void clearAllFields ( ) [private], [slot]
```

```
17.78.2.2 createComboBox() QComboBox * createComboBox (
```

```
    bool disable = false )
```

```
    [private]
```

```
17.78.2.3 createComboBoxSelected() QComboBox * createComboBoxSelected ( ) [private]
```

17.78.2.4 `createFontComboBox()` `QFontComboBox * createFontComboBox (`
`bool disable = false) [private]`

17.78.2.5 `createGroupBoxGeneral()` `QGroupBox * createGroupBoxGeneral () [private]`

17.78.2.6 `createGroupBoxGeometryArc()` `QGroupBox * createGroupBoxGeometryArc () [private]`

17.78.2.7 `createGroupBoxGeometryBlock()` `QGroupBox * createGroupBoxGeometryBlock () [private]`

17.78.2.8 `createGroupBoxGeometryCircle()` `QGroupBox * createGroupBoxGeometryCircle () [private]`

17.78.2.9 `createGroupBoxGeometryDimAligned()` `QGroupBox * createGroupBoxGeometryDimAligned () [private]`

17.78.2.10 `createGroupBoxGeometryDimAngular()` `QGroupBox * createGroupBoxGeometryDimAngular () [private]`

17.78.2.11 `createGroupBoxGeometryDimArcLength()` `QGroupBox * createGroupBoxGeometryDimArcLength () [private]`

17.78.2.12 `createGroupBoxGeometryDimDiameter()` `QGroupBox * createGroupBoxGeometryDimDiameter () [private]`

17.78.2.13 `createGroupBoxGeometryDimLeader()` `QGroupBox * createGroupBoxGeometryDimLeader () [private]`

17.78.2.14 `createGroupBoxGeometryDimLinear()` `QGroupBox * createGroupBoxGeometryDimLinear ()`
[private]

17.78.2.15 `createGroupBoxGeometryDimOrdinate()` `QGroupBox * createGroupBoxGeometryDimOrdinate ()`
[private]

17.78.2.16 `createGroupBoxGeometryDimRadius()` `QGroupBox * createGroupBoxGeometryDimRadius ()`
[private]

17.78.2.17 `createGroupBoxGeometryEllipse()` `QGroupBox * createGroupBoxGeometryEllipse ()` [private]

17.78.2.18 `createGroupBoxGeometryImage()` `QGroupBox * createGroupBoxGeometryImage ()` [private]

17.78.2.19 `createGroupBoxGeometryInfiniteLine()` `QGroupBox * createGroupBoxGeometryInfiniteLine ()`
[private]

17.78.2.20 `createGroupBoxGeometryLine()` `QGroupBox * createGroupBoxGeometryLine ()` [private]

17.78.2.21 `createGroupBoxGeometryPath()` `QGroupBox * createGroupBoxGeometryPath ()` [private]

17.78.2.22 `createGroupBoxGeometryPoint()` `QGroupBox * createGroupBoxGeometryPoint ()` [private]

17.78.2.23 `createGroupBoxGeometryPolygon()` `QGroupBox * createGroupBoxGeometryPolygon ()`
[private]

17.78.2.24 `createGroupBoxGeometryPolyline()` `QGroupBox * createGroupBoxGeometryPolyline ()`
[private]

17.78.2.25 `createGroupBoxGeometryRay()` `QGroupBox * createGroupBoxGeometryRay ()` [private]

17.78.2.26 `createGroupBoxGeometryRectangle()` `QGroupBox * createGroupBoxGeometryRectangle ()`
[private]

17.78.2.27 `createGroupBoxGeometryTextMulti()` `QGroupBox * createGroupBoxGeometryTextMulti ()`
[private]

17.78.2.28 `createGroupBoxGeometryTextSingle()` `QGroupBox * createGroupBoxGeometryTextSingle ()`
[private]

17.78.2.29 `createGroupBoxMiscArc()` `QGroupBox * createGroupBoxMiscArc ()` [private]

17.78.2.30 `createGroupBoxMiscImage()` `QGroupBox * createGroupBoxMiscImage ()` [private]

17.78.2.31 `createGroupBoxMiscPath()` `QGroupBox * createGroupBoxMiscPath ()` [private]

17.78.2.32 `createGroupBoxMiscPolyline()` `QGroupBox * createGroupBoxMiscPolyline ()` [private]

17.78.2.33 `createGroupBoxMiscTextSingle()` `QGroupBox * createGroupBoxMiscTextSingle ()` [private]

17.78.2.34 `createGroupBoxTextTextSingle()` `QGroupBox * createGroupBoxTextTextSingle ()` [private]

17.78.2.35 `createLineEdit()` `QLineEdit * createLineEdit (`
 `const QString & validatorType = QString(),`
 `bool readOnly = false) [private]`

17.78.2.36 `createToolButton()` `QToolButton * createToolButton (`
 `const QString & iconName,`
 `const QString & txt) [private]`

17.78.2.37 `createToolButtonPickAdd()` `QToolButton * createToolButtonPickAdd () [private]`

17.78.2.38 `createToolButtonQSelect()` `QToolButton * createToolButtonQSelect () [private]`

17.78.2.39 `eventFilter()` `bool eventFilter (`
 `QObject * obj,`
 `QEvent * event) [protected]`

17.78.2.40 `fieldEdited` `void fieldEdited (`
 `QObject * fieldObj) [private], [slot]`

17.78.2.41 `hideAllGroups` `void hideAllGroups () [private], [slot]`

17.78.2.42 `mapSignal()` `void mapSignal (`
 `QObject * fieldObj,`
 `const QString & name,`
 `QVariant value) [private]`

17.78.2.43 `pickAddModeToggled` `void pickAddModeToggled () [signal]`

17.78.2.44 setSelectedItems void setSelectedItems (QList< QGraphicsItem * > itemList) [slot]

17.78.2.45 showGroups void showGroups (int objType) [private], [slot]

17.78.2.46 showOneType void showOneType (int index) [private], [slot]

17.78.2.47 togglePickAddMode void togglePickAddMode () [private], [slot]

17.78.2.48 updateComboBoxBoolIfVaries() void updateComboBoxBoolIfVaries (QComboBox * comboBox, bool val, bool yesOrNoText) [private]

17.78.2.49 updateComboBoxStrIfVaries() void updateComboBoxStrIfVaries (QComboBox * comboBox, const QString & str, const QStringList & strList) [private]

17.78.2.50 updateFontComboBoxStrIfVaries() void updateFontComboBoxStrIfVaries (QFontComboBox * fontComboBox, const QString & str) [private]

17.78.2.51 updateLineEditNumIfVaries() void updateLineEditNumIfVaries (QLineEdit * lineEdit, qreal num, bool useAnglePrecision) [private]

17.78.2.52 updateLineEditStrIfVaries() void updateLineEditStrIfVaries (QLineEdit * *lineEdit*, const QString & *str*) [private]

17.78.2.53 updatePickAddModeButton void updatePickAddModeButton (bool *pickAddMode*) [slot]

17.78.3 Member Data Documentation

17.78.3.1 comboBoxArcClockwise QComboBox* *comboBoxArcClockwise* [private]

17.78.3.2 comboBoxGeneralColor QComboBox* *comboBoxGeneralColor* [private]

17.78.3.3 comboBoxGeneralLayer QComboBox* *comboBoxGeneralLayer* [private]

17.78.3.4 comboBoxGeneralLineType QComboBox* *comboBoxGeneralLineType* [private]

17.78.3.5 comboBoxGeneralLineWidth QComboBox* *comboBoxGeneralLineWidth* [private]

17.78.3.6 comboBoxPathClosed QComboBox* *comboBoxPathClosed* [private]

17.78.3.7 comboBoxPathVertexNum QComboBox* *comboBoxPathVertexNum* [private]

17.78.3.8 comboBoxPolylineClosed QComboBox* *comboBoxPolylineClosed* [private]

17.78.3.9 comboBoxPolylineVertexNum QComboBox* comboBoxPolylineVertexNum [private]

17.78.3.10 comboBoxSelected QComboBox* comboBoxSelected [private]

17.78.3.11 comboBoxTextSingleBackward QComboBox* comboBoxTextSingleBackward [private]

17.78.3.12 comboBoxTextSingleFont QFontComboBox* comboBoxTextSingleFont [private]

17.78.3.13 comboBoxTextSingleJustify QComboBox* comboBoxTextSingleJustify [private]

17.78.3.14 comboBoxTextSingleUpsideDown QComboBox* comboBoxTextSingleUpsideDown [private]

17.78.3.15 fieldNewText QString fieldNewText [private]

17.78.3.16 fieldNoText QString fieldNoText [private]

17.78.3.17 fieldOffText QString fieldOffText [private]

17.78.3.18 fieldOldText QString fieldOldText [private]

17.78.3.19 fieldOnText QString fieldOnText [private]

17.78.3.20 fieldVariesText `QString fieldVariesText [private]`

17.78.3.21 fieldYesText `QString fieldYesText [private]`

17.78.3.22 focusWidget `QWidget* focusWidget [private]`

17.78.3.23 groupBoxGeneral `QGroupBox* groupBoxGeneral [private]`

17.78.3.24 groupBoxGeometryArc `QGroupBox* groupBoxGeometryArc [private]`

17.78.3.25 groupBoxGeometryBlock `QGroupBox* groupBoxGeometryBlock [private]`

17.78.3.26 groupBoxGeometryCircle `QGroupBox* groupBoxGeometryCircle [private]`

17.78.3.27 groupBoxGeometryDimAligned `QGroupBox* groupBoxGeometryDimAligned [private]`

17.78.3.28 groupBoxGeometryDimAngular `QGroupBox* groupBoxGeometryDimAngular [private]`

17.78.3.29 groupBoxGeometryDimArcLength `QGroupBox* groupBoxGeometryDimArcLength [private]`

17.78.3.30 groupBoxGeometryDimDiameter `QGroupBox* groupBoxGeometryDimDiameter [private]`

17.78.3.31 groupBoxGeometryDimLeader QGroupBox* groupBoxGeometryDimLeader [private]

17.78.3.32 groupBoxGeometryDimLinear QGroupBox* groupBoxGeometryDimLinear [private]

17.78.3.33 groupBoxGeometryDimOrdinate QGroupBox* groupBoxGeometryDimOrdinate [private]

17.78.3.34 groupBoxGeometryDimRadius QGroupBox* groupBoxGeometryDimRadius [private]

17.78.3.35 groupBoxGeometryEllipse QGroupBox* groupBoxGeometryEllipse [private]

17.78.3.36 groupBoxGeometryImage QGroupBox* groupBoxGeometryImage [private]

17.78.3.37 groupBoxGeometryInfiniteLine QGroupBox* groupBoxGeometryInfiniteLine [private]

17.78.3.38 groupBoxGeometryLine QGroupBox* groupBoxGeometryLine [private]

17.78.3.39 groupBoxGeometryPath QGroupBox* groupBoxGeometryPath [private]

17.78.3.40 groupBoxGeometryPoint QGroupBox* groupBoxGeometryPoint [private]

17.78.3.41 groupBoxGeometryPolygon QGroupBox* groupBoxGeometryPolygon [private]

17.78.3.42 groupBoxGeometryPolyline QGroupBox* groupBoxGeometryPolyline [private]

17.78.3.43 groupBoxGeometryRay QGroupBox* groupBoxGeometryRay [private]

17.78.3.44 groupBoxGeometryRectangle QGroupBox* groupBoxGeometryRectangle [private]

17.78.3.45 groupBoxGeometryTextMulti QGroupBox* groupBoxGeometryTextMulti [private]

17.78.3.46 groupBoxGeometryTextSingle QGroupBox* groupBoxGeometryTextSingle [private]

17.78.3.47 groupBoxMiscArc QGroupBox* groupBoxMiscArc [private]

17.78.3.48 groupBoxMiscImage QGroupBox* groupBoxMiscImage [private]

17.78.3.49 groupBoxMiscPath QGroupBox* groupBoxMiscPath [private]

17.78.3.50 groupBoxMiscPolyline QGroupBox* groupBoxMiscPolyline [private]

17.78.3.51 groupBoxMiscTextSingle QGroupBox* groupBoxMiscTextSingle [private]

17.78.3.52 groupBoxTextTextSingle QGroupBox* groupBoxTextTextSingle [private]

17.78.3.53 iconDir `QString iconDir [private]`

17.78.3.54 iconSize `int iconSize [private]`

17.78.3.55 lineEditArcArea `QLineEdit* lineEditArcArea [private]`

17.78.3.56 lineEditArcCenterX `QLineEdit* lineEditArcCenterX [private]`

17.78.3.57 lineEditArcCenterY `QLineEdit* lineEditArcCenterY [private]`

17.78.3.58 lineEditArcChord `QLineEdit* lineEditArcChord [private]`

17.78.3.59 lineEditArcEndAngle `QLineEdit* lineEditArcEndAngle [private]`

17.78.3.60 lineEditArcEndX `QLineEdit* lineEditArcEndX [private]`

17.78.3.61 lineEditArcEndY `QLineEdit* lineEditArcEndY [private]`

17.78.3.62 lineEditArcIncAngle `QLineEdit* lineEditArcIncAngle [private]`

17.78.3.63 lineEditArcLength `QLineEdit* lineEditArcLength [private]`

17.78.3.64 `lineEditArcRadius` `QLineEdit* lineEditArcRadius [private]`

17.78.3.65 `lineEditArcStartAngle` `QLineEdit* lineEditArcStartAngle [private]`

17.78.3.66 `lineEditArcStartX` `QLineEdit* lineEditArcStartX [private]`

17.78.3.67 `lineEditArcStartY` `QLineEdit* lineEditArcStartY [private]`

17.78.3.68 `lineEditBlockX` `QLineEdit* lineEditBlockX [private]`

17.78.3.69 `lineEditBlockY` `QLineEdit* lineEditBlockY [private]`

17.78.3.70 `lineEditCircleArea` `QLineEdit* lineEditCircleArea [private]`

17.78.3.71 `lineEditCircleCenterX` `QLineEdit* lineEditCircleCenterX [private]`

17.78.3.72 `lineEditCircleCenterY` `QLineEdit* lineEditCircleCenterY [private]`

17.78.3.73 `lineEditCircleCircumference` `QLineEdit* lineEditCircleCircumference [private]`

17.78.3.74 `lineEditCircleDiameter` `QLineEdit* lineEditCircleDiameter [private]`

17.78.3.75 `lineEditCircleRadius` `QLineEdit* lineEditCircleRadius` [private]

17.78.3.76 `lineEditEllipseCenterX` `QLineEdit* lineEditEllipseCenterX` [private]

17.78.3.77 `lineEditEllipseCenterY` `QLineEdit* lineEditEllipseCenterY` [private]

17.78.3.78 `lineEditEllipseDiameterMajor` `QLineEdit* lineEditEllipseDiameterMajor` [private]

17.78.3.79 `lineEditEllipseDiameterMinor` `QLineEdit* lineEditEllipseDiameterMinor` [private]

17.78.3.80 `lineEditEllipseRadiusMajor` `QLineEdit* lineEditEllipseRadiusMajor` [private]

17.78.3.81 `lineEditEllipseRadiusMinor` `QLineEdit* lineEditEllipseRadiusMinor` [private]

17.78.3.82 `lineEditImageHeight` `QLineEdit* lineEditImageHeight` [private]

17.78.3.83 `lineEditImageName` `QLineEdit* lineEditImageName` [private]

17.78.3.84 `lineEditImagePath` `QLineEdit* lineEditImagePath` [private]

17.78.3.85 `lineEditImageWidth` `QLineEdit* lineEditImageWidth` [private]

17.78.3.86 `lineEditImageX` QLineEdit* lineEditImageX [private]

17.78.3.87 `lineEditImageY` QLineEdit* lineEditImageY [private]

17.78.3.88 `lineEditInfiniteLineVectorX` QLineEdit* lineEditInfiniteLineVectorX [private]

17.78.3.89 `lineEditInfiniteLineVectorY` QLineEdit* lineEditInfiniteLineVectorY [private]

17.78.3.90 `lineEditInfiniteLineX1` QLineEdit* lineEditInfiniteLineX1 [private]

17.78.3.91 `lineEditInfiniteLineX2` QLineEdit* lineEditInfiniteLineX2 [private]

17.78.3.92 `lineEditInfiniteLineY1` QLineEdit* lineEditInfiniteLineY1 [private]

17.78.3.93 `lineEditInfiniteLineY2` QLineEdit* lineEditInfiniteLineY2 [private]

17.78.3.94 `lineEditLineAngle` QLineEdit* lineEditLineAngle [private]

17.78.3.95 `lineEditLineDeltaX` QLineEdit* lineEditLineDeltaX [private]

17.78.3.96 `lineEditLineDeltaY` QLineEdit* lineEditLineDeltaY [private]

17.78.3.97 `lineEditLineEndX` `QLineEdit* lineEditLineEndX` [private]

17.78.3.98 `lineEditLineEndY` `QLineEdit* lineEditLineEndY` [private]

17.78.3.99 `lineEditLineLength` `QLineEdit* lineEditLineLength` [private]

17.78.3.100 `lineEditLineStartX` `QLineEdit* lineEditLineStartX` [private]

17.78.3.101 `lineEditLineStartY` `QLineEdit* lineEditLineStartY` [private]

17.78.3.102 `lineEditPathArea` `QLineEdit* lineEditPathArea` [private]

17.78.3.103 `lineEditPathLength` `QLineEdit* lineEditPathLength` [private]

17.78.3.104 `lineEditPathVertexX` `QLineEdit* lineEditPathVertexX` [private]

17.78.3.105 `lineEditPathVertexY` `QLineEdit* lineEditPathVertexY` [private]

17.78.3.106 `lineEditPointX` `QLineEdit* lineEditPointX` [private]

17.78.3.107 `lineEditPointY` `QLineEdit* lineEditPointY` [private]

17.78.3.108 `lineEditPolygonCenterX` `QLineEdit* lineEditPolygonCenterX` [private]

17.78.3.109 `lineEditPolygonCenterY` `QLineEdit* lineEditPolygonCenterY` [private]

17.78.3.110 `lineEditPolygonDiameterSide` `QLineEdit* lineEditPolygonDiameterSide` [private]

17.78.3.111 `lineEditPolygonDiameterVertex` `QLineEdit* lineEditPolygonDiameterVertex` [private]

17.78.3.112 `lineEditPolygonInteriorAngle` `QLineEdit* lineEditPolygonInteriorAngle` [private]

17.78.3.113 `lineEditPolygonRadiusSide` `QLineEdit* lineEditPolygonRadiusSide` [private]

17.78.3.114 `lineEditPolygonRadiusVertex` `QLineEdit* lineEditPolygonRadiusVertex` [private]

17.78.3.115 `lineEditPolylineArea` `QLineEdit* lineEditPolylineArea` [private]

17.78.3.116 `lineEditPolylineLength` `QLineEdit* lineEditPolylineLength` [private]

17.78.3.117 `lineEditPolylineVertexX` `QLineEdit* lineEditPolylineVertexX` [private]

17.78.3.118 `lineEditPolylineVertexY` `QLineEdit* lineEditPolylineVertexY` [private]

17.78.3.119 `lineEditRayVectorX` `QLineEdit* lineEditRayVectorX` [private]

17.78.3.120 `lineEditRayVectorY` `QLineEdit* lineEditRayVectorY` [private]

17.78.3.121 `lineEditRayX1` `QLineEdit* lineEditRayX1` [private]

17.78.3.122 `lineEditRayX2` `QLineEdit* lineEditRayX2` [private]

17.78.3.123 `lineEditRayY1` `QLineEdit* lineEditRayY1` [private]

17.78.3.124 `lineEditRayY2` `QLineEdit* lineEditRayY2` [private]

17.78.3.125 `lineEditRectangleArea` `QLineEdit* lineEditRectangleArea` [private]

17.78.3.126 `lineEditRectangleCorner1X` `QLineEdit* lineEditRectangleCorner1X` [private]

17.78.3.127 `lineEditRectangleCorner1Y` `QLineEdit* lineEditRectangleCorner1Y` [private]

17.78.3.128 `lineEditRectangleCorner2X` `QLineEdit* lineEditRectangleCorner2X` [private]

17.78.3.129 `lineEditRectangleCorner2Y` `QLineEdit* lineEditRectangleCorner2Y` [private]

17.78.3.130 `lineEditRectangleCorner3X` `QLineEdit* lineEditRectangleCorner3X` [private]

17.78.3.131 `lineEditRectangleCorner3Y` `QLineEdit* lineEditRectangleCorner3Y` [private]

17.78.3.132 `lineEditRectangleCorner4X` `QLineEdit* lineEditRectangleCorner4X` [private]

17.78.3.133 `lineEditRectangleCorner4Y` `QLineEdit* lineEditRectangleCorner4Y` [private]

17.78.3.134 `lineEditRectangleHeight` `QLineEdit* lineEditRectangleHeight` [private]

17.78.3.135 `lineEditRectangleWidth` `QLineEdit* lineEditRectangleWidth` [private]

17.78.3.136 `lineEditTextMultiX` `QLineEdit* lineEditTextMultiX` [private]

17.78.3.137 `lineEditTextMultiY` `QLineEdit* lineEditTextMultiY` [private]

17.78.3.138 `lineEditTextSingleContents` `QLineEdit* lineEditTextSingleContents` [private]

17.78.3.139 `lineEditTextSingleHeight` `QLineEdit* lineEditTextSingleHeight` [private]

17.78.3.140 `lineEditTextSingleRotation` `QLineEdit* lineEditTextSingleRotation` [private]

17.78.3.141 `lineEditTextSingleX` `QLineEdit* lineEditTextSingleX` [private]

17.78.3.142 `lineEditTextSingleY` `QLineEdit* lineEditTextSingleY` [private]

17.78.3.143 `pickAdd` `bool pickAdd` [private]

17.78.3.144 `precisionAngle` `int precisionAngle` [private]

17.78.3.145 `precisionLength` `int precisionLength` [private]

17.78.3.146 `propertyEditorButtonStyle` `Qt::ToolButtonStyle propertyEditorButtonStyle` [private]

17.78.3.147 `selectedItemList` `QList<QGraphicsItem*> selectedItemList` [private]

17.78.3.148 `signalMapper` `QSignalMapper* signalMapper` [private]

17.78.3.149 `tempArcObj` `ArcObject* tempArcObj` [private]

17.78.3.150 `tempBlockObj` `BlockObject* tempBlockObj` [private]

17.78.3.151 `tempCircleObj` `CircleObject* tempCircleObj` [private]

17.78.3.152 tempDimAlignedObj DimAlignedObject* tempDimAlignedObj [private]

17.78.3.153 tempDimAngularObj DimAngularObject* tempDimAngularObj [private]

17.78.3.154 tempDimArcLenObj DimArcLengthObject* tempDimArcLenObj [private]

17.78.3.155 tempDimDiamObj DimDiameterObject* tempDimDiamObj [private]

17.78.3.156 tempDimLeaderObj DimLeaderObject* tempDimLeaderObj [private]

17.78.3.157 tempDimLinearObj DimLinearObject* tempDimLinearObj [private]

17.78.3.158 tempDimOrdObj DimOrdinateObject* tempDimOrdObj [private]

17.78.3.159 tempDimRadiusObj DimRadiusObject* tempDimRadiusObj [private]

17.78.3.160 tempEllipseArcObj EllipseArcObject* tempEllipseArcObj [private]

17.78.3.161 tempEllipseObj EllipseObject* tempEllipseObj [private]

17.78.3.162 tempHatchObj HatchObject* tempHatchObj [private]

17.78.3.163 tempImageObj `ImageObject*` `tempImageObj` [private]

17.78.3.164 tempInfLineObj `InfiniteLineObject*` `tempInfLineObj` [private]

17.78.3.165 tempLineObj `LineObject*` `tempLineObj` [private]

17.78.3.166 tempPathObj `PathObject*` `tempPathObj` [private]

17.78.3.167 tempPointObj `PointObject*` `tempPointObj` [private]

17.78.3.168 tempPolygonObj `PolygonObject*` `tempPolygonObj` [private]

17.78.3.169 tempPolylineObj `PolylineObject*` `tempPolylineObj` [private]

17.78.3.170 tempRayObj `RayObject*` `tempRayObj` [private]

17.78.3.171 tempRectObj `RectObject*` `tempRectObj` [private]

17.78.3.172 tempSplineObj `SplineObject*` `tempSplineObj` [private]

17.78.3.173 tempTextMultiObj `TextMultiObject*` `tempTextMultiObj` [private]

17.78.3.174 tempTextSingleObj `TextSingleObject* tempTextSingleObj [private]`

17.78.3.175 toolButtonArcArea `QToolButton* toolButtonArcArea [private]`

17.78.3.176 toolButtonArcCenterX `QToolButton* toolButtonArcCenterX [private]`

17.78.3.177 toolButtonArcCenterY `QToolButton* toolButtonArcCenterY [private]`

17.78.3.178 toolButtonArcChord `QToolButton* toolButtonArcChord [private]`

17.78.3.179 toolButtonArcClockwise `QToolButton* toolButtonArcClockwise [private]`

17.78.3.180 toolButtonArcEndAngle `QToolButton* toolButtonArcEndAngle [private]`

17.78.3.181 toolButtonArcEndX `QToolButton* toolButtonArcEndX [private]`

17.78.3.182 toolButtonArcEndY `QToolButton* toolButtonArcEndY [private]`

17.78.3.183 toolButtonArcIncAngle `QToolButton* toolButtonArcIncAngle [private]`

17.78.3.184 toolButtonArcLength `QToolButton* toolButtonArcLength [private]`

17.78.3.185 `toolButtonArcRadius` QToolButton* toolButtonArcRadius [private]

17.78.3.186 `toolButtonArcStartAngle` QToolButton* toolButtonArcStartAngle [private]

17.78.3.187 `toolButtonArcStartX` QToolButton* toolButtonArcStartX [private]

17.78.3.188 `toolButtonArcStartY` QToolButton* toolButtonArcStartY [private]

17.78.3.189 `toolButtonBlockX` QToolButton* toolButtonBlockX [private]

17.78.3.190 `toolButtonBlockY` QToolButton* toolButtonBlockY [private]

17.78.3.191 `toolButtonCircleArea` QToolButton* toolButtonCircleArea [private]

17.78.3.192 `toolButtonCircleCenterX` QToolButton* toolButtonCircleCenterX [private]

17.78.3.193 `toolButtonCircleCenterY` QToolButton* toolButtonCircleCenterY [private]

17.78.3.194 `toolButtonCircleCircumference` QToolButton* toolButtonCircleCircumference [private]

17.78.3.195 `toolButtonCircleDiameter` QToolButton* toolButtonCircleDiameter [private]

17.78.3.196 toolButtonCircleRadius QToolButton* toolButtonCircleRadius [private]

17.78.3.197 toolButtonEllipseCenterX QToolButton* toolButtonEllipseCenterX [private]

17.78.3.198 toolButtonEllipseCenterY QToolButton* toolButtonEllipseCenterY [private]

17.78.3.199 toolButtonEllipseDiameterMajor QToolButton* toolButtonEllipseDiameterMajor [private]

17.78.3.200 toolButtonEllipseDiameterMinor QToolButton* toolButtonEllipseDiameterMinor [private]

17.78.3.201 toolButtonEllipseRadiusMajor QToolButton* toolButtonEllipseRadiusMajor [private]

17.78.3.202 toolButtonEllipseRadiusMinor QToolButton* toolButtonEllipseRadiusMinor [private]

17.78.3.203 toolButtonGeneralColor QToolButton* toolButtonGeneralColor [private]

17.78.3.204 toolButtonGeneralLayer QToolButton* toolButtonGeneralLayer [private]

17.78.3.205 toolButtonGeneralLineType QToolButton* toolButtonGeneralLineType [private]

17.78.3.206 toolButtonGeneralLineWidth QToolButton* toolButtonGeneralLineWidth [private]

17.78.3.207 toolButtonImageHeight QToolButton* toolButtonImageHeight [private]

17.78.3.208 toolButtonImageName QToolButton* toolButtonImageName [private]

17.78.3.209 toolButtonImagePath QToolButton* toolButtonImagePath [private]

17.78.3.210 toolButtonImageWidth QToolButton* toolButtonImageWidth [private]

17.78.3.211 toolButtonImageX QToolButton* toolButtonImageX [private]

17.78.3.212 toolButtonImageY QToolButton* toolButtonImageY [private]

17.78.3.213 toolButtonInfiniteLineVectorX QToolButton* toolButtonInfiniteLineVectorX [private]

17.78.3.214 toolButtonInfiniteLineVectorY QToolButton* toolButtonInfiniteLineVectorY [private]

17.78.3.215 toolButtonInfiniteLineX1 QToolButton* toolButtonInfiniteLineX1 [private]

17.78.3.216 toolButtonInfiniteLineX2 QToolButton* toolButtonInfiniteLineX2 [private]

17.78.3.217 toolButtonInfiniteLineY1 QToolButton* toolButtonInfiniteLineY1 [private]

17.78.3.218 toolButtonInfiniteLineY2 QToolButton* toolButtonInfiniteLineY2 [private]

17.78.3.219 toolButtonLineAngle QToolButton* toolButtonLineAngle [private]

17.78.3.220 toolButtonLineDeltaX QToolButton* toolButtonLineDeltaX [private]

17.78.3.221 toolButtonLineDeltaY QToolButton* toolButtonLineDeltaY [private]

17.78.3.222 toolButtonLineEndX QToolButton* toolButtonLineEndX [private]

17.78.3.223 toolButtonLineEndY QToolButton* toolButtonLineEndY [private]

17.78.3.224 toolButtonLineLength QToolButton* toolButtonLineLength [private]

17.78.3.225 toolButtonLineStartX QToolButton* toolButtonLineStartX [private]

17.78.3.226 toolButtonLineStartY QToolButton* toolButtonLineStartY [private]

17.78.3.227 toolButtonPathArea QToolButton* toolButtonPathArea [private]

17.78.3.228 toolButtonPathClosed QToolButton* toolButtonPathClosed [private]

17.78.3.229 toolButtonPathLength QToolButton* toolButtonPathLength [private]

17.78.3.230 toolButtonPathVertexNum QToolButton* toolButtonPathVertexNum [private]

17.78.3.231 toolButtonPathVertexX QToolButton* toolButtonPathVertexX [private]

17.78.3.232 toolButtonPathVertexY QToolButton* toolButtonPathVertexY [private]

17.78.3.233 toolButtonPickAdd QToolButton* toolButtonPickAdd [private]

17.78.3.234 toolButtonPointX QToolButton* toolButtonPointX [private]

17.78.3.235 toolButtonPointY QToolButton* toolButtonPointY [private]

17.78.3.236 toolButtonPolygonCenterX QToolButton* toolButtonPolygonCenterX [private]

17.78.3.237 toolButtonPolygonCenterY QToolButton* toolButtonPolygonCenterY [private]

17.78.3.238 toolButtonPolygonDiameterSide QToolButton* toolButtonPolygonDiameterSide [private]

17.78.3.239 toolButtonPolygonDiameterVertex QToolButton* toolButtonPolygonDiameterVertex [private]

17.78.3.240 toolButtonPolygonInteriorAngle QToolButton* toolButtonPolygonInteriorAngle [private]

17.78.3.241 toolButtonPolygonRadiusSide QToolButton* toolButtonPolygonRadiusSide [private]

17.78.3.242 toolButtonPolygonRadiusVertex QToolButton* toolButtonPolygonRadiusVertex [private]

17.78.3.243 toolButtonPolylineArea QToolButton* toolButtonPolylineArea [private]

17.78.3.244 toolButtonPolylineClosed QToolButton* toolButtonPolylineClosed [private]

17.78.3.245 toolButtonPolylineLength QToolButton* toolButtonPolylineLength [private]

17.78.3.246 toolButtonPolylineVertexNum QToolButton* toolButtonPolylineVertexNum [private]

17.78.3.247 toolButtonPolylineVertexX QToolButton* toolButtonPolylineVertexX [private]

17.78.3.248 toolButtonPolylineVertexY QToolButton* toolButtonPolylineVertexY [private]

17.78.3.249 toolButtonQSelect QToolButton* toolButtonQSelect [private]

17.78.3.250 toolButtonRayVectorX QToolButton* toolButtonRayVectorX [private]

17.78.3.251 toolButtonRayVectorY QToolButton* toolButtonRayVectorY [private]

17.78.3.252 toolButtonRayX1 QToolButton* toolButtonRayX1 [private]

17.78.3.253 toolButtonRayX2 QToolButton* toolButtonRayX2 [private]

17.78.3.254 toolButtonRayY1 QToolButton* toolButtonRayY1 [private]

17.78.3.255 toolButtonRayY2 QToolButton* toolButtonRayY2 [private]

17.78.3.256 toolButtonRectangleArea QToolButton* toolButtonRectangleArea [private]

17.78.3.257 toolButtonRectangleCorner1X QToolButton* toolButtonRectangleCorner1X [private]

17.78.3.258 toolButtonRectangleCorner1Y QToolButton* toolButtonRectangleCorner1Y [private]

17.78.3.259 toolButtonRectangleCorner2X QToolButton* toolButtonRectangleCorner2X [private]

17.78.3.260 toolButtonRectangleCorner2Y QToolButton* toolButtonRectangleCorner2Y [private]

17.78.3.261 toolButtonRectangleCorner3X QToolButton* toolButtonRectangleCorner3X [private]

17.78.3.262 toolButtonRectangleCorner3Y QToolButton* toolButtonRectangleCorner3Y [private]

17.78.3.263 toolButtonRectangleCorner4X QToolButton* toolButtonRectangleCorner4X [private]

17.78.3.264 toolButtonRectangleCorner4Y QToolButton* toolButtonRectangleCorner4Y [private]

17.78.3.265 toolButtonRectangleHeight QToolButton* toolButtonRectangleHeight [private]

17.78.3.266 toolButtonRectangleWidth QToolButton* toolButtonRectangleWidth [private]

17.78.3.267 toolButtonTextMultiX QToolButton* toolButtonTextMultiX [private]

17.78.3.268 toolButtonTextMultiY QToolButton* toolButtonTextMultiY [private]

17.78.3.269 toolButtonTextSingleBackward QToolButton* toolButtonTextSingleBackward [private]

17.78.3.270 toolButtonTextSingleContents QToolButton* toolButtonTextSingleContents [private]

17.78.3.271 toolButtonTextSingleFont QToolButton* toolButtonTextSingleFont [private]

17.78.3.272 toolButtonTextSingleHeight QToolButton* toolButtonTextSingleHeight [private]

17.78.3.273 toolButtonTextSingleJustify QToolButton* toolButtonTextSingleJustify [private]

17.78.3.274 toolButtonTextSingleRotation QToolButton* toolButtonTextSingleRotation [private]

17.78.3.275 toolButtonTextSingleUpsideDown QToolButton* toolButtonTextSingleUpsideDown [private]

17.78.3.276 toolButtonTextSingleX QToolButton* toolButtonTextSingleX [private]

17.78.3.277 toolButtonTextSingleY QToolButton* toolButtonTextSingleY [private]

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

- embroidermodder2/[property-editor.h](#)
- embroidermodder2/[property-editor.cpp](#)

17.79 RectObject Class Reference

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

Public Types

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

Public Types inherited from [BaseObject](#)

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

Public Member Functions

- [RectObject](#) (qreal x, qreal y, qreal w, qreal h, QRgb rgb, QGraphicsItem *parent=0)
- [RectObject](#) ([RectObject](#) *obj, QGraphicsItem *parent=0)
- [~RectObject](#) ()
- virtual int [type](#) () const
- QPainterPath [objectSavePath](#) () const
- QPointF [objectPos](#) () const
- QPointF [objectTopLeft](#) () const
- QPointF [objectTopRight](#) () const
- QPointF [objectBottomLeft](#) () const
- QPointF [objectBottomRight](#) () const
- qreal [objectWidth](#) () const
- qreal [objectHeight](#) () const
- qreal [objectArea](#) () const
- void [setObjectRect](#) (qreal x, qreal y, qreal w, qreal h)
- void [updateRubber](#) (QPainter *painter=0)
- virtual void [vulcanize](#) ()
- virtual QPointF [mouseSnapPoint](#) (const QPointF &mousePoint)
- virtual QList< QPointF > [allGripPoints](#) ()
- virtual void [gripEdit](#) (const QPointF &before, const QPointF &after)

Public Member Functions inherited from BaseObject

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

Protected Member Functions

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

Protected Member Functions inherited from BaseObject

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

Private Member Functions

- void [init](#) (qreal x, qreal y, qreal w, qreal h, QRgb rgb, Qt::PenStyle lineType)
- void [updatePath](#) ()

17.79.1 Member Enumeration Documentation

17.79.1.1 anonymous enum anonymous enum

Enumerator

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

17.79.2 Constructor & Destructor Documentation

17.79.2.1 RectObject() [1/2] [RectObject](#) (

```
    qreal x,
    qreal y,
    qreal w,
    qreal h,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

17.79.2.2 RectObject() [2/2] [RectObject](#) (

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

17.79.2.3 ~RectObject() [~RectObject](#) ()

17.79.3 Member Function Documentation

17.79.3.1 allGripPoints() [QList< QPointF >](#) allGripPoints () [virtual]

Implements [BaseObject](#).

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

Implements [BaseObject](#).

```
17.79.3.3 init() void init (
    qreal x,
    qreal y,
    qreal w,
    qreal h,
    QRgb rgb,
    Qt::PenStyle lineType ) [private]
```

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

Implements [BaseObject](#).

```
17.79.3.5 objectArea() qreal objectArea ( ) const [inline]
```

```
17.79.3.6 objectBottomLeft() QPointF objectBottomLeft ( ) const
```

```
17.79.3.7 objectBottomRight() QPointF objectBottomRight ( ) const
```

```
17.79.3.8 objectHeight() qreal objectHeight ( ) const [inline]
```

```
17.79.3.9 objectPos() QPointF objectPos ( ) const [inline]
```

```
17.79.3.10 objectSavePath() QPainterPath objectSavePath ( ) const
```

17.79.3.11 objectTopLeft() QPointF objectTopLeft () const

17.79.3.12 objectTopRight() QPointF objectTopRight () const

17.79.3.13 objectWidth() qreal objectWidth () const [inline]

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

17.79.3.15 setObjectRect() void setObjectRect (
 qreal x,
 qreal y,
 qreal w,
 qreal h)

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

Reimplemented from [BaseObject](#).

17.79.3.17 updatePath() void updatePath () [private]

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

17.79.3.19 vulcanize() void vulcanize () [virtual]

Implements [BaseObject](#).

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

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

17.80 SaveObject Class Reference

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

Public Member Functions

- `SaveObject (QGraphicsScene *theScene, QObject *parent=0)`
- `~SaveObject ()`
- `bool save (const QString &fileName)`
- `void addArc (EmbPattern *pattern, QGraphicsItem *item)`
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)`

Private Member Functions

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

Private Attributes

- `QGraphicsScene * gscene`
- `int formatType`

17.80.1 Constructor & Destructor Documentation**17.80.1.1 SaveObject() `SaveObject` (**

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

17.80.1.2 ~SaveObject() `~SaveObject` ()**17.80.2 Member Function Documentation****17.80.2.1 addArc() `void addArc` (**

```
    EmbPattern * pattern,  
    QGraphicsItem * item )
```

`SaveObject::addArc.`

Parameters

| | |
|----------------------|--|
| <code>pattern</code> | |
| <code>item</code> | |

17.80.2.2 addBlock() `void addBlock` (

```
    EmbPattern * pattern,  
    QGraphicsItem * item )
```

`SaveObject::addBlock.`

Parameters

| | |
|----------------------|--|
| <code>pattern</code> | |
| <code>item</code> | |

17.80.2.3 addCircle() void addCircle (

| | |
|-------------------------------------|--|
| <code>EmbPattern * pattern,</code> | |
| <code>QGraphicsItem * item)</code> | |

[SaveObject::addCircle](#).

Parameters

| | |
|----------------------|--|
| <code>pattern</code> | |
| <code>item</code> | |

17.80.2.4 addDimAligned() void addDimAligned (

| | |
|-------------------------------------|--|
| <code>EmbPattern * pattern,</code> | |
| <code>QGraphicsItem * item)</code> | |

[SaveObject::addDimAligned](#).

Parameters

| | |
|----------------------|--|
| <code>pattern</code> | |
| <code>item</code> | |

17.80.2.5 addDimAngular() void addDimAngular (

| | |
|-------------------------------------|--|
| <code>EmbPattern * pattern,</code> | |
| <code>QGraphicsItem * item)</code> | |

[SaveObject::addDimAngular](#).

Parameters

| | |
|----------------------|--|
| <code>pattern</code> | |
| <code>item</code> | |

17.80.2.6 addDimArcLength() void addDimArcLength (

| | |
|-------------------------------------|--|
| <code>EmbPattern * pattern,</code> | |
| <code>QGraphicsItem * item)</code> | |

[SaveObject::addDimArcLength](#).

Parameters

| | |
|----------------------|--|
| <code>pattern</code> | |
| <code>item</code> | |

```
17.80.2.7 addDimDiameter() void addDimDiameter (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

[SaveObject::addDimDiameter](#).

Parameters

| | |
|----------------|----------------------|
| <i>pattern</i> | <input type="text"/> |
| <i>item</i> | <input type="text"/> |

```
17.80.2.8 addDimLeader() void addDimLeader (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

[SaveObject::addDimLeader](#).

Parameters

| | |
|----------------|----------------------|
| <i>pattern</i> | <input type="text"/> |
| <i>item</i> | <input type="text"/> |

```
17.80.2.9 addDimLinear() void addDimLinear (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.80.2.10 addDimOrdinate() void addDimOrdinate (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.80.2.11 addDimRadius() void addDimRadius (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

```
17.80.2.12 addEllipse() void addEllipse (
    EmbPattern * pattern,
    QGraphicsItem * item )
```

17.80.2.13 addEllipseArc() void addEllipseArc (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.14 addGrid() void addGrid (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.15 addHatch() void addHatch (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.16 addImage() void addImage (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.17 addInfiniteLine() void addInfiniteLine (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.18 addLine() void addLine (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.19 addPath() void addPath (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.20 addPoint() void addPoint (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.21 addPolygon() void addPolygon (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.22 addPolyline() void addPolyline (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.23 addRay() void addRay (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.24 addRectangle() void addRectangle (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.25 addSlot() void addSlot (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.26 addSpline() void addSpline (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.27 addTextMulti() void addTextMulti (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

17.80.2.28 addTextSingle() void addTextSingle (

```
EmbPattern * pattern,
QGraphicsItem * item )
```

```
17.80.2.29 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.

```
17.80.2.30 toPolyline() void toPolyline (
    EmbPattern * pattern,
    const QPointF & objPos,
    const QPainterPath & objPath,
    const QString & layer,
    const QColor & color,
    const QString & lineType,
    const QString & lineWeight ) [private]
```

Todo FIX EmbPolyline* polyObject = embPolyline_init(pointList, color_out, 1); //TODO: proper lineType emb←
Pattern_addPolylineAbs(pattern, polyObject);

17.80.3 Member Data Documentation

```
17.80.3.1 formatType int formatType [private]
```

```
17.80.3.2 gscene QGraphicsScene* gscene [private]
```

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

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

17.81 SelectBox Class Reference

```
#include <selectbox.h>
```

Public Slots

- [void setDirection \(int dir\)](#)
- [void setColors \(const QColor &colorL, const QColor &fillL, const QColor &colorR, const QColor &fillR, int newAlpha\)](#)

Public Member Functions

- `SelectBox` (`Shape s, QWidget *parent=0`)

Protected Member Functions

- `void paintEvent (QPaintEvent *)`

Private Member Functions

- `void forceRepaint ()`

Private Attributes

- `QColor leftBrushColor`
- `QColor rightBrushColor`
- `QColor leftPenColor`
- `QColor rightPenColor`
- `quint8 alpha`
- `QBrush dirBrush`
- `QBrush leftBrush`
- `QBrush rightBrush`
- `QPen dirPen`
- `QPen leftPen`
- `QPen rightPen`
- `bool boxDir`

17.81.1 Constructor & Destructor Documentation

17.81.1.1 `SelectBox()` `SelectBox (`
 `Shape s,`
 `QWidget * parent = 0)`

17.81.2 Member Function Documentation

17.81.2.1 `forceRepaint()` `void forceRepaint () [private]`

17.81.2.2 `paintEvent()` `void paintEvent (`
 `QPaintEvent *) [protected]`

```
17.81.2.3 setColors void setColors (
    const QColor & colorL,
    const QColor & fillL,
    const QColor & colorR,
    const QColor & fillR,
    int newAlpha ) [slot]
```

```
17.81.2.4 setDirection void setDirection (
    int dir ) [slot]
```

17.81.3 Member Data Documentation

17.81.3.1 alpha quint8 alpha [private]

17.81.3.2 boxDir bool boxDir [private]

17.81.3.3 dirBrush QBrush dirBrush [private]

17.81.3.4 dirPen QPen dirPen [private]

17.81.3.5 leftBrush QBrush leftBrush [private]

17.81.3.6 leftBrushColor QColor leftBrushColor [private]

17.81.3.7 leftPen QPen leftPen [private]

17.81.3.8 leftPenColor QColor leftPenColor [private]

17.81.3.9 rightBrush QBrush rightBrush [private]

17.81.3.10 rightBrushColor QColor rightBrushColor [private]

17.81.3.11 rightPen QPen rightPen [private]

17.81.3.12 rightPenColor QColor rightPenColor [private]

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

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

17.82 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`

17.82.1 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.

17.82.2 Member Data Documentation

17.82.2.1 assets_dir char assets_dir[200]

17.82.2.2 current_directory char current_directory[200]

17.82.2.3 debug_mode int debug_mode

17.82.2.4 display_bg_color unsigned int display_bg_color

17.82.2.5 display_crosshair_color unsigned int display_crosshair_color

17.82.2.6 display_crosshair_percent unsigned char display_crosshair_percent

17.82.2.7 display_renderhint_aa bool display_renderhint_aa

17.82.2.8 display_renderhint_high_aa bool display_renderhint_high_aa

17.82.2.9 display_renderhint_noncosmetic bool display_renderhint_noncosmetic

17.82.2.10 display_renderhint_smooth_pix bool display_renderhint_smooth_pix

17.82.2.11 display_renderhint_text_aa bool display_renderhint_text_aa

17.82.2.12 display_scrollbar_widget_num int display_scrollbar_widget_num

17.82.2.13 display_selectbox_alpha unsigned char display_selectbox_alpha

17.82.2.14 display_selectbox_left_color unsigned int display_selectbox_left_color

17.82.2.15 display_selectbox_left_fill unsigned int display_selectbox_left_fill

17.82.2.16 display_selectbox_right_color unsigned int display_selectbox_right_color

17.82.2.17 display_selectbox_right_fill unsigned int display_selectbox_right_fill

17.82.2.18 display_show_scrollbars bool display_show_scrollbars

17.82.2.19 display_units char display_units[200]

17.82.2.20 **display_use_opengl** bool display_use_opengl

17.82.2.21 **display_zoomscale_in** float display_zoomscale_in

17.82.2.22 **display_zoomscale_out** float display_zoomscale_out

17.82.2.23 **general_check_for_updates** bool general_check_for_updates

17.82.2.24 **general_current_tip** unsigned int general_current_tip

17.82.2.25 **general_mdi_bg_color** unsigned int general_mdi_bg_color

17.82.2.26 **general_mdi_bg_logo** char general_mdi_bg_logo[200]

17.82.2.27 **general_mdi_bg_texture** char general_mdi_bg_texture[200]

17.82.2.28 **general_system_help_browser** bool general_system_help_browser

17.82.2.29 **grid_center** EmbVector grid_center

17.82.2.30 **grid_center_on_origin** bool grid_center_on_origin

17.82.2.31 `grid_color` `unsigned int grid_color`

17.82.2.32 `grid_color_match_crosshair` `bool grid_color_match_crosshair`

17.82.2.33 `grid_load_from_file` `bool grid_load_from_file`

17.82.2.34 `grid_show_on_load` `bool grid_show_on_load`

17.82.2.35 `grid_show_origin` `bool grid_show_origin`

17.82.2.36 `grid_size_radius` `float grid_size_radius`

17.82.2.37 `grid_size_x` `float grid_size_x`

17.82.2.38 `grid_size_y` `float grid_size_y`

17.82.2.39 `grid_spacing` `EmbVector grid_spacing`

17.82.2.40 `grid_spacing_angle` `float grid_spacing_angle`

17.82.2.41 `grid_spacing_radius` `float grid_spacing_radius`

17.82.2.42 grid_spacing_x float grid_spacing_x

17.82.2.43 grid_spacing_y float grid_spacing_y

17.82.2.44 grid_type char grid_type[200]

17.82.2.45 icon_size int icon_size

17.82.2.46 icon_theme char icon_theme[200]

17.82.2.47 language char language[200]

17.82.2.48 lwt_default_lwt float lwt_default_lwt

17.82.2.49 lwt_real_render bool lwt_real_render

17.82.2.50 lwt_show_lwt bool lwt_show_lwt

17.82.2.51 major_tick_seperation float major_tick_seperation

17.82.2.52 mdi_bg_use_color bool mdi_bg_use_color

17.82.2.53 mdi_bg_use_logo bool mdi_bg_use_logo

17.82.2.54 mdi_bg_use_texture bool mdi_bg_use_texture

17.82.2.55 menu_action char menu_action[200]

17.82.2.56 needle_speed float needle_speed

17.82.2.57 opensave_custom_filter char opensave_custom_filter[200]

17.82.2.58 opensave_open_format char opensave_open_format[200]

17.82.2.59 opensave_open_thumbnail bool opensave_open_thumbnail

17.82.2.60 opensave_recent_directory char opensave_recent_directory[200]

17.82.2.61 opensave_recent_list_of_files char opensave_recent_list_of_files[20][200]

17.82.2.62 opensave_recent_max_files unsigned char opensave_recent_max_files

17.82.2.63 opensave_save_format char opensave_save_format[200]

17.82.2.64 opensave_save_thumbnail bool opensave_save_thumbnail

17.82.2.65 opensave_trim_dst_num_jumps unsigned char opensave_trim_dst_num_jumps

17.82.2.66 pattern_index int pattern_index

17.82.2.67 printing_default_device char printing_default_device[200]

17.82.2.68 printing_disable_bg bool printing_disable_bg

17.82.2.69 printing_use_last_device bool printing_use_last_device

17.82.2.70 qsnap_aperture_size unsigned char qsnap_aperture_size

17.82.2.71 qsnap_apparent bool qsnap_apparent

17.82.2.72 qsnap_center bool qsnap_center

17.82.2.73 qsnap_enabled bool qsnap_enabled

17.82.2.74 qsnap_endpoint bool qsnap_endpoint

17.82.2.75 `qsnap_extension` `bool qsnap_extension`

17.82.2.76 `qsnap_insertion` `bool qsnap_insertion`

17.82.2.77 `qsnap_intersection` `bool qsnap_intersection`

17.82.2.78 `qsnap_locator_color` `unsigned int qsnap_locator_color`

17.82.2.79 `qsnap_locator_size` `unsigned char qsnap_locator_size`

17.82.2.80 `qsnap_midpoint` `bool qsnap_midpoint`

17.82.2.81 `qsnap_nearest` `bool qsnap_nearest`

17.82.2.82 `qsnap_node` `bool qsnap_node`

17.82.2.83 `qsnap_parallel` `bool qsnap_parallel`

17.82.2.84 `qsnap_perpendicular` `bool qsnap_perpendicular`

17.82.2.85 `qsnap_quadrant` `bool qsnap_quadrant`

17.82.2.86 qsnap_tangent bool qsnap_tangent

17.82.2.87 ruler_color unsigned int ruler_color

17.82.2.88 ruler_metric bool ruler_metric

17.82.2.89 ruler_pixel_size unsigned char ruler_pixel_size

17.82.2.90 ruler_show_on_load bool ruler_show_on_load

17.82.2.91 ruler_width float ruler_width

17.82.2.92 running bool running

17.82.2.93 selection_coolgrip_color unsigned int selection_coolgrip_color

17.82.2.94 selection_grip_size unsigned char selection_grip_size

17.82.2.95 selection_hotgrip_color unsigned int selection_hotgrip_color

17.82.2.96 selection_mode_pickadd bool selection_mode_pickadd

17.82.2.97 `selection_mode_pickdrag` bool selection_mode_pickdrag

17.82.2.98 `selection_mode_pickfirst` bool selection_mode_pickfirst

17.82.2.99 `selection_pickbox_size` unsigned char selection_pickbox_size

17.82.2.100 `shift_held` bool shift_held

17.82.2.101 `shine_color` unsigned int shine_color

17.82.2.102 `show_about_dialog` bool show_about_dialog

17.82.2.103 `show_details_dialog` bool show_details_dialog

17.82.2.104 `show_editor` bool show_editor

17.82.2.105 `show_open_file_dialog` bool show_open_file_dialog

17.82.2.106 `show_settings_editor` bool show_settings_editor

17.82.2.107 `stitch_time` float stitch_time

17.82.2.108 testing bool testing

17.82.2.109 text_angle float text_angle

17.82.2.110 text_font char text_font[200]

17.82.2.111 text_size float text_size

17.82.2.112 text_style_bold bool text_style_bold

17.82.2.113 text_style_italic bool text_style_italic

17.82.2.114 text_style_overline bool text_style_overline

17.82.2.115 text_style_strikeout bool text_style_strikeout

17.82.2.116 text_style_underline bool text_style_underline

17.82.2.117 texture_list [Dictionary](#)* texture_list

17.82.2.118 tick_depth float tick_depth

17.82.2.119 ticks_color unsigned int ticks_color

17.82.2.120 tip_of_the_day bool tip_of_the_day

17.82.2.121 to_open char to_open[200]

17.82.2.122 use_translation bool use_translation

17.82.2.123 version char version[200]

17.82.2.124 zoomInLimit [EmbReal](#) zoomInLimit

17.82.2.125 zoomOutLimit [EmbReal](#) zoomOutLimit

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

- [embroidermodder2/embroidermodder.h](#)

17.83 Settings_Dialog Class Reference

```
#include <settings-dialog.h>
```

Signals

- void [buttonCustomFilterSelectAll](#) (bool)
- void [buttonCustomFilterClearAll](#) (bool)
- void [buttonQSnapSelectAll](#) (bool)
- void [buttonQSnapClearAll](#) (bool)

Public Member Functions

- [Settings_Dialog](#) ([MainWindow](#) *mw, const [QString](#) &showTab=[QString\(\)](#), [QWidget](#) *parent=0)
- [~Settings_Dialog](#) ()

Private Slots

- void `comboBoxLanguageCurrentIndexChanged` (const QString &)
- void `comboBoxIconThemeCurrentIndexChanged` (const QString &)
- void `comboBoxIconSizeCurrentIndexChanged` (int)
- void `checkBoxGeneralMdiBGUseLogoStateChanged` (int)
- void `chooseGeneralMdiBackgroundLogo` ()
- void `checkBoxGeneralMdiBGUseTextureStateChanged` (int)
- void `chooseGeneralMdiBackgroundTexture` ()
- void `checkBoxGeneralMdiBGUseColorStateChanged` (int)
- void `chooseGeneralMdiBackgroundColor` ()
- void `currentGeneralMdiBackgroundColorChanged` (const QColor &)
- void `checkBoxTipOfTheDayStateChanged` (int)
- void `checkBoxUseOpenGLStateChanged` (int)
- void `checkBoxRenderHintAAStateChanged` (int)
- void `checkBoxRenderHintTextAAStateChanged` (int)
- void `checkBoxRenderHintSmoothPixStateChanged` (int)
- void `checkBoxRenderHintHighAAStateChanged` (int)
- void `checkBoxRenderHintNonCosmeticStateChanged` (int)
- void `checkBoxShowScrollBarsStateChanged` (int)
- void `comboBoxScrollBarWidgetCurrentIndexChanged` (int)
- void `spinBoxZoomScaleInValueChanged` (double)
- void `spinBoxZoomScaleOutValueChanged` (double)
- void `checkBoxDisableBGStateChanged` (int)
- void `chooseDisplayCrossHairColor` ()
- void `currentDisplayCrossHairColorChanged` (const QColor &)
- void `chooseDisplayBackgroundColor` ()
- void `currentDisplayBackgroundColorChanged` (const QColor &)
- void `chooseDisplaySelectBoxLeftColor` ()
- void `currentDisplaySelectBoxLeftColorChanged` (const QColor &)
- void `chooseDisplaySelectBoxLeftFill` ()
- void `currentDisplaySelectBoxLeftFillChanged` (const QColor &)
- void `chooseDisplaySelectBoxRightColor` ()
- void `currentDisplaySelectBoxRightColorChanged` (const QColor &)
- void `chooseDisplaySelectBoxRightFill` ()
- void `currentDisplaySelectBoxRightFillChanged` (const QColor &)
- void `spinBoxDisplaySelectBoxAlphaValueChanged` (int)
- void `choosePromptTextColor` ()
- void `currentPromptTextColorChanged` (const QColor &)
- void `choosePromptBackgroundColor` ()
- void `currentPromptBackgroundColorChanged` (const QColor &)
- void `comboBoxPromptFontFamilyCurrentIndexChanged` (const QString &)
- void `comboBoxPromptFontStyleCurrentIndexChanged` (const QString &)
- void `spinBoxPromptFontSizeValueChanged` (int)
- void `checkBoxPromptSaveHistoryStateChanged` (int)
- void `checkBoxPromptSaveHistoryAsHtmlStateChanged` (int)
- void `checkBoxCustomFilterStateChanged` (int)
- void `buttonCustomFilterSelectAllClicked` ()
- void `buttonCustomFilterClearAllClicked` ()
- void `spinBoxRecentMaxFilesValueChanged` (int)
- void `spinBoxTrimDstNumJumpsValueChanged` (int)
- void `checkBoxGridShowOnLoadStateChanged` (int)
- void `checkBoxGridShowOriginStateChanged` (int)
- void `checkBoxGridColorMatchCrossHairStateChanged` (int)
- void `chooseGridColor` ()

- void `currentGridColorChanged` (const QColor &)
- void `checkBoxGridLoadFromFileStateChanged` (int)
- void `comboBoxGridTypeCurrentIndexChanged` (const QString &)
- void `checkBoxGridCenterOnOriginStateChanged` (int)
- void `spinBoxGridCenterXValueChanged` (double)
- void `spinBoxGridCenterYValueChanged` (double)
- void `spinBoxGridSizeXValueChanged` (double)
- void `spinBoxGridSizeYValueChanged` (double)
- void `spinBoxGridSpacingXValueChanged` (double)
- void `spinBoxGridSpacingYValueChanged` (double)
- void `spinBoxGridSizeRadiusValueChanged` (double)
- void `spinBoxGridSpacingRadiusValueChanged` (double)
- void `spinBoxGridSpacingAngleValueChanged` (double)
- void `checkBoxRulerShowOnLoadStateChanged` (int)
- void `comboBoxRulerMetricCurrentIndexChanged` (int)
- void `chooseRulerColor` ()
- void `currentRulerColorChanged` (const QColor &)
- void `spinBoxRulerPixelSizeValueChanged` (double)
- void `checkBoxQSnapEndPointStateChanged` (int)
- void `checkBoxQSnapMidPointStateChanged` (int)
- void `checkBoxQSnapCenterStateChanged` (int)
- void `checkBoxQSnapNodeStateChanged` (int)
- void `checkBoxQSnapQuadrantStateChanged` (int)
- void `checkBoxQSnapIntersectionStateChanged` (int)
- void `checkBoxQSnapExtensionStateChanged` (int)
- void `checkBoxQSnapInsertionStateChanged` (int)
- void `checkBoxQSnapPerpendicularStateChanged` (int)
- void `checkBoxQSnapTangentStateChanged` (int)
- void `checkBoxQSnapNearestStateChanged` (int)
- void `checkBoxQSnapApparentStateChanged` (int)
- void `checkBoxQSnapParallelStateChanged` (int)
- void `buttonQSnapSelectAllClicked` ()
- void `buttonQSnapClearAllClicked` ()
- void `comboBoxQSnapLocatorColorCurrentIndexChanged` (int)
- void `sliderQSnapLocatorSizeValueChanged` (int)
- void `sliderQSnapApertureSizeValueChanged` (int)
- void `checkBoxLwtShowLwtStateChanged` (int)
- void `checkBoxLwtRealRenderStateChanged` (int)
- void `checkBoxSelectionModePickFirstStateChanged` (int)
- void `checkBoxSelectionModePickAddStateChanged` (int)
- void `checkBoxSelectionModePickDragStateChanged` (int)
- void `comboBoxSelectionCoolGripColorCurrentIndexChanged` (int)
- void `comboBoxSelectionHotGripColorCurrentIndexChanged` (int)
- void `sliderSelectionGripSizeValueChanged` (int)
- void `sliderSelectionPickBoxSizeValueChanged` (int)
- void `acceptChanges` ()
- void `rejectChanges` ()

Private Member Functions

- QWidget * `createTabGeneral ()`
- QWidget * `createTabFilePaths ()`
- QWidget * `createTabDisplay ()`
- QWidget * `createTabPrompt ()`
- QWidget * `createTabOpenSave ()`
- QWidget * `createTabPrinting ()`
- QWidget * `createTabSnap ()`
- QWidget * `createTabGridRuler ()`
- QWidget * `createTabOrthoPolar ()`
- QWidget * `createTabQuickSnap ()`
- QWidget * `createTabQuickTrack ()`
- QWidget * `createTabLineWeight ()`
- QWidget * `createTabSelection ()`
- void `addColorsToComboBox (QComboBox *comboBox)`

Private Attributes

- MainWindow * `mainWin`
- QTabWidget * `tabWidget`
- QDialogButtonBox * `buttonBox`
- bool `preview_general_mdi_bg_use_logo`
- bool `preview_general_mdi_bg_use_texture`
- bool `preview_general_mdi_bg_use_color`
- QString `accept_general_mdi_bg_logo`
- QString `accept_general_mdi_bg_texture`
- QRgb `preview_general_mdi_bg_color`
- QRgb `accept_general_mdi_bg_color`
- bool `preview_display_show_scrollbars`
- QRgb `preview_display_crosshair_color`
- QRgb `accept_display_crosshair_color`
- QRgb `preview_display_bg_color`
- QRgb `accept_display_bg_color`
- QRgb `preview_display_selectbox_left_color`
- QRgb `accept_display_selectbox_left_color`
- QRgb `preview_display_selectbox_left_fill`
- QRgb `accept_display_selectbox_left_fill`
- QRgb `preview_display_selectbox_right_color`
- QRgb `accept_display_selectbox_right_color`
- QRgb `preview_display_selectbox_right_fill`
- QRgb `accept_display_selectbox_right_fill`
- quint8 `preview_display_selectbox_alpha`
- QRgb `preview_prompt_text_color`
- QRgb `accept_prompt_text_color`
- QRgb `preview_prompt_bg_color`
- QRgb `accept_prompt_bg_color`
- QString `preview_prompt_font_family`
- QString `preview_prompt_font_style`
- quint8 `preview_prompt_font_size`
- QRgb `preview_grid_color`
- QRgb `accept_grid_color`
- QRgb `preview_ruler_color`
- QRgb `accept_ruler_color`

- bool `preview_lwt_show_lwt`
- bool `preview_lwt_real_render`
- QString `dialog_general_language`
- QString `dialog_general_icon_theme`
- int `dialog_general_icon_size`
- bool `dialog_general_mdi_bg_use_logo`
- bool `dialog_general_mdi_bg_use_texture`
- bool `dialog_general_mdi_bg_use_color`
- QString `dialog_general_mdi_bg_logo`
- QString `dialog_general_mdi_bg_texture`
- QRgb `dialog_general_mdi_bg_color`
- bool `dialog_general_tip_of_the_day`
- bool `dialog_general_system_help_browser`
- bool `dialog_display_use_opengl`
- bool `dialog_display_renderhint_aa`
- bool `dialog_display_renderhint_text_aa`
- bool `dialog_display_renderhint_smooth_pix`
- bool `dialog_display_renderhint_high_aa`
- bool `dialog_display_renderhint_noncosmetic`
- bool `dialog_display_show_scrollbars`
- int `dialog_display_scrollbar_widget_num`
- QRgb `dialog_display_crosshair_color`
- QRgb `dialog_display_bg_color`
- QRgb `dialog_display_selectbox_left_color`
- QRgb `dialog_display_selectbox_left_fill`
- QRgb `dialog_display_selectbox_right_color`
- QRgb `dialog_display_selectbox_right_fill`
- quint8 `dialog_display_selectbox_alpha`
- qreal `dialog_display_zoomscale_in`
- qreal `dialog_display_zoomscale_out`
- quint8 `dialog_display_crosshair_percent`
- QString `dialog_display_units`
- QRgb `dialog_prompt_text_color`
- QRgb `dialog_prompt_bg_color`
- QString `dialog_prompt_font_family`
- QString `dialog_prompt_font_style`
- quint8 `dialog_prompt_font_size`
- bool `dialog_prompt_save_history`
- bool `dialog_prompt_save_history_as_html`
- QString `dialog_prompt_save_history_filename`
- QString `dialog_opensave_custom_filter`
- QString `dialog_opensave_open_format`
- bool `dialog_opensave_open_thumbnail`
- QString `dialog_opensave_save_format`
- bool `dialog_opensave_save_thumbnail`
- quint8 `dialog_opensave_recent_max_files`
- quint8 `dialog_opensave_trim_dst_num_jumps`
- QString `dialog_printing_default_device`
- bool `dialog_printing_use_last_device`
- bool `dialog_printing_disable_bg`
- bool `dialog_grid_show_on_load`
- bool `dialog_grid_show_origin`
- bool `dialog_grid_color_match_crosshair`
- QRgb `dialog_grid_color`
- bool `dialog_grid_load_from_file`

- `QString dialog_grid_type`
- `bool dialog_grid_center_on_origin`
- `qreal dialog_grid_center_x`
- `qreal dialog_grid_center_y`
- `qreal dialog_grid_size_x`
- `qreal dialog_grid_size_y`
- `qreal dialog_grid_spacing_x`
- `qreal dialog_grid_spacing_y`
- `qreal dialog_grid_size_radius`
- `qreal dialog_grid_spacing_radius`
- `qreal dialog_grid_spacing_angle`
- `bool dialog_ruler_show_on_load`
- `bool dialog_ruler_metric`
- `QRgb dialog_ruler_color`
- `quint8 dialog_ruler_pixel_size`
- `bool dialog_qsnap_enabled`
- `QRgb dialog_qsnap_locator_color`
- `quint8 dialog_qsnap_locator_size`
- `quint8 dialog_qsnap_aperture_size`
- `bool dialog_qsnap_endpoint`
- `bool dialog_qsnap_midpoint`
- `bool dialog_qsnap_center`
- `bool dialog_qsnap_node`
- `bool dialog_qsnap_quadrant`
- `bool dialog_qsnap_intersection`
- `bool dialog_qsnap_extension`
- `bool dialog_qsnap_insertion`
- `bool dialog_qsnap_perpendicular`
- `bool dialog_qsnap_tangent`
- `bool dialog_qsnap_nearest`
- `bool dialog_qsnap_apparent`
- `bool dialog_qsnap_parallel`
- `bool dialog_lwt_show_lwt`
- `bool dialog_lwt_real_render`
- `qreal dialog_lwt_default_lwt`
- `bool dialog_selection_mode_pickfirst`
- `bool dialog_selection_mode_pickadd`
- `bool dialog_selection_mode_pickdrag`
- `QRgb dialog_selection_coolgrip_color`
- `QRgb dialog_selection_hotgrip_color`
- `quint8 dialog_selection_grip_size`
- `quint8 dialog_selection_pickbox_size`

17.83.1 Constructor & Destructor Documentation

17.83.1.1 Settings_Dialog() `Settings_Dialog (`

```
    MainWindow * mw,
    const QString & showTab = QString(),
    QWidget * parent = 0 )
```

17.83.1.2 ~Settings_Dialog() ~*Settings_Dialog* ()

17.83.2 Member Function Documentation

17.83.2.1 acceptChanges void acceptChanges () [private], [slot]

17.83.2.2 addColorsToComboBox() void addColorsToComboBox (QComboBox * *comboBox*) [private]

17.83.2.3 buttonCustomFilterClearAll void buttonCustomFilterClearAll (bool) [signal]

17.83.2.4 buttonCustomFilterClearAllClicked void buttonCustomFilterClearAllClicked () [private], [slot]

17.83.2.5 buttonCustomFilterSelectAll void buttonCustomFilterSelectAll (bool) [signal]

17.83.2.6 buttonCustomFilterSelectAllClicked void buttonCustomFilterSelectAllClicked () [private], [slot]

17.83.2.7 buttonQSnapClearAll void buttonQSnapClearAll (bool) [signal]

17.83.2.8 buttonQSnapClearAllClicked void buttonQSnapClearAllClicked () [private], [slot]

17.83.2.9 buttonQSnapSelectAll void buttonQSnapSelectAll (bool) [signal]

17.83.2.10 buttonQSnapSelectAllClicked void buttonQSnapSelectAllClicked () [private], [slot]

17.83.2.11 checkBoxCustomFilterStateChanged void checkBoxCustomFilterStateChanged (int checked) [private], [slot]

17.83.2.12 checkBoxDisableBGStateChanged void checkBoxDisableBGStateChanged (int checked) [private], [slot]

17.83.2.13 checkBoxGeneralMdiBGUseColorStateChanged void checkBoxGeneralMdiBGUseColorStateChanged (int checked) [private], [slot]

17.83.2.14 checkBoxGeneralMdiBGUseLogoStateChanged void checkBoxGeneralMdiBGUseLogoStateChanged (int checked) [private], [slot]

17.83.2.15 checkBoxGeneralMdiBGUseTextureStateChanged void checkBoxGeneralMdiBGUseTextureStateChanged (int checked) [private], [slot]

17.83.2.16 checkBoxGridCenterOnOriginStateChanged void checkBoxGridCenterOnOriginStateChanged (int checked) [private], [slot]

17.83.2.17 checkBoxGridColorMatchCrossHairStateChanged void checkBoxGridColorMatchCrossHairStateChanged (int checked) [private], [slot]

17.83.2.18 `checkBoxGridLoadFromFileStateChanged` void checkBoxGridLoadFromFileStateChanged (int *checked*) [private], [slot]

17.83.2.19 `checkBoxGridShowOnLoadStateChanged` void checkBoxGridShowOnLoadStateChanged (int *checked*) [private], [slot]

17.83.2.20 `checkBoxGridShowOriginStateChanged` void checkBoxGridShowOriginStateChanged (int *checked*) [private], [slot]

17.83.2.21 `checkBoxLwtRealRenderStateChanged` void checkBoxLwtRealRenderStateChanged (int *checked*) [private], [slot]

17.83.2.22 `checkBoxLwtShowLwtStateChanged` void checkBoxLwtShowLwtStateChanged (int *checked*) [private], [slot]

17.83.2.23 `checkBoxPromptSaveHistoryAsHtmlStateChanged` void checkBoxPromptSaveHistoryAsHtmlStateChanged (int *checked*) [private], [slot]

17.83.2.24 `checkBoxPromptSaveHistoryStateChanged` void checkBoxPromptSaveHistoryStateChanged (int *checked*) [private], [slot]

17.83.2.25 `checkBoxQSnapApparentStateChanged` void checkBoxQSnapApparentStateChanged (int *checked*) [private], [slot]

17.83.2.26 `checkBoxQSnapCenterStateChanged` void checkBoxQSnapCenterStateChanged (int *checked*) [private], [slot]

17.83.2.27 checkBoxQSnapEndPointStateChanged void checkBoxQSnapEndPointStateChanged (int *checked*) [private], [slot]

17.83.2.28 checkBoxQSnapExtensionStateChanged void checkBoxQSnapExtensionStateChanged (int *checked*) [private], [slot]

17.83.2.29 checkBoxQSnapInsertionStateChanged void checkBoxQSnapInsertionStateChanged (int *checked*) [private], [slot]

17.83.2.30 checkBoxQSnapIntersectionStateChanged void checkBoxQSnapIntersectionStateChanged (int *checked*) [private], [slot]

17.83.2.31 checkBoxQSnapMidPointStateChanged void checkBoxQSnapMidPointStateChanged (int *checked*) [private], [slot]

17.83.2.32 checkBoxQSnapNearestStateChanged void checkBoxQSnapNearestStateChanged (int *checked*) [private], [slot]

17.83.2.33 checkBoxQSnapNodeStateChanged void checkBoxQSnapNodeStateChanged (int *checked*) [private], [slot]

17.83.2.34 checkBoxQSnapParallelStateChanged void checkBoxQSnapParallelStateChanged (int *checked*) [private], [slot]

17.83.2.35 checkBoxQSnapPerpendicularStateChanged void checkBoxQSnapPerpendicularState→Changed (int *checked*) [private], [slot]

17.83.2.36 `checkBoxQSnapQuadrantStateChanged` void checkBoxQSnapQuadrantStateChanged (int *checked*) [private], [slot]

17.83.2.37 `checkBoxQSnapTangentStateChanged` void checkBoxQSnapTangentStateChanged (int *checked*) [private], [slot]

17.83.2.38 `checkBoxRenderHintAAStateChanged` void checkBoxRenderHintAAStateChanged (int *checked*) [private], [slot]

17.83.2.39 `checkBoxRenderHintHighAAStateChanged` void checkBoxRenderHintHighAAStateChanged (int *checked*) [private], [slot]

17.83.2.40 `checkBoxRenderHintNonCosmeticStateChanged` void checkBoxRenderHintNonCosmeticStateChanged (int *checked*) [private], [slot]

17.83.2.41 `checkBoxRenderHintSmoothPixStateChanged` void checkBoxRenderHintSmoothPixStateChanged (int *checked*) [private], [slot]

17.83.2.42 `checkBoxRenderHintTextAAStateChanged` void checkBoxRenderHintTextAAStateChanged (int *checked*) [private], [slot]

17.83.2.43 `checkBoxRulerShowOnLoadStateChanged` void checkBoxRulerShowOnLoadStateChanged (int *checked*) [private], [slot]

17.83.2.44 `checkBoxSelectionModePickAddStateChanged` void checkBoxSelectionModePickAddStateChanged (int *checked*) [private], [slot]

17.83.2.45 checkBoxSelectionModePickDragStateChanged void checkBoxSelectionModePickDragStateChanged (int *checked*) [private], [slot]

17.83.2.46 checkBoxSelectionModePickFirstStateChanged void checkBoxSelectionModePickFirstStateChanged (int *checked*) [private], [slot]

17.83.2.47 checkBoxShowScrollBarsStateChanged void checkBoxShowScrollBarsStateChanged (int *checked*) [private], [slot]

17.83.2.48 checkBoxTipOfTheDayStateChanged void checkBoxTipOfTheDayStateChanged (int *checked*) [private], [slot]

17.83.2.49 checkBoxUseOpenGLStateChanged void checkBoxUseOpenGLStateChanged (int *checked*) [private], [slot]

17.83.2.50 chooseDisplayBackgroundColor void chooseDisplayBackgroundColor () [private], [slot]

17.83.2.51 chooseDisplayCrossHairColor void chooseDisplayCrossHairColor () [private], [slot]

17.83.2.52 chooseDisplaySelectBoxLeftColor void chooseDisplaySelectBoxLeftColor () [private], [slot]

17.83.2.53 chooseDisplaySelectBoxLeftFill void chooseDisplaySelectBoxLeftFill () [private], [slot]

17.83.2.54 chooseDisplaySelectBoxRightColor void chooseDisplaySelectBoxRightColor () [private], [slot]

17.83.2.55 chooseDisplaySelectBoxRightFill void chooseDisplaySelectBoxRightFill () [private], [slot]

17.83.2.56 chooseGeneralMdiBackgroundColor void chooseGeneralMdiBackgroundColor () [private], [slot]

17.83.2.57 chooseGeneralMdiBackgroundLogo void chooseGeneralMdiBackgroundLogo () [private], [slot]

17.83.2.58 chooseGeneralMdiBackgroundTexture void chooseGeneralMdiBackgroundTexture () [private], [slot]

17.83.2.59 chooseGridColor void chooseGridColor () [private], [slot]

17.83.2.60 choosePromptBackgroundColor void choosePromptBackgroundColor () [private], [slot]

17.83.2.61 choosePromptTextColor void choosePromptTextColor () [private], [slot]

17.83.2.62 chooseRulerColor void chooseRulerColor () [private], [slot]

17.83.2.63 comboBoxGridTypeCurrentIndexChanged void comboBoxGridTypeCurrentIndexChanged (const QString & type) [private], [slot]

17.83.2.64 comboBoxIconSizeCurrentIndexChanged void comboBoxIconSizeCurrentIndexChanged (int index) [private], [slot]

17.83.2.65 comboBoxIconThemeCurrentIndexChanged void comboBoxIconThemeCurrentIndexChanged (const QString & theme) [private], [slot]

17.83.2.66 comboBoxLanguageCurrentIndexChanged void comboBoxLanguageCurrentIndexChanged (const QString & lang) [private], [slot]

17.83.2.67 comboBoxPromptFontFamilyCurrentIndexChanged void comboBoxPromptFontFamilyCurrentIndexChanged (const QString & family) [private], [slot]

17.83.2.68 comboBoxPromptFontStyleCurrentIndexChanged void comboBoxPromptFontStyleCurrentIndexChanged (const QString & style) [private], [slot]

17.83.2.69 comboBoxQSnapLocatorColorCurrentIndexChanged void comboBoxQSnapLocatorColorCurrentIndexChanged (int index) [private], [slot]

17.83.2.70 comboBoxRulerMetricCurrentIndexChanged void comboBoxRulerMetricCurrentIndexChanged (int index) [private], [slot]

17.83.2.71 comboBoxScrollBarWidgetCurrentIndexChanged void comboBoxScrollBarWidgetCurrentIndexChanged (int index) [private], [slot]

17.83.2.72 comboBoxSelectionCoolGripColorCurrentIndexChanged void comboBoxSelectionCoolGripColorCurrentIndexChanged (int index) [private], [slot]

17.83.2.73 comboBoxSelectionHotGripColorCurrentIndexChanged void comboBoxSelectionHotGripColorCurrentIndexChanged (int index) [private], [slot]

17.83.2.74 createTabDisplay() QWidget * createTabDisplay () [private]

17.83.2.75 createTabFilesPaths() QWidget * createTabFilesPaths () [private]

17.83.2.76 createTabGeneral() QWidget * createTabGeneral () [private]

17.83.2.77 createTabGridRuler() QWidget * createTabGridRuler () [private]

17.83.2.78 createTabLineWeight() QWidget * createTabLineWeight () [private]

17.83.2.79 createTabOpenSave() QWidget * createTabOpenSave () [private]

17.83.2.80 createTabOrthoPolar() QWidget * createTabOrthoPolar () [private]

17.83.2.81 createTabPrinting() QWidget * createTabPrinting () [private]

17.83.2.82 createTabPrompt() QWidget * createTabPrompt () [private]

17.83.2.83 createTabQuickSnap() QWidget * createTabQuickSnap () [private]

17.83.2.84 `createTabQuickTrack()` QWidget * createTabQuickTrack () [private]

17.83.2.85 `createTabSelection()` QWidget * createTabSelection () [private]

17.83.2.86 `createTabSnap()` QWidget * createTabSnap () [private]

17.83.2.87 `currentDisplayBackgroundColorChanged` void currentDisplayBackgroundColorChanged (const QColor & color) [private], [slot]

17.83.2.88 `currentDisplayCrossHairColorChanged` void currentDisplayCrossHairColorChanged (const QColor & color) [private], [slot]

17.83.2.89 `currentDisplaySelectBoxLeftColorChanged` void currentDisplaySelectBoxLeftColorChanged (const QColor & color) [private], [slot]

17.83.2.90 `currentDisplaySelectBoxLeftFillChanged` void currentDisplaySelectBoxLeftFillChanged (const QColor & color) [private], [slot]

17.83.2.91 `currentDisplaySelectBoxRightColorChanged` void currentDisplaySelectBoxRightColorChanged (const QColor & color) [private], [slot]

17.83.2.92 `currentDisplaySelectBoxRightFillChanged` void currentDisplaySelectBoxRightFillChanged (const QColor & color) [private], [slot]

- 17.83.2.93 `currentGeneralMdiBackgroundColorChanged`** void currentGeneralMdiBackgroundColorChanged (const QColor & color) [private], [slot]
- 17.83.2.94 `currentGridColorChanged`** void currentGridColorChanged (const QColor & color) [private], [slot]
- 17.83.2.95 `currentPromptBackgroundColorChanged`** void currentPromptBackgroundColorChanged (const QColor & color) [private], [slot]
- 17.83.2.96 `currentPromptTextColorChanged`** void currentPromptTextColorChanged (const QColor & color) [private], [slot]
- 17.83.2.97 `currentRulerColorChanged`** void currentRulerColorChanged (const QColor & color) [private], [slot]
- 17.83.2.98 `rejectChanges`** void rejectChanges () [private], [slot]
- 17.83.2.99 `sliderQSnapApertureSizeValueChanged`** void sliderQSnapApertureSizeValueChanged (int value) [private], [slot]
- 17.83.2.100 `sliderQSnapLocatorSizeValueChanged`** void sliderQSnapLocatorSizeValueChanged (int value) [private], [slot]
- 17.83.2.101 `sliderSelectionGripSizeValueChanged`** void sliderSelectionGripSizeValueChanged (int value) [private], [slot]

17.83.2.102 sliderSelectionPickBoxSizeValueChanged void sliderSelectionPickBoxSizeValueChanged (int value) [private], [slot]

17.83.2.103 spinBoxDisplaySelectBoxAlphaValueChanged void spinBoxDisplaySelectBoxAlphaValueChanged (int value) [private], [slot]

17.83.2.104 spinBoxGridCenterXValueChanged void spinBoxGridCenterXValueChanged (double value) [private], [slot]

17.83.2.105 spinBoxGridCenterYValueChanged void spinBoxGridCenterYValueChanged (double value) [private], [slot]

17.83.2.106 spinBoxGridSizeRadiusValueChanged void spinBoxGridSizeRadiusValueChanged (double value) [private], [slot]

17.83.2.107 spinBoxGridSizeXValueChanged void spinBoxGridSizeXValueChanged (double value) [private], [slot]

17.83.2.108 spinBoxGridSizeYValueChanged void spinBoxGridSizeYValueChanged (double value) [private], [slot]

17.83.2.109 spinBoxGridSpacingAngleValueChanged void spinBoxGridSpacingAngleValueChanged (double value) [private], [slot]

17.83.2.110 spinBoxGridSpacingRadiusValueChanged void spinBoxGridSpacingRadiusValueChanged (double value) [private], [slot]

- 17.83.2.111 `spinBoxGridSpacingXValueChanged`** void spinBoxGridSpacingXValueChanged (double value) [private], [slot]
- 17.83.2.112 `spinBoxGridSpacingYValueChanged`** void spinBoxGridSpacingYValueChanged (double value) [private], [slot]
- 17.83.2.113 `spinBoxPromptFontSizeValueChanged`** void spinBoxPromptFontSizeValueChanged (int value) [private], [slot]
- 17.83.2.114 `spinBoxRecentMaxFilesValueChanged`** void spinBoxRecentMaxFilesValueChanged (int value) [private], [slot]
- 17.83.2.115 `spinBoxRulerPixelSizeValueChanged`** void spinBoxRulerPixelSizeValueChanged (double value) [private], [slot]
- 17.83.2.116 `spinBoxTrimDstNumJumpsValueChanged`** void spinBoxTrimDstNumJumpsValueChanged (int value) [private], [slot]
- 17.83.2.117 `spinBoxZoomScaleInValueChanged`** void spinBoxZoomScaleInValueChanged (double value) [private], [slot]
- 17.83.2.118 `spinBoxZoomScaleOutValueChanged`** void spinBoxZoomScaleOutValueChanged (double value) [private], [slot]
- 17.83.3 Member Data Documentation**
- 17.83.3.1 `accept_display_bg_color`** QRgb accept_display_bg_color [private]

17.83.3.2 accept_display_crosshair_color QRgb accept_display_crosshair_color [private]

17.83.3.3 accept_display_selectbox_left_color QRgb accept_display_selectbox_left_color [private]

17.83.3.4 accept_display_selectbox_left_fill QRgb accept_display_selectbox_left_fill [private]

17.83.3.5 accept_display_selectbox_right_color QRgb accept_display_selectbox_right_color [private]

17.83.3.6 accept_display_selectbox_right_fill QRgb accept_display_selectbox_right_fill [private]

17.83.3.7 accept_general_mdi_bg_color QRgb accept_general_mdi_bg_color [private]

17.83.3.8 accept_general_mdi_bg_logo QString accept_general_mdi_bg_logo [private]

17.83.3.9 accept_general_mdi_bg_texture QString accept_general_mdi_bg_texture [private]

17.83.3.10 accept_grid_color QRgb accept_grid_color [private]

17.83.3.11 accept_prompt_bg_color QRgb accept_prompt_bg_color [private]

17.83.3.12 accept_prompt_text_color QRgb accept_prompt_text_color [private]

17.83.3.13 accept_ruler_color QRgb accept_ruler_color [private]

17.83.3.14 buttonBox QDialogButtonBox* buttonBox [private]

17.83.3.15 dialog_display_bg_color QRgb dialog_display_bg_color [private]

17.83.3.16 dialog_display_crosshair_color QRgb dialog_display_crosshair_color [private]

17.83.3.17 dialog_display_crosshair_percent quint8 dialog_display_crosshair_percent [private]

17.83.3.18 dialog_display_renderhint_aa bool dialog_display_renderhint_aa [private]

17.83.3.19 dialog_display_renderhint_high_aa bool dialog_display_renderhint_high_aa [private]

17.83.3.20 dialog_display_renderhint_noncosmetic bool dialog_display_renderhint_noncosmetic [private]

17.83.3.21 dialog_display_renderhint_smooth_pix bool dialog_display_renderhint_smooth_pix [private]

17.83.3.22 dialog_display_renderhint_text_aa bool dialog_display_renderhint_text_aa [private]

17.83.3.23 dialog_display_scrollbar_widget_num int dialog_display_scrollbar_widget_num [private]

17.83.3.24 **dialog_display_selectbox_alpha** quint8 dialog_display_selectbox_alpha [private]

17.83.3.25 **dialog_display_selectbox_left_color** QRgb dialog_display_selectbox_left_color [private]

17.83.3.26 **dialog_display_selectbox_left_fill** QRgb dialog_display_selectbox_left_fill [private]

17.83.3.27 **dialog_display_selectbox_right_color** QRgb dialog_display_selectbox_right_color [private]

17.83.3.28 **dialog_display_selectbox_right_fill** QRgb dialog_display_selectbox_right_fill [private]

17.83.3.29 **dialog_display_show_scrollbars** bool dialog_display_show_scrollbars [private]

17.83.3.30 **dialog_display_units** QString dialog_display_units [private]

17.83.3.31 **dialog_display_use_opengl** bool dialog_display_use_opengl [private]

17.83.3.32 **dialog_display_zoomscale_in** qreal dialog_display_zoomscale_in [private]

17.83.3.33 **dialog_display_zoomscale_out** qreal dialog_display_zoomscale_out [private]

17.83.3.34 **dialog_general_icon_size** int dialog_general_icon_size [private]

17.83.3.35 dialog_general_icon_theme `QString dialog_general_icon_theme [private]`

17.83.3.36 dialog_general_language `QString dialog_general_language [private]`

17.83.3.37 dialog_general_mdi_bg_color `QRgb dialog_general_mdi_bg_color [private]`

17.83.3.38 dialog_general_mdi_bg_logo `QString dialog_general_mdi_bg_logo [private]`

17.83.3.39 dialog_general_mdi_bg_texture `QString dialog_general_mdi_bg_texture [private]`

17.83.3.40 dialog_general_mdi_bg_use_color `bool dialog_general_mdi_bg_use_color [private]`

17.83.3.41 dialog_general_mdi_bg_use_logo `bool dialog_general_mdi_bg_use_logo [private]`

17.83.3.42 dialog_general_mdi_bg_use_texture `bool dialog_general_mdi_bg_use_texture [private]`

17.83.3.43 dialog_general_system_help_browser `bool dialog_general_system_help_browser [private]`

17.83.3.44 dialog_general_tip_of_the_day `bool dialog_general_tip_of_the_day [private]`

17.83.3.45 dialog_grid_center_on_origin `bool dialog_grid_center_on_origin [private]`

17.83.3.46 dialog_grid_center_x qreal dialog_grid_center_x [private]

17.83.3.47 dialog_grid_center_y qreal dialog_grid_center_y [private]

17.83.3.48 dialog_grid_color QRgb dialog_grid_color [private]

17.83.3.49 dialog_grid_color_match_crosshair bool dialog_grid_color_match_crosshair [private]

17.83.3.50 dialog_grid_load_from_file bool dialog_grid_load_from_file [private]

17.83.3.51 dialog_grid_show_on_load bool dialog_grid_show_on_load [private]

17.83.3.52 dialog_grid_show_origin bool dialog_grid_show_origin [private]

17.83.3.53 dialog_grid_size_radius qreal dialog_grid_size_radius [private]

17.83.3.54 dialog_grid_size_x qreal dialog_grid_size_x [private]

17.83.3.55 dialog_grid_size_y qreal dialog_grid_size_y [private]

17.83.3.56 dialog_grid_spacing_angle qreal dialog_grid_spacing_angle [private]

17.83.3.57 dialog_grid_spacing_radius qreal dialog_grid_spacing_radius [private]

17.83.3.58 dialog_grid_spacing_x qreal dialog_grid_spacing_x [private]

17.83.3.59 dialog_grid_spacing_y qreal dialog_grid_spacing_y [private]

17.83.3.60 dialog_grid_type QString dialog_grid_type [private]

17.83.3.61 dialog_lwt_default_lwt qreal dialog_lwt_default_lwt [private]

17.83.3.62 dialog_lwt_real_render bool dialog_lwt_real_render [private]

17.83.3.63 dialog_lwt_show_lwt bool dialog_lwt_show_lwt [private]

17.83.3.64 dialog_opensave_custom_filter QString dialog_opensave_custom_filter [private]

17.83.3.65 dialog_opensave_open_format QString dialog_opensave_open_format [private]

17.83.3.66 dialog_opensave_open_thumbnail bool dialog_opensave_open_thumbnail [private]

17.83.3.67 dialog_opensave_recent_max_files quint8 dialog_opensave_recent_max_files [private]

17.83.3.68 **dialog_opensave_save_format** `QString dialog_opensave_save_format [private]`

17.83.3.69 **dialog_opensave_save_thumbnail** `bool dialog_opensave_save_thumbnail [private]`

17.83.3.70 **dialog_opensave_trim_dst_num_jumps** `quint8 dialog_opensave_trim_dst_num_jumps [private]`

17.83.3.71 **dialog_printing_default_device** `QString dialog_printing_default_device [private]`

17.83.3.72 **dialog_printing_disable_bg** `bool dialog_printing_disable_bg [private]`

17.83.3.73 **dialog_printing_use_last_device** `bool dialog_printing_use_last_device [private]`

17.83.3.74 **dialog_prompt_bg_color** `QRgb dialog_prompt_bg_color [private]`

17.83.3.75 **dialog_prompt_font_family** `QString dialog_prompt_font_family [private]`

17.83.3.76 **dialog_prompt_font_size** `quint8 dialog_prompt_font_size [private]`

17.83.3.77 **dialog_prompt_font_style** `QString dialog_prompt_font_style [private]`

17.83.3.78 **dialog_prompt_save_history** `bool dialog_prompt_save_history [private]`

17.83.3.79 dialog_prompt_save_history_as_html bool dialog_prompt_save_history_as_html [private]

17.83.3.80 dialog_prompt_save_history_filename QString dialog_prompt_save_history_filename [private]

17.83.3.81 dialog_prompt_text_color QRgb dialog_prompt_text_color [private]

17.83.3.82 dialog_qsnap_aperture_size quint8 dialog_qsnap_aperture_size [private]

17.83.3.83 dialog_qsnap_apparent bool dialog_qsnap_apparent [private]

17.83.3.84 dialog_qsnap_center bool dialog_qsnap_center [private]

17.83.3.85 dialog_qsnap_enabled bool dialog_qsnap_enabled [private]

17.83.3.86 dialog_qsnap_endpoint bool dialog_qsnap_endpoint [private]

17.83.3.87 dialog_qsnap_extension bool dialog_qsnap_extension [private]

17.83.3.88 dialog_qsnap_insertion bool dialog_qsnap_insertion [private]

17.83.3.89 dialog_qsnap_intersection bool dialog_qsnap_intersection [private]

17.83.3.90 **dialog_qsnap_locator_color** QRgb dialog_qsnap_locator_color [private]

17.83.3.91 **dialog_qsnap_locator_size** quint8 dialog_qsnap_locator_size [private]

17.83.3.92 **dialog_qsnap_midpoint** bool dialog_qsnap_midpoint [private]

17.83.3.93 **dialog_qsnap_nearest** bool dialog_qsnap_nearest [private]

17.83.3.94 **dialog_qsnap_node** bool dialog_qsnap_node [private]

17.83.3.95 **dialog_qsnap_parallel** bool dialog_qsnap_parallel [private]

17.83.3.96 **dialog_qsnap_perpendicular** bool dialog_qsnap_perpendicular [private]

17.83.3.97 **dialog_qsnap_quadrant** bool dialog_qsnap_quadrant [private]

17.83.3.98 **dialog_qsnap_tangent** bool dialog_qsnap_tangent [private]

17.83.3.99 **dialog_ruler_color** QRgb dialog_ruler_color [private]

17.83.3.100 **dialog_ruler_metric** bool dialog_ruler_metric [private]

17.83.3.101 **dialog_ruler_pixel_size** quint8 dialog_ruler_pixel_size [private]

17.83.3.102 **dialog_ruler_show_on_load** bool dialog_ruler_show_on_load [private]

17.83.3.103 **dialog_selection_coolgrip_color** QRgb dialog_selection_coolgrip_color [private]

17.83.3.104 **dialog_selection_grip_size** quint8 dialog_selection_grip_size [private]

17.83.3.105 **dialog_selection_hotgrip_color** QRgb dialog_selection_hotgrip_color [private]

17.83.3.106 **dialog_selection_mode_pickadd** bool dialog_selection_mode_pickadd [private]

17.83.3.107 **dialog_selection_mode_pickdrag** bool dialog_selection_mode_pickdrag [private]

17.83.3.108 **dialog_selection_mode_pickfirst** bool dialog_selection_mode_pickfirst [private]

17.83.3.109 **dialog_selection_pickbox_size** quint8 dialog_selection_pickbox_size [private]

17.83.3.110 **mainWin** MainWindow* mainWin [private]

17.83.3.111 **preview_display_bg_color** QRgb preview_display_bg_color [private]

17.83.3.112 preview_display_crosshair_color QRgb preview_display_crosshair_color [private]

17.83.3.113 preview_display_selectbox_alpha quint8 preview_display_selectbox_alpha [private]

17.83.3.114 preview_display_selectbox_left_color QRgb preview_display_selectbox_left_color [private]

17.83.3.115 preview_display_selectbox_left_fill QRgb preview_display_selectbox_left_fill [private]

17.83.3.116 preview_display_selectbox_right_color QRgb preview_display_selectbox_right_color [private]

17.83.3.117 preview_display_selectbox_right_fill QRgb preview_display_selectbox_right_fill [private]

17.83.3.118 preview_display_show_scrollbars bool preview_display_show_scrollbars [private]

17.83.3.119 preview_general_mdi_bg_color QRgb preview_general_mdi_bg_color [private]

17.83.3.120 preview_general_mdi_bg_use_color bool preview_general_mdi_bg_use_color [private]

17.83.3.121 preview_general_mdi_bg_use_logo bool preview_general_mdi_bg_use_logo [private]

17.83.3.122 preview_general_mdi_bg_use_texture bool preview_general_mdi_bg_use_texture [private]

17.83.3.123 **preview_grid_color** QRgb preview_grid_color [private]

17.83.3.124 **preview_lwt_real_render** bool preview_lwt_real_render [private]

17.83.3.125 **preview_lwt_show_lwt** bool preview_lwt_show_lwt [private]

17.83.3.126 **preview_prompt_bg_color** QRgb preview_prompt_bg_color [private]

17.83.3.127 **preview_prompt_font_family** QString preview_prompt_font_family [private]

17.83.3.128 **preview_prompt_font_size** quint8 preview_prompt_font_size [private]

17.83.3.129 **preview_prompt_font_style** QString preview_prompt_font_style [private]

17.83.3.130 **preview_prompt_text_color** QRgb preview_prompt_text_color [private]

17.83.3.131 **preview_ruler_color** QRgb preview_ruler_color [private]

17.83.3.132 **tabWidget** QTabWidget* tabWidget [private]

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

- embroidermodder2/[settings-dialog.h](#)
- embroidermodder2/[settings-dialog.cpp](#)

17.84 StatusBar Class Reference

```
#include <statusbar.h>
```

Public Member Functions

- `StatusBar (MainWindow *mw, QWidget *parent=0)`
- `void setMouseCoord (qreal x, qreal y)`

Public Attributes

- `StatusBarButton * statusBarSnapButton`
- `StatusBarButton * statusBarGridButton`
- `StatusBarButton * statusBarRulerButton`
- `StatusBarButton * statusBarOrthoButton`
- `StatusBarButton * statusBarPolarButton`
- `StatusBarButton * statusBarQSnapButton`
- `StatusBarButton * statusBarQTrackButton`
- `StatusBarButton * statusBarLwtButton`
- `QLabel * statusBarMouseCoord`

17.84.1 Constructor & Destructor Documentation

```
17.84.1.1 StatusBar() StatusBar (  
    MainWindow * mw,  
    QWidget * parent = 0 )
```

17.84.2 Member Function Documentation

```
17.84.2.1 setMouseCoord() void setMouseCoord (  
    qreal x,  
    qreal y )
```

17.84.3 Member Data Documentation

```
17.84.3.1 statusBarGridButton StatusBarButton* statusBarGridButton
```

17.84.3.2 statusBarLwtButton `StatusBarButton*` `statusBarLwtButton`

17.84.3.3 statusBarMouseCoord `QLabel*` `statusBarMouseCoord`

17.84.3.4 statusBarOrthoButton `StatusBarButton*` `statusBarOrthoButton`

17.84.3.5 statusBarPolarButton `StatusBarButton*` `statusBarPolarButton`

17.84.3.6 statusBarQSnapButton `StatusBarButton*` `statusBarQSnapButton`

17.84.3.7 statusBarQTrackButton `StatusBarButton*` `statusBarQTrackButton`

17.84.3.8 statusBarRulerButton `StatusBarButton*` `statusBarRulerButton`

17.84.3.9 statusBarSnapButton `StatusBarButton*` `statusBarSnapButton`

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

- `embroidermodder2/statusbar.h`
- `embroidermodder2/statusbar.cpp`

17.85 StatusBarButton Class Reference

```
#include <statusbar-button.h>
```

Public Slots

- `void enableLwt ()`
- `void disableLwt ()`
- `void enableReal ()`
- `void disableReal ()`

Public Member Functions

- `StatusBarButton (QString buttonText, MainWindow *mw, StatusBar *statbar, QWidget *parent=0)`

Protected Member Functions

- `void contextMenuEvent (QContextMenuEvent *event=0)`

Private Slots

- `void settingsSnap ()`
- `void settingsGrid ()`
- `void settingsRuler ()`
- `void settingsOrtho ()`
- `void settingsPolar ()`
- `void settingsQSnap ()`
- `void settingsQTrack ()`
- `void settingsLwt ()`
- `void toggleSnap (bool on)`
- `void toggleGrid (bool on)`
- `void toggleRuler (bool on)`
- `void toggleOrtho (bool on)`
- `void togglePolar (bool on)`
- `void toggleQSnap (bool on)`
- `void toggleQTrack (bool on)`
- `void toggleLwt (bool on)`

Private Attributes

- `MainWindow * mainWin`
- `StatusBar * statusbar`

17.85.1 Constructor & Destructor Documentation

17.85.1.1 StatusBarButton() `StatusBarButton (`

```
    QString buttonText,
    MainWindow * mw,
    StatusBar * statbar,
    QWidget * parent = 0 )
```

17.85.2 Member Function Documentation

17.85.2.1 contextMenuEvent() void contextMenuEvent (QContextMenuEvent * event = 0) [protected]

17.85.2.2 disableLwt void disableLwt () [slot]

17.85.2.3 disableReal void disableReal () [slot]

17.85.2.4 enableLwt void enableLwt () [slot]

17.85.2.5 enableReal void enableReal () [slot]

17.85.2.6 settingsGrid void settingsGrid () [private], [slot]

17.85.2.7 settingsLwt void settingsLwt () [private], [slot]

17.85.2.8 settingsOrtho void settingsOrtho () [private], [slot]

17.85.2.9 settingsPolar void settingsPolar () [private], [slot]

17.85.2.10 settingsQSnap void settingsQSnap () [private], [slot]

17.85.2.11 settingsQTrack void settingsQTrack () [private], [slot]

17.85.2.12 settingsRuler void settingsRuler () [private], [slot]

17.85.2.13 settingsSnap void settingsSnap () [private], [slot]

17.85.2.14 toggleGrid void toggleGrid (bool on) [private], [slot]

17.85.2.15 toggleLwt void toggleLwt (bool on) [private], [slot]

17.85.2.16 toggleOrtho void toggleOrtho (bool on) [private], [slot]

17.85.2.17 togglePolar void togglePolar (bool on) [private], [slot]

17.85.2.18 toggleQSnap void toggleQSnap (bool on) [private], [slot]

17.85.2.19 toggleQTrack void toggleQTrack (bool on) [private], [slot]

17.85.2.20 toggleRuler void toggleRuler (bool on) [private], [slot]

17.85.2.21 toggleSnap void toggleSnap (bool on) [private], [slot]

17.85.3 Member Data Documentation

17.85.3.1 mainWin `MainWindow* mainWin [private]`

17.85.3.2 statusbar `StatusBar* statusbar [private]`

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

- `embroidermodder2/statusbar-button.h`
- `embroidermodder2/statusbar-button.cpp`

17.86 string_ Struct Reference

Public Attributes

- int `int_value`
- `EmbReal real_value`
- `EmbString string_value`
- int `type`

17.86.1 Detailed Description

17.86.2 Member Data Documentation

17.86.2.1 int_value `int int_value`

17.86.2.2 real_value `EmbReal real_value`

17.86.2.3 string_value `EmbString string_value`

17.86.2.4 type int type

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

- embroiderymodder2/mainwindow.cpp

17.87 StxThread_ Struct Reference

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

Public Attributes

- char * **colorCode**
- char * **colorName**
- char * **sectionName**
- [SubDescriptor](#) * **subDescriptors**
- [EmbColor](#) **stxColor**

17.87.1 Member Data Documentation

17.87.1.1 **colorCode** char* colorCode

17.87.1.2 **colorName** char* colorName

17.87.1.3 **sectionName** char* sectionName

17.87.1.4 **stxColor** [EmbColor](#) stxColor

17.87.1.5 **subDescriptors** [SubDescriptor](#)* subDescriptors

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

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

17.88 SubDescriptor_ Struct Reference

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

Public Attributes

- int **someNum**
- int **someInt**
- int **someOtherInt**
- char * **colorCode**
- char * **colorName**

17.88.1 Member Data Documentation

17.88.1.1 **colorCode** char* colorCode

Todo better variable naming

17.88.1.2 **colorName** char* colorName

17.88.1.3 **someInt** int someInt

Todo better variable naming

17.88.1.4 **someNum** int someNum

17.88.1.5 **someOtherInt** int someOtherInt

Todo better variable naming

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

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

17.89 SvgAttribute_Struct Reference

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

Public Attributes

- char * [name](#)
- char * [value](#)

17.89.1 Member Data Documentation

17.89.1.1 name char* name

17.89.1.2 value char* value

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

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

17.90 TextSingleObject Class Reference

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

Public Types

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

Public Types inherited from [BaseObject](#)

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

Public Member Functions

- `TextSingleObject` (const `QString` &`str`, `qreal` `x`, `qreal` `y`, `QRgb` `rgb`, `QGraphicsItem` *`parent`=0)
- `TextSingleObject` (`TextSingleObject` *`obj`, `QGraphicsItem` *`parent`=0)
- `~TextSingleObject` ()
- `virtual int type` () const
- `QList< QPainterPath > objectSavePathList` () const
- `QList< QPainterPath > subPathList` () const
- `QString objectText` () const
- `QString objectTextFont` () const
- `QString objectTextJustify` () const
- `qreal objectTextSize` () const
- `bool objectTextBold` () const
- `bool objectTextItalic` () const
- `bool objectTextUnderline` () const
- `bool objectTextStrikeOut` () const
- `bool objectTextOverline` () const
- `bool objectTextBackward` () const
- `bool objectTextUpsideDown` () const
- `QPointF objectPos` () const
- `qreal objectX` () const
- `qreal objectY` () const
- `QStringList objectTextJustifyList` () const
- `void setObjectText` (const `QString` &`str`)
- `void setObjectTextFont` (const `QString` &`font`)
- `void setObjectTextJustify` (const `QString` &`justify`)
- `void setObjectTextSize` (`qreal` `size`)
- `void setObjectTextStyle` (`bool` `bold`, `bool` `italic`, `bool` `under`, `bool` `strike`, `bool` `over`)
- `void setObjectTextBold` (`bool` `val`)
- `void setObjectTextItalic` (`bool` `val`)
- `void setObjectTextUnderline` (`bool` `val`)
- `void setObjectTextStrikeOut` (`bool` `val`)
- `void setObjectTextOverline` (`bool` `val`)
- `void setObjectTextBackward` (`bool` `val`)
- `void setObjectTextUpsideDown` (`bool` `val`)
- `void setObjectPos` (const `QPointF` &`point`)
- `void setObjectPos` (`qreal` `x`, `qreal` `y`)
- `void setObjectX` (`qreal` `x`)
- `void setObjectY` (`qreal` `y`)
- `void updateRubber` (`QPainter` *`painter`=0)
- `virtual void vulcanize` ()
- `virtual QPointF mouseSnapPoint` (const `QPointF` &`mousePoint`)
- `virtual QList< QPointF > allGripPoints` ()
- `virtual void gripEdit` (const `QPointF` &`before`, const `QPointF` &`after`)

Public Member Functions inherited from `BaseObject`

- `BaseObject` (`QGraphicsItem` *`parent`=0)
- `virtual ~BaseObject` ()
- `virtual int type` () const
- `qint64 objectID` () const
- `QPen objectPen` () const
- `QColor objectColor` () const

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

Protected Member Functions

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

Protected Member Functions inherited from [BaseObject](#)

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

Private Member Functions

- void [init](#) (const QString &str, qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType)

Private Attributes

- `QString objText`
- `QString objTextFont`
- `QString objTextJustify`
- `qreal objTextSize`
- `bool objTextBold`
- `bool objTextItalic`
- `bool objTextUnderline`
- `bool objTextStrikeOut`
- `bool objTextOverline`
- `bool objTextBackward`
- `bool objTextUpsideDown`
- `QPainterPath objTextPath`

17.90.1 Member Enumeration Documentation

17.90.1.1 anonymous enum `anonymous enum`

Enumerator

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

17.90.2 Constructor & Destructor Documentation

17.90.2.1 `TextSingleObject()` [1/2] `TextSingleObject (`

```
    const QString & str,
    qreal x,
    qreal y,
    QRgb rgb,
    QGraphicsItem * parent = 0 )
```

17.90.2.2 `TextSingleObject()` [2/2] `TextSingleObject (`

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

17.90.2.3 `~TextSingleObject()` `~TextSingleObject ()`

17.90.3 Member Function Documentation

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

Implements [BaseObject](#).

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

Implements [BaseObject](#).

17.90.3.3 init() `void init (const QString & str, qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType) [private]`

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

Implements [BaseObject](#).

17.90.3.5 objectPos() `QPointF objectPos () const [inline]`

17.90.3.6 objectSavePathList() `QList< QPainterPath > objectSavePathList () const [inline]`

17.90.3.7 objectText() `QString objectText () const [inline]`

17.90.3.8 objectTextBackward() `bool objectTextBackward () const [inline]`

17.90.3.9 `objectTextBold()` `bool objectTextBold () const [inline]`

17.90.3.10 `objectTextFont()` `QString objectTextFont () const [inline]`

17.90.3.11 `objectTextItalic()` `bool objectTextItalic () const [inline]`

17.90.3.12 `objectTextJustify()` `QString objectTextJustify () const [inline]`

17.90.3.13 `objectTextJustifyList()` `QStringList objectTextJustifyList () const`

17.90.3.14 `objectTextOverline()` `bool objectTextOverline () const [inline]`

17.90.3.15 `objectTextSize()` `qreal objectTextSize () const [inline]`

17.90.3.16 `objectTextStrikeOut()` `bool objectTextStrikeOut () const [inline]`

17.90.3.17 `objectTextUnderline()` `bool objectTextUnderline () const [inline]`

17.90.3.18 `objectTextUpsideDown()` `bool objectTextUpsideDown () const [inline]`

17.90.3.19 `objectX()` `qreal objectX () const [inline]`

17.90.3.20 `objectY()` `qreal objectY () const [inline]`

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

17.90.3.22 `setObjectPos()` [1/2] `void setObjectPos (`
 `const QPointF & point) [inline]`

17.90.3.23 `setObjectPos()` [2/2] `void setObjectPos (`
 `qreal x,`
 `qreal y) [inline]`

17.90.3.24 `setObjectText()` `void setObjectText (`
 `const QString & str)`

17.90.3.25 `setObjectTextBackward()` `void setObjectTextBackward (`
 `bool val)`

17.90.3.26 `setObjectTextBold()` `void setObjectTextBold (`
 `bool val)`

17.90.3.27 `setObjectTextFont()` `void setObjectTextFont (`
 `const QString & font)`

17.90.3.28 `setObjectTextItalic()` `void setObjectTextItalic (`
 `bool val)`

17.90.3.29 `setObjectTextJustify()` void setObjectTextJustify (const QString & *justify*)

17.90.3.30 `setObjectTextOverline()` void setObjectTextOverline (bool *val*)

17.90.3.31 `setObjectTextSize()` void setObjectTextSize (qreal *size*)

17.90.3.32 `setObjectTextStrikeOut()` void setObjectTextStrikeOut (bool *val*)

17.90.3.33 `setObjectTextStyle()` void setObjectTextStyle (bool *bold*, bool *italic*, bool *under*, bool *strike*, bool *over*)

17.90.3.34 `setObjectTextUnderline()` void setObjectTextUnderline (bool *val*)

17.90.3.35 `setObjectTextUpsideDown()` void setObjectTextUpsideDown (bool *val*)

17.90.3.36 `setObjectX()` void setObjectX (qreal *x*) [inline]

17.90.3.37 `setObjectY()` void setObjectY (qreal *y*) [inline]

17.90.3.38 subPathList() `QList< QPainterPath > subPathList () const`

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

Reimplemented from [BaseObject](#).

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

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

Implements [BaseObject](#).

17.90.4 Member Data Documentation

17.90.4.1 objText `QString objText [private]`

17.90.4.2 objTextBackward `bool objTextBackward [private]`

17.90.4.3 objTextBold `bool objTextBold [private]`

17.90.4.4 objTextFont `QString objTextFont [private]`

17.90.4.5 objTextItalic `bool objTextItalic [private]`

17.90.4.6 objTextJustify `QString objTextJustify [private]`

17.90.4.7 objTextOverline bool objTextOverline [private]

17.90.4.8 objTextPath QPainterPath objTextPath [private]

17.90.4.9 objTextSize qreal objTextSize [private]

17.90.4.10 objTextStrikeOut bool objTextStrikeOut [private]

17.90.4.11 objTextUnderline bool objTextUnderline [private]

17.90.4.12 objTextUpsideDown bool objTextUpsideDown [private]

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

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

17.91 thread_color_ Struct Reference

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

Public Attributes

- char [name](#) [22]
- unsigned int [hex_code](#)
- int [manufacturer_code](#)

17.91.1 Member Data Documentation

17.91.1.1 hex_code unsigned int hex_code

17.91.1.2 manufacturer_code int manufacturer_code

17.91.1.3 name char name[22]

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

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

17.92 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]

17.92.1 Member Data Documentation

17.92.1.1 auxFormat char auxFormat

17.92.1.2 creatorName char creatorName[50]

17.92.1.3 hoopX float hoopX

17.92.1.4 hoopY float hoopY

17.92.1.5 modifierName char modifierName[50]

17.92.1.6 reserved char reserved[31]

17.92.1.7 stitchGranularity float stitchGranularity

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

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

17.93 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]

17.93.1 Member Data Documentation

17.93.1.1 hoopSize unsigned short hoopSize

17.93.1.2 length unsigned int length

17.93.1.3 numStiches unsigned short numStiches

17.93.1.4 reserved unsigned short reserved[7]

17.93.1.5 sigVersion unsigned int sigVersion

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

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

17.94 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`

17.94.1 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)

17.94.1.1 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.

17.94.2 Member Data Documentation

17.94.2.1 center `EmbVector` center

17.94.2.2 color `EmbColor` color

17.94.2.3 command `char command[200]`

17.94.2.4 controlPointLabels `char controlPointLabels[10][200]`

17.94.2.5 controlPoints `EmbVector` controlPoints[10]

17.94.2.6 firstRun `bool firstRun`

17.94.2.7 fname `char fname[200]`

17.94.2.8 id `char id[200]`

17.94.2.9 maxPoints int maxPoints

17.94.2.10 minPoints int minPoints

17.94.2.11 mode unsigned int mode

17.94.2.12 n_controlPoints int n_controlPoints

17.94.2.13 numPoints int numPoints

17.94.2.14 object_index int object_index

17.94.2.15 path_desc char path_desc[1000]

17.94.2.16 pattern_index int pattern_index

17.94.2.17 rotation EmbReal rotation

17.94.2.18 scale EmbVector scale

17.94.2.19 selectable bool selectable

17.94.2.20 **text** char text[200]

17.94.2.21 **textFont** char textFont[200]

17.94.2.22 **textHeight** float textHeight

17.94.2.23 **textJustify** int textJustify

17.94.2.24 **textRotation** float textRotation

17.94.2.25 **type** char type[200]

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

- [embroidermodder2/embroidermodder.h](#)

17.95 UndoableAddCommand Class Reference

```
#include <undo-commands.h>
```

Public Member Functions

- [UndoableAddCommand](#) (const QString &text, [BaseObject](#) *obj, [View](#) *v, [QUndoCommand](#) *parent=0)
- void [undo](#) ()
- void [redo](#) ()

Private Attributes

- [BaseObject](#) * [object](#)
- [View](#) * [gview](#)

17.95.1 Constructor & Destructor Documentation

```
17.95.1.1 UndoableAddCommand() UndoableAddCommand (
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

17.95.2 Member Function Documentation

17.95.2.1 **redo()** void redo ()

17.95.2.2 **undo()** void undo ()

17.95.3 Member Data Documentation

17.95.3.1 **gview** View* gview [private]

17.95.3.2 **object** BaseObject* object [private]

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

- embroidermodder2/undo-commands.h
- embroidermodder2/undo-commands.cpp

17.96 UndoableDeleteCommand Class Reference

```
#include <undo-commands.h>
```

Public Member Functions

- **UndoableDeleteCommand** (const QString &text, BaseObject *obj, View *v, QUndoCommand *parent=0)
- void **undo** ()
- void **redo** ()

Private Attributes

- BaseObject * **object**
- View * **gview**

17.96.1 Constructor & Destructor Documentation

17.96.1.1 UndoableDeleteCommand() `UndoableDeleteCommand (`
 `const QString & text,`
 `BaseObject * obj,`
 `View * v,`
 `QUndoCommand * parent = 0)`

17.96.2 Member Function Documentation

17.96.2.1 redo() `void redo ()`

17.96.2.2 undo() `void undo ()`

17.96.3 Member Data Documentation

17.96.3.1 gview `View* gview [private]`

17.96.3.2 object `BaseObject* object [private]`

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

- [embroidermodder2/undo-commands.h](#)
- [embroidermodder2/undo-commands.cpp](#)

17.97 UndoableGripEditCommand Class Reference

```
#include <undo-commands.h>
```

Public Member Functions

- `UndoableGripEditCommand (const QPointF beforePoint, const QPointF afterPoint, const QString &text, BaseObject *obj, View *v, QUndoCommand *parent=0)`
- `void undo ()`
- `void redo ()`

Private Attributes

- `BaseObject * object`
- `View * gview`
- `QPointF before`
- `QPointF after`

17.97.1 Constructor & Destructor Documentation

```
17.97.1.1 UndoableGripEditCommand() UndoableGripEditCommand (
    const QPointF beforePoint,
    const QPointF afterPoint,
    const QString & text,
    BaseObject * obj,
    View * v,
    QUndoCommand * parent = 0 )
```

17.97.2 Member Function Documentation

```
17.97.2.1 redo() void redo ( )
```

```
17.97.2.2 undo() void undo ( )
```

17.97.3 Member Data Documentation

```
17.97.3.1 after QPointF after [private]
```

```
17.97.3.2 before QPointF before [private]
```

```
17.97.3.3 gview View* gview [private]
```

17.97.3.4 object `BaseObject*` `object` [private]

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

- `embroidermodder2/undo-commands.h`
- `embroidermodder2/undo-commands.cpp`

17.98 UndoableMirrorCommand Class Reference

```
#include <undo-commands.h>
```

Public Member Functions

- `UndoableMirrorCommand` (qreal x1, qreal y1, qreal x2, qreal y2, const QString &text, `BaseObject` *obj, `View` *v, `QUndoCommand` *parent=0)
- void `undo` ()
- void `redo` ()

Private Member Functions

- void `mirror` ()

Private Attributes

- `BaseObject` * `object`
- `View` * `gview`
- `QLineF` `mirrorLine`

17.98.1 Constructor & Destructor Documentation

```
17.98.1.1 UndoableMirrorCommand() UndoableMirrorCommand (
```

```
    qreal x1,
```

```
    qreal y1,
```

```
    qreal x2,
```

```
    qreal y2,
```

```
    const QString & text,
```

```
    BaseObject * obj,
```

```
    View * v,
```

```
    QUndoCommand * parent = 0 )
```

17.98.2 Member Function Documentation

17.98.2.1 mirror() void mirror () [private]

17.98.2.2 redo() void redo ()

17.98.2.3 undo() void undo ()

17.98.3 Member Data Documentation

17.98.3.1 gview [View*](#) gview [private]

17.98.3.2 mirrorLine [QLineF](#) mirrorLine [private]

17.98.3.3 object [BaseObject*](#) object [private]

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

- [embroidermodder2/undo-commands.h](#)
- [embroidermodder2/undo-commands.cpp](#)

17.99 UndoableMoveCommand Class Reference

```
#include <undo-commands.h>
```

Public Member Functions

- [UndoableMoveCommand](#) (qreal deltaX, qreal deltaY, const QString &text, [BaseObject](#) *obj, [View](#) *v, [QUndoCommand](#) *parent=0)
- void [undo](#) ()
- void [redo](#) ()

Private Attributes

- [BaseObject](#) * [object](#)
- [View](#) * [gview](#)
- qreal [dx](#)
- qreal [dy](#)

17.99.1 Constructor & Destructor Documentation

17.99.1.1 UndoableMoveCommand() `UndoableMoveCommand (`
 `qreal deltaX,`
 `qreal deltaY,`
 `const QString & text,`
 `BaseObject * obj,`
 `View * v,`
 `QUndoCommand * parent = 0)`

17.99.2 Member Function Documentation

17.99.2.1 redo() `void redo ()`

17.99.2.2 undo() `void undo ()`

17.99.3 Member Data Documentation

17.99.3.1 dx `qreal dx [private]`

17.99.3.2 dy `qreal dy [private]`

17.99.3.3 gview `View* gview [private]`

17.99.3.4 object `BaseObject* object [private]`

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

- [embroidermodder2/undo-commands.h](#)
- [embroidermodder2/undo-commands.cpp](#)

17.100 UndoableNavCommand Class Reference

```
#include <undo-commands.h>
```

Public Member Functions

- [UndoableNavCommand](#) (const QString &type, [View](#) *v, QUndoCommand *parent=0)
- int [id](#) () const
- bool [mergeWith](#) (const QUndoCommand *command)
- void [undo](#) ()
- void [redo](#) ()

Private Attributes

- QString [navType](#)
- QTransform [fromTransform](#)
- QTransform [toTransform](#)
- QPointF [fromCenter](#)
- QPointF [toCenter](#)
- bool [done](#)
- [View](#) * [gview](#)

17.100.1 Constructor & Destructor Documentation

17.100.1.1 [UndoableNavCommand\(\)](#) [UndoableNavCommand](#) (

```
    const QString & type,
    View * v,
    QUndoCommand * parent = 0 )
```

17.100.2 Member Function Documentation

17.100.2.1 [id\(\)](#) int [id](#) () const [inline]

17.100.2.2 [mergeWith\(\)](#) bool [mergeWith](#) (

```
    const QUndoCommand * command )
```

17.100.2.3 [redo\(\)](#) void [redo](#) ()

17.100.2.4 undo() void undo ()

17.100.3 Member Data Documentation

17.100.3.1 done bool done [private]

17.100.3.2 fromCenter QPointF fromCenter [private]

17.100.3.3 fromTransform QTransform fromTransform [private]

17.100.3.4 gview View* gview [private]

17.100.3.5 navType QString navType [private]

17.100.3.6 toCenter QPointF toCenter [private]

17.100.3.7 toTransform QTransform toTransform [private]

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

- embroidermodder2/[undo-commands.h](#)
- embroidermodder2/[undo-commands.cpp](#)

17.101 UndoableRotateCommand Class Reference

#include <undo-commands.h>

Public Member Functions

- `UndoableRotateCommand` (qreal pivotPointX, qreal pivotPointY, qreal rotAngle, const QString &text, `BaseObject` *obj, `View` *v, `QUndoCommand` *parent=0)
- void `undo` ()
- void `redo` ()

Private Member Functions

- void `rotate` (qreal x, qreal y, qreal rot)
- qreal `pi` ()
- qreal `radians` (qreal `degrees`)

Private Attributes

- `BaseObject` * `object`
- `View` * `gview`
- qreal `pivotX`
- qreal `pivotY`
- qreal `angle`

17.101.1 Constructor & Destructor Documentation

```
17.101.1.1 UndoableRotateCommand() UndoableRotateCommand (  
    qreal pivotPointX,  
    qreal pivotPointY,  
    qreal rotAngle,  
    const QString & text,  
    BaseObject * obj,  
    View * v,  
    QUndoCommand * parent = 0 )
```

17.101.2 Member Function Documentation

```
17.101.2.1 pi() qreal pi ( ) [inline], [private]
```

```
17.101.2.2 radians() qreal radians (  
    qreal degrees) [inline], [private]
```

17.101.2.3 redo() void redo ()

17.101.2.4 rotate() void rotate (
 qreal x,
 qreal y,
 qreal rot) [private]

17.101.2.5 undo() void undo ()

17.101.3 Member Data Documentation

17.101.3.1 angle qreal angle [private]

17.101.3.2 gview [View*](#) gview [private]

17.101.3.3 object [BaseObject*](#) object [private]

17.101.3.4 pivotX qreal pivotX [private]

17.101.3.5 pivotY qreal pivotY [private]

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

- [embroidermodder2/undo-commands.h](#)
- [embroidermodder2/undo-commands.cpp](#)

17.102 UndoableScaleCommand Class Reference

#include <undo-commands.h>

Public Member Functions

- `UndoableScaleCommand` (qreal x, qreal y, qreal scaleFactor, const QString &text, `BaseObject` *obj, `View` *v, `QUndoCommand` *parent=0)
- void `undo` ()
- void `redo` ()

Private Attributes

- `BaseObject` * `object`
- `View` * `gview`
- qreal `dx`
- qreal `dy`
- qreal `factor`

17.102.1 Constructor & Destructor Documentation

```
17.102.1.1 UndoableScaleCommand() UndoableScaleCommand (  
    qreal x,  
    qreal y,  
    qreal scaleFactor,  
    const QString & text,  
    BaseObject * obj,  
    View * v,  
    QUndoCommand * parent = 0 )
```

17.102.2 Member Function Documentation

```
17.102.2.1 redo() void redo ( )
```

```
17.102.2.2 undo() void undo ( )
```

17.102.3 Member Data Documentation

```
17.102.3.1 dx qreal dx [private]
```

17.102.3.2 dy `qreal dy [private]`

17.102.3.3 factor `qreal factor [private]`

17.102.3.4 gview `View* gview [private]`

17.102.3.5 object `BaseObject* object [private]`

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

- `embroidermodder2/undo-commands.h`
- `embroidermodder2/undo-commands.cpp`

17.103 UndoEditor Class Reference

```
#include <undo-editor.h>
```

Public Slots

- `void undo ()`
- `void redo ()`
- `void updateCleanIcon (bool opened)`

Public Member Functions

- `UndoEditor (const QString &iconDirectory=QString(), QWidget *widgetToFocus=0, QWidget *parent=0)`
- `~UndoEditor ()`
- `void addStack (QUndoStack *stack)`
- `bool canUndo () const`
- `bool canRedo () const`
- `QString undoText () const`
- `QString redoText () const`

Private Attributes

- `QWidget * focusWidget`
- `QString iconDir`
- `int iconSize`
- `QUndoGroup * undoGroup`
- `QUndoView * undoView`

17.103.1 Constructor & Destructor Documentation**17.103.1.1 UndoEditor()** `UndoEditor (`

```
    const QString & iconDirectory = QString(),
    QWidget * widgetToFocus = 0,
    QWidget * parent = 0 )
```

17.103.1.2 ~UndoEditor() `~UndoEditor ()`**17.103.2 Member Function Documentation****17.103.2.1 addStack()** `void addStack (`

```
    QUndoStack * stack )
```

17.103.2.2 canRedo() `bool canRedo () const`**17.103.2.3 canUndo()** `bool canUndo () const`**17.103.2.4 redo** `void redo () [slot]`**17.103.2.5 redoText()** `QString redoText () const`**17.103.2.6 undo** `void undo () [slot]`**17.103.2.7 undoText()** `QString undoText () const`

```
17.103.2.8 updateCleanIcon void updateCleanIcon (
    bool opened ) [slot]
```

17.103.3 Member Data Documentation

17.103.3.1 focusWidget QWidget* focusWidget [private]

17.103.3.2 iconDir QString iconDir [private]

17.103.3.3 iconSize int iconSize [private]

17.103.3.4 undoGroup QUndoGroup* undoGroup [private]

17.103.3.5 undoView QUndoView* undoView [private]

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

- embroiderymodder2/[undo-editor.h](#)
- embroiderymodder2/[undo-editor.cpp](#)

17.104 UndoHistory_ Struct Reference

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

Public Attributes

- char [data](#) [100][200]
- int [length](#)
- int [position](#)
- int [max_length](#)

17.104.1 Detailed Description

Todo document this.

17.104.2 Member Data Documentation**17.104.2.1 data** char data[100][200]**17.104.2.2 length** int length**17.104.2.3 max_length** int max_length**17.104.2.4 position** int position

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

- [embroidermodder2/embroidermodder.h](#)

17.105 View Class Reference

#include <view.h>

Public Slots

- void [zoomIn](#) ()
- void [zoomOut](#) ()
- void [zoomWindow](#) ()
- void [zoomSelected](#) ()
- void [zoomExtents](#) ()
- void [panRealTime](#) ()
- void [panPoint](#) ()
- void [panLeft](#) ()
- void [panRight](#) ()
- void [panUp](#) ()
- void [panDown](#) ()
- void [selectAll](#) ()
- void [selectionChanged](#) ()
- void [clearSelection](#) ()
- void [deleteSelected](#) ()
- void [moveSelected](#) (qreal dx, qreal dy)
- void [cut](#) ()
- void [copy](#) ()
- void [paste](#) ()
- void [repeatAction](#) ()

- void **moveAction** ()
- void **scaleAction** ()
- void **scaleSelected** (qreal x, qreal y, qreal factor)
- void **rotateAction** ()
- void **rotateSelected** (qreal x, qreal y, qreal rot)
- void **mirrorSelected** (qreal x1, qreal y1, qreal x2, qreal y2)
- int **numSelected** ()
- void **deletePressed** ()
- void **escapePressed** ()
- void **cornerButtonClicked** ()
- void **showScrollBars** (bool val)
- void **setCornerButton** ()
- void **setCrossHairColor** (QRgb color)
- void **setCrossHairSize** (quint8 percent)
- void **setBackgroundColor** (QRgb color)
- void **setSelectBoxColors** (QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha)
- void **toggleSnap** (bool on)
- void **toggleGrid** (bool on)
- void **toggleRuler** (bool on)
- void **toggleOrtho** (bool on)
- void **togglePolar** (bool on)
- void **toggleQSnap** (bool on)
- void **toggleQTrack** (bool on)
- void **toggleLwt** (bool on)
- void **toggleReal** (bool on)
- bool **isLwtEnabled** ()
- bool **isRealEnabled** ()
- void **setGridColor** (QRgb color)
- void **createGrid** (const QString &gridType)
- void **setRulerColor** (QRgb color)
- void **previewOn** (int clone, int mode, qreal x, qreal y, qreal data)
- void **previewOff** ()
- void **enableMoveRapidFire** ()
- void **disableMoveRapidFire** ()
- bool **allowRubber** ()
- void **addToRubberRoom** (QGraphicsItem *item)
- void **vulcanizeRubberRoom** ()
- void **clearRubberRoom** ()
- void **spareRubber** (qint64 id)
- void **setRubberMode** (int mode)
- void **setRubberPoint** (const QString &key, const QPointF &point)
- void **setRubberText** (const QString &key, const QString &txt)

Public Member Functions

- **View** (MainWindow *mw, QGraphicsScene *theScene, QWidget *parent)
- **~View** ()
- bool **allowZoomIn** ()
- bool **allowZoomOut** ()
- void **recalculateLimits** ()
- void **zoomToPoint** (const QPoint &mousePoint, int zoomDir)
- void **centerAt** (const QPointF ¢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)
- qreal `pi` ()
- qreal `radians` (qreal degrees)

Private Attributes

- QHash< qint64, QGraphicsItem * > `hashDeletedObjects`
- QList< qint64 > `spareRubberList`
- QColor `gridColor`
- QPainterPath `gridPath`
- QPainterPath `originPath`
- bool `rulerMetric`
- QColor `rulerColor`
- quint8 `rulerPixelSize`
- QList< QGraphicsItem * > `previewObjectList`
- QGraphicsItemGroup * `previewObjectItemGroup`
- QPointF `previewPoint`
- qreal `previewData`
- int `previewMode`
- QPointF `cutCopyMousePoint`
- QGraphicsItemGroup * `pasteObjectItemGroup`
- QPointF `pasteDelta`
- QList< QGraphicsItem * > `rubberRoomList`
- bool `grippingActive`

- bool `rapidMoveActive`
- bool `previewActive`
- bool `pastingActive`
- bool `movingActive`
- bool `selectingActive`
- bool `zoomWindowActive`
- bool `panningRealTimeActive`
- bool `panningPointActive`
- bool `panningActive`
- bool `qSnapActive`
- bool `qSnapToggle`
- `BaseObject * gripBaseObj`
- `BaseObject * tempBaseObj`
- `MainWindow * mainWin`
- `QGraphicsScene * gscene`
- `QUndoStack * undoStack`
- `SelectBox * selectBox`
- `QPointF scenePressPoint`
- `QPoint pressPoint`
- `QPointF sceneMovePoint`
- `QPoint movePoint`
- `QPointF sceneReleasePoint`
- `QPoint releasePoint`
- `QPointF sceneGripPoint`
- `QPoint viewMousePoint`
- `QPointF sceneMousePoint`
- `QRgb qsnapLocatorColor`
- `quint8 qsnapLocatorSize`
- `quint8 qsnapApertureSize`
- `QRgb gripColorCool`
- `QRgb gripColorHot`
- `quint8 gripSize`
- `quint8 pickBoxSize`
- `QRgb crosshairColor`
- `quint32 crosshairSize`
- int `panDistance`
- int `panStartX`
- int `panStartY`

17.105.1 Constructor & Destructor Documentation

```
17.105.1.1 View() View(  
    MainWindow * mw,  
    QGraphicsScene * theScene,  
    QWidget * parent )
```

```
17.105.1.2 ~View() ~View( )
```

17.105.2 Member Function Documentation**17.105.2.1 addObject()** void addObject (
 BaseObject * *obj*)**17.105.2.2 addToRubberRoom** void addToRubberRoom (
 QGraphicsItem * *item*) [slot]**17.105.2.3 alignScenePointWithViewPoint()** void alignScenePointWithViewPoint (
 const **QPointF** & *scenePoint*,
 const **QPoint** & *viewPoint*) [private]**17.105.2.4 allowRubber** bool allowRubber () [slot]**17.105.2.5 allowZoomIn()** bool allowZoomIn ()**17.105.2.6 allowZoomOut()** bool allowZoomOut ()**17.105.2.7 center()** **QPointF** center () [inline]**17.105.2.8 centerAt()** void centerAt (
 const **QPointF** & *centerPoint*)**17.105.2.9 clearRubberRoom** void clearRubberRoom () [slot]

17.105.2.10 **clearSelection** void clearSelection () [slot]

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

17.105.2.12 **copy** void copy () [slot]

17.105.2.13 **copySelected()** void copySelected () [private]

17.105.2.14 **cornerButtonClicked** void cornerButtonClicked () [slot]

17.105.2.15 **createGrid** void createGrid (const QString & gridType) [slot]

17.105.2.16 **createGridIso()** void createGridIso () [private]

17.105.2.17 **createGridPolar()** void createGridPolar () [private]

17.105.2.18 **createGridRect()** void createGridRect () [private]

17.105.2.19 **createObjectList()** QList< QGraphicsItem * > createObjectList (QList< QGraphicsItem * > list) [private]

17.105.2.20 **createOrigin()** void createOrigin () [private]

17.105.2.21 `createRulerTextPath()` QPainterPath createRulerTextPath (float *x*, float *y*, QString *str*, float *height*) [private]

17.105.2.22 `cut` void cut () [slot]

17.105.2.23 `deleteObject()` void deleteObject (BaseObject * *obj*)

17.105.2.24 `deletePressed` void deletePressed () [slot]

17.105.2.25 `deleteSelected` void deleteSelected () [slot]

17.105.2.26 `disableMoveRapidFire` void disableMoveRapidFire () [slot]

17.105.2.27 `drawBackground()` void drawBackground (QPainter * *painter*, const QRectF & *rect*) [protected]

17.105.2.28 `drawForeground()` void drawForeground (QPainter * *painter*, const QRectF & *rect*) [protected]

17.105.2.29 `enableMoveRapidFire` void enableMoveRapidFire () [slot]

17.105.2.30 `enterEvent()` void enterEvent (QEvent * *event*) [protected]

17.105.2.31 escapePressed void escapePressed () [slot]

17.105.2.32 getUndoStack() QUndoStack * getUndoStack () [inline]

17.105.2.33 isLwtEnabled bool isLwtEnabled () [slot]

17.105.2.34 isRealEnabled bool isRealEnabled () [slot]

17.105.2.35 loadRulerSettings() void loadRulerSettings () [private]

17.105.2.36 mirrorSelected void mirrorSelected (qreal x1, qreal y1, qreal x2, qreal y2) [slot]

17.105.2.37 mouseDoubleClickEvent() void mouseDoubleClickEvent (QMouseEvent * event) [protected]

17.105.2.38 mouseMoveEvent() void mouseMoveEvent (QMouseEvent * event) [protected]

17.105.2.39 mousePressEvent() void mousePressEvent (QMouseEvent * event) [protected]

17.105.2.40 mouseReleaseEvent() void mouseReleaseEvent (QMouseEvent * event) [protected]

17.105.2.41 moveAction void moveAction () [slot]

17.105.2.42 moveSelected void moveSelected (qreal dx, qreal dy) [slot]

17.105.2.43 numSelected int numSelected () [slot]

17.105.2.44 panDown void panDown () [slot]

17.105.2.45 panLeft void panLeft () [slot]

17.105.2.46 panPoint void panPoint () [slot]

17.105.2.47 panRealTime void panRealTime () [slot]

17.105.2.48 panRight void panRight () [slot]

17.105.2.49 panStart() void panStart (const QPoint & point) [private]

17.105.2.50 panUp void panUp () [slot]

17.105.2.51 paste void paste () [slot]

17.105.2.52 pi() qreal pi () [inline], [private]

17.105.2.53 previewOff void previewOff () [slot]

17.105.2.54 previewOn void previewOn (int clone, int mode, qreal x, qreal y, qreal data) [slot]

17.105.2.55 radians() qreal radians (qreal degrees) [inline], [private]

17.105.2.56 recalculateLimits() void recalculateLimits ()

17.105.2.57 repeatAction void repeatAction () [slot]

17.105.2.58 rotateAction void rotateAction () [slot]

17.105.2.59 rotateSelected void rotateSelected (qreal x, qreal y, qreal rot) [slot]

17.105.2.60 roundToMultiple() int roundToMultiple (bool roundUp, int numToRound, int multiple) [private]

17.105.2.61 scaleAction void scaleAction () [slot]

17.105.2.62 scaleSelected void scaleSelected (
 qreal x,
 qreal y,
 qreal factor) [slot]

17.105.2.63 selectAll void selectAll () [slot]

17.105.2.64 selectionChanged void selectionChanged () [slot]

17.105.2.65 setBackgroundColor void setBackgroundColor (
 QRgb color) [slot]

17.105.2.66 setCornerButton void setCornerButton () [slot]

17.105.2.67 setCrossHairColor void setCrossHairColor (
 QRgb color) [slot]

17.105.2.68 setCrossHairSize void setCrossHairSize (
 quint8 percent) [slot]

17.105.2.69 setGridColor void setGridColor (
 QRgb color) [slot]

17.105.2.70 setRubberMode void setRubberMode (
 int mode) [slot]

17.105.2.71 `setRubberPoint` void setRubberPoint (const QString & *key*, const QPointF & *point*) [slot]

17.105.2.72 `setRubberText` void setRubberText (const QString & *key*, const QString & *txt*) [slot]

17.105.2.73 `setRulerColor` void setRulerColor (QRgb *color*) [slot]

17.105.2.74 `setSelectBoxColors` void setSelectBoxColors (QRgb *colorL*, QRgb *fillL*, QRgb *colorR*, QRgb *fillR*, int *alpha*) [slot]

17.105.2.75 `showScrollBars` void showScrollBars (bool *val*) [slot]

17.105.2.76 `spareRubber` void spareRubber (qint64 *id*) [slot]

17.105.2.77 `startGripping()` void startGripping (BaseObject * *obj*) [private]

17.105.2.78 `stopGripping()` void stopGripping (bool *accept* = false) [private]

17.105.2.79 `toggleGrid` void toggleGrid (bool *on*) [slot]

17.105.2.80 toggleLwt void toggleLwt (
 bool on) [slot]

17.105.2.81 toggleOrtho void toggleOrtho (
 bool on) [slot]

17.105.2.82 togglePolar void togglePolar (
 bool on) [slot]

17.105.2.83 toggleQSnap void toggleQSnap (
 bool on) [slot]

17.105.2.84 toggleQTrack void toggleQTrack (
 bool on) [slot]

17.105.2.85 toggleReal void toggleReal (
 bool on) [slot]

17.105.2.86 toggleRuler void toggleRuler (
 bool on) [slot]

17.105.2.87 toggleSnap void toggleSnap (
 bool on) [slot]

17.105.2.88 updateMouseCoords() void updateMouseCoords (
 int x,
 int y) [private]

17.105.2.89 `vulcanizeObject()` void vulcanizeObject (BaseObject * *obj*)

17.105.2.90 `vulcanizeRubberRoom` void vulcanizeRubberRoom () [slot]

17.105.2.91 `wheelEvent()` void wheelEvent (QWheelEvent * *event*) [protected]

17.105.2.92 `willOverflowInt32()` bool willOverflowInt32 (qint64 *a*, qint64 *b*) [private]

17.105.2.93 `willUnderflowInt32()` bool willUnderflowInt32 (qint64 *a*, qint64 *b*) [private]

17.105.2.94 `zoomExtents` void zoomExtents () [slot]

17.105.2.95 `zoomIn` void zoomIn () [slot]

17.105.2.96 `zoomOut` void zoomOut () [slot]

17.105.2.97 `zoomSelected` void zoomSelected () [slot]

17.105.2.98 `zoomToPoint()` void zoomToPoint (const QPoint & *mousePoint*, int *zoomDir*)

17.105.2.99 zoomWindow void zoomWindow () [slot]

17.105.3 Member Data Documentation

17.105.3.1 crosshairColor QRgb crosshairColor [private]

17.105.3.2 crosshairSize quint32 crosshairSize [private]

17.105.3.3 cutCopyMousePoint QPointF cutCopyMousePoint [private]

17.105.3.4 gridColor QColor gridColor [private]

17.105.3.5 gridPath QPainterPath gridPath [private]

17.105.3.6 gripBaseObj BaseObject* gripBaseObj [private]

17.105.3.7 gripColorCool QRgb gripColorCool [private]

17.105.3.8 gripColorHot QRgb gripColorHot [private]

17.105.3.9 grippingActive bool grippingActive [private]

17.105.3.10 gripSize quint8 gripSize [private]

17.105.3.11 gscene `QGraphicsScene* gscene [private]`

17.105.3.12 hashDeletedObjects `QHash<qint64, QGraphicsItem*> hashDeletedObjects [private]`

17.105.3.13 mainWin `MainWindow* mainWin [private]`

17.105.3.14 movePoint `QPoint movePoint [private]`

17.105.3.15 movingActive `bool movingActive [private]`

17.105.3.16 originPath `QPainterPath originPath [private]`

17.105.3.17 panDistance `int panDistance [private]`

17.105.3.18 panningActive `bool panningActive [private]`

17.105.3.19 panningPointActive `bool panningPointActive [private]`

17.105.3.20 panningRealTimeActive `bool panningRealTimeActive [private]`

17.105.3.21 panStartX `int panStartX [private]`

17.105.3.22 panStartY int panStartY [private]

17.105.3.23 pasteDelta QPointF pasteDelta [private]

17.105.3.24 pasteObjectItemGroup QGraphicsItemGroup* pasteObjectItemGroup [private]

17.105.3.25 pastingActive bool pastingActive [private]

17.105.3.26 pickBoxSize quint8 pickBoxSize [private]

17.105.3.27 pressPoint QPoint pressPoint [private]

17.105.3.28 previewActive bool previewActive [private]

17.105.3.29 previewData qreal previewData [private]

17.105.3.30 previewMode int previewMode [private]

17.105.3.31 previewObjectItemGroup QGraphicsItemGroup* previewObjectItemGroup [private]

17.105.3.32 previewObjectList QList<QGraphicsItem*> previewObjectList [private]

17.105.3.33 previewPoint QPointF previewPoint [private]

17.105.3.34 qSnapActive bool qSnapActive [private]

17.105.3.35 qsnapApertureSize quint8 qsnapApertureSize [private]

17.105.3.36 qsnapLocatorColor QRgb qsnapLocatorColor [private]

17.105.3.37 qsnapLocatorSize quint8 qsnapLocatorSize [private]

17.105.3.38 qSnapToggle bool qSnapToggle [private]

17.105.3.39 rapidMoveActive bool rapidMoveActive [private]

17.105.3.40 releasePoint QPoint releasePoint [private]

17.105.3.41 rubberRoomList QList<QGraphicsItem*> rubberRoomList [private]

17.105.3.42 rulerColor QColor rulerColor [private]

17.105.3.43 rulerMetric bool rulerMetric [private]

17.105.3.44 rulerPixelSize quint8 rulerPixelSize [private]

17.105.3.45 sceneGripPoint QPointF sceneGripPoint [private]

17.105.3.46 sceneMousePoint QPointF sceneMousePoint [private]

17.105.3.47 sceneMovePoint QPointF sceneMovePoint [private]

17.105.3.48 scenePressPoint QPointF scenePressPoint [private]

17.105.3.49 sceneReleasePoint QPointF sceneReleasePoint [private]

17.105.3.50 selectBox SelectBox* selectBox [private]

17.105.3.51 selectingActive bool selectingActive [private]

17.105.3.52 spareRubberList QList<qint64> spareRubberList [private]

17.105.3.53 tempBaseObj BaseObject* tempBaseObj [private]

17.105.3.54 undoStack QUndoStack* undoStack [private]

17.105.3.55 viewMousePoint QPoint viewMousePoint [private]

17.105.3.56 zoomWindowActive bool zoomWindowActive [private]

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

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

17.106 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](#)

17.106.1 Member Data Documentation

17.106.1.1 attributeOffset int attributeOffset

17.106.1.2 colorLength int colorLength

17.106.1.3 magicCode int magicCode

17.106.1.4 negativeXHoopSize short negativeXHoopSize

17.106.1.5 negativeYHoopSize short negativeYHoopSize

17.106.1.6 numberOfColors int numberOfColors

17.106.1.7 numberOfStitches int numberOfStitches

17.106.1.8 positiveXHoopSize short positiveXHoopSize

17.106.1.9 positiveYHoopSize short positiveYHoopSize

17.106.1.10 stringVal unsigned char stringVal[8]

17.106.1.11 unknown short unknown

17.106.1.12 xOffset int xOffset

17.106.1.13 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/application.h File Reference

```
#include <QApplication>
```

Classes

- class Application

18.3 application.h

[Go to the documentation of this file.](#)

```
00001 #ifndef APPLICATION_H
00002 #define APPLICATION_H
00003
00004 #include <QApplication>
00005
00006 class MainWindow;
00007
00008 // On Mac, if the user drops a file on the app's Dock icon, or uses Open As, then this is how the app
// actually opens the file.
00009 class Application : public QApplication
00010 {
00011     Q_OBJECT
00012 public:
00013     Application(int argc, char **argv);
00014     void setMainWin(MainWindow* mainWin) { _mainWin = mainWin; }
00015 protected:
00016     virtual bool event(QEvent *e);
00017 private:
00018     MainWindow* _mainWin;
00019 };
00020
00021 #endif // APPLICATION_H
```

18.4 embroidermodder2/cmdprompt.cpp File Reference

```
#include "cmdprompt.h"
#include "mainwindow.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>
```

18.5 embroidermodder2/cmdprompt.h File Reference

```
#include <QHash>
#include <QLineEdit>
#include <QTextBrowser>
#include <QSplitter>
#include <QTextLayout>
```

Classes

- class [CmdPromptInput](#)
- class [CmdPromptHistory](#)
- class [CmdPromptSplitter](#)
- class [CmdPromptHandle](#)
- class [CmdPrompt](#)

18.6 cmdprompt.h

[Go to the documentation of this file.](#)

```
00001 #ifndef CMDPROMPT_H
00002 #define CMDPROMPT_H
00003
00004 #include <QHash>
00005 #include <QLineEdit>
00006 #include <QTextBrowser>
00007 #include <QSplitter>
00008 #include <QTextLayout>
00009
00010 QT_BEGIN_NAMESPACE
00011 class QString;
00012 class QLineEdit;
00013 class QTextBrowser;
00014 class QVBoxLayout;
00015 class QAction;
00016 class QMenu;
00017 class QContextMenuEvent;
00018 class QSplitter;
00019 class QTimer;
00020 QT_END_NAMESPACE
00021
00022 class CmdPromptInput : public QLineEdit
00023 {
00024     Q_OBJECT
00025
00026 public:
00027     CmdPromptInput(QWidget* parent = 0);
00028     ~CmdPromptInput();
00029
00030     QString curText;
00031     QString defaultPrefix;
00032     QString prefix;
00033
00034     QString lastCmd;
00035     QString curCmd;
00036     bool cmdActive;
00037
00038     bool rapidFireEnabled;
00039     bool isBlinking;
00040
00041 protected:
00042     void contextMenuEvent(QContextMenuEvent *event);
00043     bool eventFilter(QObject *obj, QEvent *event);
00044
00045 signals:
00046     void appendHistory(const QString& txt, int prefixLength);
00047
00048     //These connect to the CmdPrompt signals
00049     void startCommand(const QString& cmd);
00050     void runCommand(const QString& cmd, const QString& cmdtxt);
00051     void deletePressed();
00052     void tabPressed();
```

```

00053     void escapePressed();
00054     void upPressed();
00055     void downPressed();
00056     void F1Pressed();
00057     void F2Pressed();
00058     void F3Pressed();
00059     void F4Pressed();
00060     void F5Pressed();
00061     void F6Pressed();
00062     void F7Pressed();
00063     void F8Pressed();
00064     void F9Pressed();
00065     void F10Pressed();
00066     void F11Pressed();
00067     void F12Pressed();
00068     void cutPressed();
00069     void copyPressed();
00070     void pastePressed();
00071     void selectAllPressed();
00072     void undoPressed();
00073     void redoPressed();
00074
00075     void shiftPressed();
00076     void shiftReleased();
00077
00078     void showSettings();
00079
00080     void stopBlinking();
00081
00082 public slots:
00083     void addCommand(const QString& alias, const QString& cmd);
00084     void endCommand();
00085     void processInput(void);
00086     void checkSelection();
00087     void updateCurrentText(const QString& txt);
00088     void checkEditedText(const QString& txt);
00089     void checkChangedText(const QString& txt);
00090     void checkCursorPosition(int oldpos, int newpos);
00091 private slots:
00092     void copyClip();
00093     void pasteClip();
00094 private:
00095     QHash<QString, QString>* aliasHash;
00096
00097     void changeFormatting(const QList<QTextLayout::FormatRange>& formats);
00098     void clearFormatting();
00099     void applyFormatting();
00100 };
00101 //=====
00103
00104 class CmdPromptHistory : public QTextBrowser
00105 {
00106     Q_OBJECT
00107
00108 public:
00109     CmdPromptHistory(QWidget* parent = 0);
00110     ~CmdPromptHistory();
00111
00112 protected:
00113     void contextMenuEvent(QContextMenuEvent* event);
00114
00115 public slots:
00116     void appendHistory(const QString& txt, int prefixLength);
00117     void startResizeHistory(int y);
00118     void stopResizeHistory(int y);
00119     void resizeHistory(int y);
00120
00121 signals:
00122     void historyAppended(const QString& txt);
00123
00124 private:
00125     int tmpHeight;
00126     QString applyFormatting(const QString& txt, int prefixLength);
00127 };
00128 //=====
00130
00131 class CmdPromptSplitter : public QSplitter
00132 {
00133     Q_OBJECT
00134
00135 public:
00136     CmdPromptSplitter(QWidget* parent = 0);
00137     ~CmdPromptSplitter();
00138
00139 protected:

```

```
00140     QSplitterHandle* createHandle();
00141
00142 signals:
00143     void pressResizeHistory(int y);
00144     void releaseResizeHistory(int y);
00145     void moveResizeHistory(int y);
00146 };
00147
00148 //=====
00149
00150 class CmdPromptHandle : public QSplitterHandle
00151 {
00152     Q_OBJECT
00153
00154 public:
00155     CmdPromptHandle(Qt::Orientation orientation, QSplitter* parent);
00156     ~CmdPromptHandle();
00157
00158 protected:
00159     void mousePressEvent(QMouseEvent* e);
00160     void mouseReleaseEvent(QMouseEvent* e);
00161     void mouseMoveEvent(QMouseEvent* e);
00162
00163 signals:
00164     void handlePressed(int y);
00165     void handleReleased(int y);
00166     void handleMoved(int y);
00167
00168 private:
00169     int pressY;
00170     int releaseY;
00171     int moveY;
00172 };
00173
00174 //=====
00175
00176 class CmdPrompt : public QWidget
00177 {
00178     Q_OBJECT
00179
00180 public:
00181     CmdPrompt(QWidget* parent = 0);
00182     ~CmdPrompt();
00183
00184 protected:
00185
00186 public slots:
00187     QString getHistory() { return promptHistory->toHtml(); }
00188     QString getPrefix() { return promptInput->prefix; }
00189     QString getCurrentText() { return promptInput->curText; }
00190     void setCurrentText(const QString& txt) { promptInput->curText = promptInput->prefix + txt;
00191         promptInput->setText(promptInput->curText); }
00192     void setHistory(const QString& txt) { promptHistory->setHtml(txt);
00193         promptHistory->moveCursor(QTextCursor::End, QTextCursor::MoveAnchor); }
00194     void setPrefix(const QString& txt);
00195     void appendHistory(const QString& txt);
00196     void startResizingTheHistory(int y) { promptHistory->startResizeHistory(y); }
00197     void stopResizingTheHistory(int y) { promptHistory->stopResizeHistory(y); }
00198     void resizeTheHistory(int y) { promptHistory->resizeHistory(y); }
00199     void addCommand(const QString& alias, const QString& cmd) { promptInput->addCommand(alias, cmd); }
00200     void endCommand() { promptInput->endCommand(); }
00201     bool isCommandActive() { return promptInput->cmdActive; }
00202     QString activeCommand() { return promptInput->curCmd; }
00203     QString lastCommand() { return promptInput->lastCmd; }
00204     void processInput() { promptInput->processInput(); }
00205     void enableRapidFire() { promptInput->rapidFireEnabled = true; }
00206     void disableRapidFire() { promptInput->rapidFireEnabled = false; }
00207     bool isRapidFireEnabled() { return promptInput->rapidFireEnabled; }
00208
00209     void alert(const QString& txt);
00210     void startBlinking();
00211     void stopBlinking();
00212     void blink();
00213
00214     void setPromptTextColor(const QColor&);
00215     void setPromptBackgroundColor(const QColor&);
00216     void setPromptFontFamily(const QString&);
00217     void setPromptFontSize(const QString&);
00218
00219     void floatingChanged(bool);
00220
00221     void saveHistory(const QString& fileName, bool html);
00222
00223 private slots:
00224
```

```
00225 signals:  
00226     void appendTheHistory(const QString& txt, int prefixLength);  
00227  
00228     //For connecting outside of command prompt  
00229     void startCommand(const QString& cmd);  
00230     void runCommand(const QString& cmd, const QString& cmdtxt);  
00231     void deletePressed();  
00232     void tabPressed();  
00233     void escapePressed();  
00234     void upPressed();  
00235     void downPressed();  
00236     void F1Pressed();  
00237     void F2Pressed();  
00238     void F3Pressed();  
00239     void F4Pressed();  
00240     void F5Pressed();  
00241     void F6Pressed();  
00242     void F7Pressed();  
00243     void F8Pressed();  
00244     void F9Pressed();  
00245     void F10Pressed();  
00246     void F11Pressed();  
00247     void F12Pressed();  
00248     void cutPressed();  
00249     void copyPressed();  
00250     void pastePressed();  
00251     void selectAllPressed();  
00252     void undoPressed();  
00253     void redoPressed();  
00254  
00255     void shiftPressed();  
00256     void shiftReleased();  
00257  
00258     void showSettings();  
00259  
00260     void historyAppended(const QString& txt);  
00261  
00262 private:  
00263     CmdPromptInput*      promptInput;  
00264     CmdPromptHistory*   promptHistory;  
00265     QVBoxLayout*        promptVBoxLayout;  
00266     QFrame*             promptDivider;  
00267  
00268     CmdPromptSplitter*  promptSplitter;  
00269  
00270     QHash<QString, QString>* styleHash;  
00271     void updateStyle();  
00272     QTimer*              blinkTimer;  
00273     bool blinkState;  
00274 };  
00275  
00276 #endif
```

18.7 embroidermodder2/docs/fdl-1.3.md File Reference

18.8 embroidermodder2/embdetails-dialog.cpp File Reference

```
#include <QApplication>  
#include <QtGui>  
#include <QGridLayout>  
#include <QLabel>  
#include <QDialogButtonBox>  
#include <QScrollArea>  
#include <QGroupBox>  
#include "embdetails-dialog.h"  
#include "embroidery.h"
```

18.9 embroidermodder2/embdetails-dialog.h File Reference

```
#include <QDialog>
```

Classes

- class EmbDetailsDialog

18.10 embdetails-dialog.h

[Go to the documentation of this file.](#)

```
00001 #ifndef EMBDETAILS_DIALOG_H
00002 #define EMBDETAILS_DIALOG_H
00003
00004 #include <QDialog>
00005
00006 QT_BEGIN_NAMESPACE
00007 class QDialogButtonBox;
00008 class QGraphicsScene;
00009 QT_END_NAMESPACE
00010
00011 class EmbDetailsDialog : public QDialog
00012 {
00013     Q_OBJECT
00014
00015 public:
00016     EmbDetailsDialog(QGraphicsScene* theScene, QWidget *parent = 0);
00017     ~EmbDetailsDialog();
00018
00019 private:
00020     QWidget*      mainWidget;
00021
00022     void          getInfo();
00023     QWidget*      createMainWidget();
00024     QWidget*      createHistogram();
00025
00026     QDialogButtonBox* buttonBox;
00027
00028     quint32 stitchesTotal;
00029     quint32 stitchesReal;
00030     quint32 stitchesJump;
00031     quint32 stitchesTrim;
00032     quint32 colorTotal;
00033     quint32 colorChanges;
00034
00035     QRectF boundingRect;
00036 };
00037
00038 #endif
```

18.11 embroidermodder2/embroidermodder.cpp File Reference

```
#include "application.h"
#include "mainwindow.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

18.11.1 Function Documentation

18.11.1.1 main() int main (
 int argc,
 char * argv[])

qMain

Parameters

| | |
|-------------|--|
| <i>argc</i> | |
| <i>argv</i> | |

Returns

18.11.1.2 usage() static void usage (
 void) [static]

usage

18.11.1.3 version() static void version () [static]

version

18.11.2 Variable Documentation

18.11.2.1 _appName_ const char* _appName_ = "Embroidermodder" [static]

18.11.2.2 _appVer_ const char* _appVer_ = "v2.0 alpha" [static]

18.11.2.3 exitApp bool exitApp = false [static]

18.12 embroidermodder2/embroidermodder.h File Reference

```
#include <cstdio>
#include <cstdlib>
#include <cstring>
#include <cstdint>
#include <cmath>
#include <ctime>
#include <vector>
#include <unordered_map>
#include <string>
#include <filesystem>
#include "embroidery.h"
#include "toml.h"
#include <QMainWindow>
```

Classes

- struct [DictionaryEntry_](#)
- struct [Dictionary_](#)
- struct [UiObject_](#)

This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.

- struct [UndoHistory_](#)
- struct [IndexEntry_](#)
- struct [Index_](#)
- struct [EmbView_](#)
- struct [Settings_](#)

Settings System.

Macros

- #define WIDGET_MODE_BLOCK 0
- #define WIDGET_MODE_TEXT 1
- #define WIDGET_MODE_IMAGE 2
- #define WIDGET_MODE_SVG 3
- #define WIDGET_MODE_BACKGROUND 4
- #define WIDGET_MODE_SPINBOX 5
- #define WIDGET_MODE_COMBOBOX 6
- #define WIDGET_MODE_CONTAINER 7
- #define WIDGET_MODE_PANEL 8
- #define WIDGET_MODE_VIEW 9
- #define WIDGET_MODE_ROOT 10
- #define VIEW_STATE_SNAP 0x0000
- #define VIEW_STATE_GRIP 0x0001
- #define VIEW_STATE_RULER 0x0002
- #define VIEW_STATE_ORTHO 0x0004
- #define VIEW_STATE_POLAR 0x0008
- #define VIEW_STATE_QSNAP 0x0010
- #define VIEW_STATE_QTRACK 0x0020
- #define VIEW_STATE_LWT 0x0040
- #define VIEW_STATE_REAL 0x0080
- #define VIEW_STATE_CLOSEABLE 0x0100

- #define VIEW_STATE_USE_LOGO 0x0200
- #define VIEW_STATE_USE_TEXTURE 0x0400
- #define VIEW_STATE_USE_COLOR 0x0800
- #define VIEW_STATE_GRID 0x1000
- #define PERMISSIONS_USER 0
- #define PERMISSIONS_SYSTEM 1
- #define MITER_JOIN 0
- #define LINE_STYLE_DASHED 0
- #define LINE_STYLE_SOLID 1
- #define BRUSH_STYLE_DASHED 0
- #define BRUSH_STYLE_SOLID 1
- #define DIRECTION_RIGHT 0
- #define DIRECTION_LEFT 1
- #define RENDER_UI 0
- #define RENDER_TEXT_EDITOR 1
- #define RUBBER_MODES 22
- #define NUMBER_ARCHITECTURAL 0
- #define NUMBER_DECIMAL 1
- #define NUMBER_ENGINEERING 2
- #define NUMBER_FRACTIONAL 3
- #define NUMBER_SCIENTIFIC 4
- #define DISABLE_GRID 0
- #define RECTANGULAR_GRID 1
- #define CIRCULAR_GRID 2
- #define ISOMETRIC_GRID 3
- #define EMB_BLOCK -1
- #define EMB_DIM_ALIGNED -2
- #define EMB_DIM_ANGULAR -20
- #define EMB_DIM_ARCLENGTH -3
- #define EMB_DIM_LINEAR -4
- #define EMB_DIM_RADIUS -5
- #define EMB_DIM_ORDINATE -6
- #define EMB_INFINITELINE -7
- #define EMB_RAY -8
- #define DEFAULT_MODE 0
- #define CIRCLE_MODE_1P_RAD 1
- #define CIRCLE_MODE_1P_DIA 2
- #define CIRCLE_MODE_2P 3
- #define CIRCLE_MODE_3P 4
- #define CIRCLE_MODE_TTR 5
- #define ELLIPSE_MODE_MAJORDIAMETER_MINORRADIUS 6
- #define ELLIPSE_MODE_MAJORRADIUS_MINORRADIUS 7
- #define ELLIPSE_MODE_ELLIPSE_ROTATION 8
- #define DOLPHIN_MODE_NUM_POINTS 9
- #define DOLPHIN_MODE_XSCALE 10
- #define DOLPHIN_MODE_YSCALE 11
- #define HEART_MODE_NUM_POINTS 12
- #define HEART_MODE_STYLE 13
- #define HEART_MODE_XSCALE 14
- #define HEART_MODE_YSCALE 15
- #define ROTATE_MODE_NORMAL 16
- #define ROTATE_MODE_REFERENCE 17
- #define SCALE_MODE_NORMAL 18
- #define SCALE_MODE_REFERENCE 19
- #define SINGLE_LINE_TEXT_MODE_JUSTIFY 20

- #define SINGLE_LINE_TEXT_MODE_SETFONT 21
- #define SINGLE_LINE_TEXT_MODE_SETGEOM 22
- #define SINGLE_LINE_TEXT_MODE_RAPID 23
- #define STAR_MODE_NUM_POINTS 24
- #define STAR_MODE_CENTER_PT 25
- #define STAR_MODE_RAD_OUTER 26
- #define STAR_MODE_RAD_INNER 27
- #define SNOWFLAKE_MODE_NUM_POINTS 28
- #define SNOWFLAKE_MODE_XSCALE 29
- #define SNOWFLAKE_MODE_YSCALE 30
- #define MSG_CRITICAL 1
- #define MSG_INFORMATION 2
- #define MSG_QUESTION 3
- #define MSG_WARNING 4
- #define JUSTIFY_LEFT 0
- #define JUSTIFY_RIGHT 1
- #define JUSTIFY_ALIGN 2
- #define JUSTIFY_MIDDLE 3
- #define JUSTIFY_ 3
- #define JUSTIFY_TOPLEFT 4
- #define JUSTIFY_TOPCENTER 5
- #define JUSTIFY_TOPRIGHT 6
- #define JUSTIFY_MIDDLELEFT 7
- #define JUSTIFY_MIDDLECENTER 8
- #define JUSTIFY_MIDDLERIGHT 9
- #define JUSTIFY_BOTTOMLEFT 10
- #define JUSTIFY_BOTTOMCENTER 11
- #define JUSTIFY_BOTTOMRIGHT 12

Typedefs

- typedef struct `DictionaryEntry_ DictionaryEntry`
- typedef struct `Dictionary_ Dictionary`
- typedef struct `UiObject_ UiObject`

This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.
- typedef struct `UndoHistory_ UndoHistory`
- typedef struct `IndexEntry_ IndexEntry`
- typedef struct `Index_ Index`
- typedef struct `EmbView_ EmbView`
- typedef struct `Settings_ Settings`

Settings System.
- typedef `QString EmbString`

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_zoamprevious, 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 }
```

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`)
- void `createOrigin` (void)
- void `clear_selection` (void)
- void `copy_selection` (void)
- void `platform_string` (char s[200])
- void `parse_command` (int argc, char *argv[], char command[200])
- `UndoHistory undo_history_init` (void)
- void `undo_history_free` (`UndoHistory` *)
- void `add_to_undo_history` (`UndoHistory` *`undo_history`, const char *`command_line`)
- bool `validRGB` (int r, int g, int b)
- `EmbView init_view` (void)
- `EmbArray * createObjectList` (`EmbArray` *`list`)
- bool `streq` (const char *`s1`, const char *`s2`)
- void `read_str_setting` (toml_table_t *`table`, const char *`key`, char s[200])
- int `read_int_setting` (toml_table_t *`table`, const char *`key`)
- bool `read_bool_setting` (toml_table_t *`table`, const char *`key`)
- `Dictionary * read_dictionary_setting` (toml_table_t *`table`, const char *`key`)
- void `write_float_setting` (FILE *`file`, const char *`key`, float value)
- void `write_int_setting` (FILE *`file`, const char *`key`, int value)
- void `write_uint_setting` (FILE *`file`, const char *`key`, unsigned int value)
- void `write_str_setting` (FILE *`file`, const char *`key`, const char value[200])
- void `write_bool_setting` (FILE *`file`, const char *`key`, bool value)
- void `write_dictionary_setting` (FILE *`file`, const char *`key`, `Dictionary` value)
- void `create_tab_general` (void)
- void `create_tab_files_paths` (void)
- void `create_tab_display` (void)
- void `create_tab_prompt` (void)
- void `create_tab_open_save` (void)
- void `create_tab_printing` (void)
- void `create_tab_snap` (void)
- void `create_tab_grid_ruler` (void)
- void `create_tab_ortho_polar` (void)
- void `create_tab_quicksnap` (void)
- void `create_tab_quicktrack` (void)
- void `create_tab_lineweight` (void)
- void `create_tab_selection` (void)
- void `arc_action` (void)
- void `circle_action` (void)

- void `close_action` (void)
- void `copy_action` (void)
- void `cut_action` (void)
- void `ellipse_action` (void)
- void `error_action` (const char *)
- void `exit_action` (void)
- void `new_file_action` (void)
- void `open_file_action` (int argc, char argv[10][200])
- void `icon_action` (int)
- void `pan_action` (const char *)
- void `paste_action` (void)
- void `print_action` (void)
- void `rectangle_action` (void)
- void `redo_action` (void)
- void `text_angle_action` (EmbReal)
- void `text_font_action` (const char *)
- void `text_size_action` (EmbReal)
- void `undo_action` (void)
- void `vulcanize_action` (void)
- void `window_action` (const char *)
- void `zoom_action` (const char *)
- void `create_group_box_general` (int id, EmbPattern *pattern)
- void `create_group_box_arc` (int id, EmbArc *arc)
- void `create_group_box_block` (int id, EmbBlock *block)
- void `create_group_box_circle` (int id, EmbCircle *circle)
- void `create_group_box_dim_aligned` (int id, EmbAlignedDim *dim_aligned)
- void `create_group_box_dim_angular` (int id, EmbAngularDim *dim_angular)
- void `create_group_box_dim_arc_length` (int id, EmbArcLengthDim *dim_arc_length)
- void `create_group_box_dim_diameter` (int id, EmbDiameterDim *dim_diameter)
- void `create_group_box_dim_leader` (int id, EmbLeaderDim *dim_leader)
- void `create_group_box_dim_linear` (int id, EmbLinearDim *dim_linear)
- void `create_group_box_dim_ordinate` (int id, EmbOrdinateDim *dim_ordinate)
- void `create_group_box_dim_radius` (int id, EmbRadiusDim *dim_radius)
- void `create_group_box_ellipse` (int id, EmbEllipse *ellipse)
- void `create_group_box_image` (int id, EmbImage *image)
- void `create_group_box_infinite_line` (int id, EmbInfiniteLine *infinite_line)
- void `create_group_box_line` (int id, EmbLine *line)
- void `create_group_box_path` (int id, EmbPath *path)
- void `create_group_box_point` (int id, EmbPoint *point)
- void `create_group_box_polygon` (int id, EmbPolygon *polygon)
- void `create_group_box_polyline` (int id, EmbPolyline *polyline)
- void `create_group_box_ray` (int id, EmbRay *ray)
- void `create_group_box_rectangle` (int id, EmbRect *rect)
- void `create_group_box_stitch` (int id, EmbStitch *stitch)
- void `create_group_box_stitch_list` (int id, EmbArray *stitch_list)
- void `create_group_box_text_multi` (int id, EmbTextMulti *text_multi)
- void `create_group_box_text_single` (int id, EmbTextSingle *text_single)
- void `alert` (const char *)
- void `about_dialog` (void)
- void `changelog_dialog` (void)
- void `details_dialog` (void)
- void `help_dialog` (void)
- void `tip_of_the_day_dialog` (void)
- `UiObject * UiObject_init` (int pattern_index, char type[200], int object_index)
- void `UiObject_free` (UiObject *obj)

- `EmbRect boundingRect (UiObject *obj)`
- `bool clockwise (UiObject *obj)`
- `void move (UiObject *obj, EmbVector delta)`
- `void vulcanize (UiObject *obj)`
- `UiObject generic_design_init (void)`
- `UiObject sandbox_main (void)`
- `void sandbox_click (UiObject *global, EmbVector pos)`
- `void sandbox_prompt (UiObject *global, const char *str)`
- `UiObject scale_main (void)`
- `void scale_click (UiObject *global, EmbVector pos)`
- `void scale_prompt (UiObject *global, const char *str)`
- `UiObject single_line_text_main (void)`
- `void single_line_text_click (UiObject *global, EmbVector pos)`
- `void single_line_text_prompt (UiObject *global, const char *str)`
- `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)`
- `void embCircle_setArea (EmbCircle *circle, float area)`
- `void embCircle_setCircumference (EmbCircle *circle, float circumference)`
- `UiObject snowflake_main ()`
- `UiObject snowflake_click (UiObject global, EmbVector position)`
- `UiObject snowflake_move (UiObject global, EmbVector delta)`
- `void updateSnowflake (EmbPath *path, UiObject global)`
- `UiObject star_main ()`
- `UiObject star_click (UiObject global, EmbVector pos)`
- `UiObject star_move (UiObject global, EmbVector delta)`
- `void updateStar (EmbPath *path, UiObject global)`
- `Index * index_init (void)`
- `void index_free (Index *)`
- `Dictionary * dictionary_from_index (Index *, const char *)`
- `void c_split (char input[200], int *argc, char argv[10][200])`
- `void open_file_dialog (void)`
- `void create_tab (int)`
- `void load_menu (const char *menu_label)`
- `void load_toolbar (const char *toolbar_label)`
- `void simplify_path (char *path)`

Simplifies a path by removing the .. and . symbols in place.
- `void status_bar (void)`
- `void property_editor (void)`
- `void load_configuration (void)`
- `void pattern_view (void)`
- `void actuator (char cmd[200])`
- `void settings_editor (void)`

18.12.1 Macro Definition Documentation

18.12.1.1 BRUSH_STYLE_DASHED #define BRUSH_STYLE_DASHED 0

18.12.1.2 BRUSH_STYLE_SOLID #define BRUSH_STYLE_SOLID 1

18.12.1.3 CIRCLE_MODE_1P_DIA #define CIRCLE_MODE_1P_DIA 2

18.12.1.4 CIRCLE_MODE_1P_RAD #define CIRCLE_MODE_1P_RAD 1

18.12.1.5 CIRCLE_MODE_2P #define CIRCLE_MODE_2P 3

18.12.1.6 CIRCLE_MODE_3P #define CIRCLE_MODE_3P 4

18.12.1.7 CIRCLE_MODE_TTR #define CIRCLE_MODE_TTR 5

18.12.1.8 CIRCULAR_GRID #define CIRCULAR_GRID 2

18.12.1.9 DEFAULT_MODE #define DEFAULT_MODE 0

Modes for the UiObject struct.

18.12.1.10 DIRECTION_LEFT #define DIRECTION_LEFT 1

18.12.1.11 DIRECTION_RIGHT #define DIRECTION_RIGHT 0

18.12.1.12 DISABLE_GRID #define DISABLE_GRID 0

18.12.1.13 DOLPHIN_MODE_NUM_POINTS #define DOLPHIN_MODE_NUM_POINTS 9

18.12.1.14 DOLPHIN_MODE_XSCALE #define DOLPHIN_MODE_XSCALE 10

18.12.1.15 DOLPHIN_MODE_YSCALE #define DOLPHIN_MODE_YSCALE 11

18.12.1.16 ELLIPSE_MODE_ELLIPSE_ROTATION #define ELLIPSE_MODE_ELLIPSE_ROTATION 8

18.12.1.17 ELLIPSE_MODE_MAJORDIAMETER_MINORRADIUS #define ELLIPSE_MODE_MAJORDIAMETER↔_MINORRADIUS 6

18.12.1.18 ELLIPSE_MODE_MAJORRADIUS_MINORRADIUS #define ELLIPSE_MODE_MAJORRADIUS↔_MINORRADIUS 7

18.12.1.19 EMB_BLOCK #define EMB_BLOCK -1

These values are incorrect and need to be in libembroidery.

18.12.1.20 EMB_DIM_ALIGNED #define EMB_DIM_ALIGNED -2

18.12.1.21 EMB_DIM_ANGULAR #define EMB_DIM_ANGULAR -20

18.12.1.22 EMB_DIM_ARCLENGTH #define EMB_DIM_ARCLENGTH -3

18.12.1.23 EMB_DIM_LINEAR #define EMB_DIM_LINEAR -4

18.12.1.24 EMB_DIM_ORDINATE #define EMB_DIM_ORDINATE -6

18.12.1.25 EMB_DIM_RADIUS #define EMB_DIM_RADIUS -5

18.12.1.26 EMB_INFINITELINE #define EMB_INFINITELINE -7

18.12.1.27 EMB_RAY #define EMB_RAY -8

18.12.1.28 HEART_MODE_NUM_POINTS #define HEART_MODE_NUM_POINTS 12

18.12.1.29 HEART_MODE_STYLE #define HEART_MODE_STYLE 13

18.12.1.30 HEART_MODE_XSCALE #define HEART_MODE_XSCALE 14

18.12.1.31 HEART_MODE_YSCALE #define HEART_MODE_YSCALE 15

18.12.1.32 ISOMETRIC_GRID #define ISOMETRIC_GRID 3

18.12.1.33 JUSTIFY__ #define JUSTIFY__ 3

18.12.1.34 JUSTIFY_ALIGN #define JUSTIFY_ALIGN 2

18.12.1.35 JUSTIFY_BOTTOMCENTER #define JUSTIFY_BOTTOMCENTER 11

18.12.1.36 JUSTIFY_BOTTOMLEFT #define JUSTIFY_BOTTOMLEFT 10

18.12.1.37 JUSTIFY_BOTTOMRIGHT #define JUSTIFY_BOTTOMRIGHT 12

18.12.1.38 JUSTIFY_LEFT #define JUSTIFY_LEFT 0

A kind of text justification.

18.12.1.39 JUSTIFY_MIDDLE #define JUSTIFY_MIDDLE 3

18.12.1.40 JUSTIFY_MIDDLECENTER #define JUSTIFY_MIDDLECENTER 8

18.12.1.41 JUSTIFY_MIDDLELEFT #define JUSTIFY_MIDDLELEFT 7

18.12.1.42 JUSTIFY_MIDDLERIGHT #define JUSTIFY_MIDDLERIGHT 9

18.12.1.43 JUSTIFY_RIGHT #define JUSTIFY_RIGHT 1

18.12.1.44 JUSTIFY_TOPCENTER #define JUSTIFY_TOPCENTER 5

18.12.1.45 JUSTIFY_TOPLEFT #define JUSTIFY_TOPLEFT 4

18.12.1.46 JUSTIFY_TOPRIGHT #define JUSTIFY_TOPRIGHT 6

18.12.1.47 LINE_STYLE_DASHED #define LINE_STYLE_DASHED 0

18.12.1.48 LINE_STYLE_SOLID #define LINE_STYLE_SOLID 1

18.12.1.49 MITER_JOIN #define MITER_JOIN 0

18.12.1.50 MSG_CRITICAL #define MSG_CRITICAL 1

Kinds of messagebox.

18.12.1.51 MSG_INFORMATION #define MSG_INFORMATION 2

18.12.1.52 MSG_QUESTION #define MSG_QUESTION 3

18.12.1.53 MSG_WARNING #define MSG_WARNING 4

18.12.1.54 NUMBER_ARCHITECTURAL #define NUMBER_ARCHITECTURAL 0

18.12.1.55 NUMBER_DECIMAL #define NUMBER_DECIMAL 1

18.12.1.56 NUMBER_ENGINEERING #define NUMBER_ENGINEERING 2

18.12.1.57 NUMBER_FRACTIONAL #define NUMBER_FRACTIONAL 3

18.12.1.58 NUMBER_SCIENTIFIC #define NUMBER_SCIENTIFIC 4

18.12.1.59 PERMISSIONS_SYSTEM #define PERMISSIONS_SYSTEM 1

18.12.1.60 PERMISSIONS_USER #define PERMISSIONS_USER 0

18.12.1.61 RECTANGULAR_GRID #define RECTANGULAR_GRID 1

18.12.1.62 RENDER_TEXT_EDITOR #define RENDER_TEXT_EDITOR 1

18.12.1.63 RENDER_UI #define RENDER_UI 0

18.12.1.64 ROTATE_MODE_NORMAL #define ROTATE_MODE_NORMAL 16

18.12.1.65 ROTATE_MODE_REFERENCE #define ROTATE_MODE_REFERENCE 17

18.12.1.66 RUBBER_MODES #define RUBBER_MODES 22

The number of possible rubber values: used for checking if a rubber value is unset or in error.

18.12.1.67 SCALE_MODE_NORMAL #define SCALE_MODE_NORMAL 18

18.12.1.68 SCALE_MODE_REFERENCE #define SCALE_MODE_REFERENCE 19

18.12.1.69 SINGLE_LINE_TEXT_MODE_JUSTIFY #define SINGLE_LINE_TEXT_MODE_JUSTIFY 20

18.12.1.70 SINGLE_LINE_TEXT_MODE_RAPID #define SINGLE_LINE_TEXT_MODE_RAPID 23

18.12.1.71 SINGLE_LINE_TEXT_MODE_SETFONT #define SINGLE_LINE_TEXT_MODE_SETFONT 21

18.12.1.72 SINGLE_LINE_TEXT_MODE_SETGEOM #define SINGLE_LINE_TEXT_MODE_SETGEOM 22

18.12.1.73 SNOWFLAKE_MODE_NUM_POINTS #define SNOWFLAKE_MODE_NUM_POINTS 28

18.12.1.74 SNOWFLAKE_MODE_XSCALE #define SNOWFLAKE_MODE_XSCALE 29

18.12.1.75 SNOWFLAKE_MODE_YSCALE #define SNOWFLAKE_MODE_YSCALE 30

18.12.1.76 STAR_MODE_CENTER_PT #define STAR_MODE_CENTER_PT 25

18.12.1.77 STAR_MODE_NUM_POINTS #define STAR_MODE_NUM_POINTS 24

18.12.1.78 STAR_MODE_RAD_INNER #define STAR_MODE_RAD_INNER 27

18.12.1.79 STAR_MODE_RAD_OUTER #define STAR_MODE_RAD_OUTER 26

18.12.1.80 VIEW_STATE_CLOSEABLE #define VIEW_STATE_CLOSEABLE 0x0100

18.12.1.81 VIEW_STATE_GRID #define VIEW_STATE_GRID 0x1000

18.12.1.82 VIEW_STATE_GRIP #define VIEW_STATE_GRIP 0x0001

18.12.1.83 VIEW_STATE_LWT #define VIEW_STATE_LWT 0x0040

18.12.1.84 VIEW_STATE_ORTHO #define VIEW_STATE_ORTHO 0x0004

18.12.1.85 VIEW_STATE_POLAR #define VIEW_STATE_POLAR 0x0008

18.12.1.86 VIEW_STATE_QSNAP #define VIEW_STATE_QSNAP 0x0010

18.12.1.87 VIEW_STATE_QTRACK #define VIEW_STATE_QTRACK 0x0020

18.12.1.88 VIEW_STATE_REAL #define VIEW_STATE_REAL 0x0080

18.12.1.89 VIEW_STATE_RULER #define VIEW_STATE_RULER 0x0002

18.12.1.90 VIEW_STATE_SNAP #define VIEW_STATE_SNAP 0x0000

18.12.1.91 VIEW_STATE_USE_COLOR #define VIEW_STATE_USE_COLOR 0x0800

18.12.1.92 VIEW_STATE_USE_LOGO #define VIEW_STATE_USE_LOGO 0x0200

18.12.1.93 VIEW_STATE_USE_TEXTURE #define VIEW_STATE_USE_TEXTURE 0x0400

18.12.1.94 WIDGET_MODE_BACKGROUND #define WIDGET_MODE_BACKGROUND 4

18.12.1.95 WIDGET_MODE_BLOCK #define WIDGET_MODE_BLOCK 0

18.12.1.96 WIDGET_MODE_COMBOBOX #define WIDGET_MODE_COMBOBOX 6

18.12.1.97 WIDGET_MODE_CONTAINER #define WIDGET_MODE_CONTAINER 7

18.12.1.98 WIDGET_MODE_IMAGE #define WIDGET_MODE_IMAGE 2

18.12.1.99 WIDGET_MODE_PANEL #define WIDGET_MODE_PANEL 8

18.12.1.100 WIDGET_MODE_ROOT #define WIDGET_MODE_ROOT 10

18.12.1.101 WIDGET_MODE_SPINBOX #define WIDGET_MODE_SPINBOX 5

18.12.1.102 WIDGET_MODE_SVG #define WIDGET_MODE_SVG 3

18.12.1.103 WIDGET_MODE_TEXT #define WIDGET_MODE_TEXT 1

18.12.1.104 WIDGET_MODE_VIEW #define WIDGET_MODE_VIEW 9

18.12.2 Typedef Documentation

18.12.2.1 Dictionary typedef struct [Dictionary_ Dictionary](#)

18.12.2.2 DictionaryEntry typedef struct [DictionaryEntry_ DictionaryEntry](#)

18.12.2.3 EmbString typedef QString [EmbString](#)

18.12.2.4 EmbView typedef struct [EmbView_ EmbView](#)

18.12.3 EmbViews

The EmbView describes how the render is displayed.

18.12.3.1 Index `typedef struct Index_ Index`

Todo document this.

18.12.3.2 IndexEntry `typedef struct IndexEntry_ IndexEntry`

Todo document this.

18.12.3.3 Settings `typedef struct Settings_ Settings`

Settings System.

Rather than pollute the global namespace, we collect together all the global settings into a structure that stores them. This also allows us to create a complete copy of the settings for the purpose of restoring them if the user cancels out of the Settings Dialog.

Like all of our structs, it's C99 compliant.

18.12.3.4 UiObject `typedef struct UiObject_ UiObject`

This covers the inbuilt designs: Dolphin, Snowflake and Heart. Covers Rotate, Scale and Point UI events.

scale is how radii are stored if the object is a circle, or the semi-major and semi-minor axes if the object is an ellipse.

center perhaps should be the "anchor" instead which is the center for some objects and top left for rectangular objects.

Do angles need special storage? angleRef, angleNew

This chapter details how the source code achieves the design detailed in the previous chapter. For the low-level details, read the later chapters.

Dear ImGui (CITATION NEEDED)

18.12.3.5 Geometry Objects At all times the EmbPattern has all of the information about the pattern however, editing information like the rubber text labels needs to be stored during runtime. Also editing ghosts like when a rotate command is half executed.

To deal with this we have a generic object that can act as any other object that updates the associated pattern struct as changes are made.

Note that the editor state is separate from this since that is per view, not per object.

Selecting is done via this interface.

18.12.3.6 UndoHistory `typedef struct UndoHistory_ UndoHistory`

Todo document this.

18.12.4 Enumeration Type Documentation**18.12.4.1 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 | |
| ACTION_icon16 | |
| ACTION_icon24 | |
| ACTION_icon32 | |
| ACTION_icon48 | |
| ACTION_icon64 | |
| ACTION_icon128 | |
| ACTION_settingsdialog | |
| ACTION_makelayercurrent | |
| ACTION_layers | |
| ACTION_layerselector | |
| ACTION_layerprevious | |
| ACTION_colorselector | |
| ACTION_linetypesselector | |
| ACTION_lineweightselector | |
| ACTION_hidealllayers | |
| ACTION_showalllayers | |
| ACTION_freezealllayers | |
| ACTION_thawalllayers | |
| ACTION_lockalllayers | |
| ACTION_unlockalllayers | |
| ACTION_textbold | |
| ACTION_textitalic | |
| ACTION_textunderline | |
| ACTION_textstrikeout | |

Enumerator

| | |
|---------------------|--|
| 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 | |

18.12.5 Function Documentation

18.12.5.1 `about_dialog()` void about_dialog (
 void)

18.12.5.2 `actuator()` void actuator (
 char cmd[200])

18.12.5.3 `add_to_undo_history()` void add_to_undo_history (
 UndoHistory * undo_history,
 const char * command_line)

18.12.5.4 `alert()` void alert (
 const char *)

18.12.5.5 arc_action() void arc_action (void)

18.12.5.6 boundingRect() EmbRect boundingRect (UiObject * obj)

18.12.5.7 c_split() void c_split (char input[200], int * argc, char argv[10][200])

18.12.5.8 changelog_dialog() void changelog_dialog (void)

18.12.5.9 circle_action() void circle_action (void)

18.12.5.10 clear_selection() void clear_selection (void)

18.12.5.11 clockwise() bool clockwise (UiObject * obj)

18.12.5.12 close_action() void close_action (void)

18.12.5.13 copy_action() void copy_action (void)

18.12.5.14 `copy_selection()` void copy_selection (void)

18.12.5.15 `create_group_box_arc()` void create_group_box_arc (int *id*, EmbArc * *arc*)

18.12.5.16 `create_group_box_block()` void create_group_box_block (int *id*, EmbBlock * *block*)

18.12.5.17 `create_group_box_circle()` void create_group_box_circle (int *id*, EmbCircle * *circle*)

18.12.5.18 `create_group_box_dim_aligned()` void create_group_box_dim_aligned (int *id*, EmbAlignedDim * *dim_aligned*)

18.12.5.19 `create_group_box_dim_angular()` void create_group_box_dim_angular (int *id*, EmbAngularDim * *dim_angular*)

18.12.5.20 `create_group_box_dim_arc_length()` void create_group_box_dim_arc_length (int *id*, EmbArcLengthDim * *dim_arc_length*)

18.12.5.21 `create_group_box_dim_diameter()` void create_group_box_dim_diameter (int *id*, EmbDiameterDim * *dim_diameter*)

- 18.12.5.22 `create_group_box_dim_leader()`** void create_group_box_dim_leader (int *id*, EmbLeaderDim * *dim_leader*)
- 18.12.5.23 `create_group_box_dim_linear()`** void create_group_box_dim_linear (int *id*, EmbLinearDim * *dim_linear*)
- 18.12.5.24 `create_group_box_dim_ordinate()`** void create_group_box_dim_ordinate (int *id*, EmbOrdinateDim * *dim_ordinate*)
- 18.12.5.25 `create_group_box_dim_radius()`** void create_group_box_dim_radius (int *id*, EmbRadiusDim * *dim_radius*)
- 18.12.5.26 `create_group_box_ellipse()`** void create_group_box_ellipse (int *id*, EmbEllipse * *ellipse*)
- 18.12.5.27 `create_group_box_general()`** void create_group_box_general (int *id*, EmbPattern * *pattern*)
- 18.12.5.28 `create_group_box_image()`** void create_group_box_image (int *id*, EmbImage * *image*)
- 18.12.5.29 `create_group_box_infinite_line()`** void create_group_box_infinite_line (int *id*, EmbInfiniteLine * *infinite_line*)

18.12.5.30 `create_group_box_line()` void create_group_box_line (int *id*, EmbLine * *line*)

18.12.5.31 `create_group_box_path()` void create_group_box_path (int *id*, EmbPath * *path*)

18.12.5.32 `create_group_box_point()` void create_group_box_point (int *id*, EmbPoint * *point*)

18.12.5.33 `create_group_box_polygon()` void create_group_box_polygon (int *id*, EmbPolygon * *polygon*)

18.12.5.34 `create_group_box_polyline()` void create_group_box_polyline (int *id*, EmbPolyline * *polyline*)

18.12.5.35 `create_group_box_ray()` void create_group_box_ray (int *id*, EmbRay * *ray*)

18.12.5.36 `create_group_box_rectangle()` void create_group_box_rectangle (int *id*, EmbRect * *rect*)

18.12.5.37 `create_group_box_stitch()` void create_group_box_stitch (int *id*, EmbStitch * *stitch*)

18.12.5.38 `create_group_box_stitch_list()` void create_group_box_stitch_list (int *id*, EmbArray * *stitch_list*)

18.12.5.39 `create_group_box_text_multi()` void create_group_box_text_multi (int *id*, EmbTextMulti * *text_multi*)

18.12.5.40 `create_group_box_text_single()` void create_group_box_text_single (int *id*, EmbTextSingle * *text_single*)

18.12.5.41 `create_tab()` void create_tab (int)

18.12.5.42 `create_tab_display()` void create_tab_display (void)

18.12.5.43 `create_tab_files_paths()` void create_tab_files_paths (void)

18.12.5.44 `create_tab_general()` void create_tab_general (void)

18.12.5.45 `create_tab_grid_ruler()` void create_tab_grid_ruler (void)

18.12.5.46 `create_tab_lineweight()` void create_tab_lineweight (void)

18.12.5.47 `create_tab_open_save()` void create_tab_open_save (void)

18.12.5.48 `create_tab_ortho_polar()` void create_tab_ortho_polar (void)

18.12.5.49 `create_tab_printing()` void create_tab_printing (void)

18.12.5.50 `create_tab_prompt()` void create_tab_prompt (void)

18.12.5.51 `create_tab_quicksnap()` void create_tab_quicksnap (void)

18.12.5.52 `create_tab_quicktrack()` void create_tab_quicktrack (void)

18.12.5.53 `create_tab_selection()` void create_tab_selection (void)

18.12.5.54 `create_tab_snap()` void create_tab_snap (void)

18.12.5.55 `createObjectList()` EmbArray * createObjectList (EmbArray * list)

18.12.5.56 `createOrigin()` void createOrigin (void)

18.12.5.57 `cut_action()` void cut_action (void)

18.12.5.58 `details_dialog()` void details_dialog (void)

18.12.5.59 `dictionary_from_index()` Dictionary * dictionary_from_index (Index *, const char *)

18.12.5.60 `ellipse_action()` void ellipse_action (void)

18.12.5.61 `embArc_endAngle()` float embArc_endAngle (EmbArc arc)

18.12.5.62 `embArc_setCenter()` void embArc_setCenter (EmbArc * arc, EmbVector point)

18.12.5.63 `embArc_setEndAngle()` void embArc_setEndAngle (EmbArc * arc, float angle)

18.12.5.64 `embArc_setRadius()` void embArc_setRadius (EmbArc * arc, float radius)

18.12.5.65 `embArc_setStartAngle()` void embArc_setStartAngle (EmbArc * arc, float angle)

18.12.5.66 `embArc_startAngle()` float embArc_startAngle (
 EmbArc arc)

18.12.5.67 `embCircle_setArea()` void embCircle_setArea (
 EmbCircle * circle,
 float area)

18.12.5.68 `embCircle_setCircumference()` void embCircle_setCircumference (
 EmbCircle * circle,
 float circumference)

18.12.5.69 `error_action()` void error_action (
 const char *)

18.12.5.70 `exit_action()` void exit_action (
 void)

18.12.5.71 `generic_design_init()` **UiObject** generic_design_init (
 void)

18.12.5.72 `help_dialog()` void help_dialog (
 void)

18.12.5.73 `icon_action()` void icon_action (
 int)

18.12.5.74 `index_free()` void index_free (
 Index *)

18.12.5.75 `index_init()` `Index * index_init (`
 `void)`

18.12.5.76 `init_view()` `EmbView init_view (`
 `void)`

18.12.5.77 `load_configuration()` `void load_configuration (`
 `void)`

18.12.5.78 `load_menu()` `void load_menu (`
 `const char * menu_label)`

18.12.5.79 `load_toolbar()` `void load_toolbar (`
 `const char * toolbar_label)`

18.12.5.80 `move()` `void move (`
 `UiObject * obj,`
 `EmbVector delta)`

18.12.5.81 `new_file_action()` `void new_file_action (`
 `void)`

18.12.5.82 `open_file_action()` `void open_file_action (`
 `int argc,`
 `char argv[10][200])`

18.12.5.83 `open_file_dialog()` `void open_file_dialog (`
 `void)`

18.12.5.84 pan_action() void pan_action (
 const char *)

18.12.5.85 parse_command() void parse_command (
 int argc,
 char * argv[],
 char command[200])

18.12.5.86 paste_action() void paste_action (
 void)

18.12.5.87 pattern_view() void pattern_view (
 void)

18.12.5.88 platform_string() void platform_string (
 char s[200])

18.12.5.89 print_action() void print_action (
 void)

18.12.5.90 property_editor() void property_editor (
 void)

18.12.5.91 read_bool_setting() bool read_bool_setting (
 toml_table_t * table,
 const char * key)

18.12.5.92 read_dictionary_setting() Dictionary * read_dictionary_setting (
 toml_table_t * table,
 const char * key)

```
18.12.5.93 read_int_setting() int read_int_setting (
    toml_table_t * table,
    const char * key )
```

```
18.12.5.94 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.

```
18.12.5.95 read_str_setting() void read_str_setting (
    toml_table_t * table,
    const char * key,
    char s[200] )
```

```
18.12.5.96 rectangle_action() void rectangle_action (
    void )
```

```
18.12.5.97 redo_action() void redo_action (
    void )
```

```
18.12.5.98 sandbox_click() void sandbox_click (
    UiObject * global,
    EmbVector pos )
```

```
18.12.5.99 sandbox_main() UiObject sandbox_main (
    void )
```

```
18.12.5.100 sandbox_prompt() void sandbox_prompt (
    UiObject * global,
    const char * str )
```

```
18.12.5.101 scale_click() void scale_click (
    UiObject * global,
    EmbVector pos )
```

```
18.12.5.102 scale_main() UiObject scale_main (
    void )
```

```
18.12.5.103 scale_prompt() void scale_prompt (
    UiObject * global,
    const char * str )
```

```
18.12.5.104 settings_editor() void settings_editor (
    void )
```

```
18.12.5.105 simplify_path() void simplify_path (
    char * path )
```

Simplifies a path by removing the .. and . symbols in place.

path The character array to operate on.

```
18.12.5.106 single_line_text_click() void single_line_text_click (
    UiObject * global,
    EmbVector pos )
```

```
18.12.5.107 single_line_text_main() UiObject single_line_text_main (
    void )
```

```
18.12.5.108 single_line_text_prompt() void single_line_text_prompt (
    UiObject * global,
    const char * str )
```

```
18.12.5.109 snowflake_click() UiObject snowflake_click (
    UiObject global,
    EmbVector position )
```

18.12.5.110 `snowflake_main()` `UiObject` `snowflake_main ()`

18.12.5.111 `snowflake_move()` `UiObject` `snowflake_move (`
`UiObject global,`
`EmbVector delta)`

18.12.5.112 `star_click()` `UiObject` `star_click (`
`UiObject global,`
`EmbVector pos)`

18.12.5.113 `star_main()` `UiObject` `star_main ()`

18.12.5.114 `star_move()` `UiObject` `star_move (`
`UiObject global,`
`EmbVector delta)`

18.12.5.115 `status_bar()` `void` `status_bar (`
`void)`

18.12.5.116 `streq()` `bool` `streq (`
`const char * s1,`
`const char * s2)`

18.12.5.117 `text_angle_action()` `void` `text_angle_action (`
`EmbReal)`

18.12.5.118 `text_font_action()` `void` `text_font_action (`
`const char *)`

18.12.5.119 `text_size_action()` void text_size_action (
 EmbReal)

18.12.5.120 `tip_of_the_day_dialog()` void tip_of_the_day_dialog (
 void)

18.12.5.121 `UiObject_free()` void UiObject_free (
 UiObject * obj)

18.12.5.122 `UiObject_init()` UiObject * UiObject_init (
 int pattern_index,
 char type[200],
 int object_index)

18.12.5.123 `undo_action()` void undo_action (
 void)

18.12.5.124 `undo_history_free()` void undo_history_free (
 UndoHistory *)

18.12.5.125 `undo_history_init()` UndoHistory undo_history_init (
 void)

18.12.5.126 `updateSnowflake()` void updateSnowflake (
 EmbPath * path,
 UiObject global)

18.12.5.127 `updateStar()` void updateStar (
 EmbPath * path,
 UiObject global)

18.12.5.128 `validRGB()` `bool validRGB (`
 `int r,`
 `int g,`
 `int b)`

18.12.5.129 `vulcanize()` `void vulcanize (`
 `UiObject * obj)`

18.12.5.130 `vulcanize_action()` `void vulcanize_action (`
 `void)`

18.12.5.131 `window_action()` `void window_action (`
 `const char *)`

18.12.5.132 `write_bool_setting()` `void write_bool_setting (`
 `FILE * file,`
 `const char * key,`
 `bool value)`

18.12.5.133 `write_dictionary_setting()` `void write_dictionary_setting (`
 `FILE * file,`
 `const char * key,`
 `Dictionary value)`

18.12.5.134 `write_float_setting()` `void write_float_setting (`
 `FILE * file,`
 `const char * key,`
 `float value)`

18.12.5.135 `write_int_setting()` `void write_int_setting (`
 `FILE * file,`
 `const char * key,`
 `int value)`

```
18.12.5.136 write_settings() void write_settings (
    const char * fname )
```

```
18.12.5.137 write_str_setting() void write_str_setting (
    FILE * file,
    const char * key,
    const char value[200] )
```

```
18.12.5.138 write_uint_setting() void write_uint_setting (
    FILE * file,
    const char * key,
    unsigned int value )
```

```
18.12.5.139 zoom_action() void zoom_action (
    const char * )
```

18.13 embroidermodder.h

[Go to the documentation of this file.](#)

```
00001
00007 #ifndef __EMBROIDERMODDER__UTILITY_H__
00008 #define __EMBROIDERMODDER__UTILITY_H__
00009
00010 #include <cstdio>
00011 #include <cstdlib>
00012 #include <cstring>
00013 #include <cstdint>
00014 #include <cmath>
00015 #include <ctime>
00016
00017 #include <vector>
00018 #include <unordered_map>
00019 #include <string>
00020 #include <filesystem>
00021
00022 #include "embroidery.h"
00023 #include "toml.h"
00024
00025 #include <QMainWindow>
00026
00029 #define WIDGET_MODE_BLOCK          0
00030 #define WIDGET_MODE_TEXT           1
00031 #define WIDGET_MODE_IMAGE          2
00032 #define WIDGET_MODE_SVG            3
00033 #define WIDGET_MODE_BACKGROUND      4
00034 #define WIDGET_MODE_SPINBOX        5
00035 #define WIDGET_MODE_COMBOBOX       6
00036 #define WIDGET_MODE_CONTAINER      7
00037 #define WIDGET_MODE_PANEL         8
00038 #define WIDGET_MODE_VIEW          9
00039 #define WIDGET_MODE_ROOT          10
00040
00043 #define VIEW_STATE_SNAP          0x0000
00044 #define VIEW_STATE_GRIP          0x0001
00045 #define VIEW_STATE_RULER         0x0002
00046 #define VIEW_STATE_ORTHO         0x0004
00047 #define VIEW_STATE_POLAR        0x0008
00048 #define VIEW_STATE_QSNAP        0x0010
00049 #define VIEW_STATE_QTRACK       0x0020
00050 #define VIEW_STATE_LWT          0x0040
00051 #define VIEW_STATE_REAL        0x0080
```

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00052 #define VIEW_STATE_CLOSEABLE      0x0100
00053 #define VIEW_STATE_USE_LOGO     0x0200
00054 #define VIEW_STATE_USE_TEXTURE   0x0400
00055 #define VIEW_STATE_USE_COLOR    0x0800
00056 #define VIEW_STATE_GRID        0x1000
00057
00058 /* Permissions System(Not implemented)
00059 * -----
00060 *
00061 * The permissions flag determines whether the user or the system can run this
00062 * action.
00063 */
00064 #define PERMISSIONS_USER          0
00065 #define PERMISSIONS_SYSTEM        1
00066
00067 #define MITER_JOIN                0
00068
00069 #define LINE_STYLE_DASHED         0
00070 #define LINE_STYLE_SOLID          1
00071
00072 #define BRUSH_STYLE_DASHED        0
00073 #define BRUSH_STYLE_SOLID         1
00074
00075 #define DIRECTION_RIGHT          0
00076 #define DIRECTION_LEFT           1
00077
00078 #define RENDER_UI                 0
00079 #define RENDER_TEXT_EDITOR        1
00080
00081 #define RUBBER_MODES              22
00085 #define NUMBER_ARCHITECTURAL      0
00086 #define NUMBER_DECIMAL            1
00087 #define NUMBER_ENGINEERING        2
00088 #define NUMBER_FRACTIONAL         3
00089 #define NUMBER_SCIENTIFIC          4
00090
00091 #define DISABLE_GRID               0
00092 #define RECTANGULAR_GRID           1
00093 #define CIRCULAR_GRID              2
00094 #define ISOMETRIC_GRID             3
00095
00096 /*
00097 enum ArrowStyle
00098 {
00099     NoArrow, //NOTE: Allow this enum to evaluate false
00100     Open,
00101     Closed,
00102     Dot,
00103     Box,
00104     Tick
00105 };
00106
00107 enum lineStyle
00108 {
00109     NoLine, //NOTE: Allow this enum to evaluate false
00110     Flared,
00111     Fletching
00112 };
00113
00114 Action action_list[] = {
00115     {"donothing", "&Do Nothing", "Does Nothing"},  

00116     {ACTION_windowcascade, "windowcascade", "&Cascade", "Cascade the windows."},  

00117     {ACTION_windowtile, "windowtile", "&Tile", "Tile the windows."},  

00118     {ACTION_windowclose, "windowclose", "&Close", "Close the active window."},  

00119     {ACTION_windowcloseall, "windowcloseall", "Close &All", "Close all the windows."},  

00120     {ACTION_windownext, "windownext", "&Next", "Move the focus to the next window."},  

00121     {ACTION_windowprevious, "windowprevious", "&Previous", "Move the focus to the previous window."},  

00122
00123     {ACTION_new, "new", "&New", "Create a new file."},  

00124     {ACTION_open, "open", "&Open", "Open an existing file."},  

00125     {ACTION_save, "save", "&Save", "Save the design to disk."},  

00126     {ACTION_saveas, "saveas", "Save &As", "Save the design under a new name."},  

00127     {ACTION_print, "print", "&Print", "Print the design."},  

00128     {ACTION_designdetails, "designdetails", "&Details", "Details of the current design."},  

00129     {ACTION_exit, "exit", "E&xit", "Exit the application."},  

00130
00131     {ACTION_cut, "cut", "Cu&t", "Cut the current selection's contents to the clipboard."},  

00132     {ACTION_copy, "copy", "&Copy", "Copy the current selection's contents to the clipboard."},  

00133     {ACTION_paste, "paste", "&Paste", "Paste the clipboard's contents into the current selection."},  

00134
00135     {ACTION_help, "help", "&Help", "Displays help."},  

00136     {ACTION_changelog, "changelog", "&Changelog", "Describes new features in this product."},  

00137     {ACTION_tipoftheday, "tipoftheday", "&Tip Of The Day", "Displays a dialog with useful tips"},  

00138     {ACTION_about, "about", "&About Embroidermodder VERSION", "Displays information about this  
product."},  

00139     {ACTION_whatsthisis, "whatsthisis", "&What's This?", "What's This? Context Help!"},  

00140

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00141     {ACTION_undo, "undo", "&Undo", "Reverses the most recent action."},
00142     {ACTION_redo, "redo", "&Redo", "Reverses the effects of the previous undo action."},
00143
00144     {ACTION_icon16, "icon16", "Sets the toolbar icon size to 16x16."},
00145     {ACTION_icon24, "icon24", "Sets the toolbar icon size to 24x24."},
00146     {ACTION_icon32, "icon32", "Sets the toolbar icon size to 32x32."},
00147     {ACTION_icon48, "icon48", "Sets the toolbar icon size to 48x48."},
00148     {ACTION_icon64, "icon64", "Sets the toolbar icon size to 64x64."},
00149     {ACTION_icon128, "icon128", "Icon12&8", "Sets the toolbar icon size to 128x128."},
00150
00151     {ACTION_settingsdialog, "settingsdialog", "&Settings", "Configure settings specific to this
product."},
00152
00153     {ACTION_makelayercurrent, "makelayercurrent", "&Make Layer Active", "Makes the layer of a selected
object the active layer"},
00154     {ACTION_layers, "layers", "&Layers", "Manages layers and layer properties: LAYER"},
00155     {ACTION_layerselector, "layerselector", "&Layer Selector", "Dropdown selector for changing the
current layer"},
00156     {ACTION_layerprevious, "layerprevious", "&Layer Previous", "Restores the previous layer settings:
LAYERP"},,
00157     {ACTION_colorselector, "colorselector", "&Color Selector", "Dropdown selector for changing the
current thread color"},,
00158     {ACTION_linetypeselector, "linetypeselector", "&Stitchtype Selector", "Dropdown selector for
changing the current stitch type"},,
00159     {ACTION_linewidthselector, "linewidthselector", "&Threadweight Selector", "Dropdown selector for
changing the current thread weight"},,
00160     {ACTION_hidealllayers, "hidealllayers", "&Hide All Layers", "Turns the visibility off for all
layers in the current drawing: HIDEALL"},,
00161     {ACTION_showalllayers, "showalllayers", "&Show All Layers", "Turns the visibility on for all
layers in the current drawing: SHOWALL"},,
00162     {ACTION_freezealllayers, "freezealllayers", "&Freeze All Layers", "Freezes all layers in the
current drawing: FREEZEALL"},,
00163     {ACTION_thawalllayers, "thawalllayers", "&Thaw All Layers", "Thaws all layers in the current
drawing: THAWALL"},,
00164     {ACTION_lockalllayers, "lockalllayers", "&Lock All Layers", "Locks all layers in the current
drawing: LOCKALL"},,
00165     {ACTION_unlockalllayers, "unlockalllayers", "&Unlock All Layers", "Unlocks all layers in the
current drawing: UNLOCKALL"},,
00166
00167     {ACTION_textbold, "textbold", "&Bold Text", "Sets text to be bold."},,
00168     {ACTION_textitalic, "textitalic", "&Italic Text", "Sets text to be italic."},,
00169     {ACTION_textunderline, "textunderline", "&Underline Text", "Sets text to be underlined."},,
00170     {ACTION_textstrikeout, "textstrikeout", "&StrikeOut Text", "Sets text to be striked out."},,
00171     {ACTION_textoverline, "textoverline", "&Overline Text", "Sets text to be overlined."},,
00172
00173     {ACTION_zoomrealtime, "zoomrealtime", "Zoom &Realtime", "Zooms to increase or decrease the
apparent size of objects in the current viewport."},,
00174     {ACTION_zompprevious, "zompprevious", "Zoom &Previous", "Zooms to display the previous view."},,
00175     {ACTION_zoomwindow, "zoomwindow", "Zoom &Window", "Zooms to display an area specified by a
rectangular window."},,
00176     {ACTION_zomodynamic, "zomodynamic", "Zoom &Dynamic", "Zooms to display the generated portion of
the drawing."},,
00177     {ACTION_zoomscale, "zoomscale", "Zoom &Scale", "Zooms the display using a specified scale
factor."},,
00178     {ACTION_zoomcenter, "zoomcenter", "Zoom &Center", "Zooms to display a view specified by a center
point and magnification or height."},,
00179     {ACTION_zoomin, "zoomin", "Zoom &In", "Zooms to increase the apparent size of objects."},,
00180     {ACTION_zoomout, "zoomout", "Zoom &Out", "Zooms to decrease the apparent size of objects."},,
00181     {ACTION_zoomselected, "zoomselected", "Zoom Selected", "Zooms to display the selected objects."},,
00182     {ACTION_zoomall, "zoomall", "Zoom &All", "Zooms to display the drawing extents or the grid
limits."},,
00183     {ACTION_zoomextents, "zoomextents", "Zoom &Extents", "Zooms to display the drawing extents."},,
00184
00185     {ACTION_panrealtime, "panrealtime", "&Pan Realtime", "Moves the view in the current viewport."},,
00186     {ACTION_panpoint, "panpoint", "&Pan Point", "Moves the view by the specified distance."},,
00187     {ACTION_panleft, "panleft", "&Pan Left", "Moves the view to the left."},,
00188     {ACTION_panright, "panright", "&Pan Right", "Moves the view to the right."},,
00189     {ACTION_panup, "panup", "&Pan Up", "Moves the view up."},,
00190     {ACTION_pandown, "pandown", "&Pan Down", "Moves the view down."},,
00191
00192     {ACTION_day, "day", "&Day", "Updates the current view using day vision settings."},,
00193     {ACTION_night, "night", "&Night", "Updates the current view using night vision settings."},,
00194     {-1, "END", "END", "END"}}
00195 };
00196
00197 std::vector<LineEdit> geometry_circle_line_edits = {
00198 {
00199     .label = "Center X",
00200     .icon = "blank",
00201     .type = "double",
00202     .signal = "lineEditCircleCenterX",
00203     .user_editable = false
00204 },
00205 {
00206     .label = "Center Y",
00207     .icon = "blank",
00208     .type = "double",

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```

00209     .signal = "lineEditCircleCenterY",
00210     .user_editable = false
00211 },
00212 {
00213     .label = "Radius",
00214     .icon = "blank",
00215     .type = "double",
00216     .signal = "lineEditCircleRadius",
00217     .user_editable = false
00218 },
00219 {
00220     .label = "Diameter",
00221     .icon = "blank",
00222     .type = "double",
00223     .signal = "lineEditCircleDiameter",
00224     .user_editable = false
00225 },
00226 {
00227     .label = "Area",
00228     .icon = "blank",
00229     .type = "double",
00230     .signal = "lineEditCircleArea",
00231     .user_editable = false
00232 },
00233 {
00234     .label = "Circumference",
00235     .icon = "blank",
00236     .type = "double",
00237     .signal = "lineEditCircleCircumference",
00238     .user_editable = false
00239 }
00240 };
00241
00242 GroupBox geometry_circle = {
00243     .title = "Geometry",
00244     .line_edits = geometry_circle_line_edits,
00245     .obj_type = OBJ_TYPE_CIRCLE
00246 };
00247 */
00248
00249 #define EMB_BLOCK -1
00250 /*< For the block type, that has to exist for SVG. */
00251 #define EMB_DIM_ALIGNED -2
00252 /*< For the Aligned Dimension, that has to exist for DXF drawings. */
00253 #define EMB_DIM_ANGULAR -20
00254 /*< For the Angular Dimension, that has to exist for DXF drawings. */
00255 #define EMB_DIM_ARCLENGTH -3
00256 /*< For the Arc Length Dimension, that has to exist for DXF drawings. */
00257 #define EMB_DIM_LINEAR -4
00258 /*< For the Linear Dimension, that has to exist for DXF drawings. */
00259 #define EMB_DIM_RADIUS -5
00260 /*< For the Radial Dimension, that has to exist for DXF drawings. */
00261 #define EMB_DIM_ORDINATE -6
00262 /*< For the Ordinate Dimension, that has to exist for DXF drawings. */
00263 #define EMB_INFINITELINE -7
00264 /*< For the Infinite Line object. Which should be removed from output as it exists
00265 for drafting reasons. */
00266
00267 #define EMB_RAY -8
00268 /*< For the Ray object. */
00269
00270 #define DEFAULT_MODE 0
00271
00272
00273 #define CIRCLE_MODE_1P_RAD 1
00274 #define CIRCLE_MODE_1P_DIA 2
00275 #define CIRCLE_MODE_2P 3
00276 #define CIRCLE_MODE_3P 4
00277 #define CIRCLE_MODE_TTR 5
00278
00279 #define ELLIPSE_MODE_MAJORDIAMETER_MINORRADIUS 6
00280 #define ELLIPSE_MODE_MAJORRADIUS_MINORRADIUS 7
00281 #define ELLIPSE_MODE_ELLIPSE_ROTATION 8
00282
00283 #define DOLPHIN_MODE_NUM_POINTS 9
00284 #define DOLPHIN_MODE_XSCALE 10
00285 #define DOLPHIN_MODE_YSCALE 11
00286
00287 #define HEART_MODE_NUM_POINTS 12
00288 #define HEART_MODE_STYLE 13
00289 #define HEART_MODE_XSCALE 14
00290 #define HEART_MODE_YSCALE 15
00291
00292 #define ROTATE_MODE_NORMAL 16
00293 #define ROTATE_MODE_REFERENCE 17
00294
00295 #define SCALE_MODE_NORMAL 18
00296 #define SCALE_MODE_REFERENCE 19
00297
00298
00299
00300
00301
00302

```

```
00303 #define SINGLE_LINE_TEXT_MODE_JUSTIFY 20
00304 #define SINGLE_LINE_TEXT_MODE_SETFONT 21
00305 #define SINGLE_LINE_TEXT_MODE_SETGEOM 22
00306 #define SINGLE_LINE_TEXT_MODE_RAPID 23
00307
00308 #define STAR_MODE_NUM_POINTS 24
00309 #define STAR_MODE_CENTER_PT 25
00310 #define STAR_MODE_RAD_OUTER 26
00311 #define STAR_MODE_RAD_INNER 27
00312
00313 #define SNOWFLAKE_MODE_NUM_POINTS 28
00314 #define SNOWFLAKE_MODE_XSCALE 29
00315 #define SNOWFLAKE_MODE_YSCALE 30
00316
00317 #define MSG_CRITICAL 1
00318 #define MSG_INFORMATION 2
00319 #define MSG_QUESTION 3
00320 #define MSG_WARNING 4
00321
00322 #define JUSTIFY_LEFT 0
00323 #define JUSTIFY_RIGHT 1
00324 #define JUSTIFY_ALIGN 2
00325 #define JUSTIFY_MIDDLE 3
00326 #define JUSTIFY__ 3
00327 #define JUSTIFY_TOPLEFT 4
00328 #define JUSTIFY_TOPCENTER 5
00329 #define JUSTIFY_TOPRIGHT 6
00330 #define JUSTIFY_MIDDLELEFT 7
00331 #define JUSTIFY_MIDDLECENTER 8
00332 #define JUSTIFY_MIDDLERIGHT 9
00333 #define JUSTIFY_BOTTOMLEFT 10
00334 #define JUSTIFY_BOTTOMCENTER 11
00335 #define JUSTIFY_BOTTOMRIGHT 12
00336
00337 #define n_controlPoints 13
00338 #define controlPointLabels 14
00339 #define numPoints 15
00340 #define minPoints 16
00341 #define maxPoints 17
00342 #define maxPoints 18
00343
00344 typedef struct DictionaryEntry_ {
00345     char key[200];
00346     char value[200];
00347 } DictionaryEntry;
00348
00349
00350
00351
00352
00353
00354
00355 typedef struct Dictionary_ {
00356     DictionaryEntry *data;
00357     int length;
00358     int max_length;
00359 } Dictionary;
00360
00361
00362
00363
00364
00365 typedef struct UiObject_ {
00366     char fname[200]; /*< \todo document this */
00367     char command[200]; /*< \todo document this */
00368     bool firstRun; /*< If this UiObject has been put through the
00369                     user interaction processor. */
00370     EmbVector controlPoints[10]; /*< Storage for however many Rubber Points the
00371                                 design needs. */
00372     char controlPointLabels[10][200]; /*< Storage for the labels for the Rubber Points
00373                                         using the same indexing. */
00374     int n_controlPoints; /*< The number of entries in the controlPoints
00375                           and controlPointsLabels. */
00376     int numPoints; /*< The number of points if we consider the object as a Polygon. */
00377     int minPoints; /*< The minimum number of points needed to make the
00378                   polygon look somewhat like the design. */
00379     int maxPoints; /*< The maximum number of points before adding more will
00380                      do nothing but slow down the program. */
00381     EmbVector center; /*< Where the polygon is centered. */
00382     EmbVector scale; /*< The scale of the object: note that the default
00383                      may not be (1.0, 1.0). */
00384     EmbReal rotation; /*< \todo document this */
00385     unsigned int mode; /*< The mode argument records what kind of design we are
00386                         using and how to interact with it. */
00387     char path_desc[1000]; /*< The SVG style path spec. */
00388     char text[200]; /*< The text to be rendered to the scene. */
00389     int textJustify; /*< One of the JUSTIFY_ constants representing what kind
00390                      of alignment to use. */
00391     char textFont[200]; /*< The file name of the font to use. */
00392     float textHeight; /*< The text height. */
00393     float textRotation; /*< The rotation of the text in the scene. */
00394     //GLuint texture_id; /*< Pointer to a texture that may be rendered to the object. */
00395     char id[200]; /*< \todo document this */
00396     int pattern_index; /*< \todo document this */
00397     char type[200]; /*< \todo document this */
00398     int object_index; /*< \todo document this */
00399     bool selectable; /*< \todo document this */
00400     EmbColor color; /*< \todo document this */
00401 } UiObject;
00402
00403
00404
00405
00406
00407
00408
00409
00410
00411
00412
00413
00414
00415
00416
00417
00418
00419
00420
00421
00422
00423
00424
00425
00426
00427
00428
00429
00430
00431 } UiObject;
00432
00433
00434
00435
00436 typedef struct UndoHistory_ {
00437     char data[100][200]; /*< \todo document this */
00438     int length; /*< \todo document this */
00439     int position; /*< \todo document this */
00440 }
```

```

00440     int max_length; /*< \todo document this */
00441 } UndoHistory;
00442
00446 typedef struct IndexEntry_ {
00447     char key[200]; /*< \todo document this */
00448     Dictionary *value; /*< \todo document this */
00449 } IndexEntry;
00450
00454 typedef struct Index_ {
00455     IndexEntry *data; /*< \todo document this */
00456     int length; /*< \todo document this */
00457     int max_length; /*< \todo document this */
00458 } Index;
00459
00467 typedef struct EmbView_ {
00468     EmbPattern *pattern; /*< \todo document this */
00469     EmbVector origin; /*< \todo document this */
00470     float scale; /*< \todo document this */
00471     char grid_type[200]; /*< \todo document this */
00472     int ui_mode; /*< \todo document this */
00473     bool snap_mode; /*< \todo document this */
00474     bool grid_mode; /*< \todo document this */
00475     bool ruler_mode; /*< \todo document this */
00476     bool ortho_mode; /*< \todo document this */
00477     bool polar_mode; /*< \todo document this */
00478     bool qsnap_mode; /*< \todo document this */
00479     bool qtrack_mode; /*< \todo document this */
00480     bool lwt_mode; /*< \todo document this */
00481     bool real_render; /*< \todo document this */
00482     bool metric; /*< \todo document this */
00483     bool simulate; /*< \todo document this */
00484     clock_t simulation_start; /*< \todo document this */
00485     char text_font[200]; /*< \todo document this */
00486     float text_size; /*< \todo document this */
00487     float text_angle; /*< \todo document this */
00488     bool text_style_bold; /*< \todo document this */
00489     bool text_style_italic; /*< \todo document this */
00490     bool text_style_underline; /*< \todo document this */
00491     bool text_style_overline; /*< \todo document this */
00492     bool text_style_strikeout; /*< \todo document this */
00493     char filename[200]; /*< \todo document this */
00494     UndoHistory undo_history; /*< \todo document this */
00495     int selected[100]; /*< \todo document this */
00496     int n_selected; /*< \todo document this */
00497     int rubber_mode; /*< . */
00498 } EmbView;
00499
00510 typedef struct Settings_ {
00511     char version[200]; /*< \todo document this */
00512     bool running; /*< \todo document this */
00513     bool testing; /*< \todo document this */
00514     int debug_mode; /*< \todo document this */
00515     bool show_about_dialog; /*< \todo document this */
00516     bool show_settings_editor; /*< \todo document this */
00517     bool show_editor; /*< \todo document this */
00518     bool show_details_dialog; /*< \todo document this */
00519     bool show_open_file_dialog; /*< \todo document this */
00520     int icon_size; /*< \todo document this */
00521     char icon_theme[200]; /*< \todo document this */
00522     int pattern_index; /*< \todo document this */
00523     char assets_dir[200]; /*< \todo document this */
00524     bool use_translation; /*< \todo document this */
00525     char language[200]; /*< \todo document this */
00526     bool mdi_bg_use_logo; /*< \todo document this */
00527     bool mdi_bg_use_texture; /*< \todo document this */
00528     bool mdi_bg_use_color; /*< \todo document this */
00529     char general_mdi_bg_logo[200]; /*< \todo document this */
00530     char general_mdi_bg_texture[200]; /*< \todo document this */
00531     unsigned int general_mdi_bg_color; /*< \todo document this */
00532     bool tip_of_the_day; /*< \todo document this */
00533     unsigned int general_current_tip; /*< \todo document this */
00534     bool general_system_help_browser; /*< \todo document this */
00535     bool general_check_for_updates; /*< \todo document this */
00536     bool display_use_opengl; /*< \todo document this */
00537     bool display_renderhint_aa; /*< \todo document this */
00538     bool display_renderhint_text_aa; /*< \todo document this */
00539     bool display_renderhint_smooth_pix; /*< \todo document this */
00540     bool display_renderhint_high_aa; /*< \todo document this */
00541     bool display_renderhint_noncosmetic; /*< \todo document this */
00542     bool display_show_scrollbars; /*< \todo document this */
00543     int display_scrollbar_widget_num; /*< \todo document this */
00544     unsigned int display_crosshair_color; /*< \todo document this */
00545     unsigned int display_bg_color; /*< \todo document this */
00546     unsigned int display_selectbox_left_color; /*< \todo document this */
00547     unsigned int display_selectbox_left_fill; /*< \todo document this */
00548     unsigned int display_selectbox_right_color; /*< \todo document this */
00549     unsigned int display_selectbox_right_fill; /*< \todo document this */

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```

00550     unsigned char display_selectbox_alpha; /*< \todo document this */
00551     float display_zoomscale_in; /*< \todo document this */
00552     float display_zoomscale_out; /*< \todo document this */
00553     unsigned char display_crosshair_percent; /*< \todo document this */
00554     char display_units[200]; /*< \todo document this */
00555     char opensave_custom_filter[200]; /*< \todo document this */
00556     char opensave_open_format[200]; /*< \todo document this */
00557     bool opensave_open_thumbnail; /*< \todo document this */
00558     char opensave_save_format[200]; /*< \todo document this */
00559     bool opensave_save_thumbnail; /*< \todo document this */
00560     unsigned char opensave_recent_max_files; /*< \todo document this */
00561     char opensave_recent_list_of_files[20][200]; /*< \todo document this */
00562     char opensave_recent_directory[200]; /*< \todo document this */
00563     unsigned char opensave_trim_dst_num_jumps; /*< \todo document this */
00564     char printing_default_device[200]; /*< \todo document this */
00565     bool printing_use_last_device; /*< \todo document this */
00566     bool printing_disable_bg; /*< \todo document this */
00567     bool grid_show_on_load; /*< \todo document this */
00568     bool grid_show_origin; /*< \todo document this */
00569     bool grid_color_match_crosshair; /*< \todo document this */
00570     unsigned int grid_color; /*< \todo document this */
00571     bool grid_load_from_file; /*< \todo document this */
00572     char grid_type[200]; /*< \todo document this */
00573     bool grid_center_on_origin; /*< \todo document this */
00574     EmbVector grid_center; /*< \todo document this */
00575     float grid_size_x; /*< \todo document this */
00576     float grid_size_y; /*< \todo document this */
00577     float grid_spacing_x; /*< \todo document this */
00578     float grid_spacing_y; /*< \todo document this */
00579     float grid_size_radius; /*< \todo document this */
00580     float grid_spacing_radius; /*< \todo document this */
00581     float grid_spacing_angle; /*< \todo document this */
00582     bool ruler_show_on_load; /*< \todo document this */
00583     bool ruler_metric; /*< \todo document this */
00584     unsigned int ruler_color; /*< \todo document this */
00585     unsigned char ruler_pixel_size; /*< \todo document this */
00586     bool qsnap_enabled; /*< \todo document this */
00587     unsigned int qsnap_locator_color; /*< \todo document this */
00588     unsigned char qsnap_locator_size; /*< \todo document this */
00589     unsigned char qsnap_aperture_size; /*< \todo document this */
00590     bool qsnap_endpoint; /*< \todo document this */
00591     bool qsnap_midpoint; /*< \todo document this */
00592     bool qsnap_center; /*< \todo document this */
00593     bool qsnap_node; /*< \todo document this */
00594     bool qsnap_quadrant; /*< \todo document this */
00595     bool qsnap_intersection; /*< \todo document this */
00596     bool qsnap_extension; /*< \todo document this */
00597     bool qsnap_insertion; /*< \todo document this */
00598     bool qsnap_perpendicular; /*< \todo document this */
00599     bool qsnap_tangent; /*< \todo document this */
00600     bool qsnap_nearest; /*< \todo document this */
00601     bool qsnap_apparent; /*< \todo document this */
00602     bool qsnap_parallel; /*< \todo document this */
00603     bool lwt_show_lwt; /*< \todo document this */
00604     bool lwt_real_render; /*< \todo document this */
00605     bool shift_hold; /*< \todo document this */
00606     float lwt_default_lwt; /*< \todo document this */
00607     bool selection_mode_pickfirst; /*< \todo document this */
00608     bool selection_mode_pickadd; /*< \todo document this */
00609     bool selection_mode_pickdrag; /*< \todo document this */
00610     unsigned int selection_coolgrip_color; /*< \todo document this */
00611     unsigned int selection_hotgrip_color; /*< \todo document this */
00612     unsigned char selection_grip_size; /*< \todo document this */
00613     unsigned char selection_pickbox_size; /*< \todo document this */
00614     char text_font[200]; /*< \todo document this */
00615     float text_size; /*< \todo document this */
00616     float text_angle; /*< \todo document this */
00617     bool text_style_bold; /*< \todo document this */
00618     bool text_style_italic; /*< \todo document this */
00619     bool text_style_underline; /*< \todo document this */
00620     bool text_style_overline; /*< \todo document this */
00621     bool text_style_strikeout; /*< \todo document this */
00622     Dictionary *texture_list; /*< \todo document this */
00623     unsigned int ticks_color; /*< \todo document this */
00624     unsigned int shine_color; /*< \todo document this */
00625     char to_open[200]; /*< \todo document this */
00626     char menu_action[200]; /*< \todo document this */
00627     char current_directory[200]; /*< \todo document this */
00628     EmbReal zoomInLimit; /*< */
00629     EmbReal zoomOutLimit; /*< */
00630     EmbVector grid_spacing; /*< */
00631     float ruler_width; /*< */
00632     float tick_depth; /*< */
00633     float major_tick_seperation; /*< */
00634     float needle_speed; /*< */
00635     float stitch_time; /*< */
00636 } Settings;

```

```

00637
00638 int read_settings(const char *settings_file);
00639 void write_settings(const char *fname);
00640
00641 void createOrigin(void);
00642 void clear_selection(void);
00643 void copy_selection(void);
00644
00645 void platform_string(char s[200]);
00646
00647 void parse_command(int argc, char *argv[], char command[200]);
00648
00649 UndoHistory undo_history_init(void);
00650 void undo_history_free(UndoHistory *);
00651 void add_to_undo_history(UndoHistory *undo_history, const char *command_line);
00652
00653 bool validRGB(int r, int g, int b);
00654
00655 EmbView init_view(void);
00656
00657 EmbArray *createObjectList(EmbArray *list);
00658
00659 bool streq(const char *s1, const char *s2);
00660
00661 void read_str_setting(toml_table_t *table, const char *key, char s[200]);
00662 int read_int_setting(toml_table_t *table, const char *key);
00663 bool read_bool_setting(toml_table_t *table, const char *key);
00664 Dictionary *read_dictionary_setting(toml_table_t *table, const char *key);
00665
00666 void write_float_setting(FILE *file, const char *key, float value);;
00667 void write_int_setting(FILE *file, const char *key, int value);
00668 void write_uint_setting(FILE *file, const char *key, unsigned int value);
00669 void write_str_setting(FILE *file, const char *key, const char value[200]);
00670 void write_bool_setting(FILE *file, const char *key, bool value);
00671 void write_dictionary_setting(FILE *file, const char *key, Dictionary value);
00672
00673 /* Tabs */
00674 void create_tab_general(void);
00675 void create_tab_files_paths(void);
00676 void create_tab_display(void);
00677 void create_tab_prompt(void);
00678 void create_tab_open_save(void);
00679 void create_tab_printing(void);
00680 void create_tab_snap(void);
00681 void create_tab_grid_ruler(void);
00682 void create_tab_ortho_polar(void);
00683 void create_tab_quicksnap(void);
00684 void create_tab_quicktrack(void);
00685 void create_tab_lineweight(void);
00686 void create_tab_selection(void);
00687
00688 /* Actions */
00689 void arc_action(void);
00690 void circle_action(void);
00691 void close_action(void);
00692 void copy_action(void);
00693 void cut_action(void);
00694 void ellipse_action(void);
00695 void error_action(const char *);
00696 void exit_action(void);
00697 void new_file_action(void);
00698 void open_file_action(int argc, char argv[10][200]);
00699 void icon_action(int);
00700 void pan_action(const char *);
00701 void paste_action(void);
00702 void print_action(void);
00703 void rectangle_action(void);
00704 void redo_action(void);
00705 void text_angle_action(EmbReal);
00706 void text_font_action(const char *);
00707 void text_size_action(EmbReal);
00708 void undo_action(void);
00709 void vulcanize_action(void);
00710 void window_action(const char *);
00711 void zoom_action(const char *);
00712
00713 void create_group_box_general(int id, EmbPattern *pattern);
00714 void create_group_box_arc(int id, EmbArc *arc);
00715 void create_group_box_block(int id, EmbBlock *block);
00716 void create_group_box_circle(int id, EmbCircle *circle);
00717 void create_group_box_dim_aligned(int id, EmbAlignedDim *dim_aligned);
00718 void create_group_box_dim-angular(int id, EmbAngularDim *dim_angular);
00719 void create_group_box_dim_arc_length(int id, EmbArcLengthDim *dim_arc_length);
00720 void create_group_box_dim_diameter(int id, EmbDiameterDim *dim_diameter);
00721 void create_group_box_dim_leader(int id, EmbLeaderDim *dim_leader);
00722 void create_group_box_dim_linear(int id, EmbLinearDim *dim_linear);
00723 void create_group_box_dim_coordinate(int id, EmbCoordinateDim *dim_coordinate);

```

```
00724 void create_group_box_dim_radius(int id, EmbRadiusDim *dim_radius);
00725 void create_group_box_ellipse(int id, EmbEllipse *ellipse);
00726 void create_group_box_image(int id, EmbImage *image);
00727 void create_group_box_infinite_line(int id, EmbInfiniteLine *infinite_line);
00728 void create_group_box_line(int id, EmbLine *line);
00729 void create_group_box_path(int id, EmbPath *path);
00730 void create_group_box_point(int id, EmbPoint *point);
00731 void create_group_box_polygon(int id, EmbPolygon *polygon);
00732 void create_group_box_polyline(int id, EmbPolyline *polyline);
00733 void create_group_box_ray(int id, EmbRay *ray);
00734 void create_group_box_rectangle(int id, EmbRect *rect);
00735 void create_group_box_stitch(int id, EmbStitch *stitch);
00736 void create_group_box_stitch_list(int id, EmbArray *stitch_list);
00737 void create_group_box_text_multi(int id, EmbTextMulti *text_multi);
00738 void create_group_box_text_single(int id, EmbTextSingle *text_single);
00739
00740 /* Dialogs */
00741 void alert(const char *);
00742 void about_dialog(void);
00743 void changelog_dialog(void);
00744 void details_dialog(void);
00745 void help_dialog(void);
00746 void tip_of_the_day_dialog(void);
00747
00748 /* Geometry Object interface */
00749 UiObject *UiObject_init(int pattern_index, char type[200], int object_index);
00750 void UiObject_free(UiObject *obj);
00751
00752 EmbRect boundingRect(UiObject *obj);
00753 bool clockwise(UiObject *obj);
00754 void move(UiObject *obj, EmbVector delta);
00755 void vulcanize(UiObject *obj);
00756
00757 UiObject generic_design_init(void);
00758
00759 UiObject sandbox_main(void);
00760 void sandbox_click(UiObject *global, EmbVector pos);
00761 void sandbox_prompt(UiObject *global, const char *str);
00762
00763 UiObject scale_main(void);
00764 void scale_click(UiObject *global, EmbVector pos);
00765 void scale_prompt(UiObject *global, const char *str);
00766
00767 UiObject single_line_text_main(void);
00768 void single_line_text_click(UiObject *global, EmbVector pos);
00769 void single_line_text_prompt(UiObject *global, const char *str);
00770
00771 void embArc_setCenter(EmbArc *arc, EmbVector point);
00772 void embArc_setRadius(EmbArc *arc, float radius);
00773 void embArc_setStartAngle(EmbArc *arc, float angle);
00774 void embArc_setEndAngle(EmbArc *arc, float angle);
00775 float embArc_startAngle(EmbArc arc);
00776 float embArc_endAngle(EmbArc arc);
00777
00778 void embCircle_setArea(EmbCircle *circle, float area);
00779 void embCircle_setCircumference(EmbCircle *circle, float circumference);
00780
00781 UiObject snowflake_main();
00782 UiObject snowflake_click(UiObject global, EmbVector position);
00783 UiObject snowflake_move(UiObject global, EmbVector delta);
00784 void updateSnowflake(EmbPath *path, UiObject global);
00785
00786 UiObject star_main();
00787 UiObject star_click(UiObject global, EmbVector pos);
00788 UiObject star_move(UiObject global, EmbVector delta);
00789 void updateStar(EmbPath *path, UiObject global);
00790
00791 Index *index_init(void);
00792 void index_free(Index *);
00793 Dictionary *dictionary_from_index(Index *, const char *);
00794
00795 void c_split(char input[200], int *argc, char argv[10][200]);
00796 void open_file_dialog(void);
00797 void create_tab(int);
00798 void load_menu(const char *menu_label);
00799 void load_toolbar(const char *toolbar_label);
00800 void simplify_path(char *path);
00801 void status_bar(void);
00802 void property_editor(void);
00803 void load_configuration(void);
00804 void pattern_view(void);
00805 void actuator(char cmd[200]);
00806 void settings_editor(void);
00807 void settings_editor(void);
00808
00809 typedef QString EmbString;
00810
```

```
00811 enum COMMAND_ACTIONS
00812 {
00813     ACTION_donothing,
00814
00815     ACTION_new,
00816     ACTION_open,
00817     ACTION_save,
00818     ACTION_saveas,
00819     ACTION_print,
00820     ACTION_designdetails,
00821     ACTION_exit,
00822     ACTION_cut,
00823     ACTION_copy,
00824     ACTION_paste,
00825
00826     ACTION_undo,
00827     ACTION_redo,
00828     // Window Menu
00829     ACTION_windowclose,
00830     ACTION_windowcloseall,
00831     ACTION_windowcascade,
00832     ACTION_windowtile,
00833     ACTION_windownext,
00834     ACTION_windowprevious,
00835
00836     // Help Menu
00837     ACTION_help,
00838     ACTION_changelog,
00839     ACTION_tipoftheday,
00840     ACTION_about,
00841     ACTION_whatsthis,
00842     // Icons
00843     ACTION_icon16,
00844     ACTION_icon24,
00845     ACTION_icon32,
00846     ACTION_icon48,
00847     ACTION_icon64,
00848     ACTION_icon128,
00849
00850     ACTION_settingsdialog,
00851
00852     // LayerToolBar
00853     ACTION_makelayercurrent,
00854     ACTION_layers,
00855     ACTION_layerselector,
00856     ACTION_layerprevious,
00857     ACTION_colorselector,
00858     ACTION_linetypeselector,
00859     ACTION_lineweightselector,
00860     ACTION_hidealllayers,
00861     ACTION_showalllayers,
00862     ACTION_freezealllayers,
00863     ACTION_thawalllayers,
00864     ACTION_lockalllayers,
00865     ACTION_unlockalllayers,
00866     //TextToolBar
00867     ACTION_textbold,
00868     ACTION_textitalic,
00869     ACTION_textunderline,
00870     ACTION_textstrikeout,
00871     ACTION_textoverline,
00872     //ZoomToolBar
00873     ACTION_zoomrealtime,
00874     ACTION_zoomprevious,
00875     ACTION_zoomwindow,
00876     ACTION_zoomdynamic,
00877     ACTION_zoomscale,
00878     ACTION_zoomcenter,
00879     ACTION_zoomin,
00880     ACTION_zoomout,
00881     ACTION_zoomselected,
00882     ACTION_zoomall,
00883     ACTION_zoomextents,
00884     //PanSubMenu
00885     ACTION_panrealtime,
00886     ACTION_panpoint,
00887     ACTION_panleft,
00888     ACTION_panright,
00889     ACTION_panup,
00890     ACTION_pandown,
00891
00892     ACTION_day,
00893     ACTION_night,
00894
00895     //TODO: ACTION_spellcheck,
00896     //TODO: ACTION_quickselect,
00897
```

```
00898     ACTION_null
00899 };
00900
00901 #endif
```

18.14 embroidermodder2/imagewidget.cpp File Reference

```
#include <QDebug>
#include "imagewidget.h"
```

18.15 embroidermodder2/imagewidget.h File Reference

```
#include <QPainter>
#include <QImage>
#include <QWidget>
```

Classes

- class [ImageWidget](#)

18.16 imagewidget.h

[Go to the documentation of this file.](#)

```
00001 #ifndef IMAGEWIDGET_H
00002 #define IMAGEWIDGET_H
00003
00004 #include <QPainter>
00005 #include <QImage>
00006 #include <QWidget>
00007
00008 QT_BEGIN_NAMESPACE
00009 class QPainter;
00010 class QImage;
00011 QT_END_NAMESPACE
00012
00013 class ImageWidget : public QWidget
00014 {
00015     Q_OBJECT
00016
00017 public:
00018     ImageWidget(const QString &filename, QWidget* parent = 0);
00019     ~ImageWidget();
00020
00021     bool load(const QString &fileName);
00022     bool save(const QString &fileName);
00023
00024 protected:
00025     void paintEvent(QPaintEvent* event);
00026
00027 private:
00028     QImage img;
00029 };
00030
00031 #endif
```

18.17 embroidermodder2/layer-manager.cpp File Reference

```
#include <QtGui>
#include "layer-manager.h"
#include "mainwindow.h"
```

18.18 embroidermodder2/layer-manager.h File Reference

```
#include <QDialog>
```

Classes

- class [LayerManager](#)

18.19 layer-manager.h

[Go to the documentation of this file.](#)

```
00001 #ifndef LAYER_MANAGER_H
00002 #define LAYER_MANAGER_H
00003
00004 #include <QDialog>
00005
00006 class MainWindow;
00007
00008 QT_BEGIN_NAMESPACE
00009 class QAbstractItemModel;
00010 class QCheckBox;
00011 class QComboBox;
00012 class QGroupBox;
00013 class QLabel;
00014 class QLineEdit;
00015 class QSortFilterProxyModel;
00016 class QTreeView;
00017 class QStandardItemModel;
00018 QT_END_NAMESPACE
00019
00020 class LayerManager : public QDialog
00021 {
00022     Q_OBJECT
00023
00024 public:
00025     LayerManager(MainWindow* mw, QWidget *parent = 0);
00026     ~LayerManager();
00027
00028 void addLayer(const QString& name,
00029                 const bool visible,
00030                 const bool frozen,
00031                 const qreal zValue,
00032                 const QRgb color,
00033                 const QString& lineType,
00034                 const QString& lineWeight,
00035                 const bool print);
00036
00037 private slots:
00038
00039 private:
00040     QStandardItemModel*    layerModel;
00041     QSortFilterProxyModel* layerModelSorted;
00042     QTreeView*             treeView;
00043 };
00044
00045 #endif
```

18.20 embroidermodder2/mainwindow-actions.cpp File Reference

```
#include "mainwindow.h"
#include <QAction>
#include <QApplication>
#include <QMdiArea>
```

18.21 embroidermodder2/mainwindow-commands.cpp File Reference

```
#include "mainwindow.h"
#include "view.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include "imagewidget.h"
#include "layer-manager.h"
#include "object-data.h"
#include "object-arc.h"
#include "object-circle.h"
#include "object-dimleader.h"
#include "object-ellipse.h"
#include "object-image.h"
#include "object-line.h"
#include "object-path.h"
#include "object-point.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include "object-rect.h"
#include "object-textsingle.h"
#include "embroidery.h"
#include "property-editor.h"
#include "undo-editor.h"
#include "undo-commands.h"
#include "embdetails-dialog.h"
#include <QLabel>
#include <QDesktopServices>
#include <QApplication>
#include <QUrl>
#include <QProcess>
#include <QMessageBox>
#include <QDialogButtonBox>
#include <QPushButton>
#include <QMdiArea>
#include <QGraphicsScene>
#include <QComboBox>
#include <QWhatsThis>
```

18.22 embroidermodder2/mainwindow-menus.cpp File Reference

```
#include "mainwindow.h"
#include <QDebug>
#include <QMenu>
#include <QMenuBar>
#include <QAction>
```

18.23 embroidermodder2/mainwindow-settings.cpp File Reference

```
#include "mainwindow.h"
#include "settings-dialog.h"
#include <QDebug>
#include <QtGlobal>
#include <QSettings>
```

18.24 embroidermodder2/mainwindow-toolbars.cpp File Reference

```
#include "mainwindow.h"
#include <QAction>
#include <QToolBar>
```

18.25 embroidermodder2/mainwindow.cpp File Reference

```
#include "mainwindow.h"
#include "embroidermodder.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include "view.h"
#include "cmdprompt.h"
#include "property-editor.h"
#include "undo-editor.h"
#include "preview-dialog.h"
#include "object-data.h"
#include <vector>
#include <stdlib.h>
#include <QDebug>
#include <QFrame>
#include <QVBoxLayout>
#include <QMenu>
#include <QMenuBar>
#include <QStatusBar>
#include <QMdiArea>
#include <QWidget>
#include <QMdiSubWindow>
#include <QMessageBox>
#include <QToolBar>
#include <QFileDialog>
#include <QApplication>
#include <QDate>
#include <QFileInfo>
#include <QLabel>
#include <QComboBox>
#include <QCcloseEvent>
#include <QMetaObject>
#include <QLocale>
```

Classes

- struct [string_](#)
- struct [EmbFunction_](#)
- struct [EmbScriptContext_](#)
- struct [EmbAction_](#)

TypeDefs

- typedef struct [std::string_](#) [string](#)
- typedef struct [EmbFunction_](#) [EmbFunction](#)
- typedef struct [EmbScriptContext_](#) [EmbScriptContext](#)
- typedef struct [EmbAction_](#) [EmbAction](#)

Functions

- `MainWindow * mainWin ()`
mainWin

Variables

- `MainWindow * _mainWin = 0`
- `EmbScriptContext engine`

18.25.1 Typedef Documentation

18.25.1.1 `EmbAction` `typedef struct EmbAction_ EmbAction`

18.25.1.2 `EmbFunction` `typedef struct EmbFunction_ EmbFunction`

18.25.1.3 `EmbScriptContext` `typedef struct EmbScriptContext_ EmbScriptContext`

18.25.1.4 `string` `typedef struct std::string_ string`

18.25.2 Function Documentation

18.25.2.1 `mainWin()` `MainWindow * mainWin ()`

`mainWin`

Returns

18.25.3 Variable Documentation

18.25.3.1 _mainWin `MainWindow* _mainWin = 0`

18.25.3.2 engine `EmbScriptContext engine`

18.26 embroidermodder2/mainwindow.h File Reference

```
#include <cinttypes>
#include <string>
#include "embroidermodder.h"
#include <QMainWindow>
#include <QList>
#include <QHash>
#include <QDir>
#include "mdiarea.h"
#include "mdiwindow.h"
#include "cmdprompt.h"
```

Classes

- class [MainWindow](#)
The MainWindow class.

Functions

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

18.26.1 Function Documentation

18.26.1.1 mainWin() `MainWindow * mainWin ()`

`mainWin`

Returns

18.27 mainwindow.h

[Go to the documentation of this file.](#)

```
00001
00005 #ifndef MAINWINDOW_H
00006 #define MAINWINDOW_H
00007
00008 #include <cinttypes>
00009 #include <string>
00010
00011 #include "embroidermodder.h"
00012
00013 #include <QMainWindow>
00014 #include <QList>
00015 #include <QHash>
00016 #include <QDir>
00017 // #include <QtScript>
00018 // #include <QtScriptTools>
00019
00020 #include "mdiarea.h"
00021 #include "mdiwindow.h"
00022 #include "cmdprompt.h"
00023
00024 class MdiArea;
00025 class MdiWindow;
00026 class View;
00027 class StatusBar;
00028 class StatusBarButton;
00029 class CmdPrompt;
00030 class PropertyEditor;
00031 class UndoEditor;
00032
00033 QT_BEGIN_NAMESPACE
00034 class QComboBox;
00035 class QAction;
00036 class QToolBar;
00037 class QCloseEvent;
00038 class QMenu;
00039 class QScriptEngine;
00040 class QScriptEngineDebugger;
00041 class QScriptProgram;
00042 class QUndoStack;
00043 QT_END_NAMESPACE
00044
00045 class MainWindow: public QMainWindow
00046 {
00047     Q_OBJECT
00048
00049     public:
00050         MainWindow();
00051         ~MainWindow();
00052
00053     MdiArea*           getMdiArea();
00054     MainWindow*        getApplication();
00055     MdiWindow*          activeMdiWindow();
00056     View*              activeView();
00057     QGraphicsScene*    activeScene();
00058     QUndoStack*         activeUndoStack();
00059
00060     void setUndoCleanIcon(bool opened);
00061
00062     virtual void        updateMenuToolbarStatusbar();
00063
00064     MainWindow*        mainWin;
00065     MdiArea*           mdiArea;
00066     CmdPrompt*          prompt;
00067     PropertyEditor*    dockPropEdit;
00068     UndoEditor*         dockUndoEdit;
00069     StatusBar*          statusbar;
00070
00071     QList<QGraphicsItem*> cutCopyObjectList;
00072
00073     std::string actuator(std::string command);
00074     std::string run_script_file(std::string fname);
00075     std::string run_script(std::vector<std::string> script);
00076
00077     QString getSettingsGeneralLanguage() { return settings_general_language; }
00078
00079     QString getSettingsGeneralIconTheme() { return settings_general_icon_theme; }
00080
00081     int getSettingsGeneralIconSize() { return settings_general_icon_size; }
00082
00083     bool getSettingsGeneralMdiBGUseLogo() { return settings_general_mdi_bg_use_logo; }
00084
00085     bool getSettingsGeneralMdiBGUseTexture() { return settings_general_mdi_bg_use_texture; }
00086 }
```

```

00085     bool    getSettingsGeneralMdiBGUseColor()           { return settings_general_mdi_bg_use_color; }
00086     QString getSettingsGeneralMdiBGLogo()            { return settings_general_mdi_bg_logo; }
00087     QString getSettingsGeneralMdiBGTTexture()          { return settings_general_mdi_bg_texture; }
00088     QRgb    getSettingsGeneralMdiBGColor()             { return settings_general_mdi_bg_color; }
00089     bool    getSettingsGeneralTipOfTheDay()            { return settings_general_tip_of_the_day; }
00090     int     getSettingsGeneralCurrentTip()             { return settings_general_current_tip; }
00091     bool    getSettingsGeneralSystemHelpBrowser()       { return settings_general_system_help_browser; }
00092     bool    getSettingsGeneralCheckForUpdates()         { return settings_general_check_for_updates; }
00093     bool    getSettingsDisplayUseOpenGL()              { return settings_display_use_opengl; }
00094     bool    getSettingsDisplayRenderHintAA()            { return settings_display_renderhint_aa; }
00095     bool    getSettingsDisplayRenderHintTextAA()        { return settings_display_renderhint_text_aa; }
00096     bool    getSettingsDisplayRenderHintSmoothPix()     { return settings_display_renderhint_smooth_pix; }
00097     bool    getSettingsDisplayRenderHintHighAA()        { return settings_display_renderhint_high_aa; }
00098     bool    getSettingsDisplayRenderHintNonCosmetic()   { return
00099     settings_display_renderhint_noncosmetic; }
00100    bool    getSettingsDisplayShowScrollBars()          { return settings_display_show_scrollbars; }
00101    int     getSettingsDisplayScrollBarWidgetNum()      { return settings_display_scrollbar_widget_num; }
00102    QRgb    getSettingsDisplayCrossHairColor()          { return settings_display_crosshair_color; }
00103    QRgb    getSettingsDisplayBGColor()                 { return settings_display_bg_color; }
00104    QRgb    getSettingsDisplaySelectBoxLeftColor()       { return settings_display_selectbox_left_color; }
00105    QRgb    getSettingsDisplaySelectBoxLeftFill()        { return settings_display_selectbox_left_fill; }
00106    QRgb    getSettingsDisplaySelectBoxRightColor()      { return settings_display_selectbox_right_color; }
00107    QRgb    getSettingsDisplaySelectBoxRightFill()       { return settings_display_selectbox_right_fill; }
00108    uint8_t  getSettingsDisplaySelectBoxAlpha()         { return settings_display_selectbox_alpha; }
00109    EmbReal  getSettingsDisplayZoomScaleIn()            { return settings_display_zoomscale_in; }
00110    EmbReal  getSettingsDisplayZoomScaleOut()           { return settings_display_zoomscale_out; }
00111    uint8_t  getSettingsDisplayCrossHairPercent()        { return settings_display_crosshair_percent; }
00112    QString  getSettingsDisplayUnits()                  { return settings_display_units; }
00113    QRgb    getSettingsPromptTextColor()                { return settings_prompt_text_color; }
00114    QRgb    getSettingsPromptBGColor()                 { return settings_prompt_bg_color; }
00115    QString  getSettingsPromptFontFamily()              { return settings_prompt_font_family; }
00116    QString  getSettingsPromptFontSize()                { return settings_prompt_font_style; }
00117    uint8_t  getSettingsPromptFontSize()                { return settings_prompt_font_size; }
00118    bool    getSettingsPromptSaveHistory()              { return settings_prompt_save_history; }
00119    bool    getSettingsPromptSaveHistoryAsHtml()        { return settings_prompt_save_history_as_html; }
00120    QString  getSettingsPromptSaveHistoryFilename()     { return settings_prompt_save_history_filename; }
00121    QString  getSettingsCustomFilter()                  { return settings_opensave_custom_filter; }
00122    QString  getSettingsOpenFormat()                   { return settings_opensave_open_format; }
00123    bool    getSettingsOpenThumbnail()                  { return settings_opensave_open_thumbnail; }
00124    QString  getSettingsSaveFormat()                   { return settings_opensave_save_format; }
00125    bool    getSettingsSaveThumbnail()                  { return settings_opensave_save_thumbnail; }
00126    uint8_t  getSettingsRecentMaxFiles()               { return settings_opensave_recent_max_files; }
00127    uint8_t  getSettingsOpenSaveTrimDstNumJumps()       { return settings_opensave_trim_dst_num_jumps; }
00128    QString  getSettingsPrintingDefaultDevice()        { return settings_printing_default_device; }
00129    bool    getSettingsPrintingUseLastDevice()          { return settings_printing_use_last_device; }

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00129     }                                bool    getSettingsPrintingDisableBG()           { return settings_printing_disable_bg; }
00130     }                                bool    getSettingsGridShowOnLoad()            { return settings_grid_show_on_load; }
00131     }                                bool    getSettingsGridShowOrigin()           { return settings_grid_show_origin; }
00132     }                                bool    getSettingsGridColorMatchCrossHair() { return settings_grid_color_match_crosshair; }
00133     }                                QRgb    getSettingsGridColor()              { return settings_grid_color; }
00134     }                                bool    getSettingsGridLoadFromFile()         { return settings_grid_load_from_file; }
00135     }                                QString getSettingsGridType()              { return settings_grid_type; }
00136     }                                bool    getSettingsGridCenterOnOrigin()        { return settings_grid_center_on_origin; }
00137     }                                EmbReal getSettingsGridCenterX()            { return settings_grid_center_x; }
00138     }                                EmbReal getSettingsGridCenterY()            { return settings_grid_center_y; }
00139     }                                EmbReal getSettingsGridSizeX()             { return settings_grid_size_x; }
00140     }                                EmbReal getSettingsGridSizeY()             { return settings_grid_size_y; }
00141     }                                EmbReal getSettingsGridSpacingX()          { return settings_grid_spacing_x; }
00142     }                                EmbReal getSettingsGridSpacingY()          { return settings_grid_spacing_y; }
00143     }                                EmbReal getSettingsGridSizeRadius()         { return settings_grid_size_radius; }
00144     }                                EmbReal getSettingsGridSpacingRadius()       { return settings_grid_spacing_radius; }
00145     }                                EmbReal getSettingsGridSpacingAngle()        { return settings_grid_spacing_angle; }
00146     }                                bool    getSettingsRulerShowOnLoad()           { return settings_ruler_show_on_load; }
00147     }                                bool    getSettingsRulerMetric()              { return settings_ruler_metric; }
00148     }                                QRgb    getSettingsRulerColor()              { return settings_ruler_color; }
00149     }                                uint8_t getSettingsRulerPixelSize()          { return settings_ruler_pixel_size; }
00150     }                                bool    getSettingsQSnapEnabled()             { return settings_qsnap_enabled; }
00151     }                                QRgb    getSettingsQSnapLocatorColor()         { return settings_qsnap_locator_color; }
00152     }                                uint8_t getSettingsQSnapLocatorSize()         { return settings_qsnap_locator_size; }
00153     }                                uint8_t getSettingsQSnapApertureSize()        { return settings_qsnap_aperture_size; }
00154     }                                bool    getSettingsQSnapEndPoint()            { return settings_qsnap_endpoint; }
00155     }                                bool    getSettingsQSnapMidPoint()             { return settings_qsnap_midpoint; }
00156     }                                bool    getSettingsQSnapCenter()              { return settings_qsnap_center; }
00157     }                                bool    getSettingsQSnapNode()                { return settings_qsnap_node; }
00158     }                                bool    getSettingsQSnapQuadrant()             { return settings_qsnap_quadrant; }
00159     }                                bool    getSettingsQSnapIntersection()          { return settings_qsnap_intersection; }
00160     }                                bool    getSettingsQSnapExtension()            { return settings_qsnap_extension; }
00161     }                                bool    getSettingsQSnapInsertion()             { return settings_qsnap_insertion; }
00162     }                                bool    getSettingsQSnapPerpendicular()         { return settings_qsnap_perpendicular; }
00163     }                                bool    getSettingsQSnapTangent()              { return settings_qsnap_tangent; }
00164     }                                bool    getSettingsQSnapNearest()              { return settings_qsnap_nearest; }
00165     }                                bool    getSettingsQSnapApparent()             { return settings_qsnap_apparent; }
00166     }                                bool    getSettingsQSnapParallel()             { return settings_qsnap_parallel; }
00167     }                                bool    getSettingsLwtShowLwt()                { return settings_lwt_show_lwt; }
00168     }                                bool    getSettingsLwtRealRender()             { return settings_lwt_real_render; }
00169     }                                EmbReal getSettingsLwtDefaultLwt()           { return settings_lwt_default_lwt; }
00170     }                                bool    getSettingsSelectionModePickFirst()      { return settings_selection_mode_pickfirst; }
00171     }                                bool    getSettingsSelectionModePickAdd()        { return settings_selection_mode_pickadd; }
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00172     bool    getSettingsSelectionModePickDrag()           { return settings_selection_mode_pickdrag; }
00173     QRgb    getSettingsSelectionCoolGripColor()        { return settings_selection_coolgrip_color; }
00174     QRgb    getSettingsSelectionHotGripColor()         { return settings_selection_hotgrip_color; }
00175     uint8_t  getSettingsSelectionGripSize()            { return settings_selection_grip_size; }
00176     uint8_t  getSettingsSelectionPickBoxSize()          { return settings_selection_pickbox_size; }
00177     QString  getSettingsTextFont()                      { return settings_text_font; }
00178     EmbReal  getSettingsTextSize()                     { return settings_text_size; }
00179     EmbReal  getSettingsTextAngle()                    { return settings_text_angle; }
00180     bool    getSettingsTextStyleBold()                 { return settings_text_style_bold; }
00181     bool    getSettingsTextStyleItalic()               { return settings_text_style_italic; }
00182     bool    getSettingsTextStyleUnderline()             { return settings_text_style_underline; }
00183     bool    getSettingsTextStyleStrikeOut()             { return settings_text_style_strikeout; }
00184     bool    getSettingsTextStyleOverline()              { return settings_text_style_overline; }
00185
00186     void    setSettingsGeneralLanguage(const QString& newValue) { settings_general_language
00187 = newValue; }
00188     void    setSettingsGeneralIconTheme(const QString& newValue) { settings_general_icon_theme
00189 = newValue; }
00190     void    setSettingsGeneralIconSize(int newValue)       { settings_general_icon_size
00191 = newValue; }
00192     void    setSettingsGeneralMdiBGUseLogo(bool newValue)
00193     settings_general_mdi_bg_use_logo = newValue; }
00194     void    setSettingsGeneralMdiBGUseTexture(bool newValue)
00195     settings_general_mdi_bg_use_texture = newValue; }
00196     void    setSettingsGeneralMdiBGUseColor(bool newValue)
00197     settings_general_mdi_bg_use_color = newValue; }
00198     void    setSettingsGeneralMdiBGLogo(const QString& newValue)
00199 = newValue; }
00200     void    setSettingsGeneralMdiBGTTexture(const QString& newValue)
00201     settings_general_mdi_bg_texture = newValue; }
00202     void    setSettingsGeneralMdiBGColor(QRgb newValue)
00203 = newValue; }
00204     void    setSettingsGeneralTipOfDay(bool newValue)
00205     settings_general_tip_of_the_day = newValue; }
00206     void    setSettingsGeneralCurrentTip(int newValue)
00207 = newValue; }
00208     void    setSettingsGeneralSystemHelpBrowser(bool newValue)
00209     settings_general_system_help_browser = newValue; }
00210     void    setSettingsGeneralCheckForUpdates(bool newValue)
00211     settings_general_check_for_updates = newValue; }
00212     void    setSettingsDisplayUseOpenGL(bool newValue)
00213 = newValue; }
00214     void    setSettingsDisplayRenderHintAA(bool newValue)
00215     settings_display_renderhint_aa = newValue; }
00216     void    setSettingsDisplayRenderHintTextAA(bool newValue)
00217     settings_display_renderhint_text_aa = newValue; }
00218     void    setSettingsDisplayRenderHintSmoothPix(bool newValue)
00219     settings_display_renderhint_smooth_pix = newValue; }
00220     void    setSettingsDisplayRenderHintHighAA(bool newValue)
00221     settings_display_renderhint_high_aa = newValue; }
00222     void    setSettingsDisplayRenderHintNonCosmetic(bool newValue)
00223     settings_display_renderhint_noncosmetic = newValue; }
00224     void    setSettingsDisplayShowScrollBars(bool newValue)
00225     settings_display_show_scrollbars = newValue; }
00226     void    setSettingsDisplayScrollBarWidgetNum(int newValue)
00227     settings_display_scrollbar_widget_num = newValue; }
00228     void    setSettingsDisplayCrossHairColor(QRgb newValue)
00229     settings_display_crosshair_color = newValue; }
00230     void    setSettingsDisplayBGColor(QRgb newValue)
00231 = newValue; }
00232     void    setSettingsDisplaySelectBoxLeftColor(QRgb newValue)
00233     settings_display_selectbox_left_color = newValue; }
00234     void    setSettingsDisplaySelectBoxLeftFill(QRgb newValue)
00235     settings_display_selectbox_left_fill = newValue; }
00236     void    setSettingsDisplaySelectBoxRightColor(QRgb newValue)
00237     settings_display_selectbox_right_color = newValue; }
00238     void    setSettingsDisplaySelectBoxRightFill(QRgb newValue)
00239     settings_display_selectbox_right_fill = newValue; }
00240     void    setSettingsDisplaySelectBoxAlpha(uint8_t newValue)
00241     settings_display_selectbox_alpha = newValue; }
00242     void    setSettingsDisplayZoomScaleIn(EmbReal newValue)
00243     settings_display_zoomscale_in = newValue; }
00244     void    setSettingsDisplayZoomScaleOut(EmbReal newValue)
00245     settings_display_zoomscale_out = newValue; }

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```

00216     void setSettingsDisplayCrossHairPercent(uint8_t newValue)
00217     settings_display_crosshair_percent = newValue; }
00218     void setSettingsDisplayUnits(const QString& newValue)
00219     = newValue; }
00220     void setSettingsPromptTextColor(QRgb newValue)
00221     = newValue; }
00222     void setSettingsPromptBGCOLOR(QRgb newValue)
00223     = newValue; }
00224     void setSettingsPromptFontFamily(const QString& newValue)
00225     = newValue; }
00226     void setSettingsPromptFontSize(uint8_t newValue)
00227     = newValue; }
00228     void setSettingsPromptSaveHistory(bool newValue)
00229     = newValue; }
00230     void setSettingsPromptSaveHistoryAsHTML(bool newValue)
00231     settings_prompt_save_history_as_html = newValue; }
00232     void setSettingsPromptSaveHistoryFilename(const QString& newValue)
00233     settings_prompt_save_history_filename = newValue; }
00234     void setSettingsCustomFilter(const QString& newValue)
00235     settings_opensave_custom_filter = newValue; }
00236     void setSettingsOpenFormat(const QString& newValue)
00237     = newValue; }
00238     void setSettingsOpenThumbnail(bool newValue)
00239     settings_opensave_open_thumbnail = newValue; }
00240     void setSettingsSaveFormat(const QString& newValue)
00241     = newValue; }
00242     void setSettingsSaveThumbnail(bool newValue)
00243     settings_opensave_save_thumbnail = newValue; }
00244     void setSettingsRecentMaxFiles(uint8_t newValue)
00245     settings_opensave_recent_max_files = newValue; }
00246     void setSettingsOpenSaveTrimDstNumJumps(uint8_t newValue)
00247     settings_opensave_trim_dst_num_jumps = newValue; }
00248     void setSettingsPrintingDefaultDevice(const QString& newValue)
00249     settings_printing_default_device = newValue; }
00250     void setSettingsPrintingUseLastDevice(bool newValue)
00251     settings_printing_use_last_device = newValue; }
00252     void setSettingsPrintingDisableBG(bool newValue)
00253     = newValue; }
00254     void setSettingsGridShowOnLoad(bool newValue)
00255     = newValue; }
00256     void setSettingsGridCenterOnOrigin(bool newValue)
00257     settings_grid_center_on_origin = newValue; }
00258     void setSettingsGridCenterX(EmbReal newValue)
00259     = newValue; }

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        = newValue; }
00260     void setSettingsQSnapEndPoint(bool newValue)           { settings_qsnap_endpoint
        = newValue; }
00261     void setSettingsQSnapMidPoint(bool newValue)          { settings_qsnap_midpoint
        = newValue; }
00262     void setSettingsQSnapCenter(bool newValue)            { settings_qsnap_center
        = newValue; }
00263     void setSettingsQSnapNode(bool newValue)              { settings_qsnap_node
        = newValue; }
00264     void setSettingsQSnapQuadrant(bool newValue)         { settings_qsnap_quadrant
        = newValue; }
00265     void setSettingsQSnapIntersection(bool newValue)    { settings_qsnap_intersection
        = newValue; }
00266     void setSettingsQSnapExtension(bool newValue)        { settings_qsnap_extension
        = newValue; }
00267     void setSettingsQSnapInsertion(bool newValue)        { settings_qsnap_insertion
        = newValue; }
00268     void setSettingsQSnapPerpendicular(bool newValue)   { settings_qsnap_perpendicular
        = newValue; }
00269     void setSettingsQSnapTangent(bool newValue)          { settings_qsnap_tangent
        = newValue; }
00270     void setSettingsQSnapNearest(bool newValue)          { settings_qsnap_nearest
        = newValue; }
00271     void setSettingsQSnapApparent(bool newValue)         { settings_qsnap_apparent
        = newValue; }
00272     void setSettingsQSnapParallel(bool newValue)        { settings_qsnap_parallel
        = newValue; }
00273     void setSettingsLwtShowLwt(bool newValue)           { settings_lwt_show_lwt
        = newValue; }
00274     void setSettingsLwtRealRender(bool newValue)        { settings_lwt_real_render
        = newValue; }
00275     void setSettingsLwtDefaultLwt(EmbReal newValue)    { settings_lwt_default_lwt
        = newValue; }
00276     void setSettingsSelectionModePickFirst(bool newValue) { }
00277     settings_selection_mode_pickfirst = newValue; }
00277     void setSettingsSelectionModePickAdd(bool newValue) { }
00278     settings_selection_mode_pickadd = newValue; }
00278     void setSettingsSelectionModePickDrag(bool newValue) { }
00279     settings_selection_mode_pickdrag = newValue; }
00279     void setSettingsSelectionCoolGripColor(QRgb newValue) { }
00280     settings_selection_coolgrip_color = newValue; }
00280     void setSettingsSelectionHotGripColor(QRgb newValue) { }
00281     settings_selection_hotgrip_color = newValue; }
00281     void setSettingsSelectionGripSize(uint8_t newValue) { settings_selection_grip_size
        = newValue; }
00282     void setSettingsSelectionPickBoxSize(uint8_t newValue) { }
00283     settings_selection_pickbox_size = newValue; }
00283     void setSettingsTextFont(const QString& newValue) { settings_text_font
        = newValue; }
00284     void setSettingsTextSize(EmbReal newValue)           { settings_text_size
        = newValue; }
00285     void setSettingsTextAngle(EmbReal newValue)         { settings_text_angle
        = newValue; }
00286     void setSettingsTextStyleBold(bool newValue)         { settings_text_style_bold
        = newValue; }
00287     void setSettingsTextStyleItalic(bool newValue)      { settings_text_style_italic
        = newValue; }
00288     void setSettingsTextStyleUnderline(bool newValue)   { settings_text_style_underline
        = newValue; }
00289     void setSettingsTextStyleStrikeOut(bool newValue)  { settings_text_style_strikeout
        = newValue; }
00290     void setSettingsTextStyleOverline(bool newValue)   { settings_text_style_overline
        = newValue; }
00291
00292     QHash<int, QAction*>           actionHash;
00293     QHash<QString, QToolBar*>       toolbarHash;
00294     QHash<QString, QMenu*>          menuHash;
00295
00296     QString                         formatFilterOpen;
00297     QString                         formatFilterSave;
00298
00299     bool                            isCommandActive() { return prompt->isCommandActive(); }
00300     QString                         activeCommand() { return prompt->activeCommand(); }
00301
00302     QString platformString();
00303
00304 public slots:
00305
00306     void enablePromptRapidFire();
00307     void disablePromptRapidFire();
00308
00309     void enableMoveRapidFire();
00310     void disableMoveRapidFire();
00311
00312     void onCloseWindow();
00313     virtual void                  onCloseMdiWin(MdiWindow*);
00314

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```
00315     void recentMenuAboutToShow();
00316
00317     void onWindowActivated(QMdiSubWindow* w);
00318     void windowMenuAboutToShow();
00319     void windowMenuActivated( bool checked/*int id*/ );
00320     QAction*           getAction(int actionEnum);
00321
00322     void updateAllViewScrollBars(bool val);
00323     void updateAllViewCrossHairColors(QRgb color);
00324     void updateAllViewBackgroundColors(QRgb color);
00325     void updateAllViewSelectBoxColors(QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha);
00326     void updateAllViewGridColors(QRgb color);
00327     void updateAllViewRulerColors(QRgb color);
00328
00329     void updatePickAddMode(bool val);
00330     void pickAddModeToggled();
00331
00332     void settingsPrompt();
00333
00334     void settingsDialog(const QString& showTab = QString());
00335     void readSettings();
00336     void writeSettings();
00337
00338     static bool           validFileFormat(const QString &fileName);
00339
00340 protected:
00341     virtual void          resizeEvent(QResizeEvent* );
00342     void closeEvent(QCloseEvent *event);
00343     QAction*             getFileSeparator();
00344     void loadFormats();
00345
00346 private:
00347
00348     QString settings_general_language;
00349     QString settings_general_icon_theme;
00350     int settings_general_icon_size;
00351     bool settings_general_mdi_bg_use_logo;
00352     bool settings_general_mdi_bg_use_texture;
00353     bool                               settings_general_mdi_bg_use_color;
00354     QString                            settings_general_mdi_bg_logo;
00355     QString                            settings_general_mdi_bg_texture;
00356     QRgb                                settings_general_mdi_bg_color;
00357     bool                                settings_general_tip_of_the_day;
00358     quint16                            settings_general_current_tip;
00359     bool                                settings_general_system_help_browser;
00360     bool                                settings_general_check_for_updates;
00361     bool                                settings_display_use_opengl;
00362     bool                                settings_display_renderhint_aa;
00363     bool                                settings_display_renderhint_text_aa;
00364     bool                                settings_display_renderhint_smooth_pix;
00365     bool                                settings_display_renderhint_high_aa;
00366     bool                                settings_display_renderhint_noncosmetic;
00367     bool                                settings_display_show_scrollbars;
00368     int                                 settings_display_scrollbar_widget_num;
00369     QRgb                                settings_display_crosshair_color;
00370     QRgb                                settings_display_bg_color;
00371     QRgb                                settings_display_selectbox_left_color;
00372     QRgb                                settings_display_selectbox_left_fill;
00373     QRgb                                settings_display_selectbox_right_color;
00374     QRgb                                settings_display_selectbox_right_fill;
00375     uint8_t                            settings_display_selectbox_alpha;
00376     EmbReal                            settings_display_zoomscale_in;
00377     EmbReal                            settings_display_zoomscale_out;
00378     uint8_t                            settings_display_crosshair_percent;
00379     QString                            settings_display_units;
00380     QRgb                                settings_prompt_text_color;
00381     QRgb                                settings_prompt_bg_color;
00382     QString                            settings_prompt_font_family;
00383     QString                            settings_prompt_font_style;
00384     uint8_t                            settings_prompt_font_size;
00385     bool                                settings_prompt_save_history;
00386     bool                                settings_prompt_save_history_as_html;
00387     QString                            settings_prompt_save_history_filename;
00388     QString                            settings_opensave_custom_filter;
00389     QString                            settings_opensave_open_format;
00390     bool                                settings_opensave_open_thumbnail;
00391     QString                            settings_opensave_save_format;
00392     bool                                settings_opensave_save_thumbnail;
00393     uint8_t                            settings_opensave_recent_max_files;
00394     QStringList                        settings_opensave_recent_list_of_files;
00395     QString                            settings_opensave_recent_directory;
00396     uint8_t                            settings_opensave_trim_dst_num_jumps;
00397     QString                            settings_printing_default_device;
00398     bool                                settings_printing_use_last_device;
00399     bool                                settings_printing_disable_bg;
00400     bool                                settings_grid_show_on_load;
00401     bool                                settings_grid_show_origin;
```

```

00402     bool           settings_grid_color_match_crosshair;
00403     QRgb          settings_grid_color;
00404     bool           settings_grid_load_from_file;
00405     QString        settings_grid_type;
00406     bool           settings_grid_center_on_origin;
00407     EmbReal        settings_grid_center_x;
00408     EmbReal        settings_grid_center_y;
00409     EmbReal        settings_grid_size_x;
00410     EmbReal        settings_grid_size_y;
00411     EmbReal        settings_grid_spacing_x;
00412     EmbReal        settings_grid_spacing_y;
00413     EmbReal        settings_grid_size_radius;
00414     EmbReal        settings_grid_spacing_radius;
00415     EmbReal        settings_grid_spacing_angle;
00416     bool           settings_ruler_show_on_load;
00417     bool           settings_ruler_metric;
00418     QRgb          settings_ruler_color;
00419     uint8_t        settings_ruler_pixel_size;
00420     bool           settings_qsnap_enabled;
00421     QRgb          settings_qsnap_locator_color;
00422     uint8_t        settings_qsnap_locator_size;
00423     uint8_t        settings_qsnap_aperture_size;
00424     bool           settings_qsnap_endpoint;
00425     bool           settings_qsnap_midpoint;
00426     bool           settings_qsnap_center;
00427     bool           settings_qsnap_node;
00428     bool           settings_qsnap_quadrant;
00429     bool           settings_qsnap_intersection;
00430     bool           settings_qsnap_extension;
00431     bool           settings_qsnap_insertion;
00432     bool           settings_qsnap_perpendicular;
00433     bool           settings_qsnap_tangent;
00434     bool           settings_qsnap_nearest;
00435     bool           settings_qsnap_apparent;
00436     bool           settings_qsnap_parallel;
00437     bool           settings_lwt_show_lwt;
00438     bool           settings_lwt_real_render;
00439     EmbReal        settings_lwt_default_lwt;
00440     bool           settings_selection_mode_pickfirst;
00441     bool           settings_selection_mode_pickadd;
00442     bool           settings_selection_mode_pickdrag;
00443     QRgb          settings_selection_coolgrip_color;
00444     QRgb          settings_selection_hotgrip_color;
00445     uint8_t        settings_selection_grip_size;
00446     uint8_t        settings_selection_pickbox_size;
00447     QString        settings_text_font;

00448     EmbReal        settings_text_size;
00449     EmbReal        settings_text_angle;
00450     bool           settings_text_style_bold;
00451     bool           settings_text_style_italic;
00452     bool           settings_text_style_underline;
00453     bool           settings_text_style_overline;
00454     bool           settings_text_style_strikethrough;
00455     bool           shiftKeyPressedState;
00456     QByteArray    layoutState;
00457
00458     int            numOfDocs;
00459     int            docIndex;
00460
00461     QList<MdiWindow*> listMdiWin;
00462     QMdiSubWindow* findMdiWindow(const QString &fileName);
00463     QString        openFilePath;
00464
00465     QAction*       myFileSeparator;
00466
00467     QWizard*       wizardTipOfDay;
00468     QLabel*        labelTipOfDay;
00469     QCheckBox*     checkBoxTipOfDay;
00470     QStringList   listTipOfDay;
00471
00472     void createAllActions();
00473     QAction*       createAction(const QString icon, const QString toolTip, const
00474     QString statusTip, bool scripted = false);
00475     //=====
00476     //Toolbars
00477     //=====
00478     void createAllToolbars();
00479     void createFileToolbar();
00480     void createEditToolbar();
00481     void createViewToolbar();
00482     void createZoomToolbar();
00483     void createPanToolbar();
00484     void createIconToolbar();
00485     void createHelpToolbar();
00486     void createLayerToolbar();
00487

```

```
00488     void createPropertiesToolbar();
00489     void createTextToolbar();
00490     void createPromptToolbar();
00491
00492     QToolBar* toolbarFile;
00493     QToolBar* toolbarEdit;
00494     QToolBar* toolbarView;
00495     QToolBar* toolbarZoom;
00496     QToolBar* toolbarPan;
00497     QToolBar* toolbarIcon;
00498     QToolBar* toolbarHelp;
00499     QToolBar* toolbarLayer;
00500     QToolBar* toolbarText;
00501     QToolBar* toolbarProperties;
00502     QToolBar* toolbarPrompt;
00503 //=====
00504 //Selectors
00505 //=====
00506     QComboBox* layerSelector;
00507     QComboBox* colorSelector;
00508     QComboBox* linetypeSelector;
00509     QComboBox* linewidthSelector;
00510     QFontComboBox* textFontSelector;
00511     QComboBox* textSizeSelector;
00512 //=====
00513 //Menus
00514 //=====
00515     void createAllMenus();
00516     void createFileMenu();
00517     void createEditMenu();
00518     void createViewMenu();
00519     void createSettingsMenu();
00520     void createWindowMenu();
00521     void createHelpMenu();
00522
00523     QMenu* fileMenu;
00524     QMenu* editMenu;
00525     QMenu* viewMenu;
00526     QMenu* settingsMenu;
00527     QMenu* windowMenu;
00528     QMenu* helpMenu;
00529 //=====
00530 //SubMenus
00531 //=====
00532     QMenu* recentMenu;
00533     QMenu* zoomMenu;
00534     QMenu* panMenu;
00535
00536 private slots:
00537     void hideUnimplemented();
00538
00539 public slots:
00540     void stub_implement(QString txt);
00541     void stub_testing();
00542
00543     void promptHistoryAppended(const QString& txt);
00544     void logPromptInput(const QString& txt);
00545     void promptInputPrevious();
00546     void promptInputNext();
00547
00548     void runCommand();
00549     void runCommandMain(const QString& cmd);
00550     void runCommandClick(const QString& cmd, EmbReal x, EmbReal y);
00551     void runCommandMove(const QString& cmd, EmbReal x, EmbReal y);
00552     void runCommandContext(const QString& cmd, const QString& str);
00553     void runCommandPrompt(const QString& cmd, const QString& str);
00554
00555
00556     void newFile();
00557     void openFile(bool recent = false, const QString& recentFile = "");
00558     void openFilesSelected(const QStringList&);
00559     void openrecentfile();
00560     void savefile();
00561     void saveasfile();
00562     void print();
00563     void designDetails();
00564     void exit();
00565     void quit();
00566     void checkForUpdates();
00567 // Help Menu
00568     void tipOfTheDay();
00569     void buttonTipOfTheDayClicked(int);
00570     void checkBoxTipOfTheDayStateChanged(int);
00571     void help();
00572     void changelog();
00573     void about();
00574     void whatsThisContextHelp();
```

```

00575
00576     void cut();
00577     void copy();
00578     void paste();
00579     void selectAll();
00580
00581     void closeToolBar(QAction* );
00582     void floatingChangedToolBar(bool);
00583
00584     void toggleGrid();
00585     void toggleRuler();
00586     void toggleLwt();
00587
00588     // Icons
00589     void iconResize(int iconSize);
00590     void icon16();
00591     void icon24();
00592     void icon32();
00593     void icon48();
00594     void icon64();
00595     void icon128();
00596
00597     // Selectors
00598     void layerSelectorIndexChanged(int index);
00599     void colorSelectorIndexChanged(int index);
00600     void linetypeSelectorIndexChanged(int index);
00601     void linewidthSelectorIndexChanged(int index);
00602     void textFontSelectorCurrentFontChanged(const QFont& font);
00603     void textSizeSelectorIndexChanged(int index);
00604
00605     QString textFont();
00606     EmbReal textSize();
00607     EmbReal textAngle();
00608     bool textBold();
00609     bool textItalic();
00610     bool textUnderline();
00611     bool textStrikeOut();
00612     bool textOverline();
00613
00614     void setTextFont(const QString& str);
00615     void setTextSize(EmbReal num);
00616     void setTextAngle(EmbReal num);
00617     void setTextBold(bool val);
00618     void setTextItalic(bool val);
00619     void setTextUnderline(bool val);
00620     void setTextStrikeOut(bool val);
00621     void setTextOverline(bool val);
00622
00623     QString getCurrentLayer();
00624     QRgb getCurrentColor();
00625     QString getCurrentLineType();
00626     QString getCurrentLineWeight();
00627
00628     // Standard Slots
00629     void undo();
00630     void redo();
00631
00632     bool isShiftPressed();
00633     void setShiftPressed();
00634     void setShiftReleased();
00635
00636     void deletePressed();
00637     void escapePressed();
00638
00639     // Layer Toolbar
00640     void makeLayerActive();
00641     void layerManager();
00642     void layerPrevious();
00643     // Zoom Toolbar
00644     void zoomRealtime();
00645     void zoomPrevious();
00646     void zoomWindow();
00647     void zoomDynamic();
00648     void zoomScale();
00649     void zoomCenter();
00650     void zoomIn();
00651     void zoomOut();
00652     void zoomSelected();
00653     void zoomAll();
00654     void zoomExtents();
00655     // Pan SubMenu
00656     void panrealtime();
00657     void panpoint();
00658     void panLeft();
00659     void panRight();
00660     void panUp();
00661     void panDown();

```

```
00662
00663     void dayVision();
00664     void nightVision();
00665
00666     void doNothing();
00667
00668 private:
00669     QScriptEngine*          engine;
00670     QScriptEngineDebugger*  debugger;
00671     void                  javaInitNatives(QScriptEngine* engine);
00672     void                  javaLoadCommand(const QString& cmdName);
00673
00674 public:
00675     //Natives
00676     void nativeAlert(const QString& txt);
00677     void nativeBlinkPrompt();
00678     void nativeSetPromptPrefix(const QString& txt);
00679     void nativeAppendPromptHistory(const QString& txt);
00680     void nativeEnablePromptRapidFire();
00681     void nativeDisablePromptRapidFire();
00682     void nativeInitCommand();
00683     void nativeEndCommand();
00684
00685     void nativeEnableMoveRapidFire();
00686     void nativeDisableMoveRapidFire();
00687
00688     void nativeNewFile();
00689     void nativeOpenFile();
00690
00691     void nativeExit();
00692     void nativeTipOfTheDay();
00693     void nativeWindowCascade();
00694     void nativeWindowTile();
00695     void nativeWindowClose();
00696     void nativeWindowCloseAll();
00697     void nativeWindowNext();
00698     void nativeWindowPrevious();
00699
00700     void nativeMessageBox(const QString& type, const QString& title, const QString& text);
00701
00702     void nativeUndo();
00703     void nativeRedo();
00704
00705     void nativeIcon16();
00706     void nativeIcon24();
00707     void nativeIcon32();
00708     void nativeIcon48();
00709     void nativeIcon64();
00710     void nativeIcon128();
00711
00712     void nativePanLeft();
00713     void nativePanRight();
00714     void nativePanUp();
00715     void nativePanDown();
00716
00717     void nativeZoomIn();
00718     void nativeZoomOut();
00719     void nativeZoomExtents();
00720
00721     void nativePrintArea(EmbReal x, EmbReal y, EmbReal w, EmbReal h);
00722
00723     void nativeDayVision();
00724     void nativeNightVision();
00725
00726     void nativeSetBackgroundColor(uint8_t r, uint8_t g, uint8_t b);
00727     void nativeSetCrossHairColor(uint8_t r, uint8_t g, uint8_t b);
00728     void nativeSetGridColor(uint8_t r, uint8_t g, uint8_t b);
00729
00730     QString nativeTextFont();
00731     EmbReal   nativeTextSize();
00732     EmbReal   nativeTextAngle();
00733     bool      nativeTextBold();
00734     bool      nativeTextItalic();
00735     bool      nativeTextUnderline();
00736     bool      nativeTextStrikeOut();
00737     bool      nativeTextOverline();
00738
00739     void nativeSetFont(const QString& str);
00740     void nativeSetFontSize(EmbReal num);
00741     void nativeSetTextAngle(EmbReal num);
00742     void nativeSetTextBold(bool val);
00743     void nativeSetTextItalic(bool val);
00744     void nativeSetTextUnderline(bool val);
00745     void nativeSetTextStrikeOut(bool val);
00746     void nativeSetTextOverline(bool val);
00747
00748     void nativePreviewOn(int clone, int mode, EmbReal x, EmbReal y, EmbReal data);
```

```

00749     void nativePreviewOff();
00750
00751     void nativeVulcanize();
00752     void nativeClearRubber();
00753     bool nativeAllowRubber();
00754     void nativeSpareRubber(qint64 id);
00755     //TODO: void nativeSetRubberFilter(qint64 id); //TODO: This is so more than 1 rubber object can
00756     //exist at one time without updating all rubber objects at once
00757     void nativeSetRubberMode(int mode);
00758     void nativeSetRubberPoint(const QString& key, EmbReal x, EmbReal y);
00759     void nativeSetRubberText(const QString& key, const QString& txt);
00760     void nativeAddTextMulti(const QString& str, EmbReal x, EmbReal y, EmbReal rot, bool fill, int
00761     rubberMode);
00761     void nativeAddTextSingle(const QString& str, EmbReal x, EmbReal y, EmbReal rot, bool fill, int
00762     rubberMode);
00762
00763     void nativeAddInfiniteLine(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot);
00764     void nativeAddRay(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot);
00765     void nativeAddLine(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot, int rubberMode);
00766     void nativeAddTriangle(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal x3, EmbReal y3,
00767     EmbReal rot, bool fill);
00767     void nativeAddRectangle(EmbReal x, EmbReal y, EmbReal w, EmbReal h, EmbReal rot, bool fill, int
00768     rubberMode);
00768     void nativeAddRoundedRectangle(EmbReal x, EmbReal y, EmbReal w, EmbReal h, EmbReal rad, EmbReal
00769     rot, bool fill);
00769     void nativeAddArc(EmbReal startX, EmbReal startY, EmbReal midX, EmbReal midY, EmbReal endX,
00770     EmbReal endY, int rubberMode);
00770     void nativeAddCircle(EmbReal centerX, EmbReal centerY, EmbReal radius, bool fill, int rubberMode);
00771     void nativeAddSlot(EmbReal centerX, EmbReal centerY, EmbReal diameter, EmbReal length, EmbReal
00772     rot, bool fill, int rubberMode);
00772     void nativeAddEllipse(EmbReal centerX, EmbReal centerY, EmbReal width, EmbReal height, EmbReal
00773     rot, bool fill, int rubberMode);
00773     void nativeAddPoint(EmbReal x, EmbReal y);
00774     void nativeAddRegularPolygon(EmbReal centerX, EmbReal centerY, quint16 sides, uint8_t mode,
00775     EmbReal rad, EmbReal rot, bool fill);
00775     void nativeAddPolygon(EmbReal startX, EmbReal startY, const QPainterPath& p, int rubberMode);
00776     void nativeAddPolyline(EmbReal startX, EmbReal startY, const QPainterPath& p, int rubberMode);
00777     void nativeAddPath(EmbReal startX, EmbReal startY, const QPainterPath& p, int rubberMode);
00778     void nativeAddHorizontalDimension(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal
00779     legHeight);
00779     void nativeAddVerticalDimension(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal
00780     legHeight);
00780     void nativeAddImage(const QString& img, EmbReal x, EmbReal y, EmbReal w, EmbReal h, EmbReal rot);
00781
00782     void nativeAddDimLeader(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2, EmbReal rot, int
00783     rubberMode);
00784
00784     void nativeSetCursorShape(const QString& str);
00785     EmbReal nativeCalculateAngle(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2);
00786     EmbReal nativeCalculateDistance(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2);
00787     EmbReal nativePerpendicularDistance(EmbReal px, EmbReal py, EmbReal x1, EmbReal y1, EmbReal x2,
00788     EmbReal y2);
00788
00789     int nativeNumSelected();
00790     void nativeSelectAll();
00791     void nativeAddToSelection(const QPainterPath path, Qt::ItemSelectionMode mode);
00792     void nativeClearSelection();
00793     void nativeDeleteSelected();
00794     void nativeCutSelected(EmbReal x, EmbReal y);
00795     void nativeCopySelected(EmbReal x, EmbReal y);
00796     void nativePasteSelected(EmbReal x, EmbReal y);
00797     void nativeMoveSelected(EmbReal dx, EmbReal dy);
00798     void nativeScaleSelected(EmbReal x, EmbReal y, EmbReal factor);
00799     void nativeRotateSelected(EmbReal x, EmbReal y, EmbReal rot);
00800     void nativeMirrorSelected(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2);
00801
00802     EmbReal nativeQSnapX();
00803     EmbReal nativeQSnapY();
00804     EmbReal nativeMouseX();
00805     EmbReal nativeMouseY();
00806 };
00807
00808 MainWindow* mainWin();
00809
00810 #endif

```

18.28 embroidermodder2/mdiarea.cpp File Reference

```

#include "mdiarea.h"
#include "mainwindow.h"
#include "view.h"

```

18.29 embroidermodder2/mdiarea.h File Reference

```
#include <QMdiArea>
#include <QPixmap>
```

Classes

- class [MdiArea](#)

18.30 mdiarea.h

[Go to the documentation of this file.](#)

```
00001 #ifndef MDIAREA_H
00002 #define MDIAREA_H
00003
00004 #include <QMdiArea>
00005 #include <QPixmap>
00006
00007 class MainWindow;
00008
00009 class MdiArea : public QMdiArea
00010 {
00011     Q_OBJECT
00012
00013 public:
00014     MdiArea(MainWindow* mw, QWidget* parent = 0);
00015     ~MdiArea();
00016
00017     void useBackgroundLogo(bool use);
00018     void useBackgroundTexture(bool use);
00019     void useBackgroundColor(bool use);
00020
00021     void setBackgroundLogo(const QString& fileName);
00022     void setBackgroundTexture(const QString& fileName);
00023     void setBackgroundColor(const QColor& color);
00024
00025 public slots:
00026     void cascade();
00027     void tile();
00028 protected:
00029     virtual void mouseDoubleClickEvent(QMouseEvent* e);
00030     virtual void paintEvent(QPaintEvent* e);
00031
00032 private:
00033     MainWindow* mainWin;
00034
00035     bool useLogo;
00036     bool useTexture;
00037     bool useColor;
00038
00039     QPixmap bgLogo;
00040     QPixmap bgTexture;
00041     QColor bgColor;
00042
00043     void zoomExtentsAllSubWindows();
00044     void forceRepaint();
00045 };
00046
00047 #endif
```

18.31 embroidermodder2/mdiwindow.cpp File Reference

```
#include "mdiwindow.h"
#include "view.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include "object-save.h"
```

```
#include "object-data.h"
#include "object-path.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include <QFileDialog>
#include <QMessageBox>
#include <QApplication>
#include <QDir>
#include <QFile>
#include <QFileInfo>
#include <QMainWindow>
#include <QMdiArea>
#include <QMdiSubWindow>
#include <QStatusBar>
#include <QColor>
#include <QUndoStack>
#include <QGraphicsScene>
#include <QGraphicsView>
#include <QGraphicsItem>
#include "embroidermodder.h"
```

18.32 **embroidermodder2/mdiwindow.h** File Reference

```
#include <QObject>
#include <QMainWindow>
#include <QMdiSubWindow>
#include <QScrollBar>
#include <QGridLayout>
#include <QtPrintSupport>
#include "mainwindow.h"
```

Classes

- class [MdiWindow](#)

18.33 **mdiwindow.h**

[Go to the documentation of this file.](#)

```
00001 #ifndef MDIWINDOW_H
00002 #define MDIWINDOW_H
00003
00004 #include <QObject>
00005 #include <QMainWindow>
00006 #include <QMdiSubWindow>
00007 #include <QScrollBar>
00008 #include <QGridLayout>
00009 #include <QtPrintSupport>
00010
00011 #include "mainwindow.h"
00012
00013 class MainWindow;
00014 class View;
00015
00016 QT_BEGIN_NAMESPACE
00017 class QMdiArea;
00018 class QGraphicsScene;
00019 class QGraphicsView;
00020 QT_END_NAMESPACE
```

```
00021 class MdiWindow: public QMdiSubWindow
00022 {
00023     Q_OBJECT
00025
00026 public:
00027     MdiWindow(const int theIndex, MainWindow* mw, QMdiArea* parent, Qt::WindowFlags wflags);
00028     ~MdiWindow();
00029
00030     virtual QSize           sizeHint() const;
00031     QString                getCurrentFile() { return curFile; }
00032     QString                getShortCurrentFile();
00033     View*                  getView() { return gview; }
00034     QGraphicsScene*        getScene() { return gscene; }
00035     QString                getCurrentLayer() { return curLayer; }
00036     QRgb                   getCurrentColor() { return curColor; }
00037     QString                getCurrentLineType() { return curLineType; }
00038     qreal                  getCurrentLineWeight() { return curLineWeight; }
00039     void                   setCurrentLayer(const QString& layer) { curLayer = layer; }
00040     void                   setCurrentColor(const QRgb& color) { curColor = color; }
00041     void                   setCurrentLineType(const QString& lineType) { curLineType = lineType; }
00042     void                   setCurrentLineWeight(const QString& lineWeight) { curLineWeight =
00043         lineWeight; }
00044     void                   designDetails();
00045     bool                  loadFile(const QString &fileName);
00046     void                  saveFile(const QString &fileName);
00047     void                  signals();
00048
00049 public slots:
00050     void                  closeEvent(QCloseEvent* e);
00051     void                  onWindowActivated();
00052
00053     void                  currentLayerChanged(const QString& layer);
00054     void                  currentColorChanged(const QRgb& color);
00055     void                  currentLinetypeChanged(const QString& type);
00056     void                  currentLinewidthChanged(const QString& weight);
00057
00058     void                  updateColorLinetypeLinewidth();
00059     void                  deletePressed();
00060     void                  escapePressed();
00061
00062     void                  showViewScrollBars(bool val);
00063     void                  setViewCrossHairColor(QRgb color);
00064     void                  setViewBackgroundColor(QRgb color);
00065     void                  setViewSelectBoxColors(QRgb colorL, QRgb fillL, QRgb colorR, QRgb
00066         fillR, int alpha);
00067     void                  setViewGridColor(QRgb color);
00068     void                  setViewRulerColor(QRgb color);
00069
00070     void                  print();
00071     void                  saveBMC();
00072
00073     void promptHistoryAppended(const QString& txt);
00074     void logPromptInput(const QString& txt);
00075     void promptInputPrevious();
00076     void promptInputNext();
00077 protected:
00078
00079 private:
00080     MainWindow*           mainWin;
00081     QMdiArea*              mdiArea;
00082     QGraphicsScene*        gscene;
00083     View*                  gview;
00084
00085     bool                   fileWasLoaded;
00086
00087     QString                promptHistory;
00088     QList<QString>        promptInputList;
00089     int                     promptInputNum;
00090
00091     QPrinter               printer;
00092
00093     QString                curFile;
00094     void                   setCurrentFile(const QString& fileName);
00095     QString                fileExtension(const QString& fileName);
00096
00097     int                     myIndex;
00098
00099     QString                curLayer;
00100    QRgb                   curColor;
00101    QString                curLineType;
00102    QString                curLineWeight;
00103
00104    void promptInputPrevNext(bool prev);
00105};
```

```
00106
00107 #endif
```

18.34 embroidermodder2/object-arc.cpp File Reference

```
#include "object-arc.h"
#include "object-data.h"
#include "embroidermodder.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
```

18.35 embroidermodder2/object-arc.h File Reference

```
#include "object-base.h"
```

Classes

- class [ArcObject](#)

18.36 object-arc.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_ARC_H
00002 #define OBJECT_ARC_H
00003
00004 #include "object-base.h"
00005
00006 class ArcObject : public BaseObject
00007 {
00008 public:
00009     ArcObject(qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, QRgb rgb,
00010     QGraphicsItem* parent = 0);
00011     ArcObject(ArcObject* obj, QGraphicsItem* parent = 0);
00012     ~ArcObject();
00013     enum { Type = OBJ_TYPE_ARC };
00014     virtual int type() const { return Type; }
00015
00016     QPointF objectCenter() const { return scenePos(); }
00017     qreal objectCenterX() const { return scenePos().x(); }
00018     qreal objectCenterY() const { return scenePos().y(); }
00019     qreal objectRadius() const { return rect().width()/2.0*scale(); }
00020     qreal objectStartAngle() const;
00021     qreal objectEndAngle() const;
00022     QPointF objectStartPoint() const;
00023     qreal objectStartX() const;
00024     qreal objectStartY() const;
00025     QPointF objectMidPoint() const;
00026     qreal objectMidX() const;
00027     qreal objectMidY() const;
00028     QPointF objectEndPoint() const;
00029     qreal objectEndX() const;
00030     qreal objectEndY() const;
00031     qreal objectArea() const;
00032     qreal objectArcLength() const;
00033     qreal objectChord() const;
00034     qreal objectIncludedAngle() const;
00035     bool objectClockwise() const;
00036
00037     void setObjectCenter(const QPointF& point);
00038     void setObjectCenter(qreal pointX, qreal pointY);
00039     void setObjectCenterX(qreal pointX);
```

```

00040     void setObjectCenterY(qreal pointY);
00041     void setObjectRadius(qreal radius);
00042     void setObjectStartAngle(qreal angle);
00043     void setObjectEndAngle(qreal angle);
00044     void setObjectStartPoint(const QPointF& point);
00045     void setObjectStartPoint(qreal pointX, qreal pointY);
00046     void setObjectMidPoint(const QPointF& point);
00047     void setObjectMidPoint(qreal pointX, qreal pointY);
00048     void setObjectEndPoint(const QPointF& point);
00049     void setObjectEndPoint(qreal pointX, qreal pointY);
00050
00051     void updateRubber(QPainter* painter = 0);
00052     virtual void vulcanize();
00053     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00054     virtual QList<QPointF> allGripPoints();
00055     virtual void gripEdit(const QPointF& before, const QPointF& after);
00056 protected:
00057     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00058 private:
00059     void init(qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY, QRgb rgb,
00060               Qt::PenStyle lineType);
00061     void updatePath();
00062     void calculateArcData(qreal startX, qreal startY, qreal midX, qreal midY, qreal endX, qreal endY);
00063     void updateArcRect(qreal radius);
00064
00065     QPointF arcStartPoint;
00066     QPointF arcMidPoint;
00067     QPointF arcEndPoint;
00068 };
00069
00070 #endif
00071
00072 /* kate: bom off; indent-mode cststyle; indent-width 4; replace-trailing-space-save on; */

```

18.37 embroidermodder2/object-base.cpp File Reference

```

#include "object-base.h"
#include <QDebug>
#include <QGraphicsScene>
#include <QMessageBox>
#include <QDateTime>
#include <QPainter>

```

18.38 embroidermodder2/object-base.h File Reference

```

#include "object-data.h"
#include <QHash>
#include <QPen>
#include <QGraphicsPathItem>
#include <QtCore/qmath.h>

```

Classes

- class [BaseObject](#)

18.39 object-base.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_BASE_H
00002 #define OBJECT_BASE_H
00003
00004 #include "object-data.h"
00005
00006 #include <QHash>
00007 #include <QPen>
00008 #include <QGraphicsPathItem>
00009 #include <QtCore/qmath.h>
00010
00011 class BaseObject : public QGraphicsPathItem
00012 {
00013 public:
00014     BaseObject(QGraphicsItem* parent = 0);
00015     virtual ~BaseObject();
00016
00017     enum { Type = OBJ_TYPE_BASE };
00018     virtual int type() const { return Type; }
00019
00020     qint64      objectID()                                const { return objID; }
00021     QPen        objectPen()                               const { return objPen; }
00022     QColor      objectColor()                            const { return objPen.color(); }
00023     QRgb        objectColorRGB()                         const { return objPen.color().rgb(); }
00024     Qt::PenStyle objectLineType()                         const { return objPen.style(); }
00025     qreal       objectLineWidth()                        const { return lwtPen.widthF(); }
00026     QPainterPath objectPath()                           const { return path(); }
00027     int         objectRubberMode()                      const { return objRubberMode; }
00028     QPointF    objectRubberPoint(const QString& key) const;
00029     QString     objectRubberText(const QString& key)  const;
00030
00031     QRectF rect() const { return path().boundingRect(); }
00032     void setRect(const QRectF& r) { QPainterPath p; p.addRect(r); setPath(p); }
00033     void setRect(qreal x, qreal y, qreal w, qreal h) { QPainterPath p; p.addRect(x,y,w,h); setPath(p); }
00034 }
00035     QLineF line() const { return objLine; }
00036     void setLine(const QLineF& li) { QPainterPath p; p.moveTo(li.p1()); p.lineTo(li.p2()); setPath(p);
00037     objLine = li; }
00038     void setLine(qreal x1, qreal y1, qreal x2, qreal y2) { QPainterPath p; p.moveTo(x1,y1);
00039     p.lineTo(x2,y2); setPath(p); objLine.setLine(x1,y1,x2,y2); }
00040
00041     void setObjectColor(const QColor& color);
00042     void setObjectColorRGB(QRgb rgb);
00043     void setObjectLineType(Qt::PenStyle lineType);
00044     void setObjectLineWidth(qreal lineWidth);
00045     void setObjectPath(const QPainterPath& p) { setPath(p); }
00046     void setObjectRubberMode(int mode) { objRubberMode = mode; }
00047     void setObjectRubberPoint(const QString& key, const QPointF& point) { objRubberPoints.insert(key,
00048     point); }
00049     void setObjectRubberText(const QString& key, const QString& txt) { objRubberTexts.insert(key,
00050     txt); }
00051
00052     virtual QRectF boundingRect() const;
00053     virtual QPainterPath shape() const { return path(); }
00054
00055     void drawRubberLine(const QLineF& rubLine, QPainter* painter = 0, const char* colorFromScene = 0);
00056
00057     virtual void vulcanize() = 0;
00058     virtual QPointF mouseSnapPoint(const QPointF& mousePoint) = 0;
00059     virtual QList<QPointF> allGripPoints() = 0;
00060     virtual void gripEdit(const QPointF& before, const QPointF& after) = 0;
00061
00062 protected:
00063     QPen lineWeightPen() const { return lwtPen; }
00064     inline qreal pi() const { return (qAtan(1.0)*4.0); }
00065     inline qreal radians(qreal degree) const { return (degree*pi()/180.0); }
00066     inline qreal degrees(qreal radian) const { return (radian*180.0/pi()); }
00067     void realRender(QPainter* painter, const QPainterPath& renderPath);
00068
00069 private:
00070     QPen objPen;
00071     QPen lwtPen;
00072     QLineF objLine;
00073     int objRubberMode;
00074     QHash<QString, QPointF> objRubberPoints;
00075     QHash<QString, QString> objRubberTexts;
00076     qint64 objID;
00077
00078 };
00079
00080 #endif
00081
00082 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

18.40 embroidermodder2/object-circle.cpp File Reference

```
#include "object-circle.h"
#include "object-data.h"
#include "embroidery.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
```

18.41 embroidermodder2/object-circle.h File Reference

```
#include "object-base.h"
```

Classes

- class [CircleObject](#)

18.42 object-circle.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_CIRCLE_H
00002 #define OBJECT_CIRCLE_H
00003
00004 #include "object-base.h"
00005
00006 class CircleObject : public BaseObject
00007 {
00008 public:
00009     CircleObject(qreal centerX, qreal centerY, qreal radius, QRgb rgb, QGraphicsItem* parent = 0);
00010     CircleObject(CircleObject* obj, QGraphicsItem* parent = 0);
00011     ~CircleObject();
00012
00013     enum { Type = OBJ_TYPE_CIRCLE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectCenter() const { return scenePos(); }
00019     qreal objectCenterX() const { return scenePos().x(); }
00020     qreal objectCenterY() const { return scenePos().y(); }
00021     qreal objectRadius() const { return rect().width()/2.0*scale(); }
00022     qreal objectDiameter() const { return rect().width()*scale(); }
00023     qreal objectArea() const { return pi()*objectRadius()*objectRadius(); }
00024     qreal objectCircumference() const { return pi()*objectDiameter(); }
00025     QPointF objectQuadrant0() const { return objectCenter() + QPointF(objectRadius(), 0); }
00026     QPointF objectQuadrant90() const { return objectCenter() + QPointF(0,-objectRadius()); }
00027     QPointF objectQuadrant180() const { return objectCenter() + QPointF(-objectRadius(),0); }
00028     QPointF objectQuadrant270() const { return objectCenter() + QPointF(0, objectRadius()); }
00029
00030     void setObjectCenter(const QPointF& center);
00031     void setObjectCenter(qreal centerX, qreal centerY);
00032     void setObjectCenterX(qreal centerX);
00033     void setObjectCenterY(qreal centerY);
00034     void setObjectRadius(qreal radius);
00035     void setObjectDiameter(qreal diameter);
00036     void setObjectArea(qreal area);
00037     void setObjectCircumference(qreal circumference);
00038
00039     void updateRubber(QPainter* painter = 0);
00040     virtual void vulcanize();
00041     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00042     virtual QList<QPointF> allGripPoints();
00043     virtual void gripEdit(const QPointF& before, const QPointF& after);
00044 protected:
00045     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00046 private:
00047     void init(qreal centerX, qreal centerY, qreal radius, QRgb rgb, Qt::PenStyle lineType);
00048     void updatePath();
00049 };
00050
00051 #endif
00052
00053 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

18.43 embroidermodder2/object-data.h File Reference

Enumerations

- enum `OBJ_KEYS` {

`OBJ_TYPE = 0, OBJ_NAME = 1, OBJ_LAYER = 2, OBJ_COLOR = 3,`
`OBJ_LTYPE = 4, OBJ_LWT = 5, OBJ_RUBBER = 6 }`
- 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_MAJORDIAMETER_MINOR`
`, 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 }`
- enum `SPARE_RUBBER_VALUES` { `SPARE_RUBBER_OFF = 0, SPARE_RUBBER_PATH, SPARE_RUBBER_POLYGON`
`, SPARE_RUBBER_POLYLINE }`

- enum PREVIEW_CLONE_VALUES { PREVIEW_CLONE_NULL = 0 , PREVIEW_CLONE_SELECTED , PREVIEW_CLONE_RUBBER }
- enum PREVIEW_MODE_VALUES { PREVIEW_MODE_NULL = 0 , PREVIEW_MODE_MOVE , PREVIEW_MODE_ROTATE , PREVIEW_MODE_SCALE }

Variables

- const char *const OBJ_NAME_NULL = "Unknown"
- const char *const OBJ_NAME_BASE = "Base"
- const char *const OBJ_NAME_ARC = "Arc"
- const char *const OBJ_NAME_BLOCK = "Block"
- const char *const OBJ_NAME_CIRCLE = "Circle"
- const char *const OBJ_NAME_DIMALIGNED = "Aligned Dimension"
- const char *const OBJ_NAME_DIMANGULAR = "Angular Dimension"
- const char *const OBJ_NAME_DIMARCLENGTH = "Arc Length Dimension"
- const char *const OBJ_NAME_DIMDIAMETER = "Diameter Dimension"
- const char *const OBJ_NAME_DIMLEADER = "Leader Dimension"
- const char *const OBJ_NAME_DIMLINEAR = "Linear Dimension"
- const char *const OBJ_NAME_DIMORDINATE = "Ordinate Dimension"
- const char *const OBJ_NAME_DIMRADIUS = "Radius Dimension"
- const char *const OBJ_NAME_ELLIPSE = "Ellipse"
- const char *const OBJ_NAME_ELLIPSEARC = "Elliptical Arc"
- const char *const OBJ_NAME_RUBBER = "Rubber"
- const char *const OBJ_NAME_GRID = "Grid"
- const char *const OBJ_NAME_HATCH = "Hatch"
- const char *const OBJ_NAME_IMAGE = "Image"
- const char *const OBJ_NAME_INFINITELINE = "Infinite Line"
- const char *const OBJ_NAME_LINE = "Line"
- const char *const OBJ_NAME_PATH = "Path"
- const char *const OBJ_NAME_POINT = "Point"
- const char *const OBJ_NAME_POLYGON = "Polygon"
- const char *const OBJ_NAME_POLYLINE = "Polyline"
- const char *const OBJ_NAME_RAY = "Ray"
- const char *const OBJ_NAME_RECTANGLE = "Rectangle"
- const char *const OBJ_NAME_SLOT = "Slot"
- const char *const OBJ_NAME_SPLINE = "Spline"
- const char *const OBJ_NAME_TEXTMULTI = "Multi Line Text"
- const char *const OBJ_NAME_TEXTSINGLE = "Single Line Text"
- const char *const ENABLE_SNAP = "ENABLE_SNAP"
- const char *const ENABLE_GRID = "ENABLE_GRID"
- const char *const ENABLE_RULER = "ENABLE_RULER"
- const char *const ENABLE_ORTHO = "ENABLE_ORTHO"
- const char *const ENABLE_POLAR = "ENABLE_POLAR"
- const char *const ENABLE_QSNAP = "ENABLE_QSNAP"
- const char *const ENABLE_QTRACK = "ENABLE_QTRACK"
- const char *const ENABLE_LWT = "ENABLE_LWT"
- const char *const ENABLE_REAL = "ENABLE_REAL"
- const char *const SCENE_QSNAP_POINT = "SCENE_QSNAP_POINT"
- const char *const SCENE_MOUSE_POINT = "SCENE_MOUSE_POINT"
- const char *const VIEW_MOUSE_POINT = "VIEW_MOUSE_POINT"
- const char *const RUBBER_ROOM = "RUBBER_ROOM"
- const char *const VIEW_COLOR_BACKGROUND = "VIEW_COLOR_BACKGROUND"
- const char *const VIEW_COLOR_CROSSHAIR = "VIEW_COLOR_CROSSHAIR"
- const char *const VIEW_COLOR_GRID = "VIEW_COLOR_GRID"

18.43.1 Enumeration Type Documentation

18.43.1.1 OBJ_KEYS enum `OBJ_KEYS`

Enumerator

| | |
|------------|--|
| OBJ_TYPE | |
| OBJ_NAME | |
| OBJ_LAYER | |
| OBJ_COLOR | |
| OBJ_LTYPE | |
| OBJ_LWT | |
| OBJ_RUBBER | |

18.43.1.2 OBJ_LTYPE_VALUES enum `OBJ_LTYPE_VALUES`

Enumerator

| | |
|--------------------|--|
| OBJ_LTYPE_CONT | |
| OBJ_LTYPE_CENTER | |
| OBJ_LTYPE_DOT | |
| OBJ_LTYPE_HIDDEN | |
| OBJ_LTYPE_PHANTOM | |
| OBJ_LTYPE_ZIGZAG | |
| OBJ_LTYPE_RUNNING | |
| OBJ_LTYPE_SATIN | |
| OBJ_LTYPE_FISHBONE | |

18.43.1.3 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 | |

Enumerator

| | |
|------------|--|
| OBJ_LWT_08 | |
| OBJ_LWT_09 | |
| OBJ_LWT_10 | |
| OBJ_LWT_11 | |
| OBJ_LWT_12 | |
| OBJ_LWT_13 | |
| OBJ_LWT_14 | |
| OBJ_LWT_15 | |
| OBJ_LWT_16 | |
| OBJ_LWT_17 | |
| OBJ_LWT_18 | |
| OBJ_LWT_19 | |
| OBJ_LWT_20 | |
| OBJ_LWT_21 | |
| OBJ_LWT_22 | |
| OBJ_LWT_23 | |
| OBJ_LWT_24 | |

18.43.1.4 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 | |

Enumerator

| |
|-----------------------|
| OBJ_RUBBER_POLYLINE |
| OBJ_RUBBER_IMAGE |
| OBJ_RUBBER_RECTANGLE |
| OBJ_RUBBER_TEXTSINGLE |

18.43.1.5 OBJ_SNAP_VALUES enum [OBJ_SNAP_VALUES](#)

Enumerator

| |
|--------------------------|
| OBJ_SNAP_NULL |
| OBJ_SNAP_ENDPOINT |
| OBJ_SNAP_MIDPOINT |
| OBJ_SNAP_CENTER |
| OBJ_SNAP_NODE |
| OBJ_SNAP_QUADRANT |
| OBJ_SNAP_INTERSECTION |
| OBJ_SNAP_EXTENSION |
| OBJ_SNAP_INSERTION |
| OBJ_SNAP_PERPENDICULAR |
| OBJ_SNAP_TANGENT |
| OBJ_SNAP_NEAREST |
| OBJ_SNAP_APPINTERSECTION |
| OBJ_SNAP_PARALLEL |

18.43.1.6 OBJ_TYPE_VALUES enum [OBJ_TYPE_VALUES](#)

Enumerator

| |
|-----------------------|
| OBJ_TYPE_NULL |
| OBJ_TYPE_BASE |
| OBJ_TYPE_ARC |
| OBJ_TYPE_BLOCK |
| OBJ_TYPE_CIRCLE |
| OBJ_TYPE_DIMALIGNED |
| OBJ_TYPE_DIMANGULAR |
| OBJ_TYPE_DIMARCLENGTH |
| OBJ_TYPE_DIMDIAMETER |
| OBJ_TYPE_DIMLEADER |
| OBJ_TYPE_DIMLINEAR |
| OBJ_TYPE_DIMORDINATE |
| OBJ_TYPE_DIMRADIUS |
| OBJ_TYPE_ELLIPSE |
| OBJ_TYPE_ELLIPSEARC |

Enumerator

| |
|-----------------------|
| OBJ_TYPE_RUBBER |
| OBJ_TYPE_GRID |
| OBJ_TYPE_HATCH |
| OBJ_TYPE_IMAGE |
| OBJ_TYPE_INFINITELINE |
| OBJ_TYPE_LINE |
| OBJ_TYPE_PATH |
| OBJ_TYPE_POINT |
| OBJ_TYPE_POLYGON |
| OBJ_TYPE_POLYLINE |
| OBJ_TYPE_RAY |
| OBJ_TYPE_RECTANGLE |
| OBJ_TYPE_SLOT |
| OBJ_TYPE_SPLINE |
| OBJ_TYPE_TEXTMULTI |
| OBJ_TYPE_TEXTSINGLE |

18.43.1.7 PREVIEW_CLONE_VALUES enum PREVIEW_CLONE_VALUES

Enumerator

| |
|------------------------|
| PREVIEW_CLONE_NULL |
| PREVIEW_CLONE_SELECTED |
| PREVIEW_CLONE_RUBBER |

18.43.1.8 PREVIEW_MODE_VALUES enum PREVIEW_MODE_VALUES

Enumerator

| |
|---------------------|
| PREVIEW_MODE_NULL |
| PREVIEW_MODE_MOVE |
| PREVIEW_MODE_ROTATE |
| PREVIEW_MODE_SCALE |

18.43.1.9 SPARE_RUBBER_VALUES enum SPARE_RUBBER_VALUES

Enumerator

| |
|-------------------|
| SPARE_RUBBER_OFF |
| SPARE_RUBBER_PATH |

Enumerator

| | |
|-----------------------|--|
| SPARE_RUBBER_POLYGON | |
| SPARE_RUBBER_POLYLINE | |

18.43.2 Variable Documentation**18.43.2.1 ENABLE_GRID** const char* const ENABLE_GRID = "ENABLE_GRID"**18.43.2.2 ENABLE_LWT** const char* const ENABLE_LWT = "ENABLE_LWT"**18.43.2.3 ENABLE_ORTHO** const char* const ENABLE_ORTHO = "ENABLE_ORTHO"**18.43.2.4 ENABLE_POLAR** const char* const ENABLE_POLAR = "ENABLE_POLAR"**18.43.2.5 ENABLE_QSNAP** const char* const ENABLE_QSNAP = "ENABLE_QSNAP"**18.43.2.6 ENABLE_QTRACK** const char* const ENABLE_QTRACK = "ENABLE_QTRACK"**18.43.2.7 ENABLE_REAL** const char* const ENABLE_REAL = "ENABLE_REAL"**18.43.2.8 ENABLE_RULER** const char* const ENABLE_RULER = "ENABLE_RULER"**18.43.2.9 ENABLE_SNAP** const char* const ENABLE_SNAP = "ENABLE_SNAP"

18.43.2.10 OBJ_NAME_ARC const char* const OBJ_NAME_ARC = "Arc"

18.43.2.11 OBJ_NAME_BASE const char* const OBJ_NAME_BASE = "Base"

18.43.2.12 OBJ_NAME_BLOCK const char* const OBJ_NAME_BLOCK = "Block"

18.43.2.13 OBJ_NAME_CIRCLE const char* const OBJ_NAME_CIRCLE = "Circle"

18.43.2.14 OBJ_NAME_DIMALIGNED const char* const OBJ_NAME_DIMALIGNED = "Aligned Dimension"

18.43.2.15 OBJ_NAME_DIMANGULAR const char* const OBJ_NAME_DIMANGULAR = "Angular Dimension"

18.43.2.16 OBJ_NAME_DIMARCLENGTH const char* const OBJ_NAME_DIMARCLENGTH = "Arc Length Dimension"

18.43.2.17 OBJ_NAME_DIMDIAMETER const char* const OBJ_NAME_DIMDIAMETER = "Diameter Dimension"

18.43.2.18 OBJ_NAME_DIMLEADER const char* const OBJ_NAME_DIMLEADER = "Leader Dimension"

18.43.2.19 OBJ_NAME_DIMLINEAR const char* const OBJ_NAME_DIMLINEAR = "Linear Dimension"

18.43.2.20 OBJ_NAME_DIMORDINATE const char* const OBJ_NAME_DIMORDINATE = "Ordinate Dimension"

18.43.2.21 OBJ_NAME_DIMRADIUS const char* const OBJ_NAME_DIMRADIUS = "Radius Dimension"

18.43.2.22 OBJ_NAME_ELLIPSE const char* const OBJ_NAME_ELLIPSE = "Ellipse"

18.43.2.23 OBJ_NAME_ELLIPSEARC const char* const OBJ_NAME_ELLIPSEARC = "Elliptical Arc"

18.43.2.24 OBJ_NAME_GRID const char* const OBJ_NAME_GRID = "Grid"

18.43.2.25 OBJ_NAME_HATCH const char* const OBJ_NAME_HATCH = "Hatch"

18.43.2.26 OBJ_NAME_IMAGE const char* const OBJ_NAME_IMAGE = "Image"

18.43.2.27 OBJ_NAME_INFINITELINE const char* const OBJ_NAME_INFINITELINE = "Infinite Line"

18.43.2.28 OBJ_NAME_LINE const char* const OBJ_NAME_LINE = "Line"

18.43.2.29 OBJ_NAME_NULL const char* const OBJ_NAME_NULL = "Unknown"

18.43.2.30 OBJ_NAME_PATH const char* const OBJ_NAME_PATH = "Path"

18.43.2.31 OBJ_NAME_POINT const char* const OBJ_NAME_POINT = "Point"

18.43.2.32 OBJ_NAME_POLYGON const char* const OBJ_NAME_POLYGON = "Polygon"

18.43.2.33 OBJ_NAME_POLYLINE const char* const OBJ_NAME_POLYLINE = "Polyline"

18.43.2.34 OBJ_NAME_RAY const char* const OBJ_NAME_RAY = "Ray"

18.43.2.35 OBJ_NAME_RECTANGLE const char* const OBJ_NAME_RECTANGLE = "Rectangle"

18.43.2.36 OBJ_NAME_RUBBER const char* const OBJ_NAME_RUBBER = "Rubber"

18.43.2.37 OBJ_NAME_SLOT const char* const OBJ_NAME_SLOT = "Slot"

18.43.2.38 OBJ_NAME_SPLINE const char* const OBJ_NAME_SPLINE = "Spline"

18.43.2.39 OBJ_NAME_TEXTMULTI const char* const OBJ_NAME_TEXTMULTI = "Multi Line Text"

18.43.2.40 OBJ_NAME_TEXTSINGLE const char* const OBJ_NAME_TEXTSINGLE = "Single Line Text"

18.43.2.41 RUBBER_ROOM const char* const RUBBER_ROOM = "RUBBER_ROOM"

18.43.2.42 SCENE_MOUSE_POINT const char* const SCENE_MOUSE_POINT = "SCENE_MOUSE_POINT"

18.43.2.43 SCENE_QSNAP_POINT const char* const SCENE_QSNAP_POINT = "SCENE_QSNAP_POINT"

18.43.2.44 VIEW_COLOR_BACKGROUND const char* const VIEW_COLOR_BACKGROUND = "VIEW_COLOR↔_BACKGROUND"

18.43.2.45 VIEW_COLOR_CROSSHAIR const char* const VIEW_COLOR_CROSSHAIR = "VIEW_COLOR↔_CROSSHAIR"

18.43.2.46 VIEW_COLOR_GRID const char* const VIEW_COLOR_GRID = "VIEW_COLOR_GRID"

18.43.2.47 VIEW_MOUSE_POINT const char* const VIEW_MOUSE_POINT = "VIEW_MOUSE_POINT"

18.44 object-data.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_DATA_H
00002 #define OBJECT_DATA_H
00003
00004 //Custom Data used in QGrahicsItems
00005
00006 //          (      int, const QVariant)
00007 //I.E. object.setData(OBJ_TYPE, OBJ_TYPE_LINE);
00008 //I.E. object.setData(OBJ_LAYER, "OUTLINE");
00009 //I.E. object.setData(OBJ_COLOR, 123);
00010 //I.E. object.setData(OBJ_LTYPE, OBJ_LTYPE_CONT);
00011
00012 //Keys
00013 enum OBJ_KEYS {
00014     OBJ_TYPE    = 0, //value type - int: See OBJ_TYPE_VALUES
00015     OBJ_NAME    = 1, //value type - str: See OBJ_NAME_VALUES
00016     OBJ_LAYER   = 2, //value type - str: "USER", "DEFINED", "STRINGS", etc...
00017     OBJ_COLOR   = 3, //value type - int: 0-255 //TODO: Use color chart in formats/format-dxf.h for this
00018     OBJ_LTYPE   = 4, //value type - int: See OBJ_LTYPE_VALUES
00019     OBJ_LWT     = 5, //value type - int: 0-27
00020     OBJ_RUBBER  = 6 //value type - int: See OBJ_RUBBER_VALUES
00021 };
00022
00023 //Values
00024 enum OBJ_TYPE_VALUES {
00025     OBJ_TYPE_NULL        = 0, //NOTE: Allow this enum to evaluate false
00026     OBJ_TYPE_BASE        = 100000, //NOTE: Values >= 65536 ensure compatibility with qgraphicsitem_cast()
00027     OBJ_TYPE_ARC         = 100001,
00028     OBJ_TYPE_BLOCK        = 100002,
00029     OBJ_TYPE_CIRCLE        = 100003,
00030     OBJ_TYPE_DIMALIGNED    = 100004,
00031     OBJ_TYPE_DIMANGULAR    = 100005,
00032     OBJ_TYPE_DIMARCLENGTH  = 100006,
00033     OBJ_TYPE_DIMDIAMETER    = 100007,
00034     OBJ_TYPE_DIMLEADER    = 100008,
00035     OBJ_TYPE_DIMLINEAR    = 100009,
00036     OBJ_TYPE_DIMORDINATE   = 100010,
00037     OBJ_TYPE_DIMRADIUS    = 100011,
00038     OBJ_TYPE_ELLIPSE       = 100012,
00039     OBJ_TYPE_ELLIPSEARC    = 100013,
00040     OBJ_TYPE_RUBBER        = 100014,
00041     OBJ_TYPE_GRID         = 100015,
00042     OBJ_TYPE_HATCH        = 100016,
00043     OBJ_TYPE_IMAGE        = 100017,
```

```

00044 OBJ_TYPE_INFINITELINE = 100018,
00045 OBJ_TYPE_LINE = 100019,
00046 OBJ_TYPE_PATH = 100020,
00047 OBJ_TYPE_POINT = 100021,
00048 OBJ_TYPE_POLYGON = 100022,
00049 OBJ_TYPE_POLYLINE = 100023,
00050 OBJ_TYPE_RAY = 100024,
00051 OBJ_TYPE_RECTANGLE = 100025,
00052 OBJ_TYPE_SLOT = 100026,
00053 OBJ_TYPE_SPLINE = 100027,
00054 OBJ_TYPE_TEXTMULTI = 100028,
00055 OBJ_TYPE_TEXTSINGLE = 100029
00056 };
00057
00058 //OBJ_NAME_VALUES
00059 const char* const OBJ_NAME_NULL = "Unknown";
00060 const char* const OBJ_NAME_BASE = "Base";
00061 const char* const OBJ_NAME_ARC = "Arc";
00062 const char* const OBJ_NAME_BLOCK = "Block";
00063 const char* const OBJ_NAME_CIRCLE = "Circle";
00064 const char* const OBJ_NAME_DIMALIGNED = "Aligned Dimension";
00065 const char* const OBJ_NAME_DIMANGULAR = "Angular Dimension";
00066 const char* const OBJ_NAME_DIMARCLENGTH = "Arc Length Dimension";
00067 const char* const OBJ_NAME_DIMDIAMETER = "Diameter Dimension";
00068 const char* const OBJ_NAME_DIMLEADER = "Leader Dimension";
00069 const char* const OBJ_NAME_DIMLINEAR = "Linear Dimension";
00070 const char* const OBJ_NAME_DIMORDINATE = "Ordinate Dimension";
00071 const char* const OBJ_NAME_DIMRADIUS = "Radius Dimension";
00072 const char* const OBJ_NAME_ELLIPSE = "Ellipse";
00073 const char* const OBJ_NAME_ELLIPSEARC = "Elliptical Arc";
00074 const char* const OBJ_NAME_RUBBER = "Rubber";
00075 const char* const OBJ_NAME_GRID = "Grid";
00076 const char* const OBJ_NAME_HATCH = "Hatch";
00077 const char* const OBJ_NAME_IMAGE = "Image";
00078 const char* const OBJ_NAME_INFINITELINE = "Infinite Line";
00079 const char* const OBJ_NAME_LINE = "Line";
00080 const char* const OBJ_NAME_PATH = "Path";
00081 const char* const OBJ_NAME_POINT = "Point";
00082 const char* const OBJ_NAME_POLYGON = "Polygon";
00083 const char* const OBJ_NAME_POLYLINE = "Polyline";
00084 const char* const OBJ_NAME_RAY = "Ray";
00085 const char* const OBJ_NAME_RECTANGLE = "Rectangle";
00086 const char* const OBJ_NAME_SLOT = "Slot";
00087 const char* const OBJ_NAME_SPLINE = "Spline";
00088 const char* const OBJ_NAME_TEXTMULTI = "Multi Line Text";
00089 const char* const OBJ_NAME_TEXTSINGLE = "Single Line Text";
00090
00091 enum OBJ_LTYPE_VALUES {
00092 //CAD Linetypes
00093 OBJ_LTYPE_CONT = 0,
00094 OBJ_LTYPE_CENTER = 1,
00095 OBJ_LTYPE_DOT = 2,
00096 OBJ_LTYPE_HIDDEN = 3,
00097 OBJ_LTYPE_PHANTOM = 4,
00098 OBJ_LTYPE_ZIGZAG = 5,
00099 //Embroidery Stitchtypes
00100 OBJ_LTYPE_RUNNING = 6, //
00101 OBJ_LTYPE_SATIN = 7, // vvvvvvvvvvvv
00102 OBJ_LTYPE_FISHBONE = 8, // >>>>>
00103 };
00104
00105 enum OBJ_LWT_VALUES {
00106 OBJ_LWT_BYLAYER = -2,
00107 OBJ_LWT_BYBLOCK = -1,
00108 OBJ_LWT_DEFAULT = 0,
00109 OBJ_LWT_01 = 1,
00110 OBJ_LWT_02 = 2,
00111 OBJ_LWT_03 = 3,
00112 OBJ_LWT_04 = 4,
00113 OBJ_LWT_05 = 5,
00114 OBJ_LWT_06 = 6,
00115 OBJ_LWT_07 = 7,
00116 OBJ_LWT_08 = 8,
00117 OBJ_LWT_09 = 9,
00118 OBJ_LWT_10 = 10,
00119 OBJ_LWT_11 = 11,
00120 OBJ_LWT_12 = 12,
00121 OBJ_LWT_13 = 13,
00122 OBJ_LWT_14 = 14,
00123 OBJ_LWT_15 = 15,
00124 OBJ_LWT_16 = 16,
00125 OBJ_LWT_17 = 17,
00126 OBJ_LWT_18 = 18,
00127 OBJ_LWT_19 = 19,
00128 OBJ_LWT_20 = 20,
00129 OBJ_LWT_21 = 21,
00130 OBJ_LWT_22 = 22,

```

```

00131 OBJ_LWT_23      = 23,
00132 OBJ_LWT_24      = 24
00133 };
00134
00135 enum OBJ_SNAP_VALUES {
00136     OBJ_SNAP_NULL      = 0, //NOTE: Allow this enum to evaluate false
00137     OBJ_SNAP_ENDPOINT   = 1,
00138     OBJ_SNAP_MIDPOINT   = 2,
00139     OBJ_SNAP_CENTER      = 3,
00140     OBJ_SNAP_NODE        = 4,
00141     OBJ_SNAP_QUADRANT    = 5,
00142     OBJ_SNAP_INTERSECTION = 6,
00143     OBJ_SNAP_EXTENSION    = 7,
00144     OBJ_SNAP_INSERTION    = 8,
00145     OBJ_SNAP_PERPENDICULAR = 9,
00146     OBJ_SNAP_TANGENT      = 10,
00147     OBJ_SNAP_NEAREST       = 11,
00148     OBJ_SNAP_APPINTERSECTION = 12,
00149     OBJ_SNAP_PARALLEL      = 13
00150 };
00151
00152 enum OBJ_RUBBER_VALUES {
00153     OBJ_RUBBER_OFF = 0, //NOTE: Allow this enum to evaluate false
00154     OBJ_RUBBER_ON  = 1, //NOTE: Allow this enum to evaluate true
00155
00156     OBJ_RUBBER_CIRCLE_1P_RAD,
00160     OBJ_RUBBER_CIRCLE_1P_DIA,
00165     OBJ_RUBBER_CIRCLE_2P,
00166     OBJ_RUBBER_CIRCLE_3P,
00167     OBJ_RUBBER_CIRCLE_TTR,
00168     OBJ_RUBBER_CIRCLE_TTT,
00169
00170     OBJ_RUBBER_DIMLEADER_LINE,
00171
00172     OBJ_RUBBER_ELLIPSE_LINE,
00173     OBJ_RUBBER_ELLIPSE_MAJORDIAMETER_MINORRADIUS,
00174     OBJ_RUBBER_ELLIPSE_MAJORRADUIS_MINORRADUIS,
00175     OBJ_RUBBER_ELLIPSE_ROTATION,
00176
00177     OBJ_RUBBER_GRIP,
00178
00179     OBJ_RUBBER_LINE,
00180
00181     OBJ_RUBBER_POLYGON,
00182     OBJ_RUBBER_POLYGON_INSCRIBE,
00183     OBJ_RUBBER_POLYGON_CIRCUMSCRIBE,
00184
00185     OBJ_RUBBER_POLYLINE,
00186
00187     OBJ_RUBBER_IMAGE,
00188
00189     OBJ_RUBBER_RECTANGLE,
00190
00191     OBJ_RUBBER_TEXTSINGLE
00192 };
00193
00194 enum SPARE_RUBBER_VALUES {
00195     SPARE_RUBBER_OFF = 0, //NOTE: Allow this enum to evaluate false
00196     SPARE_RUBBER_PATH,
00197     SPARE_RUBBER_POLYGON,
00198     SPARE_RUBBER_POLYLINE
00199 };
00200
00201 enum PREVIEW_CLONE_VALUES {
00202     PREVIEW_CLONE_NUL = 0, //NOTE: Allow this enum to evaluate false
00203     PREVIEW_CLONE_SELECTED,
00204     PREVIEW_CLONE_RUBBER
00205 };
00206
00207 enum PREVIEW_MODE_VALUES {
00208     PREVIEW_MODE_NULL = 0, //NOTE: Allow this enum to evaluate false
00209     PREVIEW_MODE_MOVE,
00210     PREVIEW_MODE_ROTATE,
00211     PREVIEW_MODE_SCALE
00212 };
00213
00214 const char* const ENABLE_SNAP    = "ENABLE_SNAP";
00215 const char* const ENABLE_GRID    = "ENABLE_GRID";
00216 const char* const ENABLE_RULER   = "ENABLE_RULER";
00217 const char* const ENABLE_ORTHO   = "ENABLE_ORTHO";
00218 const char* const ENABLE_POLAR   = "ENABLE_POLAR";
00219 const char* const ENABLE_QSNAP   = "ENABLE_QSNAP";
00220 const char* const ENABLE_QTRACK  = "ENABLE_QTRACK";
00221 const char* const ENABLE_LWT     = "ENABLE_LWT";
00222 const char* const ENABLE_REAL    = "ENABLE_REAL";
00223
00224 const char* const SCENE_QSNAP_POINT = "SCENE_QSNAP_POINT";

```

```

00225 const char* const SCENE_MOUSE_POINT = "SCENE_MOUSE_POINT";
00226 const char* const VIEW_MOUSE_POINT = "VIEW_MOUSE_POINT";
00227 const char* const RUBBER_ROOM = "RUBBER_ROOM";
00228
00229 const char* const VIEW_COLOR_BACKGROUND = "VIEW_COLOR_BACKGROUND";
00230 const char* const VIEW_COLOR_CROSSHAIR = "VIEW_COLOR_CROSSHAIR";
00231 const char* const VIEW_COLOR_GRID = "VIEW_COLOR_GRID";
00232
00233 #endif

```

18.45 embroidermodder2/object-dimleader.cpp File Reference

```

#include "object-dimleader.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

18.46 embroidermodder2/object-dimleader.h File Reference

```
#include "object-base.h"
```

Classes

- class DimLeaderObject

18.47 object-dimleader.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_DIMLEADER_H
00002 #define OBJECT_DIMLEADER_H
00003
00004 #include "object-base.h"
00005
00006 class DimLeaderObject : public BaseObject
00007 {
00008 public:
00009     DimLeaderObject(qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, QGraphicsItem* parent = 0);
00010     DimLeaderObject(DimLeaderObject* obj, QGraphicsItem* parent = 0);
00011     ~DimLeaderObject();
00012
00013     enum ArrowStyle
00014     {
00015         NoArrow, //NOTE: Allow this enum to evaluate false
00016         Open,
00017         Closed,
00018         Dot,
00019         Box,
00020         Tick
00021     };
00022
00023     enum lineStyle
00024     {
00025         NoLine, //NOTE: Allow this enum to evaluate false
00026         Flared,
00027         Fletching
00028     };
00029
00030     enum { Type = OBJ_TYPE_DIMLEADER };
00031     virtual int type() const { return Type; }
00032
00033     QPointF objectEndPoint1() const;
00034     QPointF objectEndPoint2() const;
00035     QPointF objectMidPoint() const;

```

```

00036     qreal objectX1() const { return objectEndPoint1().x(); }
00037     qreal objectY1() const { return objectEndPoint1().y(); }
00038     qreal objectX2() const { return objectEndPoint2().x(); }
00039     qreal objectY2() const { return objectEndPoint2().y(); }
00040     qreal objectDeltaX() const { return (objectX2() - objectX1()); }
00041     qreal objectDeltaY() const { return (objectY2() - objectY1()); }
00042     qreal objectAngle() const;
00043     qreal objectLength() const { return line().length(); }
00044
00045     void setObjectEndPoint1(const QPointF& endPt1);
00046     void setObjectEndPoint1(qreal x1, qreal y1);
00047     void setObjectEndPoint2(const QPointF& endPt2);
00048     void setObjectEndPoint2(qreal x2, qreal y2);
00049     void setObjectX1(qreal x) { setObjectEndPoint1(x, objectY1()); }
00050     void setObjectY1(qreal y) { setObjectEndPoint1(objectX1(), y); }
00051     void setObjectX2(qreal x) { setObjectEndPoint2(x, objectY2()); }
00052     void setObjectY2(qreal y) { setObjectEndPoint2(objectX2(), y); }
00053
00054     void updateRubber(QPainter* painter = 0);
00055     virtual void vulcanize();
00056     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00057     virtual QList<QPointF> allGripPoints();
00058     virtual void gripEdit(const QPointF& before, const QPointF& after);
00059 protected:
00060     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00061 private:
00062     void init(qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, Qt::PenStyle lineType);
00063
00064     bool curved;
00065     bool filled;
00066     void updateLeader();
00067     QPainterPath lineStylePath;
00068     QPainterPath arrowStylePath;
00069     qreal arrowStyleAngle;
00070     qreal arrowStyleLength;
00071     qreal lineStyleAngle;
00072     qreal lineStyleLength;
00073 };
00074
00075 #endif
00076
00077 /* kate: bom off; indent-mode cststyle; indent-width 4; replace-trailing-space-save on; */

```

18.48 embroidermodder2/object-ellipse.cpp File Reference

```

#include "object-ellipse.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

18.49 embroidermodder2/object-ellipse.h File Reference

```
#include "object-base.h"
```

Classes

- class [EllipseObject](#)

18.50 object-ellipse.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_ELLIPSE_H
00002 #define OBJECT_ELLIPSE_H
00003
00004 #include "object-base.h"
00005
00006 class EllipseObject : public BaseObject
00007 {
00008 public:
00009     EllipseObject(qreal centerX, qreal centerY, qreal width, qreal height, QRgb rgb, QGraphicsItem*
parent = 0);
00010     EllipseObject(EllipseObject* obj, QGraphicsItem* parent = 0);
00011     ~EllipseObject();
00012
00013     enum { Type = OBJ_TYPE_ELLIPSE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectCenter() const { return scenePos(); }
00019     qreal objectCenterX() const { return scenePos().x(); }
00020     qreal objectCenterY() const { return scenePos().y(); }
00021     qreal objectRadiusMajor() const { return qMax(rect().width(), rect().height())/2.0*scale(); }
00022     qreal objectRadiusMinor() const { return qMin(rect().width(), rect().height())/2.0*scale(); }
00023     qreal objectDiameterMajor() const { return qMax(rect().width(), rect().height())*scale(); }
00024     qreal objectDiameterMinor() const { return qMin(rect().width(), rect().height())*scale(); }
00025     qreal objectWidth() const { return rect().width()*scale(); }
00026     qreal objectHeight() const { return rect().height()*scale(); }
00027     QPointF objectQuadrant0() const;
00028     QPointF objectQuadrant90() const;
00029     QPointF objectQuadrant180() const;
00030     QPointF objectQuadrant270() const;
00031
00032     void setObjectSize(qreal width, qreal height);
00033     void setObjectCenter(const QPointF& center);
00034     void setObjectCenter(qreal centerX, qreal centerY);
00035     void setObjectCenterX(qreal centerX);
00036     void setObjectCenterY(qreal centerY);
00037     void setObjectRadiusMajor(qreal radius);
00038     void setObjectRadiusMinor(qreal radius);
00039     void setObjectDiameterMajor(qreal diameter);
00040     void setObjectDiameterMinor(qreal diameter);
00041
00042     void updateRubber(QPainter* painter = 0);
00043     virtual void vulcanize();
00044     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00045     virtual QList<QPointF> allGripPoints();
00046     virtual void gripEdit(const QPointF& before, const QPointF& after);
00047 protected:
00048     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00049 private:
00050     void init(qreal centerX, qreal centerY, qreal width, qreal height, QRgb rgb, Qt::PenStyle
lineType);
00051     void updatePath();
00052 };
00053
00054 #endif
00055
00056 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

18.51 embroidermodder2/object-image.cpp File Reference

```

#include "object-image.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

18.52 embroidermodder2/object-image.h File Reference

```
#include "object-base.h"
```

Classes

- class [ImageObject](#)

18.53 object-image.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_IMAGE_H
00002 #define OBJECT_IMAGE_H
00003
00004 #include "object-base.h"
00005
00006 class ImageObject : public BaseObject
00007 {
00008 public:
00009     ImageObject(qreal x, qreal y, qreal w, qreal h, QRgb rgb, QGraphicsItem* parent = 0);
00010     ImageObject(ImageObject* obj, QGraphicsItem* parent = 0);
00011     ~ImageObject();
00012
00013     enum { Type = OBJ_TYPE_IMAGE };
00014     virtual int type() const { return Type; }
00015
00016     QPointF objectTopLeft() const;
00017     QPointF objectTopRight() const;
00018     QPointF objectBottomLeft() const;
00019     QPointF objectBottomRight() const;
00020     qreal objectWidth() const { return rect().width()*scale(); }
00021     qreal objectHeight() const { return rect().height()*scale(); }
00022     qreal objectArea() const { return qAbs(objectWidth()*objectHeight()); }
00023
00024     void setObjectRect(qreal x, qreal y, qreal w, qreal h);
00025
00026     void updateRubber(QPainter* painter = 0);
00027     virtual void vulcanize();
00028     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00029     virtual QList<QPointF> allGripPoints();
00030     virtual void gripEdit(const QPointF& before, const QPointF& after);
00031 protected:
00032     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00033 private:
00034     void init(qreal x, qreal y, qreal w, qreal h, QRgb rgb, Qt::PenStyle lineType);
00035     void updatePath();
00036 };
00037
00038 #endif
00039
00040 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */
```

18.54 embroidermodder2/object-line.cpp File Reference

```
#include "object-line.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
```

18.55 embroidermodder2/object-line.h File Reference

```
#include "object-base.h"
```

Classes

- class [LineObject](#)

18.56 object-line.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_LINE_H
00002 #define OBJECT_LINE_H
00003
00004 #include "object-base.h"
00005
00006 class LineObject : public BaseObject
00007 {
00008 public:
00009     LineObject(qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, QGraphicsItem* parent = 0);
00010     LineObject(LineObject* obj, QGraphicsItem* parent = 0);
00011     ~LineObject();
00012
00013     enum { Type = OBJ_TYPE_LINE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectEndPoint1() const { return scenePos(); }
00019     QPointF objectEndPoint2() const;
00020     QPointF objectMidPoint() const;
00021     qreal objectX1() const { return objectEndPoint1().x(); }
00022     qreal objectY1() const { return objectEndPoint1().y(); }
00023     qreal objectX2() const { return objectEndPoint2().x(); }
00024     qreal objectY2() const { return objectEndPoint2().y(); }
00025     qreal objectDeltaX() const { return (objectX2() - objectX1()); }
00026     qreal objectDeltaY() const { return (objectY2() - objectY1()); }
00027     qreal objectAngle() const;
00028     qreal objectLength() const { return line().length()*scale(); }
00029
00030     void setObjectEndPoint1(const QPointF& endPt1);
00031     void setObjectEndPoint1(qreal x1, qreal y1);
00032     void setObjectEndPoint2(const QPointF& endPt2);
00033     void setObjectEndPoint2(qreal x2, qreal y2);
00034     void setObjectX1(qreal x) { setObjectEndPoint1(x, objectY1()); }
00035     void setObjectY1(qreal y) { setObjectEndPoint1(objectX1(), y); }
00036     void setObjectX2(qreal x) { setObjectEndPoint2(x, objectY2()); }
00037     void setObjectY2(qreal y) { setObjectEndPoint2(objectX2(), y); }
00038
00039     void updateRubber(QPainter* painter = 0);
00040     virtual void vulcanize();
00041     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00042     virtual QList<QPointF> allGripPoints();
00043     virtual void gripEdit(const QPointF& before, const QPointF& after);
00044 protected:
00045     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00046 private:
00047     void init(qreal x1, qreal y1, qreal x2, qreal y2, QRgb rgb, Qt::PenStyle lineType);
00048 };
00049
00050 #endif
00051 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

18.57 embroidermodder2/object-path.cpp File Reference

```

#include "object-path.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
#include <QMessageBox>

```

18.58 embroidermodder2/object-path.h File Reference

```
#include "object-base.h"
```

Classes

- class PathObject

18.59 object-path.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_PATH_H
00002 #define OBJECT_PATH_H
00003
00004 #include "object-base.h"
00005
00006 class PathObject : public BaseObject
00007 {
00008     public:
00009         PathObject(qreal x, qreal y, const QPainterPath p, QRgb rgb, QGraphicsItem* parent = 0);
00010         PathObject(PathObject* obj, QGraphicsItem* parent = 0);
00011         ~PathObject();
00012
00013     enum { Type = OBJ_TYPE_PATH };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectCopyPath() const;
00017     QPainterPath objectSavePath() const;
00018
00019     QPointF objectPos() const { return scenePos(); }
00020     qreal objectX() const { return scenePos().x(); }
00021     qreal objectY() const { return scenePos().y(); }
00022
00023     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
00024     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00025     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00026     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00027
00028     void updateRubber(QPainter* painter = 0);
00029     virtual void vulcanize();
00030     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00031     virtual QList<QPointF> allGripPoints();
00032     virtual void gripEdit(const QPointF& before, const QPointF& after);
00033 protected:
00034     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00035 private:
00036     void init(qreal x, qreal y, const QPainterPath& p, QRgb rgb, Qt::PenStyle lineType);
00037     void updatePath(const QPainterPath& p);
00038     QPainterPath normalPath;
00039     //TODO: make paths similar to polylines. Review and implement any missing functions/members.
00040 };
00041
00042 #endif
00043
00044 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

18.60 embroidermodder2/object-point.cpp File Reference

```

#include "object-point.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

18.61 embroidermodder2/object-point.h File Reference

```
#include "object-base.h"
```

Classes

- class PointObject

18.62 object-point.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_POINT_H
00002 #define OBJECT_POINT_H
00003
00004 #include "object-base.h"
00005
00006 class PointObject : public BaseObject
00007 {
00008 public:
00009     PointObject(qreal x, qreal y, QRgb rgb, QGraphicsItem* parent = 0);
00010     PointObject(PointObject* obj, QGraphicsItem* parent = 0);
00011     ~PointObject();
00012
00013     enum { Type = OBJ_TYPE_POINT };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectPos() const { return scenePos(); }
00019     qreal objectX() const { return scenePos().x(); }
00020     qreal objectY() const { return scenePos().y(); }
00021
00022     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
00023     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00024     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00025     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00026
00027     void updateRubber(QPainter* painter = 0);
00028     virtual void vulcanize();
00029     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00030     virtual QList<QPointF> allGripPoints();
00031     virtual void gripEdit(const QPointF& before, const QPointF& after);
00032 protected:
00033     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget*);
00034 private:
00035     void init(qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType);
00036 };
00037
00038 #endif

```

18.63 embroidermodder2/object-polygon.cpp File Reference

```

#include "object-polygon.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
#include <QMessageBox>

```

18.64 embroidermodder2/object-polygon.h File Reference

```
#include "object-base.h"
```

Classes

- class PolygonObject

18.65 object-polygon.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_POLYGON_H
00002 #define OBJECT_POLYGON_H
00003
00004 #include "object-base.h"
00005
00006 class PolygonObject : public BaseObject
00007 {
00008 public:
00009     PolygonObject(qreal x, qreal y, const QPainterPath& p, QRgb rgb, QGraphicsItem* parent = 0);
00010     PolygonObject(PolygonObject* obj, QGraphicsItem* parent = 0);
00011     ~PolygonObject();
00012
00013     enum { Type = OBJ_TYPE_POLYGON };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectCopyPath() const;
00017     QPainterPath objectSavePath() const;
00018
00019     QPointF objectPos() const { return scenePos(); }
00020     qreal objectX() const { return scenePos().x(); }
00021     qreal objectY() const { return scenePos().y(); }
00022
00023     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
00024     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00025     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00026     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00027
00028     void updateRubber(QPainter* painter = 0);
00029     virtual void vulcanize();
00030     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00031     virtual QList<QPointF> allGripPoints();
00032     virtual void gripEdit(const QPointF& before, const QPointF& after);
00033 protected:
00034     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00035 private:
00036     void init(qreal x, qreal y, const QPainterPath& p, QRgb rgb, Qt::PenStyle lineType);
00037     void updatePath(const QPainterPath& p);
00038     QPainterPath normalPath;
00039     int findIndex(const QPointF& point);
00040     int gripIndex;
00041 };
00042
00043 #endif
00044
00045 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

18.66 embroidermodder2/object-polyline.cpp File Reference

```

#include "object-polyline.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
#include <QMessageBox>

```

18.67 embroidermodder2/object-polyline.h File Reference

```
#include "object-base.h"
```

Classes

- class [PolylineObject](#)

18.68 object-polyline.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_POLYLINE_H
00002 #define OBJECT_POLYLINE_H
00003
00004 #include "object-base.h"
00005
00006 class PolylineObject : public BaseObject
00007 {
00008 public:
00009     PolylineObject(qreal x, qreal y, const QPainterPath& p, QRgb rgb, QGraphicsItem* parent = 0);
00010     PolylineObject(PolylineObject* obj, QGraphicsItem* parent = 0);
00011     ~PolylineObject();
00012
00013     enum { Type = OBJ_TYPE_POLYLINE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectCopyPath() const;
00017     QPainterPath objectSavePath() const;
00018
00019     QPointF objectPos() const { return scenePos(); }
00020     qreal objectX() const { return scenePos().x(); }
00021     qreal objectY() const { return scenePos().y(); }
00022
00023     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
00024     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00025     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00026     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00027
00028     void updateRubber(QPainter* painter = 0);
00029     virtual void vulcanize();
00030     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00031     virtual QList<QPointF> allGripPoints();
00032     virtual void gripEdit(const QPointF& before, const QPointF& after);
00033 protected:
00034     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00035 private:
00036     void init(qreal x, qreal y, const QPainterPath& p, QRgb rgb, Qt::PenStyle lineType);
00037     void updatePath(const QPainterPath& p);
00038     QPainterPath normalPath;
00039     int findIndex(const QPointF& point);
00040     int gripIndex;
00041 };
00042
00043 #endif
00044
00045 /* kate: bom off; indent-mode cstyle; indent-width 4; replace-trailing-space-save on; */

```

18.69 embroidermodder2/object-rect.cpp File Reference

```

#include "object-rect.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>

```

18.70 embroidermodder2/object-rect.h File Reference

```
#include "object-base.h"
```

Classes

- class [RectObject](#)

18.71 object-rect.h

[Go to the documentation of this file.](#)

```

00001 #ifndef OBJECT_RECT_H
00002 #define OBJECT_RECT_H
00003
00004 #include "object-base.h"
00005
00006 class RectObject : public BaseObject
00007 {
00008 public:
00009     RectObject(qreal x, qreal y, qreal w, qreal h, QRgb rgb, QGraphicsItem* parent = 0);
00010     RectObject(RectObject* obj, QGraphicsItem* parent = 0);
00011     ~RectObject();
00012
00013     enum { Type = OBJ_TYPE_RECTANGLE };
00014     virtual int type() const { return Type; }
00015
00016     QPainterPath objectSavePath() const;
00017
00018     QPointF objectPos() const { return scenePos(); }
00019
00020     QPointF objectTopLeft() const;
00021     QPointF objectTopRight() const;
00022     QPointF objectBottomLeft() const;
00023     QPointF objectBottomRight() const;
00024     qreal objectWidth() const { return rect().width()*scale(); }
00025     qreal objectHeight() const { return rect().height()*scale(); }
00026     qreal objectArea() const { return qAbs(objectWidth()*objectHeight()); }
00027
00028     void setObjectRect(qreal x, qreal y, qreal w, qreal h);
00029
00030     void updateRubber(QPainter* painter = 0);
00031     virtual void vulcanize();
00032     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00033     virtual QList<QPointF> allGripPoints();
00034     virtual void gripEdit(const QPointF& before, const QPointF& after);
00035 protected:
00036     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00037 private:
00038     void init(qreal x, qreal y, qreal w, qreal h, QRgb rgb, Qt::PenStyle lineType);
00039     void updatePath();
00040 };
00041
00042 #endif

```

18.72 embroidermodder2/object-save.cpp File Reference

```

#include "embroidermodder.h"
#include "object-save.h"
#include "object-data.h"
#include "object-arc.h"
#include "object-circle.h"
#include "object-dimleader.h"
#include "object-ellipse.h"
#include "object-line.h"
#include "object-point.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include "object-rect.h"
#include "object-textsingle.h"
#include <QGraphicsScene>
#include <QGraphicsItem>

```

18.73 embroidermodder2/object-save.h File Reference

```

#include "embroidery.h"
#include <QObject>
#include <QPainterPath>

```

Classes

- class [SaveObject](#)

18.74 object-save.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_SAVE_H
00002 #define OBJECT_SAVE_H
00003
00004 #include "embroidery.h"
00005
00006 #include <QObject>
00007 #include < QPainterPath>
00008
00009 QT_BEGIN_NAMESPACE
00010 class QGraphicsItem;
00011 class QGraphicsScene;
00012 QT_END_NAMESPACE
00013
00014 class SaveObject : public QObject
00015 {
00016     Q_OBJECT
00017
00018 public:
00019     SaveObject(QGraphicsScene* theScene, QObject* parent = 0);
00020     ~SaveObject();
00021
00022     bool save(const QString &fileName);
00023
00024     void addArc          (EmbPattern* pattern, QGraphicsItem* item);
00025     void addBlock         (EmbPattern* pattern, QGraphicsItem* item);
00026     void addCircle        (EmbPattern* pattern, QGraphicsItem* item);
00027     void addDimAligned   (EmbPattern* pattern, QGraphicsItem* item);
00028     void addDimAngular   (EmbPattern* pattern, QGraphicsItem* item);
00029     void addDimArcLength (EmbPattern* pattern, QGraphicsItem* item);
00030     void addDimDiameter  (EmbPattern* pattern, QGraphicsItem* item);
00031     void addDimLeader    (EmbPattern* pattern, QGraphicsItem* item);
00032     void addDimLinear    (EmbPattern* pattern, QGraphicsItem* item);
00033     void addDimOrdinate  (EmbPattern* pattern, QGraphicsItem* item);
00034     void addDimRadius    (EmbPattern* pattern, QGraphicsItem* item);
00035     void addEllipse       (EmbPattern* pattern, QGraphicsItem* item);
00036     void addEllipseArc   (EmbPattern* pattern, QGraphicsItem* item);
00037     void addGrid          (EmbPattern* pattern, QGraphicsItem* item);
00038     void addHatch         (EmbPattern* pattern, QGraphicsItem* item);
00039     void addImage         (EmbPattern* pattern, QGraphicsItem* item);
00040     void addInfiniteLine (EmbPattern* pattern, QGraphicsItem* item);
00041     void addLine          (EmbPattern* pattern, QGraphicsItem* item);
00042     void addPath          (EmbPattern* pattern, QGraphicsItem* item);
00043     void addPoint         (EmbPattern* pattern, QGraphicsItem* item);
00044     void addPolygon       (EmbPattern* pattern, QGraphicsItem* item);
00045     void addPolyline      (EmbPattern* pattern, QGraphicsItem* item);
00046     void addRay           (EmbPattern* pattern, QGraphicsItem* item);
00047     void addRectangle     (EmbPattern* pattern, QGraphicsItem* item);
00048     void addSlot          (EmbPattern* pattern, QGraphicsItem* item);
00049     void addSpline         (EmbPattern* pattern, QGraphicsItem* item);
00050     void addTextMulti    (EmbPattern* pattern, QGraphicsItem* item);
00051     void addTextSingle   (EmbPattern* pattern, QGraphicsItem* item);
00052
00053 private:
00054     QGraphicsScene* gscene;
00055     int formatType;
00056
00057     void toPolyline(EmbPattern* pattern, const QPointF& objPos, const QPainterPath& objPath, const
00058                     QString& layer, const QColor& color, const QString& lineType, const QString& lineWeight);
00059 };
00060 #endif
```

18.75 embroidermodder2/object-textsingle.cpp File Reference

```
#include "object-textsingle.h"
#include "object-data.h"
#include <QPainter>
#include <QStyleOption>
#include <QGraphicsScene>
```

18.76 embroidermodder2/object-textsingle.h File Reference

```
#include "object-base.h"
```

Classes

- class [TextSingleObject](#)

18.77 object-textsingle.h

[Go to the documentation of this file.](#)

```
00001 #ifndef OBJECT_TEXTSINGLE_H
00002 #define OBJECT_TEXTSINGLE_H
00003
00004 #include "object-base.h"
00005
00006 class TextSingleObject : public BaseObject
00007 {
00008 public:
00009     TextSingleObject(const QString& str, qreal x, qreal y, QRgb rgb, QGraphicsItem* parent = 0);
00010     TextSingleObject(TextSingleObject* obj, QGraphicsItem* parent = 0);
00011     ~TextSingleObject();
00012
00013     enum { Type = OBJ_TYPE_TEXTSINGLE };
00014     virtual int type() const { return Type; }
00015
00016     QList<QPainterPath> objectSavePathList() const { return subPathList(); }
00017     QList<QPainterPath> subPathList() const;
00018
00019     QString objectText() const { return objText; }
00020     QString objectTextFont() const { return objTextFont; }
00021     QString objectTextJustify() const { return objTextJustify; }
00022     qreal objectTextSize() const { return objTextSize; }
00023     bool objectTextBold() const { return objTextBold; }
00024     bool objectTextItalic() const { return objTextItalic; }
00025     bool objectTextUnderline() const { return objTextUnderline; }
00026     bool objectTextStrikeOut() const { return objTextStrikeOut; }
00027     bool objectTextOverline() const { return objTextOverline; }
00028     bool objectTextBackward() const { return objTextBackward; }
00029     bool objectTextUpsideDown() const { return objTextUpsideDown; }
00030     QPointF objectPos() const { return scenePos(); }
00031     qreal objectX() const { return scenePos().x(); }
00032     qreal objectY() const { return scenePos().y(); }
00033
00034     QStringList objectTextJustifyList() const;
00035
00036     void setObjectText(const QString& str);
00037     void setObjectTextFont(const QString& font);
00038     void setObjectTextJustify(const QString& justify);
00039     void setObjectTextSize(qreal size);
00040     void setObjectTextStyle(bool bold, bool italic, bool under, bool strike, bool over);
00041     void setObjectTextBold(bool val);
00042     void setObjectTextItalic(bool val);
00043     void setObjectTextUnderline(bool val);
00044     void setObjectTextStrikeOut(bool val);
00045     void setObjectTextOverline(bool val);
00046     void setObjectTextBackward(bool val);
00047     void setObjectTextUpsideDown(bool val);
00048     void setObjectPos(const QPointF& point) { setPos(point.x(), point.y()); }
00049     void setObjectPos(qreal x, qreal y) { setPos(x, y); }
00050     void setObjectX(qreal x) { setObjectPos(x, objectY()); }
00051     void setObjectY(qreal y) { setObjectPos(objectX(), y); }
00052
00053     void updateRubber(QPainter* painter = 0);
00054     virtual void vulcanize();
00055     virtual QPointF mouseSnapPoint(const QPointF& mousePoint);
00056     virtual QList<QPointF> allGripPoints();
00057     virtual void gripEdit(const QPointF& before, const QPointF& after);
00058 protected:
00059     void paint(QPainter*, const QStyleOptionGraphicsItem*, QWidget* );
00060 private:
00061     void init(const QString& str, qreal x, qreal y, QRgb rgb, Qt::PenStyle lineType);
00062     QString objText;
00063     QString objTextFont;
```

```
00065     QString objTextJustify;
00066     qreal objTextSize;
00067     bool objTextBold;
00068     bool objTextItalic;
00069     bool objTextUnderline;
00070     bool objTextStrikeOut;
00071     bool objTextOverline;
00072     bool objTextBackward;
00073     bool objTextUpsideDown;
00074     QPainterPath objTextPath;
00075 };
00076 #endif
```

18.78 embroidermodder2/preview-dialog.cpp File Reference

```
#include "preview-dialog.h"
#include "imagewidget.h"
#include <QDebug>
#include <QGridLayout>
```

18.79 embroidermodder2/preview-dialog.h File Reference

```
#include <QFileDialog>
```

Classes

- class [PreviewDialog](#)

18.80 preview-dialog.h

[Go to the documentation of this file.](#)

```
00001 #ifndef PREVIEW_DIALOG_H
00002 #define PREVIEW_DIALOG_H
00003
00004 #include <QFileDialog>
00005
00006 class ImageWidget;
00007
00008 class PreviewDialog : public QFileDialog
00009 {
00010     Q_OBJECT
00011
00012 public:
00013     PreviewDialog(QWidget* parent = 0,
00014                 const QString& caption = QString(),
00015                 const QString& directory = QString(),
00016                 const QString& filter = QString());
00017     ~PreviewDialog();
00018
00019 private:
00020     ImageWidget* imgWidget;
00021 };
00022
00023 #endif
```

18.81 embroidermodder2/property-editor.cpp File Reference

```
#include <QApplication>
#include <QComboBox>
#include <QFontComboBox>
#include <QFormLayout>
#include <QGroupBox>
#include <QKeyEvent>
#include <QLineEdit>
#include <QScrollArea>
#include <QSignalMapper>
#include <QToolButton>
#include <QWidget>
#include "property-editor.h"
#include "object-data.h"
#include "object-arc.h"
#include "object-circle.h"
#include "object-dimleader.h"
#include "object-ellipse.h"
#include "object-image.h"
#include "object-line.h"
#include "object-path.h"
#include "object-point.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include "object-rect.h"
#include "object-textsingle.h"
```

18.82 embroidermodder2/property-editor.h File Reference

```
#include <QDockWidget>
```

Classes

- class [PropertyEditor](#)

18.83 property-editor.h

[Go to the documentation of this file.](#)

```
00001 #ifndef PROPERTY_EDITOR_H
00002 #define PROPERTY_EDITOR_H
00003
00004 #include <QDockWidget>
00005
00006 class ArcObject;
00007 class BlockObject;
00008 class CircleObject;
00009 class DimAlignedObject;
00010 class DimAngularObject;
00011 class DimArcLengthObject;
00012 class DimDiameterObject;
00013 class DimLeaderObject;
00014 class DimLinearObject;
00015 class DimOrdinateObject;
00016 class DimRadiusObject;
00017 class EllipseObject;
00018 class EllipseArcObject;
```

```
00019 class HatchObject;
00020 class ImageObject;
00021 class InfiniteLineObject;
00022 class LineObject;
00023 class PathObject;
00024 class PointObject;
00025 class PolygonObject;
00026 class PolylineObject;
00027 class RayObject;
00028 class RectObject;
00029 class SplineObject;
00030 class TextMultiObject;
00031 class TextSingleObject;
00032
00033 QT_BEGIN_NAMESPACE
00034 class QGroupBox;
00035 class QComboBox;
00036 class QFontComboBox;
00037 class QLineEdit;
00038 class QPushButton;
00039 class QGraphicsItem;
00040 class QSignalMapper;
00041 QT_END_NAMESPACE
00042
00043 class PropertyEditor : public QDockWidget
00044 {
00045     Q_OBJECT
00046
00047 public:
00048     PropertyEditor(const QString& iconDirectory = QString(), bool pickAddMode = true, QWidget*
00049         widgetToFocus = 0, QWidget* parent = 0); //, Qt::WindowFlags flags = 0);
00049     ~PropertyEditor();
00050
00051 protected:
00052     bool eventFilter(QObject *obj, QEvent *event);
00053
00054 signals:
00055     void pickAddModeToggled();
00056
00057 public slots:
00058     void setSelectedItems(QList<QGraphicsItem*> itemList);
00059     void updatePickAddModeButton(bool pickAddMode);
00060
00061 private slots:
00062     void fieldEdited(QObject* fieldObj);
00063     void showGroups(int objType);
00064     void showOneType(int index);
00065     void hideAllGroups();
00066     void clearAllFields();
00067     void togglePickAddMode();
00068
00069 private:
00070     QWidget*      focusWidget;
00071
00072     QString        iconDir;
00073     int           iconSize;
00074     Qt::ToolButtonStyle propertyEditorButtonStyle;
00075
00076     bool          pickAdd;
00077
00078     QList<QGraphicsItem*> selectedItemList;
00079
00080     ArcObject*      tempArcObj;
00081     BlockObject*    tempBlockObj;
00082     CircleObject*   tempCircleObj;
00083     DimAlignedObject* tempDimAlignedObj;
00084     DimAngularObject* tempDimAngularObj;
00085     DimArcLengthObject* tempDimArcLenObj;
00086     DimDiameterObject* tempDimDiamObj;
00087     DimLeaderObject* tempDimLeaderObj;
00088     DimLinearObject* tempDimLinearObj;
00089     DimOrdinateObject* tempDimOrdObj;
00090     DimRadiusObject* tempDimRadiusObj;
00091     EllipseObject*   tempEllipseObj;
00092     EllipseArcObject* tempEllipseArcObj;
00093     HatchObject*    tempHatchObj;
00094     ImageObject*    tempImageObj;
00095     InfiniteLineObject* tempInfLineObj;
00096     LineObject*     tempLineObj;
00097     PathObject*     tempPathObj;
00098     PointObject*    tempPointObj;
00099     PolygonObject*   tempPolygonObj;
00100    PolylineObject*  tempPolylineObj;
00101    RayObject*      tempRayObj;
00102    RectObject*     tempRectObj;
00103    SplineObject*   tempSplineObj;
00104    TextMultiObject* tempTextMultiObj;
```

```

00105     TextSingleObject*   tempTextSingleObj;
00106
00107     //Helper functions
00108     QToolButton*   createToolButton(const QString& iconName, const QString& txt);
00109     QLineEdit*    createLineEdit(const QString& validatorType = QString(), bool readOnly = false);
00110     QComboBox*    createComboBox(bool disable = false);
00111     QFontComboBox* createFontComboBox(bool disable = false);
00112
00113     int precisionAngle;
00114     int precisionLength;
00115
00116     //Used when checking if fields vary
00117     QString fieldOldText;
00118     QString fieldNewText;
00119     QString fieldVariesText;
00120     QString fieldYesText;
00121     QString fieldNoText;
00122     QString fieldOnText;
00123     QString fieldOffText;
00124
00125     void updateLineEditStrIfVaries(QLineEdit* lineEdit, const QString& str);
00126     void updateLineEditNumIfVaries(QLineEdit* lineEdit, qreal num, bool useAnglePrecision);
00127     void updateFontComboBoxStrIfVaries(QFontComboBox* fontComboBox, const QString& str);
00128     void updateComboBoxStrIfVaries(QComboBox* comboBox, const QString& str, const QStringList&
strList);
00129     void updateComboBoxBoolIfVaries(QComboBox* comboBox, bool val, bool yesOrNoText);
00130
00131     QSignalMapper* signalMapper;
00132     void mapSignal(QObject* fieldObj, const QString& name, QVariant value);
00133
00134     //=====
00135     //Selection
00136     //=====
00137     QComboBox*   createComboBoxSelected();
00138     QToolButton* createToolButtonQSelect();
00139     QToolButton* createToolButtonPickAdd();
00140
00141     QComboBox*   comboBoxSelected;
00142     QToolButton* toolButtonQSelect;
00143     QToolButton* toolButtonPickAdd;
00144
00145     //TODO: Alphabetic/Categorized TabWidget
00146
00147     //=====
00148     //General
00149     //=====
00150     QGroupBox*   createGroupBoxGeneral();
00151     QGroupBox*   groupBoxGeneral;
00152
00153     QToolButton* toolButtonGeneralLayer;
00154     QToolButton* toolButtonGeneralColor;
00155     QToolButton* toolButtonGenerallLineType;
00156     QToolButton* toolButtonGenerallLineWidth;
00157
00158     QComboBox*   comboBoxGeneralLayer;
00159     QComboBox*   comboBoxGeneralColor;
00160     QComboBox*   comboBoxGeneralLineType;
00161     QComboBox*   comboBoxGeneralLineWidth;
00162
00163     //=====
00164     //Geometry
00165     //=====
00166
00167     //Arc
00168     QGroupBox*   createGroupBoxGeometryArc();
00169     QGroupBox*   groupBoxGeometryArc;
00170
00171     QToolButton* toolButtonArcCenterX;
00172     QToolButton* toolButtonArcCenterY;
00173     QToolButton* toolButtonArcRadius;
00174     QToolButton* toolButtonArcStartAngle;
00175     QToolButton* toolButtonArcEndAngle;
00176     QToolButton* toolButtonArcStartX;
00177     QToolButton* toolButtonArcStartY;
00178     QToolButton* toolButtonArcEndX;
00179     QToolButton* toolButtonArcEndY;
00180     QToolButton* toolButtonArcArea;
00181     QToolButton* toolButtonArcLength;
00182     QToolButton* toolButtonArcChord;
00183     QToolButton* toolButtonArcIncAngle;
00184
00185     QLineEdit*   lineEditArcCenterX;
00186     QLineEdit*   lineEditArcCenterY;
00187     QLineEdit*   lineEditArcRadius;
00188     QLineEdit*   lineEditArcStartAngle;
00189     QLineEdit*   lineEditArcEndAngle;
00190     QLineEdit*   lineEditArcStartX;

```

```
00191     QLineEdit*    lineEditArcStartY;
00192     QLineEdit*    lineEditArcEndX;
00193     QLineEdit*    lineEditArcEndY;
00194     QLineEdit*    lineEditArcArea;
00195     QLineEdit*    lineEditArcLength;
00196     QLineEdit*    lineEditArcChord;
00197     QLineEdit*    lineEditArcIncAngle;
00198
00199     QGroupBox*    createGroupBoxMiscArc();
00200     QGroupBox*    groupBoxMiscArc;
00201
00202     QToolButton*  toolButtonArcClockwise;
00203
00204     QComboBox*   comboBoxArcClockwise;
00205
00206 //Block
00207     QGroupBox*    createGroupBoxGeometryBlock();
00208     QGroupBox*    groupBoxGeometryBlock;
00209
00210     QToolButton*  toolButtonBlockX;
00211     QToolButton*  toolButtonBlockY;
00212
00213     QLineEdit*    lineEditBlockX;
00214     QLineEdit*    lineEditBlockY;
00215
00216 //Circle
00217     QGroupBox*    createGroupBoxGeometryCircle();
00218     QGroupBox*    groupBoxGeometryCircle;
00219
00220     QToolButton*  toolButtonCircleCenterX;
00221     QToolButton*  toolButtonCircleCenterY;
00222     QToolButton*  toolButtonCircleRadius;
00223     QToolButton*  toolButtonCircleDiameter;
00224     QToolButton*  toolButtonCircleArea;
00225     QToolButton*  toolButtonCircleCircumference;
00226
00227     QLineEdit*    lineEditCircleCenterX;
00228     QLineEdit*    lineEditCircleCenterY;
00229     QLineEdit*    lineEditCircleRadius;
00230     QLineEdit*    lineEditCircleDiameter;
00231     QLineEdit*    lineEditCircleArea;
00232     QLineEdit*    lineEditCircleCircumference;
00233
00234 //DimAligned
00235     QGroupBox*    createGroupBoxGeometryDimAligned();
00236     QGroupBox*    groupBoxGeometryDimAligned;
00237
00238 //TODO: toolButtons and lineEdits for DimAligned
00239
00240 //DimAngular
00241     QGroupBox*    createGroupBoxGeometryDimAngular();
00242     QGroupBox*    groupBoxGeometryDimAngular;
00243
00244 //TODO: toolButtons and lineEdits for DimAngular
00245
00246 //DimArcLength
00247     QGroupBox*    createGroupBoxGeometryDimArcLength();
00248     QGroupBox*    groupBoxGeometryDimArcLength;
00249
00250 //TODO: toolButtons and lineEdits for DimArcLength
00251
00252 //DimDiameter
00253     QGroupBox*    createGroupBoxGeometryDimDiameter();
00254     QGroupBox*    groupBoxGeometryDimDiameter;
00255
00256 //TODO: toolButtons and lineEdits for DimDiameter
00257
00258 //DimLeader
00259     QGroupBox*    createGroupBoxGeometryDimLeader();
00260     QGroupBox*    groupBoxGeometryDimLeader;
00261
00262 //TODO: toolButtons and lineEdits for DimLeader
00263
00264 //DimLinear
00265     QGroupBox*    createGroupBoxGeometryDimLinear();
00266     QGroupBox*    groupBoxGeometryDimLinear;
00267
00268 //TODO: toolButtons and lineEdits for DimLinear
00269
00270 //DimOrdinate
00271     QGroupBox*    createGroupBoxGeometryDimOrdinate();
00272     QGroupBox*    groupBoxGeometryDimOrdinate;
00273
00274 //TODO: toolButtons and lineEdits for DimOrdinate
00275
00276 //DimRadius
00277     QGroupBox*    createGroupBoxGeometryDimRadius();
```

```

00278     QGroupBox* groupBoxGeometryDimRadius;
00279
00280     //TODO: toolButtons and lineEdits for DimRadius
00281
00282     //Ellipse
00283     QGroupBox* createGroupBoxGeometryEllipse();
00284     QGroupBox* groupBoxGeometryEllipse;
00285
00286     QToolButton* toolButtonEllipseCenterX;
00287     QToolButton* toolButtonEllipseCenterY;
00288     QToolButton* toolButtonEllipseRadiusMajor;
00289     QToolButton* toolButtonEllipseRadiusMinor;
00290     QToolButton* toolButtonEllipseDiameterMajor;
00291     QToolButton* toolButtonEllipseDiameterMinor;
00292
00293     QLineEdit* lineEditEllipseCenterX;
00294     QLineEdit* lineEditEllipseCenterY;
00295     QLineEdit* lineEditEllipseRadiusMajor;
00296     QLineEdit* lineEditEllipseRadiusMinor;
00297     QLineEdit* lineEditEllipseDiameterMajor;
00298     QLineEdit* lineEditEllipseDiameterMinor;
00299
00300     //Image
00301     QGroupBox* createGroupBoxGeometryImage();
00302     QGroupBox* groupBoxGeometryImage;
00303
00304     QToolButton* toolButtonImageX;
00305     QToolButton* toolButtonImageY;
00306     QToolButton* toolButtonImageWidth;
00307     QToolButton* toolButtonImageHeight;
00308
00309     QLineEdit* lineEditImageX;
00310     QLineEdit* lineEditImageY;
00311     QLineEdit* lineEditImageWidth;
00312     QLineEdit* lineEditImageHeight;
00313
00314     QGroupBox* createGroupBoxMiscImage();
00315     QGroupBox* groupBoxMiscImage;
00316
00317     QToolButton* toolButtonImageName;
00318     QToolButton* toolButtonImagePath;
00319
00320     QLineEdit* lineEditImageName;
00321     QLineEdit* lineEditImagePath;
00322
00323     //Infinite Line
00324     QGroupBox* createGroupBoxGeometryInfiniteLine();
00325     QGroupBox* groupBoxGeometryInfiniteLine;
00326
00327     QToolButton* toolButtonInfiniteLineX1;
00328     QToolButton* toolButtonInfiniteLineY1;
00329     QToolButton* toolButtonInfiniteLineX2;
00330     QToolButton* toolButtonInfiniteLineY2;
00331     QToolButton* toolButtonInfiniteLineVectorX;
00332     QToolButton* toolButtonInfiniteLineVectorY;
00333
00334     QLineEdit* lineEditInfiniteLineX1;
00335     QLineEdit* lineEditInfiniteLineY1;
00336     QLineEdit* lineEditInfiniteLineX2;
00337     QLineEdit* lineEditInfiniteLineY2;
00338     QLineEdit* lineEditInfiniteLineVectorX;
00339     QLineEdit* lineEditInfiniteLineVectorY;
00340
00341     //Line
00342     QGroupBox* createGroupBoxGeometryLine();
00343     QGroupBox* groupBoxGeometryLine;
00344
00345     QToolButton* toolButtonLineStartX;
00346     QToolButton* toolButtonLineStartY;
00347     QToolButton* toolButtonLineEndX;
00348     QToolButton* toolButtonLineEndY;
00349     QToolButton* toolButtonLineDeltaX;
00350     QToolButton* toolButtonLineDeltaY;
00351     QToolButton* toolButtonLineAngle;
00352     QToolButton* toolButtonLineLength;
00353
00354     QLineEdit* lineEditLineStartX;
00355     QLineEdit* lineEditLineStartY;
00356     QLineEdit* lineEditLineEndX;
00357     QLineEdit* lineEditLineEndY;
00358     QLineEdit* lineEditLineDeltaX;
00359     QLineEdit* lineEditLineDeltaY;
00360     QLineEdit* lineEditLineAngle;
00361     QLineEdit* lineEditLineLength;
00362
00363     //Path
00364     QGroupBox* createGroupBoxGeometryPath();

```

```
00365     QGroupBox* groupBoxGeometryPath;
00366
00367     QToolButton* toolButtonPathVertexNum;
00368     QToolButton* toolButtonPathVertexX;
00369     QToolButton* toolButtonPathVertexY;
00370     QToolButton* toolButtonPathArea;
00371     QToolButton* toolButtonPathLength;
00372
00373     QComboBox* comboBoxPathVertexNum;
00374     QLineEdit* lineEditPathVertexX;
00375     QLineEdit* lineEditPathVertexY;
00376     QLineEdit* lineEditPathArea;
00377     QLineEdit* lineEditPathLength;
00378
00379     QGroupBox* createGroupBoxMiscPath();
00380     QGroupBox* groupBoxMiscPath;
00381
00382     QToolButton* toolButtonPathClosed;
00383
00384     QComboBox* comboBoxPathClosed;
00385
00386     //Point
00387     QGroupBox* createGroupBoxGeometryPoint();
00388     QGroupBox* groupBoxGeometryPoint;
00389
00390     QToolButton* toolButtonPointX;
00391     QToolButton* toolButtonPointY;
00392
00393     QLineEdit* lineEditPointX;
00394     QLineEdit* lineEditPointY;
00395
00396     //Polygon
00397     QGroupBox* createGroupBoxGeometryPolygon();
00398     QGroupBox* groupBoxGeometryPolygon;
00399
00400     QToolButton* toolButtonPolygonCenterX;
00401     QToolButton* toolButtonPolygonCenterY;
00402     QToolButton* toolButtonPolygonRadiusVertex;
00403     QToolButton* toolButtonPolygonRadiusSide;
00404     QToolButton* toolButtonPolygonDiameterVertex;
00405     QToolButton* toolButtonPolygonDiameterSide;
00406     QToolButton* toolButtonPolygonInteriorAngle;
00407
00408     QLineEdit* lineEditPolygonCenterX;
00409     QLineEdit* lineEditPolygonCenterY;
00410     QLineEdit* lineEditPolygonRadiusVertex;
00411     QLineEdit* lineEditPolygonRadiusSide;
00412     QLineEdit* lineEditPolygonDiameterVertex;
00413     QLineEdit* lineEditPolygonDiameterSide;
00414     QLineEdit* lineEditPolygonInteriorAngle;
00415
00416     //Polyline
00417     QGroupBox* createGroupBoxGeometryPolyline();
00418     QGroupBox* groupBoxGeometryPolyline;
00419
00420     QToolButton* toolButtonPolylineVertexNum;
00421     QToolButton* toolButtonPolylineVertexX;
00422     QToolButton* toolButtonPolylineVertexY;
00423     QToolButton* toolButtonPolylineArea;
00424     QToolButton* toolButtonPolylineLength;
00425
00426     QComboBox* comboBoxPolylineVertexNum;
00427     QLineEdit* lineEditPolylineVertexX;
00428     QLineEdit* lineEditPolylineVertexY;
00429     QLineEdit* lineEditPolylineArea;
00430     QLineEdit* lineEditPolylineLength;
00431
00432     QGroupBox* createGroupBoxMiscPolyline();
00433     QGroupBox* groupBoxMiscPolyline;
00434
00435     QToolButton* toolButtonPolylineClosed;
00436
00437     QComboBox* comboBoxPolylineClosed;
00438
00439     //Ray
00440     QGroupBox* createGroupBoxGeometryRay();
00441     QGroupBox* groupBoxGeometryRay;
00442
00443     QToolButton* toolButtonRayX1;
00444     QToolButton* toolButtonRayY1;
00445     QToolButton* toolButtonRayX2;
00446     QToolButton* toolButtonRayY2;
00447     QToolButton* toolButtonRayVectorX;
00448     QToolButton* toolButtonRayVectorY;
00449
00450     QLineEdit* lineEditRayX1;
00451     QLineEdit* lineEditRayY1;
```

```

00452     QLineEdit*    lineEditRayX2;
00453     QLineEdit*    lineEditRayY2;
00454     QLineEdit*    lineEditRayVectorX;
00455     QLineEdit*    lineEditRayVectorY;
00456
00457 //Rectangle
00458 QGroupBox*    createGroupBoxGeometryRectangle();
00459 QGroupBox*    groupBoxGeometryRectangle;
00460
00461     QToolButton*  toolButtonRectangleCorner1X;
00462     QToolButton*  toolButtonRectangleCorner1Y;
00463     QToolButton*  toolButtonRectangleCorner2X;
00464     QToolButton*  toolButtonRectangleCorner2Y;
00465     QToolButton*  toolButtonRectangleCorner3X;
00466     QToolButton*  toolButtonRectangleCorner3Y;
00467     QToolButton*  toolButtonRectangleCorner4X;
00468     QToolButton*  toolButtonRectangleCorner4Y;
00469     QToolButton*  toolButtonRectangleWidth;
00470     QToolButton*  toolButtonRectangleHeight;
00471     QToolButton*  toolButtonRectangleArea;
00472
00473     QLineEdit*    lineEditRectangleCorner1X;
00474     QLineEdit*    lineEditRectangleCorner1Y;
00475     QLineEdit*    lineEditRectangleCorner2X;
00476     QLineEdit*    lineEditRectangleCorner2Y;
00477     QLineEdit*    lineEditRectangleCorner3X;
00478     QLineEdit*    lineEditRectangleCorner3Y;
00479     QLineEdit*    lineEditRectangleCorner4X;
00480     QLineEdit*    lineEditRectangleCorner4Y;
00481     QLineEdit*    lineEditRectangleWidth;
00482     QLineEdit*    lineEditRectangleHeight;
00483     QLineEdit*    lineEditRectangleArea;
00484
00485 //Text Multi
00486 QGroupBox*    createGroupBoxGeometryTextMulti();
00487 QGroupBox*    groupBoxGeometryTextMulti;
00488
00489     QToolButton*  toolButtonTextMultiX;
00490     QToolButton*  toolButtonTextMultiY;
00491
00492     QLineEdit*    lineEditTextMultiX;
00493     QLineEdit*    lineEditTextMultiY;
00494
00495 //Text Single
00496 QGroupBox*    createGroupBoxTextTextSingle();
00497 QGroupBox*    groupBoxTextTextSingle;
00498
00499     QToolButton*  toolButtonTextSingleContents;
00500     QToolButton*  toolButtonTextSingleFont;
00501     QToolButton*  toolButtonTextSingleJustify;
00502     QToolButton*  toolButtonTextSingleHeight;
00503     QToolButton*  toolButtonTextSingleRotation;
00504
00505     QLineEdit*    lineEditTextSingleContents;
00506     QFontComboBox* comboBoxTextSingleFont;
00507     QComboBox*    comboBoxTextSingleJustify;
00508     QLineEdit*    lineEditTextSingleHeight;
00509     QLineEdit*    lineEditTextSingleRotation;
00510
00511     QGroupBox*    createGroupBoxGeometryTextSingle();
00512     QGroupBox*    groupBoxGeometryTextSingle;
00513
00514     QToolButton*  toolButtonTextSingleX;
00515     QToolButton*  toolButtonTextSingleY;
00516
00517     QLineEdit*    lineEditTextSingleX;
00518     QLineEdit*    lineEditTextSingleY;
00519
00520     QGroupBox*    createGroupBoxMiscTextSingle();
00521     QGroupBox*    groupBoxMiscTextSingle;
00522
00523     QToolButton*  toolButtonTextSingleBackward;
00524     QToolButton*  toolButtonTextSingleUpsideDown;
00525
00526     QComboBox*    comboBoxTextSingleBackward;
00527     QComboBox*    comboBoxTextSingleUpsideDown;
00528 };
00529
00530 #endif

```

18.84 embroidermodder2/docs/README.md File Reference

18.85 embroidermodder2/README.md File Reference

18.86 embroidermodder2/selectbox.cpp File Reference

```
#include "selectbox.h"
#include <QPainter>
```

18.87 embroidermodder2/selectbox.h File Reference

```
#include <QRubberBand>
#include <QBrush>
#include <QPen>
```

Classes

- class [SelectBox](#)

18.88 selectbox.h

[Go to the documentation of this file.](#)

```
00001 #ifndef SELECTBOX_H
00002 #define SELECTBOX_H
00003
00004 #include <QRubberBand>
00005 #include <QBrush>
00006 #include <QPen>
00007
00008 class SelectBox : public QRubberBand
00009 {
00010 public:
00011     SelectBox(Shape s, QWidget* parent = 0);
00012
00013 public slots:
00014     void setDirection(int dir);
00015     void setColors(const QColor& colorL, const QColor& fillL, const QColor& colorR, const QColor&
fillR, int newAlpha);
00016
00017 protected:
00018     void paintEvent(QPaintEvent* );
00019
00020 private:
00021     QColor leftBrushColor;
00022     QColor rightBrushColor;
00023     QColor leftPenColor;
00024     QColor rightPenColor;
00025     quint8 alpha;
00026
00027     QBrush dirBrush;
00028     QBrush leftBrush;
00029     QBrush rightBrush;
00030
00031     QPen dirPen;
00032     QPen leftPen;
00033     QPen rightPen;
00034
00035     bool boxDir;
00036
00037     void forceRepaint();
00038 };
00039
00040 #endif
```

18.89 embroidermodder2/settings-dialog.cpp File Reference

```
#include <QtGui>
#include "settings-dialog.h"
#include "object-data.h"
#include "statusbar.h"
#include "statusbar-button.h"
```

18.90 embroidermodder2/settings-dialog.h File Reference

```
#include <QDialog>
#include "mainwindow.h"
```

Classes

- class [Settings_Dialog](#)

18.91 settings-dialog.h

[Go to the documentation of this file.](#)

```
00001 #ifndef SETTINGS_DIALOG_H
00002 #define SETTINGS_DIALOG_H
00003
00004 #include <QDialog>
00005 #include "mainwindow.h"
00006
00007 class MainWindow;
00008
00009 QT_BEGIN_NAMESPACE
00010 class QDialogButtonBox;
00011 class QFileInfo;
00012 class QTabWidget;
00013 QT_END_NAMESPACE
00014
00015 class Settings_Dialog : public QDialog
00016 {
00017     Q_OBJECT
00018
00019 public:
00020     Settings_Dialog(MainWindow* mw, const QString& showTab = QString(), QWidget *parent = 0);
00021     ~Settings_Dialog();
00022
00023 private:
00024     MainWindow*      mainWin;
00025
00026     QTabWidget*       tabWidget;
00027
00028     QWidget*          createTabGeneral();
00029     QWidget*          createTabFilePaths();
00030     QWidget*          createTabDisplay();
00031     QWidget*          createTabPrompt();
00032     QWidget*          createTabOpenSave();
00033     QWidget*          createTabPrinting();
00034     QWidget*          createTabSnap();
00035     QWidget*          createTabGridRuler();
00036     QWidget*          createTabOrthoPolar();
00037     QWidget*          createTabQuickSnap();
00038     QWidget*          createTabQuickTrack();
00039     QWidget*          createTabLineWeight();
00040     QWidget*          createTabSelection();
00041
00042     QDialogButtonBox* buttonBox;
00043
00044     void addColorsToComboBox(QComboBox* comboBox);
00045
00046 //Temporary for instant preview
```

```
00047     bool    preview_general_mdi_bg_use_logo;
00048     bool    preview_general_mdi_bg_use_texture;
00049     bool    preview_general_mdi_bg_use_color;
00050
00051     QString accept_general_mdi_bg_logo;
00052     QString accept_general_mdi_bg_texture;
00053     QRgb    preview_general_mdi_bg_color;
00054     QRgb    accept_general_mdi_bg_color;
00055
00056     bool    preview_display_show_scrollbars;
00057
00058     QRgb    preview_display_crosshair_color;
00059     QRgb    accept_display_crosshair_color;
00060     QRgb    preview_display_bg_color;
00061     QRgb    accept_display_bg_color;
00062
00063     QRgb    preview_display_selectbox_left_color;
00064     QRgb    accept_display_selectbox_left_color;
00065     QRgb    preview_display_selectbox_left_fill;
00066     QRgb    accept_display_selectbox_left_fill;
00067     QRgb    preview_display_selectbox_right_color;
00068     QRgb    accept_display_selectbox_right_color;
00069     QRgb    preview_display_selectbox_right_fill;
00070     QRgb    accept_display_selectbox_right_fill;
00071     quint8  preview_display_selectbox_alpha;
00072
00073     QRgb    preview_prompt_text_color;
00074     QRgb    accept_prompt_text_color;
00075
00076     QRgb    preview_prompt_bg_color;
00077     QRgb    accept_prompt_bg_color;
00078
00079     QString preview_prompt_font_family;
00080     QString preview_prompt_font_style;
00081     quint8  preview_prompt_font_size;
00082
00083     QRgb    preview_grid_color;
00084     QRgb    accept_grid_color;
00085
00086     QRgb    preview_ruler_color;
00087     QRgb    accept_ruler_color;
00088
00089     bool    preview_lwt_show_lwt;
00090     bool    preview_lwt_real_render;
00091
00092 //Temporary until changes are accepted
00093     QString dialog_general_language;
00094     QString dialog_general_icon_theme;
00095     int      dialog_general_icon_size;
00096     bool    dialog_general_mdi_bg_use_logo;
00097     bool    dialog_general_mdi_bg_use_texture;
00098     bool    dialog_general_mdi_bg_use_color;
00099     QString dialog_general_mdi_bg_logo;
00100    QString dialog_general_mdi_bg_texture;
00101    QRgb    dialog_general_mdi_bg_color;
00102    bool    dialog_general_tip_of_the_day;
00103    bool    dialog_general_system_help_browser;
00104    bool    dialog_display_use_opengl;
00105    bool    dialog_display_renderhint_aa;
00106    bool    dialog_display_renderhint_text_aa;
00107    bool    dialog_display_renderhint_smooth_pix;
00108    bool    dialog_display_renderhint_high_aa;
00109    bool    dialog_display_renderhint_noncosmetic;
00110    bool    dialog_display_show_scrollbars;
00111    int      dialog_display_scrollbar_widget_num;
00112    QRgb    dialog_display_crosshair_color;
00113    QRgb    dialog_display_bg_color;
00114    QRgb    dialog_display_selectbox_left_color;
00115    QRgb    dialog_display_selectbox_left_fill;
00116    QRgb    dialog_display_selectbox_right_color;
00117    QRgb    dialog_display_selectbox_right_fill;
00118    quint8  dialog_display_selectbox_alpha;
00119    qreal   dialog_display_zoomscale_in;
00120    qreal   dialog_display_zoomscale_out;
00121    quint8  dialog_display_crosshair_percent;
00122    QString dialog_display_units;
00123    QRgb    dialog_prompt_text_color;
00124    QRgb    dialog_prompt_bg_color;
00125    QString dialog_prompt_font_family;
00126    QString dialog_prompt_font_style;
00127    quint8  dialog_prompt_font_size;
00128    bool    dialog_prompt_save_history;
00129    bool    dialog_prompt_save_history_as_html;
00130    QString dialog_prompt_save_history_filename;
00131    QString dialog_opensave_custom_filter;
00132    QString dialog_opensave_open_format;
00133    bool    dialog_opensave_open_thumbnail;
```

```

00134     QString dialog_opensave_save_format;
00135     bool dialog_opensave_save_thumbnail;
00136     quint8 dialog_opensave_recent_max_files;
00137     quint8 dialog_opensave_trim_dst_num_jumps;
00138     QString dialog_printing_default_device;
00139     bool dialog_printing_use_last_device;
00140     bool dialog_printing_disable_bg;
00141     bool dialog_grid_show_on_load;
00142     bool dialog_grid_show_origin;
00143     bool dialog_grid_color_match_crosshair;
00144     QRgb dialog_grid_color;
00145     bool dialog_grid_load_from_file;
00146     QString dialog_grid_type;
00147     bool dialog_grid_center_on_origin;
00148     qreal dialog_grid_center_x;
00149     qreal dialog_grid_center_y;
00150     qreal dialog_grid_size_x;
00151     qreal dialog_grid_size_y;
00152     qreal dialog_grid_spacing_x;
00153     qreal dialog_grid_spacing_y;
00154     qreal dialog_grid_size_radius;
00155     qreal dialog_grid_spacing_radius;
00156     qreal dialog_grid_spacing_angle;
00157     bool dialog_ruler_show_on_load;
00158     bool dialog_ruler_metric;
00159     QRgb dialog_ruler_color;
00160     quint8 dialog_ruler_pixel_size;
00161     bool dialog_qsnap_enabled;
00162     QRgb dialog_qsnap_locator_color;
00163     quint8 dialog_qsnap_locator_size;
00164     quint8 dialog_qsnap_aperture_size;
00165     bool dialog_qsnap_endpoint;
00166     bool dialog_qsnap_midpoint;
00167     bool dialog_qsnap_center;
00168     bool dialog_qsnap_node;
00169     bool dialog_qsnap_quadrant;
00170     bool dialog_qsnap_intersection;
00171     bool dialog_qsnap_extension;
00172     bool dialog_qsnap_insertion;
00173     bool dialog_qsnap_perpendicular;
00174     bool dialog_qsnap_tangent;
00175     bool dialog_qsnap_nearest;
00176     bool dialog_qsnap_apparent;
00177     bool dialog_qsnap_parallel;
00178     bool dialog_lwt_show_lwt;
00179     bool dialog_lwt_real_render;
00180     qreal dialog_lwt_default_lwt;
00181     bool dialog_selection_mode_pickfirst;
00182     bool dialog_selection_mode_pickadd;
00183     bool dialog_selection_mode_pickdrag;
00184     QRgb dialog_selection_coolgrip_color;
00185     QRgb dialog_selection_hotgrip_color;
00186     quint8 dialog_selection_grip_size;
00187     quint8 dialog_selection_pickbox_size;
00188
00189 private slots:
00190     void comboBoxLanguageCurrentIndexChanged(const QString&);
00191     void comboBoxIconThemeCurrentIndexChanged(const QString&);
00192     void comboBoxIconSizeCurrentIndexChanged(int);
00193     void checkBoxGeneralMdiBGUseLogoStateChanged(int);
00194     void chooseGeneralMdiBackgroundLogo();
00195     void checkBoxGeneralMdiBGUseTextureStateChanged(int);
00196     void chooseGeneralMdiBackgroundTexture();
00197     void checkBoxGeneralMdiBGUseColorStateChanged(int);
00198     void chooseGeneralMdiBackgroundColor();
00199     void currentGeneralMdiBackgroundColorChanged(const QColor&);
00200     void checkBoxTipOfTheDayStateChanged(int);
00201     void checkBoxUseOpenGLStateChanged(int);
00202     void checkBoxRenderHintAAStateChanged(int);
00203     void checkBoxRenderHintTextAAStateChanged(int);
00204     void checkBoxRenderHintSmoothPixStateChanged(int);
00205     void checkBoxRenderHintHighAAStateChanged(int);
00206     void checkBoxRenderHintNonCosmeticStateChanged(int);
00207     void checkBoxShowScrollBarsStateChanged(int);
00208     void comboBoxScrollBarWidgetCurrentIndexChanged(int);
00209     void spinBoxZoomScaleInValueChanged(double);
00210     void spinBoxZoomScaleOutValueChanged(double);
00211     void checkBoxDisableBGStateChanged(int);
00212     void chooseDisplayCrossHairColor();
00213     void currentDisplayCrossHairColorChanged(const QColor&);
00214     void chooseDisplayBackgroundColor();
00215     void currentDisplayBackgroundColorChanged(const QColor&);
00216     void chooseDisplaySelectBoxLeftColor();
00217     void currentDisplaySelectBoxLeftColorChanged(const QColor&);
00218     void chooseDisplaySelectBoxLeftFill();
00219     void currentDisplaySelectBoxLeftFillChanged(const QColor&);
00220     void chooseDisplaySelectBoxRightColor();

```

```

00221 void currentDisplaySelectBoxRightColorChanged(const QColor&);
00222 void chooseDisplaySelectBoxRightFill();
00223 void currentDisplaySelectBoxRightFillChanged(const QColor&);
00224 void spinBoxDisplaySelectBoxAlphaValueChanged(int);
00225 void choosePromptTextColor();
00226 void currentPromptTextColorChanged(const QColor&);
00227 void choosePromptBackgroundColor();
00228 void currentPromptBackgroundColorChanged(const QColor&);
00229 void comboBoxPromptFontFamilyCurrentIndexChanged(const QString&);
00230 void comboBoxPromptFontStyleCurrentIndexChanged(const QString&);
00231 void spinBoxPromptFontSizeValueChanged(int);
00232 void checkBoxPromptSaveHistoryStateChanged(int);
00233 void checkBoxPromptSaveHistoryAsHtmlStateChanged(int);
00234 void checkBoxCustomFilterStateChanged(int);
00235 void buttonCustomFilterSelectAllClicked();
00236 void buttonCustomFilterClearAllClicked();
00237 void spinBoxRecentMaxFilesValueChanged(int);
00238 void spinBoxTrimDstNumJumpsValueChanged(int);
00239 void checkBoxGridShowOnLoadStateChanged(int);
00240 void checkBoxGridShowOriginStateChanged(int);
00241 void checkBoxGridColorMatchCrossHairStateChanged(int);
00242 void chooseGridColor();
00243 void currentGridColorChanged(const QColor&);
00244 void checkBoxGridLoadFromFileStateChanged(int);
00245 void comboBoxGridTypeCurrentIndexChanged(const QString&);
00246 void checkBoxGridCenterOnOriginStateChanged(int);
00247 void spinBoxGridCenterXValueChanged(double);
00248 void spinBoxGridCenterYValueChanged(double);
00249 void spinBoxGridSizeXValueChanged(double);
00250 void spinBoxGridSizeYValueChanged(double);
00251 void spinBoxGridSpacingXValueChanged(double);
00252 void spinBoxGridSpacingYValueChanged(double);
00253 void spinBoxGridSizeRadiusValueChanged(double);
00254 void spinBoxGridSpacingRadiusValueChanged(double);
00255 void spinBoxGridSpacingAngleValueChanged(double);
00256 void checkBoxRulerShowOnLoadStateChanged(int);
00257 void comboBoxRulerMetricCurrentIndexChanged(int);
00258 void chooseRulerColor();
00259 void currentRulerColorChanged(const QColor&);
00260 void spinBoxRulerPixelSizeValueChanged(double);
00261 void checkBoxQSnapEndPointStateChanged(int);
00262 void checkBoxQSnapMidPointStateChanged(int);
00263 void checkBoxQSnapCenterStateChanged(int);
00264 void checkBoxQSnapNodeStateChanged(int);
00265 void checkBoxQSnapQuadrantStateChanged(int);
00266 void checkBoxQSnapIntersectionStateChanged(int);
00267 void checkBoxQSnapExtensionStateChanged(int);
00268 void checkBoxQSnapInsertionStateChanged(int);
00269 void checkBoxQSnapPerpendicularStateChanged(int);
00270 void checkBoxQSnapTangentStateChanged(int);
00271 void checkBoxQSnapNearestStateChanged(int);
00272 void checkBoxQSnapApparentStateChanged(int);
00273 void checkBoxQSnapParallelStateChanged(int);
00274 void buttonQSnapSelectAllClicked();
00275 void buttonQSnapClearAllClicked();
00276 void comboBoxQSnapLocatorColorCurrentIndexChanged(int);
00277 void sliderQSnapLocatorSizeValueChanged(int);
00278 void sliderQSnapApertureSizeValueChanged(int);
00279 void checkBoxLwtShowLwtStateChanged(int);
00280 void checkBoxLwtRealRenderStateChanged(int);
00281 void checkBoxSelectionModePickFirstStateChanged(int);
00282 void checkBoxSelectionModePickAddStateChanged(int);
00283 void checkBoxSelectionModePickDragStateChanged(int);
00284 void comboBoxSelectionCoolGripColorCurrentIndexChanged(int);
00285 void comboBoxSelectionHotGripColorCurrentIndexChanged(int);
00286 void sliderSelectionGripSizeValueChanged(int);
00287 void sliderSelectionPickBoxSizeValueChanged(int);
00288
00289 void acceptChanges();
00290 void rejectChanges();
00291
00292 signals:
00293 void buttonCustomFilterSelectAll(bool);
00294 void buttonCustomFilterClearAll(bool);
00295 void buttonQSnapSelectAll(bool);
00296 void buttonQSnapClearAll(bool);
00297 };
00298
00299 #endif

```

18.92 embroidermodder2/statusbar-button.cpp File Reference

```
#include "mainwindow.h"
#include "mdiwindow.h"
```

```
#include "view.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include <QMenu>
#include <QMdiArea>
#include <QApplication>
#include <QContextMenuEvent>
```

18.93 embroidermodder2/statusbar-button.h File Reference

```
#include <QToolButton>
```

Classes

- class [StatusBarButton](#)

18.94 statusbar-button.h

[Go to the documentation of this file.](#)

```
00001 #ifndef STATUSBARBUTTON_H
00002 #define STATUSBARBUTTON_H
00003
00004 #include <QToolButton>
00005
00006 class MainWindow;
00007 class StatusBar;
00008
00009 class StatusBarButton : public QToolButton
00010 {
00011     Q_OBJECT
00012
00013 public:
00014     StatusBarButton(QString buttonText, MainWindow* mw, StatusBar* statbar, QWidget *parent = 0);
00015
00016 protected:
00017     void contextMenuEvent(QContextMenuEvent *event = 0);
00018
00019 private slots:
00020     void settingsSnap();
00021     void settingsGrid();
00022     void settingsRuler();
00023     void settingsOrtho();
00024     void settingsPolar();
00025     void settingsQSnap();
00026     void settingsQTrack();
00027     void settingsLwt();
00028     void toggleSnap(bool on);
00029     void toggleGrid(bool on);
00030     void toggleRuler(bool on);
00031     void toggleOrtho(bool on);
00032     void togglePolar(bool on);
00033     void toggleQSnap(bool on);
00034     void toggleQTrack(bool on);
00035     void toggleLwt(bool on);
00036 public slots:
00037     void enableLwt();
00038     void disableLwt();
00039     void enableReal();
00040     void disableReal();
00041
00042 private:
00043     MainWindow* mainWin;
00044     StatusBar* statusbar;
00045 };
00046 #endif
```

18.95 embroidermodder2/statusbar.cpp File Reference

```
#include "mainwindow.h"
#include "statusbar.h"
#include "statusbar-button.h"
#include <QLabel>
```

18.96 embroidermodder2/statusbar.h File Reference

```
#include <QStatusBar>
#include <QToolButton>
```

Classes

- class [StatusBar](#)

18.97 statusbar.h

[Go to the documentation of this file.](#)

```
00001 #ifndef STATUSBAR_H
00002 #define STATUSBAR_H
00003
00004 #include <QStatusBar>
00005 #include <QToolButton>
00006
00007 class StatusBarButton;
00008 class MainWindow;
00009
00010 QT_BEGIN_NAMESPACE
00011 class QLabel;
00012 QT_END_NAMESPACE
00013
00014 class StatusBar : public QStatusBar
00015 {
00016     Q_OBJECT
00017
00018 public:
00019     StatusBar(MainWindow* mw, QWidget* parent = 0);
00020
00021     StatusBarButton* statusBarSnapButton;
00022     StatusBarButton* statusBarGridButton;
00023     StatusBarButton* statusBarRulerButton;
00024     StatusBarButton* statusBarOrthoButton;
00025     StatusBarButton* statusBarPolarButton;
00026     StatusBarButton* statusBarQSnapButton;
00027     StatusBarButton* statusBarQTrackButton;
00028     StatusBarButton* statusBarLwtButton;
00029     QLabel* statusBarMouseCoord;
00030
00031     void setMouseCoord(qreal x, qreal y);
00032
00033 protected:
00034
00035 private slots:
00036
00037 private:
00038
00039 };
00040
00041 #endif
```

18.98 embroidermodder2/undo-commands.cpp File Reference

```
#include "undo-commands.h"
#include "object-base.h"
#include "view.h"
```

18.99 embroidermodder2/undo-commands.h File Reference

```
#include <QUndoCommand>
#include <QPointF>
#include <QTransform>
#include <QtCore/qmath.h>
```

Classes

- class [UndoableAddCommand](#)
- class [UndoableDeleteCommand](#)
- class [UndoableMoveCommand](#)
- class [UndoableRotateCommand](#)
- class [UndoableScaleCommand](#)
- class [UndoableNavCommand](#)
- class [UndoableGripEditCommand](#)
- class [UndoableMirrorCommand](#)

18.100 undo-commands.h

[Go to the documentation of this file.](#)

```
00001 #ifndef UNDO_COMMANDS_H
00002 #define UNDO_COMMANDS_H
00003
00004 #include <QUndoCommand>
00005 #include <QPointF>
00006 #include <QTransform>
00007 #include <QtCore/qmath.h>
00008
00009 class BaseObject;
00010 class View;
00011
00012 class UndoableAddCommand : public QUndoCommand
00013 {
00014     public:
00015         UndoableAddCommand(const QString& text, BaseObject* obj, View* v, QUndoCommand* parent = 0);
00016
00017     void undo();
00018     void redo();
00019
00020     private:
00021         BaseObject* object;
00022         View* gview;
00023     };
00024
00025 class UndoableDeleteCommand : public QUndoCommand
00026 {
00027     public:
00028         UndoableDeleteCommand(const QString& text, BaseObject* obj, View* v, QUndoCommand* parent = 0);
00029
00030     void undo();
00031     void redo();
00032
00033     private:
00034         BaseObject* object;
00035         View* gview;
```

```
00036 };
00037
00038 class UndoableMoveCommand : public QUndoCommand
00039 {
00040 public:
00041     UndoableMoveCommand(qreal deltaX, qreal deltaY, const QString& text, BaseObject* obj, View* v,
00042     QUndoCommand* parent = 0);
00043     void undo();
00044     void redo();
00045
00046 private:
00047     BaseObject* object;
00048     View* gview;
00049     qreal dx;
00050     qreal dy;
00051 };
00052
00053 class UndoableRotateCommand : public QUndoCommand
00054 {
00055 public:
00056     UndoableRotateCommand(qreal pivotPointX, qreal pivotPointY, qreal rotAngle, const QString& text,
00057     BaseObject* obj, View* v, QUndoCommand* parent = 0);
00058     void undo();
00059     void redo();
00060
00061 private:
00062     void rotate(qreal x, qreal y, qreal rot);
00063
00064     inline qreal pi() { return (qAtan(1.0)*4.0); }
00065     inline qreal radians(qreal degrees) { return (degrees*pi()/180.0); }
00066
00067     BaseObject* object;
00068     View* gview;
00069     qreal pivotX;
00070     qreal pivotY;
00071     qreal angle;
00072 };
00073
00074 class UndoableScaleCommand : public QUndoCommand
00075 {
00076 public:
00077     UndoableScaleCommand(qreal x, qreal y, qreal scaleFactor, const QString& text, BaseObject* obj,
00078     View* v, QUndoCommand* parent = 0);
00079     void undo();
00080     void redo();
00081
00082 private:
00083     BaseObject* object;
00084     View* gview;
00085     qreal dx;
00086     qreal dy;
00087     qreal factor;
00088 };
00089
00090 class UndoableNavCommand : public QUndoCommand
00091 {
00092 public:
00093     UndoableNavCommand(const QString& type, View* v, QUndoCommand* parent = 0);
00094
00095     int id() const { return 1234; }
00096     bool mergeWith(const QUndoCommand* command);
00097     void undo();
00098     void redo();
00099
00100 private:
00101     QString navType;
00102     QTransform fromTransform;
00103     QTransform toTransform;
00104     QPointF fromCenter;
00105     QPointF toCenter;
00106     bool done;
00107     View* gview;
00108 };
00109
00110 class UndoableGripEditCommand : public QUndoCommand
00111 {
00112 public:
00113     UndoableGripEditCommand(const QPointF beforePoint, const QPointF afterPoint, const QString& text,
00114     BaseObject* obj, View* v, QUndoCommand* parent = 0);
00115     void undo();
00116     void redo();
00117
00118 private:
```

```
00119     BaseObject* object;
00120     View*      gview;
00121     QPointF    before;
00122     QPointF    after;
00123 };
00124
00125
00126 class UndoableMirrorCommand : public QUndoCommand
00127 {
00128 public:
00129     UndoableMirrorCommand(qreal x1, qreal y1, qreal x2, qreal y2, const QString& text, BaseObject*
00130     obj, View* v, QUndoCommand* parent = 0);
00131     void undo();
00132     void redo();
00133
00134 private:
00135     void mirror();
00136
00137     BaseObject* object;
00138     View*      gview;
00139     QLineF    mirrorLine;
00140
00141 };
00142
00143 #endif
```

18.101 **embroidermodder2/undo-editor.cpp** File Reference

```
#include <QUndoGroup>
#include <QUndoStack>
#include <QUndoView>
#include <QKeyEvent>
#include "undo-editor.h"
#include "undo-commands.h"
```

18.102 **embroidermodder2/undo-editor.h** File Reference

```
#include <QDockWidget>
```

Classes

- class [UndoEditor](#)

18.103 **undo-editor.h**

[Go to the documentation of this file.](#)

```
00001 #ifndef UNDO_EDITOR_H
00002 #define UNDO_EDITOR_H
00003
00004 #include <QDockWidget>
00005
00006 QT_BEGIN_NAMESPACE
00007 class QUndoGroup;
00008 class QUndoStack;
00009 class QUndoView;
00010 QT_END_NAMESPACE
00011
00012 class UndoEditor : public QDockWidget
00013 {
00014     Q_OBJECT
00015
00016 public:
```

```

00017     UndoEditor(const QString& iconDirectory = QString(), QWidget* widgetToFocus = 0, QWidget* parent =
00018     0); //, Qt::WindowFlags flags = 0);
00019     ~UndoEditor();
00020     void addStack(QUndoStack* stack);
00021     bool canUndo() const;
00022     bool canRedo() const;
00023     QString undoText() const;
00024     QString redoText() const;
00025     protected:
00026     public slots:
00027     void undo();
00028     void redo();
00029     void updateCleanIcon(bool opened);
00030
00031     private:
00032     QWidget* focusWidget;
00033     QString iconDir;
00034     int iconSize;
00035     QUndoGroup* undoGroup;
00036     QUndoView* undoView;
00037 };
00038
00039 #endif

```

18.104 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.

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`

18.104.1 Function Documentation

18.104.1.1 `c_split()` `void c_split (`
 `char input[200],`
 `int * argc,`
 `char argv[10][200])`

18.104.1.2 `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.

18.104.1.3 `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.

```
18.104.1.4 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.

```
18.104.1.5 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.

```
18.104.1.6 simplify_path() void simplify_path (
    char * path )
```

Simplifies a path by removing the .. and . symbols in place.

path The character array to operate on.

```
18.104.1.7 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.

```
18.104.1.8 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.

```
18.104.1.9 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.

18.104.2 Variable Documentation

18.104.2.1 **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.

18.104.2.2 **current_directory** `char current_directory[200] = "/"`

18.104.2.3 **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.

18.104.2.4 **just_opened** `bool just_opened = true`

Todo Move to the settings struct.

18.104.2.5 **menu_action** `char menu_action[200]`

18.104.2.6 **menu_layout** `Index* menu_layout`

18.104.2.7 **n_views** `int n_views = 0`

18.104.2.8 **preview** `Settings preview`

18.104.2.9 **settings** `Settings settings`

The actuator changes the program state via these global variables.

18.104.2.10 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".

18.104.2.11 settings_file char settings_file[200]

This file needs to be read from the users home directory to ensure it is writable.

18.104.2.12 to_open char to_open[200] = ""**18.104.2.13 toolbar_layout** [Index](#)* toolbar_layout**18.104.2.14 translation_table** [Dictionary](#)* translation_table**18.104.2.15 views** [EmbView](#) views[50]**18.105 embroidermodder2/view.cpp File Reference**

```
#include "view.h"
#include "property-editor.h"
#include "statusbar.h"
#include "object-data.h"
#include "object-base.h"
#include "undo-editor.h"
#include "undo-commands.h"
#include "selectbox.h"
#include "object-arc.h"
#include "object-circle.h"
#include "object-dimleader.h"
#include "object-ellipse.h"
#include "object-image.h"
#include "object-line.h"
#include "object-path.h"
#include "object-point.h"
#include "object-polygon.h"
#include "object-polyline.h"
#include "object-rect.h"
#include "object-textsingle.h"
#include <QtGui>
#include <QGraphicsScene>
```

18.106 embroidermodder2/view.h File Reference

```
#include <QGraphicsView>
#include <QGraphicsScene>
#include "mainwindow.h"
```

Classes

- class [View](#)

18.107 view.h

[Go to the documentation of this file.](#)

```
00001 #ifndef VIEW_H
00002 #define VIEW_H
00003
00004 #include <QGraphicsView>
00005 #include <QGraphicsScene>
00006 #include "mainwindow.h"
00007
00008 class MainWindow;
00009 class BaseObject;
00010 class SelectBox;
00011
00012 QT_BEGIN_NAMESPACE
00013 class QGraphicsScene;
00014 class QUndoStack;
00015 QT_END_NAMESPACE
00016
00017 class View : public QGraphicsView
00018 {
00019     Q_OBJECT
00020
00021 public:
00022     View(MainWindow* mw, QGraphicsScene* theScene, QWidget* parent);
00023     ~View();
00024
00025     bool allowZoomIn();
00026     bool allowZoomOut();
00027
00028     void recalculateLimits();
00029     void zoomToPoint(const QPoint& mousePoint, int zoomDir);
00030     void centerAt(const QPointF& centerPoint);
00031     QPointF center() { return mapToScene(rect().center()); }
00032
00033     QUndoStack* getUndoStack() { return undoStack; }
00034     void addObject(BaseObject* obj);
00035     void deleteObject(BaseObject* obj);
00036     void vulcanizeObject(BaseObject* obj);
00037
00038 public slots:
00039     void zoomIn();
00040     void zoomOut();
00041     void zoomWindow();
00042     void zoomSelected();
00043     void zoomExtents();
00044     void panRealTime();
00045     void panPoint();
00046     void panLeft();
00047     void panRight();
00048     void panUp();
00049     void panDown();
00050     void selectAll();
00051     void selectionChanged();
00052     void clearSelection();
00053     void deleteSelected();
00054     void moveSelected(qreal dx, qreal dy);
00055     void cut();
00056     void copy();
00057     void paste();
00058     void repeatAction();
00059     void moveAction();
00060     void scaleAction();
00061     void scaleSelected(qreal x, qreal y, qreal factor);
```

```
00062     void rotateAction();
00063     void rotateSelected(qreal x, qreal y, qreal rot);
00064     void mirrorSelected(qreal x1, qreal y1, qreal x2, qreal y2);
00065     int numSelected();
00066
00067     void deletePressed();
00068     void escapePressed();
00069
00070     void cornerButtonClicked();
00071
00072     void showScrollBars(bool val);
00073     void setCornerButton();
00074     void setCrossHairColor(QRgb color);
00075     void setCrossHairSize(quint8 percent);
00076     void setBackgroundColor(QRgb color);
00077     void setSelectBoxColors(QRgb colorL, QRgb fillL, QRgb colorR, QRgb fillR, int alpha);
00078     void toggleSnap(bool on);
00079     void toggleGrid(bool on);
00080     void toggleRuler(bool on);
00081     void toggleOrtho(bool on);
00082     void togglePolar(bool on);
00083     void toggleSnap(bool on);
00084     void toggleQTrack(bool on);
00085     void toggleLwt(bool on);
00086     void toggleReal(bool on);
00087     bool isLwtEnabled();
00088     bool isRealEnabled();
00089
00090     void setGridColor(QRgb color);
00091     void createGrid(const QString& gridType);
00092     void setRulerColor(QRgb color);
00093
00094     void previewOn(int clone, int mode, qreal x, qreal y, qreal data);
00095     void previewOff();
00096
00097     void enableMoveRapidFire();
00098     void disableMoveRapidFire();
00099
00100     bool allowRubber();
00101     void addToRubberRoom(QGraphicsItem* item);
00102     void vulcanizeRubberRoom();
00103     void clearRubberRoom();
00104     void spareRubber(qint64 id);
00105     void setRubberMode(int mode);
00106     void setRubberPoint(const QString& key, const QPointF& point);
00107     void setRubberText(const QString& key, const QString& txt);
00108
00109 protected:
00110     void mouseDoubleClickEvent(QMouseEvent* event);
00111     void mousePressEvent(QMouseEvent* event);
00112     void mouseMoveEvent(QMouseEvent* event);
00113     void mouseReleaseEvent(QMouseEvent* event);
00114     void wheelEvent(QWheelEvent* event);
00115     void contextMenuEvent(QContextMenuEvent* event);
00116     void drawBackground(QPainter* painter, const QRectF& rect);
00117     void drawForeground(QPainter* painter, const QRectF& rect);
00118     void enterEvent(QEvent* event);
00119
00120 private:
00121     QHash<qint64, QGraphicsItem*> hashDeletedObjects;
00122
00123     QList<qint64> spareRubberList;
00124
00125     QColor gridColor;
00126     QPainterPath gridPath;
00127     void createGridRect();
00128     void createGridPolar();
00129     void createGridIso();
00130     QPainterPath originPath;
00131     void createOrigin();
00132
00133     bool rulerMetric;
00134     QColor rulerColor;
00135     quint8 rulerPixelSize;
00136     void loadRulerSettings();
00137
00138     bool willUnderflowInt32(qint64 a, qint64 b);
00139     bool willOverflowInt32(qint64 a, qint64 b);
00140     int roundToMultiple(bool roundUp, int numToRound, int multiple);
00141     QPainterPath createRulerTextPath(float x, float y, QString str, float height);
00142
00143     QList<QGraphicsItem*> previewObjectList;
00144     QGraphicsItemGroup* previewObjectItemGroup;
00145     QPointF previewPoint;
00146     qreal previewData;
00147     int previewMode;
00148
```

```

00149     QList<QGraphicsItem*> createObjectList(QList<QGraphicsItem*> list);
00150     QPointF cutCopyMousePoint;
00151     QGraphicsItemGroup* pasteObjectItemGroup;
00152     QPointF pasteDelta;
00153
00154     QList<QGraphicsItem*> rubberRoomList;
00155
00156     void copySelected();
00157
00158     bool grippingActive;
00159     bool rapidMoveActive;
00160     bool previewActive;
00161     bool pastingActive;
00162     bool movingActive;
00163     bool selectingActive;
00164     bool zoomWindowActive;
00165     bool panningRealTimeActive;
00166     bool panningPointActive;
00167     bool panningActive;
00168     bool qSnapActive;
00169     bool qSnapToggle;
00170
00171     void startGripping(BaseObject* obj);
00172     void stopGripping(bool accept = false);
00173
00174     BaseObject* gripBaseObj;
00175     BaseObject* tempBaseObj;
00176
00177     MainWindow* mainWin;
00178     QGraphicsScene* gscene;
00179     QUndoStack* undoStack;
00180
00181     SelectBox* selectBox;
00182     QPointF scenePressPoint;
00183     QPoint pressPoint;
00184     QPointF sceneMovePoint;
00185     QPoint movePoint;
00186     QPointF sceneReleasePoint;
00187     QPoint releasePoint;
00188     QPointF sceneGripPoint;
00189
00190     void updateMouseCoords(int x, int y);
00191     QPoint viewMousePoint;
00192     QPointF sceneMousePoint;
00193     QRgb qsnapLocatorColor;
00194     quint8 qsnapLocatorSize;
00195     quint8 qsnapApertureSize;
00196     QRgb gripColorCool;
00197     QRgb gripColorHot;
00198     quint8 gripSize;
00199     quint8 pickBoxSize;
00200     QRgb crosshairColor;
00201     quint32 crosshairSize;
00202
00203     void panStart(const QPoint& point);
00204     int panDistance;
00205     int panStartX;
00206     int panStartY;
00207
00208     void alignScenePointWithViewPoint(const QPointF& scenePoint, const QPoint& viewPoint);
00209
00210     inline qreal pi() { return (qAtan(1.0)*4.0); };
00211     inline qreal radians(qreal degrees) { return (degrees*pi()/180.0); };
00212 };
00213
00214 #endif

```

18.108 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)`

18.108.1 Function Documentation

18.108.1.1 embArray_addArc() int `embArray_addArc (`
 `EmbArray * a,`
 `EmbArc b)`

Parameters

| | |
|----------------|--|
| <code>a</code> | |
| <code>b</code> | |

Returns

int

18.108.1.2 embArray_addCircle() int `embArray_addCircle (`
 `EmbArray * a,`
 `EmbCircle b)`

Parameters

| | |
|----------------|--|
| <code>a</code> | |
| <code>b</code> | |

Returns

int

18.108.1.3 embArray_addEllipse() int embArray_addEllipse (

```
EmbArray * a,
EmbEllipse b )
```

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.4 embArray_addFlag() int embArray_addFlag (

```
EmbArray * a,
EmbFlag b )
```

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.5 embArray_addLine() int embArray_addLine (

```
EmbArray * a,
EmbLine b )
```

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.6 embArray_addPath() int embArray_addPath (

```
EmbArray * a,
EmbPath b )
```

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.7 embArray_addPoint() int embArray_addPoint (`EmbArray * a,
EmbPoint b)`**Parameters**

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.8 embArray_addPolygon() int embArray_addPolygon (`EmbArray * a,
EmbPolygon b)`**Parameters**

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.9 embArray_addPolyline() int embArray_addPolyline (`EmbArray * a,
EmbPolyline b)`**Parameters**

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.10 embArray_addRect() int embArray_addRect (

```
EmbArray * a,
EmbRect b )
```

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.11 embArray_addStitch() int embArray_addStitch (

```
EmbArray * a,
EmbStitch b )
```

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.12 embArray_addVector() int embArray_addVector (

```
EmbArray * a,
EmbVector b )
```

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.108.1.13 embArray_copy() void embArray_copy (

```
EmbArray * dst,
EmbArray * src )
```

Parameters

| | |
|-----|----------------------|
| dst | <input type="text"/> |
| src | <input type="text"/> |

18.108.1.14 embArray_create() EmbArray * embArray_create (

```
int type )
```

Parameters

| | |
|------|----------------------|
| type | <input type="text"/> |
|------|----------------------|

Returns

EmbArray*

18.108.1.15 embArray_free() void embArray_free (

```
EmbArray * a )
```

Parameters

| | |
|---|----------------------|
| a | <input type="text"/> |
|---|----------------------|

18.108.1.16 embArray_resize() int embArray_resize (

```
EmbArray * a )
```

Parameters

| | |
|---|----------------------|
| a | <input type="text"/> |
|---|----------------------|

Returns

int

18.109 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]

18.109.1 Function Documentation

18.109.1.1 compress_get_bits() int compress_get_bits (
 compress * c,
 int length)

Parameters

| | |
|---------------------|--|
| <code>c</code> | |
| <code>length</code> | |

Returns

int

18.109.1.2 compress_get_position() int compress_get_position (
 compress * c)

Parameters

| | |
|----------------|----------------------|
| <code>c</code> | <input type="text"/> |
|----------------|----------------------|

Returns

int

18.109.1.3 compress_get_token() int compress_get_token (
 compress * c)**Parameters**

| | |
|----------------|----------------------|
| <code>c</code> | <input type="text"/> |
|----------------|----------------------|

Returns

int

18.109.1.4 compress_init() void compress_init ()**18.109.1.5 compress_load_block()** void compress_load_block (
 compress * c)**Parameters**

| | |
|----------------|----------------------|
| <code>c</code> | <input type="text"/> |
|----------------|----------------------|

18.109.1.6 compress_load_character_huffman() void compress_load_character_huffman (
 compress * c)**Parameters**

| | |
|----------------|----------------------|
| <code>c</code> | <input type="text"/> |
|----------------|----------------------|

18.109.1.7 compress_load_character_length_huffman() void compress_load_character_length_←
huffman ()

```
compress * c )
```

Parameters

| | |
|---|--|
| c | |
|---|--|

18.109.1.8 compress_load_distance_huffman() void compress_load_distance_huffman (

```
compress * c )
```

Parameters

| | |
|---|--|
| c | |
|---|--|

18.109.1.9 compress_peek() int compress_peek (

```
compress * c,
int bit_count )
```

Parameters

| | |
|-----------|--|
| c | |
| bit_count | |

Returns

int

18.109.1.10 compress_pop() int compress_pop (

```
compress * c,
int bit_count )
```

Parameters

| | |
|-----------|--|
| c | |
| bit_count | |

Returns

int

18.109.1.11 compress_read_variable_length() int compress_read_variable_length (

```
compress * c )
```

Parameters

| | |
|---|--|
| c | |
|---|--|

Returns

int

18.109.1.12 huffman_build_table() void huffman_build_table (huffman * h)These next 2 functions represent the [Huffman](#) class in tartarize's code.**Parameters**

| | |
|---|--|
| h | |
|---|--|

18.109.1.13 huffman_lookup() int * huffman_lookup (huffman h, int byte_lookup)**Parameters**

| | |
|-------------|--|
| h | |
| byte_lookup | |

Returns

int*

18.109.1.14 hus_compress() int hus_compress (char * data, int length, char * output, int * output_length)

This file is part of libembroidery.

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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).

18.109.1.15 `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

18.109.2 Variable Documentation

18.109.2.1 `huffman_lookup_data` int `huffman_lookup_data[2]`

18.110 `extern/libembroidery/src/embedded.md` File Reference**18.111 `extern/libembroidery/src/embroider_cli.md` File Reference****18.112 `extern/libembroidery/src/embroidery.h` File Reference****Classes**

- struct `EmbColor_`
- struct `EmbVector_`
- struct `EmblImage_`
- struct `EmbBlock_`
- struct `EmbAlignedDim_`
- struct `EmbAngularDim_`
- struct `EmbArcLengthDim_`
- struct `EmbDiameterDim_`
- struct `EmbLeaderDim_`
- struct `EmbLinearDim_`
- struct `EmbOrdinateDim_`
- struct `EmbRadiusDim_`
- struct `EmblInfiniteLine_`
- struct `EmbRay_`
- struct `EmbTextMulti_`
- struct `EmbTextSingle_`
- struct `EmbTime_`
- struct `EmbPoint_`
- struct `EmbLine_`
- struct `EmbPath_`
- struct `EmbStitch_`
- struct `EmbThread_`
- struct `thread_color_`
- struct `EmbArc_`
absolute position (not relative)
- struct `EmbRect_`
- struct `EmbCircle_`
- struct `EmbSatinOutline_`
- struct `EmbEllipse_`
- struct `EmbBezier_`
- struct `EmbSpline_`
- struct `LSYSTEM`
- struct `EmbGeometry_`
- struct `EmbArray_`
- struct `EmbLayer_`
- struct `EmbPattern_`
- struct `EmbFormatList_`

Macros

- #define LIBEMBROIDERY_EMBEDDED_VERSION 0
- #define NORMAL 0 /*! stitch to (x, y) */
- #define JUMP 1 /*! move to (x, y) */
- #define TRIM 2 /*! trim + move to (x, y) */
- #define STOP 4 /*! pause machine for thread change */
- #define SEQUIN 8 /*! sequin */
- #define END 16 /*! end of program */
- #define EMB_FORMAT_100 0
- #define EMB_FORMAT_10O 1
- #define EMB_FORMAT_ART 2
- #define EMB_FORMAT_BMC 3
- #define EMB_FORMAT_BRO 4
- #define EMB_FORMAT_CND 5
- #define EMB_FORMAT_COL 6
- #define EMB_FORMAT_CSD 7
- #define EMB_FORMAT_CSV 8
- #define EMB_FORMAT_DAT 9
- #define EMB_FORMAT_DEM 10
- #define EMB_FORMAT_DSB 11
- #define EMB_FORMAT_DST 12
- #define EMB_FORMAT_DSZ 13
- #define EMB_FORMAT_DXF 14
- #define EMB_FORMAT_EDR 15
- #define EMB_FORMAT_EMD 16
- #define EMB_FORMAT_EXP 17
- #define EMB_FORMAT_EXY 18
- #define EMB_FORMAT_EYS 19
- #define EMB_FORMAT_FXY 20
- #define EMB_FORMAT_GC 21
- #define EMB_FORMAT_GNC 22
- #define EMB_FORMAT_GT 23
- #define EMB_FORMAT_HUS 24
- #define EMB_FORMAT_INB 25
- #define EMB_FORMAT_INF 26
- #define EMB_FORMAT_JEF 27
- #define EMB_FORMAT_KSM 28
- #define EMB_FORMAT_MAX 29
- #define EMB_FORMAT_MIT 30
- #define EMB_FORMAT_NEW 31
- #define EMB_FORMAT_OFM 32
- #define EMB_FORMAT_PCD 33
- #define EMB_FORMAT_PCM 34
- #define EMB_FORMAT_PCQ 35
- #define EMB_FORMAT_PCS 36
- #define EMB_FORMAT_PEC 37
- #define EMB_FORMAT_PEL 38
- #define EMB_FORMAT_PEM 39
- #define EMB_FORMAT_PES 40
- #define EMB_FORMAT_PHB 41
- #define EMB_FORMAT_PHC 42
- #define EMB_FORMAT_PLT 43
- #define EMB_FORMAT_RGB 44
- #define EMB_FORMAT_SEW 45

- #define EMB_FORMAT_SHV 46
- #define EMB_FORMAT_SST 47
- #define EMB_FORMAT_STX 48
- #define EMB_FORMAT_SVG 49
- #define EMB_FORMAT_T01 50
- #define EMB_FORMAT_T09 51
- #define EMB_FORMAT_TAP 52
- #define EMB_FORMAT_THR 53
- #define EMB_FORMAT_TXT 54
- #define EMB_FORMAT_U00 55
- #define EMB_FORMAT_U01 56
- #define EMB_FORMAT_VIP 57
- #define EMB_FORMAT_VP3 58
- #define EMB_FORMAT_XXX 59
- #define EMB_FORMAT_ZSK 60
- #define Arc_Polyester 0
- #define Arc_Rayon 1
- #define CoatsAndClark_Rayon 2
- #define Exquisite_Polyester 3
- #define Fufu_Polyester 4
- #define Fufu_Rayon 5
- #define Hemingworth_Polyester 6
- #define Isacord_Polyester 7
- #define Isafil_Rayon 8
- #define Marathon_Polyester 9
- #define Marathon_Rayon 10
- #define Madeira_Polyester 11
- #define Madeira_Rayon 12
- #define Metro_Polyester 13
- #define Pantone 14
- #define RobisonAnton_Polyester 15
- #define RobisonAnton_Rayon 16
- #define Sigma_Polyester 17
- #define Sulky_Rayon 18
- #define ThreadArt_Rayon 19
- #define ThreadArt_Polyester 20
- #define ThreaDelight_Polyester 21
- #define Z102_Isacord_Polyester 22
- #define SVG_Colors 23
- #define hus_thread 24
- #define jef_thread 25
- #define pcm_thread 26
- #define pec_thread 27
- #define shv_thread 28
- #define dxf_color 29
- #define EMB_ARRAY 0
- #define EMB_ARC 1
- #define EMB_CIRCLE 2
- #define EMB_DIM_DIAMETER 3
- #define EMB_DIM_LEADER 4
- #define EMB_ELLIPSE 5
- #define EMB_FLAG 6
- #define EMB_LINE 7
- #define EMB_IMAGE 8
- #define EMB_PATH 9

- #define EMB_POINT 10
- #define EMB_POLYGON 11
- #define EMB_POLYLINE 12
- #define EMB_RECT 13
- #define EMB_SPLINE 14
- #define EMB_STITCH 15
- #define EMB_TEXT_SINGLE 16
- #define EMB_TEXT_MULTI 17
- #define EMB_VECTOR 18
- #define EMB_THREAD 19
- #define EMBFORMAT_UNSUPPORTED 0
- #define EMBFORMAT_STITCHONLY 1
- #define EMBFORMAT_OBJECTONLY 2
- #define EMBFORMAT_STCHANDOBJ 3 /* binary operation: 1+2=3 */
- #define numberFormats 61
- #define CHUNK_SIZE 128
- #define EMB_MAX_LAYERS 10
- #define MAX_THREADS 256
- #define EMBFORMAT_MAXEXT 3
- #define EMBFORMAT_MAXDESC 50
- #define MAX_STITCHES 1000000
- #define EMB_PUBLIC

Typedefs

- typedef float EmbReal
- typedef struct EmbColor_ EmbColor
- typedef struct EmbVector_ EmbVector
- typedef struct EmbArray_ EmbArray
- typedef struct EmbImage_ EmbImage
- typedef struct EmbBlock_ EmbBlock
- typedef struct EmbAlignedDim_ EmbAlignedDim
- typedef struct EmbAngularDim_ EmbAngularDim
- typedef struct EmbArcLengthDim_ EmbArcLengthDim
- typedef struct EmbDiameterDim_ EmbDiameterDim
- typedef struct EmbLeaderDim_ EmbLeaderDim
- typedef struct EmbLinearDim_ EmbLinearDim
- typedef struct EmbOrdinateDim_ EmbOrdinateDim
- typedef struct EmbRadiusDim_ EmbRadiusDim
- typedef struct EmbInfiniteLine_ EmbInfiniteLine
- typedef struct EmbRay_ EmbRay
- typedef struct EmbTextMulti_ EmbTextMulti
- typedef struct EmbTextSingle_ EmbTextSingle
- typedef struct EmbTime_ EmbTime
- typedef struct EmbPoint_ EmbPoint
- typedef struct EmbLine_ EmbLine
- typedef struct EmbPath_ EmbPath
- typedef struct EmbStitch_ EmbStitch
- typedef struct EmbThread_ EmbThread
- typedef struct thread_color_ thread_color
- typedef struct EmbArc_ EmbArc
 - absolute position (not relative)*
- typedef struct EmbRect_ EmbRect
- typedef struct EmbCircle_ EmbCircle

- `typedef EmbPath EmbPolygon`
- `typedef EmbPath EmbPolyline`
- `typedef int EmbFlag`
- `typedef struct EmbSatinOutline_ EmbSatinOutline`
- `typedef struct EmbEllipse_ EmbEllipse`
- `typedef struct EmbBezier_ EmbBezier`
- `typedef struct EmbSpline_ EmbSpline`
- `typedef struct LSYSTEM L_system`
- `typedef struct EmbGeometry_ EmbGeometry`
- `typedef struct EmbLayer_ EmbLayer`
- `typedef struct EmbPattern_ EmbPattern`
- `typedef struct EmbFormatList_ EmbFormatList`

Functions

- `EMB_PUBLIC int lindenmayer_system (L_system L, char *state, int iteration, int complete)`
- `EMB_PUBLIC int hilbert_curve (EmbPattern *pattern, int iterations)`
- `EMB_PUBLIC int emb_identify_format (const char *ending)`
- `EMB_PUBLIC void testMain (int level)`
- `EMB_PUBLIC int convert (const char *inf, const char *outf)`
- `EMB_PUBLIC EmbColor embColor_make (unsigned char r, unsigned char g, unsigned char b)`
- `EMB_PUBLIC EmbColor * embColor_create (unsigned char r, unsigned char g, unsigned char b)`
- `EMB_PUBLIC EmbColor embColor_fromHexStr (char *val)`
Converts a 6 digit hex string (I.E. "00FF00") into an EmbColor and returns it.
- `EMB_PUBLIC int embColor_distance (EmbColor a, EmbColor b)`
- `EMB_PUBLIC EmbArray * embArray_create (int type)`
- `EMB_PUBLIC int embArray_resize (EmbArray *g)`
- `EMB_PUBLIC void embArray_copy (EmbArray *dst, EmbArray *src)`
- `EMB_PUBLIC int embArray_addArc (EmbArray *g, EmbArc arc)`
- `EMB_PUBLIC int embArray_addCircle (EmbArray *g, EmbCircle circle)`
- `EMB_PUBLIC int embArray_addEllipse (EmbArray *g, EmbEllipse ellipse)`
- `EMB_PUBLIC int embArray_addFlag (EmbArray *g, int flag)`
- `EMB_PUBLIC int embArray_addLine (EmbArray *g, EmbLine line)`
- `EMB_PUBLIC int embArray_addRect (EmbArray *g, EmbRect rect)`
- `EMB_PUBLIC int embArray_addPath (EmbArray *g, EmbPath p)`
- `EMB_PUBLIC int embArray_addPoint (EmbArray *g, EmbPoint p)`
- `EMB_PUBLIC int embArray_addPolygon (EmbArray *g, EmbPolygon p)`
- `EMB_PUBLIC int embArray_addPolyline (EmbArray *g, EmbPolyline p)`
- `EMB_PUBLIC int embArray_addStitch (EmbArray *g, EmbStitch st)`
- `EMB_PUBLIC int embArray_addThread (EmbArray *g, EmbThread p)`
- `EMB_PUBLIC int embArray_addVector (EmbArray *g, EmbVector)`
- `EMB_PUBLIC void embArray_free (EmbArray *p)`
- `EMB_PUBLIC EmbLine embLine_make (EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2)`
- `EMB_PUBLIC void embLine_normalVector (EmbLine line, EmbVector *result, int clockwise)`
- `EMB_PUBLIC EmbVector embLine_intersectionPoint (EmbLine line1, EmbLine line2)`
- `EMB_PUBLIC int embThread_findNearestColor (EmbColor color, EmbColor *colors, int n_colors)`
- `EMB_PUBLIC int embThread_findNearestThread (EmbColor color, EmbThread *threads, int n_threads)`
- `EMB_PUBLIC EmbThread embThread_getRandom (void)`
- `EMB_PUBLIC void embVector_normalize (EmbVector vector, EmbVector *result)`
- `EMB_PUBLIC void embVector_multiply (EmbVector vector, EmbReal magnitude, EmbVector *result)`
- `EMB_PUBLIC EmbVector embVector_add (EmbVector v1, EmbVector v2)`
- `EMB_PUBLIC EmbVector embVector_average (EmbVector v1, EmbVector v2)`
- `EMB_PUBLIC EmbVector embVector_subtract (EmbVector v1, EmbVector v2)`
- `EMB_PUBLIC EmbReal embVector_dot (EmbVector v1, EmbVector v2)`

- **EMB_PUBLIC** EmbReal embVector_cross (EmbVector v1, EmbVector v2)
The "cross product" as vectors a and b returned as a real value.
- **EMB_PUBLIC** void embVector_transpose_product (EmbVector v1, EmbVector v2, EmbVector *result)
- **EMB_PUBLIC** EmbReal embVector_length (EmbVector vector)
- **EMB_PUBLIC** EmbReal embVector_relativeX (EmbVector a1, EmbVector a2, EmbVector a3)
- **EMB_PUBLIC** EmbReal embVector_relativeY (EmbVector a1, EmbVector a2, EmbVector a3)
- **EMB_PUBLIC** EmbReal embVector_angle (EmbVector v)
- **EMB_PUBLIC** EmbReal embVector_distance (EmbVector a, EmbVector b)
- **EMB_PUBLIC** EmbVector embVector_unit (EmbReal angle)
- **EMB_PUBLIC** EmbArc embArc_init (void)
- **EMB_PUBLIC** char embArc_clockwise (EmbArc arc)
- **EMB_PUBLIC** void getArcCenter (EmbArc arc, EmbVector *arcCenter)
- **EMB_PUBLIC** char getArcDataFromBulge (EmbReal bulge, EmbArc *arc, EmbReal *arcCenterX, EmbReal *arcCenterY, EmbReal *radius, EmbReal *diameter, EmbReal *chord, EmbReal *chordMidX, EmbReal *chordMidY, EmbReal *sagitta, EmbReal *apothem, EmbReal *incAngleInDegrees, char *clockwise)
- **EMB_PUBLIC** EmbCircle embCircle_init (void)
- **EMB_PUBLIC** int getCircleCircleIntersections (EmbCircle c0, EmbCircle c1, EmbVector *v0, EmbVector *v1)
- **EMB_PUBLIC** int getCircleTangentPoints (EmbCircle c, EmbVector p, EmbVector *v0, EmbVector *v1)
- **EMB_PUBLIC** EmbEllipse embEllipse_init (void)
- **EMB_PUBLIC** EmbReal 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.

18.112.1 Macro Definition Documentation

18.112.1.1 Arc_Polyester `#define Arc_Polyester 0`

18.112.1.2 Arc_Rayon `#define Arc_Rayon 1`

18.112.1.3 CHUNK_SIZE `#define CHUNK_SIZE 128`

18.112.1.4 CoatsAndClark_Rayon `#define CoatsAndClark_Rayon 2`

18.112.1.5 dxf_color `#define dxf_color 29`

18.112.1.6 EMB_ARC `#define EMB_ARC 1`

18.112.1.7 EMB_ARRAY #define EMB_ARRAY 0

18.112.1.8 EMB_CIRCLE #define EMB_CIRCLE 2

18.112.1.9 EMB_DIM_DIAMETER #define EMB_DIM_DIAMETER 3

18.112.1.10 EMB_DIM_LEADER #define EMB_DIM_LEADER 4

18.112.1.11 EMB_ELLIPSE #define EMB_ELLIPSE 5

18.112.1.12 EMB_FLAG #define EMB_FLAG 6

18.112.1.13 EMB_FORMAT_100 #define EMB_FORMAT_100 0

Format identifiers

18.112.1.14 EMB_FORMAT_10O #define EMB_FORMAT_10O 1

18.112.1.15 EMB_FORMAT_ART #define EMB_FORMAT_ART 2

18.112.1.16 EMB_FORMAT_BMC #define EMB_FORMAT_BMC 3

18.112.1.17 EMB_FORMAT_BRO #define EMB_FORMAT_BRO 4

18.112.1.18 EMB_FORMAT_CND #define EMB_FORMAT_CND 5

18.112.1.19 EMB_FORMAT_COL #define EMB_FORMAT_COL 6

18.112.1.20 EMB_FORMAT_CSD #define EMB_FORMAT_CSD 7

18.112.1.21 EMB_FORMAT_CSV #define EMB_FORMAT_CSV 8

18.112.1.22 EMB_FORMAT_DAT #define EMB_FORMAT_DAT 9

18.112.1.23 EMB_FORMATDEM #define EMB_FORMATDEM 10

18.112.1.24 EMB_FORMAT_DSB #define EMB_FORMAT_DSB 11

18.112.1.25 EMB_FORMAT_DST #define EMB_FORMAT_DST 12

18.112.1.26 EMB_FORMAT_DSZ #define EMB_FORMAT_DSZ 13

18.112.1.27 EMB_FORMAT_DXF #define EMB_FORMAT_DXF 14

18.112.1.28 EMB_FORMAT_EDR #define EMB_FORMAT_EDR 15

18.112.1.29 EMB_FORMAT_EMD #define EMB_FORMAT_EMD 16

18.112.1.30 EMB_FORMAT_EXP #define EMB_FORMAT_EXP 17

18.112.1.31 EMB_FORMAT_EXY #define EMB_FORMAT_EXY 18

18.112.1.32 EMB_FORMAT_EYS #define EMB_FORMAT_EYS 19

18.112.1.33 EMB_FORMAT_FXY #define EMB_FORMAT_FXY 20

18.112.1.34 EMB_FORMAT_GC #define EMB_FORMAT_GC 21

18.112.1.35 EMB_FORMAT_GNC #define EMB_FORMAT_GNC 22

18.112.1.36 EMB_FORMAT_GT #define EMB_FORMAT_GT 23

18.112.1.37 EMB_FORMAT_HUS #define EMB_FORMAT_HUS 24

18.112.1.38 EMB_FORMAT_INB #define EMB_FORMAT_INB 25

18.112.1.39 EMB_FORMAT_INF #define EMB_FORMAT_INF 26

18.112.1.40 EMB_FORMAT_JEF #define EMB_FORMAT_JEF 27

18.112.1.41 EMB_FORMAT_KSM #define EMB_FORMAT_KSM 28

18.112.1.42 EMB_FORMAT_MAX #define EMB_FORMAT_MAX 29

18.112.1.43 EMB_FORMAT_MIT #define EMB_FORMAT_MIT 30

18.112.1.44 EMB_FORMAT_NEW #define EMB_FORMAT_NEW 31

18.112.1.45 EMB_FORMAT_OFM #define EMB_FORMAT_OFM 32

18.112.1.46 EMB_FORMAT_PCD #define EMB_FORMAT_PCD 33

18.112.1.47 EMB_FORMAT_PCM #define EMB_FORMAT_PCM 34

18.112.1.48 EMB_FORMAT_PCQ #define EMB_FORMAT_PCQ 35

18.112.1.49 EMB_FORMAT_PCS #define EMB_FORMAT_PCS 36

18.112.1.50 EMB_FORMAT_PEC #define EMB_FORMAT_PEC 37

18.112.1.51 EMB_FORMAT_PEL #define EMB_FORMAT_PEL 38

18.112.1.52 EMB_FORMAT_PEM #define EMB_FORMAT_PEM 39

18.112.1.53 EMB_FORMAT_PES #define EMB_FORMAT_PES 40

18.112.1.54 EMB_FORMAT_PHB #define EMB_FORMAT_PHB 41

18.112.1.55 EMB_FORMAT_PHC #define EMB_FORMAT_PHC 42

18.112.1.56 EMB_FORMAT_PLT #define EMB_FORMAT_PLT 43

18.112.1.57 EMB_FORMAT_RGB #define EMB_FORMAT_RGB 44

18.112.1.58 EMB_FORMAT_SEW #define EMB_FORMAT_SEW 45

18.112.1.59 EMB_FORMAT_SHV #define EMB_FORMAT_SHV 46

18.112.1.60 EMB_FORMAT_SST #define EMB_FORMAT_SST 47

18.112.1.61 EMB_FORMAT_STX #define EMB_FORMAT_STX 48

18.112.1.62 EMB_FORMAT_SVG #define EMB_FORMAT_SVG 49

18.112.1.63 EMB_FORMAT_T01 #define EMB_FORMAT_T01 50

18.112.1.64 EMB_FORMAT_T09 #define EMB_FORMAT_T09 51

18.112.1.65 EMB_FORMAT_TAP #define EMB_FORMAT_TAP 52

18.112.1.66 EMB_FORMAT_THR #define EMB_FORMAT_THR 53

18.112.1.67 EMB_FORMAT_TXT #define EMB_FORMAT_TXT 54

18.112.1.68 EMB_FORMAT_U00 #define EMB_FORMAT_U00 55

18.112.1.69 EMB_FORMAT_U01 #define EMB_FORMAT_U01 56

18.112.1.70 EMB_FORMAT_VIP #define EMB_FORMAT_VIP 57

18.112.1.71 EMB_FORMAT_VP3 #define EMB_FORMAT_VP3 58

18.112.1.72 EMB_FORMAT_XXX #define EMB_FORMAT_XXX 59

18.112.1.73 EMB_FORMAT_ZSK #define EMB_FORMAT_ZSK 60

18.112.1.74 EMB_IMAGE #define EMB_IMAGE 8

18.112.1.75 EMB_LINE #define EMB_LINE 7

18.112.1.76 EMB_MAX_LAYERS #define EMB_MAX_LAYERS 10

18.112.1.77 EMB_PATH #define EMB_PATH 9

18.112.1.78 EMB_POINT #define EMB_POINT 10

18.112.1.79 EMB_POLYGON #define EMB_POLYGON 11

18.112.1.80 EMB_POLYLINE #define EMB_POLYLINE 12

18.112.1.81 EMB_PUBLIC #define EMB_PUBLIC

18.112.1.82 EMB_RECT #define EMB_RECT 13

18.112.1.83 EMB_SPLINE #define EMB_SPLINE 14

18.112.1.84 EMB_STITCH #define EMB_STITCH 15

18.112.1.85 EMB_TEXT_MULTI #define EMB_TEXT_MULTI 17

18.112.1.86 EMB_TEXT_SINGLE #define EMB_TEXT_SINGLE 16

18.112.1.87 EMB_THREAD #define EMB_THREAD 19

18.112.1.88 EMB_VECTOR #define EMB_VECTOR 18

18.112.1.89 EMBFORMAT_MAXDESC #define EMBFORMAT_MAXDESC 50

18.112.1.90 EMBFORMAT_MAXEXT #define EMBFORMAT_MAXEXT 3

18.112.1.91 EMBFORMAT_OBJECTONLY #define EMBFORMAT_OBJECTONLY 2

18.112.1.92 EMBFORMAT_STCHANDOBJ #define EMBFORMAT_STCHANDOBJ 3 /* binary operation←
: 1+2=3 */

18.112.1.93 EMBFORMAT_STITCHONLY #define EMBFORMAT_STITCHONLY 1

18.112.1.94 EMBFORMAT_UNSUPPORTED #define EMBFORMAT_UNSUPPORTED 0

18.112.1.95 END #define END 16 /*! end of program */

18.112.1.96 Exquisite_Polyester #define Exquisite_Polyester 3

18.112.1.97 Fufu_Polyester #define Fufu_Polyester 4

18.112.1.98 Fufu_Rayon #define Fufu_Rayon 5

18.112.1.99 Hemingworth_Polyester #define Hemingworth_Polyester 6

18.112.1.100 hus_thread #define hus_thread 24

18.112.1.101 Isacord_Polyester #define Isacord_Polyester 7

18.112.1.102 Isafil_Rayon #define Isafil_Rayon 8

18.112.1.103 jef_thread #define jef_thread 25

18.112.1.104 JUMP #define JUMP 1 /*! move to (x, y) */

18.112.1.105 LIBEMBROIDERY_EMBEDDED_VERSION #define LIBEMBROIDERY_EMBEDDED_VERSION 0

18.112.1.106 Madeira_Polyester #define Madeira_Polyester 11

18.112.1.107 Madeira_Rayon #define Madeira_Rayon 12

18.112.1.108 Marathon_Polyester #define Marathon_Polyester 9

18.112.1.109 Marathon_Rayon #define Marathon_Rayon 10

18.112.1.110 MAX_STITCHES #define MAX_STITCHES 1000000

18.112.1.111 MAX_THREADS #define MAX_THREADS 256

18.112.1.112 Metro_Polyester #define Metro_Polyester 13

18.112.1.113 NORMAL #define NORMAL 0 /*! stitch to (x, y) */

Machine codes for stitch flags

18.112.1.114 numberOfFormats #define numberOfFormats 61

18.112.1.115 Pantone #define Pantone 14

18.112.1.116 pcm_thread #define pcm_thread 26

18.112.1.117 pec_thread #define pec_thread 27

18.112.1.118 RobisonAnton_Polyester #define RobisonAnton_Polyester 15

18.112.1.119 RobisonAnton_Rayon #define RobisonAnton_Rayon 16

18.112.1.120 SEQUIN #define SEQUIN 8 /*! sequin */

18.112.1.121 shv_thread #define shv_thread 28

18.112.1.122 Sigma_Polyester #define Sigma_Polyester 17

18.112.1.123 STOP #define STOP 4 /*! pause machine for thread change */

18.112.1.124 Sulky_Rayon #define Sulky_Rayon 18

18.112.1.125 SVG_Colors #define SVG_Colors 23

18.112.1.126 ThreadArt_Polyester #define ThreadArt_Polyester 20

18.112.1.127 ThreadArt_Rayon #define ThreadArt_Rayon 19

18.112.1.128 ThreaDelight_Polyester #define ThreaDelight_Polyester 21

18.112.1.129 TRIM #define TRIM 2 /*! trim + move to (x, y) */

18.112.1.130 Z102_Isacord_Polyester #define Z102_Isacord_Polyester 22

18.112.2 Typedef Documentation

18.112.2.1 EmbAlignedDim typedef struct EmbAlignedDim_ EmbAlignedDim

18.112.2.2 EmbAngularDim typedef struct EmbAngularDim_ EmbAngularDim

18.112.2.3 EmbArc typedef struct EmbArc_ EmbArc

absolute position (not relative)

18.112.2.4 EmbArcLengthDim typedef struct EmbArcLengthDim_ EmbArcLengthDim

18.112.2.5 EmbArray typedef struct EmbArray_ EmbArray

The basic array type.

18.112.2.6 EmbBezier typedef struct EmbBezier_ EmbBezier

18.112.2.7 EmbBlock typedef struct EmbBlock_ EmbBlock

18.112.2.8 EmbCircle `typedef struct EmbCircle_ EmbCircle`**18.112.2.9 EmbColor** `typedef struct EmbColor_ EmbColor`

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

18.112.2.10 EmbDiameterDim `typedef struct EmbDiameterDim_ EmbDiameterDim`**18.112.2.11 EmbEllipse** `typedef struct EmbEllipse_ EmbEllipse`**18.112.2.12 EmbFlag** `typedef int EmbFlag`**18.112.2.13 EmbFormatList** `typedef struct EmbFormatList_ EmbFormatList`**18.112.2.14 EmbGeometry** `typedef struct EmbGeometry_ EmbGeometry`**18.112.2.15 EmbImage** `typedef struct EmbImage_ EmbImage`**18.112.2.16 EmbInfiniteLine** `typedef struct EmbInfiniteLine_ EmbInfiniteLine`**18.112.2.17 EmbLayer** `typedef struct EmbLayer_ EmbLayer`**18.112.2.18 EmbLeaderDim** `typedef struct EmbLeaderDim_ EmbLeaderDim`

18.112.2.19 EmbLine `typedef struct EmbLine_ EmbLine`

18.112.2.20 EmbLinearDim `typedef struct EmbLinearDim_ EmbLinearDim`

18.112.2.21 EmbOrdinateDim `typedef struct EmbOrdinateDim_ EmbOrdinateDim`

18.112.2.22 EmbPath `typedef struct EmbPath_ EmbPath`

18.112.2.23 EmbPattern `typedef struct EmbPattern_ EmbPattern`

18.112.2.24 EmbPoint `typedef struct EmbPoint_ EmbPoint`

18.112.2.25 EmbPolygon `typedef EmbPath EmbPolygon`

18.112.2.26 EmbPolyline `typedef EmbPath EmbPolyline`

18.112.2.27 EmbRadiusDim `typedef struct EmbRadiusDim_ EmbRadiusDim`

18.112.2.28 EmbRay `typedef struct EmbRay_ EmbRay`

18.112.2.29 EmbReal `typedef float EmbReal`

18.112.2.30 EmbRect `typedef struct EmbRect_ EmbRect`

18.112.2.31 EmbSatinOutline `typedef struct EmbSatinOutline_ EmbSatinOutline`

18.112.2.32 EmbSpline `typedef struct EmbSpline_ EmbSpline`

18.112.2.33 EmbStitch `typedef struct EmbStitch_ EmbStitch`

18.112.2.34 EmbTextMulti `typedef struct EmbTextMulti_ EmbTextMulti`

18.112.2.35 EmbTextSingle `typedef struct EmbTextSingle_ EmbTextSingle`

18.112.2.36 EmbThread `typedef struct EmbThread_ EmbThread`

18.112.2.37 EmbTime `typedef struct EmbTime_ EmbTime`

18.112.2.38 EmbVector `typedef struct EmbVector_ EmbVector`

The basic type to represent points absolutely or represent directions.

Positive y is up, units are in mm.

18.112.2.39 L_system `typedef struct LSYSTEM L_system`

18.112.2.40 thread_color `typedef struct thread_color_ thread_color`

18.112.3 Function Documentation

18.112.3.1 convert() `EMB_PUBLIC int convert (`
 `const char * inf,`
 `const char * outf)`

18.112.3.2 degrees() `EMB_PUBLIC EmbReal degrees (`
 `EmbReal radian)`

18.112.3.3 emb_identify_format() `EMB_PUBLIC int emb_identify_format (`
 `const char * fileName)`

Parameters

| | |
|-----------------------|----------------------|
| <code>fileName</code> | <input type="text"/> |
|-----------------------|----------------------|

Returns

`int`

18.112.3.4 emb_round() `EMB_PUBLIC int emb_round (`
 `EmbReal x)`

18.112.3.5 embArc_clockwise() `EMB_PUBLIC char embArc_clockwise (`
 `EmbArc arc)`

18.112.3.6 embArc_init() `EMB_PUBLIC EmbArc embArc_init (`
 `void)`

18.112.3.7 embArray_addArc() `EMB_PUBLIC int embArray_addArc (`
 `EmbArray * a,`
 `EmbArc b)`

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.112.3.8 embArray_addCircle() `EMB_PUBLIC int embArray_addCircle (``EmbArray * a,
EmbCircle b)`**Parameters**

| | |
|---|--|
| a | |
| b | |

Returns

int

18.112.3.9 embArray_addEllipse() `EMB_PUBLIC int embArray_addEllipse (``EmbArray * a,
EmbEllipse b)`**Parameters**

| | |
|---|--|
| a | |
| b | |

Returns

int

18.112.3.10 embArray_addFlag() `EMB_PUBLIC int embArray_addFlag (``EmbArray * a,
EmbFlag b)`**Parameters**

| | |
|---|--|
| a | |
| b | |

Returns

int

18.112.3.11 embArray_addLine() `EMB_PUBLIC int embArray_addLine (`
`EmbArray * a,`
`EmbLine b)`

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.112.3.12 embArray_addPath() `EMB_PUBLIC int embArray_addPath (`
`EmbArray * a,`
`EmbPath b)`

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.112.3.13 embArray_addPoint() `EMB_PUBLIC int embArray_addPoint (`
`EmbArray * a,`
`EmbPoint b)`

Parameters

| | |
|---|--|
| a | |
| b | |

Returns

int

18.112.3.14 embArray_addPolygon() `EMB_PUBLIC int embArray_addPolygon (`
`EmbArray * a,`
`EmbPolygon b)`

Parameters

| | |
|----------------|--|
| <code>a</code> | |
| <code>b</code> | |

Returns

`int`

18.112.3.15 embArray_addPolyline() `EMB_PUBLIC int embArray_addPolyline (`
`EmbArray * a,`
`EmbPolyline b)`

Parameters

| | |
|----------------|--|
| <code>a</code> | |
| <code>b</code> | |

Returns

`int`

18.112.3.16 embArray_addRect() `EMB_PUBLIC int embArray_addRect (`
`EmbArray * a,`
`EmbRect b)`

Parameters

| | |
|----------------|--|
| <code>a</code> | |
| <code>b</code> | |

Returns

`int`

18.112.3.17 embArray_addStitch() `EMB_PUBLIC int embArray_addStitch (`
`EmbArray * a,`
`EmbStitch b)`

Parameters

| | |
|----------|--|
| <i>a</i> | |
| <i>b</i> | |

Returns

int

18.112.3.18 embArray_addThread() EMB_PUBLIC int embArray_addThread (EmbArray * *g*, EmbThread *p*)**18.112.3.19 embArray_addVector()** EMB_PUBLIC int embArray_addVector (EmbArray * *a*, EmbVector *b*)**Parameters**

| | |
|----------|--|
| <i>a</i> | |
| <i>b</i> | |

Returns

int

18.112.3.20 embArray_copy() EMB_PUBLIC void embArray_copy (EmbArray * *dst*, EmbArray * *src*)**Parameters**

| | |
|------------|--|
| <i>dst</i> | |
| <i>src</i> | |

18.112.3.21 embArray_create() EMB_PUBLIC EmbArray * embArray_create (int *type*)

Parameters

| | |
|-------------|--|
| <i>type</i> | |
|-------------|--|

Returns

EmbArray*

18.112.3.22 embArray_free() EMB_PUBLIC void embArray_free (EmbArray * *a*)**Parameters**

| | |
|----------|--|
| <i>a</i> | |
|----------|--|

18.112.3.23 embArray_resize() EMB_PUBLIC int embArray_resize (EmbArray * *a*)**Parameters**

| | |
|----------|--|
| <i>a</i> | |
|----------|--|

Returns

int

18.112.3.24 embCircle_init() EMB_PUBLIC EmbCircle embCircle_init (void)**18.112.3.25 embColor_create()** EMB_PUBLIC EmbColor * embColor_create (unsigned char *r*, unsigned char *g*, unsigned char *b*)**18.112.3.26 embColor_distance()** EMB_PUBLIC int embColor_distance (EmbColor *a*, EmbColor *b*)

Parameters

| | |
|----------|--|
| <i>a</i> | |
| <i>b</i> | |

Returns

int

18.112.3.27 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

| | |
|------------|---|
| <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.

18.112.3.28 embColor_make() `EMB_PUBLIC EmbColor embColor_make (unsigned char r, unsigned char g, unsigned char b)`**18.112.3.29 embEllipse_area()** `EMB_PUBLIC EmbReal embEllipse_area (EmbEllipse ellipse)`**18.112.3.30 embEllipse_diameterX()** `EMB_PUBLIC EmbReal embEllipse_diameterX (EmbEllipse ellipse)`**18.112.3.31 embEllipse_diameterY()** `EMB_PUBLIC EmbReal embEllipse_diameterY (EmbEllipse ellipse)`

18.112.3.32 embEllipse_height() `EMB_PUBLIC EmbReal embEllipse_height (EmbEllipse ellipse)`

18.112.3.33 embEllipse_init() `EMB_PUBLIC EmbEllipse embEllipse_init (void)`

18.112.3.34 embEllipse_make() `EMB_PUBLIC EmbEllipse embEllipse_make (EmbReal cx, EmbReal cy, EmbReal rx, EmbReal ry)`

18.112.3.35 embEllipse_perimeter() `EMB_PUBLIC EmbReal embEllipse_perimeter (EmbEllipse ellipse)`

18.112.3.36 embEllipse_width() `EMB_PUBLIC EmbReal embEllipse_width (EmbEllipse ellipse)`

18.112.3.37 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).

18.112.3.38 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. |
|------------|-----------------------------|

18.112.3.39 `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*`

18.112.3.40 `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. |

18.112.3.41 `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.

```
18.112.3.42 embImage_create() EMB_PUBLIC EmbImage embImage_create (
    int ,
    int )
```

```
18.112.3.43 embImage_free() EMB_PUBLIC void embImage_free (
    EmbImage * image )
```

```
18.112.3.44 embImage_read() EMB_PUBLIC void embImage_read (
    EmbImage * image,
    char * fname )
```

```
18.112.3.45 embImage_write() EMB_PUBLIC int embImage_write (
    EmbImage * image,
    char * fname )
```

```
18.112.3.46 embLine_intersectionPoint() EMB_PUBLIC EmbVector embLine_intersectionPoint (
    EmbLine line1,
    EmbLine line2 )
```

```
18.112.3.47 embLine_make() EMB_PUBLIC EmbLine embLine_make (
    EmbReal x1,
    EmbReal y1,
    EmbReal x2,
    EmbReal y2 )
```

```
18.112.3.48 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)

```
18.112.3.49 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.

```
18.112.3.50 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.

```
18.112.3.51 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.

```
18.112.3.52 embPattern_addPathAbs() EMB_PUBLIC void embPattern_addPathAbs (
    EmbPattern * p,
    EmbPath obj )
```

```
18.112.3.53 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.

```
18.112.3.54 embPattern_addPolygonAbs() EMB_PUBLIC void embPattern_addPolygonAbs (
    EmbPattern * p,
    EmbPolygon obj )
```

```
18.112.3.55 embPattern_addPolylineAbs() EMB_PUBLIC void embPattern_addPolylineAbs (
    EmbPattern * p,
    EmbPolyline obj )
```

```
18.112.3.56 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.

```
18.112.3.57 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.

```
18.112.3.58 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.

```
18.112.3.59 embPattern_addThread() EMB_PUBLIC int embPattern_addThread (
    EmbPattern * pattern,
    EmbThread thread )
```

Parameters

| | |
|----------------|--|
| <i>pattern</i> | |
| <i>thread</i> | |

Returns

int

```
18.112.3.60 embPattern_calcBoundingBox() EMB_PUBLIC EmbRect embPattern_calcBoundingBox (
    EmbPattern * p )
```

Returns an EmbRect that encapsulates all stitches and objects in the pattern (*p*).

```
18.112.3.61 embPattern_center() EMB_PUBLIC void embPattern_center (
    EmbPattern * p )
```

```
18.112.3.62 embPattern_changeColor() EMB_PUBLIC void embPattern_changeColor (
    EmbPattern * p,
    int index )
```

Parameters

| | |
|--------------|--|
| <i>p</i> | |
| <i>index</i> | |

```
18.112.3.63 embPattern_color_count() EMB_PUBLIC int embPattern_color_count (
    EmbPattern * pattern,
    EmbColor startColor )
```

18.112.3.64 embPattern_combine() `EMB_PUBLIC EmbPattern * embPattern_combine (`
`EmbPattern * p1,`
`EmbPattern * p2)`

Parameters

| | |
|-----------------|--|
| <code>p1</code> | |
| <code>p2</code> | |

Returns

`EmbPattern*`

18.112.3.65 embPattern_combineJumpStitches() `EMB_PUBLIC void embPattern_combineJumpStitches (`
`EmbPattern * p)`

18.112.3.66 embPattern_convertGeometry() `EMB_PUBLIC void embPattern_convertGeometry (`
`EmbPattern * p)`

Parameters

| | |
|----------------|--|
| <code>p</code> | |
|----------------|--|

18.112.3.67 embPattern_copyPolylineToStitchList() `EMB_PUBLIC void embPattern_copyPolylineTo↔`
`StitchList (`
`EmbPattern * pattern)`

18.112.3.68 embPattern_copyStitchListToPolyline() `EMB_PUBLIC void embPattern_copyStitchListTo↔`
`Polyline (`
`EmbPattern * pattern)`

18.112.3.69 embPattern_correctForMaxStitchLength() `EMB_PUBLIC void embPattern_correctForMax↔`
`StitchLength (`
`EmbPattern * p,`
`EmbReal maxStitchLength,`
`EmbReal maxJumpLength)`

18.112.3.70 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*`

18.112.3.71 embPattern_crossstitch() `EMB_PUBLIC void embPattern_crossstitch (EmbPattern * pattern, EmbImage * image, int threshhold)`

Parameters

| | |
|-------------------------|----------------------|
| <code>pattern</code> | <input type="text"/> |
| <code>image</code> | <input type="text"/> |
| <code>threshhold</code> | <input type="text"/> |

Uses a threshhold method to determine where to put crosses in the fill.

To improve this, we can remove the vertical stitches when two crosses neighbour. Currently the simple way to do this is to chain crosses that are neighbours exactly one ahead.

18.112.3.72 embPattern_designDetails() `EMB_PUBLIC void embPattern_designDetails (EmbPattern * p)`

18.112.3.73 embPattern_end() `EMB_PUBLIC void embPattern_end (EmbPattern * p)`

18.112.3.74 embPattern_fixColorCount() `EMB_PUBLIC void embPattern_fixColorCount (EmbPattern * p)`

Parameters

| | |
|----------------|----------------------|
| <code>p</code> | <input type="text"/> |
|----------------|----------------------|

18.112.3.75 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.

18.112.3.76 embPattern_flipHorizontal() EMB_PUBLIC void embPattern_flipHorizontal (EmbPattern * p)

Flips the entire pattern (*p*) horizontally about the y-axis.

18.112.3.77 embPattern_flipVertical() EMB_PUBLIC void embPattern_flipVertical (EmbPattern * p)

Flips the entire pattern (*p*) vertically about the x-axis.

18.112.3.78 embPattern_free() EMB_PUBLIC void embPattern_free (EmbPattern * p)

Frees all memory allocated in the pattern (*p*).

18.112.3.79 embPattern_hideStitchesOverLength() EMB_PUBLIC void embPattern_hideStitchesOverLength (EmbPattern * p, int length)

Parameters

| | |
|---------------|--|
| <i>p</i> | |
| <i>length</i> | |

18.112.3.80 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 $(-30, 30) \times (-30, 30)$.

Use render then image difference to see how well it passes.

18.112.3.81 embPattern_jumpStitches() `EMB_PUBLIC int embPattern_jumpStitches (EmbPattern * pattern)`

18.112.3.82 embPattern_lengthHistogram() `EMB_PUBLIC void embPattern_lengthHistogram (EmbPattern * pattern, int * bin, int NUMBINS)`

18.112.3.83 embPattern_loadExternalColorFile() `EMB_PUBLIC void embPattern_loadExternalColorFile (EmbPattern * p, const char * fileName)`

18.112.3.84 embPattern_maximumStitchLength() `EMB_PUBLIC EmbReal embPattern_maximumStitchLength (EmbPattern * pattern)`

18.112.3.85 embPattern_minimumStitchLength() `EMB_PUBLIC EmbReal embPattern_minimumStitchLength (EmbPattern * pattern)`

18.112.3.86 embPattern_movePolylinesToStitchList() `EMB_PUBLIC void embPattern_movePolylinesToStitchList (EmbPattern * pattern)`

18.112.3.87 embPattern_moveStitchListToPolylines() `EMB_PUBLIC void embPattern_moveStitchListToPolylines (EmbPattern * pattern)`

18.112.3.88 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

18.112.3.89 embPattern_readAuto() `EMB_PUBLIC char embPattern_readAuto (`
`EmbPattern * pattern,`
`const char * fileName)`**Parameters**

| | |
|-----------------|--|
| <i>pattern</i> | |
| <i>fileName</i> | |

Returns

char

18.112.3.90 embPattern_realStitches() `EMB_PUBLIC int embPattern_realStitches (`
`EmbPattern * pattern)`**18.112.3.91 embPattern_render()** `EMB_PUBLIC int embPattern_render (`
`EmbPattern * pattern,`
`char * fname)`**18.112.3.92 embPattern_scale()** `EMB_PUBLIC void embPattern_scale (`
`EmbPattern * p,`
`EmbReal scale)`**18.112.3.93 embPattern_simulate()** `EMB_PUBLIC int embPattern_simulate (`
`EmbPattern * pattern,`
`char * fname)`**18.112.3.94 embPattern_totalStitchLength()** `EMB_PUBLIC EmbReal embPattern_totalStitchLength (`
`EmbPattern * pattern)`

Parameters

| | |
|----------------|---------------------------------|
| <i>pattern</i> | <input type="button" value=""/> |
|----------------|---------------------------------|

Returns

float

18.112.3.95 embPattern_trimStitches() `EMB_PUBLIC int embPattern_trimStitches (EmbPattern * pattern)`**18.112.3.96 embPattern_write()** `EMB_PUBLIC char embPattern_write (EmbPattern * pattern, const char * fileName, int format)`**Parameters**

| | |
|-----------------|---------------------------------|
| <i>pattern</i> | <input type="button" value=""/> |
| <i>fileName</i> | <input type="button" value=""/> |
| <i>format</i> | <input type="button" value=""/> |

Returns

char

18.112.3.97 embPattern_writeAuto() `EMB_PUBLIC char embPattern_writeAuto (EmbPattern * pattern, const char * fileName)`**Parameters**

| | |
|-----------------|---------------------------------|
| <i>pattern</i> | <input type="button" value=""/> |
| <i>fileName</i> | <input type="button" value=""/> |

Returns

char

18.112.3.98 embRect_area() `EMB_PUBLIC EmbReal embRect_area (`
`EmbRect rect)`

18.112.3.99 embRect_init() `EMB_PUBLIC EmbRect embRect_init (`
`void)`

18.112.3.100 embSatinOutline_generateSatinOutline() `EMB_PUBLIC void embSatinOutline_generate←`
`SatinOutline (`
`EmbArray * lines,`
`EmbReal thickness,`
`EmbSatinOutline * result)`

Parameters

| | |
|------------------|--|
| <i>lines</i> | |
| <i>thickness</i> | |
| <i>result</i> | |

18.112.3.101 embSatinOutline_renderStitches() `EMB_PUBLIC EmbArray * embSatinOutline_render←`
`Stitches (`
`EmbSatinOutline * result,`
`EmbReal density)`

Parameters

| | |
|----------------|--|
| <i>result</i> | |
| <i>density</i> | |

Returns

`EmbArray*`

18.112.3.102 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.

18.112.3.103 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`

18.112.3.104 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.

18.112.3.105 embTime_initNow() `EMB_PUBLIC void embTime_initNow (`

```
EmbTime * t )
```

Parameters

| | |
|----------|--|
| <i>t</i> | |
|----------|--|

18.112.3.106 embTime_time() `EMB_PUBLIC EmbTime embTime_time (`
`EmbTime * t)`

Parameters

| | |
|----------------|----------------------|
| <code>t</code> | <input type="text"/> |
|----------------|----------------------|

Returns

`EmbTime`

18.112.3.107 embVector_add() `EMB_PUBLIC EmbVector embVector_add (`
`EmbVector a,`
`EmbVector b)`

The sum of vectors *a* and *b* returned as a vector.

Equivalent to:

$$\mathbf{c} = \mathbf{a} + \mathbf{b} = \begin{pmatrix} a_x + b_x \\ a_y + b_y \end{pmatrix}$$

18.112.3.108 embVector_angle() `EMB_PUBLIC EmbReal embVector_angle (`
`EmbVector v)`

The angle, measured anti-clockwise from the x-axis, of a vector *v*.

18.112.3.109 embVector_average() `EMB_PUBLIC EmbVector embVector_average (`
`EmbVector a,`
`EmbVector b)`

The average of vectors *v1* and *v2* returned as a vector.

Equivalent to:

$$\mathbf{c} = \frac{\mathbf{a} + \mathbf{b}}{2} = \begin{pmatrix} \frac{a_x + b_x}{2} \\ \frac{a_y + b_y}{2} \end{pmatrix}$$

```
18.112.3.110 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:

$$|c| = \left| \begin{pmatrix} a_x \\ a_y \\ 0 \end{pmatrix} \times \begin{pmatrix} b_x \\ b_y \\ 0 \end{pmatrix} \right| = \left| \begin{pmatrix} 0 \\ 0 \\ a_x b_y - a_y b_x \end{pmatrix} \right| = a_x b_y - a_y b_x$$

```
18.112.3.111 embVector_distance() EMB_PUBLIC EmbReal embVector_distance (
    EmbVector a,
    EmbVector b )
```

The distance between *a* and *b* returned as a real value.

$$d = |\mathbf{a} - \mathbf{b}| = \sqrt{(a_x - b_x)^2 + (a_y - b_y)^2}$$

```
18.112.3.112 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:

$$c = \mathbf{a} \cdot \mathbf{b} = a_x b_x + a_y b_y$$

```
18.112.3.113 embVector_length() EMB_PUBLIC EmbReal embVector_length (
    EmbVector vector )
```

The length or absolute value of the vector *vector*.

Equivalent to:

$$|v| = \sqrt{v_x^2 + v_y^2}$$

```
18.112.3.114 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.

```
18.112.3.115 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.

```
18.112.3.116 embVector_relativeX() EMB_PUBLIC EmbReal embVector_relativeX (
    EmbVector a1,
    EmbVector a2,
    EmbVector a3 )
```

The x-component of the vector

```
18.112.3.117 embVector_relativeY() EMB_PUBLIC EmbReal embVector_relativeY (
    EmbVector a1,
    EmbVector a2,
    EmbVector a3 )
```

The y-component of the vector

```
18.112.3.118 embVector_subtract() EMB_PUBLIC EmbVector embVector_subtract (
    EmbVector v1,
    EmbVector v2 )
```

The difference between vectors *v1* and *v2* returned as *result*.

Equivalent to:

$$\mathbf{c} = \mathbf{a} - \mathbf{b} = \begin{pmatrix} a_x - b_x \\ a_y - b_y \end{pmatrix}$$

```
18.112.3.119 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 $(1\ 0)\ (a) = (x\ a)\ (0\ 1)\ (b) = (y\ b)$

```
18.112.3.120 embVector_unit() EMB_PUBLIC EmbVector embVector_unit (
    EmbReal alpha )
```

The unit vector in the direction *angle*.

$$\mathbf{a}_\alpha = \begin{pmatrix} \cos(\alpha) \\ \sin(\alpha) \end{pmatrix}$$

```
18.112.3.121 full_test_matrix() EMB_PUBLIC int full_test_matrix (
    char * fname )
```

```
18.112.3.122 getArcCenter() EMB_PUBLIC void getArcCenter (
    EmbArc arc,
    EmbVector * arcCenter )
```

```
18.112.3.123 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 )
```

```
18.112.3.124 getCircleCircleIntersections() EMB_PUBLIC int getCircleCircleIntersections (
    EmbCircle c0,
    EmbCircle c1,
    EmbVector * v0,
    EmbVector * v1 )
```

```
18.112.3.125 getCircleTangentPoints() EMB_PUBLIC int getCircleTangentPoints (
    EmbCircle c,
    EmbVector p,
    EmbVector * v0,
    EmbVector * v1 )
```

```
18.112.3.126 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.

```
18.112.3.127 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.

```
18.112.3.128 radians() EMB_PUBLIC EmbReal radians (
    EmbReal degree )
```

18.112.3.129 report() `EMB_PUBLIC void report (`
 `int result,`
 `char * label)`

18.112.3.130 testMain() `EMB_PUBLIC void testMain (`
 `int level)`

18.112.3.131 threadColor() `EMB_PUBLIC int threadColor (`
 `const char * name,`
 `int brand)`

18.112.3.132 threadColorName() `EMB_PUBLIC const char * threadColorName (`
 `unsigned int color,`
 `int brand)`

18.112.3.133 threadColorNum() `EMB_PUBLIC int threadColorNum (`
 `unsigned int color,`
 `int brand)`

18.112.4 Variable Documentation

18.112.4.1 _dxfColorTable `const unsigned char _dxfColorTable[][3] [extern]`

18.112.4.2 black_thread `EmbThread black_thread [extern]`

18.112.4.3 emb_error `int emb_error [extern]`

Error code storage for optional control flow blocking.

18.112.4.4 emb_verbose int emb_verbose [extern]

Verbosity level.

18.112.4.5 embConstantPi const EmbReal embConstantPi [extern]**18.112.4.6 formatTable** EmbFormatList formatTable[numberOfFormats] [extern]

This file is part of libembroidery.

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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). *

18.112.4.7 husThreads const EmbThread husThreads[] [extern]**18.112.4.8 jefThreads** const EmbThread jefThreads[] [extern]**18.112.4.9 pcmThreads** const EmbThread pcmThreads[] [extern]**18.112.4.10 pecThreadCount** const int pecThreadCount [extern]**18.112.4.11 pecThreads** const EmbThread pecThreads[] [extern]**18.112.4.12 shvThreadCount** const int shvThreadCount [extern]

18.112.4.13 shvThreads const EmbThread shvThreads[] [extern]**18.112.4.14 vipDecodingTable** const unsigned char vipDecodingTable[] [extern]

18.113 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 numberOfformats          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__)
00176         #define EMB_PUBLIC __declspec(dllexport)
00177     #else
00178         #define EMB_PUBLIC __attribute__ ((visibility("default")))
00179     #endif
00180 #endif
00181
00182 /* TYPEDEFS AND STRUCTS
00183 *****/
00184
00185 typedef float EmbReal;
00186
00187 typedef struct EmbColor_
00188 {
00189     unsigned char r;
00190     unsigned char g;
00191     unsigned char b;
00192 } EmbColor;
00193
00194 typedef struct EmbVector_
00195 {
00196     EmbReal x;
00197     EmbReal y;
00198 } EmbVector;
00199
00200 typedef struct EmbArray_ EmbArray;
00201
00202 typedef struct EmbImage_ {
00203     EmbVector position;
00204     EmbVector dimensions;
00205     unsigned char* data;
00206     int width;
00207     int height;
00208     char path[200];
00209     char name[200];
00210 } EmbImage;
00211
00212 typedef struct EmbBlock_ {
00213     EmbVector position;
00214 } EmbBlock;
00215
00216 typedef struct EmbAlignedDim_ {
00217     EmbVector position;
00218 } EmbAlignedDim;
00219
00220 typedef struct EmbAngularDim_ {
00221     EmbVector position;
00222 } EmbAngularDim;
00223
00224 typedef struct EmbArcLengthDim_ {
00225     EmbVector position;
00226 } EmbArcLengthDim;
00227
00228 typedef struct EmbDiameterDim_ {
00229     EmbVector position;
00230 } EmbDiameterDim;
00231
00232 typedef struct EmbLeaderDim_ {
00233     EmbVector position;
00234 } EmbLeaderDim;
00235
00236 typedef struct EmbLinearDim_ {
00237     EmbVector position;
00238 } EmbLinearDim;
00239
00240 typedef struct EmbOrdinateDim_ {
00241     EmbVector position;
00242 } EmbOrdinateDim;
00243
00244 typedef struct EmbRadiusDim_ {
00245     EmbVector position;
00246 } EmbRadiusDim;
00247
00248 typedef struct EmbInfiniteLine_ {
00249     EmbVector position;
00250 } EmbInfiniteLine;
00251
00252 typedef struct EmbRay_ {
00253     EmbVector position;
00254 } EmbRay;
```

```

00310
00315 typedef struct EmbTextMulti_ {
00316     EmbVector position;
00317     char text[200];
00318 } EmbTextMulti;
00319
00324 typedef struct EmbTextSingle_ {
00325     EmbVector position;
00326     char text[200];
00327 } EmbTextSingle;
00328
00333 typedef struct EmbTime_
00334 {
00335     unsigned int year;
00336     unsigned int month;
00337     unsigned int day;
00338     unsigned int hour;
00339     unsigned int minute;
00340     unsigned int second;
00341 } EmbTime;
00342
00347 typedef struct EmbPoint_
00348 {
00349     EmbVector position;
00350     int lineType;
00351     EmbColor color;
00352 } EmbPoint;
00353
00358 typedef struct EmbLine_
00359 {
00360     EmbVector start;
00361     EmbVector end;
00362     int lineType;
00363     EmbColor color;
00364 } EmbLine;
00365
00370 typedef struct EmbPath_
00371 {
00372     EmbArray* pointList;
00373     EmbArray* flagList;
00374     int lineType;
00375     EmbColor color;
00376 } EmbPath;
00377
00382 typedef struct EmbStitch_
00383 {
00384     int flags;
00385     EmbReal x;
00386     EmbReal y;
00387     int color;
00388 } EmbStitch;
00390
00395 typedef struct EmbThread_
00396 {
00397     EmbColor color;
00398     char description[50];
00399     char catalogNumber[30];
00400 } EmbThread;
00401
00406 typedef struct thread_color_ {
00407     char name[22];
00408     unsigned int hex_code;
00409     int manufacturer_code;
00410 } thread_color;
00411
00416 typedef struct EmbArc_
00417 {
00418     EmbVector start;
00419     EmbVector mid;
00420     EmbVector end;
00421 } EmbArc;
00422
00427 typedef struct EmbRect_
00428 {
00429     EmbReal top;
00430     EmbReal left;
00431     EmbReal bottom;
00432     EmbReal right;
00433     EmbReal rotation;
00434     EmbReal radius;
00435 } EmbRect;
00436
00441 typedef struct EmbCircle_
00442 {
00443     EmbVector center;
00444     EmbReal radius;
00445 } EmbCircle;

```

```
00446
00451 typedef EmbPath EmbPolygon;
00452
00457 typedef EmbPath EmbPolyline;
00458
00463 typedef int EmbFlag;
00464
00469 typedef struct EmbSatinOutline_
00470 {
00471     int length;
00472     EmbArray* side1;
00473     EmbArray* side2;
00474 } EmbSatinOutline;
00475
00480 typedef struct EmbEllipse_
00481 {
00482     EmbVector center;
00483     EmbVector radius;
00484     EmbReal rotation;
00485 } EmbEllipse;
00486
00491 typedef struct EmbBezier_
00492 {
00493     EmbVector start;
00494     EmbVector control1;
00495     EmbVector control2;
00496     EmbVector end;
00497 } EmbBezier;
00498
00502 typedef struct EmbSpline_
00503 {
00504     EmbArray *beziers;
00505 } EmbSpline;
00506
00510 typedef struct LSYSTEM {
00511     char axiom;
00512     char *alphabet;
00513     char *constants;
00514     char **rules;
00515 } L_system;
00516
00521 typedef struct EmbGeometry_
00522 {
00523     union {
00524         EmbArc arc;
00525         EmbCircle circle;
00526         EmbColor color;
00527         EmbEllipse ellipse;
00528         EmbLine line;
00529         EmbPath path;
00530         EmbPoint point;
00531         EmbPolygon polygon;
00532         EmbPolyline polyline;
00533         EmbRect rect;
00534         EmbSpline spline;
00535         EmbVector vector;
00536     } object;
00537     EmbStitch stitch;
00538     int flag;
00539     int type;
00540     int lineType;
00541     EmbColor color;
00542 } EmbGeometry;
00543
00548 struct EmbArray_
00549 {
00550     EmbGeometry *geometry;
00551     EmbStitch *stitch;
00552     EmbThread *thread;
00553     int count;
00554     int length;
00555     int type;
00556 };
00561 typedef struct EmbLayer_
00562 {
00563     char name[100];
00564     EmbArray *geometry;
00565 } EmbLayer;
00566
00571 typedef struct EmbPattern_
00572 {
00573     unsigned int dstJumpsPerTrim;
00574     EmbVector home;
00575     EmbReal hoop_width;
00576     EmbReal hoop_height;
00577     EmbArray *thread_list;
00578     EmbArray *stitch_list;
00579     EmbArray *geometry;
00580     EmbLayer layer[EMB_MAX_LAYERS];
```

```

00581     int currentColorIndex;
00582 } EmbPattern;
00583
00588 typedef struct EmbFormatList_
00589 {
00590     char extension[2 + EMBFORMAT_MAXEXT];
00591     char description[EMBFORMAT_MAXDESC];
00592     char reader_state;
00593     char writer_state;
00594     int type;
00595     int color_only;
00596     int check_for_color_file;
00597     int write_external_color_file;
00598 } EmbFormatList;
00599
00600 /* Function Declarations
00601 ****
00602 EMB_PUBLIC int lindenmayer_system(L_system L, char* state, int iteration, int complete);
00603 EMB_PUBLIC int hilbert_curve(EmbPattern *pattern, int iterations);
00604
00605 EMB_PUBLIC int emb_identify_format(const char *ending);
00606 EMB_PUBLIC void testMain(int level);
00607 EMB_PUBLIC int convert(const char *inf, const char *outf);
00608
00609 EMB_PUBLIC EmbColor embColor_make(unsigned char r, unsigned char g, unsigned char b);
00610 EMB_PUBLIC EmbColor* embColor_create(unsigned char r, unsigned char g, unsigned char b);
00611 EMB_PUBLIC EmbColor embColor_fromHexStr(char* val);
00612 EMB_PUBLIC int embColor_distance(EmbColor a, EmbColor b);
00613
00614 EMB_PUBLIC EmbArray* embArray_create(int type);
00615 EMB_PUBLIC int embArray_resize(EmbArray *g);
00616 EMB_PUBLIC void embArray_copy(EmbArray *dst, EmbArray *src);
00617 EMB_PUBLIC int embArray_addArc(EmbArray* g, EmbArc arc);
00618 EMB_PUBLIC int embArray_addCircle(EmbArray* g, EmbCircle circle);
00619 EMB_PUBLIC int embArray_addEllipse(EmbArray* g, EmbEllipse ellipse);
00620 EMB_PUBLIC int embArray_addFlag(EmbArray* g, int flag);
00621 EMB_PUBLIC int embArray_addLine(EmbArray* g, EmbLine line);
00622 EMB_PUBLIC int embArray_addRect(EmbArray* g, EmbRect rect);
00623 EMB_PUBLIC int embArray_addPath(EmbArray* g, EmbPath p);
00624 EMB_PUBLIC int embArray_addPoint(EmbArray* g, EmbPoint p);
00625 EMB_PUBLIC int embArray_addPolygon(EmbArray* g, EmbPolygon p);
00626 EMB_PUBLIC int embArray_addPolyline(EmbArray* g, EmbPolyline p);
00627 /* EMB_PUBLIC int embArray_addSpline(EmbArray* g, EmbSpline p); */
00628 EMB_PUBLIC int embArray_addStitch(EmbArray* g, EmbStitch st);
00629 EMB_PUBLIC int embArray_addThread(EmbArray* g, EmbThread p);
00630 EMB_PUBLIC int embArray_addVector(EmbArray* g, EmbVector);
00631 EMB_PUBLIC void embArray_free(EmbArray* p);
00632
00633 EMB_PUBLIC EmbLine embLine_make(EmbReal x1, EmbReal y1, EmbReal x2, EmbReal y2);
00634
00635 EMB_PUBLIC void embLine_normalVector(EmbLine line, EmbVector* result, int clockwise);
00636 EMB_PUBLIC EmbVector embLine_intersectionPoint(EmbLine line1, EmbLine line2);
00637
00638 EMB_PUBLIC int embThread_findNearestColor(EmbColor color, EmbColor* colors, int n_colors);
00639 EMB_PUBLIC int embThread_findNearestThread(EmbColor color, EmbThread* threads, int n_threads);
00640 EMB_PUBLIC EmbThread embThread_getRandom(void);
00641
00642 EMB_PUBLIC void embVector_normalize(EmbVector vector, EmbVector* result);
00643 EMB_PUBLIC void embVector_multiply(EmbVector vector, EmbReal magnitude, EmbVector* result);
00644 EMB_PUBLIC EmbVector embVector_add(EmbVector v1, EmbVector v2);
00645 EMB_PUBLIC EmbVector embVector_average(EmbVector v1, EmbVector v2);
00646 EMB_PUBLIC EmbVector embVector_subtract(EmbVector v1, EmbVector v2);
00647 EMB_PUBLIC EmbReal embVector_dot(EmbVector v1, EmbVector v2);
00648 EMB_PUBLIC EmbReal embVector_cross(EmbVector v1, EmbVector v2);
00649 EMB_PUBLIC void embVector_transpose_product(EmbVector v1, EmbVector v2, EmbVector* result);
00650 EMB_PUBLIC EmbReal embVector_length(EmbVector vector);
00651 EMB_PUBLIC EmbReal embVector_relativeX(EmbVector a1, EmbVector a2, EmbVector a3);
00652 EMB_PUBLIC EmbReal embVector_relativeY(EmbVector a1, EmbVector a2, EmbVector a3);
00653 EMB_PUBLIC EmbReal embVector_angle(EmbVector v);
00654 EMB_PUBLIC EmbReal embVector_distance(EmbVector a, EmbVector b);
00655 EMB_PUBLIC EmbVector embVector_unit(EmbReal angle);
00656
00657 EMB_PUBLIC EmbArc embArc_init(void);
00658 EMB_PUBLIC char embArc_clockwise(EmbArc arc);
00659
00660 EMB_PUBLIC void getArcCenter(EmbArc arc, EmbVector *arcCenter);
00661 EMB_PUBLIC char getArcDataFromBulge(EmbReal bulge,
00662                                         EmbArc *arc,
00663                                         EmbReal* arcCenterX,           EmbReal* arcCenterY,
00664                                         EmbReal* radius,              EmbReal* diameter,
00665                                         EmbReal* chord,
00666                                         EmbReal* chordMidX,           EmbReal* chordMidY,
00667                                         EmbReal* sagitta,             EmbReal* apothem,
00668                                         EmbReal* incAngleInDegrees,   char*    clockwise);
00669
00670 EMB_PUBLIC EmbCircle embCircle_init(void);
00671 EMB_PUBLIC int getCircleCircleIntersections(

```

```
00672     EmbCircle c0, EmbCircle c1, EmbVector *v0, EmbVector *v1);  
00673 EMB_PUBLIC int getCircleTangentPoints(  
00674     EmbCircle c, EmbVector p, EmbVector *v0, EmbVector *v1);  
00675  
00676 EMB_PUBLIC EmbEllipse embEllipse_init(void);  
00677 EMB_PUBLIC EmbEllipse embEllipse_make(EmbReal cx, EmbReal cy, EmbReal rx, EmbReal ry);  
00678 EMB_PUBLIC EmbReal embEllipse_diameterX(EmbEllipse ellipse);  
00679 EMB_PUBLIC EmbReal embEllipse_diameterY(EmbEllipse ellipse);  
00680 EMB_PUBLIC EmbReal embEllipse_width(EmbEllipse ellipse);  
00681 EMB_PUBLIC EmbReal embEllipse_height(EmbEllipse ellipse);  
00682 EMB_PUBLIC EmbReal embEllipse_area(EmbEllipse ellipse);  
00683 EMB_PUBLIC EmbReal embEllipse_perimeter(EmbEllipse ellipse);  
00684  
00685 EMB_PUBLIC EmbImage embImage_create(int, int);  
00686 EMB_PUBLIC void embImage_read(EmbImage *image, char *fname);  
00687 EMB_PUBLIC int embImage_write(EmbImage *image, char *fname);  
00688 EMB_PUBLIC void embImage_free(EmbImage *image);  
00689  
00690 EMB_PUBLIC EmbRect embRect_init(void);  
00691 EMB_PUBLIC EmbReal embRect_area(EmbRect);  
00692  
00693 EMB_PUBLIC int threadColor(const char*, int brand);  
00694 EMB_PUBLIC int threadColorNum(unsigned int color, int brand);  
00695 EMB_PUBLIC const char* threadColorName(unsigned int color, int brand);  
00696  
00697 EMB_PUBLIC void embTime_initNow(EmbTime* t);  
00698 EMB_PUBLIC EmbTime embTime_time(EmbTime* t);  
00699  
00700 EMB_PUBLIC void embSatinOutline_generateSatinOutline(EmbArray* lines, EmbReal thickness,  
    EmbSatinOutline* result);  
00701 EMB_PUBLIC EmbArray* embSatinOutline_renderStitches(EmbSatinOutline* result, EmbReal density);  
00702  
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  
    isAutoColorIndex);  
00714 EMB_PUBLIC void embPattern_addStitchRel(EmbPattern* p, EmbReal dx, EmbReal dy, int flags, int  
    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 threshold);  
00740 EMB_PUBLIC int embPattern_render(EmbPattern *pattern, char *fname);  
00741 EMB_PUBLIC int embPattern_simulate(EmbPattern *pattern, char *fname);  
00742  
00743 EMB_PUBLIC void embPattern_addCircleAbs(EmbPattern* p, EmbCircle obj);  
00744 EMB_PUBLIC void embPattern_addEllipseAbs(EmbPattern* p, EmbEllipse obj);  
00745 EMB_PUBLIC void embPattern_addLineAbs(EmbPattern* p, EmbLine obj);  
00746 EMB_PUBLIC void embPattern_addPathAbs(EmbPattern* p, EmbPath obj);  
00747 EMB_PUBLIC void embPattern_addPointAbs(EmbPattern* p, EmbPoint obj);  
00748 EMB_PUBLIC void embPattern_addPolygonAbs(EmbPattern* p, EmbPolygon obj);  
00749 EMB_PUBLIC void embPattern_addPolylineAbs(EmbPattern* p, EmbPolyline obj);  
00750 EMB_PUBLIC void embPattern_addRectAbs(EmbPattern* p, EmbRect obj);  
00751  
00752 EMB_PUBLIC void embPattern_copyStitchListToPolylines(EmbPattern* pattern);  
00753 EMB_PUBLIC void embPattern_copyPolylinesToStitchList(EmbPattern* pattern);  
00754 EMB_PUBLIC void embPattern_moveStitchListToPolylines(EmbPattern* pattern);
```

```

00755 EMB_PUBLIC void embPattern_movePolylinesToStitchList(EmbPattern* pattern);
00756
00757 EMB_PUBLIC char embPattern_read(EmbPattern *pattern, const char* fileName, int format);
00758 EMB_PUBLIC char embPattern_write(EmbPattern *pattern, const char* fileName, int format);
00759
00760 EMB_PUBLIC char embPattern_readAuto(EmbPattern *pattern, const char* fileName);
00761 EMB_PUBLIC char embPattern_writeAuto(EmbPattern *pattern, const char* fileName);
00762
00763 EMB_PUBLIC void report(int result, char *label);
00764 EMB_PUBLIC int full_test_matrix(char *fname);
00765
00766 EMB_PUBLIC int emb_round(EmbReal x);
00767 EMB_PUBLIC EmbReal radians(EmbReal degree);
00768 EMB_PUBLIC EmbReal degrees(EmbReal radian);
00769
00770 /* NON-MACRO CONSTANTS
00771 *****/
00772
00773 extern EmbFormatList formatTable[numberFormats];
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
00789 extern int emb_error;
00790
00791 extern int emb_verbose;
00792
00793 #ifdef __cplusplus
00794 }
00795 #endif /* __cplusplus */
00796
00797 #endif /* LIBEMBROIDERY_HEADER */
00798
00799
00800
00801
00802
00803
00804

```

18.114 [extern/libembroidery/src/embroidery_internal.h](#) File Reference

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

Classes

- struct [_bcf_file_difat](#)
- struct [_bcf_file_fat](#)
- struct [_bcf_directory_entry](#)
- struct [_bcf_directory](#)
- struct [_bcf_file_header](#)
- struct [_bcf_file](#)
- struct [_vp3Hoop](#)
- struct [ThredHeader_](#)
- struct [ThredExtension_](#)
- struct [SubDescriptor_](#)
- struct [StxThread_](#)
- struct [VipHeader_](#)
- struct [SvgAttribute_](#)
- struct [Huffman](#)
- struct [Compress](#)

Macros

- `#define CompoundFileSector_MaxRegSector 0xFFFFFFFFA`
- `#define CompoundFileSector_DIFAT_Sector 0xFFFFFFFFC`
- `#define CompoundFileSector_FAT_Sector 0xFFFFFFFFD`
- `#define CompoundFileSector_EndOfChain 0xFFFFFFFFE`
- `#define CompoundFileSector_FreeSector 0xFFFFFFFFF`
- `#define ObjectTypeUnknown 0x00`
- `#define ObjectTypeStorage 0x01`
- `#define ObjectTypeStream 0x02`
- `#define ObjectTypeRootEntry 0x05`
- `#define CompoundFileStreamId_MaxRegularStreamId 0xFFFFFFFFA`
- `#define CompoundFileStreamId_NoStream 0xFFFFFFFFF`
- `#define ELEMENT_XML 0`
- `#define ELEMENT_A 1`
- `#define ELEMENT_ANIMATE 2`
- `#define ELEMENT_ANIMATECOLOR 3`
- `#define ELEMENT_ANIMATEMOTION 4`
- `#define ELEMENT_ANIMATETRANSFORM 5`
- `#define ELEMENT_ANIMATION 6`
- `#define ELEMENT_AUDIO 7`
- `#define ELEMENT_CIRCLE 8`
- `#define ELEMENT_DEFS 9`
- `#define ELEMENT_DESC 10`
- `#define ELEMENT_DISCARD 11`
- `#define ELEMENT_ELLIPSE 12`
- `#define ELEMENT_FONT 13`
- `#define ELEMENT_FONT_FACE 14`
- `#define ELEMENT_FONT_FACE_SRC 15`
- `#define ELEMENT_FONT_FACE_URI 16`
- `#define ELEMENT_FOREIGN_OBJECT 17`
- `#define ELEMENT_G 18`
- `#define ELEMENT_GLYPH 19`
- `#define ELEMENT_HANDLER 20`
- `#define ELEMENT_HKERN 21`
- `#define ELEMENT_IMAGE 22`
- `#define ELEMENT_LINE 23`
- `#define ELEMENT_LINEAR_GRADIENT 24`
- `#define ELEMENT_LISTENER 25`
- `#define ELEMENT_METADATA 26`
- `#define ELEMENT_MISSING_GLYPH 27`
- `#define ELEMENT_MPATH 28`
- `#define ELEMENT_PATH 29`
- `#define ELEMENT_POLYGON 30`
- `#define ELEMENT_POLYLINE 31`
- `#define ELEMENT_PREFETCH 32`
- `#define ELEMENT_RADIAL_GRADIENT 33`
- `#define ELEMENT_RECT 34`
- `#define ELEMENT_SCRIPT 35`
- `#define ELEMENT_SET 36`
- `#define ELEMENT_SOLID_COLOR 37`
- `#define ELEMENT_STOP 38`
- `#define ELEMENT_SVG 39`
- `#define ELEMENT_SWITCH 40`
- `#define ELEMENT_TBREAK 41`

- #define ELEMENT_TEXT 42
- #define ELEMENT_TEXT_AREA 43
- #define ELEMENT_TITLE 44
- #define ELEMENT_TSPAN 45
- #define ELEMENT_USE 46
- #define ELEMENT_VIDEO 47
- #define RED_TERM_COLOR "\x1B[0;31m"
- #define GREEN_TERM_COLOR "\x1B[0;32m"
- #define YELLOW_TERM_COLOR "\x1B[1;33m"
- #define RESET_TERM_COLOR "\033[0m"
- #define HOOP_126X110 0
- #define HOOP_110X110 1
- #define HOOP_50X50 2
- #define HOOP_140X200 3
- #define HOOP_230X200 4
- #define EMB_MIN(A, B) (((A) < (B)) ? (A) : (B))
- #define EMB_MAX(A, B) (((A) > (B)) ? (A) : (B))
- #define EMB_BIG_ENDIAN 0
- #define EMB_LITTLE_ENDIAN 1
- #define ENDIAN_HOST EMB_LITTLE_ENDIAN
- #define EMB_INT16_BIG 2
- #define EMB_INT16_LITTLE 3
- #define EMB_INT32_BIG 4
- #define EMB_INT32_LITTLE 5
- #define PES0001 0
- #define PES0020 1
- #define PES0022 2
- #define PES0030 3
- #define PES0040 4
- #define PES0050 5
- #define PES0055 6
- #define PES0056 7
- #define PES0060 8
- #define PES0070 9
- #define PES0080 10
- #define PES0090 11
- #define PES0100 12
- #define N_PES VERSIONS 13
- #define DXF_VERSION_R10 "AC1006"
- #define DXF_VERSION_R11 "AC1009"
- #define DXF_VERSION_R12 "AC1009"
- #define DXF_VERSION_R13 "AC1012"
- #define DXF_VERSION_R14 "AC1014"
- #define DXF_VERSION_R15 "AC1015"
- #define DXF_VERSION_R18 "AC1018"
- #define DXF_VERSION_R21 "AC1021"
- #define DXF_VERSION_R24 "AC1024"
- #define DXF_VERSION_R27 "AC1027"
- #define DXF_VERSION_2000 "AC1015"
- #define DXF_VERSION_2002 "AC1015"
- #define DXF_VERSION_2004 "AC1018"
- #define DXF_VERSION_2006 "AC1018"
- #define DXF_VERSION_2007 "AC1021"
- #define DXF_VERSION_2009 "AC1021"
- #define DXF_VERSION_2010 "AC1024"

- `#define DXF_VERSION_2013 "AC1027"`
- `#define SVG_CREATOR_NULL 0`
- `#define SVG_CREATOR_EMBROIDERMODDER 1`
- `#define SVG_CREATOR_ILLUSTRATOR 2`
- `#define SVG_CREATOR_INKSCAPE 3`
- `#define SVG_EXPECT_NULL 0`
- `#define SVG_EXPECT_ELEMENT 1`
- `#define SVG_EXPECT_ATTRIBUTE 2`
- `#define SVG_EXPECT_VALUE 3`
- `#define SVG_NULL 0`
- `#define SVG_ELEMENT 1`
- `#define SVG_PROPERTY 2`
- `#define SVG_MEDIA_PROPERTY 3`
- `#define SVG_ATTRIBUTE 4`
- `#define SVG_CATCH_ALL 5`
- `#define LINETO 0`
- `#define MOVETO 1`
- `#define BULGETOCONTROL 2`
- `#define BULGETOEND 4`
- `#define ELLIPSETORAD 8`
- `#define ELLIPSETOEND 16`
- `#define CUBICTOCONTROL1 32`
- `#define CUBICTOCONTROL2 64`
- `#define CUBICTOEND 128`
- `#define QUADTOCONTROL 256`
- `#define QUADTOEND 512`

Typedefs

- `typedef struct _bcf_file_difat bcf_file_difat`
- `typedef struct _bcf_file_fat bcf_file_fat`
- `typedef struct _bcf_directory_entry bcf_directory_entry`
- `typedef struct _bcf_directory bcf_directory`
- `typedef struct _bcf_file_header bcf_file_header`
- `typedef struct _bcf_file bcf_file`
- `typedef struct _vp3Hoop vp3Hoop`
- `typedef struct ThredHeader_ ThredHeader`
- `typedef struct ThredExtension_ ThredExtension`
- `typedef struct SubDescriptor_ SubDescriptor`
- `typedef struct StxThread_ StxThread`
- `typedef struct VipHeader_ VipHeader`
- `typedef struct SvgAttribute_ SvgAttribute`
- `typedef struct Huffman huffman`
- `typedef struct Compress compress`

Enumerations

- `enum CSV_EXPECT { CSV_EXPECT_NULL , CSV_EXPECT_QUOTE1 , CSV_EXPECT_QUOTE2 , CSV_EXPECT_COMMA }`
- `enum CSV_MODE { CSV_MODE_NULL , CSV_MODE_COMMENT , CSV_MODE_VARIABLE , CSV_MODE_THREAD , CSV_MODE_STITCH }`

Functions

- void `huffman_build_table (huffman *h)`

These next 2 functions represent the `Huffman` class in tartarize's code.
- int * `huffman_table_lookup (huffman *h, int byte_lookup, int *lengths)`
- int `compress_get_bits (compress *c, int length)`
- int `compress_pop (compress *c, int bit_count)`
- int `compress_read_variable_length (compress *c)`
- void `compress_load_character_length_huffman (compress *c)`
- void `compress_load_character_huffman (compress *c)`
- void `compress_load_distance_huffman (compress *c)`
- void `compress_load_block (compress *c)`
- int `compress_get_token (compress *c)`
- int `compress_get_position (compress *c)`
- void `readPecStitches (EmbPattern *pattern, FILE *file)`
- void `writePecStitches (EmbPattern *pattern, FILE *file, const char *filename)`
- int `decodeNewStitch (unsigned char value)`
- void `pfaffEncode (FILE *file, int x, int y, int flags)`
- `EmbReal pfaffDecode (unsigned char a1, unsigned char a2, unsigned char a3)`
- unsigned char `mitEncodeStitch (EmbReal value)`
- int `mitDecodeStitch (unsigned char value)`
- int `encode_tajima_ternary (unsigned char b[3], int x, int y)`
- void `decode_tajima_ternary (unsigned char b[3], int *x, int *y)`
- void `encode_t01_record (unsigned char b[3], int x, int y, int flags)`
- int `decode_t01_record (unsigned char b[3], int *x, int *y, int *flags)`
- void `readPESHeaderV5 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV6 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV7 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV8 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV9 (FILE *file, EmbPattern *pattern)`
- void `readPESHeaderV10 (FILE *file, EmbPattern *pattern)`
- void `readDescriptions (FILE *file, EmbPattern *pattern)`
- void `readHoopName (FILE *file, EmbPattern *pattern)`
- void `readImageString (FILE *file, EmbPattern *pattern)`
- void `readProgrammableFills (FILE *file, EmbPattern *pattern)`
- void `readMotifPatterns (FILE *file, EmbPattern *pattern)`
- void `readFeatherPatterns (FILE *file, EmbPattern *pattern)`
- void `readThreads (FILE *file, EmbPattern *pattern)`
- void `emblnt_read (FILE *f, char *label, void *b, int mode)`
- void `emblnt_write (FILE *f, char *label, void *b, int mode)`
- int `emb_readline (FILE *file, char *line, int maxLength)`
- int `bcfFile_read (FILE *file, bcf_file *bcfFile)`
- FILE * `GetFile (bcf_file *bcfFile, FILE *file, char *fileToFind)`

Get the File object.

- void `bcf_file_free (bcf_file *bcfFile)`
- void `binaryReadString (FILE *file, char *buffer, int maxLength)`
- void `binaryReadUnicodeString (FILE *file, char *buffer, const int stringLength)`
- int `stringInArray (const char *s, const char **array)`
- void `fpad (FILE *f, char c, int n)`
- char * `copy_trim (char const *s)`
- char * `emb_optOut (EmbReal num, char *str)`

Optimizes the number (num) for output to a text file and returns it as a string (str).

- void `write_24bit (FILE *file, int)`
- int `check_header_present (FILE *file, int minimum_header_length)`

- `unsigned short fread_uint16 (FILE *file)`
- `short fread_int16 (FILE *f)`
- `int fread_int32_be (FILE *f)`
- `void safe_free (void *data)`
- `void binaryWriteUIntBE (FILE *f, unsigned int data)`
- `void binaryWriteUInt (FILE *f, unsigned int data)`
- `void binaryWriteIntBE (FILE *f, int data)`
- `void binaryWriteInt (FILE *f, int data)`
- `void binaryWriteUShort (FILE *f, unsigned short data)`
- `void binaryWriteUShortBE (FILE *f, unsigned short data)`
- `void binaryWriteShort (FILE *f, short data)`
- `bcf_file_difat * bcf_difat_create (FILE *file, unsigned int fatSectors, const unsigned int sectorSize)`
- `unsigned int readFullSector (FILE *file, bcf_file_difat *bcfFile, unsigned int *numberOfDifatEntriesStillToRead)`
- `unsigned int numberOfEntriesInDifatSector (bcf_file_difat *fat)`
- `void bcf_file_difat_free (bcf_file_difat *difat)`
- `unsigned int entriesInDifatSector (bcf_file_difat *fat)`
- `bcf_file_fat * bcfFileFat_create (const unsigned int sectorSize)`
- `void loadFatFromSector (bcf_file_fat *fat, FILE *file)`
- `void bcf_file_fat_free (bcf_file_fat **fat)`
- `bcf_directory_entry * CompoundFileDirectoryEntry (FILE *file)`
- `bcf_directory * CompoundFileDirectory (const unsigned int maxNumberOfDirectoryEntries)`
- `void readNextSector (FILE *file, bcf_directory *dir)`
- `void bcf_directory_free (bcf_directory **dir)`
- `bcf_file_header bcfFileHeader_read (FILE *file)`
- `int bcfFileHeader_isValid (bcf_file_header header)`
- `int hus_compress (char *input, int size, char *output, int *out_size)`
- `int hus_decompress (char *input, int size, char *output, int *out_size)`
- `void testTangentPoints (EmbCircle c, EmbVector p, EmbVector *t0, EmbVector *t1)`
- `void printArcResults (EmbReal bulge, EmbArc arc, EmbReal centerX, EmbReal centerY, EmbReal radius, EmbReal diameter, EmbReal chord, EmbReal chordMidX, EmbReal chordMidY, EmbReal sagitta, EmbReal apothem, EmbReal incAngle, char clockwise)`
- `int create_test_file_1 (const char *outf)`
- `int create_test_file_2 (const char *outf)`
- `int create_test_file_3 (const char *outf)`
- `int testEmbCircle (void)`
- `int testEmbCircle_2 (void)`
- `int testGeomArc (void)`
- `int testThreadColor (void)`
- `int testEmbFormat (void)`
- `void embColor_read (FILE *f, EmbColor *c, int toRead)`
- `void embColor_write (FILE *f, EmbColor c, int toWrite)`
- `char read100 (EmbPattern *pattern, FILE *file)`
- `char write100 (EmbPattern *pattern, FILE *file)`
- `char read10o (EmbPattern *pattern, FILE *file)`
- `char write10o (EmbPattern *pattern, FILE *file)`
- `char readArt (EmbPattern *pattern, FILE *file)`
- `char writeArt (EmbPattern *pattern, FILE *file)`
- `char readBmc (EmbPattern *pattern, FILE *file)`
- `char writeBmc (EmbPattern *pattern, FILE *file)`
- `char readBro (EmbPattern *pattern, FILE *file)`
- `char writeBro (EmbPattern *pattern, FILE *file)`
- `char readCnd (EmbPattern *pattern, FILE *file)`
- `char writeCnd (EmbPattern *pattern, FILE *file)`
- `char readCol (EmbPattern *pattern, FILE *file)`

- char `writeCol` (`EmbPattern` *pattern, `FILE` *file)
- char `readCsd` (`EmbPattern` *pattern, `FILE` *file)
- char `writeCsd` (`EmbPattern` *pattern, `FILE` *file)
- char `readCsv` (`EmbPattern` *pattern, `FILE` *file)
- char `writeCsv` (`EmbPattern` *pattern, `FILE` *file)
- char `readDat` (`EmbPattern` *pattern, `FILE` *file)
- char `writeDat` (`EmbPattern` *pattern, `FILE` *file)
- char `readDem` (`EmbPattern` *pattern, `FILE` *file)
- char `writeDem` (`EmbPattern` *pattern, `FILE` *file)
- char `readDsb` (`EmbPattern` *pattern, `FILE` *file)
- char `writeDsb` (`EmbPattern` *pattern, `FILE` *file)
- char `readDst` (`EmbPattern` *pattern, `FILE` *file)
- char `writeDst` (`EmbPattern` *pattern, `FILE` *file)
- char `readDsz` (`EmbPattern` *pattern, `FILE` *file)
- char `writeDsz` (`EmbPattern` *pattern, `FILE` *file)
- char `readDxf` (`EmbPattern` *pattern, `FILE` *file)
- char `writeDxf` (`EmbPattern` *pattern, `FILE` *file)
- char `readEdr` (`EmbPattern` *pattern, `FILE` *file)
- char `writeEdr` (`EmbPattern` *pattern, `FILE` *file)
- char `readEmd` (`EmbPattern` *pattern, `FILE` *file)
- char `writeEmd` (`EmbPattern` *pattern, `FILE` *file)
- char `readExp` (`EmbPattern` *pattern, `FILE` *file)
- char `writeExp` (`EmbPattern` *pattern, `FILE` *file)
- char `readExy` (`EmbPattern` *pattern, `FILE` *file)
- char `writeExy` (`EmbPattern` *pattern, `FILE` *file)
- char `readEys` (`EmbPattern` *pattern, `FILE` *file)
- char `writeEys` (`EmbPattern` *pattern, `FILE` *file)
- char `readFxy` (`EmbPattern` *pattern, `FILE` *file)
- char `writeFxy` (`EmbPattern` *pattern, `FILE` *file)
- char `readGc` (`EmbPattern` *pattern, `FILE` *file)
- char `writeGc` (`EmbPattern` *pattern, `FILE` *file)
- char `readGnc` (`EmbPattern` *pattern, `FILE` *file)
- char `writeGnc` (`EmbPattern` *pattern, `FILE` *file)
- char `readGt` (`EmbPattern` *pattern, `FILE` *file)
- char `writeGt` (`EmbPattern` *pattern, `FILE` *file)
- char `readHus` (`EmbPattern` *pattern, `FILE` *file)
- char `writeHus` (`EmbPattern` *pattern, `FILE` *file)
- char `readInb` (`EmbPattern` *pattern, `FILE` *file)
- char `writelnb` (`EmbPattern` *pattern, `FILE` *file)
- char `readInf` (`EmbPattern` *pattern, `FILE` *file)
- char `writelnf` (`EmbPattern` *pattern, `FILE` *file)
- char `readJef` (`EmbPattern` *pattern, `FILE` *file)
- char `writeJef` (`EmbPattern` *pattern, `FILE` *file)
- char `readKsm` (`EmbPattern` *pattern, `FILE` *file)
- char `writeKsm` (`EmbPattern` *pattern, `FILE` *file)
- char `readMax` (`EmbPattern` *pattern, `FILE` *file)
- char `writeMax` (`EmbPattern` *pattern, `FILE` *file)
- char `readMit` (`EmbPattern` *pattern, `FILE` *file)
- char `writeMit` (`EmbPattern` *pattern, `FILE` *file)
- char `readNew` (`EmbPattern` *pattern, `FILE` *file)
- char `writeNew` (`EmbPattern` *pattern, `FILE` *file)
- char `readOfm` (`EmbPattern` *pattern, `FILE` *file)
- char `writeOfm` (`EmbPattern` *pattern, `FILE` *file)
- char `readPcd` (`EmbPattern` *pattern, const char *fileName, `FILE` *file)
- char `writePcd` (`EmbPattern` *pattern, `FILE` *file)

- char `readPcm` (`EmbPattern` *pattern, `FILE` *file)
- char `writePcm` (`EmbPattern` *pattern, `FILE` *file)
- char `readPcq` (`EmbPattern` *pattern, const `char` *fileName, `FILE` *file)
- char `writePcq` (`EmbPattern` *pattern, `FILE` *file)
- char `readPcs` (`EmbPattern` *pattern, const `char` *fileName, `FILE` *file)
- char `writePcs` (`EmbPattern` *pattern, `FILE` *file)
- char `readPec` (`EmbPattern` *pattern, const `char` *fileName, `FILE` *file)
- char `writePec` (`EmbPattern` *pattern, const `char` *fileName, `FILE` *file)
- char `readPel` (`EmbPattern` *pattern, `FILE` *file)
- char `writePel` (`EmbPattern` *pattern, `FILE` *file)
- char `readPem` (`EmbPattern` *pattern, `FILE` *file)
- char `writePem` (`EmbPattern` *pattern, `FILE` *file)
- char `readPes` (`EmbPattern` *pattern, const `char` *fileName, `FILE` *file)
- char `writePes` (`EmbPattern` *pattern, const `char` *fileName, `FILE` *file)
- char `readPhb` (`EmbPattern` *pattern, `FILE` *file)
- char `writePhb` (`EmbPattern` *pattern, `FILE` *file)
- char `readPhc` (`EmbPattern` *pattern, `FILE` *file)
- char `writePhc` (`EmbPattern` *pattern, `FILE` *file)
- char `readPlt` (`EmbPattern` *pattern, `FILE` *file)
- char `writePlt` (`EmbPattern` *pattern, `FILE` *file)
- char `readRgb` (`EmbPattern` *pattern, `FILE` *file)
- char `writeRgb` (`EmbPattern` *pattern, `FILE` *file)
- char `readSew` (`EmbPattern` *pattern, `FILE` *file)
- char `writeSew` (`EmbPattern` *pattern, `FILE` *file)
- char `readShv` (`EmbPattern` *pattern, `FILE` *file)
- char `writeShv` (`EmbPattern` *pattern, `FILE` *file)
- char `readSst` (`EmbPattern` *pattern, `FILE` *file)
- char `writeSst` (`EmbPattern` *pattern, `FILE` *file)
- char `readStx` (`EmbPattern` *pattern, `FILE` *file)
- char `writeStx` (`EmbPattern` *pattern, `FILE` *file)
- char `readSvg` (`EmbPattern` *pattern, `FILE` *file)
- char `writeSvg` (`EmbPattern` *pattern, `FILE` *file)
- char `readT01` (`EmbPattern` *pattern, `FILE` *file)
- char `writeT01` (`EmbPattern` *pattern, `FILE` *file)
- char `readT09` (`EmbPattern` *pattern, `FILE` *file)
- char `writeT09` (`EmbPattern` *pattern, `FILE` *file)
- char `readTap` (`EmbPattern` *pattern, `FILE` *file)
- char `writeTap` (`EmbPattern` *pattern, `FILE` *file)
- char `readThr` (`EmbPattern` *pattern, `FILE` *file)
- char `writeThr` (`EmbPattern` *pattern, `FILE` *file)
- char `readTxt` (`EmbPattern` *pattern, `FILE` *file)
- char `writeTxt` (`EmbPattern` *pattern, `FILE` *file)
- char `readU00` (`EmbPattern` *pattern, `FILE` *file)
- char `writeU00` (`EmbPattern` *pattern, `FILE` *file)
- char `readU01` (`EmbPattern` *pattern, `FILE` *file)
- char `writeU01` (`EmbPattern` *pattern, `FILE` *file)
- char `readVip` (`EmbPattern` *pattern, `FILE` *file)
- char `writeVip` (`EmbPattern` *pattern, `FILE` *file)
- char `readVp3` (`EmbPattern` *pattern, `FILE` *file)
- char `writeVp3` (`EmbPattern` *pattern, `FILE` *file)
- char `readXxx` (`EmbPattern` *pattern, `FILE` *file)
- char `writeXxx` (`EmbPattern` *pattern, `FILE` *file)
- char `readZsk` (`EmbPattern` *pattern, `FILE` *file)
- char `writeZsk` (`EmbPattern` *pattern, `FILE` *file)

Variables

- const char [imageWithFrame \[38\]\[48\]](#)

18.114.1 Macro Definition Documentation

18.114.1.1 BULGETOCONTROL #define BULGETOCONTROL 2

18.114.1.2 BULGETOEND #define BULGETOEND 4

18.114.1.3 CompoundFileSector_DIFAT_Sector #define CompoundFileSector_DIFAT_Sector 0xFFFFFFFFFC

18.114.1.4 CompoundFileSector_EndOfChain #define CompoundFileSector_EndOfChain 0xFFFFFFFFFE

18.114.1.5 CompoundFileSector_FAT_Sector #define CompoundFileSector_FAT_Sector 0xFFFFFFFFFD

18.114.1.6 CompoundFileSector_FreeSector #define CompoundFileSector_FreeSector 0xFFFFFFFFFF

18.114.1.7 CompoundFileSector_MaxRegSector #define CompoundFileSector_MaxRegSector 0x←
FFFFFFFA

Type of sector

18.114.1.8 CompoundFileStreamId_MaxRegularStreamId #define CompoundFileStreamId_MaxRegular←
StreamId 0xFFFFFFFFFA

Special values for Stream Identifiers All real stream Ids are less than this

18.114.1.9 CompoundFileStreamId_NoStream #define CompoundFileStreamId_NoStream 0xFFFFFFFFFF

There is no valid stream Id

18.114.1.10 CUBICTOCONTROL1 `#define CUBICTOCONTROL1 32`

18.114.1.11 CUBICTOCONTROL2 `#define CUBICTOCONTROL2 64`

18.114.1.12 CUBICTOEND `#define CUBICTOEND 128`

18.114.1.13 DXF_VERSION_2000 `#define DXF_VERSION_2000 "AC1015"`

18.114.1.14 DXF_VERSION_2002 `#define DXF_VERSION_2002 "AC1015"`

18.114.1.15 DXF_VERSION_2004 `#define DXF_VERSION_2004 "AC1018"`

18.114.1.16 DXF_VERSION_2006 `#define DXF_VERSION_2006 "AC1018"`

18.114.1.17 DXF_VERSION_2007 `#define DXF_VERSION_2007 "AC1021"`

18.114.1.18 DXF_VERSION_2009 `#define DXF_VERSION_2009 "AC1021"`

18.114.1.19 DXF_VERSION_2010 `#define DXF_VERSION_2010 "AC1024"`

18.114.1.20 DXF_VERSION_2013 `#define DXF_VERSION_2013 "AC1027"`

18.114.1.21 DXF_VERSION_R10 #define DXF_VERSION_R10 "AC1006"

18.114.1.22 DXF_VERSION_R11 #define DXF_VERSION_R11 "AC1009"

18.114.1.23 DXF_VERSION_R12 #define DXF_VERSION_R12 "AC1009"

18.114.1.24 DXF_VERSION_R13 #define DXF_VERSION_R13 "AC1012"

18.114.1.25 DXF_VERSION_R14 #define DXF_VERSION_R14 "AC1014"

18.114.1.26 DXF_VERSION_R15 #define DXF_VERSION_R15 "AC1015"

18.114.1.27 DXF_VERSION_R18 #define DXF_VERSION_R18 "AC1018"

18.114.1.28 DXF_VERSION_R21 #define DXF_VERSION_R21 "AC1021"

18.114.1.29 DXF_VERSION_R24 #define DXF_VERSION_R24 "AC1024"

18.114.1.30 DXF_VERSION_R27 #define DXF_VERSION_R27 "AC1027"

18.114.1.31 ELEMENT_A #define ELEMENT_A 1

18.114.1.32 ELEMENT_ANIMATE `#define ELEMENT_ANIMATE 2`

18.114.1.33 ELEMENT_ANIMATECOLOR `#define ELEMENT_ANIMATECOLOR 3`

18.114.1.34 ELEMENT_ANIMATEMOTION `#define ELEMENT_ANIMATEMOTION 4`

18.114.1.35 ELEMENT_ANIMATETRANSFORM `#define ELEMENT_ANIMATETRANSFORM 5`

18.114.1.36 ELEMENT_ANIMATION `#define ELEMENT_ANIMATION 6`

18.114.1.37 ELEMENT_AUDIO `#define ELEMENT_AUDIO 7`

18.114.1.38 ELEMENT_CIRCLE `#define ELEMENT_CIRCLE 8`

18.114.1.39 ELEMENT_DEFS `#define ELEMENT_DEFS 9`

18.114.1.40 ELEMENT_DESC `#define ELEMENT_DESC 10`

18.114.1.41 ELEMENT_DISCARD `#define ELEMENT_DISCARD 11`

18.114.1.42 ELEMENT_ELLIPSE `#define ELEMENT_ELLIPSE 12`

18.114.1.43 ELEMENT_FONT #define ELEMENT_FONT 13

18.114.1.44 ELEMENT_FONT_FACE #define ELEMENT_FONT_FACE 14

18.114.1.45 ELEMENT_FONT_FACE_SRC #define ELEMENT_FONT_FACE_SRC 15

18.114.1.46 ELEMENT_FONT_FACE_URI #define ELEMENT_FONT_FACE_URI 16

18.114.1.47 ELEMENT_FOREIGN_OBJECT #define ELEMENT_FOREIGN_OBJECT 17

18.114.1.48 ELEMENT_G #define ELEMENT_G 18

18.114.1.49 ELEMENT_GLYPH #define ELEMENT_GLYPH 19

18.114.1.50 ELEMENT_HANDLER #define ELEMENT_HANDLER 20

18.114.1.51 ELEMENT_HKERN #define ELEMENT_HKERN 21

18.114.1.52 ELEMENT_IMAGE #define ELEMENT_IMAGE 22

18.114.1.53 ELEMENT_LINE #define ELEMENT_LINE 23

18.114.1.54 ELEMENT_LINEAR_GRADIENT `#define ELEMENT_LINEAR_GRADIENT 24`

18.114.1.55 ELEMENT_LISTENER `#define ELEMENT_LISTENER 25`

18.114.1.56 ELEMENT_METADATA `#define ELEMENT_METADATA 26`

18.114.1.57 ELEMENT_MISSING_GLYPH `#define ELEMENT_MISSING_GLYPH 27`

18.114.1.58 ELEMENT_MPATH `#define ELEMENT_MPATH 28`

18.114.1.59 ELEMENT_PATH `#define ELEMENT_PATH 29`

18.114.1.60 ELEMENT_POLYGON `#define ELEMENT_POLYGON 30`

18.114.1.61 ELEMENT_POLYLINE `#define ELEMENT_POLYLINE 31`

18.114.1.62 ELEMENT_PREFETCH `#define ELEMENT_PREFETCH 32`

18.114.1.63 ELEMENT_RADIAL_GRADIENT `#define ELEMENT_RADIAL_GRADIENT 33`

18.114.1.64 ELEMENT_RECT `#define ELEMENT_RECT 34`

18.114.1.65 ELEMENT_SCRIPT #define ELEMENT_SCRIPT 35

18.114.1.66 ELEMENT_SET #define ELEMENT_SET 36

18.114.1.67 ELEMENT_SOLID_COLOR #define ELEMENT_SOLID_COLOR 37

18.114.1.68 ELEMENT_STOP #define ELEMENT_STOP 38

18.114.1.69 ELEMENT_SVG #define ELEMENT_SVG 39

18.114.1.70 ELEMENT_SWITCH #define ELEMENT_SWITCH 40

18.114.1.71 ELEMENT_TBREAK #define ELEMENT_TBREAK 41

18.114.1.72 ELEMENT_TEXT #define ELEMENT_TEXT 42

18.114.1.73 ELEMENT_TEXT_AREA #define ELEMENT_TEXT_AREA 43

18.114.1.74 ELEMENT_TITLE #define ELEMENT_TITLE 44

18.114.1.75 ELEMENT_TSPAN #define ELEMENT_TSPAN 45

18.114.1.76 ELEMENT_USE `#define ELEMENT_USE 46`

18.114.1.77 ELEMENT_VIDEO `#define ELEMENT_VIDEO 47`

18.114.1.78 ELEMENT_XML `#define ELEMENT_XML 0`

18.114.1.79 ELLIPSETOEND `#define ELLIPSETOEND 16`

18.114.1.80 ELLIPSETORAD `#define ELLIPSETORAD 8`

18.114.1.81 EMB_BIG_ENDIAN `#define EMB_BIG_ENDIAN 0`

18.114.1.82 EMB_INT16_BIG `#define EMB_INT16_BIG 2`

18.114.1.83 EMB_INT16_LITTLE `#define EMB_INT16_LITTLE 3`

18.114.1.84 EMB_INT32_BIG `#define EMB_INT32_BIG 4`

18.114.1.85 EMB_INT32_LITTLE `#define EMB_INT32_LITTLE 5`

18.114.1.86 EMB_LITTLE_ENDIAN `#define EMB_LITTLE_ENDIAN 1`

18.114.1.87 EMB_MAX #define EMB_MAX(
 A,
 B) (((A) > (B)) ? (A) : (B))

18.114.1.88 EMB_MIN #define EMB_MIN(
 A,
 B) (((A) < (B)) ? (A) : (B))

18.114.1.89 ENDIAN_HOST #define ENDIAN_HOST EMB_LITTLE_ENDIAN

18.114.1.90 GREEN_TERM_COLOR #define GREEN_TERM_COLOR "\x1B[0;32m"

18.114.1.91 HOOP_110X110 #define HOOP_110X110 1

18.114.1.92 HOOP_126X110 #define HOOP_126X110 0

18.114.1.93 HOOP_140X200 #define HOOP_140X200 3

18.114.1.94 HOOP_230X200 #define HOOP_230X200 4

18.114.1.95 HOOP_50X50 #define HOOP_50X50 2

18.114.1.96 LINETO #define LINETO 0

18.114.1.97 MOVETO #define MOVETO 1

18.114.1.98 N_PES_VERSIONS #define N_PES_VERSIONS 13

18.114.1.99 ObjectTypeRootEntry #define ObjectTypeRootEntry 0x05

the root entry

18.114.1.100 ObjectTypeStorage #define ObjectTypeStorage 0x01

a directory type object

18.114.1.101 ObjectTypeStream #define ObjectTypeStream 0x02

a file type object

18.114.1.102 ObjectTypeUnknown #define ObjectTypeUnknown 0x00

Type of directory object Probably unallocated

18.114.1.103 PES0001 #define PES0001 0

18.114.1.104 PES0020 #define PES0020 1

18.114.1.105 PES0022 #define PES0022 2

18.114.1.106 PES0030 #define PES0030 3

18.114.1.107 PES0040 #define PES0040 4

18.114.1.108 PES0050 #define PES0050 5

18.114.1.109 PES0055 #define PES0055 6

18.114.1.110 PES0056 #define PES0056 7

18.114.1.111 PES0060 #define PES0060 8

18.114.1.112 PES0070 #define PES0070 9

18.114.1.113 PES0080 #define PES0080 10

18.114.1.114 PES0090 #define PES0090 11

18.114.1.115 PES0100 #define PES0100 12

18.114.1.116 QUADTOCONTROL #define QUADTOCONTROL 256

18.114.1.117 QUADTOEND #define QUADTOEND 512

18.114.1.118 RED_TERM_COLOR #define RED_TERM_COLOR "\x1B[0;31m"

18.114.1.119 RESET_TERM_COLOR #define RESET_TERM_COLOR "\033[0m"

18.114.1.120 `SVG_ATTRIBUTE` `#define SVG_ATTRIBUTE 4`

18.114.1.121 `SVG_CATCH_ALL` `#define SVG_CATCH_ALL 5`

18.114.1.122 `SVG_CREATOR_EMBROIDERMODDER` `#define SVG_CREATOR_EMBROIDERMODDER 1`

18.114.1.123 `SVG_CREATOR_ILLUSTRATOR` `#define SVG_CREATOR_ILLUSTRATOR 2`

18.114.1.124 `SVG_CREATOR_INKSCAPE` `#define SVG_CREATOR_INKSCAPE 3`

18.114.1.125 `SVG_CREATOR_NULL` `#define SVG_CREATOR_NULL 0`

18.114.1.126 `SVG_ELEMENT` `#define SVG_ELEMENT 1`

18.114.1.127 `SVG_EXPECT_ATTRIBUTE` `#define SVG_EXPECT_ATTRIBUTE 2`

18.114.1.128 `SVG_EXPECT_ELEMENT` `#define SVG_EXPECT_ELEMENT 1`

18.114.1.129 `SVG_EXPECT_NULL` `#define SVG_EXPECT_NULL 0`

18.114.1.130 `SVG_EXPECT_VALUE` `#define SVG_EXPECT_VALUE 3`

18.114.1.131 `SVG_MEDIA_PROPERTY` `#define SVG_MEDIA_PROPERTY 3`

18.114.1.132 `SVG_NULL` `#define SVG_NULL 0`

18.114.1.133 `SVG_PROPERTY` `#define SVG_PROPERTY 2`

18.114.1.134 `YELLOW_TERM_COLOR` `#define YELLOW_TERM_COLOR "\x1B[1;33m"`

18.114.2 **Typedef Documentation**

18.114.2.1 `bcf_directory` `typedef struct _bcf_directory bcf_directory`

Todo possibly add a directory tree in the future.

18.114.2.2 `bcf_directory_entry` `typedef struct _bcf_directory_entry bcf_directory_entry`

18.114.2.3 `bcf_file` `typedef struct _bcf_file bcf_file`

18.114.2.4 `bcf_file_difat` `typedef struct _bcf_file_difat bcf_file_difat`

18.114.2.5 `bcf_file_fat` `typedef struct _bcf_file_fat bcf_file_fat`

18.114.2.6 `bcf_file_header` `typedef struct _bcf_file_header bcf_file_header`

Todo CLSID should be a separate type.

18.114.2.7 compress `typedef struct Compress compress`

18.114.2.8 huffman `typedef struct Huffman huffman`

18.114.2.9 StxThread `typedef struct StxThread_ StxThread`

18.114.2.10 SubDescriptor `typedef struct SubDescriptor_ SubDescriptor`

18.114.2.11 SvgAttribute `typedef struct SvgAttribute_ SvgAttribute`

18.114.2.12 ThredExtension `typedef struct ThredExtension_ ThredExtension`

18.114.2.13 ThredHeader `typedef struct ThredHeader_ ThredHeader`

18.114.2.14 VipHeader `typedef struct VipHeader_ VipHeader`

18.114.2.15 vp3Hoop `typedef struct _vp3Hoop vp3Hoop`

18.114.3 Enumeration Type Documentation

18.114.3.1 CSV_EXPECT `enum CSV_EXPECT`

Enumerator

| | |
|--------------------------------|--|
| <code>CSV_EXPECT_NULL</code> | |
| <code>CSV_EXPECT_QUOTE1</code> | |
| <code>CSV_EXPECT_QUOTE2</code> | |
| <code>CSV_EXPECT_COMMA</code> | |

18.114.3.2 CSV_MODE enum `CSV_MODE`

Enumerator

| | |
|-------------------|--|
| CSV_MODE_NULL | |
| CSV_MODE_COMMENT | |
| CSV_MODE_VARIABLE | |
| CSV_MODE_THREAD | |
| CSV_MODE_STITCH | |

18.114.4 Function Documentation**18.114.4.1 bcf_difat_create()** `bcf_file_difat * bcf_difat_create (`
`FILE * file,`
`unsigned int fatSectors,`
`const unsigned int sectorSize)`

Parameters

| | |
|-------------------------|--|
| <code>file</code> | |
| <code>fatSectors</code> | |
| <code>sectorSize</code> | |

Returns

`bcf_file_difat*`**18.114.4.2 bcf_directory_free()** `void bcf_directory_free (`
`bcf_directory ** dir)`

Parameters

| | |
|------------------|--|
| <code>dir</code> | |
|------------------|--|

18.114.4.3 bcf_file_difat_free() `void bcf_file_difat_free (`
`bcf_file_difat * difat)`

18.114.4.4 bcf_file_fat_free() void bcf_file_fat_free (
 `bcf_file_fat` ** *fat*)

18.114.4.5 bcf_file_free() void bcf_file_free (
 `bcf_file` * *bcfFile*)

Parameters

| | |
|----------------------|--|
| <code>bcfFile</code> | |
|----------------------|--|

18.114.4.6 bcfFile_read() int bcfFile_read (
 FILE * *file*,
 `bcf_file` * *bcfFile*)

Parameters

| | |
|----------------------|--|
| <code>file</code> | |
| <code>bcfFile</code> | |

Returns

int

18.114.4.7 bcfFileFat_create() `bcf_file_fat` * bcfFileFat_create (
 const unsigned int *sectorSize*)

Parameters

| | |
|-------------------------|--|
| <code>sectorSize</code> | |
|-------------------------|--|

Returns

`bcf_file_fat*`

18.114.4.8 bcfFileHeader_isValid() int bcfFileHeader_isValid (
 `bcf_file_header` *header*)

18.114.4.9 bcfFileHeader_read() `bcf_file_header` bcfFileHeader_read (
 FILE * *file*)

Parameters

| | |
|-------------|----------------------|
| <i>file</i> | <input type="text"/> |
|-------------|----------------------|

Returns`bcf_file_header`**18.114.4.10 `binaryReadString()`** `void binaryReadString (`

```
FILE * file,  
char * buffer,  
int maxLength )
```

Parameters

| | |
|------------------|----------------------|
| <i>file</i> | <input type="text"/> |
| <i>buffer</i> | <input type="text"/> |
| <i>maxLength</i> | <input type="text"/> |

18.114.4.11 `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"/> |

18.114.4.12 `binaryWriteInt()` `void binaryWriteInt (`

```
FILE * f,  
int data )
```

Parameters

| | |
|-------------|----------------------|
| <i>f</i> | <input type="text"/> |
| <i>data</i> | <input type="text"/> |

Todo replace with emblnt_read

18.114.4.13 binaryWriteIntBE() void binaryWriteIntBE (FILE * *f*, int *data*)

Parameters

| | |
|-------------|--|
| <i>f</i> | |
| <i>data</i> | |

Todo replace with emblnt_read

18.114.4.14 binaryWriteShort() void binaryWriteShort (FILE * *f*, short *data*)

Parameters

| | |
|-------------|--|
| <i>f</i> | |
| <i>data</i> | |

Todo replace with emblnt_read

18.114.4.15 binaryWriteUInt() void binaryWriteUInt (FILE * *f*, unsigned int *data*)

Parameters

| | |
|-------------|--|
| <i>f</i> | |
| <i>data</i> | |

Todo replace with emblnt_read

18.114.4.16 binaryWriteUIntBE() void binaryWriteUIntBE (FILE * *f*, unsigned int *data*)

Parameters

| | |
|-------------|--|
| <i>f</i> | |
| <i>data</i> | |

Todo replace with emblnt_read

18.114.4.17 **binaryWriteUShort()** void binaryWriteUShort (

```
FILE * f,  
unsigned short data )
```

Parameters

| | |
|------|--|
| f | |
| data | |

Todo replace with emblnt_read

18.114.4.18 **binaryWriteUShortBE()** void binaryWriteUShortBE (

```
FILE * f,  
unsigned short data )
```

Parameters

| | |
|------|--|
| f | |
| data | |

Todo replace with emblnt_read

18.114.4.19 **check_header_present()** int check_header_present (

```
FILE * file,  
int minimum_header_length )
```

Parameters

| | |
|-----------------------|--|
| file | |
| minimum_header_length | |

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.

18.114.4.20 CompoundFileDirectory() `bcf_directory * CompoundFileDirectory (const unsigned int maxNumberOfDirectoryEntries)`

Parameters

| | |
|--|--|
| <code>maxNumberOfDirectoryEntries</code> | |
|--|--|

Returns

`bcf_directory*`

18.114.4.21 CompoundFileDirectoryEntry() `bcf_directory_entry * CompoundFileDirectoryEntry (FILE * file)`

Parameters

| | |
|-------------------|--|
| <code>file</code> | |
|-------------------|--|

Returns

`bcf_directory_entry*`

18.114.4.22 compress_get_bits() `int compress_get_bits (compress * c, int length)`

Parameters

| | |
|---------------------|--|
| <code>c</code> | |
| <code>length</code> | |

Returns

`int`

18.114.4.23 compress_get_position() `int compress_get_position (compress * c)`

Parameters

| | |
|----------------|--|
| <code>c</code> | |
|----------------|--|

Returns

int

18.114.4.24 compress_get_token() int compress_get_token (

compress * c)

Parameters

| | |
|---|--|
| c | |
|---|--|

Returns

int

18.114.4.25 compress_load_block() void compress_load_block (

compress * c)

Parameters

| | |
|---|--|
| c | |
|---|--|

18.114.4.26 compress_load_character_huffman() void compress_load_character_huffman (

compress * c)

Parameters

| | |
|---|--|
| c | |
|---|--|

18.114.4.27 compress_load_character_length_huffman() void compress_load_character_length_huffman (

compress * c)

Parameters

| | |
|---|--|
| c | |
|---|--|

18.114.4.28 compress_load_distance_huffman() void compress_load_distance_huffman (compress * c)

Parameters

| | |
|---|--|
| c | |
|---|--|

18.114.4.29 compress_pop() int compress_pop (compress * c, int bit_count)

Parameters

| | |
|-----------|--|
| c | |
| bit_count | |

Returns

int

18.114.4.30 compress_read_variable_length() int compress_read_variable_length (compress * c)

Parameters

| | |
|---|--|
| c | |
|---|--|

Returns

int

18.114.4.31 copy_trim() char * copy_trim (char const * s)

Parameters

| | |
|---|--|
| s | |
|---|--|

Returns

char*

Todo description

18.114.4.32 `create_test_file_1()` `int create_test_file_1 (`
`const char * outf)`

18.114.4.33 `create_test_file_2()` `int create_test_file_2 (`
`const char * outf)`

18.114.4.34 `create_test_file_3()` `int create_test_file_3 (`
`const char * outf)`

18.114.4.35 `decode_t01_record()` `int decode_t01_record (`
`unsigned char b[3],`
`int * x,`
`int * y,`
`int * flags)`

Parameters

| | |
|--------------|--|
| <i>b</i> | |
| <i>x</i> | |
| <i>y</i> | |
| <i>flags</i> | |

Returns

`int`

18.114.4.36 `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> | |

18.114.4.37 `decodeNewStitch()` `int decodeNewStitch (`
`unsigned char value)`

Parameters

| | |
|--------------------|--|
| <code>value</code> | |
|--------------------|--|

Returns

`int`

18.114.4.38 `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

| | |
|------------------|--|
| <code>num</code> | |
| <code>str</code> | |

Returns

`char*`

18.114.4.39 `emb_readline()` `int emb_readline (`
`FILE * file,`
`char * line,`
`int maxLength)`

Parameters

| | |
|------------------------|--|
| <code>file</code> | |
| <code>line</code> | |
| <code>maxLength</code> | |

Returns

`int`

```
18.114.4.40 embColor_read() void embColor_read (
    FILE * f,
    EmbColor * c,
    int toRead )
```

Parameters

| | |
|---------------|--|
| <i>f</i> | |
| <i>c</i> | |
| <i>toRead</i> | |

```
18.114.4.41 embColor_write() void embColor_write (
    FILE * f,
    EmbColor c,
    int toWrite )
```

Parameters

| | |
|----------------|--|
| <i>f</i> | |
| <i>c</i> | |
| <i>toWrite</i> | |

```
18.114.4.42 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.

```
18.114.4.43 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> | |

```
18.114.4.44 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> | |

```
18.114.4.45 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

```
18.114.4.46 entriesInDifatSector() unsigned int entriesInDifatSector (
    bcf\_file\_difat * fat )
```

Parameters

| | |
|------------|--|
| <i>fat</i> | |
|------------|--|

Returns

unsigned int

18.114.4.47 fpad() void fpad (

```
FILE * file,
char c,
int n )
```

Parameters

| | |
|---|--|
| f | |
|---|--|

Returns

int

18.114.4.48 fread_int16() short fread_int16 (

```
FILE * f )
```

Parameters

| | |
|---|--|
| f | |
|---|--|

Returns

short

18.114.4.49 fread_int32_be() int fread_int32_be (

```
FILE * f )
```

Parameters

| | |
|---|--|
| f | |
|---|--|

Returns

int

Todo replace with emblnt_read

18.114.4.50 fread_uint16() unsigned short fread_uint16 (

```
FILE * f )
```

Parameters

| | |
|---|--|
| f | |
|---|--|

Returns

unsigned short

Todo replace with emblnt_read**18.114.4.51 GetFile()** FILE * GetFile (
 bcf_file * bcfFile,
 FILE * file,
 char * fileToFind)

Get the File object.

Parameters

| | |
|------------|--|
| bcfFile | |
| file | |
| fileToFind | |

Returns

FILE*

18.114.4.52 huffman_build_table() void huffman_build_table (
 huffman * h)These next 2 functions represent the [Huffman](#) class in tartarize's code.**Parameters**

| | |
|---|--|
| h | |
|---|--|

18.114.4.53 huffman_table_lookup() int * huffman_table_lookup (
 huffman * h,
 int byte_lookup,
 int * lengths)

```
18.114.4.54 hus_compress() int hus_compress (
    char * data,
    int length,
    char * output,
    int * output_length )
```

This file is part of libembroidery.

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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).

```
18.114.4.55 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

18.114.4.56 `loadFatFromSector()` void loadFatFromSector (
 `bcf_file_fat` * *fat*,
 FILE * *file*)

Parameters

| | |
|-------------|----------------------|
| <i>fat</i> | <input type="text"/> |
| <i>file</i> | <input type="text"/> |

18.114.4.57 `mitDecodeStitch()` int mitDecodeStitch (
 unsigned char *value*)

Parameters

| | |
|--------------|----------------------|
| <i>value</i> | <input type="text"/> |
|--------------|----------------------|

Returns

int

18.114.4.58 `mitEncodeStitch()` unsigned char mitEncodeStitch (
 `EmbReal` *value*)

Parameters

| | |
|--------------|----------------------|
| <i>value</i> | <input type="text"/> |
|--------------|----------------------|

Returns

unsigned char

18.114.4.59 `numberOfEntriesInDifatSector()` unsigned int numberOfEntriesInDifatSector (
 `bcf_file_difat` * *fat*)

18.114.4.60 pfaffDecode() `EmbReal pfaffDecode (`
 `unsigned char a1,`
 `unsigned char a2,`
 `unsigned char a3)`

Parameters

| | |
|-----------------|--|
| <code>a1</code> | |
| <code>a2</code> | |
| <code>a3</code> | |

Returns`EmbReal`

18.114.4.61 pfaffEncode() `void pfaffEncode (`
 `FILE * file,`
 `int dx,`
 `int dy,`
 `int flags)`

Parameters

| | |
|--------------------|--|
| <code>file</code> | |
| <code>dx</code> | |
| <code>dy</code> | |
| <code>flags</code> | |

18.114.4.62 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)`

18.114.4.63 read100() `char read100 (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.114.4.64 `read10o()` `char read10o (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.65 `readArt()` `char readArt (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.66 `readBmc()` `char readBmc (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.67 `readBro()` `char readBro (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.68 `readCnd()` `char readCnd (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.69 `readCol()` `char readCol (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.70 `readCsd()` `char readCsd (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.71 `readCsv()` `char readCsv (`
`EmbPattern * pattern,`
`FILE * file)`

```
18.114.4.72 readDat() char readDat (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.73 readDem() char readDem (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.74 readDescriptions() void readDescriptions (
    FILE * file,
    EmbPattern * pattern )
```

```
18.114.4.75 readDsb() char readDsb (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.76 readDst() char readDst (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.77 readDsz() char readDsz (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.78 readDxf() char readDxf (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.79 readEdr() char readEdr (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.80 readEmd() char readEmd (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.81 readExp() char readExp (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.82 readExy() char readExy (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.83 readEys() char readEys (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.84 readFeatherPatterns() void readFeatherPatterns (
    FILE * file,
    EmbPattern * pattern )
```

```
18.114.4.85 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

18.114.4.86 `readFxy()` `char readFxy (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.87 `readGc()` `char readGc (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.88 `readGnc()` `char readGnc (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.89 `readGt()` `char readGt (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.90 `readHoopName()` `void readHoopName (`
`FILE * file,`
`EmbPattern * pattern)`

18.114.4.91 `readHus()` `char readHus (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.92 `readImageString()` `void readImageString (`
`FILE * file,`
`EmbPattern * pattern)`

18.114.4.93 `readInb()` `char readInb (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.94 `readInf()` char readInf (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.95 `readJef()` char readJef (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.96 `readKsm()` char readKsm (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.97 `readMax()` char readMax (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.98 `readMit()` char readMit (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.99 `readMotifPatterns()` void readMotifPatterns (

```
FILE * file,
EmbPattern * pattern )
```

18.114.4.100 `readNew()` char readNew (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.101 `readNextSector()` void readNextSector (

```
FILE * file,
bcf_directory * dir )
```

Parameters

| | |
|-------------------|--|
| <code>file</code> | |
| <code>dir</code> | |

```
18.114.4.102 readOfm() char readOfm (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.103 readPcd() char readPcd (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.114.4.104 readPcm() char readPcm (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.105 readPcq() char readPcq (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.114.4.106 readPcs() char readPcs (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.114.4.107 readPec() char readPec (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.114.4.108 readPecStitches() void readPecStitches (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.109 readPel() char readPel (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.110 readPem() char readPem (
    EmbPattern * pattern,
    FILE * file )
```

```
18.114.4.111 readPes() char readPes (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.114.4.112 readPESHeaderV10() void readPESHeaderV10 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.114.4.113 readPESHeaderV5() void readPESHeaderV5 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.114.4.114 readPESHeaderV6() void readPESHeaderV6 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.114.4.115 readPESHeaderV7() void readPESHeaderV7 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.114.4.116 readPESHeaderV8() void readPESHeaderV8 (
    FILE * file,
    EmbPattern * pattern )
```

18.114.4.117 `readPESHeaderV9()` void readPESHeaderV9 (FILE * *file*, EmbPattern * *pattern*)

18.114.4.118 `readPhb()` char readPhb (EmbPattern * *pattern*, FILE * *file*)

18.114.4.119 `readPhc()` char readPhc (EmbPattern * *pattern*, FILE * *file*)

18.114.4.120 `readPlt()` char readPlt (EmbPattern * *pattern*, FILE * *file*)

18.114.4.121 `readProgrammableFills()` void readProgrammableFills (FILE * *file*, EmbPattern * *pattern*)

18.114.4.122 `readRgb()` char readRgb (EmbPattern * *pattern*, FILE * *file*)

18.114.4.123 `readSew()` char readSew (EmbPattern * *pattern*, FILE * *file*)

18.114.4.124 `readShv()` char readShv (EmbPattern * *pattern*, FILE * *file*)

18.114.4.125 **readSst()** char readSst (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.126 **readStx()** char readStx (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.127 **readSvg()** char readSvg (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.128 **readT01()** char readT01 (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.129 **readT09()** char readT09 (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.130 **readTap()** char readTap (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.131 **readThr()** char readThr (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.132 **readThreads()** void readThreads (

```
FILE * file,
EmbPattern * pattern )
```

18.114.4.133 **readTxt()** char readTxt (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.134 **readU00()** char readU00 (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.135 **readU01()** char readU01 (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.136 **readVip()** char readVip (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.137 **readVp3()** char readVp3 (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.138 **readXxx()** char readXxx (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.139 **readZsk()** char readZsk (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.140 **safe_free()** void safe_free (

```
void * data )
```

Parameters

| | |
|-------------|----------------------|
| <i>data</i> | <input type="text"/> |
|-------------|----------------------|

```
18.114.4.141 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.

```
18.114.4.142 testEmbCircle() int testEmbCircle (
    void )
```

```
18.114.4.143 testEmbCircle_2() int testEmbCircle_2 (
    void )
```

```
18.114.4.144 testEmbFormat() int testEmbFormat (
    void )
```

```
18.114.4.145 testGeomArc() int testGeomArc (
    void )
```

```
18.114.4.146 testTangentPoints() void testTangentPoints (
    EmbCircle c,
    EmbVector p,
    EmbVector * t0,
    EmbVector * t1 )
```

```
18.114.4.147 testThreadColor() int testThreadColor (
    void )
```

18.114.4.148 write100() char write100 (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.149 write10o() char write10o (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.150 write_24bit() void write_24bit (

```
FILE * file,
int x )
```

Parameters

| | |
|-------------|--|
| <i>file</i> | |
| <i>x</i> | |

18.114.4.151 writeArt() char writeArt (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.152 writeBmc() char writeBmc (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.153 writeBro() char writeBro (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.154 writeCnd() char writeCnd (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.155 **writeCol()** char writeCol (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.156 **writeCsd()** char writeCsd (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.157 **writeCsv()** char writeCsv (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.158 **writeDat()** char writeDat (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.159 **writeDem()** char writeDem (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.160 **writeDsb()** char writeDsb (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.161 **writeDst()** char writeDst (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.162 **writeDsz()** char writeDsz (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.163 writeDxf() char writeDxf (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.164 writeEdr() char writeEdr (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.165 writeEmd() char writeEmd (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.166 writeExp() char writeExp (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.167 writeExy() char writeExy (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.168 writeEys() char writeEys (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.169 writeFxy() char writeFxy (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.170 writeGc() char writeGc (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.171 **writeGnc()** char writeGnc (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.172 **writeGt()** char writeGt (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.173 **writeHus()** char writeHus (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.174 **writeInb()** char writeInb (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.175 **writeInf()** char writeInf (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.176 **writeJef()** char writeJef (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.177 **writeKsm()** char writeKsm (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.178 **writeMax()** char writeMax (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.179 writeMit() char writeMit (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.180 writeNew() char writeNew (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.181 writeOfm() char writeOfm (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.182 writePcd() char writePcd (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.183 writePcm() char writePcm (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.184 writePcq() char writePcq (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.185 writePcs() char writePcs (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.186 writePec() char writePec (

```
EmbPattern * pattern,
const char * fileName,
FILE * file )
```

18.114.4.187 **writePecStitches()** void writePecStitches (

```
EmbPattern * pattern,
FILE * file,
const char * filename )
```

18.114.4.188 **writePel()** char writePel (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.189 **writePem()** char writePem (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.190 **writePes()** char writePes (

```
EmbPattern * pattern,
const char * fileName,
FILE * file )
```

18.114.4.191 **writePhb()** char writePhb (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.192 **writePhc()** char writePhc (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.193 **writePlt()** char writePlt (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.194 **writeRgb()** char writeRgb (

```
EmbPattern * pattern,
FILE * file )
```

18.114.4.195 `writeSew()` `char writeSew (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.196 `writeShv()` `char writeShv (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.197 `writeSst()` `char writeSst (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.198 `writeStx()` `char writeStx (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.199 `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`.

18.114.4.200 `writeT01()` `char writeT01 (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.201 `writeT09()` `char writeT09 (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.202 `writeTap()` `char writeTap (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.203 `writeThr()` `char writeThr (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.204 `writeTxt()` `char writeTxt (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.205 `writeU00()` `char writeU00 (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.206 `writeU01()` `char writeU01 (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.207 `writeVip()` `char writeVip (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.208 `writeVp3()` `char writeVp3 (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.209 `writeXxx()` `char writeXxx (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.4.210 `writeZsk()` `char writeZsk (`
`EmbPattern * pattern,`
`FILE * file)`

18.114.5 Variable Documentation

18.114.5.1 imageWithFrame const char imageWithFrame[38][48] [extern]

18.115 embroidery_internal.h

[Go to the documentation of this file.](#)

```
00001 #ifndef LIBEMBROIDERY_INTERNAL_HEADER_
00002 #define LIBEMBROIDERY_INTERNAL_HEADER_
00003
00004 #include "embroidery.h"
00005
00006 /* For FILE */
00007 #include <stdio.h>
00008
00012 #define CompoundFileSector_MaxRegSector 0xFFFFFFF
00013 #define CompoundFileSector_DIFAT_Sector 0xFFFFFFF
00014 #define CompoundFileSector_FAT_Sector 0xFFFFFFF
00015 #define CompoundFileSector_EndOfChain 0xFFFFFFF
00016 #define CompoundFileSector_FreeSector 0xFFFFFFF
00017
00021 #define ObjectTypeUnknown 0x0
00022 #define ObjectTypeStorage 0x1
00023 #define ObjectTypeStream 0x2
00024 #define ObjectTypeRootEntry 0x5
00029 #define CompoundFileStreamId_MaxRegularStreamId 0xFFFFFFF
00030 #define CompoundFileStreamId_NoStream 0xFFFFFFF
00032 #define ELEMENT_XML 0
00033 #define ELEMENT_A 1
00034 #define ELEMENT_ANIMATE 2
00035 #define ELEMENT_ANIMATECOLOR 3
00036 #define ELEMENT_ANIMATEMOTION 4
00037 #define ELEMENT_ANIMATEGRAF 5
00038 #define ELEMENT_ANIMATION 6
00039 #define ELEMENT_AUDIO 7
00040 #define ELEMENT_CIRCLE 8
00041 #define ELEMENT_DEFS 9
00042 #define ELEMENT_DESC 10
00043 #define ELEMENT_DISCARD 11
00044 #define ELEMENT_ELLIPSE 12
00045 #define ELEMENT_FONT 13
00046 #define ELEMENT_FONT_FACE 14
00047 #define ELEMENT_FONT_FACE_SRC 15
00048 #define ELEMENT_FONT_FACE_URI 16
00049 #define ELEMENT_FOREIGN_OBJECT 17
00050 #define ELEMENT_G 18
00051 #define ELEMENT_GLYPH 19
00052 #define ELEMENT_HANDLER 20
00053 #define ELEMENT_HKERN 21
00054 #define ELEMENT_IMAGE 22
00055 #define ELEMENT_LINE 23
00056 #define ELEMENT_LINEAR_GRADIENT 24
00057 #define ELEMENT_LISTENER 25
00058 #define ELEMENT_METADATA 26
00059 #define ELEMENT_MISSING_GLYPH 27
00060 #define ELEMENT_MPATH 28
00061 #define ELEMENT_PATH 29
00062 #define ELEMENT_POLYGON 30
00063 #define ELEMENT_POLYLINE 31
00064 #define ELEMENT_PREFETCH 32
00065 #define ELEMENT_RADIAL_GRADIENT 33
00066 #define ELEMENT_RECT 34
00067 #define ELEMENT_SCRIPT 35
00068 #define ELEMENT_SET 36
00069 #define ELEMENT_SOLID_COLOR 37
00070 #define ELEMENT_STOP 38
00071 #define ELEMENT_SVG 39
00072 #define ELEMENT_SWITCH 40
00073 #define ELEMENT_TBREAK 41
00074 #define ELEMENT_TEXT 42
00075 #define ELEMENT_TEXT_AREA 43
00076 #define ELEMENT_TITLE 44
00077 #define ELEMENT_TSPAN 45
00078 #define ELEMENT_USE 46
00079 #define ELEMENT_VIDEO 47
00080
00081 /* INTERNAL DEFINES */
00082 #define RED_TERM_COLOR "\x1B[0;31m"
00083 #define GREEN_TERM_COLOR "\x1B[0;32m"
00084 #define YELLOW_TERM_COLOR "\x1B[1;33m"
00085 #define RESET_TERM_COLOR "\033[0m"
00086
00087 #define HOOP_126X110 0
00088 #define HOOP_110X110 1
```

```

00089 #define HOOP_50X50 2
00090 #define HOOP_140X200 3
00091 #define HOOP_230X200 4
00092
00093 #define EMB_MIN(A, B) (((A) < (B)) ? (A) : (B))
00094 #define EMB_MAX(A, B) (((A) > (B)) ? (A) : (B))
00095
00096 /* Libembroidery's handling of integer types.
00097 */
00098 #define EMB_BIG_ENDIAN 0
00099 #define EMB_LITTLE_ENDIAN 1
00100
00101 #define ENDIAN_HOST EMB_LITTLE_ENDIAN
00102
00103 #define EMB_INT16_BIG 2
00104 #define EMB_INT16_LITTLE 3
00105 #define EMB_INT32_BIG 4
00106 #define EMB_INT32_LITTLE 5
00107
00108 #define PES0001 0
00109 #define PES0020 1
00110 #define PES0022 2
00111 #define PES0030 3
00112 #define PES0040 4
00113 #define PES0050 5
00114 #define PES0055 6
00115 #define PES0056 7
00116 #define PES0060 8
00117 #define PES0070 9
00118 #define PES0080 10
00119 #define PES0090 11
00120 #define PES0100 12
00121 #define N_PES_VERSIONS 13
00122
00123 /* DXF Version Identifiers */
00124 #define DXF_VERSION_R10 "AC1006"
00125 #define DXF_VERSION_R11 "AC1009"
00126 #define DXF_VERSION_R12 "AC1009"
00127 #define DXF_VERSION_R13 "AC1012"
00128 #define DXF_VERSION_R14 "AC1014"
00129 #define DXF_VERSION_R15 "AC1015"
00130 #define DXF_VERSION_R18 "AC1018"
00131 #define DXF_VERSION_R21 "AC1021"
00132 #define DXF_VERSION_R24 "AC1024"
00133 #define DXF_VERSION_R27 "AC1027"
00134
00135 #define DXF_VERSION_2000 "AC1015"
00136 #define DXF_VERSION_2002 "AC1015"
00137 #define DXF_VERSION_2004 "AC1018"
00138 #define DXF_VERSION_2006 "AC1018"
00139 #define DXF_VERSION_2007 "AC1021"
00140 #define DXF_VERSION_2009 "AC1021"
00141 #define DXF_VERSION_2010 "AC1024"
00142 #define DXF_VERSION_2013 "AC1027"
00143
00144 #define SVG_CREATOR_NULL 0
00145 #define SVG_CREATOR_EMBROIDERMODDER 1
00146 #define SVG_CREATOR_ILLUSTRATOR 2
00147 #define SVG_CREATOR_INKSCAPE 3
00148
00149 #define SVG_EXPECT_NULL 0
00150 #define SVG_EXPECT_ELEMENT 1
00151 #define SVG_EXPECT_ATTRIBUTE 2
00152 #define SVG_EXPECT_VALUE 3
00153
00154 /* SVG_TYPES
00155 * -----
00156 */
00157 #define SVG_NULL 0
00158 #define SVG_ELEMENT 1
00159 #define SVG_PROPERTY 2
00160 #define SVG_MEDIA_PROPERTY 3
00161 #define SVG_ATTRIBUTE 4
00162 #define SVG_CATCH_ALL 5
00163
00164 /* path flag codes */
00165 #define LINETO 0
00166 #define MOVETO 1
00167 #define BULGETOCONTROL 2
00168 #define BULGETOEND 4
00169 #define ELLIPSETORAD 8
00170 #define ELLIPSETOEND 16
00171 #define CUBICTOCONTROL1 32
00172 #define CUBICTOCONTROL2 64
00173 #define CUBICTOEND 128
00174 #define QUADTOCONTROL 256
00175 #define QUADTOEND 512

```

```

00176 /* STRUCTS
00177 ****
00178 */
00179 /* double-indirection file allocation table references */
00180
00186 typedef struct _bcf_file_difat
00187 {
00188     unsigned int fatSectorCount;
00189     unsigned int fatSectorEntries[109];
00190     unsigned int sectorSize;
00191 } bcf_file_difat;
00192
00197 typedef struct _bcf_file_fat
00198 {
00199     int fatEntryCount;
00200     unsigned int fatEntries[255]; /* maybe make this dynamic */
00201     unsigned int numberofEntriesInFatSector;
00202 } bcf_file_fat;
00203
00208 typedef struct _bcf_directory_entry
00209 {
00210     char directoryEntryName[32];
00211     unsigned short directoryEntryNameLength;
00212     unsigned char objectType;
00213     unsigned char colorFlag;
00214     unsigned int leftSiblingId;
00215     unsigned int rightSiblingId;
00216     unsigned int childId;
00217     unsigned char CLSID[16];
00218     unsigned int stateBits;
00219     EmtTime creationTime;
00220     EmtTime modifiedTime;
00221     unsigned int startingSectorLocation;
00222     unsigned long streamSize; /* should be long long but in our case we shouldn't need
00223     it, and hard to support on c89 cross platform */
00224     unsigned int streamSizeHigh; /* store the high int of streamsize */
00225     struct _bcf_directory_entry* next;
00226 } bcf_directory_entry;
00227
00232 typedef struct _bcf_directory
00233 {
00234     bcf_directory_entry* dirEntries;
00235     unsigned int maxNumberofDirectoryEntries;
00236 } bcf_directory;
00237
00242 typedef struct _bcf_file_header
00243 {
00244     unsigned char signature[8];
00245     unsigned char CLSID[16];
00246     unsigned short minorVersion;
00247     unsigned short majorVersion;
00248     unsigned short byteOrder;
00249     unsigned short sectorShift;
00250     unsigned short miniSectorShift;
00251     unsigned short reserved1;
00252     unsigned int reserved2;
00253     unsigned int numberofDirectorySectors;
00254     unsigned int numberofFATSectors;
00255     unsigned int firstDirectorySectorLocation;
00256     unsigned int transactionSignatureNumber;
00257     unsigned int miniStreamCutoffsize;
00258     unsigned int firstMiniFATSectorLocation;
00259     unsigned int numberofMiniFatSectors;
00260     unsigned int firstDifatSectorLocation;
00261     unsigned int numberofDifatSectors;
00262 } bcf_file_header;
00263
00268 typedef struct _bcf_file
00269 {
00270     bcf_file_header header;
00271     bcf_file_difat* difat;
00272     bcf_file_fat* fat;
00273     bcf_directory* directory;
00274 } bcf_file;
00275
00280 typedef struct _vp3Hoop
00281 {
00282     int right;
00283     int bottom;
00284     int left;
00285     int top;
00286     int threadLength;
00287     char unknown2;
00288     unsigned char numberofColors;
00289     unsigned short unknown3;
00290     int unknown4;

```

```

00291     int numberOfBytesRemaining;
00292
00293     int xOffset;
00294     int yOffset;
00295
00296     unsigned char byte1;
00297     unsigned char byte2;
00298     unsigned char byte3;
00299
00300     /* Centered hoop dimensions */
00301     int right2;
00302     int left2;
00303     int bottom2;
00304     int top2;
00305
00306     int width;
00307     int height;
00308 } vp3Hoop;
00309
00314 typedef struct ThredHeader_ /* thred file header */
00315 {
00316     unsigned int sigVersion; /* signature and version */
00317     unsigned int length; /* length of ThredHeader + length of stitch data */
00318     unsigned short numStitches; /* number of stitches */
00319     unsigned short hoopSize; /* size of hoop */
00320     unsigned short reserved[7]; /* reserved for expansion */
00321 } ThredHeader;
00322
00327 typedef struct ThredExtension_ /* thred v1.0 file header extension */
00328 {
00329     float hoopX; /* hoop size x dimension in 1/6 mm units */
00330     float hoopY; /* hoop size y dimension in 1/6 mm units */
00331     float stitchGranularity; /* stitches per millimeter--not implemented */
00332     char creatorName[50]; /* name of the file creator */
00333     char modifierName[50]; /* name of last file modifier */
00334     char auxFormat; /* auxiliary file format, 0=PCS,1=DST,2=PES */
00335     char reserved[31]; /* reserved for expansion */
00336 } ThredExtension;
00337
00342 typedef struct SubDescriptor_
00343 {
00344     int someNum;
00345     int someInt;
00346     int someOtherInt;
00347     char* colorCode;
00348     char* colorName;
00349 } SubDescriptor;
00350
00355 typedef struct StxThread_
00356 {
00357     char* colorCode;
00358     char* colorName;
00359     char* sectionName;
00360     SubDescriptor* subDescriptors;
00361     EmbColor stxColor;
00362 } StxThread;
00363
00368 typedef struct VipHeader_ {
00369     int magicCode;
00370     int numberOfStitches;
00371     int numberOfColors;
00372     short positiveXHoopSize;
00373     short positiveYHoopSize;
00374     short negativeXHoopSize;
00375     short negativeYHoopSize;
00376     int attributeOffset;
00377     int xOffset;
00378     int yOffset;
00379     unsigned char stringVal[8];
00380     short unknown;
00381     int colorLength;
00382 } VipHeader;
00383
00388 typedef enum
00389 {
00390     CSV_EXPECT_NULL,
00391     CSV_EXPECT_QUOTE1,
00392     CSV_EXPECT_QUOTE2,
00393     CSV_EXPECT_COMMA
00394 } CSV_EXPECT;
00395
00400 typedef enum
00401 {
00402     CSV_MODE_NULL,
00403     CSV_MODE_COMMENT,
00404     CSV_MODE_VARIABLE,
00405     CSV_MODE_THREAD,

```

```
00406     CSV_MODE_STITCH
00407 } CSV_MODE;
00408
00413 typedef struct SvgAttribute_
00414 {
00415     char* name;
00416     char* value;
00417 } SvgAttribute;
00418
00423 typedef struct Huffman {
00424     int default_value;
00425     int lengths[1000];
00426     int nlengths;
00427     int table[1000];
00428     int table_width;
00429     int ntable;
00430 } huffman;
00431
00436 typedef struct Compress {
00437     int bit_position;
00438     char *input_data;
00439     int input_length;
00440     int bits_total;
00441     int block_elements;
00442     huffman character_length_huffman;
00443     huffman character_huffman;
00444     huffman distance_huffman;
00445 } compress;
00446
00447 /* Function Declarations
00448 ****
00449 void huffman_build_table(huffman *h);
00450 int *huffman_table_lookup(huffman *h, int byte_lookup, int *lengths);
00451
00452 int compress_get_bits(compress *c, int length);
00453 int compress_pop(compress *c, int bit_count);
00454 int compress_read_variable_length(compress *c);
00455 void compress_load_character_length_huffman(compress *c);
00456 void compress_load_character_huffman(compress *c);
00457 void compress_load_distance_huffman(compress *c);
00458 void compress_load_block(compress *c);
00459 int compress_get_token(compress *c);
00460 int compress_get_position(compress *c);
00461
00462 void readPecStitches(EmbPattern* pattern, FILE* file);
00463 void writePecStitches(EmbPattern* pattern, FILE* file, const char* filename);
00464
00465 int decodeNewStitch(unsigned char value);
00466
00467 void pfaffEncode(FILE* file, int x, int y, int flags);
00468 EmbReal pfaffDecode(unsigned char a1, unsigned char a2, unsigned char a3);
00469
00470 unsigned char mitEncodeStitch(EmbReal value);
00471 int mitDecodeStitch(unsigned char value);
00472
00473 int encode_tajima_ternary(unsigned char b[3], int x, int y);
00474 void decode_tajima_ternary(unsigned char b[3], int *x, int *y);
00475
00476 void encode_t01_record(unsigned char b[3], int x, int y, int flags);
00477 int decode_t01_record(unsigned char b[3], int *x, int *y, int *flags);
00478 void readPESHeaderV5(FILE* file, EmbPattern* pattern);
00479 void readPESHeaderV6(FILE* file, EmbPattern* pattern);
00480 void readPESHeaderV7(FILE* file, EmbPattern* pattern);
00481 void readPESHeaderV8(FILE* file, EmbPattern* pattern);
00482 void readPESHeaderV9(FILE* file, EmbPattern* pattern);
00483 void readPESHeaderV10(FILE* file, EmbPattern* pattern);
00484
00485 void readDescriptions(FILE* file, EmbPattern* pattern);
00486 void readHoopName(FILE* file, EmbPattern* pattern);
00487 void readImageString(FILE* file, EmbPattern* pattern);
00488 void readProgrammableFills(FILE* file, EmbPattern* pattern);
00489 void readMotifPatterns(FILE* file, EmbPattern* pattern);
00490 void readFeatherPatterns(FILE* file, EmbPattern* pattern);
00491 void readThreads(FILE* file, EmbPattern* pattern);
00492
00493 void embInt_read(FILE* f, char *label, void *b, int mode);
00494 void embInt_write(FILE* f, char *label, void *b, int mode);
00495 int emb_readline(FILE* file, char *line, int maxLength);
00496
00497 int bcfFile_read(FILE* file, bcf_file* bcfFile);
00498 FILE* GetFile(bcf_file* bcfFile, FILE* file, char* fileToFind);
00499 void bcf_file_free(bcf_file* bcfFile);
00500
00501 void binaryReadString(FILE* file, char *buffer, int maxLength);
00502 void binaryReadUnicodeString(FILE* file, char *buffer, const int stringLength);
00503
00504 int stringInArray(const char *s, const char **array);
```

```

00505 void fpad(FILE *f, char c, int n);
00506 char *copy_trim(char const *s);
00507 char* emb_optOut(EmbReal num, char* str);
00508
00509 void write_24bit(FILE* file, int);
00510 int check_header_present(FILE* file, int minimum_header_length);
00511
00512 unsigned short fread_uint16(FILE *file);
00513 short fread_int16(FILE* f);
00514 int fread_int32_be(FILE* f);
00515 void safe_free(void *data);
00516 void embInt_read(FILE* f, char *label, void *b, int mode);
00517
00518 void binaryWriteUIntBE(FILE* f, unsigned int data);
00519 void binaryWriteUInt(FILE* f, unsigned int data);
00520 void binaryWriteIntBE(FILE* f, int data);
00521 void binaryWriteInt(FILE* f, int data);
00522 void binaryWriteUShort(FILE* f, unsigned short data);
00523 void binaryWriteUShortBE(FILE* f, unsigned short data);
00524 void binaryWriteShort(FILE* f, short data);
00525
00526 bcf_file_difat* bcf_difat_create(FILE* file, unsigned int fatSectors, const unsigned int sectorSize);
00527 unsigned int readFullSector(FILE* file, bcf_file_difat* bcfFile, unsigned int* numberOfDifatEntriesStillToRead);
00528 unsigned int numberOfEntriesInDifatSector(bcf_file_difat* fat);
00529 void bcf_file_difat_free(bcf_file_difat* difat);
00530
00531 unsigned int entriesInDifatSector(bcf_file_difat* fat);
00532 bcf_file_fat* bcfFileFat_create(const unsigned int sectorSize);
00533 void loadFatFromSector(bcf_file_fat* fat, FILE* file);
00534 void bcf_file_fat_free(bcf_file_fat** fat);
00535
00536 bcf_directory_entry* CompoundFileDirectoryEntry(FILE* file);
00537 bcf_directory* CompoundFileDirectory(const unsigned int maxNumberOfDirectoryEntries);
00538 void readNextSector(FILE* file, bcf_directory* dir);
00539 void bcf_directory_free(bcf_directory** dir);
00540
00541 bcf_file_header bcfFileHeader_read(FILE* file);
00542 int bcfFileHeader_isValid(bcf_file_header header);
00543
00544 int hus_compress(char* input, int size, char* output, int *out_size);
00545 int hus_decompress(char* input, int size, char* output, int *out_size);
00546
00547 int encode_tajima_ternary(unsigned char b[3], int x, int y);
00548 void decode_tajima_ternary(unsigned char b[3], int *x, int *y);
00549 void testTangentPoints(EmbCircle c, EmbVector p, EmbVector *t0, EmbVector *t1);
00550 void printArcResults(EmbReal bulge, EmbArc arc,
00551             EmbReal centerX, EmbReal centerY,
00552             EmbReal radius, EmbReal diameter,
00553             EmbReal chord,
00554             EmbReal chordMidX, EmbReal chordMidY,
00555             EmbReal sagitta, EmbReal apothem,
00556             EmbReal incAngle, char clockwise);
00557 int create_test_file_1(const char* outf);
00558 int create_test_file_2(const char* outf);
00559 int create_test_file_3(const char* outf);
00560 int testEmbCircle(void);
00561 int testEmbCircle_2(void);
00562 int testGeomArc(void);
00563 int testThreadColor(void);
00564 int testEmbFormat(void);
00565
00566 void embColor_read(FILE *f, EmbColor *c, int toRead);
00567 void embColor_write(FILE *f, EmbColor c, int toWrite);
00568
00569 char read100(EmbPattern *pattern, FILE* file);
00570 char write100(EmbPattern *pattern, FILE* file);
00571 char read10o(EmbPattern *pattern, FILE* file);
00572 char write10o(EmbPattern *pattern, FILE* file);
00573 char readArt(EmbPattern *pattern, FILE* file);
00574 char writeArt(EmbPattern *pattern, FILE* file);
00575 char readBmc(EmbPattern *pattern, FILE* file);
00576 char writeBmc(EmbPattern *pattern, FILE* file);
00577 char readBro(EmbPattern *pattern, FILE* file);
00578 char writeBro(EmbPattern *pattern, FILE* file);
00579 char readCnd(EmbPattern *pattern, FILE* file);
00580 char writeCnd(EmbPattern *pattern, FILE* file);
00581 char readCol(EmbPattern *pattern, FILE* file);
00582 char writeCol(EmbPattern *pattern, FILE* file);
00583 char readCsd(EmbPattern *pattern, FILE* file);
00584 char writeCsd(EmbPattern *pattern, FILE* file);
00585 char readCsv(EmbPattern *pattern, FILE* file);
00586 char writeCsv(EmbPattern *pattern, FILE* file);
00587 char readDat(EmbPattern *pattern, FILE* file);
00588 char writeDat(EmbPattern *pattern, FILE* file);
00589 char readDem(EmbPattern *pattern, FILE* file);
00590 char writeDem(EmbPattern *pattern, FILE* file);

```

```
00591 char readDsb(EmbPattern *pattern, FILE* file);
00592 char writeDsb(EmbPattern *pattern, FILE* file);
00593 char readDst(EmbPattern *pattern, FILE* file);
00594 char writeDst(EmbPattern *pattern, FILE* file);
00595 char readDsz(EmbPattern *pattern, FILE* file);
00596 char writeDsz(EmbPattern *pattern, FILE* file);
00597 char readDxf(EmbPattern *pattern, FILE* file);
00598 char writeDxf(EmbPattern *pattern, FILE* file);
00599 char readEdr(EmbPattern *pattern, FILE* file);
00600 char writeEdr(EmbPattern *pattern, FILE* file);
00601 char readEmd(EmbPattern *pattern, FILE* file);
00602 char writeEmd(EmbPattern *pattern, FILE* file);
00603 char readExp(EmbPattern *pattern, FILE* file);
00604 char writeExp(EmbPattern *pattern, FILE* file);
00605 char readExy(EmbPattern *pattern, FILE* file);
00606 char writeExy(EmbPattern *pattern, FILE* file);
00607 char readEys(EmbPattern *pattern, FILE* file);
00608 char writeEys(EmbPattern *pattern, FILE* file);
00609 char readFxy(EmbPattern *pattern, FILE* file);
00610 char writeFxy(EmbPattern *pattern, FILE* file);
00611 char readGc(EmbPattern *pattern, FILE* file);
00612 char writeGc(EmbPattern *pattern, FILE* file);
00613 char readGnc(EmbPattern *pattern, FILE* file);
00614 char writeGnc(EmbPattern *pattern, FILE* file);
00615 char readGt(EmbPattern *pattern, FILE* file);
00616 char writeGt(EmbPattern *pattern, FILE* file);
00617 char readHus(EmbPattern *pattern, FILE* file);
00618 char writeHus(EmbPattern *pattern, FILE* file);
00619 char readInb(EmbPattern *pattern, FILE* file);
00620 char writeInb(EmbPattern *pattern, FILE* file);
00621 char readInf(EmbPattern *pattern, FILE* file);
00622 char writeInf(EmbPattern *pattern, FILE* file);
00623 char readJef(EmbPattern *pattern, FILE* file);
00624 char writeJef(EmbPattern *pattern, FILE* file);
00625 char readKsm(EmbPattern *pattern, FILE* file);
00626 char writeKsm(EmbPattern *pattern, FILE* file);
00627 char readMax(EmbPattern *pattern, FILE* file);
00628 char writeMax(EmbPattern *pattern, FILE* file);
00629 char readMit(EmbPattern *pattern, FILE* file);
00630 char writeMit(EmbPattern *pattern, FILE* file);
00631 char readNew(EmbPattern *pattern, FILE* file);
00632 char writeNew(EmbPattern *pattern, FILE* file);
00633 char readOfm(EmbPattern *pattern, FILE* file);
00634 char writeOfm(EmbPattern *pattern, FILE* file);
00635 char readPcd(EmbPattern *pattern, const char *fileName, FILE* file);
00636 char writePcd(EmbPattern *pattern, FILE* file);
00637 char readPcm(EmbPattern *pattern, FILE* file);
00638 char writePcm(EmbPattern *pattern, FILE* file);
00639 char readPcq(EmbPattern *pattern, const char *fileName, FILE* file);
00640 char writePcq(EmbPattern *pattern, FILE* file);
00641 char readPcs(EmbPattern *pattern, const char *fileName, FILE* file);
00642 char writePcs(EmbPattern *pattern, FILE* file);
00643 char readPec(EmbPattern *pattern, const char *fileName, FILE* file);
00644 char writePec(EmbPattern *pattern, const char *fileName, FILE* file);
00645 char readPel(EmbPattern *pattern, FILE *file);
00646 char writePel(EmbPattern *pattern, FILE *file);
00647 char readPem(EmbPattern *pattern, FILE *file);
00648 char writePem(EmbPattern *pattern, FILE *file);
00649 char readPes(EmbPattern *pattern, const char *fileName, FILE* file);
00650 char writePes(EmbPattern *pattern, const char *fileName, FILE* file);
00651 char readPhb(EmbPattern *pattern, FILE* file);
00652 char writePhb(EmbPattern *pattern, FILE *file);
00653 char readPhc(EmbPattern *pattern, FILE* file);
00654 char writePhc(EmbPattern *pattern, FILE *file);
00655 char readPlt(EmbPattern *pattern, FILE* file);
00656 char writePlt(EmbPattern *pattern, FILE* file);
00657 char readRgb(EmbPattern *pattern, FILE* file);
00658 char writeRgb(EmbPattern *pattern, FILE* file);
00659 char readSew(EmbPattern *pattern, FILE* file);
00660 char writeSew(EmbPattern *pattern, FILE* file);
00661 char readShv(EmbPattern *pattern, FILE* file);
00662 char writeShv(EmbPattern *pattern, FILE *file);
00663 char readSst(EmbPattern *pattern, FILE* file);
00664 char writeSst(EmbPattern *pattern, FILE *file);
00665 char readStx(EmbPattern *pattern, FILE* file);
00666 char writeStx(EmbPattern *pattern, FILE *file);
00667 char readSvg(EmbPattern *pattern, FILE* file);
00668 char writeSvg(EmbPattern *pattern, FILE* file);
00669 char readT01(EmbPattern *pattern, FILE* file);
00670 char writeT01(EmbPattern *pattern, FILE* file);
00671 char readT09(EmbPattern *pattern, FILE* file);
00672 char writeT09(EmbPattern *pattern, FILE* file);
00673 char readTap(EmbPattern *pattern, FILE* file);
00674 char writeTap(EmbPattern *pattern, FILE* file);
00675 char readThr(EmbPattern *pattern, FILE* file);
00676 char writeThr(EmbPattern *pattern, FILE* file);
00677 char readTxt(EmbPattern *pattern, FILE* file);
```

```

00678 char writeTxt(EmbPattern *pattern, FILE* file);
00679 char readU00(EmbPattern *pattern, FILE* file);
00680 char writeU00(EmbPattern *pattern, FILE *file);
00681 char readU01(EmbPattern *pattern, FILE* file);
00682 char writeU01(EmbPattern *pattern, FILE *file);
00683 char readVip(EmbPattern *pattern, FILE* file);
00684 char writeVip(EmbPattern *pattern, FILE* file);
00685 char readVp3(EmbPattern *pattern, FILE* file);
00686 char writeVp3(EmbPattern *pattern, FILE* file);
00687 char readXxx(EmbPattern *pattern, FILE* file);
00688 char writeXxx(EmbPattern *pattern, FILE* file);
00689 char readZsk(EmbPattern *pattern, FILE* file);
00690 char writeZsk(EmbPattern *pattern, FILE* file);
00691
00692 extern const char imageWithFrame[38][48];
00693
00694 #endif

```

18.116 extern/libembroidery/src/encoding.c File Reference

```

#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include "embroidery_internal.h"

```

Functions

- void [write_24bit](#) (FILE *file, int)
- [EmbColor embColor_fromHexStr](#) (char *val)

Converts a 6 digit hex string (I.E. "00FF00") into an EmbColor and returns it.
- void [reverse_byte_order](#) (void *b, int bytes)

Reverses the byte order for 2 or 4 byte arrays.
- int [decode_t01_record](#) (unsigned char b[3], int *x, int *y, int *flags)
- void [encode_t01_record](#) (unsigned char b[3], int x, int y, int flags)
- int [encode_tajima_ternary](#) (unsigned char b[3], int x, int y)
- void [decode_tajima_ternary](#) (unsigned char b[3], int *x, int *y)
- void [pfaffEncode](#) (FILE *file, int dx, int dy, int flags)
- [EmbReal pfaffDecode](#) (unsigned char a1, unsigned char a2, unsigned char a3)
- unsigned char [mitEncodeStitch](#) ([EmbReal](#) value)
- int [mitDecodeStitch](#) (unsigned char value)
- int [decodeNewStitch](#) (unsigned char value)
- void [emblnt_read](#) (FILE *f, char *label, void *b, int mode)
- void [emblnt_write](#) (FILE *f, char *label, void *b, int mode)

18.116.1 Function Documentation

```

18.116.1.1 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

18.116.1.2 decode_tajima_ternary() void decode_tajima_ternary (

```
    unsigned char b[3],  
    int * x,  
    int * y )
```

Parameters

| | |
|----------|--|
| <i>b</i> | |
| <i>x</i> | |
| <i>y</i> | |

18.116.1.3 decodeNewStitch() int decodeNewStitch (

```
    unsigned char value )
```

Parameters

| | |
|--------------|--|
| <i>value</i> | |
|--------------|--|

Returns

int

18.116.1.4 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.

18.116.1.5 `embInt_read()` void embInt_read (

```
FILE * f,  
char * label,  
void * b,  
int mode )
```

Parameters

| | |
|--------------|--|
| <i>f</i> | |
| <i>label</i> | |
| <i>b</i> | |
| <i>mode</i> | |

Read and write system for multiple byte types.

The caller passes the function to read/write from, the memory location as a void pointer and a mode identifier that describes the type. This way we can abstract out the endianness of the system running the library and don't have to maintain many functions, just two.

18.116.1.6 `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> | |

18.116.1.7 `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> | |

```
18.116.1.8 encode_tajima_ternary() int encode_tajima_ternary (
    unsigned char b[3],
    int x,
    int y )
```

Parameters

| | |
|---|--|
| b | |
| x | |
| y | |

Returns

int

```
18.116.1.9 mitDecodeStitch() int mitDecodeStitch (
    unsigned char value )
```

Parameters

| | |
|-------|--|
| value | |
|-------|--|

Returns

int

```
18.116.1.10 mitEncodeStitch() unsigned char mitEncodeStitch (
    EmbReal value )
```

Parameters

| | |
|-------|--|
| value | |
|-------|--|

Returns

unsigned char

```
18.116.1.11 pfaffDecode() EmbReal pfaffDecode (
    unsigned char a1,
    unsigned char a2,
    unsigned char a3 )
```

Parameters

| | |
|-----------|--|
| <i>a1</i> | |
| <i>a2</i> | |
| <i>a3</i> | |

Returns

EmbReal

18.116.1.12 `pfaaffEncode()` void pfaaffEncode (FILE * *file*, int *dx*, int *dy*, int *flags*)**Parameters**

| | |
|--------------|--|
| <i>file</i> | |
| <i>dx</i> | |
| <i>dy</i> | |
| <i>flags</i> | |

18.116.1.13 `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. |

18.116.1.14 `write_24bit()` void write_24bit (FILE * *file*, int *x*)**Parameters**

| | |
|-------------|--|
| <i>file</i> | |
| <i>x</i> | |

18.117 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 threshold)
- void [embPattern_crossstitch](#) ([EmbPattern](#) *pattern, [EmblImage](#) *image, int threshold)
- int [hilbert_curve](#) ([EmbPattern](#) *pattern, int iterations)
- void [generate_dragon_curve](#) (char *state, int iterations)
- int [dragon_curve](#) (int iterations)
- void [embPolygon_reduceByDistance](#) ([EmbArray](#) *vertices, [EmbArray](#) *simplified, float distance)
- void [embPolygon_reduceByNth](#) ([EmbArray](#) *vertices, [EmbArray](#) *out, int nth)
- [EmbPattern](#) * [embPattern_combine](#) ([EmbPattern](#) *p1, [EmbPattern](#) *p2)
- void [embPattern_stitchArc](#) ([EmbPattern](#) *p, [EmbArc](#) arc, int thread_index, int style)
 p arc thread_index style
- void [embPattern_stitchCircle](#) ([EmbPattern](#) *p, [EmbCircle](#) circle, int thread_index, int style)
- void [embPattern_stitchEllipse](#) ([EmbPattern](#) *p, [EmbEllipse](#) ellipse, int thread_index, int style)
- void [embPattern_stitchPath](#) ([EmbPattern](#) *p, [EmbPath](#) path, int thread_index, int style)
- void [embPattern_stitchPolygon](#) ([EmbPattern](#) *p, [EmbPolygon](#) polygon, int thread_index, int style)
- void [embPattern_stitchPolyline](#) ([EmbPattern](#) *p, [EmbPolyline](#) polyline, int thread_index, int style)
- void [embPattern_stitchRect](#) ([EmbPattern](#) *p, [EmbRect](#) rect, int thread_index, int style)
- void [embPattern_stitchText](#) ([EmbPattern](#) *p, [EmbRect](#) rect, int thread_index, int style)
- void [embPattern_convertGeometry](#) ([EmbPattern](#) *p)

Variables

- const char * [rules](#) [] = {"+BF-AFA-FB+", "-AF+BFB+FA-"}
 • [L_system hilbert_curve_l_system](#)

18.117.1 Function Documentation

18.117.1.1 dragon_curve() [int dragon_curve](#) (
 [int iterations](#))

Parameters

| | |
|-------------------|----------------------|
| <i>iterations</i> | <input type="text"/> |
|-------------------|----------------------|

Returns

int

18.117.1.2 embPattern_combine() `EmbPattern * embPattern_combine (``EmbPattern * p1,
 EmbPattern * p2)`**Parameters**

| | |
|-----------|----------------------|
| <i>p1</i> | <input type="text"/> |
| <i>p2</i> | <input type="text"/> |

Returns

EmbPattern*

18.117.1.3 embPattern_convertGeometry() `void embPattern_convertGeometry (``EmbPattern * p)`**Parameters**

| | |
|----------|----------------------|
| <i>p</i> | <input type="text"/> |
|----------|----------------------|

18.117.1.4 embPattern_crossstitch() `void embPattern_crossstitch (``EmbPattern * pattern,
 EmbImage * image,
 int threshold)`**Parameters**

| | |
|------------------|----------------------|
| <i>pattern</i> | <input type="text"/> |
| <i>image</i> | <input type="text"/> |
| <i>threshold</i> | <input type="text"/> |

Uses a threshhold method to determine where to put crosses in the fill.

To improve this, we can remove the vertical stitches when two crosses neighbour. Currently the simple way to do this is to chain crosses that are neighbours exactly one ahead.

18.117.1.5 embPattern_horizontal_fill() `void embPattern_horizontal_fill (`

```
    EmbPattern * pattern,
    EmbImage * image,
    int threshold )
```

Parameters

| | |
|------------------|--|
| <i>pattern</i> | |
| <i>image</i> | |
| <i>threshold</i> | |

Uses a threshhold method to determine where to put lines in the fill.

Needs to pass a "donut test", i.e. an image with black pixels where: $10 < x*x + y*y < 20$ over the area $(-30, 30) \times (-30, 30)$.

Use render then image difference to see how well it passes.

18.117.1.6 embPattern_stitchArc() `void embPattern_stitchArc (`

```
    EmbPattern * p,
    EmbArc arc,
    int thread_index,
    int style )
```

p arc thread_index style

18.117.1.7 embPattern_stitchCircle() `void embPattern_stitchCircle (`

```
    EmbPattern * p,
    EmbCircle circle,
    int thread_index,
    int style )
```

Parameters

| | |
|---------------|---------------------------|
| <i>p</i> | |
| <i>circle</i> | <i>thread_index style</i> |

style determines: stitch density fill pattern outline or fill

For now it's a straight fill of 1000 stitches of the whole object by default.

Consider the intersection of a line in direction "d" that passes through the disc with center "c", radius "r". The start and end points are:

$$(c - r(d/|d|), c + r(d/|d|))$$

Lines that are above and below this with an even separation s can be found by taking the point on the line to be $c + sn$ where the n is the unit normal vector to d and the vector to be d again. The intersection points are therefore a right angled triangle, with one side r , another s and the third the length to be solved, by Pythagoras we have:

$$(c + sn - \sqrt{r^2 - s^2}(d/|d|), c + sn + \sqrt{r^2 - s^2}(d/|d|))$$

repeating this process gives us all the end points and the fill only alters these lines by splitting the ones longer than some tolerance.

18.117.1.8 `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

18.117.1.9 `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

18.117.1.10 `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

18.117.1.11 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

18.117.1.12 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.

18.117.1.13 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> | |

18.117.1.14 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".

18.117.1.15 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.

18.117.1.16 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

```
18.117.1.17 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> | |

18.117.1.18 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.

```
18.117.1.19 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.

```
18.117.1.20 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.

18.117.1.21 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.

18.117.1.22 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> | |

18.117.1.23 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.

18.117.2 Variable Documentation**18.117.2.1 hilbert_curve_l_system L_system hilbert_curve_l_system****Initial value:**

```
= {
    'A', "AB", "F+-", (char**)rules
}
```

18.117.2.2 rules const char* rules[] = {"+BF-AFA-FB+", "-AF+BFB+FA-"} **18.118 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]

18.118.1 Function Documentation

```
18.118.1.1 binaryWriteInt() void binaryWriteInt (
    FILE * f,
    int data )
```

Parameters

| | |
|-------------|--|
| <i>f</i> | |
| <i>data</i> | |

Todo replace with emblnt_read

```
18.118.1.2 binaryWriteIntBE() void binaryWriteIntBE (
    FILE * f,
    int data )
```

Parameters

| | |
|-------------|--|
| <i>f</i> | |
| <i>data</i> | |

Todo replace with emblnt_read

18.118.1.3 binaryWriteShort() void binaryWriteShort (

```
FILE * f,  
      short data )
```

Parameters

| | |
|-------------|--|
| <i>f</i> | |
| <i>data</i> | |

Todo replace with emblnt_read

18.118.1.4 binaryWriteUInt() void binaryWriteUInt (

```
FILE * f,  
      unsigned int data )
```

Parameters

| | |
|-------------|--|
| <i>f</i> | |
| <i>data</i> | |

Todo replace with emblnt_read

18.118.1.5 binaryWriteUIntBE() void binaryWriteUIntBE (

```
FILE * f,  
      unsigned int data )
```

Parameters

| | |
|-------------|--|
| <i>f</i> | |
| <i>data</i> | |

Todo replace with emblnt_read

18.118.1.6 **binaryWriteUShort()** void binaryWriteUShort (

```
FILE * f,  
unsigned short data )
```

Parameters

| | |
|------|--|
| f | |
| data | |

Todo replace with emblnt_read

18.118.1.7 **binaryWriteUShortBE()** void binaryWriteUShortBE (

```
FILE * f,  
unsigned short data )
```

Parameters

| | |
|------|--|
| f | |
| data | |

Todo replace with emblnt_read

18.118.1.8 **emb_identify_format()** int emb_identify_format (

```
const char * fileName )
```

Parameters

| | |
|----------|--|
| fileName | |
|----------|--|

Returns

int

18.118.1.9 **embFormat_getExtension()** int embFormat_getExtension (

```
const char * fileName,  
char * ending )
```

Parameters

| | |
|-----------------|--|
| <i>fileName</i> | |
| <i>ending</i> | |

Returns

int

18.118.1.10 embPattern_read() char embPattern_read (
 EmbPattern * *pattern*,
 const char * *fileName*,
 int *format*)**Parameters**

| | |
|-----------------|--|
| <i>pattern</i> | |
| <i>fileName</i> | |
| <i>format</i> | |

Returns

char

18.118.1.11 embPattern_readAuto() char embPattern_readAuto (
 EmbPattern * *pattern*,
 const char * *fileName*)**Parameters**

| | |
|-----------------|--|
| <i>pattern</i> | |
| <i>fileName</i> | |

Returns

char

18.118.1.12 embPattern_write() char embPattern_write (
 EmbPattern * *pattern*,
 const char * *fileName*,
 int *format*)

Parameters

| | |
|-----------------|--|
| <i>pattern</i> | |
| <i>fileName</i> | |
| <i>format</i> | |

Returns

char

18.118.1.13 embPattern_writeAuto() char embPattern_writeAuto (
 EmbPattern * *pattern*,
 const char * *fileName*)**Parameters**

| | |
|-----------------|--|
| <i>pattern</i> | |
| <i>fileName</i> | |

Returns

char

18.118.1.14 fpad() void fpad (
 FILE * *file*,
 char *c*,
 int *n*)**Parameters**

| | |
|----------|--|
| <i>f</i> | |
|----------|--|

Returns

int

18.118.1.15 fread_int16() short fread_int16 (
 FILE * *f*)**Parameters**

| | |
|----------|--|
| <i>f</i> | |
|----------|--|

Returns

short

18.118.1.16 fread_int32_be() int fread_int32_be (FILE * *f*)

Parameters

| | |
|----------|----------------------|
| <i>f</i> | <input type="text"/> |
|----------|----------------------|

Returns

int

Todo replace with emblnt_read

18.118.1.17 fread_uint16() unsigned short fread_uint16 (FILE * *f*)

Parameters

| | |
|----------|----------------------|
| <i>f</i> | <input type="text"/> |
|----------|----------------------|

Returns

unsigned short

Todo replace with emblnt_read

18.118.1.18 safe_free() void safe_free (void * *data*)

Parameters

| | |
|-------------|----------------------|
| <i>data</i> | <input type="text"/> |
|-------------|----------------------|

18.118.2 Variable Documentation

18.118.2.1 formatTable `EmbFormatList formatTable[numberOfFormats]`

This file is part of libembroidery.

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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). *

18.118.2.2 imageWithFrame `const char imageWithFrame[38][48]`**18.119 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`)

18.119.1 Function Documentation**18.119.1.1 read100()** `char read100(`
 `EmbPattern * pattern,`
 `FILE * file)`**18.119.1.2 write100()** `char write100(`
 `EmbPattern * pattern,`
 `FILE * file)`**18.120 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)`

18.120.1 Function Documentation

18.120.1.1 `read10o()` char `read10o (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.120.1.2 `write10o()` char `write10o (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.121 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)`

18.121.1 Function Documentation

18.121.1.1 `readArt()` char `readArt (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.121.1.2 `writeArt()` char `writeArt (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.122 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)

18.122.1 Function Documentation

18.122.1.1 [readBmc\(\)](#) char [readBmc](#) (
 [EmbPattern](#) * *pattern*,
 FILE * *file*)

18.122.1.2 [writeBmc\(\)](#) char [writeBmc](#) (
 [EmbPattern](#) * *pattern*,
 FILE * *file*)

18.123 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)

18.123.1 Function Documentation

18.123.1.1 [readBro\(\)](#) char [readBro](#) (
 [EmbPattern](#) * *pattern*,
 FILE * *file*)

```
18.123.1.2 writeBro() char writeBro (
    EmbPattern * pattern,
    FILE * file )
```

18.124 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)

18.124.1 Function Documentation

```
18.124.1.1 readCnd() char readCnd (
    EmbPattern * pattern,
    FILE * file )
```

```
18.124.1.2 writeCnd() char writeCnd (
    EmbPattern * pattern,
    FILE * file )
```

18.125 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)

18.125.1 Function Documentation

```
18.125.1.1 readCol() char readCol (
    EmbPattern * pattern,
    FILE * file )
```

```
18.125.1.2 writeCol() char writeCol (
    EmbPattern * pattern,
    FILE * file )
```

18.126 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 []

18.126.1 Macro Definition Documentation

```
18.126.1.1 CsdSubMaskSize #define CsdSubMaskSize 479
```

```
18.126.1.2 CsdXorMaskSize #define CsdXorMaskSize 501
```

18.126.2 Function Documentation

18.126.2.1 BuildDecryptionTable() void BuildDecryptionTable (int seed)

18.126.2.2 DecodeCsdByte() unsigned char DecodeCsdByte (long fileOffset, unsigned char val, int type)

18.126.2.3 readCsd() char readCsd (EmbPattern * pattern, FILE * file)

18.126.2.4 writeCsd() char writeCsd (EmbPattern * pattern, FILE * file)

18.126.3 Variable Documentation

18.126.3.1 _subMask char _subMask[CsdSubMaskSize]

18.126.3.2 _xorMask char _xorMask[CsdXorMaskSize]

18.126.3.3 csd_decryptArray const unsigned char csd_decryptArray[]

Initial value:

```
= {
    0x43, 0x6E, 0x72, 0x7A, 0x76, 0x6C, 0x61, 0x6F, 0x7C, 0x29, 0x5D, 0x62, 0x60, 0x6E, 0x61, 0x62,
    0x20, 0x41, 0x66, 0x6A, 0x3A, 0x35, 0x5A, 0x63, 0x7C, 0x37, 0x3A, 0x2A, 0x25, 0x24, 0x2A, 0x33,
    0x00, 0x10, 0x14, 0x03, 0x72, 0x4C, 0x48, 0x42, 0x08, 0x7A, 0x5E, 0x0B, 0x6F, 0x45, 0x47, 0x5F,
    0x40, 0x54, 0x5C, 0x57, 0x55, 0x59, 0x53, 0x3A, 0x32, 0x6F, 0x53, 0x54, 0x50, 0x5C, 0x4A, 0x56,
    0x2F, 0x2F, 0x62, 0x2C, 0x22, 0x65, 0x25, 0x28, 0x38, 0x30, 0x38, 0x22, 0x2B, 0x25, 0x3A, 0x6F,
    0x27, 0x38, 0x3E, 0x3F, 0x74, 0x37, 0x33, 0x77, 0x2E, 0x30, 0x3D, 0x34, 0x2E, 0x32, 0x2B, 0x2C,
    0x0C, 0x18, 0x42, 0x13, 0x16, 0x0A, 0x15, 0x02, 0x0B, 0x1C, 0x1E, 0x0E, 0x08, 0x60, 0x64, 0x0D,
    0x09, 0x51, 0x25, 0x1A, 0x18, 0x16, 0x19, 0x1A, 0x58, 0x10, 0x14, 0x5B, 0x08, 0x15, 0x1B, 0x5F,
    0xD5, 0xD2, 0xAE, 0xA3, 0xC1, 0xF0, 0xF4, 0xE8, 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, 0xE5, 0xDC, 0xDA, 0xD2, 0x96, 0xC4, 0x98, 0xF8, 0xC9, 0xD2, 0xDD, 0xD3, 0x9E, 0xDE,
    0xAE, 0xA5, 0xE2, 0x8C, 0xB6, 0xAC, 0xA3, 0xA9, 0xBC, 0xA8, 0xA6, 0xEB, 0x8B, 0xBF, 0xA1, 0xAC,
    0xB5, 0xA3, 0xBB, 0xB6, 0xA7, 0xD8, 0xDC, 0x9A, 0xAA, 0xF9, 0x82, 0xFB, 0x9D, 0xB9, 0xAB, 0xB3,
    0x94, 0xC1, 0xA0, 0x8C, 0x8B, 0x8E, 0x95, 0x8F, 0x87, 0x99, 0xE7, 0xE1, 0xA3, 0x83, 0x8B, 0xCF,
    0xA3, 0x85, 0x9D, 0x83, 0xD4, 0xB7, 0x83, 0x84, 0x91, 0x97, 0x9F, 0x88, 0x8F, 0xDD, 0xAD, 0x90
}
```

18.127 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)`

18.127.1 Function Documentation

18.127.1.1 csvStitchFlagToStr() `char * csvStitchFlagToStr (`
`int flags)`

18.127.1.2 csvStrToStitchFlag() `int csvStrToStitchFlag (`
`const char * str)`

18.127.1.3 readCsv() `char readCsv (`
`EmbPattern * pattern,`
`FILE * file)`

18.127.1.4 writeCsv() `char writeCsv (`
`EmbPattern * pattern,`
`FILE * file)`

18.128 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)`

18.128.1 Function Documentation

18.128.1.1 `readDat()` char `readDat (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.128.1.2 `writeDat()` char `writeDat (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.129 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)`

18.129.1 Function Documentation

18.129.1.1 `readDem()` char `readDem (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.129.1.2 `writeDem()` char `writeDem (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.130 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)

18.130.1 Function Documentation

```
18.130.1.1 readDsb() char readDsb (
    EmbPattern * pattern,
    FILE * file )
```

```
18.130.1.2 writeDsb() char writeDsb (
    EmbPattern * pattern,
    FILE * file )
```

18.131 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)

18.131.1 Macro Definition Documentation

```
18.131.1.1 cci #define cci(  
    c1,  
    c2 ) (c1*256+c2)
```

18.131.2 Function Documentation

```
18.131.2.1 decode_record_flags() int decode_record_flags (   
    unsigned char b2 )
```

```
18.131.2.2 encode_record() void encode_record (   
    FILE * file,  
    int x,  
    int y,  
    int flags )
```

```
18.131.2.3 readDst() char readDst (   
    EmbPattern * pattern,  
    FILE * file )
```

```
18.131.2.4 set_dst_variable() void set_dst_variable (   
    EmbPattern * pattern,  
    char * var,  
    char * val )
```

```
18.131.2.5 writeDst() char writeDst (   
    EmbPattern * pattern,  
    FILE * file )
```

18.132 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)

18.132.1 Function Documentation

18.132.1.1 `readDsz()` char `readDsz` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

18.132.1.2 `writeDsz()` char `writeDsz` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

18.133 `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)

18.133.1 Function Documentation

18.133.1.1 `readDxf()` char `readDxf` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

```
18.133.1.2 readLine() void readLine (
    FILE * file,
    char * str )
```

```
18.133.1.3 writeDxf() char writeDxf (
    EmbPattern * pattern,
    FILE * file )
```

18.134 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)

18.134.1 Function Documentation

```
18.134.1.1 readEdr() char readEdr (
    EmbPattern * pattern,
    FILE * file )
```

```
18.134.1.2 writeEdr() char writeEdr (
    EmbPattern * pattern,
    FILE * file )
```

18.135 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)

18.135.1 Function Documentation

18.135.1.1 emdDecode() char emdDecode (unsigned char *inputByte*)

18.135.1.2 readEmd() char readEmd (*EmbPattern* * *pattern*, FILE * *file*)

18.135.1.3 writeEmd() char writeEmd (*EmbPattern* * *pattern*, FILE * *file*)

18.136 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*)

18.136.1 Function Documentation

18.136.1.1 expDecode() char expDecode (unsigned char *a1*)

18.136.1.2 readExp() char readExp (*EmbPattern* * *pattern*, FILE * *file*)

```
18.136.1.3 writeExp() char writeExp (
    EmbPattern * pattern,
    FILE * file )
```

18.137 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)

18.137.1 Function Documentation

```
18.137.1.1 decode_exy_flags() int decode_exy_flags (
    unsigned char b2 )
```

```
18.137.1.2 readExy() char readExy (
    EmbPattern * pattern,
    FILE * file )
```

```
18.137.1.3 writeExy() char writeExy (
    EmbPattern * pattern,
    FILE * file )
```

18.138 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)

18.138.1 Function Documentation**18.138.1.1 `readEys()`** char `readEys (`

```
    EmbPattern * pattern,  
    FILE * file )
```

18.138.1.2 `writeEys()` char `writeEys (`

```
    EmbPattern * pattern,  
    FILE * file )
```

18.139 `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)`

18.139.1 Function Documentation**18.139.1.1 `readFxy()`** char `readFxy (`

```
    EmbPattern * pattern,  
    FILE * file )
```

18.139.1.2 `writeFxy()` char `writeFxy (`

```
    EmbPattern * pattern,  
    FILE * file )
```

18.140 `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)

18.140.1 Function Documentation

18.140.1.1 `readGc()` char `readGc` (
 `EmbPattern` * pattern,
 `FILE` * file)

18.140.1.2 `writeGc()` char `writeGc` (
 `EmbPattern` * pattern,
 `FILE` * file)

18.141 `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)

18.141.1 Function Documentation

18.141.1.1 `readGnc()` char `readGnc` (
 `EmbPattern` * pattern,
 `FILE` * file)

18.141.1.2 `writeGnc()` char `writeGnc` (
 `EmbPattern` * pattern,
 `FILE` * file)

18.142 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)

18.142.1 Function Documentation

18.142.1.1 [readGt\(\)](#) char [readGt](#) (
 [EmbPattern](#) * *pattern*,
 FILE * *file*)

18.142.1.2 [writeGt\(\)](#) char [writeGt](#) (
 [EmbPattern](#) * *pattern*,
 FILE * *file*)

18.143 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)

18.143.1 Function Documentation

18.143.1.1 `husCompressData()` `unsigned char * husCompressData (`
`unsigned char * input,`
`int decompressedInputSize,`
`int * compressedSize)`

18.143.1.2 `husDecodeByte()` `int husDecodeByte (`
`unsigned char b)`

18.143.1.3 `husDecodeStitchType()` `int husDecodeStitchType (`
`unsigned char b)`

18.143.1.4 `husDecompressData()` `unsigned char * husDecompressData (`
`unsigned char * input,`
`int compressedInputLength,`
`int decompressedContentLength)`

18.143.1.5 `husEncodeByte()` `unsigned char husEncodeByte (`
`EmbReal f)`

18.143.1.6 `husEncodeStitchType()` `unsigned char husEncodeStitchType (`
`int st)`

18.143.1.7 `readHus()` `char readHus (`
`EmbPattern * pattern,`
`FILE * file)`

18.143.1.8 `writeHus()` `char writeHus (`
`EmbPattern * pattern,`
`FILE * file)`

18.144 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)

18.144.1 Function Documentation

18.144.1.1 [readInb\(\)](#) char readInb (

```
    EmbPattern * pattern,
    FILE * file )
```

18.144.1.2 [writeInb\(\)](#) char writeInb (

```
    EmbPattern * pattern,
    FILE * file )
```

18.145 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 [writeInf](#) ([EmbPattern](#) *pattern, FILE *file)

18.145.1 Function Documentation

18.145.1.1 [readInf\(\)](#) char readInf (

```
    EmbPattern * pattern,
    FILE * file )
```

18.145.1.2 writelnf() char writeInf (

```
    EmbPattern * pattern,
    FILE * file )
```

18.146 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)

18.146.1 Function Documentation

18.146.1.1 jefDecode() char jefDecode (

```
    unsigned char inputByte )
```

18.146.1.2 jefEncode() void jefEncode (

```
    unsigned char * b,
    char dx,
    char dy,
    int flags )
```

18.146.1.3 jefGetHoopSize() int jefGetHoopSize (

```
    int width,
    int height )
```

18.146.1.4 jefSetHoopFromId() void jefSetHoopFromId (

```
EmbPattern * pattern,
int hoopCode )
```

18.146.1.5 read_hoop() void read_hoop (

```
FILE * file,
struct hoop_padding * hoop,
char * label )
```

18.146.1.6 readJef() char readJef (

```
EmbPattern * pattern,
FILE * file )
```

18.146.1.7 writeJef() char writeJef (

```
EmbPattern * pattern,
FILE * file )
```

18.147 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)

18.147.1 Function Documentation

18.147.1.1 ksmEncode() void ksmEncode (

```
unsigned char * b,
char dx,
char dy,
int flags )
```

```
18.147.1.2 readKsm() char readKsm (
    EmbPattern * pattern,
    FILE * file )
```

```
18.147.1.3 writeKsm() char writeKsm (
    EmbPattern * pattern,
    FILE * file )
```

18.148 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** []

18.148.1 Function Documentation

```
18.148.1.1 readMax() char readMax (
    EmbPattern * pattern,
    FILE * file )
```

```
18.148.1.2 writeMax() char writeMax (
    EmbPattern * pattern,
    FILE * file )
```

18.148.2 Variable Documentation

18.148.2.1 max_header const unsigned char max_header[]

Initial value:

18.149 [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`)

18.149.1 Function Documentation

18.149.1.1 `readMit()` char `readMit` (

```
EmbPattern * pattern,  
FILE * file )
```

18.149.1.2 writeMit() char writeMit (

```
EmbPattern * pattern,  
FILE * file )
```

18.150 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)

18.150.1 Function Documentation

18.150.1.1 `readNew()` char `readNew` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.150.1.2 `writeNew()` char `writeNew` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.151 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)

18.151.1 Function Documentation

18.151.1.1 `ofmDecode()` `EmbReal` `ofmDecode` (

```
    unsigned char b1,
    unsigned char b2 )
```

18.151.1.2 ofmReadBlockHeader() void ofmReadBlockHeader (FILE * file)

18.151.1.3 ofmReadClass() static int ofmReadClass (FILE * file) [static]

18.151.1.4 ofmReadColorChange() void ofmReadColorChange (FILE * file, EmbPattern * pattern)

18.151.1.5 ofmReadExpanded() void ofmReadExpanded (FILE * file, EmbPattern * p)

18.151.1.6 ofmReadLibrary() char * ofmReadLibrary (FILE * file)

18.151.1.7 ofmReadThreads() void ofmReadThreads (FILE * file, EmbPattern * p)

18.151.1.8 readOfm() char readOfm (EmbPattern * pattern, FILE * fileCompound)

18.151.1.9 writeOfm() char writeOfm (EmbPattern * pattern, FILE * file)

18.152 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)

18.152.1 Function Documentation

18.152.1.1 `readPcd()` char `readPcd` (

```
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

18.152.1.2 `writePcd()` char `writePcd` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.153 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)

18.153.1 Function Documentation

18.153.1.1 `readPcm()` char `readPcm` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.153.1.2 `writePcm()` char `writePcm` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.154 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)

18.154.1 Function Documentation

```
18.154.1.1 readPcq() char readPcq (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.154.1.2 writePcq() char writePcq (
    EmbPattern * pattern,
    FILE * file )
```

18.155 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)

18.155.1 Function Documentation

```
18.155.1.1 readPcs() char readPcs (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.155.1.2 writePcs() char writePcs (
    EmbPattern * pattern,
    FILE * file )
```

18.156 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)

18.156.1 Function Documentation

```
18.156.1.1 pecEncode() void pecEncode (
    FILE * file,
    EmbPattern * p )
```

```
18.156.1.2 pecEncodeJump() void pecEncodeJump (
    FILE * file,
    int x,
    int types )
```

18.156.1.3 pecEncodeStop() void pecEncodeStop (FILE * *file*, unsigned char *val*)

18.156.1.4 readPec() char readPec (EmbPattern * *pattern*, const char * *fileName*, FILE * *file*)

18.156.1.5 readPecStitches() void readPecStitches (EmbPattern * *pattern*, FILE * *file*)

18.156.1.6 writeImage() void writeImage (FILE * *file*, unsigned char *image*[][48])

Parameters

| | |
|--------------|--|
| <i>file</i> | |
| <i>image</i> | |

for the PES embedded

18.156.1.7 writePec() char writePec (EmbPattern * *pattern*, const char * *fileName*, FILE * *file*)

18.156.1.8 writePecStitches() void writePecStitches (EmbPattern * *pattern*, FILE * *file*, const char * *fileName*)

18.157 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)

18.157.1 Function Documentation

18.157.1.1 `readPel()` char readPel (

```
    EmbPattern * pattern,
    FILE * file )
```

18.157.1.2 `writePel()` char writePel (

```
    EmbPattern * pattern,
    FILE * file )
```

18.158 `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)

18.158.1 Function Documentation

18.158.1.1 `readPem()` char readPem (

```
    EmbPattern * pattern,
    FILE * file )
```

18.158.1.2 `writePem()` char writePem (

```
    EmbPattern * pattern,
    FILE * file )
```

18.159 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

18.159.1 Function Documentation

18.159.1.1 pesWriteEmbOneSection() void pesWriteEmbOneSection (

```
    EmbPattern * pattern,
    FILE * file )
```

18.159.1.2 pesWriteSewSegSection() void pesWriteSewSegSection (

```
    EmbPattern * pattern,
    FILE * file )
```

```
18.159.1.3 readDescriptions() void readDescriptions (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.4 readFeatherPatterns() void readFeatherPatterns (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.5 readHoopName() void readHoopName (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.6 readImageString() void readImageString (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.7 readMotifPatterns() void readMotifPatterns (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.8 readPes() char readPes (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

```
18.159.1.9 readPESHeaderV10() void readPESHeaderV10 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.10 readPESHeaderV5() void readPESHeaderV5 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.11 readPESHeaderV6() void readPESHeaderV6 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.12 readPESHeaderV7() void readPESHeaderV7 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.13 readPESHeaderV8() void readPESHeaderV8 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.14 readPESHeaderV9() void readPESHeaderV9 (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.15 readProgrammableFills() void readProgrammableFills (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.16 readThreads() void readThreads (
    FILE * file,
    EmbPattern * pattern )
```

```
18.159.1.17 writePes() char writePes (
    EmbPattern * pattern,
    const char * fileName,
    FILE * file )
```

18.159.2 Variable Documentation

```
18.159.2.1 pes_version int pes_version = PES0001
```

18.159.2.2 pes_version_strings const char* pes_version_strings[]

Initial value:

```
= {
    "#PES0001",
    "#PES0020",
    "#PES0022",
    "#PES0030",
    "#PES0040",
    "#PES0050",
    "#PES0055",
    "#PES0056",
    "#PES0060",
    "#PES0070",
    "#PES0080",
    "#PES0090",
    "#PES0100",
}
```

18.160 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)

18.160.1 Function Documentation

18.160.1.1 [readPhb\(\)](#) char [readPhb](#) (

```
    EmbPattern * pattern,
    FILE * file )
```

18.160.1.2 [writePhb\(\)](#) char [writePhb](#) (

```
    EmbPattern * pattern,
    FILE * file )
```

18.161 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)`

18.161.1 Function Documentation

18.161.1.1 `readPhc()` char `readPhc (`

```
    EmbPattern * pattern,  
    FILE * file )
```

18.161.1.2 `writePhc()` char `writePhc (`

```
    EmbPattern * pattern,  
    FILE * file )
```

18.162 `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)`

18.162.1 Function Documentation

18.162.1.1 `readPlt()` char `readPlt (`

```
    EmbPattern * pattern,  
    FILE * file )
```

18.162.1.2 `writePlt()` char `writePlt (`

```
    EmbPattern * pattern,  
    FILE * file )
```

18.163 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)

18.163.1 Function Documentation

```
18.163.1.1 readRgb() char readRgb (
    EmbPattern * pattern,
    FILE * file )
```

```
18.163.1.2 writeRgb() char writeRgb (
    EmbPattern * pattern,
    FILE * file )
```

18.164 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)

18.164.1 Function Documentation

```
18.164.1.1 readSew() char readSew (
    EmbPattern * pattern,
    FILE * file )
```

```
18.164.1.2 sewDecode() char sewDecode (
    unsigned char inputByte )
```

```
18.164.1.3 writeSew() char writeSew (
    EmbPattern * pattern,
    FILE * file )
```

18.165 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)

18.165.1 Function Documentation

```
18.165.1.1 readShv() char readShv (
    EmbPattern * pattern,
    FILE * file )
```

```
18.165.1.2 shvDecode() char shvDecode (
    unsigned char inputByte )
```

```
18.165.1.3 shvDecodeShort() short shvDecodeShort (
    unsigned short inputByte )
```

```
18.165.1.4 writeShv() char writeShv (
    EmbPattern * pattern,
    FILE * file )
```

18.166 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)

18.166.1 Function Documentation

```
18.166.1.1 readSst() char readSst (
    EmbPattern * pattern,
    FILE * file )
```

```
18.166.1.2 writeSst() char writeSst (
    EmbPattern * pattern,
    FILE * file )
```

18.167 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`)

18.167.1 Function Documentation

18.167.1.1 `readStx()` char `readStx` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.167.1.2 `stxReadThread()` int `stxReadThread` (

```
    StxThread * thread,
    FILE * file )
```

18.167.1.3 `writeStx()` char `writeStx` (

```
    EmbPattern * pattern,
    FILE * file )
```

18.168 `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]

18.168.1 Function Documentation

18.168.1.1 `readSvg()` `char readSvg (`
`EmbPattern * pattern,`
`FILE * file)`

18.168.1.2 `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`.

18.168.2 Variable Documentation

18.168.2.1 `attributeList` `SvgAttribute attributeList[1000]`

18.168.2.2 `current_element_id` `int current_element_id`

18.168.2.3 `currentAttribute` `char currentAttribute[1000]`

18.168.2.4 `currentValue` `char currentValue[1000]`

18.168.2.5 `n_attributes` `int n_attributes = 0`

18.168.2.6 `svgCreator` `int svgCreator`

18.168.2.7 `svgExpect` int `svgExpect`

18.168.2.8 `svgMultiValue` int `svgMultiValue`

18.169 `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*)

18.169.1 Function Documentation

18.169.1.1 `readT01()` char `readT01` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

18.169.1.2 `writeT01()` char `writeT01` (
 `EmbPattern` * *pattern*,
 `FILE` * *file*)

18.170 `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*)

18.170.1 Function Documentation

```
18.170.1.1 readT09() char readT09 (
    EmbPattern * pattern,
    FILE * file )
```

```
18.170.1.2 writeT09() char writeT09 (
    EmbPattern * pattern,
    FILE * file )
```

18.171 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)

18.171.1 Function Documentation

```
18.171.1.1 decode_tap_record_flags() int decode_tap_record_flags (
    unsigned char b2 )
```

```
18.171.1.2 encode_tap_record() void encode_tap_record (
    FILE * file,
    int x,
    int y,
    int flags )
```

```
18.171.1.3 readTap() char readTap (
    EmbPattern * pattern,
    FILE * file )
```

```
18.171.1.4 writeTap() char writeTap (
    EmbPattern * pattern,
    FILE * file )
```

18.172 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)

18.172.1 Function Documentation

```
18.172.1.1 readThr() char readThr (
    EmbPattern * pattern,
    FILE * file )
```

```
18.172.1.2 writeThr() char writeThr (
    EmbPattern * pattern,
    FILE * file )
```

18.173 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)`

18.173.1 Function Documentation

18.173.1.1 `readTxt()` char `readTxt (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.173.1.2 `writeTxt()` char `writeTxt (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.174 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)`

18.174.1 Function Documentation

18.174.1.1 `readU00()` char `readU00 (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.174.1.2 `writeU00()` char `writeU00 (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.175 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)

18.175.1 Function Documentation

```
18.175.1.1 readU01() char readU01 (
    EmbPattern * pattern,
    FILE * file )
```

```
18.175.1.2 writeU01() char writeU01 (
    EmbPattern * pattern,
    FILE * file )
```

18.176 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](#) []

18.176.1 Function Documentation

18.176.1.1 `readVip()` char `readVip` (
 `EmbPattern` * `pattern`,
 `FILE` * `file`)

18.176.1.2 `vipCompressData()` unsigned char * `vipCompressData` (
 unsigned char * `input`,
 int `decompressedInputSize`,
 int * `compressedSize`)

18.176.1.3 `vipDecodeByte()` int `vipDecodeByte` (
 unsigned char `b`)

18.176.1.4 `vipDecodeStitchType()` int `vipDecodeStitchType` (
 unsigned char `b`)

18.176.1.5 `vipDecompressData()` unsigned char * `vipDecompressData` (
 unsigned char * `input`,
 int `compressedInputLength`,
 int `decompressedContentLength`)

18.176.1.6 `vipEncodeByte()` unsigned char `vipEncodeByte` (
 `EmbReal` `f`)

18.176.1.7 `vipEncodeStitchType()` unsigned char `vipEncodeStitchType` (
 int `st`)

```
18.176.1.8 writeVip() char writeVip (
    EmbPattern * pattern,
    FILE * file )
```

18.176.2 Variable Documentation

18.176.2.1 vipDecodingTable const unsigned char vipDecodingTable[]

Initial value:

```
= {
    0x2E, 0x82, 0xE4, 0x6F, 0x38, 0xA9, 0xDC, 0xC6, 0x7B, 0xB6, 0x28, 0xAC, 0xFD, 0xAA, 0x8A, 0x4E,
    0x76, 0x2E, 0xF0, 0xE4, 0x25, 0x1B, 0x8A, 0x68, 0x4E, 0x92, 0xB9, 0xB4, 0x95, 0xF0, 0x3E, 0xEF,
    0xF7, 0x40, 0x24, 0x18, 0x39, 0x31, 0xBB, 0xE1, 0x53, 0x8A, 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, 0x43, 0xE4,
    0x2D, 0xCB, 0x95, 0x86, 0xF4, 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, 0x44, 0x69, 0xDB, 0xA9, 0x21, 0x79, 0x6F, 0xD8, 0xDE, 0x33, 0xFE,
    0x9F, 0x04, 0xE5, 0x9A, 0x6B, 0x9B, 0x73, 0x83, 0x62, 0x7C, 0xB9, 0x66, 0x76, 0xF2, 0x5B, 0xC9,
    0x5E, 0xFC, 0x74, 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, 0x05, 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, 0xD6, 0x73, 0xDE, 0x01, 0xB1, 0x80,
    0xB7, 0xC0, 0xD6, 0x80, 0x1C, 0x2E, 0x3C, 0x83, 0x63, 0xEE, 0xBC, 0x33, 0x25, 0xE2, 0x0E, 0x7A,
    0x67, 0xDE, 0x3F, 0x71, 0x14, 0x49, 0x9C, 0x92, 0x93, 0x0D, 0x26, 0x9A, 0x0E, 0xDA, 0xED, 0x6F,
    0xA4, 0x89, 0x0C, 0x1B, 0xF0, 0xA1, 0xDF, 0xE1, 0x9E, 0x3C, 0x04, 0x78, 0xE4, 0xAB, 0x6D, 0xFF,
    0x9C, 0xAF, 0xCA, 0xC7, 0x88, 0x17, 0x9C, 0xE5, 0xB7, 0x33, 0x6D, 0xDC, 0xED, 0x8F, 0x6C, 0x18,
    0x1D, 0x71, 0x06, 0xB1, 0xC5, 0xE2, 0xCF, 0x13, 0x77, 0x81, 0xC5, 0xB7, 0x0A, 0x14, 0x0A, 0x6B,
    0x40, 0x26, 0xA0, 0x88, 0xD1, 0x62, 0x6A, 0xB3, 0x50, 0x12, 0xB9, 0x9B, 0xB5, 0x83, 0x9B, 0x37
}
```

18.177 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)

18.177.1 Function Documentation

18.177.1.1 `readVp3()` `char readVp3 (`
 `EmbPattern * pattern,`
 `FILE * file)`

18.177.1.2 `vp3Decode()` `int vp3Decode (`
 `unsigned char inputByte)`

18.177.1.3 `vp3DecodeInt16()` `short vp3DecodeInt16 (`
 `unsigned short inputByte)`

18.177.1.4 `vp3PatchByteCount()` `void vp3PatchByteCount (`
 `FILE * file,`
 `int offset,`
 `int adjustment)`

18.177.1.5 `vp3ReadHoopSection()` `vp3Hoop vp3ReadHoopSection (`
 `FILE * file)`

18.177.1.6 `vp3ReadString()` `unsigned char * vp3ReadString (`
 `FILE * file)`

18.177.1.7 `vp3WriteString()` `void vp3WriteString (`
 `FILE * file,`
 `const char * str)`

18.177.1.8 `vp3WriteStringLen()` `void vp3WriteStringLen (`
 `FILE * file,`
 `const char * str,`
 `int len)`

```
18.177.1.9 writeVp3() char writeVp3 (
    EmbPattern * pattern,
    FILE * file )
```

18.178 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`)

18.178.1 Function Documentation

```
18.178.1.1 readXxx() char readXxx (
    EmbPattern * pattern,
    FILE * file )
```

```
18.178.1.2 writeXxx() char writeXxx (
    EmbPattern * pattern,
    FILE * file )
```

```
18.178.1.3 xxxDecodeByte() char xxxDecodeByte (
    unsigned char inputByte )
```

```
18.178.1.4 xxxEncodeDesign() void xxxEncodeDesign (
    FILE * file,
    EmbPattern * p )
```

```
18.178.1.5 xxxEncodeStitch() void xxxEncodeStitch (
    FILE * file,
    EmbReal deltaX,
    EmbReal deltaY,
    int flags )
```

```
18.178.1.6 xxxEncodeStop() void xxxEncodeStop (
    FILE * file,
    EmbStitch s )
```

18.179 [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)

18.179.1 Function Documentation

```
18.179.1.1 readZsk() char readZsk (
    EmbPattern * pattern,
    FILE * file )
```

```
18.179.1.2 writeZsk() char writeZsk (
    EmbPattern * pattern,
    FILE * file )
```

18.180 [extern/libembroidery/src/formats/formats.md](#) File Reference

18.181 [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.

18.181.1 Function Documentation

18.181.1.1 embGeometry_boundingRect() `EmbRect embGeometry_boundingRect (`
`EmbGeometry * obj)`

Calculate the bounding box of geometry *obj* based on what kind of geometric object it is.

Parameters

| | |
|------------------|-----------------------------------|
| <code>obj</code> | A pointer to the geometry memory. |
|------------------|-----------------------------------|

Returns

`EmbRect` The bounding box in the same scale as the input geometry.

In the case of a failure the bounding box returned is always the unit square with top left corner at (0, 0).

18.181.1.2 embGeometry_free() `void embGeometry_free (`
`EmbGeometry * obj)`

Free the memory occupied by a non-stitch geometry object.

Parameters

| | |
|------------------|-----------------------------|
| <code>obj</code> | Pointer to geometry memory. |
|------------------|-----------------------------|

18.181.1.3 embGeometry_init() `EmbGeometry * embGeometry_init (`
`int type_in)`

Our generic object interface backends to each individual type.

Parameters

| | |
|---------------|--|
| <i>type</i> ↵ | |
| <i>_in</i> | |

Returns

EmbGeometry*

18.181.1.4 embGeometry_move() 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. |

18.181.1.5 embGeometry_vulcanize() 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.

18.182 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`)

18.182.1 Function Documentation

18.182.1.1 Arc_clockwise() char Arc_clockwise ()

18.182.1.2 Base_objectRubberPoint() `EmbVector Base_objectRubberPoint (` `EmbGeometry * obj,` `const char * key)`

18.182.1.3 Base_objectRubberText() const char * Base_objectRubberText (EmbGeometry * obj,
const char * key)

18.182.1.4 Base_setLineType() void Base_setLineType (EmbGeometry * obj,
int lineType)

18.182.1.5 Base_setLineWeight() void Base_setLineWeight (EmbGeometry * obj,
float lineWeight)

18.182.1.6 clockwise() char clockwise (EmbGeometry * obj)

18.182.1.7 embArc_arcLength() float embArc_arcLength (EmbArc arc)

18.182.1.8 embArc_area() float embArc_area (EmbArc arc)

18.182.1.9 embArc_chord() float embArc_chord (EmbArc arc)

18.182.1.10 embArc_clockwise() char embArc_clockwise (EmbArc arc)

18.182.1.11 embArc_endAngle() float embArc_endAngle (EmbArc arc)

18.182.1.12 `embArc_gripEdit()` `void embArc_gripEdit (`
`EmbArc * arc,`
`EmbVector before,`
`EmbVector after)`

18.182.1.13 `embArc_includedAngle()` `float embArc_includedAngle (`
`EmbArc arc)`

18.182.1.14 `embArc_init()` `EmbArc embArc_init (`
`void)`

18.182.1.15 `embArc_mouseSnapPoint()` `EmbVector embArc_mouseSnapPoint (`
`EmbArc arc,`
`EmbVector mousePoint)`

18.182.1.16 `embArc_paint()` `void embArc_paint (`
`void)`

18.182.1.17 `embArc_setCenter()` `void embArc_setCenter (`
`EmbArc * arc,`
`EmbVector point)`

18.182.1.18 `embArc_setEndAngle()` `void embArc_setEndAngle (`
`EmbArc * arc,`
`float angle)`

18.182.1.19 `embArc_setRadius()` `void embArc_setRadius (`
`EmbArc * arc,`
`float radius)`

18.182.1.20 embArc_setStartAngle() void embArc_setStartAngle (EmbArc * arc,
float angle)

18.182.1.21 embArc_startAngle() float embArc_startAngle (EmbArc arc)

18.182.1.22 embArc_updatePath() void embArc_updatePath (EmbArc arc)

18.182.1.23 embArc_updateRubber() void embArc_updateRubber (EmbArc arc,
int pattern,
int layer,
int index)

18.182.1.24 embBaseSetColorRGB() void embBaseSetColorRGB (EmbGeometry * obj,
unsigned int rgb)

18.182.1.25 embCircle_prompt() void embCircle_prompt (const char * str)

18.182.1.26 embCircle_setArea() void embCircle_setArea (EmbCircle * circle,
float area)

18.182.1.27 embCircle_setCircumference() void embCircle_setCircumference (EmbCircle * circle,
float circumference)

18.182.1.28 embEllipse_click() void embEllipse_click (float x, float y)

18.182.1.29 embEllipse_main() void embEllipse_main ()

18.182.1.30 embRect_bottomLeft() EmbVector embRect_bottomLeft (EmbRect rect)

18.182.1.31 embRect_bottomRight() EmbVector embRect_bottomRight (EmbRect rect)

18.182.1.32 getArcCenter() void getArcCenter (EmbArc arc, EmbVector * arcCenter)

18.182.1.33 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)

18.182.1.34 set_object_color() void set_object_color (EmbGeometry * obj, EmbColor color)

18.183 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)

18.183.1 Function Documentation

18.183.1.1 embCircle_area() EmbReal embCircle_area (

 EmbCircle circle)

18.183.1.2 embCircle_circumference() EmbReal embCircle_circumference (

 EmbCircle circle)

18.183.1.3 embCircle_init() EmbCircle embCircle_init (

 void)

18.183.1.4 getCircleCircleIntersections() int getCircleCircleIntersections (

 EmbCircle c0,

 EmbCircle c1,

 EmbVector * p0,

 EmbVector * p1)

18.183.1.5 getCircleTangentPoints() int getCircleTangentPoints (

 EmbCircle c,

 EmbVector point,

 EmbVector * t0,

 EmbVector * t1)

18.184 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 ()`

18.184.1 Function Documentation

18.184.1.1 `ellipse_objectQuadrant0()` `EmbVector ellipse_objectQuadrant0 (`
`EmbEllipse * ellipse)`

18.184.1.2 `ellipse_objectQuadrant180()` `EmbVector ellipse_objectQuadrant180 (`
`EmbEllipse * ellipse)`

18.184.1.3 `ellipse_objectQuadrant270()` `EmbVector ellipse_objectQuadrant270 (`
`EmbEllipse * ellipse)`

18.184.1.4 ellipse_objectQuadrant90() `EmbVector` `ellipse_objectQuadrant90 (`
`EmbEllipse * ellipse)`

18.184.1.5 embEllipse_area() `EmbReal` `embEllipse_area (`
`EmbEllipse ellipse)`

18.184.1.6 embEllipse_diameterX() `EmbReal` `embEllipse_diameterX (`
`EmbEllipse ellipse)`

18.184.1.7 embEllipse_diameterY() `EmbReal` `embEllipse_diameterY (`
`EmbEllipse ellipse)`

18.184.1.8 embEllipse_height() `EmbReal` `embEllipse_height (`
`EmbEllipse ellipse)`

18.184.1.9 embEllipse_init() `EmbEllipse` `embEllipse_init (`
`void)`

18.184.1.10 embEllipse_perimeter() `EmbReal` `embEllipse_perimeter (`
`EmbEllipse ellipse)`

18.184.1.11 embEllipse_setDiameterMajor() `void` `embEllipse_setDiameterMajor (`
`EmbEllipse * ellipse,`
`float diameter)`

18.184.1.12 embEllipse_setDiameterMinor() `void` `embEllipse_setDiameterMinor (`
`EmbEllipse * ellipse,`
`float diameter)`

18.184.1.13 `embEllipse_setRadiusMajor()` void embEllipse_setRadiusMajor (float radius)

18.184.1.14 `embEllipse_setRadiusMinor()` void embEllipse_setRadiusMinor (float radius)

18.184.1.15 `embEllipse_setSize()` void embEllipse_setSize (float width, float height)

18.184.1.16 `embEllipse_updatePath()` void embEllipse_updatePath ()

18.184.1.17 `embEllipse_width()` EmbReal embEllipse_width (EmbEllipse ellipse)

18.185 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)

18.185.1 Function Documentation

18.185.1.1 `degrees()` EmbReal degrees (EmbReal radian)

18.185.1.2 `emb_round()` `int emb_round (`
`EmbReal x)`

18.185.1.3 `radians()` `EmbReal radians (`
`EmbReal degree)`

18.186 `extern/libembroidery/src/geometry/geometry.md` File Reference

18.187 `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)`

18.187.1 Function Documentation

18.187.1.1 `embLine_intersectionPoint()` `EmbVector embLine_intersectionPoint (`
`EmbLine line1,`
`EmbLine line2)`

18.187.1.2 `embLine_normalVector()` `void embLine_normalVector (`
`EmbLine line,`
`EmbVector * result,`
`int clockwise)`

Finds the normalized vector perpendicular (`clockwise`) to the line given by $v1 \rightarrow v2$ (normal to the line)

18.187.1.3 `embLine_toVector()` `EmbVector embLine_toVector (`
`EmbLine line)`

18.188 extern/libembroidery/src/geometry/path.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

18.189 extern/libembroidery/src/geometry/polygon.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

18.190 extern/libembroidery/src/geometry/polyline.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include "../embroidery.h"
```

18.191 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 \(EmbRect rect\)](#)

18.191.1 Function Documentation

18.191.1.1 embRect_area() [EmbReal](#) embRect_area ([EmbRect](#) rect)

18.191.1.2 embRect_init() `EmbRect` `embRect_init` (
 `void`)

18.192 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)`

18.192.1 Function Documentation

18.192.1.1 textSingle_gripEdit() `void textSingle_gripEdit` (
 `EmbVector` `before`,
 `EmbVector` `after`)

18.192.1.2 textSingle_mouseSnapPoint() `EmbVector` `textSingle_mouseSnapPoint` (
 `EmbVector` `mousePoint`)

18.192.1.3 textSingle_paint() `void textSingle_paint` ()

18.192.1.4 `textSingle_setJustify()` void textSingle_setJustify (const char * *justify*)

18.192.1.5 `textSingle_setTextBackward()` void textSingle_setTextBackward (char *val*)

18.192.1.6 `textSingle_setTextBold()` void textSingle_setTextBold (char *val*)

18.192.1.7 `textSingle_setTextFont()` void textSingle_setTextFont (const char * *font*)

18.192.1.8 `textSingle_setTextItalic()` void textSingle_setTextItalic (char *val*)

18.192.1.9 `textSingle_setTextOverline()` void textSingle_setTextOverline (char *val*)

18.192.1.10 `textSingle_setTextSize()` void textSingle_setTextSize (float *size*)

18.192.1.11 `textSingle_setTextStrikeOut()` void textSingle_setTextStrikeOut (char *val*)

18.192.1.12 `textSingle_setTextStyle()` void textSingle_setTextStyle (char *bold*, char *italic*, char *under*, char *strike*, char *over*)

18.192.1.13 textSingle_setTextUnderline() void textSingle_setTextUnderline (char val)

18.192.1.14 textSingle_setTextUpsideDown() void textSingle_setTextUpsideDown (char val)

18.192.1.15 textSingle_updateRubber() void textSingle_updateRubber ()

18.193 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)

18.193.1 Function Documentation

18.193.1.1 embVector_add() EmbVector embVector_add (EmbVector a, EmbVector b)

The sum of vectors *a* and *b* returned as a vector.

Equivalent to:

$$\mathbf{c} = \mathbf{a} + \mathbf{b} = \begin{pmatrix} a_x + b_x \\ a_y + b_y \end{pmatrix}$$

18.193.1.2 embVector_angle() `EmbReal` `embVector_angle (EmbVector v)`

The angle, measured anti-clockwise from the x-axis, of a vector *v*.

18.193.1.3 embVector_average() `EmbVector` `embVector_average (EmbVector a, EmbVector b)`

The average of vectors *v1* and *v2* returned as a vector.

Equivalent to:

$$\mathbf{c} = \frac{\mathbf{a} + \mathbf{b}}{2} = \left(\begin{array}{c} \frac{a_x+b_x}{2} \\ \frac{a_y+b_y}{2} \end{array} \right)$$

18.193.1.4 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:

$$|c| = \left| \begin{pmatrix} a_x \\ a_y \\ 0 \end{pmatrix} \times \begin{pmatrix} b_x \\ b_y \\ 0 \end{pmatrix} \right| = \left| \begin{pmatrix} 0 \\ 0 \\ a_x b_y - a_y b_x \end{pmatrix} \right| = a_x b_y - a_y b_x$$

18.193.1.5 embVector_distance() `EmbReal` `embVector_distance (EmbVector a, EmbVector b)`

The distance between *a* and *b* returned as a real value.

$$d = |\mathbf{a} - \mathbf{b}| = \sqrt{(a_x - b_x)^2 + (a_y - b_y)^2}$$

18.193.1.6 embVector_dot() `EmbReal` `embVector_dot (EmbVector a, EmbVector b)`

The dot product as vectors *v1* and *v2* returned as a `EmbReal`.

Equivalent to:

$$c = \mathbf{a} \cdot \mathbf{b} = a_x b_x + a_y b_y$$

18.193.1.7 embVector_length() `EmbReal embVector_length (EmbVector vector)`

The length or absolute value of the vector *vector*.

Equivalent to:

$$|v| = \sqrt{v_x^2 + v_y^2}$$

18.193.1.8 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.

18.193.1.9 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.

18.193.1.10 embVector_relativeX() `EmbReal embVector_relativeX (EmbVector a1, EmbVector a2, EmbVector a3)`

The x-component of the vector

18.193.1.11 embVector_relativeY() `EmbReal embVector_relativeY (EmbVector a1, EmbVector a2, EmbVector a3)`

The y-component of the vector

```
18.193.1.12 embVector_subtract() EmbVector embVector_subtract (
    EmbVector v1,
    EmbVector v2 )
```

The difference between vectors *v1* and *v2* returned as *result*.

Equivalent to:

$$\mathbf{c} = \mathbf{a} - \mathbf{b} = \begin{pmatrix} a_x - b_x \\ a_y - b_y \end{pmatrix}$$

```
18.193.1.13 embVector_transpose_product() void embVector_transpose_product (
    EmbVector v1,
    EmbVector v2,
    EmbVector * result )
```

Since we aren't using full vector algebra here, all vectors are "vertical". so this is like the product $\mathbf{v1}^T \mathbf{v2}$ for our vectors *v1* and *v2* so a "component-wise product". The result is stored at the pointer *result*.

That is $(1 \ 0) \ (\mathbf{a}) = (x_a \ (x \ y)) (0 \ 1) \ (\mathbf{b}) = (y_b)$

```
18.193.1.14 embVector_unit() EmbVector embVector_unit (
    EmbReal alpha )
```

The unit vector in the direction *angle*.

$$\mathbf{a}_\alpha = \begin{pmatrix} \cos(\alpha) \\ \sin(\alpha) \end{pmatrix}$$

18.194 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)

18.194.1 Function Documentation

```
18.194.1.1 image_diff() float image_diff (
    unsigned char * a,
    unsigned char * b,
    int size )
```

Parameters

| | |
|-------------|--|
| <i>a</i> | |
| <i>b</i> | |
| <i>size</i> | |

Returns

float

```
18.194.1.2 writelimage() void writeImage (
    FILE * file,
    unsigned char image[ ][48] )
```

Parameters

| | |
|--------------|--|
| <i>file</i> | |
| <i>image</i> | |

for the PES embedded

18.195 extern/libembroidery/src/main.c File Reference

As much of the code as possible, to keep the structure simple and in a procedural style.

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include <time.h>
#include "embroidery_internal.h"
```

Macros

- #define FLAG_TO 0
- #define FLAG_TO_SHORT 1
- #define FLAG_HELP 2
- #define FLAG_HELP_SHORT 3
- #define FLAG_FORMATS 4
- #define FLAG_FORMATS_SHORT 5
- #define FLAG QUIET 6
- #define FLAG QUIET_SHORT 7
- #define FLAG_VERBOSE 8
- #define FLAG_VERBOSE_SHORT 9
- #define FLAG_VERSION 10
- #define FLAG_VERSION_SHORT 11

- #define FLAG_CIRCLE 12
- #define FLAG_CIRCLE_SHORT 13
- #define FLAG_ELLIPSE 14
- #define FLAG_ELLIPSE_SHORT 15
- #define FLAG_LINE 16
- #define FLAG_LINE_SHORT 17
- #define FLAG_POLYGON 18
- #define FLAG_POLYGON_SHORT 19
- #define FLAG_POLYLINE 20
- #define FLAG_POLYLINE_SHORT 21
- #define FLAG_RENDER 22
- #define FLAG_RENDER_SHORT 23
- #define FLAG_SATIN 24
- #define FLAG_SATIN_SHORT 25
- #define FLAG_STITCH 26
- #define FLAG_STITCH_SHORT 27
- #define FLAG_TEST 28
- #define FLAG_FULL_TEST_SUITE 29
- #define FLAG_HILBERT_CURVE 30
- #define FLAG_SIerpinski_TRIANGLE 31
- #define FLAG_FILL 32
- #define FLAG_FILL_SHORT 33
- #define FLAG_SIMULATE 34
- #define FLAG_COMBINE 35
- #define FLAG_CROSS_STITCH 36
- #define NUM_FLAGS 37

Functions

- void `embVector_print` (`EmbVector` v, `char` *label)
- void `embArc_print` (`EmbArc` arc)
- int `check_header_present` (`FILE` *file, `int` minimum_header_length)
- `unsigned int sectorSize` (`bcf_file` *bcfFile)
- `int haveExtraDIFATSectors` (`bcf_file` *file)
- `int seekToSector` (`bcf_file` *bcfFile, `FILE` *file, `const unsigned int` sector)
- void `parseDIFATSectors` (`FILE` *file, `bcf_file` *bcfFile)
- `int bcfFile_read` (`FILE` *file, `bcf_file` *bcfFile)
- `FILE * GetFile` (`bcf_file` *bcfFile, `FILE` *file, `char` *fileToFind)
Get the File object.
- void `bcf_file_free` (`bcf_file` *bcfFile)
- `bcf_file_difat * bcf_difat_create` (`FILE` *file, `unsigned int` fatSectors, `const unsigned int` `sectorSize`)
- `unsigned int entriesInDifatSector` (`bcf_file_difat` *fat)
- `unsigned int readFullSector` (`FILE` *file, `bcf_file_difat` *bcfFile, `unsigned int` *difatEntriesToRead)
- void `parseDirectoryEntryName` (`FILE` *file, `bcf_directory_entry` *dir)
- `bcf_directory * CompoundFileDialog` (`const unsigned int` maxNumberOfDirectoryEntries)
- `EmbTime parseTime` (`FILE` *file)
- `bcf_directory_entry * CompoundFileDialogEntry` (`FILE` *file)
- void `readNextSector` (`FILE` *file, `bcf_directory` *dir)
- void `bcf_directory_free` (`bcf_directory` **dir)
- `bcf_file_fat * bcfFileFat_create` (`const unsigned int` `sectorSize`)
- void `loadFatFromSector` (`bcf_file_fat` *fat, `FILE` *file)
- `bcf_file_header bcfFileHeader_read` (`FILE` *file)
- void `embSatinOutline_generateSatinOutline` (`EmbArray` *lines, `EmbReal` thickness, `EmbSatinOutline` *result)
- `EmbArray * embSatinOutline_renderStitches` (`EmbSatinOutline` *result, `EmbReal` density)

- void `write_24bit` (FILE *file, int x)
- int `embColor_distance` (EmbColor a, EmbColor b)
- void `embColor_read` (FILE *f, EmbColor *c, int toRead)
- void `embColor_write` (FILE *f, EmbColor c, int toWrite)
- int `embThread_findNearestColor` (EmbColor color, EmbColor *color_list, int n_colors)
- int `embThread_findNearestThread` (EmbColor color, EmbThread *thread_list, int n_threads)
- `EmbThread embThread_getRandom` (void)
- void `binaryReadString` (FILE *file, char *buffer, int maxLength)
- void `binaryReadUnicodeString` (FILE *file, char *buffer, const int stringLength)
- int `stringInArray` (const char *s, const char **array)
- int `emb_readline` (FILE *file, char *line, int maxLength)
- void `get_trim_bounds` (char const *s, char const **firstWord, char const **trailingSpace)

Get the trim bounds object.
- char * `copy_trim` (char const *s)
- char * `emb_optOut` (EmbReal num, char *str)

Optimizes the number (num) for output to a text file and returns it as a string (str).
- void `embTime_initNow` (EmbTime *t)
- `EmbTime embTime_time` (EmbTime *t)

Variables

- `EmbThread black_thread` = { { 0, 0, 0 }, "Black", "Black" }
- int `emb_verbose` = 0

Verbosity level.
- int `emb_error` = 0

Error code storage for optional control flow blocking.
- const `EmbReal embConstantPi` = 3.1415926535
- const unsigned int `difatEntriesInHeader` = 109
- const unsigned int `sizeOfFatEntry` = sizeof(unsigned int)
- const unsigned int `sizeOfDifatEntry` = 4
- const unsigned int `sizeOfChainingEntryAtEndOfDifatSector` = 4
- const unsigned int `sizeOfDirectoryEntry` = 128
- char const `WHITE SPACE` [] = "\t\n\r"

18.195.1 Detailed Description

As much of the code as possible, to keep the structure simple and in a procedural style.

Embroidermodder 2
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 Use Python's PEP7 style guide. <https://peps.python.org/pep-0007/>

18.195.2 Macro Definition Documentation

18.195.2.1 FLAG_CIRCLE #define FLAG_CIRCLE 12

18.195.2.2 FLAG_CIRCLE_SHORT #define FLAG_CIRCLE_SHORT 13

18.195.2.3 FLAG_COMBINE #define FLAG_COMBINE 35

18.195.2.4 FLAG_CROSS_STITCH #define FLAG_CROSS_STITCH 36

18.195.2.5 FLAG_ELLIPSE #define FLAG_ELLIPSE 14

18.195.2.6 FLAG_ELLIPSE_SHORT #define FLAG_ELLIPSE_SHORT 15

18.195.2.7 FLAG_FILL #define FLAG_FILL 32

18.195.2.8 FLAG_FILL_SHORT #define FLAG_FILL_SHORT 33

18.195.2.9 FLAG_FORMATS #define FLAG_FORMATS 4

18.195.2.10 FLAG_FORMATS_SHORT #define FLAG_FORMATS_SHORT 5

18.195.2.11 FLAG_FULL_TEST_SUITE #define FLAG_FULL_TEST_SUITE 29

18.195.2.12 FLAG_HELP #define FLAG_HELP 2

18.195.2.13 FLAG_HELP_SHORT #define FLAG_HELP_SHORT 3

18.195.2.14 FLAG_HILBERT_CURVE #define FLAG_HILBERT_CURVE 30

18.195.2.15 FLAG_LINE #define FLAG_LINE 16

18.195.2.16 FLAG_LINE_SHORT #define FLAG_LINE_SHORT 17

18.195.2.17 FLAG_POLYGON #define FLAG_POLYGON 18

18.195.2.18 FLAG_POLYGON_SHORT #define FLAG_POLYGON_SHORT 19

18.195.2.19 FLAG_POLYLINE #define FLAG_POLYLINE 20

18.195.2.20 FLAG_POLYLINE_SHORT #define FLAG_POLYLINE_SHORT 21

18.195.2.21 FLAG_QUIET #define FLAG_QUIET 6

18.195.2.22 FLAG_QUIET_SHORT #define FLAG_QUIET_SHORT 7

18.195.2.23 FLAG_RENDER #define FLAG_RENDER 22

18.195.2.24 FLAG_RENDER_SHORT #define FLAG_RENDER_SHORT 23

18.195.2.25 FLAG_SATIN #define FLAG_SATIN 24

18.195.2.26 FLAG_SATIN_SHORT #define FLAG_SATIN_SHORT 25

18.195.2.27 FLAG_SIERPINSKI_TRIANGLE #define FLAG_SIERPINSKI_TRIANGLE 31

18.195.2.28 FLAG_SIMULATE #define FLAG_SIMULATE 34

18.195.2.29 FLAG_STITCH #define FLAG_STITCH 26

18.195.2.30 FLAG_STITCH_SHORT #define FLAG_STITCH_SHORT 27

18.195.2.31 FLAG_TEST #define FLAG_TEST 28

18.195.2.32 FLAG_TO #define FLAG_TO 0

18.195.2.33 FLAG_TO_SHORT #define FLAG_TO_SHORT 1

18.195.2.34 FLAG_VERBOSE #define FLAG_VERBOSE 8

18.195.2.35 FLAG_VERBOSE_SHORT #define FLAG_VERBOSE_SHORT 9

18.195.2.36 FLAG_VERSION #define FLAG_VERSION 10

18.195.2.37 FLAG_VERSION_SHORT #define FLAG_VERSION_SHORT 11

18.195.2.38 NUM_FLAGS #define NUM_FLAGS 37

18.195.3 Function Documentation

18.195.3.1 bcf_difat_create() `bcf_file_difat * bcf_difat_create (FILE * file, unsigned int fatSectors, const unsigned int sectorSize)`

Parameters

| | |
|-------------------|----------------------|
| <i>file</i> | <input type="text"/> |
| <i>fatSectors</i> | <input type="text"/> |
| <i>sectorSize</i> | <input type="text"/> |

Returns

`bcf_file_difat*`

18.195.3.2 bcf_directory_free() `void bcf_directory_free (bcf_directory ** dir)`

Parameters

| | |
|------------|----------------------|
| <i>dir</i> | <input type="text"/> |
|------------|----------------------|

18.195.3.3 bcf_file_free() `void bcf_file_free (bcf_file * bcfFile)`

Parameters

| | |
|----------------|----------------------|
| <i>bcfFile</i> | <input type="text"/> |
|----------------|----------------------|

18.195.3.4 bcfFile_read() `int bcfFile_read (FILE * file, bcf_file * bcfFile)`

Parameters

| | |
|----------------|----------------------|
| <i>file</i> | <input type="text"/> |
| <i>bcfFile</i> | <input type="text"/> |

Returns

`int`

18.195.3.5 bcfFileFat_create() `bcf_file_fat * bcfFileFat_create (const unsigned int sectorSize)`

Parameters

| | |
|------------|----------------------|
| sectorSize | <input type="text"/> |
|------------|----------------------|

Returns`bcf_file_fat*`**18.195.3.6 bcfFileHeader_read()** `bcf_file_header bcfFileHeader_read (FILE * file)`**Parameters**

| | |
|------|----------------------|
| file | <input type="text"/> |
|------|----------------------|

Returns`bcf_file_header`**18.195.3.7 binaryReadString()** `void binaryReadString (`

```
FILE * file,  
char * buffer,  
int maxLength )
```

Parameters

| | |
|-----------|----------------------|
| file | <input type="text"/> |
| buffer | <input type="text"/> |
| maxLength | <input type="text"/> |

18.195.3.8 binaryReadUnicodeString() `void binaryReadUnicodeString (`

```
FILE * file,  
char * buffer,  
const int stringLength )
```

Parameters

| | |
|--------------|----------------------|
| file | <input type="text"/> |
| buffer | <input type="text"/> |
| stringLength | <input type="text"/> |

18.195.3.9 check_header_present() `int check_header_present (`

```
FILE * file,  
int minimum_header_length )
```

Parameters

| | |
|-----------------------|----------------------|
| file | <input type="text"/> |
| minimum_header_length | <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.

18.195.3.10 CompoundFileDirectory() `bcf_directory * CompoundFileDirectory (const unsigned int maxNumberOfDirectoryEntries)`

Parameters

| | |
|--|--|
| <code>maxNumberOfDirectoryEntries</code> | |
|--|--|

Returns

`bcf_directory*`

18.195.3.11 CompoundFileDirectoryEntry() `bcf_directory_entry * CompoundFileDirectoryEntry (FILE * file)`

Parameters

| | |
|-------------------|--|
| <code>file</code> | |
|-------------------|--|

Returns

`bcf_directory_entry*`

18.195.3.12 copy_trim() `char * copy_trim (char const * s)`

Parameters

| | |
|----------------|--|
| <code>s</code> | |
|----------------|--|

Returns

`char*`

Todo description

18.195.3.13 emb_optOut() `char * emb_optOut (EmbReal num, char * str)`

Optimizes the number (`num`) for output to a text file and returns it as a string (`str`).

Parameters

| | |
|------------------|--|
| <code>num</code> | |
| <code>str</code> | |

Returns

char*

18.195.3.14 emb_readline() int emb_readline (FILE * *file*, char * *line*, int *maxLength*)**Parameters**

| | |
|------------------|--|
| <i>file</i> | |
| <i>line</i> | |
| <i>maxLength</i> | |

Returns

int

18.195.3.15 embArc_print() void embArc_print (EmbArc *arc*)**Parameters**

| | |
|------------|--|
| <i>arc</i> | |
|------------|--|

Todo move to [arc.c](#)**18.195.3.16 embColor_distance()** int embColor_distance (EmbColor *a*, EmbColor *b*)**Parameters**

| | |
|----------|--|
| <i>a</i> | |
| <i>b</i> | |

Returns

int

18.195.3.17 embColor_read() void embColor_read (FILE * *f*, EmbColor * *c*, int *toRead*)**Parameters**

| | |
|---------------|--|
| <i>f</i> | |
| <i>c</i> | |
| <i>toRead</i> | |

```
18.195.3.18 embColor_write() void embColor_write (
    FILE * f,
    EmbColor c,
    int toWrite )
```

Parameters

| | |
|----------------|--|
| <i>f</i> | |
| <i>c</i> | |
| <i>toWrite</i> | |

```
18.195.3.19 embSatinOutline_generateSatinOutline() void embSatinOutline_generateSatinOutline (
    EmbArray * lines,
    EmbReal thickness,
    EmbSatinOutline * result )
```

Parameters

| | |
|------------------|--|
| <i>lines</i> | |
| <i>thickness</i> | |
| <i>result</i> | |

```
18.195.3.20 embSatinOutline_renderStitches() EmbArray * embSatinOutline_renderStitches (
    EmbSatinOutline * result,
    EmbReal density )
```

Parameters

| | |
|----------------|--|
| <i>result</i> | |
| <i>density</i> | |

Returns

EmbArray*

```
18.195.3.21 embThread_findNearestColor() int embThread_findNearestColor (
    EmbColor color,
    EmbColor * color_list,
    int n_colors )
```

Returns the closest color to the required color based on a list of available threads. The algorithm is a simple least squares search against the list. If the (square of) Euclidean 3-dimensional distance between the points in (red, green, blue) space is smaller then the index is saved and the remaining index is returned to the caller.

Parameters

| | |
|---------------|--|
| <i>color</i> | The EmbColor color to match. |
| <i>colors</i> | The EmbThreadList pointer to start the search at. |
| <i>mode</i> | Is the argument an array of threads (0) or colors (1)? |

Returns

closestIndex The entry in the ThreadList that matches.

18.195.3.22 embThread_findNearestThread() `int embThread_findNearestThread (`
`EmbColor color,`
`EmbThread * thread_list,`
`int n_threads)`

Parameters

| |
|--------------------------|
| <code>color</code> |
| <code>thread_list</code> |
| <code>n_threads</code> |

Returns

`int`

18.195.3.23 embThread_getRandom() `EmbThread embThread_getRandom (`
`void)`

Returns a random thread color, useful in filling in cases where the actual color of the thread doesn't matter but one needs to be declared to test or render a pattern.

Returns

`c` The resulting color.

18.195.3.24 embTime_initNow() `void embTime_initNow (`
`EmbTime * t)`

Parameters

| | |
|----------------|----------------------|
| <code>t</code> | <input type="text"/> |
|----------------|----------------------|

18.195.3.25 embTime_time() `EmbTime embTime_time (`
`EmbTime * t)`

Parameters

| | |
|----------------|----------------------|
| <code>t</code> | <input type="text"/> |
|----------------|----------------------|

Returns

`EmbTime`

18.195.3.26 embVector_print() `void embVector_print (`
`EmbVector v,`
`char * label)`

Parameters

| | |
|--------------|--|
| <i>v</i> | |
| <i>label</i> | |

move to [vector.c](#)

18.195.3.27 entriesInDifatSector() `unsigned int entriesInDifatSector (bcf_file_difat * fat)`

Parameters

| | |
|------------|--|
| <i>fat</i> | |
|------------|--|

Returns

`unsigned int`

18.195.3.28 get_trim_bounds() `void get_trim_bounds (char const * s, char const ** firstWord, char const ** trailingSpace)`

Get the trim bounds object.

Parameters

| | |
|----------------------|--|
| <i>s</i> | |
| <i>firstWord</i> | |
| <i>trailingSpace</i> | |

18.195.3.29 GetFile() `FILE * GetFile (bcf_file * bcfFile, FILE * file, char * fileToFind)`

Get the File object.

Parameters

| | |
|-------------------|--|
| <i>bcfFile</i> | |
| <i>file</i> | |
| <i>fileToFind</i> | |

Returns

`FILE*`

18.195.3.30 haveExtraDIFATectors() `int haveExtraDIFATectors (bcf_file * file)`

Parameters

| | |
|-------------|--|
| <i>file</i> | |
|-------------|--|

Returns

int

18.195.3.31 loadFatFromSector() void loadFatFromSector (
 bcf_file_fat * *fat*,
 FILE * *file*)**Parameters**

| | |
|-------------|--|
| <i>fat</i> | |
| <i>file</i> | |

18.195.3.32 parseDIFATSectors() void parseDIFATSectors (
 FILE * *file*,
 bcf_file * *bcfFile*)**Parameters**

| | |
|----------------|--|
| <i>file</i> | |
| <i>bcfFile</i> | |

18.195.3.33 parseDirectoryEntryName() void parseDirectoryEntryName (
 FILE * *file*,
 bcf_directory_entry * *dir*)**Parameters**

| | |
|-------------|--|
| <i>file</i> | |
| <i>dir</i> | |

18.195.3.34 parseTime() **EmbTime** parseTime (
 FILE * *file*)**Parameters**

| | |
|-------------|--|
| <i>file</i> | |
|-------------|--|

Returns

EmbTime

18.195.3.35 readFullSector() unsigned int readFullSector (

```
FILE * file,
bcf_file_difat * bcfFile,
unsigned int * difatEntriesToRead )
```

Parameters

| | |
|---------------------------|--|
| <i>file</i> | |
| <i>bcfFile</i> | |
| <i>difatEntriesToRead</i> | |

Returns

unsigned int

18.195.3.36 `readNextSector()` void readNextSector (

```
FILE * file,
bcf_directory * dir )
```

Parameters

| | |
|-------------|--|
| <i>file</i> | |
| <i>dir</i> | |

18.195.3.37 `sectorSize()` unsigned int sectorSize (

```
bcf_file * bcfFile )
```

Parameters

| | |
|----------------|--|
| <i>bcfFile</i> | |
|----------------|--|

Returns

unsigned int

18.195.3.38 `seekToSector()` int seekToSector (

```
bcf_file * bcfFile,
FILE * file,
const unsigned int sector )
```

Parameters

| | |
|----------------|--|
| <i>bcfFile</i> | |
| <i>file</i> | |
| <i>sector</i> | |

Returns

int

```
18.195.3.39 stringInArray() int stringInArray (
    const char * s,
    const char ** array )
```

Tests for the presence of a string *s* in the supplied *array*.
The end of the array is marked by an empty string.

Returns

0 if not present 1 if present.

```
18.195.3.40 write_24bit() void write_24bit (
    FILE * file,
    int x )
```

Parameters

| | |
|-------------|--|
| <i>file</i> | |
| <i>x</i> | |

18.195.4 Variable Documentation

```
18.195.4.1 black_thread EmbThread black_thread = { { 0, 0, 0 }, "Black", "Black" }
```

```
18.195.4.2 difatEntriesInHeader const unsigned int difatEntriesInHeader = 109
```

```
18.195.4.3 emb_error int emb_error = 0
```

Error code storage for optional control flow blocking.

```
18.195.4.4 emb_verbose int emb_verbose = 0
```

Verbosity level.

```
18.195.4.5 embConstantPi const EmbReal embConstantPi = 3.1415926535
```

```
18.195.4.6 sizeOfChainingEntryAtEndOfDifatSector const unsigned int sizeOfChainingEntryAtEnd←
OfDifatSector = 4
```

```
18.195.4.7 sizeOfDifatEntry const unsigned int sizeOfDifatEntry = 4
```

```
18.195.4.8 sizeOfDirectoryEntry const unsigned int sizeOfDirectoryEntry = 128
```

```
18.195.4.9 sizeOfFatEntry const unsigned int sizeOfFatEntry = sizeof(unsigned int)
```

```
18.195.4.10 WHITESPACE char const WHITESPACE[ ] = " \t\n\r"
```

18.196 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)`

18.196.1 Function Documentation

18.196.1.1 convert() int convert (

```
    const char * inf,
    const char * outf )
```

18.196.1.2 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.

18.196.1.3 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.

18.196.1.4 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.

18.196.1.5 embPattern_addPathAbs() void embPattern_addPathAbs (

```
    EmbPattern * p,
    EmbPath obj )
```

18.196.1.6 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.

18.196.1.7 embPattern_addPolygonAbs() void embPattern_addPolygonAbs (

```
    EmbPattern * p,
    EmbPolygon obj )
```

18.196.1.8 embPattern_addPolylineObjectAbs() void embPattern_addPolylineObjectAbs (

```
    EmbPattern * p,
    EmbPolyline obj )
```

18.196.1.9 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.

18.196.1.10 `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.

18.196.1.11 `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.

18.196.1.12 `embPattern_addThread()` int embPattern_addThread (

```
EmbPattern * pattern,
EmbThread thread )
```

Parameters

| | |
|----------------|--|
| <i>pattern</i> | |
| <i>thread</i> | |

Returns

int

18.196.1.13 `embPattern_calcBoundingBox()` EmbRect embPattern_calcBoundingBox (

```
EmbPattern * p )
```

Returns an EmbRect that encapsulates all stitches and objects in the pattern (*p*).

18.196.1.14 `embPattern_center()` void embPattern_center (

```
EmbPattern * p )
```

18.196.1.15 `embPattern_changeColor()` void embPattern_changeColor (

```
EmbPattern * p,
int index )
```

Parameters

| | |
|--------------|--|
| <i>p</i> | |
| <i>index</i> | |

18.196.1.16 `embPattern_color_count()` int embPattern_color_count (

```
EmbPattern * pattern,
EmbColor startColor )
```

18.196.1.17 embPattern_combineJumpStitches() void embPattern_combineJumpStitches (EmbPattern * p)

18.196.1.18 embPattern_copyPolylineObjectListToStitchList() void embPattern_copyPolylineObjectListToStitchList (EmbPattern * p)

Copies all of the EmbPolylineObjectList data to Embstitch_list data for pattern (p).

18.196.1.19 embPattern_copyStitchListToPolylines() void embPattern_copyStitchListToPolylines (EmbPattern * p)

Copies all of the Embstitch_list data to EmbPolylineObjectList data for pattern (p).

Parameters

| | |
|----------|----------------------|
| <i>p</i> | <input type="text"/> |
|----------|----------------------|

18.196.1.20 embPattern_correctForMaxStitchLength() void embPattern_correctForMaxStitchLength (

```
EmbPattern * p,
EmbReal maxStitchLength,
EmbReal maxJumpLength )
```

18.196.1.21 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*

18.196.1.22 embPattern_designDetails() void embPattern_designDetails (EmbPattern * pattern)

18.196.1.23 embPattern_end() void embPattern_end (EmbPattern * p)

18.196.1.24 embPattern_fixColorCount() void embPattern_fixColorCount (EmbPattern * p)

Parameters

| | |
|----------|----------------------|
| <i>p</i> | <input type="text"/> |
|----------|----------------------|

18.196.1.25 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.

18.196.1.26 `embPattern_flipHorizontal()` `void embPattern_flipHorizontal (EmbPattern * p)`

Flips the entire pattern (*p*) horizontally about the y-axis.

18.196.1.27 `embPattern_flipVertical()` `void embPattern_flipVertical (EmbPattern * p)`

Flips the entire pattern (*p*) vertically about the x-axis.

18.196.1.28 `embPattern_free()` `void embPattern_free (EmbPattern * p)`

Frees all memory allocated in the pattern (*p*).

18.196.1.29 `embPattern_hideStitchesOverLength()` `void embPattern_hideStitchesOverLength (EmbPattern * p, int length)`

Parameters

| | |
|---------------|--|
| <i>p</i> | |
| <i>length</i> | |

18.196.1.30 `embPattern_jumpStitches()` `int embPattern_jumpStitches (EmbPattern * pattern)`

18.196.1.31 `embPattern_lengthHistogram()` `void embPattern_lengthHistogram (EmbPattern * pattern, int * bin, int NUMBINS)`

18.196.1.32 `embPattern_loadExternalColorFile()` `void embPattern_loadExternalColorFile (EmbPattern * p, const char * fileName)`

18.196.1.33 `embPattern_maximumStitchLength()` `float embPattern_maximumStitchLength (EmbPattern * pattern)`

18.196.1.34 `embPattern_minimumStitchLength()` `float embPattern_minimumStitchLength (EmbPattern * pattern)`

18.196.1.35 `embPattern_movePolylinesTostitch_list()` `void embPattern_movePolylinesTostitch_list (EmbPattern * p)`

Moves all of the EmbPolylineObjectList data to Embstitch_list data for pattern (*p*).

18.196.1.36 `embPattern_movestitch_listToPolylines()` `void embPattern_movestitch_listToPolylines (EmbPattern * p)`

Moves all of the Embstitch_list data to EmbPolylineObjectList data for pattern (*p*).

18.196.1.37 embPattern_realStitches() int embPattern_realStitches (
`EmbPattern * pattern`)

18.196.1.38 embPattern_scale() void embPattern_scale (
`EmbPattern * p,`
`EmbReal scale`)

18.196.1.39 embPattern_totalStitchLength() float embPattern_totalStitchLength (
`EmbPattern * pattern`)

Parameters

| | |
|----------------------|----------------------|
| <code>pattern</code> | <input type="text"/> |
|----------------------|----------------------|

Returns

float

18.196.1.40 embPattern_trimStitches() int embPattern_trimStitches (
`EmbPattern * pattern`)

18.197 extern/libembroidery/src/thread-color.c File Reference

```
#include <stdio.h>
#include <string.h>
#include "embroidery_internal.h"
```

Functions

- int `threadColor` (const char *name, int brand)
- int `threadColorNum` (unsigned int color, int brand)
- const char * `threadColorName` (unsigned int color, int brand)

Variables

- const unsigned char `_dxfColorTable` [][3] = {{ 0, 0, 0 }}
- const `EmbThread` `husThreads` [] = {{ { 0, 0, 0 }, "END", "END" }}
- const `EmbThread` `jerThreads` [] = {{ { 0, 0, 0 }, "END", "END" }}
- const `EmbThread` `shvThreads` [] = {{ { 0, 0, 0 }, "END", "END" }}
- const `EmbThread` `pcmThreads` [] = {{ { 0, 0, 0 }, "END", "END" }}
- const `EmbThread` `pecThreads` [] = {{ { 0, 0, 0 }, "END", "END" }}
- const int `shvThreadCount` = 42
- const int `pecThreadCount` = 65
- `thread_color` * `brand_codes` []
- const char * `brand_codes_files` []

18.197.1 Function Documentation

```
18.197.1.1 threadColor() int threadColor (
    const char * name,
    int brand )
```

```
18.197.1.2 threadColorName() const char * threadColorName (
    unsigned int color,
    int brand )
```

```
18.197.1.3 threadColorNum() int threadColorNum (
    unsigned int color,
    int brand )
```

18.197.2 Variable Documentation

```
18.197.2.1 _dxfColorTable const unsigned char _dxfColorTable[][3] = {{ 0, 0, 0 }}
```

```
18.197.2.2 brand_codes thread_color* brand_codes[ ]
```

```
18.197.2.3 brand_codes_files const char* brand_codes_files[ ]
```

Initial value:

```
= {  
    "arc_polyester_colors.csv",  
    "arc_rayon_colors.csv",  
    "coats_and_clark_rayon_colors.csv",  
    "exquisite_polyester_colors.csv",  
    "fufu_Polyester_colors.csv",  
    "fufu_Rayon_colors.csv",  
    "Hemingworth_Polyester_colors.csv",  
    "Isacord_Polyester_colors.csv",  
    "Isafil_Rayon_colors.csv",  
    "Marathon_Polyester_colors.csv",  
    "Marathon_Rayon_colors.csv",  
    "Madeira_Polyester_colors.csv",  
    "Madeira_Rayon_colors.csv",  
    "Metro_Polyester_colors.csv",  
    "Pantone_colors.csv",  
    "RobisonAnton_Polyester_colors.csv",  
    "RobisonAnton_Rayon_colors.csv",  
    "Sigma_Polyester_colors.csv",  
    "Sulky_Rayon_colors.csv",  
    "ThreadArt_Rayon_colors.csv",  
    "ThreadArt_Polyester_colors.csv",  
    "ThreadDelight_Polyester_colors.csv",  
    "Z102_Isacord_Polyester_colors.csv",  
    "svg_color_colors.csv"  
}
```

```
18.197.2.4 husThreads const EmbThread husThreads[ ] = {{{ 0, 0, 0 }, "END", "END" }}
```

```
18.197.2.5 jefThreads const EmbThread jefThreads[ ] = {{{ 0, 0, 0 }, "END", "END" }}
```

```
18.197.2.6 pcmThreads const EmbThread pcmThreads[ ] = {{{ 0, 0, 0 }, "END", "END" }}
```

```
18.197.2.7 pecThreadCount const int pecThreadCount = 65
```

18.197.2.8 pecThreads const `EmbThread` pecThreads[] = {{{ 0, 0, 0 }, "END", "END"}}

18.197.2.9 shvThreadCount const int shvThreadCount = 42

18.197.2.10 shvThreads const `EmbThread` shvThreads[] = {{{ 0, 0, 0 }, "END", "END"}}

18.198 `privacy_policy.md` File Reference

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