

EmbroidIt

Briefing 4

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EmbroidIt Library

Shape Layer

Properties Pane

- Displays highlighted (selected) shapes properties.
- Maybe use Decorator to wrap shapes with their fill stitch type and angle properties instead of extend classes?

Canvas

- Rendered shapes.
- Maybe multiple Canvases? (shape layering? or is there a better way?)

Shapes Pane

- Buttons for shape creation.

Canvas Switch

- If shape layer focus:
 - Darken or hide (maybe a setting?) out of focus stitch layer.
- If Stitch Layer Focus:
 - Hide shape layer.
- On switch to stitch layer:
 - Send EmbPattern to stitch fill object to create stitch list.

Pattern

- Generic shape list
- Stitch List
- Thread List

A_EmbFill

EmbFillTatami

- Child of A_EmbStitch
- Fills with lines of straight stitches

EmbFillRadial

- Child of A_EmbStitch

Stitch Layer (Preview)

Canvas

- Rendered stitches.

EmbGUI

Shape Fill Property Wrapping

Package: ewu.embroidit.parkc.shape

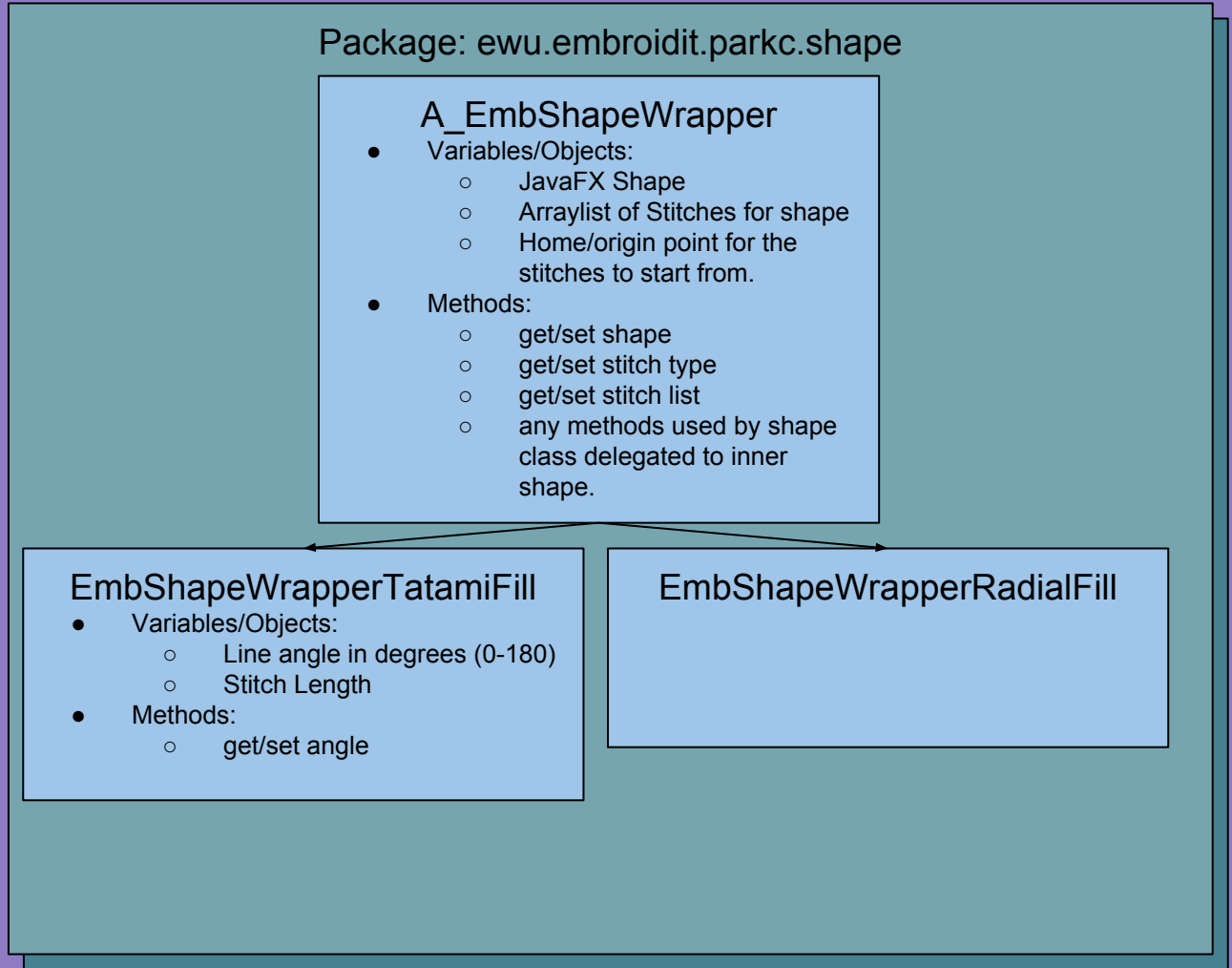
A_EmbShapeWrapper

- Variables/Objects:
 - JavaFX Shape
 - ArrayList of Stitches for shape
 - Home/origin point for the stitches to start from.
- Methods:
 - get/set shape
 - get/set stitch type
 - get/set stitch list
 - any methods used by shape class delegated to inner shape.

EmbShapeWrapperTatamiFill

- Variables/Objects:
 - Line angle in degrees (0-180)
 - Stitch Length
- Methods:
 - get/set angle

EmbShapeWrapperRadialFill



How does an embroidery machine handle stitches?

- All fill styles are compositions of straight stitches.
- Varying angles, positions, lengths.

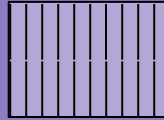
Fill types:

- Tatami:
 - Parallel straight stitches.
 - Uniform across large areas.
- Satin
 - Zig zag pattern used in lettering and small fill areas

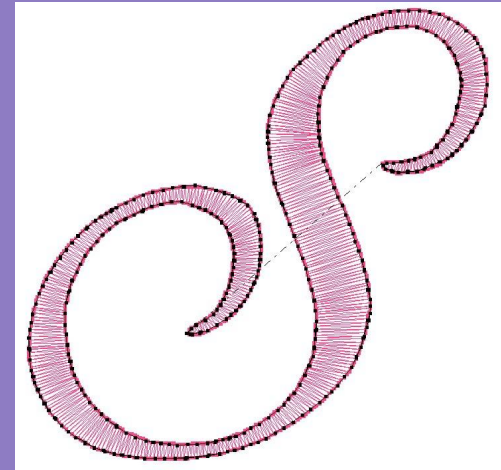
Tatami best suited for filling larger shape areas.

Fill Examples

Tatami



Satin



Shape Filling

Note:

Thickness for standard #40wt embroidery thread is approximately 1mm thick.

Package:
ewu.embroidit.parkc.shape.fill

A_EmbFill

Variables/Objects

- TBD

Methods:

- abstract fillShape(EmbShapeWrapper)
Override
 - break shape down into stitch points from shape outline and home point value.
 - stitch location
 - stitch color
 - place all stitches in wrapper stitch list.

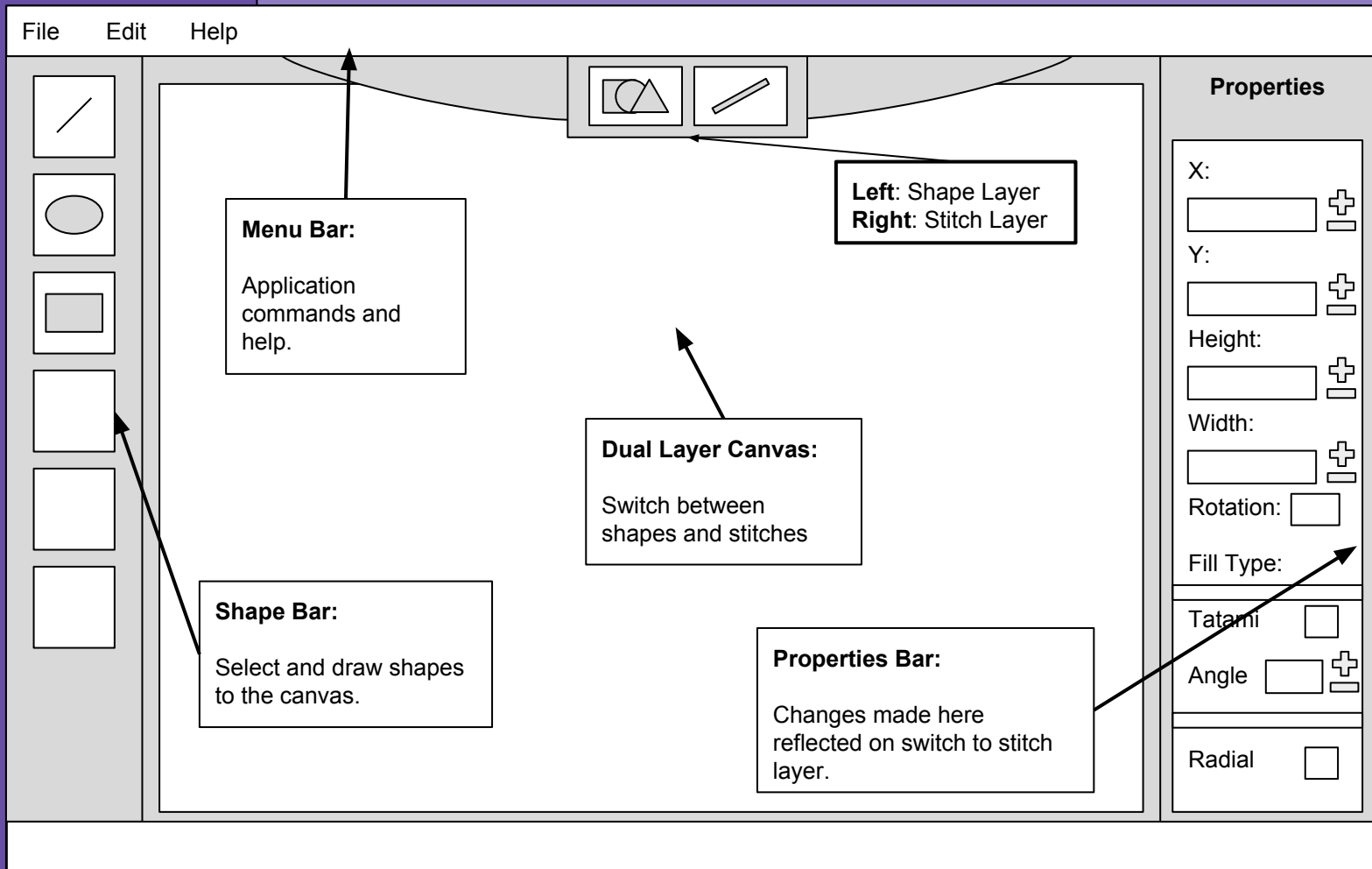
EmbFillTatami

fillShape()
Strategy TBD

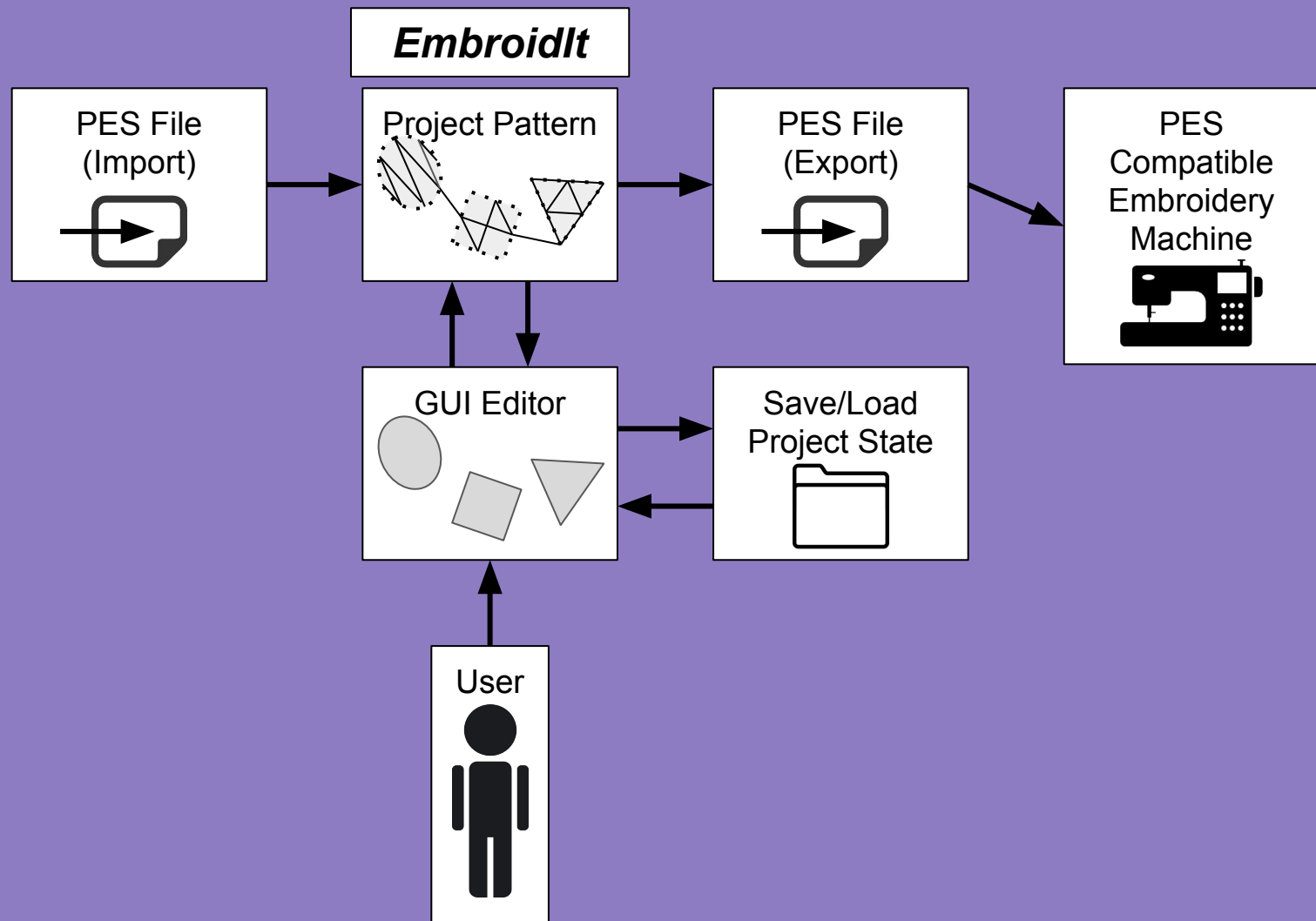
EmbFillRadial

fillShape()
Strategy TBD

EmbroidIt GUI



EmbroidIt SRS



Use Cases

Menu - File (Layout/Use Cases)

New Project

- If current project open.
 - Ask to save if not saved.
 - Close project
- Create new Pattern and canvas.
 - Name project.
 - Choose save location.
 - Create project directory and save any preliminary information.

Open Project

- If current project open.
 - Ask to save if not saved.
 - Close project
- Get location of project to open.
- Load Serialized and relevant information.

Save Project

- Serialize objects and relevant information.
- Update/Overwrite existing information at project save location.

Save Project As

- Get user's desired save location.
- Serialize objects and relevant information.
- Update/Overwrite existing information at project save location.

Import From PES

- Ask for PES File location
- Run through Format/Decoder
- Load resulting pattern to canvas

Considerations:

- Position and canvas size?
- add to existing project canvas?

Export To PES

- Run stitch list and thread list through exporter.

Exit Application

- If current project open.
 - Ask to save if not saved.
 - Close project
- Close application

Menu - Help (Layout/Use Cases)

About The Software

- List developer information.
- Application Version

Library Documentation

- Link to Javadocs for library.

Getting Started

- Program usage information/tutorials.
- Possible Toggleable tips at Startup.

Menu - Edit (Layout/Use Cases)

Undo

Redo

Note: Details pending further pattern research.

GUI - User Interaction (Layout/Use Cases)

Draw Ellipse/Circle

- Create (Left click and drag):
 - Show outline.
- On left mouse release:
 - Create outline.
- On left mouse click (Focus):
 - Display editing outline:
 - Location adjust.
 - Height adjust.
 - Width adjust.
 - Rotation adjust.
- On left mouse click and drag
 - Adjust based on selected setting.
 - Redraw on location adjustment.

Draw Rectangle

- Create (Left click and drag):
 - Show outline.
- On left mouse release:
 - Create outline.
- On left mouse click (Focus):
 - Display editing outline:
 - Location adjust.
 - Height adjust.
 - Width adjust.
 - Rotation adjust.
- On left mouse click and drag
 - Adjust based on selected setting.
 - Redraw on location adjustment.

Draw Line

- Create (Left click and drag):
 - Start point (mouse down)
 - End point (mouse up)
- On left mouse release:
 - Create Line.
- On left mouse click (Focus):
 - Display editing outline:
 - Location adjust.
 - Length adjust.
 - Rotation adjust.
- On left mouse click and drag
 - Adjust based on selected setting.
 - Redraw on location adjustment.

