**Processing Images to Embroidery**

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| Report Name | Project Outline |
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# Project description

This project focuses on developing a software program that converts digital images into machine readable embroidery designs. The program will use a read and write library (pyembroidery) [1] for generating embroidery instructions that are compatible and readable for the specified embroidery machine used (INSERT MODEL HERE). The core objective is to create a user-friendly tool that simplifies the design to embroidery process, making it accessible to users with minimal technical expertise.

Key elements of this project include:

* Providing a user-friendly interface to upload images and preview embroidery files.
* Image processing to optimise image to embroidery conversion.
* Stitch pattern generation using algorithms to mimic embroidery techniques.
* Exporting designs in standard embroider file formats [1]

The end goal of this project is to produce a functional tool that that can handle various input formats, support different thread palettes and output high quality embroidery designs that work on both commercial and hobbyist machines.

Expanding on this idea, including the use of the openAI model [2] in a separate user interface to generate an image that is described by the user and parse that into the original program for embroidery.

# Proposed tasks-

# Project deliverables

# Initial annotated bibliography

1. Tatarize & Embroidermodder, pyembroidery, Github: accessed 28/01/2025, [GitHub - EmbroidePy/pyembroidery: pyembroidery library for reading and writing a variety of embroidery formats.](https://github.com/EmbroidePy/pyembroidery)   
     
   *Proposed library for reading and writing to embroidery formats*
2. Open AI for image generation (proposed idea) <https://openai.com>

1. ~~W.H. Press et al.~~ *~~Numerical recipes in C~~*~~. Cambridge University Press Cambridge, 1992.~~*~~This document…~~*
2. ~~Various. Fail blog.~~ [~~http://www.failblog.org/~~](http://www.failblog.org/)~~, August 2011. Accessed August 2011.~~*~~This is my annotation. I can add comments that are in~~* ***~~bold~~*** *~~as well as italics. It isn’t just the formatting – do mention what is useful about the resource.~~*