Phase 1: Research and Analysis

Define the technical requirements for the project

Explore available machine learning and computer vision libraries and tools or pre-trained models to identify and locate human subjects in images

Explore how to generate collage of photos with minimal overlapping of subjects in the image

Explore how to generate .psd extension for the resulting image so that user can manually change the photos in the collage using photoshop

Milestone 1: Technical Requirements Document

Share the best approach you've found to carry out this task with your respective reporting manager.

Phase 2: MVP Development

Develop a python program that uses machine learning and computer vision to identify and locate human subjects in images

Develop a function to evaluate the image and determine the full height and width of all subjects

Develop a function to place the image in a selected silhouette shape

Develop a function to generate a collage of photos contained within the artwork with minimal overlapping

Develop a basic GUI that includes a directory of photos and silhouette shapes to create the collage

Integrate the output results with a PSD as the primary desired extension

Milestone 2: MVP Development

A fully functional MVP that includes the basic features described in Phase 2

Phase 3: Testing and Refinement

Refine the product based on user feedback

Add additional shape options to the GUI

Improve the machine learning algorithm to identify and locate more complex shapes and objects in images

Improve the collage generation algorithm to minimize overlaps and optimize placement of images within the selected shape

Milestone 3: Final Product Delivery

A fully functional product that includes all the features

Source code and GUI design files