

The Mosaic Project

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Project Goals

- Be able to create a grey-scale image out of a series of images based on the intensities of each pixel.
- Ensure that the program runs smoothly with as minimal bugs as possible.

Out of scope

- Be able to create an RGB image out of a series of images based on the intensities of each pixel.

Design Overview

For our design, we decided to take a modular approach. We split up the program into 3 components:

- Pre-processing
 - Perform any processing procedures on the images and series of images before building the mosaic.
- Tree of Images
 - To improve performance, the series of images are loading into a binary search tree. This is especially useful when there isn't an exact match of intensity in the tree and we'd like the closest matching intensity.
- Make Mosaic
 - The building of the mosaic image using the BST of the series of images.

Implementation Approach

Since there were 3 people working on this project, dividing the work was easy enough:

- Alex worked on pre-processing.
- Brady worked on the tree of images.
- Cody worked on making the mosaic.

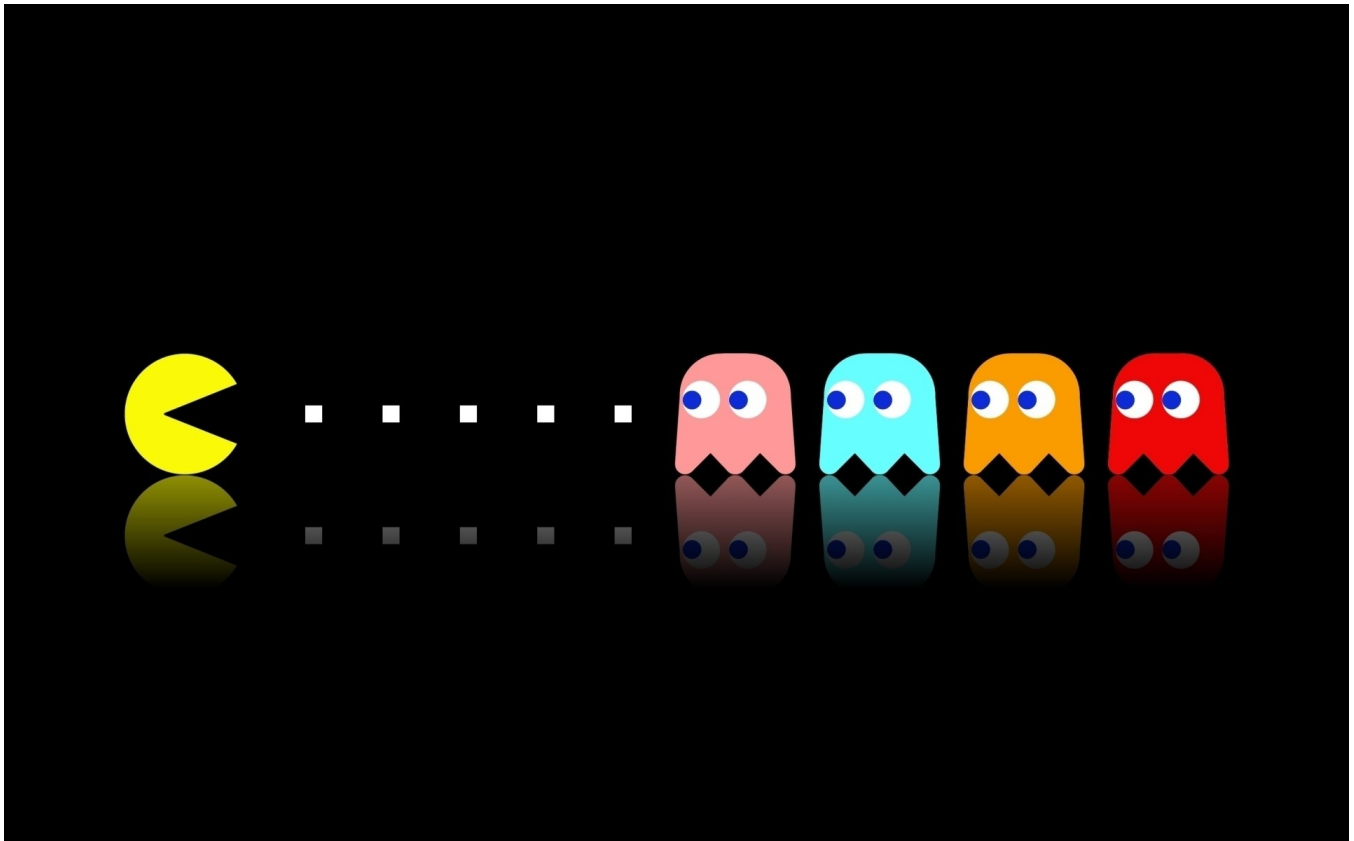
We all worked on unit tests for our own respective components.

Project Outcomes

Our program takes in an image as input, and creates a mosaic image using 2800+ images of emojis.

Examples

Before:



After:

