MVP for Group 16

Team Name: Vision
Team Members (NetIDs): as203, aidansa2, laiwei4, aizzani2, yr17, saketr3
Team PM (NetIDs): muktaj2

Name your MVP "Group ___ MVP." You are allowed to use bullet points!

What problem is your project trying to solve?
(What audience is it for? How will your project solve the issue?)

Recognizing handwriting has many potential uses. For example, the functionality of chatbots can be expanded by being able to process handwritten data. Recognizing handwritten digits specifically could be useful for students. Students often take notes on paper, especially in math classes, but look at other class materials digitally. This project could help these students digitize their notes so that they can be accessed digitally.

What features make up your MVP (Minimum Viable Product)?
(What features do you hope to accomplish by the end of the semester?)

- Photo recognition of digits
- Conversion from handwriting to text (digits)

What are some additional features outside the MVP?
(A list of features that would be nice to add after finishing the MVP.)

- Ability to recognize handwritten numbers (multiple digits)
- Ability to recognize handwritten alphabets
- Ability to recognize handwritten words (multiple alphabets)
- Ability to derive complex information from pictorial data and expand it to other hieroglyphics forms
- Ability to link linguistics with CS
- Ability to practice computer vision concepts and build a digit recognizer

Which does the tech stack look like and why did you choose these over alternatives?
(Feel free to discuss with your PM! Examples: React, Python, Java, etc. You do not need to know how to use these right now.)

- Python
  - Python is one of the best for dealing with massive data

- Convolutional Neural Network
    - Convolutional Neural Networks do better on image processing than the other neural networks.
- The MNIST dataset
    - The MNIST dataset is a big dataset for digit recognition – it contains 60,000 training images of handwritten digits from zero to nine and 10,000 images for testing.
    - http://yann.lecun.com/exdb/mnist/
- HTML
    - One of the most popular website construction languages
- Flask
    - Using flask as a front end,using it to send data between HTML pages

What will the project timeline look like?
(Discuss this with your PM as well! You don't have to stick to it, but this should give you a general guideline for how the project should progress.)

- Sprint 4:
    - Finish digit recognition
    - Start working on midterm presentation
    Midterm: October 14 2023
- Sprint 5:
    - Start working on the Website
- Sprint 6:
    - Start working on letter recognition
- Sprint 7:
    - Start working on final presentation
    Finals: December 2-3, 2023