

# CS Capstone Design

## Alpha Prototype Demo Grading Sheet (100 pts)

### TEAM: CRAFT

**Overview:** The purpose of the Alpha Prototype Demo is to clearly demonstrate the extent to which all core user flows envisioned for the product are supported by the current implementation. The flow of the demo is very natural: you simply introduce each of the major usage scenarios, and then follow through each of them, just as an end-user would in using the product. Grading is based on how completely the current product supports all key functional aspects within a coherent, realistic user flow. Interface refinement, clunkiness, and aesthetics should be ignored for now; the focus is simply on functional ability to complete the user flow.

This template is fleshed out by the team, approved by the team mentor, and brought to demo as a grading sheet.

### Overview of major product use cases

Based on the Requirements document and subsequent development discussions with your client and mentor, briefly describe each of the key use cases for your product:

**UC1: Short title for Use Case.** <Concise 1-5 sentence description of this use case: nature of the user (admin, normal, guest) and the what they are seeking to do with the product in this use case. >

**UC1: Researcher using conveyor belt for lab classification.** Researcher opens the application during a project. The researcher logs in or creates an account, attaching their credentials to each sherd photo. As sherds pass by on the conveyor belt, the system takes a photograph, classifies it, and uploads the data.

**Etc. Most products will have between 2 and 5 core use cases.**

### User Flows: Detailed walk-through for each use case:

In this section, we outline the demonstrations of each use case that we have prepared, giving a step-by-step outline of the user flow that would be followed by a real user for that use case.

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### Use case 1: Conveyor Belt Program used to archive, capture, and integrate captured images into image classifier system.

User Flow: Step by step overview of user interactions with product

1. User starts program on computer and inputs latitude and longitude information of the batch they will be uploading, as well as the name image set you are saving or want to append to.
2. Web cam feed displays sherds being detected as they pass through the conveyor belt, and an image of them is saved.
3. Images are saved to our specified directory and formatted for use by the image classifier. As they are saved, they are formatted for use by our image model which currently accepts 384 resolution cropped sherd images converted to grayscale.

4. At the end of the session the program will add its images to the user's existing dataset or create a directory for the new one. It will find the file's archive file and append the new file names to it, or it will create a new one. This file can instruct the model what to use for training/testing data.
5. The program will update a cloud storage database and archive the new sherd batch, which includes unaltered higher resolution original images and the image model prepared versions.

Evaluation and Comments:

- ✓ Convincingly demo'd each of listed challenges?
- ✓ Other evaluative comments:

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**Use Case 2: Demonstration of deep learning model classification accuracy on test set.**

User Flow: Step by step overview of user interactions with product

1. Test data is loaded into memory
2. Pre-trained model predicts classification of each sherd in the data set
3. Results are compared to true labels and displayed to the user

Evaluation and Comments:

- ✓ Convincingly demo'd each of listed challenges?
- ✓ Other evaluative comments:

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**Use Case 3: Mobile App used to take photo and process the photo for classification**

User Flow: Step by step overview of user interactions with product

1. User starts the mobile app
2. User then selects the image pick method (camera, or gallery)
3. User then crops/ adjusts the image
4. The image is then displayed to the user

Evaluation and Comments:

- ✓ Convincingly demo'd each of listed challenges?
- ✓ Other evaluative comments:

**Use Case 4: Mobile App used to Register/Login a user**

User Flow: Step by step overview of user interactions with product

1. User starts the mobile app
2. User then taps the account button
3. User then logs in using email and password
4. If not registered, user taps the register button
5. User then registers using their name, email and password

Evaluation and Comments:

- ✓ Convincingly demo'd each of listed challenges?
- ✓ Other evaluative comments:

**Use Case 5: Mobile App used to classify an image**

User Flow: Step by step overview of user interactions with product

1. User starts the mobile app
2. User then selects the image pick method (camera, or gallery)
3. User then crops/ adjusts the image
4. The user then selects classify
5. The classification output is displayed on the screen

Evaluation and Comments:

- ✓ Convincingly demo'd each of listed challenges?
- ✓ Other evaluative comments:

**Use Case 6: Mobile App used to save a classified image/metadata to local storage**

User Flow: Step by step overview of user interactions with product

1. User classifies the image and obtains the classification metadata
2. User taps save button
3. Image and associated metadata are stored in local storage

Evaluation and Comments:

- ✓ Convincingly demo'd each of listed challenges?
- ✓ Other evaluative comments:

ETC, ETC...for all remaining Use Cases.

**Known short-comings: Functionality still deficient/missing:**

If there were challenges you listed earlier that were *not* covered by a demo, list here. This will hopefully be a short list...but better to be clear about where you are. If you have items here, you could list (if applicable) any pending plans/schedule to get this implemented.

Approved by VNF on Oct. 19<sup>th</sup>, 2024

The demo should be done in this order: Use cases 4, 3, 5, 6, 1, and 2