Design Review

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OUR TEAM

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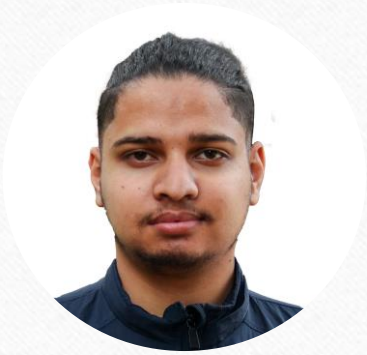

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OUR CLIENT

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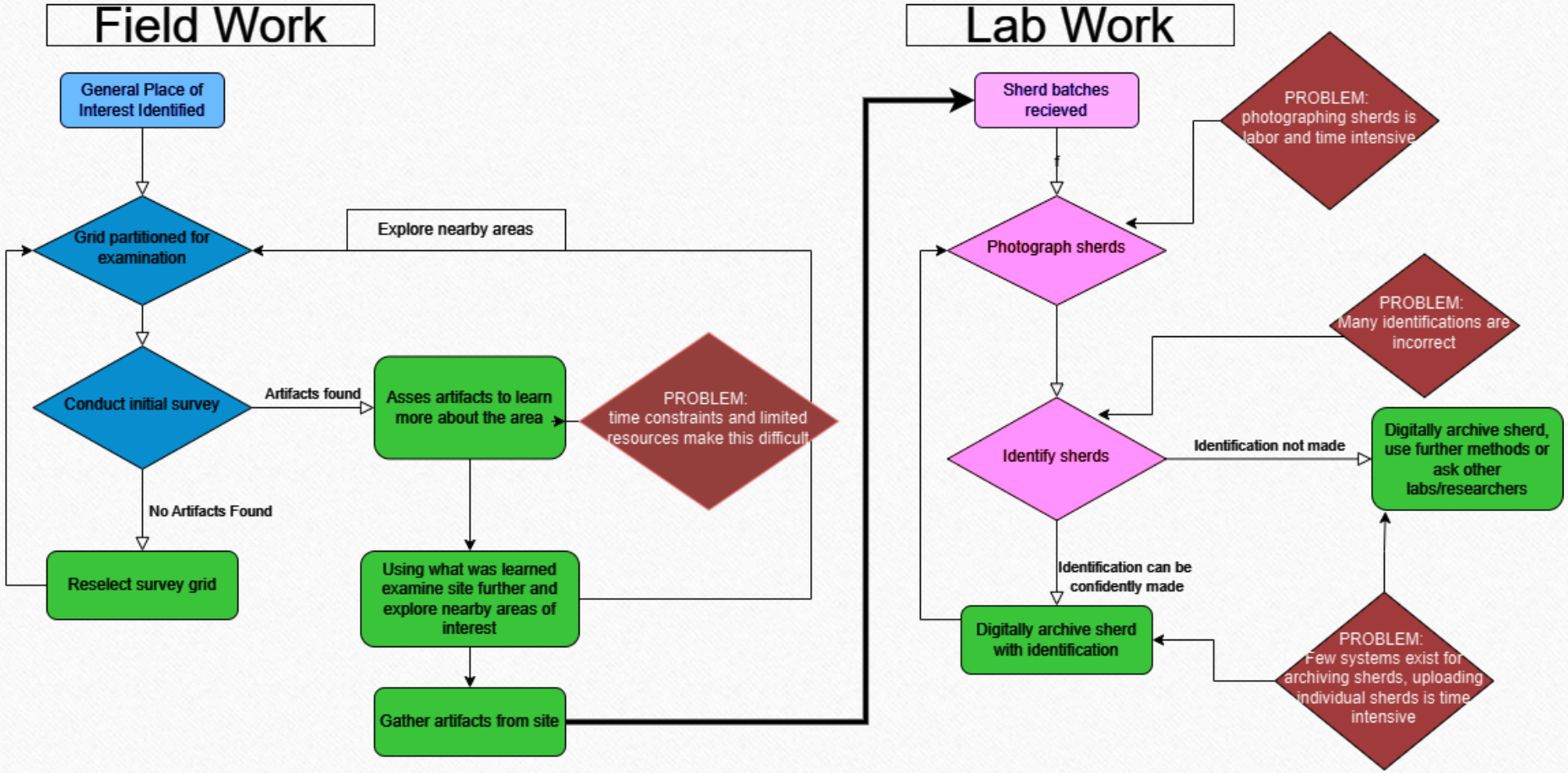
Client Workflow



Problem Statement

- Archeologists often dispute sherd identifications.
- Archeologists consistently make unreliable assessments
- Archeologists and researchers have a limited window of time to make their assessments
- Manually classifying and recording large batches of sherds can be highly inefficient

Solution Overview

Artificial Intelligence

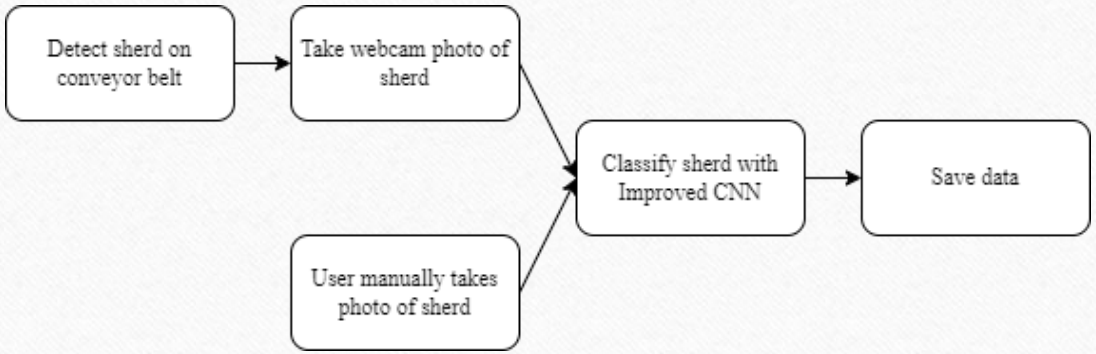
- The model will have an improved accuracy rate compared to the previously developed model

Mobile Application

- The mobile application will be capable classifying and saving associated metadata for each sherd, including geographic data which will be uploaded to a database

Conveyor Belt

- The conveyor belt will be able to detect each sherd as it passes over a conveyor
- Classifications will be made for each sherd, and the data will be saved to a database for later access



Functional Requirements

Mobile App

- Image Classification
- Offline Functionality
- Save Results in a Database
- Location Services
- Edit Classification
- Feedback Mechanism
- Offline Data Buffer

Conveyor Belt App

- Image Classification
- Bulk Image Processing
- Real-Time Processing
- Bulk Data Output
- Image Pre Processing

Image Classification Model

- Classification Accuracy

Performance and Environmental Requirements

Mobile App

- Resource Efficiency
- Usability
- Compatibility
- Error Handling
- Scalability

Conveyor Belt App

- Resource Efficiency
- Usability
- Compatibility
- Error Handling

Image Classification Model

- Consistency

Risks and Feasibility

CNN Model:

- Poor accuracy

Mobile App:

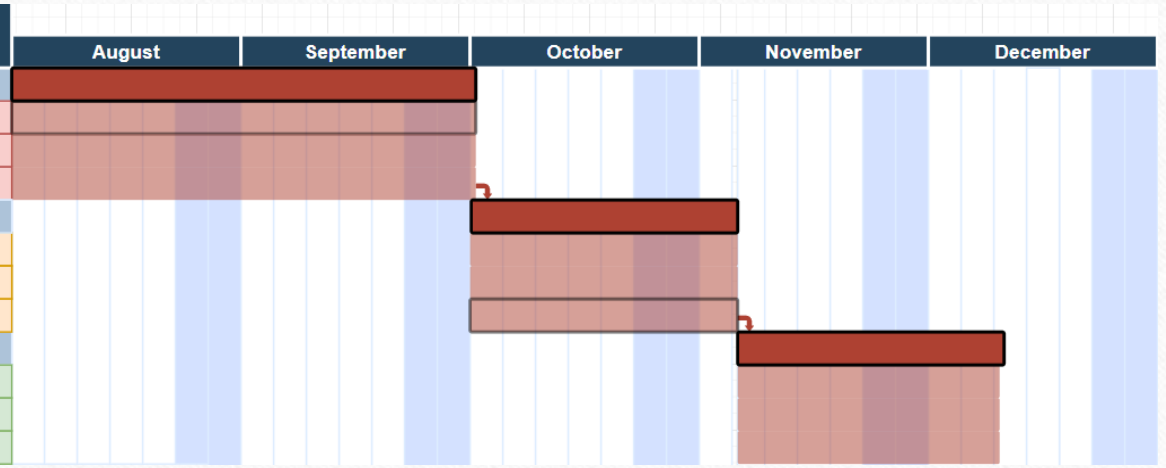
- Poor usability

Conveyor Belt:

- Poor performance
- Poor usability

Schedule

	Task Name	Duration	Start	ETA
1	Barebones Component			
2	Image Model	34 days	8/28/24	10/1/24
3	Mobile Application	34 days	8/28/24	10/1/24
4	Conveyorbelt Application	34 days	8/28/24	10/1/24
1	Finished Product			
2	Image Model	40 days	10/1/24	11/10/24
3	Mobile Application	40 days	10/1/24	11/10/24
4	Conveyorbelt Application	40 days	10/1/24	11/10/24
1	Barebones Component			
2	Image Model	21 days	11/10/24	12/1/24
3	Mobile Application	21 days	11/10/24	12/1/24
4	Conveyor belt Application	21 days	11/10/24	12/1/24



Conclusion

- Team CRAFT aims to streamline the process of sherd identification by utilizing AI, specifically image classification models.
- Team CRAFT plans to first re-develop our client's current CNN, creating a model with an increased level of accuracy.
- The model will be implemented into both a conveyor belt for classification of mass amounts of sherds, and a mobile application meant to be utilized by archeologists in the field.
- With team CRAFT's implementation, archeologists can classify sherds quickly and consistently.

Questions?