

AI based Crop Identification Mobile App

Team Members:

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Under the guidance of:

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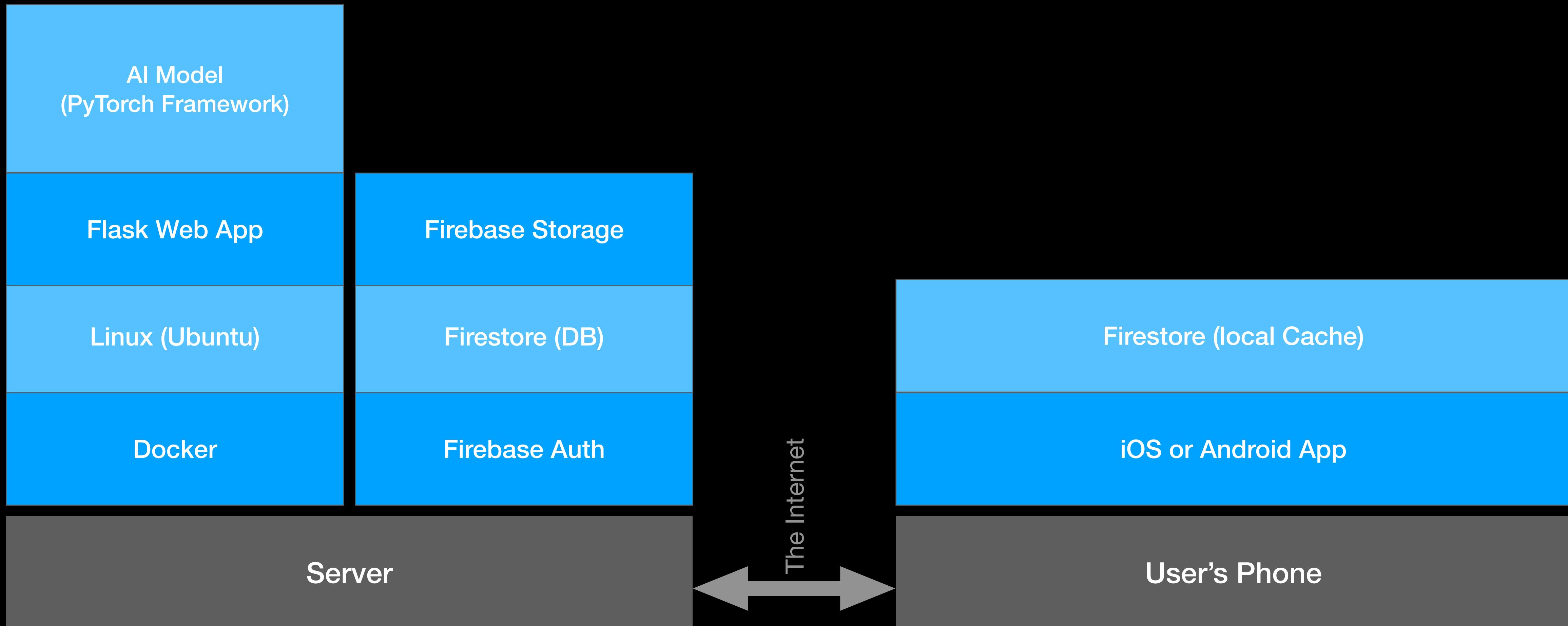
Problem statement

- Develop a mobile application that can identify crop using the field photo of the crop.
- The application allows the user to take photos and automatically detects the crop.
- The photo of the crop along with its information and geolocation, are stored in a database.
- To ensure farmers regarding latest methodologies and techniques in the process of cultivation and suggest the necessary remedies for the diseases in crops.

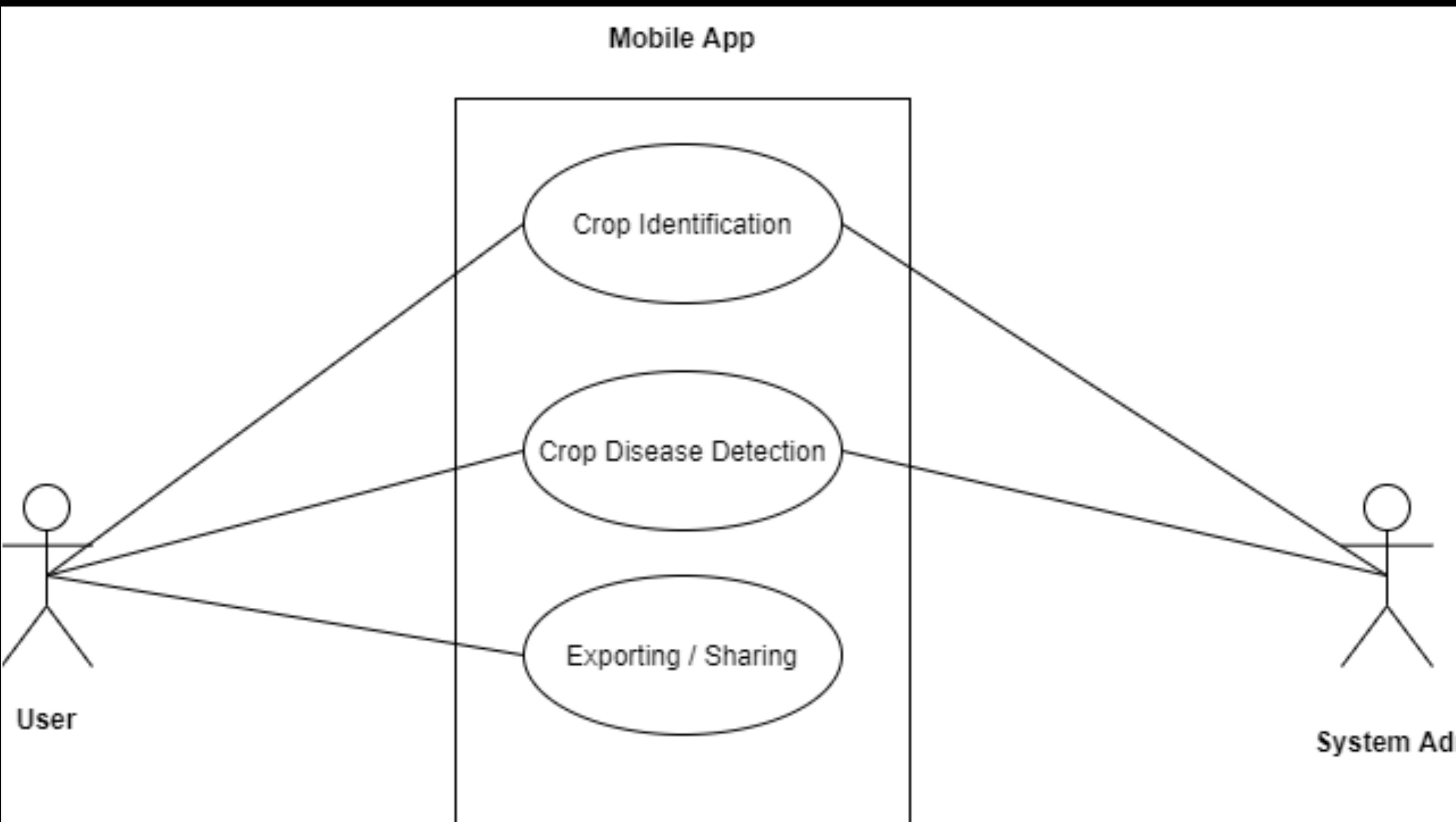
Proposed Solution

- Developed a simple mobile application.
- Helps farmers with learning about their crops.
- Diagnose any crop diseases without having to waste their resources on futile solutions.
- Most promising solution that can be used to partially solve this problem.
- Update of basic infrastructure and education.
- Small starting step to that future.

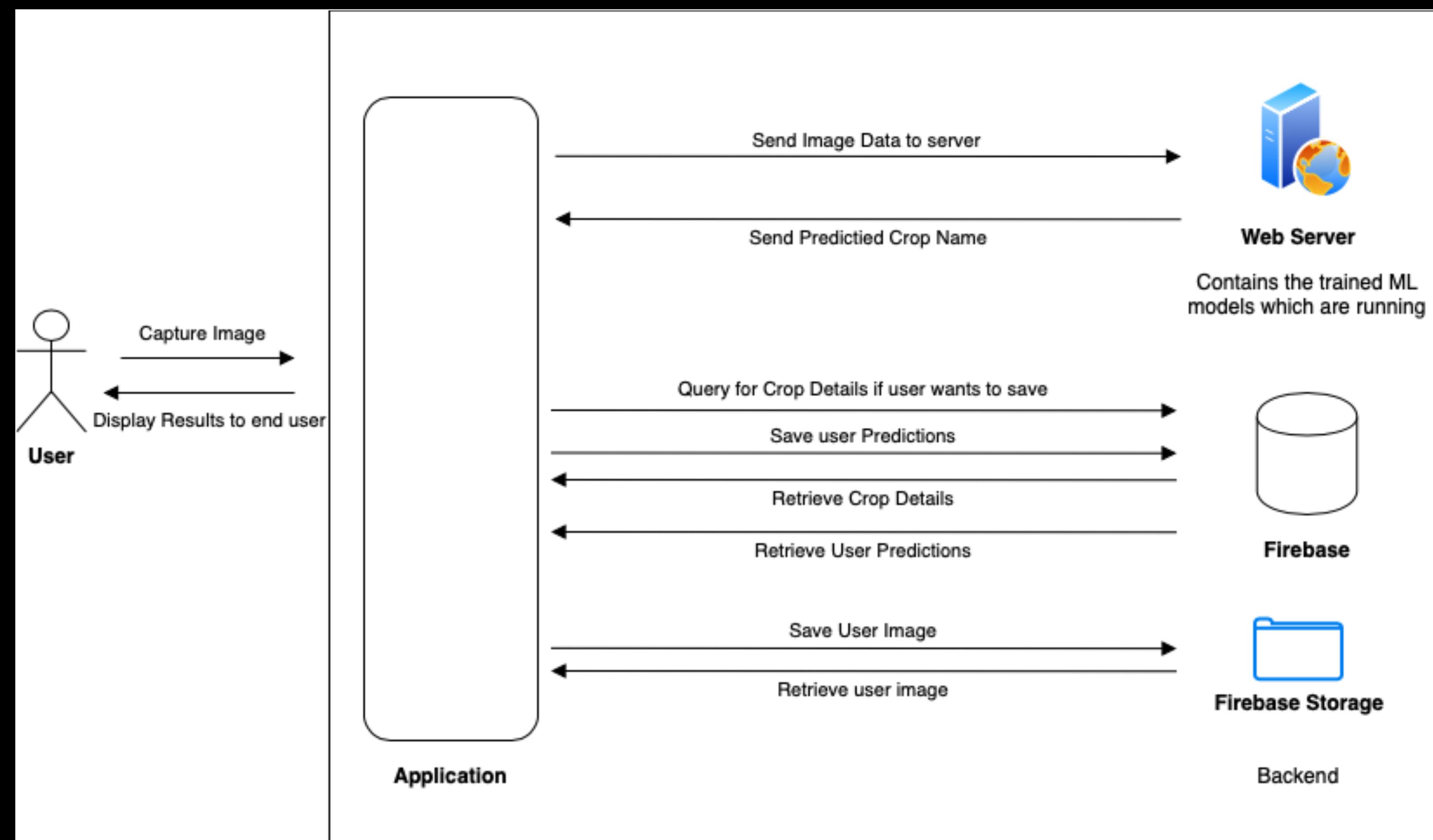
Technology Stack



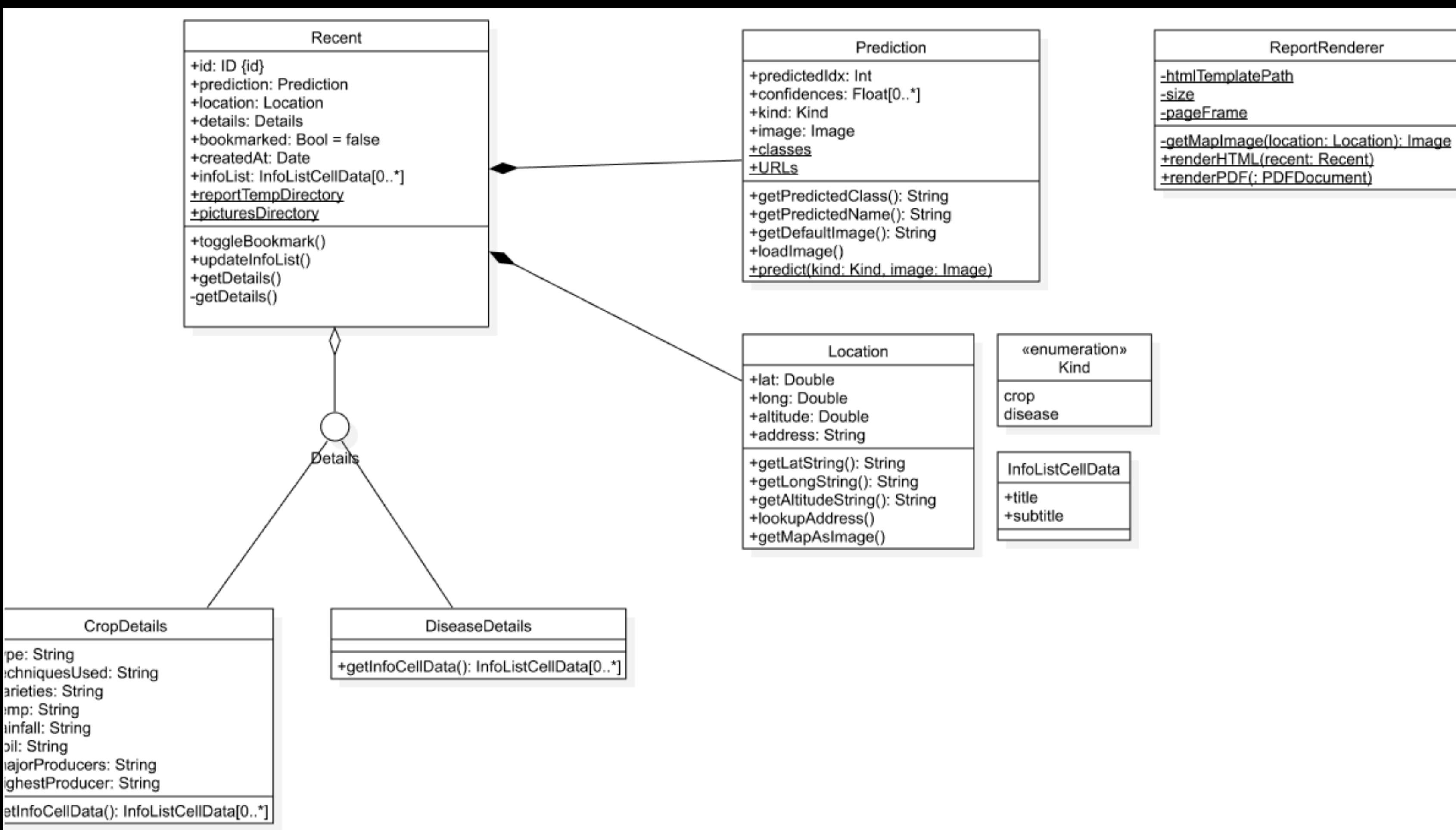
Usecase Diagram



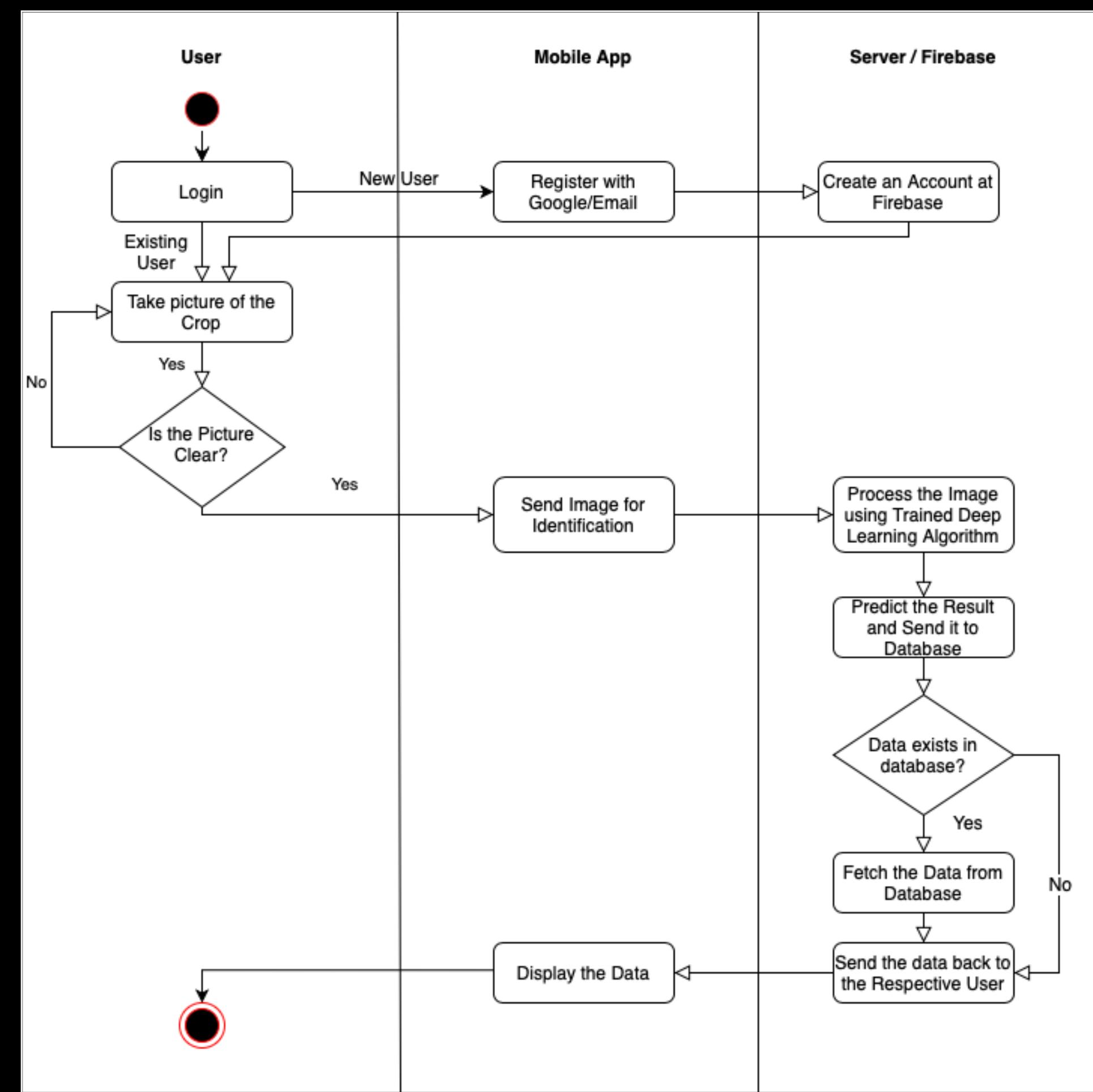
Architecture Diagram



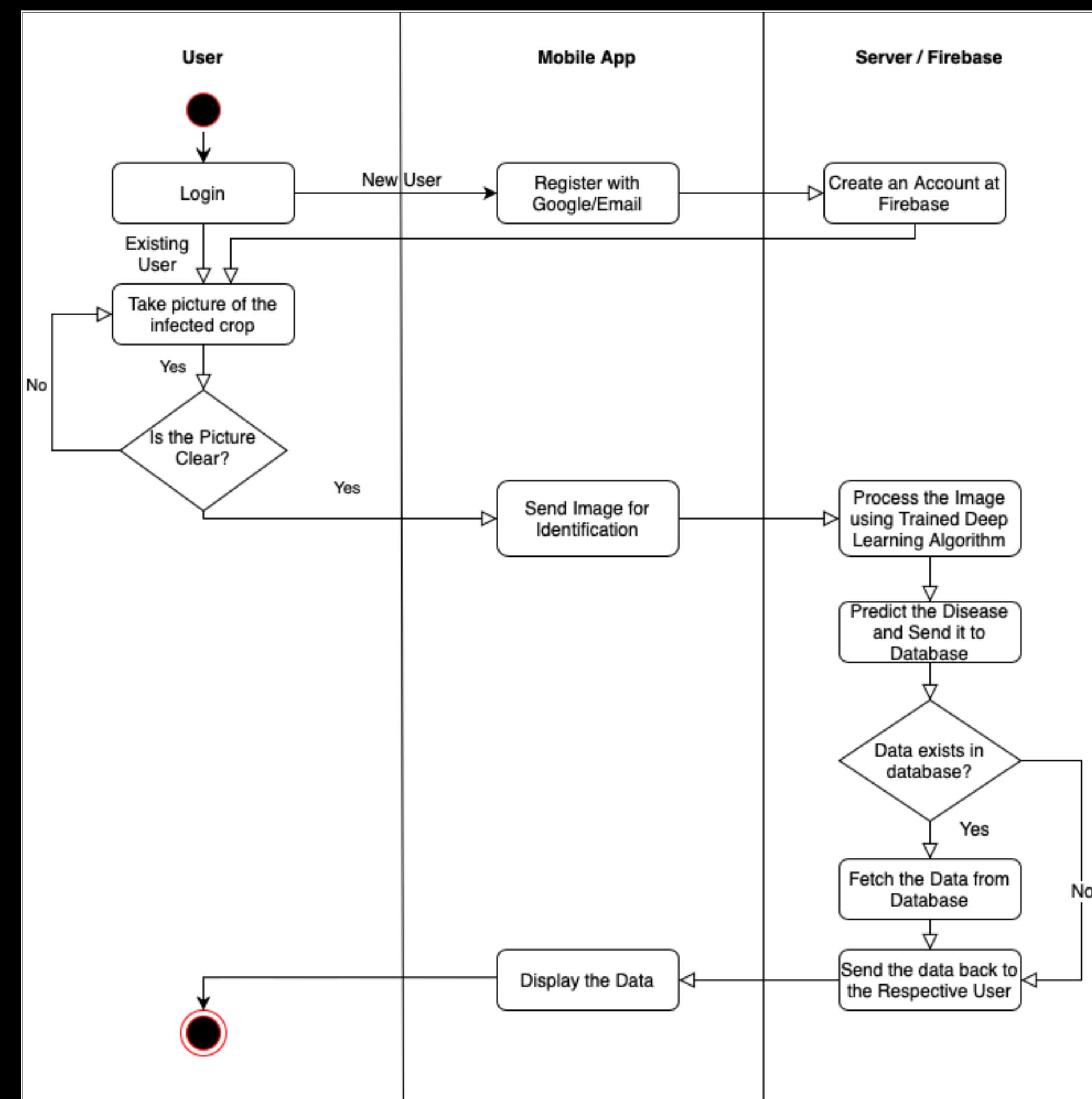
Class diagram



Activity Diagram for Crop Prediction



Activity Diagram for Disease Detection



Contribution

B. Sai Hemanth Reddy

- Creating, training and testing Crop and disease detection models
- Collecting datasets for disease detection
- Implementing inference server using Flask
- iOS app development
- Integrating firebase with iOS app.

Contribution

D.V. Krishna Kalyan

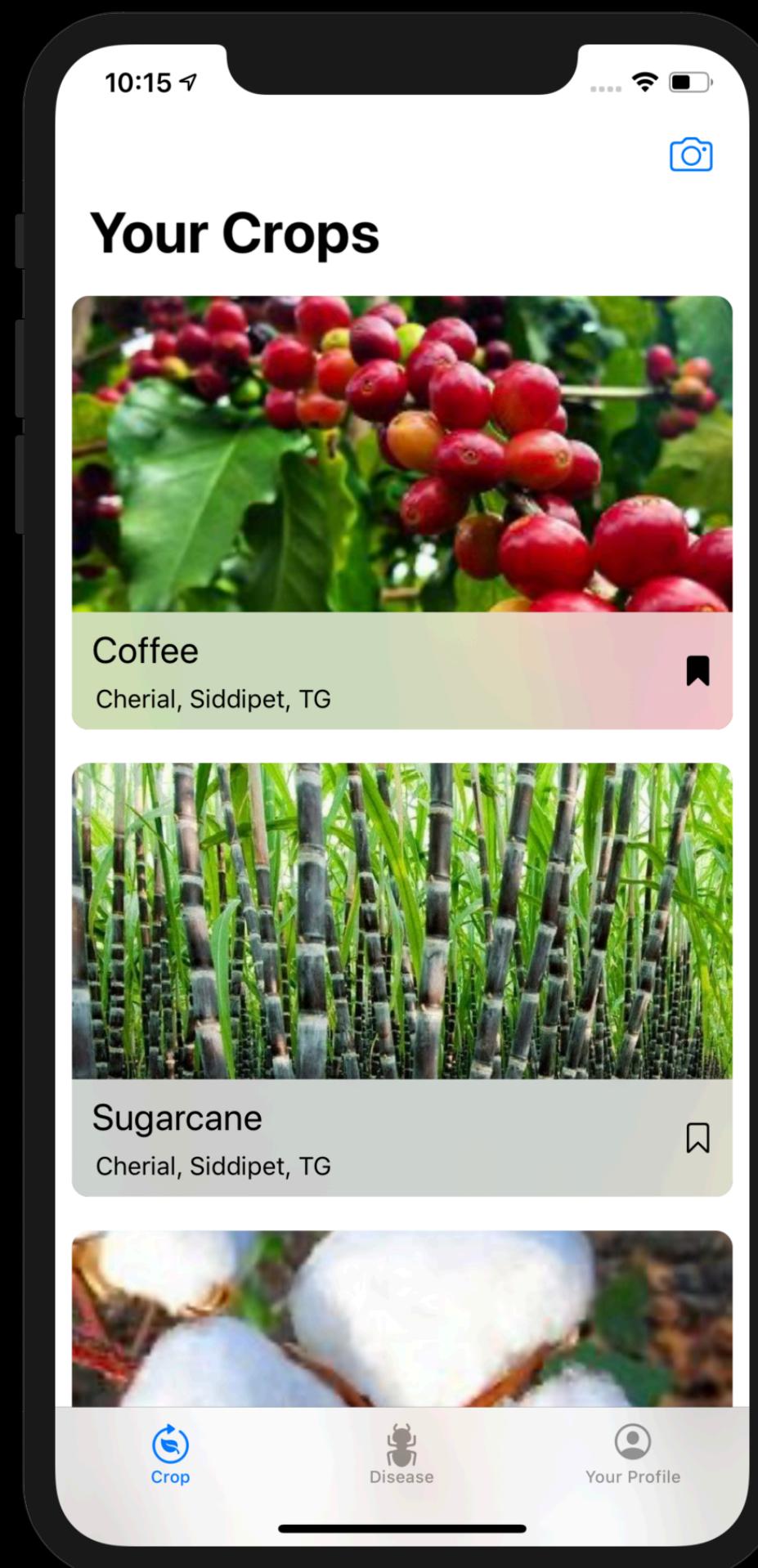
- Collecting crop images by web scraping
- Removing bad images
- Capturing images with Camera API
- Bookmark feature
- Implementing DetailActivity to show crop details

Contribution

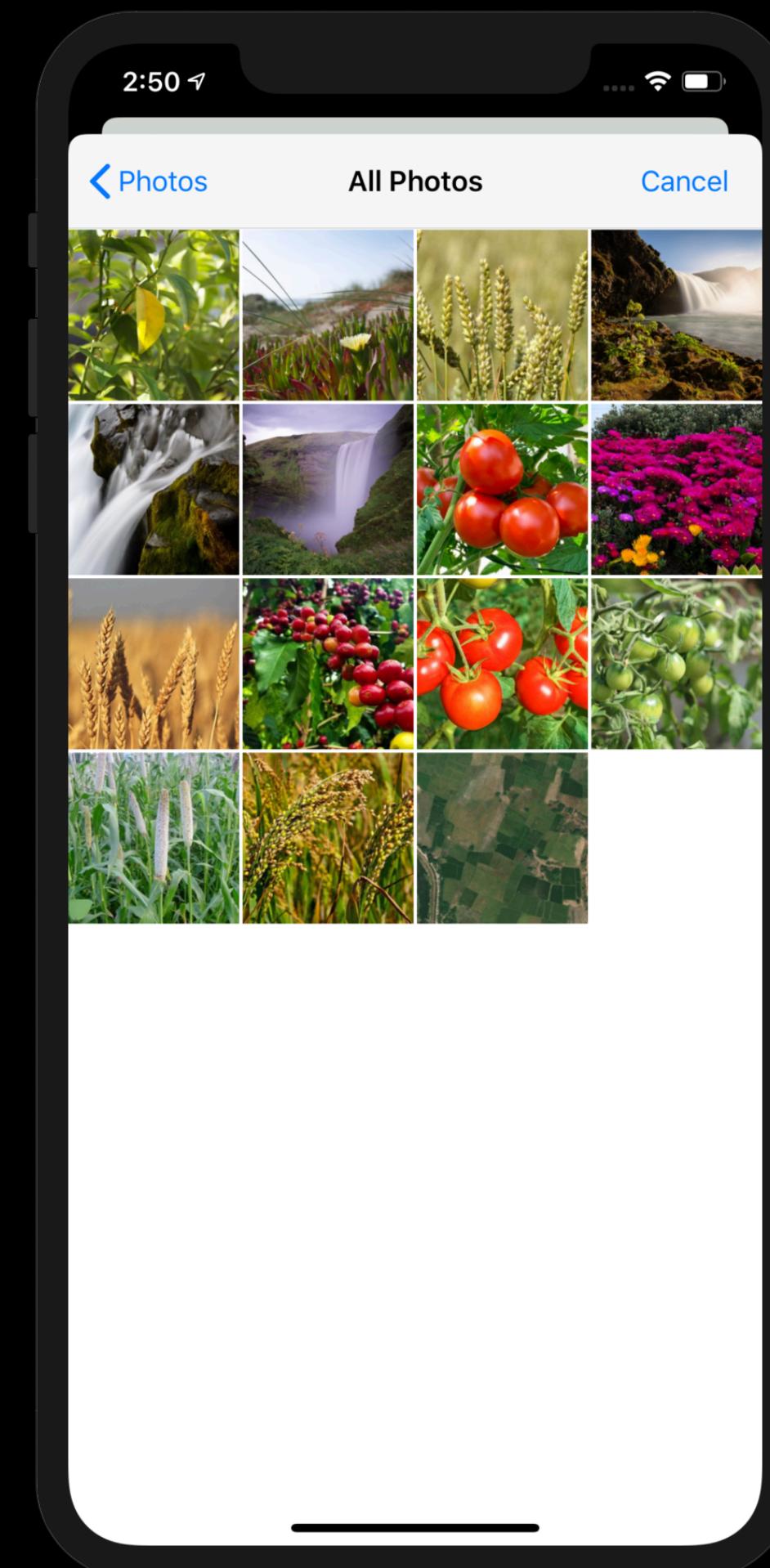
T.P.N. Nikhil

- Collecting crop images by web scraping
- Removing bad images
- Integration of Firebase in Android
- Implemented Navigation Drawer and it's listeners
- Implemented Recents Card to display all the crops of a user

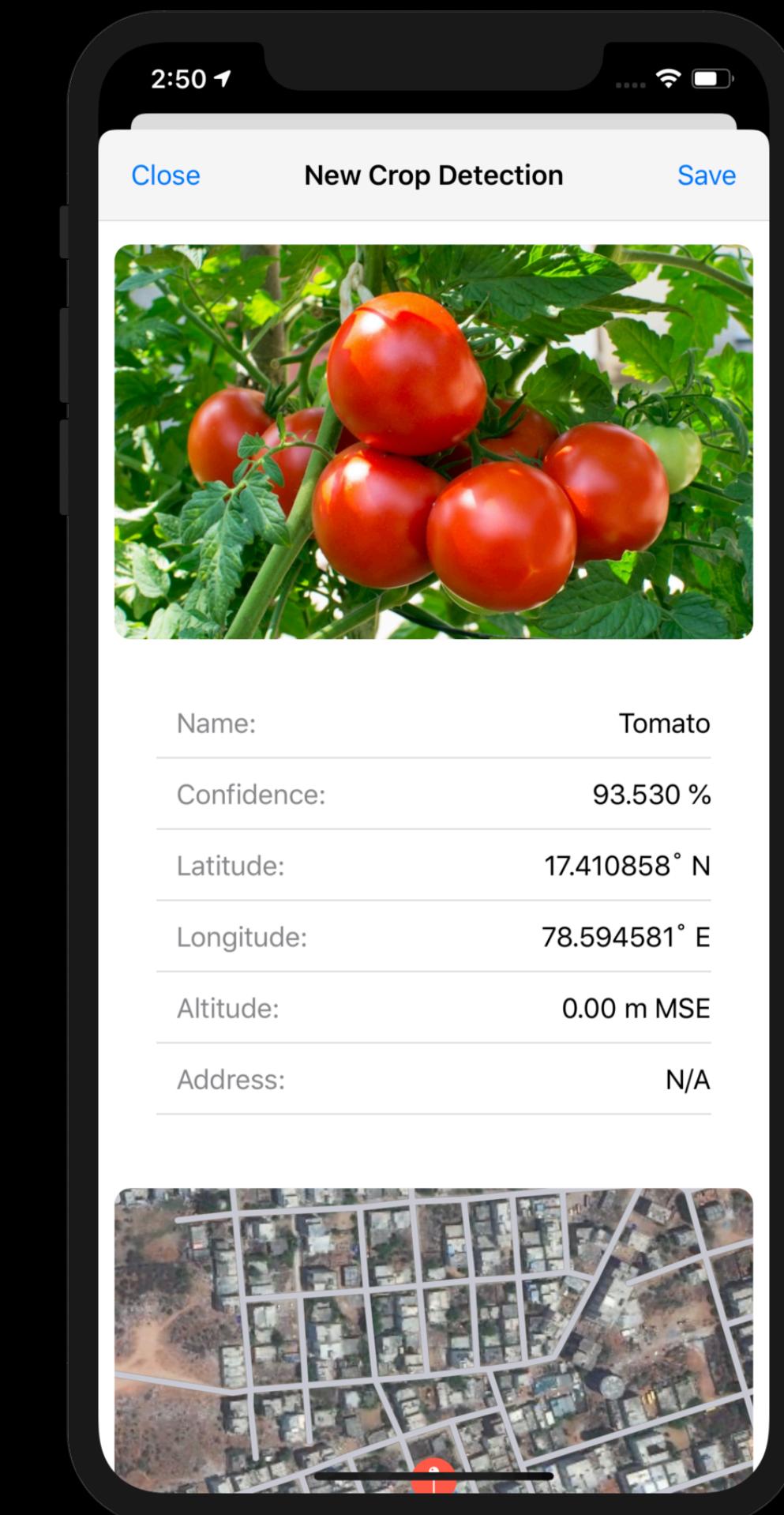
Results and Discussion



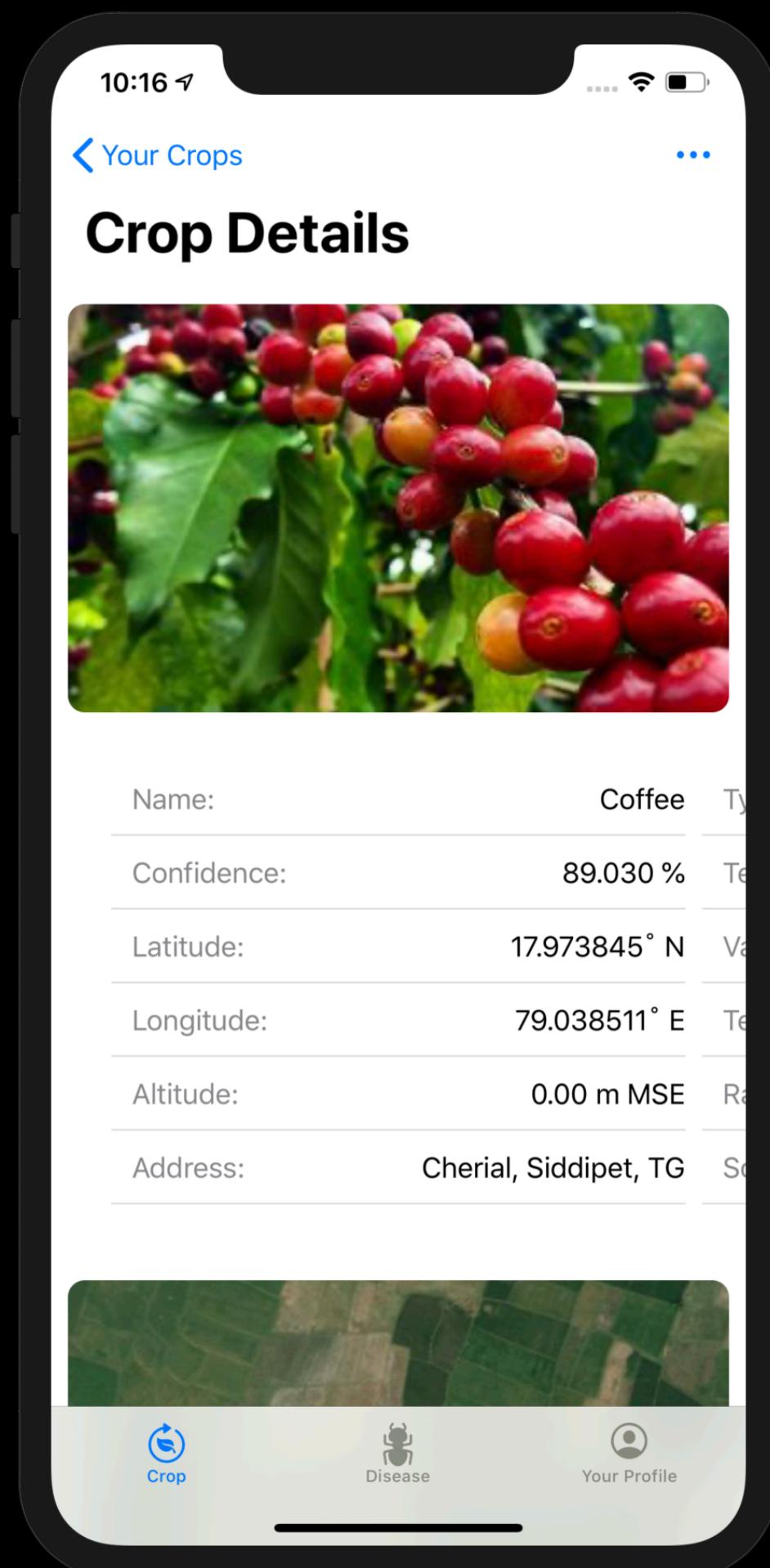
Step 1:
User opens the app and clicks the camera button on the top-right corner.



Step 2:
User takes the picture of the crop or selects one that's in the device photo library



Step 3:
User receives the crop details like name, variety, health, geographical location. User can also generate a report in PDF format.



Conclusion and Future Enhancements

- Farmer's economic growth depends on the products they produce.
- More sophisticated models.
- Improve the AI model.
- Integrate this with an automated crop management system.
- End-to-end automated food production system.
- Better, healthy food.
- Less resources utilized, less carbon footprint.
- Zero pesticides and fertilizers.
- Order on mobile and receive freshly harvested in less than an hour.