

# **AI based Crop Identification Mobile App**

**Team Members:**

**B. Sai Hemanth Reddy - 17B81A05H5**  
**D.V. Krishna Kalyan - 17B81A05C2**  
**T.P.N. Nikhil - 17B81A05F2**

**Under the guidance of:**

**Ms. M. Sathya Devi,  
Assistant Professor**

# Problem statement

- Mobile App to identify crop / disease
- Detects crop / disease using field photos
- Photo is geo-tagged and stored in database
- Educate farmers about latest methodologies
- Suggest remedies for diseases

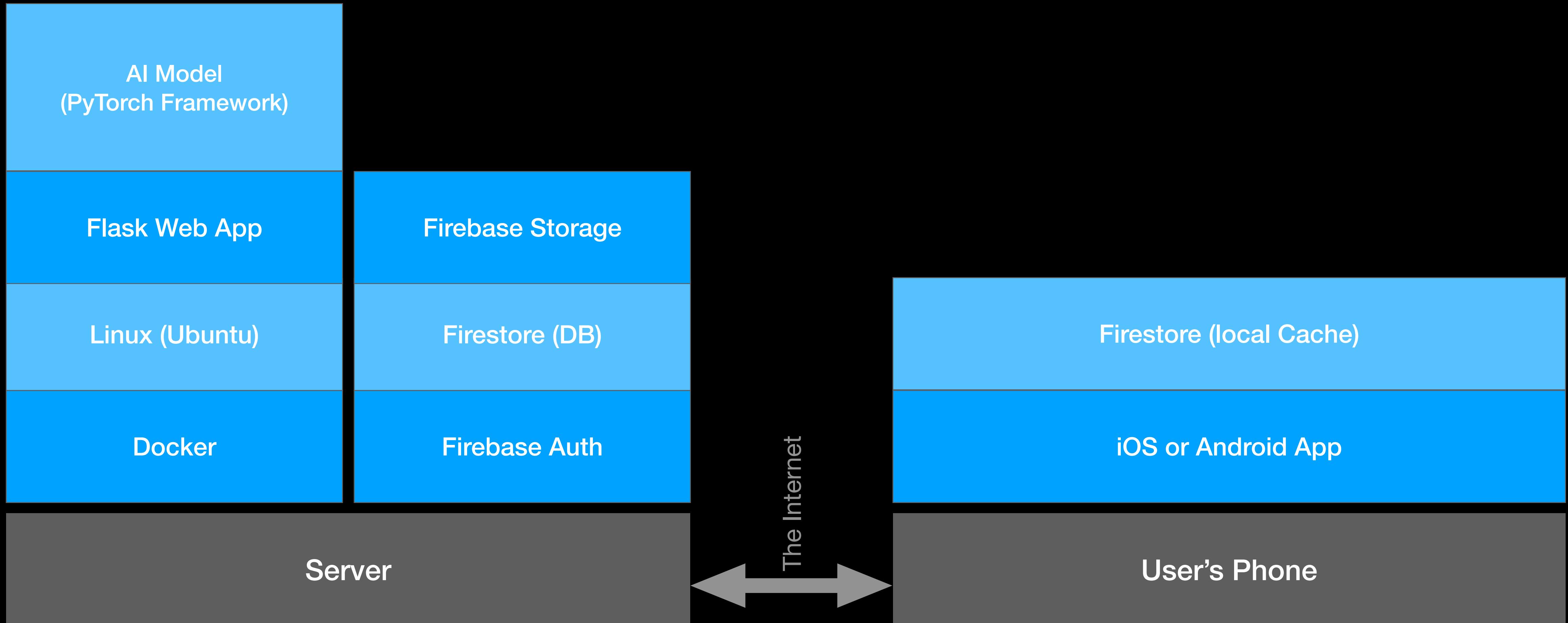
# Proposed Solution

- Mobile App
- Intuitive to Use
- Open App, Take Picture, Done. It's that simple
- Learn innovative techniques
- Get comprehended disinfection procedures

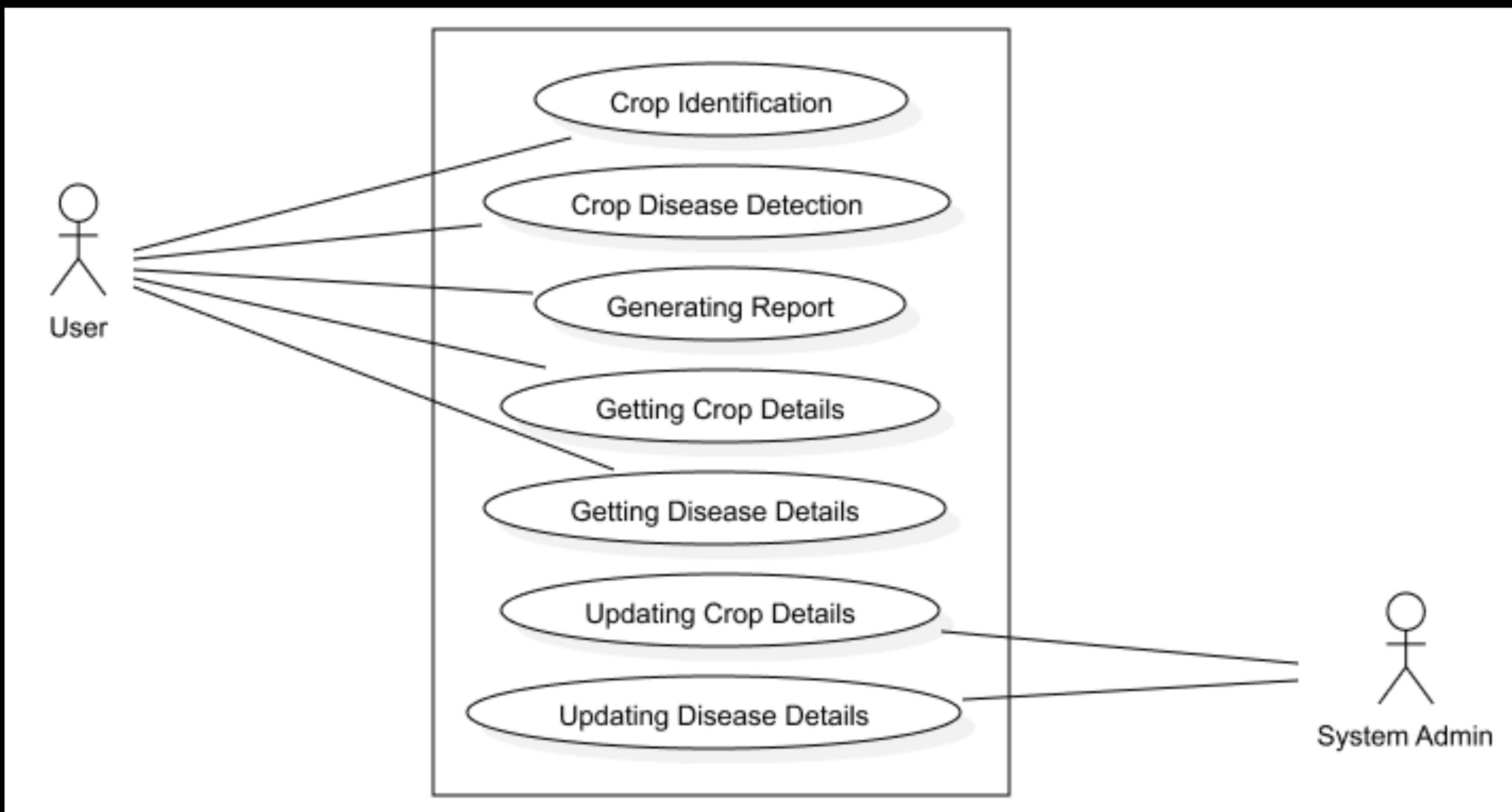
# Proposed Solution

- ConvNet model
- Trained using “Transfer Learning”
- ResNet50/ResNet152 as feature extractor
- Pertained on ImageNet
- Easy to train, high accuracy
- Test Accuracy of 92% with relatively small dataset

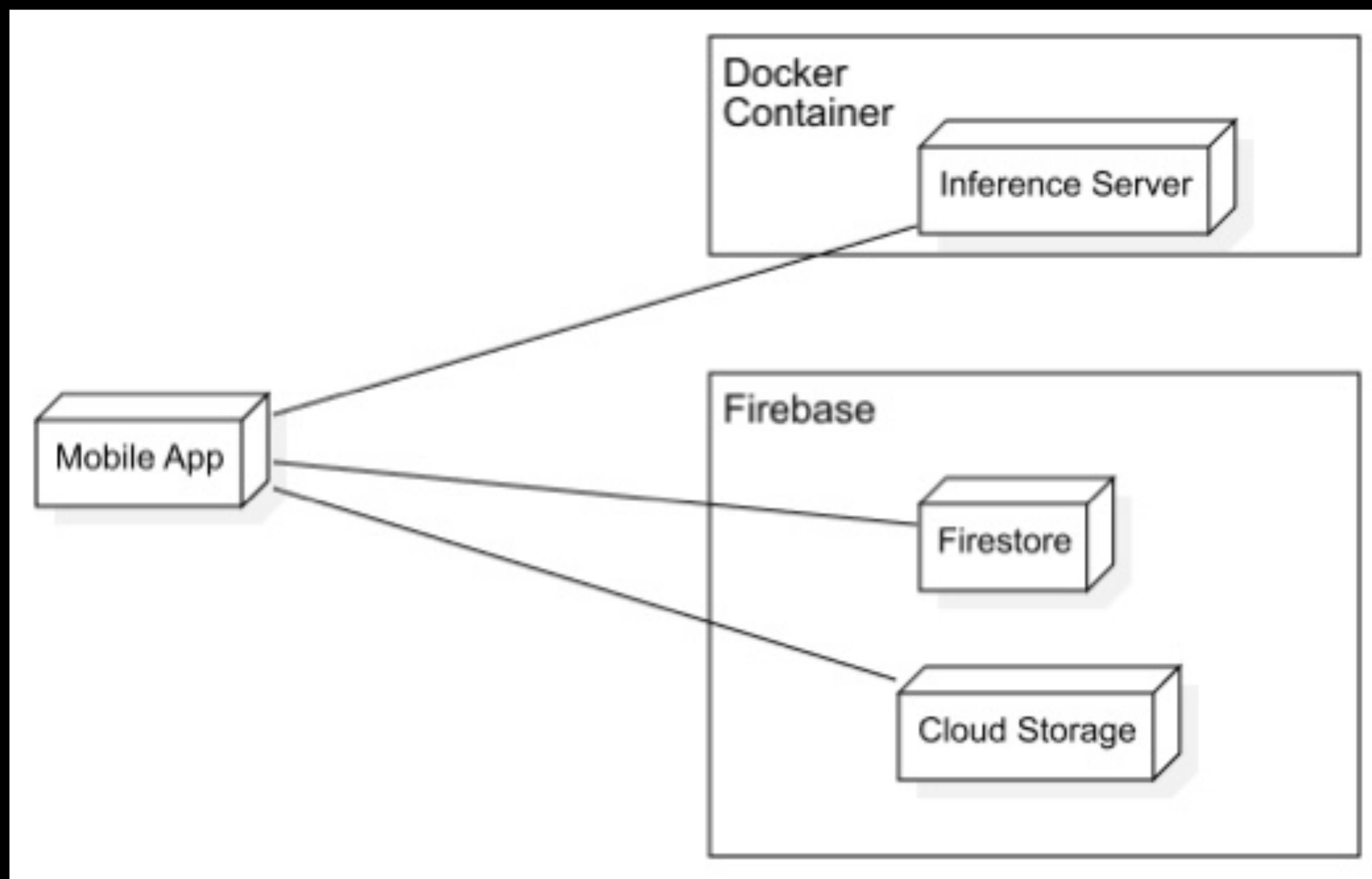
# Technology Stack



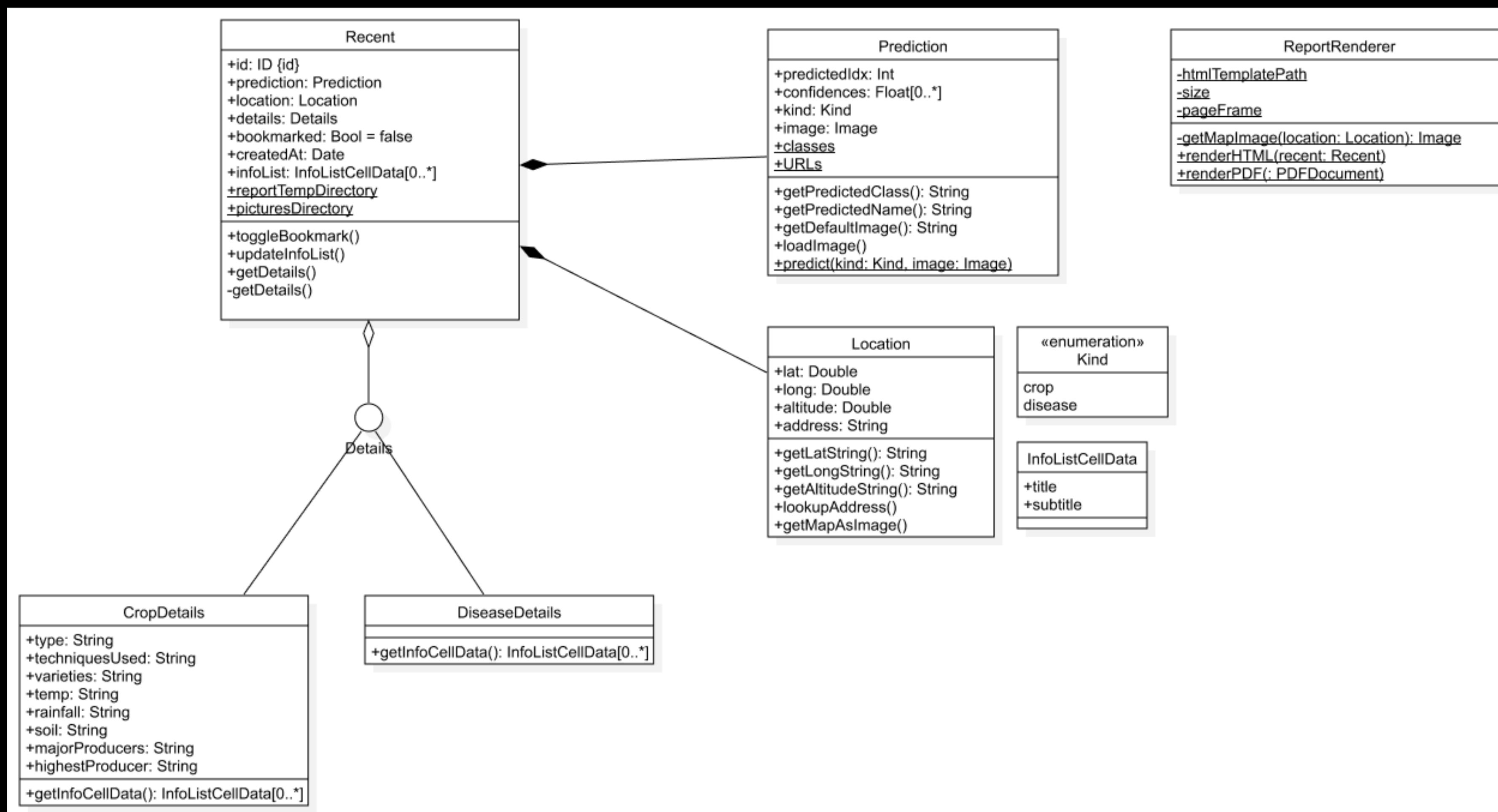
# Usecase Diagram



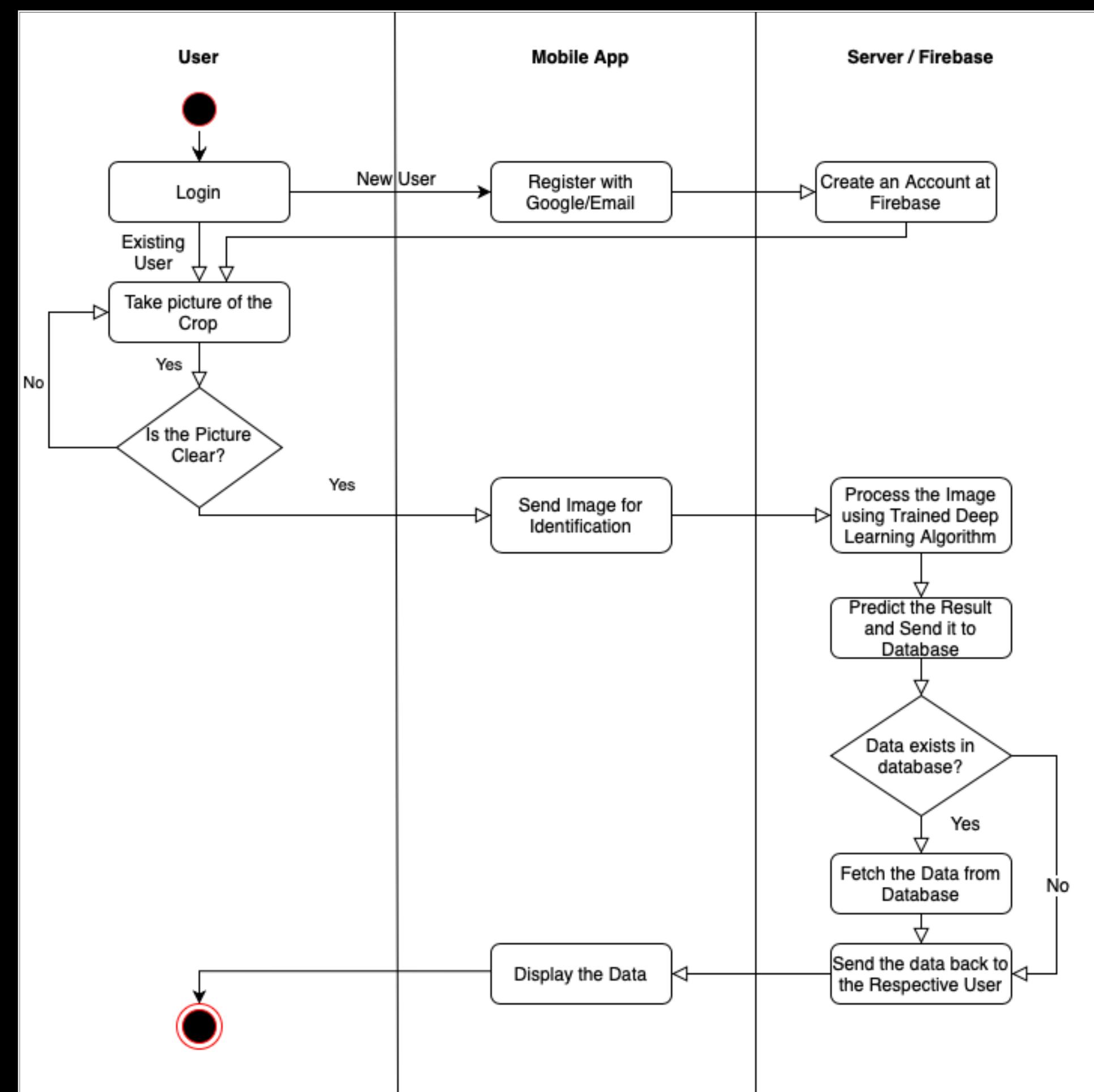
# Architecture Diagram



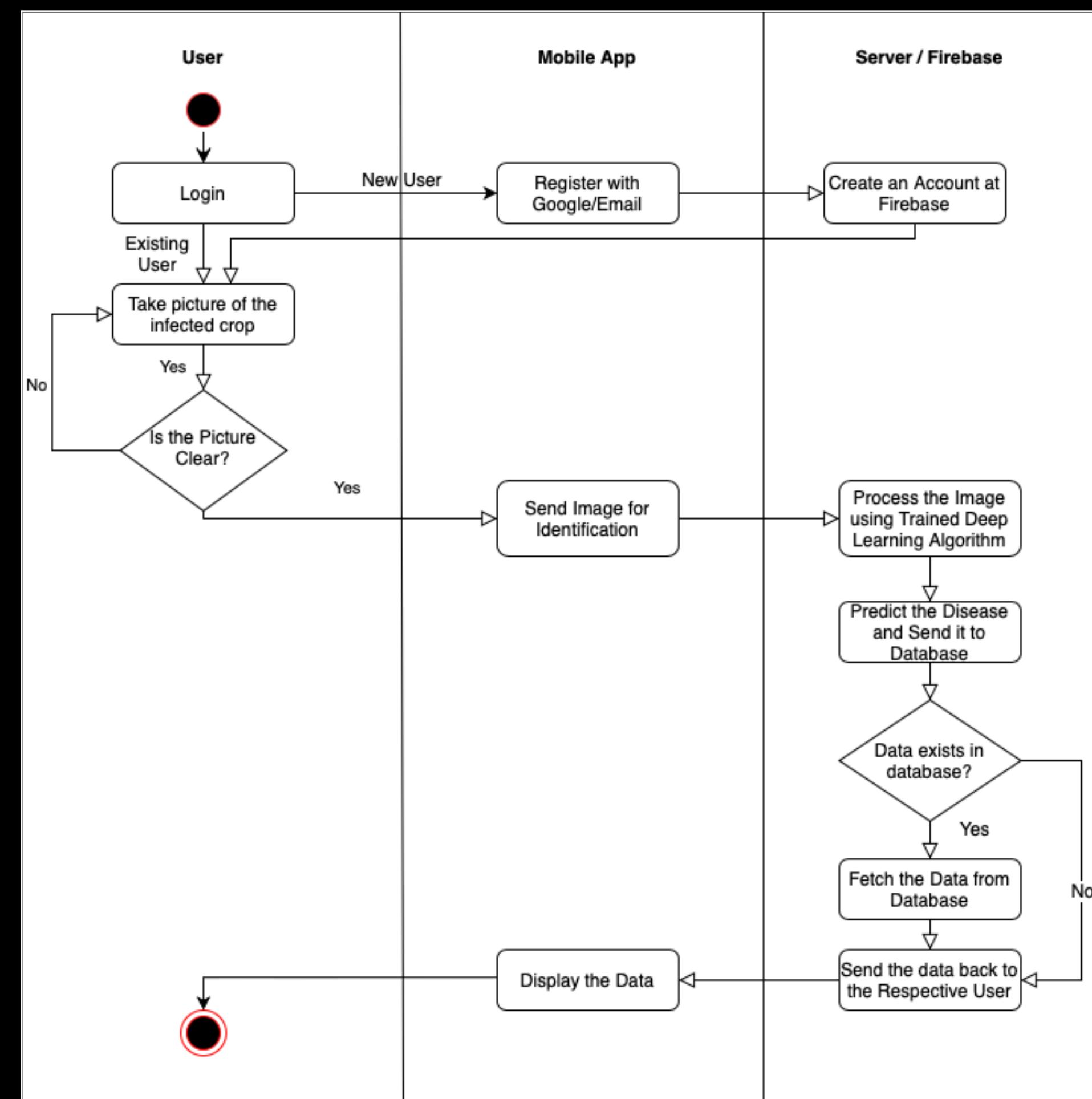
# Class diagram



# 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.
- Implementation of Report Renderer

# Contribution

T.P.N. Nikhil

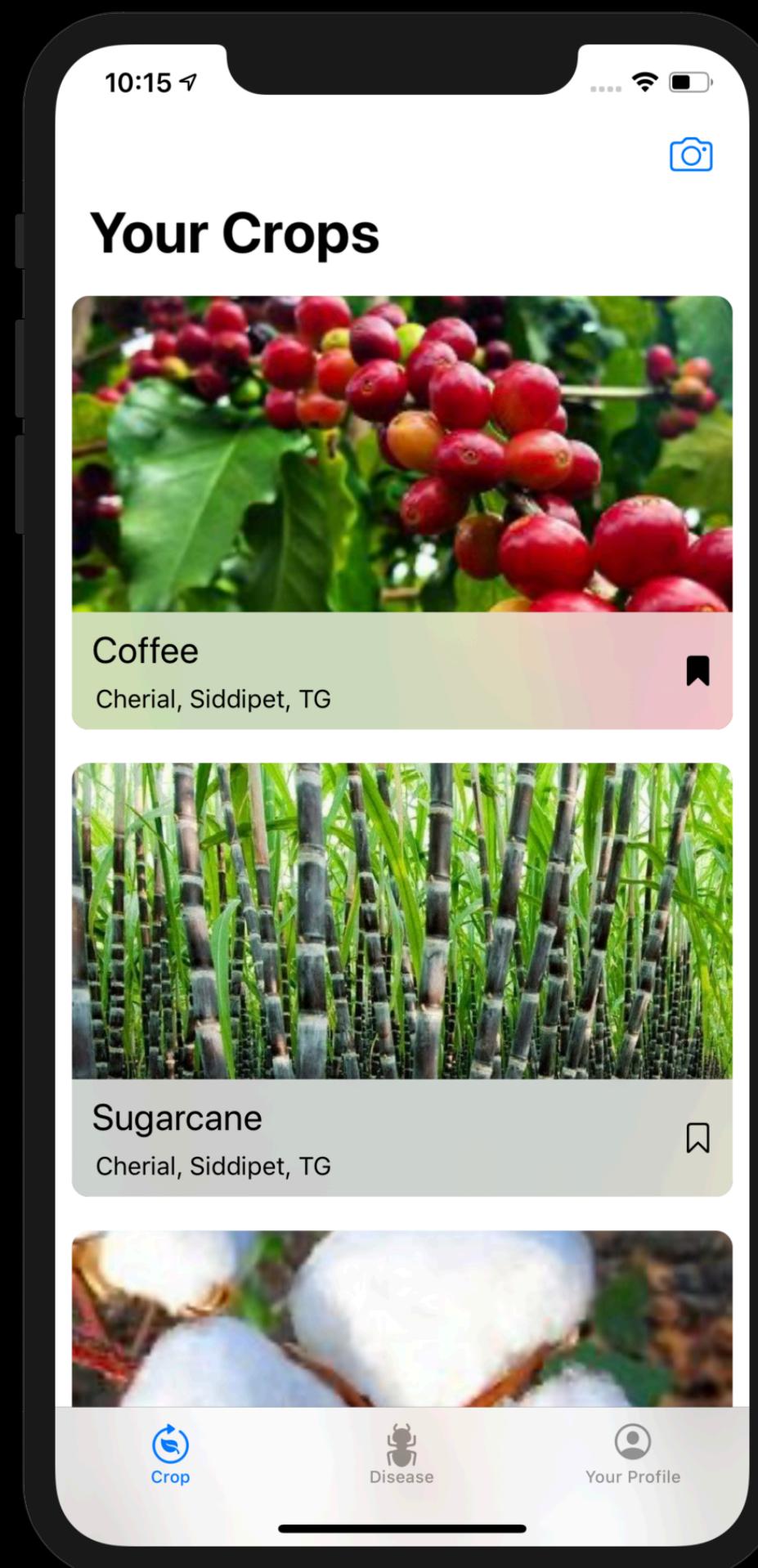
- Collecting crop images by web scraping.
- Removing bad images.
- Integration of Firebase to Android Application.
- Implemented Navigation Drawer and it's features.
- Implemented Recents Card to display all the crop of a user.

# Contribution

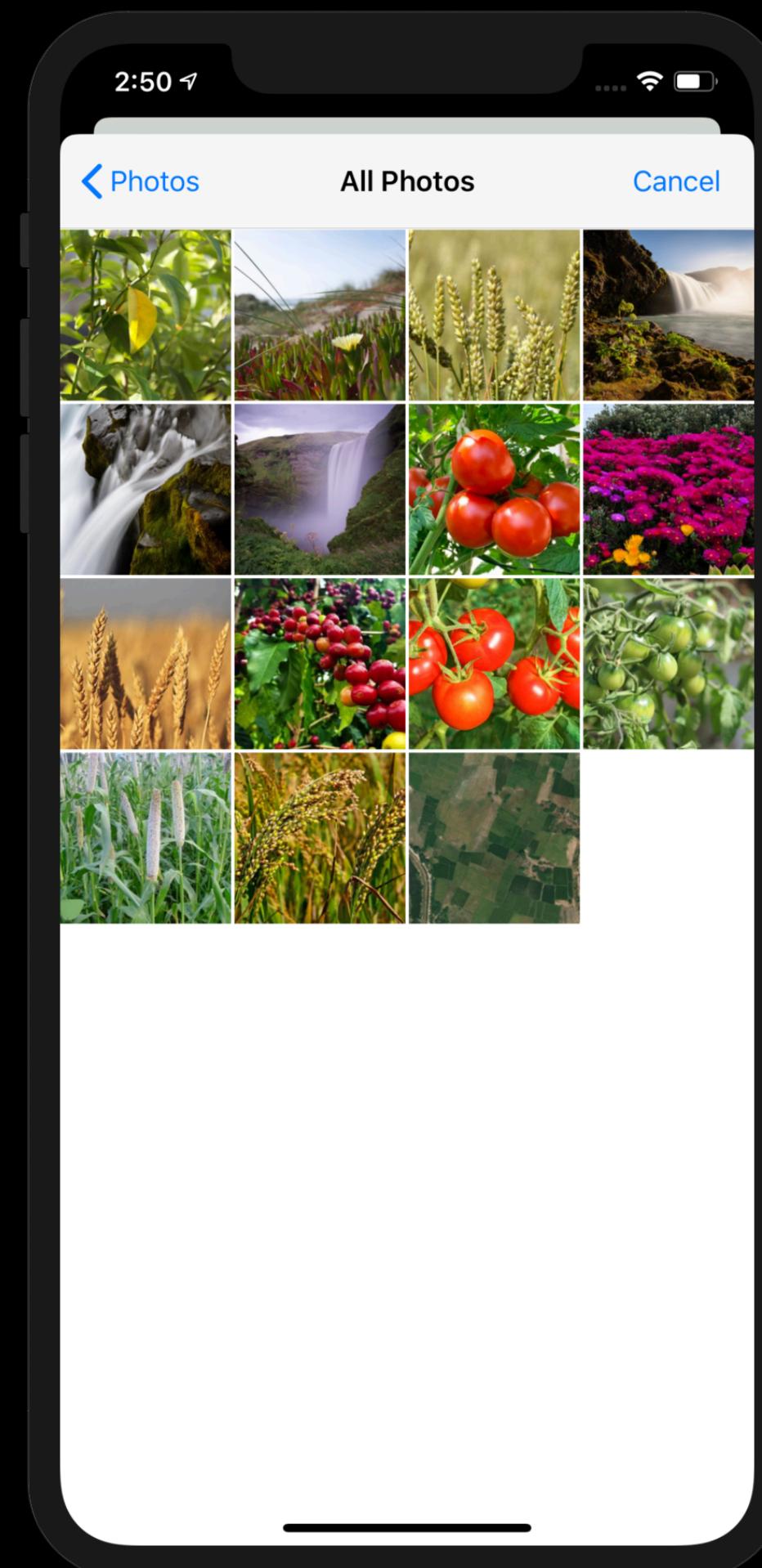
D.V. Krishna Kalyan

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

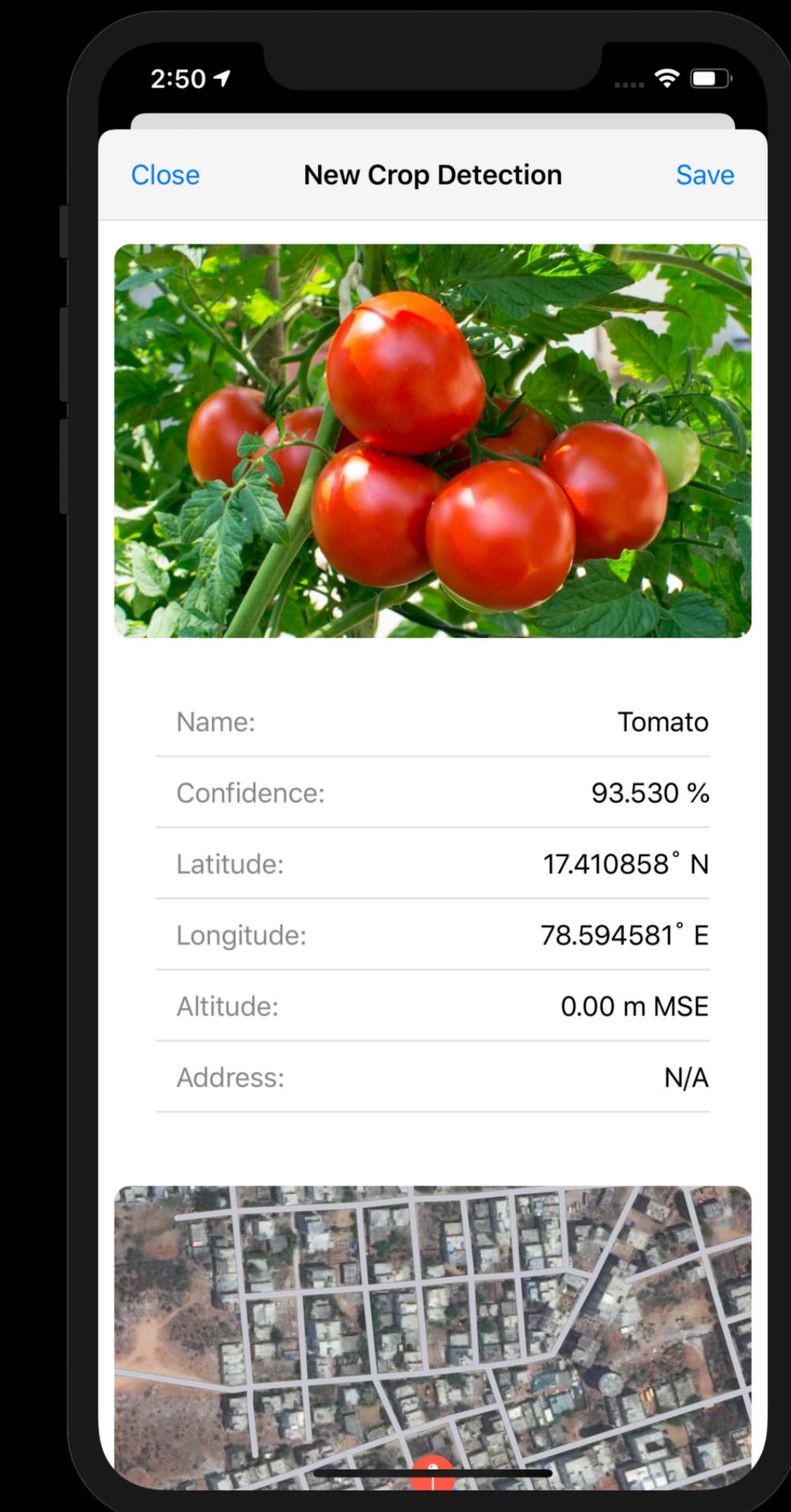
# Results and Discussion



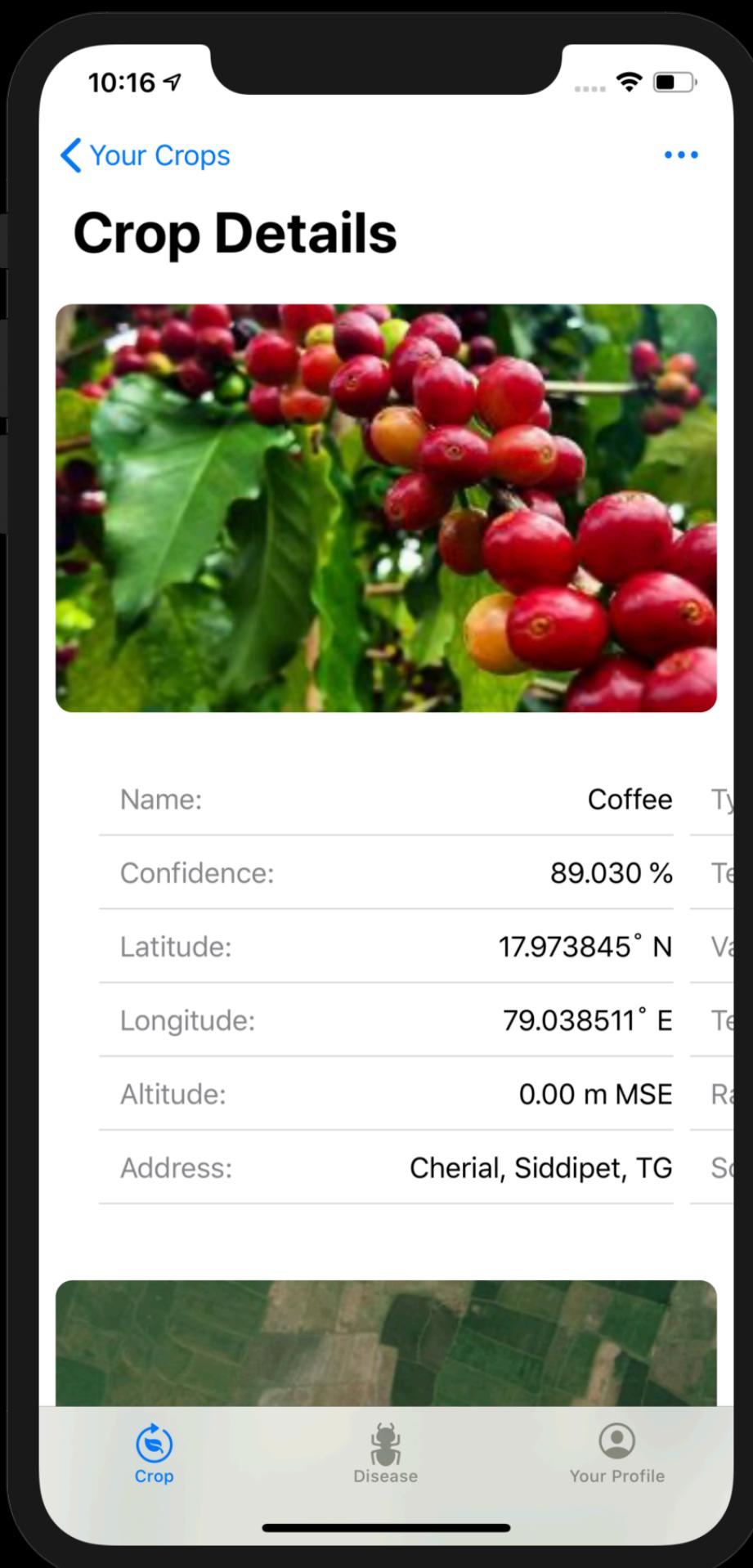
**Step 1:**  
User opens the app and clicks the camera button on the top-right corner.



**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.

# Thank You

Any Queries?