



The logo consists of the lowercase letters "nAPTA" in a green, cursive, handwritten-style font. The letter "A" is stylized with a large, light green leaf graphic where the bowl of the letter is replaced by the leaf's shape. The leaf has visible veins and a slightly irregular edge. The entire logo is enclosed within a thin white rectangular border.

# NAPTA



F C I A S S I U T U N I V E R S I T Y



# Team Members

- 1-احمد نبيل محمد كامل
- 2-احمد ابو السعود عبد الراضي
- 3-احمد عبد الرحيم محمد
- 4-مصطفى حسين امين
- 5-هشام عبد المنصف محمد

Supervised



DR:Ibrahim Al-Awadi



# Introduction

## Purpose

**“NAPTA” is a future application guiding farmers towards smart farming, hence the application provides a wide information database with enough knowledge covering all stages for planting, starting from the seed to harvesting instructions including irrigation, fertilization, disease both chemical & organic fighting solutions**





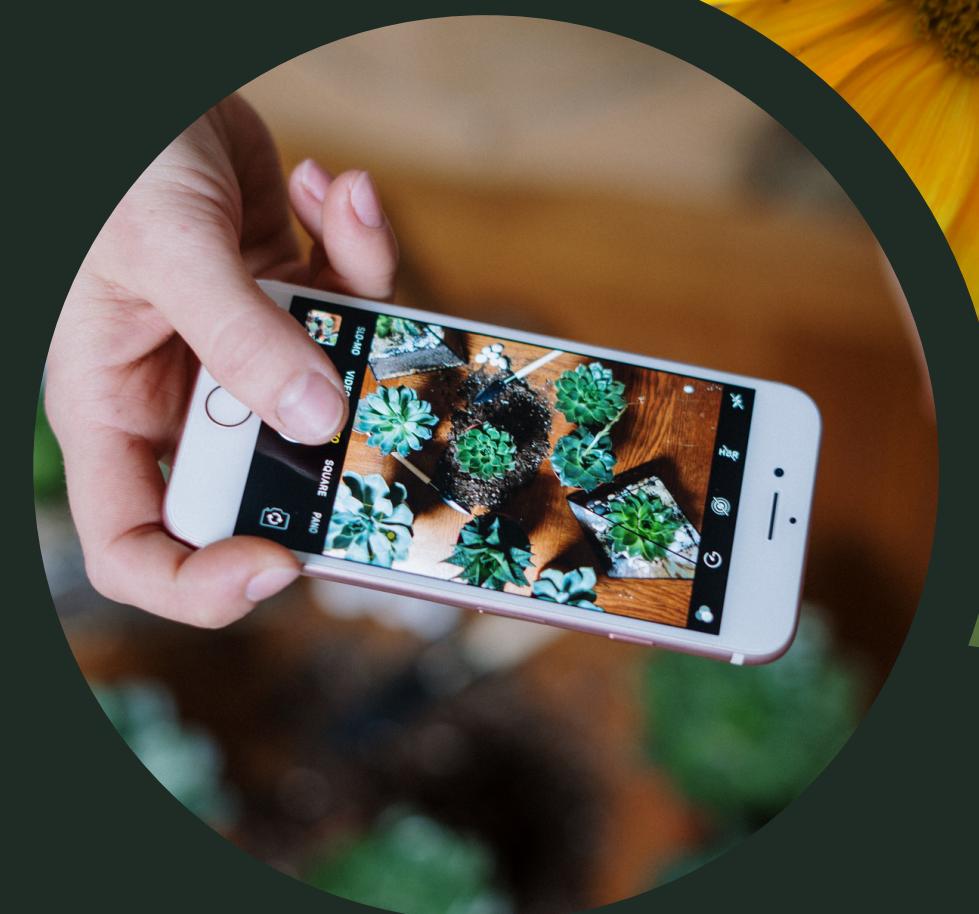
# Problems

- Why Food shortage problem?
- Failure to recognize early disease
- Problem Formulation



# Techniques

- 1- ML Model**
- 2- Posts (Community)**
- 3- Best Fertilizer Plan**



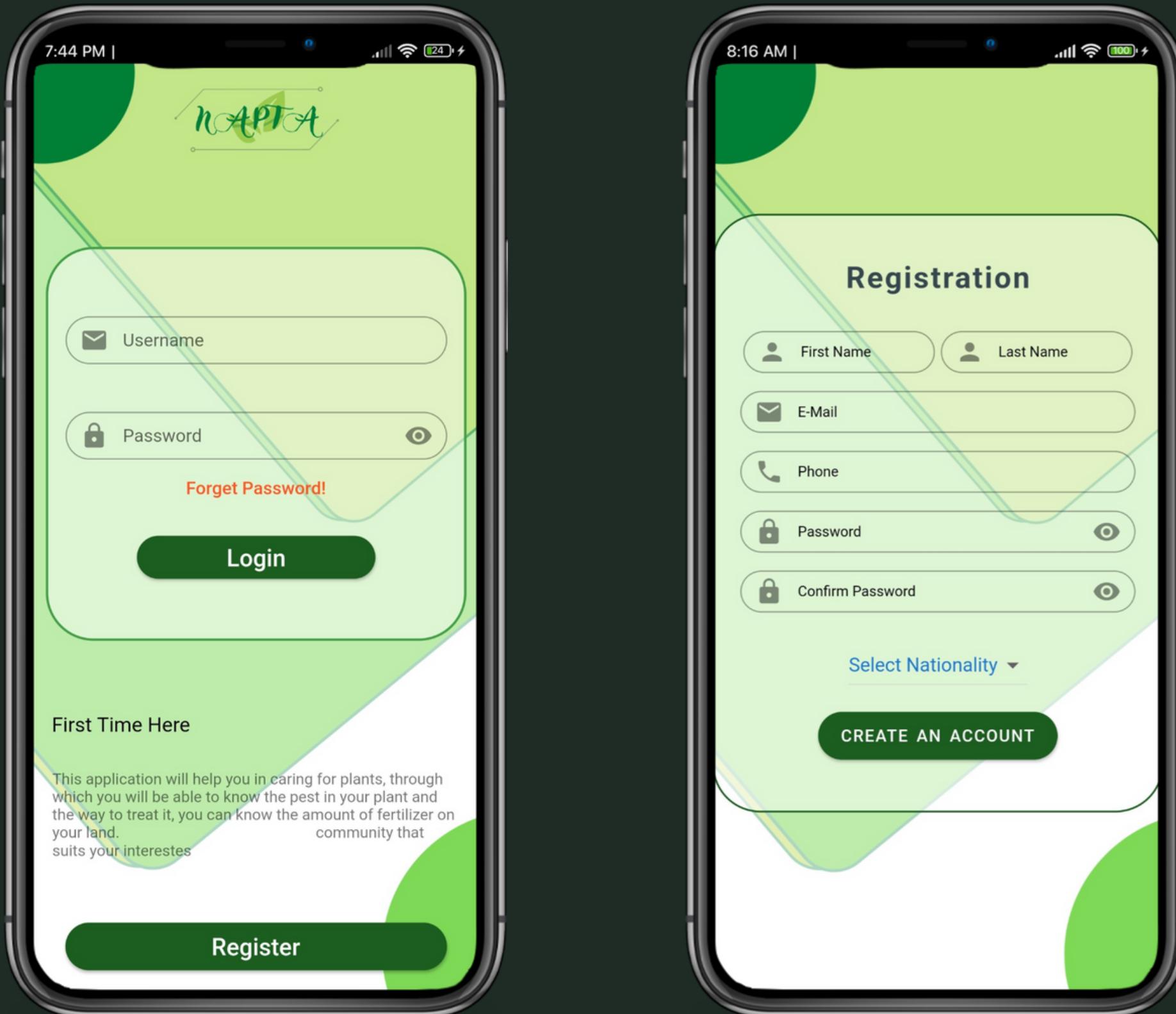


# User Interface

## Login Forms

**1- The user enters the required data to register an account on the application**

**2- The user enters the username and the password**



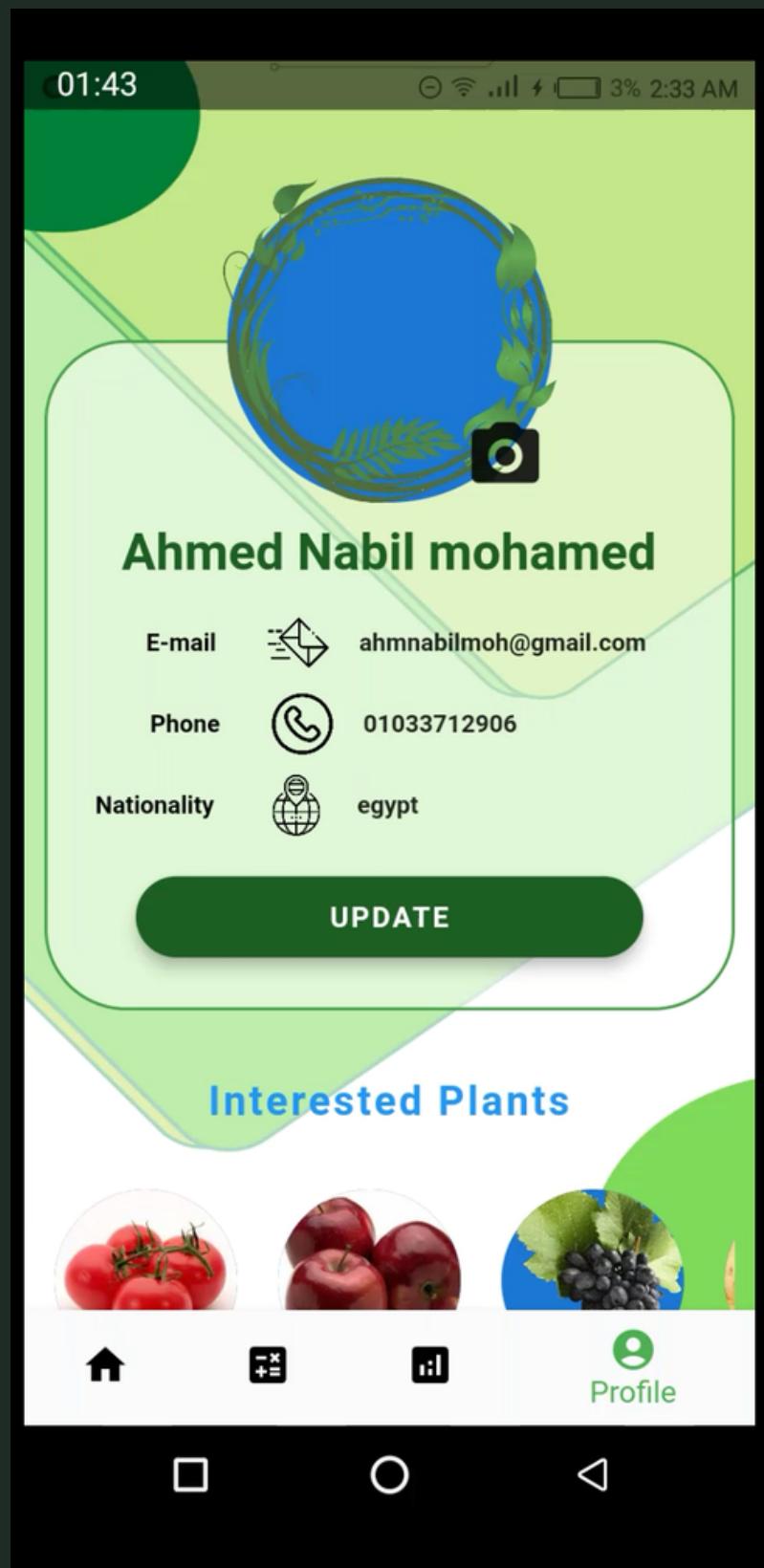
**Log in Screen**

**Registration Screen**

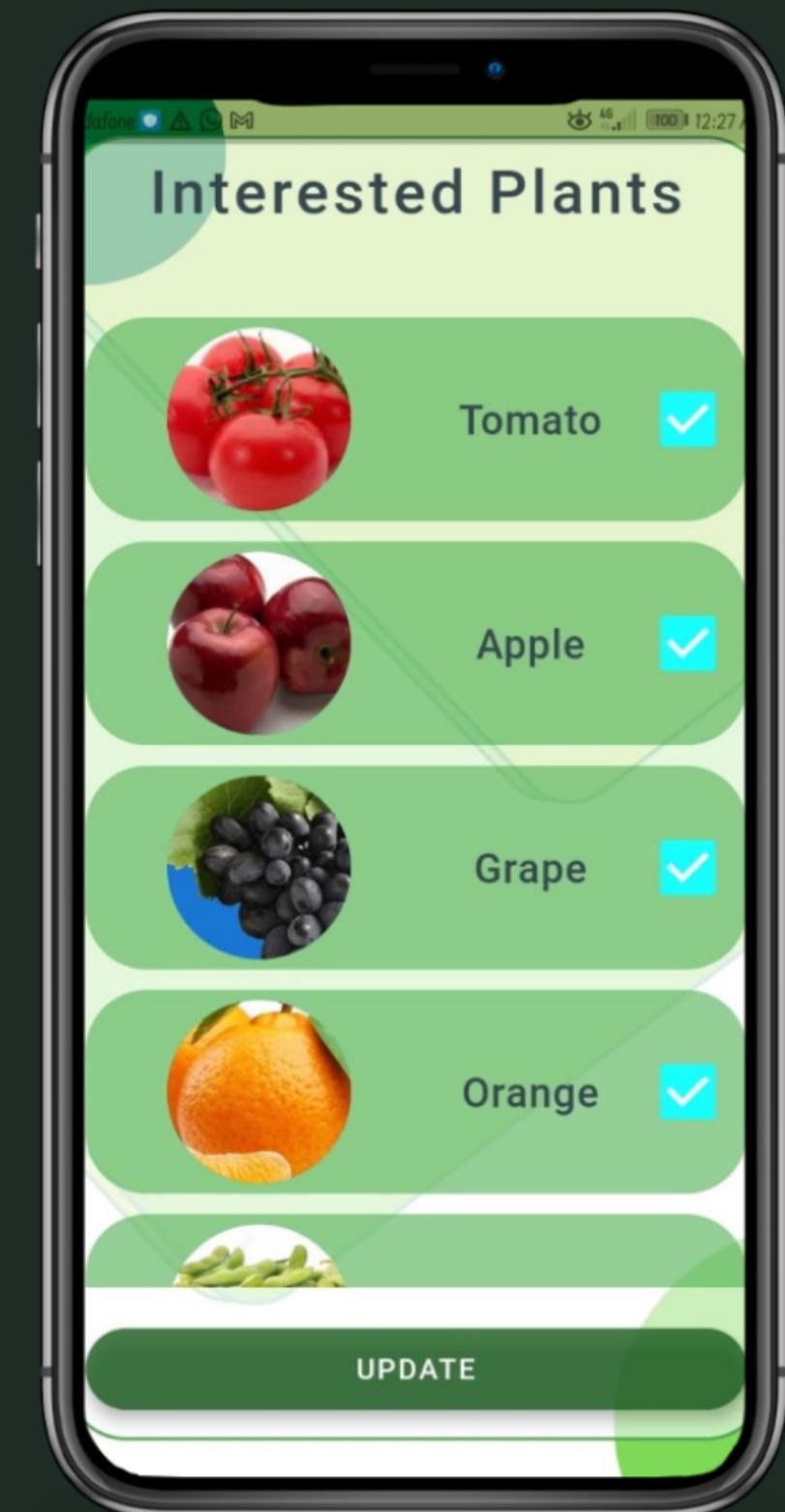


# User Interface

As soon as the user opens the application, his personal page will open in front of him Which contains his profile picture, his data, the plants he is interested in and many other data



Profile Screen

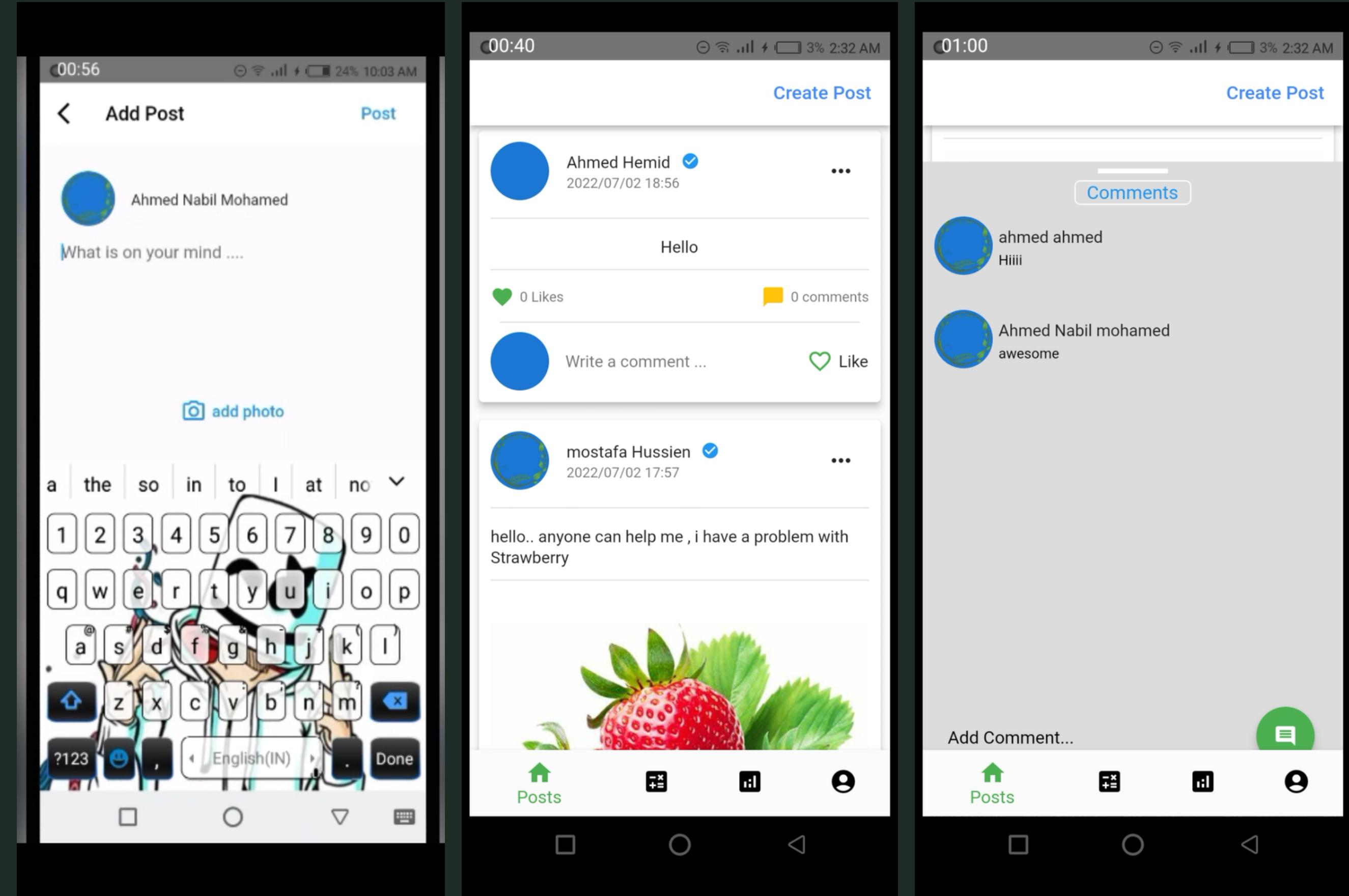


Interested Plants Screen



# User Interface Cont

The Posts page, from which he can see the publications of others and his publications, and also he can comment on and interact with them.



Create Post  
Screen

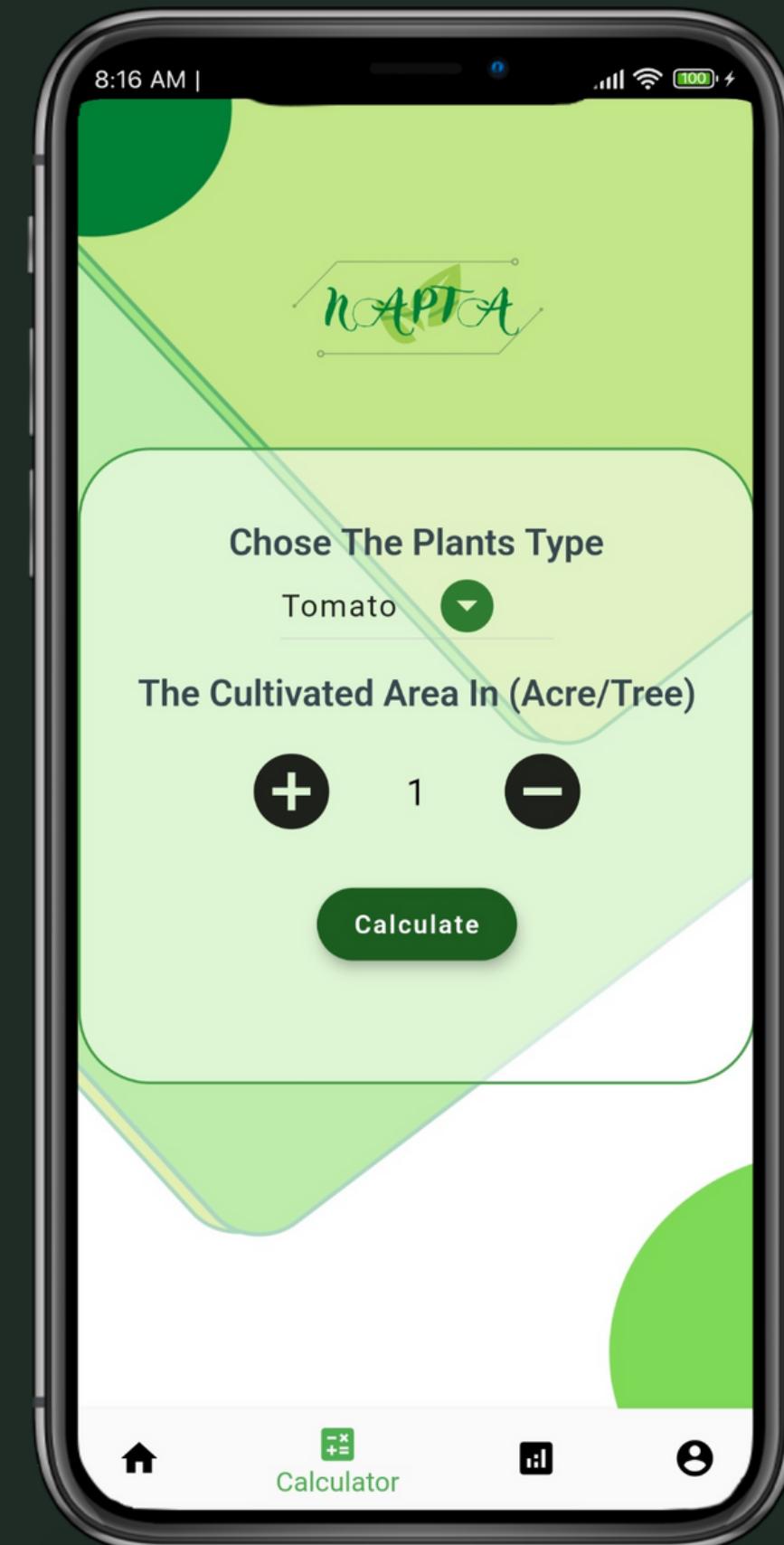
Posts Screen

Comments Screen



# User Interface Cont

**Calculator page:** on this page, the user can specify the area of land that he will cultivate and also the type of crop in order for the application to show him the best fertilization plans based on plantix web site



Fertilization  
Screen



Fertilizer Plan  
Screen

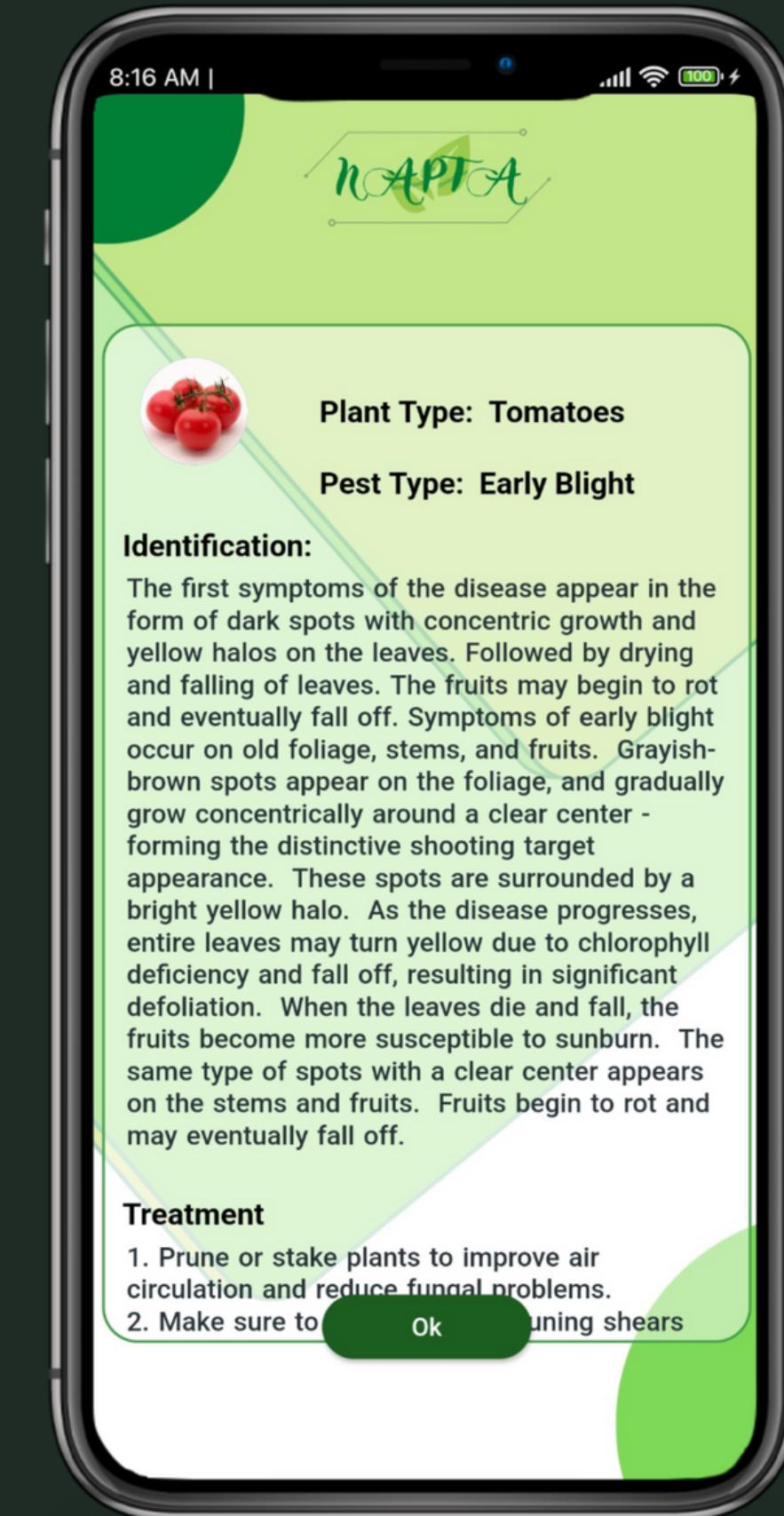


# User Interface Cont

**The plants doctor page:** the user can upload a picture of the plant leaf, and the application will try to identify the type of pest present in the plant and how to treat it



ML Model Screen

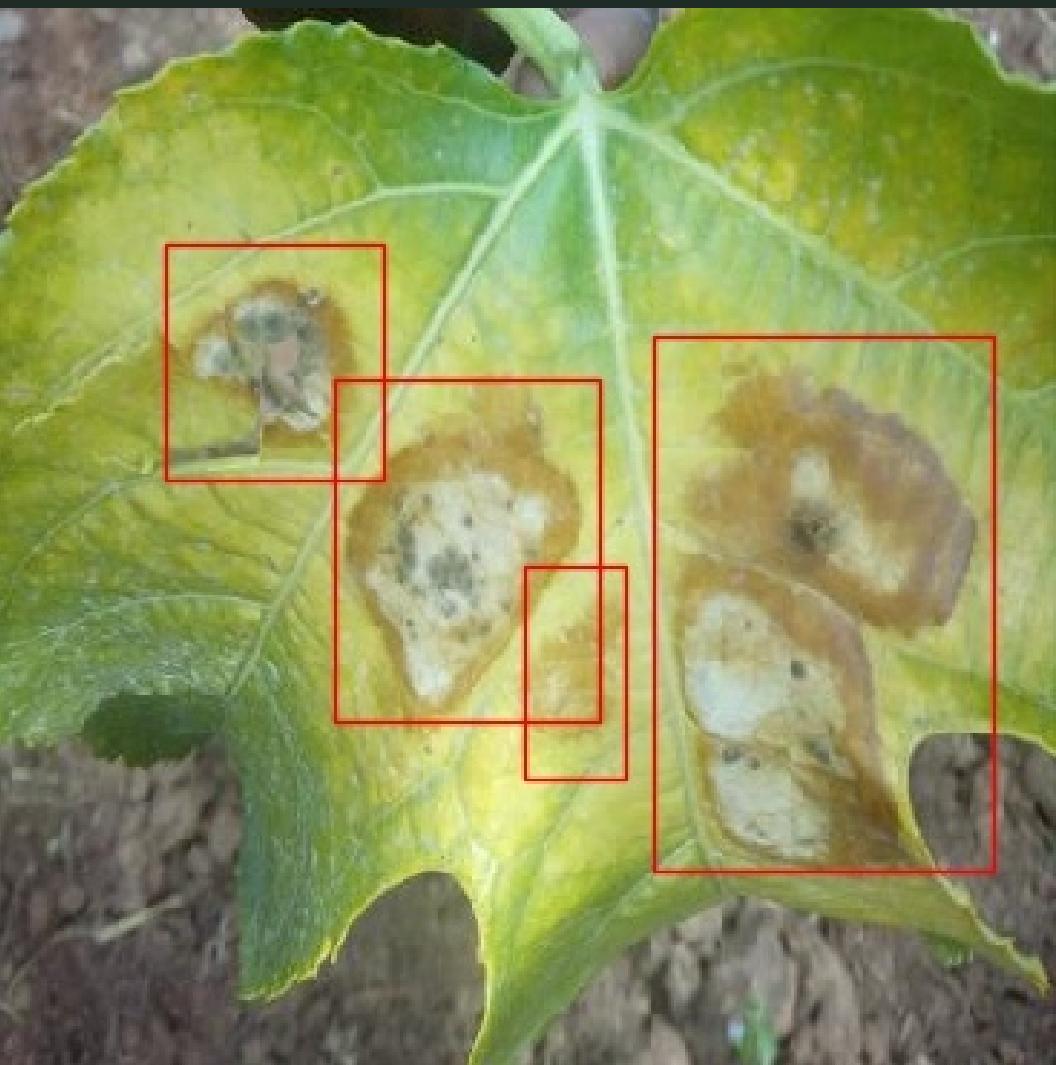


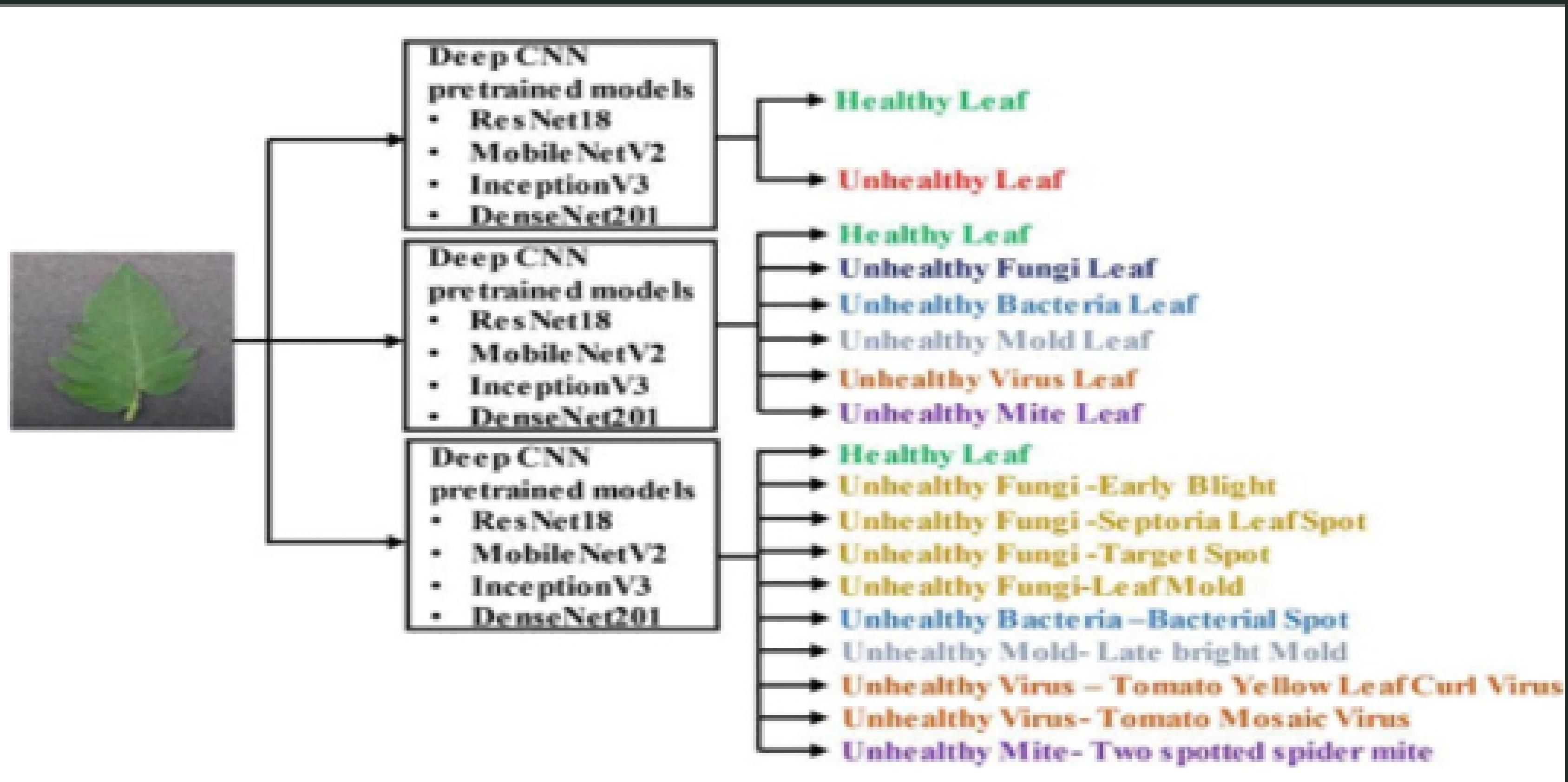
Treatment Screen

# Algorithms Used

## Deep learning

is a branch of artificial intelligence. In recent years, with the advantages of feature extraction. It has been widely used in image and video processing, voice processing, and natural language processing. At the same time, it has also become a research hotspot in the field of agricultural plant protection, such as plant disease recognition and pest range assessment. The application of deep learning in plant disease recognition can avoid the disadvantages caused by artificial selection of disease spot features, make plant disease feature extraction more objective, and improve the research efficiency and technology transformation speed.



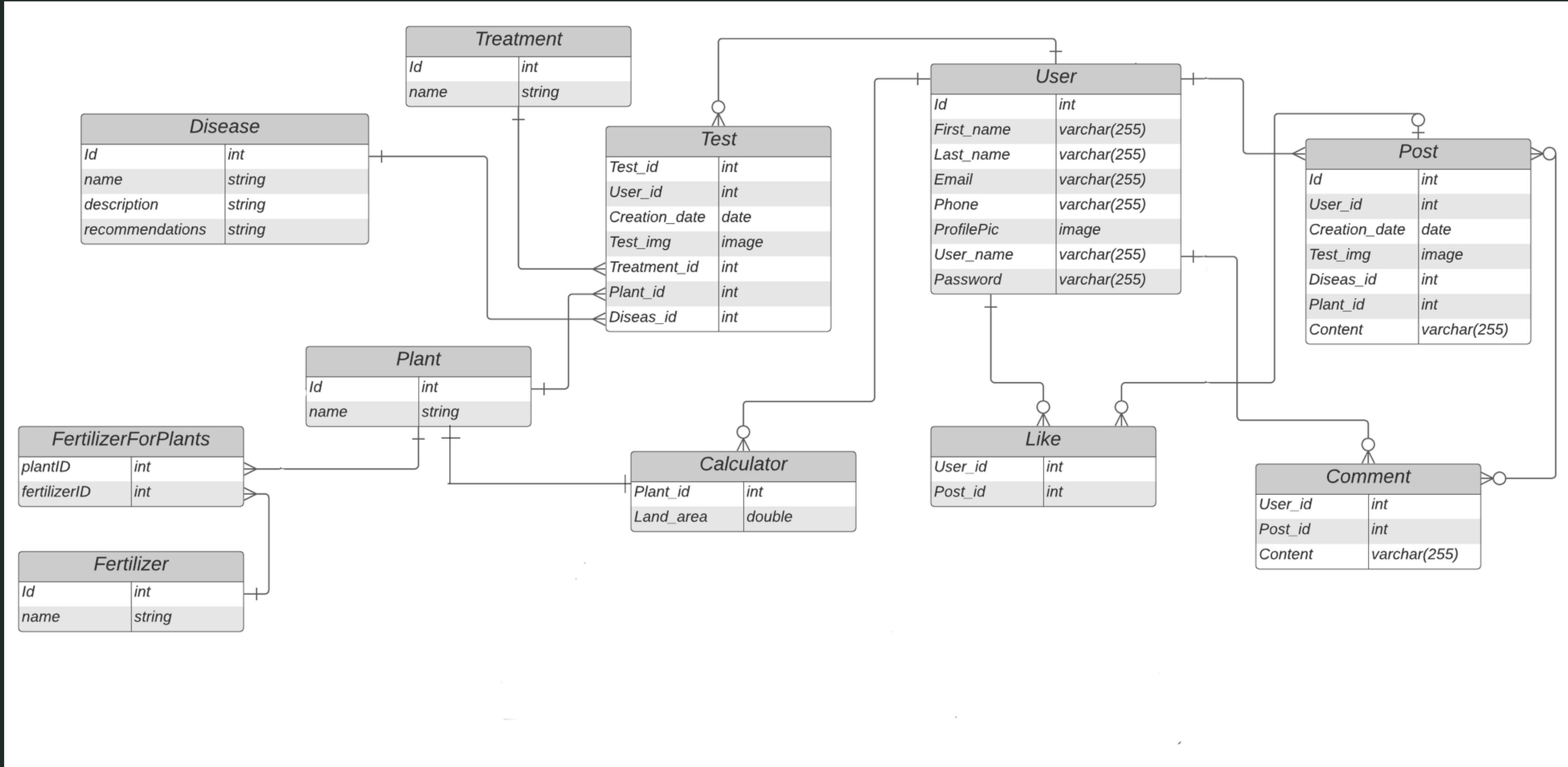


In the initial step, the RGB images of all the leaf samples were picked up.

The step-by-step procedure of the proposed system:

- RGB image acquisition
- Convert the input image from RGB to HSI format
- Masking the green pixels.
- Removal of masked green pixels
- Segment the components
- Obtain useful segments
- Evaluating feature parameters for classification.
- Configuring SVM for disease detection.

# ERD Model





## Future Work

- It is possible to put a place for advertisements, where companies can participate in the application to promote their products, for example, fertilizers, pesticides, etc.
- It is possible to provide a financial gain for specialized users, as we provide a special section for the farmer to consult an engineer specialized in this field for a small nominal amount and an evaluation for them.
- It is possible to put a chatbot in order to save the user time in giving him answers to his questions or his situation quickly. Until someone responds to it.

# Conclusion

This application tries to save time: it helps the farmer to identify the pest by simply uploading a picture on the application, and also how to treat it instead of wasting the crop or waiting for the agricultural engineer to diagnose the condition of the plant, especially in home farming .And this application also tries to save money: it saves you the money that you pay to the agricultural engineer who comes to constantly diagnose the plant and also increases and improves the quality of the crop, thus increasing the agricultural yield and quality;

**It also helps you to know the appropriate amount of fertilizer for you in farming for the area of land you own and the plant that you are planting by selecting the appropriate fertilizer plan, which protects you from increasing the percentage of fertilizer, spoiling the plant or lack of fertilizer, which leads to many diseases. It also saves effort: it provides you with ease of use, speed of obtaining information and quick diagnosis And finally: the application provides you with getting to know a new community that you were not aware of, so it helps you to know general information that may help you later, and to know new friends that help them and help you get the best crops**



NAPTA



THANKS FOR LISTENING