



AI Powered Plant Disease Detection System

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Abstract

Diseases of agricultural crops are a common problem in our country that reduces productivity. In this age of artificial intelligence and deep learning technologies on the rise, we have tried to bring a modern solution to this problem.

The main goal of our project was to analyse the diseased plants with the photos taken by the user and provide them with the solution of the disease.

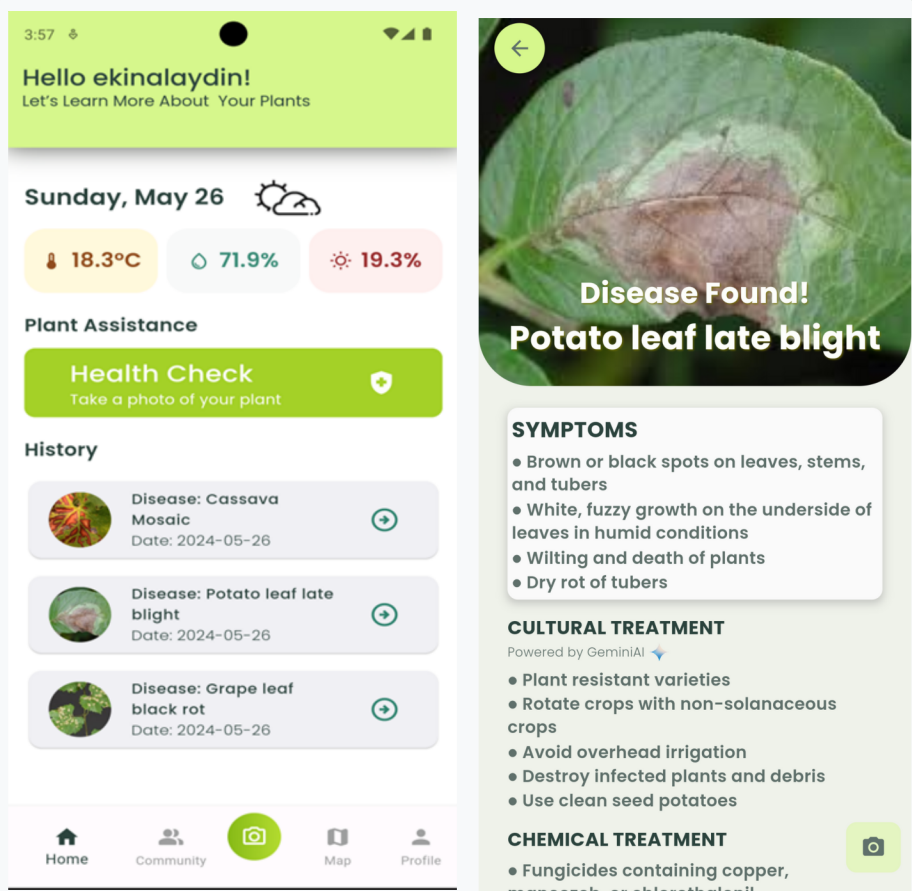


Figure 1 - Finished Product

Solution

By taking photos of diseased agricultural plants with their phones, users can determine which disease is seen in their plants thanks to the image classification model and can access treatment methods for this disease through Gemini, an artificial intelligence chat bot developed by Google. Gemini sends an answer to the user about the symptoms of the disease, cultural and chemical treatments through the prompt we write.

If the user wishes, he/she can also seek solutions to his/her disease problems through the Community in the application. Users who can ask each other their problems through the community can comment on posts and use the application interactively.

With the map service we provide, users will be able to take photos of the sick plants and find out in which other cities the disease they have obtained is seen.

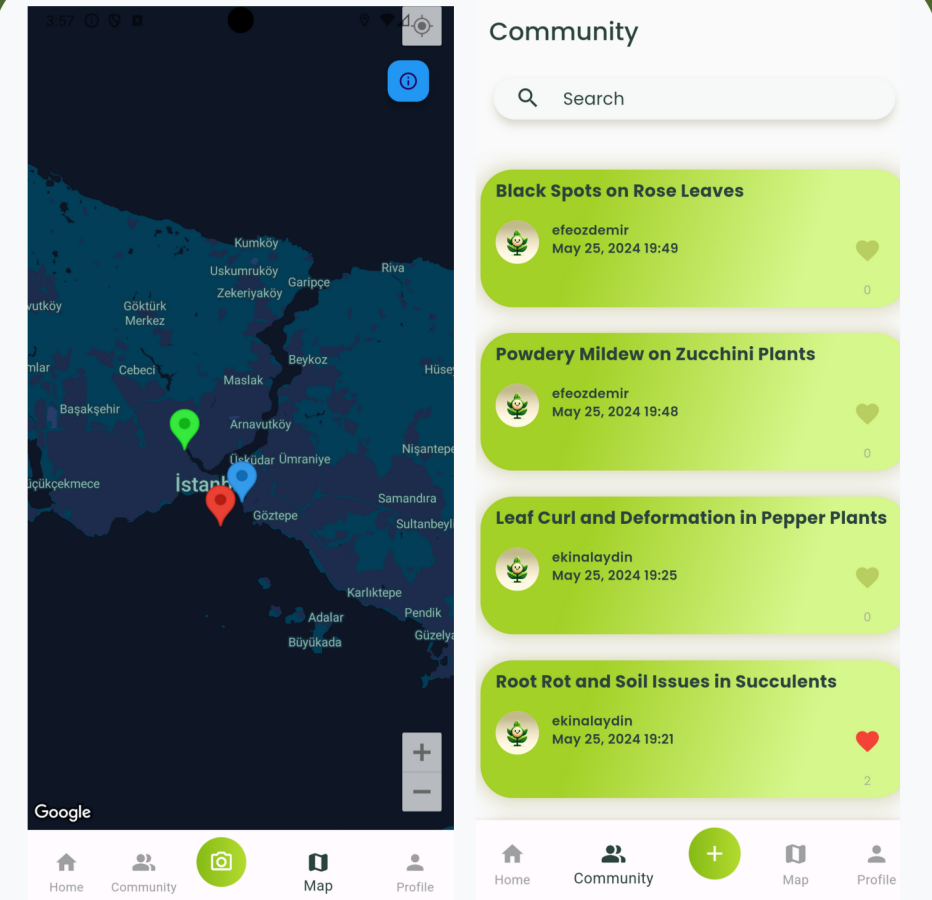


Figure 3- Finished Product

Results & Conclusion

We were able to develop an application that can detect plant diseases and recommend treatment methods for these diseases enriched with artificial intelligence.

During this process, we had the opportunity to work with image classification models and AI chat-bots. We have provided users with a mobile application where they can interact with each other interactively. We can also provide them with statistical information by visualizing the data we receive from the user on the map problems.

Acknowledgement

We would like to thank our project advisor, Dr. Sevgi Koyuncu Tunç, who accepted our project and followed our project development every week during the process, as well as enabling us to generate new ideas and supporting us on this journey.

Introduction

The identification of agricultural diseases and the impracticality of accessing information on treatments for these diseases was the issue that our project attempted to address.

These illnesses, which are commonly observed in agricultural plants, lead to crop rot and inefficiency. If an infection cannot be identified, many agricultural plants must be disposed of.

To mitigate the impact of plant diseases, our project employs an advanced deep learning model to detect diseases from plant leaves and integrates the Gemini Artificial Intelligence chatbot as a dynamic information provider for the treatment of detected diseases.

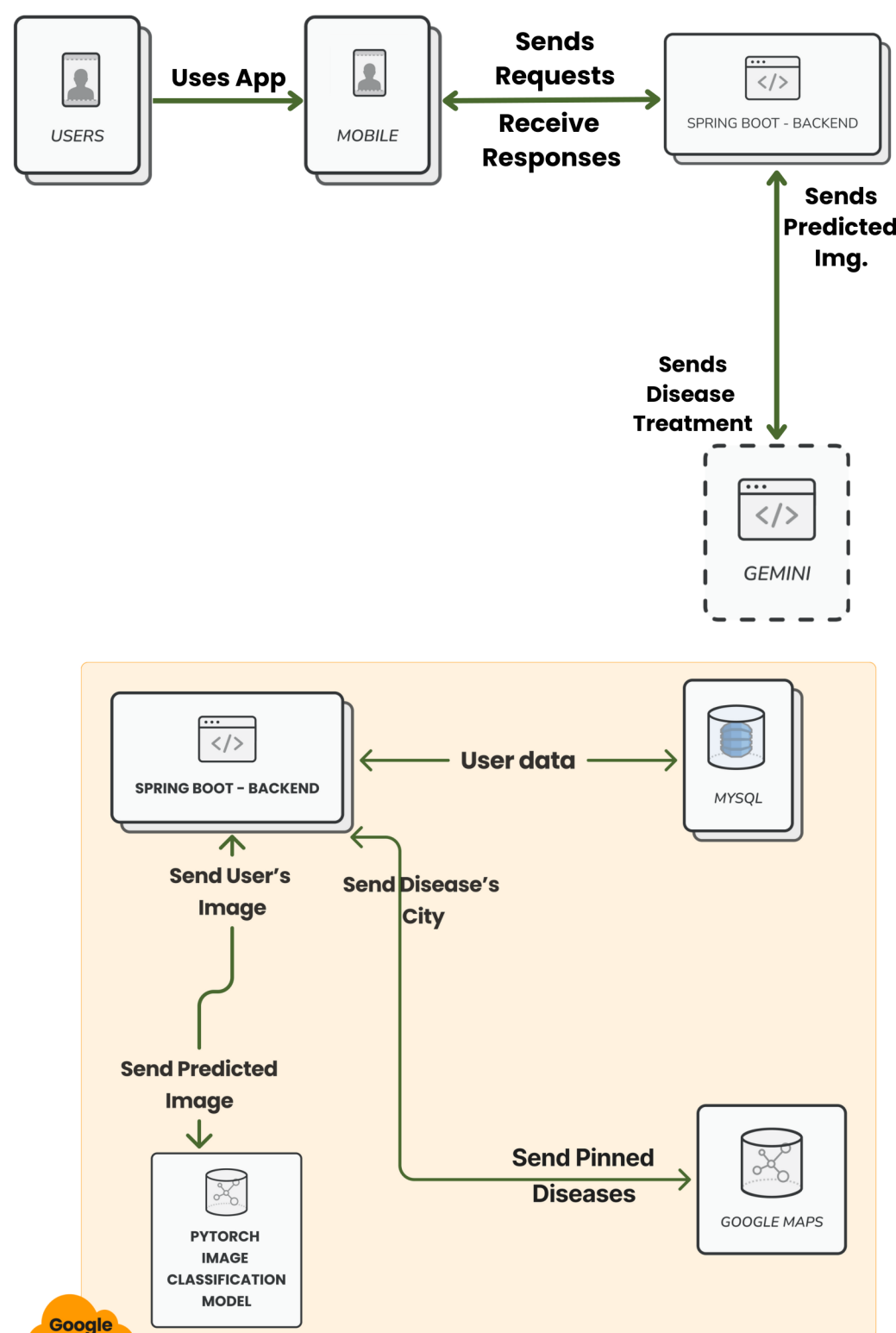


Figure 2 - System Architecture

