SEEDS

SUMMARY REPORT

Group 24- Milind Kurma, Punit Malpani, Luke Kim, Sharmisha Parvathaneni

Project Description

"Seed" is a web application that collects data from the earth's surface and generates botanic decisions that will help people to expand and maintain their plants within limited resources. The sensors are used to collect extensive data such as humidity, temperature, pH, and image data from above and below the earth's surface. The main goal of the application is to prevent desertification and help farmers to grow their agriculture. However, as agile development, the application is not limited to adding more features and functionalities such as predicting and suggesting the right plants for the climate based on the data analysis.

Report Overview:

The main goals of this project are to make farmers' lives easier by adding machine learning models and suggesting crops for greater production. The project is broken into two parts.

1. Simple Search: We attempted to fit a variety of soil types and seasons in this feature, based on which the farmer can determine which crops to plant and obtain a higher yield. Pesticide recommendations are also included.
2. Advanced Search: This section includes a supervised deep learning sequential model that analyzes an image and predicts whether or not the plant is healthy. If not, what exactly is the issue? Sensor-based measurements for soil acidity, temperature, and moisture are also incorporated, resulting in even better predictions for the farmer.

Testing & Inspection:

The final report explains Testing and Inspection of the project. In summary, items to be tested includes usability of the web program, accessibility of website, color contrast testing, and agile methodologies & integration testing. The aim of inspection throughout this project work was to make out defects in coding and other areas. The inspection process followed for this project is similar to traditional inspection stepwise methods. Everyone in the group contributed significant code fragments and other group members inspected those fragments.

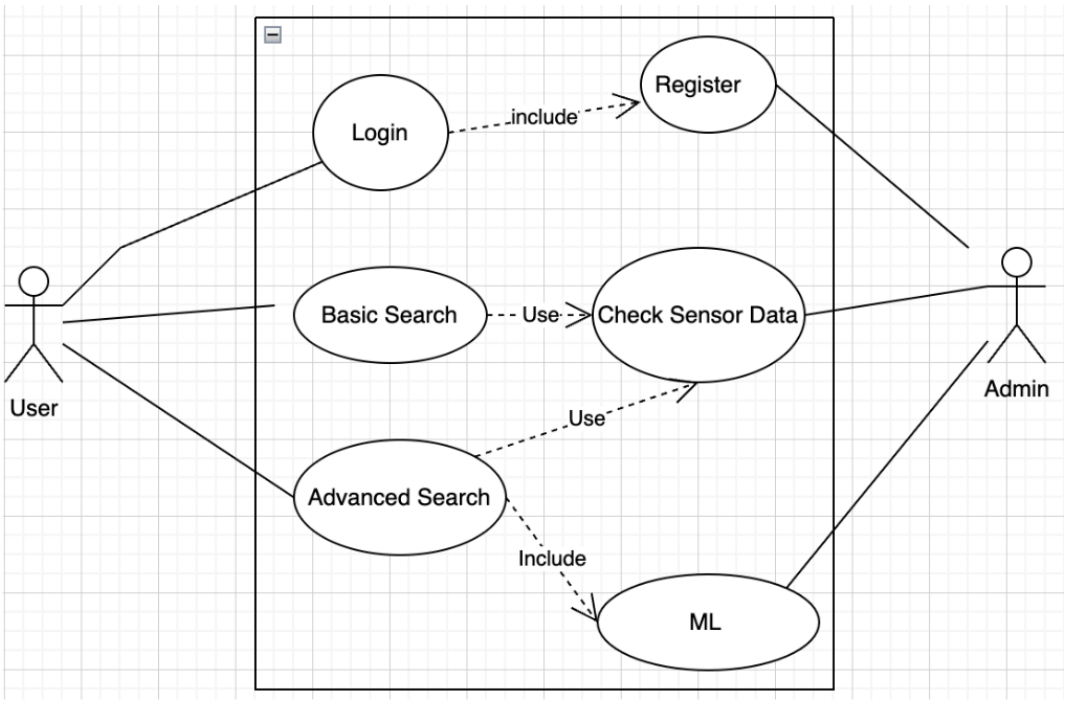

Fig.1 Use-Case Diagram

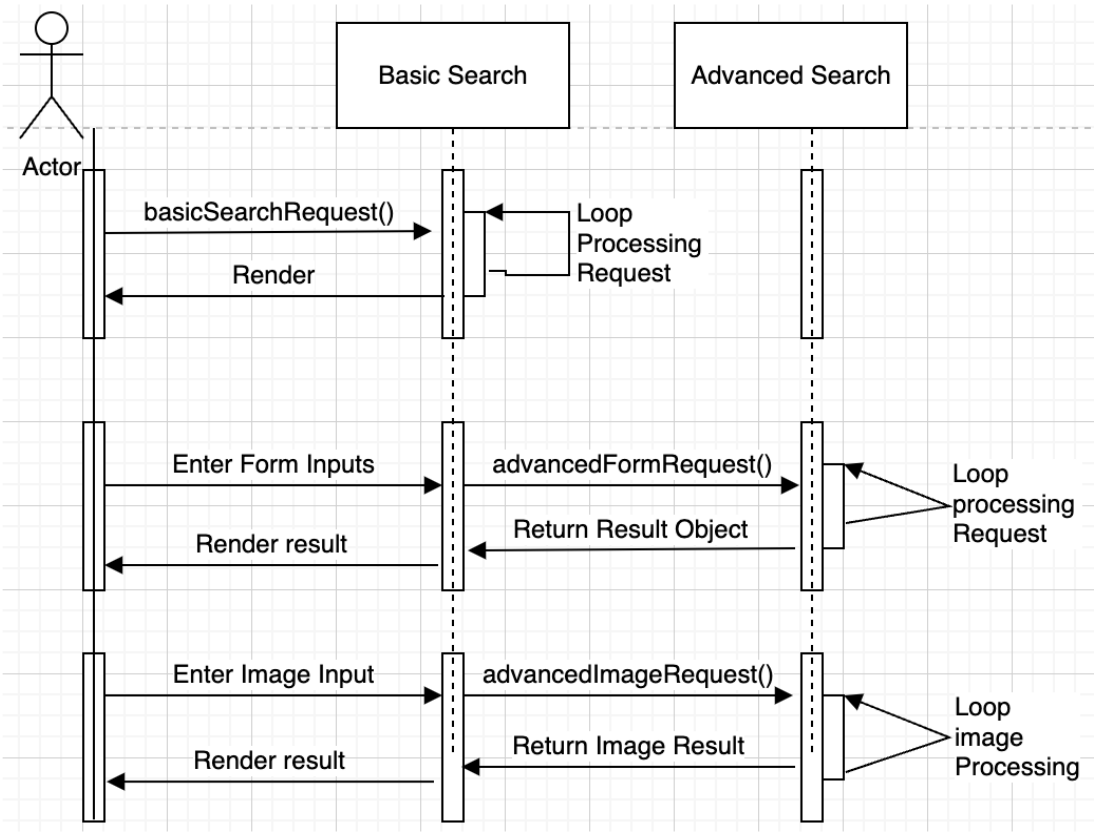

Fig2. UML Sequence Diagram