

Idea / Approach Detail

Organization Name : Ministry of Agriculture Cooperation and Farmer Welfare

Problem Statement : IT Solutions for precision based irrigation, fertigation, crop growth, crop maturity in Horticulture.

Domain Bucket : Agriculture and Rural Development

Team Name : Trojans301

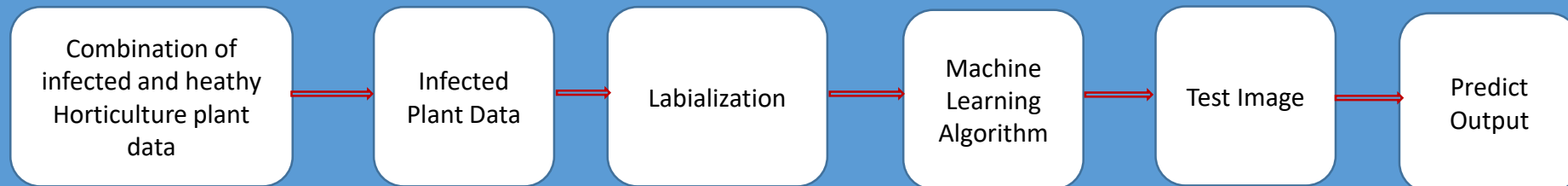
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College Code : 1-3508222625

Approach / Solutions

To cater the problem statement we are coming with an Android application which will consist of following features

1. **Fertigation** - Artificial Intelligence based platform for disease detection and fertilizer suggestion for Horticulture plants.
2. **Crop Growth and Crop Maturity** -To solve this problem we came up with following solution:
 - A) **Chat-bot** – It will return response based on input from farmers to solve queries related to Crop Growth and Crop Maturity in his local language.
 - B) **Open forum** – It is a network for farmers to discuss their problems .
3. **Irrigation** - IOT based irrigation system integrated with our app will guide the farmer to irrigate farm based on soil moisture content and weather conditions.
4. **Extra Feature** -
Government scheme and Current Market scheme – Data regarding to this will be updated using API.



Technology Stack / Prototype:

Disease Detection:

If farmer wants to detect disease of plant he will capture the image of infected part and after submitting the image he will get the name of disease and fertilizer to be use.

Irrigation:

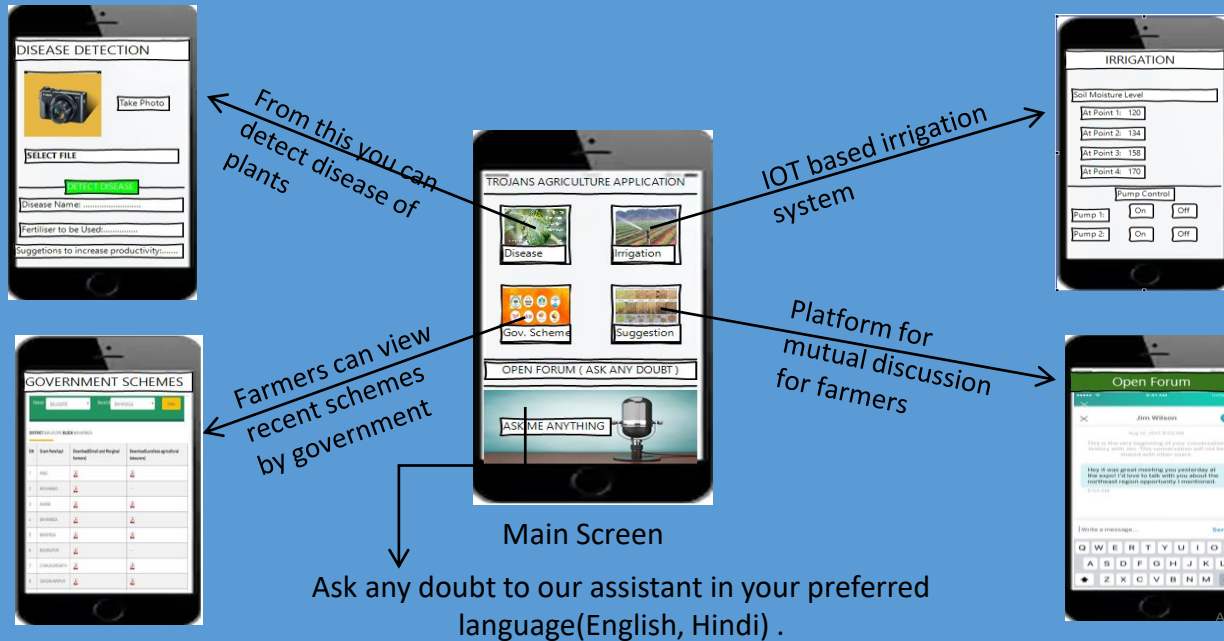
Here farmer will get notified about irrigation based on soil conditions.

ChatBot:

After clicking on the chatbot icon farmer can ask questions in his local language.

Technology used:

1. Artificial Intelligence
2. Image Processing
3. Mobile App development



Open forum:

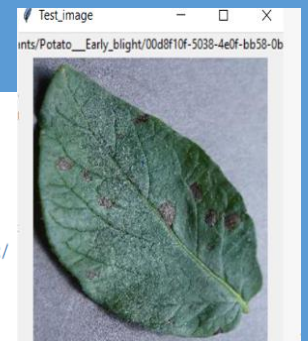
In open forum activity he can raise his question and can solve questions raised by other farmers as well.

Current Progress:

```
-----
Loading model it might take some time...
model loaded successfully!
-----
```

```
Potato__Early_blight
Check the following link for more information....
https://www.planetnatural.com/pest-problem-solver/plant-disease/early-blight/
```

```
Enter any key continue
Press 0 to exit
```



Uses cases

- Crop disease detection system.
- Smart irrigation system.
- Discussion forum for farmers.
- Fertilizer suggestion.

Difficulties

- Internet Connectivity in farms
- Infected plant dataset
- Processing Power(Image detection)

Dependencies

- Google API – Text to Speech, Translator
- Weather API