Welcome To Our
PRESENTATION

AgriCare

Course Title: Software Project III
Course code: CSE 316
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Introduction

Because of the lack of new technologies, our farmers suffer a lot. To make our lives easier, we decided to build Agricare. Agricare will be the best friend for our farmers. Nowadays, everyone has a smartphone, and by using a smartphone, anyone can access our AgriCare. Our Agricare has smart image processing using an advanced ML model and a farming guide to help others who have an interest in plants, gardening, or farming.

Objective

Bangladesh is an agriculture country. Agriculture is the largest employment sector in Bangladesh, making up 14.2 percent of Bangladesh's GDP and employing about 42.7 percent of the workforce. But lacking new technologies, our farmers face many problems, such as imbalanced use of fertilizers, inefficient water use, pests and diseases, and unfair produce prices.

Our AgriCare will be the best companion for farmers. By using smart scanning, they can find out the disease's name and take proper action in time. Not only that, our AgriCare can also be used as a farming guideline tool.

Our goal is to make our farmers lives easier.

UNIQUENESS

Why you would choose us:

Our AgriCare provides a smart scan for disease detection, an AI chat bot where you can ask any farming-related questions, and Consultant-Hub where you can contact our expert consultant for any farming-related queries.

No other app can provide those features at the same time, and all these features are free to use. Our only goal is to make the lives of our farmers easier.
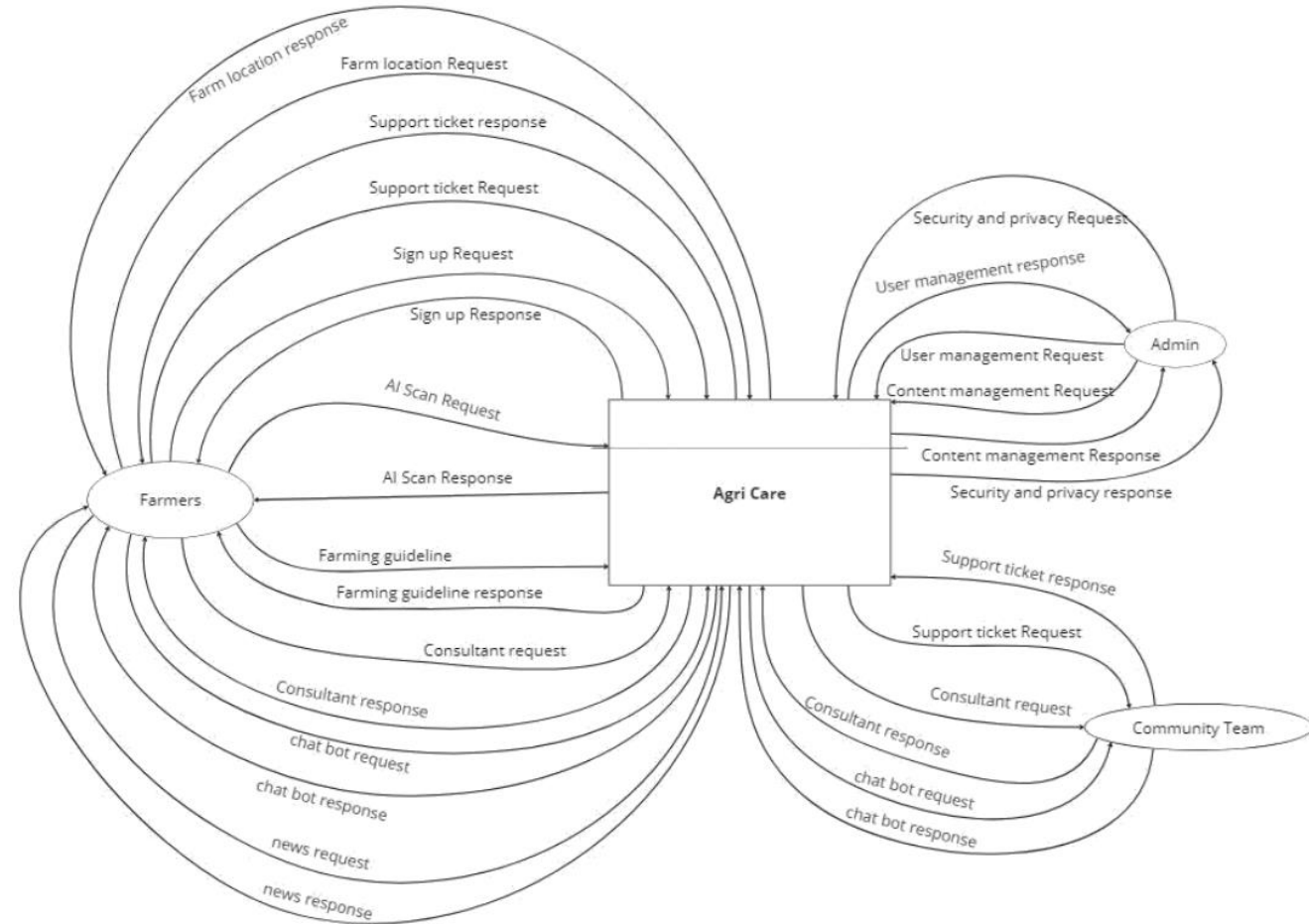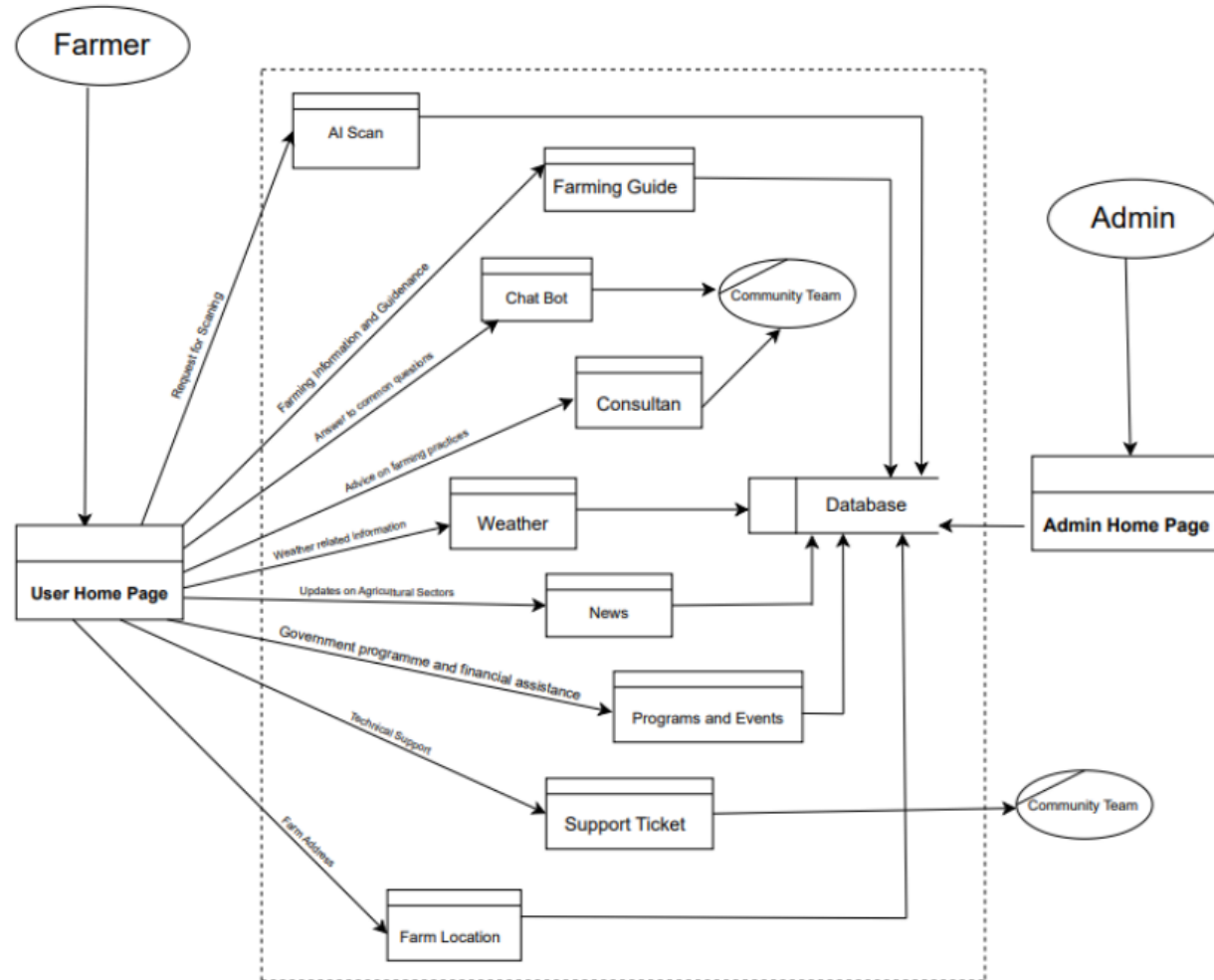
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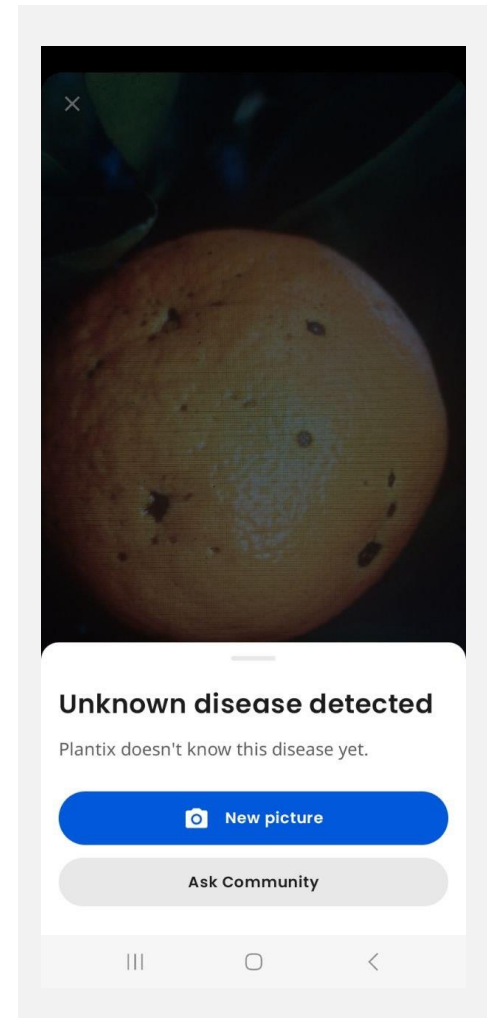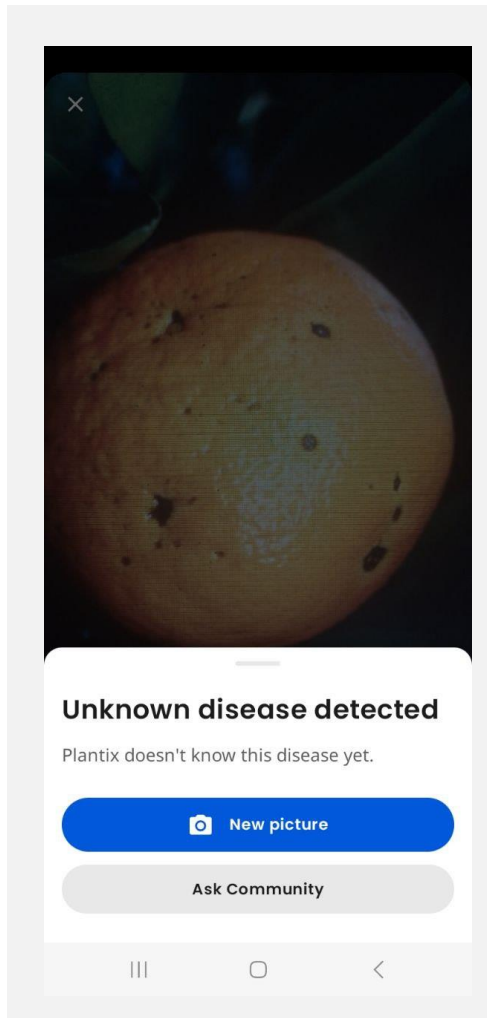
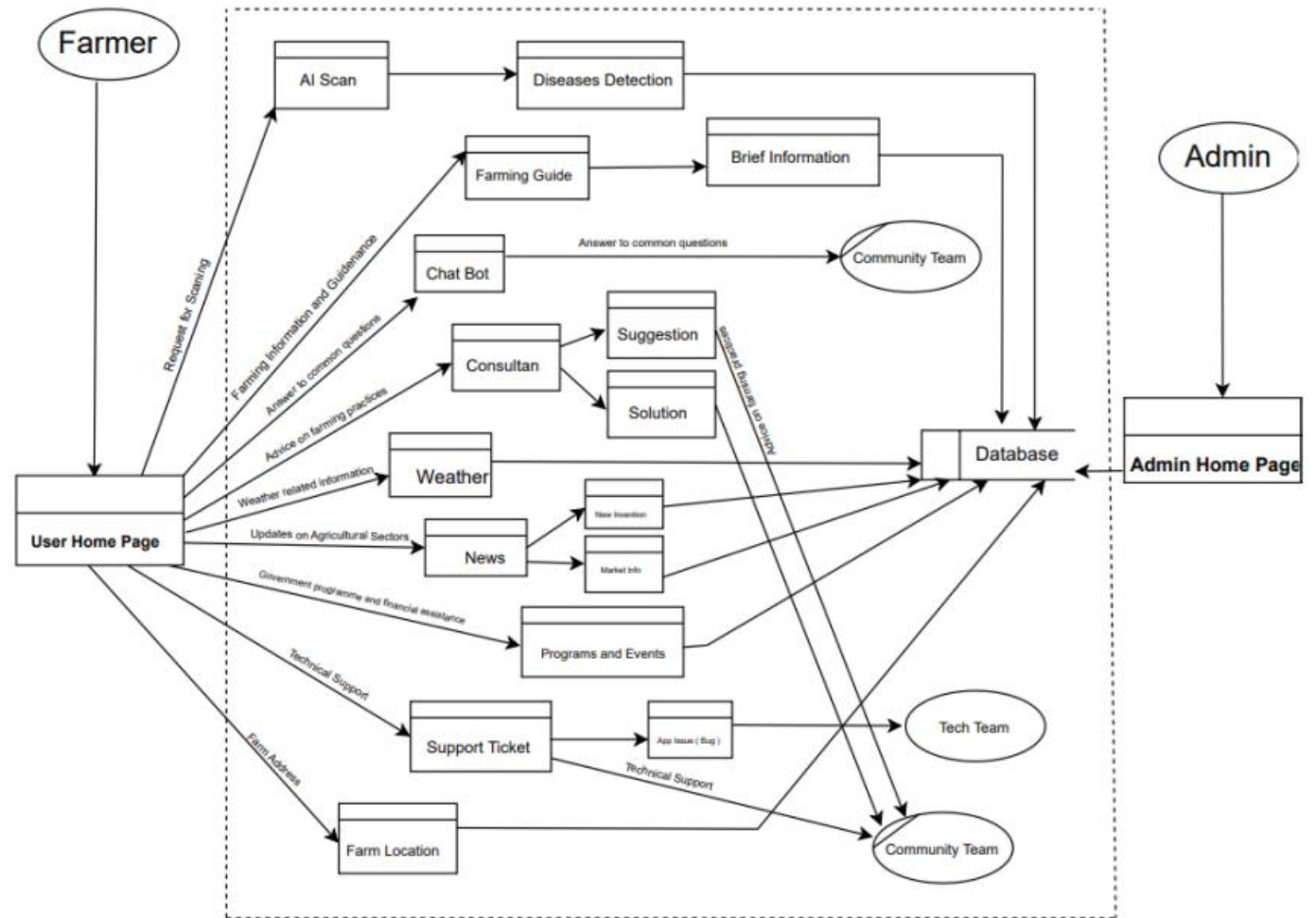# DATA FLOW DIAGRAMS

LEVEL-O DIAGRAM

DATA FLOW DIAGRAMS

LEVEL-1 DIAGRAM

# DATA FLOW DIAGRAMS

LEVEL-2 DIAGRAM

Features

AI-Powered Disease Detection (smart-scan): By using AgriCare's **smart scan**, farmers can easily predict the disease by taking a photo of the diseased plant.

Farming Guide: Our AgriCare can also be used as a farming guideline. What **fertilizer** to use, when to water, and how to get rid of **insects**, all of this is just one click away.

Consultant Solutions: You can contact our expert **consultant** for any farming-related queries.

Chat Bot: AgriCare provides a friendly chat bot that will answer all of your farming-related questions.
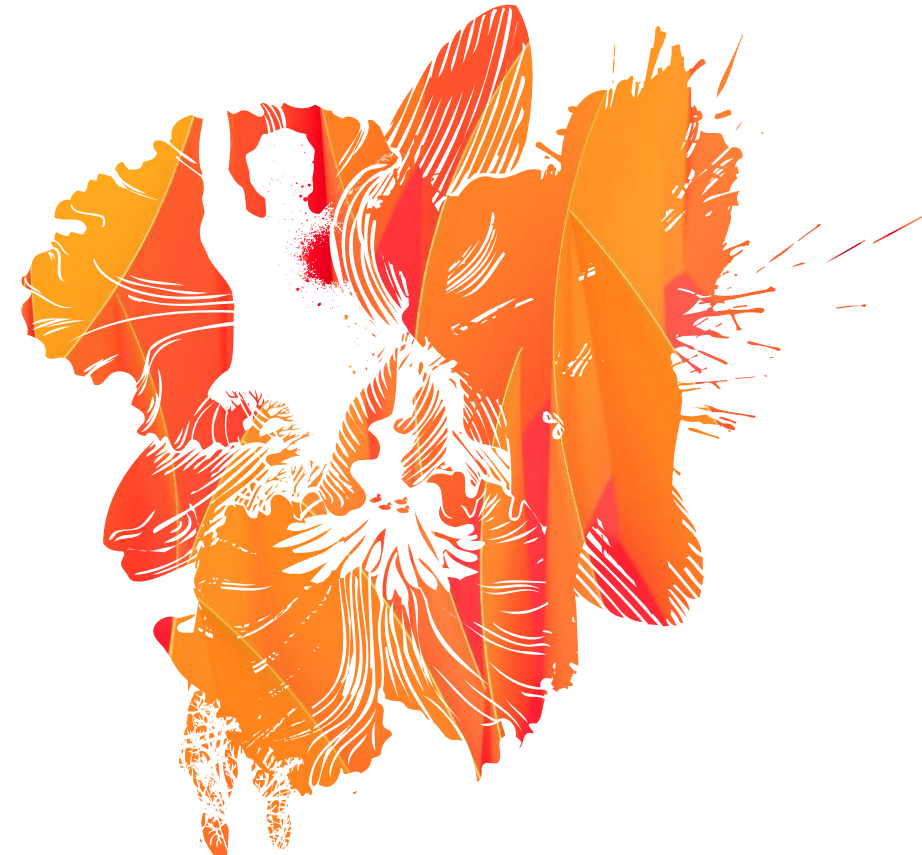
Background Study

A Mobile-Based System for Detecting Plant Leaf Diseases Using Machine Learning

Plant diseases are one of the grand challenges that face the agriculture sector worldwide. In the United States, crop diseases cause losses of one-third of crop production annually. Despite the importance, crop disease diagnosis is challenging for limited-resources farmers if performed through optical observation of plant leaves' symptoms. Therefore, there is an urgent need for markedly improved detection, monitoring, and prediction of crop diseases to reduce crop agriculture losses. Computer vision empowered with Machine Learning (ML) has tremendous promise for improving crop monitoring at scale in this context.
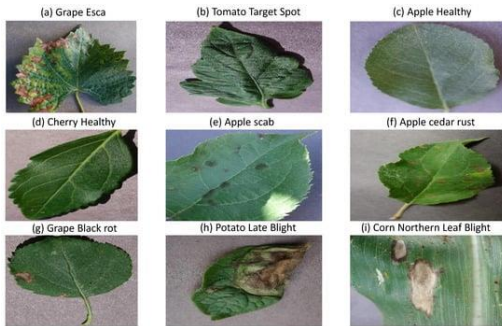
The CNN model is implemented using Keras development environment . Keras is an open-source neural network library written in Python, which uses TensorFlow 02 as a back-end engine. Keras libraries running on top of TensorFlow make it relatively easy for developers to build and test deep learning models written in Python.

Reference Link:

» https://www.mdpi.com/2624-7402/3/3/32

Background Study

Plant leaf disease detection using computer vision and machine learning algorithms

Agriculture provides food to all the human beings even in case of rapid increase in the population. It is recommended to predict the plant diseases at their early stage in the field of agriculture is essential to cater the food to the overall population. But it unfortunate to predict the diseases at the early stage of the crops. The idea behind the paper is to bring awareness amongst the farmers about the cutting-edge technologies to reduces diseases in plant leaf. Since tomato is merely available vegetable, the approaches of machine learning and image processing with an accurate algorithm is identified to detect the leaf diseases in the tomato plant.

The village database of tomato leaf [15,34] is considered, the plants which are affected from variety of diseases. The images of tomato leaf having six disorders are taken to carry out the experiments for detection of leaf disease.

Reference Link:

» https://www.sciencedirect.com/science/article/pii/S2666285X22000218

Thank You

Reference:

» https://www.researchgate.net/publication/357621950_PLANT_DISEASE_DETECTION_USING_IMAGE_PROCESSING_AND_MACHINE_LEARNING_ALGORITHM

» https://arxiv.org/ftp/arxiv/papers/2106/2106.10698.pdf

» https://www.researchgate.net/publication/366969355_Plant_Leaf_Disease_Detection_Using_Image_Processing_A_Comprehensive_Review