Project Design Phase-I
Solution Architecture

Date	23 October 2023
Team ID	Team-593089
Project Name	Deep Learning Model for Detecting Diseases in Tea Leaves
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behaviour, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

Solution Architecture for Tea Leaf Disease Detection:

- Data collection and preparation: This module collects and prepares tea leaf images for training and testing the RCNN model. This includes collecting images of healthy and diseased tea leaves, labeling the images, and preprocessing them to ensure consistency in size and format.

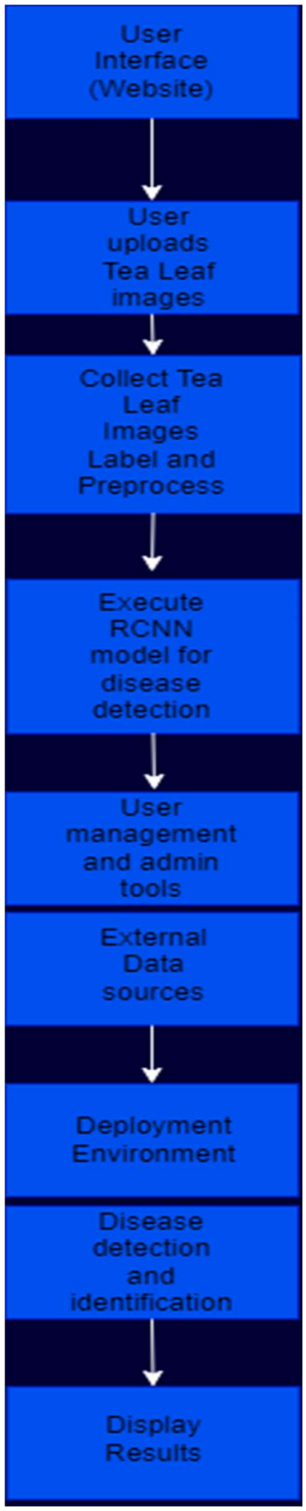
- RCNN model: The RCNN model is a deep learning model that can be used to detect and identify objects in images. The model is trained on the labeled tea leaf images to learn the features of different tea leaf diseases.

- User interface: The user interface allows users to upload tea leaf images and view the results of the RCNN model. The user interface can also be used to manage tea leaf disease data and generate reports.

The data flow through the system is as follows:

- The user uploads a tea leaf image to the system.
- The data collection and preparation module preprocess the image.
- The inference engine executes the RCNN model on the image to detect and identify diseases.
- The results of the RCNN model are displayed to the user on the user interface.

The system can be used by tea farmers to detect tea leaf diseases early and take appropriate measures to control them. This can help to reduce economic losses for tea farmers and improve the quality and quantity of tea production.


User Interface (Website)
User uploads Tea Leaf images
Collect Tea Leaf Images Label and Preprocess
Execute RCNN model for disease detection
User management and admin tools
External Data sources
Deployment Environment
Disease detection and identification
Display Results