Project Design Phase-II
Data Flow Diagram

Date	20 October 2023
Team ID	Team-592955
Project Name	Potato Disease Classification
Maximum Marks	4 Marks

Data Flow:

Data Collection: This phase entails gathering a diverse dataset of potato leaf images from sources such as field surveys, image repositories, or other means. The collected images are then stored in a raw data repository.

Data Pre-processing: Raw potato leaf images are pre-processed to prepare them for model training. This can include resizing images, normalizing pixel values, and applying data augmentation techniques to enhance dataset diversity.

Model Training: In this stage, the pre-processed data is utilized to train a deep learning model, which learns to classify potato leaf diseases. The trained model is saved for future use.

Model Evaluation: The performance of the trained model is assessed using a separate dataset not used in training, to gauge its accuracy, sensitivity, and specificity in disease classification.

Model Deployment: This step involves deploying the trained model to make it accessible for real-world disease classification applications, either on local devices or in the cloud.

User Interaction: End-users interact with the deployed model through a user-friendly application or API, enabling them to submit potato leaf images for disease identification and receive prompt results.

Flow in the model:

Data is sourced from the Data Repository, and it undergoes transformation in the Data Pre-processing phase to become pre-processed data.

The pre-processed data flows to the Model Training process, where the model is trained using this data. The trained model can be used for classification.

In the Model Evaluation process, a distinct dataset is employed to gauge the model's accuracy and performance.

Once the model is ready, it can be deployed from the Trained Model Repository, making it accessible to users.

Users interact with the deployed model through the User Interaction process, submitting potato leaf images for classification.

Data Flow Diagram:

Source-1

Source-2

Source-n

Images with Diseases

(a) Late Blight   (b) Late Blight   (c) Late Blight

(d) Early Blight   (e) Early Blight   (f) Early Blight

(g) Healthy   (h) Healthy   (i) Healthy

Image Augmentation

Healthy   Healthy   Late Healthy   Blight Healthy

Trained Model

Import Model

Application

Data

Training model

Convolutional Neural Network Training

Label