Project Design Phase-II

Technology Stack

(Architecture & Stack)

Date	16 October 2022
Team ID	PNT2022TMID18626
Project Name	Fertilizers Recommendation System for Disease Prediction
Maximum Marks	4 Marks

Team Members:

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Technical Architecture:

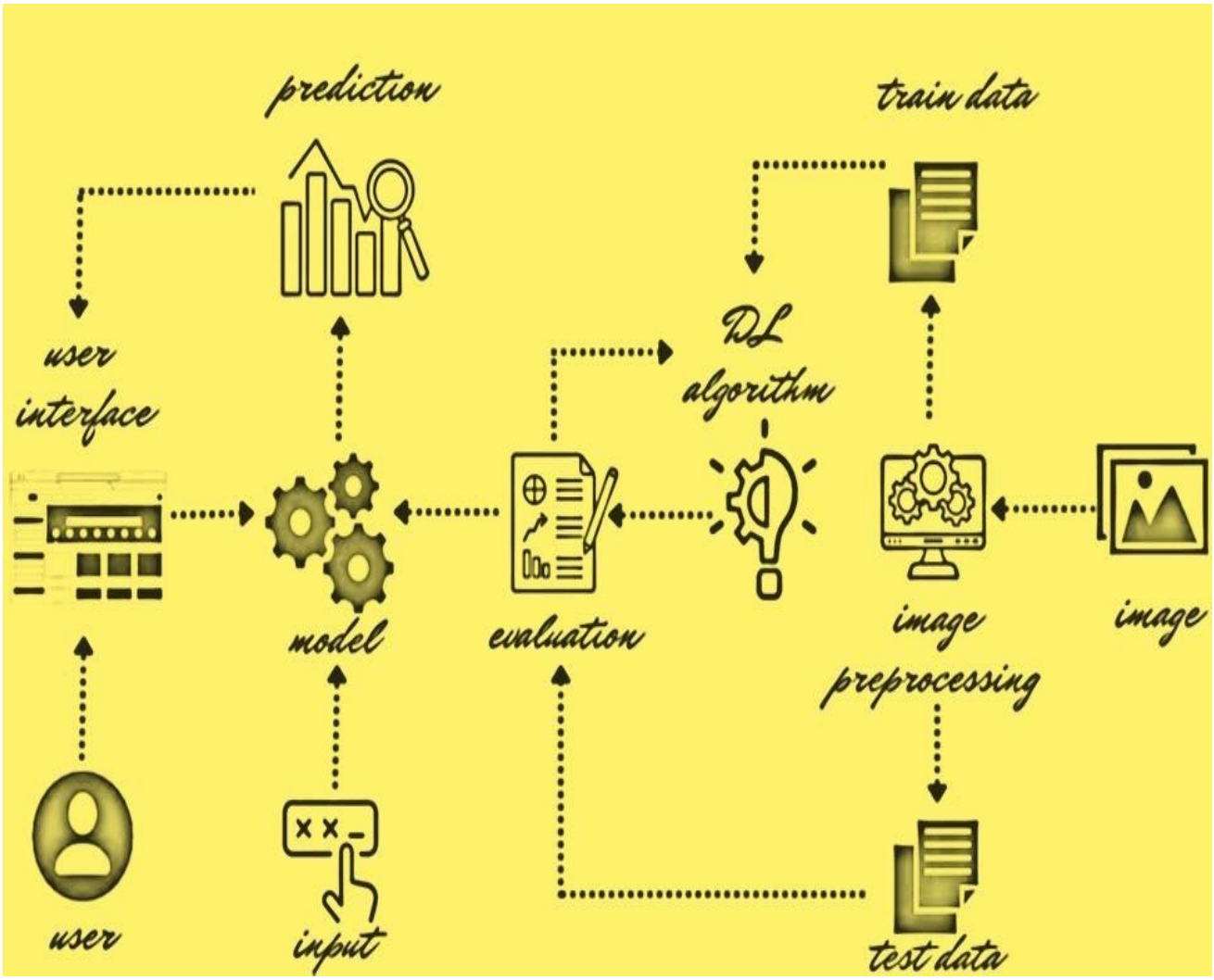

Table 1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interacts with the application through web app	HTML, CSS, JavaScript, PHP
2.	Application Logic-1	Application should get the image of the leaf from the user	Python
3.	Application Logic-2	Application should predict which type of disease is being caused	IBM Watson AI service
4.	Application Logic-3	Application should recommend proper fertilizers to be used	IBM Watson Assistant
5.	Database	Data type should be an image data	MySQL.
6.	File Storage	Image of the leaf should be stored in local file storage system	Local Filesystem
7.	External API-1	To get the login credentials of the user	MySQL
8.	Machine Learning Model	ML model should recognize the infected leaf and classifies what type of infestation it was and recommend proper fertilizers to be used.	Image Recognition Model, Image classification model, Recommendation system
9.	Infrastructure (Server / Cloud)	Web application should be deployed on Local System.	Local system server XAMPP

Table 2 : Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	A web application using Flask is created as an interface for the farmers to use.	Python flask framework
2.	Security Implementations	User login credentials and personal information should be kept secured.	e.g. SHA-256, Encryptions
3.	Scalable Architecture	The system should perform well under in an increased or expanding workload.	IBM auto scaling
4.	Availability	Functional quality of the web application will never get compromised; it will be available at every time	IBM cloud load balancer
5.	Performance	The time it takes for the request and response is very less.	IBM instance