Project Design Phase-II
Technology Stack (Architecture & Stack)

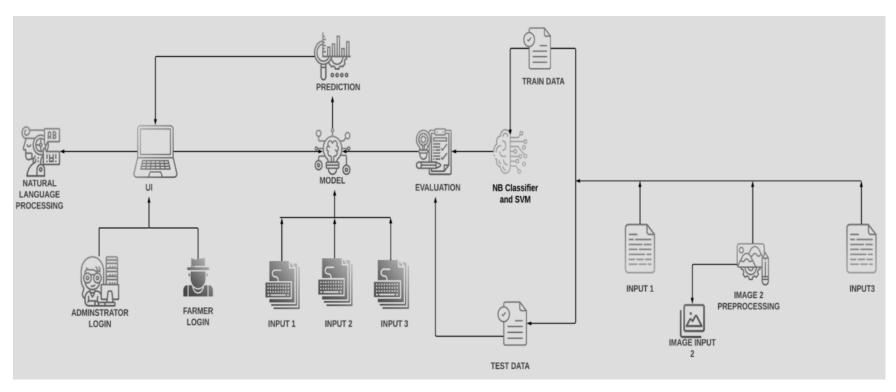| Date	17 October 2022
Team ID	PNT2022TMID00322
Project Name	Fertilizers Recommendation System For Disease Prediction
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Website is built using HTML and CSS. Javascript to make the webpage interactive for users. Mobile Application is developed using Javascript with React Native framework.	HTML, CSS, JavaScript, React Native
2.	Application Logic-1	A page to upload images as input and pre-process it	Python
3.	Application Logic-2	To use the Machine Learning model and predict the result	IBM Watson Studio
4.	Database	To store user inputs and previous results and retrieve information	MySQL
5.	Cloud Database	Database that typically runs on a cloud computing platform and access to the database is provided as-a service	IBM Cloudant
6.	File Storage	File storage requirements	Local Filesystem
7.	External API	To fetch data from the database	REST API
8.	Machine Learning Model	To build a ML model using CNN and train it to detect patterns in the inputs	Deep Learning using Python

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	To automate various functions and processes in web application and maintain efficiency in interface development	Python- Flask
2.	Security Implementations	In all aspects of the job, including detecting malicious attacks, analyzing the network, endpoint protection and vulnerability assessment, Sign in encryption	IBM Cloud App ID Services
3.	Scalable Architecture	Application is scalable to support higher workload as no. of users increases over time. Modular design used to achieve reliable scalability.	nodeJS
4.	Availability	use of load balancers, distributed servers	nginx
5.	Performance	To enable fast loading of library files on our webpage and display the result in the shortest time possible while being error free	cdnjs, AngularJS