

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

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| Date | 09 November 2022 |
| Team ID | PNT2022TMID37000 |
| Project Name | Fertilizers Recommendation System For Disease Prediction |
| Maximum Marks | 4 Marks |

Technical Architecture:

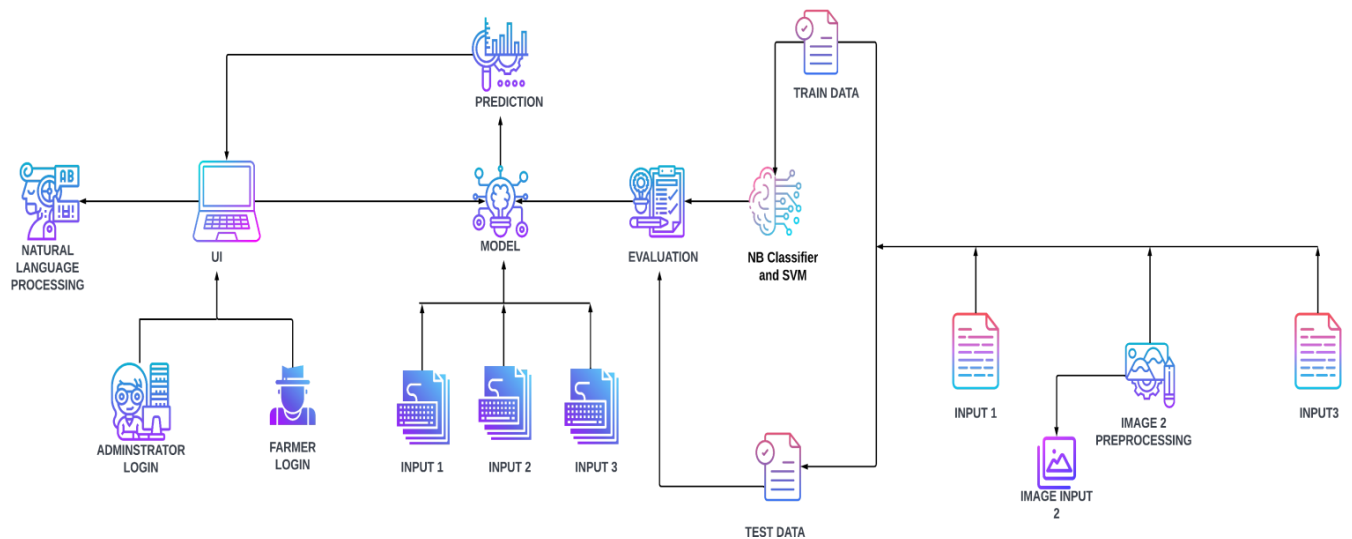


Table-1 : Components & Technologies

| S.N o | Component | Description | Technology |
|----------|---------------------|--|---------------|
| 1. | User Interface | How the user interacts with the application .To depict the human-computer interaction and communication. | HTML, CSS,JSP |
| 2. | Application Logic-1 | A page to upload images as input | Python |
| 3. | Application Logic-2 | To use the Machine Learning model and predicting the result | Python |

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|----|------------------------|--|-------------------------------|
| 4. | Database | Structured data-images | MySql |
| 5. | Cloud Database | Database that typically runs on a cloud computing platform and access to the database is provided as-a-service | IBM Cloud Databases for MySQL |
| 6. | File Storage | To store data in a hierarchical structure | Local File system |
| 7. | Machine Learning Model | Here, we use a Support Vector Machine Algorithm that is used widely in Classification and Regression problems. | Random Forest ,XG Boost |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|------------------------|---------------------------|--|
| 1. | Open-Source Frameworks | Flask micro web framework | Written in Python. It is classified as a micro framework because it does not require particular tools or libraries. It has no database abstraction layer, form validation, or any other components where preexisting third-party libraries provide common functions. |

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|----|--------------------------|---|---------------------------|
| 2. | Security Implementations | With 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. | Availability | Available for all data size | - |
| 4. | Performance | Can extend the storage according to our needs | Python,AngularJS |