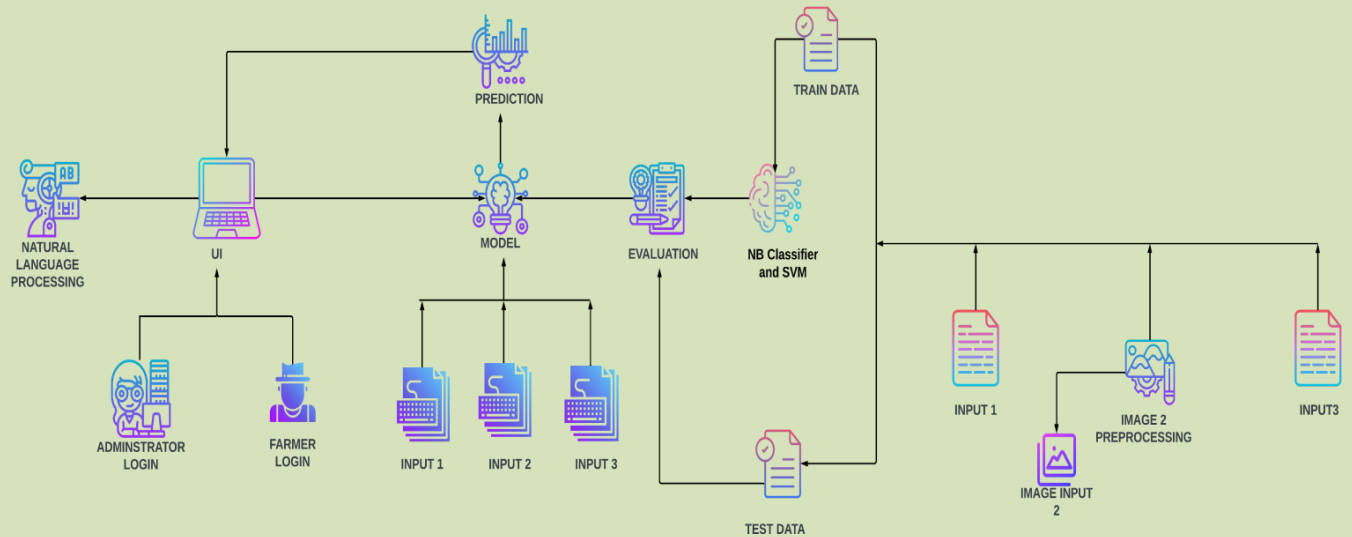


## Project Design Phase-II Technology Stack (Architecture & Stack)

|              |  |
|--------------|--|
| Project Name | Fertilizers Recommendation System For Disease Prediction |
|--------------|--|

### Technical Architecture:



**Table-1 : Components & Technologies**

| S.N<br>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                        |
| 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. |
| 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 |