

**PROJECT DESIGN PHASE-II**  
**SOLUTION REQUIREMENTS**  
**(FUNCTIONAL & NON-FUNCTIONAL)**

|                     |   |
|---------------------|---|
| <b>DATE</b>         | <b>07 November,2022</b>   |
| <b>TEAM ID</b>      | <b>PNT2022TMID22667</b>   |
| <b>PROJECT NAME</b> | <b>FERTILIZERS<br/>RECOMMENDATION SYSTEM<br/>FOR DISEASE PREDICTION</b> |

**FUNCTIONAL REQUIREMENTS:**

Following are the Functional Requirements of the Proposed Solution.

| <b>FR NO.</b> | <b>FUNCTIONAL REQUIREMENT</b> | <b>SUB REQUIREMENT</b>   |
|---------------|-------------------------------|--|
| FR-1          | User registration             | <ul style="list-style-type: none"><li>• Registration through form</li><li>• Registration through Gmail</li><li>• Registration through LinkedIn</li></ul> |
| FR-2          | Image capture                 | <ul style="list-style-type: none"><li>• Take image of a leaf</li><li>• Check the leaf is captured under given parameters</li></ul>                       |
| FR-3          | Image processing              | <ul style="list-style-type: none"><li>• Upload the leaf image</li><li>• Click the predict button</li></ul>   |
| FR-4          | Update Native language        | <ul style="list-style-type: none"><li>• Languages can be changed according to the user which is more understandable with.</li></ul>                      |
| FR-5          | Leaf prediction               | <ul style="list-style-type: none"><li>• Add the pesticides and fertilizers to be used for an unhealthy leaf</li></ul>                                    |
| FR-6          | Image description             | <ul style="list-style-type: none"><li>• Show the prescribed fertilizer and description of the disease for curing a unhealthy leaf</li></ul>              |
| FR-7          | Providing datasets            | <ul style="list-style-type: none"><li>• Training datasets</li><li>• Testing datasets</li></ul>   |

|      |                    |   |
|------|--------------------|---|
| FR-8 | Adding datasets    | <ul style="list-style-type: none"> <li>• Fruit datasets for fruits</li> <li>• Vegetable datasets for vegetables</li> </ul>          |
| FR-9 | Email notification | <ul style="list-style-type: none"> <li>• Farmers will be receiving an e-mail notification about the leaf and its history</li> </ul> |

### NON-FUNCTIONAL REQUIREMENTS:

Following are the non-functional requirements of the proposed solution.

| NFR No. | Non-Functional Requirement | Description  |
|---------|----------------------------|--|
| NFR-1   | Usability                  | Leaf datasets can be used for detection of all kind of leaves<br>Datasets can be reusable<br>Data sets can be prepared according to the leaf |
| NFR-2   | Security                   | User information and leaf data are secured<br>The algorithms used are more secure  |
| NFR-3   | Reliability                | The leaf quality is more<br>The datasets and image capturing performs consistently well  |
| NFR-4   | Performance                | Leaf problem defined once the leaf is detected<br>Performs well according to the quality of leaf provides certain cure to it.                |
| NFR-5   | Availability               | Quality of leaf will be used again for detection<br>Available and easy access of datasets provided   |
| NFR-6   | Scalability                | Increase in growth of predicting the results and defining a leaf   |