**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

|  |  |
| --- | --- |
| Date | 31 January 2025 |
| Team ID | LTVIP2025TMID35471 |
| Project Name | Smart Sorting: Transfer Learning for Identifying Rotten Fruits and Vegetables |
| Maximum Marks | 4 Marks |

| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| --- | --- | --- |
| FR-1 | Image Upload | Upload image via browser or appSupport for multiple image formatsPreview uploaded image |
| FR-2 | Image Preprocessing | Resize image to input shapeApply normalizationHandle noise in image input |
| FR-3 | Classification using Transfer Learning | Load pre-trained VGG16 modelPredict image class (fresh/rotten)Return result |
| FR-4 | Result Display & Feedback | Show classification resultDisplay confidence scoreAllow user feedback (optional future scope) |

| **FR No.** | **Non-Functional Requirement** | **Description** |
| --- | --- | --- |
| NFR-1 | **Usability** | Easy-to-use web interface with clear instructions and result display |
| NFR-2 | **Security** | Safe handling of user-uploaded images; restrict file types |
| NFR-3 | **Reliability** | High model accuracy and consistent results for similar inputs |
| NFR-4 | **Performance** | Model processes and classifies images in under 2 seconds |
| NFR-5 | **Availability** | Application should be accessible anytime online via web browser |
| NFR-6 | **Scalability** | Designed to scale to handle more fruit/vegetable classes and mobile integration |