**Project Design Phase-II**

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

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| Date | 29 June 2025 |
| Team ID | LTVIP2025TMID20850 |
| Project Name | Smart Sorting Transfer Learning for identifying rotten fruits and vegetables |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** |
| FR-1 | The system must allow users to upload an image of a fruit or vegetable. |
| FR-2 | The application must preprocess the image (resize, normalize) before prediction. |
| FR-3 | The system must use a pre-trained deep learning model (MobileNetV2) to classify the image. |
| FR-4 | The application must display the predicted label (e.g., "Apple Rotten") and the confidence score |
| FR-5 | The application must render a simple UI with pages: Home, Predict, About, and Contact. |
| FR-4  6 | The system must store uploaded images temporarily for display. |

**Non-functional Requirements:**

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

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| **FR No.** | |  | | --- | |  |   **Description** |
| NFR-1 | |  | | --- | |  |  |  | | --- | | The system must respond to predictions within 2–3  seconds (low latency). | |
| NFR-2 | |  | | --- | |  |  |  | | --- | | The web app must be accessible from desktop and  mobile browsers (responsive design). | |
| NFR-3 | |  | | --- | |  |  |  | | --- | | The model file size should be optimized for faster  loading (MobileNetV2 ~15MB). | |
| NFR-4 | The system should handle unsupported file types gracefully. |
| NFR-5 | The user interface must be easy to navigate with minimal instructions. |
| NFR-6 | |  | | --- | |  |  |  | | --- | | The system should allow deployment on cloud  platforms or local servers without heavy dependencies. | |