

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

Date	19 February 2026
Team ID	LTVIP2026TMIDS64562
Project Name	Smart Sorting: Transfer learning for rotten fruits and vegetables
Maximum Marks	4 Marks

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Image upload and processing	<ul style="list-style-type: none"> <li>Support multiple image formats (JPG, PNG, JPEG)</li> <li>Batch image processing capability</li> <li>Image preprocessing and validation</li> </ul>
FR-2	Classification Engine	<ul style="list-style-type: none"> <li>Binary classification (Healthy/Rotten)</li> <li>Confidence score calculation</li> <li>Real-time prediction results</li> </ul>
FR-3	Web Interface	<ul style="list-style-type: none"> <li>Responsive design for multiple devices</li> <li>Intuitive user experience</li> <li>Results visualization and display</li> </ul>
FR-4	Model management	<ul style="list-style-type: none"> <li>Load pre-trained VGG16 model</li> <li>Model interface and prediction</li> <li>Error handling and validation</li> </ul>

**Non-functional Requirements:**

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

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	Intuitive web interface requiring minimal training
NFR-2	<b>Security</b>	Secure image upload and processing, data privacy protection
NFR-3	<b>Reliability</b>	System uptime > 99%, consistent classification results
NFR-4	<b>Performance</b>	Image processing time < 5 seconds, Model accuracy > 95%
NFR-5	<b>Compatibility</b>	Cross-browser support, Multiple image format support
NFR-6	<b>Scalability</b>	Support for multiple concurrent users and batch processing