**Project Design Phase-II**

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

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| Date | 16 june 2025 |
| Team ID | LTVIP2025TMID38185 |
| Project Name | Grainpalette - A Deep Learning Odyssey  In Rice Type Classification Through |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form  Registration through Gmail  Registration through LinkedIN |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
| FR-3 | Image Upload | Upload rice grain image from gallery  - Capture image using camera |
| FR-4 | Rice Type Classification | Classify rice type using deep learning model  - Display rice type, accuracy, and confidence level |
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**Non-functional Requirements:**

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

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | The system should have an intuitive and user-friendly interface accessible to non-tech users. |
| NFR-2 | **Security** | User data and uploaded images must be securely stored and handled via encryption protocols. |
| NFR-3 | **Reliability** | The model must deliver consistent and accurate results with minimal failure rate. |
| NFR-4 | **Performance** | The classification result should be delivered within 3–5 seconds after image upload. |
| NFR-5 | **Availability** | The system should be available 99% of the time to handle classification tasks |
| NFR-6 | **Scalability** | The architecture must support future expansion to include more grain types and users. |