**Project Design Phase**

**Proposed Solution Template**

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| Date | 15 February 2025 |
| Team ID | LTVIP2025TMID36078 |
| Project Name | GrainPalette - A Deep Learning Odyssey In Rice Type Classification Through Transfer Learning |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

Project team shall fill the following information in the proposed solution template.

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Manual rice variety identification is slow, error-prone, and requires expert knowledge, which is not always accessible to farmers, traders, or food inspectors. |
|  | Idea / Solution description | An AI-based system (web and offline app) where predicts the rice variety accurately. |
|  | Novelty / Uniqueness | Combines deep learning and computer vision for accessible to non-technical users even in offline mode. |
|  | Social Impact / Customer Satisfaction | Empowers farmers and food suppliers with quick experts and improving supply chain quality. |
|  | Business Model (Revenue Model) | Freemium model: basic classification free, advan dataset training) available via subscription or pay-per-use. Can also license to agri-tech companies. |
|  | Scalability of the Solution | Can be scaled across regions and rice varieties. Model can be retrained for other grains (wheat, maize). Supports integration with mobile apps, export systems, and quality control processes. |