**Project Design Phase**

**Proposed Solution Template**

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| Date | 15 February 2025 |
| Team ID | LTVIP2025TMID32342 |
| Project Name | SmartSDLC – AI-Enhanced Software Development Lifecycle |
| 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) | Traditional Software Development Lifecycle (SDLC) involves manual intervention at various stages, leading to inefficiencies, inaccuracies, and delays in the delivery pipeline. |
|  | Idea / Solution description | SmartSDLC is a full-stack, AI-powered platform that automates key stages of the SDLC using advanced Natural Language Processing (NLP) and Generative AI technologies. It converts unstructured requirements into code, test cases, and documentation instantly, enhancing accuracy and accelerating the delivery pipeline. |
|  | Novelty / Uniqueness | SmartSDLC leverages AI models like IBM Watsonx’s Granite-20B to classify requirements, generate code, fix bugs, create test cases, summarize code, and provide real-time conversational support, minimizing manual effort and improving efficiency. |
|  | Social Impact / Customer Satisfaction | By automating core development tasks, SmartSDLC enhances team collaboration, reduces development time, and empowers both technical and non-technical users to efficiently engage with the software development process, leading to higher customer satisfaction. |
|  | Business Model (Revenue Model) | SmartSDLC can be offered as a subscription-based service, providing access to the AI-powered platform and its various modules. Additional revenue can be generated through premium features and enterprise solutions. |
|  | Scalability of the Solution | The platform is designed to handle varying scales of projects, from small teams to large enterprises, by leveraging cloud-based infrastructure and scalable AI models, ensuring consistent performance and reliability. |