# Project Design Phase

## Proposed Solution Template

Date: 26 June 2025

Team ID: LTVIP2025TMID20490

Project Name: SmartSDLC: AI-Enhanced SDLC Automation Platform

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 |
| 1 | Problem Statement (Problem to be solved) | Manual execution of SDLC phases like requirement sorting, code writing, bug fixing, and documentation causes delays and inconsistencies. Developers and managers need intelligent tools to improve productivity. |
| 2 | Idea / Solution description | SmartSDLC is an AI-powered development assistant built on IBM Watsonx. It automates requirement classification, code generation, bug detection, test writing, and code summarization through a modular Streamlit interface. |
| 3 | Novelty / Uniqueness | Unlike generic code tools, SmartSDLC uses prompt-driven generation via IBM Granite to produce accurate and context-aware outputs. It supports end-to-end SDLC tasks in one interactive application. |
| 4 | Social Impact / Customer Satisfaction | The platform accelerates project delivery, reduces developer burnout, and provides accessible AI tools to both junior and senior developers, boosting efficiency and job satisfaction. |
| 5 | Business Model (Revenue Model) | Freemium model: free basic features for individual developers, subscription for teams or enterprise users. B2B partnerships with dev tool providers or educational platforms are also viable. |
| 6 | Scalability of the Solution | Built on scalable cloud services (IBM Cloud), it supports horizontal expansion via modular microservices, multi-language support, and can integrate additional AI models or dev tools as plugins. |