**Project Design Phase**

**Proposed Solution**

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| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID34066 |
| Project Name | SmartSDLC – AI-Enhanced Software Development Lifecycle |
| Maximum Marks | 2 Marks |

**Proposed Solution:**

Smart SDLC Developer Assistant is a Generative AI platform powered by IBM Granite LLM that supports developers by automating bug fixing, code generation, requirement transformation, test case creation, and doubt-solving through an AI chatbot.

| **S.No.** | **Parameter** | **Description** |
| --- | --- | --- |
|  | Problem Statement (Problem to be solved) | Developers struggle with repetitive coding tasks, debugging, and understanding vague requirements. |
|  | Idea / Solution description | Build an AI assistant using IBM Granite LLM to provide contextual code help, generate code/tests, fix bugs, and act as a coding tutor. |
|  | Novelty / Uniqueness | Combines LLMs with real-time SDLC input for natural language interaction and tailored code suggestions. |
|  | Social Impact / Customer Satisfaction | Reduces developer workload, boosts learning, and accelerates delivery of high-quality software. |
|  | Business Model (Revenue Model) | Freemium for developers/students; premium features for enterprises (e.g., SDLC integrations, APIs). |
|  | Scalability of the Solution | Modular, cloud-based solution with support for multiple languages and frameworks for wider adoption. |