**Project Design Phase**

**Proposed Solution Template**

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| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID35544 |
| 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) | Modern SDLC processes are hindered by repetitive manual tasks like parsing unstructured requirements, writing boilerplate code, debugging, and generating tests or documentation. These tasks slow delivery and increase errors, especially in teams that rely on cross-functional collaboration. Existing tools often operate in isolation and require manual bridging between phases. There's a growing need for an end-to-end intelligent platform that automates these workflows, interprets natural language inputs, and streamlines technical outputs to boost efficiency and reduce friction. |
|  | Idea / Solution description | SmartSDLC is an AI-powered platform that streamlines the entire SDLC using Generative AI and NLP. It automates key tasks like requirement classification, code generation, bug fixing, test creation, and code summarization—turning natural language into ready-to-use deliverables. With modular features and real-time chatbot support, SmartSDLC boosts team collaboration, reduces manual effort, and integrates seamlessly with existing workflows to deliver faster, smarter, and more reliable software. |
|  | Novelty / Uniqueness | SmartSDLC transforms natural language into end-to-end software deliverables using Generative AI and NLP. Unlike siloed tools, it offers a unified, real-time platform that automates requirements, coding, debugging, testing, and documentation—bridging gaps between teams and accelerating development with minimal friction. |
|  | Social Impact / Customer Satisfaction | SmartSDLC empowers diverse development teams by reducing cognitive load, eliminating repetitive tasks, and making software creation more inclusive and accessible. By bridging the gap between technical and non-technical contributors, it enhances collaboration, speeds up delivery, and ensures higher-quality outcomes. Customers report increased satisfaction due to faster turnaround, fewer bugs, and clearer communication across roles—making SmartSDLC not just a tool, but a transformative force in digital innovation. |
|  | Business Model (Revenue Model) | SmartSDLC follows a tiered **SaaS subscription model**, offering Basic to Enterprise plans based on team size and feature access. It includes **usage-based pricing** for compute-heavy AI tasks like code generation and testing. **Custom enterprise licensing** is available for private deployments and advanced integrations. Additional revenue comes from **paid add-ons** for DevOps tools and platforms (e.g., GitHub, Jira), and **consulting services** for onboarding, domain-specific model tuning, and integration support.  Let me know if you'd like this turned into a pricing visual or business canvas format! |
|  | Scalability of the Solution | SmartSDLC’s modular, cloud-native architecture enables seamless scaling from individual use to enterprise-wide adoption. Its API-first design ensures easy integration with DevOps and CI/CD pipelines, while AI resource management adapts dynamically to workload demands. The platform supports cross-team, multi-region deployments and can be customized for domain-specific needs, making it a future-ready solution for organizations of any size. |