

**Project Design Phase**  
**Proposed Solution**

Date	25 Aug 2025
Team ID	NM2025TMID11404
Project Name	SmartSDLC – AI-Enhanced Software Development Lifecycle
Maximum Marks	2 Marks

S.No.	Parameter	Description
1.	<b>Problem Statement</b>	Manual software development processes are time-consuming, error-prone, and require significant effort in requirement analysis, coding, testing, and documentation.
2.	<b>Idea / Solution Description</b>	SmartSDLC is an AI-powered platform that automates SDLC tasks like requirement classification, code generation, bug fixing, test creation, and documentation using IBM Granite LLM.
3.	<b>Novelty / Uniqueness</b>	It offers an integrated workflow from PDF-based requirement extraction to test case generation and deployment, with an AI chatbot for real-time SDLC support.
4.	<b>Social Impact / Customer Satisfaction</b>	Reduces developer workload, increases productivity, ensures higher code quality, and assists non-technical users to engage in the development process.
5.	<b>Business Model (Revenue Model)</b>	Freemium model for basic features with premium tiers for enterprises, offering deployment integration, advanced analytics, and API access.
6.	<b>Scalability of the Solution</b>	Designed to support various languages and frameworks; easily extendable to large-scale enterprise solutions via cloud deployment (e.g., IBM Cloud, AWS).