

## Project Design Phase

Date	27 June 2025
Team ID	LTVIP2025TMID29288
Project Name	SmartSDLC – AI-Enhanced Software Development Lifecycle
Maximum Marks	2 Marks

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### Proposed Solution

S.No.	Parameter	Description
1	<b>Problem Statement</b>	Traditional SDLC processes involve multiple tools and extensive manual work in requirement analysis, coding, testing, and documentation, leading to delays, errors, and inefficiencies in software development.
2	<b>Idea / Solution Description</b>	SmartSDLC is a full-stack, AI-powered platform that automates the software development lifecycle using IBM Watsonx and LangChain. It supports automated requirement classification, code generation, bug fixing, test case generation, code summarization, and AI-based help.
3	<b>Novelty / Uniqueness</b>	Unlike traditional systems, SmartSDLC combines multiple SDLC functions into a unified platform driven by large language models. It offers contextual code generation, intelligent bug resolution, and seamless test case creation from natural language.
4	<b>Social Impact / Customer Satisfaction</b>	The platform empowers both technical and non-technical users, boosts development team productivity, reduces release cycles, improves accuracy, and enhances collaboration between stakeholders.
5	<b>Business Model (Revenue Model)</b>	Freemium model: Basic functionalities free for individuals and small teams; paid plans for enterprises with features like usage-based APIs, chatbot support, and integration with DevOps pipelines.
6	<b>Scalability of the Solution</b>	Built on scalable backend architecture and cloud-compatible services, SmartSDLC can serve individual developers to large organizations, supporting continuous upgrades and integration with CI/CD systems.