

Project Design Phase

Date: 26 June 2025

Team ID: LTVIP2025TMID32004

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.

S.No.	Parameter	Description
1	Problem Statement (Problem to be solved)	Developers and software teams spend excessive time managing fragmented SDLC phases like requirements, coding, testing, and documentation manually. This leads to inefficiencies, delays, and inconsistencies.
2	Idea / Solution description	SmartSDLC is an AI-powered assistant that automates SDLC tasks using IBM Watsonx and the Granite model. It offers requirement classification, code generation, bug fixing, test case generation, and code summarization within a single Streamlit interface.
3	Novelty / Uniqueness	Unlike basic development tools, SmartSDLC integrates natural language processing, real-time AI code assistance, and phase-wise organization to streamline the entire SDLC intelligently and efficiently.
4	Social Impact / Customer Satisfaction	SmartSDLC boosts productivity, reduces errors, and shortens development cycles. It helps both novice and expert developers focus on core logic while AI

		handles repetitive and documentation tasks.
5	Business Model (Revenue Model)	Freemium model: Basic SDLC utilities are free; premium features like team collaboration, advanced analytics, and export capabilities are subscription-based. Target markets include tech startups, freelancers, and enterprise teams.
6	Scalability of the Solution	Built on IBM Cloud, SmartSDLC scales across regions and projects. It supports modular feature additions, model fine-tuning, and integration with DevOps pipelines for large teams.