Project Design Phase
Proposed Solution Template

Date	26 June 2025
Team ID	LTVIP2025TMID59923
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)	Traditional software development life cycles are often inefficient or inflexible for machine learning (ML) projects, leading to delays, inconsistencies, and lack of automation. There is a need for a smarter, agile, and data-driven development model to handle ML pipelines efficiently from data collection to deployment.
2.	Idea / Solution description	Our proposed solution introduces a Smart SDLC framework tailored for ML projects. It integrates agile sprint planning, automated data preprocessing, scalable model training, and web deployment using Flask. The solution ensures modularity, traceability, and rapid iteration across all ML development stages.
3.	Novelty / Uniqueness	Unlike traditional SDLC models, our Smart SDLC combines principles of MLOps and agile methodology, enabling automation, sprint-based planning, and real-time feedback loops across the entire ML workflow. This fusion of DevOps and ML pipelines is rarely implemented in academic-level projects.

4.	Social Impact / Customer Satisfaction	This solution improves the quality, speed, and reliability of deploying ML applications, leading to faster innovation cycles in sectors like healthcare, education, and e-governance. It also ensures that users experience more accurate and responsive applications through continuous integration and feedback.
5.	Business Model (Revenue Model)	The solution can be offered as a SaaS (Software as a Service) toolkit for startups and enterprises working on AI projects. Additional revenue could be generated via customization, integration services, or cloud-based deployment support.
6.	Scalability of the Solution	The Smart SDLC framework is highly scalable—it supports containerized deployment using tools like Docker, CI/CD pipelines, and cloud integration, making it adaptable for large-scale enterprise ML workflows or multiple project teams.