**Define Problem Statements – SmartSDLC**

**Date**: 25 JUNE 2025  
**Team ID**: LTVIP2025TMID33777  
**Project Name**: SmartSDLC  
**Maximum Marks**: 2

**🔹 Problem Statement 1 (PS-1)**

**I am:**  
A student or software developer involved in academic or industrial projects that follow the Software Development Life Cycle (SDLC).

**I’m trying to:**  
Understand how to correctly classify and organize software project documents (e.g., requirement specs, design docs, test plans) into the appropriate SDLC phases quickly and efficiently.

**But:**  
Manual classification is time-consuming, error-prone, and often leads to confusion or misplacement of documents, especially for beginners or large teams.

**Because:**  
There is no smart, automated system that can interpret the content of documents and map them accurately to SDLC phases using AI or NLP techniques.

**Which makes me feel:**  
Frustrated, overwhelmed, and unsure whether I am following the SDLC methodology correctly—leading to inefficiencies and reduced project quality.

**🔹 Problem Statement 2 (PS-2)**

**I am:**  
A project mentor, team lead, or educator overseeing multiple SDLC-based student or intern projects.

**I’m trying to:**  
Review and evaluate submitted documents and project progress based on alignment with the correct SDLC phase, structure, and completeness.

**But:**  
It's difficult to ensure consistent document categorization and content quality when students or team members use varied formats, levels of detail, and terminology.

**Because:**  
There is no centralized, AI-driven tool that can analyze project files, provide summaries, or recommend corrections based on SDLC phase alignment.

**Which makes me feel:**  
Overburdened with manual review work, concerned about inconsistency in evaluation, and limited in providing targeted feedback for SDLC phase improvements.

**Summary of Problem Space**

**SmartSDLC** addresses these challenges by leveraging AI (like Hugging Face Transformers and IBM Granite) to automatically analyze, classify, and summarize project documents into SDLC phases. It supports:

* **Students & Developers**: by offering real-time document classification and SDLC guidance.
* **Mentors & Educators**: by reducing review time and improving documentation consistency.
* **Teams**: by ensuring structured software development practices and clearer collaboration.