Solution Requirements (Functional & Non-functional)

Date: 26 June 2025

Team ID: LTVIP2025TMID20490

Project Name: SmartSDLC: AI-Enhanced SDLC Automation Platform

Maximum Marks: 2 Marks

Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Interaction	Requirement Classification, Bug Fixer, Chatbot
FR-2	AI-based Assistance	Code Generation, Unit Test Generation, Code Summarization
FR-3	Data Input Handling	PDF Upload, Text Input, Code Paste
FR-4	Session Management	Stateful interaction for chatbot and module transitions

Non-functional Requirements:

NFR No.	Description
NFR-1	Usability – Streamlit interface with modular layout
NFR-2	Security – API key hidden using .env file and python-dotenv
NFR-3	Reliability – Stable interaction with IBM Watsonx APIs
NFR-4	Performance – Response within 3 seconds via optimized prompts
NFR-5	Availability – Local run supported; can scale to Streamlit Cloud
NFR-6	Scalability – Modular backend with potential for multi-model expansion