

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

Date	25 JUNE 2025
Team ID	LTVIP2025TMID59527
Project Name	Smart SDLC- AI Enhanced Software Development LifeCycle
Maximum Marks	4Marks

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub-Requirement (Story / Sub-Task)
FR-1	User Onboarding	Registration via FormRegistration via GmailRegistration via GitHub/LinkedIn
FR-2	Requirement Analysis	Upload Requirement Document (PDF)Manual Text InputGenerate Functional, Non-functional, and Technical SpecsGenerate User Stories
FR-3	AI Code Generation	Select Language & FrameworkEnter Prompt/FeatureGenerate Clean Code with CommentsDownload Code Output
FR-4	Test Case Generation	Select Test Type (Unit, Integration, etc.)Paste Code or RequirementGenerate Test SuitesExport Test Files
FR-5	AI Development Assistant	Ask Questions Related to SDLCGet Guidance on Architecture, Tools, SecurityAccess Prompt History
FR-6	Output Management	Save SessionsDownload Files (.txt/.md)Copy to ClipboardShare via Link (ngrok-based)

**Non-functional Requirements:** Following are the non-functional requirements of the proposed solution.

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	User-friendly Streamlit UI with minimal learning curve
NFR-2	Security	Local model execution, no external API calls, data not stored
NFR-3	Reliability	Consistent output accuracy and response handling
NFR-4	Performance	Fast response time with GPU support for inference
NFR-5	Availability	Available through local/hosted deployment with ngrok tunneling
NFR-6	Scalability	Modular design to support future integration with CI/CD tools, cloud models, or team features