**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID59952 |
| Project Name | SmartSDLC – AI-Enhanced Software Development Lifecycle |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form  Registration through Gmail  Registration through LinkedIn |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
| FR-3 | AI Code Assistant | Auto-suggest code snippets using context Support for multiple languages (Python, Java, JS) |
| FR-4 | Requirement Analysis Automation | Upload and parse requirements document Generate user stories Tag entities using NLP |
| FR-5 | Project Dashboard | View tasks, commits, test status, and AI insights |
| FR-6 | Voice-to-Task Automation | Convert spoken inputs to tasks using STT |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | User-friendly dashboard with minimal learning curve for developers |
| NFR-2 | **Security** | Role-based access control, OAuth2 login, HTTPS, JWT authentication |
| NFR-3 | **Reliability** | Redundant architecture, backup services, fault-tolerant components |
| NFR-4 | **Performance** | Capable of handling 100+ concurrent users; AI services respond within 2s |
| NFR-5 | **Availability** | 99.9% uptime via cloud deployment with distributed services and load balancing |
| NFR-6 | **Scalability** | Microservices architecture and Kubernetes orchestration for horizontal scaling |