**Project Development Phase**

**Model Performance Test**

| Date | 10 February 2025 |
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| Team ID | LTVIP2025TMID60831 |
| Project Name | SmartSDLC - AI-Enhanced Software Development Lifecycle |
| Maximum Marks |  |

**Model Performance Testing:**

Project team shall fill the following information in model performance testing template.

| **S.No.** | **Parameter** | **Values** | **Screenshot** |
| --- | --- | --- | --- |

Technical architecture refers to the blueprint of a system or application, outlining its structure, components, and how they interact to meet specific business and technical requirements. It encompasses the selection and integration of hardware, software, networks, and other technical components to support an organization's goals.

Here's a more detailed breakdown:

Key Aspects of Technical Architecture:

System Structure:

Defines the overall organization and relationships between different parts of the system, including hardware, software, and network components.

Component Selection:

Specifies the technologies (programming languages, frameworks, databases, etc.) to be used in the application.

Integration:

Determines how different components and systems will interact and exchange data.

Scalability and Performance:

Considers how the system will handle increasing loads and maintain performance.

Security:

Addresses security requirements and ensures the system is protected from unauthorized access and threats.

Maintainability and Reliability:

Focuses on designing a system that is easy to maintain and reliable over time.

Compliance:

Ensures the system adheres to relevant regulations and standards.

Why is Technical Architecture Important?

Alignment with Business Goals:

Technical architecture ensures that the technology choices support the overall business strategy and objectives.

Efficient Development:

A well-defined architecture provides a roadmap for development teams, leading to more efficient and consistent development processes.

Reduced Risk:

By addressing potential issues early in the design phase, technical architecture helps minimize risks associated with development and deployment.

Improved Performance and Scalability:

Careful consideration of performance and scalability requirements during the design phase ensures the system can handle current and future needs.

Cost Optimization:

By choosing the right technologies and designing for efficiency, technical architecture can help optimize costs associated with development, deployment, and maintenance.

In essence, technical architecture is the foundation upon which a successful system is built. It provides a clear vision for the technology implementation, guiding developers and ensuring that the system meets the needs of the business and its users.