**System Design Document (SDD) Template**

**1. Introduction**

* 1. **Purpose**

Explain the purpose of the document and the system.

* 1. **Scope**

Describe the scope of the system design, what is included and what is excluded.

* 1. **Overview**

Provide an overview of the contents of the document.

2. **System Architecture**

Provide a high-level overview of the system architecture (Diagram).

**2.2 Hardware Architecture**

Describe the hardware components and their relationships. (Users devices and system devices)

**2.3 Software Architecture**

Describe the software components and their interactions. (Users apps and system apps)

**2.4 Network Architecture**

Describe the network infrastructure and how the system components communicate. (all required communication devices and their configurations Types on networks that will be used, network protocols that will be require=

**3. External Interfaces**

**3.2 Hardware Interfaces**

Describe any required hardware interfaces, including communication protocols.

**3.3 Software Interfaces**

Describe the software interfaces between different system components.

**3.4 Communications Interfaces**

Describe the interfaces for communication between components, including network protocols and data formats.

**3.5 System Security and Integrity Controls**

Describe the design details of the integrity and security controls that will be implemented for the proposed of the system.

**4. Database Design**

**4.1 Data Requirements**

Data Dictionary

**4.2 Database Schema**

Provide the database schema, including tables, fields, and relationships.

**4.4 Database physical design**

Describe the data storage solutions and mechanisms. This should be inclusive of data storage organization, required storage size, integrity, and all other necessary requirements.

**4.5 Data Security**

Outline the security measures that will be implemented to for protect data.

**5. User Interface Design**

Provide detailed designs of the user interface, including layouts, mockups, and user experience considerations.

**6. Application Components Design**

**6.1 Component Overview**

Provide an overview of all the application components(subsystems) and their responsibilities.

Detailed Component Design: For each component, provide:

* Purpose: Describe the purpose of the component.
* Data Structures: Describe any data structures used by the component.
* Interaction: Describe how the component interacts with other components.

**7. Design Considerations**

* Performance: Describe how the design addresses performance requirements.
* Scalability: Describe how the design allows for scalability.
* Security: Outline security considerations and how the design addresses them.
* Usability: Describe usability considerations and how they are incorporated into the design.
* Dependability: Explain how the design will supports dependability.

8. Appendices

9. References