SSD – Software Development & Document

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Design

Data Design

- ➢ Data Models
- ➢ ERD

UI Design

- ➢ Site Map/ App Map
- ➢ Wireframe
- ➢ Mock-up
- ➢ Prototype

Architectural Design

- ➢ Medium and Low-Level UML Diagrams

Introduction to Data Design

It involves the process structuring data to meet the application's needs.

Effective data design ensures data accuracy, integrity, and accessibility, which are essential for the success of software projects.

Benefits of Effective Data Design

1. Improved Data Quality: Effective data design ensures data accuracy, consistency, and reliability.
2. Faster Development: Well-designed data structures facilitate faster development by providing a clear data foundation.
3. Reduced Maintenance: Good data design leads to lower maintenance costs and fewer data-related issues.
4. Scalability: Data design that considers scalability allows the system to grow without major overhauls.
5. Data Analytics: Well-structured data enables better data analytics and reporting capabilities.

Data Modeling Levels

Conceptual Data Model:

- High-level view focusing on business requirements.
- Independent of specific database technology.
- Helps stakeholders understand data relationships.

Logical Data Model:

- Translates the conceptual model into a structured format.
- Defines data structures, relationships, and constraints.
- Technology-independent, ensuring data integrity.

Physical Data Model:

- Specifies the physical storage in a specific database system.
- Defines data types, indexes, and storage details.
- Reflects database system capabilities and constraints.