DataBase Design

4.1: Introduction

Database design is used to manage large bodies of information. The management of data involves both the definition of structure of storage and provision for the manipulation of information. In addition, the database system must provide the safety of the information solved despite system crashes or due to the attempts at unauthorized access. We have to fulfil certain conditions such as:

- Control Redundancy.

- Easy to use.

- Data Independence.

- Accuracy and Integrity.

- Recovery and Security.

- Performance.

4.2: Purpose and Scope

The purpose of database design is to create a structured and efficient system for organizing and storing data. It involves defining the logical and physical structure of a database, determining the relationships between data elements, and establishing rules to ensure data integrity and security. The ultimate goal is to provide a solid foundation for data management, retrieval, and manipulation.

4.3: DataBase Identification

Database identification refers to the process of determining the need for a database in a particular context or scenario. It involves recognizing the data requirements, the purpose of data storage, and the potential benefits of using a database management system (DBMS) to organize and manage that data.

4.4: Schema Information

Schema information refers to the details and specifications of a database schema. A database schema defines the structure, organization, and relationships of the data within a database. It includes information about tables, columns, data types, constraints, relationships, and other elements that define the logical and physical structure of the database.

4.5: Table Definition

4.6: Physical Design

4.7: Data Dictionary

4.8: ER Diagram

4.9: Data Base Administration

4.9.1: System Information

4.9.2: DBMS Configuration

4.9.3: Support Software Required

4.9.4: Storage Requirement

4.9.5: Backup and Recovery