Database Management Systems II

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Week 1;

In the 1960s, Charles Bachman developed the first general purpose database management system called IDS. With the increasing amount of data over time, the modern database system has been developed today.

A database is a set of logically and physically defined data that are related to each other on any subject and organized in accordance with the purpose. With this information, it is not correct to define every regular data collection as a database. Therefore, let's list the features of the database;

* A database consists of data that is used in common in more than one application in any organization.
* The database contains data of a permanent nature. Temporary data that does not have a continuous meaning is not included in the database.
* The database allows for multi-purpose use without allowing duplication of common data.
* The data in the database is not absolute. It can be changed when necessary.

Database and Database Management System are not the same concepts. Database Management Systems; It includes many concepts such as defining data, creating a database, making transactions in the database. DBMS also has many advantages;

* Avoiding unnecessary data duplication and data inconsistency
* Ensuring data integrity
* Ensuring data sharing
* Does not require a high level of expertise in use
* Ensuring confidentiality and security of data
* Applicability of standard structures and rules

The people who interact with the database, which we call database users, can be classified as follows;

* Database Officers
* End Users
* System Analysts and Application Programmers

One of the important concepts of the architecture of an DBMS is the 3 Schema Architecture, whose purpose is to distinguish user applications from the physical database. In this architecture, schemas are defined at the following three levels;

* Intrinsic Level
* Conceptual Level
* External Level

Every DBMS uses a data model. The data to be included in the database and the relationships to be established between the data are structured according to the data model and the databases are classified accordingly. These can be classified under 4 headings:

* Hierarchical database
* Network database
* Relational database
* Object oriented database

DBMS can be used from many different programs; MS SQL Server, Oracle, MySQL, Sybase, MS Access, PostgreSQL, IBM DB2, Informix, Advantage.