**ST. XAVIER’S COLLEGE**

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**DATABASE MANAGEMENT SYSTEM**

**LAB ASSIGNMENT#3**

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Database Management System (DBMS)

Database Management system is a collection of programs that manages the database structure and controls access to the data stored in the database. In a sense, a database resembles a very well-organized electronic filing cabinet in which powerful software, known as a database management system, helps manage the cabinet’s contents.

## Additional Advantages of Database approach

### Expandability

Expandability allows for new applications to be added without interfering with presently working applications.

### Reduced application development time

Since all the data handling such as data concurrency control, data abstraction, data storage, data protection etc. is all done by the system the user has more time to create new applications. This development of applications is further aided by the DBMS with the application development suites.

### Economy of scale

Since the database allows the company to focus more on the performing required task than on how to store the data and to protect it, the company can have fewer workers and save money while still producing the same amount of work.

### Centralized control by DBA

In a database system there is always a user who is called the Database Administrator. The Database Administrator (DBA) is responsible for all the actions in the Database such as allowing data access, checking the data for data concurrency, and conducting routine maintenance.

## Database System Components

### Data

Data is the most important component of the DBMS. The main purpose of DBMS is to process the data. In DBMS, databases are defined, constructed and then data is stored, updated and retrieved to and from the databases. The database contains both the actual (or operational) data and the metadata (data about data or description about data).

### Hardware

It consists of the physical components of the computer such as the Hard Disk Drive, I/O channel, etc. which make the user interface of the computer. It is also the limiting factor for how many users can use the database at the same time. Hence care should be taken to select the appropriate hardware system.

### User

Users are the people who use the database to carry out their work responsibilities. They can be the staff, managers and executives of the office. There are different types of users according to what their role is in using the database.

They are:

* Naïve user – These users are the ones who use the database’s application interface. They are the tellers, agents, web users.
* Application programmer- these are the users responsible for coding the application program.
* Sophisticated user- They use the query tools for getting information from the Database.
* Database Administrator-He/She is responsible for all the actions in the Database such as allowing data access, checking the data for data concurrency, and conducting routine maintenance.

## Data Communication Manager

# References

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