A STUDY ON DATA BASE MANAGEMENT SYSTEM

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Abstract
A database management system is important because it manages data efficiently and allows users to perform multiple tasks with ease. A database management system stores, organizes and manages a large amount of information within a single software application. Use of this system increases efficiency of business operations and reduces overall costs. Database management systems are important to businesses and organizations because they provide a highly efficient method for handling multiple types of data. Some of the data that are easily managed with this type of system include: employee records, student information, payroll, accounting, project management, inventory and library books. These systems are built to be extremely versatile.

Key Words: computer, database, efficiency, information, manage, program, system.

Introduction
Without database management, tasks have to be done manually and take more time. Data can be categorized and structured to suit the needs of the company or organization. Data is entered into the system and accessed on a routine basis by assigned users. Each user may have an assigned password to gain access to their part of the system. Multiple users can use the system at the same time in different ways.

For example, a company's human resources department uses the database to manage employee records, distribute legal information to employees and create updated hiring reports. A manufacturer might use this type of system to keep track of production, inventory and distribution. In both scenarios, the database management system operates to create a smoother and more organized working environment.

A simple database has a single table with rows for the data and columns that define the data elements. For an address book, the table columns define data elements such as name, address, city, state and phone number, while a table row, or record, contains data for each person in the book. The query language provides a way to find specific types of data in each record and return results that match the criteria. These results display in a form that uses the defined data elements but only shows records that meet the criteria. These three components make up almost every type of database.

Relational databases use multiple tables and define relationships between them using a schema in addition to data elements. Records and data elements from each table merge, based on the query, and display in the form. Routinely used queries often become reports. A report uses the same query but reports on changes in data over time.

There are five major components in a database environment: data, hardware, software, people and procedures. The data is a collection of facts, typically related. The hardware is the physical devices in the database environment. Operating systems, database management systems and applications make up the software. Examples

of people in the database environment are the system administrator, programmers and end users. Procedures are the instructions and rules for the database.

Database Management System – The world of data is constantly changing and evolving every second. This in turn has created a completely new dimension of growth and challenges for companies around the globe. By accurately recording data, updating and tracking them on an efficient and regular basis, companies can address their challenges on one hand and make use of the immense potential offered by this sector on the other hand.

By collecting minute and updated data, companies are using the said information to achieve their goals in a systematic way on one hand and empower their business in a strategic manner on the other hand. Some of the activities conducted after collection of data includes creating accounting reports, calculating sales estimates and creating invoices of customers. This data and its insights is then made available to the management and employees of the organisation through computerized database. One of the proven ways in which brands can manage the relationships between the various database elements is through the use of database management systems, which is today an integral part of functioning of companies and organisations around the world.

Database management systems are therefore crucial and important links in the creation as well as management of data. They are needed for effective running and management of data. It also helps companies to transfer the said data through the entire systems. Some of the reasons why data management systems are important include the following:

1. Data management system is needed for data access within the company

Modern database management systems are dependent on a programming language that is called structured query language. This language is then used to access, update and delete data that are present within its tables. The database systems also contain programs that include Microsoft's SQL server and the open source MySQL queries that enable outside programs to access its data through SQL queries. For example, a web page can display information or data that includes product data and description, photographs and prices. This information is easily available to the user easily, when the web server software is connected to the relational database management system.

2. It is needed to maintain strong relationships between data

One of the most important functions of relational database management systems programs is that it allows different data tables to relate to one another. When a database contains information about employee data on its product sales in one table and another table contain information one with sales employee data, then a relational database will be perfect to manage their relationships in a systematic and simple style. This system in turn can help brand managers to understand important statistics like which salesperson is able to sell the most or which product is being sold by a particular salesperson.

3. This system allows newer and better updates

A useful and productive database management system allows brand managers to not just enter newer information but also update the current information and also delete information that they do not require. For example, when a salesperson is able to sell 1,000 units, then that person can enter that transaction information in the relational management system which can include certain details like the person's name, customer information along with the product and number of products sold by the user. The relational database management system will enter the new records and update all the required information, thereby allowing brands to track and sell their products in an effective fashion.

4. It helps brand managers to search data in a better manner

The relational database management system also allows brand managers to maintain and build their data over successive years. The various tables in the relational database management system allows brand mangers to search through their entire system for a particular information. The company manager can easily find any information that they need, using a particular criteria. This is also available for customers who can search for any feature that they

want including price, colour and brand. By storing information in a predictable and sequential format, it enables users to find the information they need with a lot of ease.

With so much information available for companies, investing in a database management systems is of critical importance for brands across all sectors and groups. Today, virtually all companies and brands run of database systems. These storehouse of organised information can help brands to store information of all kinds, which they can not just sort but also make available at the click of a mouse as well. In short, database management systems helps brands to track every part of their business in a fast, effective, efficient and successful way than ever before.

Types of Database

Major types of database that exist in the industry today:

1. Relational Database Management System

One of the most popular database management system, available in the market is called relational database management system, because they are very easy and simple to operate. These systems are normalized by using data which are generally stored in tables. The data in the system can be associated with the data that is present in any of the tables, be it the same or different. While relational models are sometimes less efficient than other systems, this is not a major problem as most modern computers have high processing power and memory, that can easily help brands to overlook this small disadvantage. In this model, data is stored in predefined structures and they are usually manipulated through the use of SQL or Structured Query Language. Some other systems that uses relational database management includes Oracle, IBM, Ms SQLServer, mySQL, PostgreSQL among many others.

2. Flat file based database management systems

Also known as flat models, flat file based database management system is one of the simplest systems present in the market. In addition, the flat file based system is also available in formats that can be read by humans and in the binary formats as well. Ideal for holding software configuration, this application generally relies on certain assumptions. A common type of this database is the comma spared values or CSV which is part of the flat based database management system.

3. Hierarchical database management systems

Working in a format that is based on the model of parent child tree, hierarchical database management system are extremely good for storing information with items that describe features, attributes and other such things. These systems are capable of storing information in the form of verses and chapters on one hand or data like in the form of songs, recipes and similar formats. They are not really effective for real world operations and one of the main type of this system is XML document.

4. Network Database management systems

Similar to hierarchical database management system, this system has multiple parent to many relational model. The network model structure uses SQL for manipulation of data that can in turn be used to gain valuable insights and learnings. Though they were very common initially, especially in the 1960s and 1970s because of their immense flexibility, network database management systems are relatively less used in the business world today. This is because searching for a particular item is quite cumbersome because the system has to traverse the entire data set. That is why relational database system has replaced network database management which is why they are more popular among big brands and companies.

5. Object oriented database management systems

Object oriented database management consists of diverse structures which are quite extensive in nature. This model is based on the function that data and its concerning object are treated as a single unit. This information can then be retrieved through the use of Ideal for working with programmes that are object oriented in terms of programming languages or object oriented, this system enables data and its attribute to function as a single unit. With this model. applications can that data as a native code, and there is a little commercial implementation. A major hurdle is choosing the right database management system so that brands can achieve their goals, both short and long term in a systematic fashion. By combining your requirements and understanding various data sources as well as handling updates on your system in proper manner, brands can very easily choose the right database management system for their brands.

Methods to choose the right database management system

1. Usability of the database management is a critical factor:

A good and user friendly system is very important as employees and brand mangers in the company must be able to use the said system in a easy and simple manner. The professionals who will handle the system will include marketing professionals, members of the IT team, database developers among others who should have enough knowledge about the said system and its functioning.

It is extremely important that the brand management consider the perspective and usability of the system from every employee's perspective because if they are not able to use the system efficiently, the entire purpose is defeated. Some systems have unique features like drag and drop execution that can make working on the system easier and simpler. Overall, make sure that every team within the company is able to use the system without much of a problem; this has to be your most important criteria while selecting a database management system.

2. Visualisation and reporting of data management system is also an important feature:

Raw data is of no use to anyone because it cannot solve any purpose. That is why it is extremely important that the database management system is able to visualise and analyse data in a strategic fashion. Unless the brand mangers are able to understand data in a simple and visual way, they cannot create policies and strategies that will help to empower and strengthen their brand.

3. Security is another important aspect of database management system:

An extremely important part of the database management system is security. Every brand and company has data that is extremely critical and sensitive. This data has to be preserved at all costs because if they are leaked, it can have damaging effects on the company growth and reach. That is why such data must be stored in a secure manner and protected from any kind of damage or loss. In addition, sensitive data must be protected against physical losses like fire and theft on one hand as well saved from unintentional corruption through human error or hacking. Brands must always implement only those systems that are able to address the security concerns of the company in a constructive fashion.

4. Functionality is another important feature of database management system:

Brands must always be careful to use a database system that is able to meet the goals and objectives of their organisation. Some of the functionaries and models that brands must always keep a lookout for in a database management system includes extraction and filtration of data, insights and analysis, automation, forecasting strategies, visualisation tools and return of Investment management among other things.

5. Ensure that system has sufficient support service and development plans:

Support and services offered by the database management system company is extremely important. Are the services/support for the product available at all the required hours, especially from the point of view for the brand? How is the support offered for the product including email or phone numbers? Companies must keep in mind the development plan for the selected systems, so that it is according to the latest trends on one hand and keep updating the system so that brands have access to the latest technology and trends on the other hand.

Ensuring that the system is integrated with other software's, scalable and able to grow with growing demands of the brand, sustainable and cost effective, are some of the other things that brands must keep in mind while choosing the right database management system.

Conclusion: In the present world of computer usage, DBMS role is very wide in many sectors.

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