

APPLICATION OF DATABASES

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Application of databases

Databases can be divided into several categories based on the number of users who access them:

- personal databases
- workgroup databases
- department databases
- enterprise and Internet databases
- intranet databases
- extranet databases

- Personal Databases

- Personal databases are created for use by a single user and have long been used on personal computers.
- With the development of personal digital assistants (PDAs), personal databases have also been used on many mobile devices that, besides computing functions, have other uses as well, such as mobile phones, fax machines, and Internet readers..

- Workgroup Databases

- A workgroup consists of a relatively small number of people who work together on one project or application, or on a group of similar projects or applications. A workgroup usually has about ten people. They may be involved in activities such as planning, designing, or developing a new computer program. A workgroup database supports the shared work of such a group.
- Each member of the workgroup has their own computer, and the computers are connected through a LAN. The database is located on a central computer called a database server, which is also part of the network. Therefore, each group member has access to the data. The main data management problems are related to security and integrity, since multiple users can update the data at the same time.

- Department Databases

A department is a functional unit within an organization. Typical examples of departments include human resources, marketing, production, accounting, and similar areas.

A department is usually larger than a workgroup (sometimes consisting of up to 100 people) and is responsible for a larger number of different tasks.

- Organization Databases
- An organization database covers the entire organization or several of its departments. This type of database is designed to support all organizational processes and decision-making. It is important to note that one organization can have multiple databases, so a single database does not contain all the data of an organization.
- In organization database supports a specific group of departments. Over the last decade, the development of organization databases has led to two main forms:
 - 1. Enterprise resource planning (ERP) system
 - 2. Implementation of data warehouses

- ERP systems work with the current data of an organization, while data warehouses collect data from various operational databases, including personal, workgroup, department, and ERP databases. Data warehouses allow users to work with historical data in order to find patterns and trends in events and to answer questions related to business strategy.

- Internet, Intranet, and Extranet Databases

- Internet technologies are used to make it easier to share data and information.
- For example, within a factory, a local network (LAN) can be used to connect employees' workstations from different departments to a server where the database is located.
- LAN improves communication and decision-making within the company. If an intranet based on web technology is introduced, it can be accessed only within the company. Each employee's workstation can be used as a web browser, which allows fast access to company information, including the phone directory, product specifications, email, and similar resources.

- In order to improve overall business efficiency, an intranet system can be opened to customers through the Internet. This allows retail stores to browse the product catalog (including images and product specifications) and check whether a desired product is in stock.
- Employees in retail stores can then inform their customers and order the desired product through the Internet. The Internet connection is configured as an extranet, which means that only authorized retail stores can access the company's intranet.

- An extranet uses Internet technology, but unlike the Internet, which is open to everyone, access to an extranet is restricted.
- In fact, access is limited to companies that act as suppliers and customers and that have a mutual agreement to share data and information. An intranet can have an Internet connection, but that connection is protected by a firewall that prevents unauthorized access to the intranet.