

Database Creation and Management

Database System Concepts and Data Models

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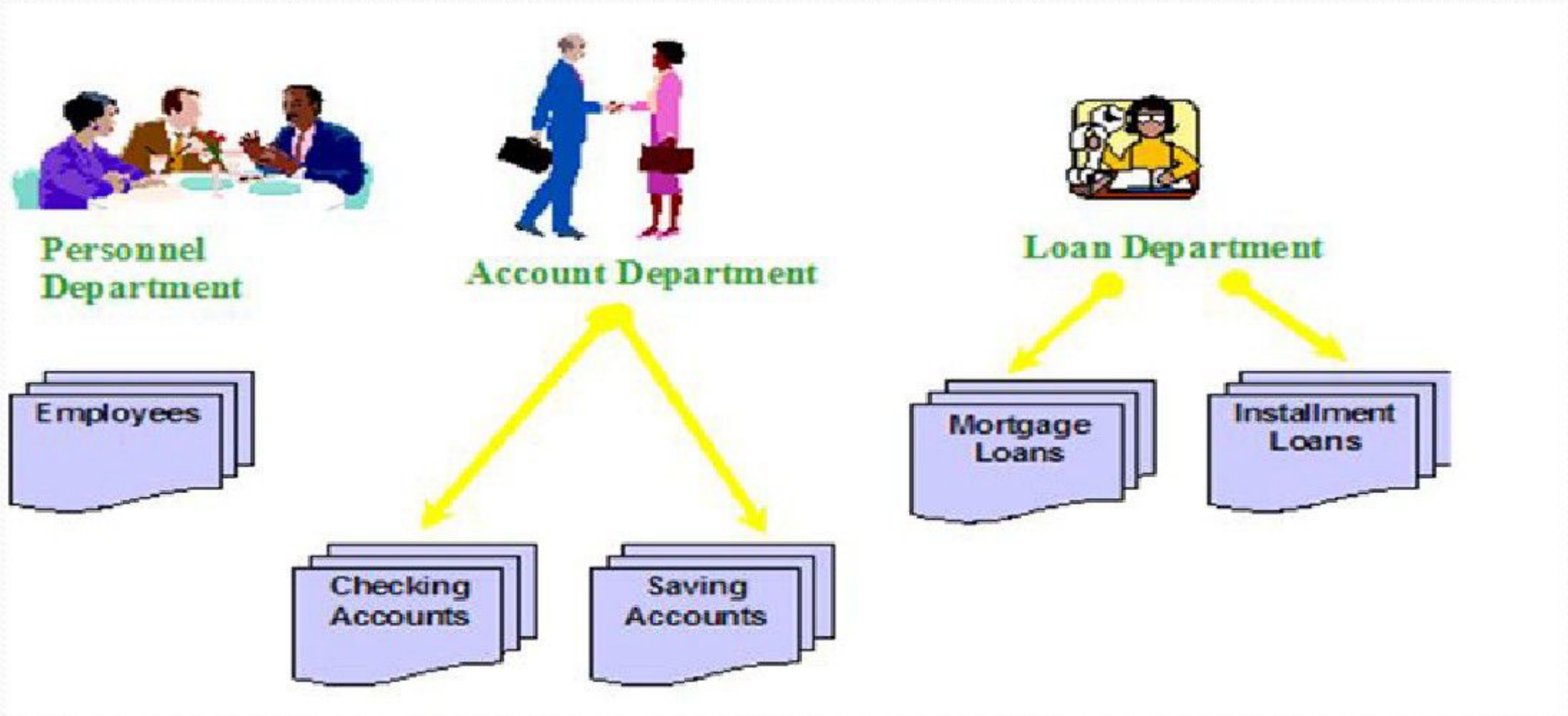
Outline

- File Based Approach,
- Database Systems,
- File- oriented Systems vs. Database Systems,
- Advantages and Disadvantages of DBMS.

FILE BASED APPROACH

- The computer system was used to store business records and produce different information.
- They were generally faster and more accurate than equivalent manual systems.
- These systems stored groups of records in separate file and so they were called file processing system.
- One way to keep information on a computer is to store it in permanent files.

Example



A file-based system used by banks to manage data

Advantage of File-oriented system

- 1) Backup
- 2) Compactness
- 3) Data Retrieval
- 4) Editing
- 5) Remote Access
- 6) Sharing

Disadvantage of File-oriented system

- 1) Data Redundancy
- 2) Data Inconsistency
- 3) Difficulty in Accessing Data
- 4) Limited Data Sharing
- 5) Integrity Problems
- 6) Atomicity Problems
- 7) Concurrent Access Anomalies
- 8) Security Problems

DATABASE SYSTEMS (OR)

DATABASE APPROACH

- DBMS protects the database and maintains it over long period of time.
- Allows us to manipulating and sharing the database among various users and applications.
- Provides a recovery system to restore data in consistent state.
- Enhances the database programmer's productivity by supporting code reusability.
- In DBMS data redundancies and inconsistencies in data are reduced due to single file formats and duplication of data is eliminated.

FILE ORIENTED SYSTEM VS. DATABASE SYSTEM

DBMS	File Processing System
Minimal data redundancy problem in DBMS	Data Redundancy problem exists
Data Inconsistency does not exist	Data Inconsistency exist here
Accessing database is easier	Accessing is comparatively difficult
The problem of data isolation is not found in database	Data is scattered in various files and files may be of different format, so data isolation problem exists
Transactions like insert, delete, view, updating, etc are possible in database	In file system, transactions are not possible
Concurrent access and recovery is possible in database	Concurrent access and recovery is not possible
Security of data	Security of data is not good