Relational Database Concepts

Characteristics Of Databases

PRESENTED BY IMGARD EKOKOBE

Objectives

- Learn the role of databases in an organization.
- Basic terminology of databases
- Examples of databases
- Characteristics of databases
- Learn the importance of non procedural access
- Transaction processing

Characteristics Of Databases

- Persistent – Data must be stored on reliable storage disks for repetitive and long term use versus being stored in memory where it will be lost when the computer shuts down. Organizations need reliable long-term memory to operate successfully.
- Inter- related - Data stored in the database must be for a purpose and therefore must be related to each other. For example you database can store information about students, courses they are currently enrolled in, student's grades. And this information can be queried to check student grades or the students are currently enrolled in a course.
- Shared - database can be shared by multiple applications(customer service, accounting, ordering) and multiple users accessing the database at the same time. For example, customers simultaneously making airline reservations, placing an order for a book on amazon etc.

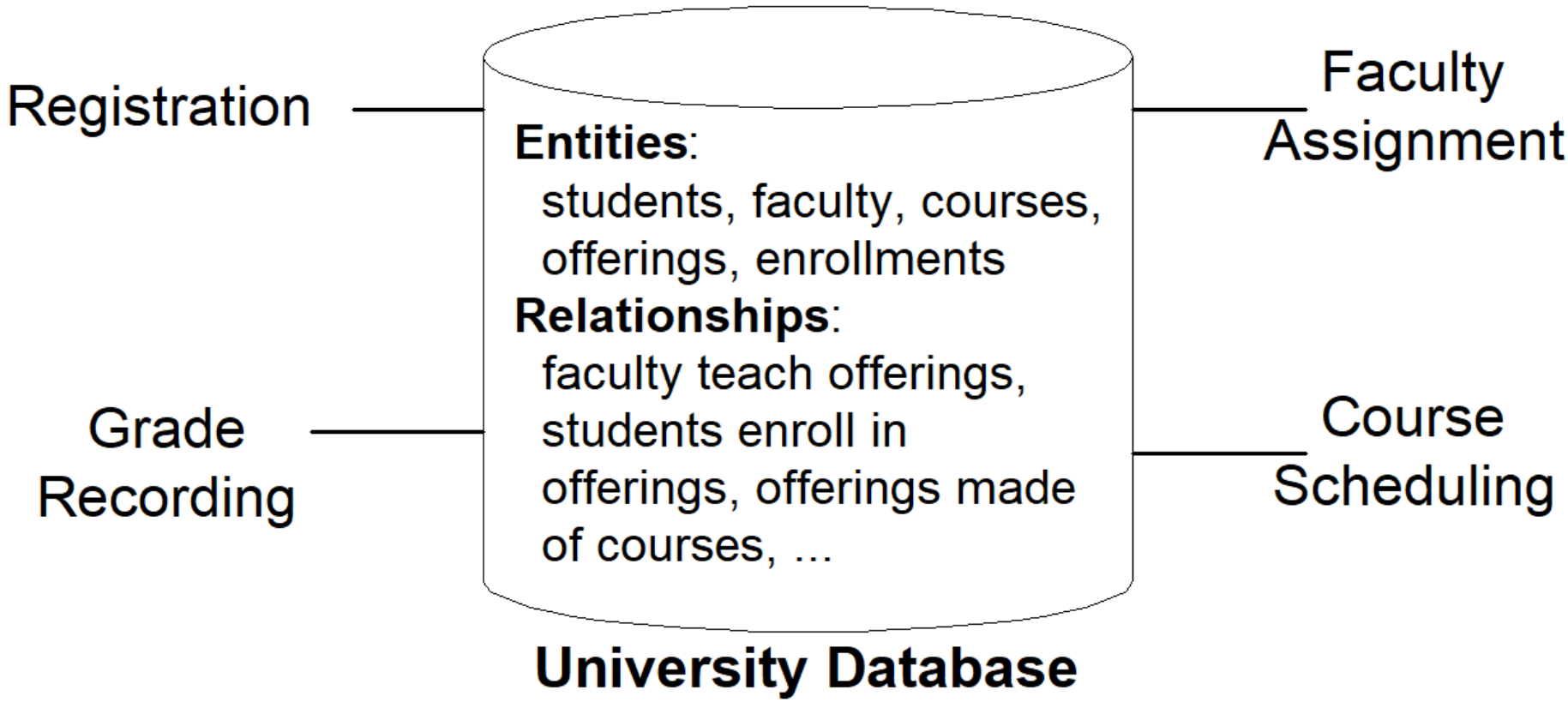
Characteristics Of Databases

- Lets use these three characteristics. Persistent, inter-related, and shared in an important example, a database to support the operations and decision-making in a university.
- If you have taken university courses, you have interact with the university database.
- The entities in an organization should remember in this database are students, faculty, courses, offerings of courses and enrollments. Remembering these entities is not enough though.

Characteristics Of Databases

- The relationships among these entities are also vital to remember over time. Faculty teaching course offerings, students enrolling in course offerings, offerings schedule of courses are some of the important relationships that must be remembered over time.
- A university database supports a variety of applications such as registration, grade recording, assignment of faculty to course offerings and scheduling of courses.
- Many students, perspective students, faculty and administrators can be using the database simultaneously. So in this simple example, we have seen the three essential characteristics of persistent, inter-related and shared by multiple users and usages.

University Database Example



Water Utility Example