

## Databases, Database Management Systems, Database Applications

These are all different things



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## Database Management Systems

- ❖ Database Management System (DBMS)
  - ❑ Designed to restrict access to data tables (data stores)
    - + You can't just open a table without being inside the management system
  - ❑ Maintains information about data types (metadata)
- ❖ DBMSs normally include:
  - ❑ Data stores
  - ❑ Storage Engine
  - ❑ Query Processor: query facilities
    - + More on this later
- ❖ Commercial package, like Access, includes:
  - ❑ Data Services
  - ❑ Logic Services
  - ❑ Presentation (Interfaces) Services
    - + This combination allows a developer to create a complete database application for an organization.

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## FIT 100 Database

- ❖ A collection of information/data that is important to us
- ❖ Stored as bits and bytes on the computer
- ❖ The most fundamental unit of a database is a table
- ❖ Relational Databases:
  - ❑ Controls Data Redundancy
  - ❑ Information about one entity per table
  - ❑ Relationships are stored using keys

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## Database Applications

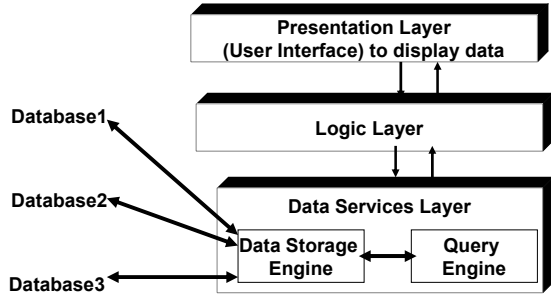
- ❖ A complete package application that includes:
  - ❑ User Interface
    - + A way to present the data in an intuitive manner.
  - ❑ Logic level
    - + the programming/code in the middle which allow communication between application and database management system
  - ❑ Data Stores
    - + Relational database, flat files, whatever
    - + May or may not be in a DBMS

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## Separate the Component Parts

- ❖ Separation of Data, Logic and Interface (Presentation) layers



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## The Puget Sound Health Clinic

- ❖ The PSHC is a fictitious walk-in health clinic offering lab tests for drugs, HIV, AIDS, and other diseases
- ❖ It is staffed by volunteer health professionals and a volunteer receptionist ... there is no need to be concerned with issues of billing or payroll
- ❖ The lab testing is not performed on-site, but contracted out to Seattle labs and hospitals
- ❖ The goal of our effort is to provide all the database facilities needed to support all aspects of client processing and testing
- ❖ Databases and business systems are best developed by developing familiarity with how an organization operates...

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## Analysis of the Puget Sound Health Clinic



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## PSHC Analysis

- ❖ Go to overheads...

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