Towards the end of the course we will study these NOSQL databases.

NoSQL DB's:

- Relational DB's:
- Popular DB products

BUT: want to control at smaller granularity

Appears similar to file system concurrent access

BUT: data not main-memory variables

Appears similar to concurrent programming problems (synchronization, customers, pending orders, order histories, trends and preferences, etc.)

Data = information on books (including categories, bestsellers, etc.),

Example database: online bookseller

- Operational vs. analytical (data warehouses)
- Centralized or distributed (even to the Cloud)
- Enterprise or group
- Single or multi-user

Complex software like DBMS have updates and patches, while filesystems have far fewer

with IBM's DB2

e.g., we'll be using mySQL which isn't 100% compatible with Oracle which isn't 100% compatible with Microsoft Access which isn't 100% compatible

Vendor dependence (usually)

Shifts complexity to management

Higher costs

Advantages of DBMS - address all those problems

DB's in plain filesystems are unwieldy

DBMS is a set of applications/tools, managing access and maintenance of the data in the DB

- Describe data characteristics and relationships
- Metadata: Data about data, which the end-user data are integrated and managed
- End-user data - Raw facts of interest to end user

Databases to the rescue

Tell Aaron's story

Why databases?

Data or Information

Slides:

Briefly discuss Logistics and expectations of undergrads and grads.

Admin

Date:

Author:

Title: