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Lecture 2 Relational Model

3 levels of architecture

Conceptual Level (community logical level)

- What someone at eg. The uni level can see
- What DBA sees – who is getting what data
- Overview of what the system looks like
- Birds eye view
- Big picture

External Level (user logical level)

- How data is viewed by particular users
- Eg. What I can see on my sinet
- Eg. our names and addresses, studies report, my own info

Internal Level (physical level)

- How data is stored in system

ACID

Atomicity

- All or nothing

Consistency

- If something is stored more than once, all must be updated

Isolation

- 2 things can be updated at once but must be separate eg. airline ticket

Durability

- If a transaction is completed it can't be lost even if system fails after

The Relational Model

Objectives

Data-Program independence

- You can run any program on the database without fearing its incompatible
- If you want to change anything in your applications it shouldn't affect anything you already have but in reality it doesn't always happen

Data integrity

- address consistency and redundancy problems
- eg. repeating fields

Set orientation

- we've got sets where we can join tables

Relation