

CSE 498U/598U – Computer Security

Class 32: Monday, November 15

Reminders

- Homework
 - Homework 4 Nov 19 @ 5 PM
 - Project Status Report Nov 24 @ 5 PM
 - Project Reviews Nov 24 @ 5 PM
- Reading / Web Browsing
 - Google: Database security

Schedule

Monday
 Database security
Wednesday
 Database security

Lecture Outline

Inference
Sensitivity
Commutative Filters

Key Points

- Why is the granularity of sensitivity important?
- Describe the basic concepts of a sensitivity lock.
- What is a commutative filter and how does it work?

Lecture Notes – CSE 498U/598U - Computer Security

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Topic: Databases

Physical issues

System crash in the middle of a transaction
Disk goes bad, processor locks up

Logical Integrity

Integrity of the user
Access control Biba-style control
Verify the DB
Field checks
Change log

Auditability

Use it to recover from integrity violations
Can use it to monitor knowledge passed to the user

Inference

Obtain data values from others
Example: Sherlock Holmes for DBs

Two-phase update

Intent phase Gather the appropriate information
Commit phase Write, mark a commit flag

Similar to the threading/coherency issue
Make the write atomic

Example: Paper clips in the office