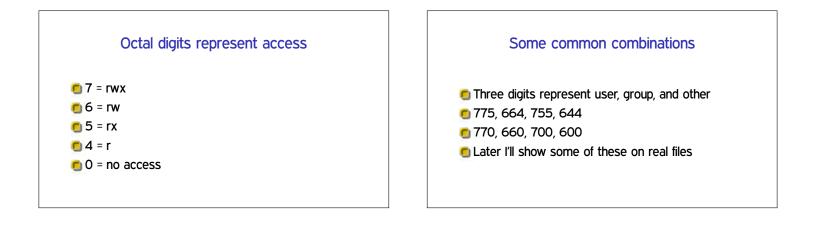
#### CSci 427IW Development of Secure Software Systems Day 12: More Unix Access Control

Stephen McCamant University of Minnesota, Computer Science & Engineering

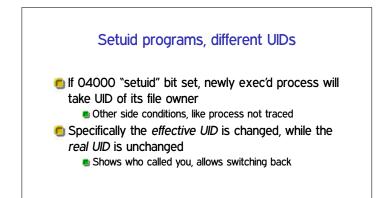
#### Outline

Unix permissions bits review More Unix permissions Live Unix permissions Announcements intermission Good technical writing (pt. 1) BCImgView demo



# Process UIDs and setuid(2)

- UID is inherited by child processes, and an unprivileged process can't change it
- But there are syscalls root can use to change the UID, starting with setuid
- 🖲 E.g., login program, SSH server



Outline

Unix permissions bits review

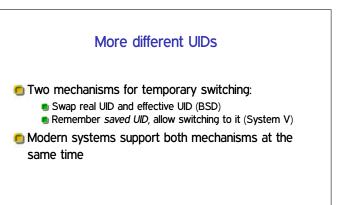
Announcements intermission

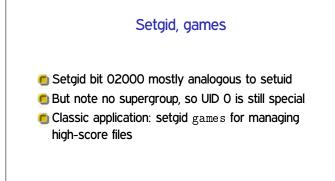
Good technical writing (pt. 1)

More Unix permissions

Live Unix permissions

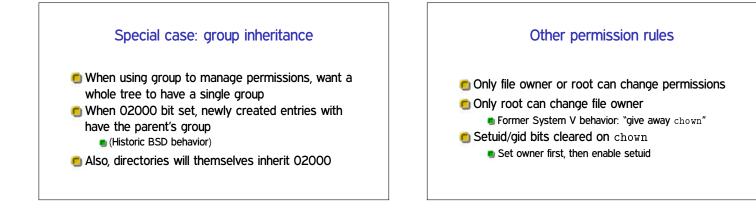
BCImgView demo

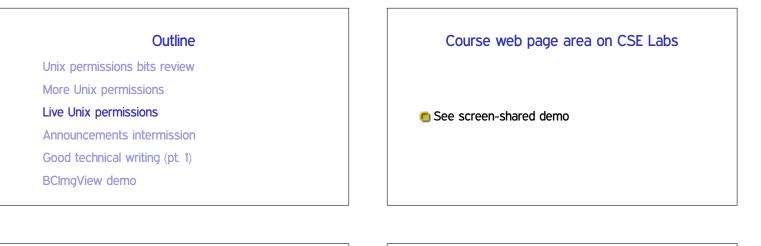


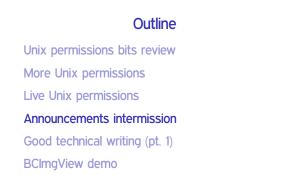


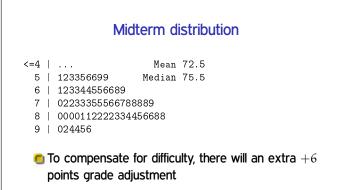
### Special case: /tmp

We'd like to allow anyone to make files in /tmp
 So, everyone should have write permission
 But don't want Alice deleting Bob's files
 Solution: "sticky bit" 01000









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BCImgView demo

# Writing in CS versus other writing

- Key goal is accurately conveying precise technical information
- More important: careful use of terminology, structured organization
- Less important: writer's personality, appeals to emotion

## Still important: concise expression

 Don't use long words or complicated expressions when simpler ones would convey the same meaning
 Beneficial for both clarity and style

### Know your audience

- When technical terminology makes your point clearly, use it
- But provide definitions if a concept might be new to many readers
  - Be careful to provide the right information in the definition
    Define at the first instead of a later use
- On other hand, avoid introducing too many new terms
  - Reuse a term when referring to the same concept

#### **Precise explanations**

Don't say "we" do something when it's the computer that does it

And avoid passive constructions

- Don't anthropomorphize (computers don't "know")
- Use singular by default so plural provides a distinction:
  - The students take tests
  - + Each student takes a test
  - + Each student takes multiple tests

## Provide structure

- Use plenty of sections and sub-sections
- It's OK to have some redundancy in previewing structure
- Limit each paragraph to one concept, and not too long
  - Start with a clear topic sentence



