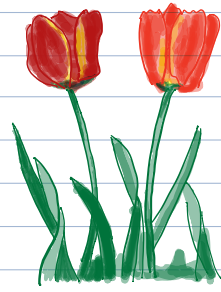


# Secure Distributed Systems

## CompSci 661 / 461

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This video

- What is a secure distributed system?
- Class logistics and syllabus

# CompSci 461/661

## Secure Distributed Systems

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# Course Architecture

- Videos and Readings are posted at least 1 week ahead
  - View and read prior to discussion!
- 661 discussions 230-345
- 461 discussions Tuesdays 1-2:15
- Link to a Piazza board on web site

graded activities  
and quizzes  
are a component  
of discussions

- A **System** is software that provides a service to its users.

- file systems, networking, operating systems, databases

- A **Distributed System** is a collection of independent or autonomous components that appears to its users as a single system.

- It's commonly one in which components located at networked computers communicate and coordinate their actions by passing messages.

- A system has **secured** its resources if either

- Unauthorized access costs more than the value of the resources.

- Unauthorized access takes longer than the resources retain their value.

- The value to whom? The attacker or Victim?

- This definition assumes a rational attacker.

Our secure distributed system of primary interest:

- Blockchains (2008)

- But we'll also study some "classic" approaches to contrast.

Blockchains rely on a tremendously useful and interesting set of fundamental results and mechanisms from:

- cryptography
- distributed systems
- networking
- security
- finance

- Maybe Bitcoin is a fad, but studying how it works will serve us well, regardless