CAS CS 350

InClass Note 1

1. What is a distributed system?

    a. Set of nodes, connected by a network, which appear to its users as a single coherent system - Andrew S. Tanenbaum

    b. One in which the failure of a computer you didn't even know existed can render your own computer unusable - Leslie Lamport

2. Distributed systems are everywhere

    a. Google web search

    b. Email

    c. Online gaming

    d. Messaging

    e. E-finance

3. Active area of research

    a. Lots of interesting problems

    b. Theory and practice

    c. Rapidly evolving field

    d. Opportunity to make impact

4. Main Topics

    a. Abstractions that hide complexity of distribution - storage, communication, computation
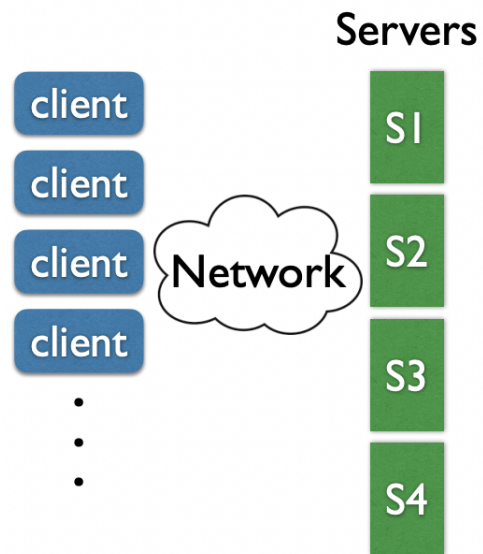
Servers

b.

c. Implementation

d. Performance

- Scalable throughput

- Simply buy more servers to handle more load but things get complicated as it gets bigger

e. Fault tolerance

- Lots of computers and complex networking

- Availability: keep using my files

- Durability: my data will always survive

f. Consistency