

CSCI 6907.11

# Adv. Net. Sys. Prog.

## Lecture 13 - GW KV Coding as a Class

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# Today

One big coding project

**Plan**

**Develop**

**Iterate**

Think of this as an exam

- Demonstrate what you've learned over the semester
- Get lots done quickly

# GW KV

Let's build a Key-Value store!

Server stores a set of **values**, each indexed by a **key**

- Keys are strings (typically short, e.g., ~10s of bytes)
- Values are binary data (may be much longer, e.g., > 1KB)

Clients **get** and **set** keys

- If we get ambitious we can add more (e.g., “test and set”)

We will test out several different server architectures

- threaded, thread pool, select-based, etc

# Agile Development

We will use (an incredibly condensed) form of the Scrum agile development methodology

Schedule:

- **1:00-1:20** Planning and division of labor
- **1:20-2:00** Sprint #1
- **2:00-2:15** Scrum updates
- **2:15-3:00** Sprint #2
- **3:00-3:15** Scrum updates
- **3:15-3:30** Wrap up

Scrum standup meeting

- 1) What you've done so far, 2) what problems you have, and 3) what you plan to do next

# Architecture

For any networked program, think about:

What will be the communication protocol?

What are the important data structures?

How will it support concurrency?

# Roles

## Developers: 5+5

- Plan, develop, and debug individual features
- Pair programming: driver + coder (periodically switch)

## Team Leads: 2

- One for each team (Client and Server)
- Organizes developers working under them
- Coordinates across the two teams

## Testing and DevOps: 2

- Checks code for error handling and develops test cases
- Sets up deployment environment
- Does performance and correctness testing