Distributed Systems Project

Jussi Kangasharju

Course Outline

3 exercises to look at distributed systems in practice

Exercises mostly programming

Groups of up to 3 people allowed

Group work not mandatory, but recommended

Course Schedule

18.1. Start of first exercise

25.1. Q&A for first exercise

1.2. Deadline for first exercise, start of second exercise

8.2. Q&A for second exercise

15.2. Deadline for second exercise, start of third

22.2. Demo session for second exercise

13.3. Deadline for third exercise

Demo session for third exercise to be decided

People

Jussi Kangasharju

Office hour: Mon 13-14 or ask for appointment by email

Liang Wang

Office hour: During meetings or ask appointment by email

Additional Q&A sessions can be arranged on Thursdays if needed (Thu 10-12)

Assignments

Consistency

- Consistency in distributed storage

Distributed algorithms

- Implement vector clocks

Multitier architectures

- Use Ajax to program a web application

Details for assignments 2 and 3 presented later

Grading

Each assignment graded on scale 1-5

Same grade for all members of group

Overall grade is weighted average of assignment grades

Assignments 1 and 2: Weight 1

Assignment 3: Weight 2

Assignment 1: Consistency

Link to assignment will be posted to course website

Two main tasks

Consistency in CODA (http://www.coda.cs.cmu.edu)

- What consistency models does CODA support?
- What algorithms are used?
- What kind of data replication is used?

Real cloud-based storage

- Pick a cloud-based storage (examples given)
- What consistency models does it support?
- Experiment with it and break consistency

What to Return?

Return a report with answers to the questions given on the assignment sheet

Do NOT copy answers from documentation

Work is mainly reading and investigating

Some programming might be needed

Next steps

Q&A session on 25.1.

Deadline for returning February 1st at 10:00

Return as PDF to Liang.Wang@cs.helsinki.fi