

Scheduling Tutors in TIPPERS

CS237 Spring 2019 Team#9 Final Report




Outline

- Motivation and Goals
- Related Research
- Architecture
- Design Details
- Evaluation Plan and Testing
- Demo
- Future Work

Motivation and Goals

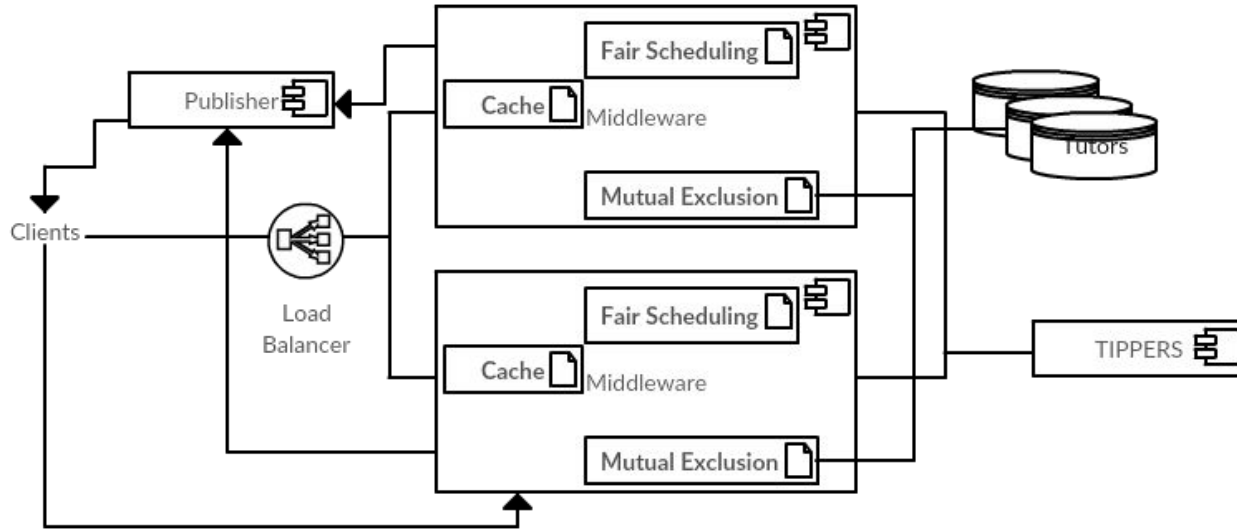
- Scalable, interactive and fair scheduling for tutors based on location from TIPPERs

Related Research

- Different types of load balancing 
- Replication: implementations on databases, CORBA objects 
- Types of Pub/Sub architecture 
- RESTful web service frameworks
- Mutual exclusion algorithm
- Websocket usage

Architecture

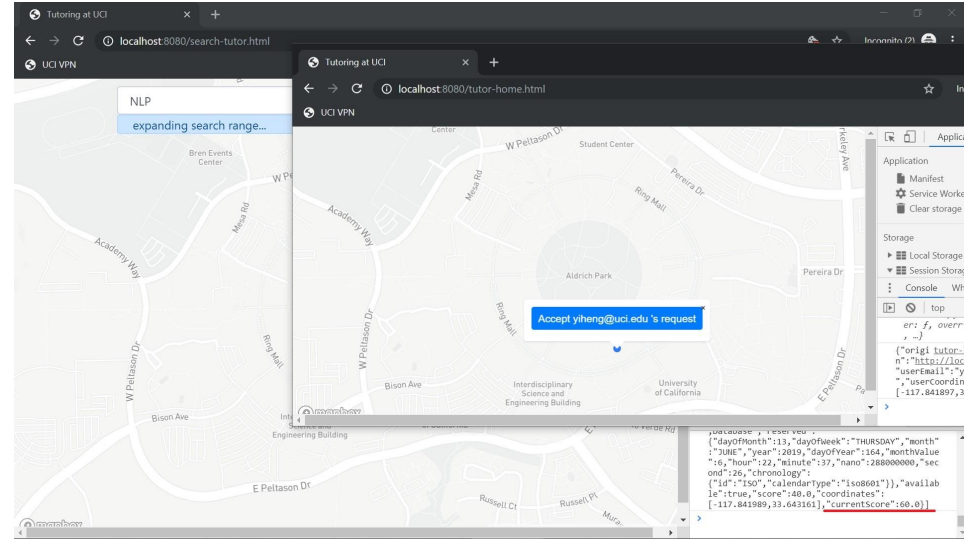
- Load balanced servers with Pub/Sub and protected database



<https://github.com/zuozhiw/cs237>

Evaluation Plan and Testing

- Experiments with frameworks/protocols used
- Server APIs: test request/response
- Load Balancing: test request/response, user session not interrupted
- Mutual Exclusion: test against race condition
- Push Notification: delay
- Scheduling Policy: fairness, liveness



<https://youtu.be/fZumQsbbhHw>

Future Work

- DNS-based load balancing
- Replicate push server
- Leader election