Overview

There is growing interest in mobile and cloud computing, with both areas increasingly being paired together, e.g. Windows Mobile & Azure, iPad/iPhone & iCloud, due to their complimentary nature. Despite being built upon many existing operating and distributed systems technologies, there remain many research challenges that are unique to mobile and cloud computing systems.

Goals

The goals of this course are:

- Introduce students to the major system and algorithms, as well as open problems, in mobile and cloud computing.
- Provide hands-on training for some of the key technologies in mobile and cloud computing, e.g. Hadoop, jQuery, and so on.
- Give students an opportunity to explore possible future research topics through a semester long project.

Requirements

A background in operating systems (e.g. CIS 8512, CIS 8544, CIS 9669) will be useful, but not required.

Evaluation

- 10% Attendance and participation
- 20% Homework and presentations. There will be 2-3 programming assignments, and written summaries for the papers discussed in class. The cloud programming assignment will be based on our department’s TCloud platform. The mobile programming assignment will be based on the Android platform.
- 40% Midterm and Final exams, each worth 20%.
- 30% Research project. There will be a list of suggested project topics provided. The project can be an individual effort or in a group of 2 students. Larger the group, the higher the expectations. We have limited smartphone for the projects.

You must pass both exams, complete the programming assignments, and research projects to pass the class.