MOBILE COMPUTING
CSE 40814/60814
Spring 2017

Course Project
- Semester-long development project in broad area of mobile computing
- Individual or team-based (no more than two students)
- If help needed identifying team members, let me know!
- Teams are expected to “produce more” than individuals!
- Project can align with your doctoral, MS, honor's thesis, or other projects (e.g., participation in coding competition), but this must be disclosed in proposal and approved by instructor!
- Project proposal due: 1/25 11.59pm

Proposal Requirements
- 2-page PDF document (<= 1 inch margins, <=11pt font):
  - Structure:
    - Project Title
    - Team Members
    - Problem Statement
    - Proposed Solution
    - Technical Details
**Project Characteristics**

- Portable solution/app; solves a problem
- Context/location awareness
- Mobile – cloud integration
- Sensors on mobile devices
- Device embedded into mobile system
- Wireless network technology
- Communication-oriented (should talk to something/body else)
- Advanced features (push, social media integration, …)
  - “Unique” hardware (Kinect, Google Glass, smartwatches, custom-designed hardware, etc.)
  - “Unique” UI/UX elements
- Data collection and analysis phase

**Project Structure**

- 3 written progress reports
  - Reports 1 & 2 can be used to adjust proposal
- Final report, delivered with code
- In-class demo/presentation of project

- Resources:
  - B30 Lab & other Engineering labs
  - Plenty of mobile/sensing/embedded devices (can purchase if needed)
  - Collaboration is encouraged!!

**Potential Project Features**

- Camera, microphone
- Accelerometer, gyroscope, barometer, magnetometer, …
- Social media
- Back-end integration
- Networking/communication features, NFC/RFID
- Push notifications
- Input/output features; control of objects; etc.
- Location-awareness
- Touch, swipe, etc., interface
- Account management, sign up, log in
- Mobile payment
- Build/design new hardware; 3D print
- Augmented reality, virtual reality
- Exploits various senses
- Third-party frameworks, libraries, services, features, …
Biometrics Sensing
- Electrocardiography
- Electromyography
- Galvanic skin response
- Blood pressure
- Body position
- Air flow
- Temperature
- Blood sugar

HelpHub

BlitzPool
- Game engine
- Physics libraries
- Real-time features
- Game center
ND Sporter
• https://www.youtube.com/watch?v=KxeTRTN0t10

Camp-Arduino

ChargeButler
Pen Pal
- Anonymous communication anytime based on location and/or interest.

Scout

ClassShare
Hello App

UQueue

- Broadcasting
- Likes/Dislikes
- Requests
EasyEMR

Data Visualization

MedAlert for Doctors
Other Projects

- Book Club
- Parking Space Finder
- Movie Finder
- Pick Up Sports Organizer
- LYNX Taxi Service
- Hearing Assessment App
- MySquirrel
- Occupational Therapy Exercises
- Stress Detector
- SnapnSpray
- Twext: Learning Betwixt Texts