CMSC436: Programming Handheld Systems
Course Goals

Introduce programming technologies & design approaches for handheld systems

Study relevant applications to better understand these technologies & design approaches

Construct our own applications using the Android Platform
General Topics

Basic Android platform
  APIs & underlying patterns

Higher-level services
  Maps, sensors, graphics, networking

Special topics & projects
  Cloud connectivity, testing, security
Basic Platform

Overview

Android development tools

Application building blocks

As we go along, I’ll point out the patterns and approaches that underlie many mobile platforms
Higher-Level Services

Graphics and Animation
Maps
Sensors
Networking
Many others
Special Topics

Security
User interface design
Programming patterns
Cloud connectivity
Others? Let’s hear from you
Semester Project

One large semester project
Students will work in 4-5 person teams
I will post some project suggestions and allow students to provide some of their own
Students will bid on specific projects and then be assigned to teams
Teams will present their projects
Looking to focus on “Smart City” projects
Class Style

This course will involve a lot of hands-on work

Will usually have lecture on Tuesday do hands on assignments on Thursday
Expected Benefits

The one who does the work, is the one who learns

Valuable class time is available for hands-on activities that cement learning

Instructors are available when students are experimenting
Additional Reference Materials

Lots of resources
  Many on-line and free
I’ll point some out during the semester
Find your own & share
  If you copy code from any resource, acknowledge it
Work Submission

Week begins on Monday

Each week’s work due at 23:59 pm ET the following Monday
Work Submission

You must submit a good-faith effort

Can be failed for the course if you do not

Late submission up to 9am the next morning

Score is multiplied by 0.8 (it’s not in your best interest to submit late)

Only last submission will be graded!
Work Grading and Class Accounts

We will use the submit server for some work submission: https://submit.cs.umd.edu

Will use a git repo for programming assignments
Work Grading and Class Accounts

You should bring your own laptop to class for course work.

Laptop cart can be available.

At various points, we’ll have some handheld devices available as well.
Work Grading and Class Accounts

Course grades and accounts will be managed using https://grades.cs.umd.edu

Linked from course web page resources
Software & Hardware

I will mostly be using:

Java 1.8 and AndroidStudio 3.1.4

Again - if you can, please bring your laptop to class, so you can have your own environment set up the way you want.
Exams

Midterm: Thursday, Oct. 18, 2018, 2:00-3:15pm
Final: Saturday, Dec. 15, 2018 10:30am-12:30pm
Privacy and Ethics Simulation

We will be doing a simulation game to explore issues of privacy and ethics in mobile app development.

This activity is mandatory and graded.

Currently scheduled for November 6 and 8.
## Grading

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<tr>
<td>Weekly Activities</td>
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<tr>
<td>Ethics Sim Activity</td>
<td>10</td>
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<tr>
<td>Semester Project</td>
<td>25</td>
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<tr>
<td>Midterm Exam</td>
<td>20</td>
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<tr>
<td>Final Exam</td>
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Discussion and Questions

Web-based discussion pages
Can post to forum from off-campus
Linked from course web page
https://piazza.com/umd/fall2018/cmsc436/home
Discussion and Questions

Post questions, comments, pointers to resources, test cases, etc.

Will be monitored by professor and TA

It’s your forum, though. Speak up, but be professional
Discussion and Questions

Use good judgment

Collaboration is highly encouraged

Except for tasks designated as “Individual Effort”

Posting code or pseudocode that gives away exact solution approaches, robs other students of their chance to figure things out. Please don’t do this.
Personnel

Professor: Adam Porter,
aporter@cs.umd.edu, 4125 AVW

TA: Multiple – see class webpage
All hours will be posted on web page
  http://www.cs.umd.edu/class/fall2018/cmsc436
Or set up an appointment
Excused Absences

Religious holidays or other personal conflicts

Let us know as soon as you can

Medical and other emergencies

Must provide documentation stating what dates/times you were incapacitated

Self reporting is not always sufficient
Stay Up To Date

Class website
https://www.cs.umd.edu/class/fall2018/cmsc436

Contains:
- Announcements
- Lecture notes
- Project assignments
- Resources
- And more!