

Recording in Progress

This class is being recorded

Please turn off your video and/or video if you do not wish to be recorded

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, AI, etc.

Part 1 - 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

Part 2 - Higher-Level Services

Graphics and Animation

Maps

Sensors

Networking

Many others

Special Topics

Security

AI/ML

Programming patterns

Others? Let's hear from you

Semester Project

Students will work individually on a semester project

I will post some project suggestions and allow students to provide some of their own

Students will bid on specific projects

Students will present their projects during the last week of class

The goal is to create something you would be proud to show to a potential employer!

Class Style

This course will involve a lot of hands-on work

Will often have lecture on Tuesday (and some of Thursday) and leave time for 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

Each 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 (i.e., you submitted at least some part of the assignment)

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

Will use a git repo for submitting assignments

More details to come in a later lecture

Work Grading and Class Accounts

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

Programming assignments will generally be done in an emulator

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 be using

Kotlin – programming language

AndroidStudio – IDE

Assessments

Will have traditional exams

Midterm: Th., October 19, 2023 during regular class time

Final: Th., Dec. 14, 2023, 8:00am–10:00am

Grading

	% total
Weekly Activities	30
Semester Project	30
Midterm Assessment	20
Final Assessment	20

Discussion and Questions

Piazza web-based forum

Can post questions to forum

Linked from course web page

Discussion and Questions

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

Will be monitored by Professor and TAs

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.

Class Website

<https://www.cs.umd.edu/class/fall2022/cm436>

Class website contains:

- Announcements

- Lecture notes

- Project assignments

- Resources

- And more!

Personnel

Professor: Adam Porter,

`aporter@cs.umd.edu`, 5212 IRB

TA – see class webpage

All office hours be posted on course web page

<https://www.cs.umd.edu/class/fall2023/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