Recording in Progress

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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

Programming patterns

Cloud connectivity

Others? Let’s hear from you

Semester Project

One large semester project

Students will work in 3 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

Class Style

This course will involve a lot of hands-on work

Will often 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

Will use a git repo for submitting assignments

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 mostly be using

- Kotlin – programming language
- AndroidStudio – IDE

Assessments

Will have traditional exams

- Midterm: Th., March 17, 2022, 9:30am-10:45pm
- Final: Friday, May. 16, 2022, 8:00am-10:00am

Grading

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

Discussion and Questions

Web-based discussion pages

Can post questions to forum

Linked from course web page

https://piazza.com/umd/spring2022/cmsc43602 01/home

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.

Personnel

Professor: Adam Porter,

aporter@cs.umd.edu, 5212 IRB

TA: Multiple – see class webpage

All hours will be posted on web page

https://www.cs.umd.edu/class/spring2022/cmsc436-0201

Will use Zoom for office hours

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/spring2022/cmsc436-0201

Contains:

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