Syllabus - Computer Science 371M - Mobile Computing
The University of Texas at Austin · Spring 2015

Objectives: An introduction to mobile computing with a strong emphasis on application development for the Android operating system. Students will complete a major project with the goal of releasing an app on the Android Market place. Topics will include the Android development environment, user interfaces, audio, persistence, SQLite databases, location, sensors, and graphics.

Prerequisite: The following coursework with a grade of at least C- in each: Computer Science 311, 311H, 313H, or 313K; Computer Science 307, 314, 314H, 315, or 315H; Computer Science 310, 310H, 429, or 429H; Mathematics 408C, 408K, or 408N; and credit with a grade of at least C- or registration for Computer Science 439 or 439H.

Lecture: 51990 MWF 2 - 3 pm, GDC 1.304

Instructor, Mike Scott, email: scottm@cs.utexas.edu office: GDC 6.304 .

Office Hours: Monday and Wednesday 3 - 4:30 pm, Fridays 8:30 - 9:30 am. If you cannot make these hours email me to request an appointment.
Office hours are held in the 3rd floor computer lab in the Gates CS complex.

Teaching Assistant:

Joel Iventosch, lab hours: TBD

Textbook (Strongly Recommended):

- **The Busy Coder's Guide to Android Development, by Mark Murphy, http://commonsware.com/Android/, previous versions available at this site for free.**

  OR

- **Android Programming: The Big Nerd Ranch Guide (Big Nerd Ranch Guides)**
  ISBN: 978-0321804334 / 1st ed.
  Publisher: Big Nerd Ranch Guides

Recommended Books: (at most one of these)

- **Android for Programmers: An App-Driven Approach, Paul Deitel, Harvey Deitel, Abbey Deitel, and Michael Morgano, ISBN-13: 978-0132121361**
- **The Android Developer's Cookbook: Building Applications with the Android SDK: Building Applications with the Android SDK, James Steele and Nelson To, ISBN-13: 978-0321741233 (first of second edition okay)**

Website: http://www.cs.utexas.edu/~scottm/cs371m. Course materials and announcements are available there.

Computing Facilities:

- **UTCS Microlabs.** PCs and Linux machines are available for assignments in the CS Department microcomputer lab located on the 1st and 3rd floors of GDC, Dell Hall (north wing). You are free to work on your own computer if you wish.

Android Device: You are NOT required to have an Android Device. Development can be done on the Android Emulator. However there is no substitute for testing on a real device. I have multiple Android dev phones and tablets available for checkout during lab hours.

If you do want to purchase an Android device past students have favored the Google 7" Nexus tablet.

Software: Android development is done in Java. The Microlab computers in GDC are set up to do Android programming. If you want to work on your own machine you will need the following. (all of these are freely available)

- Java. I recommend version 7.
- Android SDK. I recommend downloading APIs levels 10 through the latest (19 as of August 2014). Link to instructions on installing the Android SDK.
- Android Studio

Class Discussion Tool: I have set up a discussion group for the class on Piazza.

- Go to the Piazza web site and join the CS371M Mobile Computing for The University of Texas at Austin.
- I will post class announcements and information to the discussion group.

Schedule: A schedule of lecture topics, reading assignments, and assignment distribution and due dates is available online, via the class web page, www.cs.utexas.edu/~scottm/cs/schedule.htm. The schedule lists topics and readings. The schedule is subject to change.

Assignments and Projects (Listed by Due Date)		
Topic	Due Date	Points
Attendance 1 points per regular lecture, 5 points per guest lecture	Throughout Term	50
Tutorial 1	Fri 1/30	25
Assignent 1 - App Reviews	Wed 2/4	50
Tutorial 2	Fri 2/6	50
Tutorial 3	Fri 2/13	50
Assignment 2 - App Proposals - Written, Posters due on assigned poster day.	Mon 2/16	125
Tutorial 4	Fri 2/20	50
Tutorial 5	Fri 2/27	50
Tutorial 6	Fri 3/6	50
Assignment 3 - App Paper Prototype / Mock Up	Fri 3/13	50
Assignment 4 - Alpha Release	Fri 4/3	100
Assignment 5 - Alpha Release Evaluations	Wed 4/15	75
Assignment 6 - How To Page	Wed 4/29	50
Assignment 7 - Beta Release and Beta Demo	Beta App Wed 5/6 In class demos: 5/1 - 5/8 Digital Demo Day: Finals week	200
Assignment 8 - Web Ad	Fri 5/8	50

- Final grades are based on 1000 points. 1025 points available. 25 points of slack.
- The final letter grades will be assigned based on your total points. The grading systems consists of 1000 points. The grade cutoffs are: <600 = F, 600 - 699 = D, 700 - 799 = C, 800 - 899 = B, >= 900 = A. Plusses and minuses (+ and -) will be assigned to scores within 25 points of the cut offs. So for example total points 875 to 899 earn a B+ and total points 900 to 924 earn an A-.

- Assignments will be available on the class web site or Canvas.
- If you are **dissatisfied with a grade** you receive on an assignment or test, you must submit your complaint via email, along with supporting evidence or arguments, to me or the TA within ***one week*** of the date the teaching staff first attempted to return the assignment or test to you.
- Late work or work in the wrong format is not accepted and will receive a grade of 0.

Academic Honesty: Taken from the CS department Code of Conduct.

"The University and the Department are committed to preserving the reputation of your degree. It means a lot to you. In order to guarantee that every degree means what it says it means, we must enforce a strict policy that guarantees that the work that you turn in is your own and that the grades you receive measure your personal achievements in your classes:

Every piece of work that you turn in with your name on it must be yours and yours alone unless explicitly allowed by an instructor in a particular class. Specifically, unless otherwise authorized by an instructor:

- Students may not discuss their work with anyone except the instructor and other members of the instructional staff (instructor, TA, lab proctor or partner on a pair assignment).
- Students may not acquire from any source (e.g., another student or an internet site) a partial or complete solution to a problem or project that has been assigned.

You are responsible for complying with this policy in two ways:

1. You must not turn in work that is not yours, except as expressly permitted by the instructor of each course.
2. You must not enable someone else to turn in work that is not theirs. Do not share your work with anyone else. Make sure that you adequately protect all your files. Even after you have finished a class, do not share your work or published answers with the students who come after you. They need to do their work on their own.

The penalty for academic dishonesty will be a course grade of **F** and a referral of the case to the **Dean of Students**. Further penalties, including suspension or expulsion from the university may be imposed by that office.

One final word: This policy is not intended to discourage students from learning from each other, nor is it unmindful of the fact that most significant work in computer science and in the computing industry is done by teams of people working together. But, because of our need to assign individual grades, we are forced to impose an otherwise artificial requirement for individual work. In some classes, it is possible to allow and even encourage collaboration in ways that do not interfere with the instructor's ability to assign grades. In these cases, your instructor will make clear to you exactly what kinds of collaboration are allowed for that class."

For CS371M I expect you to complete the tutorials on your using the provided code when given.

For your projects I expect you to do significant work on your own.

You can use class examples and examples from the web, but these must be documented.

To be clear, a significant amount of work on your project must be your own, but it is okay to incorporate code samples and 3rd party libraries.

For more information on Scholastic Dishonesty see the University Policy on Scholastic Dishonesty

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Important Dates for Changing Academic Status and Dropping the Course: Refer to the Registrar's academic calendar for the deadlines for changes in academic status. Highlights are:

- Friday, January 23: Last day of the official add/drop period; after this date, changes in registration require the approval of the department chair and usually the student's dean.
- Wednesday, February 4: (12th class day) Last day to drop for a possible refund. Last day to add a course.
- Monday, April 6: Last day an undergraduate student may, with the dean's approval, withdraw from the University or drop a class (Q drop) except for urgent and substantiated, nonacademic reasons. Last day a student may change registration in a class to or from the pass/fail or credit/no credit basis.
- After Monday, April 6, students must go to the academic advisors in their college Dean's office if they wish to drop or withdraw from the class.
- To be eligible for an **incomplete (UT uses the symbol X to indicate incompletes)** you must have a letter grade of **C-** or better and a written, verifiable excuse for missing the last test. This is a **necessary** but **insufficient** condition for receiving an incomplete.

Students experiencing significant nonacademic problems (extended health problems or family emergencies) should contact the CNS Dean's Office (WCH 1.106, (512) 471-4536) or the Dean of Student's Office (http://deanofstudents.utexas.edu/emergencyresources.php) for assistance.

See the College of Natural Science Guidelines and Procedures page for more information. (http://cns.utexas.edu/advising/guidelines-procedures)

Religious Holidays: By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

Students with Disabilities: students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259, www.utexas.edu/diversity/ddce/ssd/.

Many thanks to Professor Frank McCown of Harding University and Professor David Janzen of Cal Poly - San Luis Obispo for sharing their Android app development materials with me.

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