Mobile Application Technologies
ITP 140 (2 Units)

USC Viterbi School of Engineering

Fall 2014

Objective

This class covers the mobile industry, devices, operating systems, types of apps, and how to monetize apps. Students will learn how to design an app, build a prototype, conduct usability tests, and create a business plan.

Concepts

Mobile devices, user experience, user interface, mobile app design, wire framing, prototyping

Prerequisites	None
Instructor	Trina Gregory
Contacting the Instructor	trina.gregory@usc.edu
Office Hours	Listed on Blackboard under Contacts
Lab Assistants	Listed on Blackboard under Contacts
Lecture/Lab	1.5 hours, twice a week, for a total of 3 hours
Required Textbooks	None
Optional Textbooks	None
Website	Blackboard at http://blackboard.usc.edu

Grading

The following percentage breakdown will be used in determining the grade for the course.

Assignments (Individual and Group)	50%
Midterm	20%
Final Project – Group Grade	20%
Final Project – Individual Grade	10%
Total	100%

Grading Scale

The following shows the grading scale to be used to determine the letter grade.

93% and above	A
90% - 92%	A-
87% - 89%	B+
83% - 86%	B
80% - 82%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
65% - 69%	D
64% and below	F

If you are taking the class with a grade of P/NP, you must earn a grade of 70% or higher in order to receive a P.

Policies

No make-up exams (except for documented medical or family emergencies) will be offered. The University determines the Final Exam schedule. No changes can be made to it. The final project is due during the final exam time for this class, and attendance is required.

The labs will be posted on Blackboard under the "Assignments" section. Each lab will include instructions, a due date, and a link for electronic submission. Labs must be submitted using this link. Do not email them to the lecturer or lab assistant. Always keep a backup copy of them.

It is your responsibility to submit your assignments on or before the due date. Assignments turned in one day late will have 10% of the total points deducted from the graded score. Assignments turned in two days late will have 20% of the total points deducted from the graded score. Assignments turned in three days late will have 50% of the total points deducted from the graded score. After three days, submissions will not be accepted and you will receive a 0.

ITP will have open lab hours starting the second week of the semester. An ITP 140 lab assistant will not be there. These lab times are there to give you an opportunity to work on assignments or projects.

Each time the class meets, a roster will be passed around the room. Please initial by your name for the appropriate week. A tool such as Top Hat Monocle may be used in place of a paper roster. Do not sign in for another student. Doing so is an academic integrity violation.

Incomplete and Missing Grades

The University Grading Handbook covers all grading concerns and can be found at: http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html.

A grade of Missing Grade (MG) "should only be assigned in unique or unusual situations... for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year the grade is changed to [Unofficial Withdrawal] UW and will be calculated into the grade point average a zero grade points."

A grade of Incomplete (IN) "is assigned when work is not completed because of documented illness or other 'emergency' **occurring after the twelfth week** of the semester (or 12th week equivalency for any course scheduled for less than 15 weeks)."

Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. **SCampus** is USC's Student Guide to Policies and Conduct Code and can be found at: http://scampus.usc.edu. Section 11 contains the Behavior Violating University Standards and Appropriate Sanctions and can be found at: http://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Students will be referred to the Office of Student Judicial Affairs and Community Standards (SJACS) for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/. An academic integrity tutorial can be found at: http://www.usc.edu/libraries/about/reference/tutorials/academic_integrity/index.php.

Examples of behavior violating University standards:
- The submission of material authored by another person but represented as the student's own work, whether that material is paraphrased or copied in verbatim or near-verbatim form.
- Acquisition of term papers or other assignments from any source and the subsequent presentation of those materials as the student's own work, or providing term papers or assignments that another student submits as his/her own work.
- Obtaining for oneself or providing for another person a solution to homework, a project or other assignments, or a copy of an exam or exam key without the knowledge and expressed consent of the instructor.
- Unauthorized collaboration on a project, homework or other assignment. Collaboration between students will be considered unauthorized unless expressly part of the assignment in question or expressly permitted by the instructor.

- Fabrication: Submitting material for lab assignments, class projects or other assignments which is wholly or partially falsified, invented or otherwise does not represent work accomplished or undertaken by the student.
- Forgery, unauthorized alteration or unauthorized use of any university document, records, keys or instruments of identification, or of documents or records related to functions of the university.

If the instructor, a grader, or a lab assistant suspects you of academic dishonesty, it has to be reported to SJACS. Do not share lab assignments with another student. Do not submit another student's work as your own. Do not look at other students' papers during exams. Do not leave the room during an exam. Do not cheat! As Trojans, we are faithful, scholarly, skillful, courageous, and ambitious.

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to your course instructor (or TA) as early in the semester as possible. If you need accommodations for an exam, the form needs to be given to the instructor at least two weeks before the exam.

DSP is located in STU 301 and is open from 8:30am to 5:00pm, Monday through Friday. Contact info: 213-740-0776 (Phone), 213-740-6948 (TDD only), 213-740-8216 (FAX), ability@usc.edu, http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.

Emergency Preparedness/Course Continuity in a Crisis

In case of emergency, when travel to campus is difficult, if not impossible, USC executive leadership will announce a digital way for instructors to teach students in their residence halls or homes using a combination of the Blackboard LMS (Learning Management System), teleconferencing, and other technologies. Instructors should be prepared to assign students a "Plan B" project that can be completed 'at a distance.' Additional information about Campus Safety and Emergency Preparedness can be found at: http://preparedness.usc.edu.

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Course Outline

Week 1 – Mobile Industry
- Course overview
- Mobile industry and devices

Assignment/Lab
    Sign up for Piazza

Week 2 – Technology Background
- Internet, networks, and WWW

Assignment/Lab
    Assignment 1 on Blackboard

Week 3 – Mobile & Web Apps
- Web vs. native apps
- Responsive web design

Assignment/Lab
    Assignment 2 – Websites document

Week 4 – Design for Mobile
- Mobile design including 4 steps
- App definition statement
- Application Styles

Assignment/Lab
    Assignment 3 – Groups & App Ideas

Week 5 – Colors and Icons
- Colors, images, and icons
- Photoshop

Assignment/Lab
    Assignment 4 – Color Palette & App Icon

Week 6 – Monetization
- Paid apps
- Free apps
- Display advertising
- Freemium

Assignment/Lab
Review App Ideas

Week 7 – User Interface for iOS
- Apple's human interface guidelines
- User interface components and controls
- Wireframes and Balsamiq

Assignment/Lab
Paper Prototyping and Assignment 5 – Wireframes

Week 8 – User Interface for Android
- Design for Android
- Versions
- Themes and colors
- User interface components

Assignment/Lab
Assignment 5 – Wireframes

Week 9 – Midterm
- Midterm review
- Midterm

Week 10 – Usability Testing
- Usability testing
- Usability review
- Finding reviewers

Assignment/Lab
Assignment 6 – Wireframes Review

Week 11 – Build vs. Buy
- Cost for design
- Cost for development
- Return on investment

Assignment/Lab
Assignment 6 – Wireframes Review

Week 12 – Prototyping
- Prototyping Tools
- Images – Photoshop, Illustrator, Pencil
- Interactive – InVision, FluidUI, Axure

Assignment/Lab
Assignment 7

Week 13 – Business Plans for Mobile App Development
- Venture capitalists
- Business plan presentation
- Marketing and QR Codes

Assignment/Lab
    Final Project – Business Plan

Week 14 – Analytics, APIs, and Cloud Computing
- Analytics and metrics
- APIs and REST
- Cloud computing

Assignment/Lab
    Final Project – Prototype

Week 15 – Deployment
- Submitting your app to an app store
- Monitoring the success of your app
- User feedback
- Windows 8 Mobile Apps

Assignment/Lab
    Final Project – Business Plan, Prototype, and Presentation

Final Project
- Business plan presentation and prototype of an app
- Each group will give a presentation and demonstration of their app

Date, Time, and Place
    Section 31902, green class: Tuesday, December 16, 11 am - 1 pm, OHE 540
    Section 32024, purple class: Tuesday, December 16, 2 - 4 pm, KAP 160

This schedule is subject to change.
All assignments with their requirements and due dates will be posted on Blackboard.