DES 421 Mobile App Development

Spring 2018 Professional Practice II	www.evl.uic.edu/datsoupi/421/	Credit Hours: 4 Lab: 3036 Engineering Research Facility 842 West Taylor Street	Office Hours: Arranged	Daria Tsoupikova tsoupi@uic.edu Donald Bergh donbergh@gmail.com

Description and Objectives

This course is an introduction to mobile application development. It will cover the development of interactive apps for mobile devices (Apple's iPhone) and user interactions using multi-touch technologies. This course concentrates on training students to develop mobile applications. It introduces both the practice of mobile app development and the basic principles of software development.

The course will cover the introduction to coding, software development and the principles of development of new mobile apps, which will allow participants to continue learning upon completion of the class. Participants will use methods, tools, concepts and technologies for development of apps for iOS mobile devices. This course will take participants from complete beginners with no prior experience in any programming languages to being able to build their first mobile app. Methods, tools, concepts and technologies for cross-platform mobile application development based on HTML5, CSS and JavaScript will be covered, as well as development of apps for Apple mobile devices (iPhone). The curriculum will include responsive web design, coding, testing of mobile applications, software development and user interface design required to build mobile apps.

Students will work in teams in the year-long (Fall & Spring) research+design+development process of developing a new mobile app defined by a professional client. Each team will make two major presentations; a midterm and a final, of App's development progress. The students will learn 1) to develop mobile apps, 2) to work in teams, 3) to build functional prototypes and interactive simulations for mobile devices, 4) to research, code and program for mobile app development.

This course is about blended learning format so you have to do a lot of work on your own. This course assumes that students have a working knowledge of computers, intermediate design knowledge, and familiarity with web design principles and software. For the duration of the course we will be using the Apple Macintosh platform and a variety of design software (such as Adobe Photoshop, Illustrator, etc.) and mobile open source programming languages (HTML5, CSS, JavaScript, JQuery, PhoneGap, Xcode, etc.) While various software, packages, scripting and coding languages will be utilized, the course focuses on the research and development of creative concepts, ideas and the quality of their visualization.

We will use advanced visualization technologies available in EVL such as SAGE2, Scalable Amplified Group Environment. SAGE2 is designed for data-intensive visualization and team collaboration. We will use large display powered by SAGE2 for our critiques, presentations and demonstrations of team projects and collaboration to clients.

The focus of the assignments will be the creative use of the development and programming techniques learned in class. Therefore we will be conducting group reviews and discussing the progress of the work. Students are encouraged to share your work with classmates, engage in discussion and learn to use constructive criticism. Class lectures will include demonstrations, invited speaker presentations, discussions, and technical exploration relevant to mobile app development. The course will meet in the computer lab with major time devoted to "hands on learning."

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Materials

Laptop computer
Mac OS X 10.5, 10.6+
Adobe Creative Suite
A sketchbook
Pencils (B+), black color markers, eraser, etc.
2 USB Flash drives (minimum 32 GB) to save your back up files. It is recommended to store data additionally on a private computer or external hard-drive. Students are required to store and backup their files appropriately and an additional data storage is strongly advised for back-up.
Google Drive Account
A mobile device for testing is preferred but not nesessary (iPhone 6)

Lab fee

There is a $125.00 required laboratory fee for this course, which is used for the course supporting materials, and supplies (printer paper, copies, media storage, supplies for presentation etc.)

Evaluation and Requirements

Your final grade will be based on your performance on the group project, evaluations of team member performance (peer evaluation), attendance, participation, and your ability and willingness to accept client and faculty feedback.

On-time class attendance is mandatory. It is not possible to make up or compensate for missed class sessions or quizzes. More than two unexcused absences will result in a reduction of the final grade by one letter grade; with every additional unexcused absence, the final grade will drop by an additional grade. Some of the discussions and exercises are done and graded in-class so you must attend class to receive these points.

For best in-class participation, you should complete required readings and tasks before class (will be specified in the study guide in each module).

Be prepared for a lot of hard work: be prepared to code, often, and much outside of the class. The aim of this course is to get you to a point where you can launch your own “App portfolio”. This course will be difficult but also very much in-depth and useful to prepare your graduation portfolio.

There is a lot of self-study required: there are many recommended resources on mobile programming, and our course time is limited. Each session will have required pre-reading and post-reading. Make sure to, at the very least, skim the references. Our lecture time limited as well as our lab time, and the goal is to maximize that time. The instructor reserves the right to add online tutorials, lectures and video sessions to class lectures and homework.
You must submit all assignments via DropBox/UIC Box unless otherwise instructed on the deadline specified for each assignment. Late submissions will be penalized by 5% grade reduction for each overdue day. Assignments must be professionally prepared with recommended computer applications. Unless otherwise stated, assignments must be submitted electronically to the DropBox/UIC Box. For each assignment, be sure to include the following in the file/folder title:**Your last name_assignment title**

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Evaluation and Requirements

Projects more than 5 days late will not be accepted. Be sure to submit the work well ahead of due time. Excuses like website or computer error will not be accepted after the due date.

'Incompletes' will only be granted according to University policy.

A (90-100%) Consistent growth in the above listed as well as excellent work. Excellent work consistently goes above and beyond what is required.
B (80-89.99%) Above average growth in the above listed as well as above average work.
C (70-79.99%) Average growth in the above listed as well as average work.
D (60-69.99%) Dissatisfactory growth in the above listed and incomplete work.
E (59.99% or below) Dissatisfactory growth in the above listed, incomplete work and poor attendance.

The numeric breakdown for the final grade follows:

20% Participation/Contribution
30% Exercises/Assignments
20% Midterm Presentation
30% Final Presentation / Documentation

Any individuals with learning disabilities or special needs must make the instructor aware of them prior to the due date of the first major assignment. Those who require accommodations for access and participation in this course must be registered with the Disability Resource Center. Please contact DRC at 312/413-2183 (voice) or 312/413-0123 (TTY). http://www.uic.edu/depts/oaa/disability_resources/contact.html

If you wish to observe your religious holiday, which is in the conflict with mandatory academic attendance, you should notify the instructor by the tenth day of the semester of the date on which you are requesting an absence.

You are responsible for understanding what constitutes academic dishonesty. Academic dishonesty is an extremely serious offense. All cases of academic dishonesty will be dealt with in accordance with the policies of the University as published in the Undergraduate Catalogue and the University of Illinois at Chicago policy on Academic Honesty at: http://www.uic.edu/ucat/cat1315archive/index.shtml

Recommended Readings

Building iPhone Apps with HTML, CSS, and JavaScript: Making App Store Apps Without Objective-C or Cocoa Paperback by Jonathan Stark, O'Reilly Media
Beginning iOS 6 Development: Exploring the iOS SDK by David Mark, Jack Nutting, Jeff LaMarche, Fredrik Olsson, Apress
Web Development & Design Foundations With Html5 by Terry Felke-Morris, Addison-Wesley
HTML and CSS: Design and Build Websites by Jon Duckett, Wiley
Mobile Usability by Jakob Nielsen and Raluca Budiu, New Riders
HTML, XHTML, and CSS, Visual QuickStart Guide by Elizabeth Castro, Peachpit Press
Typographie: A Manual of Design. Emil Ruder
The Elements of Typographic Style. Robert Bringhurst, Hartley & Marks Publishers

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Resources

Lynda.com Training Tutorials UIC
http://www.uic.edu/depts/accc/training.html/index.html

Google drive

JavaScript Guide
https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide

JS
http://www.w3schools.com/js/

jQuery
http://www.w3schools.com/jquery/default.asp

Xcode
https://developer.apple.com/xcode/downloads/

PhoneGap
http://phonegap.com/

Policies

No cell phone usage in the lab. You are responsible to turn your cell phone off prior to the class.
No non-class materials loaded into the computers.
No food or drink in the computer labs.
No surfing the Internet during lectures.
Reconfiguring the system on Cyber-Commons unusable for other courses and may result in dismissal from the course.

Projects created in this course may be used by the Department for purposes of promotion for students, the School or the University in general. The School may also use these materials for instructional purposes in future courses.

Academic Deadlines

Deadlines to add, drop, or withdraw from a course and other important academic deadlines can be found at: http://www.uic.edu/ucat/catalog/CA.shtml

Disability Policy

The University of Illinois at Chicago is committed to maintaining a barrier-free environment. Students with disabilities who require accommodations for access to and/or participation in a course must be registered with the Disability Resource Center (DRC). You may contact DRC at 312-413-2183 (v) or 773-649-4535 (VP/Relay) and consult the following: uic.edu/depts/oaa/disability_resources.

Grievance Proceedures

UIC is committed to the most fundamental principles of academic freedom, equality of opportunity, and human dignity involving students and employees. Freedom from discrimination is a foundation for all decision making at UIC. Students are encouraged to study the University's "Nondiscrimination Statement." Information on grievance policies and procedures is available on the University web pages of the Office of Access and Equity: www.uic.edu/depts/oae.