

CourseNo: ARCHA4793_001_2013_1
Meeting Location: AVERY HALL 115
Meeting Time: T 06:00P-08:00P

Instructor Information:

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App-itecture

Columbia University GSAPP A4793
Visual Studies Session B

Introduction

Mobile phones, and particularly the current generation of smart phones, are an expansive platform for spatial computation. Taking on the role of software developer, architects are well-poised to deliver compelling experiences that build strong connections between information and space. Space can be mapped, tagged, generated, shared and experienced through the device's considerable sensing and processing capabilities. The platform allows one to design experiences and generative spaces that are simultaneously embedded in worlds both real and virtual. The goal of this seminar is for each student to develop a "spatial app" - a loose description that means to stimulate thinking on the notion of mobile and embedded technology - that ultimately will be distributed on the Apple App Store at the conclusion of the workshop.

Students will be led through the iPhone SDK, a powerful set of tools and APIs to let them manipulate and display maps, 2D and 3D geometry and user interface elements. Students will be encouraged to tap into the potentials of location-based services, social networking, augmented reality and other situated and spatial technologies. Students will also be provided with sample code, templates and middle-ware to assist in writing compact applications that take advantage of the capabilities of the device, including GPS, Camera, light sensor, OpenGL 3D acceleration and accelerometer hardware.

The focus of the course will be to conceptually approach software design through a series of "wireframes" that will diagram and explore scenarios of use. These wireframes will be iterated into 3D and motion based compositions using the software of student's choice. The creation of 3D assets will also be approached in the same way. Programming workshops will be held in a lab context, where we will focus on working with simple, modular pieces of code.

App Culture

The culture of apps cannot be understated in its pervasiveness. App culture represents the migration from task-oriented computing to an ambient modality, one that is always on, always connected. App culture privileges connection as its primary tool to understand and augment patterns in space and time.

App culture's reach is beyond any other - cell phones are the most wide-spread technology for accessing data communications and computation. The powerful SDKs (software developer kit) that provides access to the hardware and OS features of these devices are themselves evidence of a maturing set of tools and resources - they forecast an age of citizen programmers, where users and communities will create customized software to advance both short term and long term agendas. Apps are a low-stakes environment to simultaneously build and play, network and promote - a new space to grow into whose sudden emergence and exponential growth are strikingly similar to the world wide web.

Pre-Requisites

A majority of the class and assignments will be geared toward the design and usage scenarios of software. We encourage and support prototyping in all GSAPP softwares. We will give an introduction to basic programming concepts and Objective-C, the programming language utilized by the iOS SDK, through a series of workshops. Programming/scripting experience in other languages/platforms is appreciated but not necessary.

An iPhone/iPod Touch is not necessary to take the class, as developer tools include an iPhone simulator. Access to a Mac (laptop is fine) for testing on the iPhone simulator is desirable but not required.