

**USC School of Cinema Television
Interactive Media Division
CTIN405I**

**Design Technology for Mobile Experience: Implementing Story
and Entertainment Projects for Mobile Phones**

**2 Credits
Wednesdays, 2:30 – 4:30
Mobile and Pervasive Laboratory**

Professor: Julian Bleecker (bleecker at usc dot edu)

Overview

The objective of this course is for students to develop a strong sense of the design challenges and opportunities presented by mobile technologies. Through readings, discussions, and hands-on development students will develop critical and pragmatic insights into designing mobile experiences and technology. Students will form design groups to execute a mobile project design using the principles from readings and class discussions.

Implementation Topic Weeks: Students will develop an overview and some hands-on experience designing applications for a mobile phone.

* We will learn how to develop an interactive voice-response, voice-recognition game using VXML (Voice XML), a simple technology for creating phone-based interaction systems. The technology is similar to that used for the EA game "Majestic" including voice recognition, voice-based web pages, touch-tone phone based interactive games, capture of phone call audio, outbound calling (i.e. initiate a call to another phone).

* How to use SMS (short message service) systems for interactive applications, games and other usage scenarios. Send SMS, receive and process SMS, use SMS as a "trigger" for other events on and offline.

* Learn the fundamentals of developing mobile phone-based applications using J2ME, an environment that supports developing games and other applications for many mobile phones.

* Learn how to integrate external hardware to a mobile phone over a Bluetooth connection. This can make your mobile phone "talk" to a GPS, for example, or other external hardware (e.g. pedometer, compass, light sensor, etc.)

In the syllabus schedule below, weeks marked with an asterisk (*) are "implementation topics" weeks. Students should be prepared for hands-on work using their laptop (preferred) or a computer in the lab.

Project: Each student will be required to participate in developing a final project for the course.

Project Ideas: Some ideas, by no means exhaustive, for final projects include:

- * A mobile phone version of the parlor game "Telephone" (aka "Chinese Whispers") using VXML and SMS.
- * A multiplayer, location-aware J2ME mobile phone version of a treasure hunt game
- * A application that translates an SMS message through text-to-speech for delivery to a non-SMS enabled (e.g. home) phone

Mobile Device Diary: For the first 5 weeks of class you will be required to keep a "mobile device diary." This is meant to capture the ways in which you use your mobile technology to communicate, play, network, share, create, and capture your mobile, portable life. The purpose of this is to encourage you to think about the ways that mobile devices shape and inform your day-to-day life. It is also meant to get you to think about how you might innovate and create new forms of mobile experiences, mobile play or social networking.

Assignments: Most weeks there will be a reading assignment. ***You are expected to prepare reading notes on your blog, cross-posted to the course page by the time class begins.*** There will be a rotating schedule of two students per week assigned to introduce the reading to the class and pose two questions to lead the class discussion on the reading topic.

Grading

Final Project	30%
In Class Participation	10%
Final Presentation	15%
Blogging	15%
In Class Implementation	
Exercises	30%

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 that the letter is delivered to the Professor as early in the semester as possible. DSP is located in STU 301 and is open 8:30am - 5:00pm, Monday through Friday. The phone number for DSP is (213) 740-0776.

Academic Integrity

The School of Cinema-Television expects the highest standards of academic excellence and ethical performance from USC students. It is particularly important that you are aware of and avoid plagiarism, cheating on exams, submitting a paper to more than one instructor, or submitting a paper authored by anyone other than yourself. Violations

of this policy will result in a failing grade and be reported to the Office of Student Judicial Affairs. If you have any doubts or questions about these policies, consult SCAMPUS and/or confer with the Professor or Department Chair.

Schedule of Classes

Week 1: Introduction

- Introduction to Design and Technology for Mobile Experiences
- Understanding mobile experiences — 5 week diary
- *Mobile Phones for the Next Generation: Device Design for Teenagers* — Berg, et. al. (read in class)

Week 2: Mobile Social Formations

- *TXTmob: Text Messaging For Protest Swarms* — Hirsh, Henry

**** Week 3: Implementation Topics: VXML (Voice XML) (1)**

- Implementation: Create a basic VXML application that has a menu-based picker, captures and translates via speech-to-text a sequence of utterances, records the users voice, and saves that information to a web server.

**** Week 4: Implementation Topics: VXML (Voice XML) (2)**

- Continue Week 3 Implementation

Week 5: Project Proposal Presentation

**** Week 6: Implementation Topics: SMS gateways for mobile interaction design (1)**

- How to use SMS messaging systems to create an interactive experience
- In-class: we will develop a mobile-to-web interaction design

**** Week 7: Implementation Topics: SMS gateways for mobile interaction design (2)**

- How to use SMS messaging systems to create an interactive experience
- In-class: we will develop a mobile-to-web interaction design

Week 8: Place vs. Space – Understanding the distinction between geographic space and social place.

- Assignment: Develop a play or game-based usage scenario involving geography, social networking, and a mobile device.
- *Future Location Based Experiences* - Benford

Week 9: Conceptual Mobile Technology Practices

- *Experiments in Mixed Reality* — Matt Adams

**** Week 10: Implementation Topics: Mobile Device Programming — J2ME for Mobile Phones (1)**

**** Week 11: Implementation Topics: Mobile Device Programming — J2ME for Mobile Phones (2)**

**** Week 12: Implementation Topics: Mobile Device Programming — J2ME for Mobile Phones (2)**

Week 13: Social and Spatial Authoring

- *Urban Tapestries: Wireless networking, public authoring and social knowledge* — Lane

Week 14: Social Practices — Bringing the Physical to the Digital in Mobile Games

- *'Location is not enough!': an Empirical Study of Location-Awareness in Mobile Collaboration* — Nova, Girardin, Dillenbourg
- *Mediating Intimacy: Design Technologies to Support Strong-Tie Relationships* — Vetere, et. al.

Week 15: Project Presentations

Finals Week Session: Project Presentations