

USC School of Cinematic Arts | Interactive Media Division
CTIN 492 Experimental Game Topics: “Health & Interactive Media”

Course Syllabus, Spring 2010
Units: 4 | Prerequisites: None

Instructors:
Marientina Gotsis

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Course Description

Overview. This course will prepare students for designing interactive media-based health “interventions”, such as sensor-based games on mobile platforms. We will review priority health areas in the US health system, as well as emerging markets and technologies, key topics in public health, behavior, neuroscience and social networks. Students will be mentored through project case studies in focused areas (e.g., obesity, autism, cancer, rehabilitation). Students will be given the opportunity to generate ideas, design and playtest paper and digital prototypes in their area of interest, as well as randomly picked topics during lab exercises. Assignments will be individual and group-based.

Goal. The goal of the course is to increase student awareness of healthcare challenges from individuals to groups and communities, cultivate design empathy from multiple perspectives (consumer, patient, health professional, designer, engineer) and foster a spirit of understanding toward collaborative design. Whereas pure entertainment may focus more on the player experience rather than the message, health interactives require equal consideration to both user/player and message. Students will be challenged to think beyond pure entertainment and understand holistic issues of design that take into account the user/players’ overall mental and physical health, environmental factors, social networks, and scalability issues, as well as the economics that govern healthcare issues. Students will be required to communicate issues based on their diverse perspectives in order to help identify stakeholder interests in health interactives.

Structure. The class will spend the initial part of the semester understanding key concepts, reviewing current literature and evaluating prior art in this area. The class will also cover basic skills in prototyping, playtesting, study design and evaluation. The class will create a series of small prototype exercises from which to draw ideas and experience for individual and group projects. During the final half of the semester, the class will work together in groups to design, playtest, and produce, one or more class projects depending on class size and expertise.

NO PREREQUISITES REQUIRED.
BOTH GRADUATE AND UNDERGRADUATES ELIGIBLE FOR CREDIT.

Instructor Bio. Marientina Gotsis, MFA is an artist, technologist, and technical writer with fourteen years of professional experience. Gotsis is Media Lab Manager of the USC School of Cinematic Arts (SCA), Interactive Media Division (IMD) where she oversees several IMD research projects, manages technology infrastructure and research development. Gotsis was recently interviewed by *Fast Company* magazine on future of sensor technologies and health games. She contributes to research by leading IMD’s Games for Health Initiative and a collaboration for networked interactive media between KEIO University (Japan) and Calit2/University of California-San Diego (UCSD). She previously taught computer-based design, programming and visualization at USC Roski School of Fine Arts, Columbia College Chicago, Harold Washington College and Northeastern Illinois University and has consulted for numerous small business and not-for-profit organizations. She received a BFA and MFA from the Electronic

Visualization Laboratory (EVL) at the University of Illinois at Chicago where she served as research assistant on large-scale computing efforts for networked virtual reality (VR). Gotsis is project director and co-principal investigator on Wellness Partners, an intergenerational pilot project for health games research funded by the Robert Wood Johnson Foundation for which she has developed a social networked game and activity diary for exercise. She is developing three new games for nutrition, fitness and immunity sponsored by Humana and collaborating with Harvard's Center for the Developing Child to investigate games that could influence policy-making behavior and its impact on the architecture of the brain. Gotsis is also currently overseeing the creation of a peer-reviewed wiki for the Thalassemia Support Foundation in collaboration with USC Childrens Hospital Los Angeles and collaborating with UCLA's Center for Autism Research and Treatment (CART) to evaluate a novel game controller and game for social skills training in children.

Meeting Information:

Lectures: Tuesday 5 – 6.50PM
 Labs: Thursday 5 – 6.50PM
 RZC 119 @ The Robert Zemeckis
 Center for the Digital Arts

Criteria for Grading:

Participation	10
Written Assignments (2)	30
Individual Project	20
Group Project	30
Project Documentation	10
Total:	100

Evaluation of student performance:

- Written analysis
- Literature Review
- Design prototypes
- Group project
- Peer review
- Project documentation

Final Grade:

93 – 100 A	90 – 92 A-
87 – 89 B+	83 – 86 B
80 – 82 B-	77 – 79 C+
73 – 76 C	70 – 72 C-

Course Schedule

SUBJECT TO CHANGE

Week 1 : Course Overview

Jan 12, 2010

Lecture: "Intro to Course, Structure, Goals"

Jan 14, 2010

Lab Skill: "Beyond Google: Accessing and Assessing Scientific Data"

Readings

Medpage "Guide to Biostatistics"

"The Future of Health Care Is Social"
 By Jennifer Kilian and Barbara Pantuso

"Owning Your Health Information: An Inalienable Right"
 By Leslie Saxon

"Privacy As An Enabler, Not An Impediment: Building Trust Into Health Information Exchange"
 By Deven McGraw, James X Dempsey, Leslie Harris & Janlori Goldman

Week 2: Healthcare Trends Overview

Jan 19, 2010

Lecture: "Body Computing: Sensors, Electronic Health Records & Social Networks"

Jan 21, 2010

Lab Skill: "Microsoft HealthVault & Google Health"

Readings

"Understanding HIPAA Privacy"
 By hhs.gov

Due: Written Design Analysis of Existing Health Interactive

Week 3: Priority Health Areas

Jan 26, 2010

Lecture: “Major Challenges in Chronic Illness, Acute Care and Rehabilitation: Epidemics, Disasters & Orphan Disorders”

Jan 28, 2010

Lab Skill: Prototyping using Values-at-Play Cards I

Readings

Current facts & literature reviews on obesity, cancer, autism, rehabilitation & rare disorders

Due: Annotated Literature Review

Week 4: Neuroscience Perspectives

Feb 2, 2010

Lecture: “Brain Development as Architecture: Construction, Damage & Repair”

Feb 4, 2010

Lab: Prototypes I Review

Due: Prototypes I

Readings

“The Science of Early Childhood Development: Closing the Gap Between What We Know and What We Do”
By the Center on the Developing Child at Harvard University

“Neuroscience, Molecular Biology, and the Childhood Roots of Health Disparities: Building a New Framework for Health Promotion and Disease Prevention”
By Jack P. Shonkoff, W. Thomas Boyce & Bruce S. McEwen,

Week 5: Health & Behavior Overview

Feb 9, 2010

Lecture: “Knowledge, Attitude, Practice: Solving a Non-Linear Problem”

Feb 11, 2010

Lab Skill: Prototyping using Values-at-Play Cards II

Readings

Select Chapters on Individual, Group and Community Models for Health Behavior

Change in “Health Behavior and Health Education: Theory, Research, and Practice”
By Karen Glanz, Barbara K. Rimer & Frances Marcus Lewis

Week 6: Technology Overview

Feb 16, 2010

Lecture: “Beyond the iPhone: from Augmented Reality to Nanomaterials”

Feb 18, 2010

Lab: Prototypes II Review

Due: Prototypes II

Readings

State-of-the-art project case studies

Week 7: Bioethics Overview

Feb 23, 2010

Lecture: Introduction to Human Subjects Research

Feb 25, 2010

Lab Skill: CITI Human Subjects Training

Due: Student Investigator CITI Training Certificate

Readings

“Belmont Report”

“Declaration of Helsinki”

“The Lasker Forum on Ethical Challenges in Biomedical Research & Practice”

Week 8: Emerging Concepts

Mar 2, 2010

Lecture: “Storytelling & the Human Genome”

Mar 4, 2010

Lab: Individual Projects in Progress

Readings

Smart, J. M., Cascio, J. & Paffendorf, J. (2007). *Metaverse roadmap overview*.

Gotsis, M. (2009). Games, virtual reality, and the pursuit of happiness. *IEEE Computer Graphics and Applications*, 30(5), 6-11.

Week 9: Project Critiques

Mar 9, 2010
Individual Project Presentations
Due: Individual Project

Mar 11, 2010
Individual Project Critiques

Readings
None.

***Week 10: Spring Break**

Mar 15-20, 2010

Week 11: Project Pitches

Mar 23, 2010
Group Project Pitches
Due: Project Proposals

Mar 25, 2010
Peer Review & Vote

Readings
“Design Thinking”
By Tim Brown

Week 12: Preparation for Final Project

Mar 30, 2010
Team Selections & Skills Assessment
Team Meetings & Planning Session

April 1, 2010
First Iteration Design
Due: Team Activity Schedule

Readings
None.

Week 13: Production for Final Project

April 6, 2010
First Iteration Internal Playtest

April 8, 2010
Second Iteration Design In-Progress
Due: Internal Playtest Report

Readings
None.

Week 14: Production for Final Project

April 13, 2010
Second Iteration Design In-Progress

April 15, 2010
Second Iteration Design In-Progress

Readings
None.

Week 15: Production for Final Project

April 20, 2010
Second Iteration Design In-Progress

April 22, 2010
Second Iteration External Playtest

Readings
None.

Week 16: Project Critiques

April 27, 2010
Final Iteration Design In-Progress
Due: Pitch for CTIN511 Final Projects Marathon

April 29, 2010
Final Iteration External Playtest

Readings
None.

FINAL DEADLINES

May 11 at 4:30PM
Final Project Documentation Due

Written Analysis: Students are expected to complete a 4-6 page (APA Style) written analysis of an existing interactive-media based application that may include games. The analysis will focus on the strength and weaknesses of the project design goals, process and end user/player experience. Relevant research on related health aspects is to be integrated. Students are encouraged to use/play the interactive (if possible) and to ask people in their social network

to play them to collect feedback. Assignment will be graded on the insight and clarity of the analysis and understanding of relevant research.

Annotated Literature Review: Students are expected to complete an annotated literature review on a topic of their choice that must include at least 5 peer-reviewed publications, 2 online references (opinion pieces), 1 book and 3-5 interactive projects as case studies. Annotations should be brief summaries noting relevance to topic, identified gaps and any design problems/ideas that may arise from reviewing these references. Assignment will be graded on the insight and clarity of the analysis and understanding of relevant research.

In-class Prototypes: The lab exercises will consist of short, focused assignments that can be completed, playtested, and discussed during class time. Some of the labs may involve visiting speakers who will show hands-on demos of technologies. The resulting in-class designs will provide possible ideas and prototypes for the final project. Later labs will focus on producing specific deliverables for the final project: a prototype, playtesting and feedback collection for the prototype, revised designs, preparation for the final game, implementation and documentation of the final project. Prototypes will be graded on a combined scale of completion and quality of user/player experience.

Individual Project: Students will be expected to make a 10-minute presentation that describes a design problem and a proposed solution and complete one playable prototype (paper or digital) that partly demonstrates the proposed solution. Peers are expected to critique presentations and prototypes in class and in blog posts. The individual project will be graded on a combined scale of thoughtfulness and innovation.

Group Project: Students will prepare and pitch a group project which will be peer reviewed and voted in order to rank and choose one or more final projects. Class will split into teams and prepare a series of prototypes that will be tested internally with classmates, as well as externally through a call for volunteers. Teams will be responsible for conducting their own playtests. Teams are expected to be able to show projects in progress during class meetings and do a quick demo during the CTIN511 Final Project Marathon. All students in the class must participate in the design and playtest of this final project in some way – specific roles to be determined by the nature of the project, of course.

Documentation: Students are expected to document prototypes through pictures, video and/or writing throughout the semester in blog posts. The group project must be documented in a final design document that describes the project premise, relevant research and prior art, design approach, key design elements, storytelling elements, implementation plan and evaluation plan. The design of the interactive project should take into account the space and mindset of the participants striving for a sense of relevance to both location and people involved, and inclusion for experts and non-experts alike.

Course Weblog:

http://interactive.usc.edu/courses/2010_spring/ctin-492l-experiment.php

To post to the course weblog, simply add a post as usual and tag it with the course number – 492. The post will show up under the course aggregator.

Missing an assignment, Incompletes:

The only acceptable excuses for missing an assignment or taking an incomplete in the course are personal illness or a family emergency. Students must inform the professor before the assignment due date and present verifiable evidence in order for a late assignment to be accepted. Students who wish to take incompletes must also present documentation of the problem to the instructor or teaching assistant before final grades are due.

Note for 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 us 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:

DRAFT – NOT FINAL VERSION

The School of Cinematic Arts expect 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 instructor.

Attendance Policy:

University of Southern California policy permits students to be excused from class, without penalty, for the observance of religious holy days. This policy also covers scheduled final examinations which conflict with students' observance of a holy day. Students must make arrangements in advance to complete class work, which will be missed, or to reschedule an examination, due to holy days observance.

Emergency Response Information:

To receive information, call main number (213)740-2711, press #2. “For recorded announcements, events, emergency communications or critical incident information.”

To leave a message for the School of Cinematic Arts, call (213) 740-2804

For additional university information, please call (213) 740-9233

Or visit university website: <http://emergency.usc.edu>

If it becomes necessary to evacuate the building, please go to the following locations carefully and using stairwells only. Never use elevators in an emergency evacuation.