MM6100 Tech I: Principles of Digital Multimedia

FALL 2016

# Course Learning Outcomes and Objectives

1. Work in teams and demonstrate team communication at an emerging level.
2. Explain and demonstrate the use of ideation, prototyping, testing and iterative design in the process of developing prototypes
3. Create Video and Slide presentations at a developing level
4. Create a piece of playable media / interactive content through phases of refinement at a developing level
5. Use tools and techniques for making physical prototyping

# Required Textbooks

Multimedia: From Wagner to Virtual Reality, Packer&Jordan 2001, W.W.Norton & Company  
and assigned online reading

# Required Materials

Pens, markers, pencils, paper, notebook for sketching and note taking

Access to a computer and the internet for homework and study

Access to software for completion of work

Flash memory drive minimum 2G

Cloud Storage account (Dropbox, Copy or other)

# Assessments / Grades

Storytelling 10%

Video Intro 10%

Pecha Kucha 10%

Board Game 25%

Prototype 25%

Participation 20%

## Attendance/Participation

Your grade starts dropping after 2 absences.

3 late = 1 absence

3 absences = 1 full letter grade drop (A to B or B to C)

4 absences = 2 full letter grade drops (A to C or B to D)

5 absences = 3 full letter grade drops (A to D or B to F)

# Attendance and Make-up Work Policies

Attendance is required for all classes, in the rare circumstance that you need to miss a class, you must inform the instructor and all your team members ahead of time. You will still be responsible to meet all the set deadlines or make prior arrangements.

Work turned in after the deadline is accepted at the sole discretion of the instructors.

University policies regarding cheating and academic dishonesty

By enrolling in this class the student agrees to uphold the standards of academic integrity

described in the catalog at http://www.csueastbay.edu/ecat/current/i-120grading.html#section12.

# Accommodations for students with disabilities

If you have a documented disability and wish to discuss academic accommodations, or if

you would need assistance in the event of an emergency evacuation, please contact me as

soon as possible. Students with disabilities needing accommodation should speak with the

Accessibility Services.

# Emergency information

Information on what to do in an emergency situation (earthquake, electrical outage, fire,

extreme heat, severe storm, hazardous materials, terrorist attack) may be found at:

<http://www.aba.csueastbay.edu/EHS/emergency_mgnt.htm> Please be familiar with these procedures. Information on this page is updated as required. Please review the information on a regular basis

# Assignments, Labs and Projects

## Storytelling in the Dark / Explore Sound

Work in teams of two. Prepare a 5-minute story to be told in a dark room. You may not use any electronic technology to tell the story. The lights will be off.

Requirements: 5 minute story, no electronic technology.

## Video Introduction

Create a persnal introduction for yourself. In Teams go to the TV studio LI 1092-L (under the library) and make a short introduction using the green screen, the character generator and the teleprompter. Check the [schedule for this quarter](http://ada.csueastbay.edu/~ipollock/6100/FALL2015_Schedule.png) and contact Melissa Merencillo for training appointments. Her job is to make sure that you operate the equipment safely  
  
Content:   
Introduce yourself.   
Answer the question, what is technology? Answer the question, what is multimedia?

Requirements: Present your name in a lower third, use proper microphones for good audio, choose meaningful backgrounds and lighting, choose appropriate [mise en scène](http://classes.yale.edu/film-analysis/htmfiles/mise-en-scene.htm).

## Pecha Kucha Presentation for Prototype

Make a Pecha Kucha presentation that is 20 slides of 20 seconds each.

Consider the following resources for guidance.

<http://www.pechakucha.org/>

<http://avoision.com/pechakucha>

[How to recognize peer-reviewed (refereed) journals](http://www.angelo.edu/services/library/handouts/peerrev.php)

Requirements: pecha kucha 20 x 10 presentation, must run automatically, you are not allowed to pause the presentation once you start. you get 2 minutes to set up and start. be prepared ahead of time.

## Interactive Content

In teams of 3 or 4 create a prototype for a board game based on the UN Sustainability Goals. Create the Board, the game pieces, the rules and game mechanics. The game needs to be fun and playable.

Consider the roles that the othermills, the laser cutter, the color printers and the 3d printers can play in the fabrication of this game. Consider how platforms like app inventor can create digital components to a game.

http://gamedevelopment.tutsplus.com/articles/how-to-learn-board-game-design-and-development--gamedev-11607

http://www.wikihow.com/Make-Your-Own-Board-Game

http://gamestudies.org/0802/articles/sicart

## Prototype Video

Upload the 3-minute pitch video for your prototype here.  The goal is to convince university administrators to consider your idea.  Below are some links to help you think about the format of a pitch video. Each team Member should upload a link to the video. Host it on vimeo or youtube, but watch the quality!

https://www.kickstarter.com/help/handbook/your\_story

https://go.indiegogo.com/blog/2012/12/top-12-pitch-videos-of-2012.html

You can use this tool if you need a free video tool http://www.freemake.com/free\_video\_converter/

**SPECS**

**Video Resolution & 16:9 Aspect ratio:**

* 2160p: 3840x2160
* 1440p: 2560x1440
* 1080p: 1920x1080

**Video codec:**

* H.264
* Progressive scan (no interlacing)
* High Profile
* 2 consecutive B frames
* Closed GOP.
* GOP of half the frame rate.
* CABAC
* Variable bitrate.
* Chroma subsampling: 4:2:0
* H.264 or MPEG-4

**Video Bitrate:**

* Standard Frame Rate(24, 25, 30)-  8 Mbps
* High Frame Rate(48, 50, 60) - 12 Mbps

**Audio Bitrates**:

* Mono 128 kbps
* Stereo 384 kbps
* 5.1 512 kbps

Audio quality is not less important than video one. Even if your video track is a masterpiece, bad sound will spoil the whole idea. The recommended sound parameters are: MP3 or AAC format, 44.1kHz sampling rate and the higher bitrate possible, but no less than 192 kbps.

# Tentative Weekly Schedule

|  |  |  |
| --- | --- | --- |
| one -9/27 | Introductions, book Print and Cut Demo | Read Chapter 1 |
| two - 10/4 | Perform - telling stories in the dark Discuss reading Play test and discuss - prototype game | Refine paper prototype game using print and cut. |
| three - 10/11 | Discuss V2W reading Play test and discuss - prototype game 3D printer demo Screen Videos | Refine prototype game - 3d printed pieces. |
| four - 10/18 | Laser cutter demo Videos Present and test Board Games | [Play Test - prototype game](http://www.gamasutra.com/view/feature/185258/best_practices_five_tips_for_.php?print=1) w/3d printed pieces. |
| five - 10/25 | Intro to Protoyping Course  Michael to demo casting | READ BEFORE CLASS: [Before You Start Guide.pdf](https://drive.google.com/open?id=0B2NDv4EUdOLkWWs0TVhfQlo3Q0E) & [Course Roadmap](https://drive.google.com/open?id=0B2NDv4EUdOLkSEhIT3F6bFZTVTg) **Print 3D models for casting** |
| six - 11/1 | Prototyping 1 - Make It Real Session | READ BEFORE CLASS: CLASS 1: MAKE IT REAL Focus:  Overview/Tangible Products [Class 1 Readings.pdf](https://drive.google.com/open?id=0B2NDv4EUdOLkTHVGaUlrb3pTTGc) [Class 1 Workshop Guide.pdf](https://drive.google.com/open?id=0B2NDv4EUdOLkUmJESXd5c1liM0k) |
| seven - 11/8 | Prototyping 2 - Build to Think | READ BEFORE CLASS: CLASS 2: BUILD TO THINK Focus: Services/Interactions [Class 2 Readings.pdf](https://drive.google.com/open?id=0B2NDv4EUdOLkVTJFOUxPSHlRZ3M) [Class 2 Workshop Guide.pdf](https://drive.google.com/open?id=0B2NDv4EUdOLkempsYldpWUQ5U3M) |
| eight - 11/15 | "Build to think" debrief share in class 10min max Prototyping 3 & 4 plan ~3hours for field testing this week | READ BEFORE CLASS: CLASS 3: PLAN FOR FIELD TESTS Focus: Environments/Planning for Context [Class 3 Readings.pdf](https://drive.google.com/open?id=0B2NDv4EUdOLkN3h0NFd0WGJFV1U) [Class 3 Workshop Guide.pdf](https://drive.google.com/open?id=0B2NDv4EUdOLkUlEwckJ6MVA0WFU) CLASS 4: IN THE FIELD Focus: Field-Testing/Real User Feedback [Class 4 Readings.pdf](https://drive.google.com/open?id=0B2NDv4EUdOLkTTU0QlZYM0Q0bmc) [Class 4 Workshop Guide.pdf](https://drive.google.com/open?id=0B2NDv4EUdOLkZTJMSDBRQWs5WWc) |
| nine - 11/22 | \*\* DISCUSS Prototyping 4 \*\* - In the Field | Prepare prototype project presentation |
| ten - 11/29 | Refine and polish board game / Prepare prototype project presentation |  |
| finals - 12/6 | Presentation of Prototype 3-minute video for prototype  6 minute Pecha Kucha Presentation Final Presentation of Board Game |  |