

## NMD 398-860: Design Patterns for New Media (Spring 2012)

**Instructor:** John Bell

**Meetings:** MW 4:10-6:10PM, 127 Lengyl

**Office Hours:** via iChat (ID nmdjohn), time TBD

**Email:** John Bell on FirstClass (not Jon Bell)

### Course Description

This is a hands-on course intended to show you the development patterns used to create several types of new media projects. A problem that is often faced by students when they jump from homework-scale projects to capstone or real-world projects is that they don't know how to break the large-scale projects down into manageable chunks. This class demonstrates how artists and coders who have an idea can develop the specific details of production needed to make it real. Each type of production will be covered in two ways: a look at a prototypical project that will give you a general background in the area, and a presentation from current NMD capstone students working on their project in the area. In most cases the emphasis for this class is on design methods more than it is on final results, so you should plan the time you devote to different aspects of the course and its assignments accordingly.

### Course Goals

1. Figure out the best way to approach a large project based on its genre and goals and produce a methodological structure for its production.
2. Learn how to effectively research unfamiliar implementation techniques so you can use your ideas to shape your work rather than your technical limitations.
3. Gain a greater understanding of how individual technologies interact to create overall functionality within hardware or software.
4. Develop specific implementation skills in the targeted project genres.

### Required Equipment

Be sure to bring your laptop to each class session. Some other equipment or texts will be needed for specific sections of the class, but those will be discussed when they come up.

### Required reading throughout the semester

Hack-a-Day ( <http://hackaday.com/> )

BoingBoing ( <http://www.boingboing.net/> )

We-Make-Money-Not-Art ( <http://www.we-make-money-not-art.com/> )

Lifehacker ( <http://lifehacker.com/> )

Collabcubed ( <http://collabcubed.com/> )

Projects from these sites will be discussed in class on a regular basis, so you should read and be prepared to talk about them when asked.

### Course Flow

The course is broken up into five two-week units and a month-long final project. Each two-week unit will have roughly the same format:

Class 1: The unit will be introduced, the prototypical example discussed and assignment given.

Class 2: Capstone examples will be discussed and a problem will be selected for research.

Class 3: Capstone research results will be discussed and there will be a lab for the assignment.

Class 4: Prototypical assignments will be presented and critiqued.

### **Capstone participation**

One or more capstone student(s) will give a presentation to the class for each unit (except during the final project). This presentation will give an overview of their capstone and discuss a problem or challenge they are having with implementing their project that is relevant to the topic under discussion in the class. You will have until the next class to research the problem presented to you, then there will be a discussion on how to go about solving the problem. The level of detail required for your solutions will depend on the scope of the problem you are given; conceptual problems may only require diagrams or pseudocode, while specific programming questions should be solved with sample code or research.

### **Attendance Policy**

Attendance is critical because this class is centered on discussion and methodology, not just end results. You will be allowed to miss up to two classes due to illness or emergency, provided you notify me by email before class time. Each additional absence, or any unexcused absence, will result in the loss of a full letter grade. During inclement weather you should check the course folder on FirstClass for possible cancellations and check to see if the entire University has been closed for the afternoon. If you are absent during a critique you must present your assignment to the class at the next available opportunity.

### **Collaboration Policy**

Unlike many new media courses, for assignments in this class you are not allowed to collaborate with your classmates or other students in your major (unless otherwise stated). However, you are encouraged to use outside resources, including students you know from other majors, as research sources. All such sources must be referenced in the deliverable for the assignment you discuss with them.

### **University Policies**

**Disabilities:** Students with disabilities who may need services or accommodations to fully participate in this class should contact Ann Smith, Director of Disability Services in 121 East Annex, (voice) 581-2319, (TTY) 581-2325 as early as possible in the semester.

**Academic Integrity:** Academic honesty is very important. Copying and plagiarism are unacceptable, including use of unmodified or unreferenced code beyond that which is specifically allowed in each assignment. As indicated in the University of Maine's on-line "Student Handbook," plagiarism (the submission of another's work without appropriate attribution) and cheating are violations of The University of Maine Student Conduct Code. An instructor who has probable cause or reason to believe a student has cheated may act upon such evidence, and should report the case to the supervising faculty member or the Department Chair for appropriate action.

**Class Disruption:** In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

### **Participation**

Once again, this course is focused on process and methodology. If the only time you talk is when you're giving a presentation on your final result then you will have little opportunity to display your understanding of the processes being discussed and I will not have much information to use when

evaluating your success in the class (i.e., grade). Ask questions, throw in comments, and generally add to the discussion as much as possible, *particularly* if you think you missed something or you have a stupid question. Odds are I just didn't explain it completely and other people are as confused as you are.

As with all classes, it is expected that you will treat others with respect. If you are repeatedly abusive toward your classmates you will be asked to leave and the day will be considered an absence for purposes of the attendance policy.

### **Grading**

Each assignment grade is weighted into your final course grade as follows:

Capstone research	40% (8 points per)
Prototypical assignments	40% (8 points per)
Final project	20% (20 points)

Please note that class participation is part of your grade for each of the assignments. An outstanding assignment can still receive a low grade if you don't talk about it!

### **Topics**

#### Augmented Reality

Augmented reality is a genre-bending technique that demands a different sort of thinking than many other project prototypes. This section demonstrates how to account for those additional considerations when planning your project.

Two-week assignment: Plan and implement an AR project.

#### Community Design

Shows patterns for developing a community-based project. This section focuses on the decision-making process for how a project's design parameters shape the community that forms around it.

Two-week assignment: Create a set of rules for an online community project. With those goals in mind, describe a database and the general algorithms required to track the information necessary to enforce those rules.

#### Non-Linear Narrative

Explains the development process for non-linear narrative, including planning, decision trees, and tool options. The patterns demonstrated in the section should apply to text, hypertext, video, and other interactive narratives.

Two-week assignment: Plan and implement a recursive hypertext narrative.

#### Aesthetic Transformation

Covers the development process for creating new meaning from old media through transformation and reuse. The emphasis for this section is on finding ways to not just transform an artifact but to do so in such a way that the new meaning is both powerful and apparent to viewers. Part of the evaluation for this project will be based on clearly charting the influences on and decision-making process for your transformation and demonstrating how those choices are reflected in their end result.

Two-week assignment: Leveraging the old context of a cultural artifact, transform it so as to impart a new meaning. Images, video, text, or sound are all candidates so long as anybody who

knows the background of the original artifact should be able to understand the new meaning of the piece. The transformation can take place in either the same or a different medium than the original artifact.

#### Interactive Installations

Covers the design patterns for sensor-based projects and installations. The most critical aspects to understand are what data is acquired from a sensor and how to create new information from that data programmatically.

Two-week assignment: Create a functional-level design for a sensor/feedback installation. Any sensor connections used must have an accompanying (plausible) data acquisition model, but actual code for the sensor is not required.

#### Final Project

The final project for this class is to extend one of the earlier assignments and produce a completed project. This must be a non-trivial extension, however--acceptable examples might be building a complete sensor-based installation or extending a recursive narrative into a full community authorship site. You must submit a proposal that clearly demonstrates how your project greatly extends the work you have already done and what goals should be used to evaluate your project upon presentation.

#### Timeline

Week 1 – AR

Jan 9 Introduction, what do I mean by “design patterns”

Jan 11 The Template, introduction to AR \*

Week 2 – AR

Jan 18 Capstone problem \*

Week 3 – AR

Jan 23 Capstone solution, AR workshop

Jan 25 AR Critique

Week 4 – Community Design

Jan 30 Community assignment given

Feb 1 Capstone problem \*

Week 5 – Community Design

Feb 6 Capstone solution, Community workshop

Feb 8 Community critique

Week 6 – Non-Linear Narrative

Feb 13 Recursive Narrative assignment given

Feb 15 Capstone problem \*

Week 7 – Non-Linear Narrative

Feb 20 Capstone solution, Recursive Narrative workshop

Feb 22 Non-Linear Narrative Critique \*

\* Spring Break \*

Week 8 – Aesthetic Transformation

Mar 12 Transformation Assignment given

Mar 14 Capstone problem \*

Week 9 – Aesthetic Transformation

Mar 19 Capstone solution, Transformation workshop

Mar 21 Transformation Critique

Week 10 – Interactive Installations

Mar 26 Installation Assignment given

Mar 28 Capstone problem \*

Week 11 – Sensor Systems

Apr 2 Capstone solution, Installation workshop

Apr 4 Installation Critique

Week 12 – Final Project

Apr 9 Proposal discussion, Lab time

Apr 11 Lab time \*

Week 13 – Final Project

Apr 16 Progress Report

Apr 18 Lab time

Week 14 – Final Project

Apr 23 Final Project critique

Apr 25 Final Project critique

