

LMC 6313: Principles of Interaction Design SPRING 2017

Revisions to this syllabus will be posted on tsquare and announced via gatech email

Meetings: Monday: Discussions/Critiques, 10am-12pm, Skiles 002 (or Lab 346) See schedule for dates of Lab meetings

Instructor: Janet H. Murray (jmurray@gatech.edu)
Office Hours: Monday 4-6pm, TSRB 320A or email to schedule alternate time.
@janetmurray (tweets about digital design, media, eTV, VR)

TA: Albith Delgado (albith@gatech.edu)
Office Hours: Fridays 12-1 Skiles 346 or by appointment in Skiles 346 or TSRB 323.

Online course site: tsquare LMC 6313 **Wiki** and **Piazza**

Students are strongly encouraged to take advantage of instructor's office hours for exploration and refinement of project ideas and more detailed feedback on assignments and to call upon the TA for individual coaching and pointers to web tutorials and other coding resources as needed.

Course Objectives

- To articulate goals and methods, that will remain valid through long periods of technical innovation, for the design of coherent and meaningful digital artifacts.
- To prepare students for professional employment with projects that integrate immediately useful technical methods with enduring design considerations
- To situate the design of digital artifacts as part of the larger collective, cultural task of inventing media formats and genres that expand human expressivity and connectedness.

Learning Outcomes

- Use coherent and focused design language to critique digital artifacts.
- Apply principles of information/interaction design to create a complete, demonstrable prototype.
- Work competently in relevant programming environments: HTML5, CSS, SQL, PHP, Javascript.
- Work competently applying visual design principles and using relevant design software: Photoshop, Illustrator.
- Present one's own design choices orally and visually in a focused, persuasive, and insightful manner.

General Policies

Students are expected to indicate the source and authorship of any work not original to them.

Students are expected to come to class prepared and actively respond to presentations by the instructor and fellow students. Students are encouraged to bring their laptops to class, and are always welcome to look up information related to the discussion during class.

All students will have access to the DM Lab in Skiles 346 and are expected to abide by the rules of that lab, including never propping open doors or leaving the room unlocked. Students are expected to refrain from distracting and disruptive behaviors in class and in the shared lab, and to treat one another with professional respect and courtesy.

There is zero tolerance for discrimination or harassment on any basis, including but not limited to race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status. Georgia Tech is committed to providing its staff, faculty, and students

the opportunity to pursue excellence in their academic and professional endeavors. This opportunity can exist only when each member of our community is assured an atmosphere of mutual respect. Georgia Tech's full anti-harassment policy is online here:

<http://www.policylibrary.gatech.edu/anti-harassment-policy>

Students in need of Learning Accommodations: Any student who feels that they may need an accommodation for any sort of disability, please speak to me after class or come see me in my office hours so we can discuss alternative strategies. Georgia Tech support services are available through the Office of Disability Services of the Dean of Students Office, as described here: <http://disabilityservices.gatech.edu>

Required Texts

- Janet H. Murray *Inventing the Medium: Principles of Interaction Design as a Cultural Process*, MIT Press 2012. (available on electronic reserve, and in shared copy in 346 as well as in bookstores) Referred to in Syllabus as *ITM*. There is also a website: <http://inventingthemedium.com>
- PhD Students only (hand in brief reading notes for each):
 - Due Week 3
Bush, Vannevar. "As We May Think." *Atlantic Monthly*, July 1945 1945, 101-108. (Due Week 3)
 - Due Week 4
 - Berners-Lee, Tim, James Hendler and Ora Lassila. "The Semantic Web." *Scientific American*, no. May 2001 (2001). https://www-sop.inria.fr/acacia/cours/essi2006/Scientific%20American_%20Feature%20Article_%20The%20Semantic%20Web_%20May%202001.pdf
 - Berners-Lee, Tim, Nigel Shadbolt and Wendy Hall. "The Semantic Web Revisited." *IEEE Intelligent Systems*, (2006). <http://dl.acm.org/citation.cfm?id=1155373>
 - Berners-Lee, Tim, "Giant Global Graph"
<http://dig.csail.mit.edu/breadcrumbs/node/215>
 - PhD RECOMMENDED: Bowker and Leigh, *Sorting Things Out* (1999)

Recommended Resources

- <http://lynda.com>
- www.codeacademy.com
- Download a source code editor, for example: Sublime Text <http://www.sublimetext.com/> or Visual Studio Code <http://code.visualstudio.com> <http://www.sublimetext.com/>
- Lupton, Ellen. *Graphic Design: The New Basics* (some content available online: <http://gdbasics.com>)

Requirements

2 Design Critiques

30 points [15 points each]

Due (posted to T-Square blog) on **10 am** of the day assigned in the form of a Powerpoint or PDF file conforming to the template posted on the tsquare site.

Interaction Design Semester Project

50 points

Choose one of two options (info design, explanatory simulation) to build and implement as a functional, interactive application.

3 Lab Exercises

15 points [5 points per exercise]

Exercise 1: Personal online portfolio with HTML/CSS/use of grid

Exercise 2: Demonstration of Server-side/API/SQL essentials

Exercise 3: Author content for a Javascript interactive microworld

Class Participation*

5-10 points

Including contributions to class discussions, in-class assignments, class-response and reading-response Piazza posts, and constructive mutual critique.

Total Grade:

100 points*

- **PhD students will be graded on an 120 point basis** (>108=90%, >96=80%) and will submit brief weekly design notes (no more than 200 words) in weeks 2, 5, 6, 7 through Piazza, using specific design language and well-chosen web links, images, or videos to describe how a particular feature of a digital artifact of their choice illustrates good or bad design practices related to topics in the readings, and a <300 word thoughtful responses to Vannevar Bush due week 3 and a <300 word thoughtful response to the Tim Berners-Lee articles, due week 4.
- **Bonus Points:** up to 5 points for helpfulness to other students; up to 5 points for MS students with exceptional class participation.

Semester Project (choose one)

Info Design Focus: An application that meaningfully combines information in multiple media types from multiple sources into one resource that is more useful or expressive than the individual components (e.g. a guide to skateboarding sites that includes user ratings, photographs, videos, and maps; an analysis of a political issue drawing on text and video news sources, partisan websites and blogs, and authoritative statistical resource). This project must run in a browser, using SQL and a server-side language (PHP will be emphasized in class).

Explanatory Simulation Focus: An interactive model of a complex system (e.g. a lemonade stand, a biological ecosystem) using javascript and HTML5 that affords replay and helps the interactor to understand a scenario with multiple parameters and multiple significant potential outcomes.

Components of Final Project Grade: Deliverables

Topic Presentation / Conceptualization	10 points
Mockup Buiding and Testing	10 points
Final Running Project	15 points
Final Slide Documentation and Oral Presentation	10 points
Final Video Documentation	5 points

Fall 2015 Schedule

Week #	Week Beginning	Readings	Monday 10-12	Wed 10-12	F 11-12	Key Concepts
1.	1/9	<i>ITM</i> Ch 1,2,3, Ch 7	Design Analysis: Media Design	Design Analysis: Info Design	LAB: Prep for Exercise #1 Begins	Medium -Inscription -Transmission - Representation Affordances of Digital -Participatory -Procedural -Encyclopedic - Spatial Conventions Formats Platforms Genres Design Goals - Agency - Transparency - Immersion - The Cognitive and Cultural F of Standardized Labeling Controlled vocabularies Tagging Collocation and Aggregation Facets Classification Taxonomy
2.	1/16		X MLK day	LAB	LAB	
3.	1/23	<i>ITM</i> Ch 8,9	Design Analysis: Info Design	Design Analysis: Info Design	LAB EXERCISE #1 DUE 5pm	Space and color as semantic Semantic segmentation Multiple Granularities Previews Information chunking Magic number 7 Semantic Web Internet of Things (IoT) Big Data Privacy Conformity
4.	1/30	<i>ITM</i> Ch 7,8,9 Ch 13	Design Critique Presentations DESIGN CRITIQUE #1 SLIDES DUE 10am	Critique Presentations continue as necessary – Preview of Interaction Design Unit	LAB Prep for Exercise #2 begins (Server side, SQL, API)	Scripting the Interactor Companion Model Tool Model: Transparency Tool Model: Virtuosity Machine Model: Visibility
5.	2/6	<i>ITM</i> Ch 13 Review: Ch 4,5	Design Analysis: Interaction and Simulation	LAB	LAB	Game Model: Synchronizing Behaviors Symbol Manipulation as Cognitive Delight Game Mechanics

6.	2/13		LAB	LAB	LAB EXERCISE #2 due 5pm	
7.	2/20	<i>ITM</i> Ch 12, 13	Design Analysis: Interaction and Simulation	LAB: Prep for Exercise #3 begins (Simulation)	LAB	Scenario Design with Rule o Replay "God game" Branching narrative as 5 Act Kaleidoscopic Design Companion Model
8.	2/27		Design Critique #2 Presentations – slides online by 10am	LAB	LAB	
9.	3/6		LAB	LAB	LAB EXERCISE #3 Due 5pm	
10.	3/13		Semester Project Topic Presentation DUE 10am	Topic Presentation	Semester Project Topic Presentation	Refining Topics through presentations and peer workshopping
		SPRING	BREAK			
11.	3/27		Open Lab Week / individual JHM conferences	Open Lab Week / individual JHM conferences	Open Lab Week/ individual JHM conferences	
12.	4/3		Mockup Testing Mockup Posted 10 am	Mockup Testing Response to Mockup Testing posted by 5 pm	Open Lab	Think-aloud Protocol
13.	4/10		Open Lab Week	Open Lab Week	Open Lab Week	
14.	4/17		Semester Project: Final Presentations Posted 10 am	Semester Project: Final Presentations Continue	Semester Project: Final Presentations end	Demo scenarios
15.	4/24		Final User Testing			
	5/1		Semester Project: Final running code and final doc including video due by 5pm Monday 5/1			