Syllabus

LCC 6310 The Computer as an Expressive Medium – Fall 2016

Instructor: Jay Bolter, jdbolter@gatech.edu
TSRB Room 317, 404-385-2206
Office Hours: M 11:30 and by appointment

Teaching Assistant: Albith Delgado, albith@gatech.edu
Desk near TSRB 320A
Appointments: Wednesdays 1-3pm, or by appointment

This course explores the representational power of the computer and the interplay between digital technology and culture. The objective is to explore programming in the context of design practice. There will be reading and discussion of a few seminal articles and book chapters, but the main focus will be on programming projects designed to encourage exploration in critical and speculative design. The course assumes no past programming experience; however, it does assume some knowledge of html and css. Programming projects will be done in the javascript language with various frameworks and development tools, such as Twine and aframe

Course Objectives
•   Understand and use programming as a tool for critique and speculation.
•   Communicate concepts for critical computational products through sketches and prototypes.
•   Evaluate and constructively critique design concepts.

Logistics
[*Discussion*]M, W   10am-11:25amSkiles 168 (DM Lab)
[*Tutorials*]   F   9:05-10:55am   Skiles 346 (DM Lab)

Expectations
[*Participation*]   10 % Preparedness for and active participation in class discussions and project critiques.

                10 % Lab participation
[*Projects*]   80 % There are three projects. The first project counts for 20% of the final grade; the second and third for 30% each. For details see the project description document.

Grading
The projects are the main work for the semester: completing all requirements reasonably well equates to a B grade (80-89%). An A grade (90-100%) is earned by exceptional work that goes "above and beyond" the requirements.

Materials`
[*Texts & Tools*]
(Required)   Anthony Dunne and Fiona Raby, *Speculative Everything*
(Required)   *A Smarter Way to Learn Javascript*
Any additional readings and resources will be be available on t-square.

(optional)   *HTML5: The Missing Manual*

    Eloquent Javascript: A modern introduction to programming (pdf available)
    Twine and a-frame online resources (see the schedule)

[*Course site*]
(T-square)
https://t-square.gatech.edu/portal/site/gtc-9915-2044-5b17-9e84-7240a5a86ec3/page/b103d852-f473-46aa-9d67-18cdb0f82741

Policies
[*Lateness*]
Please submit assignments on the day they are due.

[*Student Responsibilities*]
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 to attend to and actively respond to presentations by the instructor and fellow students. 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.

Schedule

LCC 6310 The Computer as an Expressive Medium
Fall 2016 Schedule

		Monday	Wednesday	FRIDAY – Tutorials
W01	**Aug 22**		**Aug 24**	**Aug 26**
		Introductions and course overview: Speculative and Critical Design. Relationship to 6399	P1 described Walkthrough of Twine Examples of Twine usage.	Before Lab: read Javascript book, chapters 1-9 (variables) 35-38(functions) Read/watch: Alex Hammond's Twine Guide. Troubleshooting code, using online resources. Lab1- Variables, Functions. CSS and modifying the look of Twine.
W02	**Aug 29**		**Aug 31**	**Sept 2**
		Dunne and Raby, Speculative Everything Chapters 1-3,4-6 Design fictions and other project models	Creating panoramas and using them in Twine P1 brainstorming session Discuss: "How to survive a critique."	Before Lab: read Javascript book, chapters 10-14 (conditionals) 18-20(loops) Lab2- Conditionals. Loops. Keeping track of story state. Objects
	Sept 5		**Sept 7**	**Sept 9**

Week	Monday		Wednesday		Friday	
W03	Holiday- Labor Day		P1 preliminary presentation		Before Lab: read Javascript book, chapters 15-17 (arrays) Lab4-Arrays, Story logic	
W04	**Sept 12**		**Sept 14**		**Sept 16**	
	Dunne and Raby Chapters 7-9		Extra lab- Sample projects. Randomness Commenting code for the project.		Open Lab- project workday, questions, troubleshooting	
W05	**Sept 19**		**Sept 21**		**Sept 23**	
	P1 final critiques		P1 final critiques		Lab6- programming in the browser. drawing graphics,panoramas with i-frame. Based on A-frame examples.	
W06	**Sept 26**		**Sept 28**		**Sept 30**	
	P2 described Geolocation; AR and introduction to Argon		P2 brainstorming Introduction to Argon (continued)		Lab7- using geolocation (Chapter 13 in HTML5 Missing Manual) Argon	
W07	**Oct 3**		**Oct 5**		**Oct 7**	
	3D graphics - guest lecture A-frame three.js		3D graphics - guest lecture A-frame three.js		Before Lab: read Javascript book, chapters 45-48 (events in js) Lab8-Programming interactions (graphics, video, sound) programming events.	
W08	**Oct 10**	FALL BREAK	**Oct 12**		**Oct 14**	
			P3 preliminary presentation		Lab9- Part 2-Programming interactions (graphics, video, sound) programming events. Linking multiple panoramas.	
W09	**Oct 17**	Oct 17	**Oct 19**		**Oct 21**	
	P2 critiques		P2 critiques		Open Lab- project workday, questions, troubleshooting	
W10	**Oct 24**		**Oct 26**		**Oct 28**	
	P3 described (jay away)		Social media apis (jay away)		Lab10- accessing social media api's	
W11	**Oct 31**		**Nov 2**		**Nov 4**	
	brainstorming		device api's		Lab11- using device api's (Leap Motion, Kinect, etc)	
W12	**Nov 7**		**Nov 9**		**Nov 11**	
	TBD		TBD Show previous 6310 projects (ex. Twitter Poetry)		Lab12-parsing and displaying data. Regular expressions.	
W13	**Nov 14**		**Nov 16**		**Nov 18**	
	TBD		p3 preliminary presentation		Open Lab- project workday, questions, troubleshooting	
W14	**Nov 21**		**Nov 22**	THANKSGIVING	**Nov 23**	THANKSGIVING
	project work day					
	Nov 28	P3c	**Nov 30**		**Dec 2**	

W15	P3 critiques	P3 critiques	free day
W16	**Dec 5**		
	Final class -presentation of projects to department		

Project descriptions

Project 1: Interactive (audio-visual) narrative
(final due date: Sept 19)

Develop an interactive narrative: a series of text and images (or audio segments and images). There must be some degree of programmed interaction, although this can be as simple as having the using click through the images. You can use any chapters from Dunne and Raby for inspiration, but particularly Chapters 5 and 6.

Design elements
text, images, panoramas, audio, video, Google streetview
dynamic or interactive component

Concepts in Dunne and Raby for inspiration:
speculative futures; critical designs, design fictions.

Skills/technologies needed:
Twine,   html5 and css
ability to create images, panoramas, or video content
basic javascript including variables, functions, etc.

Your Twine project should (if possible) include:
-at least 3 Javascript functions, one array and one object.
-1 example of iteration (with the array(s) you have created).
-at least 5 passages, and several branching paths (more than 1).
-at least 2 examples of multimedia (images, audio, animation or panorama, for example)
-at least 2 CSS styles
-use of randomness or inputted data (for example, user data, weather or time data).

You are required to keep notes in a design journal as part of the compositional process. Using a tool like Evernote makes it easy to keep text, URLs, audio, drawings, etc. all in one document.

For submission, upload to t-square your project files and a project description (PDFs only) containing the following:
1. A design statement in a PDF containing a thorough description of the final design and algorithmic choices made. Describe the algorithms and data structures used and how they serve the design goals of the project.
2. Instructions or technical requirements for running the project.
3. A web link to the final project displayed on your online portfolio (include in the statement).
4. Your entire design journal (EverNote is a great tool for this).

Your project will be graded on:
- (15%) Clearness and conciseness of the project presentation and the design statement
- (20%) Computational creativity (use of computation to create an interactive experience)
- (20%) Creativity in design
- (25%) Meeting project requirements (includes submitting the design journal)
- (20%) Clear commenting for all code sections, user-defined functions, and algorithms (everywhere useful). Appropriate use of conventions (e.g. descriptive variable names, user-defined functions and iteration where applicable, etc.)

Project 2: Objects and location (due October 17)

Develop a location-based, 3D experience. The experience can also have a narrative component, if desired. The interaction must include an awareness of location on the part of your app. This means that the application must work on smart phones or tablets and must deliver 3D content anchored to physical locations and/or respond to changes in location on the part of the user. You can also use text, images, audio and video as in Project 1. You can use any chapters from Dunne and Raby for inspiration:particular Chapters 4-6.

Design elements
    same as in Project 1
    location awareness
    3D objects
Concepts in Dunne and Raby for inspiration:
    same as in Project 1
    physical fictions, subversive design.

Skills/technologies needed:
    same as in Project 1
    a-frame (and three.js if desired)
    Argon or other mobile platforms
    more javascript coding skills
    javascript frameworks

Your project must include:
    -one Javascript file with user-defined functions and variables.
    -use of multimedia (audio, video, 3d objects)
    -use of location-based data.
    -at least one aframe animation.
    -one user-defined object (with methods, properties).

For submission, upload to t-square your project files and a project description (PDFs only) containing the following:
1. A design statement in a PDF containing a thorough description of the final design and algorithmic choices made. Describe the algorithms and data structures used and how they serve the design goals of the project.
2. Instructions or technical requirements for running the project.
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- (20%) Computational creativity (use of computation to create an interactive experience)
- (20%) Creativity in design
- (25%) Meeting project requirements (includes submitting the design journal)
- (20%) Clear commenting for all code sections, user-defined functions, and algorithms (everywhere useful). Appropriate use of conventions (e.g. descriptive variable names, user-defined functions and iteration where applicable, etc.)

Project 3: Media in the social or physical world (due Nov 28)

You have two choices for this project. 1. Make use of social media (Twitter, Facebook etc.) as part of the experience. 2. Make a tangible/wearable media application (using Leap Motion, Arduino, etc.) You can choose 1 or 2 or both. You may also use any of the elements from previous projects (text, images, audio, video, location, 3D, etc.) You may draw on any chapters in Dunne and Raby for inspiration.

Design elements
> Social media interaction paradigms, text parsing, social games, etc..
> Tangible or wearable media interactions

Concepts in Dunne and Raby for inspiration:
> all concepts from Speculative Everything

Skills/technologies needed:
> same as in Projects 1 and 2
> social media APIs
> Leap Motion, Arduino or other APIs and material technologies

For submission, upload to t-square your project files and a project description (PDFs only) containing the following:
1. A design statement in a PDF containing a thorough description of the final design and algorithmic choices made. Describe the algorithms and data structures used and how they serve the design goals of the project.
2. Instructions or technical requirements for running the project.
3. A web link to the final project displayed on your online portfolio (include in the statement).
4. Your entire design journal (EverNote is a great tool for this).

Your project will be graded on:
- (15%) Clearness and conciseness of the project presentation and the design statement
- (20%) Computational creativity (use of computation to create an interactive experience)
- (20%) Creativity in design
- (25%) Meeting project requirements (includes submitting the design journal)
- (20%) Clear commenting for all code sections, user-defined functions, and algorithms (everywhere useful). Appropriate use of conventions (e.g. descriptive variable names, user-defined functions and iteration where applicable, etc.)