CAT 124 Practicum, design internship at Scripps Institute of Oceanography
Fall 2016
Instructor: Brett Stalbaum, Associate Teaching Professor, Department of Visual Arts
2-5pm, Birch Aquarium at Scripps Oceanographic Institute, Room TBA
Office hours: Stalbaum available Wed morning, 9-AM to 11AM, Peet's Coffee RIMAC

Course Description
This practicum is modeled on a design firm, serving a client. The kind of design and client it treats are both very special. The client is the Birch Aquarium at Scripps, which is the public and educational interface/wing of the venerable Scripps Institution of Oceanography, which as you may know is the founding institution of UCSD. (SIO is both part of UCSD, and existed a long time before UCSD.) The kind of design our client is interested in is explicitly **Speculative Design**; in short, an experimental design methodology imagining the near future that is grounded in the design traditions of iterative critique, prototyping, playing with new technology, theoretical explication of the results as performed by interdisciplinary groups of designers who possess the historical understandings, theoretical acumen, practical skills and diverse experiences to be in a position to both make proposals and build prototypes. In this class, we will be turning our intellect, skills and personal experience toward a design brief given to us by the Birch Aquarium, relating to the kinds of sensors utilized in Oceanography.

The experience should be especially valuable for majors in Earth Sciences, Marine Biology, Engineering, Computer Science, Cognitive Science, Urban Studies, Communications, ICAM (both ICAM Music and Vis Arts), Studio Art, Media, and of course UCSD's new Speculative Design major! A key quality or aspect of the successful student in this class relates especially to making ability (broadly defined yet also "technology"), a project-based imaginary, and a desire to work in the kinds of diverse (in terms of skills, racially, linguistically, culturally, interdisciplinarity, everything) research teams that are now the standard configuration in (and fuel for) emerging creative industries in California. Also of value are good public speaking skills, argumentative ability, writing and presentation chops; but note that you will be called on to further develop these during the class if they are not your strongest personal attribute.

The mission of the Aquarium is to educate, but to do so in an entertaining way that captures the imagination and inspires, conveying the core scientific mission of the Scripps Institute of Oceanography. This is not easy. Culturally, there exists a fairly stable "science museum" aesthetic, a sensibility about the design of everything from information to interaction within the space of the museum, or the special kind of museum that an aquarium is. Scripps Aquarium - a forward thinking organization who will be your client - wants to explore alternatives or extensions to the present "science museum" style. The Aquarium wants to think about new possibilities for what a trip to the aquarium might become, to ideate about what it could be that it is currently not. The job of speculative designers is to work directly and collaboratively with SIO staff, listening to their concerns, problems, and creative ideas, then adding to those and realizing plans and prototypes of those future exhibits. The deliverables will be a portfolio of various designs realized prototype displays; a collection of ideas for the near future of the

Aquarium that may or may not be implemented, and the limited opportunity to actually build prototypes to go on temporary display to the public in the aquarium!

Required effort
In addition to weekly class sessions, students should assume that preparation, design, group meetings, writing (blogging) and technical "making" work will require approximately 10 hours of additional work per week.

Products we might work on (not exclusive)
Experimental gallery spaces where audiences can interact with various sensors, hands on demonstrations of sensors and gear, connection to particular current (live) research expeditions through creative means, informational displays that invite play, artworks driven by mission data, multi-tile high-resolution displays, performances, and really, any interesting gallery experience for visitors that furthers the mission of Scripps Aquarium. You may read more about the Expedition here:
http://www.sandiegouniontribune.com/news/2016/jan/21/scripps-expeditions-birch/

Personal Blogs
Students will maintain a blog and make weekly entries as a journal of your experience and location for photography, expository writing, analysis, and reports on current projects including sketches, design concepts, illustrations, documentation, etc. Your blog will act as a journal documenting your ideas/efforts, and will be used for grading purposes.

Grading
Up to 10 points per week, professor's subjective evaluation of your effort and the quality of your work, based on in class discussion and presentation/prototyping, which needs to be presented on your blog for full credit.
20 points for the final presentation, poster and student performance in presenting the work and answering public questions. The minimum requirement for the class is that each of you present a personal poster for your project and that you worked on another "practical" or "realized" project. (which could amount to 10 points maximum.) Alternatively you were a major contributor (lead designer/lead technical/maker) on a "realized" project. (Up to 20 points.)

Total possible points: 120

120 A+	88-89 B+	78-79 C+	68-69 D+	< 60 F
97-92 A	87-82 B	77-72 C	67-62 D	
90-91 A -	80-81 B-	70-71 C-	60-61 D-	

Software:

The neat thing about a design experience like this is that you all bring some skills and experience that is valuable. From visual design to writing, we will be using the software we know as tools to ideate. A blogging platform will be important, and nominative presentation software. I also want to introduce you to sketchup, free 3D design software with a architectural orientation that is very easy to learn. http://www.sketchup.com/ Autodesk 123d is also very easy, with an orientation more toward desktop 3D printing.http://www.123dapp.com/ Download and install either or both on your own computer, and learn what you find fun to learn about either. Youtube web tutorials can be very useful.

Calendar

Week 1
Intro to class
Presentation by Harry Helling, Director of the Birch Aquarium at Scripps
Tour of Scripps Aquarium, meet scripps workers and docents, get comfortable with working environments. (Students should take notes or pictures.)
Some planning and demo work.
If time, we will screen this documentary: Zoo Revolution (CBC)
http://www.cbc.ca/doczone/features/history-of-zoos
https://www.youtube.com/watch?v=Va-3Y9Fuiko
(Important note: The mission of Birch is considerably different that of a "Zoo", so don't let that be implied.)

Assignments:
1) Create your blog, post it's url to tritoned (or in tritoned.)
2) Spend two hours this week observing the aquarium and its staff and visitors, write a blog post with your observations, pictures are a plus. Due Sunday night.
3) Download sketchup and or 123D and watch tutorials, start playing
4) Read for next week: Creating a Program to Deepen Family, Inquiry at Interactive Science Exhibits, Sue Allen and Joshua P. Gutwill (pdf in tritoned)
5) Read for next week: Designing Science Museum Exhibits with Multiple Interactive Features: 5 common pitfalls, Sue Allen and Joshua P. Gutwill (pdf in tritoned)
6) Read this Britannica Article on the history of the museum:
https://www.britannica.com/topic/history-of-museums-398827

Week 2
Discuss readings/review of blogs

(Tentative) Visit and tour with Dale Stokes, Researcher in the Marine Physical Laboratory as SIO, deep tour of SIO labs and science, intro to the sensors used in oceanography

Assignments:
1. Go to Balboa Park, pick a museum, and spend at least two hours there. I note that the Fleet Science center has their Residents Free Day on Tuesday, Oct 4, 2016 10:00 am to 5:00 pm. Especially observe people's interaction with the exhibits. Choose one exhibit to write a case study about. On your blog, catalog the variety of user interactions with the single exhibit (try to categorize in your own way) and try to come away to your own gestalt about what it might imply for museum design. (When doing this, try to consider the 5 common pitfalls.) (San Diego Zoo, Safari Park, and Seaworld are open for examination if you wish to…)
2. Read for next week: Spectacular Nature, Corporate Culture and the Sea World Experience, Susan G. Davis, UC Press 1997, therefore available for our students to read though roger.ucsd.edu (electronic version from UC campus only: http://publishing.cdlib.org/ucpressebooks/view?docId=ft0h4n99ws&brand=ucpress) Chapter 1 and 3

Week 3
Discuss Readings

A visit with Dr Nan Renner, Research Associate at the Center for Research on Educational Equity, Assessment, and Teaching Excellence, CREATE, and a Fellow at the Birch Aquarium at Scripps Institution of Oceanography

Assignments:
1. Blog Post on a wild, totally impractical concept for the museum, with illustrations if possible (however generated, from hand sketch to 3D concept to bad photoshop), or experimental writing styles (from engineering "report" style to sci fi.) Note that this is not a final proposal or something you will be committing to pursue for your final presentation (see finals week.) Rather, it is a chance to get your creativity into gear. Have fun with it.
2. Present individual project ideas (You may do so from your blog.)
3. Read for next week: Spectacular Nature, Corporate Culture and the Sea World Experience, Susan G. Davis, UC Press 1997, therefore available for our students to read though roger.ucsd.edu (electronic version from UC campus only: http://publishing.cdlib.org/ucpressebooks/view?docId=ft0h4n99ws&brand=ucpress) Chapter 5
4. Read for next week: Blog Post by Deborah Perry, on "Interpretive Activism" http://reganforrest.com/tag/deborah-perry/
5. Organize into groups

Class activities:
Clarify individual interests and skills
Organize groups to develop a "more practical" idea and presentation for next week

Week 4

Due:
Groups present an idea/concept/project proposal:
Assignment due: groups post their concept including initial feasibility assessment What would be needed to realize the project? Money, equipment, institutional support… this can be a bit "imaginary" at this point… knowing that we are targeting the production of a proposal. Post a mirror of your presentation on one of your blogs with all names included.

Finalize organization into groups around specific projects that Professor Stalbaum has "green lighted."

Week 5
Project Updates and working session - your blog posts should indicate what you have done this week for the project you are assigned to.
Crits
Working Sessions

NOTE: Opening this weekend at the Birch (starting Friday) is the Sally Ride Gallery:
More info, so try to get in and see it. It will inform our presentations next week, I feel certain!
http://aquarium.ucsd.edu/Exhibits/Sally_Ride_Gallery/

Week 6
Demos/presentations
crits
Working session

Week 7
Demos/presentations (open to the public/interested parties/SIO clients)
crits
Working session

Week 8
Demos/presentations (open to the public/interested parties/SIO clients)
crits
Working session

Week 9
Demos/presentations (open to the public/interested parties/SIO clients)
crits
Working session

Week 10

Planning for public presentation/showcase
Working session

Finals week
Groups present (Same time same place, we need to work on inviting our Birch and SIO community.)