**LMC 6314: Design of Networked Media**

**1. Instructor**

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Class Meetings: Tuesday/Thursday, 3:05-4:25PM

Location: TSRB 323

**2. Course Prerequisites**

None.

**3. Course Description**

This is a course turning ideas into fundable electronic media projects. While the course devotes considerable attention to standard documents and techniques, its primary focus is rhetorical. The funding environment always includes more project ideas than money to fund them, and final funding decisions often rest less on the sheer technical merit of the idea than on the funding organization’s comfort with the person proposing the idea. The successful proposer understands the funders’ concerns about product success in a competitive environment, about the ability to create and motivate a production team, track the expenditure of time and money, test continually and well, and respond to test results and funder’s change orders. Even more importantly, the successful proposer can intuit the key issues in the funders’ own environment: how the funding organization communicates, sees the market for electronic media products, and recognizes and rewards success. Success in this environment is generally based not on following a set of rules (if that were true, everybody would get funded) but on recognizing and accommodating a set of tensions. As you develop a proposal, you will always be torn between educating a potential funder and responding to the funder’s present perceptions, between preserving the integrity of your idea and responding someone’s perceived market, between responding to the current needs of a user group and responding to what those needs will be at product delivery time, between accommodating test results and relying on your educated perception of the need. The course will depend heavily on your input. Each of you will work individually to generate an idea for a product and develop it through a series of stages to a final proposal.

Each class, except for the first class, will have two components. First, each of you will report on the current state of your project; these reports will be oral or written, formal or informal, depending on where we are in the course. Second, I will describe the problems and issues to be confronted in the following week. If we all do this right, the course should have two outcomes. You will get a chance to take a specific and develop it in a fairly rigorous way, seeing all of its implications, all of its potential pitfalls. You will also get a general introduction to a number of the key concerns in electronic project development.

**4. Learning Objectives**

After taking this course you should:

* Have a more comprehensive understanding of the technologies and interaction techniques available and appropriate for mobile application design.
* Be able to use the theories and works presented in this course to frame and support discussion and critique of mobile technologies.

This class is intended to provide both hands-on experience designing different aspects of mobile interaction along with theoretical and critical perspectives that will help you reflect on the kinds of trade-offs that may be confronted during design. This should include issues of participation, privacy, and identity, among others. The design assignments and semester project are indented to expose different parts of the mobile infrastructure so that each may be interrogated as sites for design and critique.

**5. Required Texts**

There is one required text for this course: [Non-Places: Introduction to an Anthropology of Supermodernity](http://www.amazon.com/Non-Places-Introduction-Supermodernity-Marc-Aug%C3%A9/dp/1844673111/ref=sr_1_1?ie=UTF8&qid=1311002754&sr=8-1). All other readings will either be accessible via T-Square or online.

*Resources*

This class is meant to help you explore different aspects of mobile systems (applications, architectures, services, interactions, etc.). As such, there is no strict technical requirement for how you develop and implement your semester project. To that end, there are a number of resources you might find useful depending on your technical background and interest:

Prototyping Tools:

* Templates for static mobile UI layout and paper prototyping <http://www.smashingmagazine.com/2010/08/27/free-wireframing-kits-ui-design-kits-pdfs-and-resources/>
* For Prototyping (different degrees of knowledge required) <http://prototypesapp.com/>
* Adobe Fireworks has mobile plug-ins, below is an example <http://unitid.nl/2009/04/prototyping-for-the-iphone-using-fireworks-cs3/>
* HTML 5 platform for mobile application development <http://www.phonegap.com/>
* Cross-platform development tool (iOS and Android) <http://www.anscamobile.com/corona/>
* Wireframing Tools (various platforms) <https://gomockingbird.com/> <https://pidoco.com/en> <http://blog.justinmind.com/wireframe-interactive-iphone-apps-iphone-library/>
* Flowella (Nokia platform) <http://www.tardigrada.hr/blog/2010/07/flowella-rapid-prototyping-tool-for-mobile-designers/>
* iOS Dev center <http://developer.apple.com/devcenter/ios/index.action>
* Android App Inventor <http://appinventor.googlelabs.com/about/>
* Android prototyping Tools <http://speckyboy.com/2010/05/10/android-app-developers-gui-kits-icons-fonts-and-tools/>

**6. Graded Assignments**

The total grade for the class will be based upon the following factors and weights:

* Participation: 10%
* Design Assignments: 30% (10% each)
* Semester Project: 60% (10% for each milestone + 20% process book)

*Design Assignments*

Each design assignment will follow the same general pattern. The first deliverable will include 5-7 prototype sketches. These will be presented in-class for critique and discussion and handed in. The second (revision) part of each assignment will have you focus your attention on one or two of your prototypes where you will more fully develop the ideas, taking into account feedback from the critique.

In the first part of each assignment I will be looking for breadth: you will need to present several different ideas that approach the theme from different angles, that play off different constraints, and that challenge and interrogate our notions of mobility with respect to the theme.

In the second part of each assignment, I will be looking for depth: you will need to thoroughly expanded the initial ideas, developing a plausible scenario more thoroughly, providing more depth to the experience and to what the system or application or device would look like.

These are meant to be prototypes, not working systems, so the kinds of deliverables I expect are sketches of application screens, system diagrams, or storyboards. As you select the one or two ideas to further develop, the fidelity should go up—more detail in the mockups, more complete narrative arcs in storyboards, etc.

Each assignment will be centered around a particular theme that should be used as a launching point for the prototypes:

1. Location: Place/space, environment, boundaries, context.
2. Participation: Who uses/does not use the technology, consequences of use.
3. Identity: Notions of self, privacy, safety.

*Semester Project*

You will need to form small groups of two to three to complete the semester project. This project is open ended and will give you an opportunity to examine the convergence of mobility and technology in more depth.

The semester long project will have four primary milestones:

1. Project proposal: Each group will present their proposal to the class for discussion and critique. They will also turn-in a 2-5 page proposal document describing the project.  Your group will need to propose a domain in which to explore mobile technology—e.g., mobile games, health and wellness, social computing, ICTD, community action, etc. You may propose a mobile service, an application, or a new kind of device. Your proposal will also need to include details about how you plan to research your potential users and context—providing a plan for how will you document your process and gain the insight needed to appropriately articulate your system/application/artifact design through the subsequent project milestones.
2. Milestone 1: Each group will present more detail on their project context and 2-3 prototypes of their system/application for critique and discussion.  For the first milestone you will deliver documents demonstrating how you investigated your target users and context. This may include photos and video from observation, field notes, or other ethnographic materials; if you are working with a context or problem space that is not immediately accessible, you will need to include a literature review. You will also develop prototypes of your service/application/device. Each prototype should demonstrate a key usage scenario and include enough detail to communicate how the people will experience your technology and should be clearly motivated by the fieldwork/literature review.
3. Milestone 2: Each group will present/demo their system/application prototype for additional critique and discussion.  This milestone will have your group focus on one of your prototypes, developing it further and more completely. You should add detail to both the design of the technology as well as to the social setting in which the technology will be used. While still a prototype, I expect to see more fidelity in the execution and depth of scenarios/cases covered.
4. Final presentation, poster, and process book: Each group will give a 20 minute presentation on their project (time may be adjusted according to class size and scheduling). I expect each group to have addressed any feedback provided at milestone 2 and to have taken their design further; the prototypes should be ‘demoable’.  Each group will also produce a poster for their project. We will hold a dedicated critique session for posters and the expectation is these posters will be presented at the end-of-term demo day.  Finally, each group will hand in a final process book for the project that should provide clear and thoughtful documentation and reflection on how the design progressed through each of the milestones: what constraints informed early prototypes; what were the key choices that occurred as designs were developed or discarded; descriptions and documentation of how the context was investigated; a description of the key use scenarios (there will be more than one).

This project is designed to give you an opportunity to develop your practical and theoretical understanding of mobile media. I do not expect every project to center around mobile phones or tablet computing—in fact, I encourage you to think about new forms of technology or to interrogate mobile technologies that exist outside the canon of mainstream use.

For those of you interested, there are a number of opportunities to turn your projects into papers and/or posters at academic conferences. I would encourage you to look at the calls for demos and student design competitions for project ideas and ways to parlay course work into something more:

* [Mobile HCI](http://www.mobilehci2013.org/) Design Competition (deadline May 1, 2013), Posters (May 8, 2013)
* [Ubicomp](http://www.ubicomp.org/ubicomp2013/calls/index.php) Demos and Posters (deadline March 2013)

**7. Attendance Policy**

Class attendance and participation is mandatory. Participation in class discussion is imperative because it allows you to explore the readings and themes collaboratively, and in the process, discover meanings and issues that you probably would not discover on your own. Participation in class also challenges you to continuously question, refine and articulate your own ideas and interpretations.

In addition, much of this class is based in discussion of the readings and constructive critique of the design assignments and class project, all of which require full participation and cannot be replicated outside of class.

Missing more than 2 classes will result in a loss of 1 letter grade.

**8. Information for Students with Disabilities**

Please notify the instructor if you have any disabilities with which you need special assistance or consideration. The campus disability assistance program can be contacted through ADAPTS: <http://www.adapts.gatech.edu>

**9. Honor Code Statement**

Students are expected to adhere to the Georgia Tech Honor Code:

http://www.honor.gatech.edu/plugins/content/index.php?id=9

**10. COURSE SCHEDULE**

What follows is an outline for the course. As the course progresses, we may adjust dates and materials; however, unless specifically stated in class, you should assume this schedule is current and accurate.

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| **Week #** |  | **Read** |
| **Week 1** | First day of class.  Design Assignment 1 (Location) out. | L. Barkhuus and M. Chalmers. Picking pockets on the lawn: The development of tactics and strategies in a mobile game, 2005.  M.  Chalmers, A. Dieberger, K. Höök, and Å.  Rudström. Social navigation and  seamful design. Cognitive Studies: Bulletin of the Japanese Cognitive Science Society, 11(3):171–181, 2004. |
| **Week 2** | Design Assignment 1 (Location) due. In-class critique. | S. Harrison, and P. Dourish. Re-place-ing space: the roles of place and space in collaborative systems. In Proceedings of the 1996 ACM conference on Computer supported cooperative work. pages 67–76, New York, NY, USA, 1996. ACM Press.  E. Paulos and E. Goodman. The familiar stranger: Anxiety, comfort, and play in public places. In CHI ’04: Proceedings of the SIGCHI conference on Human factors in computing systems, pages 223–230, New York, NY, USA, 2004. ACM Press.  E. Paulos and T. Jenkins. Urban probes: Encountering our emerging urban atmospheres. In CHI ’05: Proceedings of the SIGCHI conference on Human factors in computing systems, pages 341–350, New York, NY, USA, 2005. ACM Press. |
| **Week 3** | Design Assignment 1 (Location) part 2 due. In-class critique.  Design Assignment 2 (Participation) out. | J. Brewer and P. Dourish. Storied spaces: Cultural accounts of mobility, technology, and environmental knowing. Int. J. Hum.-Comput. Stud., 66(12):963–976, 2008.  I. Shklovski, J. Vertesi, E. Troshynski, and P. Dourish. The commodification of location: dynamics of power in location-based systems. In Proceedings of the 11th international conference on Ubiquitous computing, Ubicomp ’09, pages 11–20, New York, NY, USA, 2009. ACM.  E. Troshynski, C. Lee, and P. Dourish. Accountabilities of presence: Reframing location-based systems. In CHI ’08: Proceeding of the twenty-sixth annual SIGCHI conference on Human factors in computing systems, pages 487–496, New York, NY, USA, 2008. ACM. |
| **Week 4** | Project work day. | M. Augé. Non-Places: Introduction to an Anthropology of Supermodernity. Verso Books, 1995. |
| **Week 5** |  | E. Björgvinsson, P. Ehn, and P.-A. Hillgren. Participatory design and “democratizing innovation”. In Proceedings of the 11th Biennial Participatory Design Conference, PDC ’10, pages 41–50, New York, NY, USA, 2010. ACM.  B. Friedman and P. H. Kahn, Jr. Human values, ethics, and design. In The human-computer interaction handbook: fundamentals, evolving technologies and emerging applications, pages 1177–1201. Lawrence Erlbaum Associates, Inc., Mahwah, NJ, USA, 2003.  P. Sengers, K. Boehner, S. David, and J. J. Kaye. Reflective design. In CC ’05: Proceedings of the 4th decennial conference on Critical computing, pages 49–58, New York, NY, USA, 2005. ACM. |
| **Week 6** |  | G. Marsden, A. Maunder, and M. Parker. People are people, but technology is not technology. Philosophical Transactions of the Royal Society, 366:3795–3804, July 2008.  A. S. Taylor. Out there. In Proceedings of the 2011 annual conference on Human factors in computing systems, CHI ’11, pages 685–694, New York, NY, USA, 2011. ACM.  K. Toyama. Technology as amplifier in international development. In Proceedings of the 2011 iConference, iConference ’11, pages 75–82, New York, NY, USA, 2011. ACM. |
| **Week 7** | Design Assignment 2 (Participation) revision due. In-class critique.  Design Assignment 3 (Identity) out. | K. R. Cohen. Who we talk about when we talk about users. In EPIC ’05: Ethnographic Praxis in Industry Conference Proceedings, pages 9–30. Blackwell Publishing Ltd, 2005.  L. Irani, J. Vertesi, P. Dourish, K. Philip, and R. E. Grinter. Postcolonial computing: a lens on design and development. In Proceedings of the 28th international conference on Human factors in computing systems, CHI ’10, pages 1311–1320, New York, NY, USA, 2010. ACM. |
| **Week 8** | Project work day. | C.A. Le Dantec and W.K. Edwards. Designs on Dignity: Perceptions of Technology among the Homeless. In CHI ’08: Proceeding of the twenty-sixth annual SIGCHI conference on Human factors in computing systems. ACM, (2008), 627–636.  J.P. Woelfer, A. Iverson, D.G. Hendry, B. Friedman, and B.T. Gill. Improving the safety of homeless young people with mobile phones: values, form and function. In CHI ’11: Proceedings of the 2011 annual conference on Human factors in computing systems. ACM, (2011), 1707–1716. |
| **Week 9** | Semester Project milestone 1 presentations. | R. E. Grinter, L. Palen, and M. Eldridge. Chatting with teenagers: Considering the place of chat technologies in teen life. ACM Transactions of Computer-Human Interaction, 13(4):423–447, 2006.  L. Srivastava. Mobile phones and the evolution of social behaviour. Behaviour & Information Technology, 24(2):111—129, 2005. |
| **Week 10** | Design Assignment 3 (Identity) due. In-class critique. | M. Bylund, K. Höök, and A. Pommeranz. Pieces of identity. In Proceedings of the 5th Nordic conference on Human-computer interaction: building bridges, NordiCHI ’08, pages 427–430, New York, NY, USA, 2008. ACM.  S. Hall Who needs ‘identity’? in S. Hall and P. du Gay (eds.) Questions of Cultural Identity, Sage, London, 1996, 1–17.  L. Palen and P. Dourish. Unpacking “privacy” for a networked world. In Proceedings of the SIGCHI conference on Human factors in computing systems, CHI ’03, pages 129–136, New York, NY, USA, 2003. ACM. |
| **Week 11** | Spring Break. No Class. |  |
| **Week 12** | Design Assignment 3 (Identity) revision  due. In-class critique. | Reading: Assigned from group projects. |
| **Week 13** | Semester Project milestone 2 presentations. | Reading: Assigned from group projects. |
| **Week 14** | Project work day.  Poster Critique. |  |
| **Week 15** | Poster Critique.  Present posters and demos at the Digital Media & GVU Demo Day, April 17, 2–5PM. |  |
| **Week 16** | Final presentations. |  |
| **Week 17** | **FINALS WEEK NO CLASS** |  |