Capstone Project for the Master of Human-Computer Interaction
INST 776, Section 0101, Spring 2013
Thursdays, 2:00-4:45pm
Hornbake 4113

Instructor: Leah Findlater
Office: 2118A Hornbake
Office Hours: By appointment
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Course Description
The goal of the capstone project is to provide students the opportunity to apply the skills learned through coursework in a semester-long project applied to a real-world problem. The project will be much more in-depth than course projects and assignments, requiring a higher level of background research, rigor in execution and evaluation, and documentation. Capstone projects may follow the design, prototyping and evaluation process from end-to-end or may focus on a subset of elements in that process, such as formative study and design.

Student Learning Outcomes
Students will:
• Develop increased confidence in independently designing, prototyping and evaluating an interface and in identifying the most appropriate approach for each of these components within the context of the given project.
• Refine oral and written skills for communicating HCI problems, goals, processes and outcomes.
• Develop a design at some level of fidelity that can be incorporated into their project portfolio.

Textbook & Course Materials
There is no assigned textbook for this course. Reading materials will be provided by the instructor as the course progresses, and may include research papers and readings on research methods.
Course Schedule
This schedule provides a framework in which students can work on their projects, receive guidance from faculty, and benefit from peer feedback. This structure ensures that students make adequate progress throughout the semester, but it is ultimately the students’ responsibility to complete the proposed project in a timely manner. As such, the class will not meet formally every week.

The main milestones are as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Meeting?</th>
<th>Topics, Assignments, Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 24</td>
<td>Class</td>
<td>Introduction and plan for the semester. Literature reviews. Proposals due.</td>
</tr>
<tr>
<td>Jan 31</td>
<td>One-on-one</td>
<td></td>
</tr>
<tr>
<td>Feb 7</td>
<td>Class</td>
<td>Methods lecture: experimental design or other topic TBD</td>
</tr>
<tr>
<td>Feb 14</td>
<td>One-on-one</td>
<td>Preliminary progress report due.</td>
</tr>
<tr>
<td>Feb 21</td>
<td>Class</td>
<td>Methods lecture: coding analysis or other topic TBD</td>
</tr>
<tr>
<td>Feb 28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar 7</td>
<td>Class</td>
<td>Mid-term progress report and presentations due.</td>
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<tr>
<td>Mar 14</td>
<td></td>
<td></td>
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<tr>
<td>Mar 21</td>
<td></td>
<td><strong>Spring break</strong></td>
</tr>
<tr>
<td>Mar 28</td>
<td>One-on-one</td>
<td></td>
</tr>
<tr>
<td>Apr 4</td>
<td>Class</td>
<td>Draft reports due. Peer feedback.</td>
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<tr>
<td>Apr 11</td>
<td></td>
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<tr>
<td>Apr 18</td>
<td></td>
<td>Reports and code due. <strong>No meeting.</strong></td>
</tr>
<tr>
<td>Apr 25</td>
<td>Class</td>
<td>Final project presentations.</td>
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<tr>
<td>May 2</td>
<td></td>
<td></td>
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<tr>
<td>May 6 &amp; 9</td>
<td></td>
<td><strong>May 6</strong>: iSchool learning expo poster session</td>
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<tr>
<td></td>
<td></td>
<td><strong>May 9</strong>: Final reports and code due with requested changes. <strong>No meeting.</strong></td>
</tr>
</tbody>
</table>

As appropriate, the instructor may arrange additional sessions devoted to emergent topics of interest. For example, if many of the students are using a similar research methodology, the instructor might use a class session to discuss that methodology in more detail.

Students are encouraged to schedule one-on-one meetings with the instructor throughout the semester as challenges specific to their project arise.

Grading
The overall grade consists of the following components:

<table>
<thead>
<tr>
<th>Item</th>
<th>Portion of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project proposal</td>
<td>10%</td>
</tr>
<tr>
<td>Preliminary progress report</td>
<td>5%</td>
</tr>
<tr>
<td>Mid-term progress report</td>
<td>15%</td>
</tr>
<tr>
<td>Final project presentation</td>
<td>20%</td>
</tr>
<tr>
<td>Final project report and artifact</td>
<td>40%</td>
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<tr>
<td>Participation (e.g., in peer feedback, in class discussions)</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Total** 100%

**Project proposal:** Students must have a proposal for their capstone project prepared by the first class, ready for approval by the instructor. It is expected that the preparatory course (INST 799), taken in the
immediately preceding semester, will provide students with adequate opportunity to explore potential project options.

**Preliminary and mid-term progress reports:** These reports will allow the student and faculty to ensure the project remains on track and of appropriate scope. The mid-term report will be accompanied with presentations to facilitate peer feedback.

**Final project reports and presentations:** At the end of the semester, students will present their capstone projects to a panel consisting of the instructor, the director of the HCIM, and an external evaluator who is an expert in HCI. The presentation will be open to the public and advertised on appropriate mailing lists. No later than a week prior to the capstone presentation, the student will deliver a written report to the panel in the style appropriate to each project. The panel will determine if the student’s project is acceptable, based both on the oral presentation and written report, and if not, the student will be given an opportunity to revise the written report. Upon satisfactory completion of the capstone project report, it will be deposited in DRUM http://drum.lib.umd.edu/ and be made publicly accessible.

**Types of Capstone Projects**

There is no single model for an HCIM capstone project. Project components may include formative studies, design, prototype building, and prototype evaluation. These components may be combined in any number of ways, but it is expected that the following approaches will be the most common types of projects. These descriptions are meant to be general guidelines. Every project needs to be approved by the capstone course instructor. In all cases, a background literature review and existing product analysis are required.

**1: Balance of Formative, Design, Building and Evaluation**

Many projects will balance effort among a subset of these components, for example, designing, building and evaluating a new prototype, or conducting a formative study, followed by designing and building a prototype, with only a limited evaluation.

**2: Focus on Formative Study**

When the project focuses on a formative study, the majority of the effort will be on requirements gathering and analysis, designing, executing, and analyzing data from a study of existing practice. For example, such a project could identify the need to improve medication tracking for diabetes patients and conduct qualitative interviews with patients to understand their current practice. Rigorous study method and execution is critical. The outcome of the analysis would be a synthesis of existing practice, identification of unaddressed user needs, and proposed solutions for how to address these needs—that is, implications for design. While initial designs could be sketched out, a prototype does not need to be built.

**3. Focus on Design and Prototype Building**

For projects that focus on design, the primary contribution will produce a novel, innovative artifact. In addition to the artifact itself, the design process and design rationale are of high importance and need to be clearly articulated. The artifact could be a software application or a more tangible computing interface. For example, such a project could include participatory design sessions with children and, ultimately, an implementation of a tangible computer game. Some evaluation is necessary, but not to the extent of options #1 and 4.
4. Focus on Evaluation
A project where a substantial portion of the work is on evaluation will likely involve little to no formative study and, if building, the prototype will be much smaller than for option #3. Evaluations could be in the lab or in the field, as appropriate for the interface being evaluated. The interface could be an existing product, in partnership with a company, or could be a prototype that is fast to implement, leaving sufficient time for an in-depth evaluation, e.g., a usability study. For example, for a project involving a new gestural technique to support users in interacting with one hand on their smartphone, a quick experimental prototype could be built, followed by a full laboratory experiment. As another example, the student could partner with a company that has a new interface they would like to evaluate. In that case, the student would conduct extensive usability testing with the product and provide recommendations for improvements.

Syllabus Change Policy
This syllabus is a guide for the course and is subject to change with advance notice.

Academic Integrity
What is academic dishonesty?
Academic dishonesty is a corrosive force in the academic life of a university. It jeopardizes the quality of education and depreciates the genuine achievements of others. Apathy or acquiescence in the presence of academic dishonesty is not a neutral act. All members of the University Community - students, faculty, and staff - share the responsibility to challenge and make known acts of apparent academic dishonesty.

Students have a responsibility to familiarize themselves with violations of the Code of Academic Integrity. Among these include:

Cheating
"Intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise."

Fabrication
"Intentional and unauthorized falsification or invention of any information or citation in an academic exercise."

Facilitating Academic Dishonesty
"Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty."

Plagiarism
"Intentionally or knowingly representing the words or ideas of another as one's own in an academic exercise."

For further clarification or information on the Code of Academic Integrity: http://www.studenthonorcouncil.umd.edu/code.html

Students with Disabilities
The University is legally obligated to provide appropriate accommodations for students with disabilities. The campus' Disability Support Services Office (DSS) works with students and faculty to address a variety of issues ranging from test anxiety to physical and psychological disabilities. If a student or instructor
believes that the student may have a disability, they should consult with DSS (4-7682, email Dissup@umd.edu). Note that to receive accommodations, students must first have their disabilities documented by DSS. The office then prepares an Accommodation Letter for course instructors regarding needed accommodations. Students are responsible for presenting this letter to their instructors.

**Attendance Policy**
University policy excuses the absences of students for illness, religious observances, participation in University activities at the request of university authorities and compelling circumstances beyond the student's control. Students who miss a single class for a medical reason are not required to provide medical documentation, but students who are absent more than once are responsible for providing various forms of documentation, depending on the nature of the absence. Course syllabi should specify the nature of the in-class participation expected and the effects of absences on students' grades. For more information, see University Policy V-1.00G on Medically Necessary Absence.

**Extensions**
If you have to miss a deadline, you should inform the instructor as soon as possible, indicating when you will submit your work. The instructor will try to accommodate your needs. You should use this clause only for extraordinary personal reasons (e.g., personal illness, death in the family, etc.). The general policy is that late work will be deducted 20% of its total grade per calendar day, starting on the same day it is due. It is at the instructor’s discretion to accept late work and assign late penalties.

**Emergency Preparedness**
http://www.umd.edu/emergencypreparedness/

**CourseEvalUM**
Course evaluations are a part of the process by which the University of Maryland seeks to improve teaching and learning. The University Senate approved the implementation of a standard, online, University-wide course evaluation instrument. Each course evaluation contains a set of universal questions, and some are supplemented by questions from specific colleges. Across the University, course evaluations are being administered through a web-based system dubbed CourseEvalUM. Students who leave no “Pending” evaluations in their Evaluation Dashboard each semester can view the aggregate results of a sub-set of universal items online.

Across the University, course evaluations are being administered through a web-based system dubbed CourseEvalUM. All information submitted to the Evaluation System is confidential. Instructors and academic administrators can only view summarized evaluation results after final grades have been submitted. Instructors and academic administrators cannot identify which submissions belong to which students. This standardized set of evaluation results provides the University with useful information on teaching and student learning across the campus.

For additional info see Student Fast Facts at:
https://www.irpa.umd.edu/Assessment/CourseEval/stdt_faq.shtml