INF385C : Human-Computer Interaction
Syllabus – Fall 2015

Instructor: Dr. Jacek Gwizdka
Office: UTA 5.422
Office Hours: By appointment
Phone: (512) 471-0636 (no voice mail please)
Email: jgwizdka@acm.org **(always include 385C-HCI in the email's subject)**
Note: direct email is by far the best way to contact your instructor

TA: Ms. Henna Kim
Email: hennahkim@gmail.com (all course-related email should be sent to the TA and cc-ed to the course instructor)

Class meetings: Wednesdays 3pm-5:50pm, UTA 1.504
Canvas @ UT: https://utexas.instructure.com/
Course schedule: on the course website and in Canvas
Course Email list: via Canvas

COURSE DESCRIPTION

This course will introduce you to human-computer interaction theories and design processes. The emphasis will be on applied user experience (UX) design. The course will present an iterative evaluation-centered UX lifecycle and will introduce you to a broader notion of user experience, including usability, usefulness, and emotional impact. The lifecycle should be viewed as template intended to be instantiated in many different ways to match the constraints of a particular development project. The UX lifecycle activities we will cover include contextual inquiry and analysis, requirements extraction, design-informing models, design thinking, ideation, sketching, conceptual design, and formative evaluation.

It is a goal of this course to help students realize that UX design and engineering is an ongoing process throughout the full product life cycle, and developing the human-computer interface is not something to be done at the last minute, when the "rest of the system" is finished.

Class time will be split between content-based lectures and in-class exercises to demonstrate techniques and principles and to practice the skills being presented. The part of class time used for lectures will be devoted to highlighting course materials, questions, and discussion. The in-class exercises will be an initial opportunity for experience with the UX development lifecycle activities.

Outside of the classroom, students will acquire more in-depth hands-on experience in applying these skills and techniques in a semester-long team project. In this project, students will develop a usable interaction design for their own application system in a UX project for a "client".

OBJECTIVES

The objective of this course is for students to learn how to conduct user research, how to design, prototype and evaluate user interfaces. Students will learn user interaction design principles through theory and practice. At the end of this course you will be able to:

- understand the main concepts in human computer interaction;
- conduct research to learn about user needs and human uses of technology;
- undertake iterative and inexpensive user-centered design methods;
- design and prototype user interfaces;
- understand and apply interaction design guidelines;
- identify the strengths and weaknesses of interfaces and provide suggestions of how to improve them;
- perform basic user interface evaluation and usability testing;
- undertake further training and research in this area.

UNIVERSALITY AND BREADTH OF APPLICABILITY

The process, principles, and guidelines are universal and applicable to any kind of design that involves interaction between humans and non-human systems in the broadest sense. The material of this course applies not just to GUIs and the Web but to all kinds of interaction styles and devices, including ATMs, refrigerators, elevator buttons, road signs, ubiquitous computing, embedded computing, and everyday things.

HANDS-ON, PRACTICAL APPROACH

This course takes a practical, applied, hands-on approach, based on the application of established best practices, principles, and proven methods to ensure a quality user experience.

It is our goal for you to master the activities of the UX lifecycle process. You are exposed to each activity in several ways. First you read about it in the book, then the instructor will review the highlights in lectures. Then you get initial hands-on practice in a scaled-down classroom situation via in-class exercises. Finally, you will apply them in a somewhat more realistic hands-on situation through your semester-long team project assignments.

MY PERSONAL GOALS FOR YOU IN THE COURSE

In addition to content-specific objectives reflected by the topics in the course calendar, I have these personal goals for each student:

- to get you to think deeply and carefully about the subject,
- to help you to genuinely like the subject,
- to provide knowledge and skill useful to you in your career,
- to engender a deeper interest (perhaps in some of you) that can be pursued beyond this course,
- to make you proud of your achievements in this course, especially of your project work, and,
- hopefully, have a little fun in the process.

WARNING: At the other end of the spectrum, occasionally we get students with considerable experience in HCI/UX. You are still welcome to participate in this course, but be warned that this is not an advanced course in HCI/UX. Although this course gives thorough treatment to the HCI/UX process, this is an ***introductory*** course.

TEXTBOOK

The textbook for this course is *The UX Book: Process and Guidelines for Ensuring a Quality User Experience* by Hartson and Pyla, Morgan Kauffman, 2012. (Book website: http://www.theuxbook.net/). The book is available in UT bookstore and online at UT: http://utxa.eblib.com.ezproxy.lib.utexas.edu/patron/FullRecord.aspx?p=842194

OTHER BOOKS AND READINGS

Occasionally, readings will be assigned from other sources. A few chapters will be assigned from: Johnson, J. (2013). Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Guidelines. Elsevier (2nd Edition). We will refer to this book in the course schedule as **JJ13**. Available online at UT: http://utxa.eblib.com.ezproxy.lib.utexas.edu/patron/FullRecord.aspx?p=1584420

CLASS LECTURE SLIDES

For your reference, the PDF versions of class lecture slides will be posted on Canvas. You have my permission to print a copy for your personal use.

GRADING

Class participation (includes in-class exercises, participation in reading discussions, etc.)		10%
Discussion Leading		5%
Reading assignments (questions posted by you online)		10%
Assignment		5%
Project (teamwork, unless otherwise noted)		70%
Project 1: Topic and client selection and product concept statement	5%	
Project 2: Contextual inquiry and analysis	15%	
Project 3: Requirements and modeling	10%	
Project 4: Design	10%	
Project 5: Prototype	15%	
Project 6: UX evaluation and reporting (*individual*)	5%	
Project 7: Project presentation	10%	

GRADING SCALE

- 96 or above (A: superior), 90-95 (A-: distinguished)
- 87-89 (B+: good), 84-86 (B: satisfactory), 80-83 (B-: barely satisfactory)
- unsatisfactory: 77-79 (C+), 74-76 (C), 70-73 (C-).

Note: Final grading does not happen just by calculations. I take into account many factors, and so your "Canvas points/%" are only a rough indication of the final grade. Ask when in doubt.

HOMEWORK

The major work outside the classroom is the team project (see below). In addition, there will be one assignment. Due dates are in the course schedule/calendar. Even if the instructor doesn't announce each homework in class, it's your job to know when you should be working on one and when they are due. Ask when in doubt. One other type of homework will be the weekly reading assignments described below.

READING ASSIGNMENTS

You are responsible for keeping up with readings in the book per the schedule given in the course schedule/calendar. All assigned reading are to be done before a class meeting (except our first meeting, of course). Each week, you are required to **post two discussion questions** relevant to each assigned topic on the designated Canvas discussion area (note there may be several topics per week) and **respond to at least one question** posted by another student. Your questions should be sufficiently detailed to demonstrate that you read the assigned material (and not just skimmed it). Since your questions will drive class discussion, you should ask about things you actually want us to discuss. Questions should not be too short (e.g., <10 words) or too long (e.g., > 200 words; these numbers are just rough guidelines). Questions should show you critical analysis of each reading and should not be superficial. Please avoid questions that ask how wide-spread a technique is in industry. **The deadline for posting questions is Monday 11pm**. Bring your discussion questions with you to class each week (electronic or paper) and be prepared to discuss them in detail. A couple of students will be assigned each week as discussants. The discussants are required to come prepared to take a leading role in our discussion. The discussants should be familiar with related questions posted by your classmates and be able to summarize them and possibly try to answer some of them. After the class, if any of you leaves with some "burning" questions related to the discussed topics, you are expected to post them on the weekly topical discussion area on Canvas. These questions should be clearly marked as "AFTER CLASS". Any student, TA or an instructor may post responses to these questions.

TEAM PROJECT

The major work (and major credit) component for the course is the semester team-oriented development project. It involves defining, analyzing, specifying, designing, prototyping, and evaluating an interaction design for a realistic problem area that you select. The purpose of the project is to give you exposure to all steps involved in developing a significant user interaction design. The project will include seven phases listed above in the grading table. The project assignments are described in detail separately.

This is a team project (except part #6 - evaluation, which you will perform individually). I will assign students to teams, trying to balance knowledge, skills, and backgrounds, based on a demographic survey given the first day/week of class. All development activities, including writing the deliverables, are team activities. All team members are to participate in all project activities. Do **not** go too far in the direction of dividing the overall process among the team members. Even though this might seem like a more efficient way to proceed, this leads to a kind of specialization that poses a barrier to each person learning the overall process.

The project grading process

The TA and the instructor typically work together in grading your submissions. Teams will be operating under somewhat varying conditions, reflecting various real-world development situations. Therefore, expectations for different teams will vary, as will the bases for grading project deliverables, so this is not about comparing the final products or deliverables across teams. The emphasis in this class is on learning the process and your project deliverables will be graded with that perspective.

The objective part. The first thing we assess objectively is whether all requirements are met. Mechanical aspects such as formatting, labeling, grammar, spelling, following instructions, etc. are easy to grade because they are objective. Since these mechanical aspects are just expected, we don't give positive points for those, but we do *deduct* points if they are wrong or missing.

The subjective part. The hard part in grading is the subjective part, which is about quality of content. Your submissions will be sorted in an approximate order of overall quality. We then take a second look and discuss relative merits of your work. In this process we calibrate our judgments. There are two components to this subjective evaluation: how well requirements are met (how well you did the job) and how well you reported it. Our evaluation of these components is based on our own knowledge and experience and is necessarily somewhat relative among the project teams of the class. The "how well you met requirements" part is based on our perception of how much you put into it, how completely you pursued the assignment, and how well you understood, interpreted, and applied the material covered in class to your project.

We will try to write comments on your reports about these qualitative parts, so you know what aspects of your work and writing are possible issues.

Teamwork

Each member of the team is expected to contribute equally to each part of the project. It is possible that one of the most difficult parts of the project assignments is working well together in a group. It is understood that the effort each of you put into project phases may fluctuate given your skillset. Be aware of possible group problems and be ready to solve them. Don't make the mistake of taking this aspect for granted or waiting for it to fix itself; you have too much at stake. Sometimes, despite our best efforts, some team members end up not pulling their fair share of the weight. If you encounter such problems please contact your as early as possible. The instructor will work with a group to help you solve problems.

CLASS PARTICIPATION

Class participation includes presentation of assigned materials in the classroom, active role in in-class exercises, as well as active participation in classroom discussions.

IN-CLASS EXERCISES (ICE)

In-class exercises are designed mainly as team activities tailored to fit the space and time limitations of the classroom. The in-class exercises go hand-in-hand with the class lectures. The description of each in-class exercise is on Canvas (the exercises are based on textbook descriptions). Please be aware of the next in-class exercise coming up and be prepared for it, including bringing any necessary materials to class. I will provide materials needed for the contextual analysis exercise but you should decide what you will need for other exercises and bring those materials to the appropriate classes.

The in-class exercise grading process

Getting full credit for the in-class exercises is easy. This is truly a case where showing up is half the battle. Just be there and be willing to participate in each in-class activity and do a good job of it. As a key part of active learning in the classroom, individuals and teams will be asked to perform part of an ongoing analysis or design exercise in class, to illustrate the application of concepts covered in the class notes and class discussion. In assessing the "do a good job" part of this activity for each individual, we'll be looking for:

- Presence or absence of the individual
- Preparedness, knowledge of material
- Care and correctness in applying it
- Intangibles (getting into role, etc.)

In assessing the "do a good job" part of this activity for the whole team, we'll be looking for whether you prepared in advance by bringing the necessary materials (where this is needed).

Everyone begins the course with full in-class participation credit and most will retain it to the end. However, deductions can be made from an individual's in-class participation credit for various shortcomings (e.g., being absent when your team needs you for an in-class exercise).

CLASS POLICIES

Due dates and times for handing in homework and project assignments

All homework and project assignments must be turned in at the beginning of class on the due date. You should think of all due dates for assignments, especially project assignments, as firm. The tight schedule of deliverables throughout the whole semester makes it nearly impossible to slip or extend due dates. Any assignment that you do not hand in on time may be penalized in grading. If you are not able to complete an assignment by the due date, it would be best for you to hand in as much of it as you have done. You must prepare your assignments using a word processor and submit it by uploading to Canvas by the due date/time. Assignments usually may not be submitted via email to either the professor or a TA.

Attendance

You will not be graded directly on attendance. You are adults in a graduate-level course and are *expected* to attend every class. Beyond the occasional need to be absent from class for a good reason, please consider that much of the learning for the course occurs in class. You cannot participate in this learning if you are not present.

If you have to miss class for an extended period due to a protracted illness or similar reason, we will treat your needs as a special case and I will do everything I can to help you survive.

Academic Honor Code

You are encouraged to discuss assignments with classmates, but anything submitted must reflect your own, original work. If in doubt, ask the instructor. Plagiarism and similar conduct represents a serious violation of UT's Honor Code and standards of conduct:

- http://deanofstudents.utexas.edu/sjs/scholdis_plagiarism.php
- http://deanofstudents.utexas.edu/sjs/conduct.php

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Students who violate University rules on academic dishonesty are subject to *severe* disciplinary penalties, such as automatically failing the course and potentially being dismissed from the University. **PLEASE do not take the risk**. We are REQUIRED to automatically report any suspected case to central administration for investigation and disciplinary hearings. Honor code violations ultimately harm yourself as well as other students, and the integrity of the University, academic honesty is strictly enforced. For more information, see the Student Judicial Services site: http://deanofstudents.utexas.edu/sjs.

Notice about students with disabilities

The University of Texas at Austin provides appropriate accommodations for qualified students with disabilities. To determine if you qualify, please contact the Dean of Students at 512-471-6529 or UT Services for Students with Disabilities. If they certify your needs, we will work with you to make appropriate arrangements. UT SSD Website: http://www.utexas.edu/diversity/ddce/ssd

Coping with stress and personal hardships

The Counseling and Mental Health Center offers a variety of services for students, including both individual counselling and groups and classes, to provide support and assistance for anyone coping with difficult issues in their personal lives. As mentioned above, life brings unexpected surprises to all of us. If you are facing any personal difficulties in coping with challenges facing you, definitely consider the various services offered and do not be shy to take advantage of them if they might help. These services exist to be used.

Notice about missed work due to religious holy days

A student who misses an examination, work assignment, or other project due to the observance of a religious holy day will be given an opportunity to complete the work missed within a reasonable time after the absence, provided that he or she has properly notified the instructor.

It is the policy of the University of Texas at Austin that the student must notify the instructor at least fourteen days prior to the classes scheduled on dates he or she will be absent to observe a religious holy day. For religious holy days that fall within the first two weeks of the semester, the notice should be given on the first day of the semester. The student will not be penalized for these excused absences, but the instructor may appropriately respond if the student fails to complete satisfactorily the missed assignment or examination within a reasonable time after the excused absence.

Weather contingencies

If the university is closed (for any reason) on an assignment due date, the assignment will be due at the beginning of the next class.

Electronic mail Notification Policy

In this course e-mail will be used as a means of communication with students. You will be responsible for checking your e-mail regularly for class work and announcements. If you are an employee of the University, your e-mail address in Canvas is your employee address.

All email concerning the class should be addressed to the TA with a copy to the instructor. We will sort out which of us should act on the message and will make every effort to answer your email in a timely fashion. However, you should not necessarily always expect to get an immediate reply. In particular, don't expect to get answers to questions about a homework or project assignment within the last few hours before that assignment is due. Please put **385C** as part of the subject line of your email; that will help us identify your emails more quickly.

The University has an official e-mail student notification policy. It is the student's responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. Read the policy: http://www.utexas.edu/its/policies/emailnotify.html.

You can find and change your official email address of record at https://utdirect.utexas.edu/apps/utd/all_my_addresses