Informatics 281:
User Needs Analysis

University of California, Irvine

Instructor

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4 units

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Meeting Times

Class will meet asynchronously. Online course material available via Canvas.

Overview

Catalog Description (4). Understanding the user's context, needs, and preferences. Topics include: Interviews and observations, modeling the context, flow, culture, space and artifacts involved in an endeavor, ways of aggregating what is found, and presenting these findings to others. Pre-requisite: INF280.

Overall Goals

A key part of developing good technology solutions is understanding what the problem is to be solved and what various good solutions might be. Learning to take a true ethnographic perspective on the real world contexts prior to design enables a multi layered perspective on what the various issues might be before attempting to solve them. This course teaches the investigative process that precedes software requirements engineering. Students will learn how to fully investigate a setting with all of the numerous complexities that inform how people experience a social and physical environment. We will explore culture, power, physical layout and the role of artifacts in flows of access and information.

Course Objectives

Students should be able to:

1. Recognize the value of various data collection methods and determine when to use them (e.g. observation, interviewing, focus groups, review of documents and other physical artifacts)

2. Conduct contextual inquiry interviews and analyze interview data.

3. Recognize the value of various diagrammatic techniques such as the sequence model, artifact model, and physical model during data analysis and determine when and if to use them.

4. Identify and describe the influence of different organizational contexts have on information use (e.g. governmental or institutional regulations, cultural norms, incentives, systems underlying social hierarchy).

5. Assess difficulties or "pain points" in organizational process that could be alleviated or eliminated with various technologies or social practices.

6. Sort through and evaluate the potential solutions that would increase the efficiency, effectiveness, accuracy, and/or pleasure given a particular setting. Understand the multi-layered effects of potential interventions. And assess how proposed technology and social design recommendations will align with a particular setting (e.g. interpersonal norms, power dynamics, and physical layout, individual and organizational goals).

7. Present the ideas in appropriate ways to clients, stakeholders, users, and peers.

Course Logistics

Course Website: All online content will be available via Canvas. Each "module", which typically corresponds to a week of course activity, is composed of several different types of items:

- *Content pages* –written content, recorded videos, and links to readings and other media. All content should be read or viewed each week.

- *Weekly modules* – online lectures, reflections, readings are presented in a logical week by week fashion according to thematic modules.

- *Class wide discussion boards* – to provide opportunities for ongoing interaction with your classmates and the teaching staff you are asked to participate in several course discussions. Two discussion questions frame the entire course and will be revisited throughout the class.

  In addition, two discussion questions will be posed at the beginning of each of the overarching course 'units' (field work, data analysis, writing up and presenting). Students are expected to contribute at least 2 meaningful comments to each discussion thread.

- *Small group discussions* – Groups are expected to meet to compare experiences and discuss insights 2-3 times during the quarter. The goal of these meetings is for you to informally and collectively compare experiences, strategize roadblocks, provide moral support, etc. We will leave planning and coordination up to you and expect you to inform us after you have met. If the group would like one of the instructional staff to participate in the informal discussion we are happy to do so – provided we are given enough time to schedule attendance.

Not all items count directly toward your grade; on the right hand side of each for which there **is** a grade, you will see a due date and the number of points that module is worth.

Each module will include an extremely brief survey and opportunity for you to provide feedback to the instructors.

Office Hours: The professor and TA will each have standard office hours each week. You are welcome to set up a time in advance to chat with us during this block of time via phone or skype. We will also be on-call via skype for the first 15 minutes of every office hour period for any last minute questions or concerns.

Pre-recorded mini-lectures: The course has numerous short "mini-lectures": 5-10 minute videos featuring the professor and/or invited guests. All mini-lectures will include a brief activity or quiz following the lecture. At the beginning of each week a "recap and reflections" lecture will provides a summary of the previous week and addresses any emergent questions or concerns.

Readings: There will be a selection of readings or other content (interactive web sites, etc.) that you will be asked to read/engage with during the course. We will refer to all content as "readings," even though some "readings" will be different forms of media (videos, websites, and so on).

The required textbook for the course is:

> Holtzblatt, Karen, and Hugh Beyer. "Contextual Design, Second Edition: Design for Life." *Morgan Kaufmann* (2016).
>
> Provided during initial intensive for course Informatics 280

Assignments: There is no groupwork in this course. You will completing assignments individually. However, students will be engaging in contextual inquiry in similar 'real world' environments. Students will be put in sharing and peer review groups based on environment in order to facilitate reflection and shared learning.

Final project: Over the course of ten weeks, you will work on your own to create a final report that synthesizes your understanding of the core course concepts. The report will involve building on the various user needs analysis techniques you have learned throughout the course and writing a summary report for a "client." Each student will conduct a full user needs analysis on a real world organizational context and produce a final "client report." This analysis will include the contextual inquiry interviews, work models and affinity diagram that have been conducted throughout the course.

Workload: This course has a workload that is approximately equivalent to a four unit traditional in person course. According to the University of California: "The value of a course in units shall be reckoned at the rate of one unit for three hours' work per week per term on the part of a student, or the equivalent." Since this is a four unit, quarter-long course, we expect you will do approximately 12 hours of work per week, for a total of 120 hours. In an offline course, these 12 hours might be broken down as follows: 3 hours of in-class content (lecture/discussion), 4-5 hours of reading, and 4-5 hours of project work, assignments, or other preparation. In this course, we expect that you will work at least 8 hours/day for the three-day in-person meeting (24 hours total), and will watch all the videos (~1 hour of content/week), do all the readings and other assignments (~1-2 hours/week), take all the quizzes and participate in all the discussions (~1 hour/week), and spend an average of 6 hours/week on your final project.

Peer Reviewing

For four assignments, you will be asked to review the work of some other classmate in your small group. Given the open-ended nature of qualitative investigation the ability to take multiple perspectives and question your open biases is critical. Reviewing peers' work is one way to gain insight into our own assumptions and particular lenses.

Each assignment comes with a rubric to guide your review and, implicitly, suggest how to create a quality submission yourself. Peer reviewers will provide their reflections and reactions but will not numerically assess the assignment. Your grade is decided independently by the instructors after reviewing everything, including the reviews you provided of others' work. We expect you to spend about thirty minutes reviewing each classmate's assignment. Each peer review assignment also includes a reflective memo in which you will discuss your reactions to the assignment after seeing another student's work and perspective. We will be grading your understanding of the material as reflected in your comments to your classmates.

Equipment: To support participation in all aspects of this course, you are required to have a videoconferencing-capable computer. You are responsible for verifying that the internet access at your location is reliable.

Respect: This class involves significant discussion of topics on which you and your classmates may have differences in opinion. Please be respectful of others at all times.

Academic honesty: Please familiarize yourself with the latest UCI academic honesty policy: http://honesty.uci.edu/. The consequences of academic dishonesty (e.g., course failure and not learning the material) are not worth the small artificial benefits to your grade and the impugning of your character. If you have questions about what constitutes academic dishonesty, it is always better to ask than to guess.

Correspondence: We will send course announcements by email to the official course mailing list, so you should check your email regularly. Note that this mailing list goes to the email address that the registrar has for you. If you prefer to read your email on another account, you should set your account to forward your email to your preferred account.

Late Assignments: Given the interdependencies among various parts of the course and emphasis on peer reviewing, late assignments will not be accepted without prior approval from

the Professor. Prior approval will only be granted for extreme circumstances with at least one week's prior notice.

Incompletes: We do not give incompletes. You will get a grade for the course.

Assignments and Grading

Assignments

Assignment 1: Experiences and preferences survey
Assignment 2: Description of site – initial impressions
Assignment 3: Field notes – 3 hours of observation
Assignment 4: Observation summary memo
Assignment 5: Draft interview protocols
Assignment 6: Practice interview reflection
Assignment 7: Transcripts from three interviews
Assignment 8: Interviews summary memo
Assignment: 9: Data analysis exercise – thinking topics
Assignment 10: Three contextual inquiry heuristics
Assignment 11: Final report

Grading

Participation and Discussion: Experiences and preferences survey, participation on discussion boards, min-quizzes, post lecture reflections = 15%

Observations Unit (weeks 2-3): Description of site, field notes, observation summary memo, observation peer review = 25%

Interviews Unit (weeks 4-5): Draft interview protocols, practice interview reflection, interview transcripts, interviews summary memo, interview peer review = 25%

Data Analysis and Heuristics Unit: Data analysis exercise, contextual inquiry heuristics, thinking topics peer review, heuristics peer review = 25%

Final report: 10%

Note

These are guidelines intended to help students plan their work in this course. However, the instructor reserves the right to make changes to this syllabus over the course of the quarter.