

SI 501 Use of Information

Syllabus

THE COURSE

It is now possible to help people solve problems by giving them well designed technology (including digital, mechanical, and paper-based technologies) as well as prescriptions about how it is to be used. But there is no universal solution. One size does not fit all. To design these technologies well, we must begin by understanding the people themselves, what information they need, what computation can help them, and what communication with others they need.

This course is fundamentally a course on what is known as "user needs analysis," or "user centered design." The School of Information is predicated on the notion of being user/context centered.

The goals of the course are two-fold:

- 1) We wish to introduce you to the major theories about information access and use, problem solving and sense making as well as current issues about privacy and the digital divide.
- 2) We wish also to introduce you to some key professional skills, some general and some specific to doing contextual design:

Interviewing, observation, focus groups, diagramming, design, getting and incorporating feedback, project management, group interactions, writing, research, synthesis, and time management.

COURSE MATERIALS

SI 501 requires one book for this course (available at Shaman's Drum on State St.):

Beyer, H. & Holtzblatt, K. (1998) Contextual Design: Defining Customer-Centered Systems: San Francisco, CA: Morgan Kaufmann.

There is a required coursepack (available at Ulrichs).

We will also be reading selected chapters from the following book (available on-line):

Brown, J. S. and Duguid, P. (2000) The Social Life of Information. Cambridge, MA: Harvard Business School Press. (some chapters are also required in 504).

ACTIVITIES

The course involves a mixture of lectures, videos, readings, group discussions, and multiple exercises that build toward a system/service project by the end of the semester.

Your grade will be based on the following:

INDIVIDUAL assignments and participation:

- Short report on your initial contact with the organization 10% (Written, 5 pages)
- Participant Observation 15% (Written, 5-10 pages)
- Reflection on Readings 5% (Written, 2 pages)
- Class Participation 5% (Oral contributions in class and discussion sections, and text contributed to the Discussion on CourseTools)
- Group Participation 5% (Contributions as rated by members of your group)

GROUP assignments:

- Team Work Plan 5% (Written, 5-10 pages)
- Client Description and Analysis 15% (Written, 15 pages)
- Preliminary Recommendations with feedback from the organization/client 10% (Written, 10-15 pages)
- Report to the client 20% (Written, 10-15 pages)
- Presentation of the target group's needs and your solution service/system 10% (Oral Presentation, 15 minutes long)

Note: It is important for students with disabilities to inform the instructors at the beginning of the term of any special needs. We will do our best to ensure that those needs are met in a timely manner.

The course is supported by CourseTools, an on-line resource for providing access to the syllabus, the assignments, some resources, and discussion groups and group shared file space. You are expected to use this every day. Announcements and discussion contributions change periodically. It is your responsibility to keep up with what is happening here. We will ask for your feedback regarding the effectiveness of this site.

COURSE SCHEDULE**Wk1: Info and People****PART I: What is Information?**

We introduce the Foundations series and lay out how this course works.

What is information? Where is it found? What are the different guises that information comes in? What is the difference between information and knowledge?

READ: Brown and Duguid, "Introduction"

http://www.firstmonday.dk/issues/issue5_4/brown_introduction.html

READ: Brown and Duguid, Chapter 1 "Limits to Information"

http://www.firstmonday.dk/issues/issue5_4/brown_chapter1.html

READ: Rubin, Chapters 1 and 2: The Information Infrastructure, and Information Science: A Service Perspective, and Redefining the Library: The Impacts and Implications of Technological Change. (in coursepack)

And look at "One Digital Day" at its web site at <http://www.asiaweek.com/asiaweek/onedigitalday/slideshow/index.html> .

Wk1: Discussion

This week we will talk about the concept of information and the practicalities of group work, including recognizing and capitalizing on individual differences and giving feedback. We will collect your preferences for the type of organization in which you would like to do your term project.

Wk2: Contextual Design

An essential part of your learning at SI is seeing a situation in its fullest to design an appropriate new solution, be it a new system, service, or source. Today we describe the term project and explore various ethics of data collection and project planning. We emphasize how user centered design or contextual design is different from traditional design.

READ: Beyer and Holtzblatt, Chapters 1 and 2: "Introduction" and "Understanding the Customer."

It is particularly important to understand what people do in their everyday life context. Their primary goal is not necessarily to "seek information." Rather they are just trying to solve problems, get on with things, move through life.

READ: From the coursepack: Harris and Dewdney, "Theory and Research on Information Seeking."

Wk2: Discussion

The first part of discussion group will deal with issues of contextual design, specifically discussing how Harris and Dewdney relate to Beyer and Holztblatt.

The second half of section will be devoted to handing out group assignments, and initial group meeting time.

Wk3: Context design & projects

Contextual design and projects

Today we present a panel of students from previous years' 501 class, talking about their projects. We will also see a video of a design project at IDEO, a design firm that specializes in the kinds of activities we do in 501.

READ: Brown and Duguid, Chapter 5: "Learning in Theory and Practice." which should guide you to think about your learning experience at SI in general, as well as how to design for this task.

(Copies to be handed out in class earlier)

In order to complete your term project (and other projects in your future) you need to plan it carefully and track its progress. In this session we teach you the basics of project management, and encourage you to use as much of it as appropriate in planning and carrying out your project.

Plans are nothing; planning is everything!

READ: Project management article in the website below. Read both parts I and II.

Wk3: Discussion

This week is devoted entirely to group time, with the first half being information sharing between all participants, and the second half being devoted to group work.

Wk4: Discussion

We will conduct a workshop to practice good interviewing techniques, with feedback from your fellow team/class mates. No group time is available in section this week, so plan accordingly.

Due: #1 Initial Contact Report

Assignment #1: An individual view of the initial contact at your target organization. Details attached.

NOTE: All reports in 501 are to be in Times New Roman font (designed for readability), 12 point, single spaced paragraphs with double spaces between paragraphs. Use bold and italics for titles and emphasis; do not underline (that is a distracter to easy reading and was initially just a signal to put something in italics!).

References to readings in text are to follow APA format. http://owl.english.purdue.edu/handouts/research/r_apa.html#General Format (but note that they say everything is double spaced, and we say single).

Wk4: Models & interviewing

Here we look ahead to the kinds of modeling you will be doing with your target organization. There will be FIVE KINDS OF MODELS you will attempt to draw, to help you get a better picture of what your organization does, what information it uses, what it's culture is, and how it functions. These pictures will then help you highlight where various breakdowns are, either what the people themselves report and what you see from your analysis.

READ: Beyer and Holtzblatt, Chapters 3 and 4: "Principles of Contextual Inquiry" and "Contextual Inquiry in Practice."

READ: Beyer and Holtzblatt five models (Chapters 5&6)

Most of the information you gather about your target group will come from you asking pointed questions. A well planned interview can give a great deal of information about the culture, capabilities, resources, and tasks of your group.

Due: #2 Team Work Plan

Read the attached for details. Be sure to follow the style guidelines outlined in assignment #1.

References to readings in text are to follow APA format. http://owl.english.purdue.edu/handouts/research/r_apa.html#General Format (but note that they say everything is double spaced, and we say single).

Not that you will have references really for this assignment, but formatting should stay consistent.

Wk5: Context & Culture

Part II: Who are the people?

Part of the context of the group concerns the capabilities the group has collectively and individually, the culture (the unwritten rules of behavior), and the resources they have at their disposal. We will outline these and also explore individual differences and end with a review of the American Disability Act (ADA).

Skim the ADA website here <http://www.usdoj.gov/crt/ada/adahom1.htm> and look at the overview at <http://www.jan.wvu.edu/links/adasummary.htm>

You may also want to SKIM the current administrations move on these issues.

<http://www.whitehouse.gov/news/freedominitiative/freedominitiative.html>

We continue our discussion of finding out about significant aspects of the target group--their national or organizational culture, individuals' personality, and motivation.

SKIM: Brown and Duguid, Chapter 3 "Home Alone."

http://www.firstmonday.dk/issues/issue5_4/brown_chapter3.html

READ: Cummings, Butler and Kraut (2002) "The Quality of Online Social Relationships" Communications of the ACM (PDF provided below)

READ: Robbins, S. (1993) Organizational Behavior: Concepts, Controversies, and Applications. Englewood Cliffs, NJ: Prentice Hall. Pp 599-631. (in the coursepack)

In addition to interviewing, a lot of useful information about context comes from observing work while it takes place. It is also wise to collect as many artifacts of the work as possible, and to note traces of work and information as well.

READ: Jones, M. O. (1986) Preaching what we practice: Pedagogical techniques regarding the analysis of objects in organizations. American Folklore Society Meeting, Baltimore, MD, October 22-26, 1986.

Wk5: Discussion

This week we will spend the first segment of section discussing the culture of SI as an organization, and where we would find those clues to culture.

The second segment of section is devoted to group work.

Wk6: Discussion

The first segment of this week's section will be devoted to discussing practice, and how practice differs from process.

The second segment of class will be devoted to group work.

Wk6: Task Analysis

Part III: What do people do?

We now begin a series of topics to uncover what people do in their work, in seeking information, using it, etc. Today we investigate what is known about how people seek information.

READ: Kuhlthau, Carol C. Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science*, 42(5): 361-371. (in the coursepack)

READ: Dervin, Brenda. "From the mind's eye of the user: The sense-making qualitative-quantitative methodology." In Jack D. Glazier and Ronald R. Powell, eds., *Qualitative Research in Information Management* (Englewood, Colo.: Libraries Unlimited, 1992), pp. 61-84 (in the coursepack)

What do people do in their everyday processing of information? Task analysis is a way of uncovering these steps and the information used.

SKIM: Beyer and Holtzblatt, Chapter 6: "Work Models" especially pages 89-101.

READ: Suchman, L., Blomberg, J., Orr, J.E., Trigg, R. (1999) "Reconstructing Technologies as Social Practice" *American Behavioral Scientist* 43 (3) 392-408. (In Coursepack)

Due: #3 Participant Observation

See attached Word file for details

Wk7: Discussion

The first part of section (longer than is typical) will be devoted to discussing information needs, and how we seek out information from sources like librarians, financial advisors and so forth.

Some time will be reserved at the end of section for group work.

Wk7: What people need**Part IV: What do people need?**

We now turn to the task of finding solutions for people, now that we know their culture, capabilities, and what they do. We talk first about the design process and a particular type, called "Participatory Design."

READ: Beyer and Holtzblatt, Chapters 11 and 13. "Work redesign," and "Design from data."
Skim Chapter 12 "Using data to drive design,"

PERUSE: <http://www.infodesign.com.au/usability/participatorydesign.html>

PERUSE: <http://www.teced.com/ue-pd.html>

READ: Durrance, J. (1995) Factors that influence reference success: What makes questioners willing to return? *The Reference Librarian*. No 49/50, 243-265. (in the coursepack)

Nardi, B. (1999) Librarians: A keystone species. In Nardi, B., and O'Day, V. *Information Ecologies*. Cambridge, MA: MIT Press. Pp. 79-104 and 220-221. (in the coursepack)

Wk8: Discussion

This week will start with a brainstorming session on systems that are useful in organizations, to help groups develop a "toolkit" of solutions. Come prepared with some examples!

The majority of section will be reserved for group work.

Wk8: People need a new system

Another class of solutions involves finding off-the-shelf systems for people to use. Here we review the kinds of systems that exist, and various applications of them to work improvement.

READ: Olson, J.S. & Teasley, S. D. (1996). *Groupware in the Wild: Lessons learned from a year of virtual collocation*. Proceedings of the ACM conference on Computer-Supported Cooperative Work, pp.419-427. Boston, MA: ACM. (in the coursepack)

Another class of solutions is a system that doesn't exist commercially. How do you go about designing a new piece of software?

READ: Beyer and Holtzblatt, Chapters 14 and 15: "System Design," and "The User Environment Design"

READ: Gould, J., et al (1987) *The Olympic Messaging System*. *Communications of the ACM*, 30, Sept. NY: ACM. Pp. 758-769. (in the coursepack)

Due: #4 Client Description

The first stage of understanding people's needs for information involves assessing their

capabilities and the culture in which the work occurs. You will not be successful in inventing something they can really use if it doesn't fit their culture and is beyond their capabilities. The second stage of understanding information needs is to understand explicitly what people do.

See attached Word file for more specifics.

Wk9: Discussion

This week will be devoted entirely to group work.

Wk9: People need a service

Another class of solutions is a new service. We will talk about two cases in which after a user needs analysis, new services were provided the target group.

READ: Durrance, J., and Pettigrew, K. E. Toward context centered methods for evaluating public library networked community information initiatives. First Monday. April 12, 2001. (online at http://firstmonday.org/issues/issue6_4/durrance)

Wk10: Issues: Privacy

Virginia Rezmierski will conduct a session exploring the issues of privacy of information.

READ: in the coursepack, Lessig, L. (1999) Privacy. In Code and other laws of cyberspace. New York: Basic Books. Pp 142-63, 271-275.

Wk10: Discussion

Due to the CSCW conference, discussion groups will not be held as normal this week. Rather, GSIs may schedule individual meetings with groups depending on circumstances.

Due: #5 Preliminary Recommendations

Assignment #5: Preliminary Recommendations

Wk11: Discussion

Discussion sections are cancelled this week due to Thanksgiving break.

Wk11: Assessing impact

Part V: Assessing the ideas

One has to look ahead to the impact that the introduction of a new system, source, or service is going to have on the environment. Today we present a framework of how to think these impacts through.

READ: Brown and Duguid, Chapter 6: "Innovating Organization, Husbanding Knowledge"

One of the essential skills of successful information professionals is to present your ideas well and with style. Today we review these principles, in preparation for your own final presentations.

Not everyone has equal access to information. What were the major moves in history that attempted to create equality, and what are the challenges today.

ALA information on intellectual freedom, information access, and ethics.

<http://www.ala.org/alaorg/oif/issues.html>

Information policy and technology issues

<http://www.ala.org/oitp.index.html>

Ethics

<http://www.ala.org/alaorg/oif/ethics.html>

<http://www.acm.org/constitution/code.html>

http://www.archivists.org/governance/handbook/app_ethics.html

Read the basics of this and skim what interests you after that:

<http://www.digitaldividenetwork.org/content/sections/index.cfm?key=>

Due: #7 Report to the Client

This is a copy of the final report to the client, so we can take a look at it before it really goes to the client.

Grading for this assignment is a little different. You get graded on this report, but the grade is not recorded until the revision requested are made, and your coach gets a confirmation that a copy was received by the client.

Wk12: Final Presentations

Eight groups will give their final presentations during class.

THERE ARE NO DISCUSSION SECTIONS THIS WEEK.

Due: Assignment 7: Final Report

Remember, this is the tricky one:

Due Wednesday the 4th at 5:00pm.

We will have changes back to you by the 11th. Instructors will make requirements for change in this document. When you get our comments, you will not receive your grade at that time.

On the 11th, Cliff will email all partners to let them know that they can expect the final report within a week. He'll ask them to email him as soon as they get them.

Turn in a nicely bound copy to your client. Email Cliff (all sections) when you have sent your final copy. Cliff will follow up with the client to make sure he gets confirmation from everyone.

When we get confirmation, we'll notify you and give you the Assignment 7 grade at that time.

All client receipts must be received by December 18th.

Wk13: Final Presentations

Eight groups will give their final presentations today.

THERE ARE NO DISCUSSION SECTIONS THIS WEEK.

Due: Assignment 6

Due: #8 Reflection paper

Due: Final draft of client report

We want copies of the final paper uploaded to coursetools for posterity, so when you turn in your reports to the client, please post a copy here as well.

Wk14 Final Presentations

It is likely that we will need this day, our scheduled exam time, to finish presentations. Plan accordingly.