

INF 382C Understanding and Serving Users (27570)

University of Texas at Austin School of Information
Spring 2020 Thursdays 12-3 pm. UTA 1.204
Instructor: Soo Young Rieh (rieh@school.utexas.edu)
Office Hour: Thursdays 3-4 pm. UTA 5.328.

COURSE OVERVIEW

The purpose of this course is to provide theoretical frameworks and practical solutions for information professionals who wish to design and evaluate information systems and services based on user-centered approaches. This course is organized in three units. The first unit introduces theories, models, and core concepts to provide conceptual frameworks to interpret users' needs, experience, and behavior in fundamental ways. The second unit introduces various research methodologies for studying user behavior, and provides hands-on experience with ethnographic methods and experimental studies. Lastly, students discuss the behavior and experience of information users in diverse contexts such as organizational context, everyday life, health contexts, learning environments, and social media. Discussions focus on how the findings from information behavior and user experience research can be used to inform and improve the design of information systems and services.

LEARNING OBJECTIVES

Upon completion of this course, students will be able to:

- Identify and apply theories and models to better understand users' behavior and experience in various information environments
- Implement ethnographic research methods that will enable them to investigate information users' behavior and experience in context
- Gain skills in designing experimental studies to evaluate information systems
- Analyze the behavior and experience of information users in order to provide effective information products, systems, and services
- Incorporate strong user-centered perspectives into the design and development of information products, systems, and services

EXPECTATIONS

All students are expected to read, ask questions, and reflect learning. Student should also use Canvas frequently.

- (1) **Course Readings:** Read the course readings critically in advance of the class session. The readings are available on our Canvas site.
- (2) **Before-class Questions "What I want to know":** post one or two questions to the **Google Doc – Before- and After-Class Questions and Reflections**. Do not post questions that are answered in the readings. Post questions that are unanswered or unsolved based on your comprehension of the readings. I will pick 2-3 "best questions" and discuss selected questions during the class. To be selected as best questions, your question(s) must be posted before Wednesday Noon. However, feel free to post your questions after Wednesday, or even after the class. Begin your postings with your name and the date of your submission.
- (3) **After-Class Reflections "What I learned this week":** Once the class is over each week, go back to

Google Doc Before- and After-Class Questions and Reflections and write up your reflections about lectures, readings, and discussions. Or, review questions raised by other students to see whether you can now answer any of those questions. Don't forget to include your name and the date at the beginning of your postings.

- (4) **Canvas:** Check out the Canvas site on a regular basis. Course readings, lecture notes, assignment examples, grading rubrics, grading feedback, and other course-related resources will be communicated via the Canvas site.

ASSESSMENT OF LEARNING

In-Class and Online Discussion Participation	10%
Being the Theorist	15%
Diary of Information-Related Activities	20%
Fieldwork Report	20%
Final Project	35%

COMMON REQUIREMENTS FOR ALL ASSIGNMENTS

- I use a 100-point scale to grade papers. To be fair to students who have worked hard to meet the deadline, points will be deducted for late submissions (2 points per day, including weekends).
- In terms of turning in assignments late, exceptions may be made in some exceptional circumstances, but you must contact me in advance. Assignments will be accepted late without a penalty only with prior consent of the instructor and in situations where there is a legitimate reason.
- All assignments will be handed in using Canvas.
- Every paper should include the course number, a **unique title**, the submission date, your name, and your email address at the top of the first page of each assignment (no cover page).
- All citations should use APA (American Psychological Association) style. For more information on APA style, please see the Purdue University OWL guide:
<https://owl.english.purdue.edu/owl/resource/560/01/>
- Although I will try my best to answer your questions about assignments (and any other questions about this course) promptly, please give me 48 hours to reply to your email. If you do not hear from me within 48 hours, please resend your email for my attention. Include "382C" in the subject line to get my attention quickly.
- A grading rubric for each assignment will be available on Canvas – Assignments.

GRADING RUBRIC

98 – 100 = A+ 95-97.9 = A 90-94.9 = A-
 88 - 89.9 = B+ 85-87.9 = B 80-84.9 = B-
 78-79.9 = C+ 75-76.9 = C 70-74.9 = C-

Academic Integrity

All written submissions must be your own original work. You may incorporate selected excerpts from publications by other authors, but they must be clearly marked as quotations and must be attributed appropriately. If you build on the ideas of prior authors, you must cite their work. You may obtain copy-editing assistance and you may discuss your ideas with others, but all substantive writing and ideas must be your own or be explicitly attributed to another person.

Student Mental Health and Wellbeing

The University of Texas at Austin is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Mental Health Center (CMHC) at <https://cmhc.utexas.edu/>. The Counseling and Mental Health Center (CMHC) provides counseling, psychiatric, consultation, and prevention services that facilitate students' academic and life goals and enhance their personal growth and well-being.

Students with Disabilities

If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, such as the assignments, the in-class activities, and the way we teach, may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Office of Services for Students with Disabilities (SSD) (<https://diversity.utexas.edu/disability/>) to help us determine appropriate accommodations. I will treat any information you provide as private and confidential.

SCHEDULE OF CLASSES AND READINGS

Week	Date	Topic	Readings	Assignment Due
1	1/23	Intro and class overview		
2	1/30	Key concepts in user behavior and user-centered design	Fidel (2012) chapter 2; Harrison et al. (2007).	
3	2/6	Relevance, usefulness, and credibility judgement	Saracevic (2016); Hilligoss & Rieh (2008)	
4	2/13	Theories and models	Fidel (2012) Chapter 3 and Chapter 13; White (2016) Chapter 4.	Assignment 1: Being the theorist presentation 1
5	2/20	Impact of theories on design practices	Carroll (2016); Nardi (2016)	Assignment 1: Being the theorist presentation 2
6	2/27	Methods for studying user behavior and experience; Ethnography	Case (2007). Chapter 9 Dourish & Bell (2011). Chapter 4	
7	3/5	observation and field note; Ethnographic interview	Emerson et al. (1995); Bernard (2006)	Assignment 2: Diary of information activities
8	3/12	Experimental design for evaluating information systems with users	Kelly (2009) Chapters 9 and 10.	Final Project Part 1: Title and Abstract due
9	3/19	Spring Break		
10	3/26	Workshop day: how to collect and analyze the data for user research		Assignment 3: Fieldwork Report
11	4/2	Users in organizational context; Socio-technical models of use	Choo (2006). Chapter 3; Baxter and Sommerville (2011)	Final Project Part 2: Research Design Draft
12	4/9	Users in everyday life context; cultural dynamics	Savolainen (2008); Hofstede (2011)	
13	4/16	Users in health context	Reddy & Jansen (2008); St. Jean (2017)	
14	4/23	Users in learning environment	Rieh et al. (2016); Thudt et al. (2015).	
15	4/30	Users in social media	Ellison & Boyd (2013); Lampe et al. (2013)	
16	5/7	Class wrap-up; Presentation and discussion of final project		Final Project Part 3: Term Paper

Week 1 (January 23): Introduction and class overview

UNIT 1: FOUNDATIONS OF USER BEHAVIOR AND EXPERIENCE

Week 2 (January 30): Key concepts in user behavior and user-centered design

- Fidel, R. (2012). *Human information interaction: An ecological approach to information behavior*. Cambridge, MA: The MIT Press. Chapter 2: What is human information interaction? pp. 17-43.
- Harrison, S. Tatar, D., & Sengers, P. (2007). The three paradigms of HCI. *alt.chi. Session at the SIGCHI Conference on Human Factors in Computing Systems*. San Jose, California.

Week 3 (February 6): Relevance, usefulness, and credibility judgement

- Saracevic, T. (2016). Relevance: In search of a theoretical foundation. In D. H. Sonnenwald (Ed.), *Theory development in the information sciences* (141-163). Austin, TX: The University of Texas Press.
- Hilligoss, B. & Rieh, S. Y. (2008). Developing a unifying framework of credibility assessment: Construct, heuristics, and interaction in context. *Information Processing and Management*, 44, 1467-1484.

Week 4 (February 13): Theories and models

*** Assignment 1: Being the Theorist Session 1***

- Fidel, R. (2012). *Human information interaction: An ecological approach to information behavior*. Cambridge, MA: The MIT Press. Chapter 3: Theoretical constructs and models in information-seeking behavior and Chapter 13: Enhancing the impact of research in human information interaction.
- White, R. W. (2016). *Interactions with search systems*. New York: Cambridge University Press. Chapter 4. Models and frameworks for information seeking.

Week 5 (February 20): The impact of theories on design practices

*** Assignment 1: Being the Theorist Session 2***

- Carroll, J. M. (2016) Theorizing the unprecedented. In D. H. Sonnenwald (Ed.), *Theory development in the information sciences* (185-203). Austin, TX: The University of Texas Press.
- Nardi, B. (2016). Appropriating theory. In D. H. Sonnenwald (Ed.), *Theory development in the information sciences* (204-221). Austin, TX: The University of Texas Press.

UNIT II: METHODS AND APPROACHES

Week 6 (February 27): Methods for studying user behavior and experience; Ethnography

- Case, D. (2007). *Looking for information: A survey of research on information seeking, needs, and behavior* (2nd ed.). Boston, MA: Elsevier/Academic Press. Chapter 9: Methods: Examples by Type. pp. 191-234.
- Dourish, P. & Bell, G. (2011). *Divining a Digital Future: Mess and mythology in ubiquitous computing*. Boston, MA: The MIT Press. Chapter 4: A role for ethnography: Methodology and theory. pp. 61-89.

Week 7 (March 5): Observation and field notes; ethnographic interview

Assignment 2: Diary of Information Activities Due

- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (1995). *Writing ethnographic fieldnotes*. University of Chicago

Press. Chapters 1 and Chapters 2.

- Bernard, H. R. (2006). Interviewing: Unstructured and semistructured. In *Research methods in anthropology: Qualitative and quantitative approaches* (4th ed.), (pp. 203-239). Lanham, MD: AltaMira Press.

Week 8 (March 12): Experimental design for evaluating information systems with users

- Kelly, D. (2009). Methods for evaluating interactive information retrieval systems with users. *Foundations and Trends in Information Retrieval*, 3(1), Chapter 9 Data collection techniques and Chapter 10 Measures (pp. 84-125).

*****Final Project Part 1: Title and Abstract Due*****

Week 9 (March 19): No Class. Spring Break

Week 10 (March 26): Workshop Day: How to collect and analyze user research

*****Assignment 3: Fieldwork Report Due *****

UNIT III: INFORMATION BEHAVIOR IN CONTEXT

Week 11 (April 2): Users in organizational context; socio-technical models of use

*****Final Project Part 2: Research Design Draft Due*****

- Choo, C. W. (2006). *The knowing organization*. 2nd Ed. New York: Oxford University Press. Chapter 3. The management of ambiguity: Organizations as sense-making communities.
- Baxter, G. & Sommerville, I. (2011). Socio-technical systems: From design methods to systems engineering. *Interacting with Computers*, 23. 4-17.

Week 12 (April 9): Users in everyday life context; cultural dynamics

- Savolainen, R. (2008). *Everyday information practices: A social phenomenological perspective*. Lanham, MD: The Scarecrow Press. Chapter 3: Conceptualizing every day information practices and (pp. 37-75).
- Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, 2(1). <https://doi.org/10.9707/2307-0919.1014>

Week 13 (April 16): Users in health context

- Reddy, M. C. & Jansen, B. J. (2008). A model for understanding collaborative information behavior in context: A study of two healthcare teams. *Information Processing and Management*, 44, 256-273.
- St. Jean, B. (2017). Factors motivating, demotivating, or impeding information seeking and use by people with type 2 diabetes: A call to work toward preventing, identifying, and addressing incognizance. *Journal of the Association for Information Science and Technology*, 68(2), 309-320.

Week 14 (April 23): Users in Learning environment

- Rieh, S. Y., Collins-Thompson, K., Hansen, P., & Lee, H-J (2016). Toward searching as a learning process: A review of current perspectives and future directions. *Journal of Information Science*, 42(1), 19-24.
- Thudt, A., Hinrichs, U., & Carpendale, S. (2015). A modular approach to promote creativity and inspiration in search. *Proceedings of Creativity and Cognition'15*. 245-254.

Week 15 (April 30): Users in Social Media

- Ellison, N.B. & Boyd, D. M. (2013). Sociality through social network sites. In. W. H. Dutton (Ed), The Oxford Handbook of Internet Studies (pp. 1-26). Oxford University Press.
- Lampe, C., Vitak, J., Ellison, N. (2013). Users and nonusers: Interactions between Levels of Facebook adoption and social capital. Proceedings of CSCW. 809-820.

Week 16 (May 7): Wrap-up; Presentation and discussion of Final Project

*****Final Term Paper Due *****

- No assigned readings this week, work on your final term paper.

Assignments and Term Project

Participation (10%)

This is a graduate course and requires active participation throughout. I will not take attendance each week, but I will be aware of and take note of absences and late arrivals. When you must be absent, please let me know via email or in person. My expectations for class participation and grading criteria are as follows:

Outstanding Contributor (95-100): This student consistently asks questions in class and volunteers answers that contribute to the learning of the class by suggesting thoughtful ideas or encouraging more students to participate in discussions. Posts questions before class and writes reflections after class on Canvas almost every week. Attends every class session and always arrives to class on time.

Good Contributor (90-94): This student often volunteers answers to questions and asks questions that are appropriate and helpful to class. Posts questions before class and writes reflections after class on Canvas frequently. Attends every class session and always arrives to class on time.

Adequate Contributor (85-89): This student infrequently volunteers answers to questions or asks questions, but his or her contributions are relevant. Posts questions before class and writes reflections after class on Canvas once in a while. Absent from 1-2 class sessions. Arrives to class on time in most class sessions.

Non-Participant (80-84): This student rarely participates in class. Rarely posts questions before class or writes reflections after class on Canvas. Absent from 3-4 class sessions. Arrives to class late consistently.

Assignment 1: Being the Theorist (15%)

Due Date: February 13 or February 20

Learning objectives: Gain a deep understanding of a variety of theorists and their theories about users' information behavior and experience

Students must select one theorist in the fields of information behavior, Human-computer interaction, and design theory, communication, and other related disciplines. Please keep in mind that one student should work on one theorist. If your favorite theory/theorist is taken (i.e, one student already signed up), move on and select your second choice. The sign-up sheet will be open up on Canvas – Discussion on **January 30 at 4 PM.**

Imagine yourself being a researcher who develops that theory. How do you want to introduce your wonderful theory for the first time to an audience that does not know who you are and what your theory is? You (the theorist) may want to start from your personal background. It would be helpful to introduce some episodes that have led you to develop the theory (if you can't find any, you may create a plausible episode). Your audience is mostly undergraduate and graduate students who do not have strong backgrounds or professional experience in the field of information. Therefore, you will need to rephrase the words and phrases you used in your published work to help students understand. Your responsibility is to make sure that your audience fully understands your theory and even gets excited about it. Use metaphors, analogies, or practical examples that could help the audience understand your theory and start thinking about how they could apply your theory to their work practices as information professionals. You should make an effort to think like the theorist, act like the theorist, and talk like the

theorist. Make sure that you present your theory's novel concepts. As the theorist, you should acknowledge the limitations or weaknesses of your theory at the end of your presentation.

The outline of your presentation will be roughly as follows (feel free to add other aspects if you like):

- Introduction of the theorist (include a photo)
- How did you become interested in particular problems (inquiry)
- Why did you want to develop such a theory (motivation)
- Did you collect empirical data to support your theory? (method – if applicable)
- What's your theory? What is it all about? What did you want to explain? (explanation of theory)
- How can you depict your theory visually? (visual graphics)
- Why do you think that your theory is important for researchers and/or practitioners? (targeted audience for your theory)
- What contributions and implications does your theory offer? (contributions and implications)

Here is the list of theorists you *can* choose. Feel free to select an theorist outside of this list.

February 13 Theorists:

Brenda Dervin: Sense-Making
Marcia Bates: Berrypicking
David Ellis: Information Seeking Behavior Model
Carol Kuhlthau: Information Search Process
Elfreda Chatman: Information Poverty

February 20 Theorists:

Don Norman: Emotional Design
Lucy Suchman: Situated Action
Edwin Hutchins: Distributed Cognition
Peter Pirolli: Information Foraging Theory
Bonnie Nardi: Activity Theory in HCI

Your presentation should be about 20 minutes long. There will be a Q&A session for 10 minutes following your presentation. Prepare your presentation slides and post your file to the Canvas - Discussions before the class. Your grading will be based both on the slides and on the presentation itself. This is the only assignment for which "peer grading" will be integrated into your score. Out of 100 points, my grading will take up 50 points and your classmates' grading (averaged) will take up the other 50 points.

I will post grading rubrics on Canvas – Files – Assignment 1 Grading Rubric

Assignment 2: Diary of Information-Related Activities (20%)

Due date: March 5

Learning objectives: Recognize the challenges of collecting and analyzing data about users' behavior and experience in natural settings (as opposed to lab settings) and find ways to collect and analyze the user data systematically.

This exercise requires that you report on your own information-seeking and use activities. It gives you an opportunity to observe your own behavior, putting you in the role of both a study subject (as an information seeker) and a researcher. Specifically, this assignment involves the following steps:

1. Begin this assignment thinking about the information activities you engage in during a typical day. Select an activity you would like to analyze and report on. Regarding that activity, identify the system, technology, and services that are involved.
2. Once you narrow down a focus for your study of user behavior, you'll need to develop a method and a diary form for keeping track of your actions regarding the system/technology/services. This method should enable you to record multiple "episodes" of information activity.
3. Observe your own information behavior for a continuous 10-hour period and record the behavior systematically using the diary form you have developed. You will need to observe your behavior manually. DO NOT use online tracking tools or apps that are designed to record your online activities.
4. DO NOT record purely internal events, such as your thoughts, feelings, or dreams. Rather, you will need to keep tracking your *interaction* with information. This information could come from a particular system/technology/service, or it could occur across multiple venues.
5. Once you have completed your self-observation, review course readings or theories explained by me or presented by students, including your own, and select one of the models or theories with which to analyze your information behavior. If you think that none of the theories/models we covered in class work for you, feel free to look for a theory or model outside course readings.
6. Discuss the results of your analysis, focusing on the following aspects: How did a particular model/theory affect your interpretation of your information behavior? How useful is the model and theory for explaining your behavior? Your discussion also should demonstrate that you have understood the concepts of information behavior, information needs, information seeking, information use, and information evaluation that you have learned in class so far.

The outline of your paper will be roughly as follows: introduction, data collection methods, data analysis, theory you applied, findings, and conclusion. This assignment should be completed in about 4-5 pages (single-spaced).

I will post grading rubrics on Canvas – Files - Assignment 1 Grading Rubric.

Assignment 3: Non-Participant Observation Fieldwork Report (20%)

Due date: March 26

Learning Objectives: Master the method of taking field notes and identify important patterns of information behavior and user experience.

1. Select a field site where you will observe people's information behavior for a total of about 7 hours (at a minimum). Choose a site that is naturally public (e.g., library, bookstore, cafe, playground, train station, shopping mall, etc.). Do not choose the airport (because of security issues). Do not observe in online settings.
2. Conduct observations for 5 hours. You must make trips to your site about 2-3 times. If possible, try to observe during different time slots (morning, afternoon, evening; weekdays, weekends) in order to capture a variety of different people and activities. All observations should be conducted in the same place. Your role as an observer is as a non-participant, which provides you with the freedom to concentrate entirely on observation and enables you to become very sensitive to the significance of what is occurring.
3. Take field notes following various techniques you learned from class discussions, practices, and

course readings. Field notes are the observer's record of the observation. They include descriptions of the setting and its purpose, who was present and why people appeared to come to the site, a drawing of the setting's layout, documentation of happenings in general and the types of information that people sought or shared in particular.

4. Insert "Observer Comments" into your field notes. Include your thoughts and reflections regarding various issues, such as the process of selecting what was important to capture given all that was occurring, problems in observing and recording, and suggestions for next steps.
5. Review your field notes and identify distinct information behavior patterns that seemed to be repeated or stood out prominently in your observations.
6. Select about 3-5 important information behavior patterns and find relevant field notes that illustrate such patterns with rich descriptions.

The outline of your report will be roughly as follows: introduction, site overview, observation methods, findings, conclusion, and appendix (excerpts of field notes). Your fieldwork report should be about 6-8 pages (single-spaced) not including the appendix.

I will post grading rubrics on Canvas – Files - Assignment 3 Grading Rubric.

Final Project (35%)

Part 1: Title and Abstract: Check-off (Due March 12)

Part 2: Draft of Research Design: 5% (Due April 2)

Part 3: Term Paper: 30% (Due May 7)

Learning Objectives: Apply concepts and methods from the course readings and class discussions to examine the behavior and experience of information users in context and develop new ideas about the design of information products, systems, and services.

Part 1: Project Title and Abstract (Post to the Canvas – Discussion – Final Project Title and Abstract)

For this final project, you are expected to carry out a small but real piece of research by investigating the behavior of a particular group of users. Choose an identifiable context of user behavior to be studied. In previous years, students have written on user behavior in the work contexts of various professionals: engineers, mathematicians, nurses, physicians, journalists, securities analysts, landscape architects, health educators, and college athletic coaches. Others have written on the behavior of a group of people who share similar interests, such as vegetarians, knitters, storytellers, video gamers, first-time home buyers, science fiction fans, homeschooling parents, and individuals with visual disabilities.

In the abstract, describe your motivation for studying this particular user group. State why you think this is an important group of users who are worth investigating. Write 1-2 sentences about your planning for recruitment. Show your excitement about your choice of user group.

Post a project title and abstract on the Canvas -Discuss by March 12. I will provide my feedback and approval to every student via email before March 19. I may ask you to schedule a face-to-face meeting after I review your abstract. You may change your topic completely after discussions with me.

Part 2: Draft of Research Design

Develop 3-4 research questions that you would like to focus on in your project. Then write a draft of your interview questions. The purpose of this Part 2 is to provide you with suggestions and feedback. Students will work on drafting this assignment on March 26 and continue to work on the draft afterwards.

Part 3: Term Paper

1. Finalize a group of users who you think would share behavior in particular contexts.
2. Find literature related to that group of users that can help you to develop interview questions and perceive distinct patterns of user behavior. Include at least 5 publications in your literature review.
3. Recruit 4-5 participants for interviews. Contact them individually to schedule an interview. Plan to conduct each ethnographic interview at the participant's work place or home if possible (wherever their information seeking and use would take place).
4. Conduct ethnographic interviews, which should take about 1-1.5 hours each. Your interview questions should have been reviewed by the instructor and revised at least once at this point. You must audio-record each interview.
5. Transcribe interviews as much as you can.
6. Look for leads, ideas, and issues in the interview transcripts and label them using meaningful words. Combine related ideas and issues and apply themes to organize and categorize data.
7. Write a research paper consisting of five parts, as follows:
 - Introduction: Describe the background and purpose of your study. Justify your choice of context of user behavior – why did you think it would be worth studying?
 - Literature review: Show you have an understanding of related literature and contextualize your topic with previous work.
 - Methods: Discuss in detail the methods, procedures (e.g., when, where, how you collected the data) and instruments (e.g., interview questions) you used.
 - Results: Report your findings. Rather than trying to report on everything you've learned, try to present your "major" findings. You may want to highlight three or four points from your findings.
 - Conclusion: Conclude your paper by discussing the implications of your findings for system design, information services, and/or user/staff training.

Your paper should be about 8-10 pages long (single-spaced). The format for in-text citations and references should follow the Publication Manual of the American Psychological Association (APA Style).

I will post grading rubrics on Canvas – Files – Final Project Grading Rubric.