INF 385T User Behavior and Search Experience
Unique course number: 28295
University of Texas at Austin School of Information Spring 2022

COURSE INFORMATION
Class day and time: Thursdays 3:30 – 6:30 PM
Class location: UTA 1.204

Instructor
Soo Young Rieh, Professor and Associate Dean for Education in the School of Information
Email: rieh@ischool.utexas.edu
Telephone: 512 471 2371
Web: https://rieh.ischool.utexas.edu/
Office Hours: By appointment (email with 3-5 time slots you could meet)

Teaching Assistant
Yao-Cheng Chan
Email: ycchan@utexas.edu
Office Hours: By appointment

COURSE OVERVIEW
The purpose of this course is to provide theoretical and practical foundations for information professionals who wish to design and evaluate search systems and services, taking user-centered approaches. This course explores search user interfaces, search behavior, search interaction, search user experience, and measures and methods for evaluating search systems. Students will have opportunities to discuss information-seeking behavior in contexts such as academic settings, professional work settings, everyday life, and digital learning environments. Students will learn about the nature of interaction with information in a variety of application areas, including web search engines, domain-specific search systems, digital libraries, collaborative search, and social search.

LEARNING OBJECTIVES
Upon completion of this course, students will be able to:
1. Understand the fundamental concepts and major models in the field of interactive information retrieval, information seeking behavior, and human information interaction.
2. Analyze the behavior and experience of information users in order to provide effective information systems and services.
3. Gain knowledge in user experience with various search interfaces.
4. Gain skills in designing experimental studies to evaluate information retrieval systems.
5. Have an ability to apply appropriate criteria and measures for information retrieval evaluation.
6. Incorporate strong user-centered perspectives into the design and development of search systems and services.

COURSE MATERIALS
The readings are available on the Canvas site. There is no textbook for this course.

EXPECTATIONS
1) **Course Readings**: Read the course readings critically in advance of the class session. The readings are available on the Canvas site.

2) **Before-Class Questions “What I want to know” and After-Class Reflections “What I learned this week”**: Post your questions and reflections frequently.

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

**COURSE REQUIREMENTS AND EVALUATION**

- In-Class and Online Participation: 10%
- Before-Class Questions and After-Class Reflection: 10%
- Assignment 1: SERP (Search Engine Results Page) Analysis and Critique Assignment: 20%
- Assignment 2: Diary of Information Behavior: 20%
- Term Project: Complete one of the following two options.
  - Project A: Search System Evaluation Research Proposal
  - Project B: Information Behavior of a User Group
    - Part 1: Title and Abstract
    - Part 2: Project Research Design: 10%
    - Part 3: Pilot Study and Proposal: 30%

**POINTS AND LETTER GRADE**

- 95-100 = A
- 90-94.9 = A-
- 88-89.9 = B+
- 85-87.9 = B
- 80-84.9 = B-
- 78-79.9 = C+
- 75-77.9 = C
- 70-74.9 = C-

**SCHEDULE OF CLASSES AND READINGS**

**COURSE SCHEDULE**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
<th>Assignment due at Noon on this date</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>1/20/22</td>
<td>Introduction</td>
<td>No reading</td>
<td></td>
</tr>
<tr>
<td>W2</td>
<td>1/27/22</td>
<td>Information seeking and search behavior</td>
<td>White; Fidel</td>
<td></td>
</tr>
<tr>
<td>W3</td>
<td>2/3/22</td>
<td>Search user interface design</td>
<td>Hearst; Wilson</td>
<td></td>
</tr>
<tr>
<td>W4</td>
<td>2/10/22</td>
<td>Exploratory search; visualization of search results</td>
<td>White &amp; Roth; Russell-Rose &amp; Tate</td>
<td></td>
</tr>
<tr>
<td>W5</td>
<td>2/17/22</td>
<td>Relevance and credibility</td>
<td>Saracevic; Kattenbeck &amp; Elsweiler</td>
<td>Assignment 1: SERP Analysis and Critique</td>
</tr>
<tr>
<td>W6</td>
<td>2/24/22</td>
<td>Methods for studying user behavior and experience</td>
<td>Case &amp; Given; White</td>
<td>Term paper title and abstract</td>
</tr>
<tr>
<td>W7</td>
<td>3/3/22</td>
<td>IR user study design and evaluation measures</td>
<td>White; Liu &amp; Shah</td>
<td></td>
</tr>
<tr>
<td>W8</td>
<td>3/10/22</td>
<td>Ethnographic approach to user behavior research</td>
<td>Dourish &amp; Bell; Fetterman</td>
<td>Assignment 2: Diary of Information Behavior</td>
</tr>
<tr>
<td>W9</td>
<td>3/17/22</td>
<td>Spring Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W10</td>
<td>3/24/22</td>
<td>Workshop Day on research design</td>
<td>Kelly; Spradley</td>
<td></td>
</tr>
</tbody>
</table>
UNIT 1: FOUNDATIONS

Week 1 (January 20): Introduction to user behavior and search experience
No Reading

Week 2 (January 27): Information seeking and searching behavior - core concepts

Week 3 (February 3): Search user interface design

Week 4 (February 10): Exploratory search; Visualization of search results

Week 5 (February 17): Relevance and Credibility

UNIT 2: APPROACHES AND METHODS
Week 6 (February 24): Methods for studying user behavior and experience


Week 7 (March 3): IR user study design and evaluation measures


Week 8 (March 10): Ethnographic interview: Data collection and analysis


Week 9 (March 17): Spring Break

Week 10 (March 24): Workshop on Research Design

- Spradley, J. P. The Ethnographic Interview. Harcourt Brace Jovanovich College Publishers, 1979, Chapter 2 Interviewing an informant (pp. 55-68) and Chapter 4 Asking descriptive questions (pp. 78-105).

UNIT 3: USER BEHAVIOR AND SEARCH EXPERIENCE IN CONTEXT

Week 11 (March 31): User behavior in academic and professional work settings


Week 12 (April 7): User behavior in everyday life


Week 13 (April 14): Social search; user behavior in social media

Week 14 (April 21): Youth information behavior and digital literacies

Week 15 (April 28): Search as learning; Search and Creativity

Week 16 (May 6): Wrap-up; Discussion of term project

COURSE POLICIES AND DISCLOSURES
1. Email is the most reliable communication method with the instructor. Please include “INF 385T” or “User Behavior Class” in a subject line. Do not use the messaging feature in Canvas because it is often getting lost. Although I will try my best to answer your questions 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.
2. Zoom Classroom Etiquette: Plan to have your video and microphone turned on during the class. If you do not have appropriate technology/devices to participate in class, let me know ASAP.
3. Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings should not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.
4. 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 (3 points per day, including weekends).
5. 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.
6. Assignment guidelines and rubrics for each assignment will be available on Canvas – Assignments.
7. All assignments should be handed in using Canvas.
8. 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 (no cover page).
9. All citations should use APA (American Psychological Association) style. For more information on APA style, please see the Purdue University OWL guide: https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html

COURSE REQUIREMENTS, 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. 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 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 frequently. Absent from 1-2 class sessions 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 once in a while. Absent from 3 class sessions. Arrives to class late occasionally.

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

Online Discussions (10%)
Before-Class Questions “What I want to know”: Post one question to Canvas Discussions. 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 3-4 “best questions” each week and discuss selected questions during class. To be selected as best questions, your question(s) must be posted 24 hours in advance of the class time (Wednesdays 3:30 PM). However, feel free to post your questions after Wednesday, or even after the class. Include your name and date when you post your question.

After-Class Reflections “What I learned this week”: Once the class is over each week, go back to the Discussion and write up your reflections about the lectures, readings, and class 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 post.

Assignment 1: SERP Analysis and Critique (20%)
The purpose of this assignment is to enable you to develop insights into search interface design challenges, focusing on the presentation of a SERP (search engine results page). Even though the assignment title specifies “search engine,” you may indeed choose any search system that has unique ways of presenting search results. I’d encourage you to look at a number of examples before you select a system. I want you to choose an exemplary SERP that serves as the critical juncture that allows users to understand content, customize parameters, choose next steps, or admit they need help.

Imagine a situation in which you are a search expert and you are invited to contribute an article to a professional magazine. You will be expected to write a compelling, creative, interesting, persuasive, and thoughtful piece. Presentation of your analysis and critique would also matter in this scenario. Include your photo along with a short biography at the end of your paper.

Your paper should include the following elements.
- How users would typically interact with the search system
- Anatomy of the SERP
- Table of surrogates
- Analysis of your own search experience
- Recommendation of the system for a particular user group

The outline of your paper will be roughly as follows:
- Introduce the search system. Be explicit about your IR interaction context – specify in what context(s) you would use this search system. Include the purpose, scope, and any other unique search features.
- Present the anatomy of the SERP. Anatomy helps you dissect the whole (page) to study its parts (elements). Include a screenshot and identify every element presented in the SERP. You can identify each element in terms of name, attribute, function, and value of service.
- Make a table displaying the kinds of surrogates used in the SERP, and how each surrogate helps you make a sense of information objects stored in the system.
- Report the results of your search experience, considering how you would use the system. As an expert, you should come up with a range of typical search tasks people might try using the system, and analyze your own search experience. How easy is it for you to understand the search results? How useful is a particular feature in the system? Did you have any experience of feeling lost?
- In your conclusion, discuss what kinds of design decisions – good or bad – have led you to have a positive or negative search experience. Highlight one best and one worst design decisions, and how such decisions would influence targeted searchers’ search experiences.

This assignment should be completed in about five pages (single-spaced). The page limit is NOT strict (no penalty if your paper goes beyond 5 pages).

Assignment 2: Diary of Information Behavior (20%)
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 existing 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 track 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, select one of the models and theories, including the ones covered in readings and lectures, in order to analyze your information behavior.
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 to interpret findings
- Findings
- Conclusion

This assignment should be completed in about five pages (single-spaced). The page limit is NOT strict (no penalty if your paper goes beyond 5 pages).

**Term Project A: Search System Evaluation Research Project**

**Part 1: Title and Abstract (check-off)**

**Part 2: Research Design Draft (10%)**

**Part 3: Project Proposal (30%)**

**Part 1: Project Title and Abstract**

Email me a title and an abstract (approximately 300 words) of your project. A subject line must include ‘Term Project.’ You will need to get the approval from me. Describe a search system that you’ll evaluate, rationale for selecting the system, and methods.

**Part 2: Project Research Design Draft (10%)**

Designing a user-centered evaluation study involves making many decisions about research methods. The purpose of this assignment is to give you my feedback. I strongly encourage you to have a meeting with the instructor if you would like to receive more specific feedback from me.

Try to include the following elements in your assignment:
- What kind of evaluation study you want to do (scope, focus)
- What IR system you will test
- The population and sample of IR system users
- Evaluation criteria and measures
- Experimental procedures
- Data collection instruments such as questionnaires and exit-interview questions

**Part 3: Project Proposal (30%)**

Once you have made all the decisions listed above and you feel confident that your data collection instruments are ready and experimental procedures are finalized:
1. First write up the methods section for your paper. The most critical part of this paper is the section on methods. You need to describe the methods you’ll use, including the following components: justification of sample; how and where subjects would be identified and recruited; descriptions of criteria and measurements that would be used; data collection instruments (questionnaires and/or interview questions); and study procedures, such as duration of subject participation and location of study.
2. Start recruiting test subjects. You should recruit subjects who are close to the population of your IR system. It may take quite a lot of time for you to find test subjects, so start scheduling with subjects early.
3. Run your experiments with 4-5 subjects remotely. Take notes while running experiments so that you can keep track of what seems to be working as you expected and what is not working well. Again, keep in mind that the nature of this project is to write a proposal and that you are going to write up how you are going to make revisions based on your pilot tests. Therefore, notes you take during the experiments will be critical for your paper.

4. Collect the data using various instruments you have developed. Enter the data using Excel or any other software and transcribe your interviews if you conducted exit interviews.

5. Analyze both quantitative (logs or questionnaires) and qualitative data (interviews or think-aloud). Interpret the results and think through why you have such results. If there were some aspects that did not work out as you expected, speculate about why something did not work out.

6. Report on the results of your experiments. Describe what specific changes you are going to make based on your pilot tests in terms of data collection instruments, study subject sample, and experimental protocols. Also, include general lessons you learned from this project.

7. Discuss the limitations of your study.

8. In the conclusion, make suggestions regarding “next steps” for the future.

The outline of your project proposal should be as follows:
- Introduction – motivation of your project and background
- System – introduce the specific system you evaluated and highlight unique features or techniques you focused on
- Methods – search tasks, subjects, data collection procedures
- Results – subject profiles, characteristics of subjects, other findings
- Discussion – interpretation of findings, surprises, verifications, limitations, weaknesses, revision plans, etc.
- Conclusion – what you learned, future steps
- References
- Appendices (data collection instruments)

The paper should be approximately 8-10 pages long (single-spaced). The page limit is NOT strict (no penalty if your paper goes beyond 10 pages). Appendices and references will not be counted toward the 10-page limit.

**Term Project B: Information Behavior of a User Group Project**

**Part 1: Title and Abstract (check-off)**

**Part 2: Research Design Draft (10%)**

**Part 3: Project Proposal (30%)**

For this final project, you are expected to carry out a small but real piece of research by investigating the information behavior of a particular group of information users. Choose an identifiable context of information behavior to be studied. In previous years, students have written on information 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 information 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.
**Part 1:** Email me a title and an abstract (approximately 300 words) of your project. A subject line must include ‘Term Project.’ You will need to get the approval from me. 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.

**Part 2:** Write a draft of your interview questions. The purpose of this Part 2 is to provide you with suggestions and feedback. I strongly encourage you to have a meeting with me if you would like to receive more specific feedback from me.

**Part 3: Term Paper**
1. Finalize a group of information users who you think would share information behavior in particular contexts.
2. Find literature related to that group of information users that can help you to develop interview questions and perceive distinct patterns of information behavior. Include at least 5 publications in your literature review.
3. Recruit 4-5 participants for interviews. Contact them individually to schedule an interview.
4. Conduct ethnographic interviews on Zoom, which should take about 1 hour 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.

The outline of your project should be as follows:
- Introduction: Describe the background and purpose of your study. Justify your choice of context of information behavior – why did you think it would be worth studying?
- Literature review: Show you understand 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.

The paper should be approximately 8-10 pages long (single-spaced). The page limit is NOT strict (no penalty if your paper goes beyond 10 pages). Appendices and references will not be counted toward the 10-page limit.

**CLASSROOM SAFETY AND COVID-19**
To help preserve our in-person learning environment, the university recommends the following.
- Adhere to university mask guidance. Masks are strongly recommended, but optional, inside university buildings for vaccinated and unvaccinated individuals, except when alone in a private office or single-occupant cubicle.
• **Vaccinations are widely available**, free and not billed to health insurance. The vaccine will help protect against the transmission of the virus to others and reduce serious symptoms in those who are vaccinated.

• **Proactive Community Testing** remains an important part of the university's efforts to protect our community. Tests are fast and free.

• We encourage the use of the [Protect Texas App](https://protect.texas.gov) each day prior to coming to campus.

• If you develop COVID-19 symptoms or feel sick, stay home and contact the [University Health Services' Nurse Advice Line](tel:512-475-6877) at 512-475-6877. If you need to be absent from class, contact [Student Emergency Services](mailto:studentemergency@austin.utexas.edu) and they will notify your professors. In addition, to help understand what to do if you have been had close contact with someone who tested positive for COVID-19, see this [University Health Services link](https://www.austin.utexas.edu/uh/about/). If you feel ill, please stay home. If you need to be absent from class, contact [Student Emergency Services](mailto:studentemergency@austin.utexas.edu) and they will notify your professors.

• [Behavior Concerns and COVID-19 Advice Line](https://bcco.utexas.edu) (BCCAL) remains available as the primary tool to address questions or concerns from the university community about COVID-19.

• Students who test positive should contact [BCCAL](https://bcco.utexas.edu) or self-report (if tested off campus) to [University Health Services](https://www.austin.utexas.edu/uh/about/).

• Visit [Protect Texas Together](https://protect.texas.gov) for more information.

**TITLE IX DISCLOSURE**

Faculty members and certain staff members are considered “Responsible Employees” or “Mandatory Reporters,” which means that they are required to report violations of Title IX to the Title IX Coordinator. I am a Responsible Employee and must report any Title IX-related incidents that are disclosed in writing, discussion, or one-on-one. Before talking with me or with any faculty or staff member about a Title IX-related incident, be sure to ask whether they are a responsible employee. If you want to speak with someone for support or remedies without making an official report to the university, email [advocate@austin.utexas.edu](mailto:advocate@austin.utexas.edu) For more information about reporting options and resources, visit the [Title IX Office](https://titleix.utexas.edu) or email [titleix@austin.utexas.edu](mailto:titleix@austin.utexas.edu).

**SERVICES FOR STUDENTS WITH DISABILITIES (SSD)**

The university is committed to creating an accessible and inclusive learning environment consistent with university policy and federal and state law. Please let me know if you experience any barriers to learning so I can work with you to ensure you have equal opportunity to participate fully in this course. If you are a student with a disability, or think you may have a disability, and need accommodations please contact Services for Students with Disabilities (SSD). Please refer to SSD’s website for contact and more information: [http://diversity.utexas.edu/disability/](http://diversity.utexas.edu/disability/). If you are already registered with SSD, please deliver your Accommodation Letter to me as early as possible in the semester so we can discuss your approved accommodations and needs in this course.

**COUNSELING AND MENTAL HEALTH CENTER (CMHC)**

If immediate mental health assistance is needed, call the Counseling and Mental Health Center (CMHC) at 512-471-3515 or you may also contact Bryce Moffett, LCSW (iSchool CARE counselor) at 512-232-2983. Outside CMHC business hours (8a.m.-5p.m., Monday-Friday), contact the CMHC 24/7 Crisis Line at 512-471-2255.