Required Reading List (Spring 2021)

This class has two reading lists: a list of required readings, and a list of recommended readings. The required readings will be useful to your assignments and projects, and will also be tested more explicitly on the two course tests. The recommended readings are more generally foundational books, papers, and courses on HCI in general.

Required Reading List

On average, you can expect to spend 1 to 2 hours reading per week. The topics of these papers fall into two categories: some are thorough, retrospective overviews of decades of HCI research; some are foundational, seminal works in the field of HCI; and some are cutting-edge research from the most recent HCI-related conferences and journals.

The information contained in these readings will be useful as you complete your assignments and projects, but it will also be tested explicitly on the course tests. Ten questions on each test will be based on these readings. From the perspective of the test, your emphasis in reading these papers should be in getting a sufficient understanding of the material to answer high-level questions about the paper, as well as to be able to find answers quickly for more specific questions.

Note that the weeks in this list represent the week of content most relevant to the listed readings. However, we know that there will be weeks when you are busier than others, and you may not be able to complete a week's readings during that particular week. The only assessments dependent on having completed these readings are the tests, so you need only worry about completing the readings by the date of the next test.

We recommend reading How to Read an Academic Paper from CS6460 to better understand how to fit some of these readings into our estimated 1-2 hours per week.

Week 1: Foundations of HCI	• MacKenzie, I.S. (2013). Chapter 1: Historical Context. *Human-Computer Interaction: An Empirical Research Perspective*. (pp. 1-26). Waltham, MA: Elsevier. • Norman, D. (2013). Chapter 1: The Psychopathology of Everyday Things. In *The Design of Everyday Things: Revised and Expanded Edition*. (pp. 1-36). Arizona: Basic Books.

Week 2: Principles and Feedback Cycles	• Norman, D. A. (1986). Cognitive engineering. In D. A. Norman & S. W. Draper (Eds.) *User-Centered System Design: New Perspectives on Human-Computer Interaction*. (pp. 32-61). Hillsdale, NJ: Lawrence Erlbaum Associates. • Norman, D. (2013). Chapter 2: The Psychology of Everyday Actions. In *The Design of Everyday Things: Revised and Expanded Edition*. (pp. 37-73). Arizona: Basic Books.
Week 3: Research Ethics and Needfinding	• MacKenzie, I.S. (2013). Chapter 4: Scientific Foundations. *Human-Computer Interaction: An Empirical Research Perspective*. (pp. 121-152). Waltham, MA: Elsevier. • Müller, H., Sedley, A., & Ferrall-Nunge, E. (2014). Survey research in HCI. In J. Olson & W. Kellogg (Eds.) *Ways of Knowing in HCI* (pp. 229-266). New York: Springer.
Week 4: Invisible Interfaces and Human Abilities	• MacKenzie, I.S. (2013). Chapter 2: The Human Factor. *Human-Computer Interaction: An Empirical Research Perspective*. (pp. 27-66). Waltham, MA: Elsevier. • Hutchins, E. L., Hollan, J. D., & Norman, D. A. (1985). Direct manipulation interfaces. *Human–Computer Interaction*, *1*(4), 311-338.
Week 5: Design Alternatives	• Faste, H., Rachmel, N., Essary, R., & Sheehan, E. (2013, April). Brainstorm, Chainstorm, Cheatstorm, Tweetstorm: new ideation strategies for distributed HCI design. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 1343-1352). ACM. • Yang, M. C. (2009). Observations on concept generation and sketching in engineering design. *Research in Engineering Design*, *20*(1), 1-11. • Rogers, Y., Sharp, H., & Preece, J. (2011). Chapter 6: The Process of Interaction Design. In *Interaction*

	Design: Beyond Human-Computer Interaction. John Wiley & Sons.
Week 6: Mental Models and Representations	• MacKenzie, I.S. (2013). Section 3.4: Mental Models & Metaphor. *Human-Computer Interaction: An Empirical Research Perspective*. (pp. 88-92). Waltham, MA: Elsevier. • MacKenzie, I.S. (2013). Section 3.8: Interaction errors. *Human-Computer Interaction: An Empirical Research Perspective*. (pp. 111-116). Waltham, MA: Elsevier. • Norman, D. (2013). Chapter 5: Human Error? No, Bad Design. In *The Design of Everyday Things: Revised and Expanded Edition*. (pp. 162-216). Arizona: Basic Books. • Mander, R., Salomon, G., & Wong, Y. Y. (1992, June). A "pile" metaphor for supporting casual organization of information. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 627-634). ACM.
END OF MATERIAL FOR TEST 1	
Week 7: Prototyping	• Houde, S., & Hill, C. (1997). What do prototypes prototype? In M. Helandar, T.K. Landaeur, & P. Prabhu (Eds). *Handbook of Human-Computer Interaction*, *2.* (pp. 367-381). Elsevier Science. • Beaudouin-Lafon, M., & Mackay, W. (2003). Prototyping tools and techniques. *Human Computer Interaction-Development Process.* (pp. 101-142).
Week 8: Context and Distributed Cognition	• Hutchins, E. (1995). How a cockpit remembers its speeds. *Cognitive Science*, *19*(3). (pp. 265-288). • Nardi, B. (1992). Studying context: A comparison of activity theory, situated action models and distributed cognition. In B. Nardi (Ed.) *Context and Consciousness: Activity Theory and Human-Computer Interaction*. (pp. 35-52). MIT Press.
Week 9:	• MacKenzie, I.S. (2013). Chapter 5: Designing HCI

Experiments and Evaluation	Experiments. *Human-Computer Interaction: An Empirical Research Perspective*. (pp. 157-188). Waltham, MA: Elsevier. • Nielsen, J., & Molich, R. (1990, March). Heuristic evaluation of user interfaces. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 249-256). ACM.
Week 10: Artifacts, Interfaces, and Politics	• Winner, L. (1980). Do Artifacts Have Politics? In *Daedalus 109*(1). (pp. 121-136). MIT Press. • Cowan, R. S. (1976). The "industrial revolution" in the home: Household technology and social change in the 20 century. *Technology and Culture 17*(1). (pp. 1-23). Johns Hopkins University Press. • Friedman, B., Kahn Jr, P. H., Borning, A., & Huldtgren, A. (2013). Value Sensitive Design and Information Systems. In P. Zhang & D. Galletta (Eds.) *Human-Computer Interaction in Management Information Systems: Foundations.* New York: M.E. Sharpe, Inc.
Week 11: Evaluation and Agile Development	• Polson, P. G., Lewis, C., Rieman, J., & Wharton, C. (1992). Cognitive walkthroughs: a method for theory-based evaluation of user interfaces. *International Journal of Man-Machine Studies*, *36*(5). (pp. 741-773). • Wania, C. E., Atwood, M. E., & McCain, K. W. (2006, June). How do design and evaluation interrelate in HCI research? In *Proceedings of the 6 Conference on Designing Interactive Systems.* (pp. 90-98). ACM. • Chamberlain, S., Sharp, H., & Maiden, N. (2006). Towards a framework for integrating agile development and user-centered design. In *Proceedings of the 4 International Conference on Extreme Programming and Agile Processes in Software Engineering.* (pp. 143-153). Springer.
Week 12: Best of CHI 2019	• Mekler, E. & Hornbæk, K. (2019). A Framework for the Experience of Meaning in Human-Computer Interaction. In *Proceedings of the 2019 CHI*

	Conference on Human Factors in Computing Systems. ACM. • Eiselmayer, A., Wacharamanotham, C., Beaudouin-Lafon, M., & Mackay, W. (2019). Touchstone2: An Interactive Environment for Exploring Trade-offs in HCI Experiment Design. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM. • Dillahunt, T., Simioni, S., & Xu, X. (2019). Online Grocery Delivery Services: An Opportunity to Address Food Disparities in Transportation-scarce Areas. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM. • Sambasivan, N., Batool, A., Ahmed, N., Matthews, T., Thomas, K., Gaytán-Lugo, L., Nemer, D., Bursztein, E., Churchill, E., & Consolvo, S. (2019). "They Don't Leave Us Alone Anywhere We Go": Gender and Digital Abuse in South Asia. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM. • Badillo-Urquiola, K., Page, X., & Wisniewski, P. (2019). Risk vs. Restriction: The Tension between Providing a Sense of Normalcy and Keeping Foster Teens Safe Online. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM. • Assal, H. & Chiasson, S. (2019). 'Think secure from the beginning': A Survey with Software Developers. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM. • Hiniker, A., Froehlich, J., Zhang, M., & Beneteau, E. (2019). Anchored Audio Sampling: A Seamless Method for Exploring Children's Thoughts During Deployment Studies. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM.
Week 13: Best of Georgia Tech HCI	• Liu, Z., Nersessian, N., & Stasko, J. (2008). Distributed cognition as a theoretical framework for information visualization. *IEEE Transactions on*

Visualization and Computer Graphics, *14*(6). (pp. 1173-1180).

- Kidd, C., Orr, R., Abowd, G., Atkeson, C., Essa, I., MacIntyre, B., Mynatt, E., Starner, T. & Newstetter, W. (1999). The aware home: A living laboratory for ubiquitous computing research. In N. Streitz, S. Konomi, & H. Burkhardt (Eds.) *Cooperative Buildings: Integrating Information, Organizations, and Architecture* (pp. 191-198).
- Chancellor S., Nitzburg, G., Hu, A., Zampieri, F., & Choudhury, M. (2019). Discovering Alternative Treatments for Opioid Use Recovery Using Social Media. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM.
- Kozubaev, S., Rochaix, F., DiSalvo, C., & Le Dantec, C. (2019). Spaces and Traces: Implications of Smart Technology in Public Housing. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM.
- Deeb-Swihart, J., Endert, A., & Bruckman, A. (2019). Understanding Law Enforcement Strategies and Needs for Combating Human Trafficking. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM.
- Shahmiri, F., Chen, C., Waghmare, A., Zhang, D., Mittal, S., Zhang, S., Wang, Y., Wang, Z., Starner, T., & Abowd, G. (2019). Serpentine: A Self-Powered Reversibly Deformable Cord Sensor for Human Input. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM.
- Wong-Villacres, M., Kumar, N., & DiSalvo, B. (2019). The Parenting Actor-Network of Latino Immigrants in the United States. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM.
- Joyner, D. (2019). The CHI of Teaching Online: Blurring the Lines Between User Interfaces and Learner Interfaces. In E. Kapros & M. Koutsombogera (Eds.) *Designing for the User*

	Experience in Learning Systems, Human-Computer Interaction Series. Springer.
END OF MATERIAL FOR TEST 2	

Recommended Reading List

HCI is a huge field, and there's always more to read; in addition to the required papers and chapters above, there are also several books, other papers, and other courses online that we recommend checking out. None of these are tested explicitly in any work required for the class, but they would certainly benefit both your work here as well as your future pursuits.

Books

The following books are seminal HCI literature and could be read in parallel to any course material.

- The Design of Everyday Things by Don Norman
- The Inmates Are Running the Asylum by Alan Cooper
- Human-Computer Interaction by Alan Dix, Janet Finlay, Gregory Abowd, and Russell Beale
- Interaction Design: Beyond Human-Computer Interaction by Yvonne Rogers, Jelen Sharp, and Jenny Preece
- Designing with the Mind in Mind by Jeff Johnson
- Observing the User Experience: A Practitioner's Guide to User Research by Elizabeth Goodman, Mike Kuniavsky, and Andrea Moed
- Research Methods in Human-Computer Interaction by Jonathan Lazar, Jinjuan Heidi Feng, and Harry Hochheiser
- Understanding Your Users: A Practical Guide to User Requirements Methods, Tools, and Techniques by Catherine Courage and Kathy Baxter
- Tools for Thought by Howard Rheingold

Papers

In addition to these books, there are several excellent readings that complement specific lessons or concepts from HCI. Many of these papers will be discussed during those lessons, but we have also provided a list of recommended papers and their corresponding lessons and topics. Where available, links go to the paper; if a link is not available, you should be able to locate the paper through the Georgia Tech library or, if noted, the Files folder on Canvas.

Courses

There are also a number of high-quality courses offered by other instructors and institutions that may be of interest to further developing your knowledge of HCI.

- Intro to Design of Everyday Things from UC-San Diego's Don Norman (on Udacity)
- Introduction to User Experience Design from Georgia Tech's Rosa Arriaga (on Coursera)
- UX Design from the University of Michigan's Mark Newman (on EdX)
- Interaction Design Specialization from UC-San Diego's Scott Klemmer, Elizabeth Gerber, and Jason Wobbrock (on Coursera)
- UI Design Specialization from the University of Minnesota's Lana Yarosh, Haiyi Zhu, Loren Terveen, Joseph Konstan, and Brent Hecht
- UX Design for Mobile Developers, Rapid Prototyping, and Product Design from Google (on Udacity)
- The Interaction Design Foundation, home to dozens of classes on interaction design