



Course program and reading list

Semester 1 Year 2023

School: Sammy Ofer School of Communications M.A.

Contemporary Topics in HCI: Key Trends and Open Questions

Lecturer:

Prof. Oren Zuckerman orenz@runi.ac.il

Teaching Assistant:

Ms. Talia Ezer talia.ezer@post.runi.ac.il

Course No.:	Course Type :	Weekly Hours :	Credit:
2875	Lecture	2	2

Course Requirements :	Group Code :	Language:
Final Paper	231287500	English



Course Description

In this fast-paced lecture series, students will read, present, and critically discuss seminal and recent research papers in HCI. Students will learn how to search, read, analyze, and critique HCI papers. Students will also learn how to conduct a "related work" meta-analysis, how to write a "related work" section for an academic paper, and how to leverage it to generate new and purposeful research questions. Topics include Human-Centered Computing, Approaches to Ubiquitous Computing, Tangible User Interfaces, and Material User Interfaces, Human-Robot Interaction, Spatial Computing (VR and AR), Speculative Design and Design Research, AI and Human-Centered Machine Learning, and more. In each session, we will discuss the paper's research method, the impact on the HCI community and society, and list the open questions that can inspire follow-up research.

Classes sessions overview:

- Class 1: Introduction to HCI

- Course overview (structure, expectations, assignments, readings)
 - How to search, classify (Types of HCI works) and read HCI papers
 - How to summarize an HCI article/book
 - How to prepare a flash presentation

 - Classes 2-6, 8-11: HCI Domain-Specific
 - Each of these 9 classes will be dedicated to a different domain in HCI
 - List of domains: Tangible User Interfaces; Human-Robot Interaction; Interactive Art; Ubiquitous Computing; Voice-User Interfaces; Meaning-centered HCI; Human-mobile interaction; Human-VR/AR interaction; Neuroscience HCI, Human-AI interaction.
 - In each class, 2-3 pairs of students will present an HCI work in that domain
 - Review students' paper choices
 - How to search, classify and read HCI papers in various domains
 - Learn how to develop critical thinking on HCI works

 - Special Class: HCI History
 - Overview of key writings or videos from the history of HCI, according to a predefined list
 - Students will be given a list of (1) Source publications and (2) Expert reflection papers written on the source publications. Each student group will choose a set of Source + Reflection text, read it, discuss it as a team, and then submit a short video summary in which they present the essence of these texts. Then, all class members will watch those videos, to gain a good overview of HCI history.

 - Last class: We will discuss the final assignment: How to write an HCI research proposal
 - How to write a research proposal, including: abstract, introduction, related work, proposed research question, proposed system, proposed method, conclusion.
-



Course Goals

Course goals:

- Learn how to search, read, present and critique HCI papers
 - Analyze each of the contemporary interaction trends, using recently published papers
 - Learn about key researchers in the field, both classics, and contemporary
 - Understand HCI history and main research trends
 - Learn how to write an academic research proposal
 - Learn how to conduct a "related work" analysis (meta-analysis)
 - Learn how to write a "related work" section of an academic paper
 - Learn how to leverage a "related work" analysis to define new research questions
-



Grading

Course requirements:

1. Class attendance and participation
2. Reading assignments, paper presentations, and reflective writing assignments
3. Final assignment: a research proposal


Assignments and grade composition:

- Pass/fail assignments:
 - Flash presentation on specific HCI domain (present in class) - group assignment
 - Search and review HCI paper - individual assignment
 - Graded assignments:
 - Two Personal Reflection Papers - individual assignment (30%)
 - HCI History: video presentation - group assignment (20%)
 - Final assignment: Research proposal - individual assignment (50%)
-



Lecturer Office Hours

By appointment - contact through Teams

 Teaching Assistant

Talia Ezer - contact through Teams

 Reading List

- Each session will have designated HCI papers as readings, selected by the students from the HCI academic databases.
- The HCI history briefs task includes the following readings:
 - Pulfer, J. K. (1971). Man-machine interaction in creative applications. *International Journal of Man-Machine Studies*, 3(1), 1-11.
 - Buxton, W. (2008). My vision isn't my vision: Making a career out of getting back to where I started. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community*, 7-12, Cambridge MA: MIT Press.
 - D. Englebart, 1968: "The oNLine System (NLS) Demo", also in Engelbart, D. C. (1968). The mother of all demos. In *Fall Joint Computer Conference*, San Francisco, Dec (Vol. 9).
 - Ju, W. (2008). The mouse, the demo & the big idea. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community*, 29-33, Cambridge MA: MIT Press.
 - Papert, S. (1980). *Mindstorms: Computers, children, and powerful ideas*. NY: Basic Books, 255.
 - Bruckman, A. (2007). Back to Samba School: Revisiting Seymour Papert's Ideas on Community, Culture, Computers, and Learning. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community*, 93-96, Cambridge MA: MIT Press.
 - J. J. Gibson, 1966: *The Senses Considered as Perceptual Systems*
 - Gaver, B. (2008). A source of stimulation: Gibson's account of the environment. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community*, 269-273, Cambridge MA: MIT Press.
 - H. Dreyfuss, 1955: *Designing for People*
 - Winograd, T. (2008). *Discovering America*. In T. Erickson and D. McDonald

(eds.), *HCI Remixed: Reflections on works that have influenced the HCI community, 193-198*, Cambridge MA: MIT Press.

- J. Lovelock, 1979: *Gaia: A New Look at Life on Earth*
- Mackay, W. E. (2007). From Gaia to HCI: on multi-disciplinary design and co-adaptation. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community, 247-251*, Cambridge MA: MIT Press.
- Kidd, A. (1994, April). The marks are on the knowledge worker. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 186-191).
- Whittaker, S. (2008). Making sense of sensemaking. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community, 173-178*, Cambridge MA: MIT Press.
- Smith, B. C. (1996). *On the Origin of Objects*. A Bradford Book.
- Dourish, P. (2007). Play, Flex, and Slop: Sociality and Intentionality. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community, 305-308*, Cambridge MA: MIT Press.
- K. Galloway and S. Rabinowitz, 1980: *Hole in Space* (video)
- Harrison, S. (2008). Seeing the Hole in Space. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community, 155-159*, Cambridge MA: MIT Press.
- Small, D., Ishizaki, S., & Cooper, M. (1994, April). Typographic space. In *Conference companion on Human factors in computing systems* (pp. 437-438).
- Forlizzi, J. (2007). *Typographic Space: A Fusion of Design and Technology*. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community, 167-171*, Cambridge MA: MIT Press.
- Larkin, J. H., & Simon, H. A. (1987). Why a diagram is (sometimes) worth ten thousand words. *Cognitive science*, 11(1), 65-100.
- Rogers, Y. (2007). When the External Entered HCI: Designing Effective Representations. In T. Erickson and D. McDonald (eds.), *HCI Remixed: Reflections on works that have influenced the HCI community, 275-279*, Cambridge MA: MIT Press.
- For the the Meaning-centered and Ethics-centered HCI domain-specific class (#10), you will be asked to read the following paper (by 30.12.20):
 - Harrison, S., Tatar, D., & Sengers, P. (2007). The three paradigms of HCI. alt. In CHI'07.