



Introduction to COMP4461:

Human-Computer Interaction



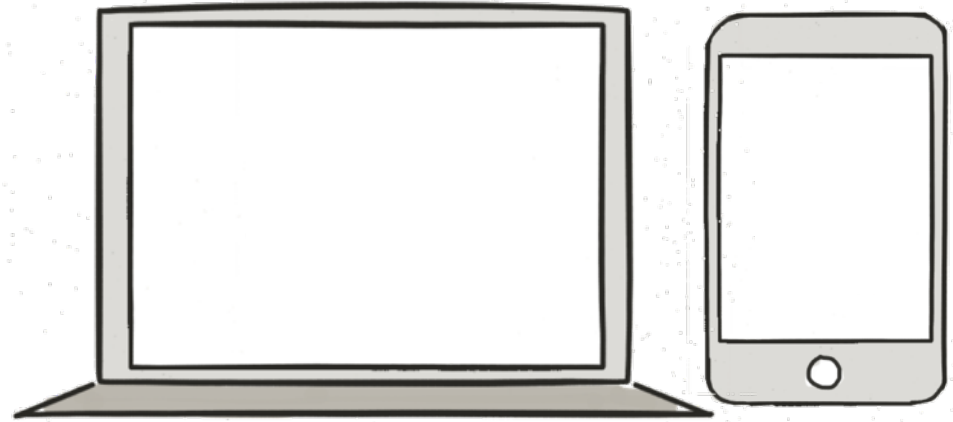
Xiaojuan Ma

Fall 2020




About this Course

- Instructor
 - Xiaojuan Ma
 - Email: mxj@cse.ust.hk
 - Office: RM3507
- TA
 - Chuhan Shi (cshiag@connect.ust.hk)
 - Office hour: Tu 9:00 - 9:50AM (original lab time)
- Time and Location
 - Lecture: TTh 4:30pm – 5:50pm @ Zoom link on canvas
 - Lab: 2 lab sessions (see course syllabus: by TA)






Course Website and Space

- Course website:
<http://home.cse.ust.hk/~mxj/page/COMP4461-202009.html>
<https://canvas.ust.hk/courses/33299>
- Team Link: <https://comp4461.slack.com/>
- We will use  **slack** for course communication
 - Make course announcement
 - Publish course materials
 - Submit assignments
 - Public discussion
 - Private message
- Give me an email address and I will invite you
 - My Slack Team ID is **xm**



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Week	Date	Topic	Presenter	Note
1	Tue Sep 8	Introduction to COMP4461 and to HCI	Xiaojuan Ma	P1.0 Topic announcement
1	Thu Sep 10	Fundamental: Human-Centric Design	Xiaojuan Ma	
2	Tue Sep 15	Fundamental: Understanding Humans I	Xiaojuan Ma	
2	Thu Sep 17	Fundamental: Understanding Humans II	Xiaojuan Ma	9:00am VR Meeting Room Tryout (by TA)
3	Tue Sep 22	Design: Empathize	Xiaojuan Ma	
3	Thu Sep 24	Design: Ideate	Xiaojuan Ma	9:00am VR Meeting Room Tryout (by TA)
4	Tue Sep 29	Design: Prototyping	Xiaojuan Ma	
5	Tue Oct 6	Topic: Multimodal Interaction	Xiaojuan Ma	P2.0 Topic release
5	Thu Oct 8	Project: P1 Design Pitching	Class	P1.1 P1 prototype submission; P1.2 Peer evaluation; P1.3 P1 personal diary submission
6	Tue Oct 13	Topic: Human-Robot Interaction (HRI)	Xiaojuan Ma	P3.0 Topic announcement; Final Video Paper Topic Announcement
6	Thu Oct 15	Mid-term Exercise I	Class	9:00am Chatbot Programming Lab (by TA)
7	Tue Oct 20	Topic: Ubiquitous Computing	Xiaojuan Ma	
7	Thu Oct 22	Topic: Virtual / Augmented Reality	Xiaojuan Ma	9:00am Chatbot Programming Lab (by TA)
8	Tue Oct 27	Evaluation: Preparation and Questionnaire	Xiaojuan Ma	
8	Thu Oct 29	Topic: CSCW and Social Computing	Xiaojuan Ma	
9	Tue Nov 3	Project: P2 Demonstration	Class	P2.1 P2 prototype submission; P2.2 Peer evaluation; P2.3 P2 personal diary submission
9	Thu Nov 5	Evaluation: Heuristic Testing	Xiaojuan Ma	
10	Tue Nov 10	Evaluation: Usability Testing	Xiaojuan Ma	
10	Thu Nov 12	Mid-term Exercise II	Class	
11	Tue Nov 17	Evaluation: Result Analysis	Xiaojuan Ma	
11	Thu Nov 19	Project: P3 Presentation	Class	P3.2 P3 Peer Evaluation; P3.3 P3 Personal Diary Submission
12	Tue Nov 24	Topic: Computing for Good	Xiaojuan Ma	
12	Thu Nov 26	HCI: From Lab to the Real World	Xiaojuan Ma	
13	Tue Dec 1	Final Video Paper Showcase I	Class	Video Paper Submission
13	Thu Dec 3	Final Video Paper Showcase II	Class	

[Course Introduction](#), [outcomes](#), [grading schemes](#), [assessment rubrics](#) and [references](#)

The image shows a screenshot of a Slack workspace. At the top, there is a news article from Forbes Tech titled "Slack Joins The Billion-Dollar Startup Club" dated OCT 21, 2014. The article features a screenshot of the Slack interface. In the foreground, several navigation menus are overlaid. On the left, a sidebar menu is partially visible with options like "Channels", "# general", "# lecture", and "Direct". A "Channel browser" menu is open, listing options such as "All unreads", "All DMs", "Channel browser" (highlighted), "File browser", "People & user groups", and "Apps". Another menu is open over the "Channels" section, listing "Create sidebar section PAID", "Browse channels" (highlighted), and "Create a channel". A third menu is open over the "Channel browser" option, listing "Threads", "Mentions & reactions", "Saved items", and "More".



Course Learning Outcomes

- **Knowledge/Content Related:**
- **Course ILO #1:** Understanding the basic concepts and methods in HCI research
- **Course ILO #2:** Understanding the foundations and trends of HCI applications

- **Academic Skills/Competencies:**
- **Course ILO #3:** Design an interactive system using various methods through different design activities
- **Course ILO #4:** Prototype an interactive system with assorted digital and physical tools
- **Course ILO #5:** Evaluate an interactive system through user studies

- **Other Learning Outcomes:**
- **Course ILO #6:** Communicate effectively with target users and different stakeholders in academia and industry



Grading Scheme

- **Experiential Learning**
- Three group projects **55%**
 - Project 1 15%
 - Project 2 20%
 - Project 3 20%
- Midterm Exercises: **20%**
- Video Paper: **15%**
- Participation + Bonus: **10%**



Personal Portfolio Page

- Create a personal portfolio page to host your personal HCI project diaries
 - May use free website builders e.g., wix.com
- Examples:
 - <http://harkmylord.com/>
 - <http://simonpan.com/>
 - <http://www.garyjanderson.com/index.html>
- TA will provide some tips on how to set up your own page online



(1) Projects 55%

- **P3: Social VR for Team Collaboration** **20%**
 - Record all group experiences with project meetings in social VR Hubs. Molliza for P1&2 **15%**
 - Empathize: video recording all group meeting sessions
 - Needfinding: pros & cons of this existing solution
 - Ideate: possible improvement and envisioned future
 - Present: in-class project presentation (Oct 8)
 - Keep a personal diary of P3 on individual portfolio **5%**
 - Personal reflection on the experiences and lessons
 - Text, pictures, diagrams, video, etc.
 - Lab 1: Social VR Tryout (in lab Tue 9am Sep 15 & 22)



(1) Projects 55% (cont.)

- **P1: Designing an Online Communication Tool** **15%**
 - Identify a target population that needs frequent online communication **5%**
 - Needfinding: emphasize with user needs
 - Ideation: potential problems with existing tools
 - Design an “interactive” video prototype **5%**
 - Basic minimum features: for proper functioning
 - “Wow” features: for distinguishing your design and retaining users
 - Keep a personal diary of P1 on individual portfolio **5%**
 - Personal reflection on the experiences and lessons
 - Text, pictures, diagrams, video, etc.



(1) Projects 55% (cont.)

- **P2: Human-Robot (Chatbot) Interaction** **20%**
 - Identify an online scenario that needs chatbot service 5%
 - Needfinding: identify the potential need(s) and issues with existing solutions
 - Design an interactive chatbot prototype 10%
 - Development: build a web chatbot to fulfill the proposed need(s)
 - Evaluation: design a questionnaire and test it with possible users
 - Presentation: give an in-class demonstration and presentation
 - Keep a personal diary of P1 on individual portfolio 5%
 - Personal reflection on the experiences and lessons
 - Text, pictures, diagrams, video, etc.
 - Lab 2: Botkit chatbot programming tutorial (in lab Tue 9am Oct 13 & 20)



Notes on Group Projects

- Group Assignment
 - Work with same teammates through out the semester
 - Switch roles (work assignment) for each project
 - Skills + constraints (e.g., timezone): self-organization first
- Late Policy
 - Up to 3 days in total
 - Available only by request in advance through email or private message on Slack to the TA; No credit otherwise
- Grading
 - Group work: proportional to individual efforts
 - Personal diary: emphasis on personalized reflections



(2) Midterm Exercises 20%

- Two In-class Midterm Exercises
 - Midterm I: Thu Oct 15
 - Midterm II: Thu Nov 12
- 1~2 Questions Each
 - 60 min individual + group exercise
 - 20 min solution review and discussion
- Open Book
 - Textbook and printed lecture notes only
 - Specified computing device and tools



(4) Final Video Paper 15%

- Theme “Inclusion in a Public Health Crisis”
- Length: 2~5 min
- Video Showcase
 - Final Screening on Dec 1 & 3
 - Audience’s Choice
 - Best video
 - Most educational video (intellectually and/or socially)
 - Most innovation video (concept and/or application)
 - Most entertaining video (story and/or presentation)



(4) Participation + Bonus 10%

- Attendance + Activeness
 - In-class exercises + peer review participation
 - Photo of the Semester Contest: “The good, the bad, the ugly / secret”
 - Additional bonus awarded to excellent work in each project or activity
- Note
 - Bring a pen/pencil and a deck of paper
 - 1 token earned for active participation in one lecture
 - 10 tokens can be used to trade for 1 additional late day



Course Learning Outcome

- Lecture, Projects, Midterm
 - Understand the basic concepts and methods in HCI
 - Understand the foundations and trends of HCI applications
- Lecture, Projects
 - Learn to identify user needs, abilities, and constraints
 - Learn to design, prototype, and evaluate HCI technologies
- Lecture, Projects, (Midterm)
 - Analyze potential social impact and responsibilities as well as possible ethical, legal, security and privacy issues
- Projects and Participation
 - Communicate effectively with target users and different stakeholders in academia and industry

Course Learning Outcome	Exemplary	Competent	Needs Work	Unsatisfactory
Understanding the basic concepts and methods in HCI research	Define and clarify the basic HCI concepts and methodologies, and provide proper examples for demonstration	Define and clarify the basic HCI concepts and methodologies.	Define the basic terminologies and methodologies in HCI research, have difficulty in clarifying the details, conditions, and contexts.	Have difficulty in explaining the basic concepts and processes of common design / prototyping / evaluation methods in HCI research
Understanding the foundations and trends of HCI applications	Elicit the history of HCI applications, the key changes, and driving forces, clarify the major challenges and future directions	Elicit the history of HCI applications, and explain the key changes and driving forces	Elicit the history of HCI applications, have difficulty in explaining the key changes and driving forces	Have difficulty in identifying the core values, scopes, challenges, and trends in HCI applications
Design an interactive system using various methods through different design activities	Conduct common design activities such as needfinding, make good use of design tools such as mindmap, and generate clear design insights	Conduct common design activities such as needfinding and make good use of design tools such as mindmap	Conduct common design activities such as needfinding and brainstorming, have difficulty in using design tools such as mindmap	Have difficulty in conducting common activities such as needfinding and brainstorming in design process to generate design ideas

Prototype an interactive system with assorted digital and physical tools	Conduct common prototyping activities, make good use of various prototyping tools, and generate prototypes at different fidelities	Conduct common prototyping activities and make good use of various prototyping tools	Conduct common prototyping activities, have difficulty in using various prototyping tools	Have difficulty in conducting common prototyping activities and using various prototyping tools
Evaluate an interactive system through user studies	Design and conduct user studies and data analysis, make good use of various prototyping tools, and generate good design implications	Design and conduct user studies and data analysis, and make good use of various prototyping tools	Design and conduct user study and data analysis, have difficulty in using various evaluation tools	Have difficulty in designing user studies and conducting data analysis
An ability to communicate effectively with target users and different stakeholders in academia and industry	Explain HCI designs / applications to a general audience and handle questions, and make good use of multimedia	Explain HCI designs / applications to a general audience and handle questions	Explain HCI designs / applications to a general audience, have difficulty in handling questions	Have difficulty in explaining HCI designs / applications to a general audience



Text Book (Required)

- Hartson, Rex, and Pardha S. Pyla. *The UX Book: Process and guidelines for ensuring a quality user experience*. Elsevier, 2012. ISBN-13: 978-0123852410, ISBN-10: 0123852412

<http://www.theuxbook.net/>

- Yvonne Rogers, Heken Sharp, & Jenny Preece. *Interaction Design: Beyond Human-Computer Interaction* (3rd Edition). John Wiley & Sons, Inc, 2011. ISBN 0-470-66576-9, 978-0-470-66576-3.

<http://www.id-book.com/>

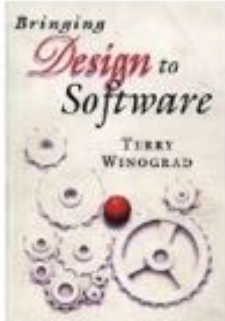
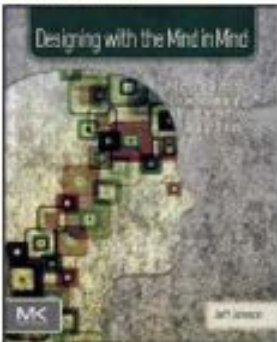
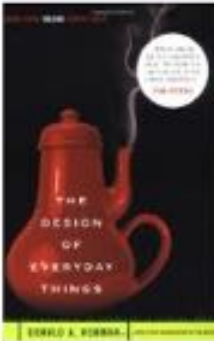
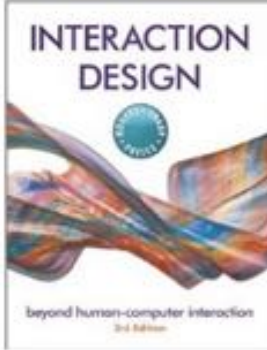


Reference Book (Optional)

- Lazar, Jonathan, Jinjuan Heidi Feng, and Harry Hochheiser. *Research methods in human-computer interaction*. Morgan Kaufmann, 2017. eBook ISBN: 9780128093436, Paperback ISBN: 9780128053904
<https://www.elsevier.com/books/research-methods-in-human-computer-interaction/lazar/978-0-12-805390-4>
- Alan Dix, Janet Finlay, Gregory Abowd & Russell Beale. *Human-Computer Interaction* (3rd Edition). Prentice Hall, 2004. ISBN 0-13-046109-1.
<http://hcibook.com/e4/>

“Stay hungry. Stay foolish.”

- By Steve Jobs



Google Scholar search results for "Bird wave HCI". The search shows approximately 25,500 results. The top results include:

- When second wave HCI meets third wave challenges. S. Bardzell. Proceedings of the 4th Nordic conference on Human-Computer Interaction, 2009. - ACM.org. Abstract: This paper surveys the current status of second generation HCI theory, faced with the challenges brought to HCI by the so-called third wave. In the third wave, the user context and application types are broadened, and reexamined, relative to the focus of the second wave. Cited by 235. Related articles. All 4 versions. Cite. Save. More.
- Pleasure is your birthright: digitally enabled designer sex toys as a case of third-wave HCI. J. Bardzell, S. Bardzell. Proceedings of the SIGCHI conference on Human-Computer Interaction, 2011. - ACM.org. Abstract: In the past decade, HCI has become increasingly preoccupied with the deeply subjective qualities of interaction: experience, embodiment, pleasure, intimacy, and so on, an agenda sometimes grouped under the heading of "Bird-wave HCI." Analytically ... Cited by 19. Related articles. All 2 versions. Cite. Save.
- Sustainable HCI meets third wave HCI: 4 themes. P. Szegocsi, K. Boehrer. IJISHP '09: 2009 workshop, 2009. - zeltuna.org. It is widely acknowledged by scientists and, increasingly, the broader public that our way of living is leading to serious environmental problems. Engineers have recognized the necessity to consider environmental sustainability in technology design, leading to the ... Cited by 7. Related articles. Cite. Save. More.
- Feminist HCI taking stock and outlining an agenda for design. S. Bardzell. Proceedings of the SIGCHI Conference on Human-Computer Interaction, 2010. - ACM.org. ... Feminist Epistemologies. The transition to Bird-wave HCI (16.65) represents not only a turn to a different sort of computing, but also to new epistemologies better suited to our changing design practice needs. Thus we have the ... Cited by 135. Related articles. All 5 versions. Cite. Save.

Below the search results is a screenshot of the ACM Digital Library search interface, showing search filters and results for "ACM Digital Library".





Learning Aims



Conscious



Critical



Creative



Work for Today

- Join Slack and play with it
 - There is a direct “join slack” link on Canvas
 - TA will confirm and verify membership by the end of the add-and-drop period (Sep 19)
- Create your own Portfolio Page
 - If you already have a personal website, great
 - If not, you can setup a personal page at HKUST
 - TA will provide further information on Slack (#lab0-web)



Questions?

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