Human-Computer Interaction and Method of User Research

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Introduction

This course aims to introduce students to computer science, psychology, and other topics to principles and research methods in human-computer interaction (HCI). As an interdisciplinary area, the research topics in HCI are highly diverse but always involve the interaction between humans and interactive computing systems. This course will first introduce the history of HCI and other disciplines (e.g., cognitive psychology, human factor, and social science) related to HCI. Essential research tribes and fundamental research will be presented in the class. Students will give oral presentations of selected papers from the HCI conferences during the course to learn how to read and summarize HCI research. At the same time, students will develop topics for the final projects and have regular progress reports in the class. Students will present the final projects in the last few weeks of the course and are encouraged to submit the project to local or international conferences or journals.

Prerequisites

Please ensure that you meet the following prerequisites:

- Have the ability to read two to three scientific papers or articles in a week
- Have the ability to comment and summarize papers
- Scientific and academic writing in English

Learning Objectives

When you pass this course at the end of the semester, you will be able to:

- Understand and be able to describe the big picture of HCI
- Learn the basic design principle of user-friendly interaction and interface
- Learn the research methods with human subjects and understand how to choose research designs based on the questions
- Learn how to summarize and present an academic paper in the field of HCI
- Plan user research and experiment to derive meaningful design implications supported by empirical evidence

Basic information

Instructor.

- Fu-Yin Cherng (程芙茵): fuyincherng(AT)cs.ccu.edu.tw; https://fuyincherng.github.io/

Lectures. 13:10-16:00 **Wednesday**. Room 339, Innovation Building (工創339)

Textbook.

- [HCI] Rogers, Yvonne. HCI theory: classical, modern, and contemporary. Synthesis lectures on human-centered informatics 5.2 (2012): 1-129. https://doi.org/10.2200/S00418ED1V01Y201205HCI014
- [PR] Gemperle, F. (2018). Handbook of People Research (http://press.etc.cmu.edu/index.php/product/handbook-of-people-research/), PDF available free online through the CMU, ETC Press.

Reference.

- Olson, Judith S., and Wendy A. Kellogg, eds. Ways of Knowing in HCI. Vol. 2. New York, NY, USA:: Springer, 2014
- Norman, D.A. (1990) The Design of Everyday Things Doubleday.
- Papers from conferences related to The Special Interest Group on Computer-Human Interaction (e.g., CHI, CSCW, and UIST)

Grading

Breakdown.

- Assignment 1 - 3: 30% (10% each)
- Semester project: 35%
    - Midterm presentation: 10%
    - Final presentation: 15%
    - Project report: 10%
- **Paper presentation: 15%**
    - Please review the grading rubric for presentations at the end of this document.
- Class participation: 20%
    - The participation grade is for generally contributing to the class's learning and participating in discussions in class and online.

Tentative Schedule

Week	Note	Lecture	Chapter
1		Course Introduction	
2		Overview of Research	
3		Introduction & The Backdrop to HCI Theory	[HCI] Ch 1 - 2
4	Assignment 1	Classical Theories	[HCI] Ch 3 - 4
5		How to Find Research Topic & Basic Experimental Design	
6		User Research - Planning (1)	[PR] P.15 - p.30
7		**Paper Presentation**	
8	Assignment 2	User Research - Planning (2)	[PR] P.37 - p.44
9	Midterm	**Semester Project Proposal**	
10		**Semester Project Proposal**	
11		Modern Theories	[HCI] Ch 5
12	Assignment 3	Modern Theories	[HCI] Ch 5
13		**Paper Presentation**	
14		Contemporary Theories	[HCI] Ch 6
15		Discussion & Summary	[HCI] Ch 7 & 8
16	Final	**Semester Project Presentation**	
17	Final	**Semester Project Presentation**	
18		*No Class*	