

Interactive Design Research 2025 Fall PA61300

Instructors

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Time: Friday, 9am to 12pm, **Place:** ICID 5153, office hour; by appointment

Introduction

This course concerns the methodology of conducting research to investigate issues related to design (as a product or as a process), as well as conducting research using design as a tool. The state-of-the-art of such methodology is the **Living Lab** approach and design thinking process. The Living Lab approach focuses on real-world contexts in which users were given the opportunity to use new products (thus allows research on design products). The Living Lab approach provides an environment in which users become members of the design team to co-create new products (thus allow research on design processes). Furthermore, the Living Lab approach enables an iterative process for open innovation through the collaboration of users and stakeholders in the continuous creation and validation of new products or services (as such design becomes a means of investigation into innovation).

The basic human-centered innovation process of living labs is **Design Thinking**. Design thinking is a formal method for practical, creative resolution of problems or issues, with the intent of an improved future result. In this regard it is a form of solution-focused thinking which starts with a goal (a better future situation) instead of solving one specific problem. Design thinking integrates empathy for the context of a problem, creativity in the generation of insights and solutions, and rationality in analyzing and fitting various solutions to the problem context. The goal of Design Thinking is "matching people's needs with what is technologically feasible and viable as a business strategy" Students expect to learn by knowing about how designers approach problems and the methods which they use to ideate, select and execute solutions, individuals and businesses will be better able to improve their own problem-solving processes and take innovation to a higher level.

Schedule

Week	Topic	Content	Practice
Week 1,2	Course introduction	Human centered interactive design research	Discuss experience of interaction
Week 3, 4	Overview of Interaction design	Understanding interaction and interaction design; Models & process of interactive design research	Team building (Ch 1, 2, 7)
Week 5	Case study	IDR issues	Ex. Cases of good/ poor ID, and why
Week 6	User's experience (UX)	Understand user & unveiling User experience; Human factors engineering & Psychology of interactive design; Life style	Ex. Factors that influence UX (Ch 3, Ch4)
Week 7,8,9	Group project 1	IDR Project issue	team discussion
Week 10,11	Process and methods of Interaction design research	Communication & interface; Living Labs Design Thinking	Ex. tools and methods (Ch 5,6) Design Principles Bootleg: 11-19
Week 12, 13	Group Project 2	design Method	Team discussion & presentation
Week 14	Prototyping& test	Experimental design Usability test	User-Driven Prototyping Bootleg: 28-34
Week 15	Group Project 3	Prototyping, construction, experimentation, and evaluation	Team discussion & presentation
Week 16	Group Project 3	Group project final presentation	Team discussion & presentation, with invited mentors

Class Structure

The class is conducted in two tracks: theory and practice. In the theoretical track, you learn the Living Lab approach through lectures, readings and case studies. In the practical track, you learn the approach through an actual Living Lab project. As a participant in this course, you will be asked to form a group with 3-4 other people. Each week, you will meet with members of your group to discuss the readings in the theoretical track. For the practical track, your group will plan and conduct an actual Living Lab research using design thinking method. In-class activities for the first half of the semester focus more on the theoretical track while the second half of the semester emphasizes the practical track.

Course Projects

Students will engage in a series of skill developing assignments that build upon each other throughout the duration of the course. The class will culminate in a final project that will allow students to apply what they have learned to a specific social and policy challenge they are passionate about. More specific details around course projects will be discussed in the first class.

Final Presentation

A final presentation will be a key deliverable for this course. In each session, students will learn different tools and ways of design thinking that advance project work on their design challenge and build toward the final presentation. Highlights of the presentation include:

- Statement of the design challenge and overview of the problem-solving approach
- Insights based on the design research conducted
- Key themes and opportunity areas drawn from research insights
- Visualized concepts that address the opportunity areas
- A plan to make the solution concepts actionable and measurable

Grades

Students will be graded on their final presentations as well as their participation in class and completion of assignments. Grading is based on NCKU criteria:

The grading breakdown is as follows:

20% Class participation and attendance

40% Exercise assignments

20% Project work

20% Final presentation

Reading's reference



The Basics of User Experience (UX) Design by the Interaction Design Foundation
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1. A Brief Introduction to User Experience (UX) Design
2. What is Design Thinking and Why Is It So Popular?
3. The 7 Factors that Influence User Experience
4. An Introduction to Usability
5. How to Conduct User Interviews
6. 7 Great, Tried and Tested UX Research Techniques
7. What is Interaction Design?
8. Mobile Web UX Design: Some Simple Principles
9. Information Visualization – A Brief Introduction



