23SW802 Participatory Design Research
3-0-0-3

Course Description

This course briefly introduces students to the field of User Experience design (UXD), Interaction Design, Participatory Design, and related terminology. This is a very practice-based course and after the first week of short theoretical introduction, it will invite students to join the pre-planned Participatory Design research study. This Study will use a particular format of Participatory design and focus on designing an AR empathy game with children for children. Students are expected to participate in a design process at the local elementary school. Throughout the course, students will go through the full research study cycle from data collection to data analysis and writing a short paper. The expectation of the course is to collaboratively finish a research paper for a future conference submission.

Learning Objectives

The main aims and objectives of the course are to help students find answers to the questions:

- what is the user experience design? What is participatory design? Which place do they take in the design process and how they can be applied in the research process?
- How to design interactive products with children and for children?

Pedagogy

- Short lectures on the main concepts, terminology, and processes to establish the theoretical knowledge of UXD, Interaction Design, and Participatory Design
- Guest lectures by professionals in the particular fields (1 h including 45 min talk and 15 min Q&A)
- Practical exercises in class
- Students will be involved in a team project (on-going research study)
- Students will be invited and provided time to reflect on each step of what they are doing through the PD research process
- Students will collaboratively write a paper to document their design process (potentially, it can turn to their future publication)

Syllabus

3 credit hours class (total of 45 hours including 24 hours in the classroom and 21 hours for field work). Class is mainly offered for Ph.D. students from Cognitive Sciences and Technology program. Other students are welcome to join or audit this class as well. Total number of students in the class is expected to be between 6 and 10.

Course Topics:

1. UXD and Participatory Design as fields and how they relate to other fields: Computer Science, Human-Centered Computing, and Human-Computer Interaction.
2. Co-design and Participatory design: how to design with users and for users.
3. Facilitating participatory design process with children.
4. Interpreting the data collected from participatory design sessions with children.
5. Analyzing the data using thematic analysis and writing the paper based on it.

Materials/Software/Equipment

Students are required to bring a laptop to class to participate in both in-class activities and project working sessions.

Readings

No textbook is required for this course. Readings and media materials for the course:

1. Spinuzzi, C. (2005). The methodology of participatory design. Technical communication, 52(2), 163-174
2. Druin, A. (2002). The role of children in the design of new technology. Behavior and information technology, 21(1), 1-25.
3. https://www.kidsteam.ischool.uw.edu/chapter03
4. Braun, V., & Clarke, V. (2012). Thematic analysis. In APA Handbook of research methods in Psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and Biological. (pp. 57–71). American Psychological Association. https://doi.org/10.1037/13620-004
5. Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. International Journal of Qualitative Methods, 16(1), 1609406917733847.
6. Muravevskaia, E., & Gardner-McCune, C. (2023). Designing a Virtual Reality Empathy Game framework to create empathic experiences for children. International Journal of Child-Computer Interaction, 35, 100561.
7. Muravevskaia, Abhijith A, Prabha P., Unnithan M., Arunav H, Rthuraj P R, Kanukuntha R., Manikytti G. (2023) Designing Empathy Game: Case on Participatory Design Session with children within the Indian context. The 22nd Interaction Design and Children Conference (accepted).
8. Pasupuleti, D., Sasidharan, S., Manikutty, G., Das, A. M., Pankajakshan, P., & Strauss, S. (2023). Co-designing the Embodiment of a Minimalist Social Robot to Encourage Hand Hygiene Practises Among Children in India. International Journal of Social Robotics, 1-23.
9. Study design protocol
10. Additional readings: TBD

Tentative Class Schedule (subject to change)

Week	***Meeting 1*** *(2 h)*	***Meeting 2*** *(2 h)*	***Meeting 3*** *(2 h)*
Week 1 (theory)	Part 1. Intro to the class Part 2. Guest Lecture on Design (good and bad design).Basic terminology of UXD (by Don Norman Book). Planes of UX. Design Process (DD, DT). ***HW due to this class:*** *readings and videos on UX.* ***HW1:*** *readings on Participatory Design* ***HW2:*** *readings on PD with Children*	Part 1. Discussion on Participatory design as a method and how it works with children. ***HW1:*** *read PD methods studies papers (2) and prior work papers (2)*	Part 1. Discussion on the methodology of the Participatory design for children paper. ***HW1****: read the study design protocol* ***HW2****: literature review prep: everybody finds 1 paper related to AR games design (start a shared table)*
Week 2 (study design)	Ethics preparation for the study. Guest Lecture on developmental psychology: 1. How to work with children (to dos and not-dos) 2. How to address/discuss emotions-related topics with children 3. How to help children to reflect/design/create 4. How to understand children and what children are doing, thinking, and saying	Part 1. Introducing the research study. Part 2. Literature review - share the table Study design planning (roles assigning, preparing for the fieldwork, logistics). Part 2. Literature review - discuss findings ***HW****: literature review*	Getting ready for data collection: finalizing the plan, rehearsing. ***HW****: literature review (continue)*
Week 3 (field work)	*Data collection: Pilot (times and duration of meeting: matter to change)* ***HW (after each day):*** *to write individual reflections after the study day and curate pictures in folder*	*Data collection (times and duration of meeting: matter to change)* ***HW 1:*** *reading on thematic analysis (Braun&Clark)* ***HW 2:*** *reading on thematic analysis examples papers*	*Data collection (times and duration of meeting: matter to change)*

Week 4 (field work)	*Data collection (times and duration of meeting: matter to change)*	*Data collection (times and duration of meeting: matter to change)*	*Data collection (times and duration of meeting: matter to change)*
Week 5 (data analysis)	Part 1: Reflection on the data collection process: discussing observation notes. Data consolidation and organization. Part 2: Discussion of the thematic analysis process. ***HW:*** *read through the data and identify the preliminary codes*	Part 1. Data Analysis. Discussion on the individual codes. Part 2. Inter-rater reliability exercise in class. Seek for agreement on codes: shaping a codebook. ***HW****: finish individual coding following our shaped-in-class codebook*	Part 1. Discuss a paper of other researchers and learn how they did the thematic analysis. Discuss how to identify themes and what they mean. Part 2. Identifying themes based on our data and codes. ***HW:*** *every student takes one identified theme and describes it in a narrative (as a part of the future findings section)*
Week 6 (writing a paper draft)	Part 1. Writing a paper. Discuss each section of a paper and why we need it in the research paper. In-class writing exercises: each section spend 30 minutes (introduction, background, methods*, findings). *For methods section: writing exercise (writing instructions and reflecting on them: learn to make them clear for future researchers to replicate). ***HW****: split writing paper sections (2 students per section).*	Part 1. Discussion section. In-class writing exercise (learning to ground the findings back to the literature, refer back to RQ, and see how we can answer them). Part 2. Abstract and Conclusion sections. In-class writing exercise. ***HW****: everybody is assigned to polish a paper section (reassign students to different sections).*	Part 1. Finishing paper draft. Exploring the publication opportunities together, learning to put paper to the format. Part 2. Reflection on the class: Discuss what have learned in the class, etc. ***HW 1:*** *finish the paper in the format and submit a PDF version in 10 days after class meetings are over.* ***HW2:*** *fill up self and peer evaluation* ***HW3:*** *fill up class and instructor evaluation*

Course Outcome

By the end of this course, students will be able to:

- Define the term "*user experience design*", "interaction design", and "participatory design" and identify how it fits into the design research cycle
- Conduct a participatory design study (including study planning, data collection, data analysis, writing the results)
- Write a research paper collaboratively

Evaluation Pattern

1. Class participation
2. Collaborative paper
3. Self and peers contributions

evaluation Assessment Weightings:

Components	
Class participation	10%
Collaborative paper	60%
Self and peers contributions evaluation	30%
	100%

Employability

The course content will be helpful for students to understand the design process of a product in general and what role UX and PD play in this process. Students will be able to apply this knowledge in a large context approaching any of their projects from a broader perspective focusing on the end-user of their work.