CEN 4722   User Experience Design

Fall 2022

CLASS LOCATION: CSE E119.

CLASS MEETING TIME(S): Monday, Wednesday, and Friday.
                            Period 4 (10:40 AM – 11:30 AM).

CLASS MODALITY:

- We will have synchronous weekly sessions on Monday, Wednesday, and Friday. The instructional material will be posted online in a weekly manner and addressed/worked/discussed in these sessions.

LEADING INSTRUCTOR: Mr. Pedro Guillermo Feijóo-García, M.Sc.

- Office location: CSE Building E520.
- Email address: pfeijoogarcia@ufl.edu (please use eLearning to contact me).

TEACHING ASSISTANT: Mr. Joseph Isaac Jr., M.Sc.

OFFICE HOURS:

- **Leading Instructor:** Tuesday, 2:00 PM – 3:00 PM
  Personalized office hours will be held via Zoom, unless otherwise stated.
  https://ufl.zoom.us/my/pfeijoogarcia

- **Teaching Assistant:** Thursday, 2:00 PM – 3:00 PM.

COURSE WEBSITE: available on eLearning UX Fall 2022.

COURSE COMMUNICATIONS: We will have a Discord channel for the course. Questions and Answer will be provided through Discord (mainly) and eLearning (i.e., Canvas).

REQUIRED TEXTBOOK

No textbook is required for this course. Readings in the form of textbook chapters, academic papers, and online resources will be posted to the course website. Students will be responsible for accessing the readings and downloading any relevant links provided.

RECOMMENDED TEXTBOOKS

Many readings for the course will be taken from the following books. Students may choose to purchase their own copy of one or more of these textbooks to read beyond the scope of the course. This may be especially useful for students considering UX/UI careers, which make heavy use of UXD methods and concepts:

- **The Design of Everyday Things**, by Norman.
- **Interaction Design: Beyond Human-Computer Interaction**, by Rogers, Sharp, and Preece.
- **Sketching User Experiences: Getting the Design Right and the Right Design**, by Buxton.
- **Sketching User Experiences: The Workbook,** by Greenberg, Carpendale, Marquardt, and Buxton.
- **Designing for Small Screens: Mobile Phones, Smart Phones, PDAs, Pocket PCs, Navigation Systems, MP3 Players, Game Consoles**, by Studio 7.5, Zwick, and Schmitz.
- **Design Methods,** by Ko.
- **Voice User Interface Design,** by Cohen, Giangola, and Balogh.

COURSE DESCRIPTION

This is an undergraduate course that introduces students to the methods and tools used in User Experience (UX) and User Interface (UI) design. UXD focuses on the early design stages of a product's lifecycle, and aims to ensure the product will meet user needs. No prior design experience is necessary. In this course, students will work on group projects covering one or more of the UXD methods for products designed for today's world of ubiquitous and mobile technology. Developers with experience in UX/UI design methods are in high demand in today's software industry, and the projects students work on in this course will strengthen their portfolio.

LEARNING OBJECTIVES

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

- Define what UXD is and identify how it fits into the software development lifecycle.
- Conduct *exploratory* UXD activities to understand a design space when designing a new user interaction.
- Conduct *generative* UXD activities to creatively fill user needs when designing a new user interaction.

- Conduct *refining* UXD activities to select and iteratively improve a design concept for a new user interaction.
- Participate effectively in *design critiques,* and be able to user this experience to be a more effective design team member.
- Design and produce an *interactive prototype* of a complete design concept to present to a client for a new user interaction.

INSTRUCTIONAL METHODS

- Weekly lectures, student-created artifacts (video-tutorials and mental models), homework assignments, and projects. Also, we will use co-evaluations strategies throughout the course, which are proposed to enhance students' learning outcomes.
- We will have synchronous weekly meetings on Monday, Wednesday, and Friday. The instructional material will be posted online in a weekly manner and addressed/worked/discussed in these meetings.
- Students are encouraged to work (asynchronously) on the instructional material prior to our meetings.

SOFTWARE REQUIRED

Students are encouraged to bring a laptop to class participate in both the in-class activities and project working sessions. The following free or trial software packages may be necessary to be installed by students on their laptops or used via online services over the course of the semester:

- Balsamiq, by Balsamiq Studios (https://balsamiq.com)
- Axure RP Pro, by Axure Software Solutions (http://www.axure.com/)
- InVision App, by InVision (http://www.invisionapp.com/)

PREREQUISITES

- COP 3530.

COURSE OUTLINE

Course Topics:

- User Experience Design as a field and how it relates to Computer Science, Human-Centered Computing, and Human-Computer Interaction.
- Graphic Design for computer interfaces.
- User Experience Design techniques such as scenarios, personas, storyboards, wireframing, and information architecture.
- User Experience Design methods such as focus groups, design probes, affinity diagramming, and speed dating for UI concepts.
- Prototyping tools, both low-fidelity and high-fidelity.
- Design for small screens, responsive design.
- Non-GUI design (e.g., auditory interfaces, gesture interfaces).

TENTATIVE CALENDAR (Subject to change*)

Week	Monday Period 4	Wednesday Period 4	Friday Period 4
1	08/22/2022 End of Summer break	08/24/2022 Welcome session Introduction to User-Centered Design	08/26/2022 Participatory Design activity – virtual human design
2	08/29/2022 Introduction to Design thinking The Deep Dive	08/31/2022 Brainstorming techniques & affinity diagrams	09/02/2022 Design rationale and documentation
3	09/05/2022 Labor Day	09/07/2022 Online session: **Weeks 1-2 papers**	09/09/2022 Session canceled
4	09/12/2022 Online session: Preparing for User Research. Focus groups, interviews, and design probes.	09/14/2022 Online session: User research and data analysis.	09/16/2022 Online session: Designing for interaction. Individual project Q&A.

5	09/19/2022 **Weeks 3-4 papers**	09/21/2022 Online session: User needs and Personas.	09/23/2022 Online session: How to critique
6	09/26/2022 Online session: Scenarios and storyboards	09/28/2022 Class cancelled Hurricane Ian (Please stay safe)	09/30/2022 Class cancelled Hurricane Ian (Please stay safe)
7	10/03/2022 Information Architecture, Wireframing, Low-Fidelity prototyping	10/05/2022 In-class working session	10/07/2022 Homecoming: no class
8	10/10/2022 **Weeks 5-6 papers** Pre-recorded session: Interactive prototyping and Video Sketches	10/12/2022 Individual project: Midpoint presentation	10/14/2022 Individual project: Midpoint presentation
9	10/17/2022 **Weeks 7-8 papers**	10/19/2022 Design for small screens Final project Q&A	10/21/2022 Individual project: Final presentation Pre-recorded session: Design licensing and Graphic Design for User Interfaces
10	10/24/2022 Individual project: Final presentation	10/26/2022 In-class working session	10/28/2022 **Weeks 9-10 papers**

11	10/31/2022 User Testing: How to evaluate analytically	11/02/2022 User Testing: How to evaluate empirically	11/04/2022 User Testing: Wizard of Oz
12	11/07/2022 User Testing: Think-Aloud and Cognitive Walkthroughs	11/09/2022 **Weeks 11-12 papers**	11/11/2022 Veterans Day
	11/14/2022 In-class working session	11/16/2022 Final project mid-point critique Poster session	11/18/2022 Final project mid-point critique Poster session
13	11/21/2022 Thanksgiving break: no session	11/23/2022 Thanksgiving break: no session	11/25/2022 Thanksgiving break: no session
14	11/28/2022 Pre-recorded: Design for voice-based interaction	11/30/2022 Design for voice-based interaction: Class activity	12/02/2022 Final project working session
15	12/05/2022 Final Project final critique Showcase	12/07/2022 Final Project final critique Showcase Class Wrap-up	12/09/2022 Reading day – no session
16	12/12/2022 Final exams week – no session (no final exam)	12/14/2022 Final exams week – no session (no final exam)	12/16/2022 Final exams week – no session (no final exam)

COURSE POLICIES

MAKE-UP POLICY: Consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

ATTENDANCE: Students are expected to come to class and **encouraged to do so in-person and online (weeks 3-6)**. We will have group activities and synchronous lectures that are designed to foster discussion and learning outcomes. In the case that a student needs to miss a session, in-person or online, they should contact the

instructor at least two days prior to the session that is going to be missed. **If a student is sick or will need to be absent for a significant period**, please contact the instructor to work out a way to catch up. Providing the instructor with advanced notice (at least one week) is expected.

LATE POLICY: Students can submit an assignment one day late (24 hours after the deadline) to earn up to 50% of the assignment total; otherwise, a score of zero will be earned. *The late policy does not apply to projects' submission.*

MAKE-UPS:
Students who contact the professor before the due date with appropriate requests for extension and/or makeup assignments will be given an additional amount of time to make up late assignments equal to the time lost due to the unforeseen circumstance.

FINAL EXAM: There will not be a final exam.

COURSE TECHNOLOGY: This course will be conducted using the Canvas Learning Management System and Discord. Other technologies may be introduced and provided during the semester according to the topics covered in class.

INCOMPLETES:
To be considered for an incomplete, the student must 1) let the professor know at in advance that they are seeking an incomplete, and 2) provide documentation to support the request.

Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at:
Https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

UF POLICIES

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES:
Students requesting accommodation for disabilities must first register with the Dean of Students Office (http://www.dso.ufl.edu/drc/). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive; therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT: Academic honesty and integrity are fundamental values of the University community. Students should be

sure that they understand the UF Student Honor Code at
https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/

ETIQUETTE: COMMUNICATION COURTESY: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. [Describe what is expected and what will occur as a result of improper behavior]
http://teach.ufl.edu/wpcontent/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf

GETTING HELP

For issues with technical difficulties for E-learning in Canvas, please contact the UF Computing Help Desk at:

- helpdesk@ufl.edu

- (352) 392-HELP - select option 2

- https://request.it.ufl.edu

** Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available at http://www.distance.ufl.edu/getting-help for:

- Counseling and Wellness resources

- Disability resources

- Resources for handling student concerns and complaints

- Library Help Desk support

Should you have any complaints with your experience in this course please visit http://www.distance.ufl.edu/student-complaints to submit a complaint.

GRADING POLICIES

EVALUATION WEIGHTS:

- Individual project (x1):   15%
- Final project (x1):   15%
- Papers' oral presentations (x1): 15%
- Reading summaries (x6):   18%
- Assignments (variable):   17%
- Participation (variable):   20%

INDIVIDUAL PROJECT: Students will work individually to complete a project involving identifying design problems to come up with design solutions. More details on project concepts and expectations will be given in class.

FINAL PROJECT: Students will work in teams to complete a project involving the design and evaluation of a user-centered solution. More details on project concepts and expectations will be given in class. Unless otherwise stated, each team is expected to work together to produce a single deliverable.

PAPERS' ORAL PRESENTATIONS: During the semester, each team will present and discuss one assigned research paper in class. Presentation length and discussion requirements will be determined by the instructor prior to presentation topic assignments. Presentations will be reviewed (graded) among the audience: students and the instructor.

ASSIGNMENTS: Assignments will be described as the course progresses. Assignments may include team-based deliverables, in-class activities as well as out-of-class work. Quizzes fall under in-class activities. Unless otherwise stated, homework must be submitted before class on the given deadline to be eligible for full credit.

READING SUMMARIES: During the semester, each student will write five reading summaries on papers discussing user-centered design and human-computer interaction. More details will be given in class.

PARTICIPATION: During the semester, students will be asked to take part as *reviewers* of their peers' work: e.g., projects' presentations, papers' summaries and mental maps, etc. Participation points will be granted or deducted **based on the students' attendance and contribution to those activities**.

RESEARCH PARTICIPATION: Students can participate in an approved research study related or relevant to HCI to receive extra-credit on the final grade. Participation must be completed before the semester ends. Extra-credit will be up to +2 marks on the final grade.

GRADING SCALE: A (100-93), A-(92-90), B+(89-87), B (86-83), B- (82-80), C+ (79-77), C (76-73), C- (72-70), D+ (69-67), D (66-63), D -(62-60), F (59-0)

Grades might be curved

 "A 'C' will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.asp"

EXTRA CREDIT: Opportunities to earn extra credit are not promised, but the instructor may opt to offer supplemental assignments for extra credit. Details will be determined per assignment and must be agreed upon by both the instructor and the student.

*Disclaimer: This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.

READING LIST

- **Weeks 1 – 2:**
  - Shruthi Sai Chivukula, Chris Rhys Watkins, Rhea Manocha, Jingle Chen, and Colin M. Gray. 2020. **Dimensions of UX Practice that Shape Ethical Awareness**. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20). Association for Computing Machinery, New York, NY, USA, 1–13. https://doi.org/10.1145/3313831.3376459
  - Eivind Flobak, Jo D. Wake, Joakim Vindenes, Smiti Kahlon, Tine Nordgreen, and Frode Guribye. 2019. **Participatory Design of VR Scenarios for Exposure Therapy**. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). Association for Computing Machinery, New York, NY, USA, Paper 569, 1–12. https://doi.org/10.1145/3290605.3300799
- **Weeks 3 – 4:**
  - Timothy Neate, Aikaterini Bourazeri, Abi Roper, Simone Stumpf, and Stephanie Wilson. 2019. **Co-Created Personas: Engaging and Empowering Users with Diverse Needs Within the Design Process**. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). Association for Computing Machinery, New York, NY, USA, Paper 650, 1–12. https://doi.org/10.1145/3290605.3300880

- o Nicola Marsden and Monika Pröbster. 2019. **Personas and Identity: Looking at Multiple Identities to Inform the Construction of Personas**. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). Association for Computing Machinery, New York, NY, USA, Paper 335, 1–14. https://doi.org/10.1145/3290605.3300565

- **Weeks 5 – 6:**
  - o Sabah Zdanowska and Alex S Taylor. 2022. **A study of UX practitioners roles in designing real-world, enterprise ML systems**. In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22). Association for Computing Machinery, New York, NY, USA, Article 531, 1–15. https://doi.org/10.1145/3491102.3517607
  - o Shahtab Wahid, D. Scott McCrickard, Joseph DeGol, Nina Elias, and Steve Harrison. 2011. **Don't drop it! pick it up and storyboard**. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '11). Association for Computing Machinery, New York, NY, USA, 1571–1580. https://doi.org/10.1145/1978942.1979171

- **Weeks 7 – 8:**
  - o Dhruv Jain, Angela Lin, Rose Guttman, Marcus Amalachandran, Aileen Zeng, Leah Findlater, and Jon Froehlich. 2019. **Exploring Sound Awareness in the Home for People who are Deaf or Hard of Hearing**. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). Association for Computing Machinery, New York, NY, USA, Paper 94, 1–13. https://doi.org/10.1145/3290605.3300324
  - o Olle Bälter, Olov Engwall, Anne-Marie Öster, and Hedvig Kjellström. 2005. **Wizard-of-Oz test of ARTUR: a computer-based speech training system with articulation correction**. In Proceedings of the 7th international ACM SIGACCESS conference on Computers and accessibility (Assets '05). Association for Computing Machinery, New York, NY, USA, 36–43. https://doi.org/10.1145/1090785.1090795

- **Weeks 9 – 10:**
  - o Fiona French, Clara Mancini, and Helen Sharp. 2015. **Designing Interactive Toys for Elephants**. In Proceedings of the 2015 Annual Symposium on Computer-Human Interaction in Play (CHI PLAY '15). Association for Computing Machinery, New York, NY, USA, 523–528. https://doi.org/10.1145/2793107.2810327
  - o Hongyi Zhang, Yike Liu, Sifu Zhu, and Jinjiang Ni. 2021. **Meow Meow Call: Prototype Design for Building Interactive Connection between Human and Deaf Cat**. In Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (CHI EA '21). Association for Computing Machinery, New York, NY, USA, Article 422, 1–6. https://doi.org/10.1145/3411763.3451681

- **Weeks 11 – 12:**
  - o Emmi Parviainen and Marie Louise Juul Søndergaard. 2020. **Experiential Qualities of Whispering with Voice Assistants**. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20). Association for Computing Machinery, New York, NY, USA, 1–13. https://doi.org/10.1145/3313831.3376187
  - o Do Eun Park, Yee-Jin Shin, EunAh Park, In Ae Choi, Woo Yeon Song, and Jinwoo Kim. 2020. **Designing a Voice-Bot to Promote Better Mental Health: UX Design for Digital Therapeutics on ADHD Patients**. In Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI EA '20).