SI 482 Interaction Design Studio

Fall 2020 Course Syllabus Instructor: Dr. Oliver Haimson

(course adapted from syllabi by Michael Nebeling, Tawanna Dillahunt, Mark Newman, and Nazanin Andalibi)

Course Summary

In this course, you will learn methods and skills involved in designing and prototyping interactive systems. We will cover the design process from the initial formulation of a design problem to creation of digital prototypes. This is a lecture and lab-based course centered around a design project carried out in teams. The class structure is a mix of design activities, lectures, and design critiques of project work. The project-oriented activities and assignments allow you to make progress on your design project and practice interaction design methods and skills.

Instructional Team



Instructor Dr. Oliver Haimson (haimson@umich.edu - put [SI 482] in the subject line so that I am sure to see your email)

- Office hours: Mondays 2-4pm ET, or by appointment at https://umich.zoom.us/my/haimson

GSI Woosuk Seo (seow@umich.edu)

- Office hours: Wednesdays 2-4pm ET, or by appointment, at https://umich.zoom.us/j/9606738292

GSI Ashley Hampton (ahhampto@umich.edu)

- Office hours: Tuesday/Thursday 1-2pm ET, or by appointment, at https://umich.zoom.us/j/8954119081

Class Meetings

All classes will take place on Zoom synchronously. Lectures will be recorded and available for viewing afterwards; labs will not be recorded.

Lectures (led by instructor): Tuesdays 2:30-4pm ET at https://umich.zoom.us/j/99446835999

Labs (led by GSIs, instructor sometimes present):

Lab 2 Tuesdays 4-5:30pm ET at https://umich.zoom.us/j/96431503474
Lab 3 Tuesdays 4-5:30pm ET at https://umich.zoom.us/j/95628300348
Lab 4 Wednesdays 10-11:30am ET at https://umich.zoom.us/j/98142243616
Lab 5 Mondays 4-5:30pm ET at https://umich.zoom.us/j/97956434069

Learning Objectives

After taking this course, you should be able to:

- ★ follow a systematic process for designing interactive products, starting from a high-level design problem and ending with a detailed specification.
- ★ create excellent interaction designs by employing core design concepts and best practices.
- ★ engage in and respond to constructive critiques of design work as part of a community of designers.
- ★ communicate design concepts clearly and persuasively at multiple levels of refinement, from concept to sketch to prototype to specification.
- ★ develop an understanding of when *not* to design, and how to account for diverse users to reduce the chances that designs will perpetuate existing inequalities in the world.

Course Schedule

Lecture Date	*Lectures / Labs Topic*	*Assignments Due (on Tuesdays before 2:30pm)*
Sep. 1	Week 1: Introduction, the Human-Centered Design Process, Design Problems	Initial Survey (due Aug. 27) Zipcrits signup (due Sep. 4) Week 1 reading response (due Sep. 4)
Sep. 8	Week 2: Design Critiques, Requirements (lab 5 will not meet due to holiday - all other labs and lecture will meet)	Design Problem Statement Competitive Analysis Week 2 reading response
Sep. 15	Week 3: Personas, Scenarios	User Interviews Analysis Week 3 reading response
Sep. 22	Week 4: Sketching, Storyboarding	Personas Scenarios Week 4 reading response
Sep. 29	Week 5: User Flows	Sketches Storyboards Week 5 reading response
Oct. 6	Week 6: Paper Prototyping	User Flow Diagram Week 6 reading response
Oct. 13	Week 7: Testing Paper Prototypes	Paper Prototype (with report and video) Week 7 reading response
Oct. 20	Week 8: Wireframing	Paper Prototype Usability Inspection Report Week 8 reading response
Oct. 27	Week 9: Digital Prototyping Guest lecture by Colin Gray on UX dark patterns and UX resource sharing	Wireframes Week 9 reading response
Nov. 3	Week 10: https://govote.umich.edu/ November 3 is ELECTION DAY – please vote! no lecture, no labs this week	Try Out Digital Prototyping Tool(s) Pick Your Digital Tool(s) Week 10 reading response
Nov. 10	Week 11: Evaluating Interface Designs	Digital Prototype v1 (with report and video) Week 11 reading response
Nov. 17	Week 12: User Interface Design Elements Final Presentation Instructions	Digital Prototype Usability Inspection Report Project Management Plan Week 12 reading response
BREAK	Week 13: Thanksgiving recess no lecture, no labs	
Dec. 1	Week 14: Final Project Presentations	Project Slide Slide Presentation and Digital Prototype Demo Week 14 reading response
Dec. 8	Week 15: Final Project Presentations Beyond Interaction Design	Final Digital Prototype Final Project Report

Before we get started, I want to acknowledge that these are challenging times, and many students are struggling. We aim to be flexible and accommodating in this course. Please reach out to the instructional team if you are experiencing challenges and we can discuss how to adjust the course to meet your needs. The main goal here is for you to learn, and we are here to help support you in learning.

Course Format

This course will involve synchronous interaction between the instructor and students in Zoom online classrooms. The lecture sessions will involve lectures and in-class design activities. The lab sessions will involve design critiques, in-class activities, discussion, group work, and presentations. Some activities will involve the whole class, and other activities will use breakout rooms for small group interaction. Please see the Attendance and Class Participation section for more information about our expectations for student participation in class.

Team Project

The centerpiece of this course is a design project that you will develop collaboratively in teams of 4-5 students over the course of the semester. Your team project will evolve, through design research and ideation, from the conception of a problem you want to solve to a high-fidelity digital prototype. Along the way, you will create a number of artifacts that represent different stages of the design process (sketches, personas, low-fi prototypes, etc.). We will use the class activities, labs, and homework to move the projects forward.

The idea is for you to focus on a problem you really care about – whether because it connects to your research interests or relates to an aspect of your personal life – and then get the experience of going through the steps of systematically developing a solution to that problem. There are two constraints on your design project topic: 1) your target population must *not* be primarily college students, and 2) your design must include *social* elements in some meaningful way; for example, consider how you might be able to define and address a problem centering around justice and equity in socio-technical systems.

As a result of this course's setup, at the end of the semester, you will have a body of your own design work that you can use in your portfolio or as a starting point for developing the project further.

Scoping

The range of technologies you could design is very broad, and that's good because it will enable you to engage in diverse projects that are of interest to you. However, this also means that there is a danger to overshoot and you could choose too big a project, which could make it infeasible in the context of this course. The instructors will help you define an appropriate scope of your project for this course. It is okay to think big initially, but it is necessary to set the right focus and drop ideas that have the danger of being too grand. We are here to help.

One way to think about scoping is in terms of the number of steps or interactions that your system will support. Think about the process of shopping online. You first search, then the results page appears, then you click on a result to see the details for that item, then you add the item to cart, then you click to check out, etc. Each of these steps – entering a search term, clicking on a result, adding an item to cart – is a user interaction. Some of these interactions happen on the same page (e.g., adding to cart and clicking the Check Out button usually both happen on the

item details page), while other interactions move the user to a new page (clicking on an item in the results list opens a page with the detailed information for that item).

For your project, you should aim to prototype between **15 and 30 user interactions** (steps through the system) that take place across **5 to 10 panels** (e.g., web pages, screens of a mobile application). Most of the panels should be unique.

Final Note

This is an *interaction design* class, which means that we are focusing on the front-end or user-facing aspects of technology: web pages, mobile apps, the control interface for home automation systems, etc. There are a lot of interesting problems which have a user-experience component, but which are ultimately not front-end problems. For instance, the order in which Yelp or Amazon results appear is fundamental to the user experience of these systems and is something these companies spend a lot of time thinking about and working on; it is also something they can improve upon. However, determining the results order would not be a good project for this class since this is an algorithmic problem, not a user interaction problem. Pick a project that lets you develop a set of interesting user interactions, not something that is fundamentally about under-the-hood machinery, or where the main activity would be to curate and design required data/information.

Grading

You should do good work in this class because you care about the project you pick and because you want to learn how to design interactive systems. That said, we must adhere to university policy and use grades, so here is how grades will work in this class:

- ★ Class participation (20 points)
  - In-class design activities (6 points (.5 points for each lecture))
    - Note: there are 13 total in-class design activities, but you only need to complete 12 to get full credit
  - Participating in design critiques and class discussions (7 points)
  - Group work (6 points)
  - Initial survey (1 point)
- ★ Reading responses (6 points (.5 points for each reading response))
  - Note: there are 13 total reading responses, but you only need to complete 12 to get full credit
- ★ Zipcrits (4 points)
- ★ Project assignments: (40 points total, see rubrics)
- ★ Project slide, slide presentation, digital prototype demo (10 points, see rubric)
- ★ Final digital prototype and project report (20 points, see rubric)

TOTAL: 100 points possible

Final grades will be recorded as letter grades using the following scale:

A+	97 - 100
A	93 - 96
A-	90 - 92
B+	87 - 89
B	83 - 86
B-	80 - 82
C+	77 - 79
C	73 - 76
C-	70 - 72
D or E	No Record Covid (NRC)

Late Policy

Many of our classroom activities involve getting feedback from your peers and the instructors on the work you did for your assignments. For this reason, it is important that you finish your assignments on time and come to class prepared to discuss them. To encourage timely completion of assignments – and, thus, your ability to fully participate in the class – late homework assignments will be penalized 20% per 24-hour period. Unexcused reading responses and Zipcrits will not be accepted. In some cases, extensions may be granted. Students must communicate with the instructional team before the deadline if at all possible.

Grade Discrepancies

Students are responsible for viewing their grades in Canvas and informing the instructor of any discrepancies within seven days (after seven days, no adjustments will be made to grades). Students must keep copies of any work submitted until final grades are submitted. No petitions for grade adjustments will be considered after December 8 - after this, the only basis for changing your grade will be to correct instructor errors in recording or calculating your grades.

Re-grading Policy

For project-based assignments, if you feel that the merit of your work on any assignment has not been fully recognized, you may choose to submit the assignment for re-grading within 7 days after grades are released for that assignment. To submit work for a re-grade, you must explain in an email why you feel your work deserves re-grading. You should provide details and point to specifics in the assignment that you feel merit a higher grade. One of three outcomes is possible: your grade may be raised, it may remain the same, or it may be lowered. The re-grade is final, even if it is lower than the original grade. You can only ask for a re-grade twice (two times in the semester).

Extra Credit

Extra credit assignments may be assigned throughout the semester at the instructor's discretion. Students are responsible for checking that Canvas has correctly registered their participation and will have one week after extra credit grades are uploaded to inform the instructor about any problems (after this, scores will not be adjusted). Regardless of how many extra credit opportunities are offered, students can receive a maximum of 3 points in extra credit during the semester.

Effort

This is a 4-credit course, so you should expect to spend, on average, 12-16 hours per week on the course over the course of the semester.

Attendance and Class Participation

Your in-class group activities and class participation grade both rely on you being in class. We will do individual and group activities in lecture and lab each week. In particular, the labs are crucial to the success of your team project. **If you are absent, you are responsible for finding out what you missed in class by referring to the syllabus and your classmates. Additionally, you are responsible for communicating with your team about how you will catch up on your project work.**

Class will be held on Zoom and will be synchronous. Class participation includes attending class and participating in class discussion. Most of the class should participate in synchronous class time with their video on, most of the time. If having your video on does not work or is not

comfortable for you the whole semester, please email me so I'm aware of it. At the minimum, I ask that you include a photo of your face and use your first and last name on your Zoom profiles, so that we can tell who is who and get to know each other better.

Since we will be in online classrooms using Zoom for lectures and labs, there are several ways that you can participate in class discussions. While I encourage you to raise your virtual hand and then unmute your microphone to speak when the instructor calls on you, you can also use the chat feature to contribute to the conversation. The GSIs will moderate lecture class sessions and will call my attention to chat questions and comments.

Our strong preference is for you to attend class synchronously so that you can interact with the instructors, your fellow classmates, and your teammates. However, if you are not able to attend class synchronously, you can complete the in-class design activities afterwards. You will need to watch the recorded video of the lecture for instructions on the in-class activity. If you are regularly not in class synchronously, especially lab sessions, your class participation grade will suffer because you are not able to participate in teamwork and design critiques.

Lectures will be recorded and available on Canvas afterwards. Labs will not be recorded.

Missing Class Due to Illness or Emergency

UMSI recognizes the extreme circumstances surrounding this academic term. We strive to provide an inclusive environment and to support the academic success of all students. If you experience illness or emergency during the term, please inform the GSI before class that you cannot participate in class. If you cannot participate due to illness or emergency, the instructor will provide as much support and flexibility as possible for you to complete the course when you are able. If you have ongoing physical or mental accommodation needs, you can contact the Services for Students with Disabilities Office (734-763-3000; ssd.umich.edu/). If you will be out for an extended period, or if you need additional academic support, please contact your academic advising team.

What-If Scenarios

If you are not able to join class at the designated class times, please contact me to discuss as soon as possible at or before the beginning of the term.

The instructional team will be joining class from our homes, as will many of you. Therefore, things might not always go as planned due to technical difficulties. Here are some contingency plans:

- If we are dropped from the Zoom meeting, please wait for us to return for at least 15 minutes. If our Internet goes down, we will call in from our phones. If that does not work, we will post on Canvas about next steps as soon as possible.
- If your Internet goes down during the synchronous class, please rejoin using your phone if possible. If it is not possible to rejoin, please watch the recorded lecture asynchronously to cover what you have missed.
- When you are presenting as part of a group, you should have a contingency plan to present on your group member's behalf if they lose connection. This means that while you may do group work, everyone should know the work and be able to present it, which is the expectation regardless of class delivery mode.
- If you miss any part of the class or your participation suffers due to Internet issues, you should contact the GSI immediately to determine next steps. Do not wait until the end of the semester or for weeks to see if you can make up for what was missed.

Recording Classes

Course lectures will be audio/video recorded and made available to other students in this course. As part of your participation in this course, you may be recorded. If you do not wish to be recorded, please contact the instructors the first week of class to discuss alternative arrangements.

Students may not record or distribute any class activity without written permission from the instructor, except as necessary as part of approved accommodations for students with disabilities. Any approved recordings may only be used for the student's own private use.

Supplies and Tools You Will Need

Normally we would bring supplies to the classroom for you to use. Because the class is remote, you will need to have some items to ensure that you can fully participate in activities and complete your assignments. Please make sure that you have the following items on hand close to the beginning of the semester, so you can use them as needed:

- ★ blank paper (definitely 8.5x11, more sizes if possible)
- ★ sticky notes
- ★ pens or pencils
- ★ markers
- ★ scissors
- ★ clear tape
- ★ ruler

We will also use the following tools throughout the course for various activities:

- ★ Miro
- ★ Zoom
- ★ Google docs/slides
- ★ Software for prototyping and wireframing (your choice - many students use Figma or Adobe XD for digital prototyping, and Balsamiq for wireframing).

We also recommend that you consider using technology for team collaboration. You can consider tools such as Slack, Google docs/slides, or Trello to help you manage your progress and collaborative activities. It is up to you what tools you use to collaborate.

Communication with the Instruction Team

When you email the instructional team, we are interacting in a professional context. Please use appropriate etiquette, such as suitable salutations and signatures. Do not use text message slang or Internet slang. Please use "[SI 482]" at the start of the subject header in emails so that we are sure to see your email.

Your first point of contact for most class-related issues will be your GSI. If there are issues you would like to discuss with the instructor, please contact me directly. If you are not sure whom to contact, you can email the instructor and GSI and one of us will respond.

You are welcome to come to the instructor's office hours to discuss matters pertaining to your ideas, research interests and aspirations, or your career goals. That is to say, my virtual office door is open, and you should feel free to stop by. I am here (or there) to help. Office hours will take place on Zoom and will be 1-1. If more than one student joins the office hours Zoom link at the same time, you will be in the "waiting room" until we let you in for your 1-1 office hours

session. We will be able to see that you are waiting. If your team wants to attend office hours together, we can let multiple students into the Zoom call at once.

While we will do our best to respond to your inquiries as soon as possible, you can expect that it may take us up to 2 business days to respond to your emails. Questions that require discussions lengthier than a short (5 minutes or less) response will be better addressed in office hours. Please do not expect emails on weekends or over holidays. If you need a response by a certain time, please make sure to plan accordingly.

Some Guidelines for Dialogue within the Classroom

We will do our best to:

1. Maintain confidentiality. We want to create an atmosphere for open, honest exchange.
2. Commit to learning from each other. We will listen to each other and not talk at each other. We acknowledge differences among us in backgrounds, skills, interests, identities and values. We realize that it is these very differences that will increase our awareness and understanding through this process.
3. Not demean, devalue, or "put down" people for their experiences, lack of experiences, or difference in interpretation of those experiences.
4. Trust that people are always doing the best they can. We will give each other the benefit of the doubt. We will assume we are all trying our hardest and that our intentions are good even when the impact is not.
5. Challenge the idea and not the person. If we wish to challenge something that has been said, we will challenge the idea or the practice referred to, not the individual sharing this idea or practice.
6. Speak our discomfort. If something is bothering us, we will share this with the group. Often our emotional reactions to this process offer the most valuable learning opportunities.
7. Step Up, Step Back. We will be mindful of taking up much more space than others. On the same note, empower ourselves to speak up when others are dominating the conversation.
8. Not to freeze people in time. We are all works in progress. We will be willing to change and make space for others to do so. Therefore we will not assume that one comment or one opinion made at one time captures the whole of a person's character.

- The Program on Intergroup Relations, University of Michigan, 2012

Accessible Teaching and Learning Environment

I know that courses at UM and UMSI can be demanding, but that is because we want you to be able to learn, explore, and reach your full potential. I aim to create an accessible environment for teaching and learning in my classroom. Each of us comes to class with different assumptions, values, and opinions. Rather than being in the way, however, I see such differences as valuable starting points for building the community I hope we build over the course of the semester.

If you find that any aspect of the course creates a barrier to you achieving your learning goals and objectives, please reach out to me and we can discuss how we can adjust to meet your needs. You can reach me via email (haimson@umich.edu) or online via Zoom (after class, during office hours, or by appointment).

I also want to let you know about the following resources that might help you find the School of Information, and the University at large, more accommodating:

- UMSI Office of Academic and Student Affairs (OASA): 333 Maynard (5th floor, Collegian building, which is located next to the Maynard entrance to Nichols Arcade)
- Counseling and Psychological Services (CAPS): (734) 764-8312

- Psychiatric Emergency Services (U of M Hospital): (734) 996-4747
- Sexual Assault Prevention and Awareness Center (SAPAC) 24-Hour Crisis Line: (734) 936-3333
- Services for Students with Disabilities (SSD): (734) 763-3000
- Sweetland Center for Writing: https://lsa.umich.edu/sweetland/undergraduates.html

If you ever need, or want, assistance navigating and making use of these resources, please don't hesitate to ask me. I am here to be your advocate.

We will use Zoom's live captioning during all class sessions and will make lecture slides available after class.

Accommodation for Students with Disabilities

If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way the course is usually taught may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Services for Students with Disabilities (SSD) office to help us determine appropriate academic accommodations. SSD (734-763-3000; http://ssd.umich.edu) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. Please present this form to me at the beginning of the term, or at least two weeks prior to the need for the accommodation. Any information you provide is private and confidential and will be treated as such.

Student Mental Health and Wellbeing

We support your health and wellbeing. If you are experiencing a physical or mental health challenge, trauma, grief/loss, or some other personal life challenge, and an adjustment of course timelines can help you work through it, please come talk to us as soon as you can so we can discuss how to best accommodate your needs. We encourage all of you to try to get enough sleep, to prioritize taking care of yourself, and to try to find social support from people around you.

The University of Michigan is committed to advancing the mental health and wellbeing of its students, while acknowledging that a variety of issues, such as strained relationships, increased anxiety, alcohol/drug problems, and depression, directly impact students' academic performance. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and https://caps.umich.edu/ during and after hours, on weekends and holidays or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (732) 764-8320 and https://www.uhs.umich.edu/mentalhealthsvcs, or for alcohol or drug concerns, see www.uhs.umich.edu/aodresources. For a more comprehensive listing of the broad range of mental health services available on campus, please visit: http://umich.edu/~mhealth/.

For Students Experiencing Food Insecurity

College students are experiencing food insecurity at alarming rates. The Maize and Blue Cupboard is here to provide an immediate and comprehensive response for the U-M community by providing food, kitchen supplies, personal and household items, and additional support. Maize and Blue Cupboard is open to all UM students. You can go look around, or leave with a couple grocery bags - it's your choice. https://mbc.studentlife.umich.edu/

Academic Integrity

Abridged version: Unless otherwise specified in an assignment, all submitted work must be the work of each individual student's own, original work. **If students are referencing others' work, put it in quotes. If students are directly quoting or building on others' writing, provide a citation.** See the BSI Student Handbook for the definition of plagiarism, and associated consequences. Violations of academic and professional integrity will be reported to UMSI Student Affairs. Consequences impacting assignment or course grades are determined by the faculty instructor; additional sanctions may be imposed by the assistant dean for academic and student affairs.

Collaboration

UMSI strongly encourages collaboration while working on some assignments, such as homework problems and interpreting reading assignments as a general practice. Active learning is effective. Collaboration with other students in the course will be especially valuable in summarizing the reading materials and picking out the key concepts. You must, however, write your homework submission on your own, in your own words, before turning it in. If you worked with someone on the homework before writing it, you must list any and all collaborators on your written submission. Each course and each instructor may place restrictions on collaboration for any or all assignments. Read the instructions carefully and request clarification about collaboration when in doubt. Collaboration is almost always forbidden for take-home and in class exams.

For this course's team assignments, we expect that you are collaborating with your team members and that each of you is contributing to the assignment. For the individual assignments, we expect you to do this work independently, though you are allowed and encouraged to discuss your work with your team members.

Plagiarism

All written submissions must be your own, original work. Original work is not mere paraphrasing of someone else's completed answer. Largely duplicate copies of the same assignment will receive an equal division of the total point score from the one piece of work. You may incorporate selected excerpts, statements, or phrases from publications by other authors, but they must be clearly marked as quotations and must be attributed. If you build on the ideas of prior authors, you must cite their work. You may obtain copy editing assistance, and you may discuss your ideas with others, but all substantive writing and ideas must be your own, or be explicitly attributed to another. See the BSI student handbook available on the UMSI intranet for the definition of plagiarism, resources to help you avoid it, and the consequences for intentional or unintentional plagiarism.

READINGS

The required textbook for this class is *Interaction Design: Beyond Human-Computer Interaction* 5th edition (2019) by Sharp, Rogers, and Preece (ISBN 9781119547259).

All other readings will be available on the Canvas website for this class, unless they are available online, in which case a URL will be provided. (Note that readings may change; any changes will be announced via Canvas).

If you cannot access a reading for some reason, please let me know ASAP via email so I can correct the problem for the entire class.

Please note: **everyone in the class is *expected* to come to class having read the required readings for that class.** If you do not do the required readings, your understanding of the course material will suffer, as will your grade and the classroom discussions. All readings and reading responses are due at the beginning of the lecture, at 2:30pm on Tuesdays.

Reading Responses (individual)

Each week, you will write a 1-2 paragraph reading response for the readings from that week, which you will post on the discussion board on Canvas. Your response should reflect on the readings and discuss points you found particularly interesting. What you **don't** want your reflection to be is just a summary or reiteration of the readings, without adding any of your personal thoughts and reflections.

Some topics you might write about:

- ★ how the reading relates to your project in an interesting way
- ★ a new idea you have based on the reading
- ★ points where you disagree with the author, and why
- ★ the most surprising thing you learned from the reading, and why it was surprising
- ★ how this reading relates to your own experiences using or designing technology

There are 13 total weeks of class with readings, but to give you some flexibility, you only need to turn in 12 reading responses. You are, however, responsible for doing the readings even on weeks you don't turn in reading responses.

Full credit is 0.5 points for each reading response. You will get full credit if it is clear that you read the readings and you engaged with them meaningfully and specifically in your response. You will get half credit if you wrote something, but it's not clear if you actually did the readings or not (e.g., lack of specifics and/or meaningful engagement).

Week 1: Introduction, the Human-Centered Design Process, Design Problems

- ❏ "Chapter 1: What is Interaction Design?" in Helen Sharp, Jennifer Preece, and Yvonne Rogers. 2019. Interaction Design: Beyond Human-Computer Interaction (5th ed.). Wiley.
- ❏ "Chapter 4: The Perfect Brainstorm" in Tom Kelley, Jonathan Littman, and Tom Peters. 2001. The art of innovation: Lessons in creativity from IDEO, America's leading design firm. Currency/Doubleday.
- ❏ Sheena Erete, Aarti Israni, and Tawanna Dillahunt. 2018. An intersectional approach to designing in the margins. Interactions 25, 3: 66–69.

Week 2: Design Critiques, Requirements

- ❏ “Chapter 2: The Process of Interaction Design” in Helen Sharp, Jennifer Preece, and Yvonne Rogers. 2019. Interaction Design: Beyond Human-Computer Interaction (5th ed.). Wiley.
- ❏ “Chapter 8: Data Gathering” [only sections 8.1 – 8.4, not the whole chapter] in Helen Sharp, Jennifer Preece, and Yvonne Rogers. 2019. Interaction Design: Beyond Human-Computer Interaction (5th ed.). Wiley.
- ❏ Cassie McDaniel. 2011. Design Critique and the Creative Process. A List Apart.

Week 3: Personas, Scenarios

- ❏ “Chapter 11: Discovering Requirements” in Helen Sharp, Jennifer Preece, and Yvonne Rogers. 2019. Interaction Design: Beyond Human-Computer Interaction (5th ed.). Wiley.
- ❏ John M. Carroll. 1999. Five reasons for scenario-based design. In Proceedings of the 32nd annual Hawaii international conference on system sciences.
- ❏ Tiffany Eaton. 2018. UX Design Will Never Be a Solo Job. Medium.

Week 4: Sketching, Storyboarding

- ❏ “Chapter 12: Design, Prototyping, and Construction” in Helen Sharp, Jennifer Preece, and Yvonne Rogers. 2019. Interaction Design: Beyond Human-Computer Interaction (5th ed.). Wiley.
- ❏ Sections 3.2 - 3.4 in Saul Greenberg, Sheelagh Carpendale, Nicolai Marquardt, and Bill Buxton. 2012. Sketching User Experiences: The Workbook. Morgan-Kaufmann.
- ❏ “Section 4.4: The Narrative Storyboard” in Saul Greenberg, Sheelagh Carpendale, Nicolai Marquardt, and Bill Buxton. 2012. Sketching User Experiences: The Workbook. Morgan-Kaufmann.

Week 5: User Flows

- ❏ Sarah Gibbons. 2017. UX Mapping Methods Compared: A Cheat Sheet. Nielsen Norman Group.
- ❏ Miklos Philips. 2018. A Guide to Information Architecture. Medium.
- ❏ Read three sections (your choice) from: William Lidwell, Kritina Holden, and Jill Butler. Universal principles of design. (login via UM Library for full access). Suggested sections: Affordance, Accessibility, Archetypes, Constraint, Consistency, Flexibility-Usability Tradeoff, Form Follows Function, Hick’s Law, Ockham’s Razor

Week 6: Paper Prototyping

- ❏ Marc Rettig. 1994. Prototyping for Tiny Fingers. Communications of the ACM 37, 4: 21–27.
- ❏ “Section 3.7: Sketching with Office Supplies” & “Section 3.8: Templates” in Saul Greenberg, Sheelagh Carpendale, Nicolai Marquardt, and Bill Buxton. 2012. Sketching User Experiences: The Workbook. Morgan-Kaufmann.
- ❏ Jim Rudd, Ken Stern, and Scott Isensee. 1996. Low vs. High-fidelity Prototyping Debate. Interactions 3, 1: 76–85.

Week 7: Testing Paper Prototypes

- ❏ “Chapter 14: Introducing Evaluation” in Helen Sharp, Jennifer Preece, and Yvonne Rogers. 2019. Interaction Design: Beyond Human-Computer Interaction (5th ed.). Wiley.
- ❏ Michelle Brown. 2015. How to Do a Paper Prototype Test in 7 Steps. Akendi UX Blog.
- ❏ Woodrow Winchester III. 2020. Black-centered design is the future of business. Fast Company.

Week 8: Wireframing

- ❏ “Chapter 13: Interaction Design in Practice” in Helen Sharp, Jennifer Preece, and Yvonne Rogers. 2019. Interaction Design: Beyond Human-Computer Interaction (5th ed.). Wiley.
- ❏ “Chapter 7: Wireframes” in Dan Brown. 2011. Communicating Design: Developing Web Site Documentation for Design and Planning. New Riders.

Week 9: Digital Prototyping

- ❏ Jonathan Santiago. 2020. 5 of Today’s Most Popular Prototyping Tools. User Interviews.
- ❏ Jenifer Tidwell, Charles Brewer, and Aynne Valencia. 2020. Designing Interfaces: Patterns for Effective Interaction Design. O’Reilly Media. (free 10-day trial on O’Reilly’s website or login via UMICH @ LINK via O'Reilly Safari)
  - ❏ Read “Chapter 1: Designing for People,” pages 1-8
  - ❏ Skim the rest of the book, paying attention to design patterns that will be useful in your team’s digital prototype.

Week 10: Careers in Interaction Design and UX

- ❏ Emelyn Baker. 2015. Building your design portfolio? Here are 8 things I wish I’d known. Medium.
- ❏ Rachel Krause. 2019. 5 Steps to Creating a UX-Design Portfolio. Nielsen Norman Group.

Week 11: Evaluating Interface Designs

- ❏ “Chapter 15: Evaluation Studies: From Controlled to Natural Settings” in Helen Sharp, Jennifer Preece, and Yvonne Rogers. 2019. Interaction Design: Beyond Human-Computer Interaction (5th ed.). Wiley.

Week 12: User Interface Design Elements

- ❏ Read two articles or watch two videos from the Nielsen Norman Group’s Visual Design topic.
- ❏ Choose your own reading: find an online article or blog post related to interaction design / UX. This can be some kind of reflection from a practitioner who has significant experience doing interaction design and discusses issues and things to pay attention to based on their own experience. Some places you can look for articles: Smashing Magazine, A List Apart, UX Matters , Medium, UX Magazine , uxdesign.cc, UXBooth, etc. Add your article under this week’s reading discussion along with a short summary and an explanation of why someone else may be interested in reading it.

Week 13: Thanksgiving recess (no lecture, no labs)

No reading

Week 14: Final Project Presentations

- ❏ For your last reading response, pick one of the reading suggestions posted by your classmates in Week 12, read it, and write a response.

Week 15: Final Project Presentations, Beyond Interaction Design

No reading

ASSIGNMENTS

Zipcrits (individual)

Each student will do a short Zipcrits presentation during their lab section at some point during the semester (sign up for your Zipcrits date here). Zipcrits are rapid critiques (less than 3 minutes) of an interface, object, design, etc. You will present a critique of an existing design, including 2 positive aspects and 2 negative aspects. You should explain how the positives could be applied to other kinds of interfaces (think of design patterns), and explain how the negatives could be mitigated (think of related interfaces that do a better job). Some things to consider: usability, aesthetics, form function, audience and personal experience, impact (social, cultural, environmental, etc.).

Please submit your Zipcrits slides on Canvas.

Rubric

Explanation of 2 positive aspects of existing design and how they could be applied to other kinds of interfaces	1.5 pts
Explanation of 2 negative aspects of existing design and how they could be mitigated	1.5 pts
Presentation was professional and engaging	1.0 pts

Initial Survey (individual)

This survey will help us collect info on your background and interests, and give us a potential direction for your course project. Some of your responses will be used when forming teams for the semester. Other questions are so that the instructional team can understand more about you and any potential challenges that you may face participating in class. You will not be penalized in any way for your answers. Instead, your answers will be used so that we can make adjustments to allow you to more fully participate in the course.

Design Problem Statement (team)

Submit a brief (½ to 1 page, in PDF format) problem statement for the project your team would like to work on this semester. You will brainstorm ideas as a team during the discussion/lab sections to determine what problem you'd like to focus on. Your goal is to consider the human and social nature of the problem and what existing designs lack in addressing the problem. This statement is intended to be the beginning of a conversation about your project, not the end, so think through the problems that you find interesting and challenging, but remain open-minded to possible changes of direction. This assignment helps you learn how to articulate the problem space, and specify the constraints and opportunities that you will consider when carrying out the design process. Your design problem does not need to be completely original, but it may be a more fun and exciting project if it is.

This statement should include the following sections:

- ★ An explanation of what the problem is and how it is an interaction design problem.
- ★ A description of particular activities that are important to individuals in the target domain.
- ★ A description of what you believe is done currently to support this activity, what works well, and what doesn't work well about that current practice.

- ★ A description of the essential functions that a tool would need to have that would, from your perspective, support this activity in a robust way.
- ★ An identification of the users, and different groups of users that you might need to support differently to address the problem.

Make sure your text clearly includes the above sections and is organized around the five points. Do not leave it up to your readers to determine what is what.

Two constraints:

- ★ Your target population *must not be primarily college students*. Think about other populations you'd like to design for.
- ★ Your eventual design must include *social* elements in some meaningful way. Even better if you orient your project towards a more healthy, just, and fair world.

Rubric

Statement explains problem and how it is an interaction design problem	0.5 pts
Statement describes particular activities that are important to individuals in the target domain.	0.5 pts
Statement describes what you believe is done currently to support this activity, what works well, and what doesn't work well about that current practice.	0.5 pts
Statement describes essential functions are that a tool would need to have that would support this activity in a robust way.	0.5 pts
Statement identifies the users and different groups of users that you might need to support differently to address the problem.	0.5 pts
Design problem is not primarily targeted at college students, and involves potential for social elements.	0.5 pts

Competitive Analysis (team)

Regardless of the particular problem/context you are focusing your project around, it is likely that someone has attempted a prior design in response to a similar issue.

For this assignment, take a critical look at existing systems within your context and articulate what their deficiencies are in respect to supporting your target activity. By systems, we mean not only existing web sites and mobile apps, but any kind of existing solutions (e.g., manual solution, non-digital solution, community-based solution) that (partly) addresses the problem you are dealing with in your design project. In industry, this is called "competitive analysis" and in academia "related work." As you research these systems, compile a list of problems or frustrating aspects of the current solutions to your problem. This list (Bill Buxton, a very well-known user interface researcher at Microsoft, calls such a list a "bug list") can be a starting point for your thinking of how your own solution can do things better.

You have already started with the analysis with your team in the lab, and you may divide the workload by having each team member focus on a different existing solution in their write-up. However, the 1-page submission should be a coherent description of the problem design space and clearly mention the different kinds of competitors that you have identified (between 3 and 5

is a good number). Your submission should also include a statement that summarizes your reflection on the competitive analysis as a team activity, and what you have learned from it.

One of the competitors must be an *analogous* competitor. This is a technology in a *different* problem domain that inspires you from an interaction design perspective. Explain what is good about this one and how you will attempt to apply the principles in your project.

Rubric

Five things that your solution needs to support to address the problem	0.5 pts
Description of at least three competitors, at least one analogous, that inspire you	0.5 pts
Main pros and cons of each competitor/existing solution and why you picked it	0.5 pts
Reflection / lessons learned from doing the competitive analysis as an important step in the interaction design process	0.5 pts

User Interviews Analysis (Individual)

For this assignment, each team member will individually interview 2-3 people from your design's target domain – that is, people who would be potential users of the technology you will design. (Note: if your target population is difficult to reach for interviews (e.g., prison inmates, celebrities), talk to your instructor or GSI about alternative ways to gather data). These interviews do not need to be long; roughly 10-15 minutes should be enough time to get your questions answered. You should audio record or take very detailed notes during the interviews. Next, qualitatively analyze your interview data. That means grouping interview quotes into different categories and themes that relate to your design. For the assignment, turn in your list of questions, a brief description of whom you interviewed, and a 1-page write-up of your interview analysis, in which you describe each of your themes, include representative quotes from interviewees, and discuss how what you learned influences your technology design going forward.

Rubric

A list of 7-10 interview questions that you asked your interviewees	0.5 pts
A brief description of whom you interviewed (info such as age, gender, race/ethnicity, and any other characteristics that are relevant to your design problem)	0.5 pts
Write-up includes at least three themes that came from your data analysis, with quotes from interviewees that represent the themes	1.0 pts
Discussion of how what you learned influences your technology design going forward	1.0 pts

Personas (team)

Draw from your user interviews to develop 3 to 5 personas of sample users for your design. These should be representative of the audience(s) you are targeting. To make your personas as useful as possible, consider maximizing diversity of characteristics so that the personas include a wide range of user needs, motivations, skill levels, etc. Focus on primary and secondary personas for this assignment. Submit a ½-page reflection on the process of designing personas.

Rubric

You developed 3-5 diverse personas with enough detail so that the differences between them are clear (0.5 points per persona; 3 personas are enough if obviously different).	1.5 pts
Reflection on the process of designing personas and scenarios	1.0 pts

Scenarios (team)

Pick 3 personas (at least 1 primary) and, for each of them, write an interaction scenario (up to 1 page per scenario) along with a set of goals/tasks that they should be able to accomplish with your system. Include a ½-page reflection on the process of constructing scenarios.

Rubric

For each of 3 personas, you described an interaction scenario including the typical elements (setting, agent(s), goals, actions, events) (0.5 points per scenario).	1.5 pts
Reflection on the process of designing personas and scenarios	1.0 pts

Sketches (individual)

Take two sheets of 8.5”x11” blank white paper and divide each sheet into 16 squares (e.g., by folding it in half four times), which equals 32 total squares. **Use the space to sketch solutions to your design problem, one in each square**. Write a brief caption for each square to help someone else understand the idea each sketch conveys. Together, the sketches should cover one or two of your team’s scenarios (setting, user, goals, actions, events). You should explore different ideas and illustrate these through a variety of sketches.

A few important guidelines:

- ★ Focus on quantity not quality.
- ★ No two ideas should be alike.
- ★ Include ideas from existing products or prior research.
- ★ If you get stuck, think about different contexts in which your system could be used to inspire new ideas.

Scan or photograph your sketches and submit them as a PDF.

Rubric

32 labeled sketches with captions conveying what the solution does to address the problem	1.5 pts
Diversity in ideas (don't just sketch one idea in varying detail, but multiple ideas)	1.0 pts

Storyboards (team)

Come back to your scenarios from last week and choose 2 of them to focus on for your storyboards. You will produce one storyboard for each scenario (so 2 in total per team). Now, pick your favorite sketches from all team members (or sketch the missing pieces) and organize them into **2 storyboards that provide a visual narrative of your scenarios** (aka a “narrative

storyboard"). Add annotations to help someone else understand how the user's task would progress in response to their interactions.

Rubric

2 annotated storyboards that provide a visual narrative of your team's scenarios (1 point for each).	2.0 pts

User Flow Diagram (team)

Using Miro, create a visual mapping of the various flows your users will take through your app/site/system. Start with the information architecture activity that you will do in lab, and perform this same activity until you have covered all 15-30 interactions that your app/system will support. Consider the flow between the different (5-10) screens/panels, and the different paths users might take. Then refine these diagrams into *one* diagram showing all of the flows between the different screens. Document your process with photos/screenshots, and submit photos of your process along with your final user flow diagram.

Rubric

You developed a user flow diagram of your design project that represents 15-30 interactions.	2.0 pts
You documented your process with photos/screenshots.	0.5 pts

Paper Prototype (with report and video) (individual)

Using paper, sticky notes, scissors, tape, and any other supplies you may want to use, create a paper prototype of your project solution. Focus on tasks and interactions from the scenarios and storyboards you developed previously. Your final prototype will have 15-30 interactions across 5-10 panels, where an interaction is defined as having a trigger (e.g., click, button) cause an event (e.g., new screen, existing screen changes in some way). **At this point, each student should prototype enough panels and interactions for a test user to be able to complete at least one task.**

Across all team members, you do not have to have all the interactions and screens completed, but the most important panels and the basic interactions illustrating the user flow should be there. Interactions can be as small as clicking a button to select an item and as large as having an entirely different screen show up, for example to search for an item. Try to have a reasonable balance of "bigger" and "smaller" interactions. We want to see a rich and diverse set of interactions in your prototypes. In general, your goal with the paper prototypes should be to give us a good idea of what you are hoping to develop as your final prototype.

Note: This is an individual assignment mostly due to the difficulty of collaborating with paper remotely. That said, you are encouraged to work on this assignment collaboratively with your team members to the extent possible.

Report

Write a 1-page report on the design decisions you made, what did or did not work well in the process, and what you might want to do differently.

Video

Each student should create a short video demonstrating your paper prototype in action (using a phone camera is perfectly fine). This can be an MP4 format video or a link to your video hosted on YouTube or Vimeo. You should show how the prototype works from a user's perspective by walking through one or more tasks. Use text in your video to help guide the viewer through the video and state what the task(s) are.

Rubric

Report documenting at least 2 design decisions you made when designing your prototype, what worked well and did not, and what you might want to do differently	1.0 pts
Video of paper prototype (walking through at least one user task and all the screens and interactions involved in the user flow for that task)	3.0 pts

Paper Prototype Usability Inspection Report (individual)

Conduct several (1-3) usability tests of your paper prototype with people from your household or people whom you are able to see physically while maintaining safety. Choose one or several tasks that the user should be able to perform using your paper prototype, and observe whether they can complete the task and which parts of your prototype are difficult or confusing. Fill in a usability inspection log for each test. Submit your log(s) together with a 1-page report on your test(s), including an analysis of the defects and a description of how you plan to fix the issues you identified.

If you do not have access to other people to conduct this assignment, you will join one of your teammate's paper prototype tests remotely. We will provide more instructions in class for how you can complete this assignment.

Rubric

Usability inspection log(s)	0.5 pts
Analysis of your paper prototype's defects	1.0 pts
Description of how you plan to fix the issues you identified	1.0 pts

Wireframes (team)

Examine your teammates' paper prototypes and usability inspection reports. As a team, choose the best elements of each design, and combine them together into one integrated prototype design moving forward. Make sure to address any issues found in the usability tests. Create wireframes (using pen/pencil and paper or a wireframing software such as Balsamiq, Adobe XD, or Figma) for each of the 5-10 screens of your design. Your prototype does not need to be interactive at this point. Submit your wireframes as legible images in a document.

Rubric

You created wireframes for each of your 5-10 screens/panels.	3.0 pts

Try Out Digital Prototyping Tools (individual)

Try out at least one digital prototyping tool of your choice, design an interface involving 1-2 key interactions in the tool, and report on your experience.

1. Create a new interface in the tool that you want to try out. Your interface can be based on your team project, but does not have to be.
2. Prototype 1-2 key interactions.
3. Write a 1-page report describing your experience trying out the digital prototyping tool(s). Within the 1-page, include a few visuals of your design.

Guidelines:

- ★ Use 2-3 panels (e.g., mobile screens, web pages).
- ★ Insert a navigation bar and enable transition between screens.
- ★ You may include mock input (e.g., user login, simple questionnaire, etc.).

Rubric

1-page report describing your experience trying out the digital prototyping tool(s)	1.0 pts

Pick Your Digital Tool (team)

As a team, decide which digital tool you want to use to design your prototype. Reasons for choosing a particular tool might be based on its specific features, popularity, compatibility, use in industry, etc. Allowing you to select a tool of your choice means you can learn a tool that you think is relevant to your project, works for your team, and may add an important skill to your resume. However, giving you the choice also means that we may not know your tool(s), and thus may only be able to help to some extent; but, chances are someone else in the course knows the tool and may be able to help you if you get stuck.

Submit a ½-page report describing your rationale for choosing the tool(s) for your project.

Rubric

1/2-page rationale for selected digital prototyping tool(s)	0.5 pts

Digital Prototype v1 (with report and video) (team)

Translate your prototype so far (i.e., your sketches, storyboards, user flow, paper prototype, wireframes) into the first version of an interactive digital prototype. As the first step, we are looking for high-fidelity digital mockups of the various panels of your wireframe, and initial support for interactions. Your final digital prototype should have 15-30 interactions across 5-10 panels, where an interaction is defined as having a trigger (e.g., click, button) cause an event (e.g., new screen, existing screen changes in some way). At this point you do not have to have all the interactions and screens completed, but the most important panels and the basic interactions illustrating the user flow should be there. Interactions can be as small as clicking a button to select an item and as large as having an entirely different screen show up, for example to search for an item. Try to have a reasonable balance of “bigger” and “smaller” interactions. We want to see a rich and diverse set of interactions in your prototypes. To make this exercise as useful to you as possible, make sure to prototype all the interactions about which you are uncertain and for which you want feedback from your peers, instructors, and user testers.

Your digital prototype should look polished and visually appealing, but at this point the focus is on the interactions. Your digital prototype should look like something that you would be excited to show a client, colleague, or boss.

Report

Write a 1-page report on the process and reflections on creating your digital prototype, and describe 3 things that you would like to change and improve on in future iterations of your digital prototype.

Video

Submit a video that shows your digital prototype's interactions and screens. This can be an MP4 format video or a link to your video hosted on YouTube or Vimeo. We prefer a screen capture video, but using a phone camera is also fine as long as we can see your work. You should show how the prototype works from a user's perspective by walking through a few tasks. Use screens with text on them to help guide the viewer through the video and state what the tasks are.

Rubric

Report describes your process and reflections on creating your digital prototype	0.5 pts
Report describes 3 things that you would like to change and improve on in future iterations of your digital prototype.	0.5 pts
Video of first version of digital prototype (most important panels and basic interactions illustrating user flow)	4.0 pts

Digital Prototype Usability Inspection Report (team)

Conduct at least 5 usability tests of your digital prototype. The great thing about digital prototypes is that they can be tested online. The 5 people you ask to test your prototype may be classmates who are not on your team and/or people from your family or social network. Choose several tasks that the user should be able to perform using your prototype, and via a video call and screensharing, observe whether they can complete the task and which parts of your prototype are difficult or confusing. Fill in a usability inspection log for each test, and submit all logs with your assignment. You will also write a 1-page report which includes an analysis of the defects found in user tests, a summary of what feedback you have received from your peers and instructors so far, and a description of how you plan to fix the issues you identified in user tests and address the feedback you have received in the next iteration of your digital prototype.

Rubric

Usability inspection logs	0.5 pts
Analysis of your digital prototype's defects	1.0 pts
Summary of feedback you got from peers and instructors	0.5 pts
Description of how you plan to fix the issues you identified and the feedback you have received	1.0 pts

Project Management Plan (team)

Develop a plan to complete your project. There will still be lots to do, and you need to distribute the work. It is crucial to develop a plan of who is responsible for which parts of the digital prototype.

Submit a ½-page plan that describes what you will achieve by December 1 (Project Slide & Presentation due; consider that there is the Thanksgiving break in between) and December 8 (Final Digital Prototype & Final Project Report due), and how you will divide the work between your team members.

Rubric

1/2-page plan for who is responsible for what over the next few weeks	1.0 pts

Project Slide (team)

Prepare and submit a project slide that illustrates your project this semester. The project slide will be shown on your laptop during the final presentations. You should design for 16:9 landscape Full HD (1920x1080p) widescreen resolution. The design and the layout of the slide itself is open for creativity. We refer you to posters from past CHI Student Design Competitions for inspiration.

Your slide should include the following:

- ★ Your project's name
- ★ The names of all team members
- ★ In 1-2 sentences, summarize your design statement. What problem were you trying to address with your design, and how does your design address this problem?
- ★ Include 2 aspects of your project that you are most excited about. This can be new interactions, design decisions, design rationale etc. Something that you think is cool about your final project design.
- ★ Up to 4 Screenshots showing the core features/functionality of your digital prototype.

Rubric

Slide that summarizes your design statement and illustrates 2 important aspects	2.5 pts

Slide Presentation and Digital Prototype Demo (team)

The main purpose of the final presentations is to showcase to the class what you have been working on this term. This will be done by presenting your project slide and a live demo of your digital prototype.

Your class presentation should include the following:

- ★ Slide presentation:
  - A brief description of what problem you tried to solve in your project and why this problem is important.
  - A high-level overview of your solution (e.g., "We created a prototype for a mobile-phone application that enable users to do X, Y, and Z.")
- ★ Live demo of your digital prototype
  - A walkthrough of one or two key features of your interface.
    - Ideally, this will be based on your scenario(s).

    - Ideally, you will give a live demo of your digital prototype. But, as a backup (e.g., in case of technical difficulties), you can do this with screenshots or a slideshow.
  - A design rationale for an important design decision you had to make during the project. This is to show us a little bit about the thinking that went into the project.

Not all team members need to talk as part of the presentation, but at least 2 team members should.

Note: student presentations will be very short (5 minutes, including both the slide presentation and the digital prototype demo), so you will need to be very concise. **You should have a script and rehearse your presentation and demo.** Because we have very limited time, I will have to cut you off if you go over 5 minutes.

Note: we will vote on the best student presentation, and the top two teams will receive extra credit points!

Rubric

Slide presentation that includes a brief summary of your problem and solution	2.5 pts
Live demo walking through a typical scenario and two key features of your interface	5.0 pts

Final Digital Prototype (team)

Create a video of your final interactive prototype. Your video should show all of your prototype's 15-30 user interactions and all 5-10 screens/panels. You should show how the prototype works from a user's perspective by walking through a few tasks. Use screens with text on them to help guide the viewer through the video and state what the tasks are.

This can be an MP4 format video or a link to your video hosted on YouTube or Vimeo. We prefer a screen capture video, but using a phone camera is also fine.

Rubric

Final digital prototype supporting 15-30 user interactions taking place across 5-10 screens	8.0 pts

Final Project Report (team)

Create a project report that summarizes your full design project. Include sketches and screenshots to illustrate your design journey. Include a link to your final interactive digital prototype in the report.

We are very flexible with format. You can submit a paper of 3-5 pages single-spaced, PowerPoint or Google Slides with 10-15 slides, or a web page of equivalent length. Please don't feel the need to add as many screenshots as you possibly can – select those that convey useful information. Focus on quality and polish your report as though you were delivering it to a client.

Your report should at least include the following:

1. Problem Statement
   - ★ In 2-3 sentences, summarize your design problem statement.

2. Solution Overview
   - ★ Briefly characterize the users and settings you designed for.
   - ★ Provide an overview of the basic functionality in terms of tasks users can perform.
3. Final Design
   - ★ Provide a description of the main parts of the design flow. This is important because it will provide you with a record of how the design worked or was intended to work, long after the implementation no longer works. It could in principle also act as a deliverable to hand off to an engineer. You can do this in text accompanying screenshots, or visually by creating an updated user flow diagram that connects screenshots of your mockups to illustrate navigation paths.
   - ★ Describe 2 aspects of your project that you are most excited about. This can be specific interactions, design decisions, design rationale, etc. Something that you think is cool about your final project design, and makes your project stand out.
   - ★ Discuss aspects that you did not implement in your digital prototype, and why.
   - ★ Mention the tool(s) and approaches you used to develop the design throughout. You can refer back to assignments that you think shaped your project the most.
   - ★ Discuss 2 pros and cons of these approaches and tools for your project. You can include key points from your previous assignment reflections.
4. Design Evolution
   - ★ Summarize how your design changed from early sketches and paper prototypes, to wireframes, to the initial digital prototype, to the final digital prototype.
   - ★ Illustrate 2 major changes you made and explain why they were made. Include important things you learned in user evaluations and feedback from instructors and peers that motivated these changes.
   - ★ Relate your design process and choices to the readings (include citations!).
5. Impact
   - ★ Discuss the impact that your design could potentially have in your problem domain.
   - ★ Discuss any negative consequences your design could potentially have, or any ethical considerations you find are important in assessing your design.
6. Contribution Report
   - ★ Provide a brief description of who on the team did which parts of the final prototype and final report.

Rubric

Problem Statement	1.0 pts
Solution Overview	2.0 pts
Final Design	3.5 pts
Design Evolution	3.0 pts
Impact	2.0 pts
Contribution Report	0.5 pts