Overview

You will be working in a group of 3-4 students to design an interface for an emerging startup. This assignment is split into three parts: (1) sketching ideas of the interface, (2) converging into an interactive, high fidelity prototype, and (3) conducting User Testing on this final prototype.

Before you choose your startup, you must have found a group of 3-4. If you need help finding a group, check out this piazza post here. TAs will help coordinate grouping in the first two days of the assignment.

Suggested Timeline

| Task                                           | Dates          |
|                                                |                |
| Choose your startup! (Required Form Involved)   | Sunday, 11/3   |
| Part 1: Sketches (Intermediate Deadline)        | Thursday, 11/7 |
| Part 2: Your Mockup Presentation during Critique Sessions | Thursday, 11/14 |
| Part 3: Submit your 3 user tests on UserTesting.com | Sunday, 11/17 |
| Hand in!                                       | Thursday, 11/21 |

Selecting Your Startup Idea

For this assignment, you’ll be working on designing a hypothetical interface for a recent startup of your choice. Find a startup from a recent YCombinator demo day (day 1, day 2), or Techstars, or from another startup accelerator. Pick a startup that has articulated a problem that it’s trying to solve, while ignoring any interfaces they’ve built already - you’ll come up with your own design using only their description. For example, Simbiis described as a “bartering marketplace” – you might design an app that lets people list goods for barter and accept/reject offers.
There is a two group limit per startup. Once you have found a group, one member should fill in this sheet to claim your group's chosen startup. If you have a startup you're passionate about, move fast and claim it!

Part 1: Sketching

Iterative prototyping is an essential aspect of creating user interfaces—it’s impossible to come up with the perfect design in one go. Sketches help you visualize ideas in front of users and stakeholders, consider alternate designs, and avoid premature decision making.

It’s often useful to come up with multiple sketches to contrast different ideas. These are basic drawings of the elements of your interface, and are an inexpensive and easy way to make your ideas come to life. Refer to the Buxton reading and the Prototyping lecture in class for more about sketching. Again, don't look at your chosen startup's interface during sketching or mockups - we want you to create an original design not based on anything the company has done so far.

Before you start sketching, write a short introduction including the choice of your startup, the purpose of your startup, and the type of interface on which you are choosing to design (e.g. desktop app, mobile app, etc.).

Pre-Design Questions

Before starting any project that involves designing an interface for specific users, considering these questions is a good exercise. For this assignment, answer each of the following questions:

1. What is a group of people that will be directly impacted by your interface? A group of people is directly impacted by your interface if they are involved in any stage of the interface. For example, an interface that automatically manages work schedules for a fast-food restaurant directly affects managers and employees.
2. What is a group of people that will be indirectly impacted by your interface? A group of people is indirectly impacted by your interface if they are involved in an intended or unintended side effect of any stage of the interface. For example, an interface that automatically manages work schedules indirectly affects the people that eat at this fast-food restaurant.
3. How are these groups affected by your interface? What are some questions that your interface should address to ethically handle these effects?

Then, as a group, make 4 sets of sketches, each of which should have at least 4 screens (total: at least 16 sketches). Each of the four sets should contain the major screens necessary to perform a main task (i.e. what you would need to perform the main function of the app/site), and be substantially different design-wise between each other. You might want to have different flows to complete your task, so your sets don’t necessarily all have to have the exact same screens! Your sketches should address the startup's goals in unique ways. These sketches should not be
high-fidelity - you can hand-draw them or use a low-fi tool such as Balsamiq. You can either work as a group to come up with all 4 sets or can split up the sets among your 3-4 group members.

Make sure to take clear photos or scans of these sketches—you'll need to hand them in later.

Part 2: Mockups

Overview
For this part of the assignment, your group will make an interactive “high-fidelity” (hi-fi) prototype based off the sketches you created in Part 1 of this assignment. Once this interactive prototype is complete, your group will present your work to your classmates (and review other groups’ mockups) in class on Thursday, 11/14, in a critique session (more information on this under the “In Class Critiques” Section below).

High-Fidelity Prototype
Before starting your mockup, re-read your startup scenario and make sure that your design decisions complement the startup's overall goals. In your group, look over your sketches and determine which aspects of the sketches work well and which don't. This will be helpful to keep in mind when writing about your design choices for your hi-fi prototype.

Your hi-fi prototype should be an improved iteration over the previous sketches, so it should look substantially different! A hi-fi prototype should look like the real finished product. Consider including example content and visuals of what the interface would look like if implemented.

You may use any tool for your prototype, but it cannot be hand-drawn (some options include Adobe XD, Figma, React, HTML, InVision, Sketch, Illustrator, or any of the hi-fi tool labs from class). Please use the software guide on the course website instead of starting free trials. Make sure you include the main screen and enough screens to demonstrate the key interactions of your interface (5-10 screens). You DO NOT need to include every possible screen.

Take into account the design principles discussed in class and the user observations, and write a single paragraph explaining your design choices. In this paragraph, also include thoughtful justifications of changes from original sketches, analyses of your critique session feedback, and changes made to your hi-fi prototype based off the feedback.

Making it Interactive
Use any tool to make your prototype an interactive click-through, such as InVision, proto-io, Sketch, Framer, or Figma (no programming required for any of these). You may even consider adding animation with Framer or proto.io. Whatever tool you choose to use, make sure your hi-fi interactive prototype has a shareable link.
In Class Critiques
Your group will present your prototype during class time on Thursday, 11/14. This WILL NOT be happening at our usual classroom, MacMillan 117! You will be assigned a classroom before Thursday, 11/14, via email. Attending the in-class critiques is mandatory and will provide 1 participation point if you arrive on time and present thoughtful feedback!

For the crit, you'll need to make a two-slide presentation; the first slide should give some context to your startup, and your second slide should contain a link to your interactive prototype! From there, the TA will walk through your interface and other students will provide critiques on it (you will not be presenting your interface to the class). We’ll be posting a guide to critiques shortly, so make sure to read it before attending your critique session. This is your chance to show off your work, and get helpful feedback from your classmates and TAs! Your group can make another iteration to your prototype if necessary before commencing with User Testing (Part 3 of the assignment).

Contact the Startup
Email the startup to share the final version of your mockup with them! CC your group members and the externally-accessible TA list (uiuxtas@lists.cs.brown.edu) in your email. Here’s some text you can use to start your draft. Please revise it to suit your project and add something personal!

"As part of a UI/UX class assignment at Brown University, we were inspired by the description of your startup on TechCrunch. We designed an interactive interface that [text here about how your interface solves some of the problems]. If you have time to check it out, we’d love to know what you think, since you’ve been working on this a lot longer. Just thought to share!"

Part 3: UserTesting
Having test participants try out an interface is an important part of testing and a valuable source of feedback. There are many ways to do this, starting with good old-fashioned usability testing.

In this assignment, you will conduct your own usability test through a remote user testing service (UserTesting.com), using your newly created, interactive hi-fi prototype. Most of these results should come back within a day, but it’s a good idea to give yourself as much time as possible to analyze feedback and complete the write-up.

Hypothesis & Test Instructions
Select a task you want users to complete on your interactive prototype, and come up with a short qualitative hypothesis about how users will perform on this task. You only need one task (which may consist of several sub-tasks). The tasks on User Testing can be sub-parts of performing the function or performing the same function with different conditions/priorities in mind. Focus on the
primary function(s) of the app, and come up with one overarching hypothesis on how you believe users will fare in performing this function.

You only need 1 hypothesis, though you may choose to have more. Consider possible areas of confusion and the relative amount of time users will spend on different sub-tasks. Record both your hypothesis and your testing instructions in your final write-up. TAs should be able to reconstruct your experiment from your instructions alone.

**Remote Usability Tests on UserTesting.com**

Read through the User Testing Guide and follow step-by-step to set up and ship your very first remote usability test. You have to gather feedback from 3 users.

Make sure to submit your prototype for User Testing as soon as you can. If you submit your prototype to UserTesting by Sunday, November 17, and do not receive feedback in time for the Thursday assignment deadline, please email the TA staff. If you submit your prototype to UserTesting after Sunday, November 17, and do not receive feedback from UserTesting in time for the deadline, you will be penalized for submitting late should you choose to wait to submit this part of the assignment. Usually UserTesting responds in a day or two, but it’s best to submit your prototype sooner so you have time to reflect on the feedback you get.

UserTesting and similar services allow UX researchers to test their interface on remote participants and ask them about their experience using a prototype. These questions can be as general as 'Did you find what you were looking for?', and as specific as 'Can you easily read the light gray disclaimer text at the bottom?' Try to isolate specific aspects of your interface that you want feedback on and design your usability test around them. When the tests are completed, you’ll receive an email containing a video with the user’s feedback, as well as answers to your specific questions and prompts. Check out the Usability lecture slides [16-20] for advice.

Keep in mind, you’ll want users performing a specific task or action - **be as explicit as possible**!

There are sample interface/usability questions on the UserTesting site. You can also ask users for general feedback - this should help with overall analysis! **Put a screenshot of the three confirmation emails from UserTesting.com that your receive when your tests are completed in your handin.**

**Feedback**

Once you’ve received feedback, explain what the UserTesting results mean by **directly addressing hypotheses in terms of the results** and analyzing it by calculating the metrics we discussed in the Usability lecture. Specifically, you should include **one table** calculating the metrics for each sub-task, including tasking completion rate, error counts, and time to complete the task.

<table>
<thead>
<tr>
<th>Completion Rate</th>
<th>Error Count</th>
<th>Time on Task</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
You should also write a short paragraph including more qualitative analysis of the tasks, including what do the metrics in the table reflect, what are the types of errors users made (slips, lapse, or mistake), and how satisfied users were when completing the tasks.

Next, write about potential interface changes you would make based on your UserTesting results and feedback. For example, perhaps your participants were confused by the back button - how would you change it to make it more intuitive? Finally, write about your testing experience. Were there any challenges? What did you learn? What was successful?

Grading and Requirements

- **5 pts — Sketches**
  - 1 pt — Introduction includes choice, purpose, and type of interface of startup. Sketches demonstrate solutions to the startup company’s goals as described in their blurb
  - 1 pt — Provides clearly valid or justified answers to all pre-design questions.
  - 3 pt — Sets of sketches reflect creative ideas and alternate solutions to the startup’s goals that are substantially different from one another.

- **9 pts — High-Fidelity Prototype**
  - 3 Pt — Usability of final interactive high-fidelity prototype based on principles learned in class (remember to include a working link to it in your pdf).
  - 2 Pt — Visual design of final interactive high-fidelity prototype based on principles learned in class.
  - 3 Pt — Design explanations of the final hi-fi prototype with thoughtful justification of changes from the original sketches, analysis of your critique session feedback, and changes made based off the feedback, if there were any.
  - 1 Pt — Professional email sent to the startup.

- **6 pts — UserTesting**
  - 1 pt — Interactive prototype that allows at least one task to be completed and confirmation emails from UserTesting
  - 1 pt — Written statement of hypotheses, as well as proposed tests informed by the hypotheses. Describe the UserTesting.com experiment with a list of questions and prompts (TAs should be able to conduct the same experiment by reading your writeup)
  - 1 pt — Explanation of UserTesting results by directly addressing hypotheses in terms of experiment results
  - 1 pt — Table and short paragraph calculating and evaluating the metrics listed in the handout (completion rate, error count, error type, time to complete, and user satisfaction), with a brief summary explaining the metrics
  - 1 pt — Consideration of possible interface changes inspired by results and feedback
○ 1 pt — Analysis and reflection of your usability testing experience. Address unexpected challenges, successful methods, things you learned, areas for improvement, etc.

● 2 pts — Style points
  ○ Is this the quality of a portfolio piece? Would a stranger see this, understand it, and get something out of it? Check out the style guide for more details.