DES01 : the better for wear

==========*overview*

The goal of this assignment is for you to get in the mindset of ***design thinking***: you will go through a full iteration of the human-centered design protocol. This includes needfinding, brainstorming, prototyping, and evaluation. This will help you with your larger projects later, and will get your creative juices flowing!

==========*the assignment*

Around ten years ago, most computer-based tasks were performed on desktop or laptop computers in stationary situations. As mobile computing (at the moment, mainly smartphones) has become more and more ubiquitous, many of these tasks have found new life as apps. In addition, the mobile form factor allows for many brand new tasks that simply could not have been performed before: for example, check-in based applications like FourSquare would have been impractical at best if available only on larger computing devices.

Your goal is to discover what sorts of applications can be re-imagined or created in the *next* radical form factor shift. This semester we'll be working with smart watches, which provide, among other things, an instantly-available input output surface, data streams from a small set of sensors, and a need for more minimalist and fashion-conscious design.

==========*details*

part 1 - needfinding

First, you will *observe and interview* users. Spend some time thinking about users who you think might benefit from using a smartwatch. For example, you might consider users whose jobs keep their hands full who could benefit from voice interactions, or users whose phone

interactions are based mostly around receiving notifications rather than longer tasks like reading articles.

You will need to ***find and interview two users*** who you think could benefit from smartwatch-based interactions, and ask them about their experiences and difficulties trying to access and interact with mobile phones. Ask them to recall the last time they remember not having their phone readily available (i.e., in their hand) and wanted to perform some task on it (call someone, look at the BART schedule, find a restaurant, play Angry Birds, etc.). Where do they usually keep their phone (pocket, book bag, purse)? What was the task they wanted to perform? Have them describe specifically the action they wanted to do (for example, “call my mom”, “RSVP to an event”, “get directions to Cheeseboard”). Ask them to imagine a performing the same task using a wrist worn interface touchscreen. You may need to provide description or show a photo if your subjects are not familiar with smartwatches, but be careful not to lead them in terms of the limitations of such technologies. You could ask them to imagine a similar, yet smaller smartphone attached to their wrist. Ask them how they would image completing their described task (or another task) using that device.

Note that you **may not use college students as your users**. Designers often design for people different from them: additionally, this forces you to listen more closely to your users and not rely on your own experiences and biases.

Create a writeup of your interviews. This writeup should include details about who you talked to (do not use their names, but rather a description of them: “36-year-old father of twin girls who writes webcomics”), as well as details from your interview. If you discover common threads running through your interviews, note them! Such commonalities indicate great opportunities for design. Your writeup should include **at least 2 photos of yourself with interviewees**. (Note that not everyone will give you permission to take their picture; this is their choice! In this case, you will need to do another interview.)

In part 2 (below), you will use the insights from your observation to inform your design. One essential part of a designer's role is to frame the problem. You could take many perspectives to change an existing situation for the better with your design. You will use the observation

material to inform who you will design for (the chef? the rushed commuter on the way to the office? the athlete cyclist?) and how you will improve their lives.

part 2 - exploratory prototyping

Now you get to really design! You will brainstorm ways to overcome the challenges you identified through your user interviews by turning your users' tasks into smartwatch interactions. You will implement one of these interactions, then test it with a potential user.

Brainstorm at least 12 different applications that could be well-suited to a smartwatch form factor. You should have some good ideas from your user interviews. Go for quantity before you judge quality: it should be easy to come up with a dozen ideas. For this part of the assignment, you may work with others in your class--brainstorming can take interesting and unexpected directions in larger groups! If you collaborate with others for your brainstorm, please list their names in your assignment.

Individually, ***choose your favorite application idea***. Write one sentence about why you like that idea best.

Prototype your idea using markers, cardboard, post-it notes, and other craft supplies. Don't use your computer! To explore the smartwatch form factor, cut out "screens" that are wrist-sized and can be "worn" (i.e., taped to a user's wrist). Anything that won't fit on your screen size using a sharpie is likely too detailed. Keep it very, very simple. Also, remember that our smartwatch screens will be *round* rather than square, so keep this in mind! Take photos to document your prototype, including photos of the different screens. If your application relies on voice, sound, gesture, or other input, think about how you can communicate to users what they can say or do to interact.

Now you are ready for ***feedback***: find some users to try your prototype. Go to the place you intend your design to be used. Find someone who will use your prototype as if it was a real application. (Explain that you'd like their help, and that it'll take 5-10 minutes of their time.) Given that your prototype is made of pulp, markers, and imagination, you'll have to simulate what would happen by changing watch faces or small cards. Do not tell the user what to do. Prototypes are a probe; a way to get feedback and learn how to improve your design.

Success is not about blithely saying "people really liked it" but rather "I learned all of these cool things that will make the design better". Iterative design is about "failing" early and often, in order to rapidly arrive at a great design. Take notes and pictures of what users do and say. Pay attention to when people get confused or if they offer feedback on what they like or don't like. Use your notes to help you reflect on the feedback you received; distill a list of major insights that could inform a future revision or your design.

==========*grading criteria*

- Did you talk to at least two target users who are not college students? *4 pts*
- Did you upload photos that document your interviews? *3 pts*
- Did you succinctly and clearly describe what you learned in your conversations? *3 pts*
- Did you brainstorm at least 12 ideas? *5 pts*
- Did you make a prototype and describe it in your submission (with photos)? *5 pts*
- Did you test your prototype with a user? *5 pts*
- Did you write down a list of insights from the test? *5 pts*

======*submission instructions*

We will be using hackster.io to upload materials in an easy-to-read and visually consistent way. Use this assignment information as a guide to ensure that all the relevant grading criteria can be easily found.