Assignment M3 (Spring 2021)

Answer the following prompt in a maximum of 8 pages (excluding references) in JDF format. Any content beyond 8 pages will not be considered for a grade. 8 pages is a maximum, not a target; our recommended per-section lengths intentionally add to less than 8 pages to leave you room to decide where to delve into more detail. This length is intentionally set expecting that your submission will include diagrams, drawings, pictures, etc. These should be incorporated into the body of the paper unless specifically required to be included in an appendix.

If you would like to include additional information beyond the word limit, you may include it in clearly-marked appendices. These materials will not be used in grading your assignment, but they may help you get better feedback from your classmates and grader. For example, you might include copies of previous assignments, copies of your surveys, raw data, interview transcripts, raw notes, etc.: anything that does not directly address the assignment's questions, but rather helps understand your progress as a whole.

In this assignment, you'll brainstorm design alternatives for the task you've been investigating, then select and prototype three of those alternatives. Note that these two topics are merged because they require less coordination than needfinding and evaluation, not because they're less important. Note also that your prototypes should be three different designs to address the **same** task, not different elements of the same interface; your prototypes should generally be three ways of accomplishing the same outcome.

Abstract: ~0.25 pages

First, include an abstract that briefly introduces your project and gives context on the task you're investigating throughout all your M assignments. You'll include this abstract in each M assignment to give the grader and your peers context on what you're working on. If you'd like to include more context than you can fit into 0.25 pages, feel free to include an appendix containing an extended abstract.

Brainstorming Plan: ~0.25 pages

First, **outline** a brainstorming plan. Explicitly note the rules you will follow, the time you will allocate to brainstorming, and the standards you will meet before moving forward.

Remember, your brainstorming plan should be characterized by objective criteria to meet defined in advance.

Brainstorming Execution: ~1.5 pages

Then, **execute** your individual brainstorming plan and report the ideas you provided. The ideas that you provide will depend on how you approach brainstorming: you might supply a flat list of ideas, an image of your brainstorming worksheet, an organized list of alternatives, etc. You may include a picture of your brainstorming sheet as a significant portion of your deliverable for this item.

Selection Criteria: ~0.5 pages

After brainstorming several alternatives, **detail** the selection criteria you will use to select which three ideas to move forward to prototyping. This may take the form of the rules that will be applied to selecting the alternatives to move forward, or this may take the form of an explanation of the more situated reasoning behind why certain alternatives are selected. In short, explain how the alternatives to move to prototyping either will be or were selected.

During this phase, specifically **connect** your selection criteria to the requirements definition or data inventory you posed in Assignment M2. For example, if one of your requirements was that the interface be affordable, then alternatives related to expensive hardware might be avoided.

Prototype 1: ~1.5 pages

Create a prototype for one of the three ideas you selected. You may choose from the following types of prototypes:

- A textual prototype: a plaintext description of the idea, how it will work, what its functionality will be, etc. A textual prototype should be sufficiently detailed to get feedback. This is well-suited for many types of design alternatives.
- A verbal prototype: although this would be presented in text, a verbal prototype would take the form of a loose conversation script about the questions you might ask a person, the answers you would anticipate, the branches you would plan, etc. A verbal prototype is intended to be more dynamic and interactive than a textual prototype. This is well-suited for many types of design alternatives.
- A paper prototype or wireframe: a hand-drawn or simplistic wireframe of the interface you intend to create. It should be thorough enough to get user feedback on its design, but not so detailed that revision would require significant effort; after all, the goal is to get feedback. This is particularly well-suited for a desktop program, tablet app, or web site.
- A card prototype: a collection of smaller screens that can be iteratively shown to a user to simulate their interaction. For example, a user might be asked what they

would do when faced with one screen, and then shown a different card representing the screen that would result. This is particularly well-suited for mobile apps where there is less screen real estate.

- A Wizard of Oz prototype: a script of the instructions you would give a user, the commands or actions you would anticipate them making, and the responses you would return to those corresponding actions. This is particularly well-suited to prototypes that do not involve a visible screen, like auditory interfaces.
- A physical prototype: a physical object that allows you to mimic the actions a user might take with your prototype. Rather than having the prototype actually operate as intended, you would note the ease with which the user interacts with the physical device, and potentially simulate the results of different actions. This is particularly well-suited to prototypes for new hardware.

Note that for most of these types (text, verbal, Wizard of Oz, physical), we would expect a textual description of the prototype in the body of the paper. For a paper prototype or wireframe, we would generally expect one page of your assignment to be the prototype, with around a half-page description/explanation of the prototype following. For a card prototype, we would similarly expect a portion of the prototype in the paper, but you may need to place the rest of the prototype in an appendix.

After creating the prototype, **evaluate** it from the perspective of the requirements you gathered in Assignment M2. Which requirements does it meet? Which requirements does it miss? How well does the prototype mesh with the audience described in your data inventory?

Prototype 2: ~1.5 pages

Repeat the steps for Prototype 1 for the second design alternative you selected. You **must** select a **different** type of prototype; for example, if Prototype 1 was a textual prototype, then you must choose from the other five kinds of prototypes for Prototype 2. Remember also that your different prototypes should all focus on the same task; they should not be prototypes for different parts of the interface. For instance, if your first prototype was a redesign of the login page, your second and third prototypes should redesign the login page as well, not redesign the search page and the account management page.

Make sure to include all parts of the directions: supply the prototype itself, minimal text supporting it if necessary, and an evaluation of whether it fits with the requirements and data inventory from Assignment M2.

Prototype 3: ~1.5 pages

Repeat the steps for Prototype 1 for the third design alternative you selected. You **must** select a **different** type of prototype from the ones you selected for Prototype 1 and Prototype 2; for example, if Prototype 1 was a textual prototype and Prototype 2 was a

physical prototype, then you must choose from the other four kinds of prototypes for Prototype 3. Remember also that your different prototypes should all focus on the same task; they should not be prototypes for different parts of the interface. For instance, if your first prototype was a redesign of the login page, your second and third prototypes should redesign the login page as well, not redesign the search page and the account management page.

Make sure to include all parts of the directions: supply the prototype itself, minimal text supporting it if necessary, and an evaluation of whether it fits with the requirements and data inventory from Assignment M2.

Submission Instructions

Complete your assignment using JDF, then save your submission as a PDF. Assignments should be submitted to the corresponding assignment submission page in Canvas. You should submit a **single** PDF for this assignment. This PDF will be ported over to Peer Feedback for peer review by your classmates. If your assignment involves things (like videos, working prototypes, etc.) that cannot be provided in PDF, you should provide them separately (through OneDrive, Google Drive, Dropbox, etc.) and submit a PDF that links to or otherwise describes how to access that material.

This is an individual assignment. All work you submit should be your own. Make sure to cite any sources you reference, and use quotes and in-line citations to mark any direct quotes.

Late work is not accepted without advanced agreement except in cases of medical or family emergencies. In the case of such an emergency, please contact the Dean of Students.

Grading Information

Your assignment will be graded on a 20-point scale coinciding with a rubric designed to mirror the question structure. Make sure to answer every question posted by the prompt. Pay special attention to bolded words and question marks in the question text.

Peer Review

After submission, your assignment will be ported to Peer Feedback for review by your classmates. Grading is *not* the primary function of this peer review process; the primary function is simply to give you the opportunity to read and comment on your classmates' ideas, and receive additional feedback on your own. All grades will come from the graders alone.

You will typically be assigned three classmates to review. You receive 1.5 participation points for completing a peer review by the end of the day Thursday; 1.0 for completing a

peer review by the end of the day Sunday; and 0.5 for completing it after Sunday but before the end of the semester. For more details, see the participation policy.