Assignment #2: Human-Computer Interaction

Bad Designs & Inclusive Design

Due on D2L February 25th, 2022 by 11:59

p.m.

14% of Total Grade

This assignment is all about thinking about those **bad HCI designs** floating around you and more **inclusive designs**; that is, how we can consider more accessible designs using the concepts we have learned thus far using the HCI lecture notes and videos.

Directions:

Part A (25% of grade): We have discussed several examples of *bad HCI designs*, that is where humanistic and mechanistic mismatch have gone bad (some examples are funny and some are not). Look around your apartment, your workplace, your car, your whatever for a bad design. In a Word (or Google, Overleaf, or whatever you choose) document discuss your chosen bad design, that includes an example where there was a design flaw (not the user's fault, but the designer's fault). In your write-up, describe how the design flaw has lead to efficiency issues, user dissatisfaction, and maybe even poor health/safety of the user.

Part B (75% of grade): Think about a smartphone or web application that you commonly use (e.g, Snapchat, Venmo, Instagram, Discord, your banking app, whatever, etc.) where you see a need for a more inclusive/accessible design approach (remember accessible products and services offer people with disabilities to use things with the same level of efficiency, usability and satisfaction as for people without disabilities).

1.) In that same document as Part A above, briefly describe the function of the application and why it lacks a non-inclusive design approach as it relates to the types of disabilities you are designing for (shown below for your reference):

1. Visual (e.g., color blindness)
2. Motor/mobility (e.g., wheelchair-user concerns)
3. Auditory (hearing difficulties)
4. Seizures (especially photosensitive epilepsy)
5. Learning/cognitive (e.g., dyslexia)

2.) Using an "accessibility scanner/checker" and/or a specified standard guideline as discussed in lecture, e.g. Android or MS Office accessibility checker, Web Content Accessibility Guidelines (WCAG)/ISO/IEC 40500,etc. Describe the violations you have discovered and explain in detail how you would fix the issue based on your findings. Showing screenshots is encourage to more effectively communicate the issue and your thought process in the fixing the issue.

3.) Lastly, now that you have discussed how you have made these improvements, describe in detail how you would test the revised application to ensure it is indeed an "inclusive design". *Hint: in the lecture notes, we discussed 4 ways (manual testing, analysis tools, automated, user testing)*

Length and Formatting Requirements:

- In as many words as it takes (remember quality over quantity is what matters, make your words count).
- Organize the document in a logical way, using headings and title styles.

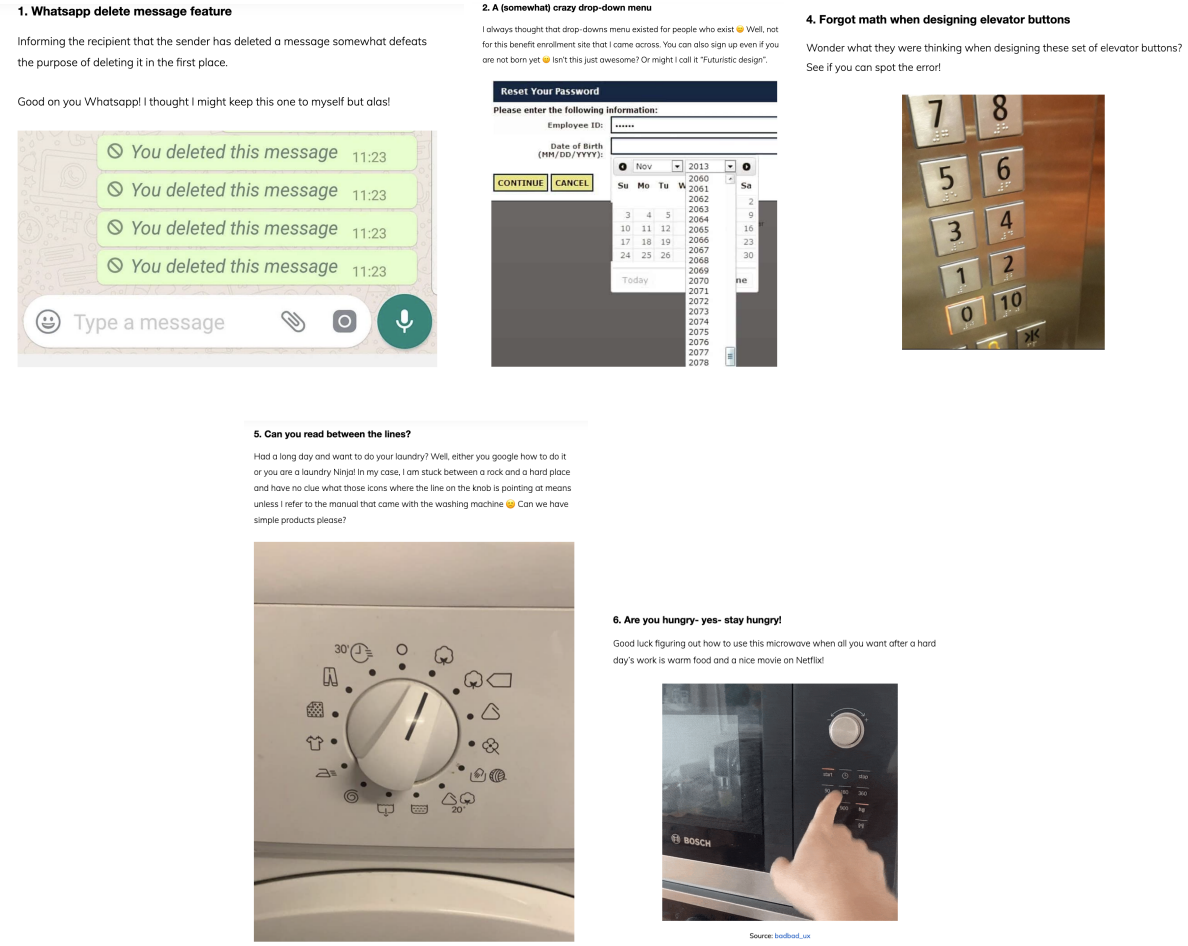
Ideas for inspiration:

Part A: Your selection doesn't have to be software only types of *bad HCI designs*, it could be anything that you use on a daily basis,
e.g. simple elevator button, stove controls, vehicle controls, etc.

Part B: As you search to find a more inclusive design remember to ask yourself these four questions:

1. Perceivable: Can I consume content on my site in different ways? (Having closed captions for a video, for example)
2. Operable: Can the site function without confusion and without the use of a mouse or complex interactions?
3. Understandable: Can a user understand how the user interface of the site functions and the information on the site?
4. Robust: Can different assistive devices (screen readers, for example) understand the website?

Have fun (some more fun examples below)!



Source:UsabilityGeek.com

Marking Scheme: On Next Page

Assignment #2: Human-Computer Interaction Grading Rubric

Bad HCI Designs & Inclusive Design Rubric

Category	Choose: 5 Points	Describe: 10 Points	Evaluate: 20 Points	Comprehensively: 25 Points
Part A: *Bad Design*	You can choose an example of a poorly designed product.	You can describe aspects/examples of the product where a design flaw is present.	For at least one of the design flaws you describe, you can evaluate a clear connection to the aims of human factors (efficiency, satisfaction, health/safety).	For all the design flaws you describe, you can draw a clear connection to the aims of human factors (efficiency, satisfaction, health/safety) and cover all the human factors that are relevant to the bad design.
Part B: *Inclusive Design*- Introduction	You can choose a smartphone, desktop, or web application that lacks an inclusive/accessible design.	You can describe the functionality of the application clearly enough that a reader who has never used it understands how the application works.	You can evaluate one or more aspects of the application to limiting the overall accessibility/inclusivity of the application.	For all the aspects of the application you evaluate, you can clearly connect that aspect to one or more specific disabilities that you are designing for.
Part B: *Inclusive Design*- Accessibility	You can choose an accessibility scanner/checker and/or a specified standard guideline discussed in the lecture and apply it to the application in Part B.	You can describe the violations discovered through the process of applying the accessibility scanner/checker/standard guideline to the application.	You can evaluate, in detail, how you would fix each violation to make the application more inclusive/accessible.	You include screenshots from the accessibility scanner/checker/standard guideline and reference those figures to clearly connect the violation to the proposed solution.
Part B: *Inclusive Design*- Testing	For at least <u>two</u> methods of testing, you can choose those methods and provide a brief (one sentence) definition of that method of testing.	You can describe how you would test the proposed redesign via each of the chosen methods (i.e. How would this test look for this specific application?).	You evaluate possible results of the redesign to show that an improvement towards accessibility/inclusivity has been made or not (i.e. What kind of results would make you confident that the redesign is better? What kinds	You do this process of describing and evaluating a testing method as it applies to the application for all methods discussed in the lecture notes (manual testing, analysis tools, automated testing, user testing).

			wouldn’t?).	