1637 Design Project 4

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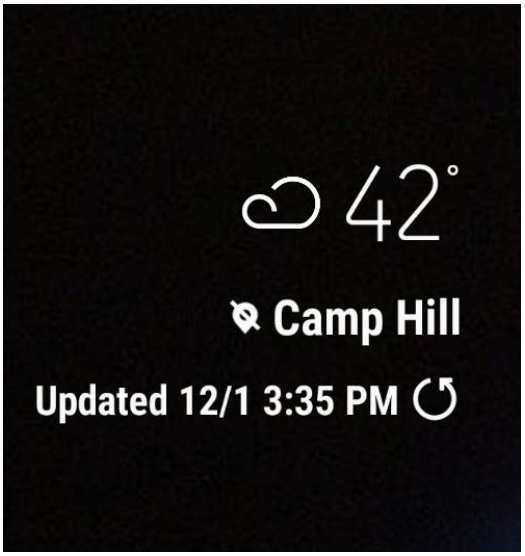
What Problem motivates the technology solution?

- With Covid-19 cases not slowing, staying up to date with Covid-19 statistics based on your location has become more critical over time. With every person having their priorities, it becomes imperative that they understand how the pandemic is affecting their environment and how to work around it. In some cases looking at the current statistics in an area has become just as common as checking the weather for that area. And so with this thought in mind, I decided to create a user-friendly design that provides people with the relevant Covid-19 statistics in their area just like a weather app would. With an additional goal of displaying only the necessary information so that it could be condensed into two numbers widget if desired.
- Ex of Widget 

- To research this problem I looked at how certain weather apps can relay the necessary information to the user without overloading them. By keeping a design simple and

showing the necessary info (in the case of a weather app it is temperature and precipitation) the user can take that info and plan their day around it. So in a similar sense, I based my design around two main numbers, the total cases in a specific area and the current daily rate with an indicator showing the direction of change. Knowing these two numbers helps a person understand the trends of Covid-19 in an area and allows them to plan around it.

- As far as which population would use the design, the design could be used by everyone who has access to a smart device. Anyone who would benefit from seeing Covid-19 stats in their specific area would be a possible user. Similar to how everyone is possible to use a weather app.
- This specific problem is unique to Covid-19 since before the pandemic people did not have much reason to stay up to date with specific numbers about their town/city other than the temperature on a specific day. Nowadays knowing how many cases are in your area helps people determine the risks associated with certain tasks.

Describe the tasks supported

- The design provides a simple display of the current total cases in an area as well as the rate at which cases are changing daily. The user can input locations manually by entering the city name, town name, or zip code which then adds the location to a list for future reference. Also, the design allows the user to enable GPS/Location access to automatically display the current locations Covid-19 statistics.
- Success is found when the user can understand the current Covid-19 conditions in an area and can take actions based on that information. By looking at the numbers and supporting graphs they can see how an area has been affected and how Covid-19 has been trending

in the area over different periods. Failure comes if the user is unable to comprehend the information put on the screen or is overloaded by info.

Describe the design and evaluation methods employed

- One of the main guidelines of this design was to keep it simplistic yet informative. Rather than putting a large number of words on a screen, the design would display necessary information in an aesthetically appealing and easy to comprehend manner, following Nielsens 8th Heuristics.
- For the Requirement Analysis, some of the functional requirements were
    - The design shall allow users to alternate between frequented locations and display relevant Covid-19 statistics based on GPS location and past location information
    - The design will see where the nearest testing locations are based on either the location entered or by GPS location
    - The design will display updated Covid-19 statistics about user-specified locations
    - The background color will act as an indicator when the location is changed from one to another
    - The design will use updated maps to fetch current testing locations
- Non-function requirements included:
    - If no locations have been entered, the user will be shown their countries statistics until a location is entered
    - The design will allow the user to enter new locations at any point
    - The design shall allow the user to switch between locations at any point
- User experience requirements included
    - The design will have a visible navigation menu in the same position on the screen

- Pop-up notifications will be precise and provide clear options
- The information will be spaced in a format that makes it easy for the user to comprehend

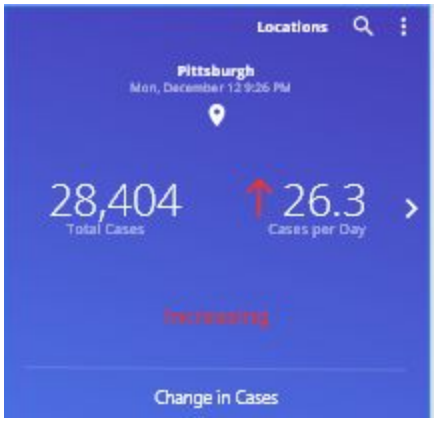
- I was able to create my design using a high-fidelity WoZ prototype where I could simulate actions on a design that would be closely in line with the actual product. After creating the design and running through it a few times by myself, I asked friends and family to operate the design and provide feedback on any weakness. During these tests by other people, I was able to gather insight on what a user might want or what would make a user's life easier. Some of the suggestions became vital parts of the design, for example, one of my friends while looking through the design mentioned how it would be useful to have something that would display all the closest Testing Centers and their requirements based on the location. The design before only had one testing center displayed alongside the hotspots on a map which was only part of the desired info.

Design Guidelines

- The main goal of the design was to display area-specific info concisely to the user. To make it as user-friendly as possible, it was necessary to minimize the actions needed from the user. By utilizing things such as scrollable pages and image previews I was able to add more detail to a single page without requiring the user to navigate through menus. Also, allowing the user the option to use GPS rather than

entering location data decreases the amount of information that needed to be entered from any specific user.

Design Principles



- The design takes into account many of Schneiderman's 8 Golden rules of design. Throughout the design the fonts and coloring remain consistent, the color only changing to act as an extra indicator to the user that they have switched from one page to another. By including a navigation menu at all times and a back button when the user enters a new page, the design works towards allowing easy reversal of actions if a user ends up on an unintended page. At each point in the design, the user can press buttons such as the "Locations" button which would return them to a list of their locations from which they could navigate back. In addition throughout the design, there little to no lengthy paragraphs or wordy phrases used. By using a majority of visual cues such as graphs and maps, the design works to reduce the information the user is shown, which in turn helps in reducing the short-term memory load put on users.

Design Theories

- The design works to always keep the user informed about where they are providing feedback so the user feels in control. Following the stages of action theories, the design

incorporates elements such as arrows and labeled buttons to relay to the user how to reach different stages in the design.

Technology Specific Affordances

- One advantage that comes with designing around a mobile app is the ease of use with embedded and hierarchical view types. By using scroll views the design can minimize user actions while still displaying the same data. Another step the design takes to assist with the visual design is adding small lines between sections to distinguish different information.