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Research Brief
My Covid Tracker

Abstract

The mobile application is designed to provide user location based tracking of Covid-19 confirmed cases and statuses within distance of the user. The user will be able to assess the risk score of their location, assess case changes of Covid-19 statuses, and identify nearby testing facilities for coronavirus.

The application is assumed to track user location as well as have users provide their own location selections. The application is able to aggregate data from testing facilities and state public health reporting within a particular city, zip code, county or area. In Massachusetts, the State Public Health Report provides covid related information including confirmed cases and hospitalizations based on city and county. Once the user's location is tracked, the received location will be matched to its corresponding area in order to fill in information regarding confirmed case statuses and changes.

Interface and Experience

Visibility

The application relies on color and icons to signify actions for the user to navigate. The home feed gives users three different cards: risk score, case changes, and show my area. Users are shown the icons available on the area screen. The actions correspond to each of the four iconic symbols. Users may select the medic icon in order to reach the screen that identifies nearby testing facilities. Users may select the symbol that resembles a thermometer, or threshold seeking device, in order to reach the screen that informs them of their current risk status. Users may select the location tracking icon to reach a heat map of their location after selecting their area. On the home feed, users are also presented with labels and icons that can selected or hovered in order to receive more information regarding something specific on the screen.

Feedback

Feedback is provided through completion of each action. Selecting each icon will in turn bring the user to the corresponding screen with or without an animation. Each of the icons or buttons on screen change color or shape when tapped or hovered. The button specifying the user's risk score "Moderate" can be hovered for the user to know how their score is calculated. The button can also be tapped in order to gain specific information related to the user's area regarding case changes. The button can then be tapped again to return to the previous screen. When the user

chooses an icon on the map screen, the signifiers change color in accordance with whether it is clicked or active as well as if it is hovered. This change in color gives the user feedback for their actions.

Conceptual Model

Many of the screens provided in the app, including the testing facilities and heat map, are situated across the rendering of the user's location. So that the user's entered location provides a scaled map of the area. The app may also include a map similar to Google Maps in order for the user to have a more integrated conceptual model with other apps that many users already use. For example, the maps used in the Area page were stylized from Snazzymaps.com in order to provide a more recognizable conceptualization of user location. The risk score calculation provides graphical visualization of the cases changes in the user's selected location. The data will be simplified in order to convey the increase or decrease of three case statuses: confirmed, recovered, or quarantined. These visualizations of the app will allow the user to easily digest the information provided.

Affordances

Each icon affords clicking for the user. When the user is prompted to enter location, the dropdown menu affords selection. The search bar affords inputting user information. Each of the cards on the home feed afford tapping in order for the user to receive more specific information. The home feed is able to scroll through the different card options. The signifiers afford tapping as well in order for the user to be taken to the necessary screen. The available actions allow the user to assess risk, digest provided data, and find available testing information.

Signifiers

The medic icon signifies an action related to a medically related screen. This icon signifies the screen providing Testing information. The pin icon signifies the current location of the user. This icon provides the heat map and prompts the user to enter their location. The icons also change color in order to show toggling or clicking. The thermometer represents the screen assessing risk. The home screen is signified by the purple house available in each screen of the app. The timeline labels under Case Changes signify a button that can be toggled.

Mapping

For the heat map and testing facilities, each of the pins or available testing sites should provide scaled rendering of the selected area's geographic location. Such that the testing sites that are deemed closest to the user are spatially closer to their pin on the screen. Then the heat map shows locations of confirmed cases within a selected area so that users know the precise location in their community of the confirmed cases. These spatial rendering allow the users to understand the relationships of the different location pins to themselves.

Constraints

The app provides many constraints for the user's action. The user must initially login in order to be given the home screen with action options such as testing, risk assessment, heat maps, and case changes. Further, the user is prompted to enter the location before they are given access to their personalized heat map. This is a logical constraint forcing the user to specify which area of location they are being provided before they have access to a map of said area.

Version 1: Paper Wireframe

The first paper wireframe used for Marvel App included a login screen, a home screen that can retrieve the other screens, and screens that have descriptions of the information available. After receiving user test feedback, I have integrated many of the unnecessary screens into overlays and context menus in Adobe XD for future prototype versions.

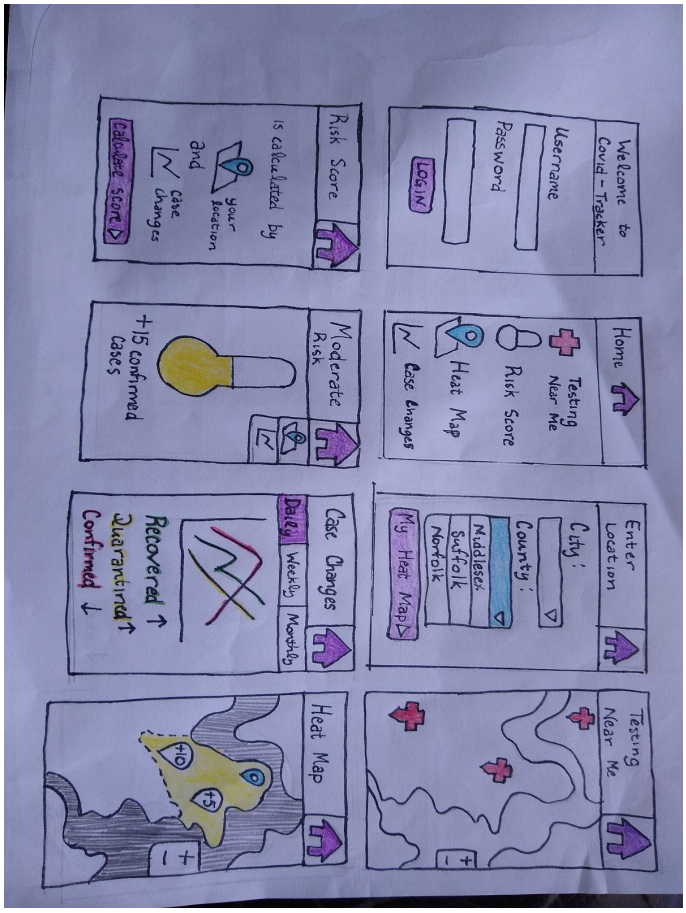


Figure 1: Paper Mockup used in MarvelApp

Marvel link
https://marvelapp.com/prototype/931beib

User Testing

- My first wireframes started with too many screens. I dropped down to a single home feed with clickable internal interactions within the home screen and one other map screen with four signifiers for actions.

- I received feedback that the information that discussed user risk score was both redundant and confusing. I received the feedback that there was an unnecessary screen that the user encounters before they are able to have their risk score calculated. I changed this so that the risk score will be initially displayed in a plate with either “low”, “moderate” or “high”, and the user can click the plate for more information about their risk score. I also incorporated a hovering context menu for the Risk Score button so that users can see this information without having to sequence through an additional screen.

- I received the feedback that the formatting of the content was not consistent from page to page so I aligned the elements to be more consistent between all screens. I am continuing to align the content in a justified left manner based on some feedback I’ve received.

Version 2: Adobe XD Prototype

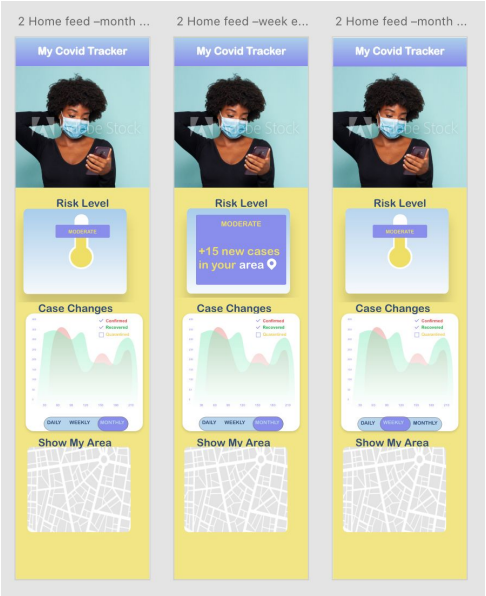


Figure 2: Version 2 used separate screens to simulate toggling between “Daily”, “Weekly”, “Monthly” labels

User Testing

- I received feedback that the formatting for the “Daily”, “Weekly”, and “Monthly” was changing from screen to screen. Previously I had each screen representing a toggle for each timeline. After this feedback I incorporated Adobe XD’s component state feature so that only one screen was needed to toggle between these three labels.
- I also received the feedback that each card on the home feed should be the same size so incorporated those changes into the third and final version.
- Version 2 previously had a gradient background color. I changed this feature, due to the recognition that gradient color background would not be helpful for someone who has colorblindness. I changed the background to a single color, and I added an Adobe Stock photo as an image for more visual appeal.

Version 3: Final XD Prototype

The third and final version of the prototype incorporates the feedback from user testing mentioned above. The image belows shows the use of component states for “Daily”, “Weekly”, and “Monthly” labels under the Case Changes card.

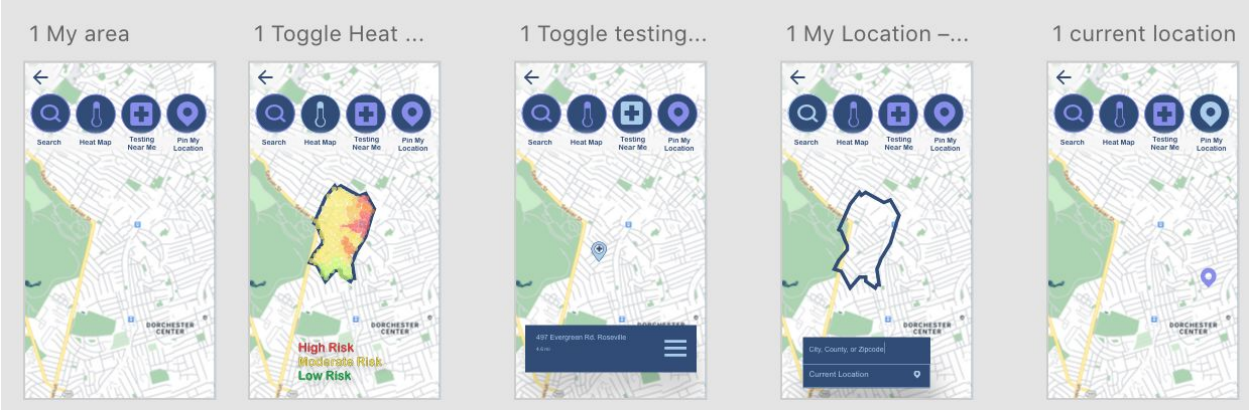
Figure 3: Version 3 integrates user feedback and XD component states for the timeline labels

The final prototype minimizes artboards in order to enhance the consistency of interactions for the user. Rather than having three screens to simulate the toggle between the timeframes of the

Case Changes card, I integrated a single screen with overlays, hover, and tap component states to achieve a cleaner effect.

The final prototype also integrated more aesthetically pleasing elements. For Version 3, the stock photo is used as the top border rather than being under one as shown in Version 2. The final version also includes stylized maps from snazzymaps.com for the Show My Area screens.

Figures 4 and 5: Stylized maps from SnazzyMaps.com are integrated for a more aesthetic feel. A stock photo is also used as the top border for the home feed.



The final prototype integrates user feedback from the two rounds of user testing in order to provide a more professional look and feel for the user. The final version displays a single home feed that is able to provide information through combinations of hover and tap state interactions, as well as link to and from mapped screens.

Final Prototype Link
https://xd.adobe.com/view/a719a58a-df19-4b51-aa15-f7a59d958720-f24a/