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Marvel Prototype (Sep 30<sup>th</sup>) <https://marvelapp.com/prototype/25gjecg6>

XD Link (Oct. 19<sup>th</sup>): <https://xd.adobe.com/view/1ea34306-1e70-4b13-9111-b3c08f55a589-4bf0/>

**Abstract:**

The goal of the user is to be alerted to changes in selected COVID-19 statistics. This includes the Massachusetts hospitalization rate and the positivity rate for individual towns. The user can view this data by checking the app, and could also receive device notifications that will alert them about changes.

The necessary COVID-19 data (the state hospitalization rate and towns' positivity rate) can be obtained through the Massachusetts Department of Public Health. The user's location data (towns they have visited over the past 14 days) will be used to create the list of recently visited places, seen on the second screen.

After revising the app based on feedback, the user will be provided the option to turn off location use, and also add towns to the list manually. This will allow the user to have greater control over the functioning of the app. In the latest revision, the user will be able to view information pop-ups which clarify the data being presented in the maps and graphs.

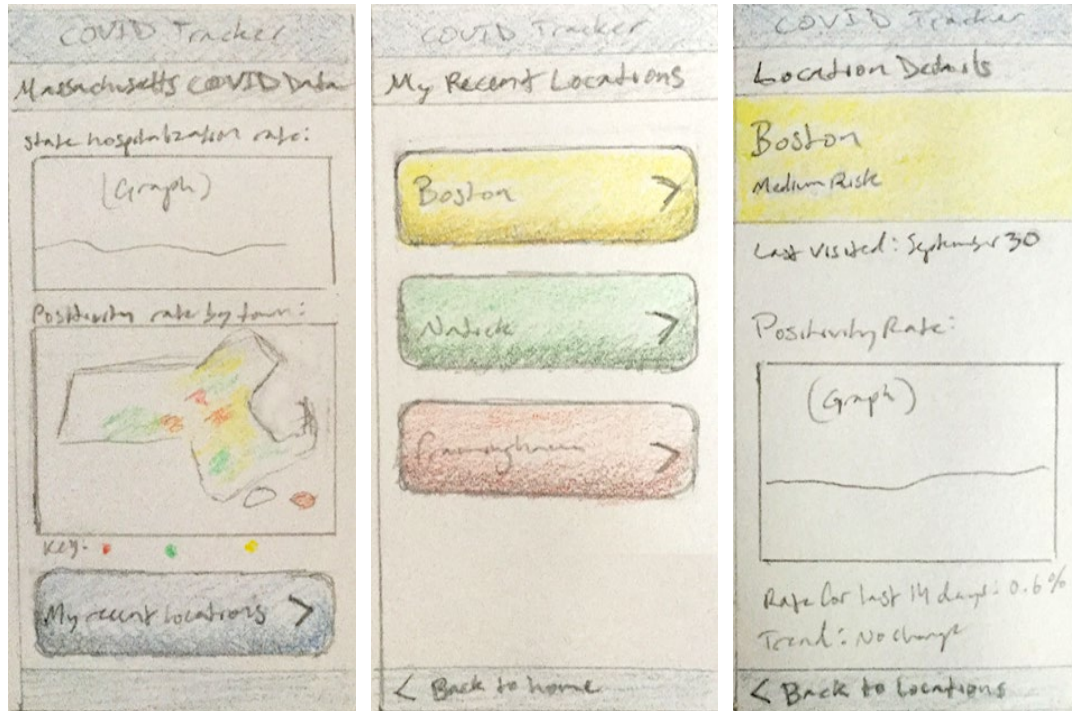
## Interface, user experience:

### 1. Discoverability:

The first possible actions which the user can take is represented by the “recent locations >” button, which leads to buttons for each location visited by the user such as “Boston >”.

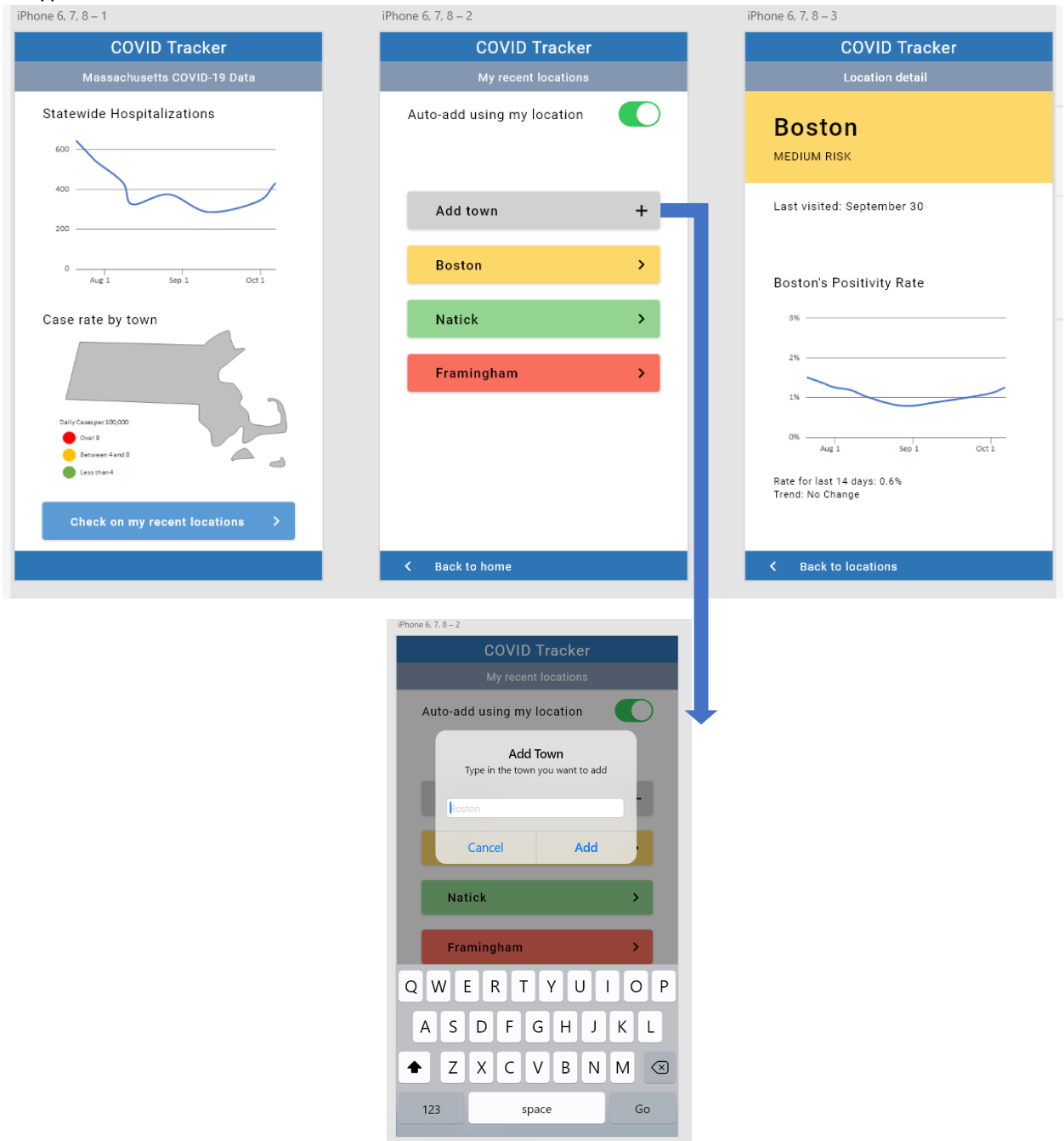
September 30 sketches:

User feedback based on these sketches in Marvel included some confusion as to how the locations were added to the list, and a suggestion that the user could add a town manually.

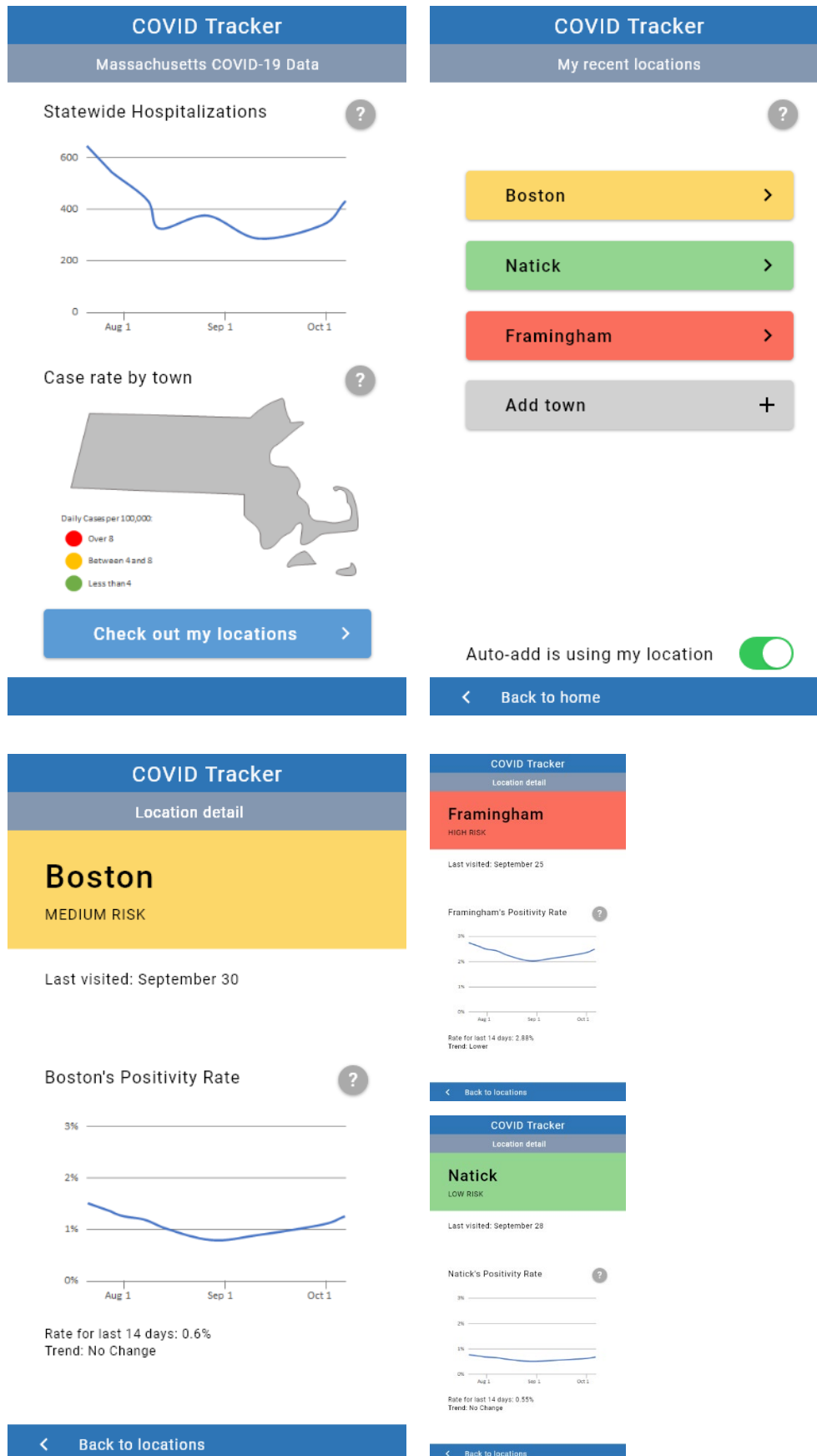


October 7 XD screens:

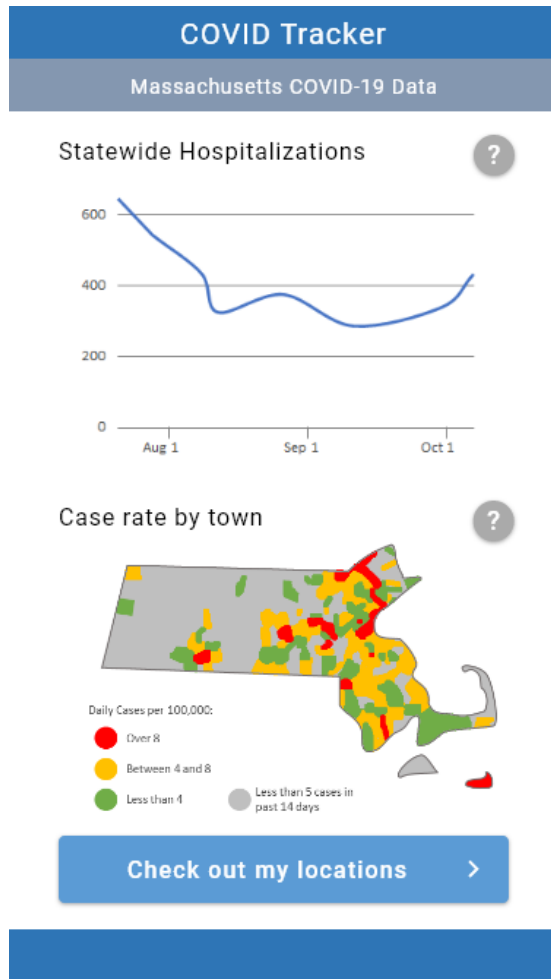
Showing new location toggle and “Add Town” button, which will pop-up a text entry for the user to type in a town.



## October 12 XD Screens:



October 19 XD home screen update: map colors added, gray color clarified in key

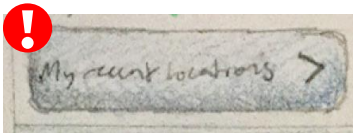


2. Feedback: When a button is hovered over/tapped, it will appear darker, as shown (Left, sketch; right, XD).

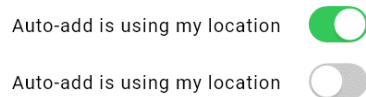


Other feedback that was considered includes notifications on the user's device about increases in COVID rates.

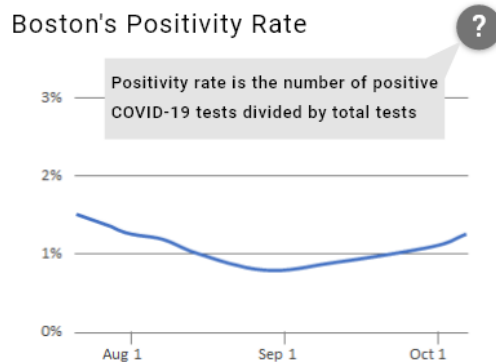
This can also appear within the app as exclamation marks on buttons leading to updated data.



Starting in the Oct 7<sup>th</sup> revision, a location on/off toggle is present which uses color and position to reflect the state. This was added to allow turning on/off location data use.

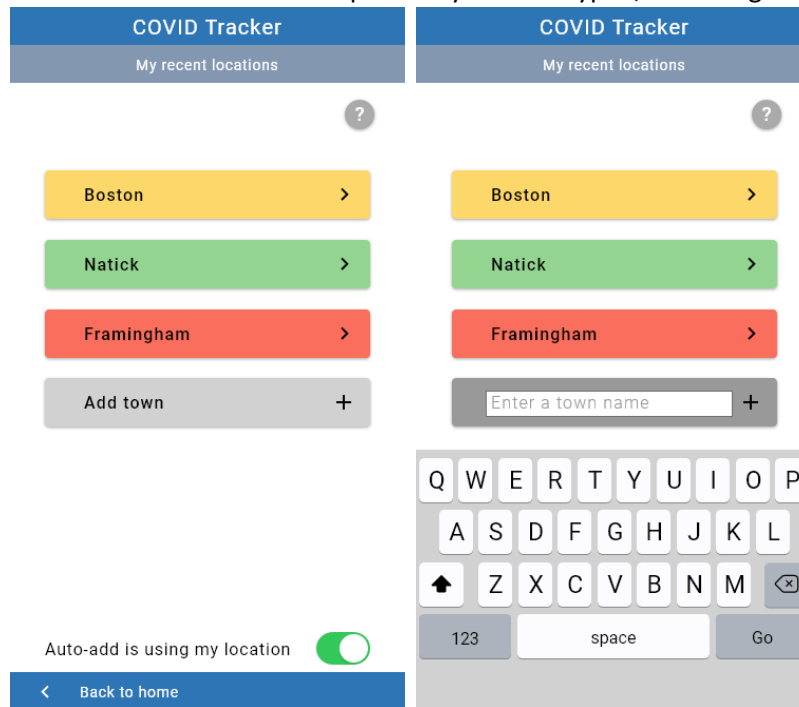


In the Oct 12<sup>th</sup> revision, question mark buttons can be hovered over to provide explanations of related maps and graphs. This was added to provide additional clarification to the user.



Also in the Oct 12<sup>th</sup> revision, the town-entry on the Locations screen has been updated. When the “Add Town” button is tapped, it becomes a text-entry field and a keypad appears on the bottom of the screen. (If the user enters a town name, the current “Add Town” button would then show that chosen town.) In the text-entry state, button remains darker gray, as it is in the hover state (showing activity).

Previously, the “add town” button was at the top of the list; here it has been moved to the bottom so that it is in closer proximity to the keypad, reflecting their relationship.



3. Conceptual model: The app contains charts and maps, which users will likely already have an idea of how to understand. Even without relying on a map key, the green-yellow-red coloring is usually understood to mean increasing levels of urgency or risk. The main interactive component of the app is a list following a “drill-down” style users will also likely understand from previous experience – tapping on a list item leads to a new screen with further detail about it.
4. Affordances: The surface of the device affords touching/tapping. When the user taps or hovers on specific areas (the signifiers), some kind of interaction will take place including moving to another screen or showing an information pop-up. This app also affords the ability to view maps/charts, switch on/off location data use, and enter a town name to add to the list.
5. Signifiers: The rounded rectangle shape and shadow is used to differentiate “buttons” from the other rectangular elements and signify the affordance of tapping (In the original sketch, shaded buttons were used, but this was changed to flat-style buttons with a slight drop shadow in the XD version). The “>” symbol is used on buttons to signify that tapping on that button will lead to a next screen. “<” is used similarly to signify going back to a previous screen. A new addition in

the Oct 7<sup>th</sup> revision is the use on a “+” on the “Add Location” button. A toggle switch is used to turn on/off user location use. In the Oct 12th revision, question marks “?” are used on buttons to signify the affordance of hovering over those buttons to view some explanation of the related map or graph.

6. Mappings: The recently visited towns will be ordered top to bottom by date visited (most recent at top). The “back” navigation is on the very bottom of the screen, which follows with the usual flow of the user’s action: the user likely will look at what is on the screen, reading from top to bottom, and when the bottom is reached they may wish to return to the previous screen. The screen order overall can also be seen as going from broad information (statewide data) down to narrower (single-town data).
7. Constraints: There are a limited number of items (buttons) to be interacted with on the screen, which guides the user towards those actions. The use of color may also be a constraint (red-danger, yellow-caution, green-safe), which is culturally associated. Other constraints include commonly used items such as the toggle switch and the keypad – these have specific, limited actions associated with them which the user is guided into performing.

Potential Concept for Relational Database: total list of towns, town details, user’s towns, high-risk towns

