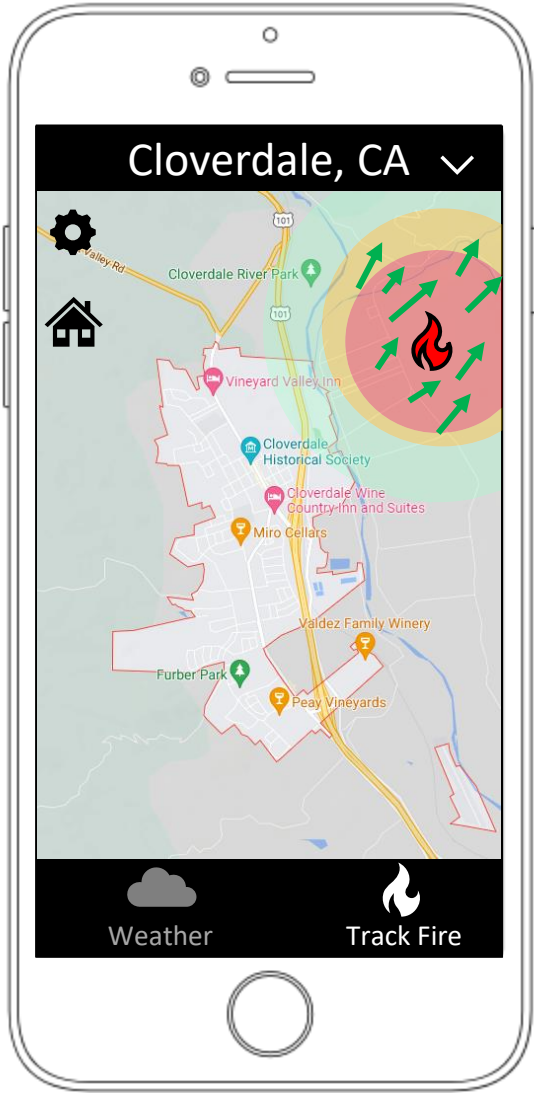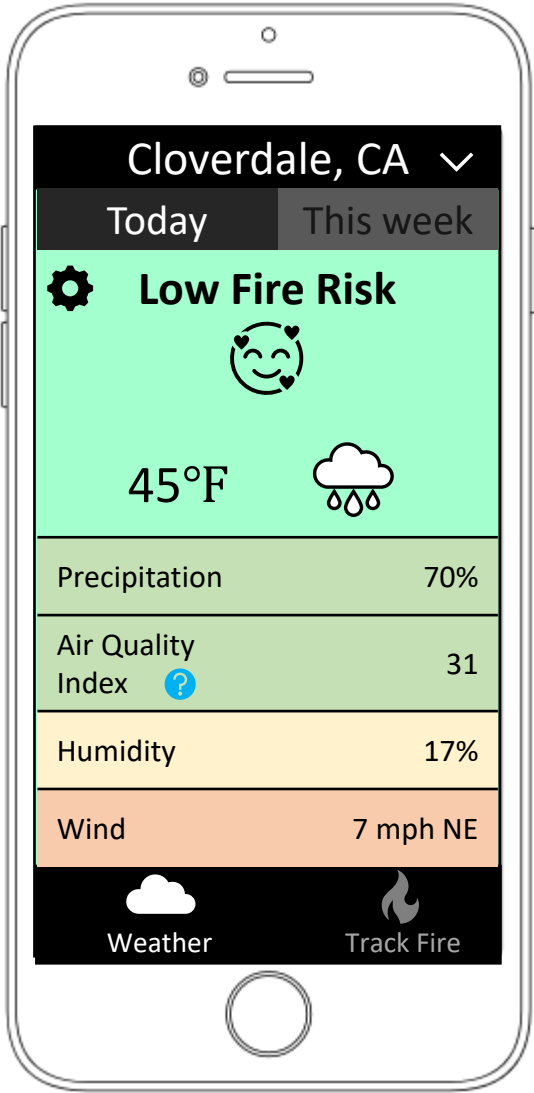1. Concepts & Metaphors
   - The app will be split into two main screens – one to show the weather forecast details and one to track active fires
   - Red -> Orange -> Green colour indicators will be used throughout the app to indicate fire risk
   - The interface should be uncluttered with large text and iconographic/pictographic aids
   - Using well-established navigational features of apps (e.g. popups, navigation bars, pinch to zoom) will aid usability, since users already understand how to use them
   - Calming/comforting pictographs when there is little to no danger will reduce user stress
   - "More info" or "Help" buttons on statistics which might be difficult to interpret
   - Arrows to represent wind direction (whose lengths represent wind speed)

2. The design will be for phone. This is because the primary stakeholders will likely want to check the app while away from home, and so it is important for the app to be on a very portable device which the primary stakeholders probably take with them everywhere. This is particularly important in the case that evacuation from their home is warranted: If a tablet is required to use the app, then the primary stakeholders might have to take up some space packing a tablet which they might not have otherwise done.

Either one of these screens would be shown to the user upon launching the app.
They can decide which one in the settings page.

Cloverdale, CA ⌄

| Today | This week |

⚙ **Low Fire Risk**

😊

45°F 🌧

Precipitation	70%
Air Quality Index ❓	31
Humidity	17%
Wind	7 mph NE

☁ Weather   🔥 Track Fire

Cloverdale, CA ⌄

☁ Weather   🔥 Track Fire

Interaction

Annotation

Happy/comforting face when there is low fire risk. Would become an exclamation mark when there is greater risk
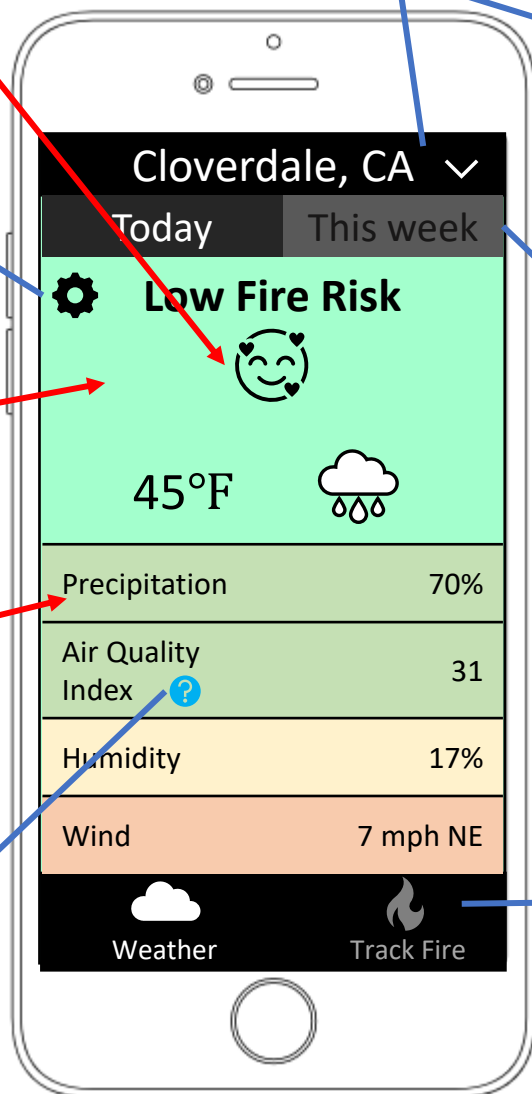
This shows the selected location. Tapping here reveals a dropdown menu from which you can select a different location from a pre-defined list, or edit that list

Fire icon indicates an active fire. The coloured bands around it show areas at high risk (red), moderate risk (orange), and low risk (green) from this fire. The arrows represent wind speed and direction (longer arrows represent faster wind). Green arrows mean the wind is pointing away from the selected area, red means it's pointing towards it, and this is interpolated through orange

Takes you to the settings page

Light green background to complement the low fire risk. Would be light orange for moderate fire risk, light red for serious fire risk, and dark purple (with white text) if evacuation is necessary

Tapping here switches to the weekly forecast

Background colours range from green (safe) through orange (mild danger) to red (danger) to indicate how these factors exacerbate fire risk

If you have zoomed or moved the map, tapping this button will re-centre and zoom the map on the selected location

Landmarks are shown to give context to the map

Map of the selected area. Pinch to zoom or drag to move.
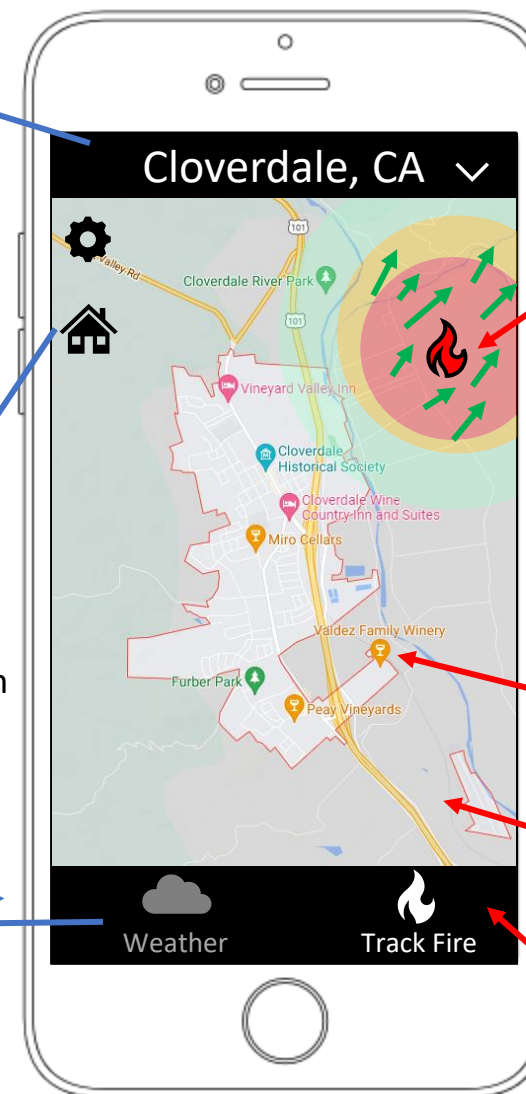
Clicking these buttons switches the view

Tapping this will bring up a resource about what the AQI is and how to interpret it. However the background colour should give a sense for how to interpret this number without clicking on the help button

Brighter colour/greater contrast indicates that this is the selected item

Cloverdale, CA

Today   This week

Low Fire Risk

45°F

Precipitation   70%

Air Quality Index   31

Humidity   17%

Wind   7 mph NE

Weather   Track Fire

Cloverdale, CA

Weather   Track Fire

Common design patterns

1   Indicates use of the pattern of green meaning safety, orange meaning moderate danger, and red meaning serious danger

2   Indicates use of the pattern of brighter, high contrast objects to show which option is selected

3   Indicates the use of icons

All of this (as well as the use of common app components such as a navigation bar at the bottom and a dropdown menu having a downwards-facing chevron) will help the primary stakeholder navigate the app and interpret the data therein quickly and instinctively
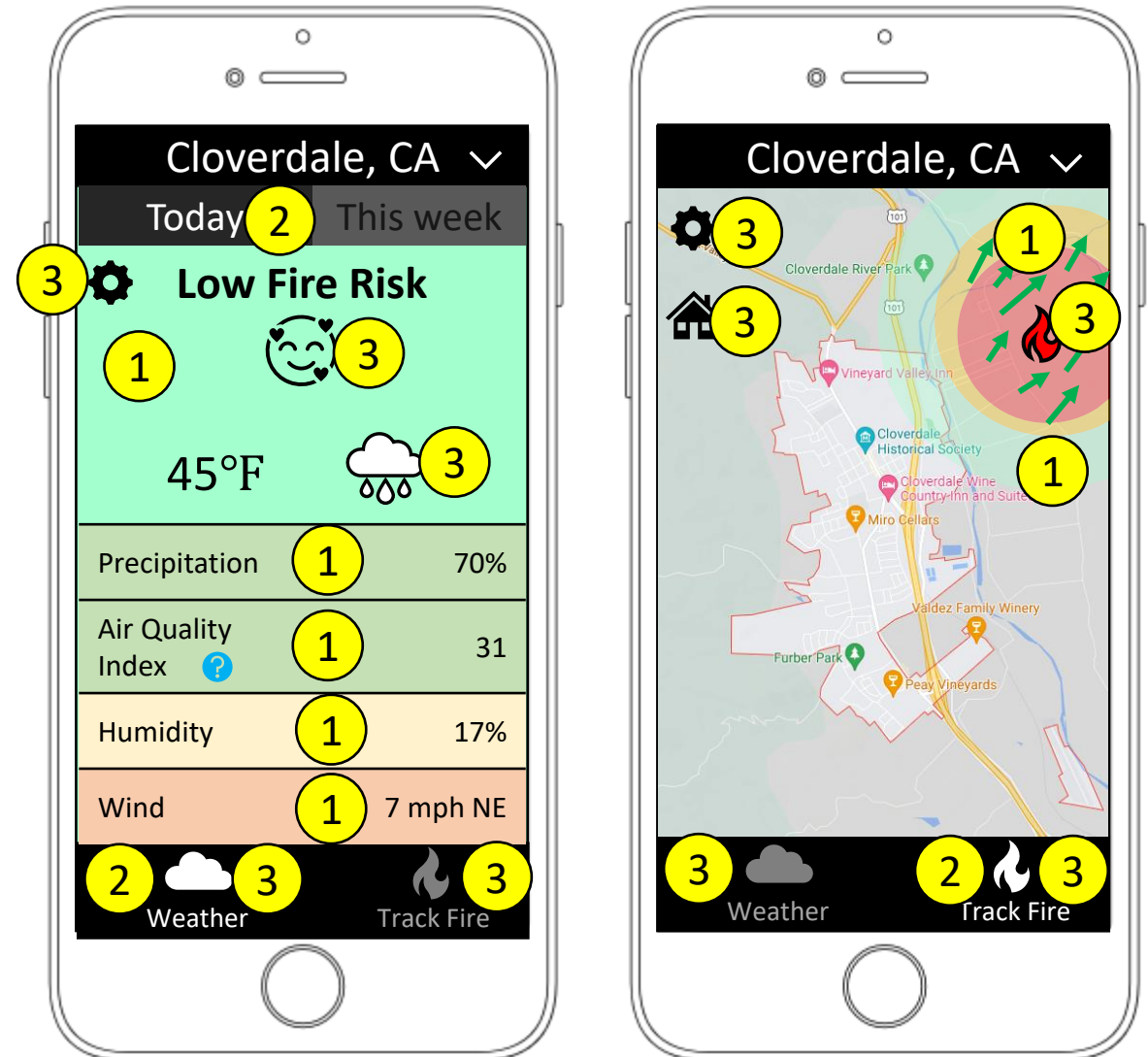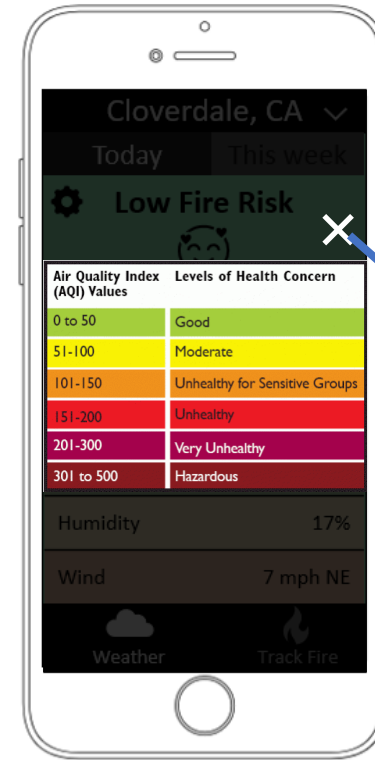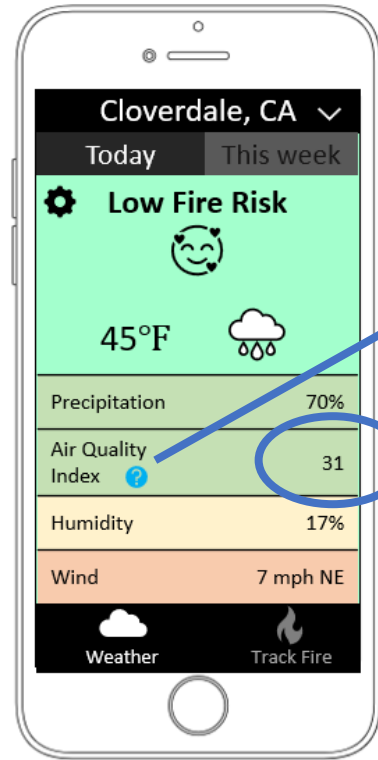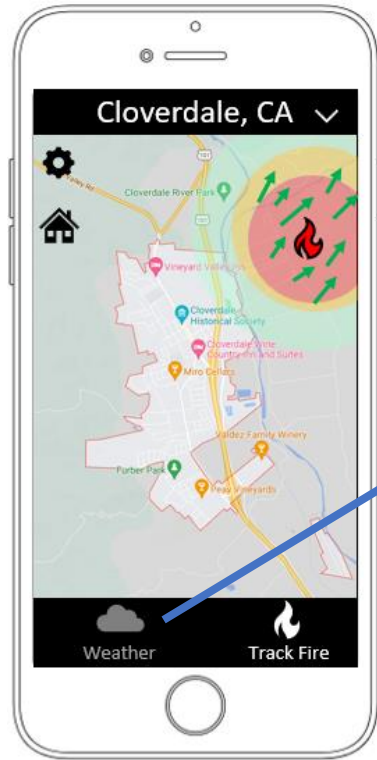
Task 1: Find today's temperature
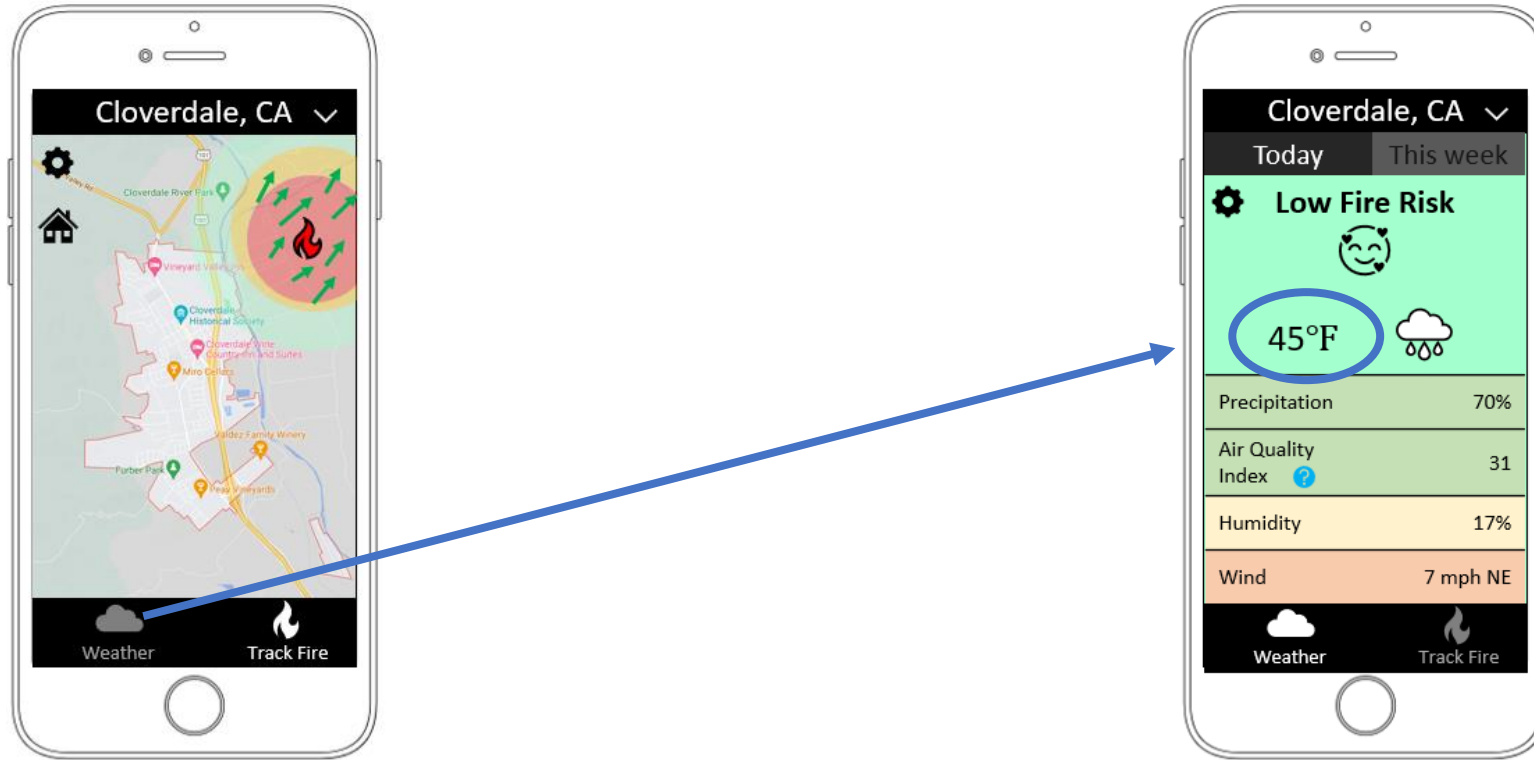
1. The app will launch either the "Weather" or the "Track Fire" page depending on the user's settings. If it launches on the "Track Fire" page, then the user taps the "Weather" button to switch to the "Weather" page. Otherwise, skip to step 2.

2. Today's temperature is shown in the highlighted ellipse.
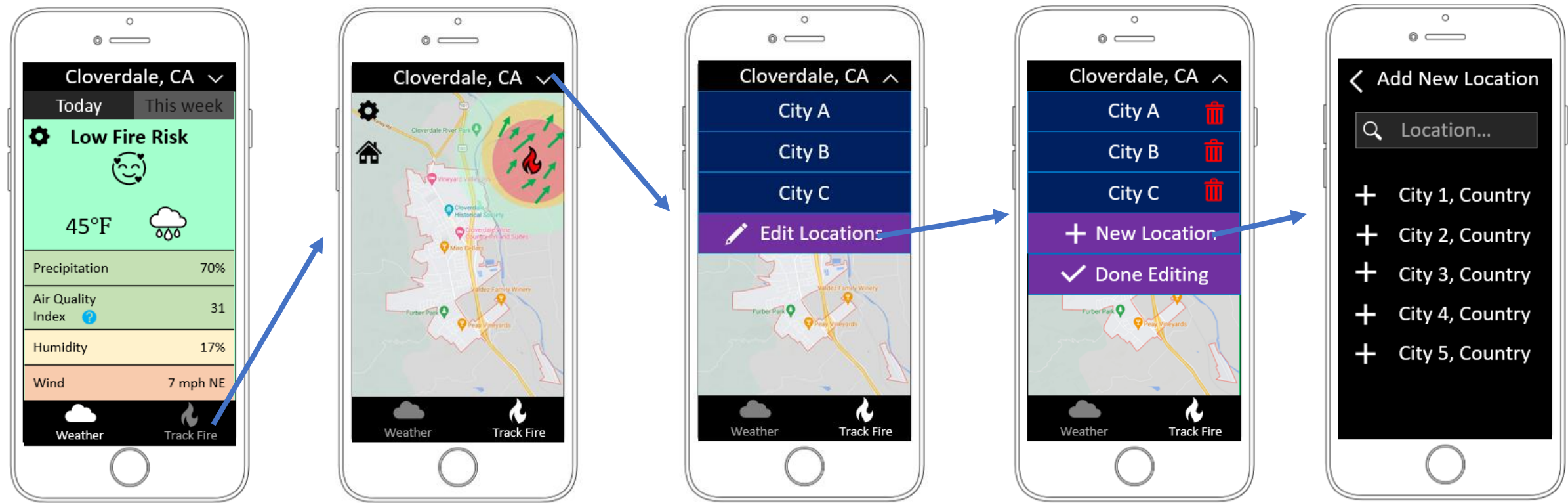
Task 2: Find today's air quality
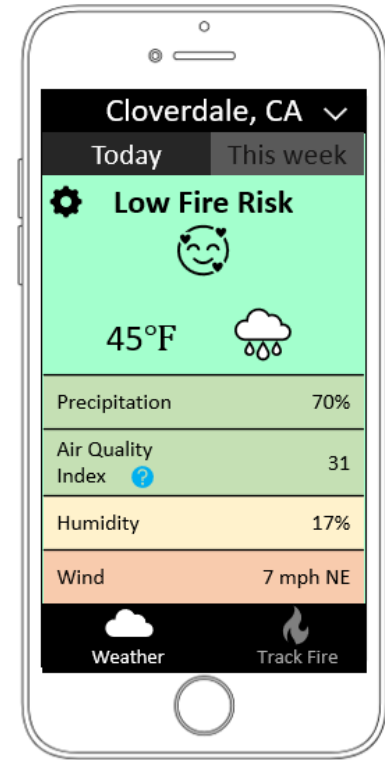
1. The app will launch either the "Weather" or the "Track Fire" page depending on the user's settings. If it launches on the "Track Fire" page, then the user taps the "Weather" button to switch to the "Weather" page. Otherwise, skip to step 2.

2. Today's air quality is shown in the highlighted ellipse. If the user is unsure of how to interpret this number, they click the question mark icon, revealing an information popup.

3. The popup displays a chart of what different AQI values mean and how to interpret them. Once the user is satisfied, they click the "X" button to close the popup.

Task 3: Track a fire in city X

1. The app will launch either the "Weather" or the "Track Fire" page depending on the user's settings. If it launches on the "Weather" page, then the user taps the "Track Fire" button to switch to the "Track Fire" page. Otherwise, skip to step 2.

2. The currently selected location will be shown in the highlighted box. If this is City X, then skip to step 9. If not, the user taps the box to open a dropdown menu.
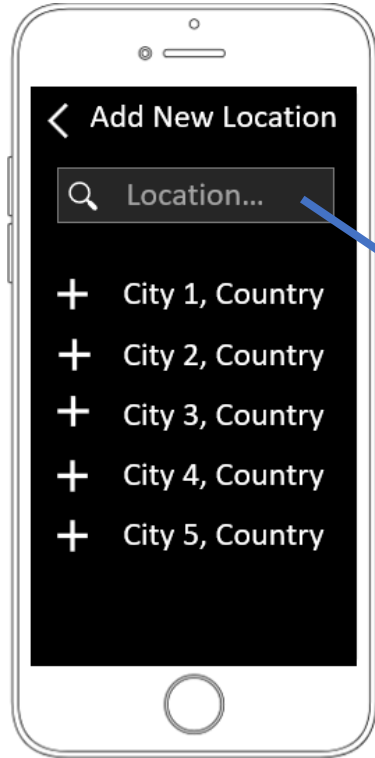
3. A list of available cities will appear. If City X is one of them, skip to step 8. If not, the user taps "Edit Locations".

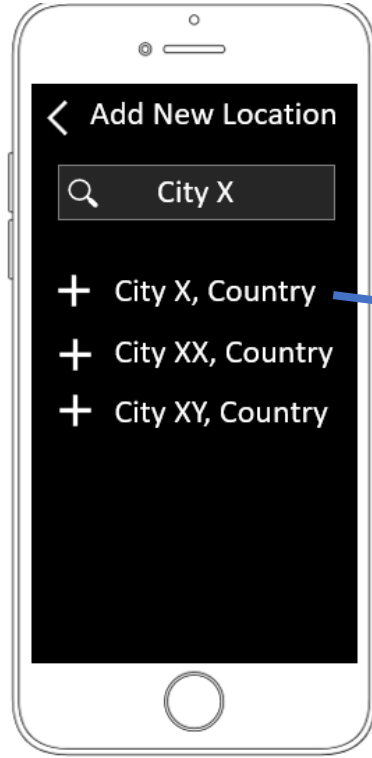4. The user taps "New Location" to move to a location search page.

Step 5 is on the next slide.

Task 3: Track a fire in city X continued

5. The user taps on the placeholder text "Location" in the search box. This brings up a keyboard with which they will type "City X". As they type, better-matching results will populate the list below.
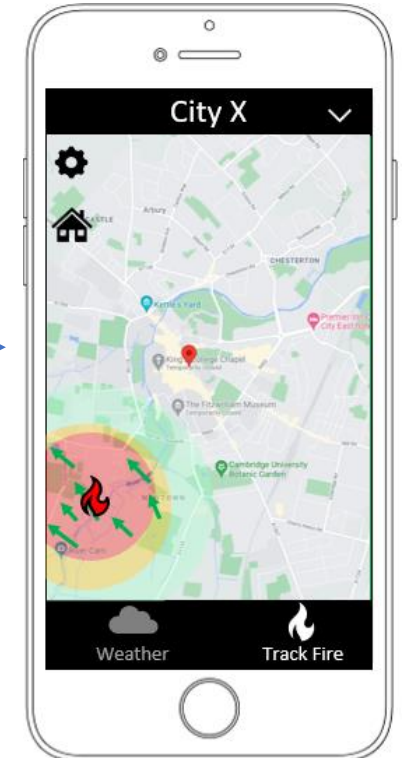
6. The user taps on the name of the closest match to City X in the results list below the search bar. This brings them back to the dropdown list.
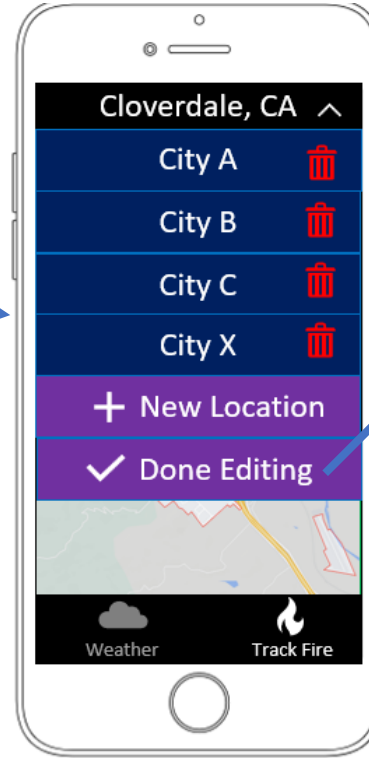
7. The user taps "Done Editing".
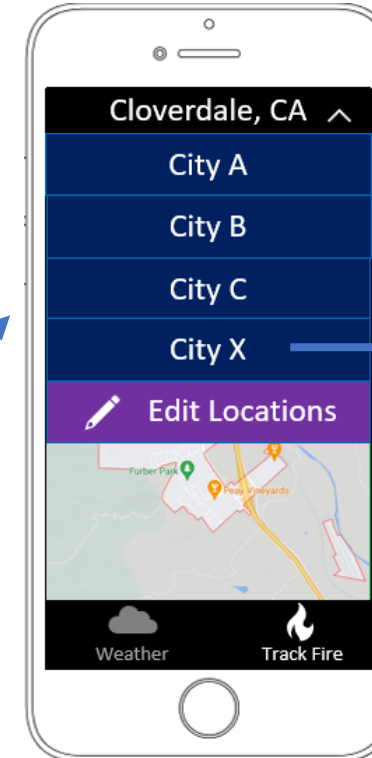
8. The user taps "City X". This closes the dropdown menu.

9. Any and all fires in City X are shown here.

4. Heuristic evaluation is the most suitable technique. Although H.5., H.9 and arguably H.10 aren't relevant to a lo-fi design, the other heuristics definitely apply. Evaluators could act as though they were users, carrying out the tasks outlined in question 3. This is useful because it does not require users to be present, and so it lends itself more easily to this early stage of the iterative design process (as evaluation will likely have to be carried out on many of the iterations).

4. // TODO