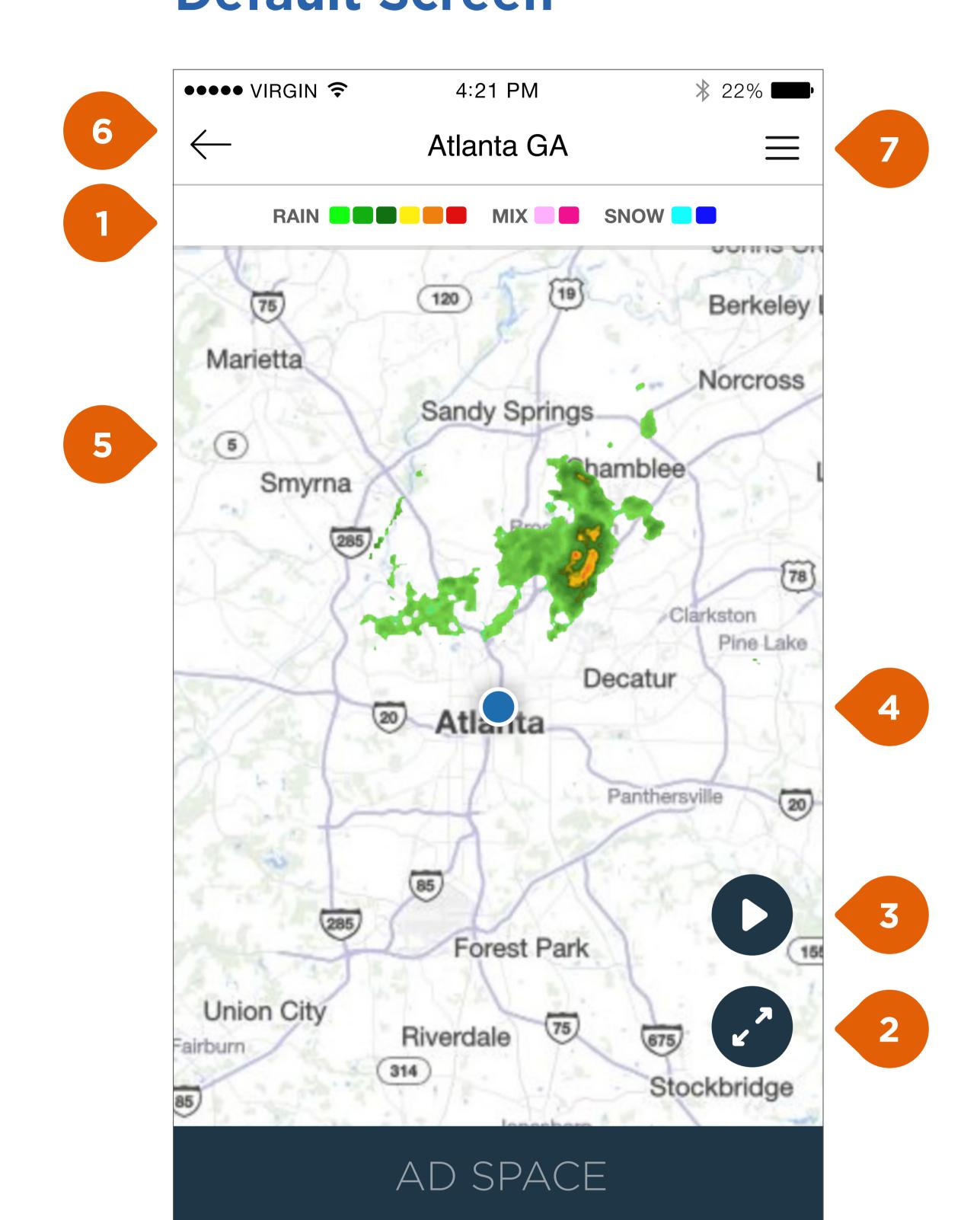
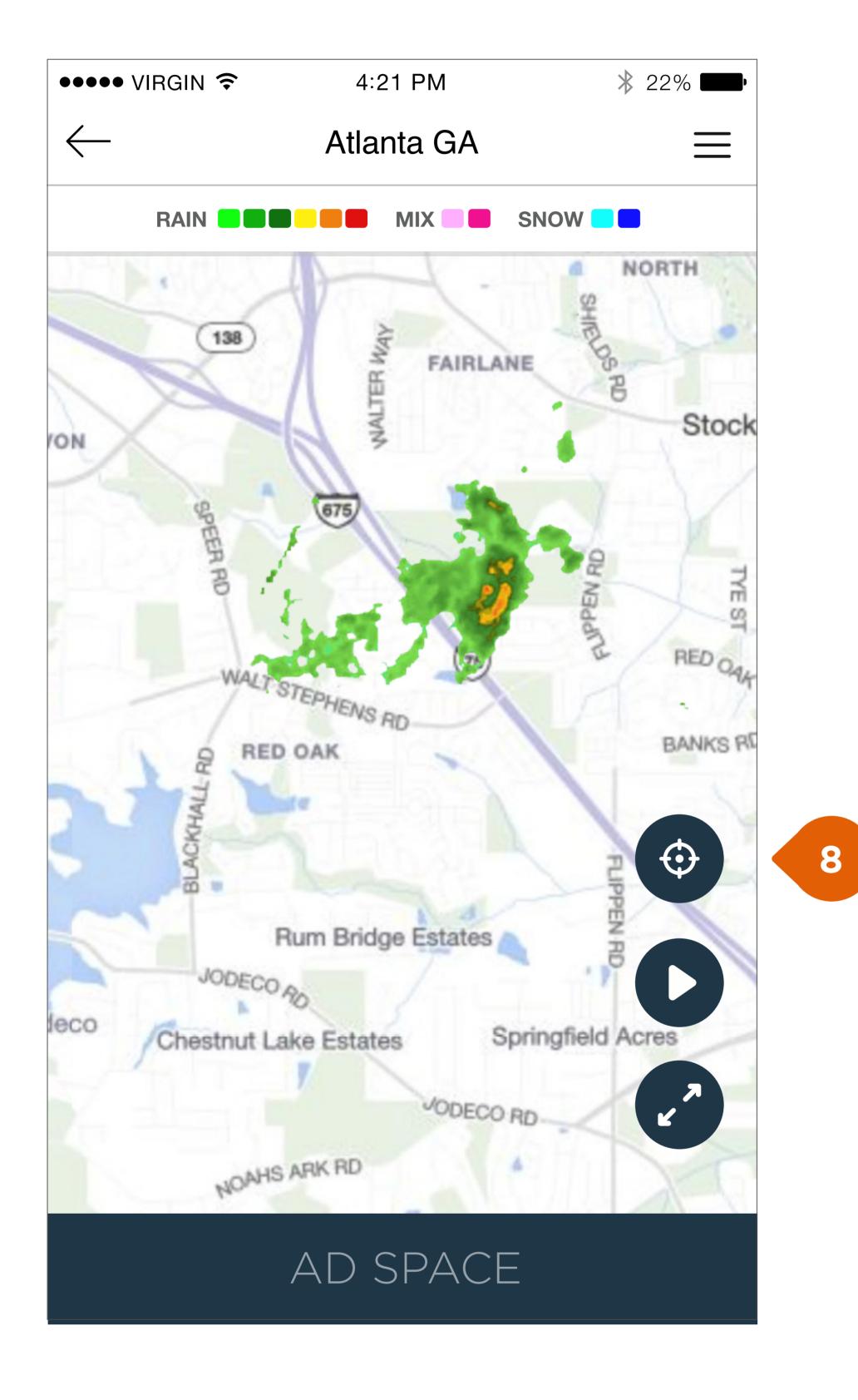
Map Screens

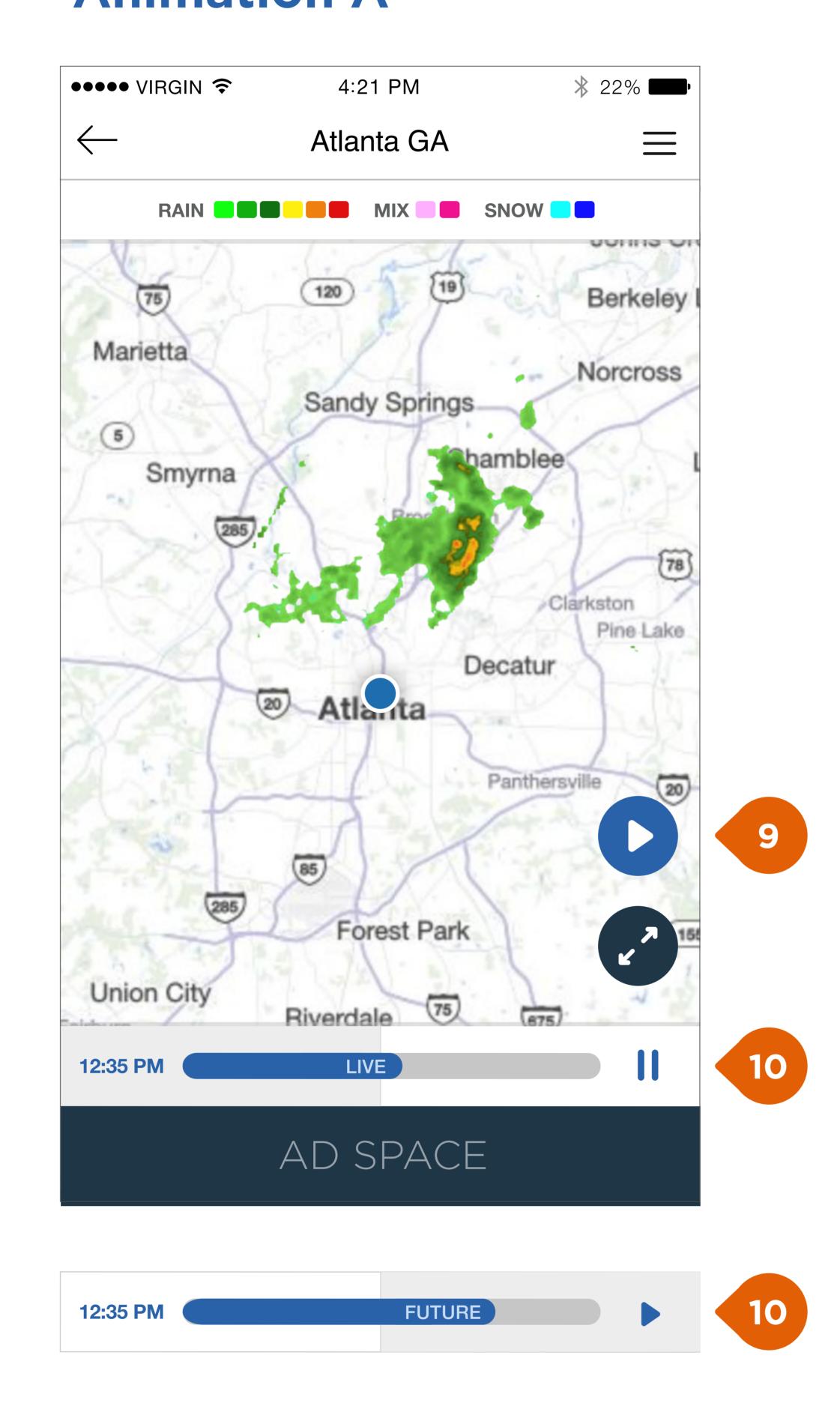
Default Screen



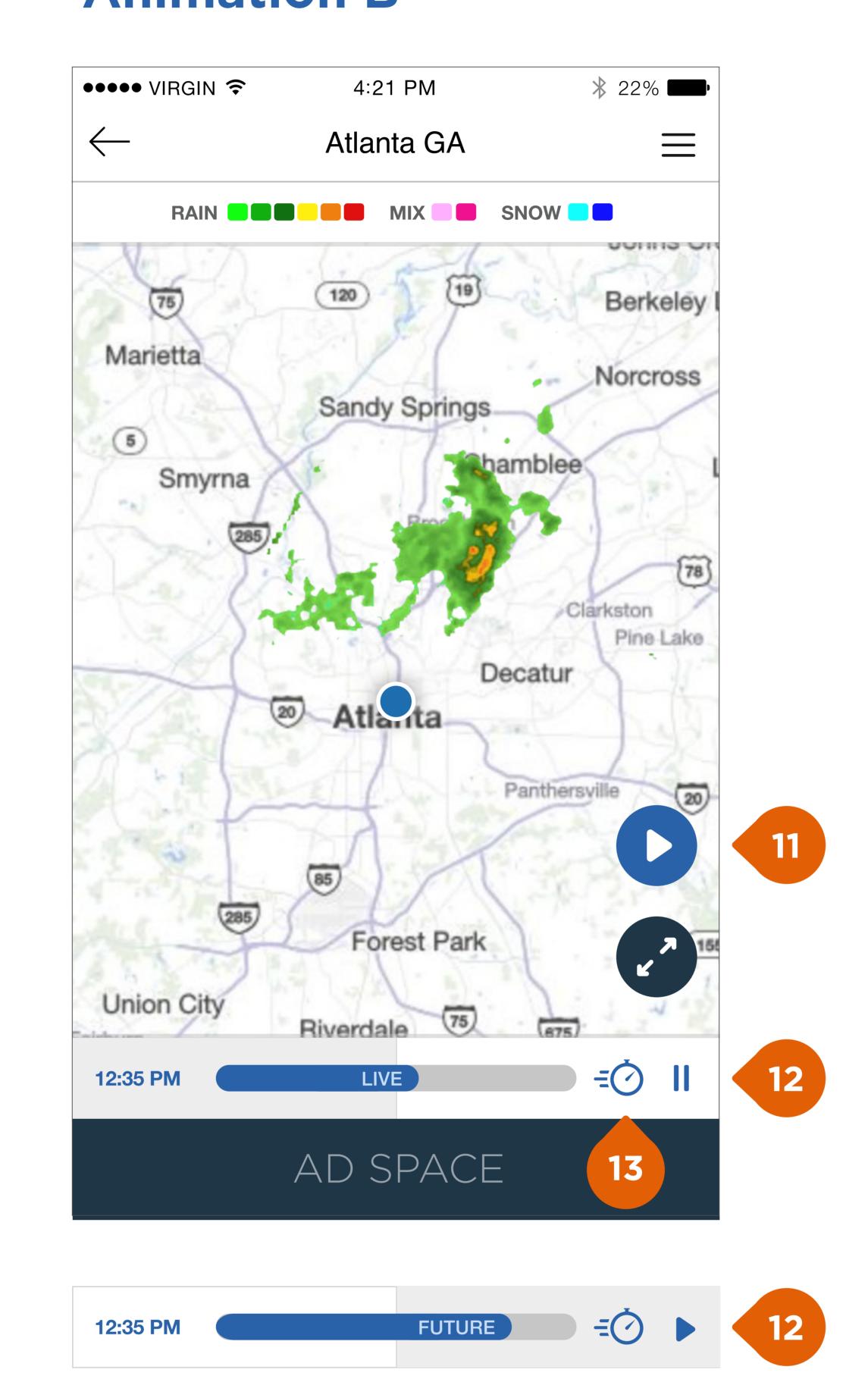
Auto Geo-locate



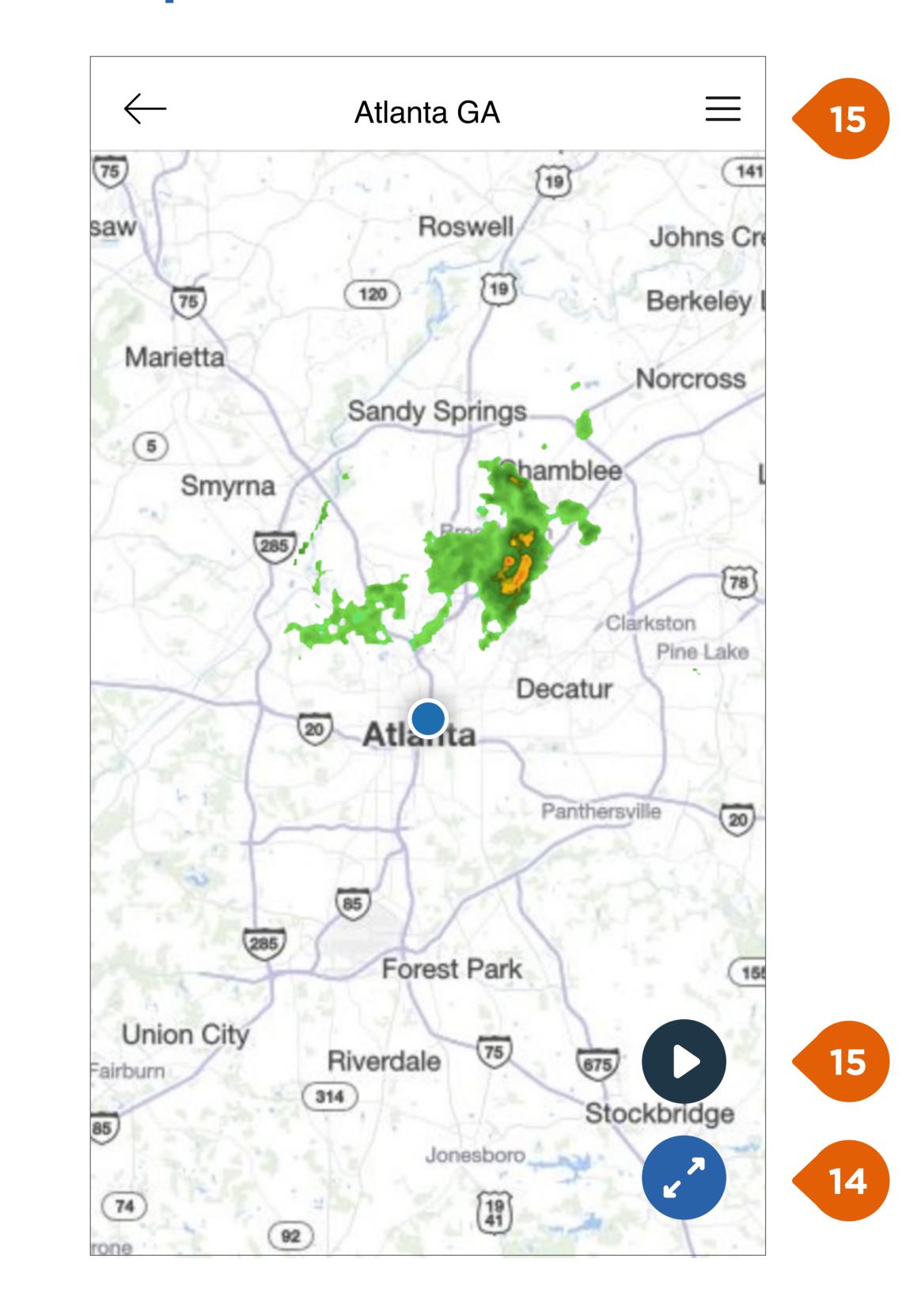
Animation A



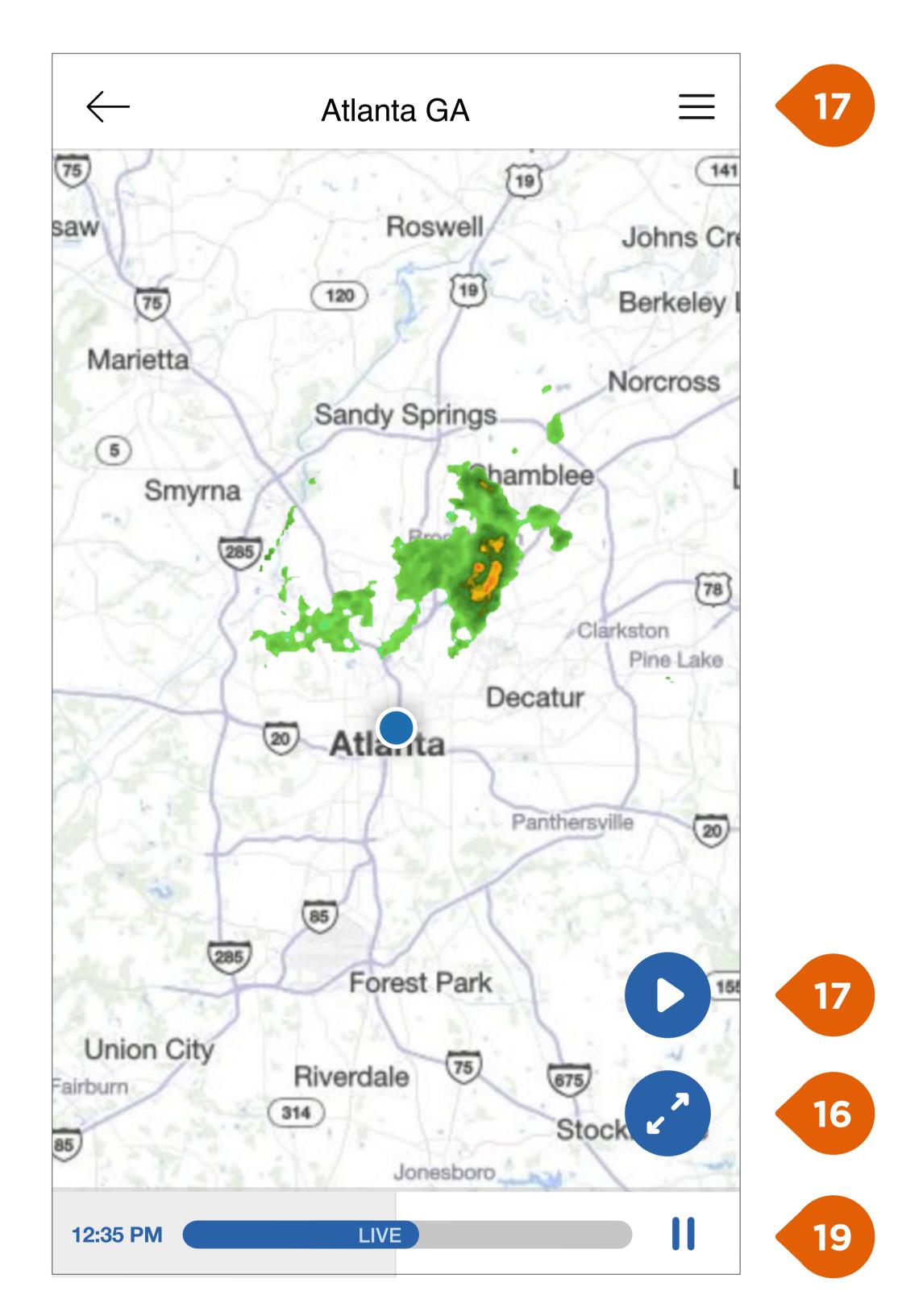
Animation B



Expanded View



Expanded Play



Notes

Default Screen

- Legend will be defaulted with no icon to turn on and off. Legend visibility with be controlled by the setting panel.
- Expand button will remove all icons and header.
- Play button will be defaulted on but not the animation time-line
- Current location will feature pulsating dot .
- Map will zoomed out to city level
- Back button takes you back to the main feed.
- Hamburger menu in header will bring you to the layers and settings panel.

Auto Geo-locate

When the user navigates away from their current location the auto Geo-location will default on the screen.

Animation A

- When the user taps the animation button the animation time-line appears and plays the animation with the ability to pause and see the time stamp from the time-line. The user can tap the play button a second time to hide the animation.
- The time-line features a play/pause button to the right the time stamp to the left. The time-line scrubber sits in the middle with the live/future cue nested in the active state. Once the time crosses the half way mark on the time-line the gray background bar moves from live (left) to the future (right) position. The words "LIVE" also changes to "FUTURE" at this point as well.

Animation B

- When the user taps the animation button the animation time-line appears and plays the animation with the ability to pause and see the time stamp from the time-line. The user can tap the play button a second time to hide the animation.
- 12 The time-line features a play/pause button to the right the time stamp to the left. The time-line scrubber sits in the middle with the live/future cue nested in the active state. Once the time crosses the half way mark on the time-line the gray background bar moves from live (left) to the future (right) position. The words "LIVE" also changes to "FUTURE" at this point as well.
- In option B we have added a speed icon to the time-line. Users can tap once to speed up the animation to x2 and then a second time to speed up x3. The 3rd tap will bring the animation back to the original speed.

Expanded View

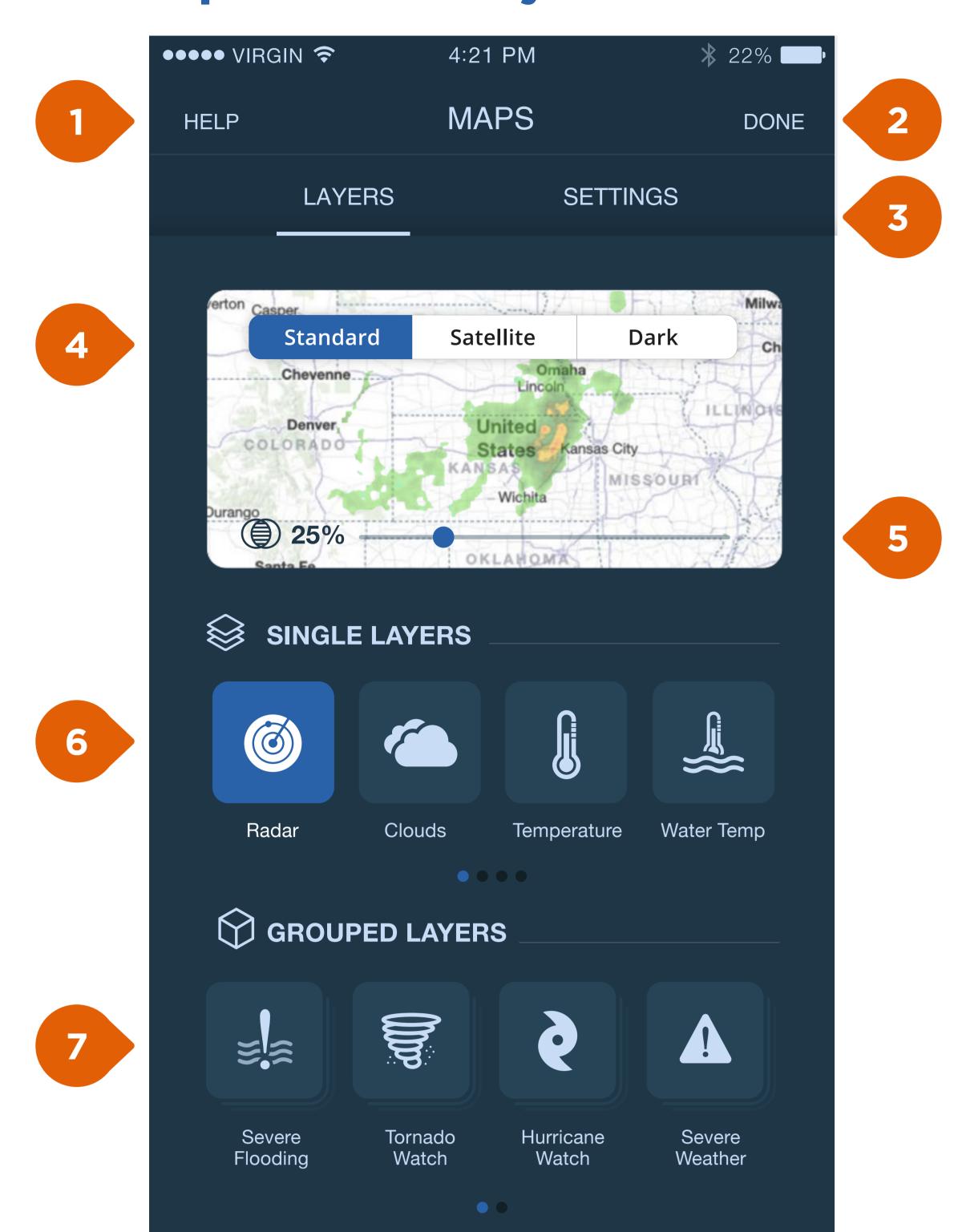
- When the user taps the expand button the ad and the main header is removed. The user can then tap the button again to return to the default state.
- The user still has access to the play feature and a minimized menu header that features the hamburger menu and back button.

Expanded Play

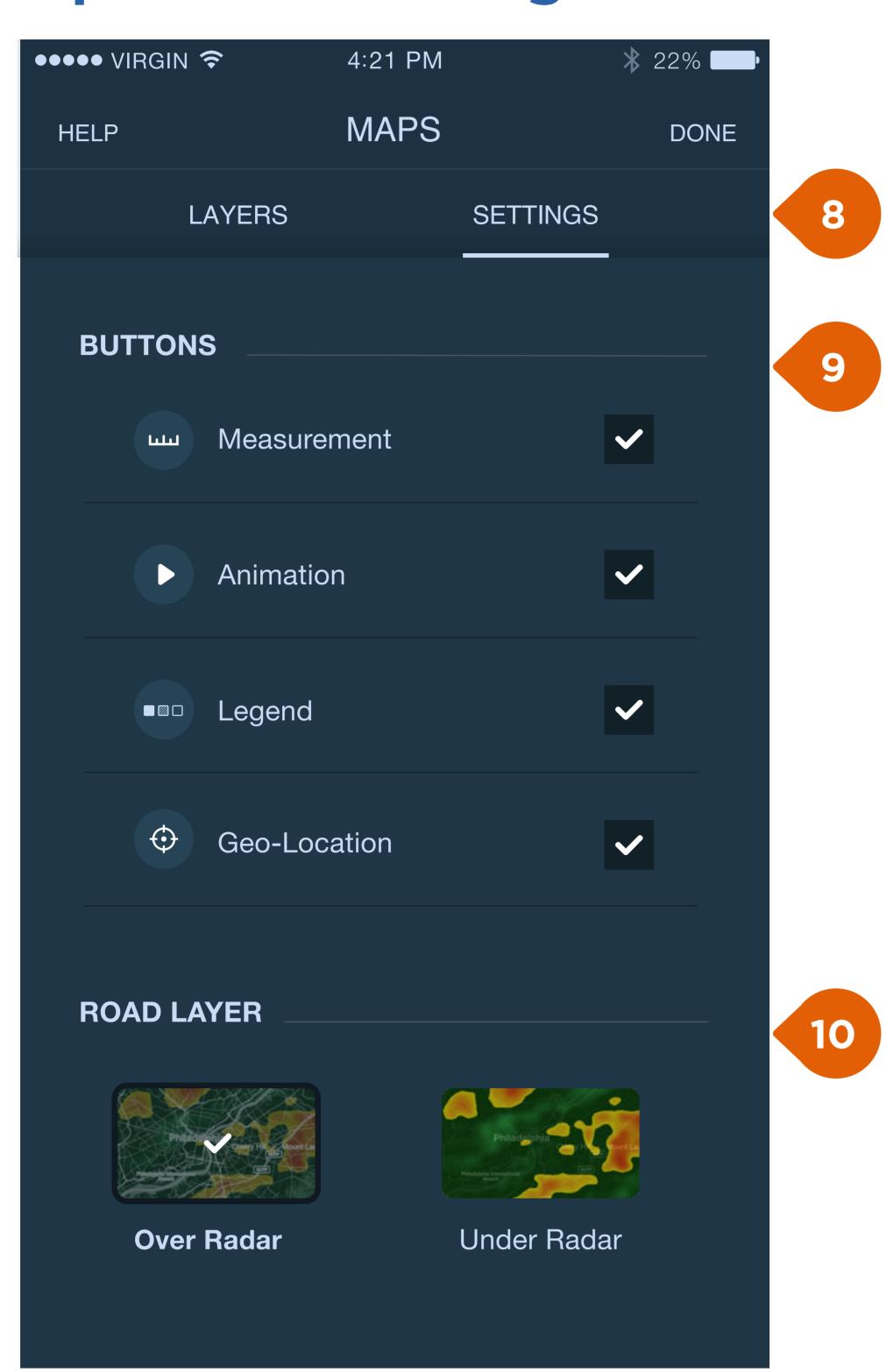
- When the user taps the expand button the ad and the main header is removed. The user can then tap the button again to return to the default state.
- The user still has access to the play feature and a minimized menu header that features the hamburger menu and back button.
- When the user taps the animation button the animation time-line appears and plays the animation with the ability to pause and see the time stamp from the time-line. The user can tap the play button a second time to hide the animation.
- The time-line features a play/pause button to the right the time stamp to the left. The time-line scrubber sits in the middle with the live/future cue nested in the active state. Once the time crosses the half way mark on the time-line the gray background bar moves from live (left) to the future (right) position. The words "LIVE" also changes to "FUTURE" at this point as well.

Layers & Settings Screens

Option A - Layers



Option A - Settings



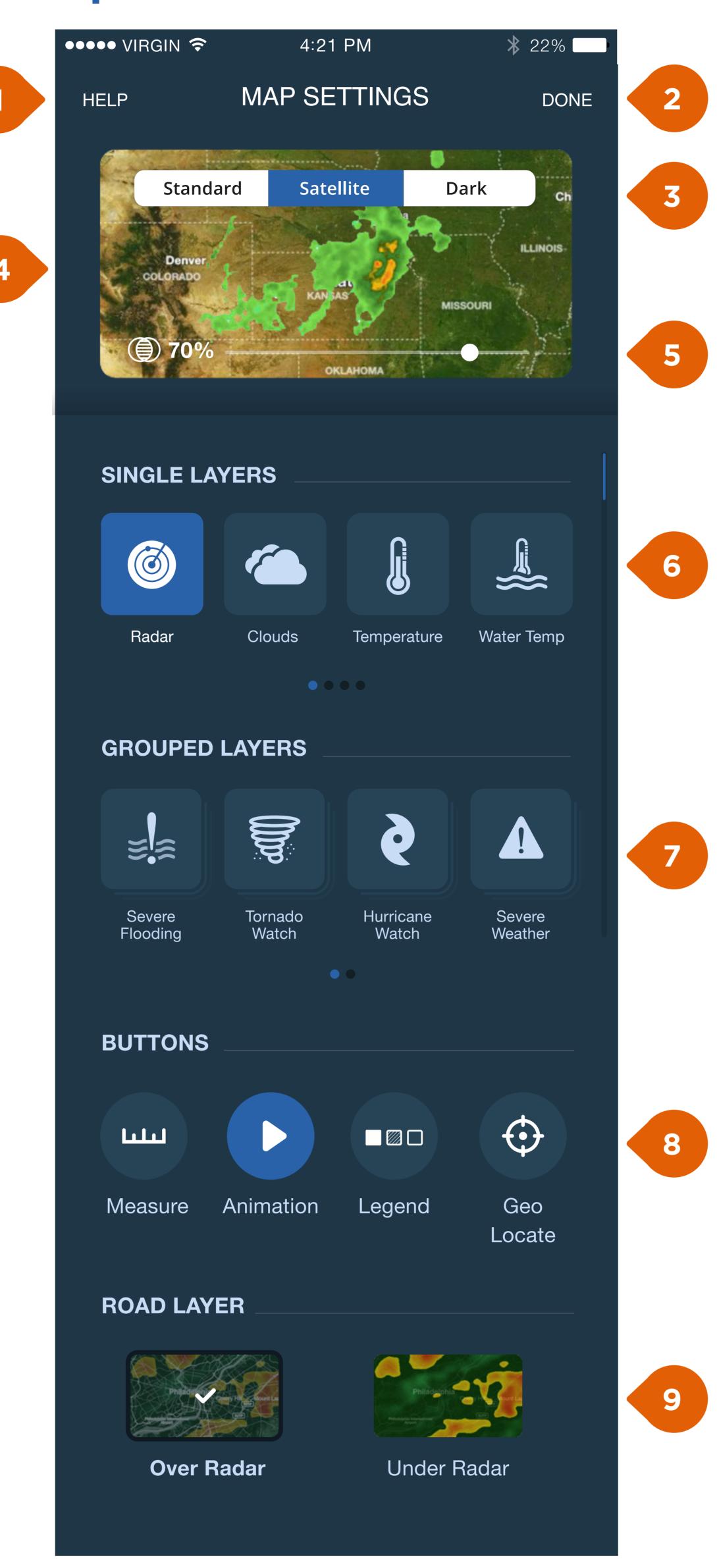
Notes

- "Help" is located at the top left so that users can access the help screens and tool tips when needed.
- "Done" is located at the top right to keep with iOS design standards.
- The "Layers" and "Settings" are presented as sub-navigation at the top of the screen, with the bar as status indication. Users can swipe (or tap) across to toggle between the pages.
- The preview features a section of the United States Map. On top are the map style tabs "Standard/Satellite/Dark" which also changes the preview. This wire features the standard preview view.
- Opacity is located on top of the preview map. The color of this grouping changes with the map style preview.
- Single layers buttons will scroll horizontally, with the pagination dots at the bottom.
- The Grouped Layers buttons will scroll horizontally, with the pagination dots at the bottom

Users has swiped to the "Settings" Panel.

- The "Buttons" list with check-boxes shows the user which buttons can be turned on and off.
 Once the button option is checked that button (or feature) will appear on the map screen.
- "Road Layer" shows a visual of the road layer over the radar vs the road layer under the radar. Users can choose which view they prefer.

Option B



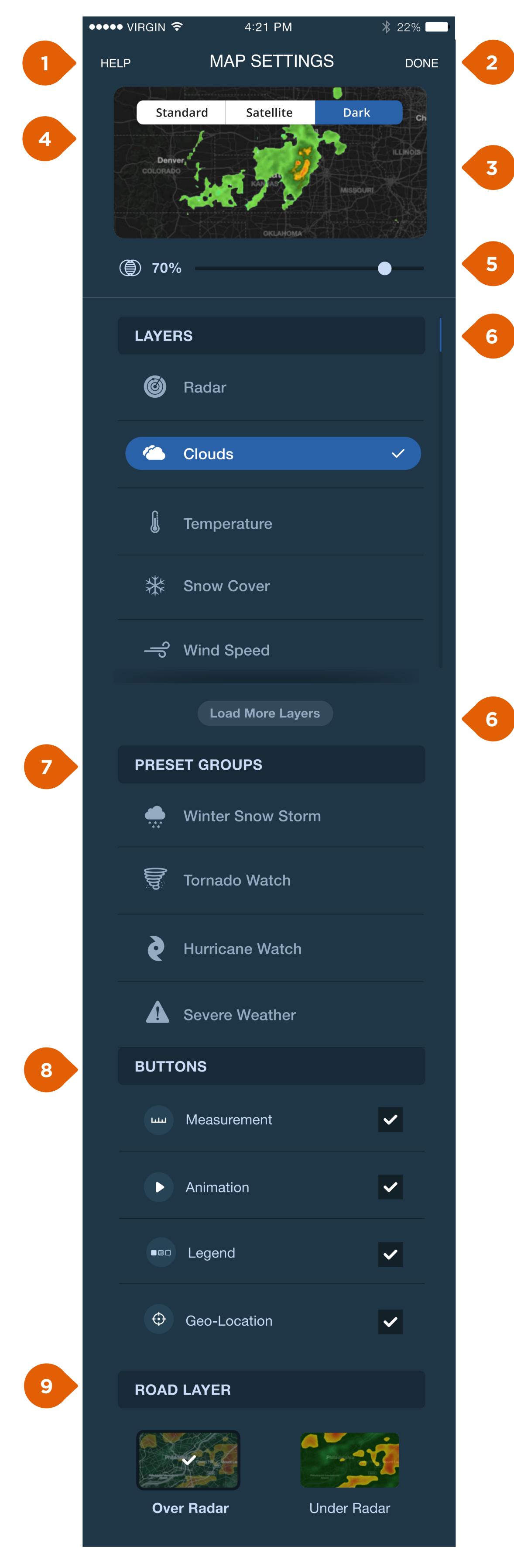
Notes

- "Help" is located at the top left so that users can access the help screens and tool tips when needed.
- "Done" is located at the top right to keep with iOS design standards.
- The "Layers" and "Settings" are merged into one panel and users can scroll down to access all the settings associated with maps.
- States Map. On top are the map style tabs "Standard/Satellite/Dark" which also changes the preview. This wire features the satellite preview view.

The preview features a section of the United

- Opacity is located on top of the preview map.
 The color of this grouping changes with the map style preview.
- Single layers buttons will scroll horizontally, with the pagination dots at the bottom.
- The Grouped Layers buttons will scroll horizontally, with the pagination dots at the bottom
- The "Buttons" list will scroll horizontally (if more than four buttons), and can be turned on and off when tapped. Once the button option is turned on that button (or feature) will appear on the map screen.
- "Road Layer" shows a visual of the road layer over the radar vs the road layer under the radar. Users can choose which view they prefer.

Option C



Notes

- "Help" is located at the top left so that users can access the help screens and tool tips when needed.
- "Done" is located at the top right to keep with iOS design standards.
- The "Layers" and "Settings" are merged into one panel and users can scroll down to access all the settings associated with maps.
- The preview features a section of the United States Map. On top are the map style tabs "Standard/Satellite/Dark" which also changes the preview. This wire features the dark preview view.
- Opacity is located below the preview map.
- Single layers will scroll vertically in a list format. The user can view 5 layers at a time and the ability to load more.
- The Grouped Layers will scroll vertically in a list format.
- The "Buttons" list with check-boxes shows the user which buttons can be turned on and off. Once the button option is checked that button (or feature) will appear on the map screen.
- "Road Layer" shows a visual of the road layer over the radar vs the road layer under the radar. Users can choose which view they

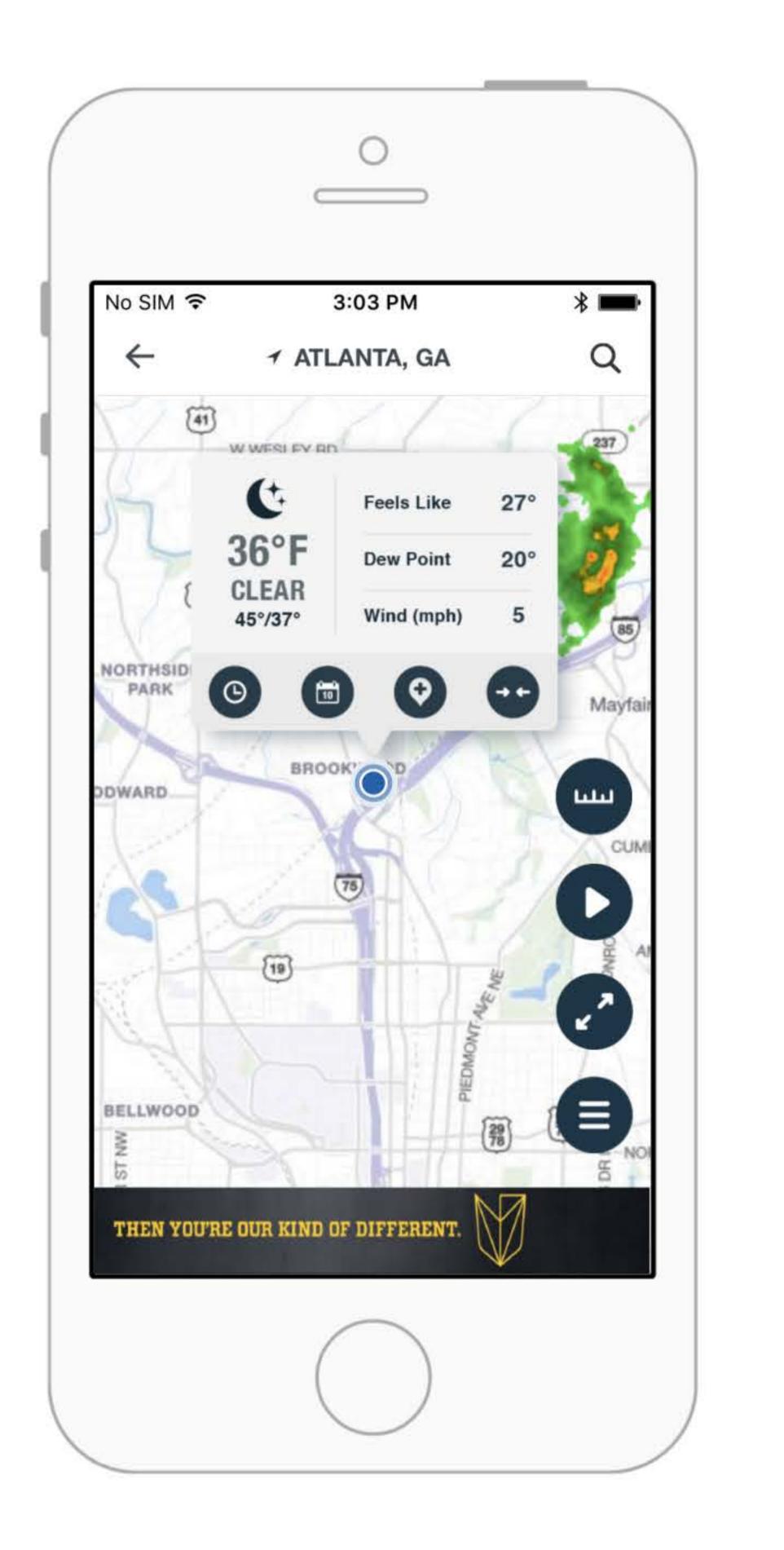
prefer.

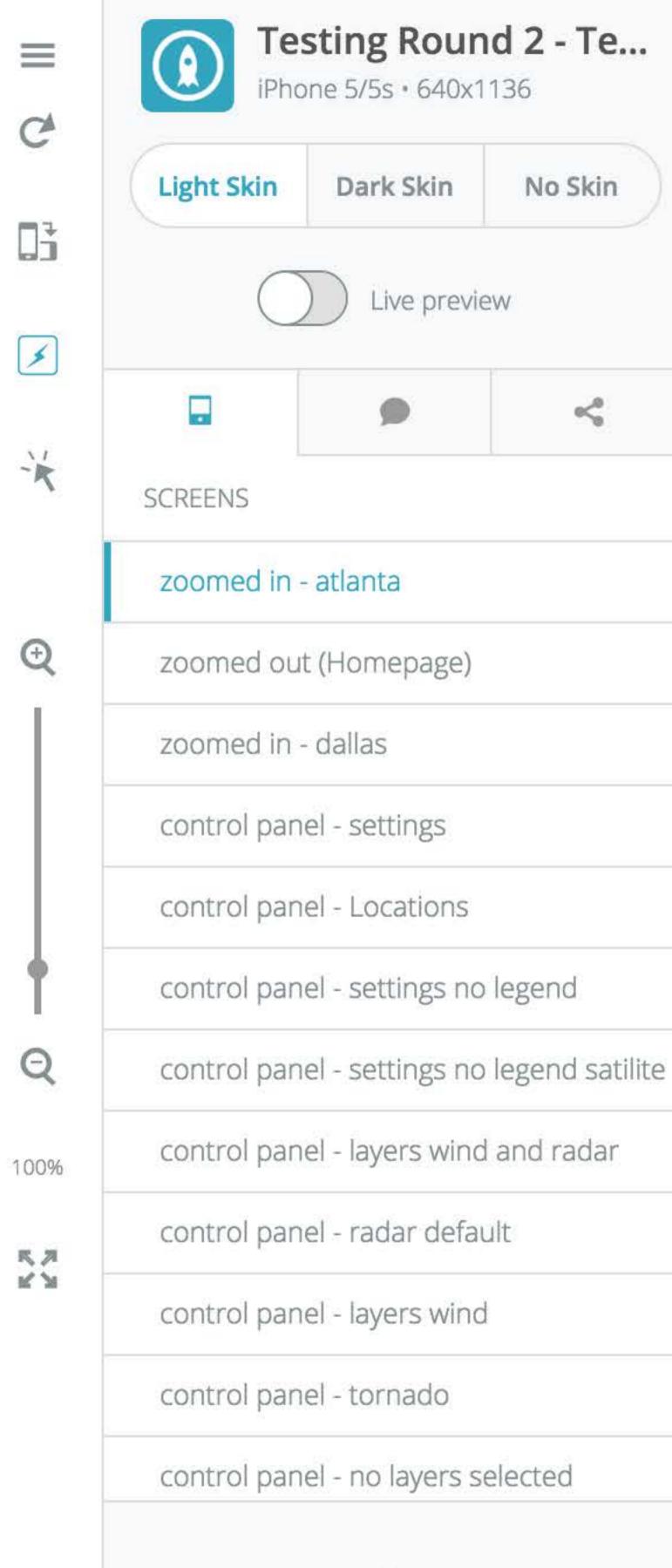
Panga UX Preliminary Testing

Proto.io Screens | Script | Findings

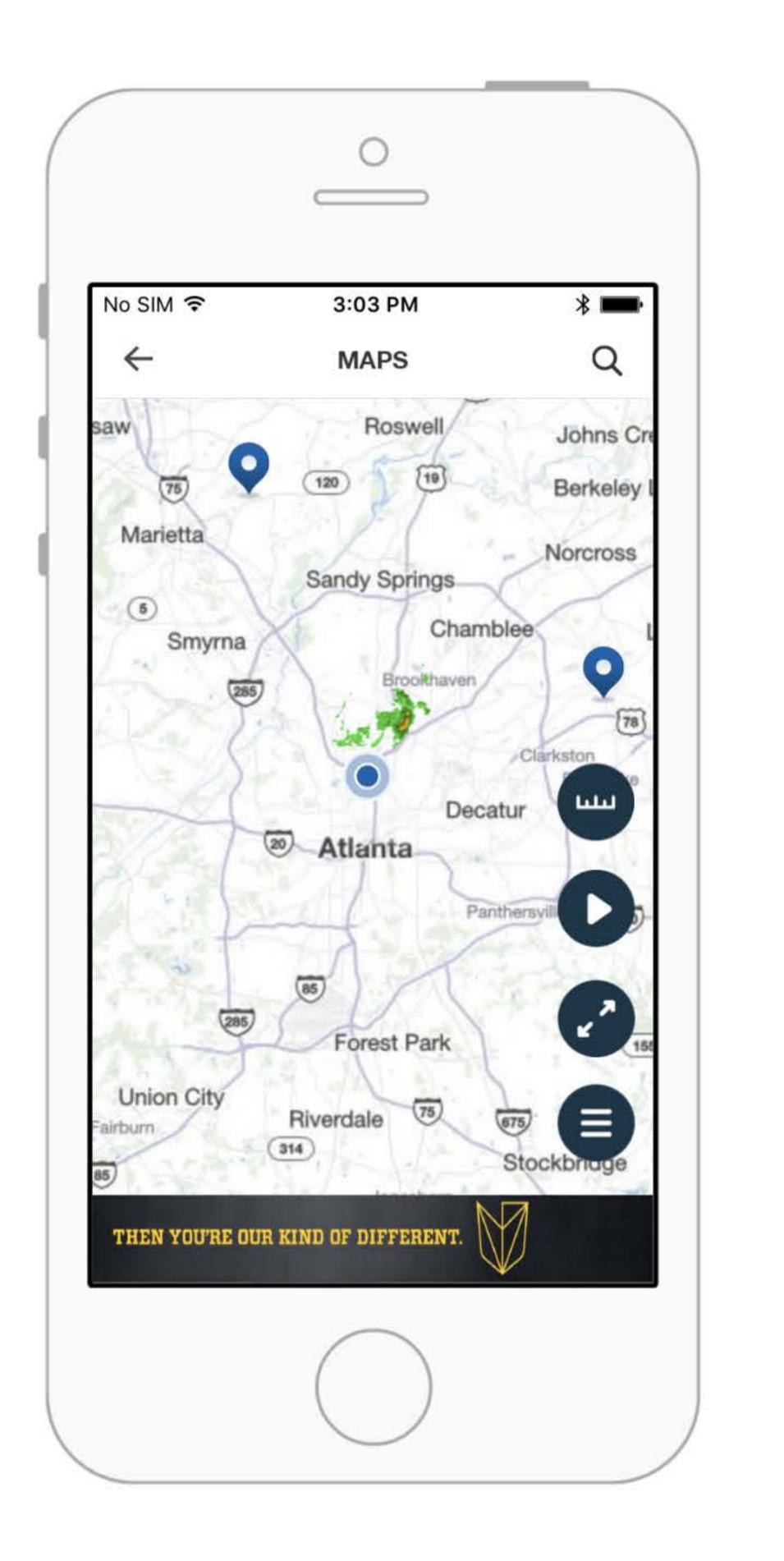
RESULTS FOR PROTOTYPES B & C

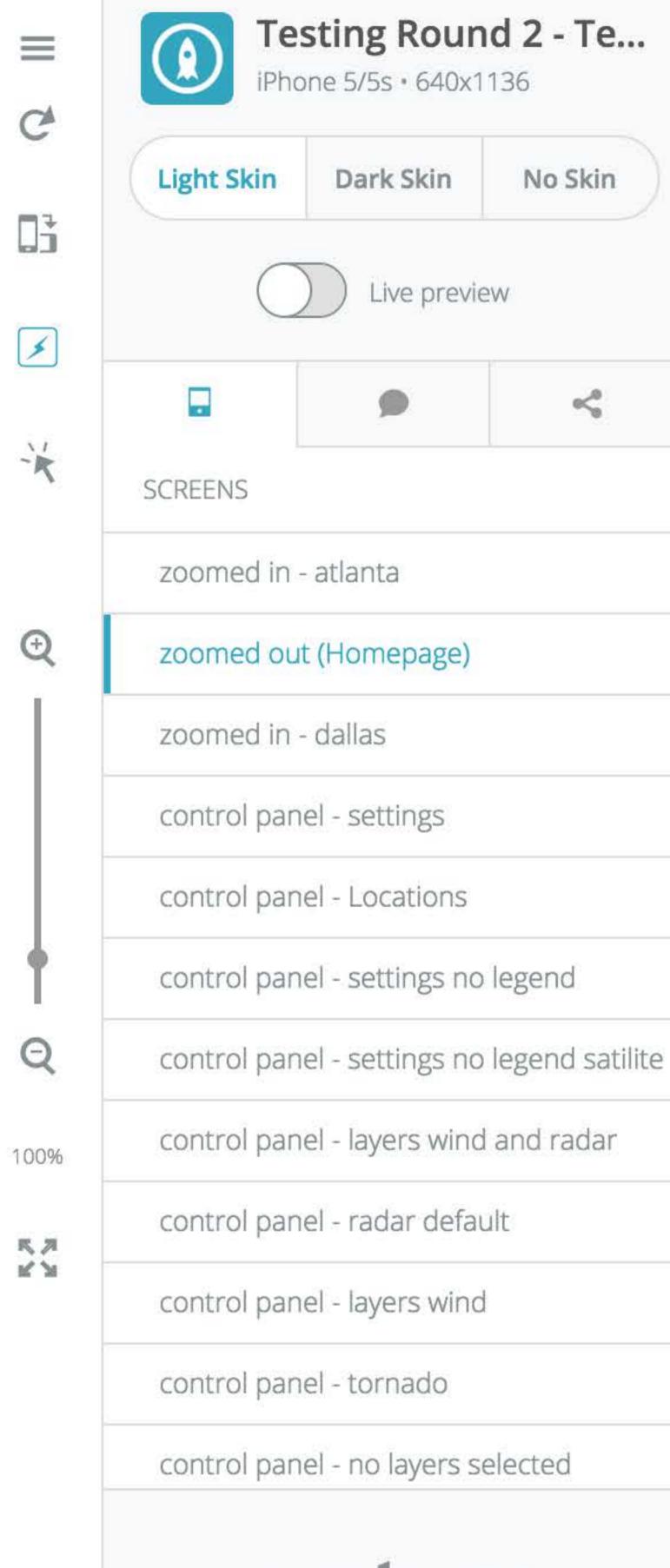
Testers: Deidre Bain, Robert Johnson



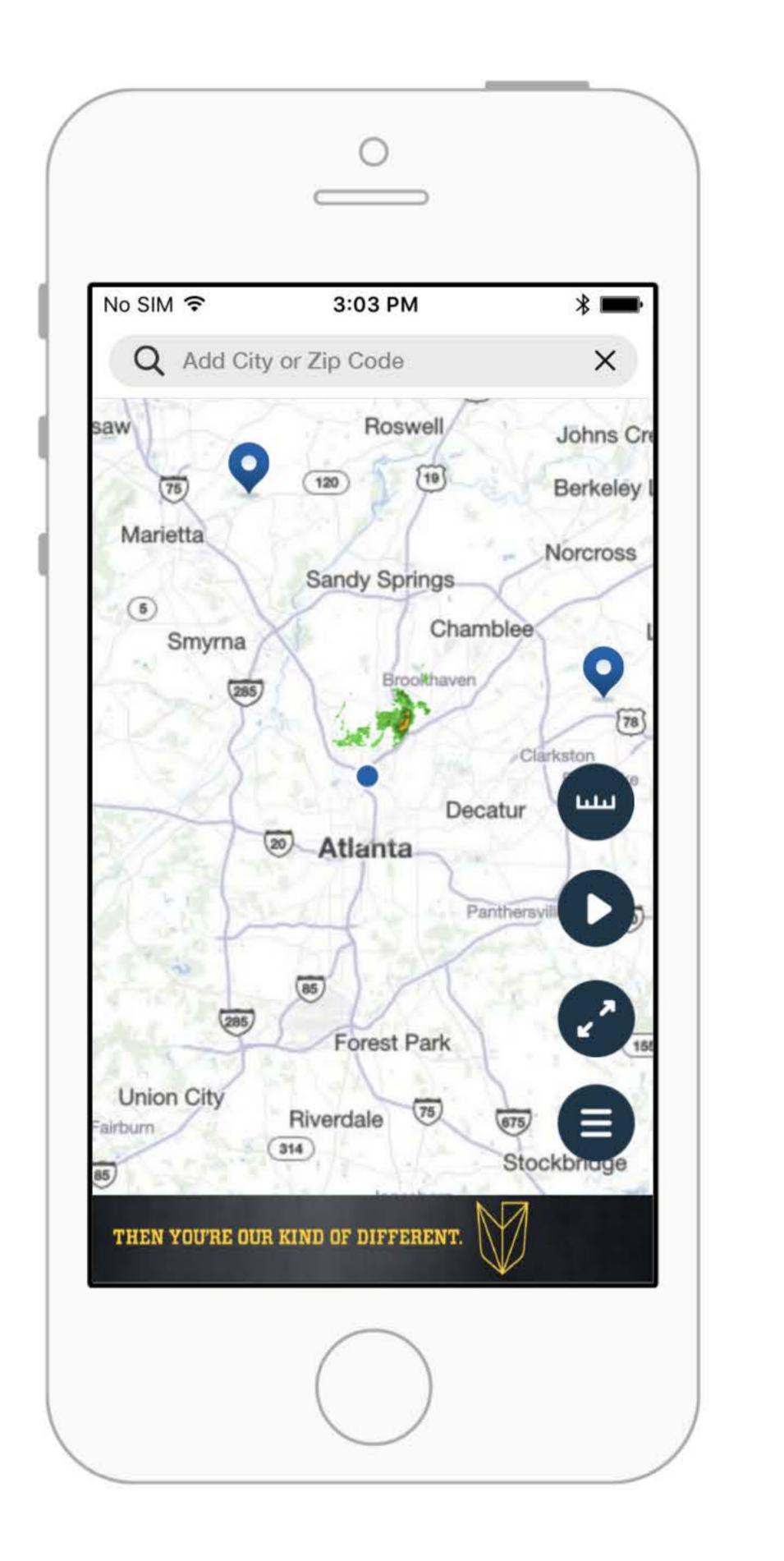


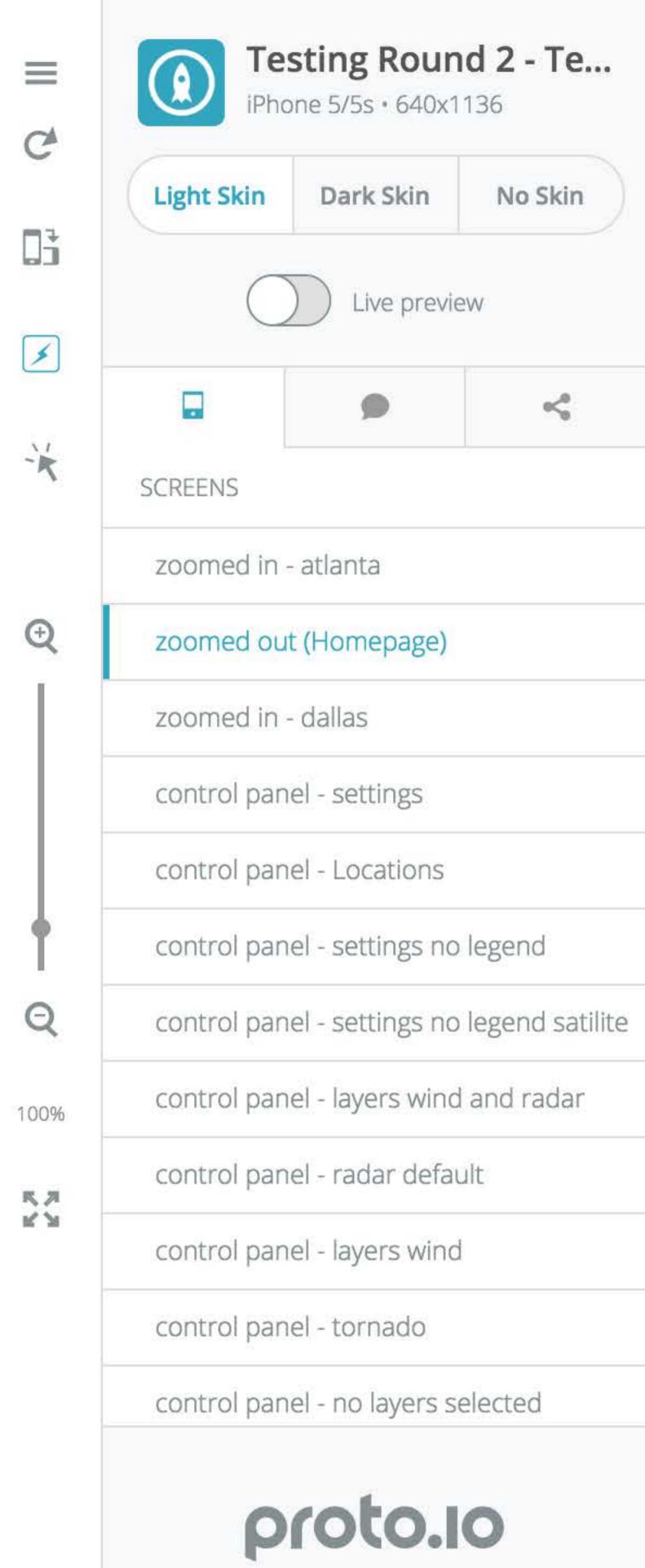


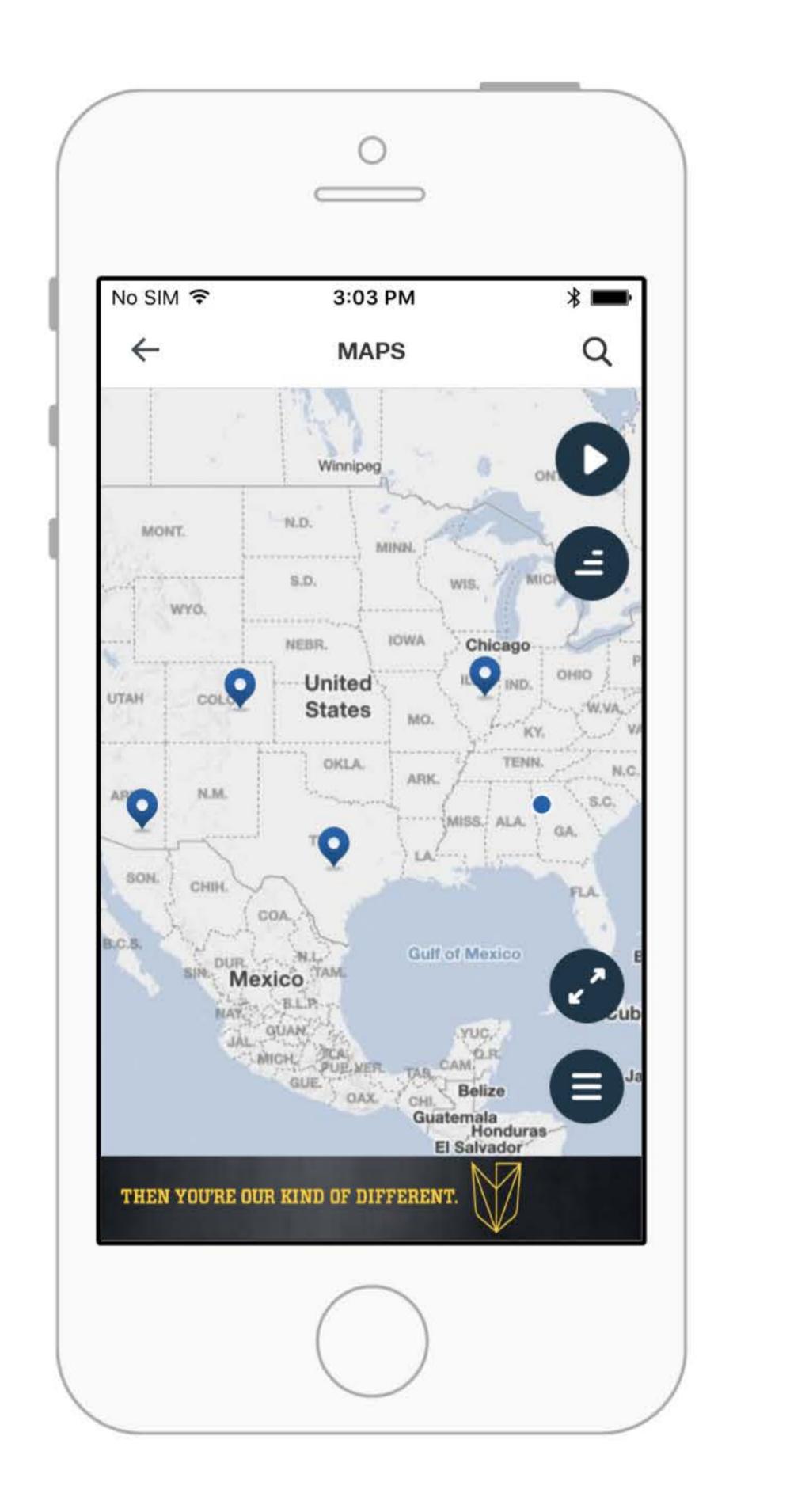


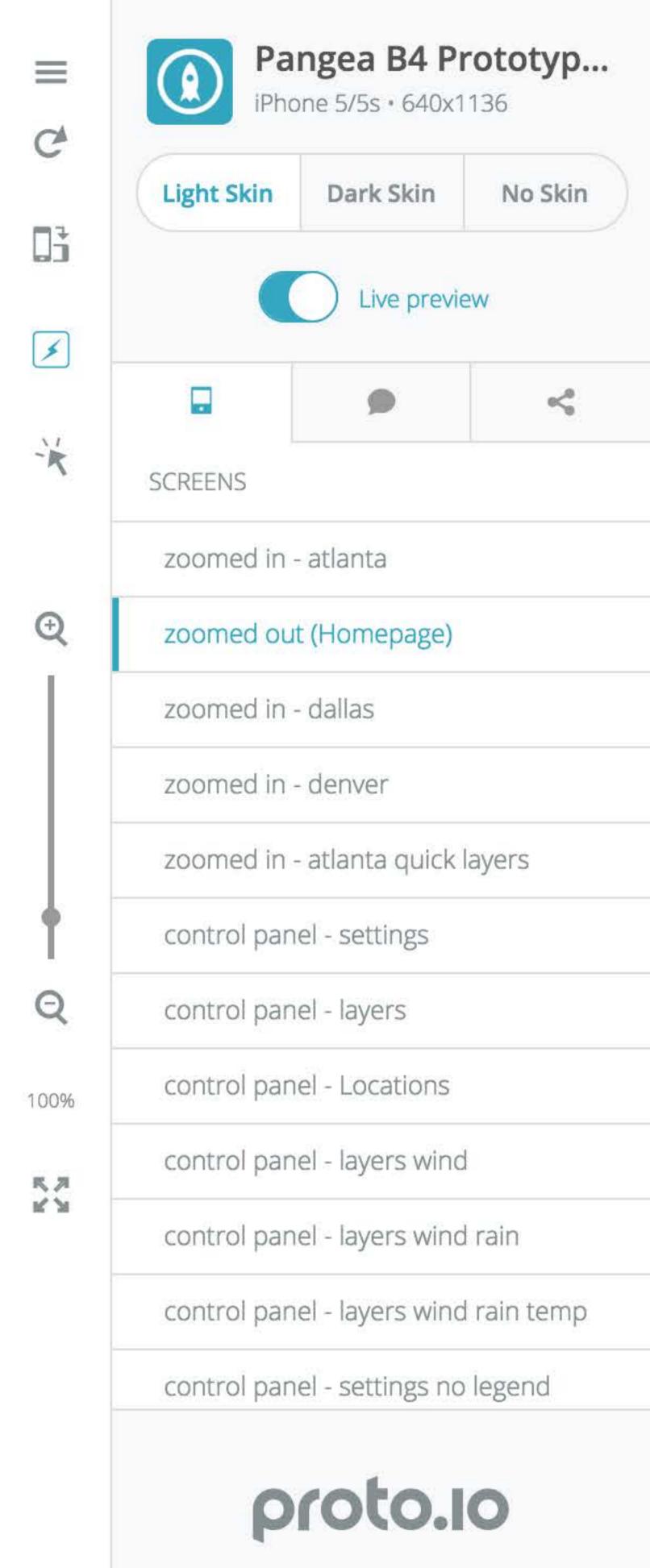


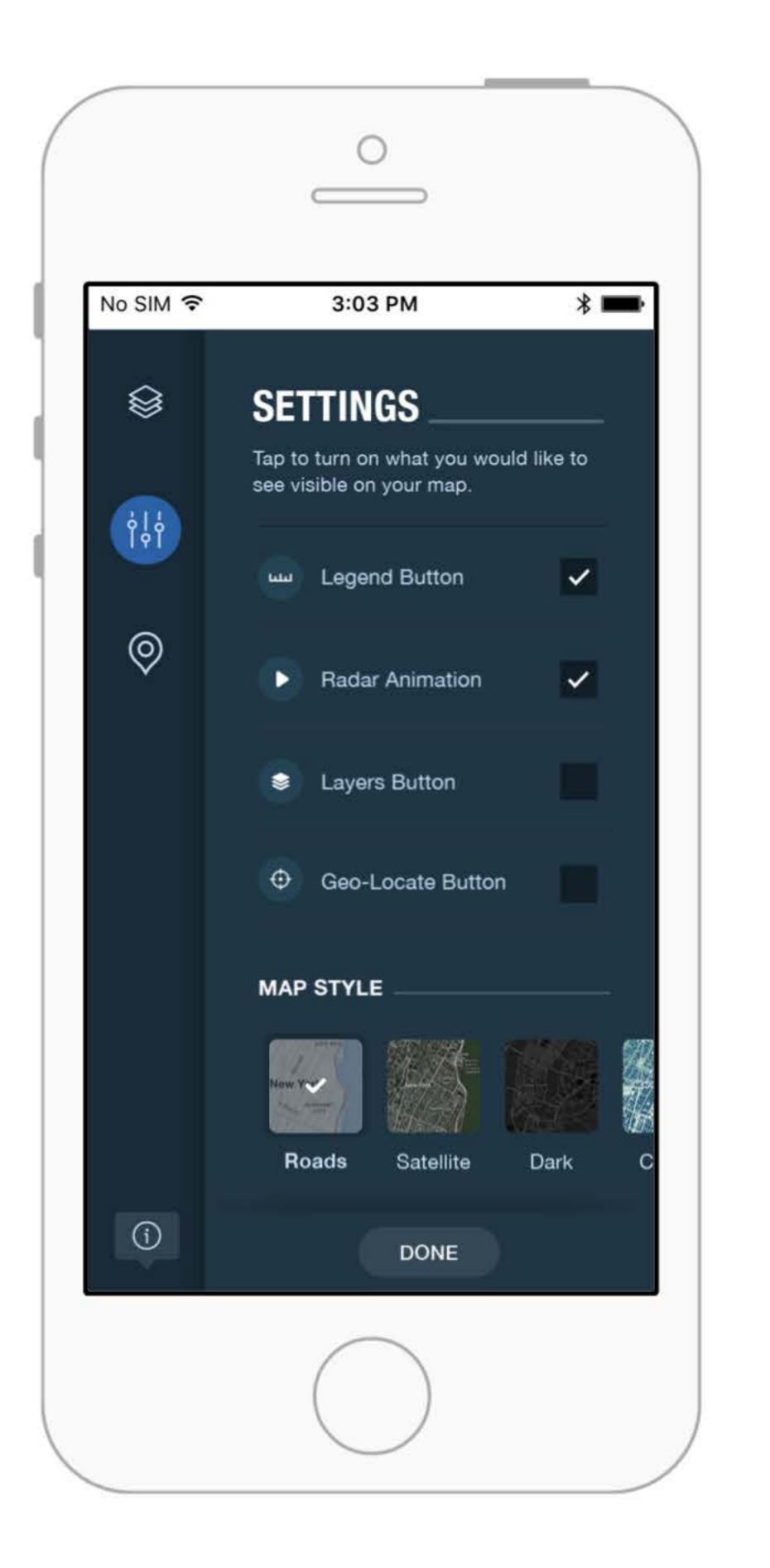


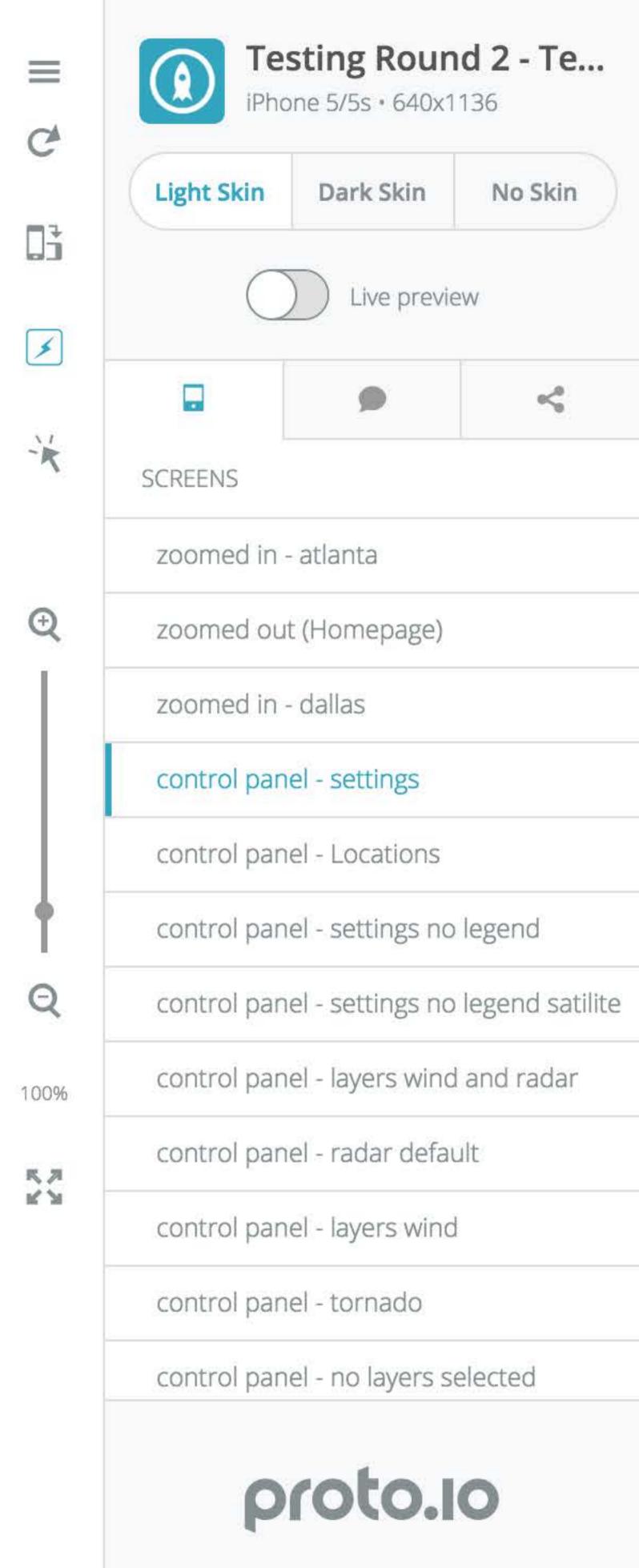


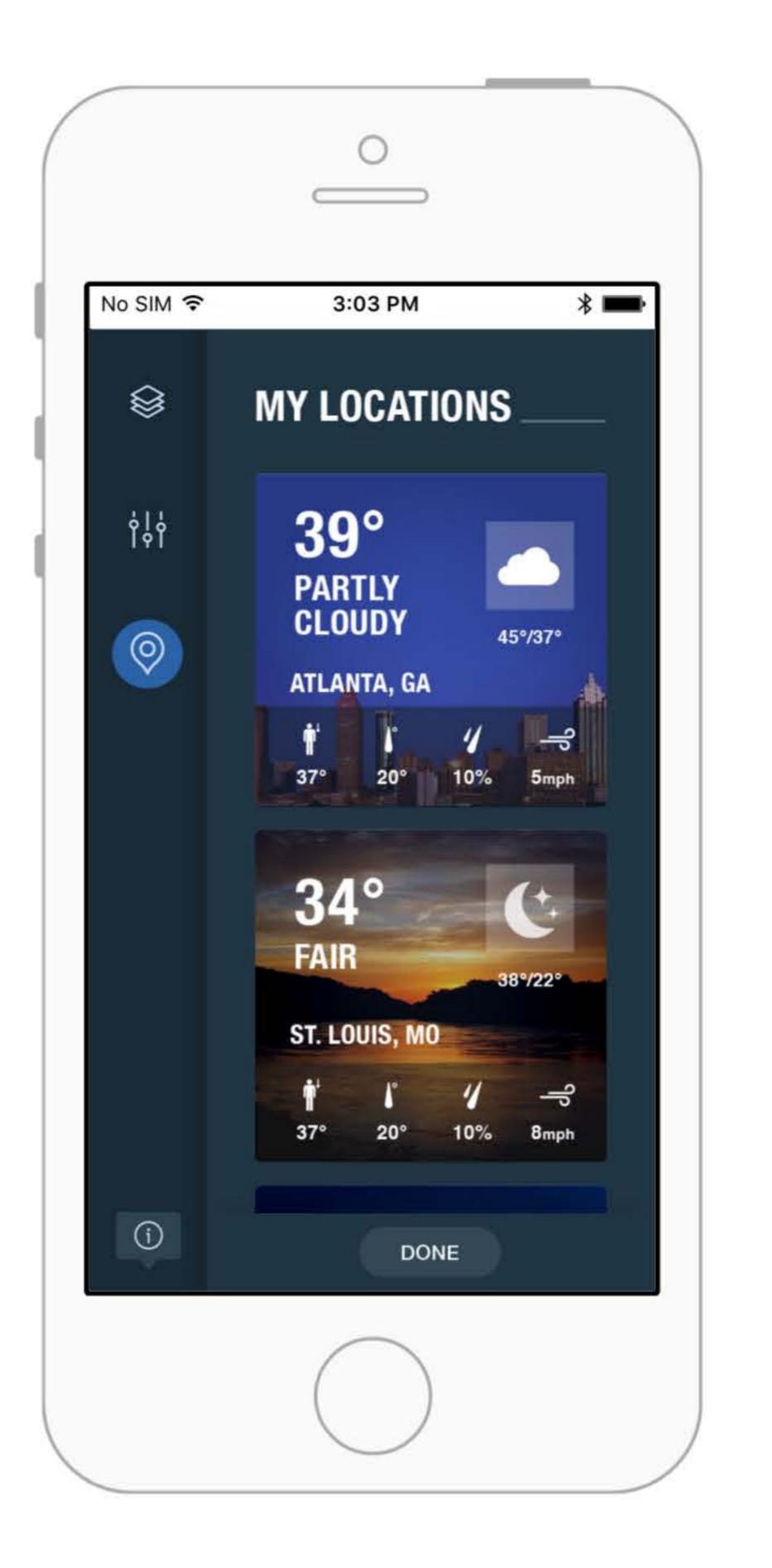


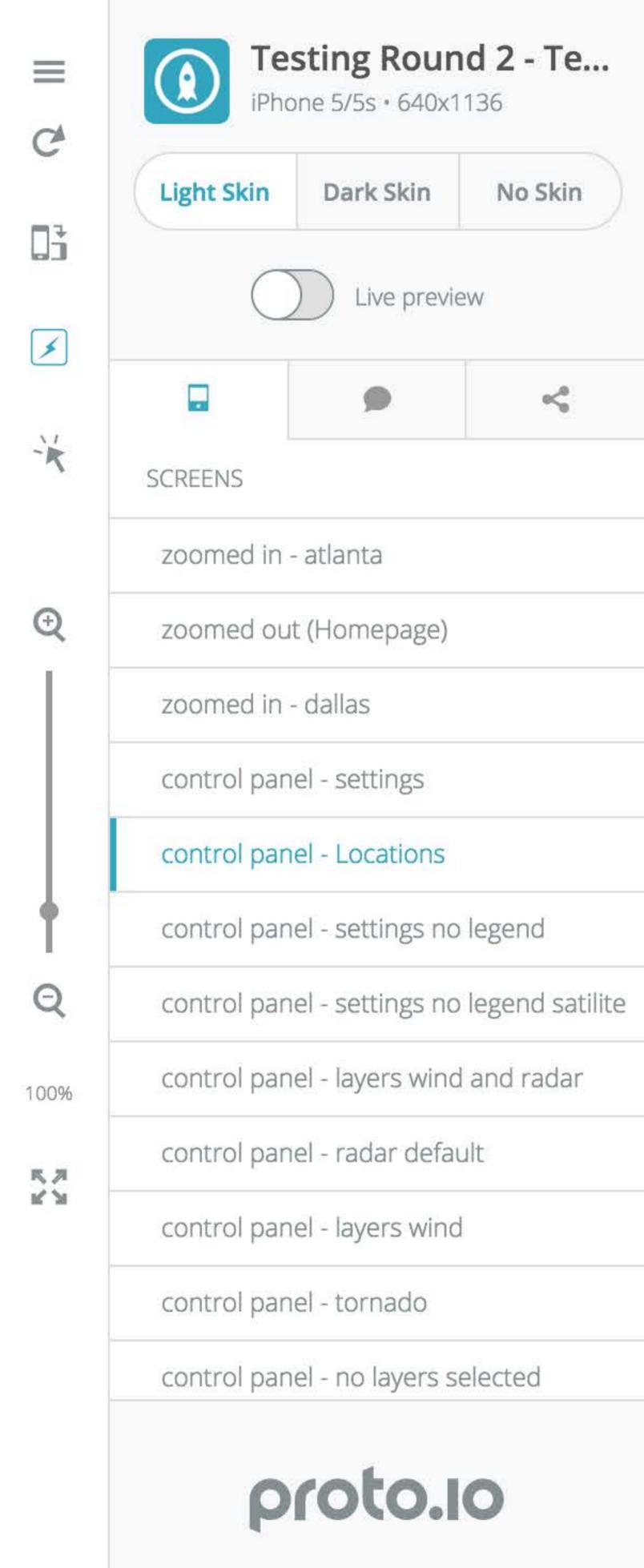


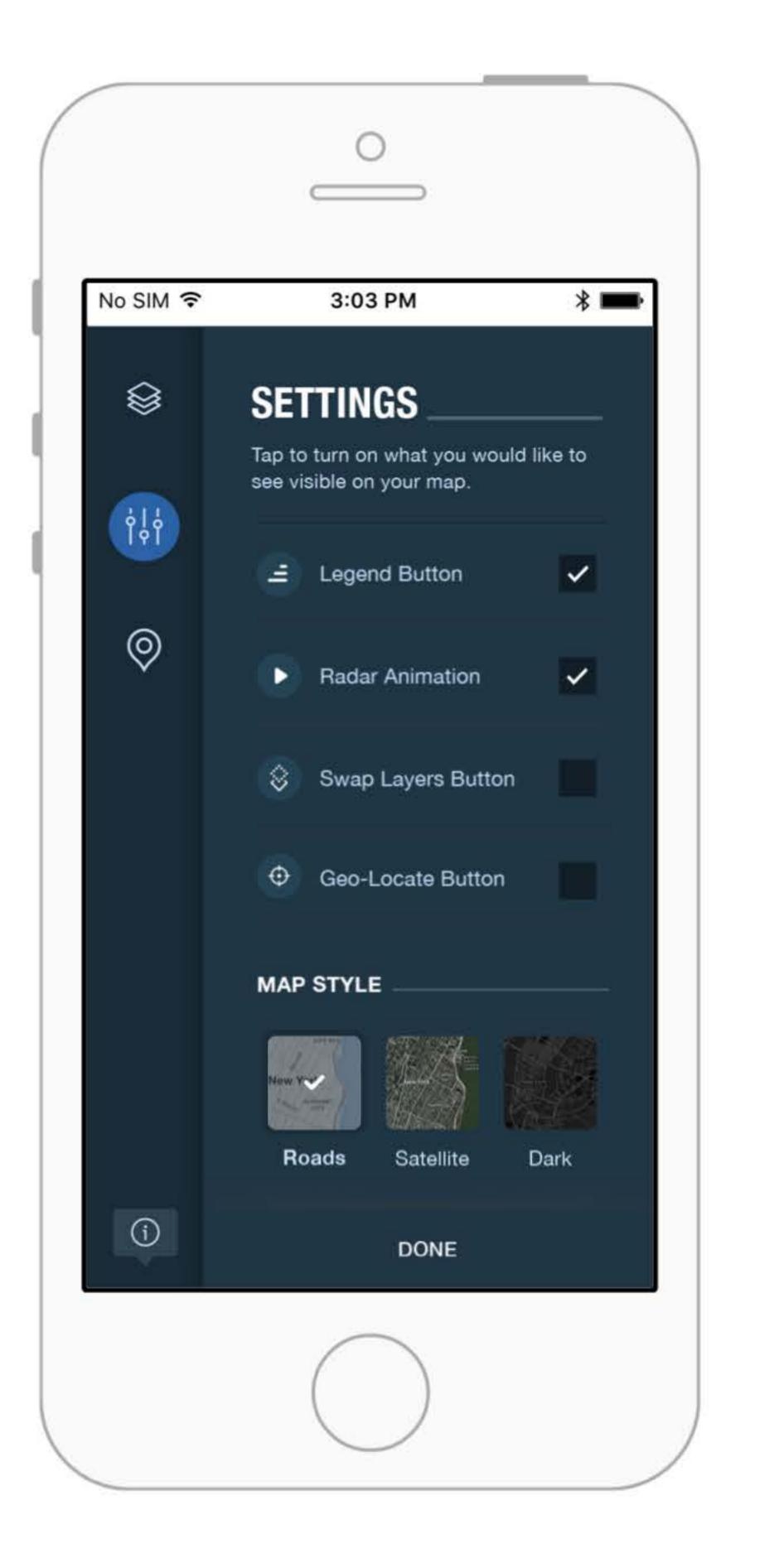


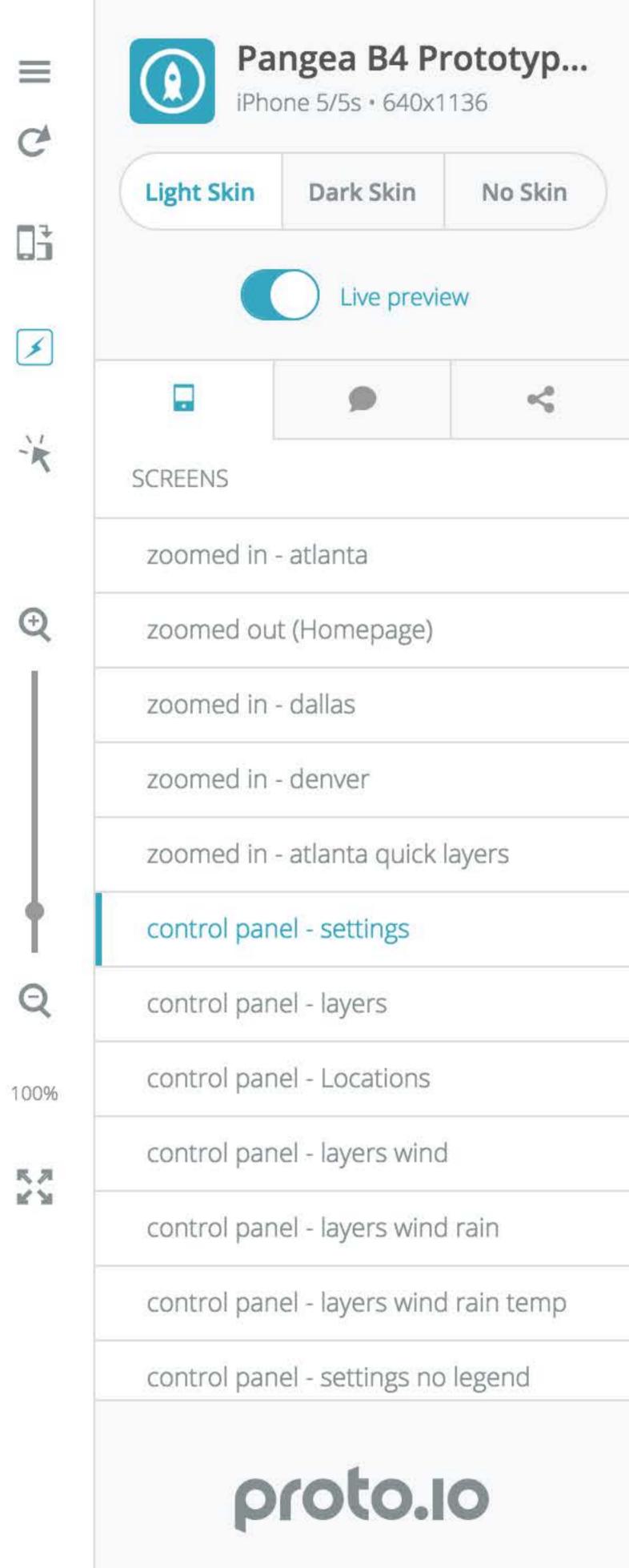


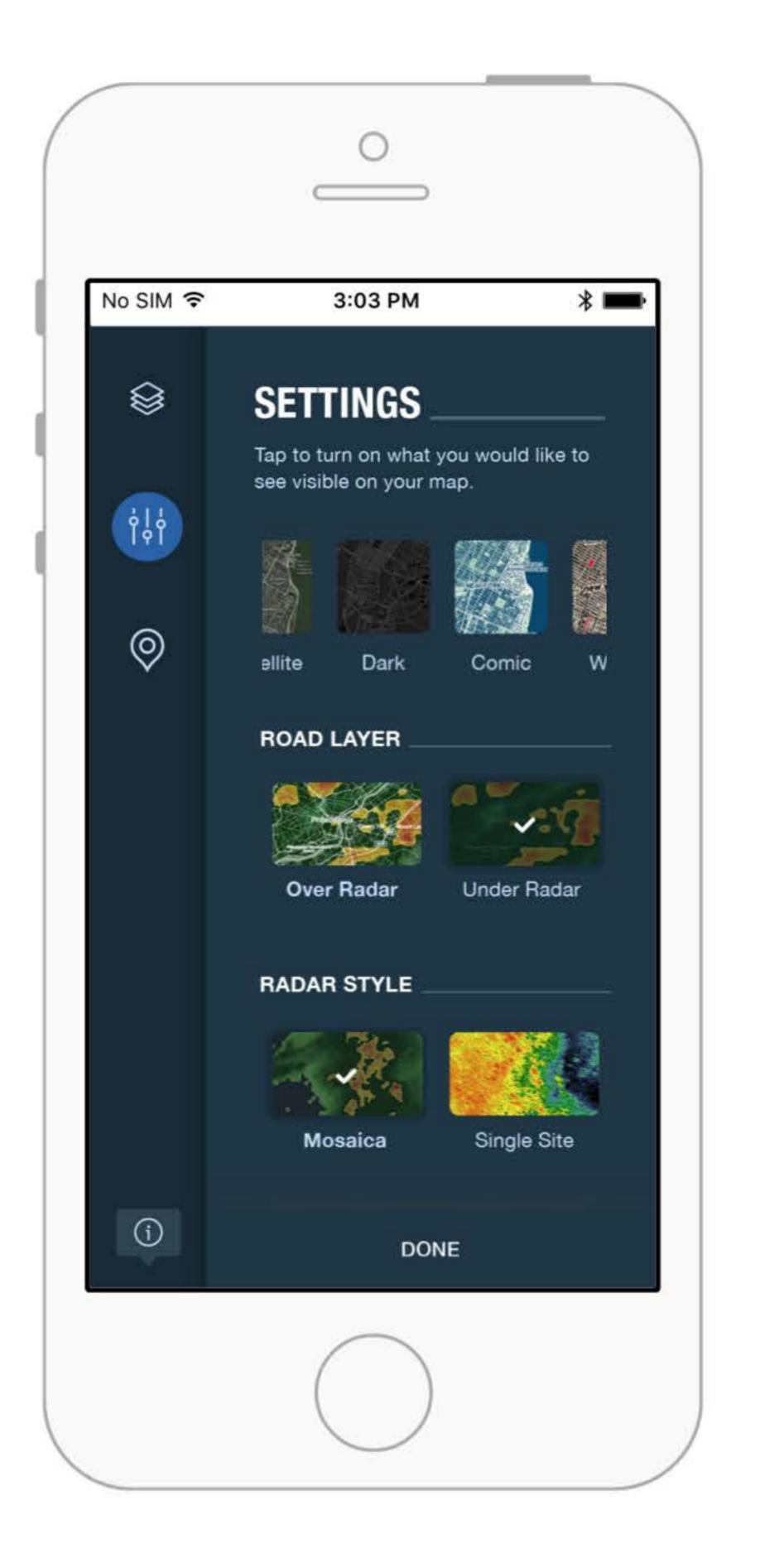


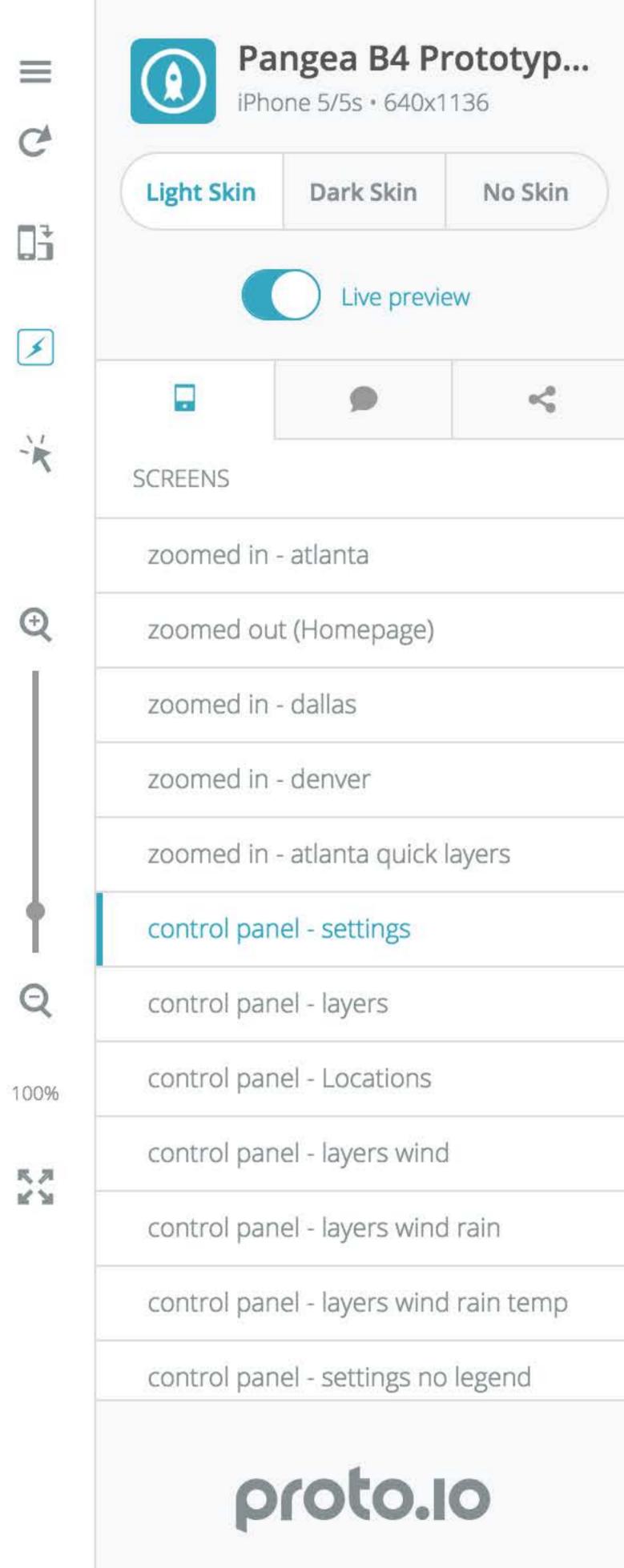


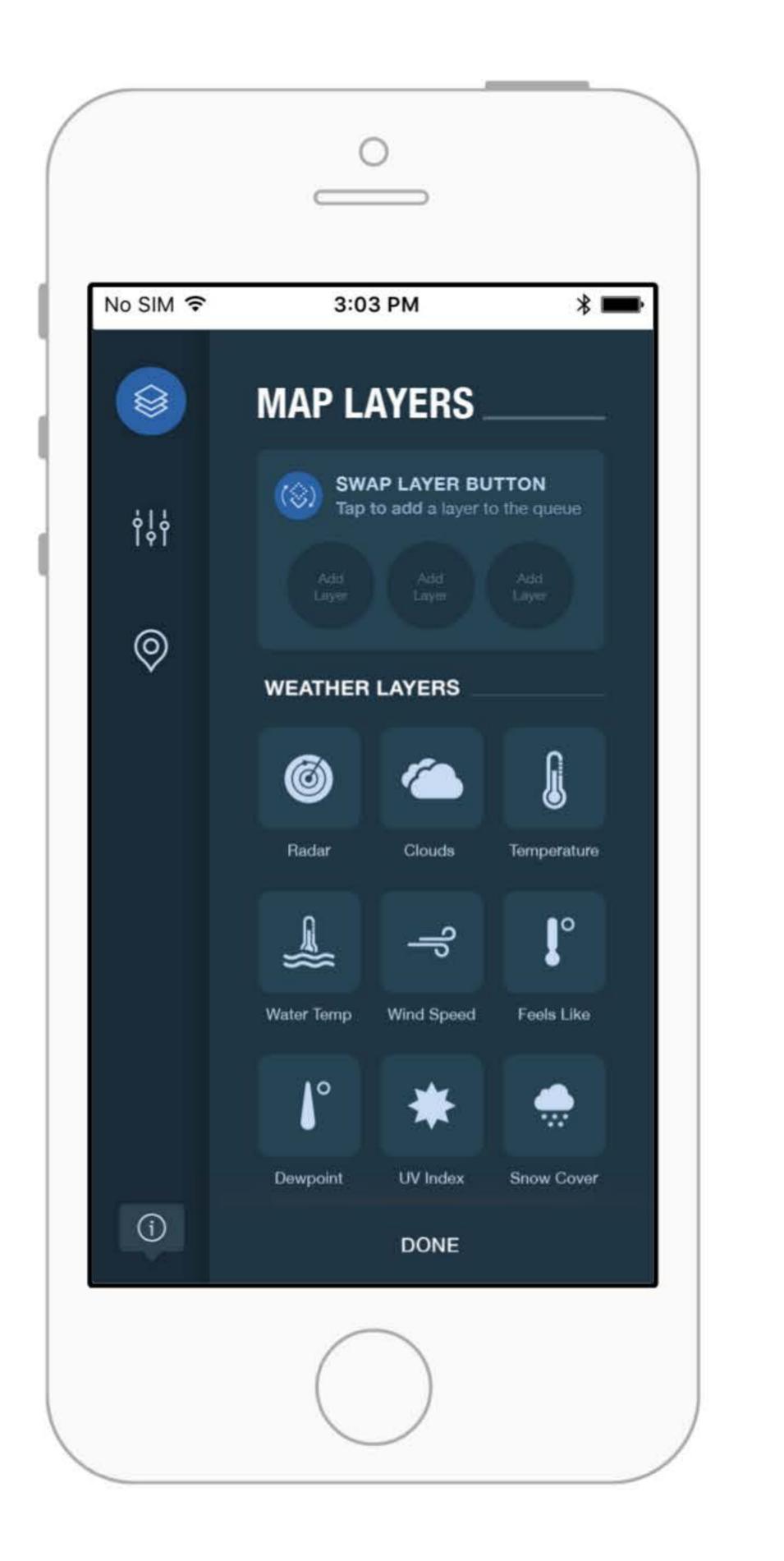


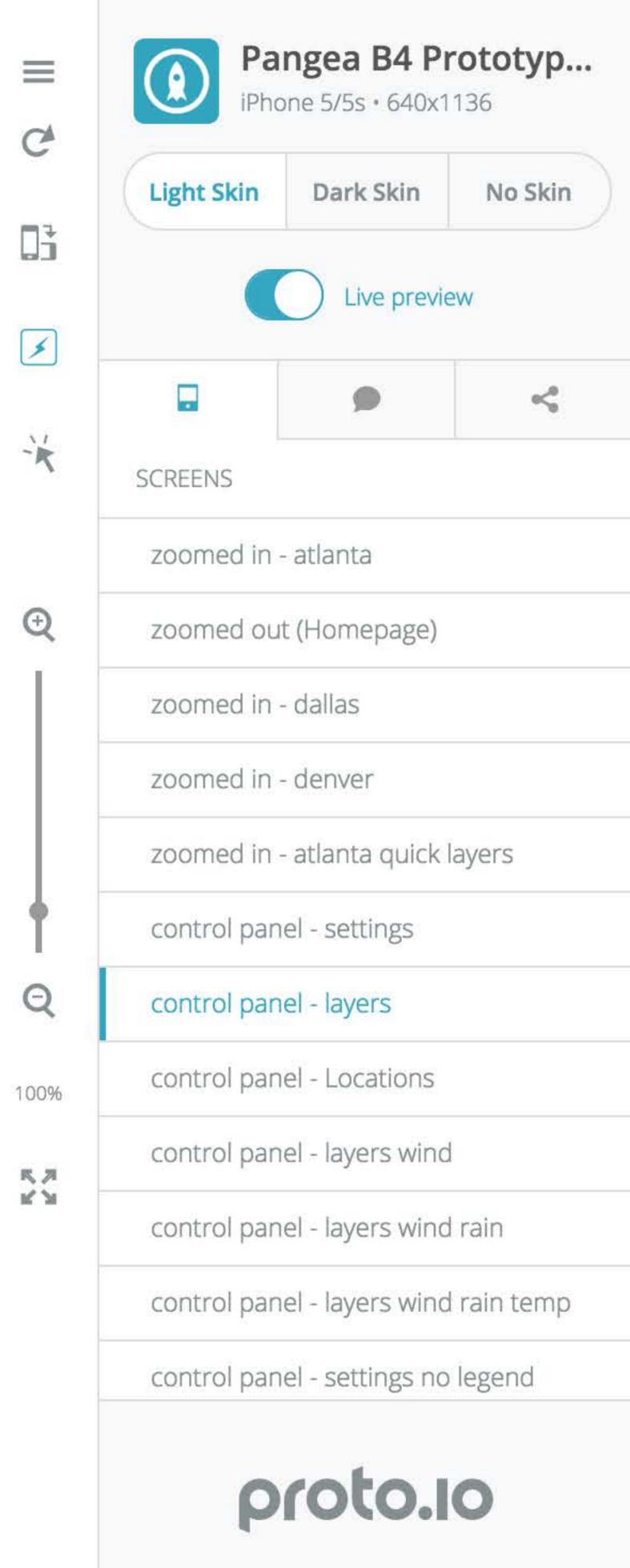


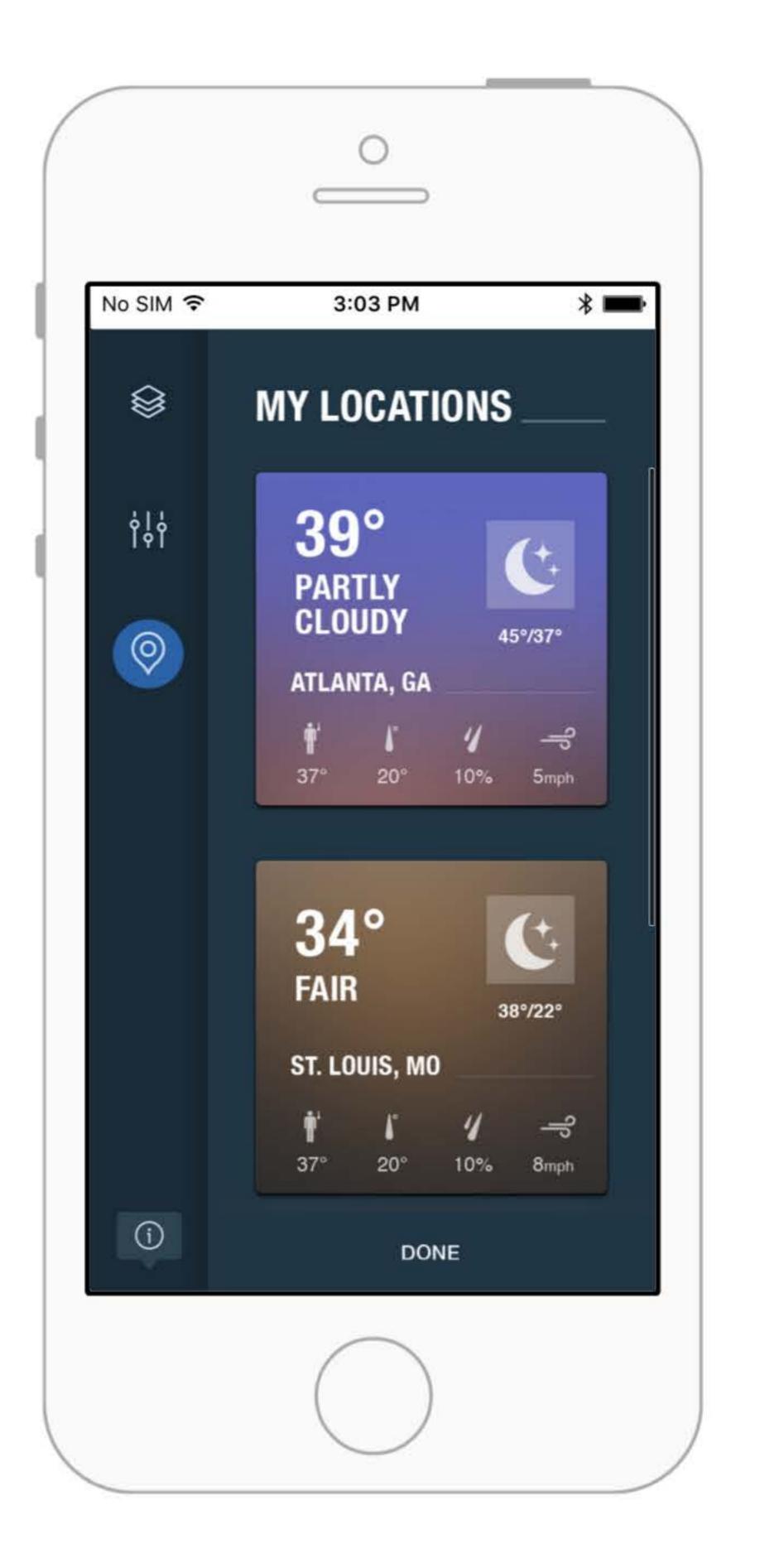


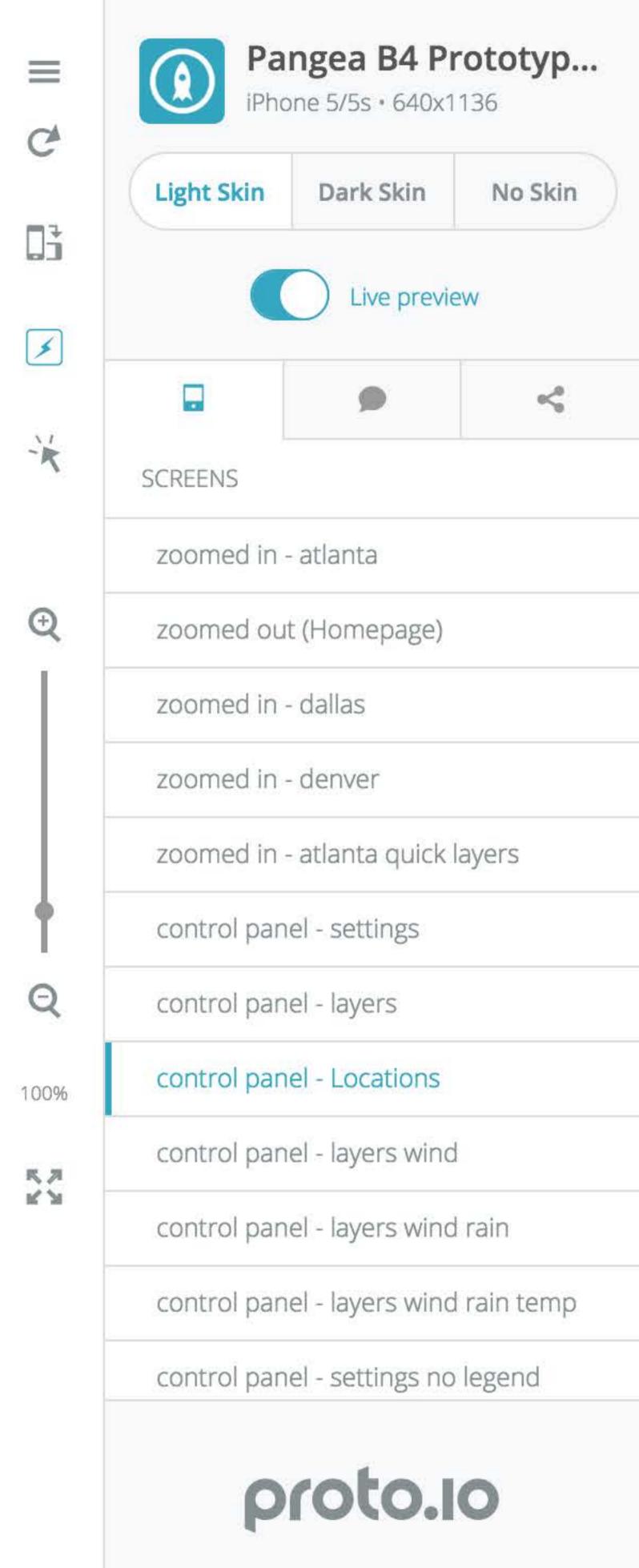


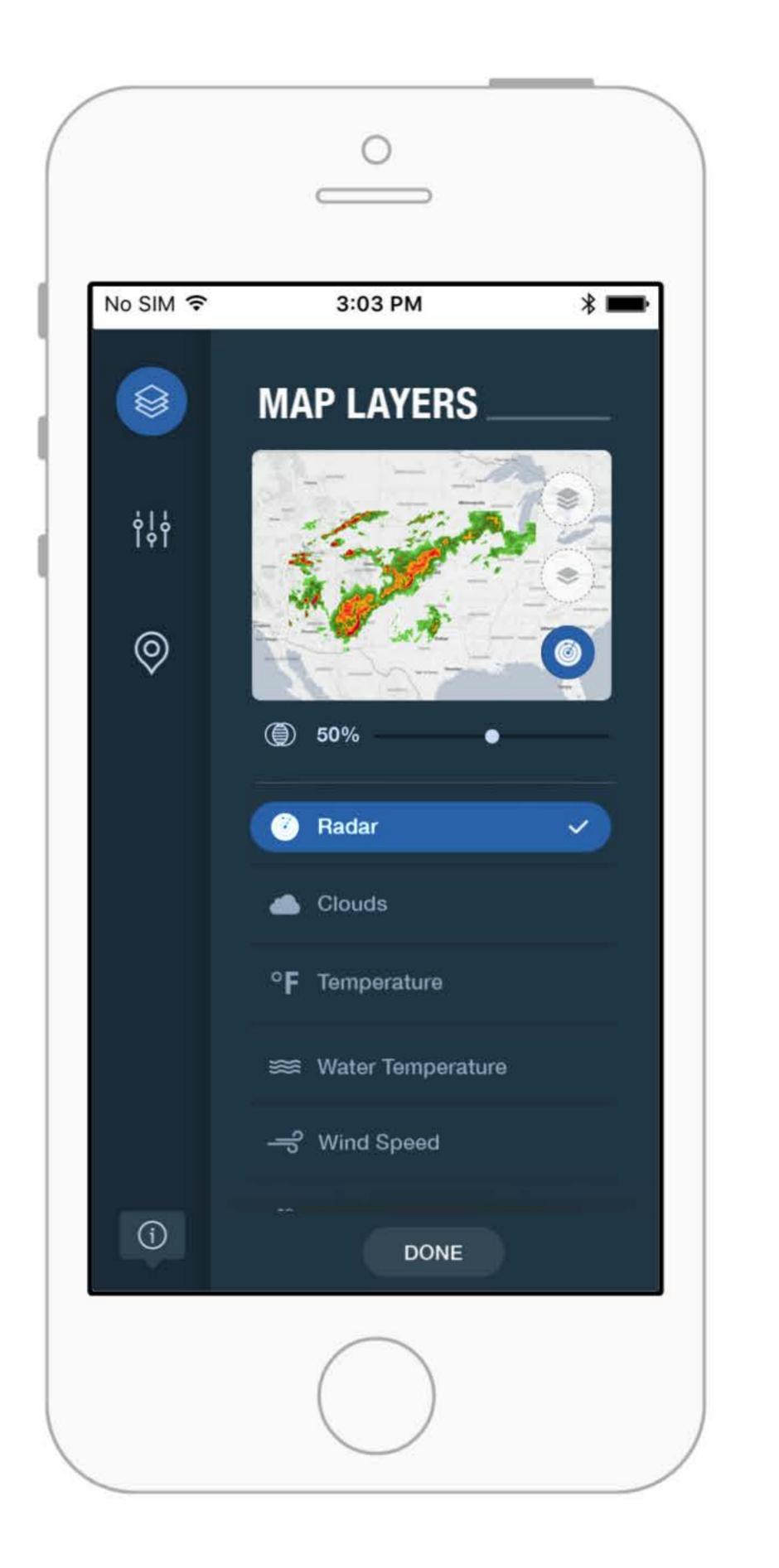


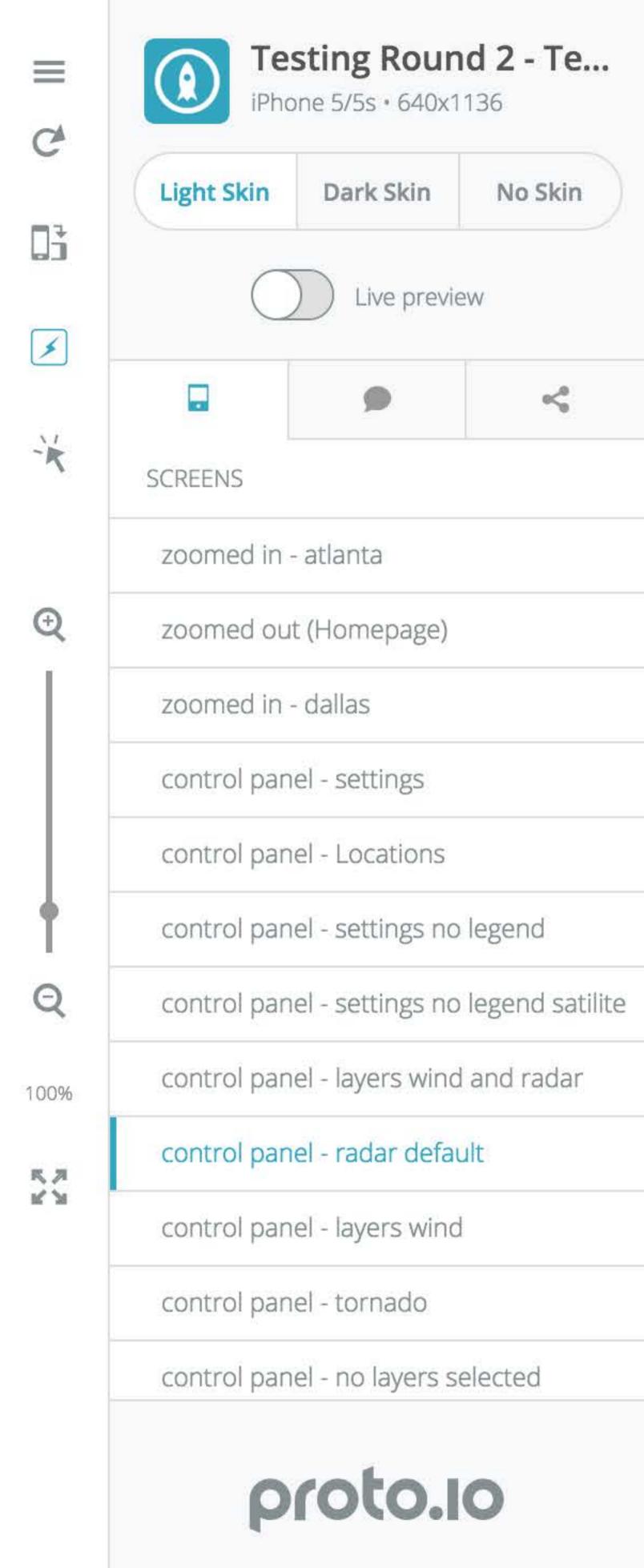














Panga UX Preliminary Testing

Proto.io Screens | Script | Findings

RESULTS FOR PROTOTYPES B & C

Testers: Deidre Bain, Robert Johnson

Test Scripts and Questions

Link to Test:

https://deidrebain.proto.io/share/?id=576745b6-0ed1-4567-ad13-32102692a22b&v=2

Demographics

5 mobile participants who are currently using or are familiar with the Weather Channel application.

Age Range: Any

• Income: Any

Gender: Any

Country: United States

Web Expertise: any

Operating System: iOS/Android

Introduction

Would you like to take part in our maps study for the weather channel? It should only take about 10 minutes of your time to complete.

You will be presented with a new map design concept and some tasks to complete. During these tasks, you can talk out loud about what you are experiencing, especially if you are having trouble completing the tasks.

Afterward, you will have an opportunity to give feedback about what you liked and didn't, and why.

Is that ok with you? Your feedback will help us improve our maps by making them easier to use and helping us understand what feature are important to you. Thank you for your time!

Preliminary questions:

- 1. How do you get your weather each day?
- 2. Are you familiar with the weather channel app?
- 3. What device do you use to access your weather?

Test Script 1 - Basic UI

Please note the prototypes are NOT fully functional. Some features will not work, such as pinching and panning. Let us know if you get stuck on any interactions.

- 1. Let's start with the basics. Go to your current location and play your radar. NOTE: Alert the user they are going to their hypothetical current location, also the maps radar will not actually play. We are just testing the usability of the controls.
- 2. You have just viewed the live radar but you want to see your map legend (or key) as well, how would you view that?
- 3. Now that you have the radar and legend on your screen, how would you hide them from view?
- 4. You still feel as though the screen is too crowded, how would you go about expanding/maximizing your map screen?

Follow Up Questions:

- 1. Describe what you see on this screen. Talk about what kind of tasks do you expect to be able to complete from this page?
- 2. On a scale of 0-10, 0 being hardest to understand and 10 being easiest, how clear was the radar continuous loop to you? 012345678910

- 3. Hypothetically if its currently flooding at your location would you want your maps to default to the most relevant weather layer? (in this case flooding layer?).
- 4. Are your buttons, especially, menu where you expected them to be?
- 5. Was the legend Icon clear to you? (Show Icon Options)
- 6. How did you feel about the Legend placement? (Show Horizontal View)
- 7. What, if any, advantages does the expand button add?
- 8. What other feature would you find useful to have on your map and how would that feature help improve your experience?

Thank you for your time and great feedback! Are you willing to take part in another small WX Study for TWC?

If yes: Great! (Continue to Script 2)

If no: Thank you for your time, and to show you our application we have a free gift for you.

Test Script 2 - Layers and Settings Panel

- 1. Let's start with the basics. Go to your current location. NOTE: Alert the user they are going to their hypothetical current location.
- 2. You heard that it was going to be a windy day, how would you find your **wind speed** map layer?
- 3. Can you adjust the opacity of your wind speed layer to 25%?
- 4. You have probably noticed by now that your radar layer was selected by default, but you just added your wind speed layer how would you deselect your radar layer to only show your wind speed layer?

- 5. A family member has just told you that tornados have been spotted in a near by county, which map layer would you select next to give you relevant weather data?
- 6. Now you would like to customize how the layers are seen in the preview: can you decrease the opacity of the "*alerts*" part of this grouping to 25%?
- 7. Return to your map screen. *NOTE: map may not reflect the current layer selection.* Now you would like to remove the legend button altogether from your screen. How would you do that?
- 8. Can you now, change your map to the satellite view?

Follow Up Questions:

- 1. Did you like the look and feel of the Map Layers Panel?
- 2. How difficult was the layers panel to find?
- 3. Did you understand the concept of stacking the layers, if so, how useful is this concept to you?
- 4. How useful is having preset layer groups to you?
- 5. How easy is the concept of the settings panel to you, and do you find it useful?
- 6. Was changing the map style a difficult task to complete, if so, why?
- 7. What other feature would you find useful to have on your map and how would that feature help improve your experience?

Thank you for your time and great feedback! Are you willing to take part in the last WX Study for TWC?

If yes: Great! (Continue to Script 3)

If no: Thank you for your time, and to show you our application we have a free gift for you.

Test Script 3 - Search and Save

- 1. Your elderly mother lives in Dallas, TX and you want to see if there are any weather conditions in her area, how would you do that? NOTE: Alert the user the map cannot zoom in or out but only after they attempt to do it.
- 2. After you see that the weather conditions are good in her area how do you navigate back to your current location, in Atlanta, GA. NOTE: Alert the user they are going to their hypothetical current location.
- 3. How would you view the temperature for your current location?
- 4. You have also just realized you would like to save your current location to your map. How would this be done?
- 5. You have a few saved locations on your map and you would like to see all the locations and their weather conditions at once. Where would you likely find a feature like this?
- 6. You would like to quickly add a pin to the "Bellwood" area (located in the bottom right of the map). How would you do that? NOTE: Alert the user the map cannot zoom in or out but only after they attempt to do it.

Follow up Questions:

- 1. Which zoom level do you prefer on your start screen? (Show different zoom levels)
- 2. Were you able to quickly navigate to and from different locations on the map?
- 3. How important is the search function on your map (rate 1-10)?

- 4. Were you able to find relevant weather data for your current location quickly?
- 5. Would you prefer your location pin to pop up with:
 - a. Weather data about your current weather condition i.e. show precipitation data if its currently raining?
 - b. Show data only pertaining to the currently selected weather layer, i.e. show precipitation data because you have your precipitation layer selected?
- 6. How important is it to be able to save a location from the map 1-10 rating?
- 7. Hypothetically you got to this maps screen through TWC app, however you searched a different location on your map screen, what would your expectation be:
 - a. A changed map location (based on search)
 - b. A changed map location and main feed for the app (based on search). Not sure about this question.
- 8. What other feature would you find useful to have on your map and how would that feature help improve your experience?

Thank you for your time, and to show you our application we have a free gift for you.



Panga UX Preliminary Testing

Proto.io Screens | Script | Findings

RESULTS FOR PROTOTYPES B & C

Testers: Deidre Bain, Robert Johnson

Pangea UX Preliminary Testing Results for Prototypes B and C

UX Testing Pain Points:

UserZoom:

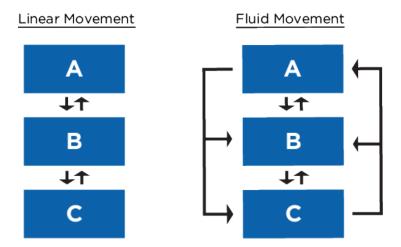
- Was cumbersome
- Did not work properly in all devices
- Tool covered parts of the prototype.

Proto.io:

- Not built to support a robust app experience good for highlighting specific animations and functionality.
- Large prototype causes long loading times in the current testing tool (UserZoom) and "jerky" movements.

Limited functionality:

- Prototypes are liner in functionality so tests have to be task specific because users got lost when they tried to "discover" the app, I had to intervene and reset test.
- Users expected a fully functional app or more fluidity in the prototype.



Test is too long:

- Trying to test too many things at once results in user frustrations.
- Drop out rate high because of frustration with the tools, linear functionality and test length.

Solution - Pivot Strategy:

Onsite Testing Advantages:

- Along with online testing we need to supplement with onsite testing in order to ask more in depth questions and too avoid the need to rely totally on UserZoom.
- Users gave better input when face to face.
- Body language and facial expressions are good indicators.
- Instructions for test taking is clearer in person (for monitoring purposes).
- Allows for follow up A/B testing.

Break up the larger test into (3) smaller more specific tests:

1. Basic UI

- a. Map Screen UI Buttons
- b. Playing Animation and Loop
- c. Legend
- d. Navigation

2. Menu Panels

- a. Map Layers Panel and Layer Opacity,
- b. Stacking layers
- c. Settings Panel and Controls
- d. Saved Location Panel.

3. Location

- a. Saving Location
- b. Searching
- c. Zoom
- d. Quick Weather Data.

Testing Round 2

Test 1 - Basic UI

Map Screen UI Buttons and Navigation Playing Animation, and Loop, Legend,

User Feed Back:

General UI

- Users prefer prototype C for:
 - o The basic UI
 - o The order of the button stack
 - The look, placement and functionality of the legend and radar.
- Some users looked for the menu button in the top right of the header, next to search.
- Persons tried to use the back button to navigate within the map's (not to just to go back to main feed).
- Users requested that the layers' button be defaulted on maps screen because the menu button was not as intuitive.
- Users wanted to see weather conditions in the test default to radar (or layer that is more useful to the current condition) when maps is loaded.

Radar & Legends

• Overall users liked and understood the concept of animation B (with the gray background swap) but preferred the style and location of animation C, combining the two is recommended.— a plus and should highlight as a feature!

Note: For Opt C animate so the user can understand the concept better (B and C have the same concept but because C is not animated this made it hard for the user to understand).

- Add speed adjustment function to radar.
- Users tapped the "expand" as a quick removal of buttons.
- Legend Icon was hard to understand.

Corrections:

- Prototype C has the better UI but with elements from other tests.
- Show current weather conditions on start screen.
- Prototype C radar animation is preferred, but animate with gray background swapping feature for prototype.
- Make expand button work for prototype.
- Show menu button placement. (A/B test screenshot options)
- Back button as navigation exploration needed.
- Add a layer button on default screen. (A/B test screenshot options)
- Add a hide/show radar speed option.
- Revise legend Icon and options. (A/B test screenshot options)
- Option with legends horizontally. (A/B test screenshot options)

Tasks for Users:

- 1. Play/Pause Radar Animation
- 2. Understand Radar Concept
- 3. Find Radar Timeline/Time
- 4. Find Legend/Hide Legend
- 5. Legend Placement
- 6. Expanding Screen

Follow up Questions:

- 1. Did you like the Look and Feel?
- 2. Did you understand the Radar Current/Future Loop? (Show the Toggle Option or Show timeline in Opt B and A)
- 3. Hypothetically if its currently snowing at your location would you want your maps to load with the most relevant weather layer (in this case snow fall?).
- 4. Are your buttons where you expected them to be?
- 5. How did you feel about the Legend Icon? (Show Icon Options)
- 6. How did you feel about the Legend placement? (Show Horizontal View)
- 7. What, if any, advantage does the expand button add?
- 8. What other feature would you find useful to have on your map and how would that feature help improve your experience?

Test 2 - Menu Panels

Map Layers Panel, Layer Opacity, Stacking layers, Settings Panel and Controls, Saved Location Panel.

User Feed Back:

Lavers Panel

- Overall the swap layers' concept is not understood Users preferred prototype A's layers' panel, with the preview, opacity options and stacking layers.
- Users enjoyed "the layers' groups" concept a plus and should highlight as a feature!
- Closing the menu using the done button was not intuitive.
- Swipe to close the menu should be a standard function along with tapping on the currently highlighted icon to close. Using an X in the top right of the menu or restyling the done button should be revisited.
- The layers' list view wins over buttons view but only slightly.

Settings Panel

- Overall this task was not hard once the user went through the layers' task.
- Users like all of the "options" the settings panel had to offer but wants more important functions like satellite/road toggle to be more accessible. The expectation is that settings is for more in-depth option not for functions the users want to find quickly.
- The overall consensus is that options such as: road over vs. under and radar styles are great to have but they would not look for those feature. However, they did enjoy finding them on discovery.
- The panel needs horizontal and vertical scrolling cues.
- Style options are a plus, users truly got excited when they saw they
 can change the map style. a plus and should highlight as a
 feature!
- Users preferred the buttons to invert color for the darker map style "user referred to it a flavor". May include matching buttons for the more unique styles.

Saved Locations

- Most users found the "aspirational" saved locations as **exciting** and loved the snapshot view of data information.
- Some used this panel for navigation back to maps (but links currently do not work in prototype.)
- Some users discovered the saved locations in menu when asked to find "Atlanta".
- Most preferred the style of Prototype A saved location, but the data on the cards need to be larger and clearer.

Corrections:

- Change Question how to find a map style is a better question than asking users to remove the legend button - this resulted in the expand button option being tapped on the home screen
- Map layer panel in Prototype A is the better choice.
- Highlight layer groups.
- Closing menu options; swipe, X, currently selected icon, more prominent button.
- Quick satellite toggle option and placement.
- Add scrolling cues.
- Map styles with matching UI.
- Aspirational Saved Locations Prototype A is preferred make sure it's working in prototype and revised with larger information

Tasks for Users:

- 1. Add a Layer to the map
- 2. Change Opacity of that Layer to 25%
- 3. Stacking Layers and Concept
- 4. Layer Groups and Concept
- 5. Remove a Button from the Screen
- 6. Change a Setting i.e. map style
- 7. Find the Saved Location Panel

Follow up Questions:

- Did you like the look and feel of the Map Layers Panel? (Show Opt C Map Layer Panel)
- 2. How difficult was the Layers panel to find? (Show option with layers' button on the home screen)
- 3. Did you understand the concept of stacking the layers, If so, how useful is this concept to you?
- 4. How useful is having prepackaged layer groups to you?
- 5. How easy is the concept of the settings panel to you, and do you find it useful?
- 6. Was changing the map style a difficult task to complete if so why?
- 7. How easy is the concept of the saved locations panel to you, and do you find it useful?
- 8. If you tapped a saved location card from your saved location panel what would be the expected action when you return to maps:
 - a. A changed map location (based on selection)
 - b. A changed map location and your Main Feed for the app (based on selection).
- 9. What other feature would you find useful to have on your map and how would that feature help improve your experience?

Test 3 - Search and Save

User Feed Back:

Zoomed View

- Users prefer a more local zoom of current location (State zoom?)
- For the users who liked the full aerial view, once they zoomed into a location they wanted a quick way to zoom back out to view other saved locations. This resulted in either tapping the expand button or back button.
- Most prefer local view of current location.

Search

• For a location interaction Prototype C is preferred. Users expect to tap a location and zoomed into screen with large pop up.

• The search dropdown with the saved location listed is a plus (maybe add the weather snap shot in search like in manage locations?)

On-Map Save Locations

- When on the map, the user taps once and expects the location pin with large popup to appear.
- When the user taps and holds on the map, they expect the pin to show up but the action will be to auto saved the location with-out a popup.

Pin popup

- Users liked prototype B, Pins for saved locations but likes the pulse of the current location like in prototype C.
- Persons enjoyed the pin pop expanded view but the icons are too small.
- In the pin make data relevant to local forecast and/or personal to current weather layer? - "make information need to know for me"
 - Pop-up should include:
 - The ability to a save/unsave a location.
 - Current weather/layer data.
 - Location name.
 - Links to 10 day/hourly forecast?
 - A saved location confirmation message.

Corrections:

- Make the start screen the main feed with a CTA to the new maps.
- Start screen zoom out but only locally, comp state level, and 2 closer views to test. (A/B test screenshot options)
- Put pinching and panning in prototype.
- Prototype C preferred for location tap interaction tap location and go to screen with large pop up.
- Pin pop revise: Add location name, Larger icons, view all saved, locations options, more personal weather data based on location and/or current map layer, include a pin timer so it collapses after a period or if the user taps elsewhere.
- Include a search dropdown with the saved location and weather snap shot. (A/B test screenshot options)
- Pins for saved location and pulsing dot for current.
- Saving interactions When the user taps once the location pin with large popup appears, with the ability to save location from popup. Include a confirmation message.

- Saving interactions When the user taps and holds, pin is auto saved to the location but with no popup.
- Introduce a view saved locations button to had show all saved locations (could be a pan in out feature?)

Tasks for Users (Rated Tasks):

- 1. Find 2nd Location (any location other than current)
- 2. Find "a weather condition" for the 2nd location
- 3. Find "a weather condition" for your current location (Atlanta GA)
- 4. Save your current location to the map
- 5. Save a new location to the map
- 6. Remove a saved location
- 7. View all your Saved Locations on the map

Follow up Questions:

- 1. Which zoom level do you prefer on your start screen? (Show different zoom levels)
- 2. Where you able to quickly navigate to and from different locations on the map?
- 3. Where did you expect your back button to take you?
- 4. How important is the search function on your map (rate 1-10?)? (A/B Test snapshot of weather data option)
- 5. Were you able to find relevant weather data quickly?
- 6. Would you prefer your location pin to pop up with:
 - a. Weather data about your current weather condition i.e. show precipitation data if its currently raining?
 - b. Show data only pertaining to the currently selected weather layer, i.e. show precipitation data because you have your precipitation layer selected?
- 7. How important is it to be able to save a location from the map and also have the ability to quickly view all (rate 1-10?)?
- 8. What other feature would you find useful to have on your map and how would that feature help improve your experience?

Test Round 1 Links:

Task List and Script:

https://docs.google.com/a/weather.com/document/d/ 1ssywQD8jzAjl2g1m1x_3vjll8jgcV3F-_blkvkEGOQw/edit?usp=sharing

Prototype B:

 $\frac{https://deidrebain.proto.io/share/?id=596cd6d0-140f-4e96-b21a-e5fb84e809d1\&v=4$

Prototype C:

 $\frac{https://deidrebain.proto.io/share/?id=38002be4-db38-4585-9d89-f2eaf50e7787\&v=4$

(For reference) Prototype A: https://deidrebain.proto.io/share/?id=7c599c57-b4ed-427a-a3ed-76be341c0847&v=5