

TIDAL

PROCESS DECK

Elements III | Spring 2015

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TIDAL

INTRODUCTION

On December 26, 2004, the Indian Ocean was hit by a 9.1 magnitude earthquake. The earthquake triggered a massive tsunami which took hundreds of thousands of lives and devastated many countries. It was one of the deadliest natural disaster of the 21st century. More than 230,000 people were estimated dead and about 1.7 million were displaced.

Looking back a decade later, the question dawned upon me: what if there was a way the tsunami impact could have been reduced? Tidal is a project born out of the attempt to solve that question.

PROBLEM

A horrifying factor that contributed to the high death tolls during the 2004 tsunami was the absence of a tsunami warning system in the Indian Ocean. “Of the 11 countries affected only 2 [Indonesia & Thailand] were part of the Pacific Ocean tsunami warning system” (ICFI). There were no official government warnings issued in countries that were in the Indian Ocean Tsunami’s path because of official procedures that were not in place and disorganized responses.

Many people at the time were not aware of the tsunami that was heading towards them. Even though a tsunami is not preventable, the impact could have been reduced if people were alert and aware of what was happening.

SOLUTION

A tsunami warning and emergency guide that is accessible in digital form. The guide will provide a method of wayfinding for people to reach safety and inform users of the steps to take in real-time.

PROJECT GOALS

1. SAVING LIVES

Tidal aims to alert users of earthquakes and tsunamis to help users get out of life threatening situations.

2. WAYFINDING

Establishing and providing users with a clear procedure to navigate to safety.

3. MINIMIZING DISPLACEMENT

Much of the problem during natural disasters is family displacement. Tidal helps to prevent that by being able to plan routes around your family members.

COMPETITIVE ANALYSIS

Tidal provides users with a method of wayfinding and survival procedures. I focused on researching applications which provides interactive maps, as well as applications that display a certain procedure to the user.



GOOGLE MAPS

Google Maps is a wayfinding app that helps people to get from point A to point B. It is very successful in doing so because it is easy to use.



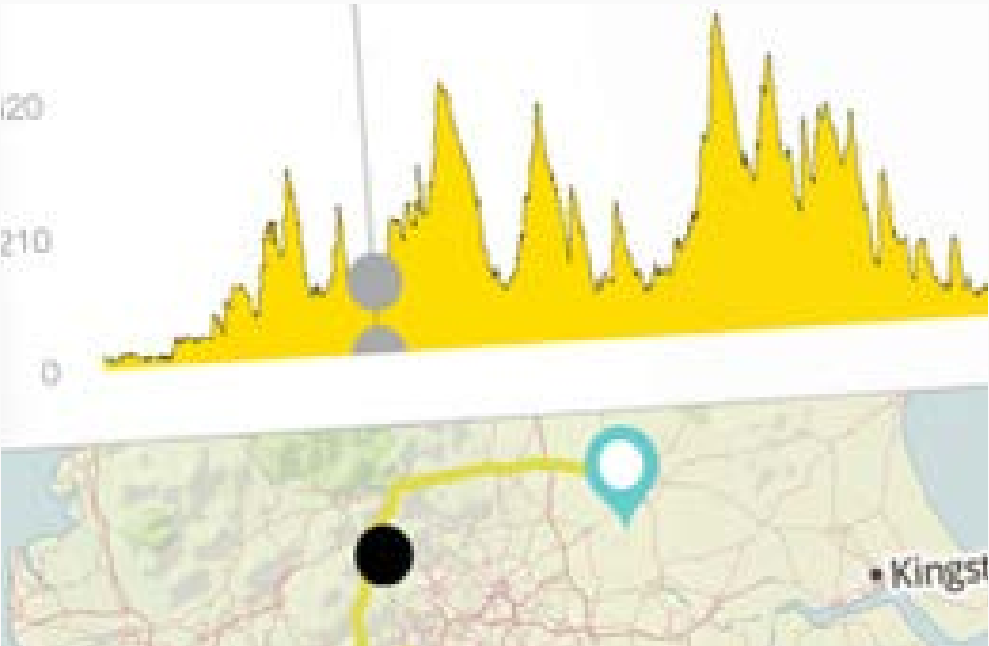
NIKE TRAINING CLUB

Nike Training Club is a personal trainer in the form of an app. The app has different workouts which are laid out in sequentially.



LRA CRISIS TRACKER

The Lord’s Resistance Army (LRA) Crisis Tracker is a real-time mapping platform and data collection system. The website features an interactive map that contains information regarding different attacks.



LRA CRISIS TRACKER

Pain and Glory is an app that allows users to follow the bike race from Yorkshire to Paris. The map highlights important stops /stages of the race, on a map as well as a tracker of where each racer is located.



TALES & TOURS IPHONE APP

Tales & Tours lets users use phone as a professional multimedia tour guide. Users can search their interests, filter results and the app will take them on a tour of a city, with a few stops along the way.

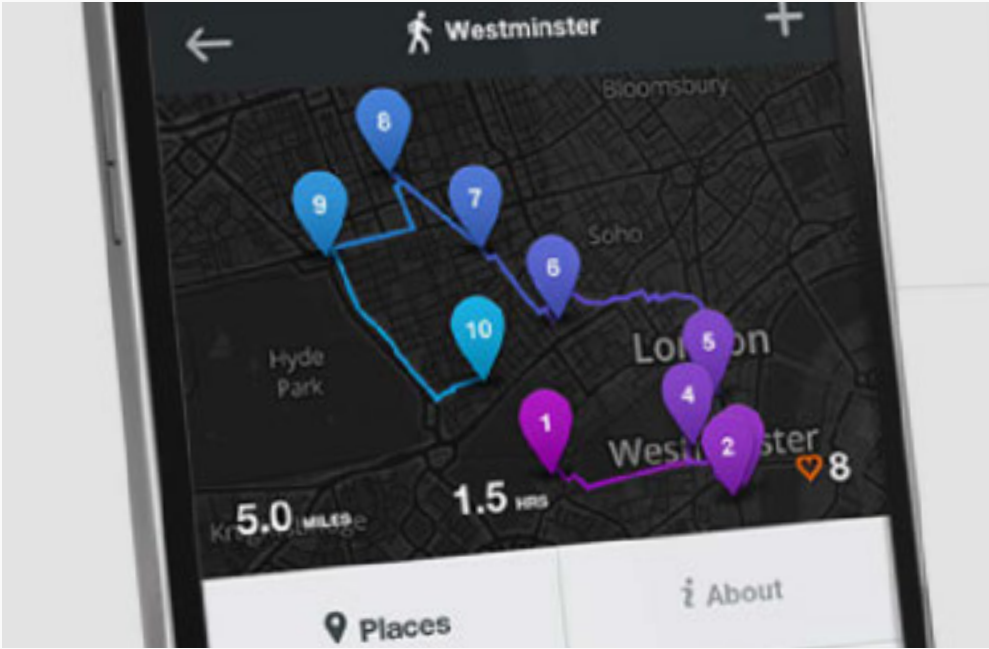


TALES & TOURS IPHONE APP

A map which lets users find the nearest greenery near his/her location. The app will show the route to the greenery. It also has information regarding park/green patch.

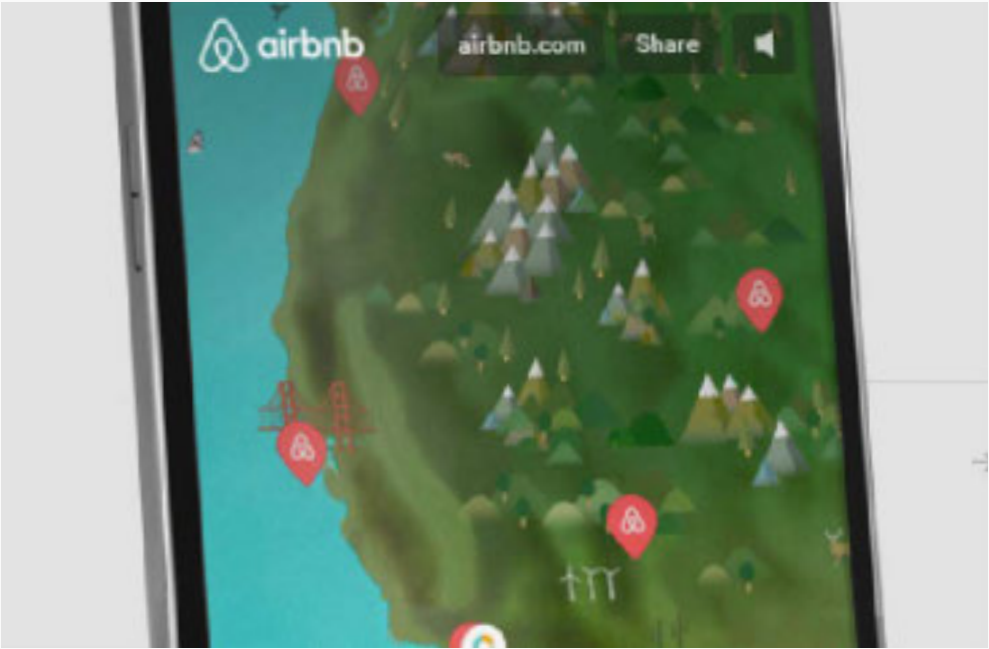
TREND RESEARCH

Through my UI application research, I also took note of UI trends. Several UI elements that Tidal can leverage from are highlighted in the images on the right.



HIGHLIGHTED ROUTE

To make it easier for users to see their path and important stops along the way.



INTERACTIVE MAP

A map allows the user to explore their surroundings and learn more about highlighted locations.



BREAKDOWN/ BREAD CRUMBS

A breakdown enables users to see the steps that they are about to take to accomplish something. This would be useful in designing procedural tasks.



GRAPHS

Useful in visualizing something that is constantly changing. In Tidal, it will be useful to show the wave levels to users.



SIDE MENU BAR

A global navigation that is usually placed on the left hand side of the screen.

USER PERSONAS

KATE

Kate is a mother of two, in her late twenties. She has a very caring personality, she’s cautious and also alert at all times. She’s quite tech savvy.

Archetype

Family first

User Story

Kate is on a vacation with her husband and two daughters in Mexico when suddenly she received a push notification from her BBC app. It said that there was an earthquake that occurred in California which was then followed by a tsunami.

Not long after the new article was published, the Mexican government cautions all the people near the coast to seek shelter. Fearing for the safety of her children, Kate goes on and checks Tidal. Tidal notifies her that there is a possibility of a tsunami coming and tells her to take the following steps. She follows the steps to higher ground, taking her children and husband with her. They locate a safety center and take shelter there. She and her family wait there until the warning is lifted.



RICHARD

Richard is a middle aged anthropology professor. He is a well educated, curious, and friendly man. He watches a lot of CNN to stay updated. Richard, being a professor is passionate about education and serving others.

Archetype

Do gooder, server of others

User Story

Richard is working on his research with several of his students in India when one of his student’s parents called. The student’s mother said notified them of the recent earthquake that just struck of the coast of Somalia. Richard checks Tidal, because he wants to make sure that him and his students are safe from a tsunami threat. Tidal notifies him that they have a couple hours until the tsunami will hit southern India. Richard gathers his students and they follow the instructions Tidal provided and get to a safer location.



CORE FEATURES

NATURAL DISASTER MONITOR

Tidal has an early earthquake warning system as well as a tsunami warning system that alerts users of the app whenever they are in threat of the situation.

Tidal also provides a real-time countdown which serves as a time tracker mechanism for the user.

AUTOMATED WAYFINDING

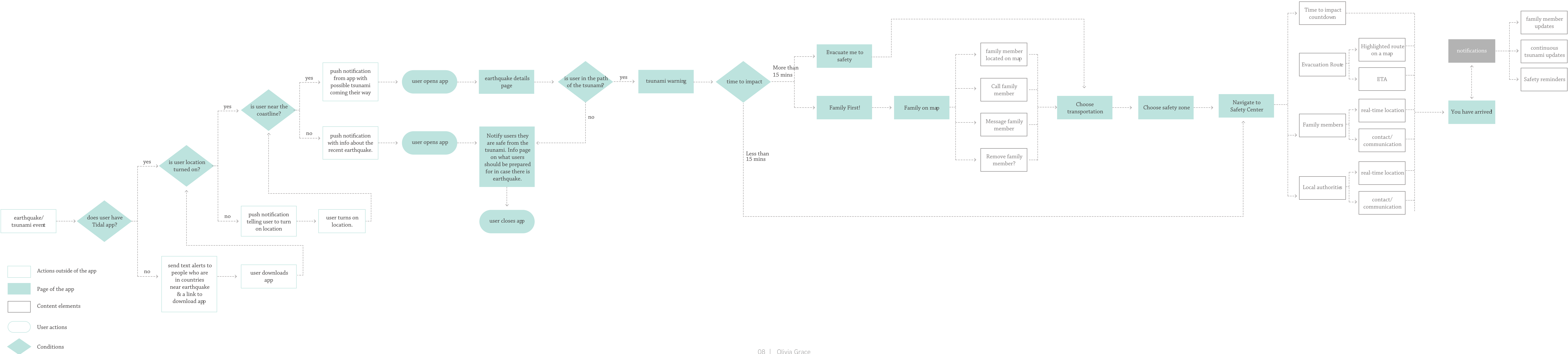
Tidal provides the users with an evacuation guideline. The app finds locations which the user can evacuate to (safety zones) and navigates the users to the location using a map.

FAMILY MONITORING

There are two main user archetypes in the Tidal app: those who are family oriented and those who aren't. For those who are family oriented, Tidal automatically plans a route based on their family members whereabouts.

Tidal also sends notifications to family members on each other's actions. This prevents the possibility of families getting displaced during a natural disaster.

CONTENT FLOW



USE CASE

1. A NORMAL DAY

Sam is a mother and a wife living in San Francisco, CA. She has everyday tasks including doing grocery shopping, picking up her son from soccer practice. Today is no different, she is going to the market to get some grocery shopping done.

5. PLANNING A ROUTE

The map displays a couple of evacuation centers which Sam can navigate to. Tidal has already planned routes for Sam where they will pick up her son on the way to the evacuation center. She chooses the closest one which is in Sacramento, CA.

She also remembered that she has her to take her dog as well! She looks at the details of the evacuation center and finds out that it is pet friendly. She then clicks on Navigate.

2. GETS A WARNING

While at the store, Sam’s Tidal app sends her a push notification. A tsunami warning has just been published by the State of California.

Sam opens Tidal and sees on the map where her location is in relation to the tsunami. She realizes that she still has enough time to escape before the tsunami hits the shores of San Francisco.

6. LET’S GO!

Tidal gives her instructions on navigating through the roads, as well as a countdown to help Sam keep track of time in the evacuation process.

3. FAMILY FIRST

Sam starts to panic, she thinks of her son who is at soccer match out of town. In panic, she clicks on the evacuate button and sees on the screen that Tidal has located her son’s current whereabouts.

Sam is able to relax a bit knowing that the app knows where her son is and has created a route based on his location.

7. ARRIVES AT SAFETY ZONE

Sam reaches Sacramento with her son.

4. CHOOSE A TRANSPORTATION

Sam is given a choice between driving or walking to seek shelter/safety. Sam chooses to drive because she needs to pick up her son from a soccer match.

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CONCEPT VISUALIZATION

I found the concept visualization phase to be the most challenging one. I went through many different iterations before getting to the final product.

Here is a documentation of the iteration process.

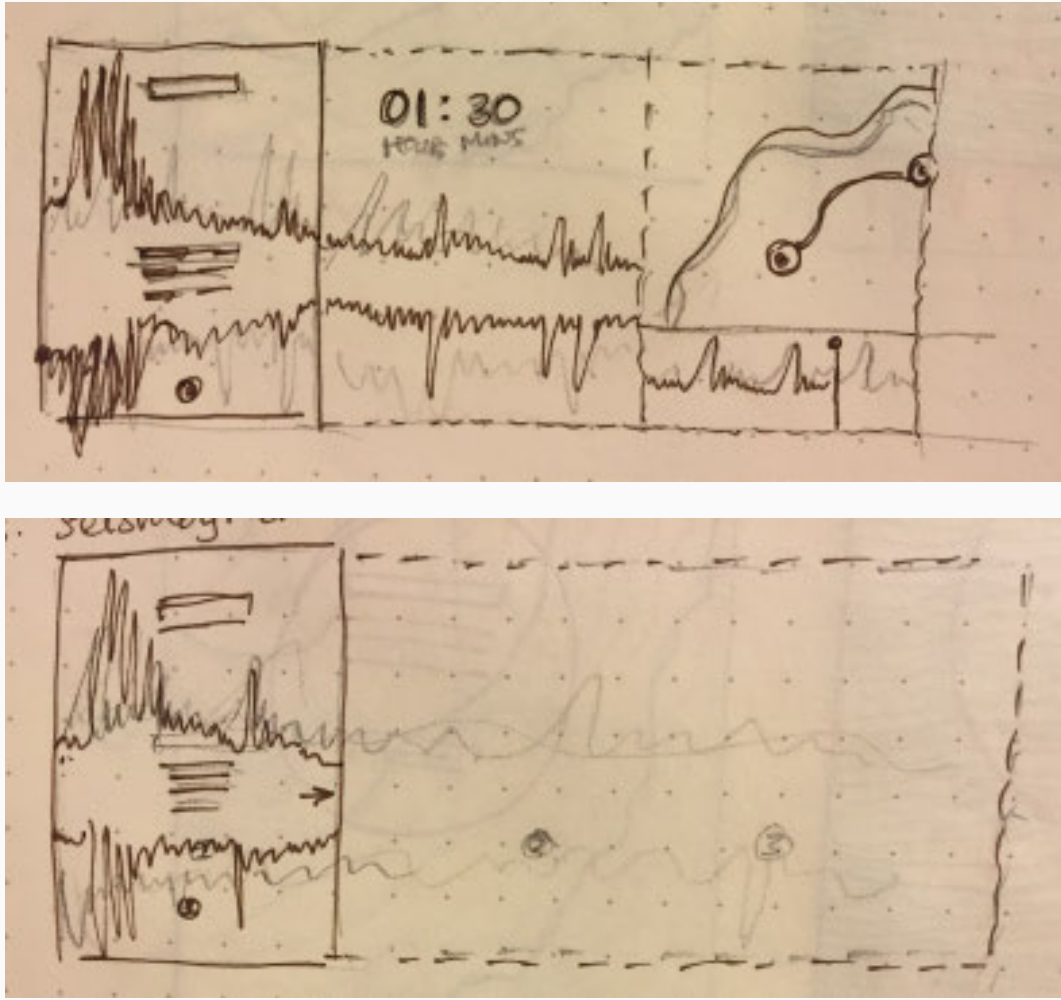
ITERATION 1

SKETCHING PHASE

During this phase I focused more on exploring various ways to visualize tsunami data. I did not keep in mind the full process of way finding yet, it was fully a experimental process. In the end I came up with 3 different concepts:

1. Seismograph

The seismograph is a tool used to record and measure earthquakes. Since a tsunami is the result of an earthquake, I wanted to incorporate the seismic activity data in the app. I used the idea of sound waves and wanted to reflect that quality in the seismic graphs. The middle line represents zero, where there is no seismic activity happening. The lines above the zero line, represent real time seismic data. The line is also continuously updates, as people scroll to the right to read their instructions, the line will continue to draw from real time data.

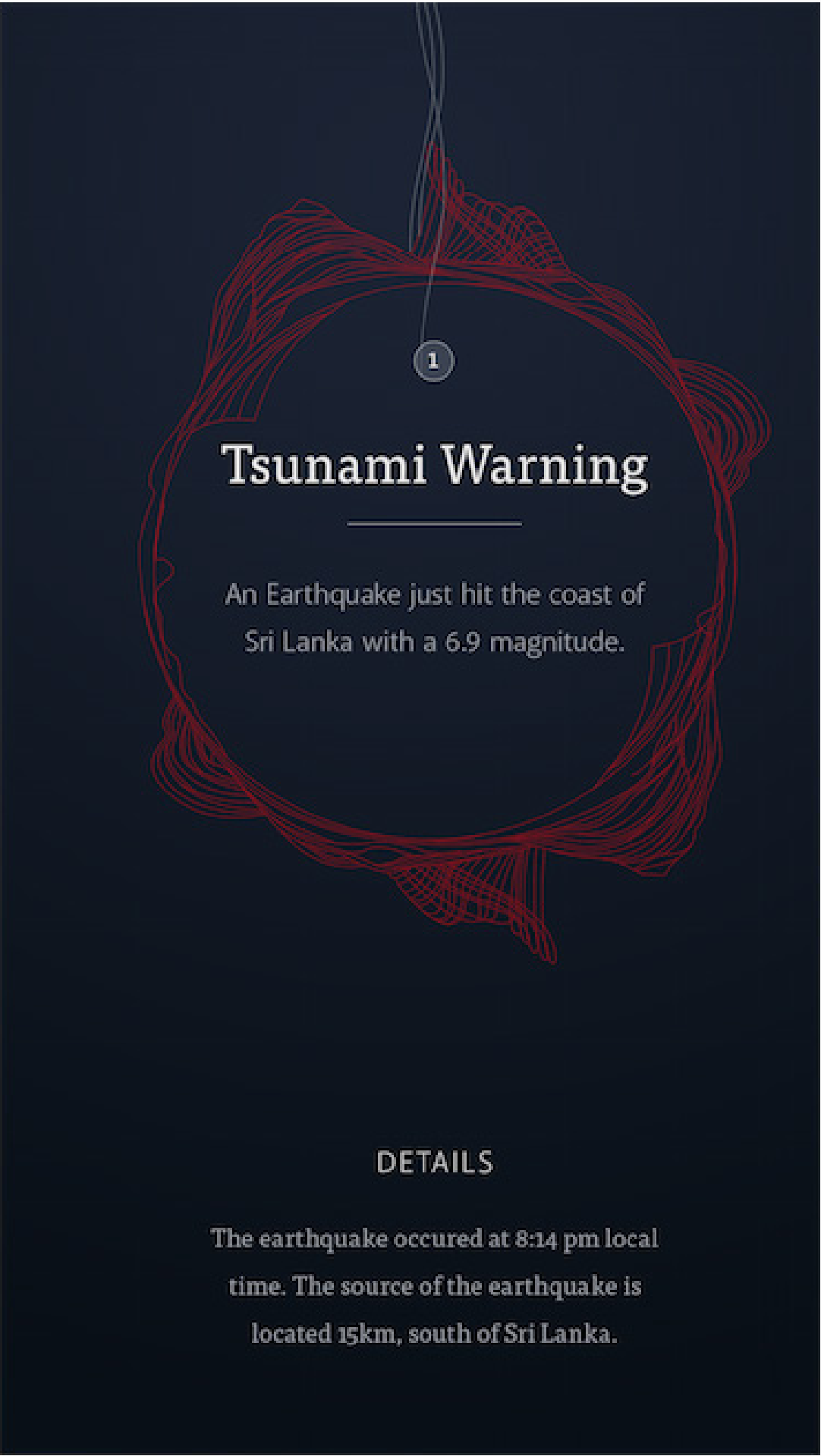
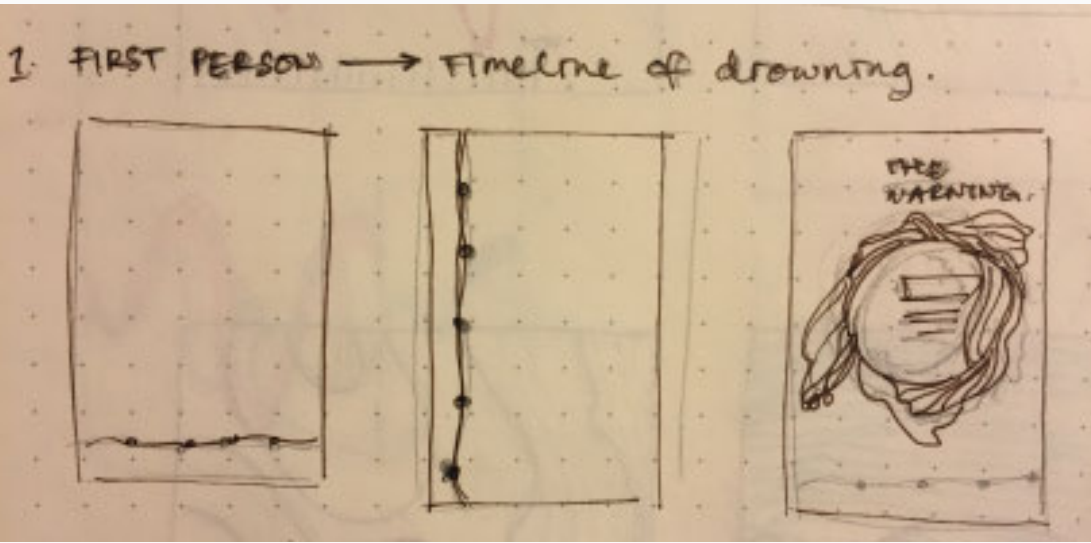


ITERATION 1

2. Drowning

In this concept I played around with the concept of drowning and helping the users to stay afloat and stay alive. I thought that it would connect to a tsunami evacuation because as a person is navigation to safety, they are further away from the risk of facing water. This concept is reflected in the background color, and as a person navigates to safety the background color will transition from black, to dark blue, to light blue.

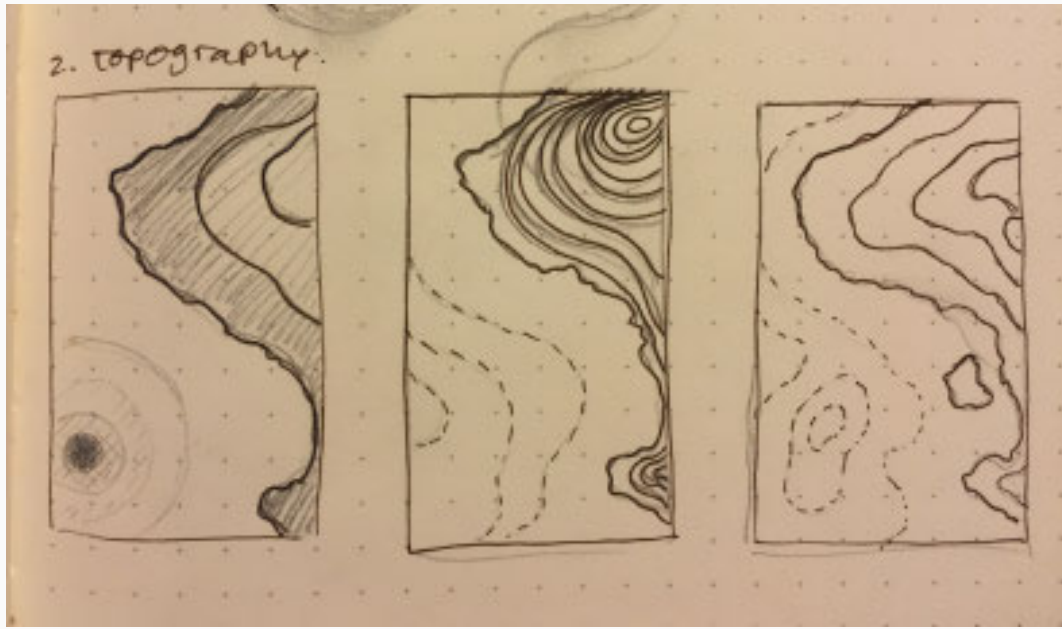
The circle in the middle, will contain instructions/ information regarding a tsunami. The waves around the circle reflects seismic activity of the plate where the tsunami occurred. It will fluctuate based on the level of seismic activity. The color, will reflect how close a person is to the shore, red means very close, and blue means he/she is in a safe zone.



ITERATION 1

3. Seismograph Visuals

In this concept I wanted to implement topographical maps. I wanted the users to understand the idea of elevation though lines, just like in a topographic map. The different safety zones are indicated by the grey/ light color.



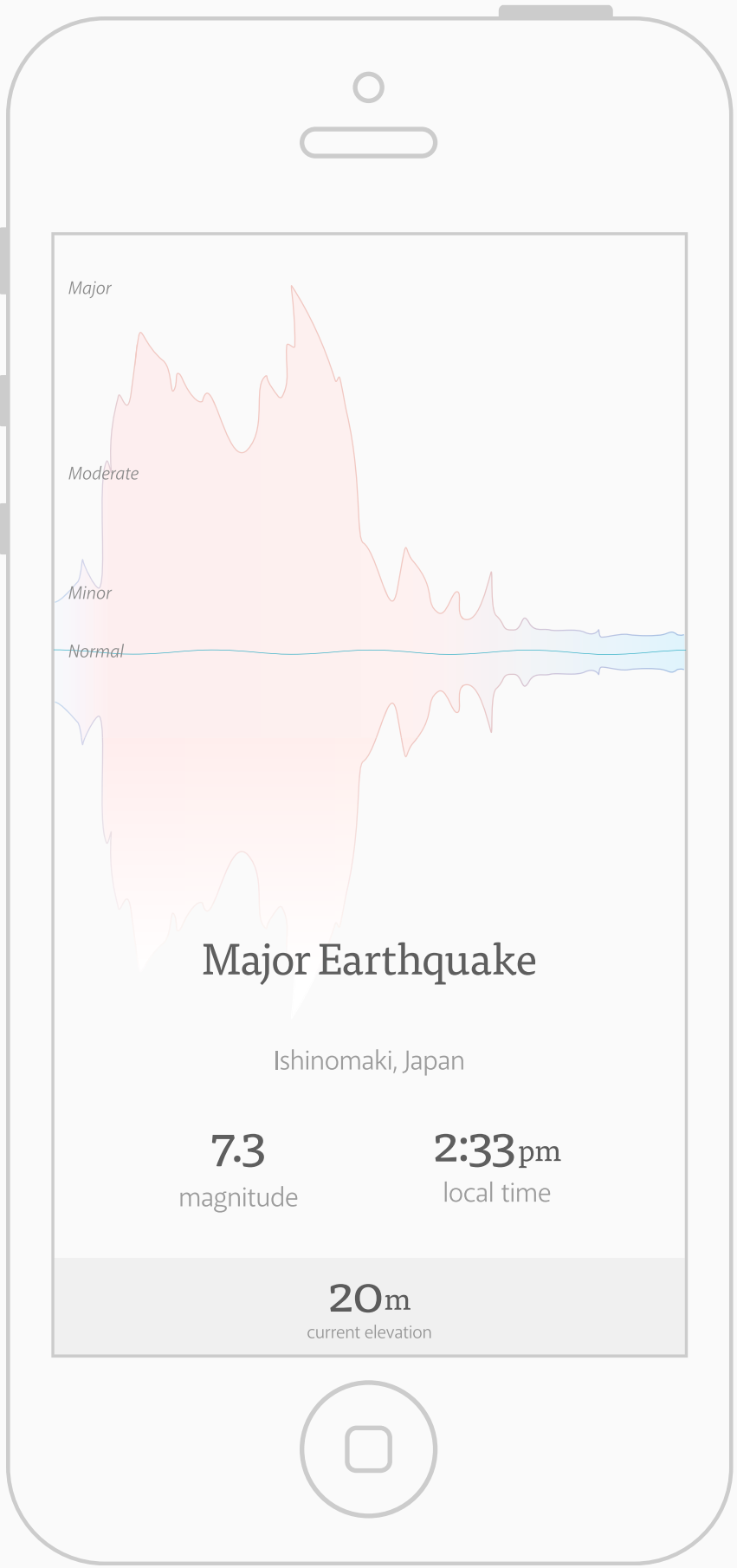
ITERATION 2

SEISMOGRAPH (SKETCH)

The seismograph plays a dominant role in the app. The user will be able to follow the continuous graph created and see real time seismic activity. The graph is divided into four main regions, normal, minor, moderate and major to describe the level of earthquake that is happening.

The bottom of the screen will contain information/ instructions for the user regarding the earthquake. In this case, the user is briefed on the earthquake which just occurred.

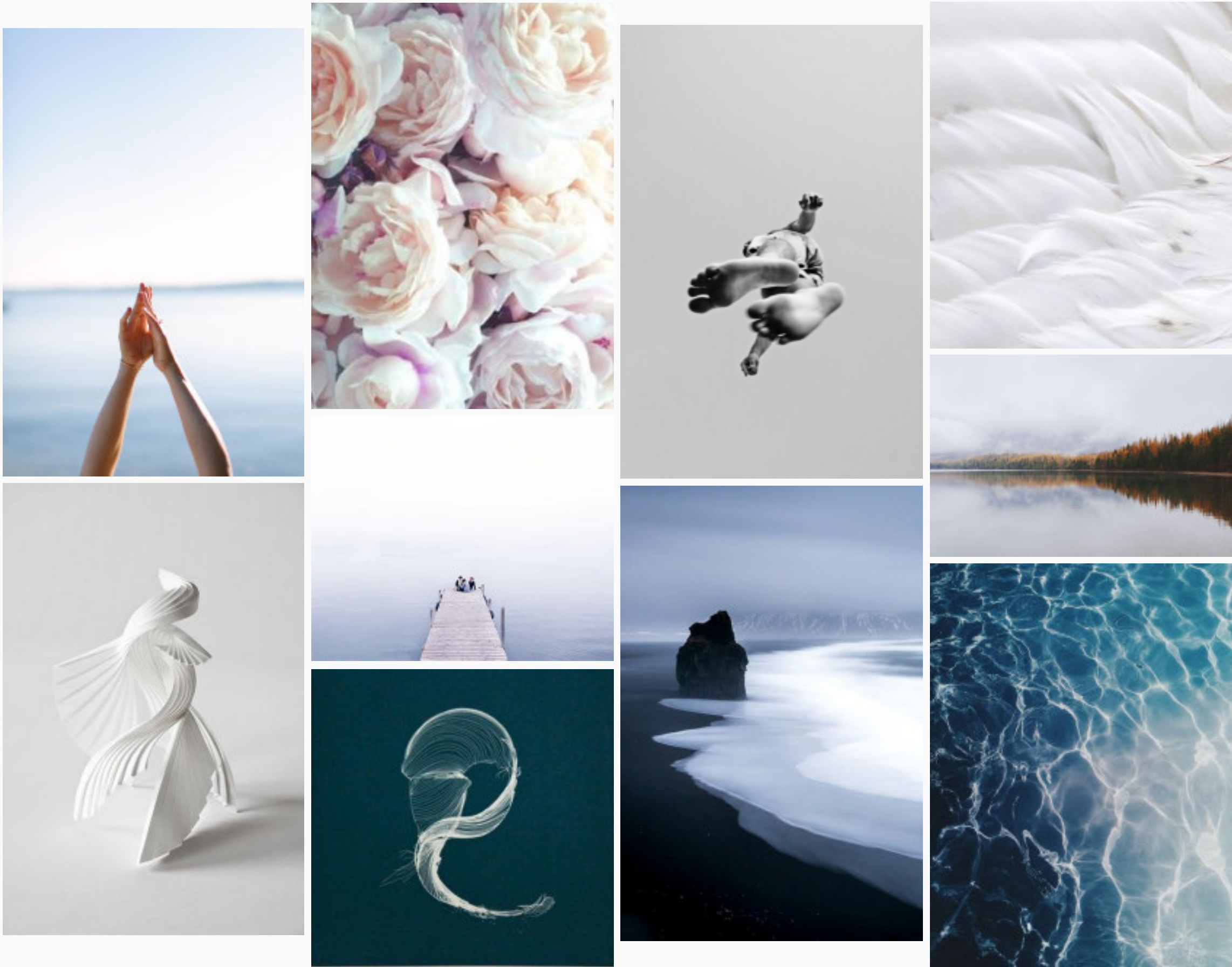
The bottom bar displays the elevation level of the user, it serves as a reminder that the user should go to higher ground.



ITERATION 2

VISUAL VIBE

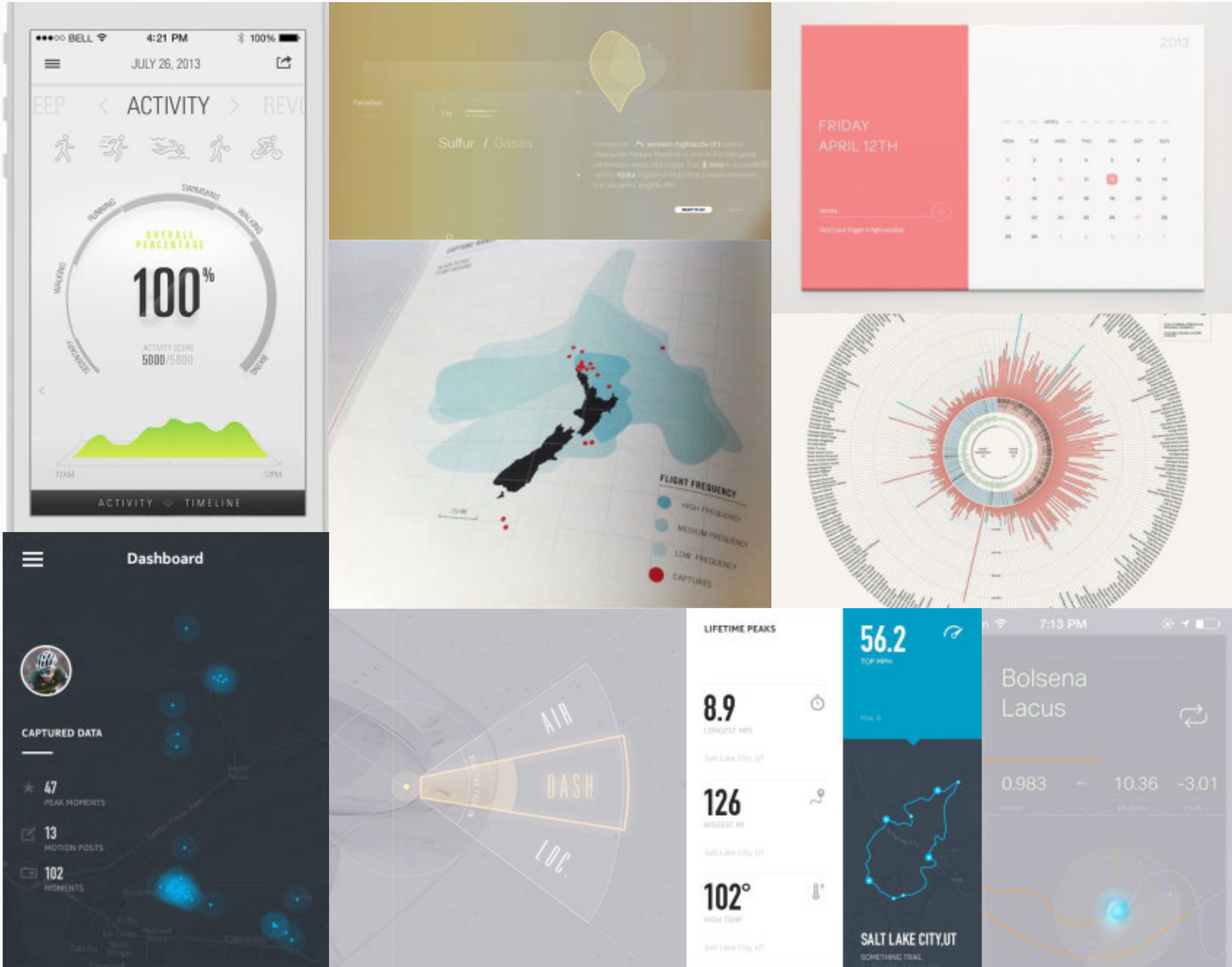
Tidal’s theme is airy, calming, light, and soft. The aim is to guide the users calmly through a natural disaster.



ITERATION 2

STYLE GUIDE

- Minimalist
- Clean
- Transparency with accent colors to emphasize data



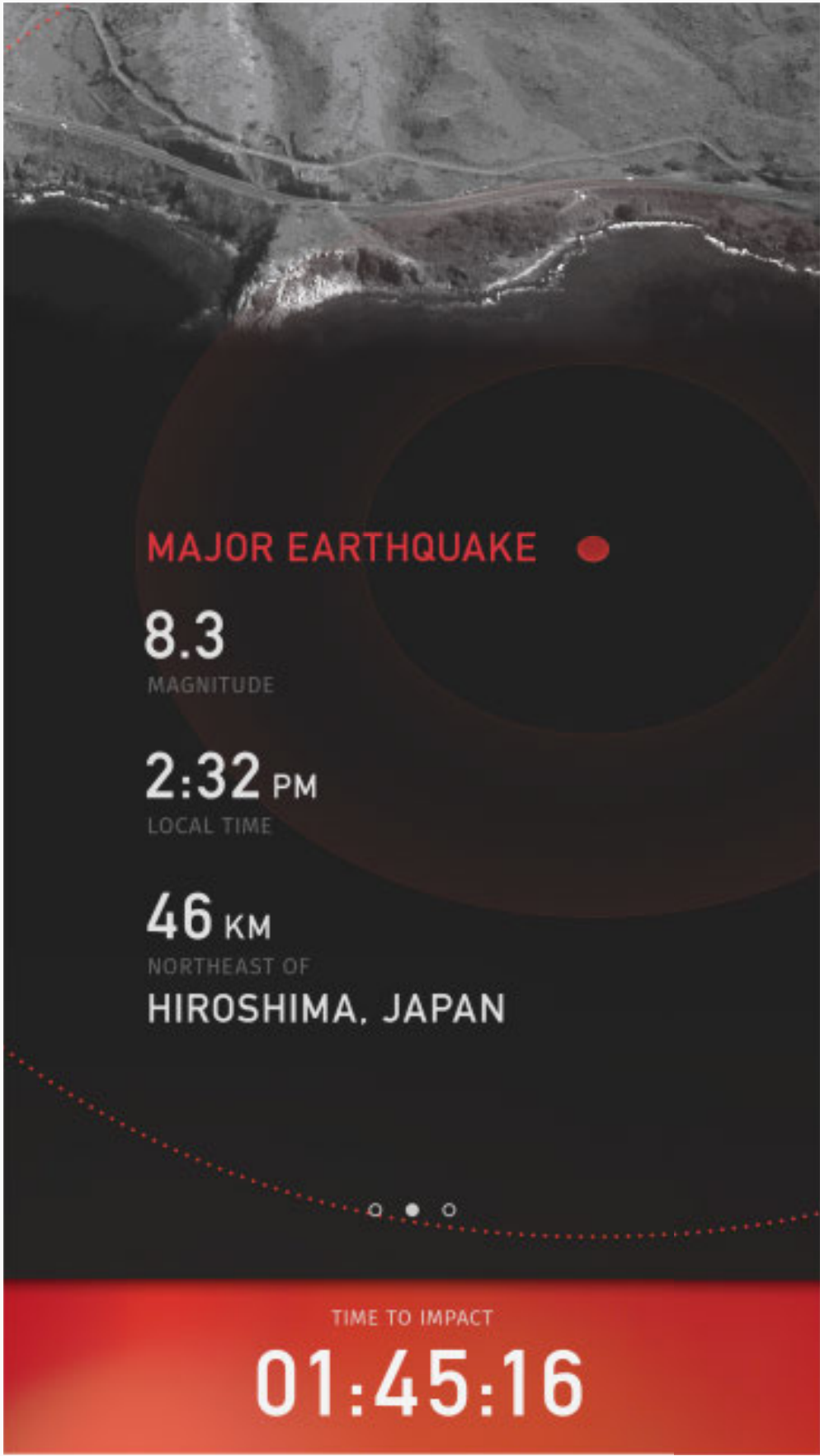
ITERATION 3

SKETCH

After the first attempt, I realized a few things that I was doing wrong. The first major mistake was the fact that the app is supposed to save peoples lives based on location, and yet through my concept I was visualizing the earthquake data instead of showcasing a map.

The second mistake was the choice of colors. The colors that I chose initially were too calming and did not grab the user’s attention enough. It was too pale and too soft.

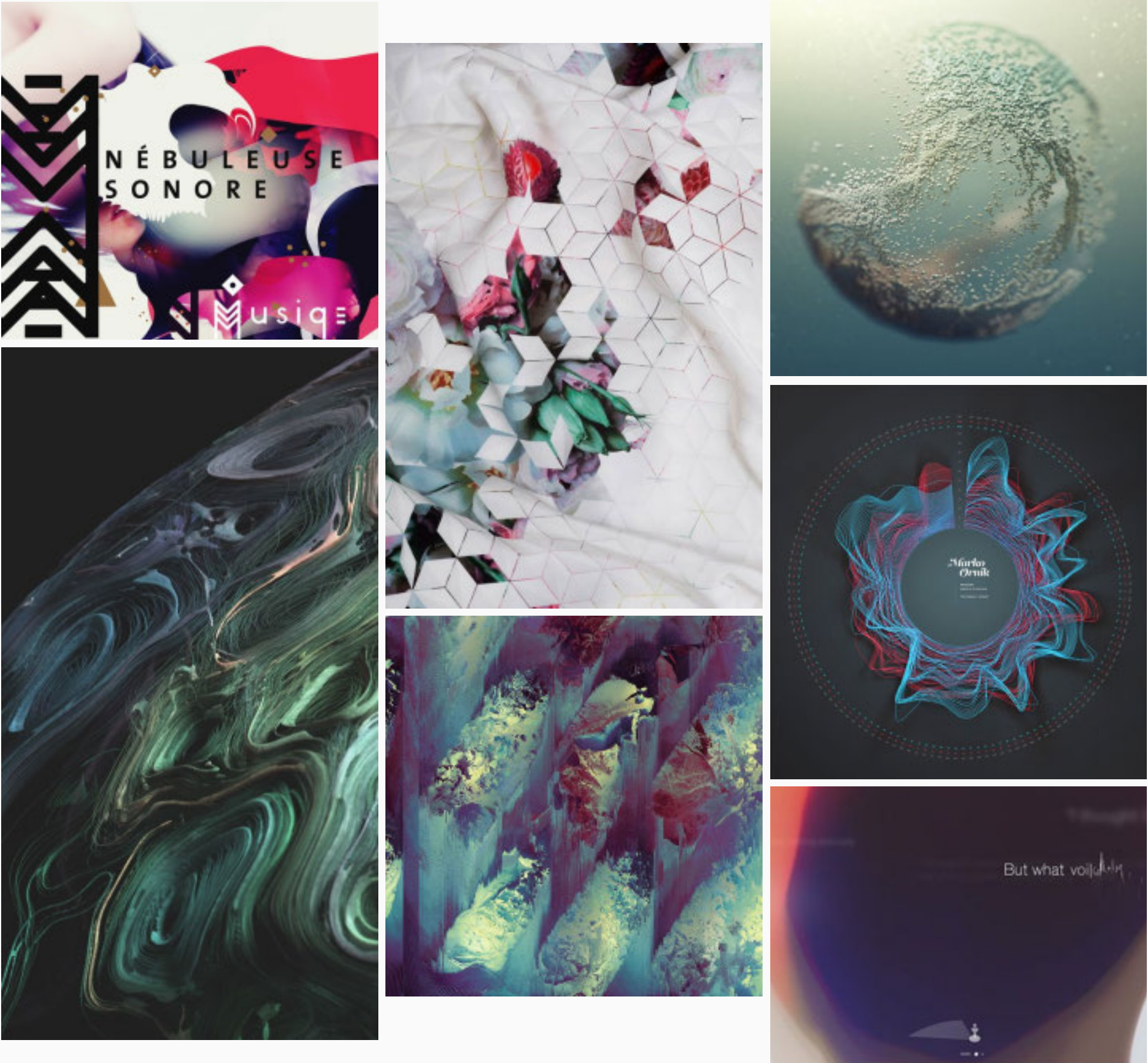
So in this sketch, I went to the third concept which was a topographic map. I wanted to use the colors of the mountains to show the elevation.



ITERATION 3

VISUAL VIBES

Vibrant
Surreal



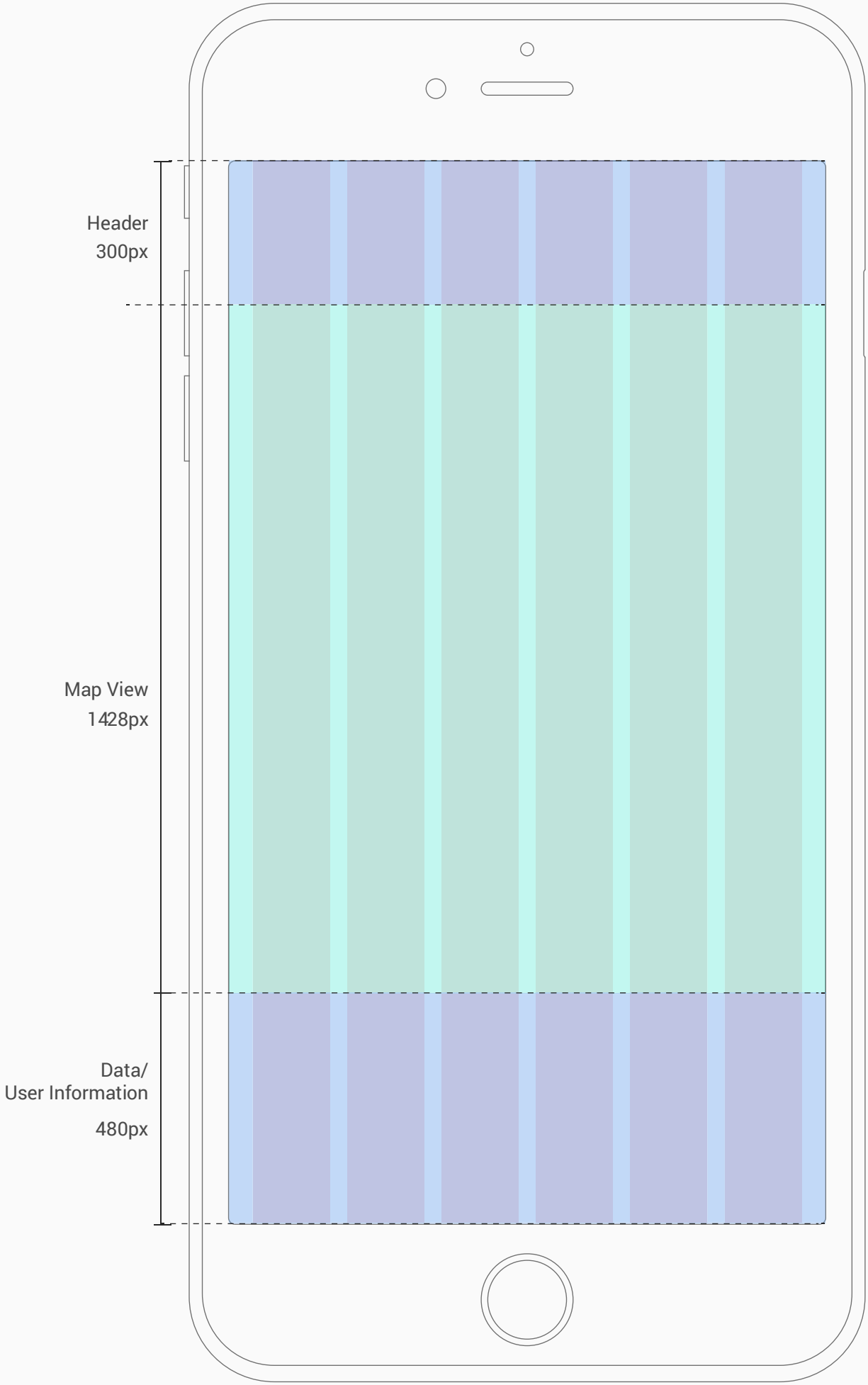
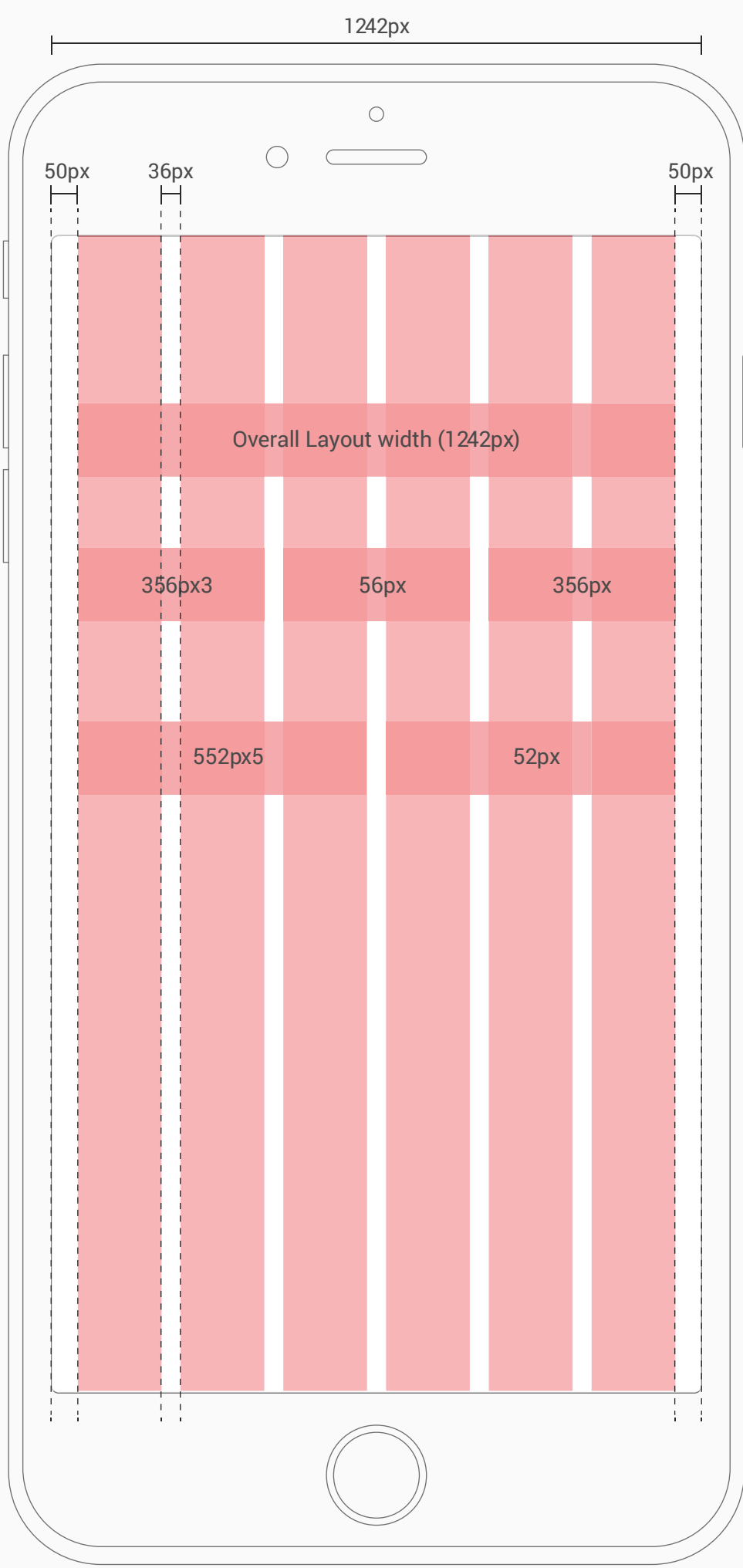
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CORE UX TEMPLATE

After the third concept iteration, I decided to dive into wireframing. The wireframes which I created focused on creating a navigation system where UI elements are not free flowing like in the last iteration; instead the information will be placed in a module.

DEVICE & GRID

iPhone 6plus
6 column Grid system
Portrait
1242 x 2208 (pixels)



INITIAL WIREFRAMES

WARNING SCREENS

The warning screens briefs users on the earthquake which just occurred by giving them concise information.

1. Earthquake Warning

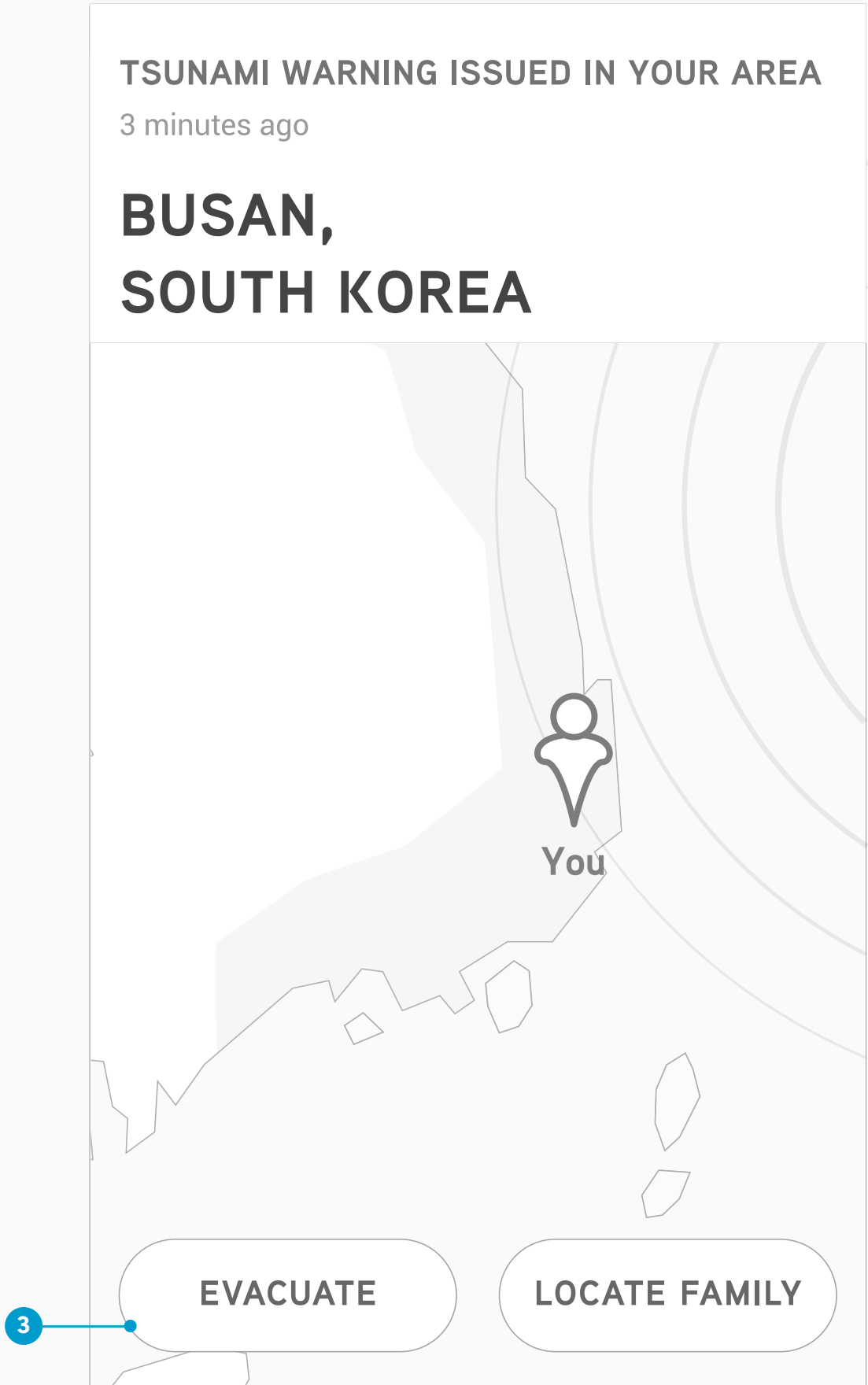
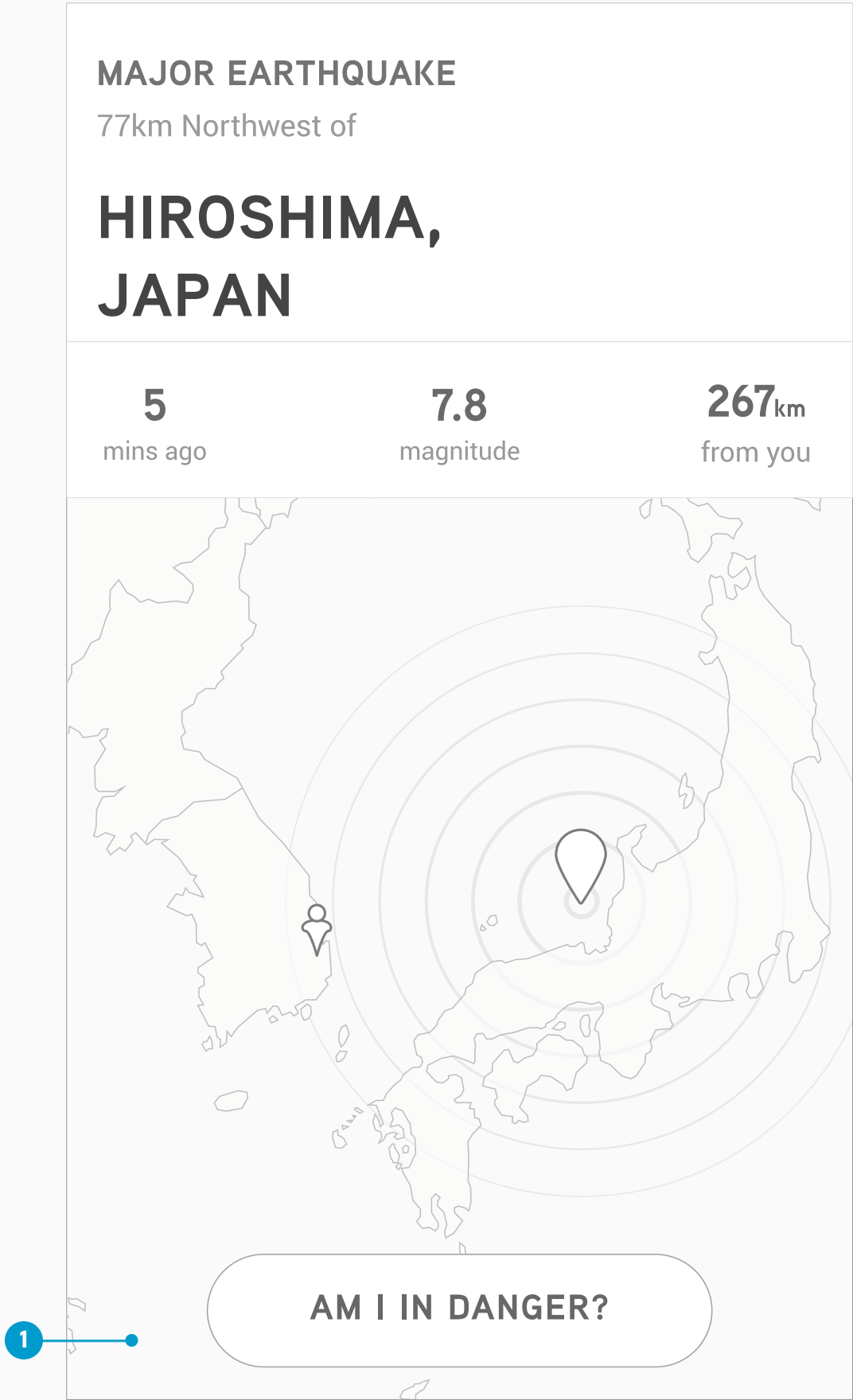
Screen 1 introduces the earthquake which just occurred. This screen highlights the location of where the earthquake occurred, when it happened, the earthquake magnitude and its distance in relation to the user’s location. The CTA “Am I In Danger?” will take users to the next screen.

2. Loading Screen

A loading screen. The CTA shrinks and turns into a loading wheel.

3. Tsunami Warning

Tidal notifies the user that there has been a tsunami warning issued in the user’s location. The user then has a choice between immediately evacuating or locating his/ her family to evacuate together.



INITIAL WIREFRAMES

NAVIGATION

The navigation screens guide users through the evacuation process. These screens show the process of setting up an evacuation route.

1. Transportation

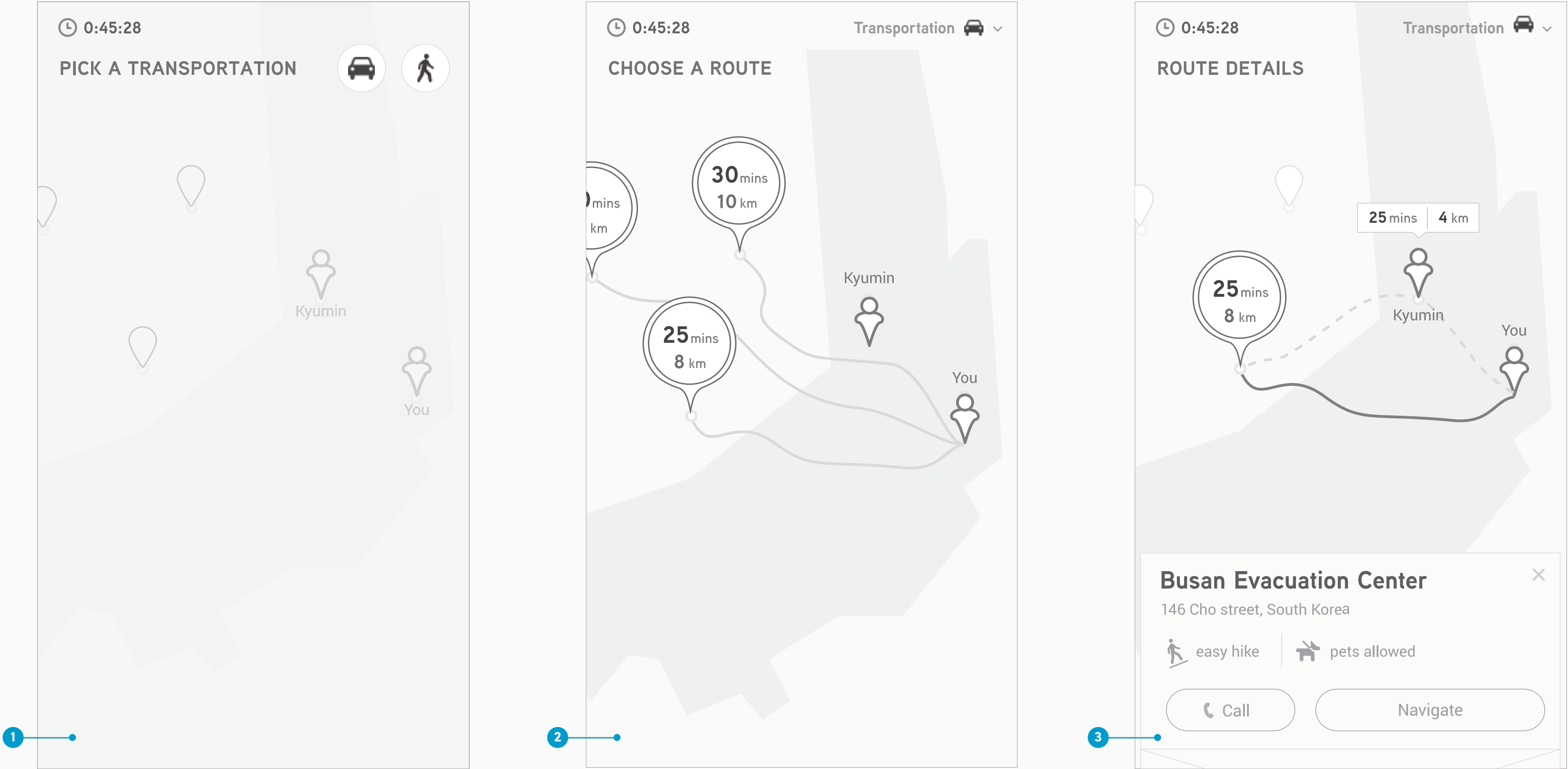
The first step of the evacuation process is choosing a mode of transportation. A user can either choose to drive or walk to an evacuation center.

2. Choosing a Route

A user then must choose an evacuation center (indicated by the pins) which he/she wants to travel to.

3. Route Details

When the user taps on a pin, details of the evacuation center will appear on a tab. The user can also see an alternative route if he/she want to pick up a family member.



INITIAL WIREFRAMES

NAVIGATION (CONT'D)

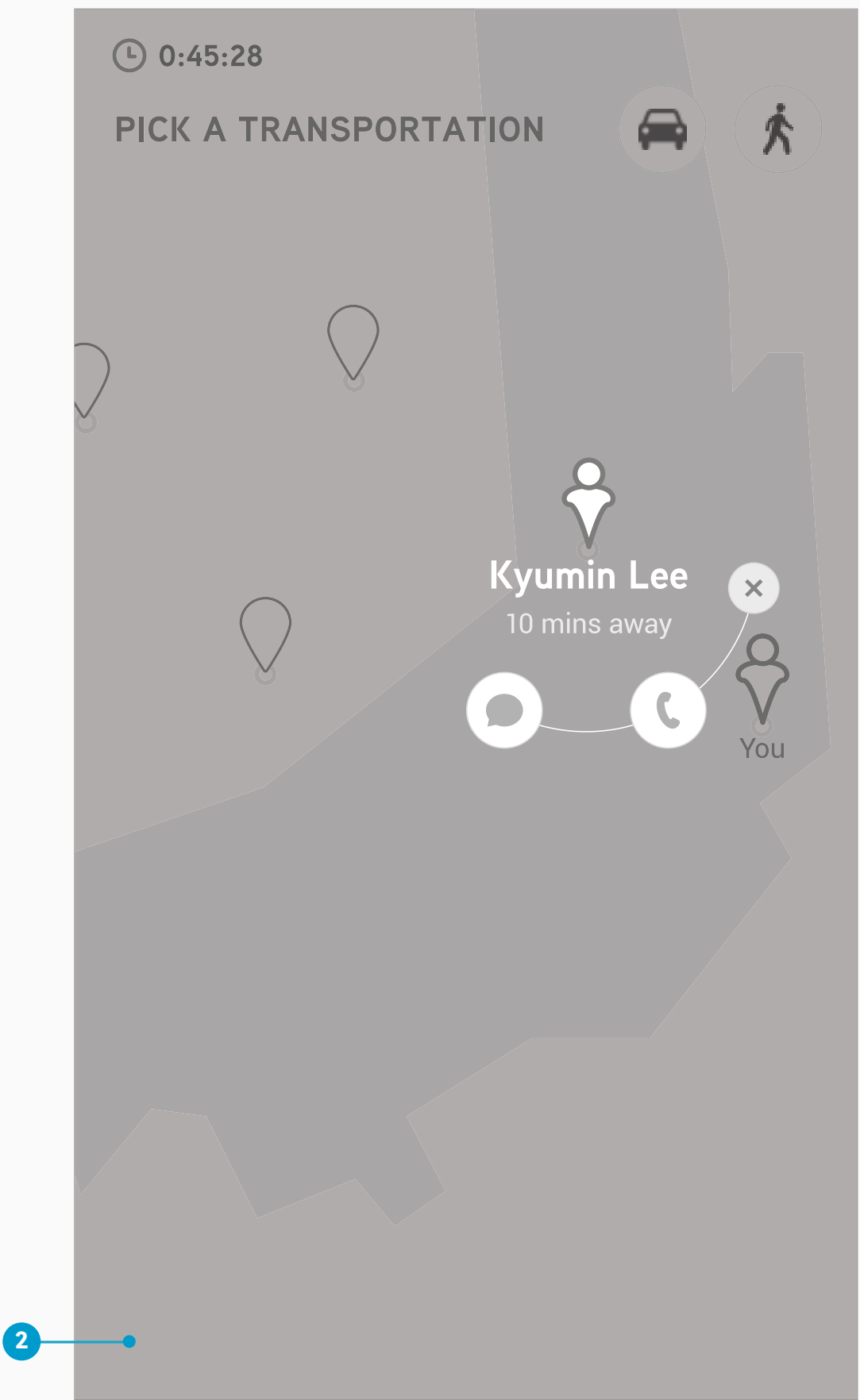
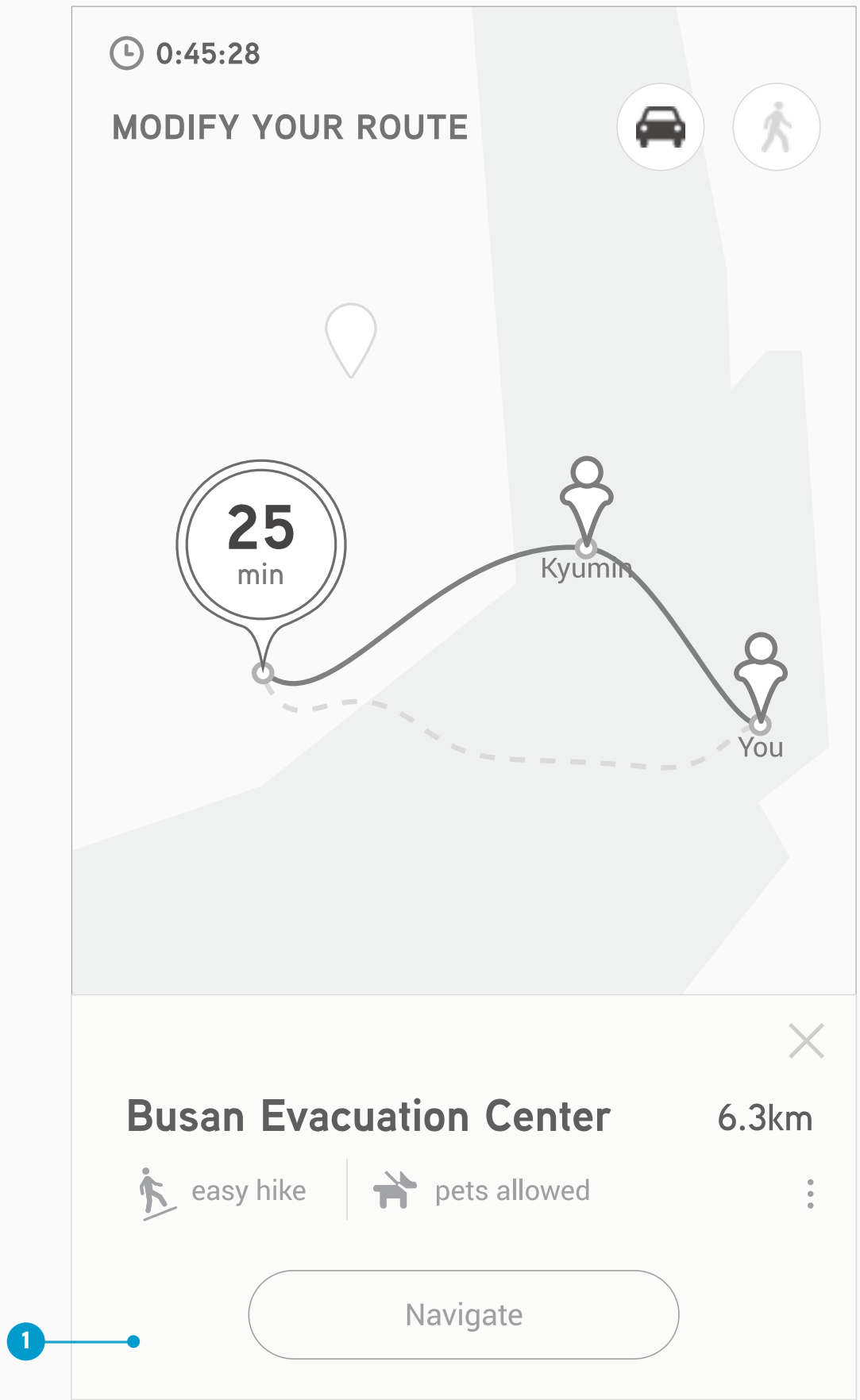
The navigation screens guide users through the evacuation process. These screens show the process of setting up an evacuation route.

1. Alternative Route

This screen displays how the highlighted route would change if a user were to choose to pick up a family member along the way.

2. Family options

If a user taps on a family icon, there options that pop up on top of an overlay. A user can message or call the family member.



INITIAL WIREFRAMES

NAVIGATION (CONT'D)

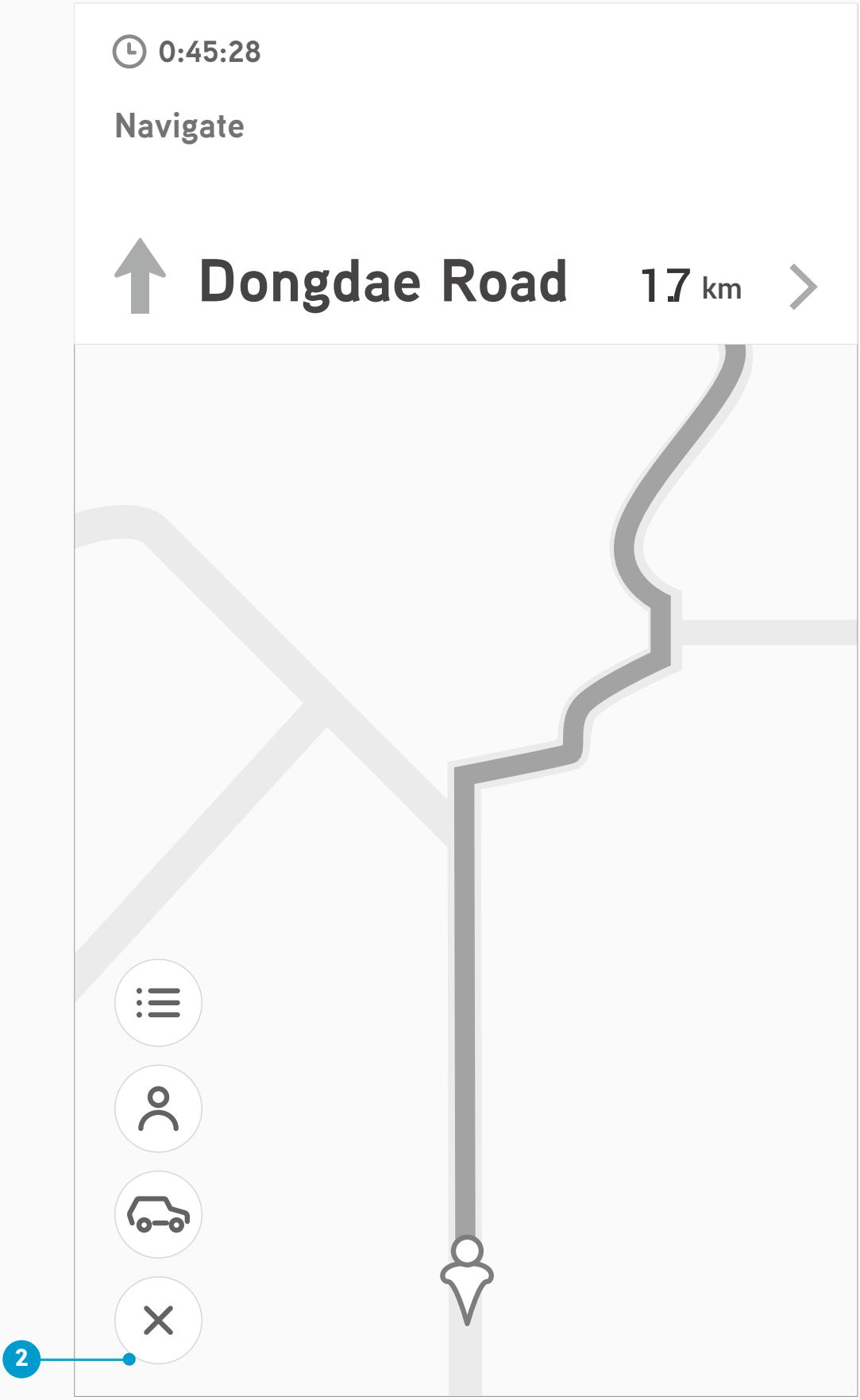
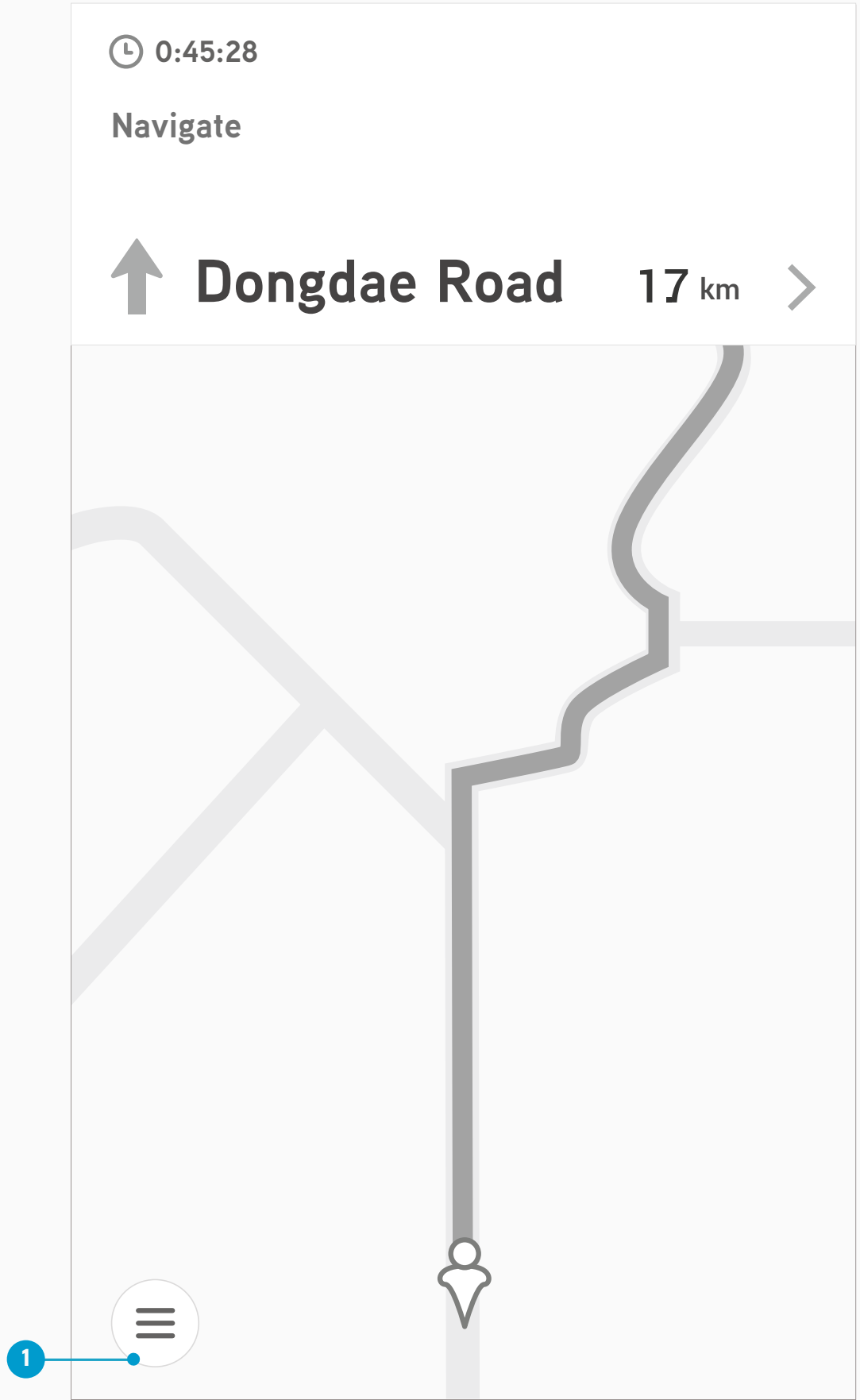
The navigation screens guide users through the evacuation process. These screens show the process of navigating to a evacuation center.

1. Map Navigation

Once a user clicks on the “Navigate” CTA, he/she will be directed to the evacuation center of their choosing. The screen displays directional instructions as well as a map to show where the user currently is. It also features a timer which counts down to the time of impact, this is so that the user can keep track of him/herself.

2. Menu options

When the menu option is tapped, three menu options will expand: a time line, family members, and also transportation.



INITIAL WIREFRAMES

UTILITIES

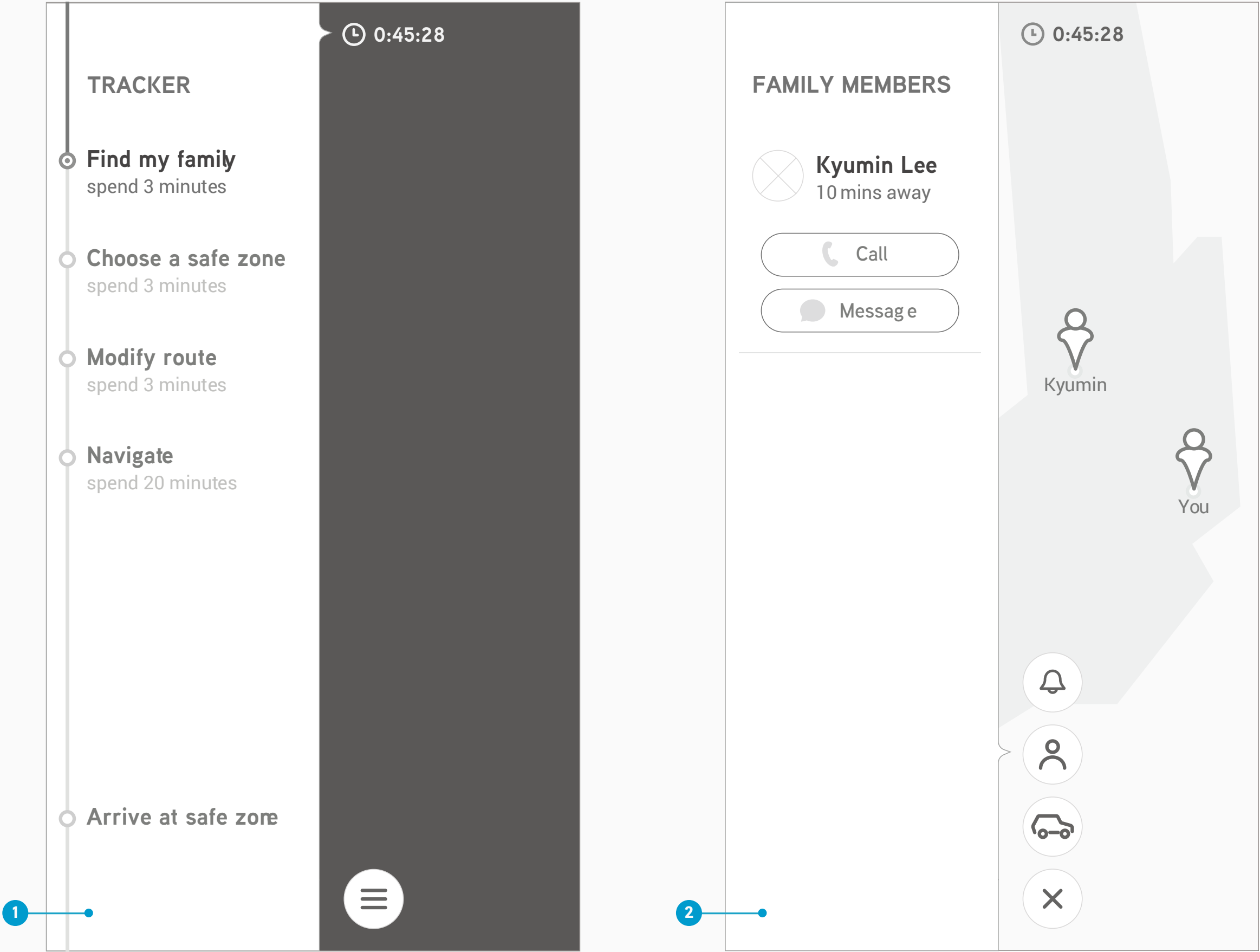
When the menu option is tapped, three menu options will expand: a time line, family members, and also transportation.

1. Time line

The time line option will display a time line of the user’s progress during the evacuation.

2. Family Members

Family members option will display a list of family members that the user has entered during the onboarding stage. A user is able to call and message the family member.



INITIAL WIREFRAMES

MESSAGING MECHANISM

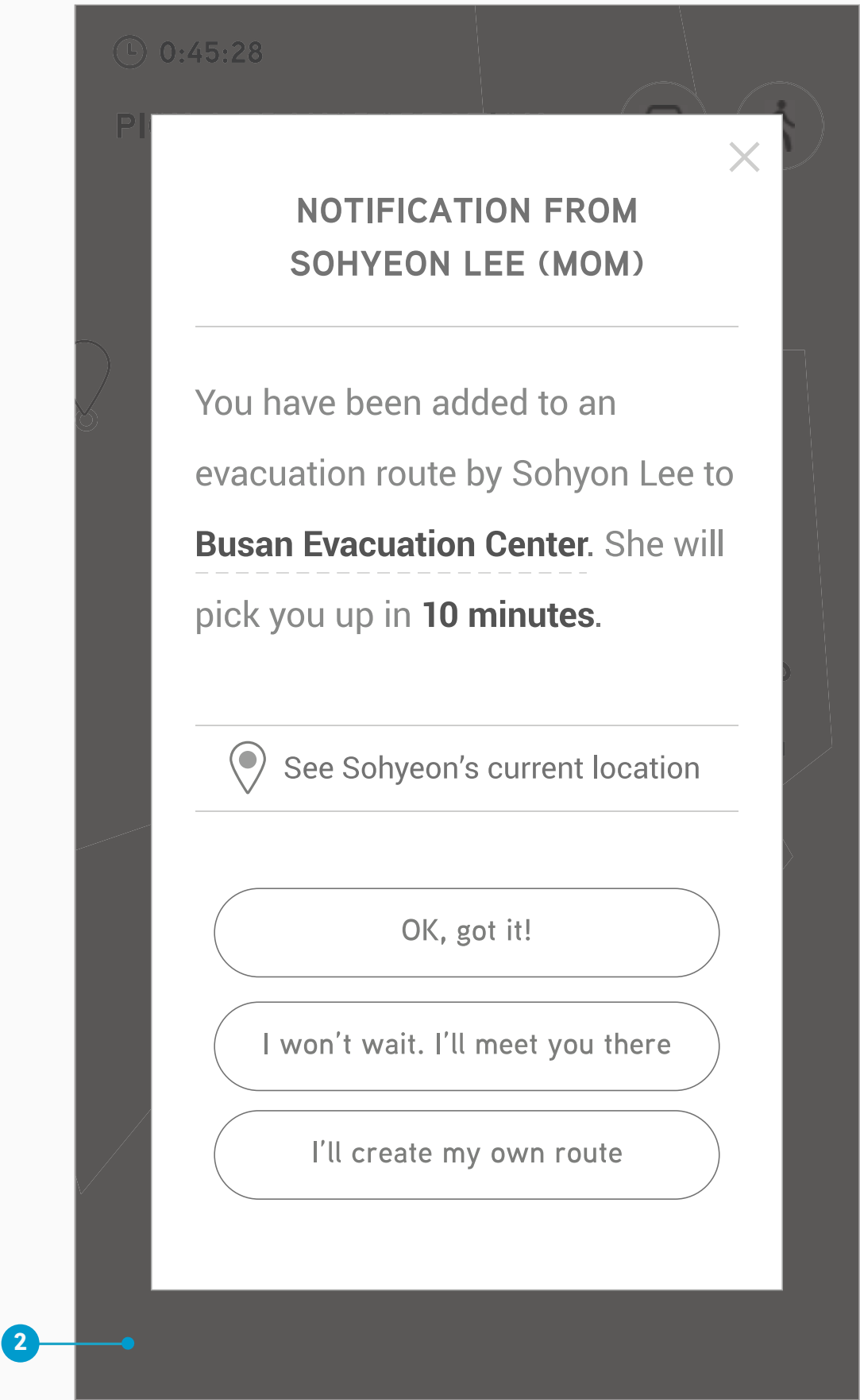
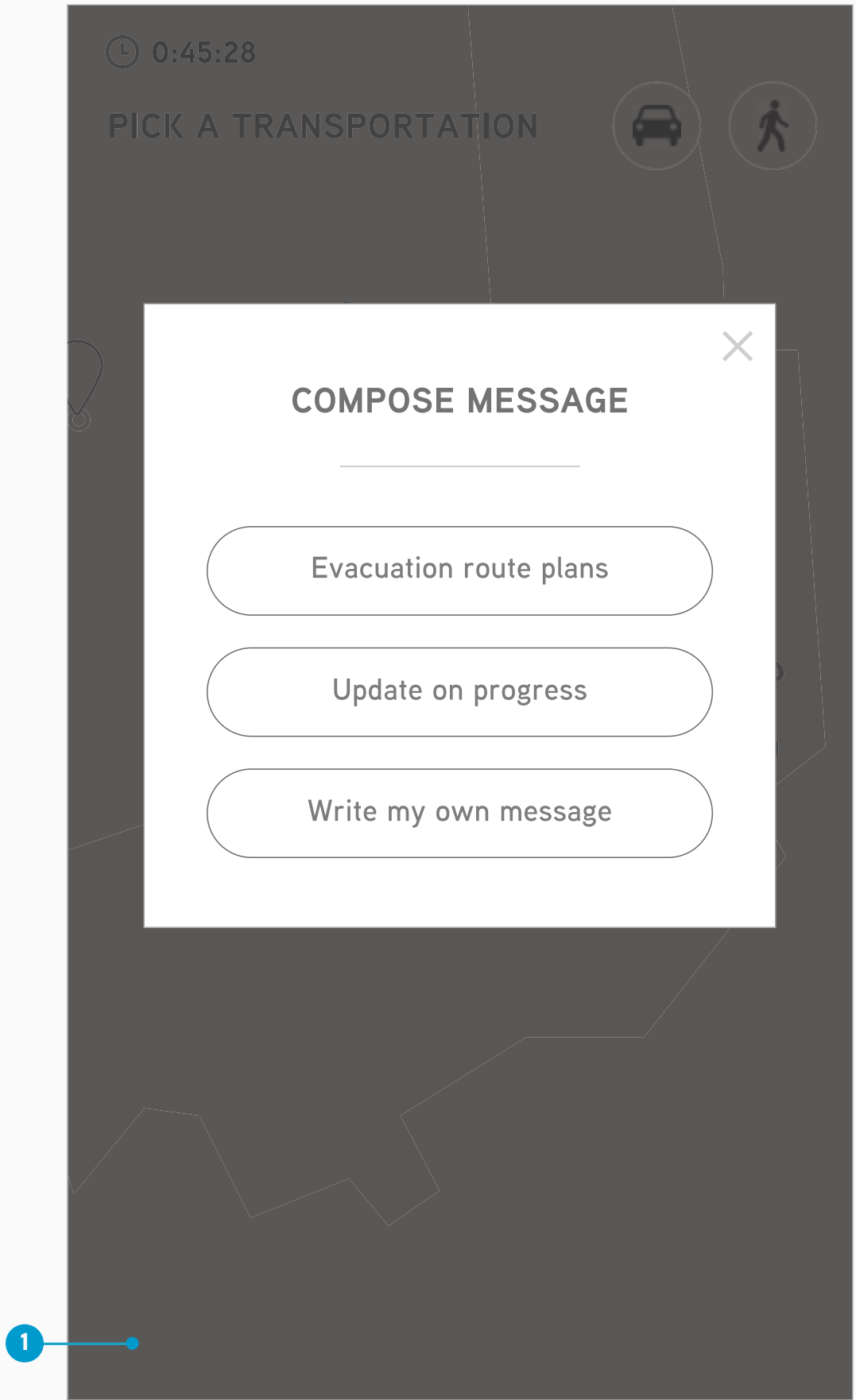
These screens explore the possibility of adding a messaging feature for users to be able to communicate with their family members within the Tidal app.

1. Sending a Message

When a user wants to send a message to a family member, they can choose from the three options of pre-written messages. This is so that they will save time in writing messages, because every second counts in during a life threatening situation.

2. Receiving a Message

The user receiving the message will have a the important information highlighted to enable quicker reading. The users can also respond to the messages quickly by choosing one of the three CTAs.



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DETAIL WIREFRAMES

After the set of wireframes documented on the previous pages, I realized that some screens had too much text and did not allow the information to be connected to the map in an seamless manner. Much of the information is contained in panels. So, I resorted back to a more free flowing interface because I wanted to allow users to discern information quicker rather than bouncing back and forth between the bounding box and the map.

However, this iteration process was done last minute and due to time restrictions I had to change my layout during the comp-ing process. I kept the core flow of the previous wireframes and even condensed some of the steps.

HIGH FI WIREFRAMES

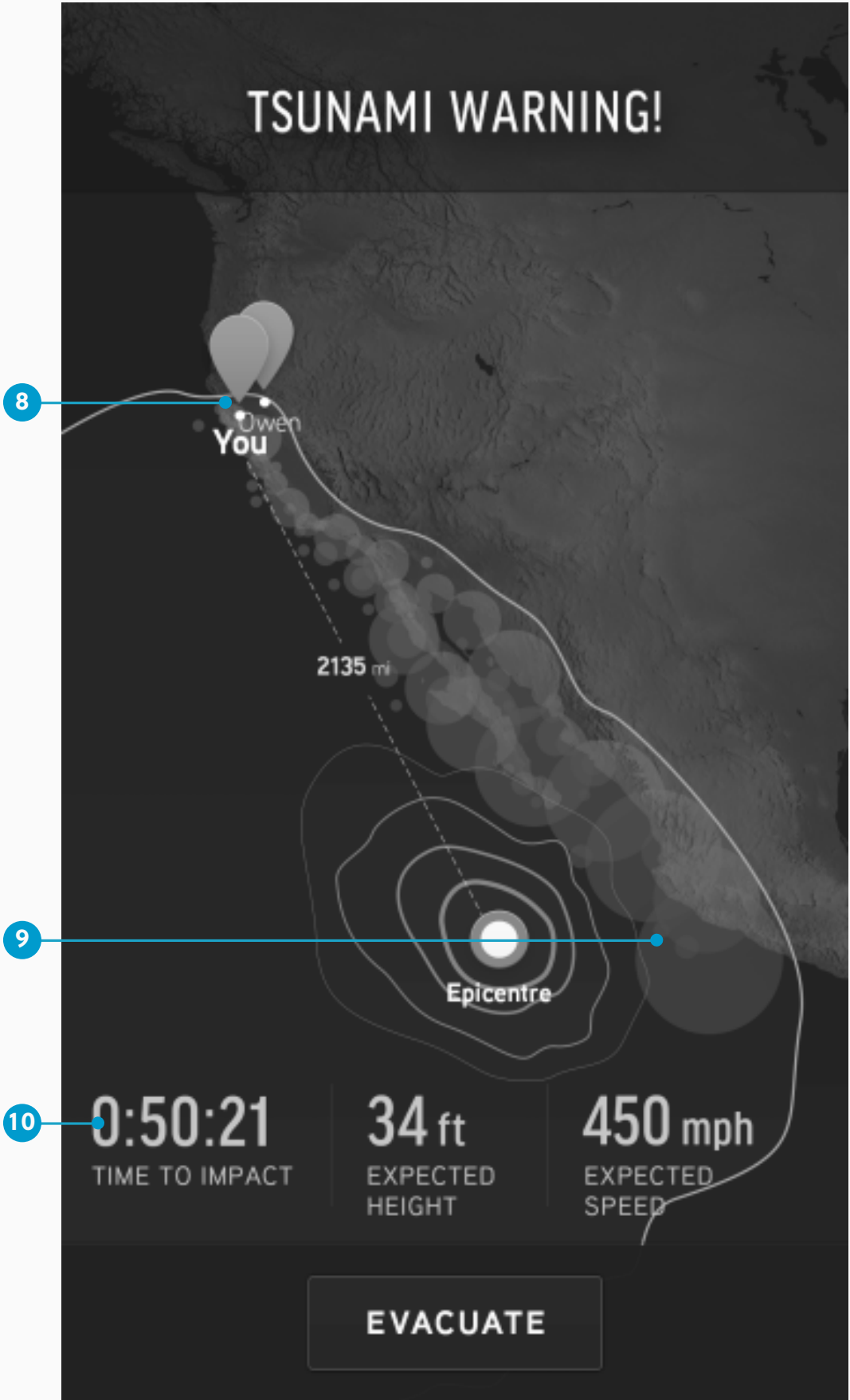
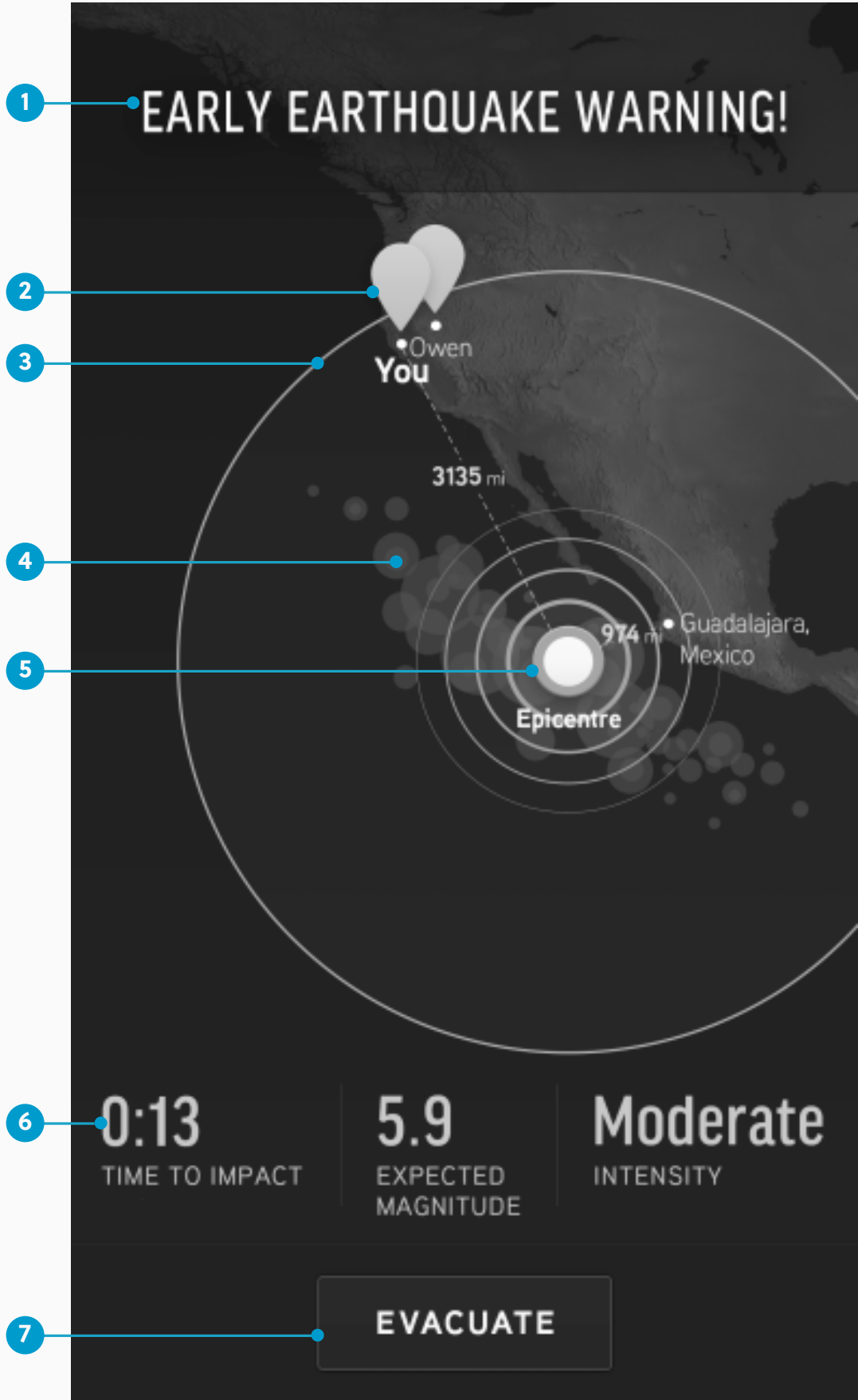
EARLY EARTHQUAKE & TSUNAMI WARNINGS

These are Tidal’s warning screens. They alert users of natural disasters (earthquake or tsunami) that a user is in the threat of experiencing.

Screen 1 displays the early earthquake warning a user receives. While screen 2 displays a tsunami warning a user receives.

- 1 Page title/ instructions
- 2 A user’s location and family members location represented on the map.
- 3 The bounds of where the user is in relation to the earthquake. The circle highlights a user’s distance from the epicenter.
- 4 Earthquake tremors caused by the source of the earthquake (epicenter) is represented in faded circles.
- 5 The epicenter shows the source of the earthquake. While the rings around the epicenter will animate to show the earthquake pulse in real time.
- 6 More details about the earthquake in relation to a user. A countdown timer to when a user will feel the earthquake, shown in seconds, the expected magnitude of the earthquake when it hits the outer ring, and the intensity of the earthquake
- 7 A CTA button to start the evacuation process.

- 8 The bounds of where the tsunami will hit land.
- 9 The transparent circles show how severe the tsunami will hit land. This is measured by how fast the wave is traveling and how tall the wave will be when it hits land. The bigger the circle, the more severe it is.
- 10 Details of the tsunami, including a countdown timer of when the tsunami will hit land, the expected height of the tsunami and the expected speed of the tsunami when it reaches a user’s location.

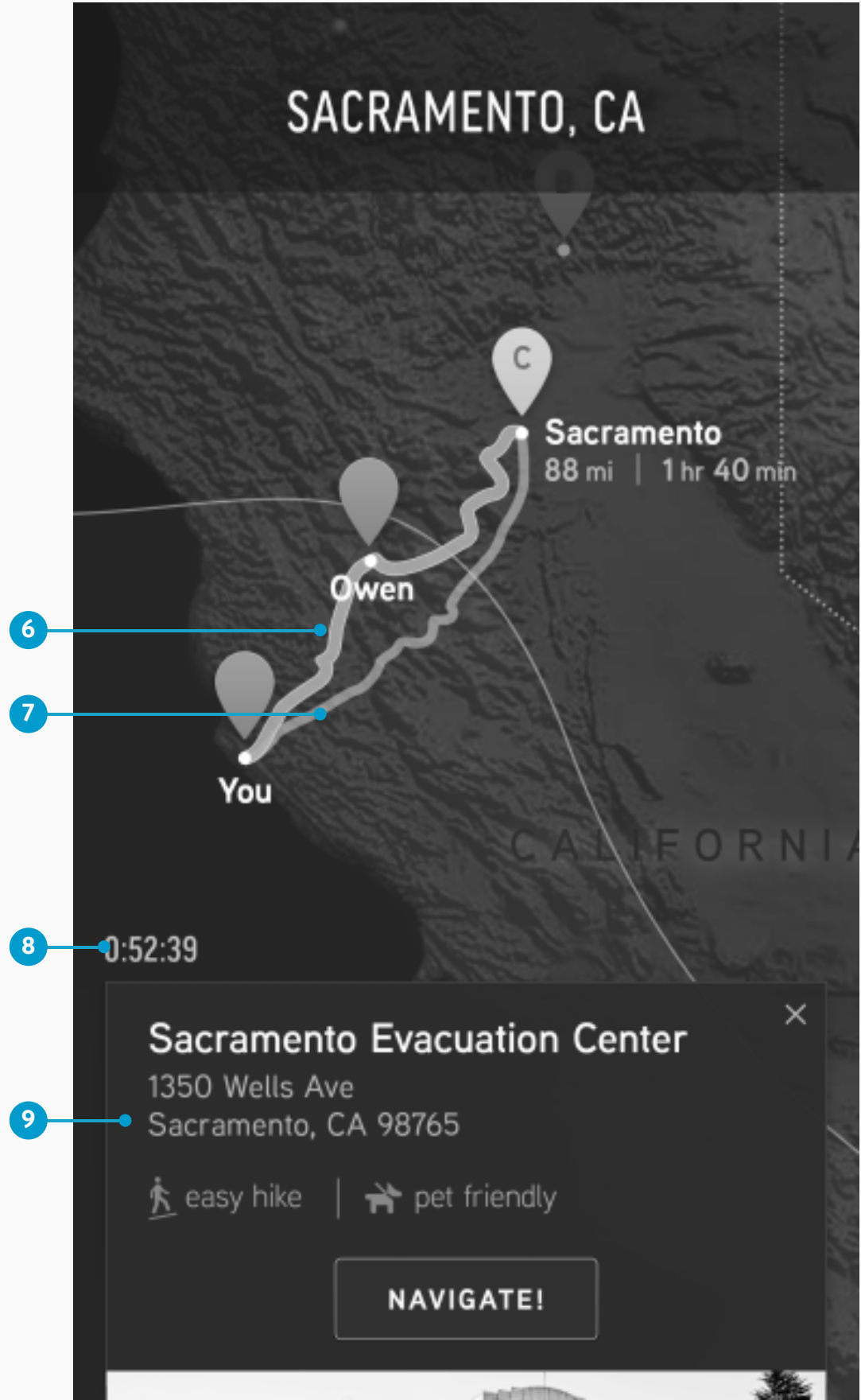
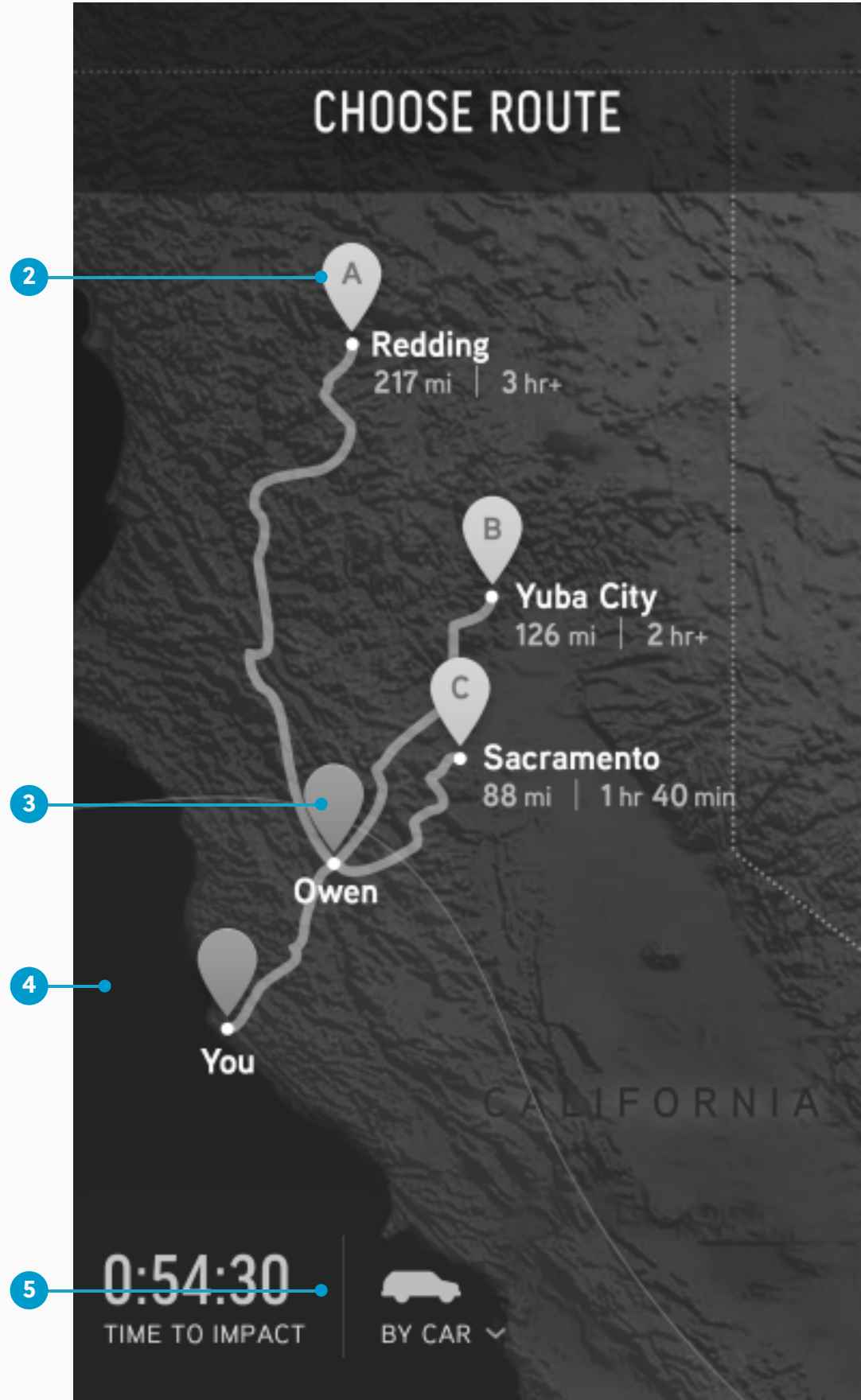
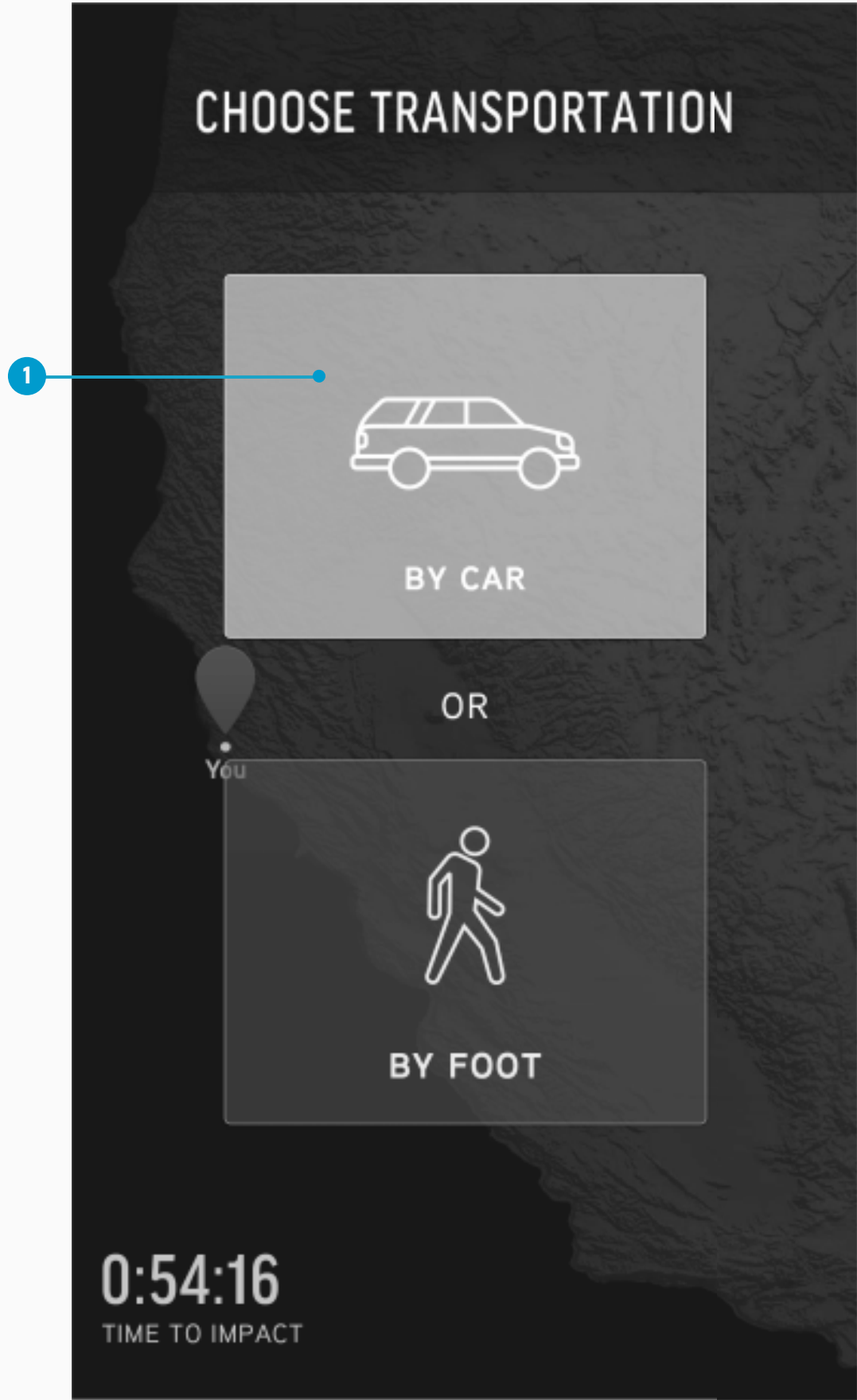


HIGH FI WIREFRAMES

EARLY EARTHQUAKE & TSUNAMI WARNINGS

The navigation screens guides users through the evacuation process. Users are prompted to choose a transportation (screen 1). Then users are able to choose an evacuation center which they want to navigate to (screen 2). Once a user chooses a route, they are presented with the route details (screen 3).

- 1 Transportation options, users can tap on the car button or the walking button to make their choice
- 2 Location pin of an evacuation center. Each option is labeled using a letter. The pin also shows the name of the city/town where the center is including its distance and the time to travel there.
- 3 Location pin of a family member is shown on the map along with his/her name.
- 4 A user's location labeled with "you".
- 5 The option for a user to switch transportations: either driving or walking.
- 6 Once a route is chosen, it will by default show a route where the user will pick up a family member.
- 7 There is also the option of traveling alone.
- 8 Countdown timer is decreased in size.
- 9 Important details of the evacuation center is displayed on a modal window. Only half of the modal is shown, a user can swipe up to display the full window to learn more.

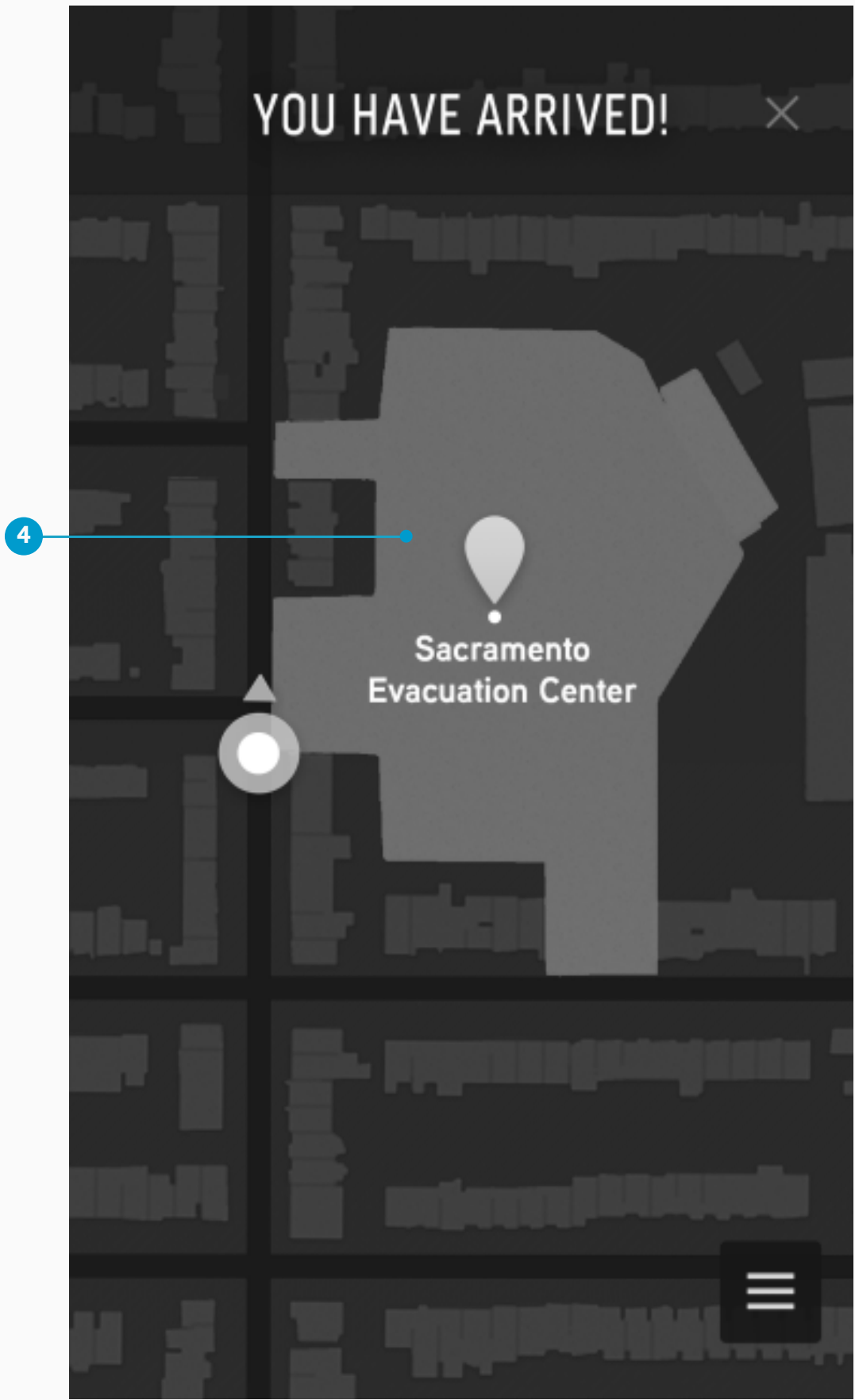
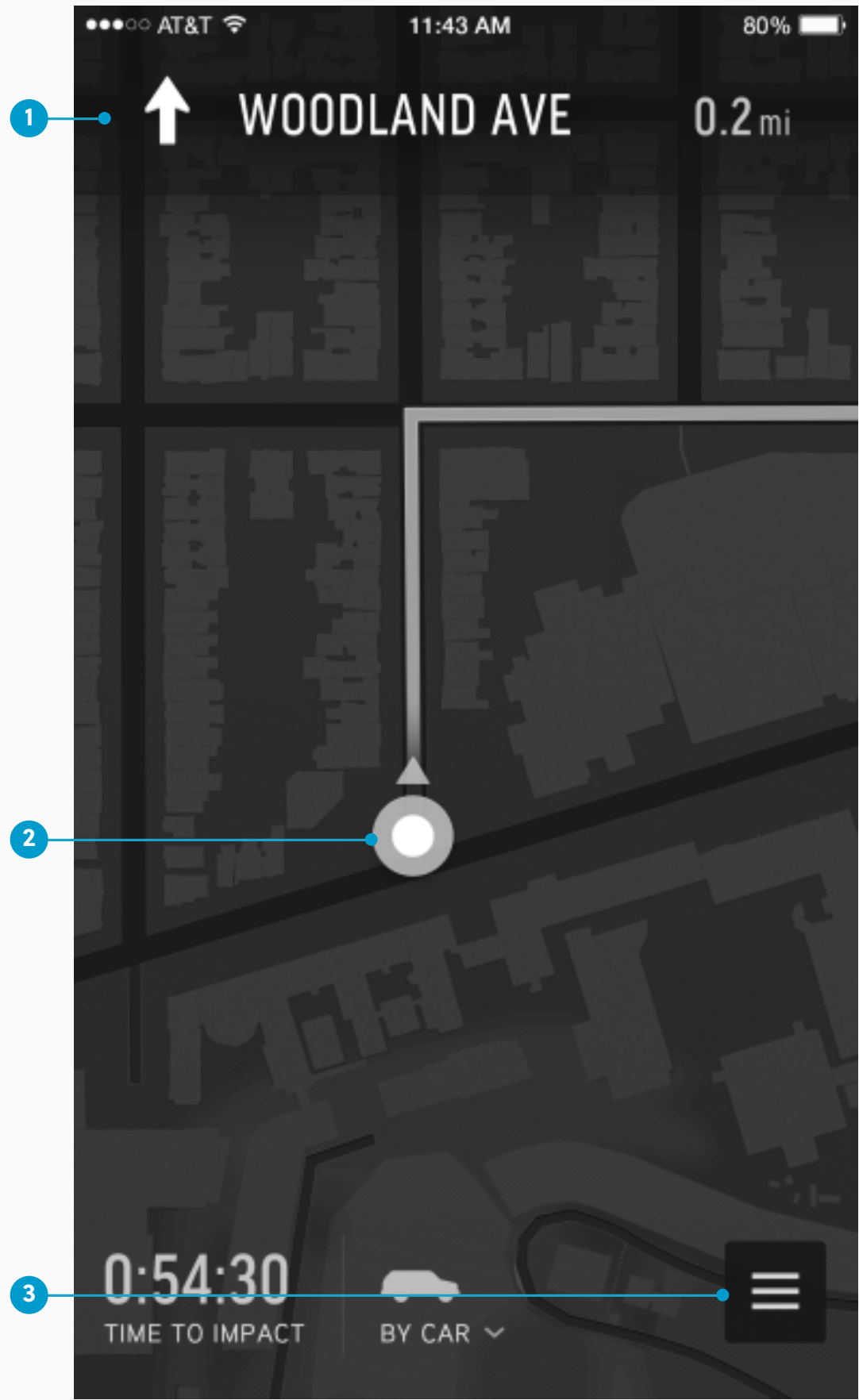


HIGH FI WIREFRAMES

EARLY EARTHQUAKE & TSUNAMI WARNINGS

Once a user starts the navigation process, Tidal displays directions for the user to follow (Screen 1).
Once a user reaches their destination, Tidal will send a feedback message (Screen 2).

- 1 Directions to help the user navigate his/her way to the evacuation route. Including an arrow to show the direction and a distance indicator to countdown how much further before a user’s next step.
- 2 The user represented on the map using a dot.
- 3 A hamburger menu that will show the time line and a list of family members.
- 4 The user’s destination building is highlighted, and indicated by a location pin. The building is also labeled.



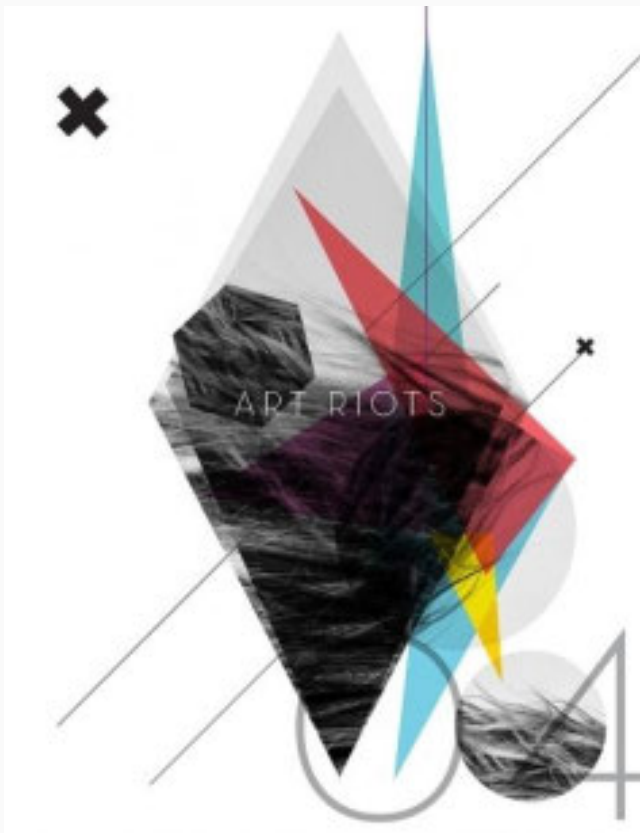
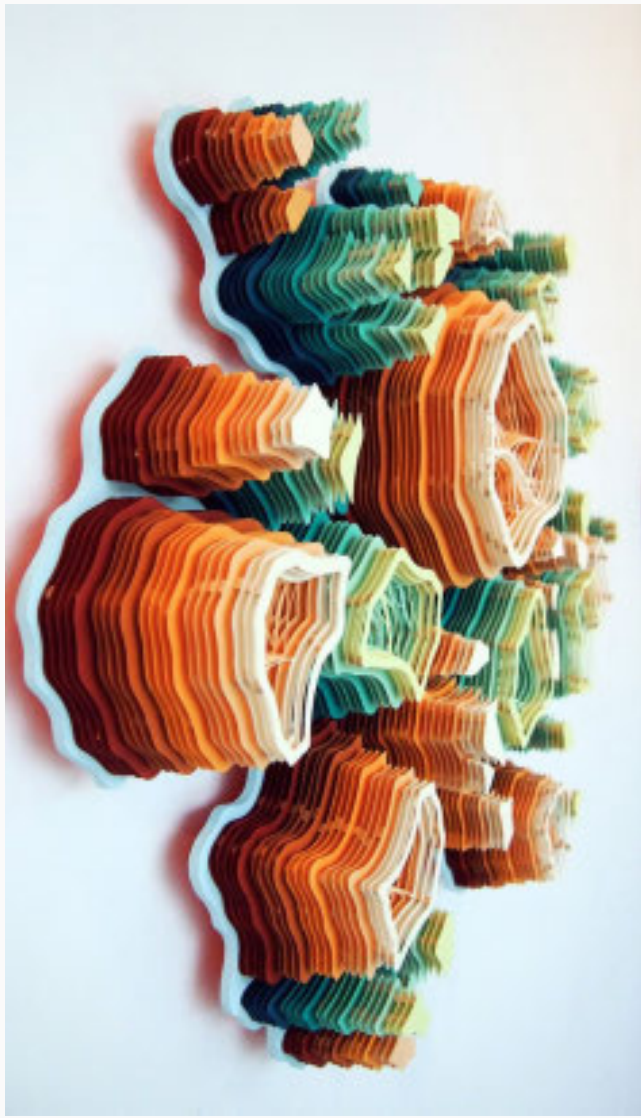
TIDAL

PRELIMINARY DESIGN COMPS

The design comps on the following pages are done based of the initial wireframes.

VISUAL VIBES

Vibrant
Eye catching
Lively



Typically the information does not exceed two or three



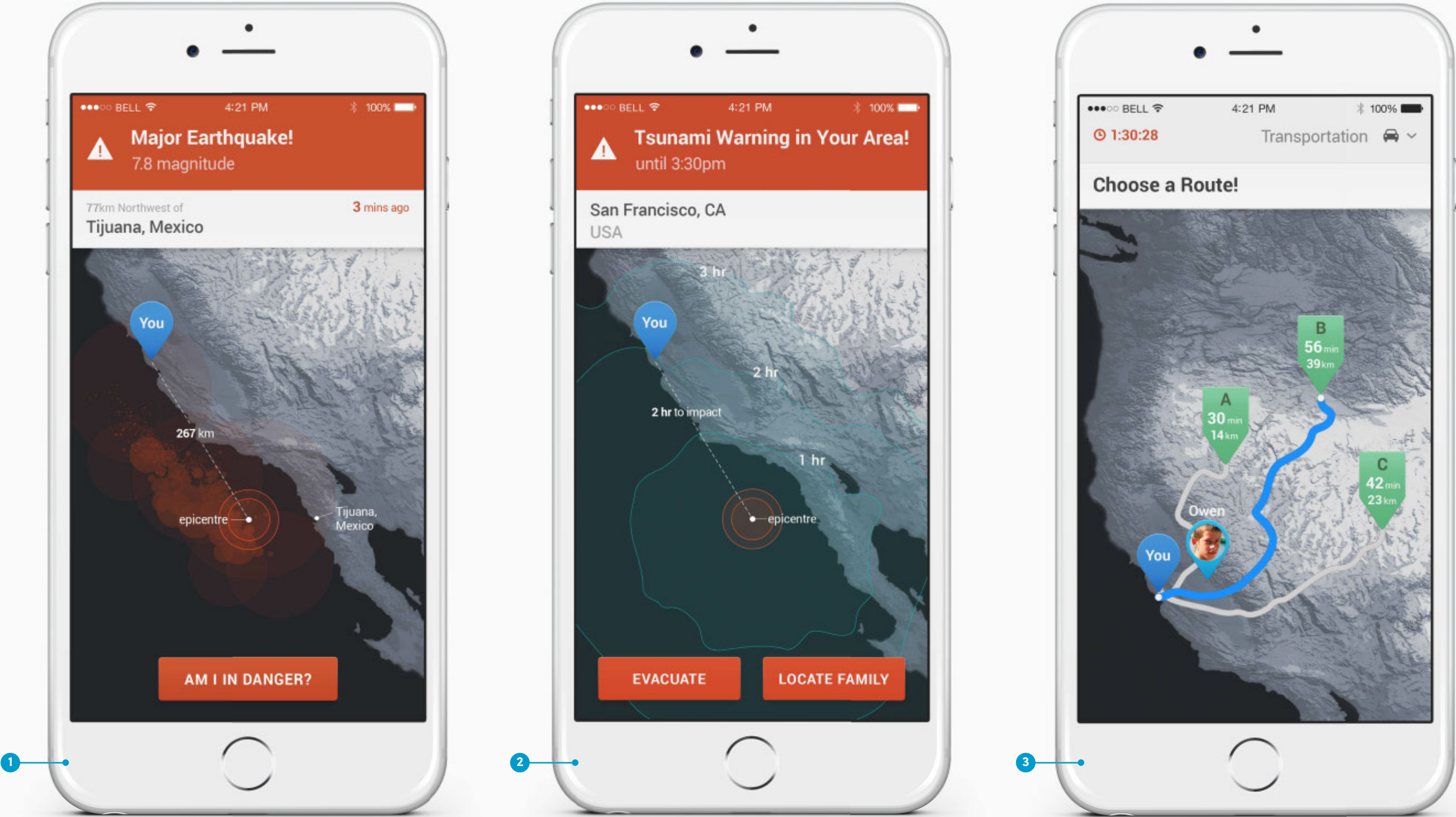
INITIAL COMPS

WARNING SCREENS

The warning screens briefs users on the earthquake which just occurred by giving them concise information. (Screen 1 & Screen 2)

NAVIGATION

The navigation screens guide users through the evacuation process. Screen 3 prompts a user to choose their evacuation route.



TIDAL

FINAL COMPS

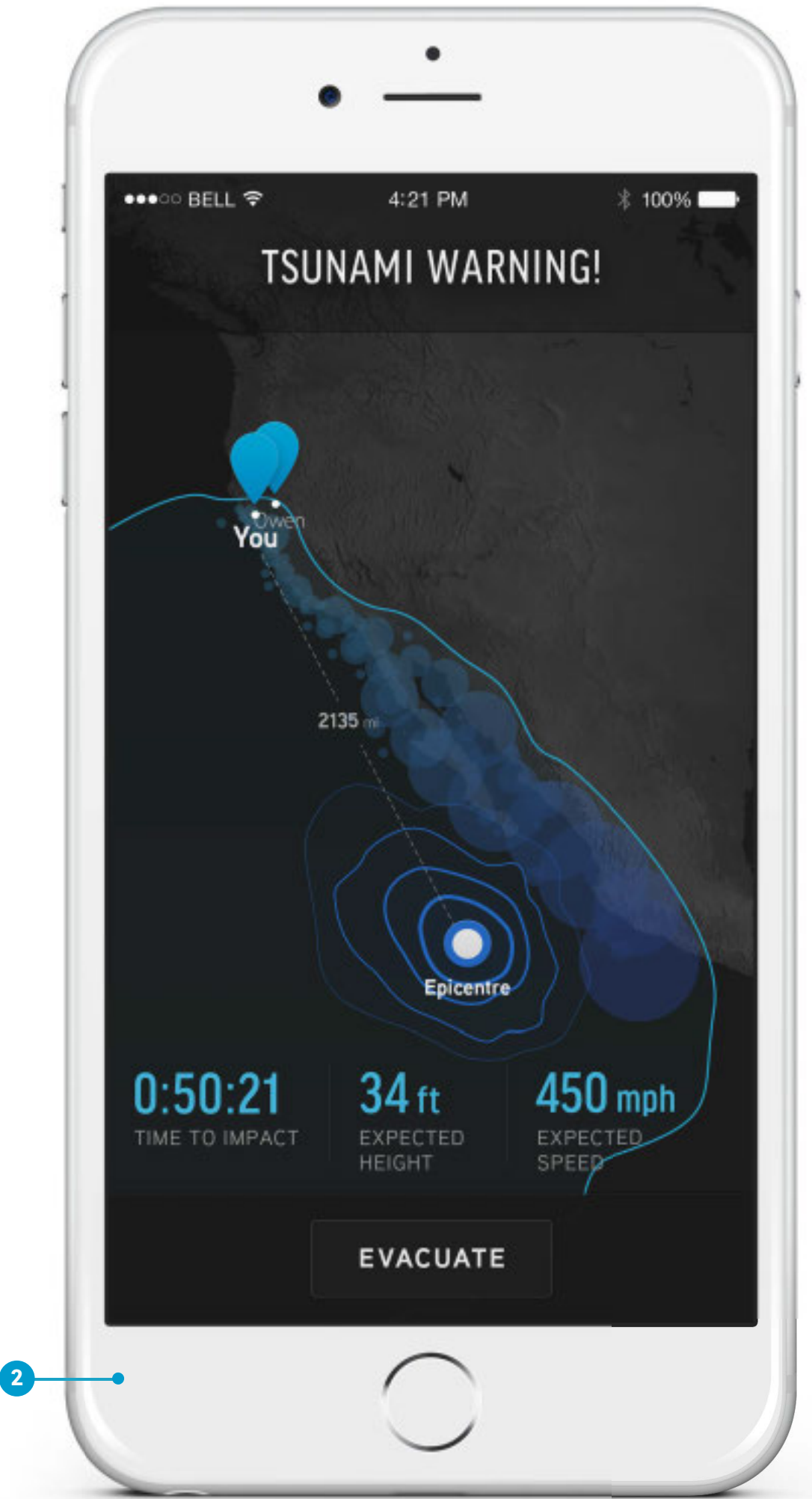
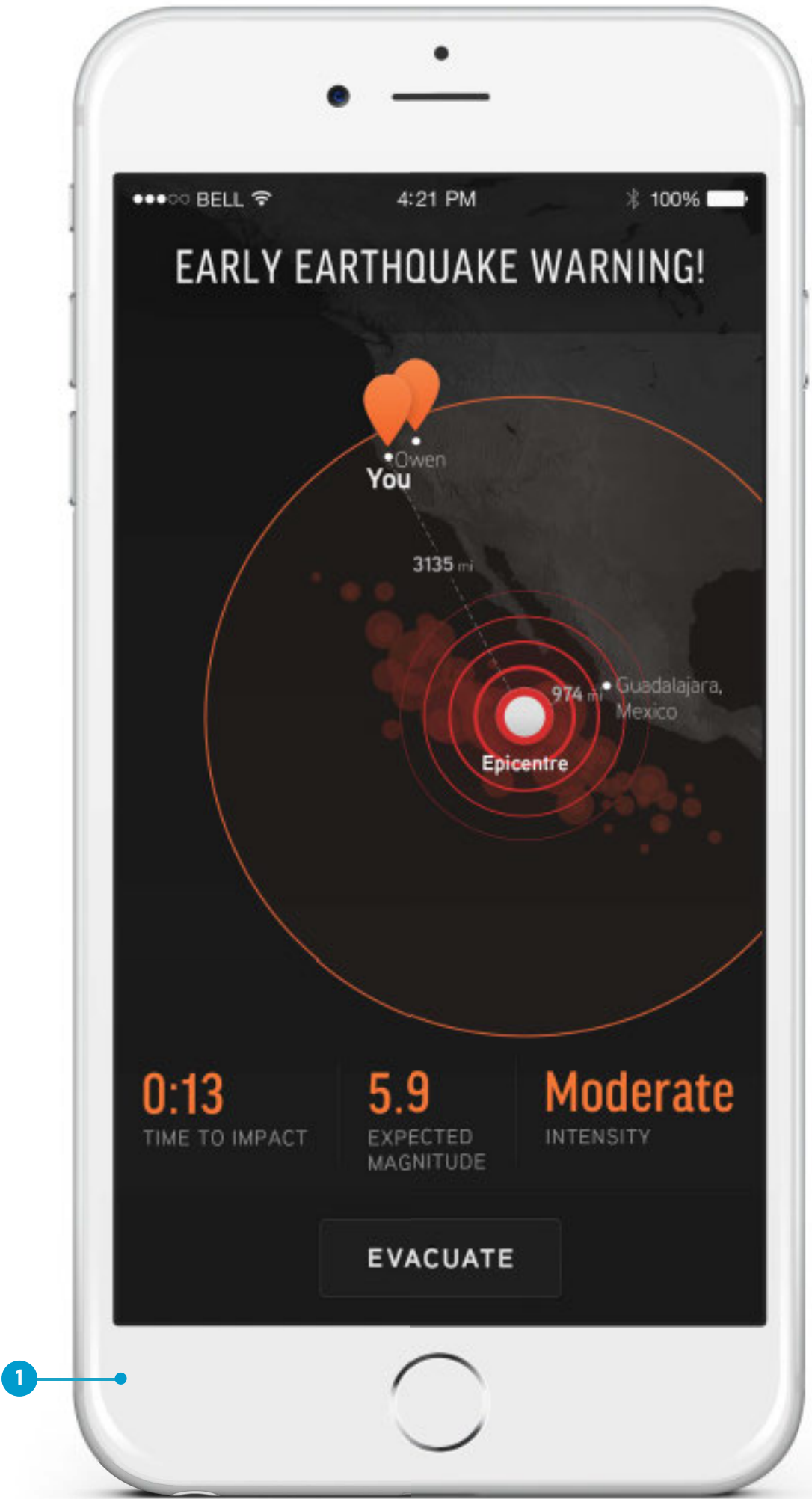
The final set of comps was an iteration process that was done after the preliminary comps. Due to time restrictions I had no time to go back and iterate my wireframes. Instead, I changed my layout during the comp-ing process.

FINAL COMPS

WARNING SCREENS

These are Tidal's warning screens. They alert users of natural disasters (earthquake or tsunami) that a user is in the threat of experiencing.

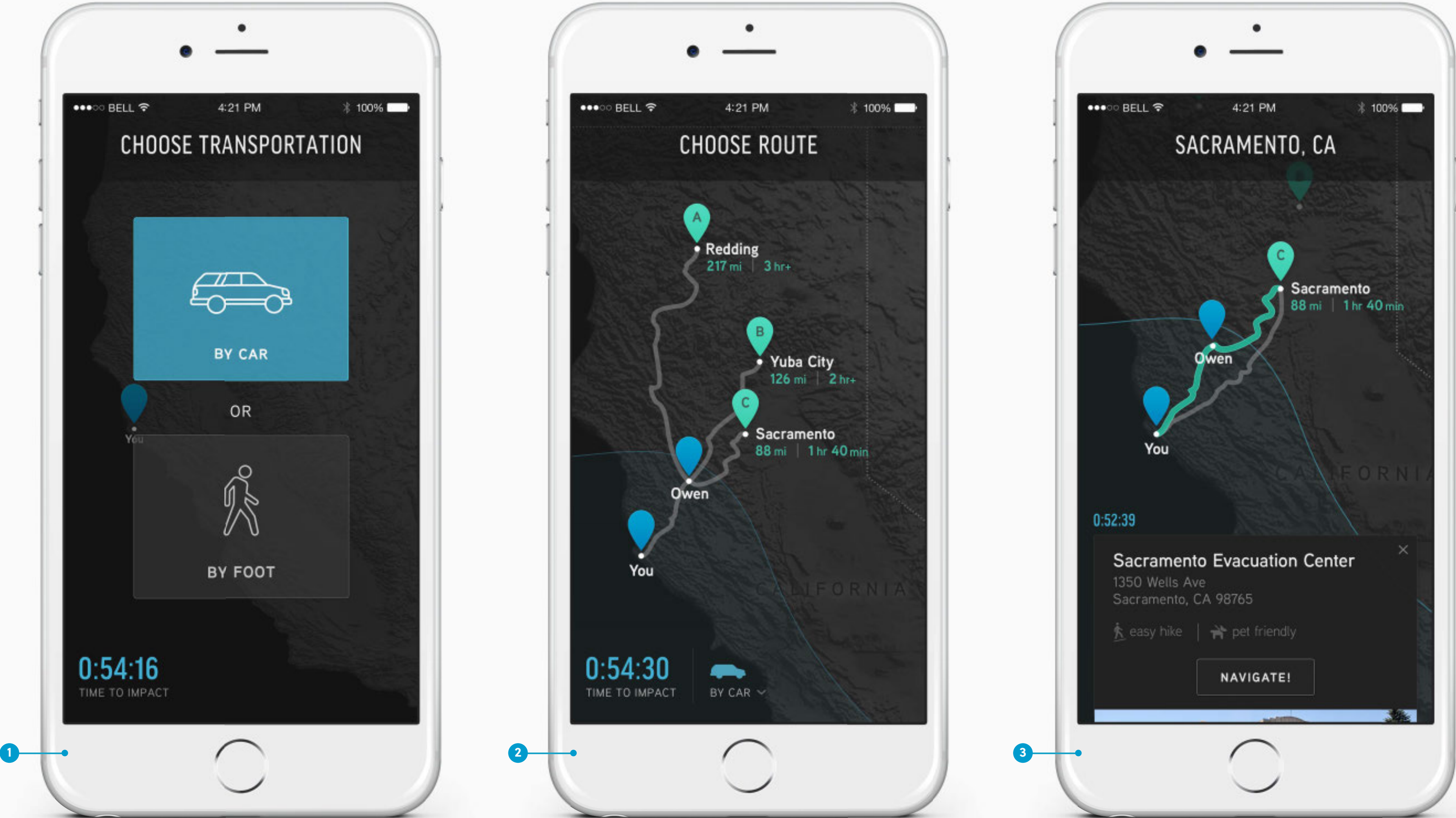
Screen 1 displays the early earthquake warning a user receives. While screen 2 displays a tsunami warning a user receives.



FINAL COMPS

NAVIGATION SCREENS

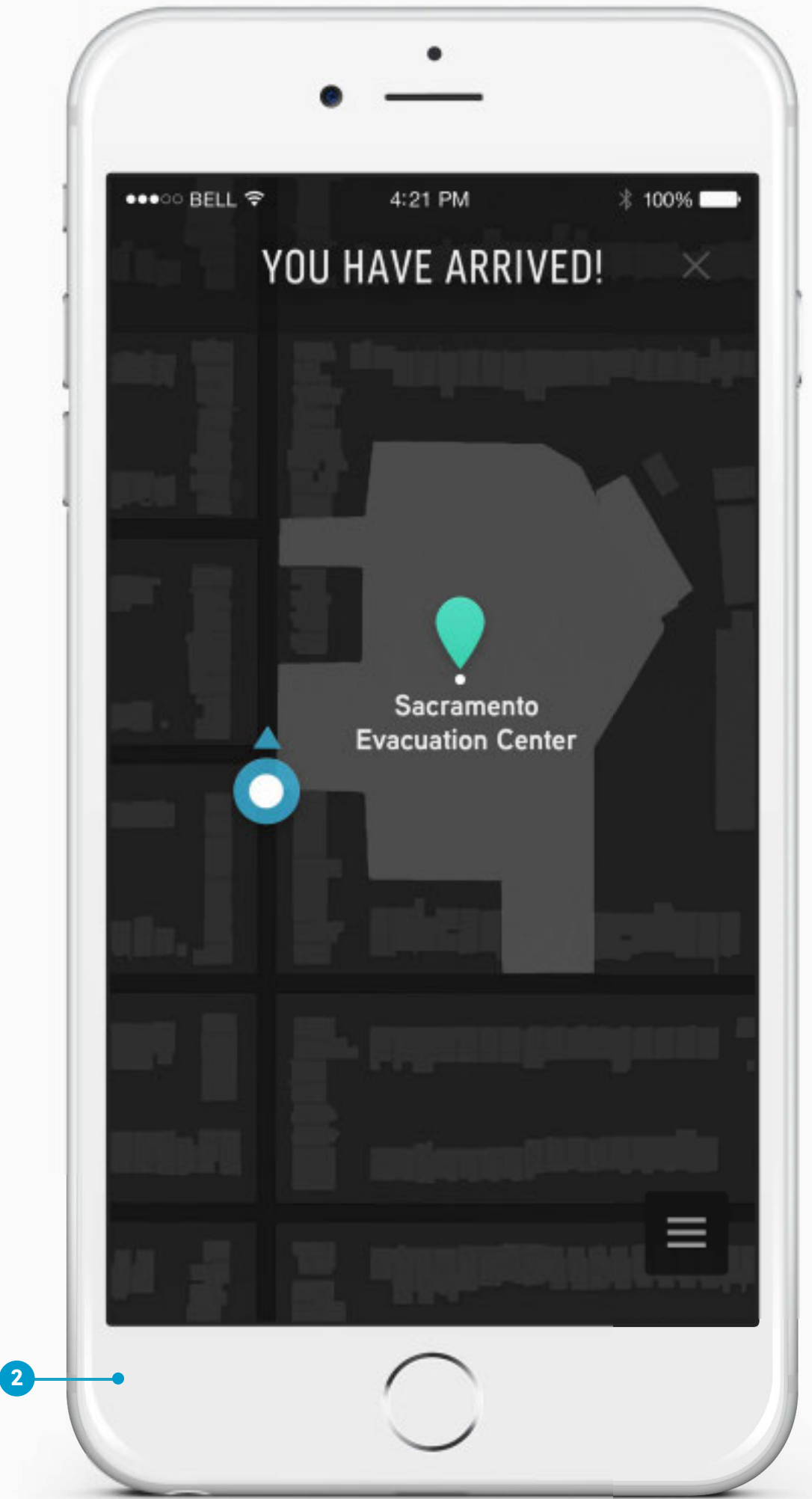
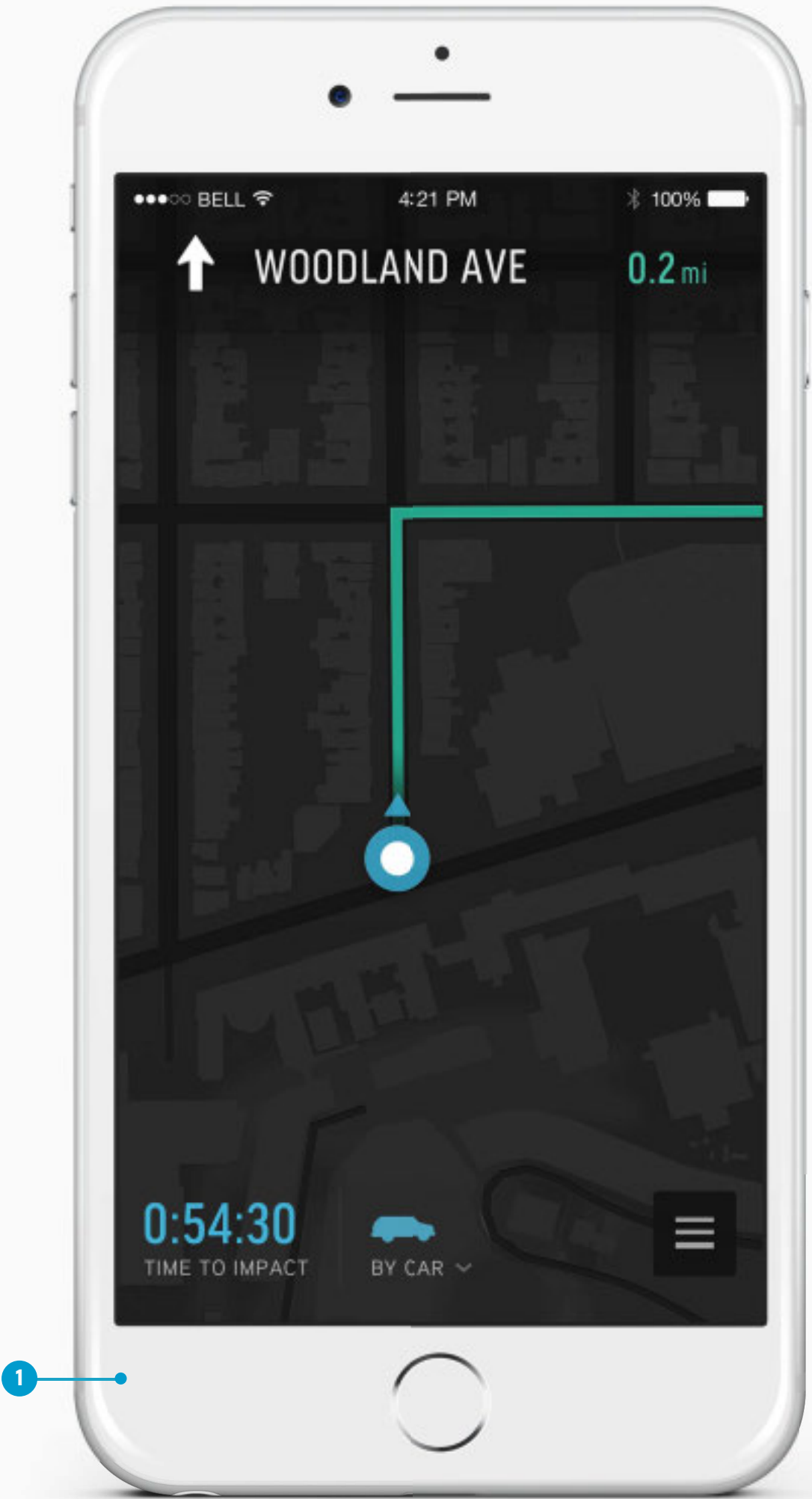
The navigation screens guides users through the evacuation process. Users are prompted to choose a transportation (screen 1). Then users are able to choose an evacuation center which they want to navigate to (screen 2). Once a user chooses a route, they are presented with the route details (screen 3).



FINAL COMPS

NAVIGATION SCREENS (CONT'D)

Once a user starts the navigation process, Tidal displays directions for the user to follow (Screen 1).
Once a user reaches their destination, Tidal will send a feedback message (Screen 2).



TIDAL

CONCLUSION

Tidal aims to make information and data available for users who are in threat of natural disasters, namely earthquakes and tsunamis. By making users aware of a natural disaster, Tidal hopes to decrease the aftermath of such events, such as death and displacement.

Tidal is came with its own unique set of challenges. Being the first navigation based UX project I have ever worked on, I learned quickly how challenging it is to design a navigation system. It was the constant balancing act of making the information clear enough for users to understand and making the verbiage concise enough for users to be able to glance quickly.

I plan to continue working on Tidal and continuously improving it.