

CS147: Digital Democracy Studio

Final Report

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Team Introduction:



[From left to right, Gen S., Grace W., Garrick F.]

Problem & Solution Overview

Online communities and discourse divide and isolate people, leaving them feeling hopeless and lacking energy to participate in politics. We provide a platform for people to rally around stories they care about, see people like them, and move their activism to their local community. In sharewaves, you can see change happening and contribute to it with a no-frills layer on top of your normal news-reading experience. Our goal is to help people harness the activation energy from reading and sharing news into getting involved with political issues in their own communities.

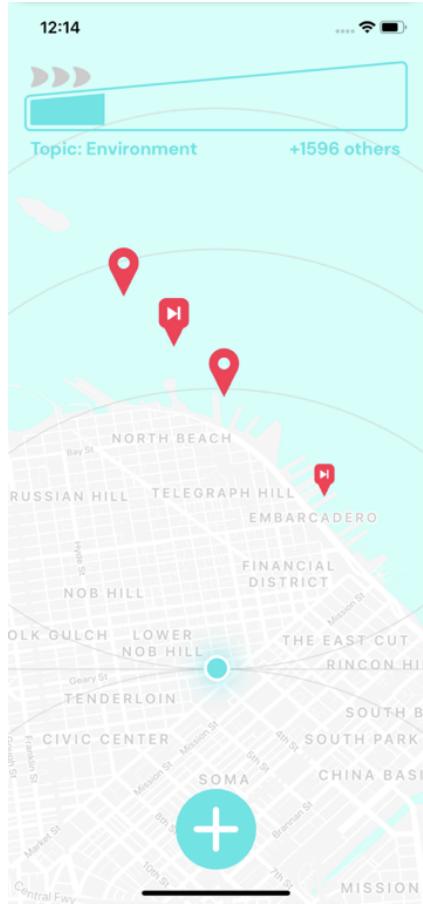


Figure 1. sharewaves final home interface

Task & Final Interface Scenarios

Simple task: discover nearby stories

The simple task is an easy way for users to begin to connect and engage with news around them. A user can click on nearby pins to discover nearby stories (news links or media). The pressure meter increases for the topic when the user chooses to read/view the story, visually indicating increased levels of engagement.

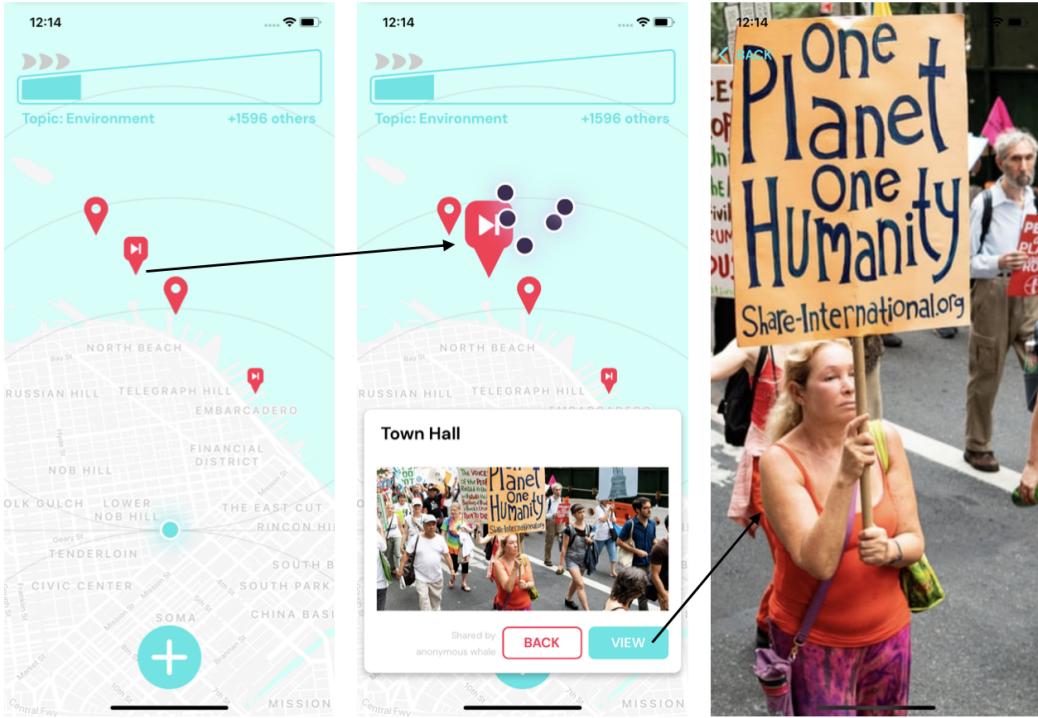


Figure 2. Exploring stories task flow – Media story

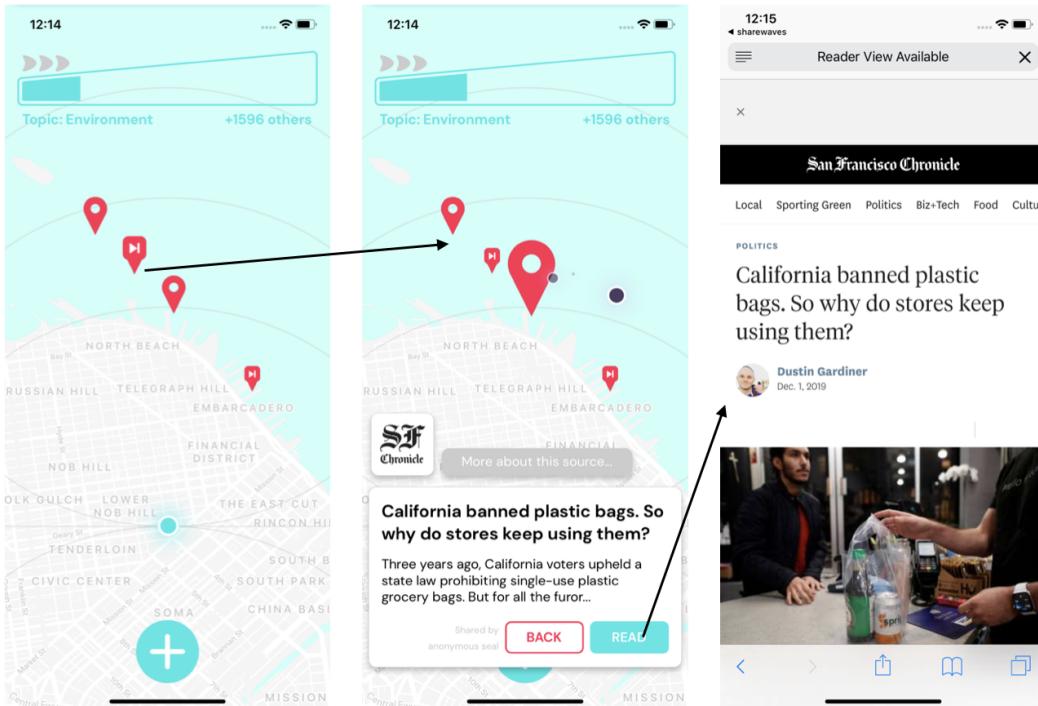


Figure 3. Exploring stories task flow – News story

Medium task: share your stories

The medium task allows more involved users to share their own stories and contribute to community conversations. Users click on the '+' button and choose to share either a news article (by pasting a link) or a clip (by taking a video). This creates a new pin near the user's location that others can view. This task also increases the pressure meter for the associated topic.

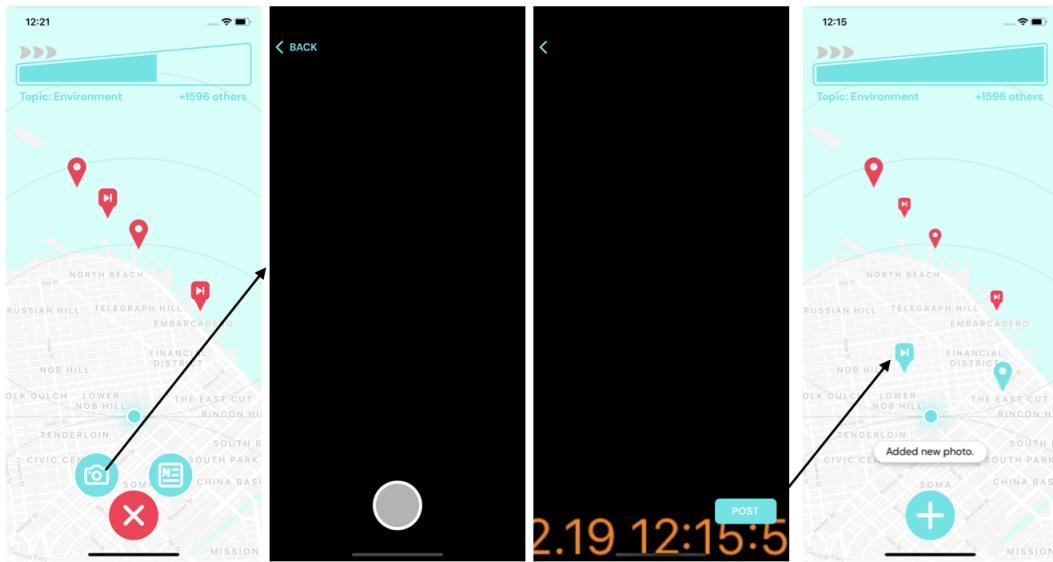


Figure 4. Sharing stories task flow - Media story

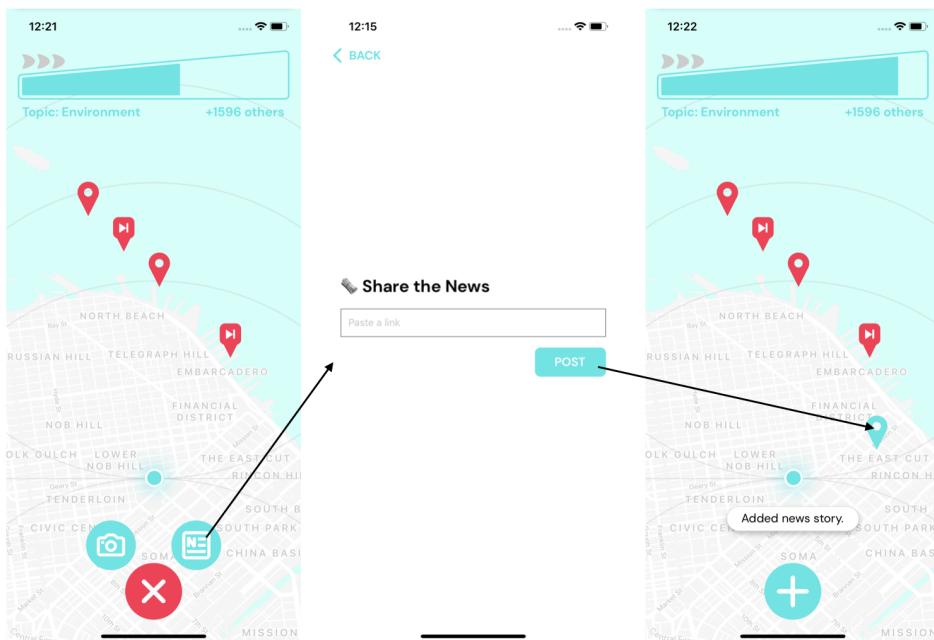


Figure 5. Sharing story task flow - News story

Complex task: engage in offline activities

The complex task bridges the gap from online engagement to offline activity. When the pressure bar for a topic is full, all users in a local area receive a notification to "Ride the Wave" and are presented with different options to engage with that topic offline. This task capitalizes on a topic's online momentum to encourage users to get involved with political issues in their own communities.

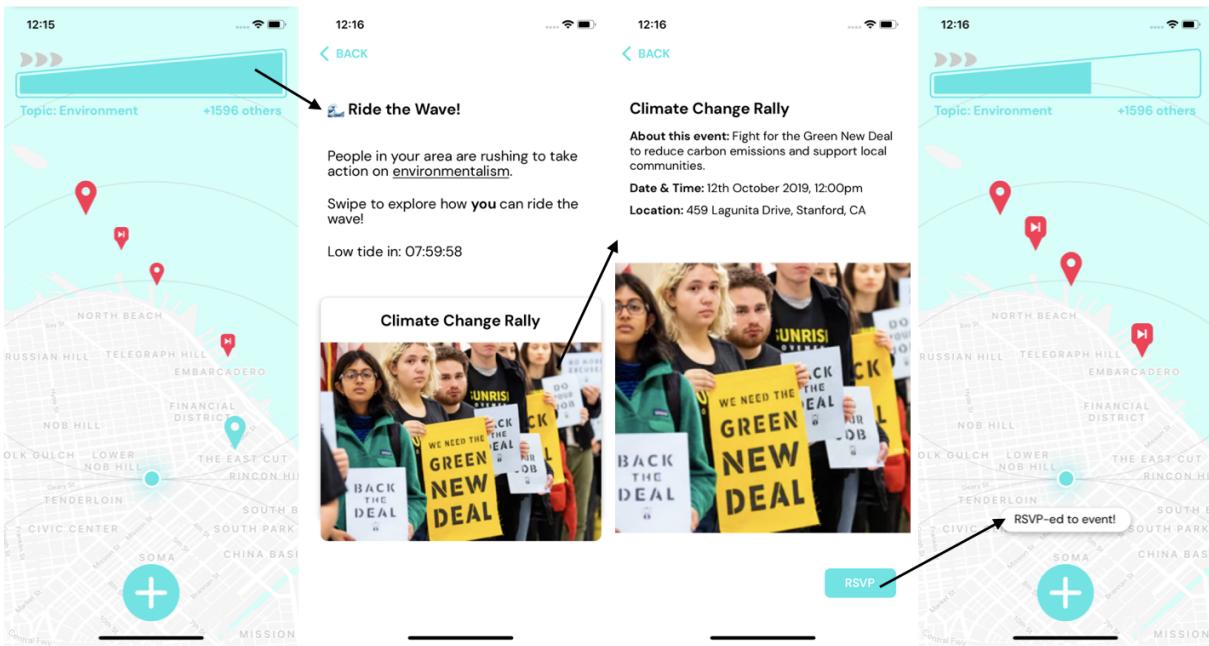


Figure 6. Engaging in offline activities task flow

Design Evolution

Initial sketches

Our initial sketches explored ideas around creating networks of nearby users who could share news, engage in conversation, and organize political events. In sketching, we identified a map interface as a potential way to present stories.

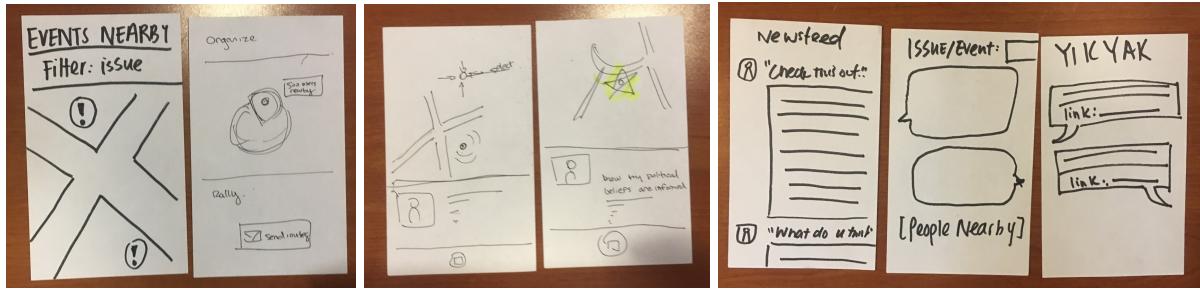


Figure 7. Initial sketches exploring map interface, news feeds, and messaging systems.

UI storyboard/Task Flows

We fleshed out our initial sketches and drew out how users could interact with the map interface, the types of stories users could share, profiles and messaging systems, etc.

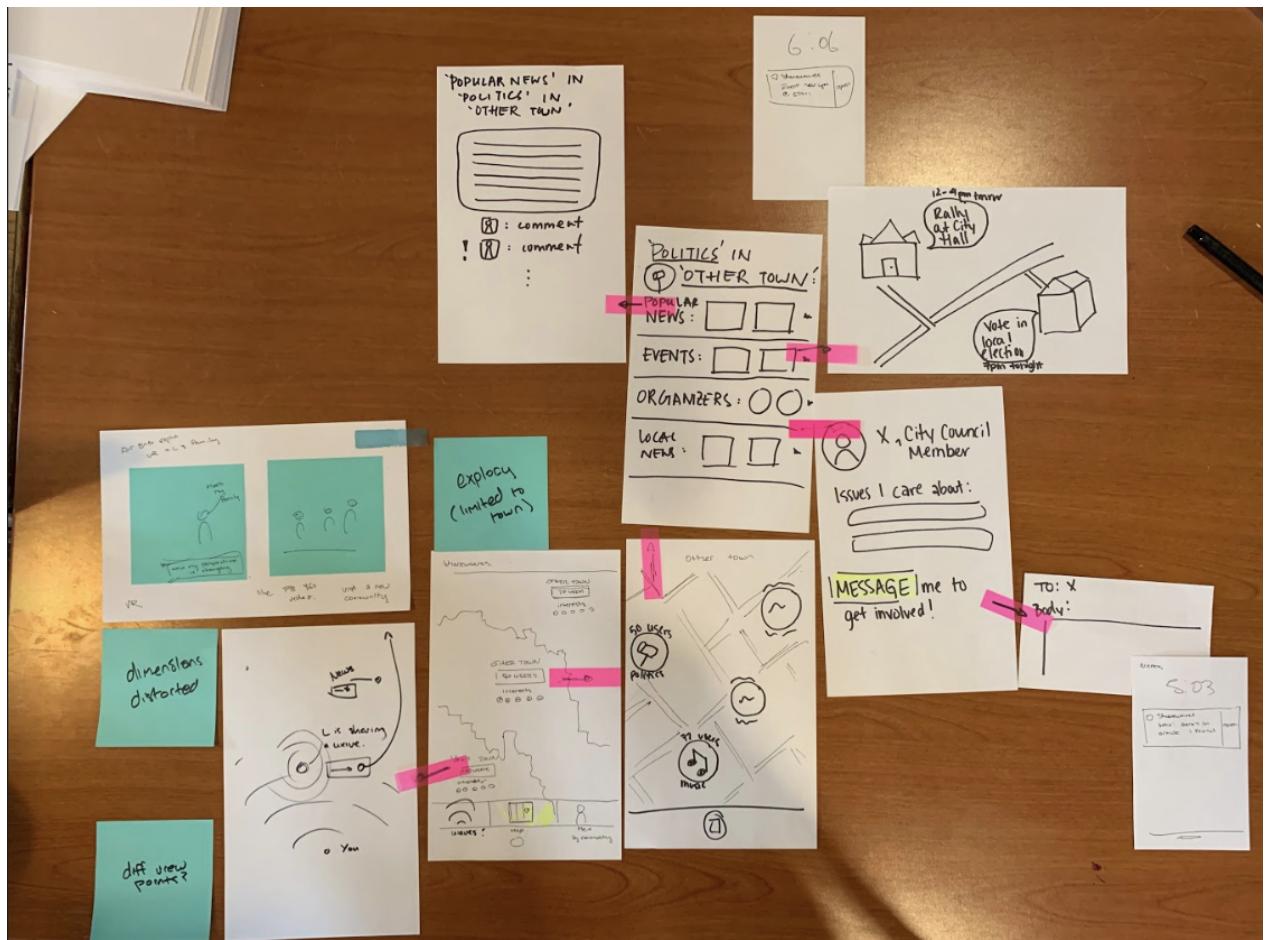


Figure 8. Storyboards showing task flows for adding news, messaging users, and discovering nearby events.

During this stage, we also worked on responding to feedback collected from our initial needfinding and ideation stages to hone our solution overview, focusing on how our platform would bring something new and necessary to the problem space.

Original	Modified
Problem space: Political discourse for college educated, politically curious people lacks a human element.	Problem space: Online communities and discourse divide and isolate people, leaving them feeling hopeless and unenergized to participate in politics.
Solution: Enable college educated, politically curious people to connect, share news, and engage in offline conversations.	Solution: We provide a platform for people to rally around stories they care about, see people like them, and get offline—sparking political conversation and action in their communities.

Lo-fi prototype

After sketching and explored different interface designs, we chose to move forward with the map interface. By highlighting nearby stories and events, the map interface was most suited to encouraging local community actions. We created a lo-fi prototype to flesh out and test our three tasks.

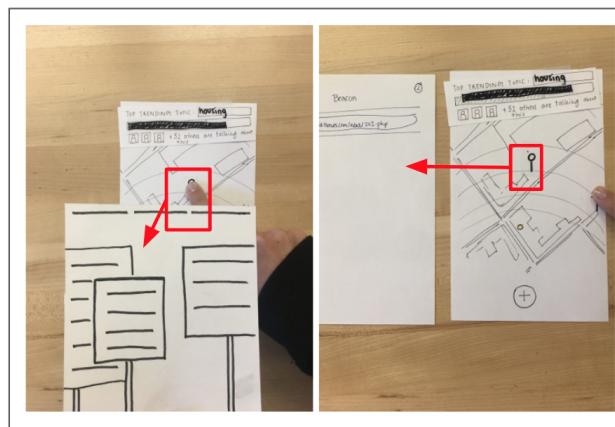


Figure 9. Discovering nearby stories

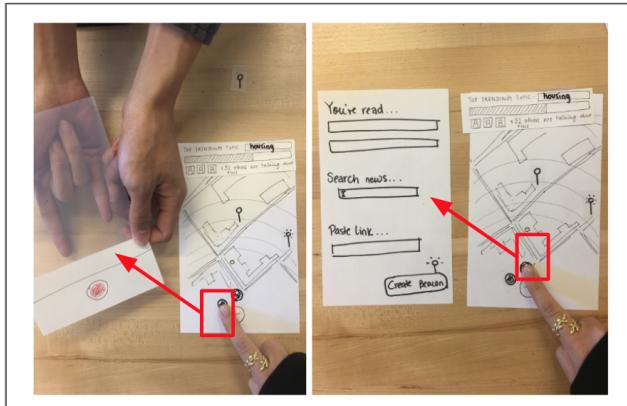


Figure 10. Sharing a story

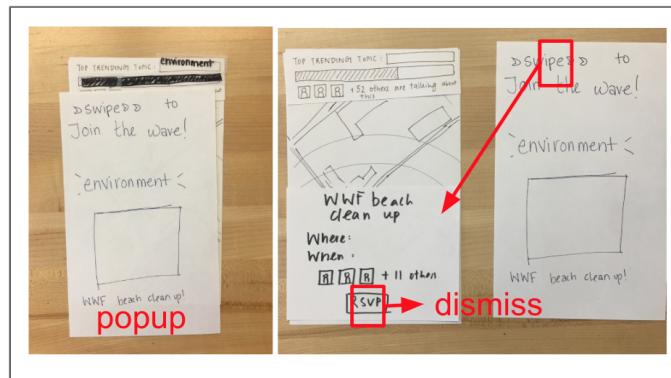


Figure 11. Engaging in offline events

After creating the lo-fi prototype, we tested with four participants in our target demographic (recent college graduates). We found that there were three aspects of the UI flow that caused confusion for participants: **the progress bar**, **the buoy beacon icon**, and **the offline event pop-up**. Participants were confused about the progress bar, and participants thought it represented progress in a game. The buoy beacon icon (which represented a story) also caused confusion – participants couldn't articulate what its purpose was. Finally, we learned the offline event screen was too similar to a pop-up advertisement, and the events themselves didn't allow for varying levels of engagement.

Med-fi Prototype

In our med-fi prototype, we focused on developing the visuals of the app while also tackling the core issues brought up in our lo-fi testing.

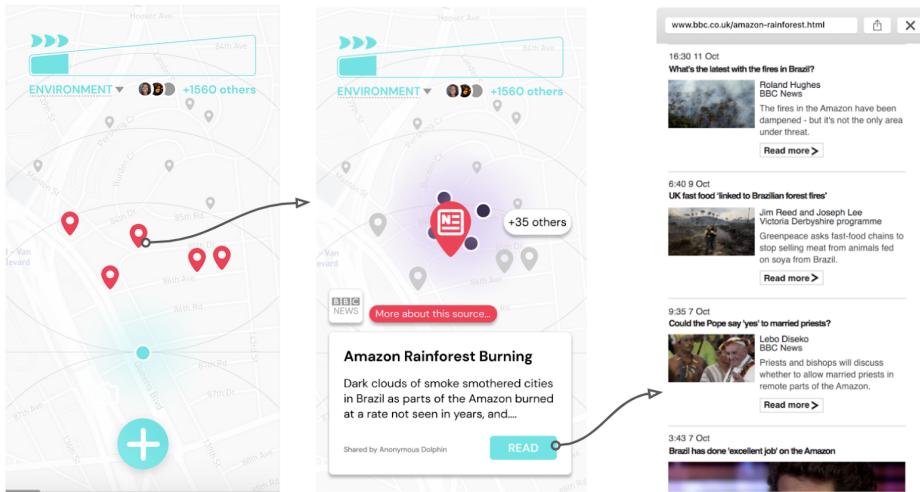


Figure 12. Discovering nearby stories flow

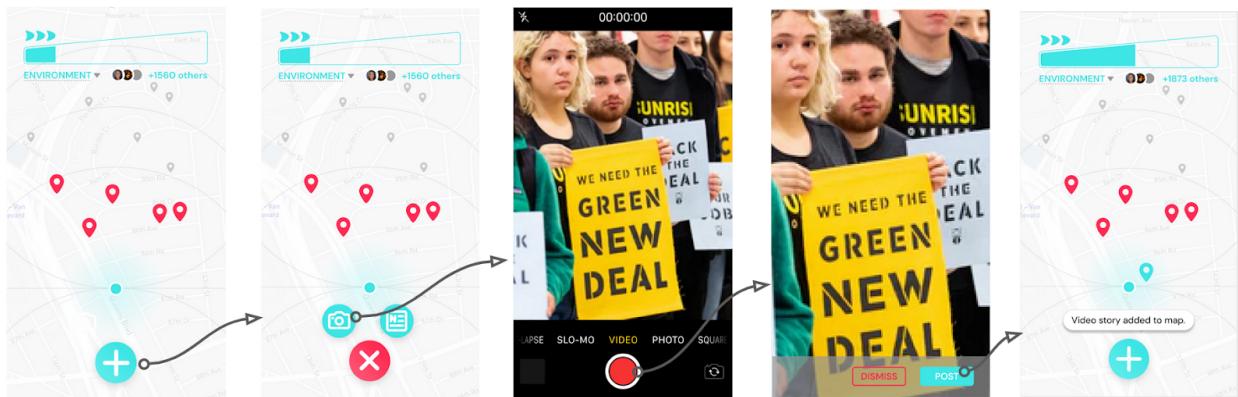


Figure 13. Sharing stories flow

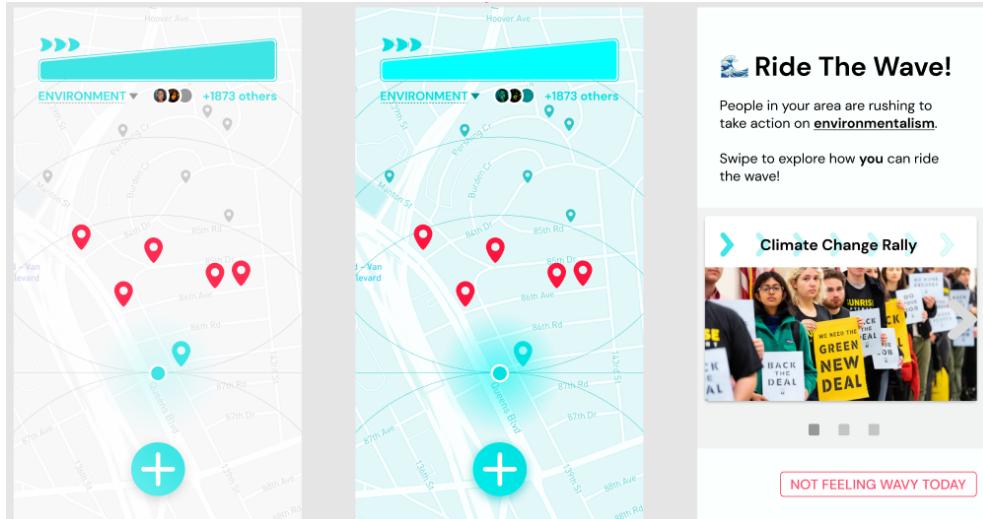


Figure 14. Engaging in offline activity flow

To address the confusion around the progress bar, we tried to find a way to communicate the trending concept in a cleaner way, with more context or with a different representation. We also allowed users to click on the trending bar to explore other trending topics.

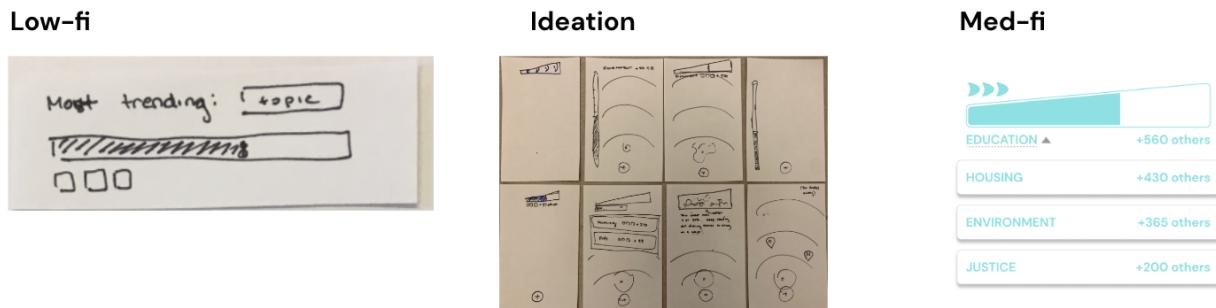


Figure 15. Changes made to progress bar from low-fi to med-fi

To improve the buoy beacon icon, we chose to ideate on a simpler icon design (with radiating dots to indicate popularity) to indicate a story or a marker at a location.

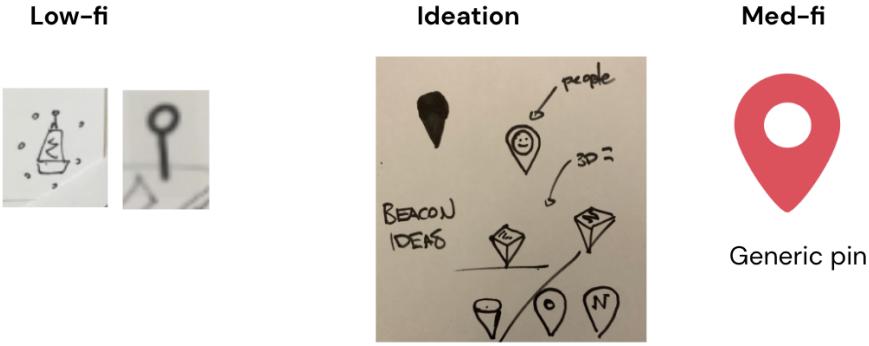


Figure 16. Changes made to pin icon from low-fi to med-fi

To address the similarity to a pop-up advertisements, we redesigned offline event screen by creating a small feed of 3-4 local offline events to offer to the user.

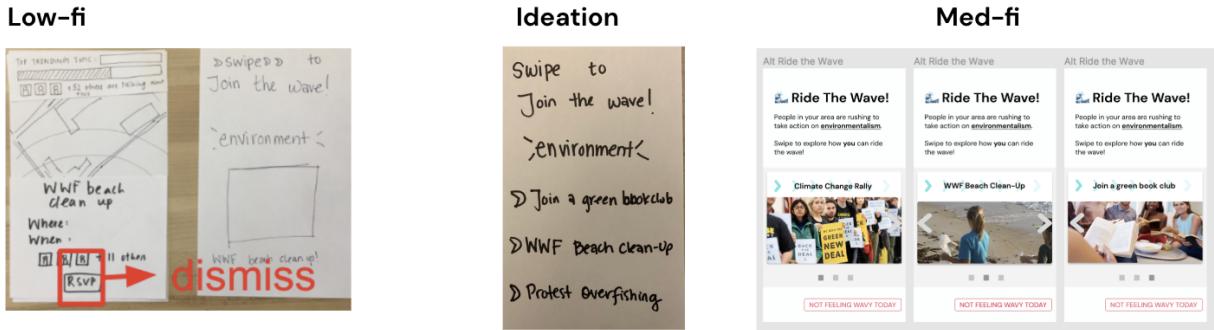


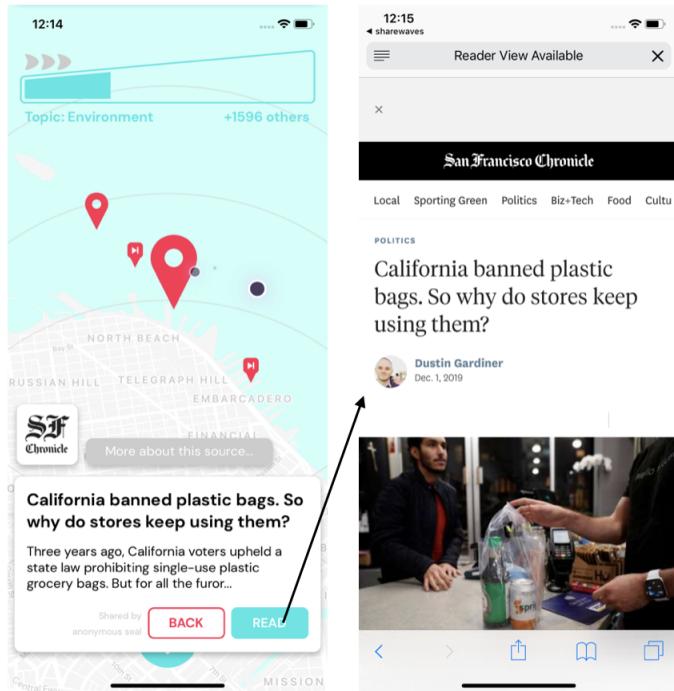
Figure 17. Changes made to 'Ride the Wave' screen from low-fi to med-fi

While the design significantly improved in terms of functionality and polish, there were two themes of feedback in the heuristic evaluation that reflected room to grow.

Major Usability Problems Addressed

After presenting the med-fi, we received two clusters of feedback through the heuristic evaluation. The first was that users felt that they were unable to go 'back' and cancel actions (user control & freedom), which we predominantly addressed through visible back/cancel/ dismiss buttons. The second was more complex and required us to rethink how we were telling our story—users had issues understanding features (in particular, the trending bar, 'Ride the Wave' action, wave metaphor).

Problem	Solution
H3. User control and freedom / Severity 3 Many times, there's no way to go back to the previous screen.	<p>We added back buttons or ways to go 'back' to all relevant screens. For example, users could not close a video once it was clicked, so we added a back button to the video screen.</p> 
	<p>H10. Help and documentation / Severity 3 Currently, there is no in-app explanation of certain items and features like the trending bar.</p> <p>We felt that this was a valid point of feedback, however, it was not essential to our three tasks, and so we decided to prioritize building out our three tasks. Given more time, we think that setting up in-app explanation of certain features such as the trending bar would have been a good way to clear up some confusion that our evaluators expressed.</p>
H1. Visibility of system status / Severity 3 There isn't anything indicating	<p>Ideally, our interface would feature an interactive map that you could tap to zoom in/out. Though we considered adding some type of scale to the map, we also believed</p>

<p>how the map shown is determined. How far does the map go?</p>	<p>that most people who have experience with platforms such as Google Maps will have a general sense of how the scale of a map translates to real life.</p>
<p>H4. Consistency and standards / Severity 4 I don't understand the news example given in the prototype. Based on the information panel, I was expecting the link to bring me to a single article, but it brought me to a list of articles.</p>	<p>This was an error with our initial prototype – we had used an image of a screen of a list of articles instead of an actual article. We fixed this by changing the original link to a more relevant link.</p>  <p>Figure 19. Example of header and body linking to relevant news link</p>
<p>H3. User control and freedom / Severity 4 When the trending bar fills up, it automatically shows you the "Ride the Wave" screen, but if you exit out, there is no way to return to it.</p>	<p>To allow users to return to the "Ride the Wave" screen after exiting out, we added a button to the "Ride the Wave" screen from the trending bar (while that session was still active).</p>

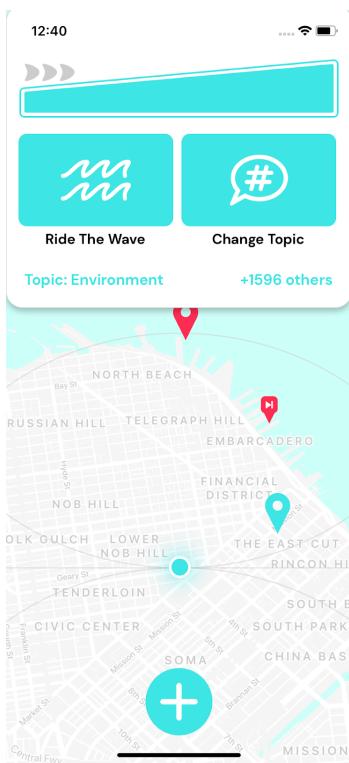
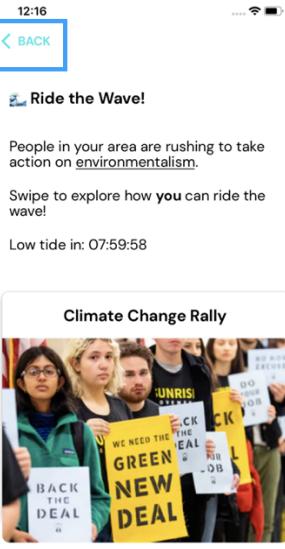
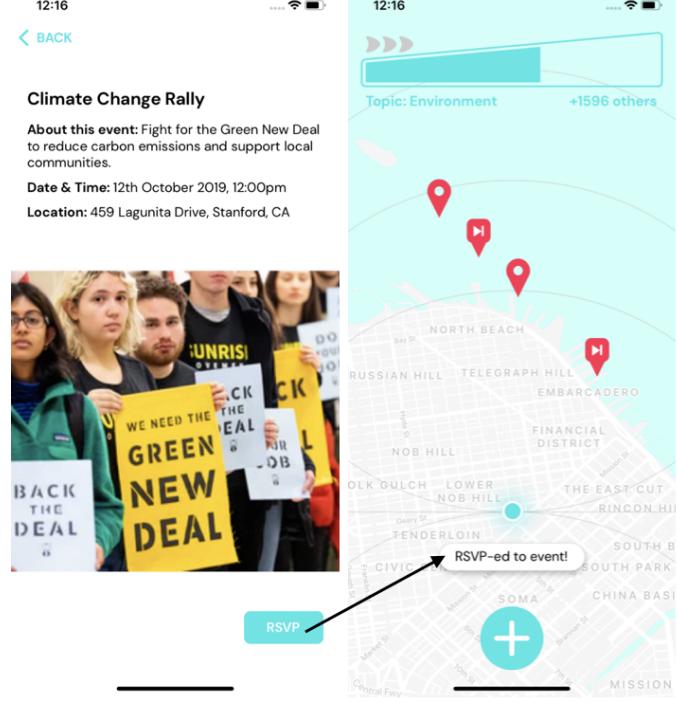


Figure 20. Clicking the pressure bar when it is full allows user to return to 'Ride the Wave' screen

H1. Visibility of system status / Severity 4 There is nothing indicating how much time you have in this wave session until the wave resets.

To indicate how much more time users have until the wave session ends, we added a timer feature onto our "Ride the Wave" screen.

	 <p>12:16</p> <p>< BACK</p> <p>Ride the Wave!</p> <p>People in your area are rushing to take action on environmentalism.</p> <p>Swipe to explore how you can ride the wave!</p> <p>Low tide in: 07:59:58</p> <p>Climate Change Rally</p> 
<p>H4 Consistency and standards / Severity 3</p> <p>The phrase “Not feeling wavy today” might not represent what the user is feeling, since they might actually be planning to join all the events offered and they are just trying to get back to the home screen to browse other topics.</p>	<p>We changed the “Not feeling wavy today” to a simple back button in the header.</p>  <p>12:16</p> <p>< BACK</p> <p>Ride the Wave!</p> <p>People in your area are rushing to take action on environmentalism.</p> <p>Swipe to explore how you can ride the wave!</p> <p>Low tide in: 07:59:58</p> <p>Climate Change Rally</p> 

<p>H3 User control and freedom / Severity 3</p> <p>Can't sign up to go to events in the "ride the wave," can only look at event information.</p>	<p>This violation was a limitation of our med-fi prototype; we added these features in the hi-fi prototype and added options for users to register for events.</p> 
<p>H5 Error prevention / Severity 3 Lacking</p> <p>checks for user intention after cancel button presses when adding a story.</p>	<p>We added a pop up so the user could confirm/cancel if they wanted to discard their video.</p>

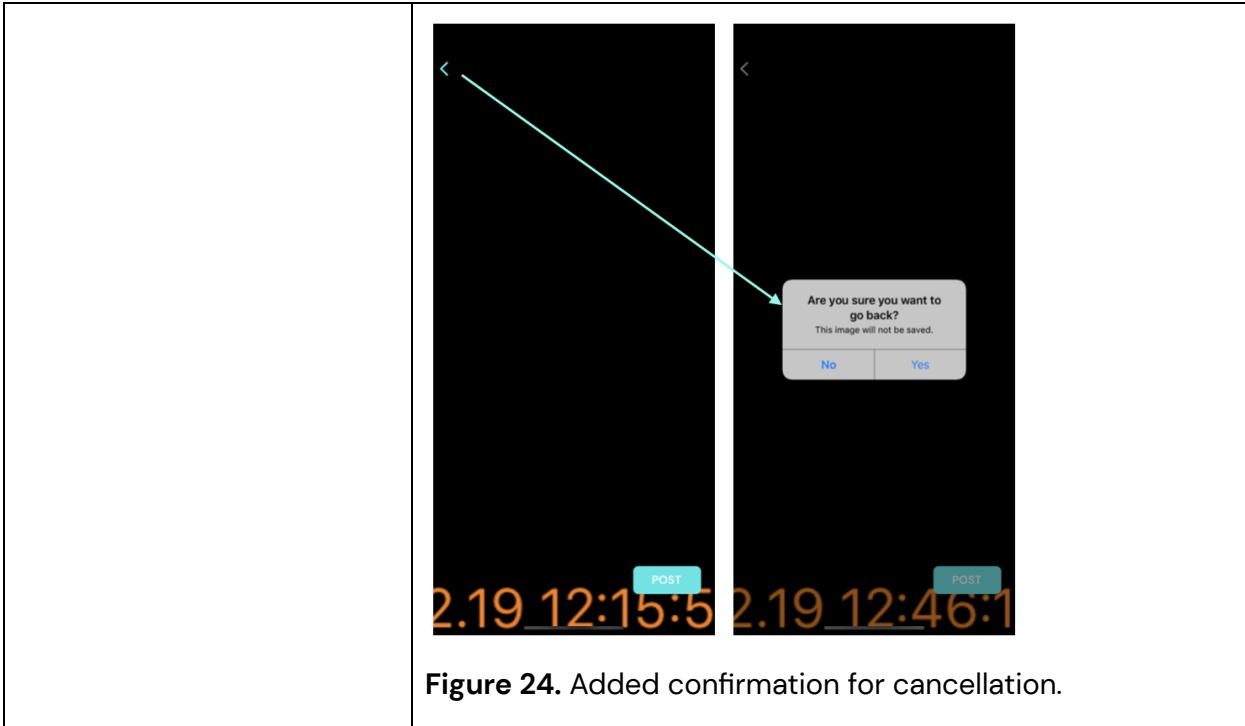


Figure 24. Added confirmation for cancellation.

We also made separate changes related to lower level heuristic violations, including:

- Ideating on the pins shape: we chose to create pins to differentiate between news stories and media stories.

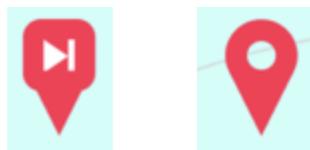


Figure 25. Media pin (left) and news pin (right)

- Marking pins as 'mine': we chose to mark the user's own posted pins by making them blue.



Figure 26. A user's own posted news pin

- How to communicate the pins were ‘read’. In our med-fi, we marked ‘read’ pins as grey pins. However, we felt as though this may communicate that these pins were no longer clickable. In our hi-fi, we marked ‘read’ pins as smaller in size.



Figure 27. Reading a pin shrinks it in size.

Prototype Implementation

To build the hi-fi prototype, we used React Native and relevant packages (e.g. React Native Camera, Stack Navigation, React Native Maps). React Native offered a lot of flexibility and power to implement our task flows. Most of our features could have been implemented in React Native, except for a few features such as:

- Scraping news links or images posted for content to be included in a pin’s preview modal.
- Content moderation by scraping posts and screening for potentially malicious, offensive, or hateful content.

We did not use any Wizard of Oz techniques; however, we used a lot of hard-coded data (e.g. shared news articles and pins, level of user engagement in the pressure bar) because we have no actual users or user activity.

There are a few features that we would have liked to implement, given more time. We received some feedback about creating profiles on the platform- perhaps users could have a profile with stories that they had posted, events that they were interested in attending, etc. We were also interested in further developing the map interface, potentially making it possible to update the map dynamically as the user moves. We also thought about ways in which we could have created the preview modal from posted links and videos – perhaps we could have titled videos with the geographic location they were posted from, and titled links to articles by scraping the title and body of the posted news article.

Summary

Communities are now connected in more ways than ever, but online political discourse and information sharing can still be a stressful, disheartening, and isolating experience.

sharewaves hopes to leverage people's existing news-reading and news-sharing habits to create action around stories that people care about. On our platform, discovering and sharing stories creates 'waves' of pressure and engagement for trending issues that ultimately encourages people to get off the app and get involved in their own communities.