

# Poliscope

The news you want, in one place

## Team Members

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## Problem and Solution Overview

Our intended audience is comprised of college students who are interested in reading the news, but view this activity as being extremely time intensive. These individuals want to avoid the laborious process of sifting through multiple sources in order to receive their news. At present, if an individual wants to gain a well rounded perspective on a political issue or current news story, they will have to sift through multiple sources in order to accomplish this goal. Some individuals tackle this challenge through a combination of services, for example, browsing news stories via social media platforms in tandem with Google Alerts and news-centric podcasts. Other members of our target audience would like to devote more energy towards becoming better informed, but are so overwhelmed by the seemingly endless number of news sources available, that they choose to disengage entirely. Regardless of their current political news-gathering strategies, all members of our target audience want to stay abreast of the news in the most efficient, seamless manner possible.

Our proposed solution is a smartphone application that will aggregate news stories from multiple news outlets into a single location. One important aspect of this design is that users will have the ability to personalize their news consumption so that the aggregated stories are relevant and interesting to the user. Another important part of our design is the ability to socialize and interact with friends. Our original contextual inquiries revealed that one of the most important parts of learning about political news is being able to talk about it with friends. Knowledge of current political issues is transferred between individuals through conversation, as well as in passing through posts on social media. Individuals emphasized that in social situations, it is important to be able to keep up with what their friends are talking about. Additionally, friends tend to influence the type of news that individuals are interested in. Our application attempts to make this news-oriented variety of socializing easier.

## Initial Paper Prototype

### 1. Signing Up/Onboarding (Task Addressed: Personalizing News Consumption)

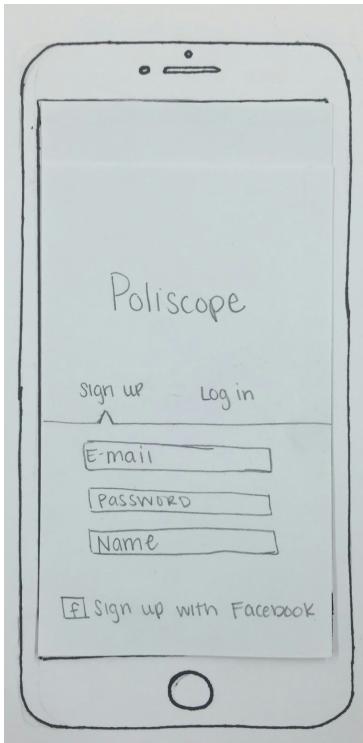


Figure 1a

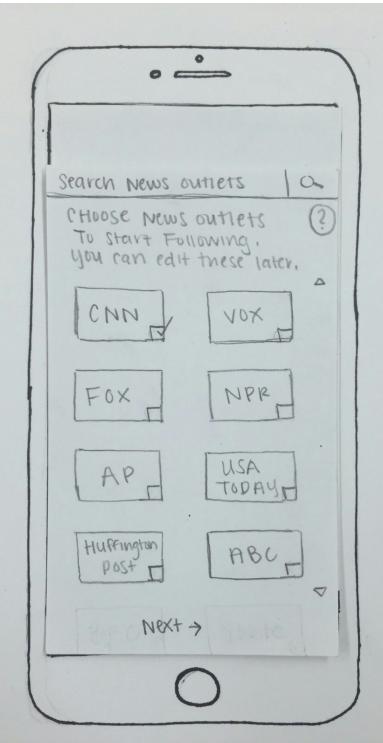


Figure 1b

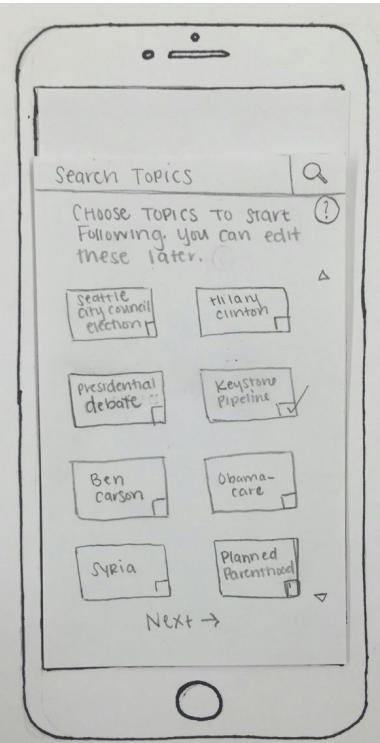


Figure 1c

The user opens the app, but has not created an account yet (Fig 1a). After entering her email, password, and name, she is directed to the first onboarding screen (Fig 1b); she is prompted to select news outlets to follow by checking boxes. When she has chosen the news outlets she wants to follow, she clicks the "Next" button and is redirected to the next onboarding screen (Fig 1c). This screen allows her to choose the topics she wants to follow. When she has selected the topics she wants to follow, she clicks the "Next" button and is directed to the app's home screen.

## 2. Managing Articles (Task Addressed: Personalizing News Consumption)

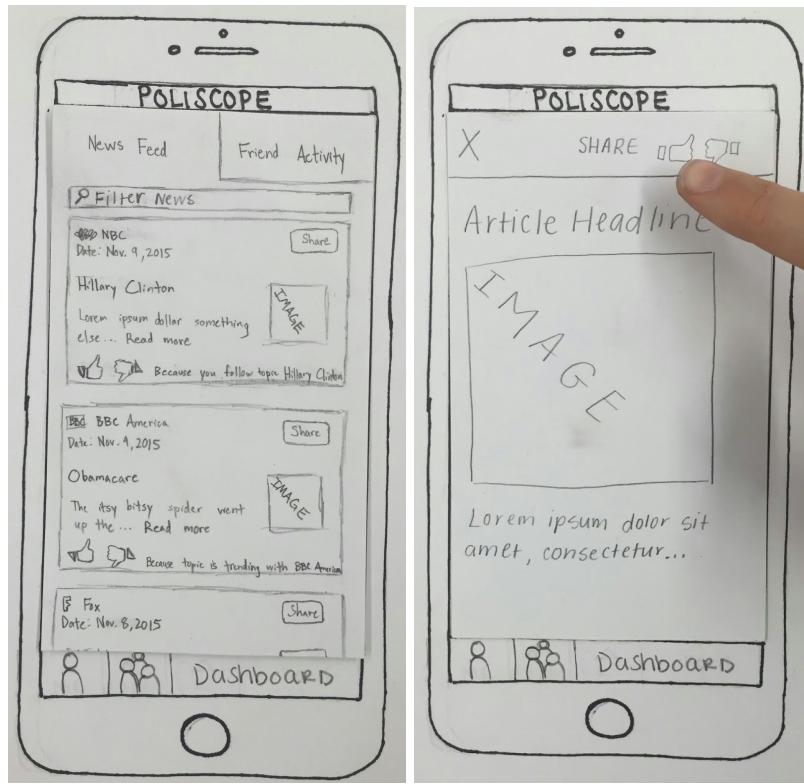


Figure 2a

Figure 2b

The “News Feed” tab of the “Dashboard” is the app’s default home screen. This screen is populated with news stories related to the news outlets and topics the user has chosen to follow (Fig 2a). Users can “like” and “dislike” news stories by clicking the thumbs up or thumbs down icons on the news feed screen (Fig 2a, or on the screen of the actual article (Fig 2b)

### 3. Filtering News Feed (Task Addressed: Personalizing News Consumption)

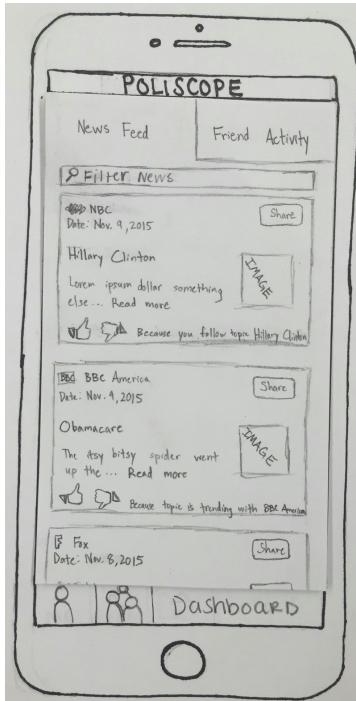


Figure 3a

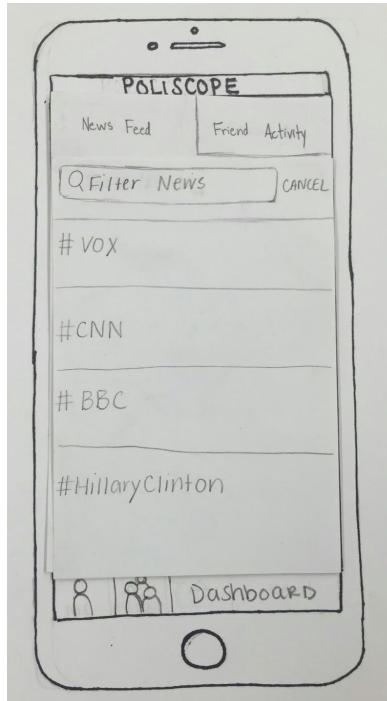


Figure 3b

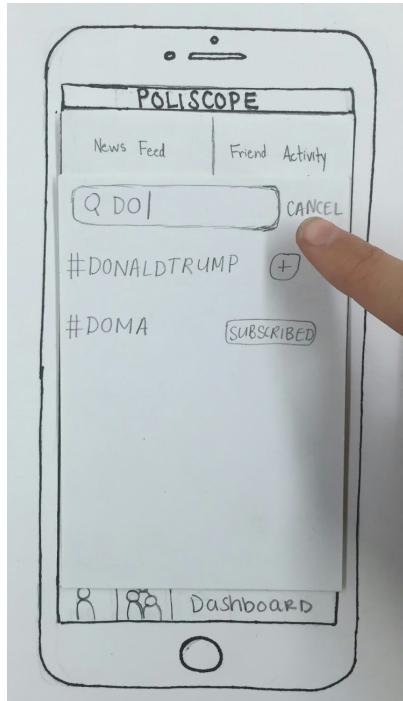


Figure 3c

The “Dashboard” is comprised of the “News Feed” screen and the “Friends Activity” screen. While looking at the News Feed screen, the user decides that she wants to filter the News Feed by a particular topic (Fig 3a). She can see topics and news outlets she follows represented by hashtags (Fig 3b), but if she doesn't see her desired filter search term, she can input it into the “Filter News” search bar (Fig 3c). The results include both topics or news outlets that she already follows (as denoted by the “Subscribed” text) as well as topics or news outlets that she is not already following (Fig 3c); she can choose to follow the latter category by clicking the “+” button.

#### 4. Viewing Profiles (Task Addressed: Socializing with Friends, Both Online and Offline)

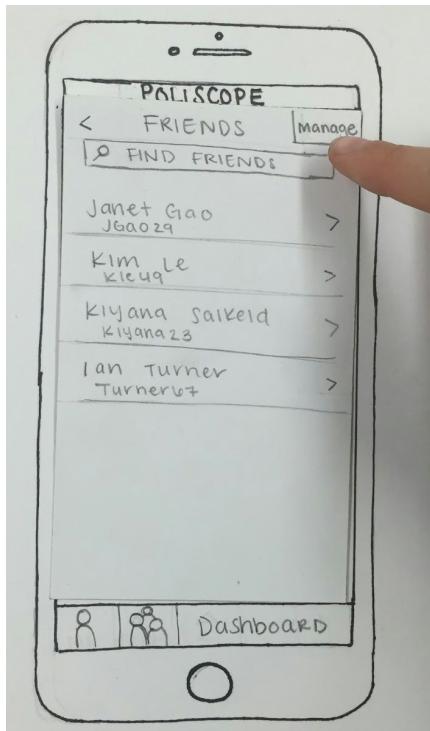


Figure 4a

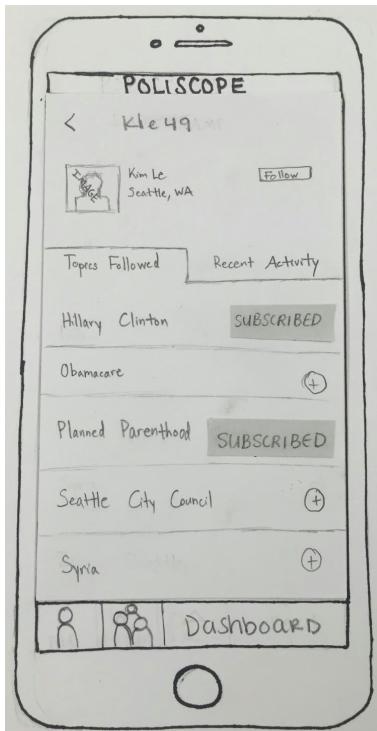


Figure 4b

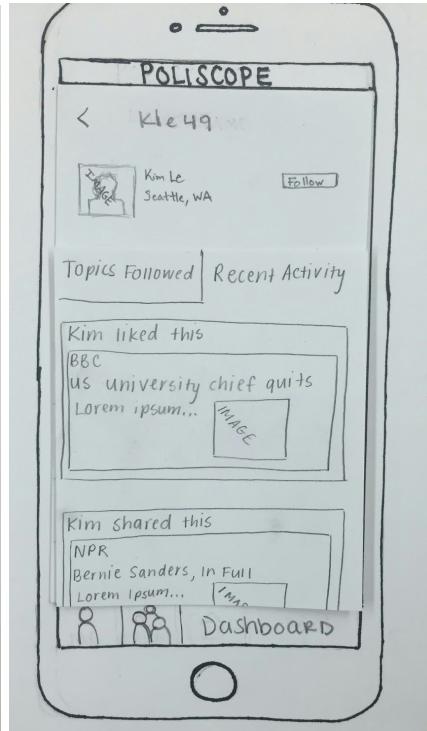


Figure 4c

The user can view her list of friends by clicking the “Friends” icon in the bottom navigation bar. If she clicks on her friend’s name (Fig 4a), she is taken to her friend’s profile (Fig 4b). She can view topics her friend has followed (Fig 4b), as well as view her friend’s recent activity by clicking the “Recent Activity” tab (Fig 4c).

## 5. Adding Friends (Task Addressed: Socializing with Friends, Both Online and Offline)

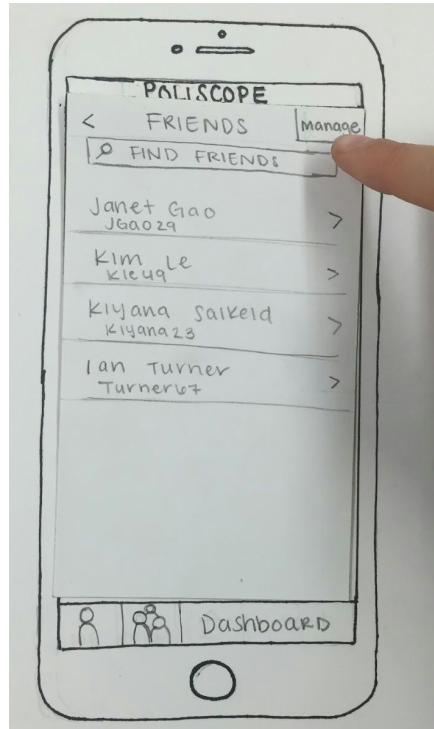


Figure 5a

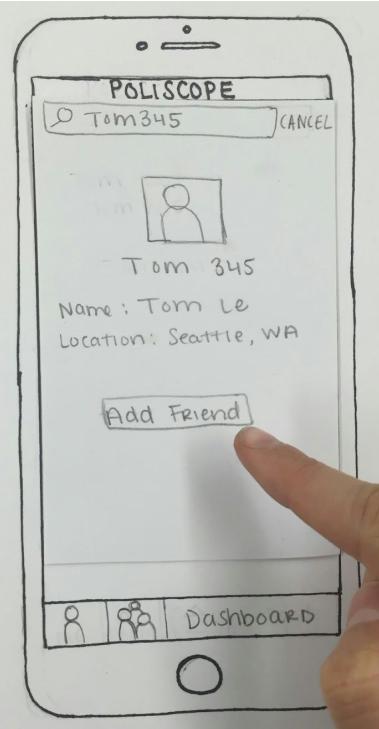


Figure 5b

From her friend list, the user can search for new friends by clicking on the “Find Friends” search bar (Fig 5a). Once the user has typed in a friend’s username, she can add him to her friend list by clicking the “Add Friend” button (Fig 5b).

## 6. Direct Article Sharing (Task Addressed: Socializing with Friends, Both Online and Offline)

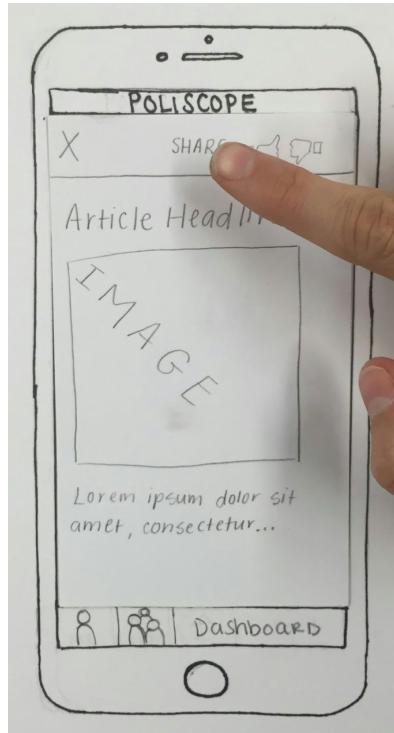


Figure 6a

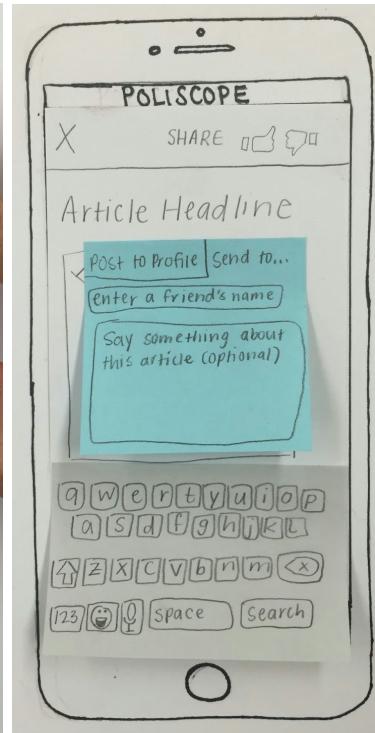


Figure 6b

The user can share an article by clicking the “Share” button (Fig 6a), which opens up a pop-up window. Instead of sharing the article to her profile, she decides to share the article with friends (Fig 6b).

### Testing Process:

Prior to our usability tests, we conducted two heuristic evaluations in class with two CSE 440 students. Each student walked through our paper prototype and pointed out violations to Nielsen's 10 Evaluation Heuristics. The goal of our heuristic evaluations was to get a high level understanding of what was confusing or good about our user interface design. We used this feedback (mentioned below in testing results) to make changes to our paper prototype, prior to our usability tests.

Our first usability test participant was a male, undergraduate student. We chose him as our participant because he is a member of our intended target audience, that is, a college student who is interested in reading political news, but views this activity as being extremely time intensive. The usability test took place in a “collaboration space” within the Paul G. Allen Center for Computer Science & Engineering. Although this space was not a private room, it was still an appropriate environment for our usability test because our test took place on Veteran’s Day and the building was virtually empty due to the holiday. The collaboration space in which the usability test took place included a table that was more than large enough for our individual laptops and paper prototype to comfortably fit. Kiyana filled the role of facilitator, Janet played the part of the computer, and Ian and Kim served as the observers/notetakers. Janet took on the role of the computer because she felt as if she was familiar with the branching logic inherent to our smartphone app and that she would be able to quickly rearrange flashcards as our evaluator interacted with our paper prototype. Kiyana took on the role of facilitator because she had read the Synder’s “Introduction to Usability Test Facilitation” before the usability test took place. This was the first time Kiyana had ever facilitated a usability test, so it was very fortunate that the usability test participant did not need to be reminded to think aloud. Kiyana made sure to ask open ended questions like “What did you expect would happen when \_\_\_\_” and “How do you define \_\_\_\_?” Kiyana tried as much as possible to maintain objectivity

as she prompted the participant to take specific actions within the smartphone app. It became evident that in certain instances it was difficult to phrase questions that could inadvertently introduce bias. As a team, we also learned to avoid giving away clues about the purpose or function of a button on the screen. This participant, in particular, was eager to ask questions about where to click next or what a button would do. Kiyana made sure to respond with a question, allowing Kim and Ian to take notes on how the participant interpreted different functions within the app. The practice from this first test will undoubtedly make future testing sessions much better. We chose not to make any changes to our paper prototype between our first and second usability testing sessions because our first usability test participant gave us feedback that was focused on personal preferences, as opposed to confusion over app functionality; he made quite a few comments about how he understood what we were trying to achieve - and demonstrated that he knew how to complete the tasks - however, he gave us advice on the aesthetic components of our UI. We were told during discussion to avoid making major changes based on the personal preference of a single usability tester, and to make changes when task flow was difficult or impossible to complete. We also were unable to make changes to our paper prototype between our first and second usability tests because we scheduled these sessions too close together; by the time we wrapped up the first session, we were left with only 5 minutes to spare before the second usability test participant arrived. We learned from this mistake, and scheduled our third usability test session a few days later so that we had ample time to review and revise our paper prototype.

The second usability testing participant was a female graduate student. Much like our first usability participant, we chose our second participant because she is also a college student who is interested in reading political news in the most efficient manner possible. Our success with the “collaboration space” within the Paul G. Allen Center for Computer Science & Engineering during our first usability test led us to conduct our second test in the same location. Kiyana acted as the facilitator, Janet acted as the computer, and Kim and Ian observed and took notes. Unlike the first participant, the second participant was not as comfortable thinking aloud as the first participant was. Kiyana employed the “talking with users” strategy laid out in Synder’s “Introduction to Usability Test Facilitation,” that is, talking with the participant as she worked because it was more natural than constantly reminding her to think aloud. We used the feedback gathered from our first and second usability test participants to update our paper prototype before conducting our third usability test session. The main revisions to our paper prototype between usability testing session 2 and usability testing session 3 revolved around terminology used within the app as well as our liking system. We made sure to be consistent in our terminology, for example, using the terms “follow” and “unfollow” exclusively; we had previously used these terms as well as the terms “subscribe” and “unsubscribe” to denote the same actions, thereby violating Nielsen’s 4th heuristic, “Consistency and Standards.” Our users had to determine whether words had the same meaning throughout the app, which lead to confusion and an inability to properly complete tasks.

Our third usability test took place with a male graduate student. Once again, we made sure to select this participant because he is a member of our intended target audience (i.e., a college student who wants to read the news without having to dedicate large amounts of time to the process). We conducted this test in the MHCID studio, located in Loew Hall. This studio has ample space for conducting a usability test, and it is private because it is only accessible to MHCID graduate students; we purposefully conducted our test at a time when we knew the other MHCID graduate students would not be present. Kiyana continued to play the role of the facilitator, but she also took on the responsibility of playing the part of the computer. Kim observed and took notes. By this point in testing, we had a good sense of where issues could potentially arise and we made sure to address these pitfalls when appropriate. We made sure to determine whether or not terminology used within our app was clear; vague or ambiguous terminology was a major obstacle for our first and second usability participants to overcome.

*Note: After we conducted our three usability tests, we identified major revisions to make to our overall paper prototype. These changes can found in the next section, “Testing Results.” Please also refer to our Appendix for additional information regarding changes made to our paper prototype. This information can be found in our heuristic evaluation tables and usability test tables.*

## Testing Results

### Heuristic Evaluation Results

From our two in-class heuristic evaluations, we found that the major problems in our UI were:

#### **1. Match between the system and the real world**

We initially had a binary option of “liking” or “disliking” an article. This caused some confusion because our users were familiar with “liking” in the context of Facebook, so they were primed to think that our “like” button would behave similarly. Users also were unsure of whether or not disliking an article would remove a specific article, or stop showing the topic overall. To address this problem, we decided to change this binary “liking” function to a menu with more specific article management options.

#### **2. User control and freedom**

Some of our screens lacked the option to move forward or back from a screen. These issues were easily fixed by including function buttons that allowed a user to “Cancel” or “Confirm” a task.

#### **3. Help and documentation**

Our help pop up dialogue was repetitive in terms of the directions already provided on-screen, during the onboarding process. We used this feedback to make our help dialogue more specific.

### Summary of Major Revisions (Based on Usability Testing Sessions)

#### **1. Improved Onboarding Process**

We believed that it was necessary to teach our intended users about the social networking component of this app, that is:

- Explain how users can add friends
- Explain the privacy component of this app

These were important to address because socializing and managing socialization settings have been a prominent and important feature for users, based on our contextual inquiries at the beginning of the project. Our usability test participants were confused about where their friends on Poliscope came from, as well as how their privacy settings would work. Understanding these features will help users gain the most out of our app. We decided to include additional onboarding screens in our digital mockup in order to explain these concepts.

#### **2. Search Bar Replaced with Filter Checkboxes**

As mentioned in our usability test descriptions above, our participants did not understand the intended use of the search bars we included on the “News Feed” and “Friend Activity” pages. Our participants incorrectly believed that this search bar expanded beyond the app, rather than being specific to their news feeds; in other words, they believed that the search bar would allow them to find articles beyond the scope of the articles specifically aggregated for them in their “News Feed” or shared by their friends in the “Friend Activity” feed. Our participants believed that the search bar would allow them to search the entirety of the web, when in reality, the search bar only permits users to condense the number of articles that appear in their “News Feed.” We decided to remove the search bar and we replaced it with a “Filter” button in our digital mockup. In the “News Feed” tab, clicking this button would lead to a popup that lists the “Topics” and “News Outlets” that the user is currently following. The user will have the ability to check or uncheck different “Topics” or “News Outlets” to refine the results that appear in his or her “News Feed.” Although a checkbox system creates additional work for the users (users will have to manually select or unselect items they do or do not wish to see), we believe that this is a necessary tradeoff for reducing the cognitive load imposed upon the user. We believe that if items in the checklist are pre-selected, this will indicate to the user that the current state of the “News Feed” is determined by these selected items. Preselecting these checkboxes and providing users with a “Select All” button and an “Unselect All” button will reduce the amount of manual effort inherent in a checkbox system. We ultimately decided that because we are creating an iOS application, we should maintain external consistency with other iOS applications. This caused us to use the iOS UI Kit “toggles” in lieu of checkboxes, but the functionality remains the same.

### **3. Message Inbox for Shared Articles**

In order to support the task of “Socializing with Friends, Both Online and Offline,” our app allows users to share articles with one another. As mentioned above in our usability test descriptions, our participants did not understand how we intended notification management to function; in other words, our participants did not understand how to access an article that a friend shared with them after our participants had already read said articles. We abandoned our idea of rearranging the “Friend Activity” feed to reflect that an article has been read. Instead, we decided to create a page intended specifically for viewing articles shared directly with a user (as well as articles the user has sent to others). In other words, our digital mockup provides our users with a message inbox for shared articles. This inbox will empower our users to return to an article at their leisure; the user will not have to scroll through the “Friend Activity” feed in order to search for a particular article that a friend had previously shared with him or her.

### **4. Moving Beyond a Binary “Liking” and “Disliking” System**

We had originally intended to provide users with the option to simply “like” or “dislike” an article (through the use of “thumbs up” and “thumbs down” iconography). However, this proved to be confusing because users did not understand that selecting the “like” or “dislike” button would alter what kind of posts the “News Feed” would be aggregated with. We decided that a popup with more explicit terminology would help users understand our intended functionality. Options include “Show More Posts Like This In The Future,” “Show Less Posts Like This In the Future,” “Unfollow <Name of News Outlet>,” “Unfollow <Name of Topic>,” and “Hide This Article from News Feed.” Having these options allow for more specific personalization of the news feed, without greatly affecting topics and news outlets the user has followed.

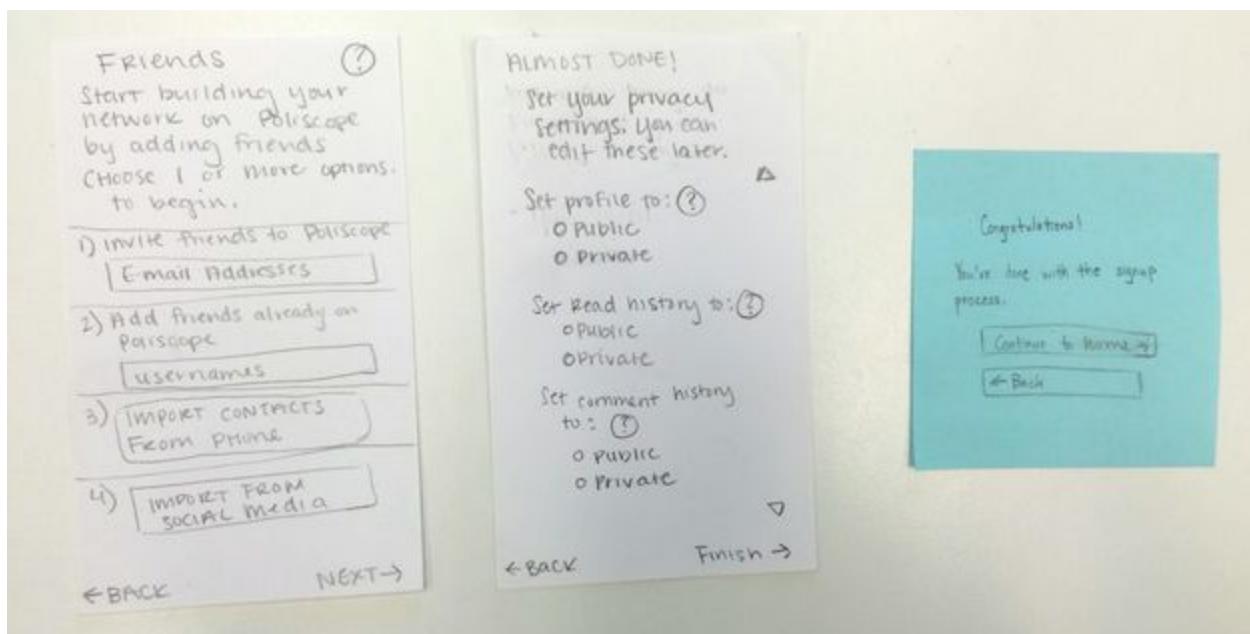
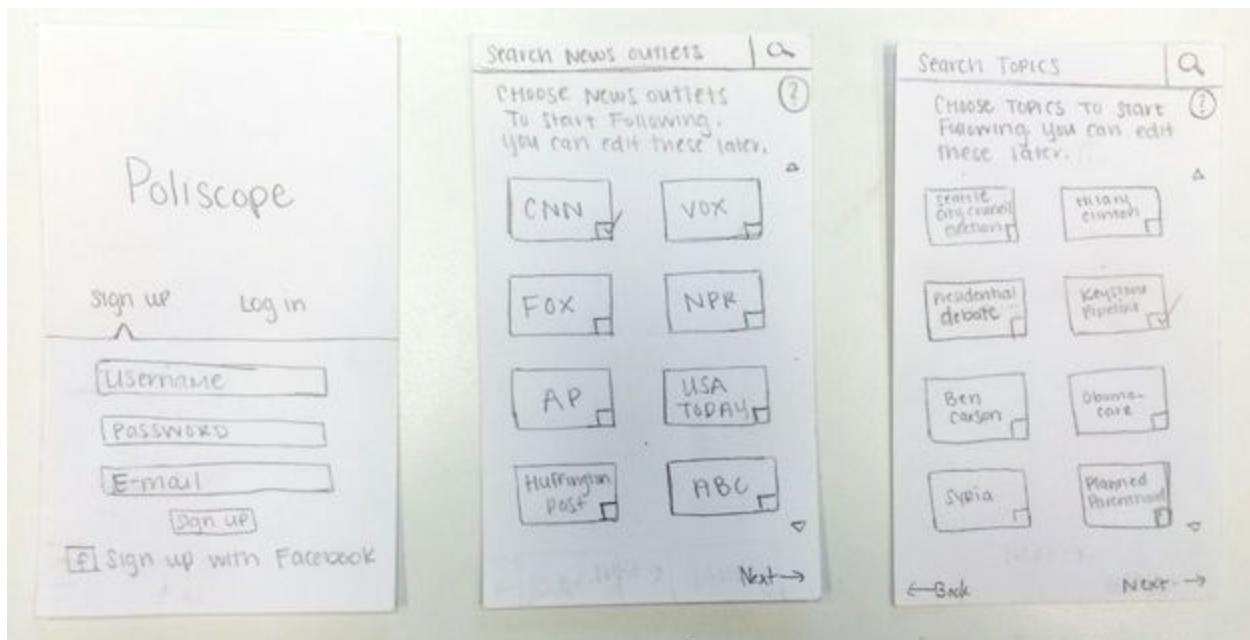
*Note: Please also refer to our Appendix for additional information regarding changes made to our paper prototype. This information can be found in our heuristic evaluation tables and usability test tables.*

## Final Paper Prototype



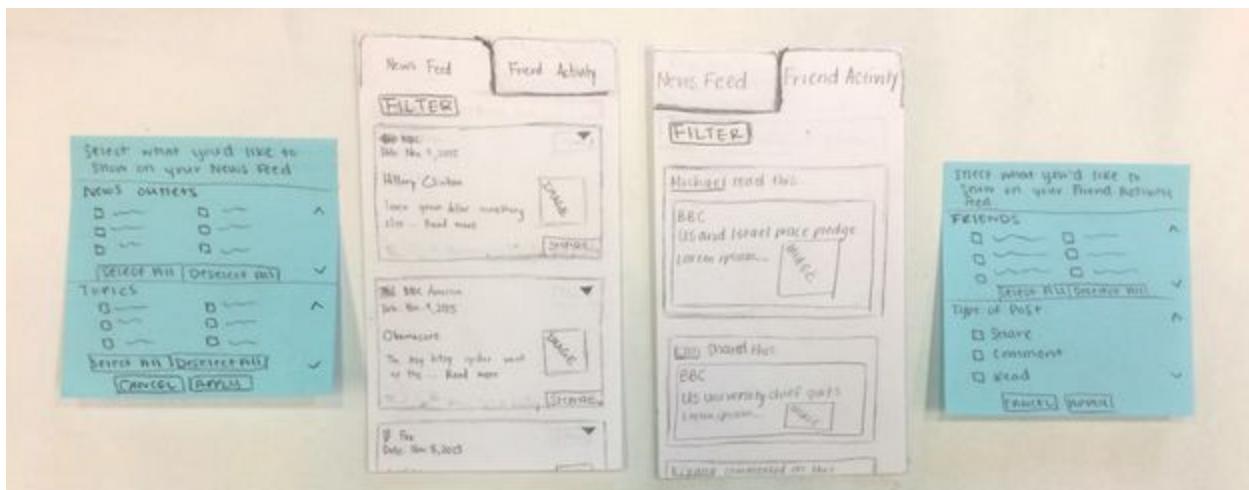
## 1.) Personalization of News Consumption

### A. Onboarding process



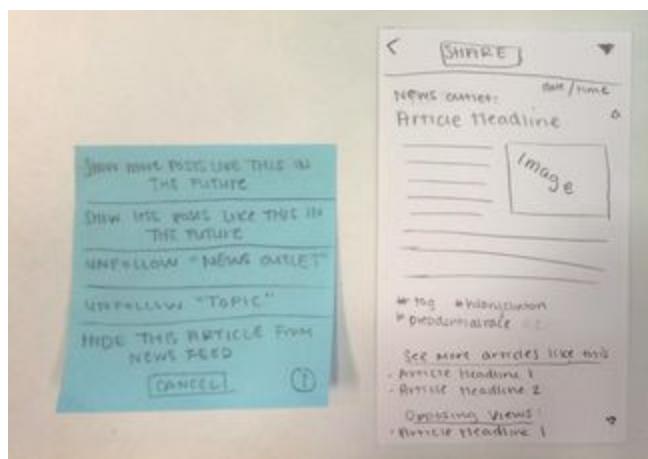
These screens demonstrate the onboarding process. After a user signs up, they are led to screens to pick news outlets and topics they would like to follow (to begin with), a screen with different options to add friends to their Poliscope friends list, and finally, a screen that addresses privacy settings. All of these settings can be edited later on through the settings menu. When onboarding is finished, a pop up notifies the user that they have finished with sign up.

## B. Filtering news feed & friend activity



Once on the news feed, users are able to use the filter function by clicking on "Filter." By checking/unchecking certain items, users are able to customize their feed to show posts that they want to see, without permanently changing topics/news outlets they are following, and their friends.

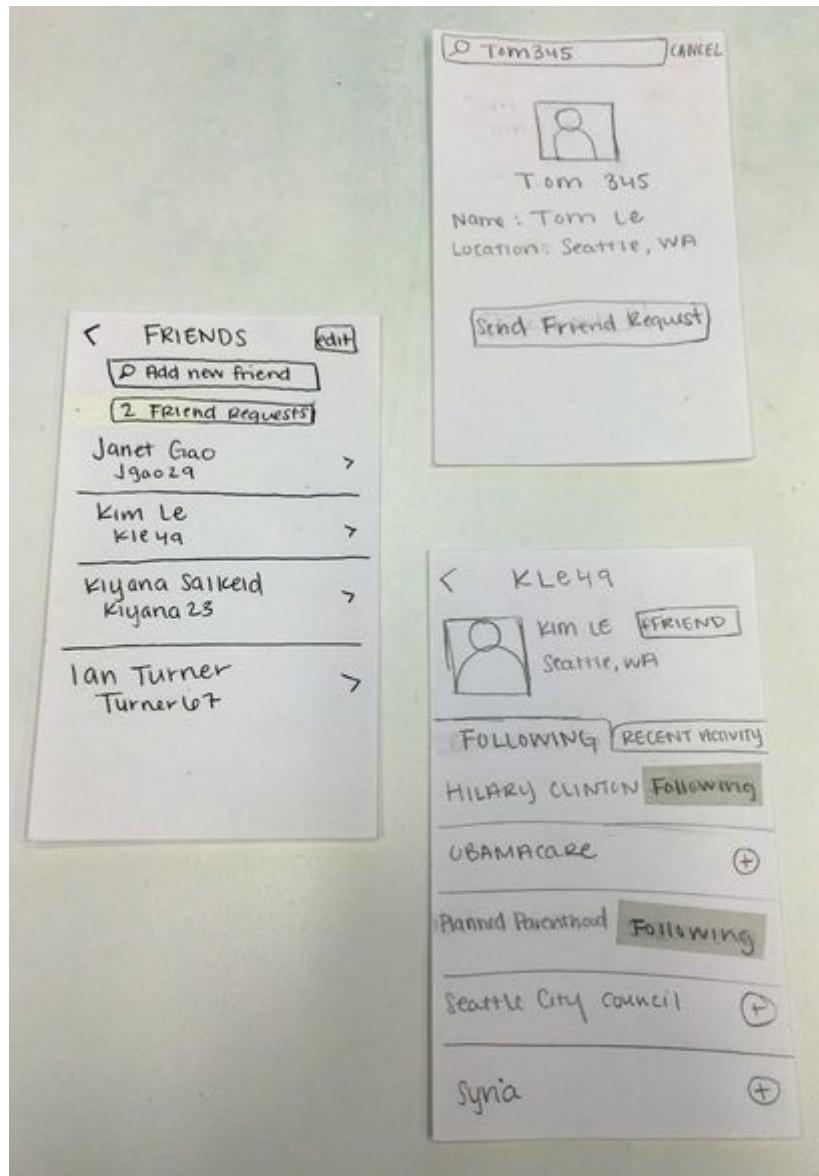
## C. Article options



By clicking the triangle button in the right hand corner, users are able to choose from a list of options of actions to impose on the article. For example, If they do not like this specific post, they can prompt the app to show less articles like it. If they do like this specific post, they can request for more articles like it. Users can also unfollow the specific news outlet or topic, or just hide the article (without affecting what they are following.)

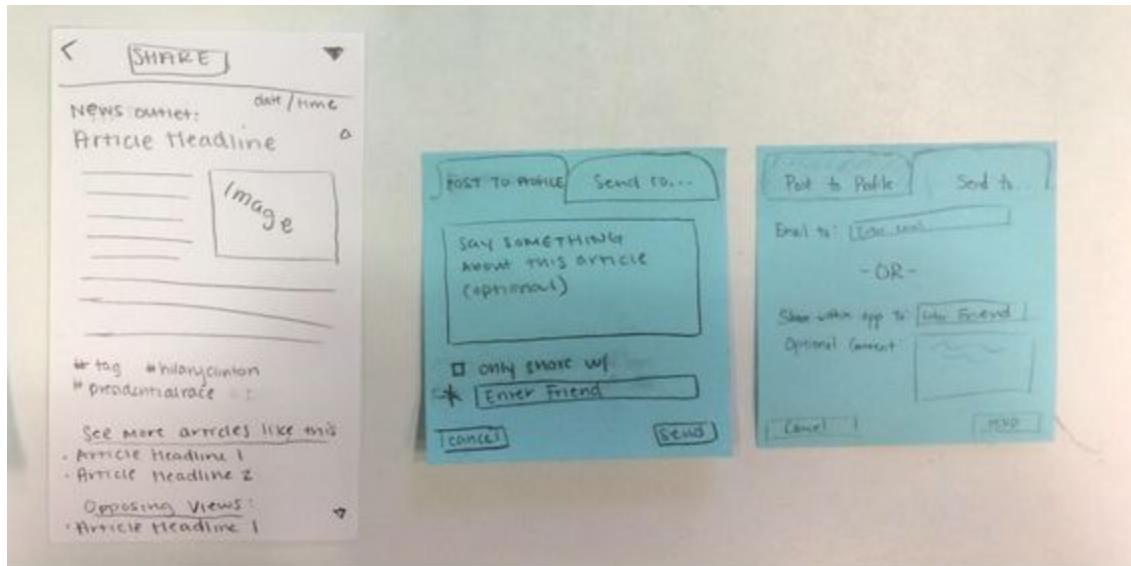
## 2.) Socializing With Friends, Both Online and Offline

### A. Adding new friends & viewing profiles



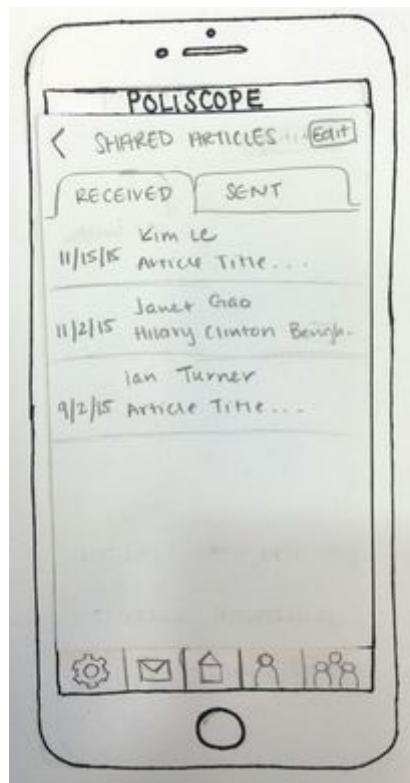
From the "Friends" page, users are able to use the search bar to add new friends by typing in their username. Once the username is entered, the friend will pop up along with a "Send Friend Request" button on the page (if that friend's profile is private). If the friend's profile is public, the user is able to simply add the friend, without a need for confirmation. A user's friend requests are also on the "Friends" page. If a user clicks on one of their friends, they will be led to that friend's personal profile, where they can view topics and news outlets the friend is following, as well as their recent activity.

B. Sharing news articles to profile or directly to friends



When clicking the “Share” button on an article, a pop up with two tabs will appear. The first tab allows a user to share the article to their personal profile (along with a comment if they would like). The second tab allows a user to directly send an article to a friend, via email (outside of the app) as well as within the app via username. The user can also include a message.

C. Viewing directly shared articles to/from specific friends



The user can access their "Shared Articles" page by clicking on the envelope in the navigation bar at the bottom of the screen. On this page, users can view articles that are sent to them from friends, as well as articles they have sent to their friends. A notification will appear on the navigation bar, on the envelope, when a new article has been shared by a friend.

## Digital Mockup

### 1.) Personalizing News Consumption

#### A. Onboarding

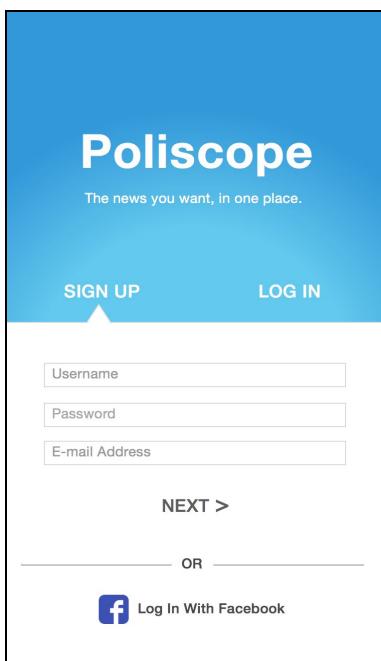


Figure 1a

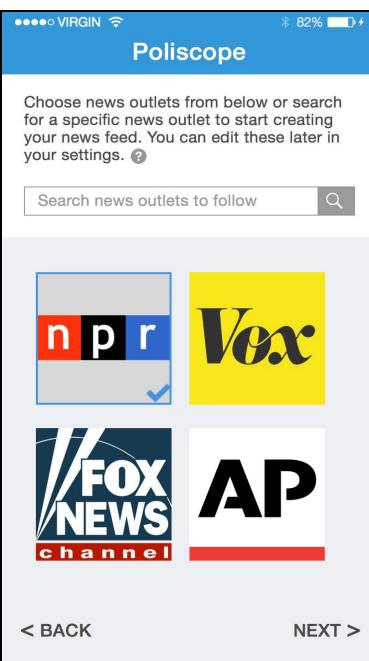


Figure 1b

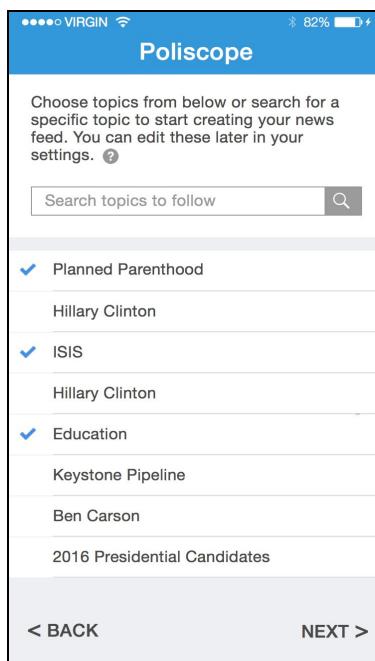


Figure 1c

This series of screens describes the personalization of a newsfeed during the onboarding process of Poliscope. The user can sign up with their e-mail address or choose to use their Facebook account to log in to Poliscope (Fig 1a). After the initial sign-up, the user is presented with screens to choose news outlets and topics to follow (Fig 1b and Fig 1c).

### B. Filtering news feed

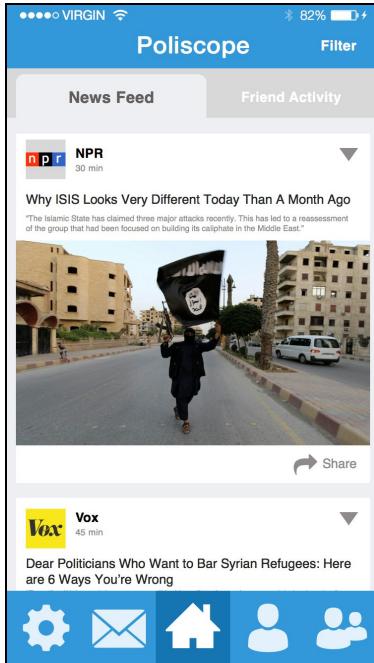


Figure 1d

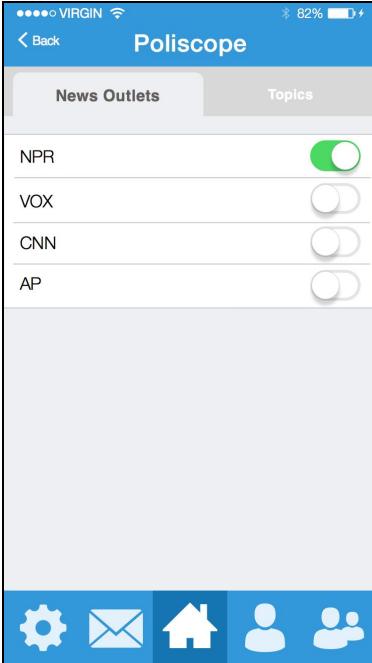


Figure 1e

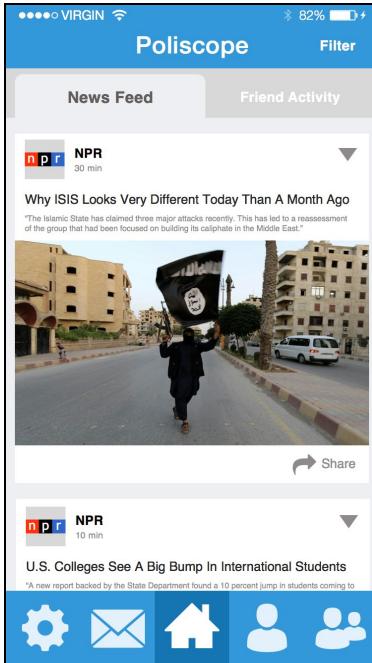


Figure 1f

Our usability tests uncovered the fact that our participants did not understand the intended use of the search bars we included on the “News Feed” and “Friend Activity” pages. Our participants incorrectly believed that this search bar expanded beyond the app, rather than being specific to their news feeds; in other words, they believed that the search bar would allow them to find articles beyond the scope of the articles specifically aggregated for them in their “News Feed” or shared by their friends in the “Friend Activity” feed. Our participants believed that the search bar would allow them to search the entirety of the web, when in reality, the search bar only permits users to condense the number of articles that appear in their “News Feed.” In order to alleviate confusion, we removed the search bar and replaced it with a “Filter” button in the top-right corner of the app screen (Fig. 1d). In the “News Feed” tab, clicking this button leads to a screen comprised of a “Topics” list and a “News Outlets” list (separated by tabs) that the user is currently following (Fig. 1e, Fig. 1f). The user toggles different “Topics” or “News Outlets” on or off to refine the results that appear in her “News Feed.”

### C. Managing articles

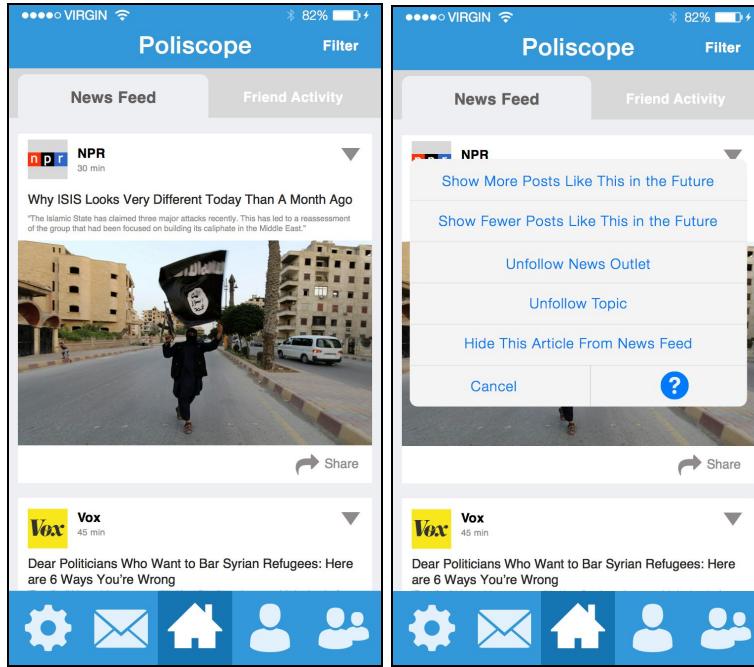


Figure 1g

Figure 1h

We had originally intended to provide users with the option to simply “like” or “dislike” an article (through the use of “thumbs up” and “thumbs down” iconography). However, this proved to be confusing because users did not understand that selecting the “like” or “dislike” button would alter what kind of posts the “News Feed” would be aggregated with. We decided that a pop-up with more explicit terminology would help users understand our intended functionality.

Clicking the drop-down icon (the inverted triangle) on an article surfaces a pop-up that enables the user to manage the content that appears in her News Feed. Selecting the “Show More Posts Like This In the Future” option alerts the app to the fact that the user would like articles of this nature to appear more frequently in her News Feed in the future; selecting this option does *not* immediately redirect the user to similar articles. “Show Fewer Posts Like This In the Future” alerts the app to the fact that the user would does not want articles of this nature to appear frequently in her News Feed in the future; selecting this option does *not* result in these articles disappearing immediately. “Unfollow News Outlet” and “Unfollow Topic” enable the user to quickly manage what news outlets and topics she is following. Clicking “Hide This Article From News Feed” results in the immediate removal of the article from the user’s News Feed; refer to Figures 1g & 1h.

#### D. Opposing viewpoints



Figure 1i

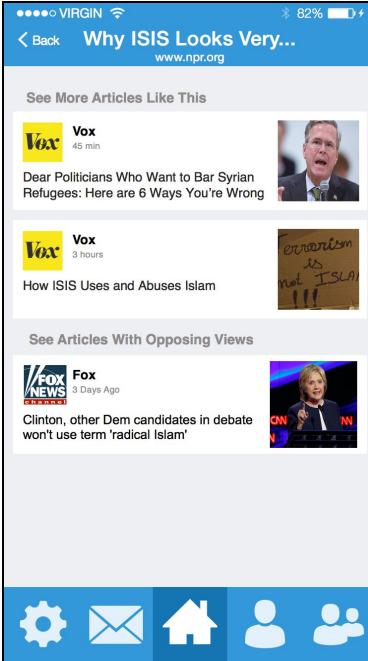


Figure 1j

Clicking on an article (located in either the News Feed tab or the Friend Activity tab) directs the user to a new page where the article can be read in its entirety (1i). At the bottom of an article, the user is presented with links to similar articles (Fig. 1j, “See More Articles Like This”) as well as articles with opposing ideologies (Fig. 1j, “See Articles With Opposing Views”). Our paper prototype consisted of simple text links to these articles, but we have updated our digital mockup to include links that provide more information (the name of the news outlet, an article image, and so on).

## **2.) Socializing With Friends, Both Online and Offline**

### **A. Adding friends**

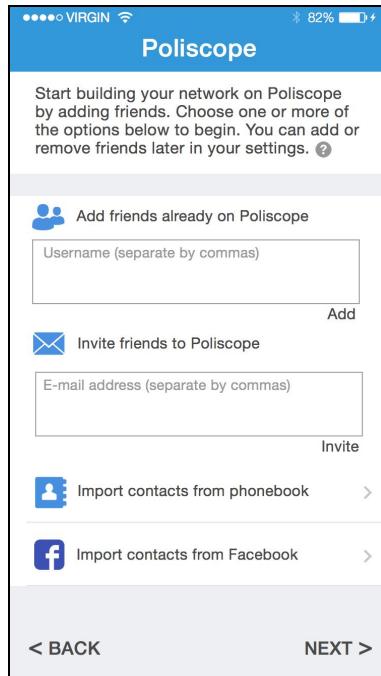


Figure 2a

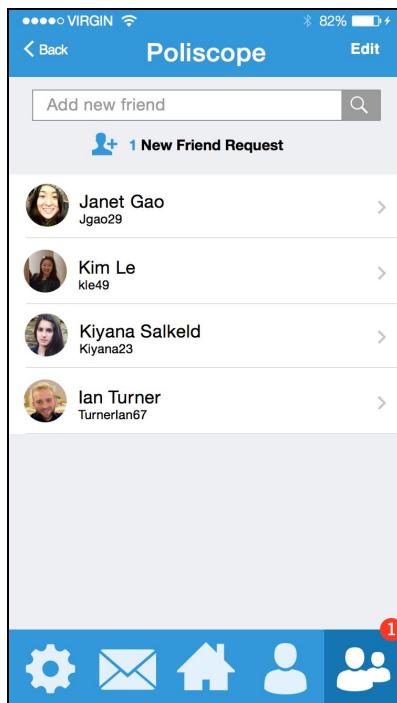


Figure 2b

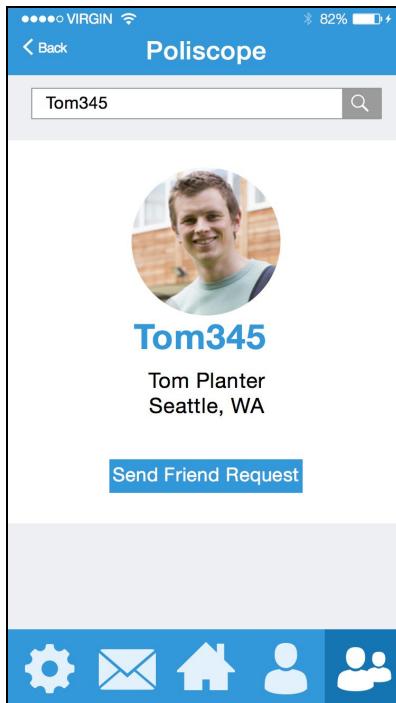


Figure 2c

Fig 2a shows the ability to add friends during the onboarding process. Users can choose from a variety of options to add friends already on Poliscope by username, invite friends to use Poliscope, or import contacts from their phone or social media. Fig 2b demonstrates what a “Friends List” looks like after clicking the

Friends icon in the nav bar, where users can also add new friends. Fig 2c shows the screen of adding a new friend after searching their name in the search bar. We added the link to manage “Friend Requests” inside the friends list page because we had not previously addressed how friends would accept other friend requests, if their profile was private.

#### B. Viewing profiles

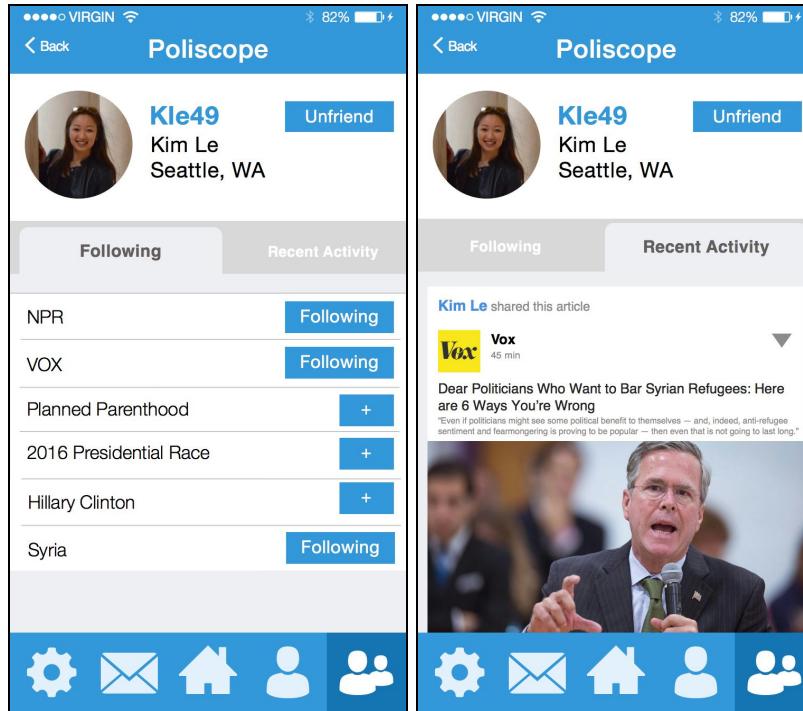


Figure 2d

Figure 2e

These two screens show Kim's profile on Poliscope. The user is able to see topics and news outlets that Kim is following (Fig 2d), as well as recent activity by switching tabs (Fig 2e). We decided that rather than only showing topics that Kim follows, we would show both topics and news outlets under the “Following” tab.

### C. Direct article sharing



Figure 2f

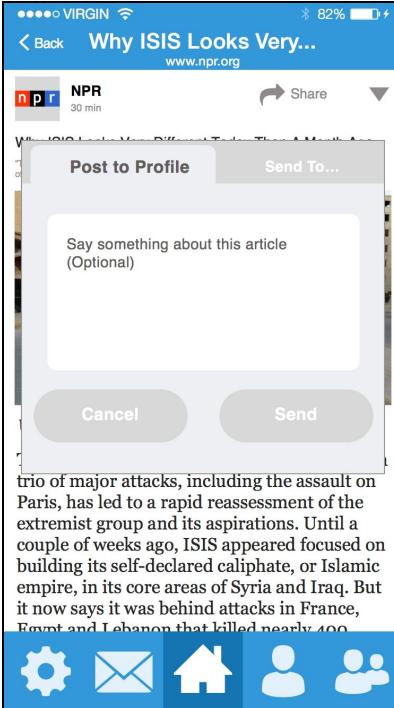


Figure 2g

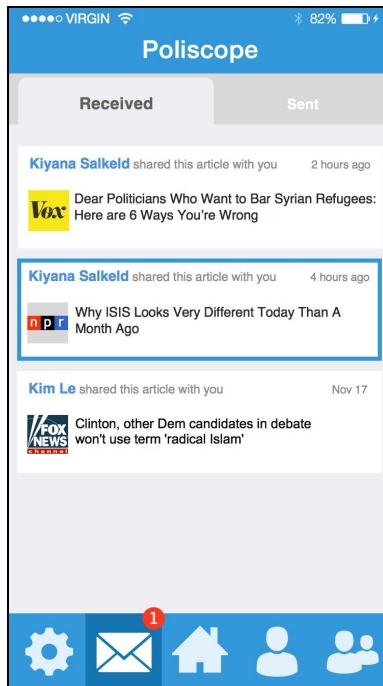


Figure 2h

Clicking the “Share” button (the arrow icon paired with text, Fig. 2f) causes a pop-up to appear (Fig. 2g). This pop-up enables the user to either post an article to her profile (making the article visible to all of her friends) or send an article to specific friends (making the article visible only to specific individuals). Articles shared with specific friends then appear in the recipient’s received article inbox (Fig. 2h). The sharing

pop-up (2g) can be accessed from any place in the app where the “Share” button is present. In our original paper prototype, we had forgotten to include a “Cancel” button (thereby violating Nielson’s “User Control and Freedom” heuristic). We have since remedied this issue in our digital mockup.

During our critique, we were told that we had “done too much work,” and the level of detail we had included was making it difficult to understand the flow of our two primary tasks (that is, “Socializing With Friends, Both Online and Offline” and “Personalizing News Consumption”). In order to make this narrative clearer, we have decided to eliminate certain screens from this report, as well as our final presentation. We have identified what we believe to be the key frames of our mockup that succinctly demonstrate how a user could carry out our primary tasks; this key-frame identification process led us to eliminate our onboarding screens related to privacy settings, as well as screens related to managing friends and account settings (we believe that these are useful features, but that they obscure the main objectives of our tasks).

## Discussion

The iterative design process taught us that flexibility in design is crucial, especially in circumstances in which user feedback dictates that major changes must be made in a design. There were a few incidents throughout this iterative process that forced us to reconsider our design, and the lightweight nature of our sketches and prototypes allowed us to easily amend our design to reflect these significant changes. To illustrate this point, consider our contextual inquiries. These interviews grounded in retrospective accounts quickly taught us that our understanding of the world did not match our intended users’ interpretation of the world. We entered our contextual inquiries assuming that members of our target audience would be interested in having access to condensed and “bias-free” news story summaries, when in fact what we were proposing removed the human element of news consumption that our interview participants enjoyed; in other words, our entering focus was incorrect. The iterative design process also humbled us; we realized that despite the fact that we had given our design concepts careful consideration, our usability tests revealed patterns of behavior we had not expected. We had become so deeply entrenched in our design that we needed to perform usability tests in order to remove our “expert” blindspot.

The iterative design process methods shaped our final design because they gave us the qualitative data necessary to unify the team around design changes. Rather than argue in a vacuum about the perceived merits of one design over another, we were able to propose ideas and receive unbiased feedback from outside parties; that is, feedback from individuals who were not a part of our team, and therefore not as deeply invested and infatuated with certain designs as we were and were able to see the inherent flaws and weaknesses in our designs.

In this course we have learned that tasks are “design-agnostic.” Because our contextual inquiries allowed us to expand our focus and view the world through our intended target audience members’ eyes, we were able to gain a strong understanding of which design-agnostic goals we needed to support, which meant our usability tests did not cause us to alter the tasks we intended to support. However, our usability tests changed the manner in which we attempted to support tasks (as demonstrated by the changes made between our paper prototype and digital mockup outlined above).

Although we’re happy with the design we’ve produced given the time constraints of the quarter, this process has taught us that iterative improvements are a necessary step towards a great final product. We would have liked to conduct additional usability tests in order to see if the changes we made between our paper prototype and our digital mockup did in fact aid in our users’ understanding of our application. We also would have liked to gather feedback regarding the aesthetic components of our application, because none of our testing focused on this aspect of our design. Now that we have a better understanding of how to use tools like Sketch in order to create digital mockups, we would have liked to incorporate user feedback into future UI updates.

## Appendix

### Usability Test Script & Task Instructions:

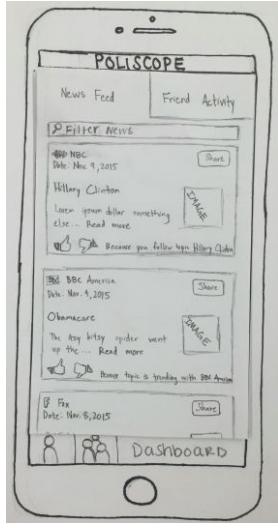
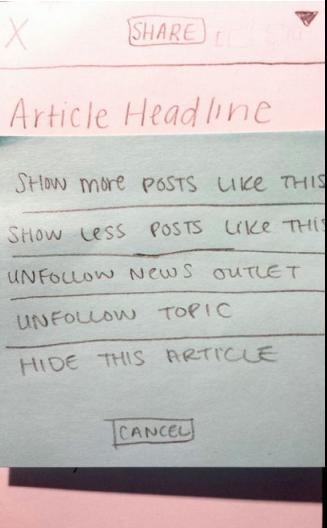
Please note: Our script is partially based on a usability test script template we found online.<sup>1</sup>

Hi, [name of participant]. My name is [name of facilitator], and I'm going to guide you through this session. We are designing an app that is intended to help college students who are interested in reading the news, but view this activity as being extremely time intensive. These individuals want to avoid the laborious process of sifting through multiple sources in order to receive their news.

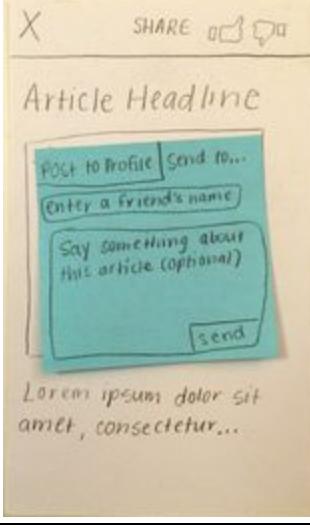
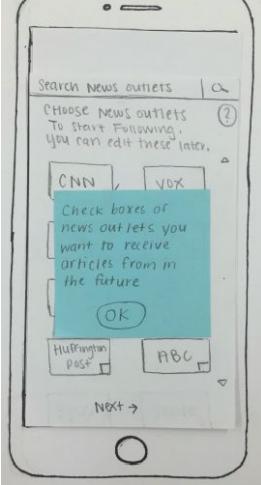
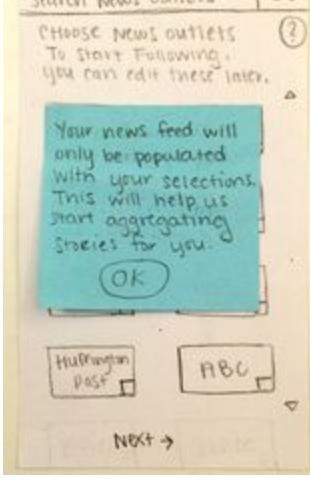
This testing session should take roughly an hour, and we're trying to determine whether or not our current design works as intended. If you encounter any issues, please don't feel as if you're making mistakes. Any issues you may encounter are inherent to flaws in our design, and are not a reflection on you. This is an early draft of our proposed design solution, so please don't worry about hurting our feelings. We're conducting this test session in order to improve our app, so we need your honest feedback about any strengths or weaknesses you see in our design. Please remember to think aloud as much as possible. We want to understand what your initial reactions are to our app, and we want to know what your expectations are as well. We will guide you through a series of tasks today, which include:

- Signing up for a Poliscope account
- Setting up your Poliscope account settings
- Reading news stories
- Sharing news stories with your friends
- Viewing stories your friends have shared or read

### Heuristic Evaluation Review:

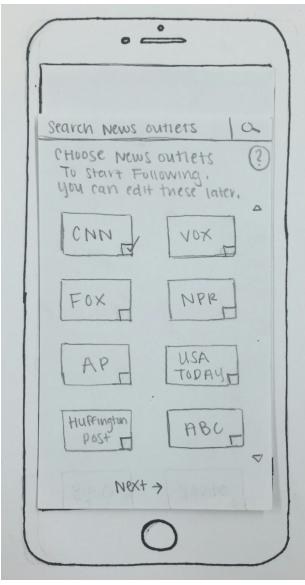
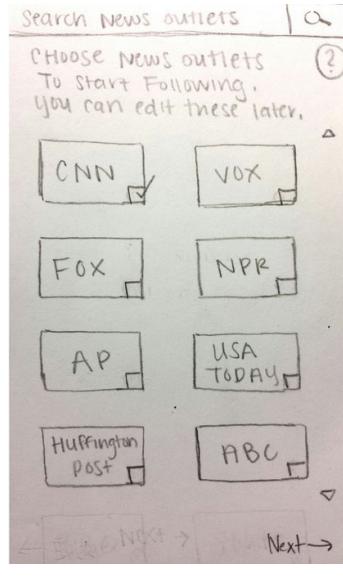
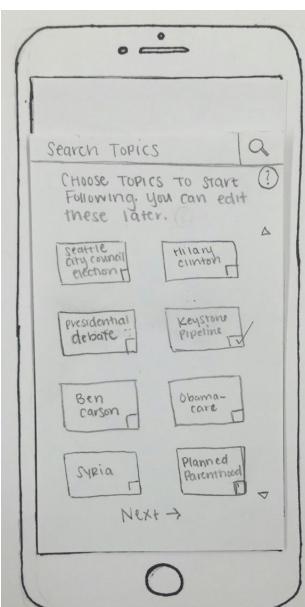
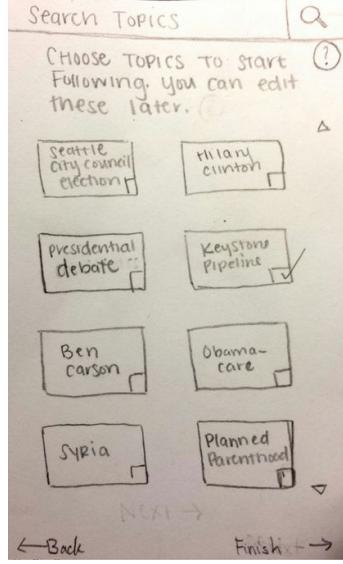
Original Panel	Issue & Violation	Changes	Changed Panel
	<p>Confusion about like/dislike function. Does it remove the specific article, or does it stop showing topic overall?</p> <p>Violation: Match between system and the real world</p> <p>[3]</p>	<p>Removed binary like/dislike function.</p> <p>Added a dropdown icon with new settings on each post.</p> <ul style="list-style-type: none"><li>• Show more posts like this.</li><li>• Show less posts like this.</li><li>• Unfollow news outlet.</li><li>• Unfollow topic</li><li>• Hide this article</li></ul> <p>[2]</p>	

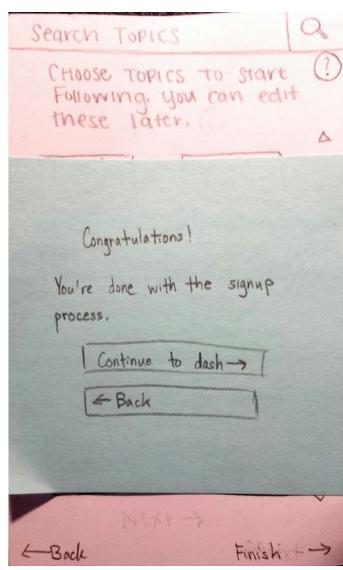
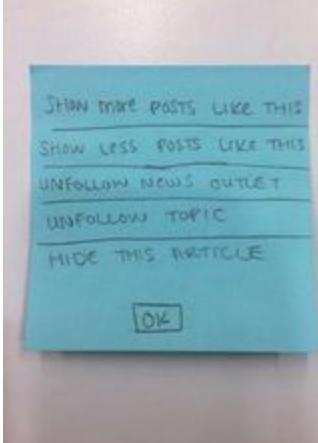
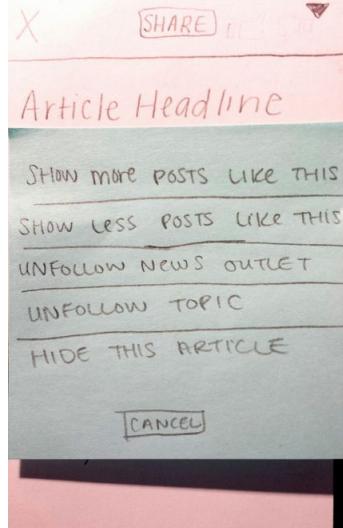
<sup>1</sup> Krug, Steve. "Usability test script." N.p., n.d. Web. 10 Nov. 2015. <<https://sensible.com/downloads/test-script.pdf>>.

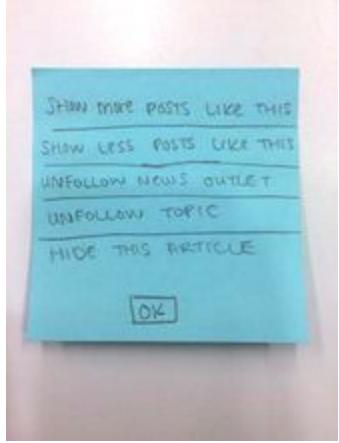
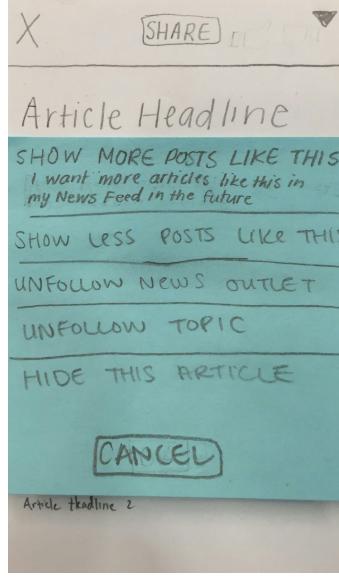
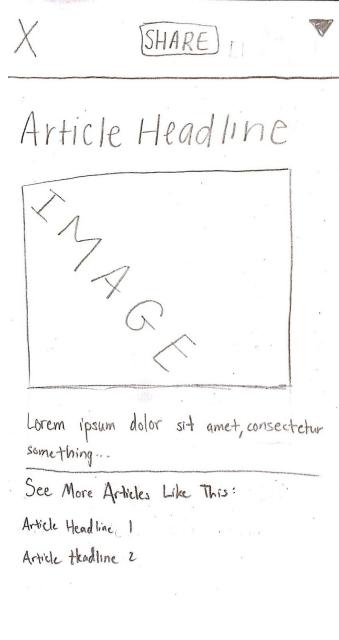
	<p>No confirmation/next button on sign up/log in screen.</p> <p>Violation: User control and freedom</p> <p>[1]</p>	<p>Add a button to advance to the next screen (confirming sign up / log in)</p> <p>[4]</p>	
	<p>No confirmation/next button on "share" pop up.</p> <p>Violation: User control and freedom</p> <p>[1]</p>	<p>Add a button to confirm sending/posting.</p> <p>[4]</p>	
	<p>Help pop up dialogue is basically repeating the directions already on screen.</p> <p>Violation: Aesthetic and minimalist design, (Bad) help and documentation</p> <p>[1]</p>	<p>Change pop up dialogue to be more specific about what will happen with stories selected.</p> <p>[4]</p>	

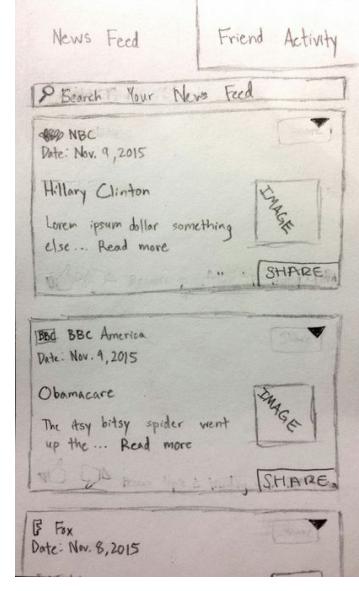
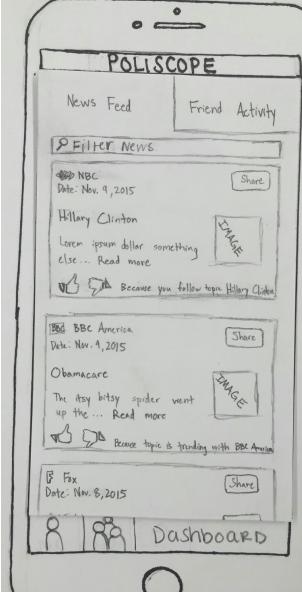
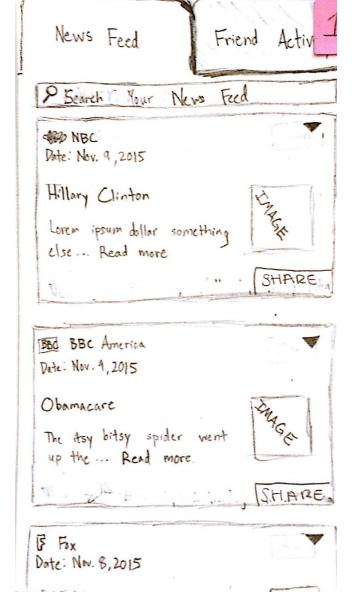
## Usability Test Results

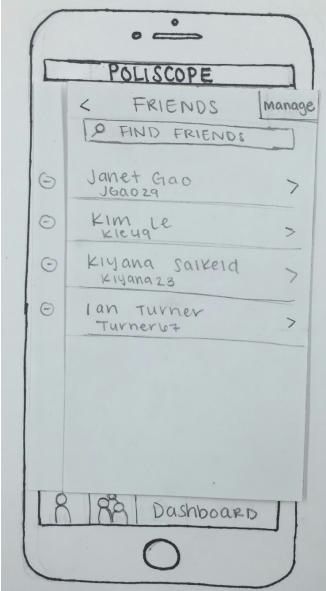
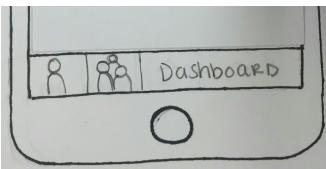
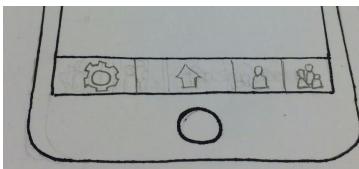
### Participant #1 Usability Test Results:

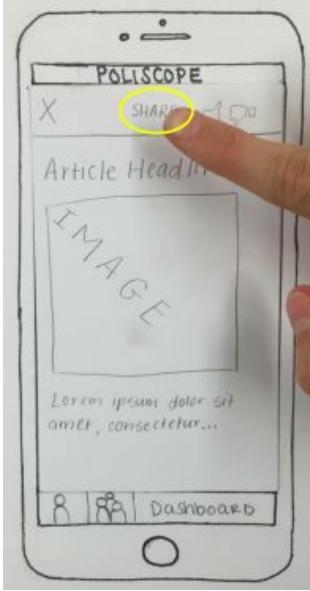
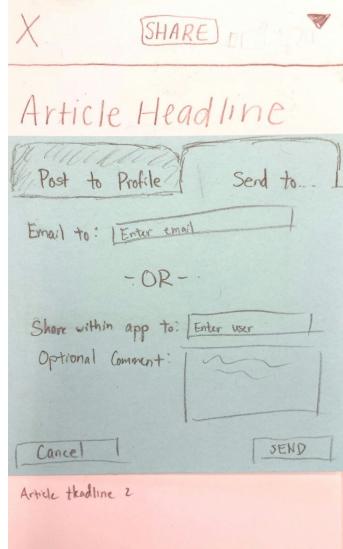
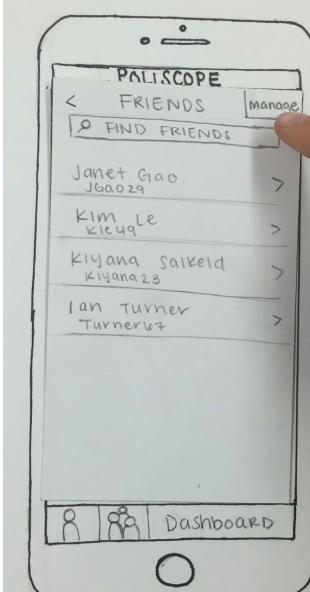
Image of relevant portion of prototype:	Description of Incident and Explanation of Changes:	Image of revisions implemented as a result:
	<p>Our participant was unsure of how to move between the “Topics” and “News Outlets” on the onboarding screens. They were also unsure of when the onboarding process ended.</p> <p>Severity of issue: 2</p> <p>Explanation of changes: We've added a “back” button and “next/finish” button at the bottom of the screen to allow users to go back to the “Topics” or “News Topics” screen. Additionally, we've added a “Congratulations” pop up that gives users a way to know they are done with the onboarding process.</p>	
		

		
	<p>When reading an article and clicking the down arrow menu button in the upper right hand corner, our participant was uncertain why the button at the bottom of the pop up said "OK". Our participant expected the options to include checkboxes or radio buttons in order to make his selections; he expected some sort of feedback in order to indicate which options he has chosen.</p> <p>Severity of issue: 2</p> <p>Explanation of changes: Selecting one of the commands will immediately change the newsfeed. We decided to change "OK" to "Cancel" which allows the user to leave the pop up if they decide that they do not want to use any of the commands.</p>	

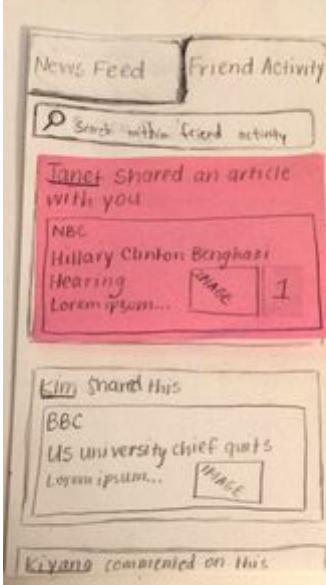
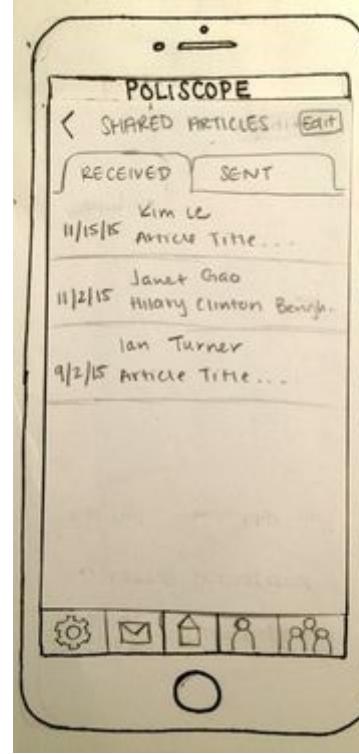
	<p>Our participant expected that selecting the “See More Posts Like This” option would immediately redirect him to a page (or a dynamically updated News Feed) with similar articles.</p> <p><b>Severity of issue:</b> 2</p> <p><b>Explanation of changes:</b> We have updated the terminology of the “Show More Posts Like This” option to reflect the fact that selecting this option does not immediately redirect the user to similar articles. Instead, selecting this option merely alerts the app to the fact that the user would like articles of this nature to appear more frequently in his News Feed in the future. We have included a “sub-header” that explains this concept in further detail.</p>	
	<p>The participant expected to see a “Similar Articles” suggestion after scrolling to the bottom of an article.</p> <p><b>Severity of issue:</b> 3</p> <p><b>Explanation of changes:</b> We included a section of the bottom of an article that provides the user with links to similar articles.</p>	

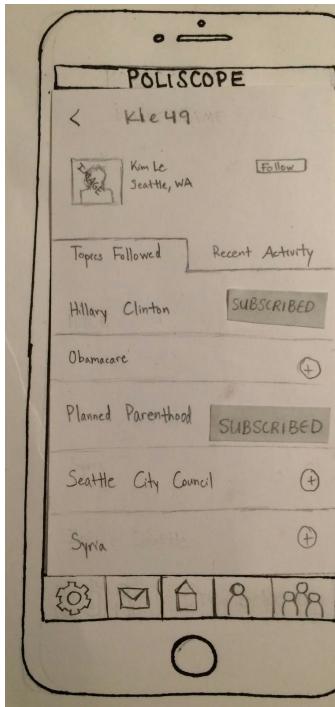
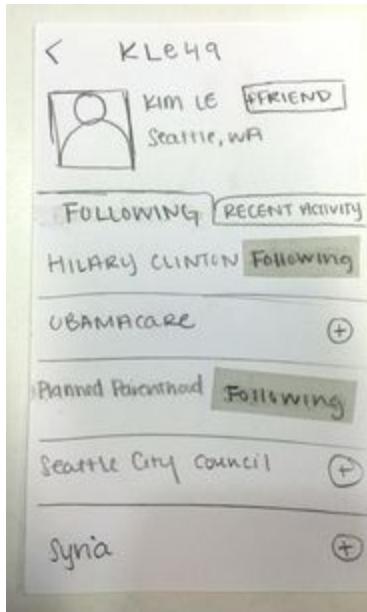
	<p>When we asked our participant to filter his News Feed in order to find articles related to a specific topic he follows, he became confused because he did not understand the way in which we were using the word "filter." We intended the term "filter" to mean "refining News Feed results; taking a big set of articles and narrowing it down to a smaller set of articles, as specified by the search term."</p> <p><b>Severity of issue:</b> 1</p> <p><b>Explanation of changes:</b> We changed the terminology of the input prompt text to reflect our intended use of the search bar (that is, "taking a big set of articles and narrowing it down to a smaller set of articles, as specified by the search term"). We've changed the text to "Search Your News Feed."</p>	
	<p>The participant was unsure of where articles his friends shared would appear. He was confused because he did not notice that the "Home Screen" (formerly known as the "Dashboard") included a tab of both a "News Feed" tab as well as a "Friends Activity" tab.</p> <p><b>Severity of issue:</b> 3</p> <p><b>Explanation of changes:</b> This may have been due to the quality of our paper prototype drawings. We've addressed this by adding a shadow and curve to the tab, to make it more apparent that "News Feed" and "Friend Activity" are distinct tabs.</p>	

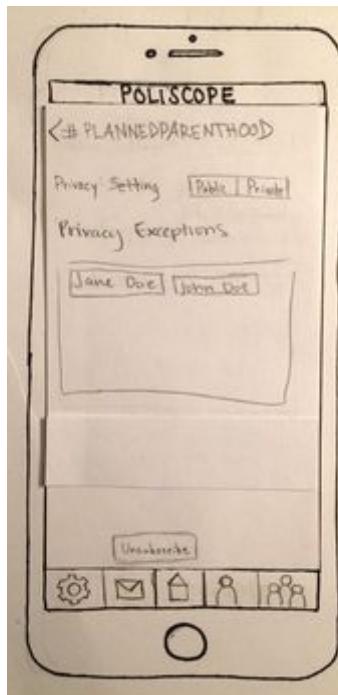
	<p>Our participant was confused that he had to click "Manage" twice in order to remove friends (clicking "Manage Friends" on the "Settings" page, and then clicking on the "Manage" button on the "Friend's List" page). Our participant expected the red subtraction sign icons to automatically pop up when he clicked the "Manage Friends" in the settings menu.</p> <p><b>Severity of issue (if negative): 3</b></p> <p><b>Explanation of changes:</b> We wanted to address our participant's desire to minimize the number of steps necessary in order to remove friends, however, we are concerned that this change could potentially cause error prevention issues; a user could accidentally remove friends that he did not intend to remove. The error prevention heuristic states that a "careful design which prevents a problem from occurring in the first place" is ideal. We decided to provide our users with a way to quickly select multiple friends to remove, via checkboxes, but in order to "unfollow" multiple people at once the user must click the "unfollow" button and a pop-up will appear asking the user to confirm this decision.</p>	<p>&lt; PEOPLE YOU FOLLOW</p> <p><b>FIND USERS</b></p> <p>Check the people you want to unfollow.</p> <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Janet Gao JGao29</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Kim Le kle49</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Kiyana Salkeld Kiyana23</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Ian Turner Turner67</td> </tr> </table> <p><b>UNFOLLOW</b></p> <p>&lt; PEOPLE YOU FOLLOW</p> <p><b>FIND USERS</b></p> <p>Check the people you want to unfollow.</p> <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Janet Gao JGao29</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Kiyana Salkeld Kiyana23</td> </tr> </table> <p>You are about to remove 2 friends.</p> <table border="0"> <tr> <td><input type="checkbox"/></td> <td>Okay</td> <td><input type="checkbox"/></td> <td>Cancel</td> </tr> </table> <p><b>UNFOLLOW</b></p>	<input checked="" type="checkbox"/>	Janet Gao JGao29	<input type="checkbox"/>	Kim Le kle49	<input checked="" type="checkbox"/>	Kiyana Salkeld Kiyana23	<input type="checkbox"/>	Ian Turner Turner67	<input checked="" type="checkbox"/>	Janet Gao JGao29	<input type="checkbox"/>	Kiyana Salkeld Kiyana23	<input type="checkbox"/>	Okay	<input type="checkbox"/>	Cancel
<input checked="" type="checkbox"/>	Janet Gao JGao29																	
<input type="checkbox"/>	Kim Le kle49																	
<input checked="" type="checkbox"/>	Kiyana Salkeld Kiyana23																	
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<input checked="" type="checkbox"/>	Janet Gao JGao29																	
<input type="checkbox"/>	Kiyana Salkeld Kiyana23																	
<input type="checkbox"/>	Okay	<input type="checkbox"/>	Cancel															
	<p>Our participant did not understand that "Dashboard" was a blanket term for the page that included the "News Feed" and "Friend Activity" tabs. He expected that clicking "Dashboard" would redirect him to a page akin to Apple's "Launchpad," that is, an overview page of sorts.</p> <p><b>Severity of issue: 1</b></p> <p><b>Explanation of changes:</b> We changed the "Dashboard" button to an icon meant to represent the "Home Screen." Clicking the "Home Screen" button directs the user to the page that includes both the "News Feed" and "Friend Activity" tabs. We also decided to include quick access</p>																	

	<p>to the “Settings” page via the navigation bar.</p>	
	<p>When asked to share an article, our participant expected to have the ability to share an article via email as well.</p> <p>Severity of issue: 1</p> <p>Explanation of changes: To fix this issue, we included providing the user with the option to share an article via email once they click on the “Share” button.</p>	
	<p>When asked to add a friend to follow, our participant was confused about the word “friend”. He wasn’t sure if he was constrained to following people he personally knew (that is, his friends) or if he could follow journalists, authors, etc.</p> <p>Severity of issue: 2 changing name</p> <p>Explanation of changes: We decided to use a more universal word (“users”) instead of “friends.”</p>	

### Participant #2 Usability Test Results:

Image of relevant portion of prototype:	Description of Incident and Explanation of Changes:	Image of revisions implemented as a result:
	<p>When our participant finished reading an article, she wanted to return to her "News Feed." She mistakenly believed that in order to accomplish this goal, she had to select the "Hide This Article" option from the drop down menu located in the upper right-hand corner of an article.</p> <p>Severity of Issue: 1</p> <p>Explanation of Changes: In order to avoid alleviate this confusion, we will change the "X" symbol in the upper left hand corner of the article to a "&lt;" symbol (a symbol to represent navigating to the previous page). This symbol is what we currently use on the other pages within the app. The "&lt;" symbol helps create consistency throughout the app.</p>	
	<p>Our app allows users to share articles with one another. When the recipient of an article navigates to the home screen of the application (the page that contains the "News Feed" and "Friend Activity" tabs), a number (which represents the number of unread articles a user has received from his or her friends) appears on the "Friend Activity" tab. When a user navigates to the "Friend Activity" tab, unread shared articles are "pinned" at the top of the page and denoted by a distinct color as well as explanatory text ("Janet shared this with you," for example). Once a user has read the article, it is no longer pinned at the top of the "Friend Activity" feed (it no longer appears at the top of this page). Our participant found this app functionality confusing; she expected that the article would remain in the same page, but it would no longer be denoted by a specific color (that is, it would no longer be highlighted). She did not expect that the article would move into its chronological place within the history of the "Friend Activity" feed, as we had intended.</p>	

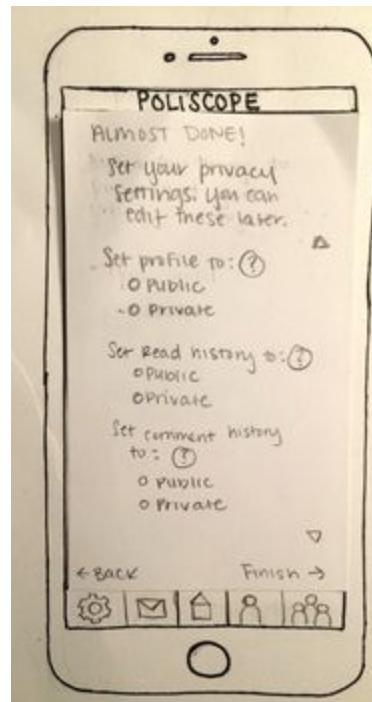
	<p>Severity of change : 3</p> <p>Explanation of change: Rather than having the article disappear into the feed, we will have a designated page for directly shared articles that will function like a message inbox. This inbox will also empower users to return to an article at their leisure; the user will not have to scroll through the "Friend Activity" feed in order to search for a particular article that a friend had previously shared with him or her.</p>	
	<p>When our participant viewed Kim's profile (an example of what a friend's profile would look like within our application), she was uncertain what the meaning of the "subscribed" text was (which appears next to items in Kim's list of followed topics). Our participant mistakenly believed that these "subscribed" topics were topics that Kim was subscribed to; our intention was to signify to the user that topics marked as "subscribed" are topics that both the user and his or friend both follow (these are common interests).</p> <p>Severity of issue: 3</p> <p>Explanation of changes: We noticed that in the previous design, the tab was called "Topics Followed." This inconsistency in terminology may have contributed to the confusion, so we have changed it to "Following" and will test accordingly to see if the next participant has trouble understanding what "Following" means.</p>	



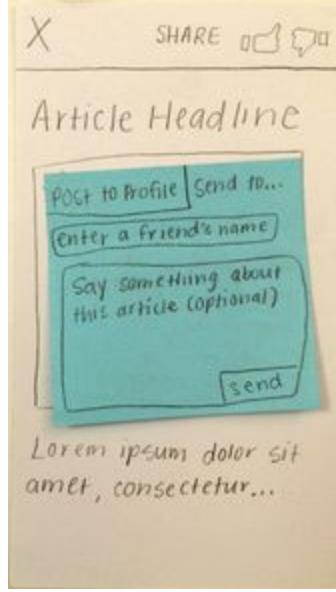
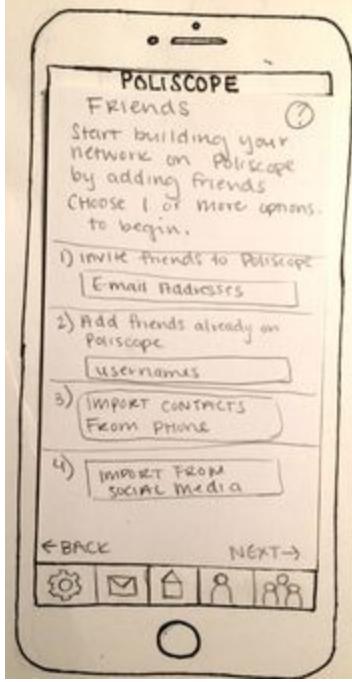
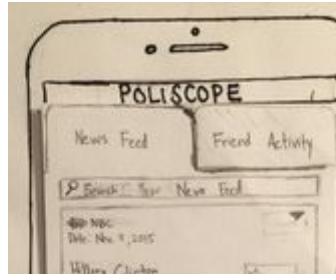
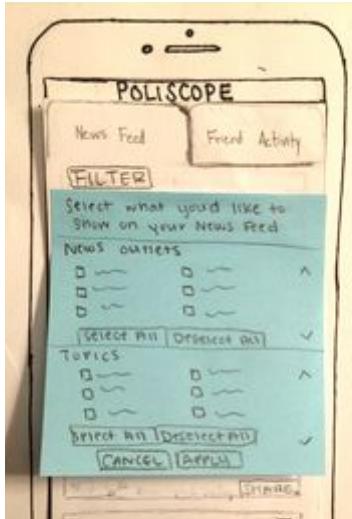
Our participant was confused by the concept of "privacy exceptions" for each individual topic she followed. Our participant was confused by the notion that when a particular topic's privacy setting was set to "public," this meant individuals whose names were entered into the "privacy exceptions" box were the only people who could not see our participant's activity regarding this particular topic. Our participant was further confused by the inverse condition, that is, if a topic's privacy setting is "private," names entered into the "privacy exceptions" box are the names of individuals who *can* view the user's activity regarding this particular topic.

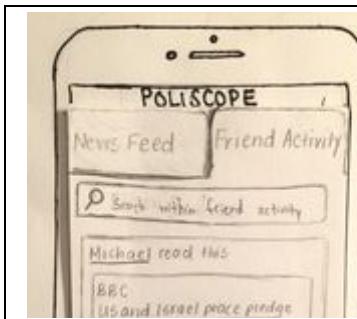
Severity of Issue: 4

Explanation of changes: We decided to remove the "privacy exceptions" box entirely. Privacy will be represented by an "all-or-nothing" model. If the user sets a particular topic to "private," none of the user's friends can see the user's activity related to this topic; if the user sets a particular topic to "public," the user's friends can see all of the user's activity related to this particular topic. Users will still have the option to share an article with a friend directly (please refer to the notion of an inbox discussed above).



### Participant #3 Usability Test Results:

Image of relevant portion of prototype:	Description of Incident and Explanation of Changes:	Image of revisions implemented as a result:
 <p>Lorem ipsum dolor sit amet, consectetur...</p>	<p>When presented with the task to share an article, the participant was unsure of where the friends he was sharing articles with were coming from. In other words, how did this app know how to reach friends he was interested in contacting? Are these friends imported from Facebook, or are these friends the user has to add within the app itself?</p> <p>Severity of issue: 2</p> <p>We realized that this confusion occurred primarily because the participant was unsure of whether or not he had to either import friends/contacts from third-party applications or manually add friends within the application.</p> <p>We hope to address this issue by having an onboarding screen that prompts users to do any or none of the following:</p> <ol style="list-style-type: none"> <li>1. Invite friends to join the app</li> <li>2. Find and add friends within the app by searching usernames</li> <li>3. Find and add friends within the app by adding friends from their phone's address book</li> <li>4. Import contacts from a social media website</li> </ol>	
	<p>Our participant was confused by the search bar on the home screen (present on both the "News Feed" and "Friend Activity" feeds). He was unsure of what the intended functionality of the search bar was. He thought that his search expanded beyond the app, rather than being specific to his news feed; in other words, he believed that the search bar would allow him to find articles beyond the scope of the articles specifically aggregated for him in his "News Feed" or shared by his friends in the "Friend Activity" feed. This was also a common theme among our previous contextual inquiries, as well.</p> <p>Severity of issue: 3</p>	

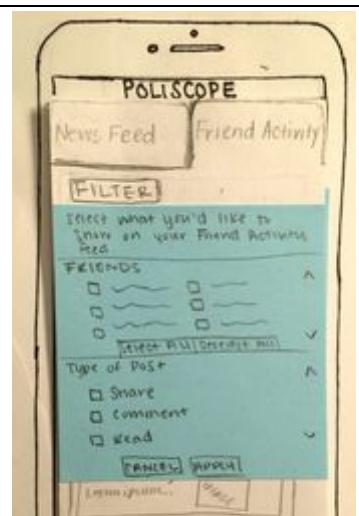


**Explanation of changes:**  
We removed the search bar and will replace it with a “Filter” button. In the “News Feed” tab, clicking this button would lead to a pop-up that lists the Topics/News Outlets that the user is currently subscribed to/ following. The user will have the ability to check or uncheck different Topics or News Outlets to refine the results that appear in his or her “News Feed.” There will be a “Select All” button, as well as an “Unselect All” button for quick selection, if needed.

On the “Friend Activity” tab, we believe that it would be prudent to include filters for not only friends, but for the following categories as well:

- Articles friends have shared
- Articles friends have read
- Articles friends have left comments on

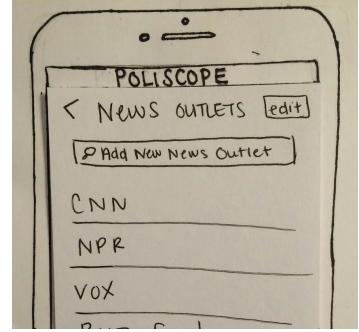
We believe that if items in the checklist are pre-selected, this will help decrease the cognitive load imposed upon the user.

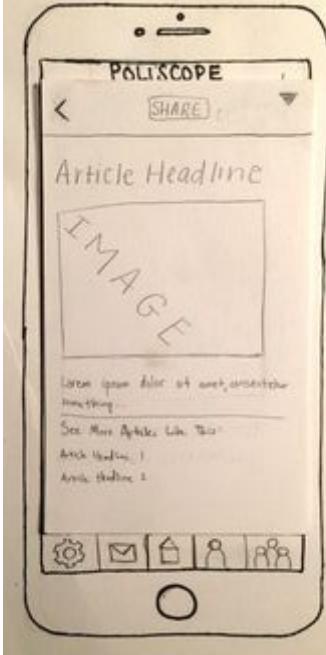
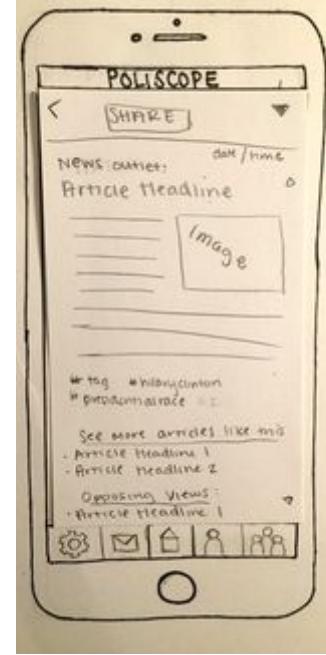
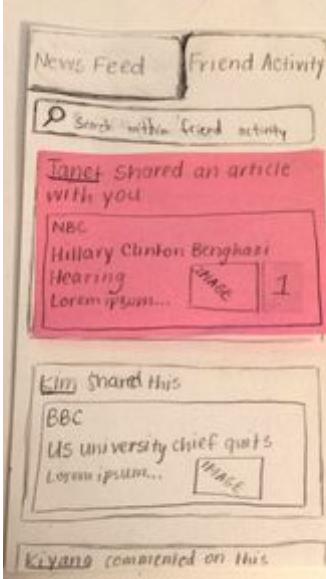
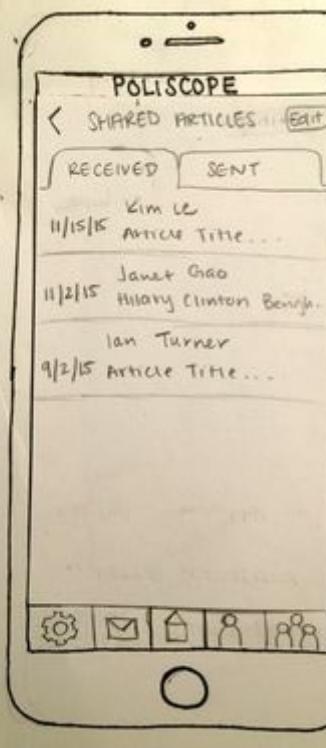


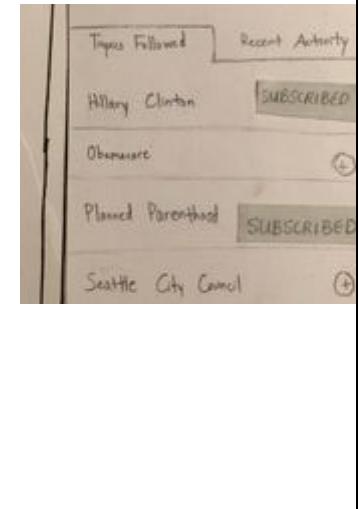
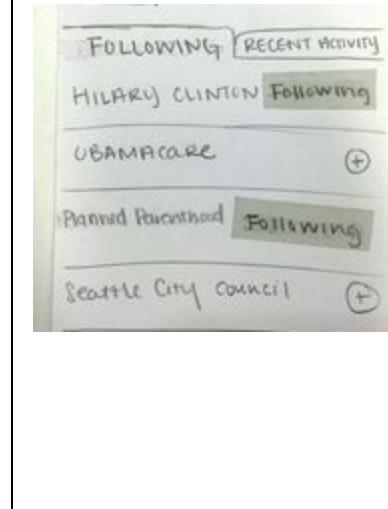
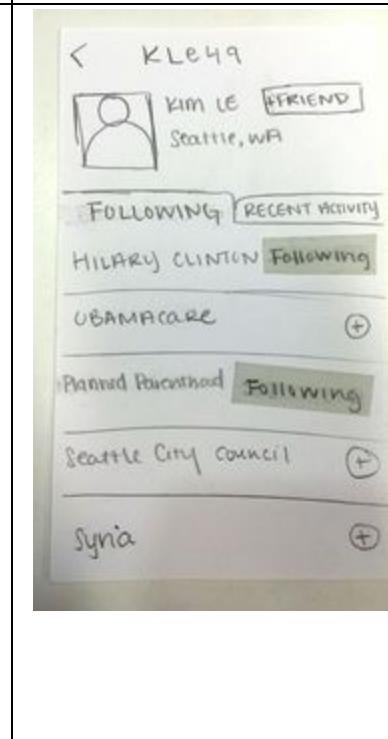
The search bar also caused confusion around following news outlets and topics, as well as adding new friends. We need to include a method for following a new topic or news outlet, as well as a method adding a new friend.

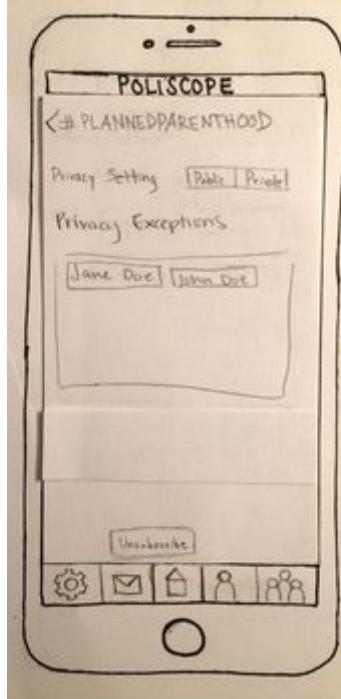
**Severity of issue: 2**

When the user accesses the “Account Settings” page, they have the option to manage topics, news outlets, and friends. We will not remove the search bars from these pages, however, we will revise the terminology so that it will be more specific. Search bars will be used solely for adding new topics, news outlets, and friends.



	<p>If an article appeared that our participant did not like, our participant stated that he would want a way to gauge why the article appeared in the first place before he decides to unsubscribe from the topic. He didn't want to make a decision that could affect the rest of his "News Feed" without understanding why his "News Feed" aggregated that specific content in the first place. In other words, he did not want to unsubscribe from a topic because it surfaced an article that was an obvious outlier.</p> <p><b>Severity of issue:</b> 3</p> <p>We will approach this problem by incorporating tags on each article. These tags are intended to help the user understand which of their subscriptions led to a specific article appearing on his or her feed. Specifically, the article would show tags of the topics that the user is subscribed to.</p>	
	<p>Much like our second usability testing participant, our third usability testing participant was also concerned that with notification management regarding articles shared directly with him. Our participant was uncertain where he could go to see an article that a friend had shared directly with him that he had already read. He wanted a way to reference this article again in the future.</p> <p><b>Severity of issue:</b> 3</p> <p><b>Explanation of changes:</b> Rather than having the article "disappear" into the feed (that is, rearrange the article according to chronological order), we will create a designated page for directly shared articles. In other words, we will include a message inbox within our app. This will allow the user to come back to the article at any time, rather than having to scroll through the "Friend Activity" feed in order to locate the article.</p>	

	<p>The participant did not have a way to view news outlets that a friend followed, because the profile page currently only has tabs for topics and recent activity.</p> <p>Severity of issue: 2</p> <p>Explanation of changes: Rather than continuing to add tabs (because of the constraint of screen size), we will change the current Topics Following tab to "Following". Within this tab, there will be a way to distinguish between News Outlets and Topics. Colors or icons may also be used to distinguish between the two.</p>	
	<p>Our app is not consistent in the terminology it employs, which caused our participant to become easily confused. We currently use the terms "Subscribe," "Follow," and "Friend" interchangeably, which can be problematic as our users try to build a mental model of where their news is coming from (news outlets, specific topics, or friends).</p> <p>Severity of issue: 3</p> <p>We will designate the following terms to a specific aspect of the app:</p> <ol style="list-style-type: none"> <li>1.) "Follow" and "unfollow" will be used specifically for news outlets and topics. These terms refer to which news outlets and topics the user is subscribed to.</li> <li>2.) "Friend" and "unfriend" will be used to describe adding friends within the app.</li> </ol>	



The user was confused about privacy settings in terms of specific topics/news outlets/ and overall profile page. The user brought up the point that they might want to show that they are following Planned Parenthood, but not necessarily show every article that they have read.

Severity of issue: 4

During the onboarding process, we will introduce a screen that explains the general privacy of the app. We will mention that privacy settings can be changed at any time, and that the default is as follows:

- All profiles are public to begin with, meaning that anybody can see what you're following (topics & news outlets) as well as your recent activity (shares, comments, read history). Friending does not require accepting/confirming (Think of twitter/instagram.. If you have a public profile, you don't have to accept friends.)
- Profiles can be changed from public to private, meaning that only friends can view your profile. (So friending requires accepting/confirming at this point.)
- Within both of these privacy settings, the user will have the option to change privacy settings on a case by case basis (per article) rather than as an umbrella function.

