

3D: Usability Testing Review

Poliscope - Janet Gao, Kim Le, Kiyana Salkeld, Ian Turner

Usability Testing Sessions:

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.

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.

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.

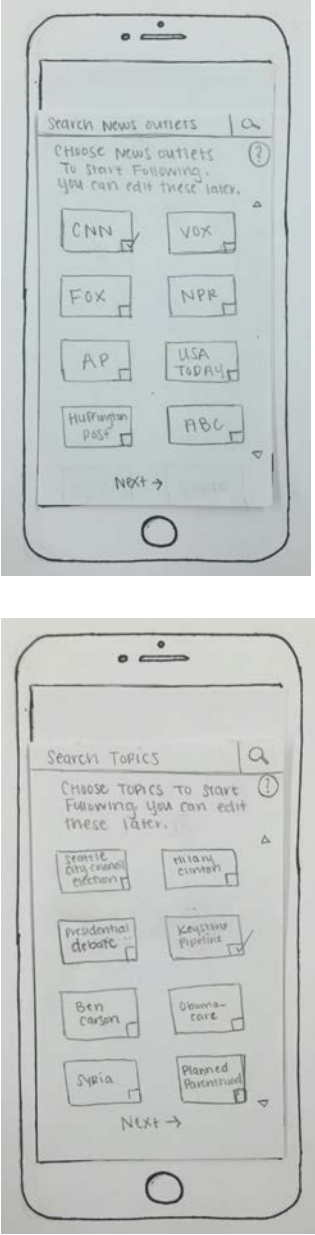
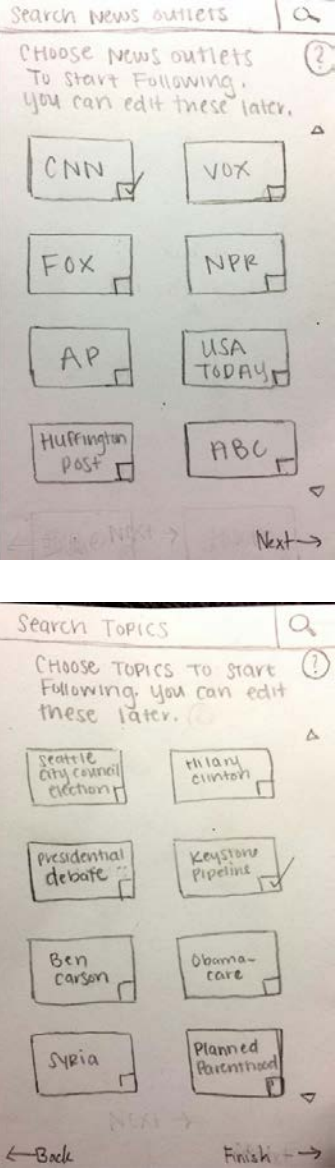
The revisions we made to our paper prototype between usability testing can be found in the following charts; these revisions were primarily related to alleviating confusion regarding terminology used within the app, privacy setting management, and the social networking components of the app.

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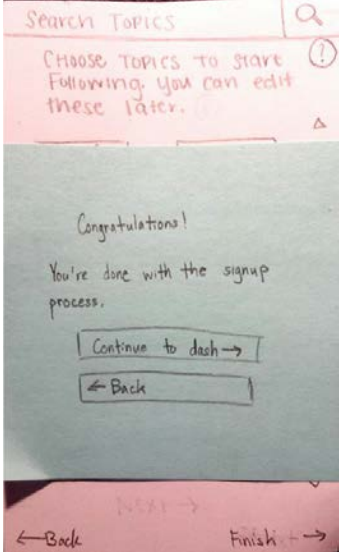

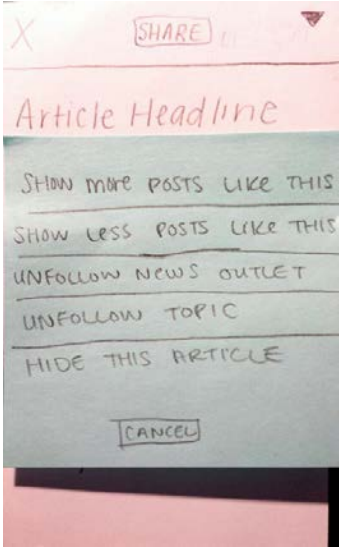
Usability Test Results

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>	

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	<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>	

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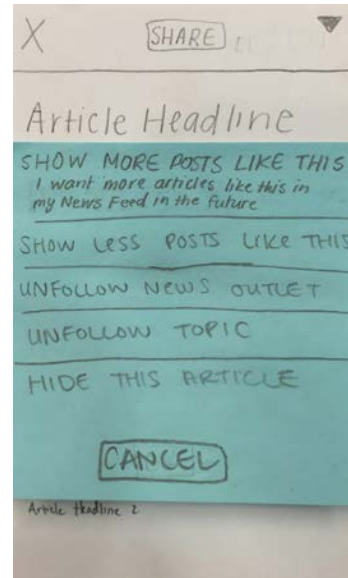
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Our participant expected that selecting the “See More Posts Like This” option would immediately redirect him to a page (or a dynamically updated News Feed) with similar articles.

Severity of issue: 2

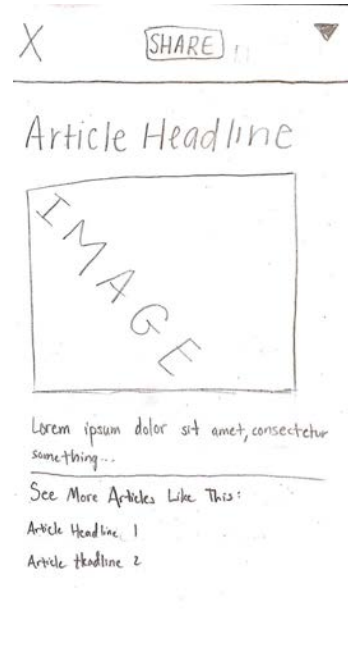
Explanation of changes: We have updated the terminology of the “Show More Posts Like This” option to reflect the fact that selecting this option does not immediately redirect the user to similar articles. Instead, selecting this option merely alerts the app to the fact that the user would like articles 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.



The participant expected to see a “Similar Articles” suggestion after scrolling to the bottom of an article.

Severity of issue: 3

Explanation of changes: We included a section of the bottom of an article that provides the user with links to similar articles.



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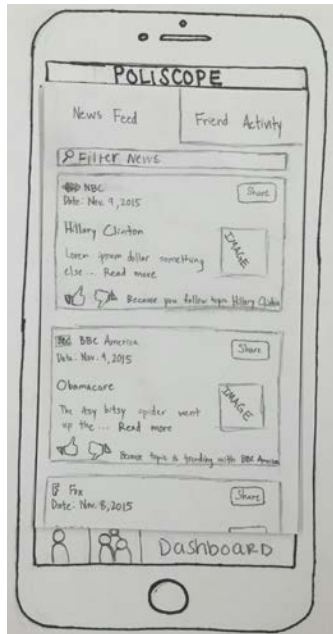
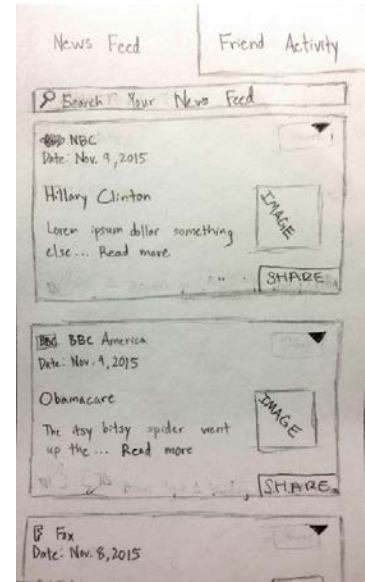
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When we asked our participant to filter his News Feed in order to find articles related to a specific topic he follows, he became confused because he did not understand the way in which we were using the word “filter.” We intended the term “filter” 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.”

Severity of issue: 1

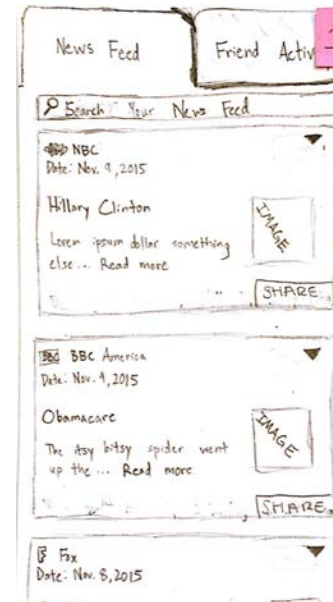
Explanation of changes: We changed the terminology of the input prompt text to reflect our intended use of the search bar (that is, “taking a big set of articles and narrowing it down to a smaller set of articles, as specified by the search term”). We’ve changed the text to “Search Your News Feed.”



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.

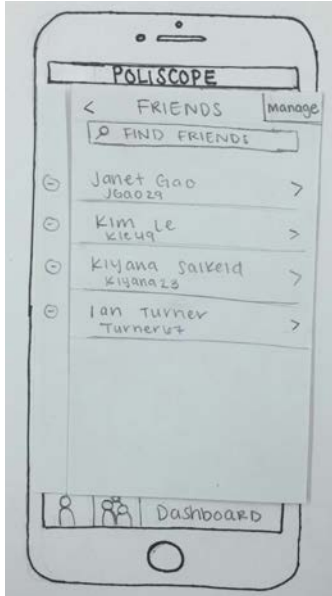
Severity of issue: 3

Explanation of changes: 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.



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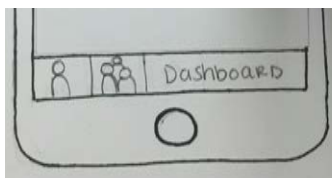
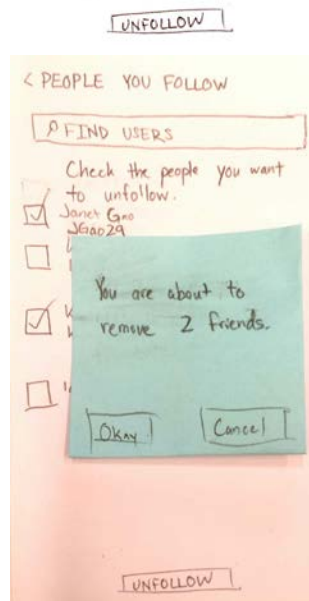
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Our participant was confused that he had to click “Manage” twice in order to remove friends (clicking “Manage Friends” on the “Settings” page, and then clicking on the “Manage” button on the “Friend’s List” page). Our participant expected the red subtraction sign icons to automatically pop up when he clicked the “Manage Friends” in the settings menu.

Severity of issue (if negative): 3

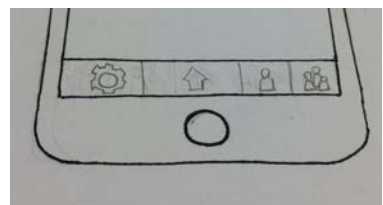
Explanation of changes: We wanted to address our participant’s desire to minimize the number of steps necessary in order to remove friends, however, we are concerned that this change could potentially cause error prevention issues; a user could accidentally remove friends that he did not intend to remove. 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.



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.

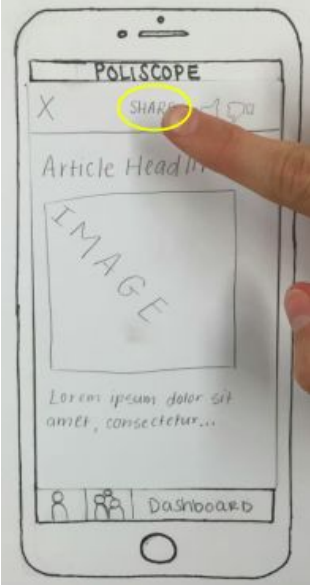

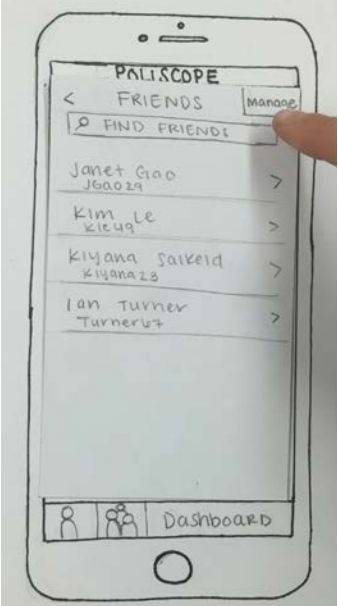

Severity of issue: 1

Explanation of changes: 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 to the



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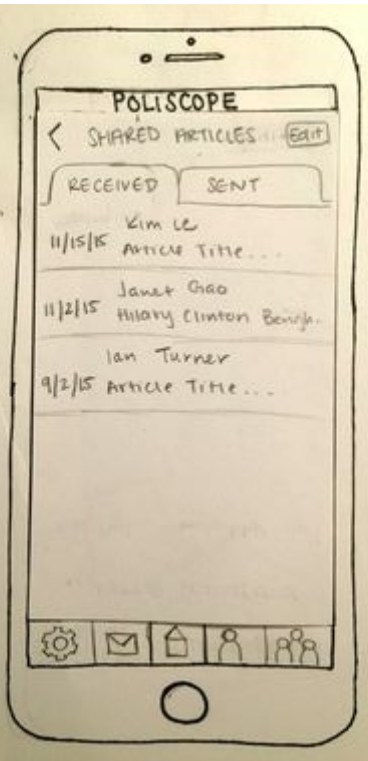
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	<p>“Settings” page via the navigation bar.</p> <p>When asked to share an article, our participant expected to have the ability to share an article via email as well.</p> <p>Severity of issue: 1</p> <p>Explanation of changes: To fix this issue, we 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>	

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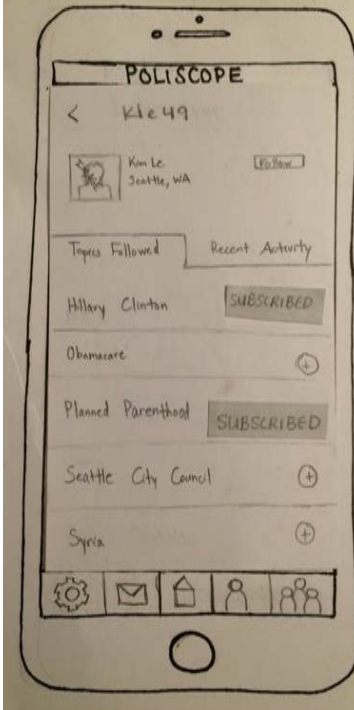
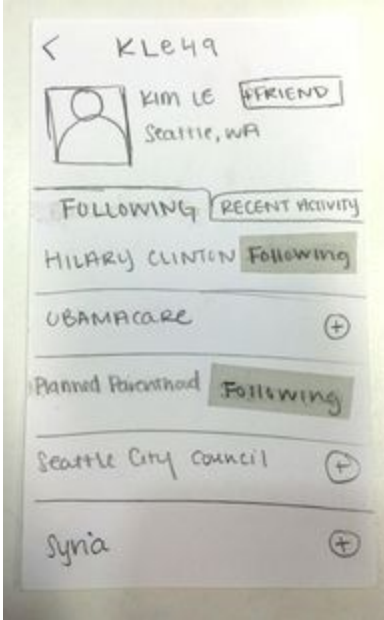
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Participant #2 Usability Test Results:

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 “<” 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 “<” 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>	

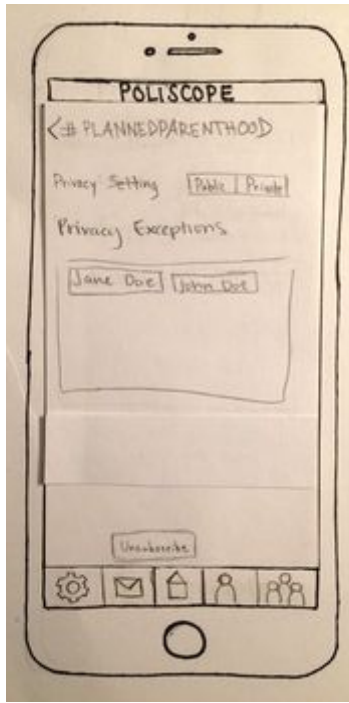
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	<p>Severity of change : 3</p> <p>Explanation of change: Rather than having the article disappear into the feed, we will have a designated page for directly shared articles that will function like a message inbox. This inbox will also empower users 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>	

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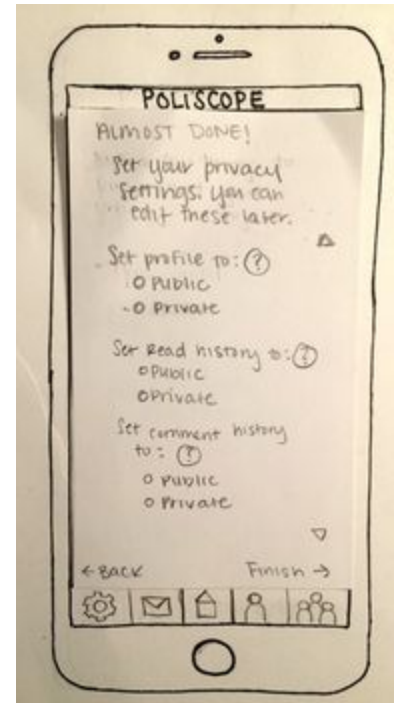
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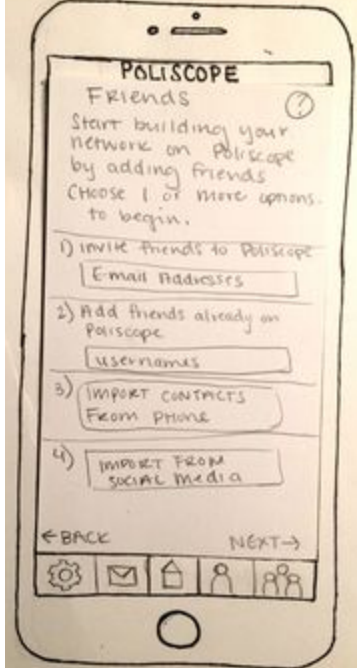

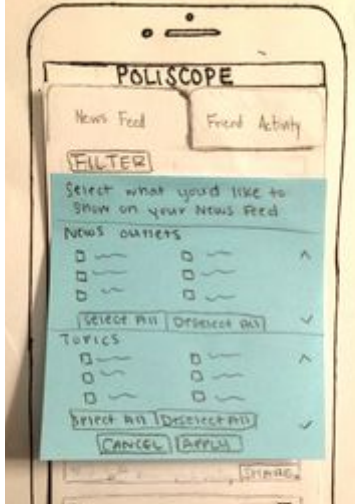
Our participant was confused by the concept of “privacy exceptions” for each individual topic she followed. Our participant was confused by the notion that when a particular topic’s privacy setting was set to “public,” this meant individuals whose names were entered into the “privacy exceptions” box 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>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 important 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"> 1. Invite friends to join the app 2. Find and add friends within the app by searching usernames 3. Find and add friends within the app by adding friends from their phone's address book 4. Import contacts from a social media website 	
	<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>	

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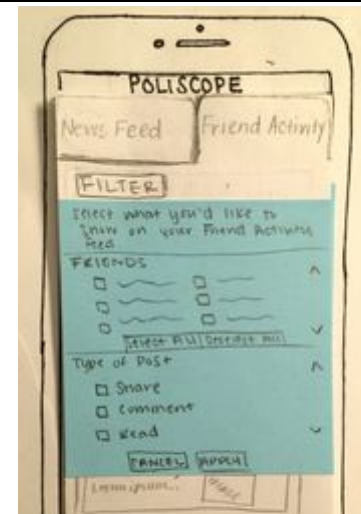
Explanation of changes:

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

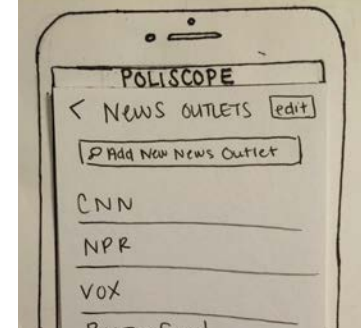
We believe that if items in the checklist are pre-selected, this will help decrease the cognitive load imposed upon the user.



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.

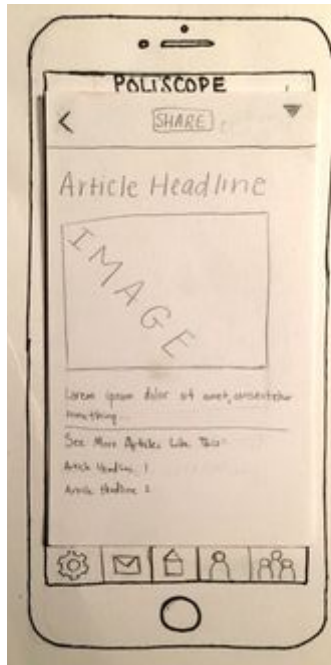
Severity of issue: 2

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.



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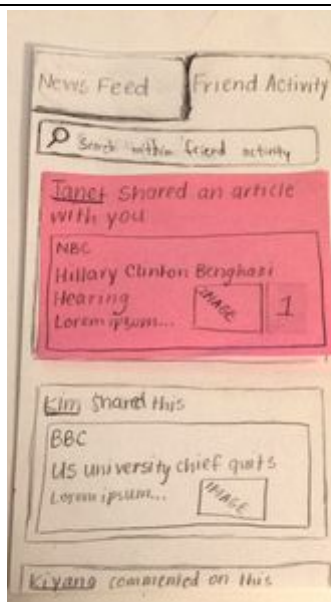
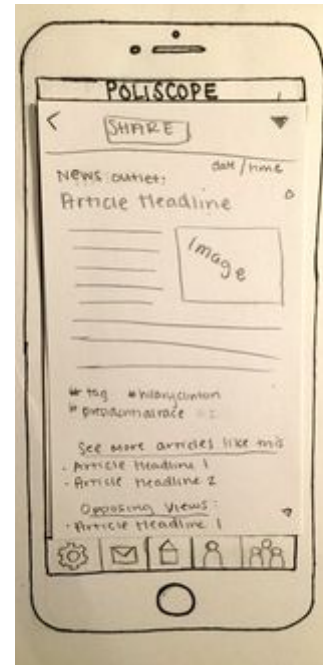
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If an article appeared that our participant did not like, our participant stated that he would want a way to gauge why the article appeared in the first place before he decides to unsubscribe from the topic. He didn't want to make a decision that could 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.

Severity of issue: 3

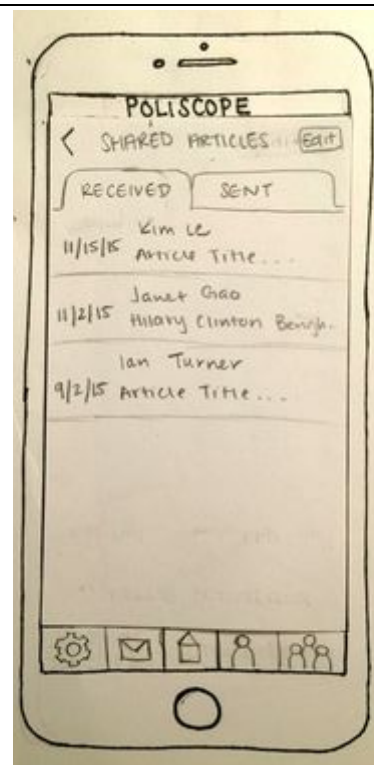
We will approach this problem by incorporating tags on each article. These tags are intended to help the user understand which of their subscriptions led to a specific article appearing on his or her feed. Specifically, the article would show tags of the topics that the user is subscribed to.



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.

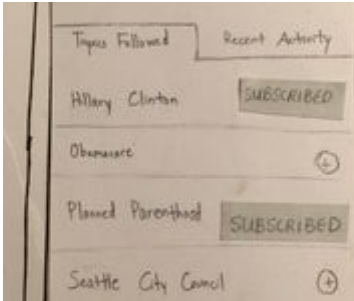

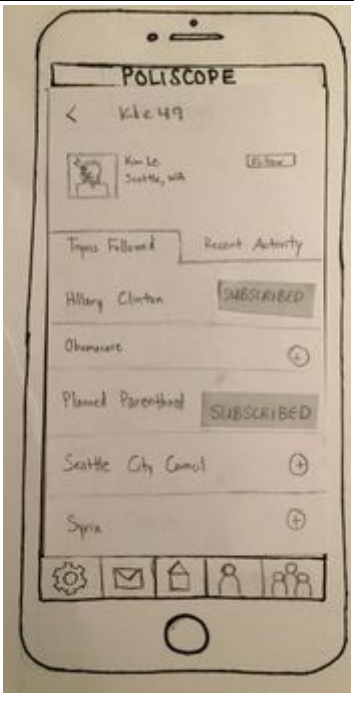

Severity of issue: 3

Explanation of changes:
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.



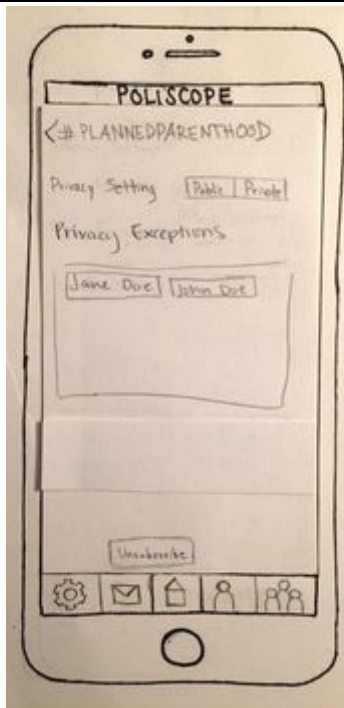
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	<p>The participant did not have a way to view news outlets that a friend followed, because the profile page currently only has tabs for topics and recent activity.</p> <p>Severity of issue: 2</p> <p>Explanation of changes: Rather than continuing to 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">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.2.) "Friend" and "unfriend" will be used to describe adding friends within the app.	

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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.



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Overview of Paper Prototype:

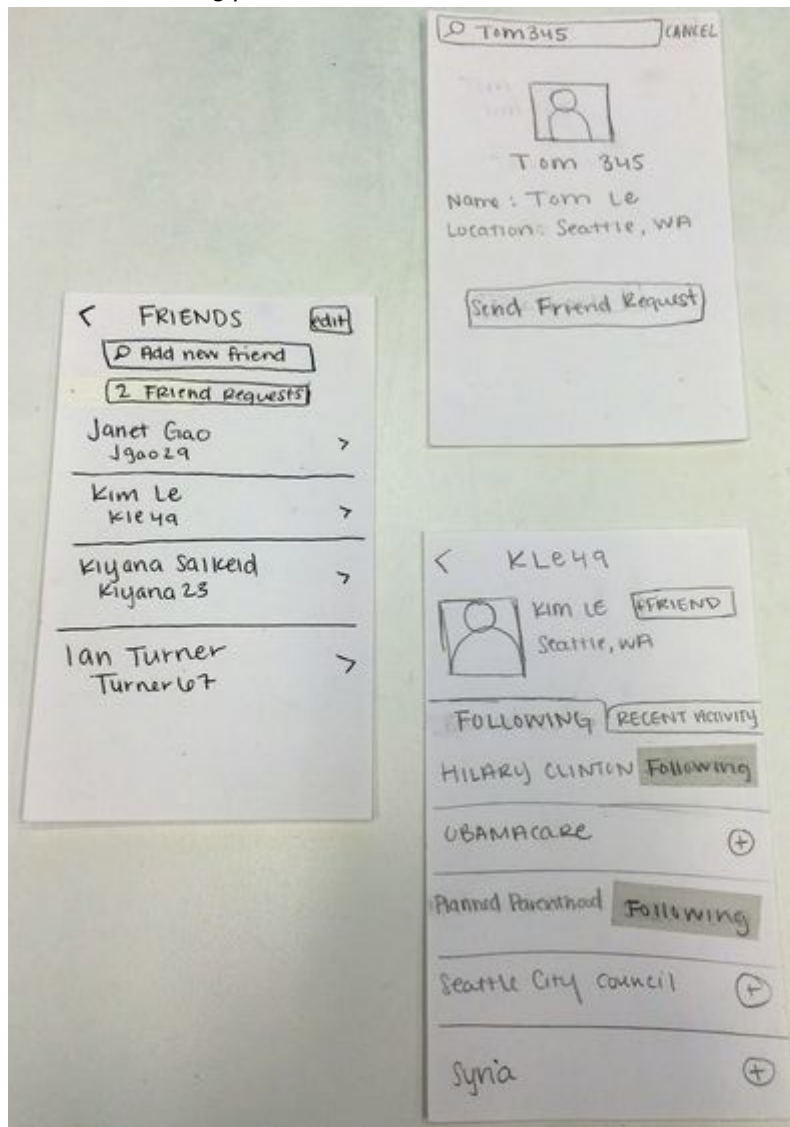


3D: Usability Testing Review

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Primary Tasks:

- 1.) Socializing with Friends
 - A. Adding new friends & viewing profiles

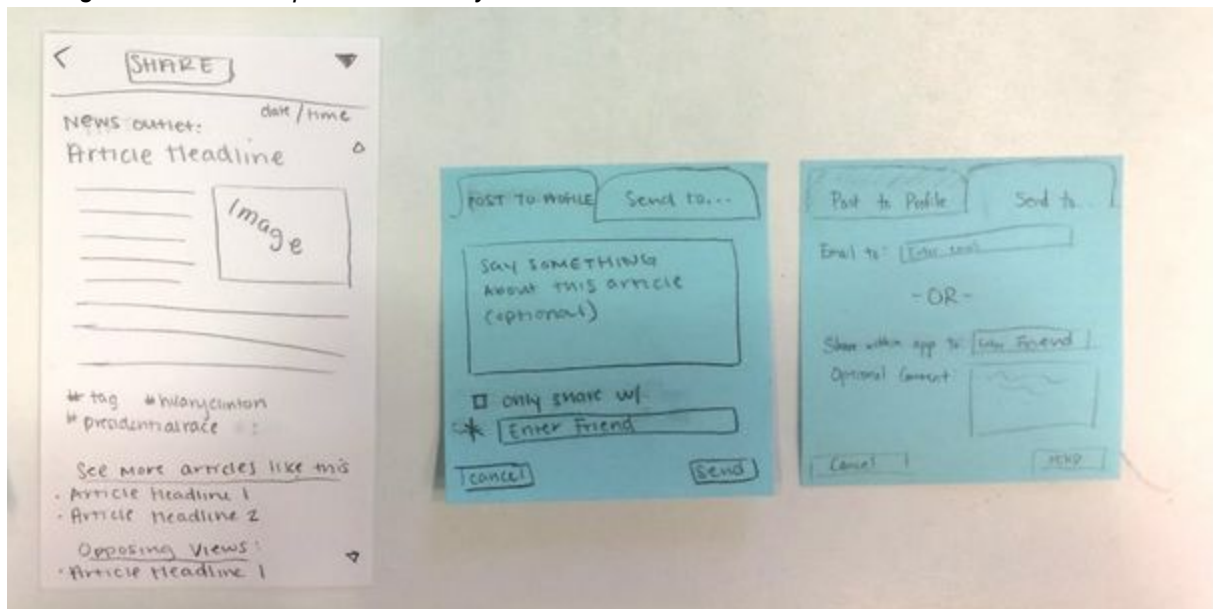


From the "Friends" page, users are able to use the search bar to add new friends by typing in their username. Once the username is entered, the friend will pop up along with a "Send Friend Request" button on the page (if that friend's profile is private). If the friend's profile is public, the user is 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.

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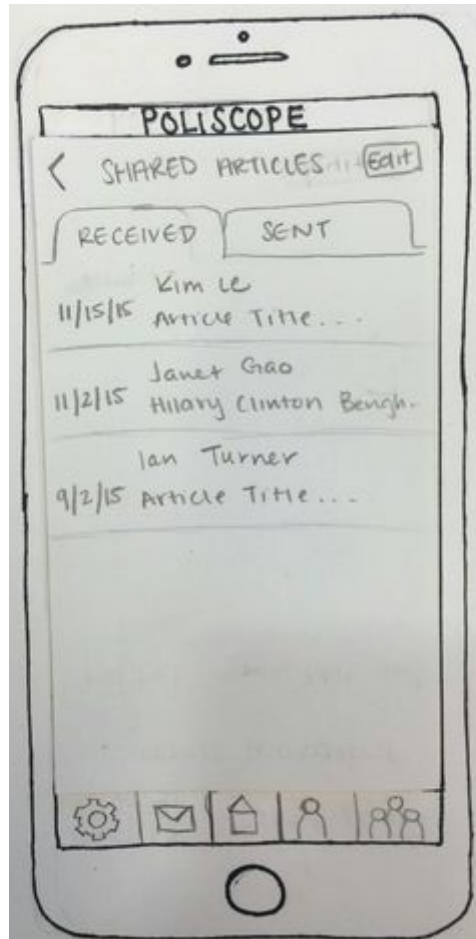
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B. Sharing news articles to profile or directly to friends



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 e-mail (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

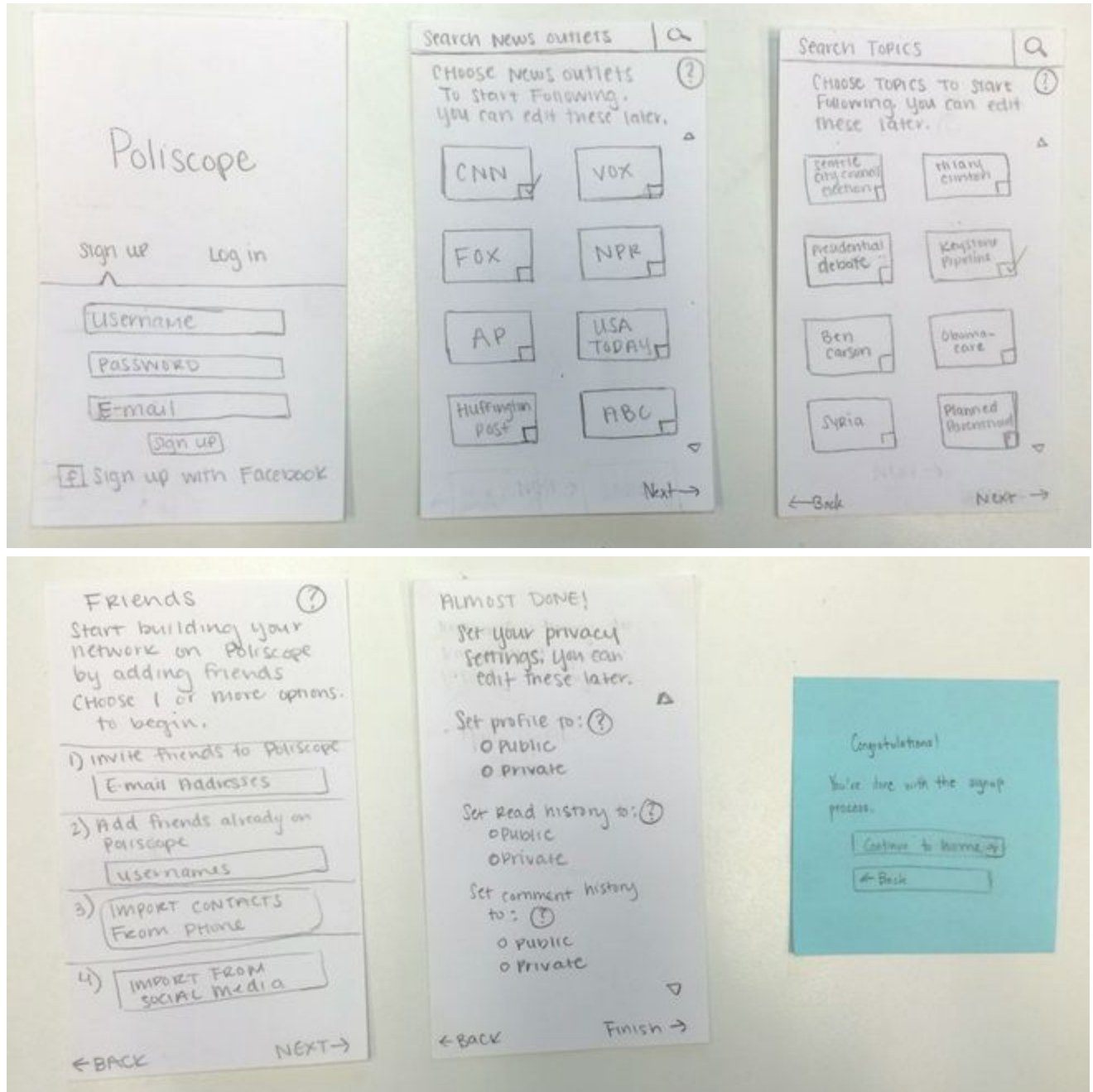


The user can access their "Shared Articles" page by clicking on the envelope in the navigation bar at the bottom of the screen. On this page, users can view articles that are sent to them from friends, as well as articles they have sent to their friends. A notification will appear on the navigation bar,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

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- 2.) Personalization of News Consumption
 - A. Onboarding process

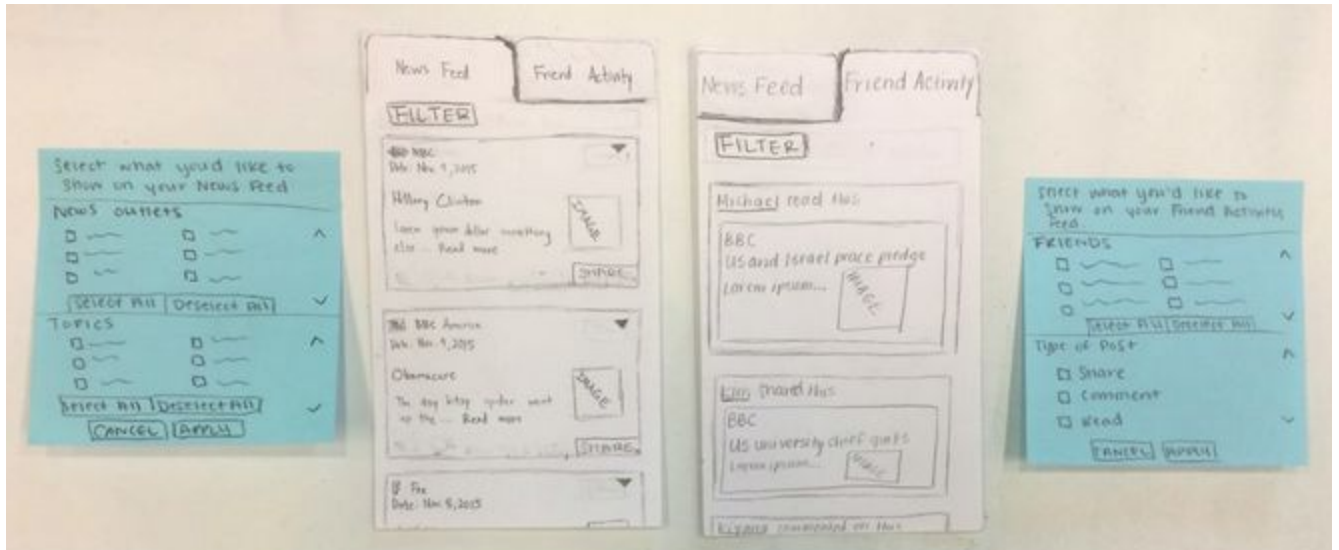


These screens demonstrate the onboarding process. After a user signs up, they are led to screens to pick news outlets and topics they would like to follow (to begin with), a screen with different options to add friends to their Poliscope friends list, and finally, a screen that addresses privacy settings. 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.

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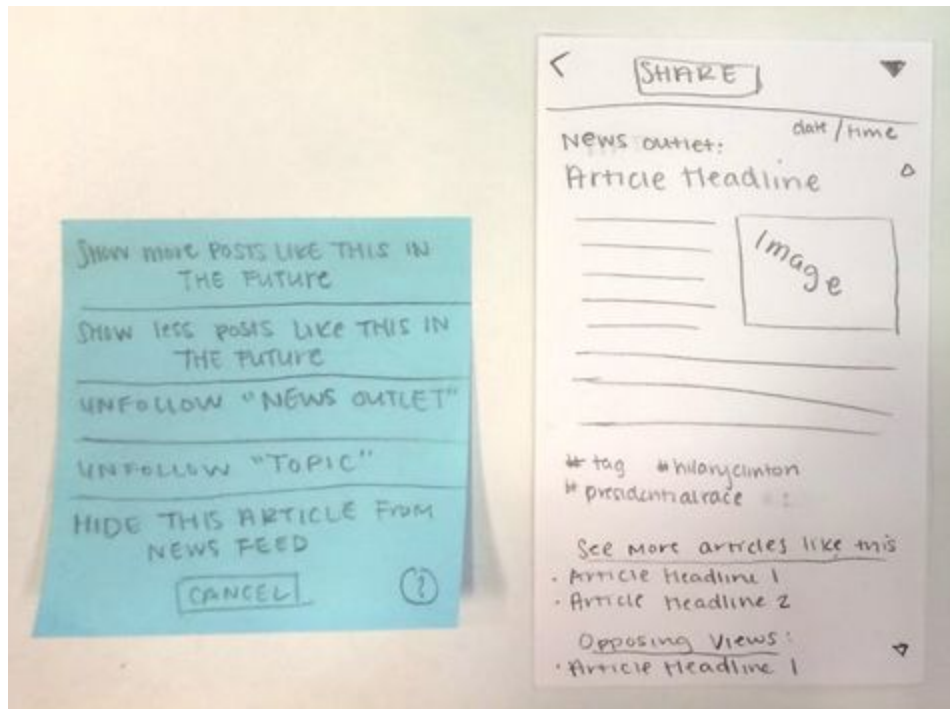
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B. Filtering news feed & friend activity



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

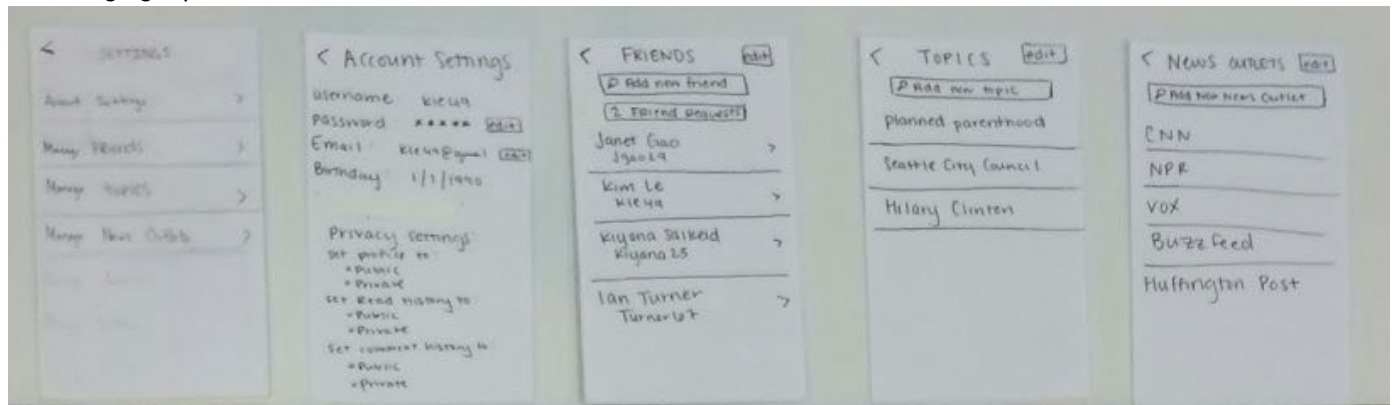


By clicking the triangle button in the right hand corner, users are able to choose from a list of options of actions to impose on the article. For example, If they do not like this specific post, they can prompt the app to show less articles like it. If they do like this specific post, they can request 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.)

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D. Managing topics and news outlets



Through the settings menu, users can manage their friends, as well as topics and news outlets they are following. By clicking “Edit,” users can delete friends, topics, or news outlets. Inversely, the user can add new friends, topics, or news outlets using the designated search bar on each page.

Major Revisions:

1. Improved Onboarding Process

We believe that it is necessary to teach the user about the social networking component of this app, that is:

- Explain the purpose of the “Friend Activity” feed
- Explain how users can add friends
- Explain the privacy component of this app

These are 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. Understanding these features will help users gain the most out of our app. We will either include additional onboarding screens to explain these concepts, or, we will include tutorials in order to further relay 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 will remove 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” 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.” There will be a “Select All” button, as well as an “Unselect All” button for quick selection for each section (i.e., “Topics” and “News Outlets”), if needed. On the “Friend Activity” tab, we believe that it would be prudent to include checkbox 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

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

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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.

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 are abandoning our idea of rearranging the “Friend Activity” feed to reflect that an article has been read. Instead, we will 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, we are providing 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 pop-up 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.