Assignment 5

Thundr: Low-fi Prototyping & Pilot Usability Testing
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Brainstorm With Sound

Mission Statement:
Thundr will increase productivity by freeing everyone to brainstorm naturally, through speaking, not writing their ideas down, and will display a real time visual the whole time.

Value Proposition:
Brainstorm With Sound

]**Problem / Solution Overview**
We identified a need for a better brainstorming tool that could be used remotely, too.

Taking the writing aspect out of the process and replacing it with voice interaction allows for continuous productivity, engagement, and creativity.

Sketches

Overview 3-5 Design ideas (Sample of the 10-20 Sketches)

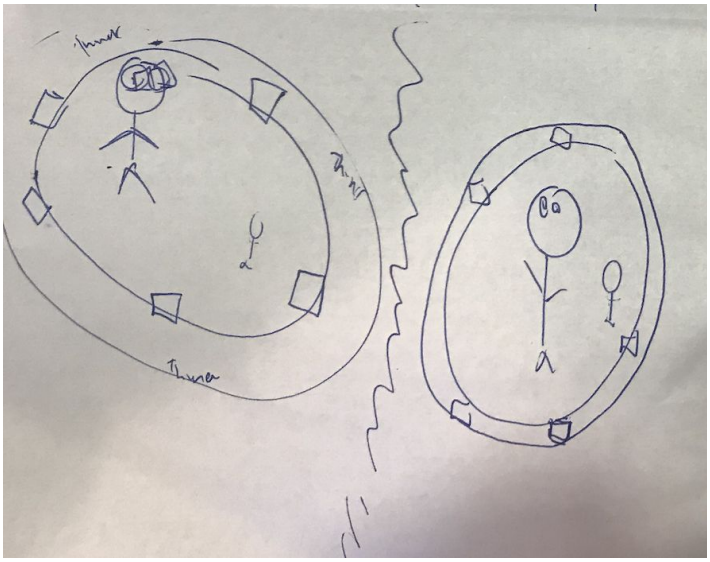

Figure 1: Virtual reality

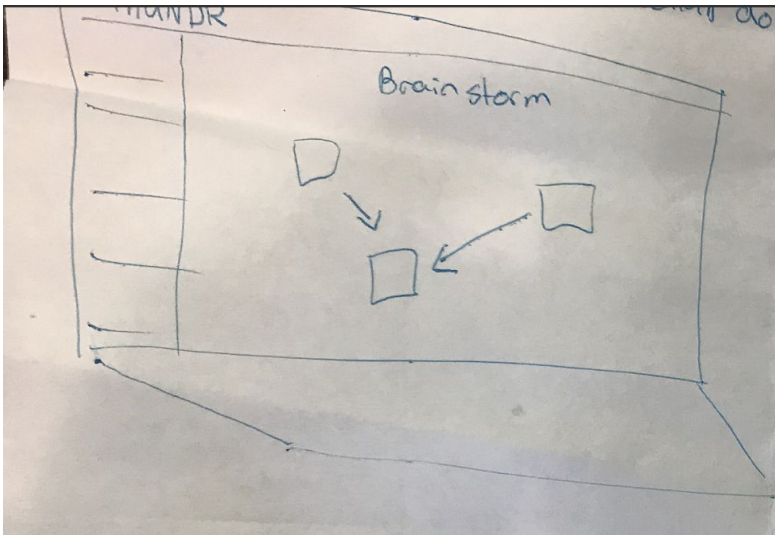

Figure 2: Web based collaborative document

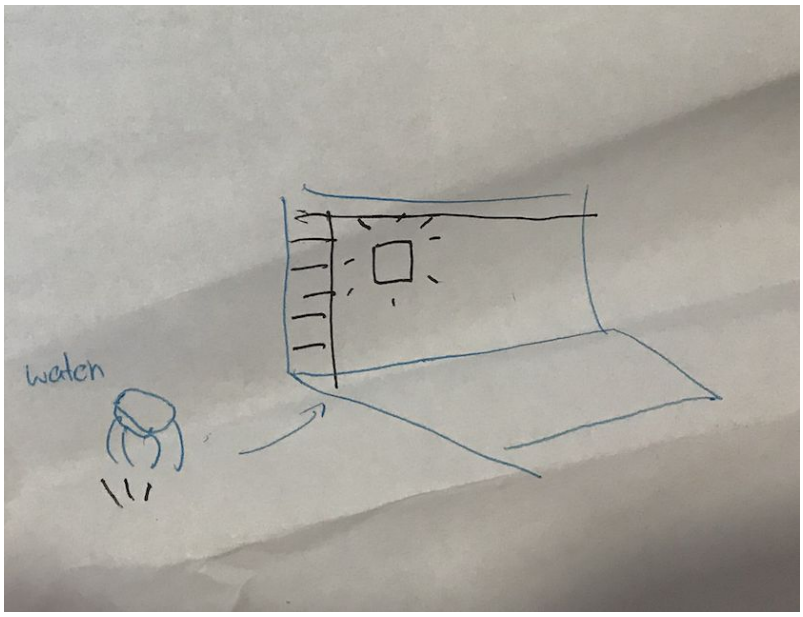

Figure 3: Linked smart watch and computer app

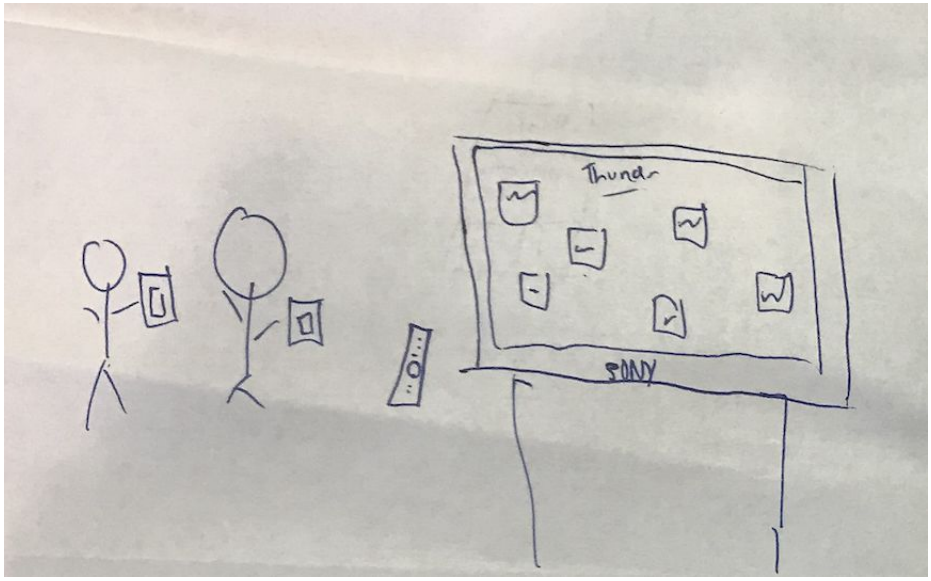

Figure 4: Phone linked with TV

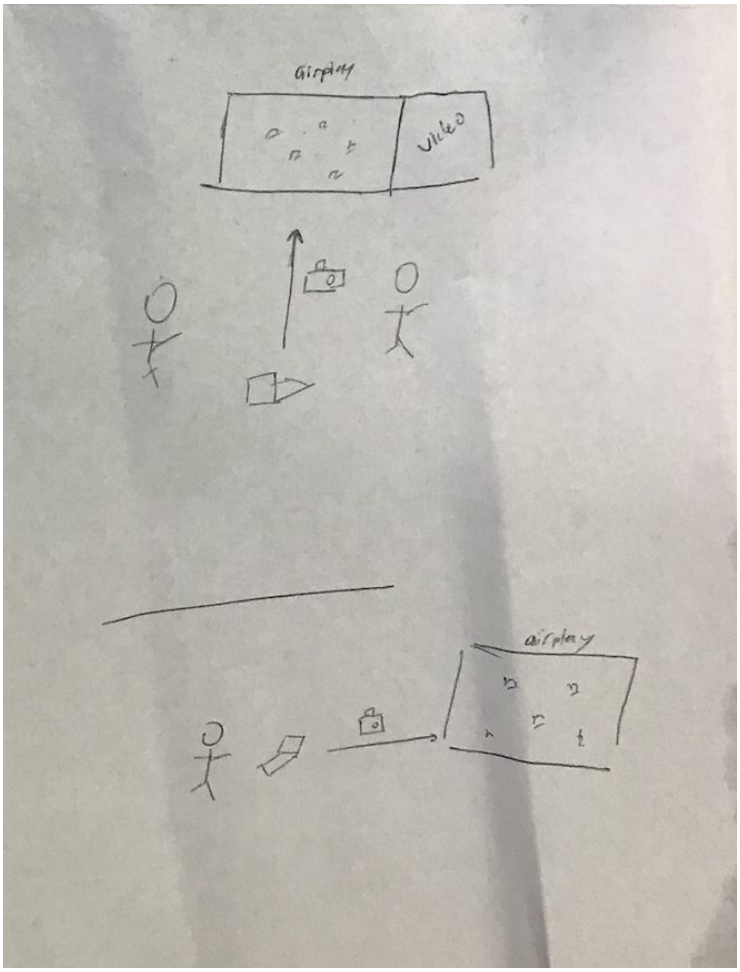

Figure 5: Video recording chat and document

Top 2 UI Design Sketches

The top two designs were an iOS application and a web based application.

Below are the more detailed storyboards for our top two designs.

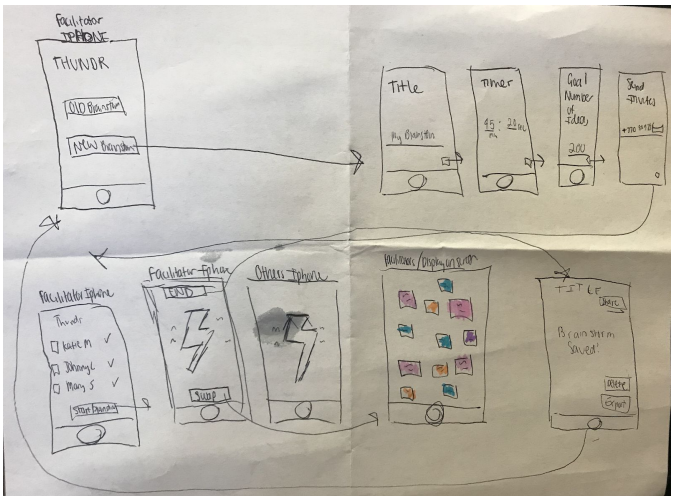

Figure 6: iOS Application

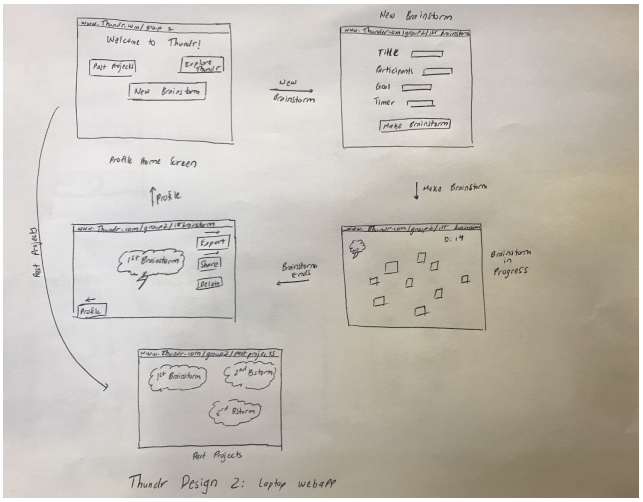

Figure 7: Web Based Application

Selected Interface Design: iOS Application

Design 1 (iOS Application): Facilitator initializes the brainstorm on their phone, sends codes to participants' phones. Participants speak into phones to register ideas. Participants' phone displays look the same; facilitator's phone display has facilitator screen.

Pros	Cons
- Everyone speaks into phones, allowing them to move around during brainstorm - People can commit full attention to the brainstorming process; they can just speak into their phones and move around while ideas pop up on the shared display (TV, projector, etc)	- If we only build on iOS, relies on every participant having iPhone - Working remotely becomes different than just working locally (since we're just working with iPhones, the remote users have to be treated as "semi facilitators" so they can push the UI onto a larger display)

Design 2 (Web App): Facilitator initializes the brainstorm on a laptop, sends codes to participant's laptops. Participants speak into laptops to add ideas.

Pros	Cons
- Development is isolated to web application since everyone just uses their laptop - Working remotely doesn't end up adding much more complexity than working locally	- Participant's are locked to their laptops (can't go too far away or their ideas aren't heard) - Takes away from our value proposition of making people more engaged in the brainstorm

We decided to go with design 1. We decided that being locked to your laptop diminishing the huge benefit of our product: increased engagement in the brainstorm. When nobody's locked to their laptop, engagement in the brainstorm will increase.

Storyboards for 3 Tasks

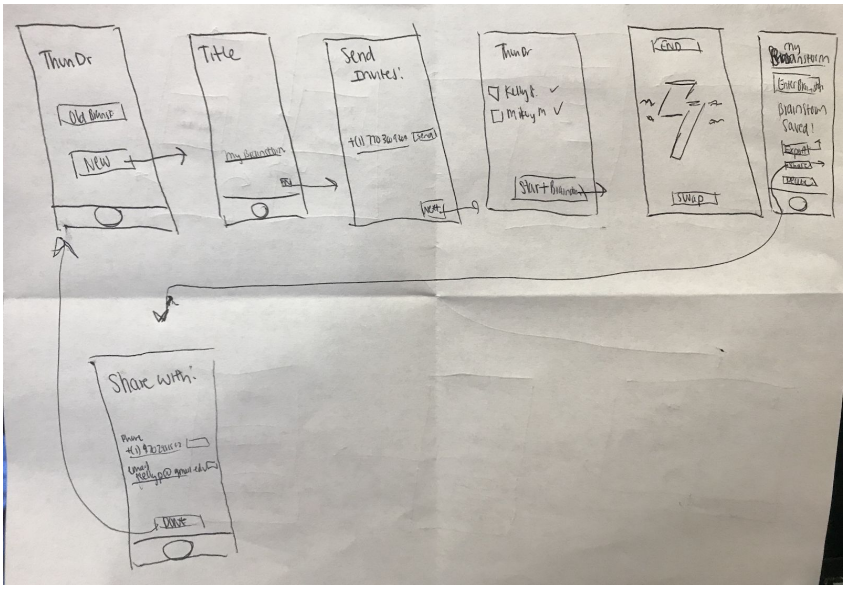

Figure 8: Task 1 - Create and share new ideas

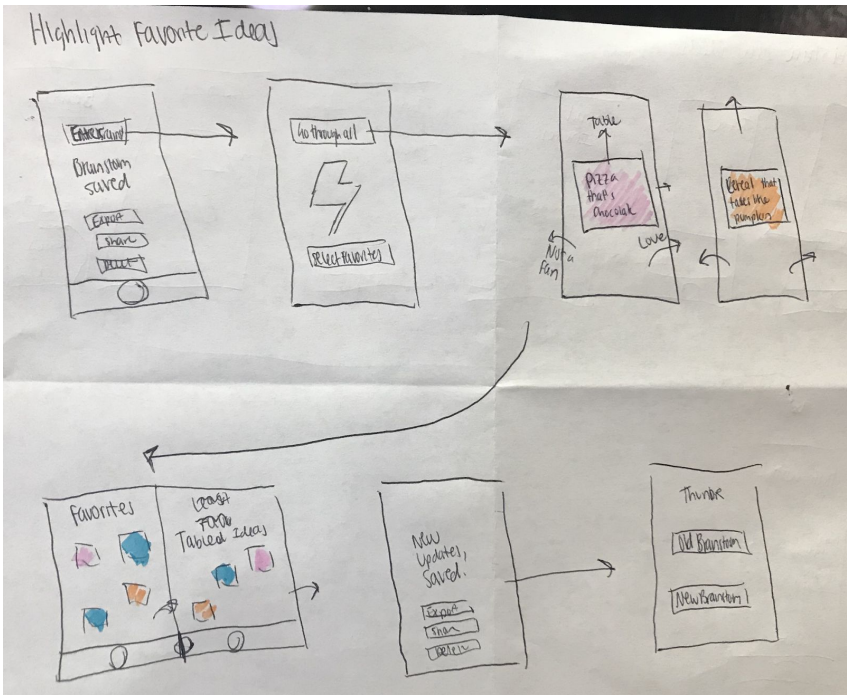

Figure 9: Task 2 - Highlight and present favorite ideas

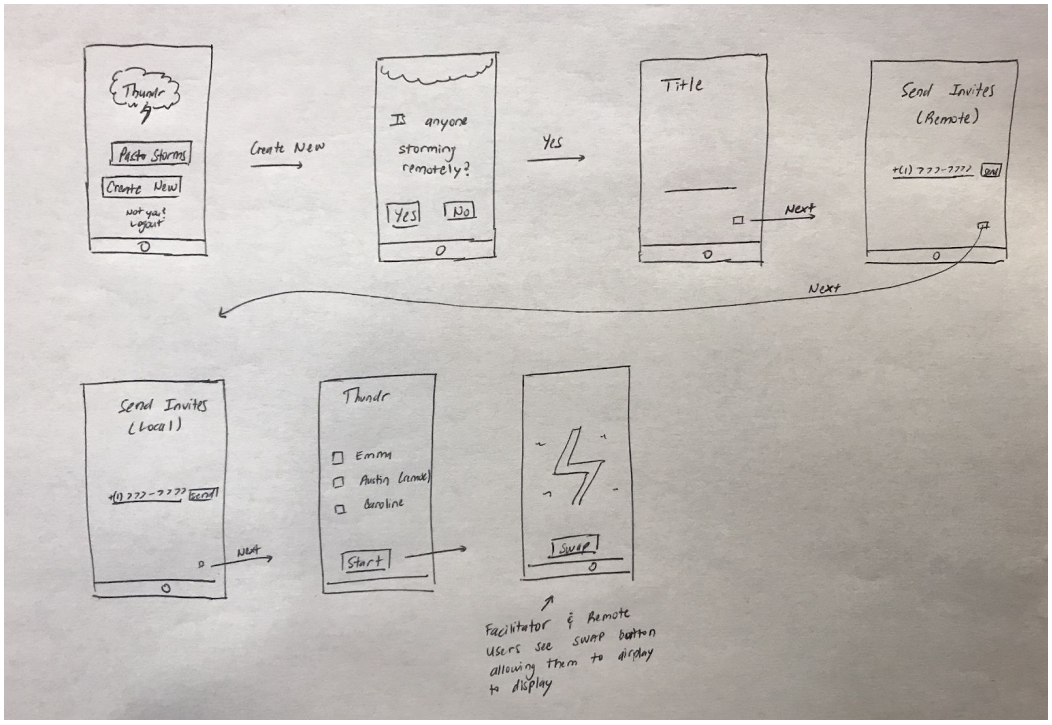

Figure 10: Task 3 - Work with remote user

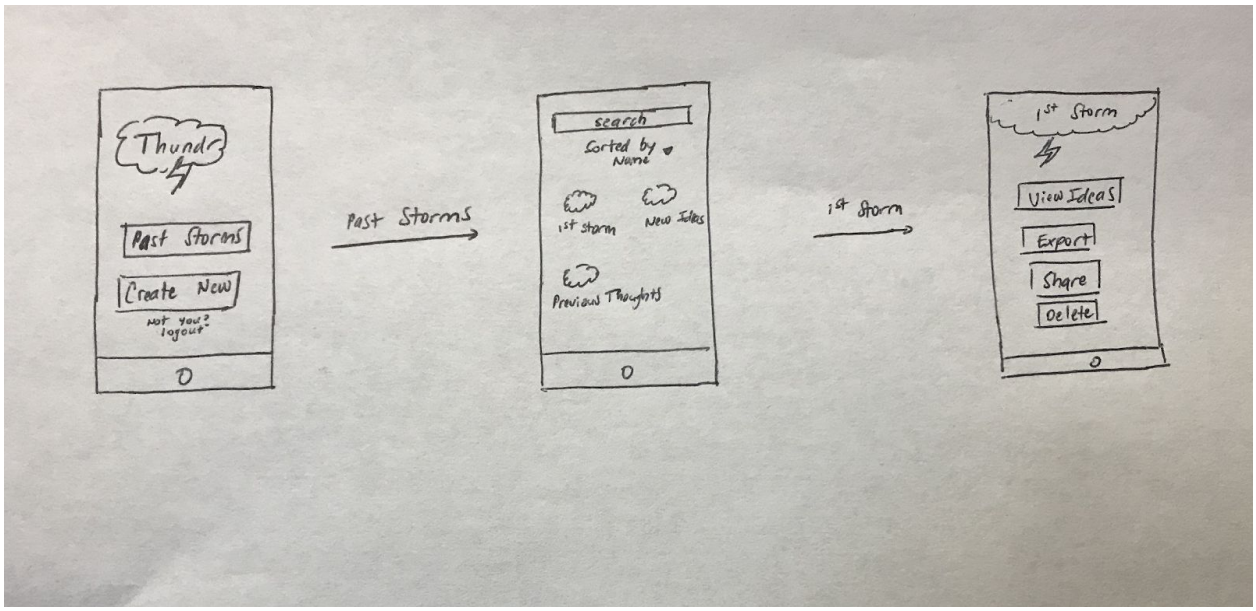

Figure 11: Task 4 - Access old brainstorm

Prototype Description

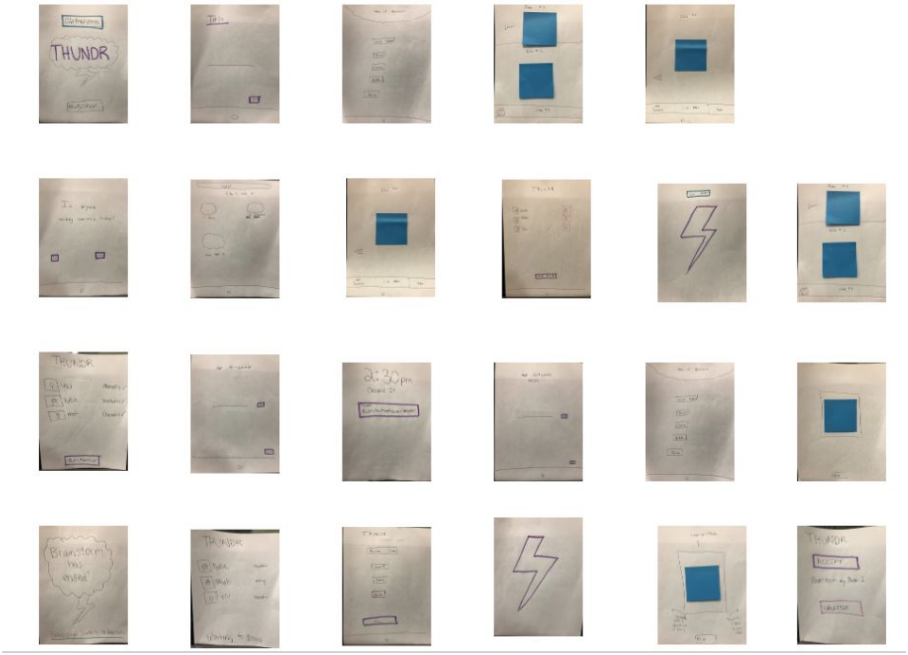

Figure 12: Complete overview of lo-fi prototype

Prototype Description:
Each picture above represents a screen that's accessible on the Thundr iOS app. When you open the app, you're shown the menu screen where you can create a new brainstorm or review old ones. The prototype takes the user through a sequence of screens necessary to start a brainstorm and review the ideas generated.

Task 1: Create and Share New Ideas

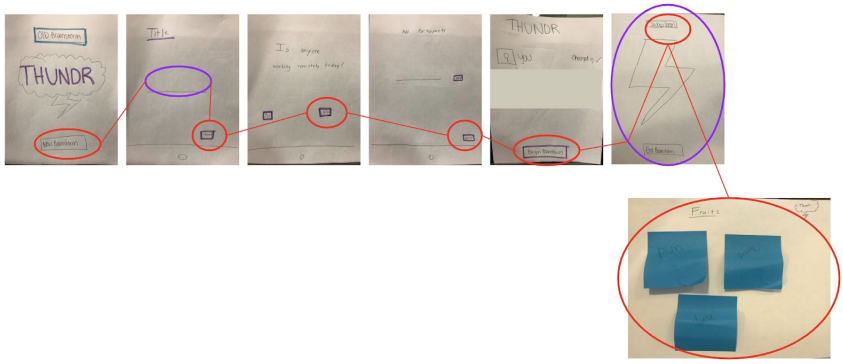

Figure 13: Task 1 flow

Task 2: Highlight and Present Favorite Ideas

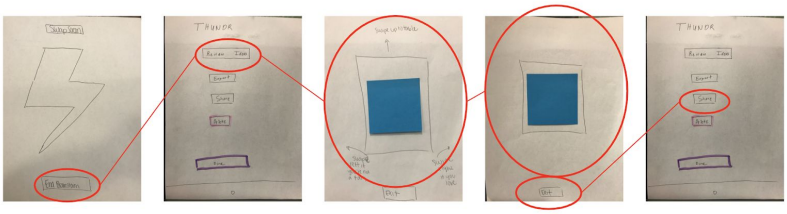

Figure 14: Task 2 flow

Task 3: Work Remotely from Team

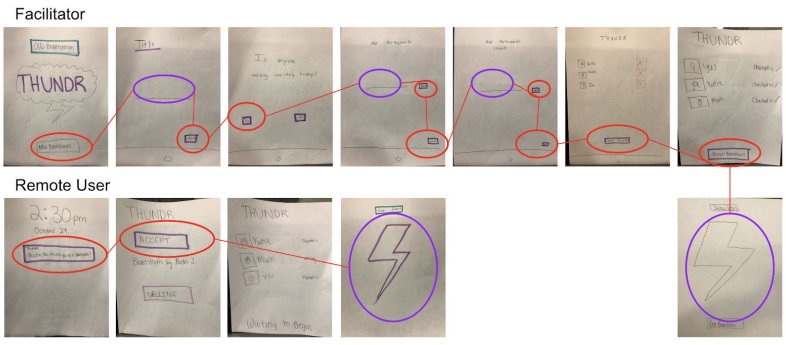

Figure 14: Task 3 flow

Method

Team Member Roles:
Facilitator/Greeter: Austin, Emma
Computer/Recorder: Austin, Caroline

Participants:

1) Drew: a student in his 20s, found at Tresidder. We asked him if he had time to spare and he volunteered to help us out as our first subject.
2) Jeff and Marc: two Stanford graduates (~'80s) visiting for a reunion weekend. They were excited to help and see what current Stanford students are up to. Marc is a medical director who "brainstorms with his team daily." Jeff is on a board of directors so each time they meet they need an effective way of brainstorming.
3) Kristen, a non-profit founder, who said that she works with her teams remotely frequently

Environment:
We met each participant outside of Tresidder. Upon introducing the concept, we told them they were at work in the conference room, about to start a brainstorm. For Marc and Caroline, we told them they were conference calling with a remote colleague. Additionally, there was a foam board used as the display of the brainstorm.

Tasks and Procedure:
Each participant was asked to be the facilitator of a new brainstorm. They had to initiate a storm, then after the brainstorm they were expected to review their generated ideas and highlight key ones. We asked Jeff and Kristen to invite a remote participant also.

1) Simple: initiate a brainstorm and invite participants. This is the most common task a user would participate in using Thundr. And if the user were not the facilitator and were only a normal participant, they would have an even more simple task: accept an invite to a brainstorm.
2) Medium: invite a remote user. This would be a slightly less common task for a user. A non-facilitator wouldn't ever have to deal with this; brainstorming
3) Complex: review generated ideas and highlight ideas / review old brainstorm. This seemed like it might be the least common task; presumably directly after the brainstorm, your team would consolidate ideas and discuss them right there, but it's possible they'd want to look at a brainstorm they had 2 weeks ago.

Test Measures:
We feel that the most important quality for our app to have is an intuitive, efficient feel. Nobody will use it if it's more confusing or time consuming than just brainstorming by hand. Therefore, our goal from the lo-fi testing was to assess the usability of our app and decide if there were confusing interfaces or prompts that we had to adjust.

Results

Each of our participants said that the prototype was very intuitive overall, which was great since our goal was to make a simple interface that allowed the user to initiate a brainstorm as quickly and as easily as possible. Each was able to complete all of the tasks successfully and with little confusion, which we took away as a success.

Our participants helped us realize some potential issues with our design, though.
The “delete” button on the “review brainstorm” screen was confusing to both Drew and Marc, and they thought they could use it to delete ideas from the brainstorm; its actual use is for deleting the entire brainstorm.

The screen that had the most problems was the screen the user sees when they’re reviewing old ideas and they’ve selected a specific idea. Our takeaway was that the wording for the “vote” button may need to be changed to make it more clear what exactly we expect the user to use that button for.

Similarly, when using the “vote” screen, our third participant proposed a different system for voting than the Tinder-like swiping system. They suggested we might want something other than a binary, when talking about how much we like ideas.

Discussion

While designing the prototype, our goal was to make each slide as intuitive as possible. Based on our results and the participant feedback, the tentative design was easy to follow. Each participant was able to execute each task that we gave them with ease and efficiency. The participants who said that worked remotely often said that they could use a tool like this and gave us suggestions based on their own experiences with brainstorming sessions.

The most important thing that we learned from this experiment was that our proposed idea of how users will access old brainstorms needs to be a bit reworked. We learned that when people select to “vote” on a brainstorm they do not necessarily expect to be taken to a screen that lets them vote similar to Tinder. We also called into question the need for a vote. We plan to design an intuitive and useful way for users to access old brainstorms and order them how they see fit.

Another important piece that we learned from our experiments was our need to clarify some of our buttons. One participant almost deleted his entire brainstorm from the “Delete” button. Additionally, our “Vote” button seemed to cause a bit of confusion; the participant did not know what/why she was casting a vote for a particular idea and was confused to the method we had designed of voting.

Our test has led us to both positive and negative realizations about our current design. However, our experiment could not test for every situation. Our participants were not placed in a situation where they felt they *needed* to access an old brainstorm and have the session logically ordered or stored. Our experiment could not reveal how people expect or hope for their brainstorms to be organized. Testing this design in a more organic way would be difficult as many potential participants are not using our app for an important purpose. We may want to talk to potential users who brainstorm frequently and ask how they use old brainstorming sessions, how they interact with individual ideas, and how they go about choosing the one/few ideas that they end up implementing.

Word Count: 1480