

# A5: Low-Fi Prototyping & Usability Testing

10/19

SparkBook

# Team



Elijah

Symbolic Systems '26



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Design + CS '28



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Computer Science '27



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# Value proposition

Team 2

**“Spark your creativity.”**

SparkBook's value proposition encapsulates the experience we want the user to have using the app: facilitating the creativity process for artists.

## Problem

Artists struggle to effectively and quickly store all of their various sources of inspiration in a centralized and organized structure. This makes it harder for them to go back to these sources when they are creating art.

## Solution

A digital notebook that allows artists to store multimedia sources of inspiration while smartly organizing them based on their chosen categories.

# Index

Team 2



**Sketching  
Exploration**



**Low-fi  
Prototype**



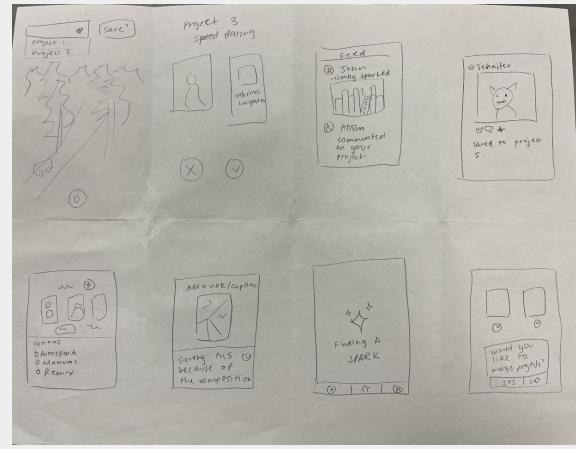
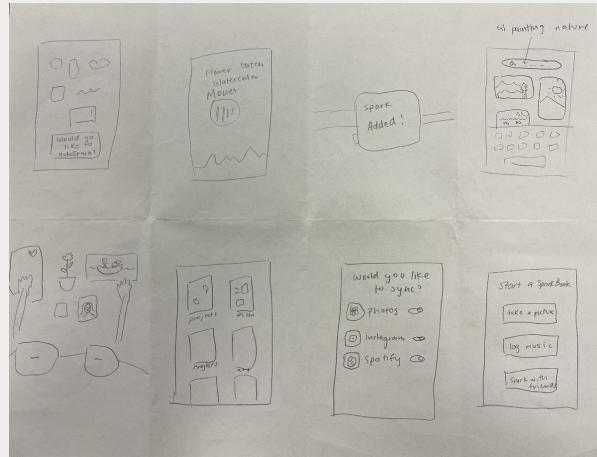
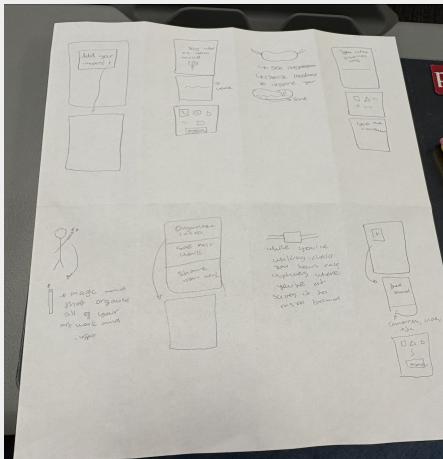
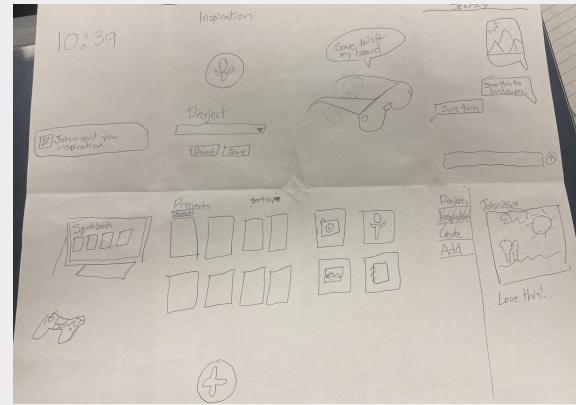
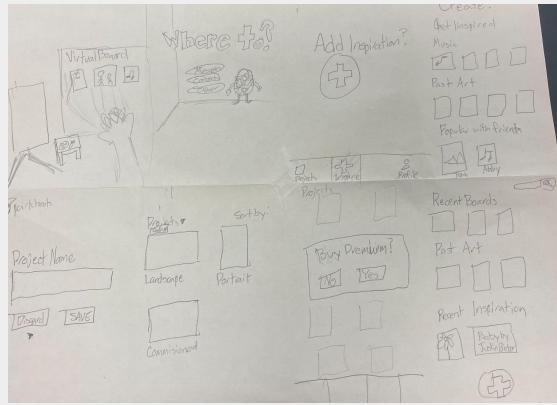
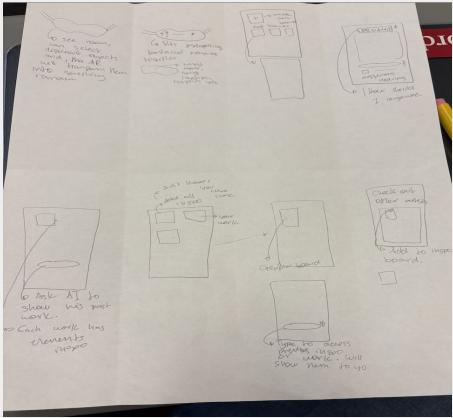
**Usability  
Testing**



**Discussion**

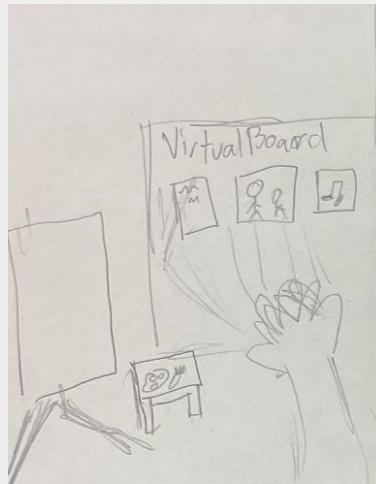
# Solution Ideas

# Solution Ideas

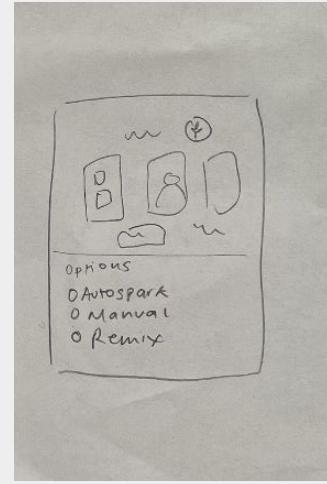


# Solution Ideas: Highlights

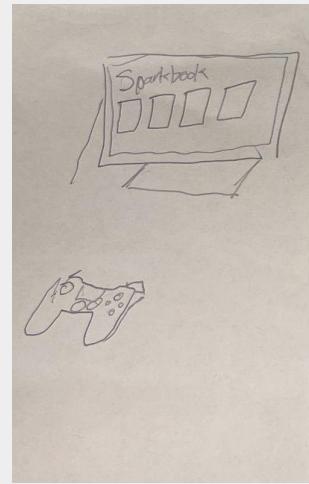
AR Virtual Board



Unique sorting options on mobile

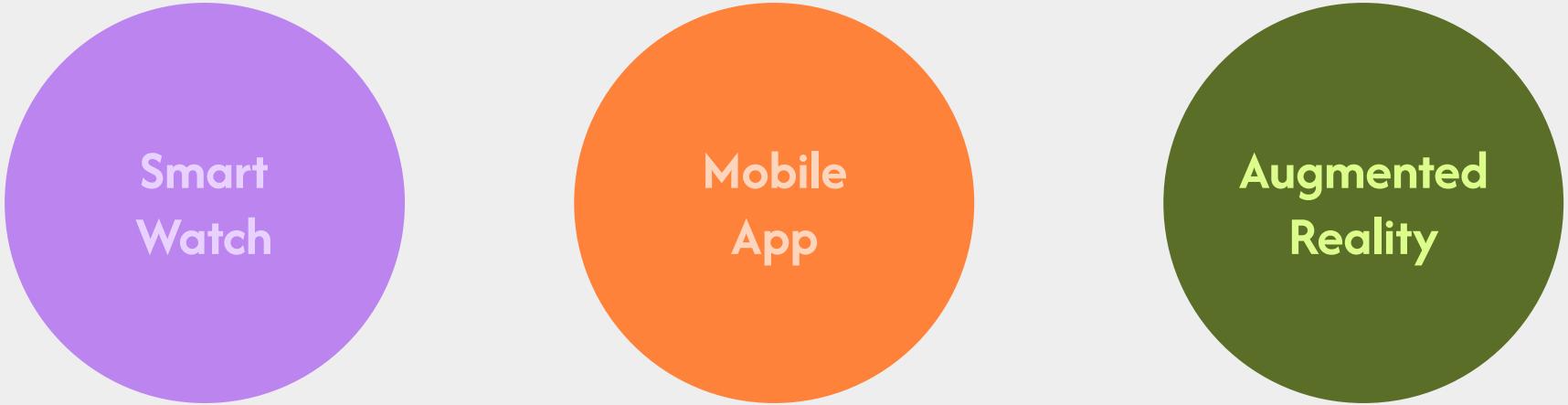


Gamification?



# Chosen realizations

## Chosen Realizations



Smart  
Watch

Mobile  
App

Augmented  
Reality

# Smart Watch Concept Sketch

The concept illustrates a smart watch with a unique feature: a small square button on the strap that functions as a pin or sensor. Jenny uses this button to interact with her environment and save memories.

**Top Image:** A green strap with a small square button featuring a plus sign (+).

**Panel 1:** Jenny walks into the Dutch Windmill and wants to save this place for future art creation as a source of inspiration.

**Panel 2:** She saves the pin on her watch.

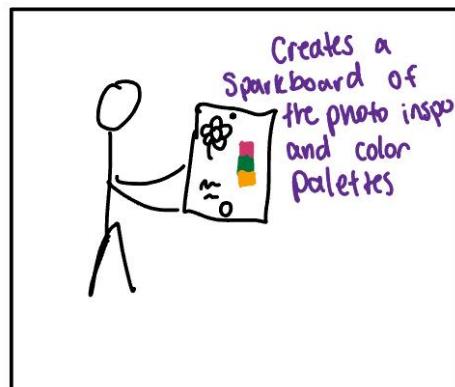
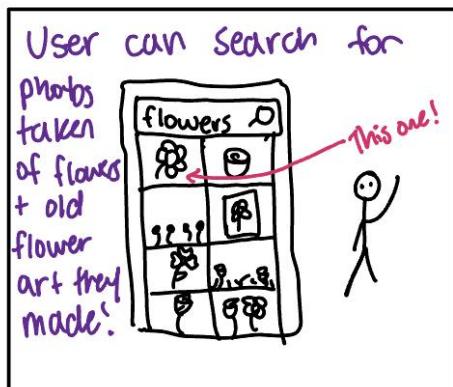
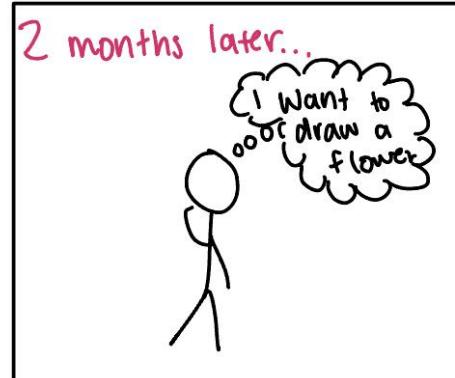
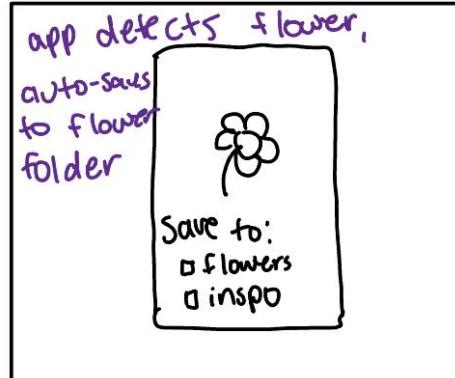
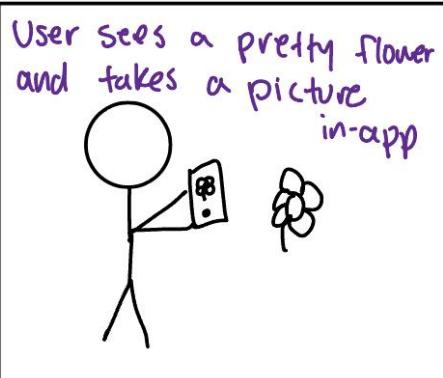
**Panel 3:** Jenny creates a VOICE recording noting her inspiration, "I want to do a watercolor piece with some flowers to capture the landscape."

**Panel 4:** On the way back she listens to a song which perfectly matches the mood she wants her art to have.

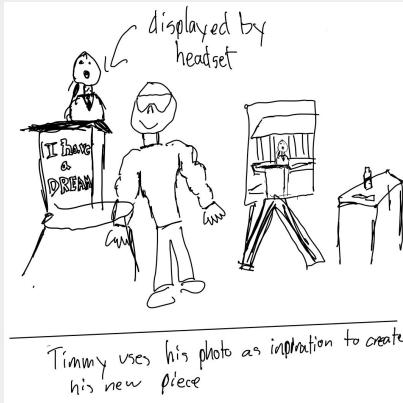
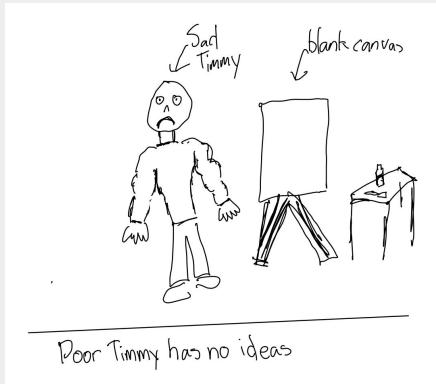
**Panel 5:** She saves the song on her watch.

**Panel 6:** She creates the piece while playing back the audio bits and music. She can access the location and its photos online to get reference photos.

# Mobile App Concept Sketch

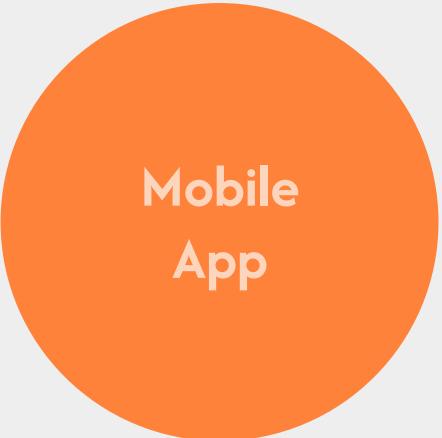


# AR Concept Sketch

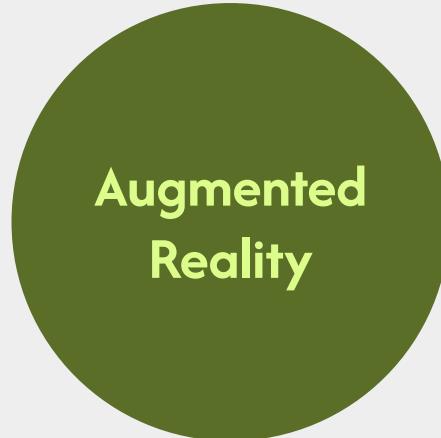


# Top 2 Realizations

## Top 2 Realizations

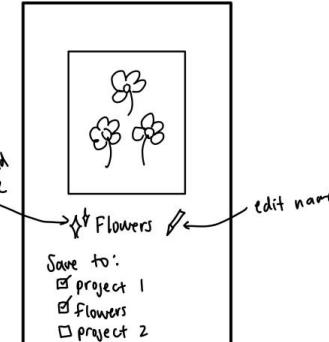
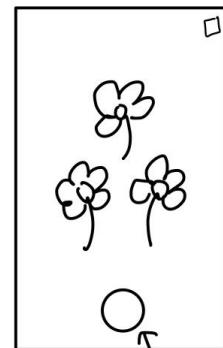
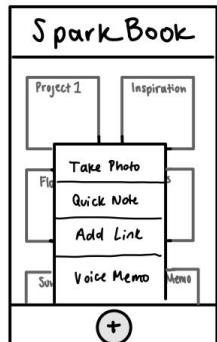
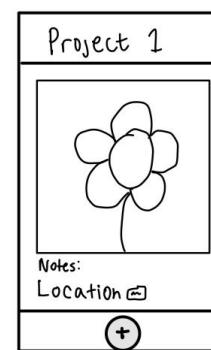
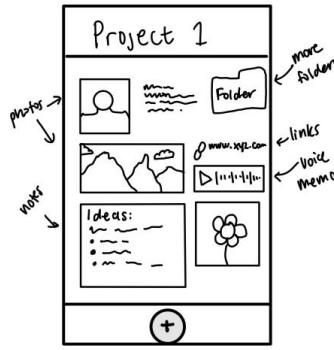
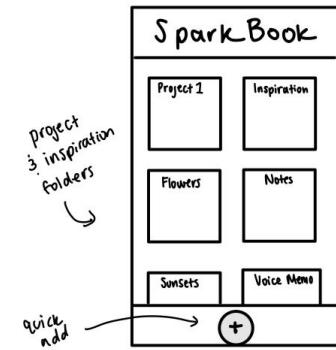


Mobile  
App

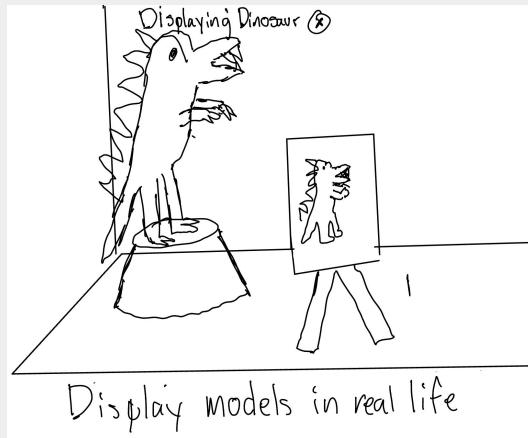
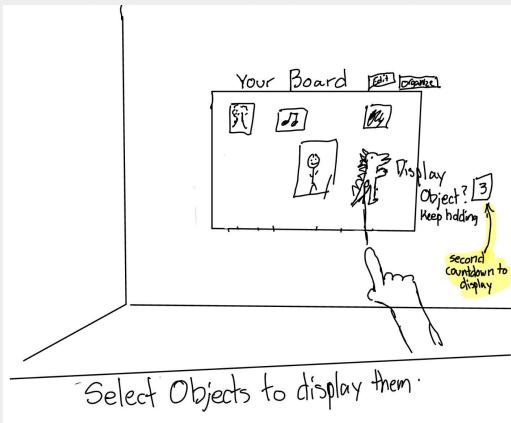
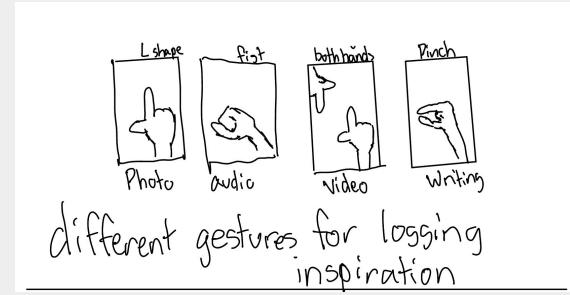
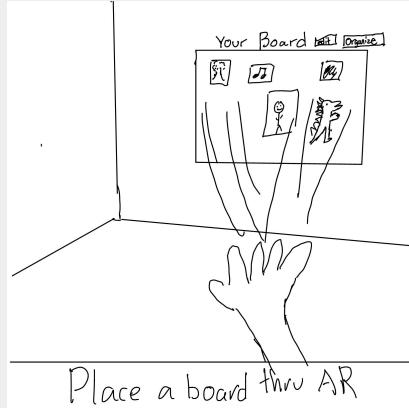
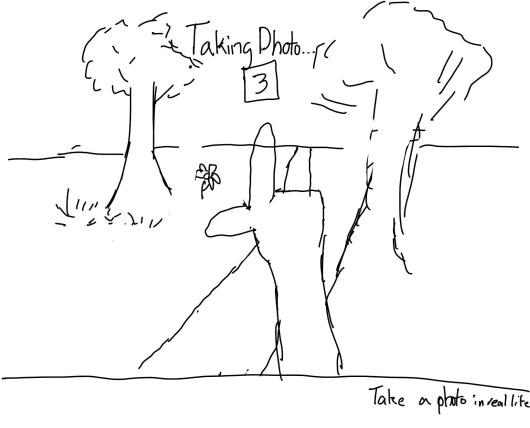


Augmented  
Reality

# Mobile App screens



# AR Screens



# Pros and Cons

# Mobile App Pros & Cons

## Pros

- + Lightweight and highly accessible
- + Accepts multimedia inputs (photo, audio, video, text)
- + Syncable with other ecosystems (ex. Spotify for music)
- + Meets users where they're at

## Cons

- Limited screen space to organize ideas
- Grounded in 2D space, which hinders artists ability to be immersed in their environment
- Overload of alternate mobile applications
- Hard to scale down some inputs like films into an app

# AR Pros & Cons

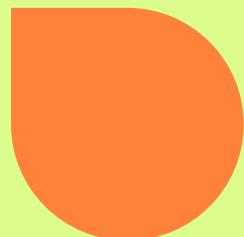
## Pros

- + More immersive and can replicate original experiences/emotions more closely
- + High degrees of customization in the creative/organizing space
- + Allows user to capture higher fidelity visuals
- + Can help artists with limited access to space feel more free

## Cons

- Not accessible (requires special equipment)
- Steeper learning curve and less intuitive as this is a more novel solution
- Artists are apprehensive about new technology and have established habits
- Harder to document spontaneous moments

# Selected Solution



## Chosen Solution

# Mobile App

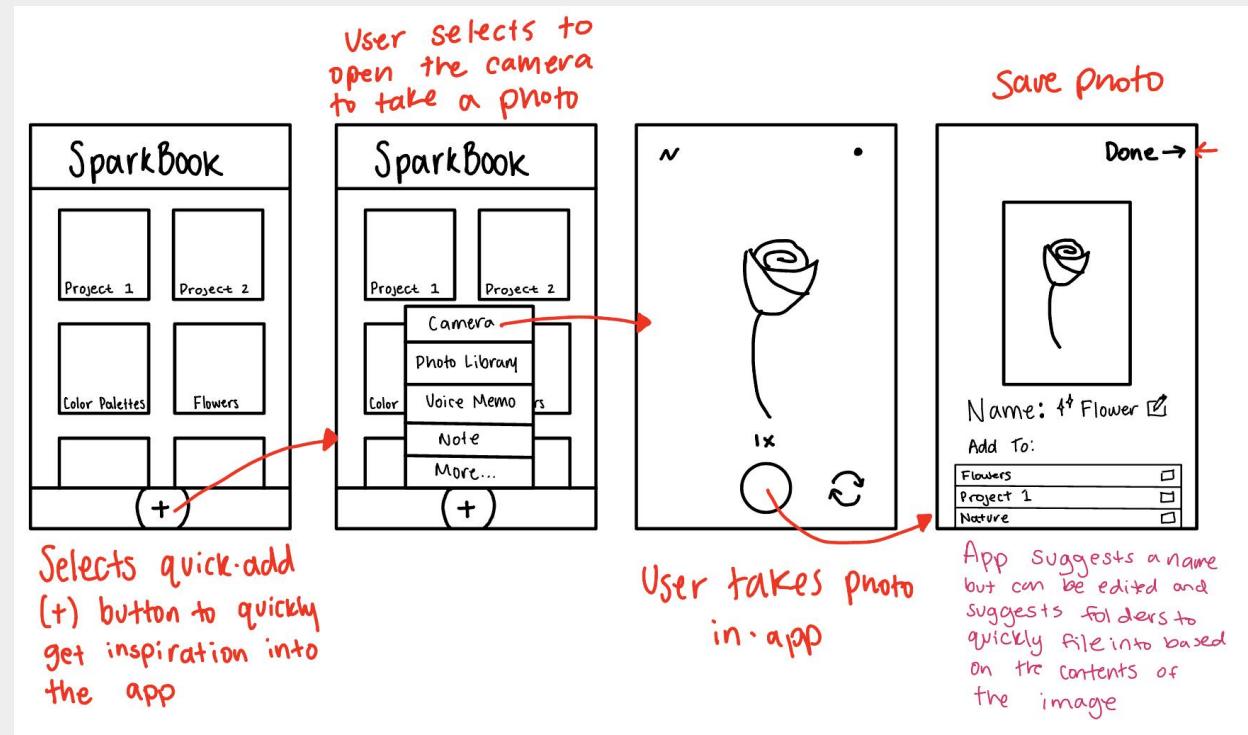
### *Why?*

- Largest pain points deal with **accessibility over immersion**
- Another large pain point is the ability to **add different mediums**—mobile phones tend better to this as it most people's primary means for media consumption (music, social media, photo-taking)
- Must be **intuitive** for the artists to quickly upload content, thus **a friendlier learning curve is needed**
- Artists tend to be **averse to technology**, so an extreme solution is not appropriate for our user demographics

# Storyboard

# StoryBoard: Simple Task

Taking a photo of a spontaneous source of information and save it into a folder/project.



# StoryBoard: Moderate Task

Viewing the social feed of other people's art and saving someone else's piece to one of your own inspiration folders

The storyboard consists of six panels arranged in two columns and three rows. The left column shows the initial state of the application, while the right column shows the progression of interacting with the social feed.

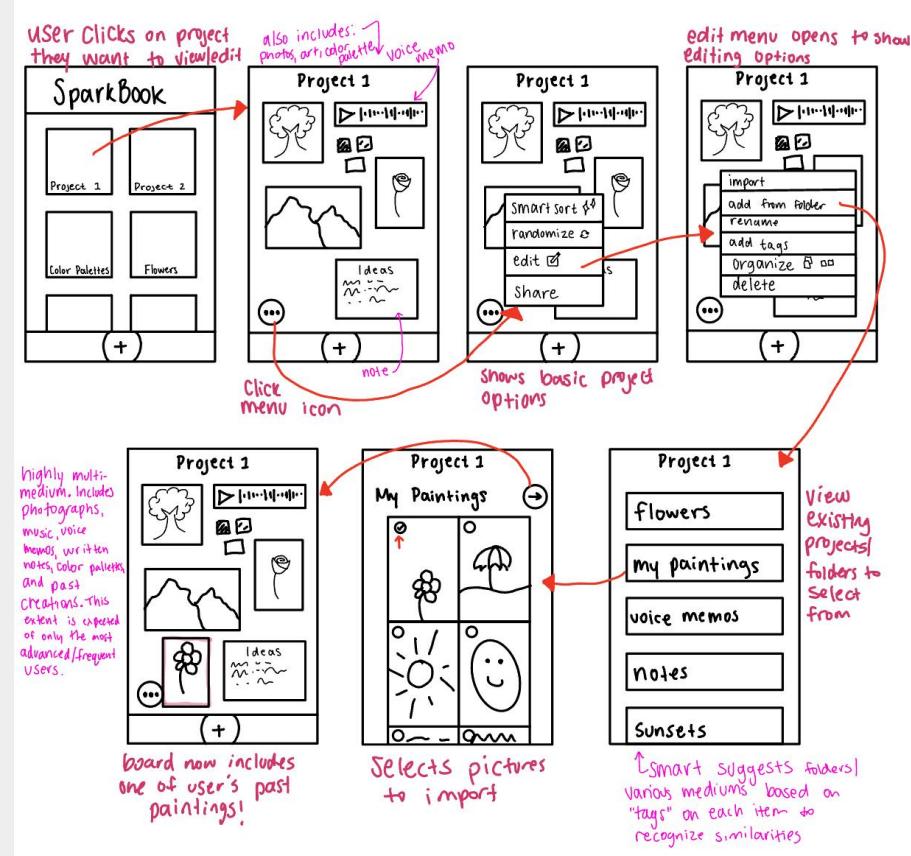
- Panel 1 (Left Column):** Shows the main interface of "SparkBook" with sections for "Project 1", "Project 2", "Color Palettes", and "Flowers".
- Panel 2 (Right Column):** Shows the "SparkBook SOCIAL" tab selected. It displays a grid of user-uploaded art pieces, including a tree by Emma, a snowman, and a drawing by Alice. A red arrow points from the text "Click on Social Tab" to the tab itself.
- Panel 3 (Right Column):** Shows the same social feed. A red arrow points from the text "View art from your friends and other users" to the top-left art piece (the tree by Emma). Another red arrow points from the text "Tap the like button to share your excitement!" to the like button on the same post.
- Panel 4 (Left Column):** Shows the social feed after the like button has been tapped, with a red heart icon appearing next to the post.
- Panel 5 (Right Column):** Shows the social feed with a modal overlay titled "Save to:" showing options like "Favorites", "Art Projects", and "My Projects". A red arrow points from the text "Select any place you want to save" to the modal.
- Panel 6 (Right Column):** Shows the social feed with a modal overlay titled "Save options:" showing a list of existing folders and projects. A red arrow points from the text "Save options: shows your existing folders/projects" to the modal.

**Annotations:**

- "Click on Social Tab"
- "View art from your friends and other users"
- "Tap the like button to share your excitement!"
- "Now you have liked and saved another user's photo"
- "Select any place you want to save"
- "Save options: shows your existing folders/projects"

# StoryBoard: Complex Task

Compiling all the different multimedia forms of inspiration (music, notes, images, people, their own work, voice recording) in one place



# Low-Fidelity Prototype

# Key components of Snyder's Method

## Roles in the test

During the paper prototype usability test, the facilitator, computer, and note-taker roles were assigned.

## Prototype materials

Prototype was handmade (paper) and had cutouts to display pop-ups & menus. We drew the user's inspirations on the spot and adapted during the session (e.g. they wanted to add a quick note within the board).

## Testing procedure

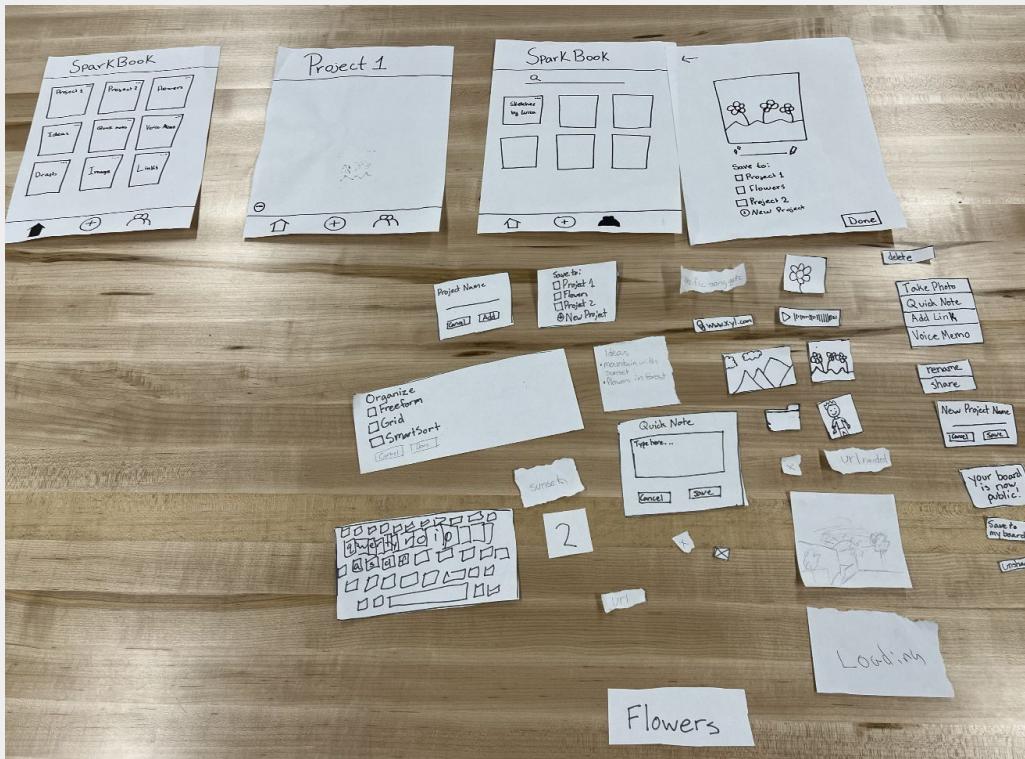
We prepared an example scenario (with our three tasks) and debriefed and discussed with the user to gain a better understanding of their experience

## Data gathered

We gathered:

- Quantitative (error counts & succession rates)
- Qualitative (user confusion & comments)
- Usability insights

# Our Low-Fi Prototype



## Takeaways from Snyder:

- **Buttons and checkboxes** to represent the user's selection and options
- **Text fields** where users can input their own words
- **Drop-down lists** to reveal more information
- **Software background**
- **Blowing up small-screen interfaces**

# Testing Procedure Setup

# ENVIRONMENT & APPARATUS

We created a paper prototype and manually responded to user actions. These paper prototypes were then laid out on a table in front of our participants as we consulted our script

# Team member roles



Elijah

Computer



Luiza

Facilitator



Claire

Note-taker



Mikela

Note-taker

# PROCEDURE & PROCESS

- Give users more context behind SparkBook
- Demonstrated how to “talk through” their thinking
- Present hypothetical scenarios
- Assessed how easily users did tasks
- Gathered thoughts on overall app use

# Key Metrics



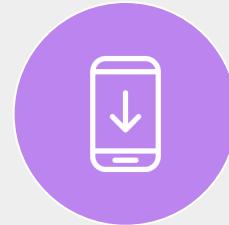
## Intuitive Navigation

Measure # of misclicks in performing a task



## Ease of Task Execution

Ask how difficult it was to navigate the app on a scale of 1-10



## Eagerness to Use App

Ask how likely they are to use different features of the app on a scale of 1-10

# Usability Goals

## Usability Goal 1

**Flexible:** It is adaptable to different sources of inspiration and organization preferences.

### Process data

- What types of inspiration sources were added
- How users choose to organize their work (grid, free form, smart sort)

### Bottom-Line data

- How many users were successfully able to add their inspo source.
- How many users used the organization features

## Usability Goal 2

**Efficient:** The user is able to easily perform key tasks throughout the app

### Process data

- User hesitation/confusion points

### Bottom-Line data

- Error rate

# Test Results

# Flexibility: Process data

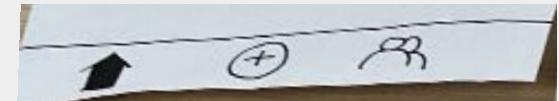
## What types of inspiration sources were added

- Participant 1 **searched the internet** for a cartoon she enjoyed
- Participant 2 **went to a website** to see the vases she liked
- Participant 3 **scrolled through her photo gallery** and found a sunset
- Participant 4 **found a song** that she enjoyed listening to

## How users choose to organize their work

- Only one participant was able to easily identify the button to organize their board.
- None of the participants chose the “Smart sort” feature
- Most participants chose to freely organize their board

# Flexibility: Bottom line data



## Successful addition of inspo sources

- Most participants were able to easily identify the “+” button to add their sources of inspiration.
- One participant wanted to add her inspiration by clicking on the board itself.

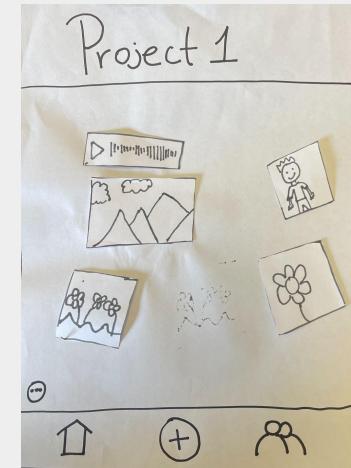
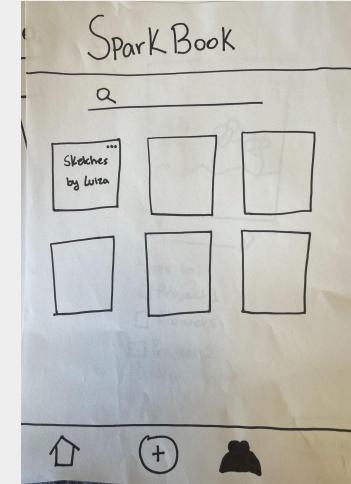
## How many users used the organization feature

- Only 1 participant easily found the three dots button at the corner of the board to select the different organization modes.
- 2 participants did not click on or notice that button at all.
- 1 participant was able to click on the three dots only in the second time that she saw the board.
  - This participant mentioned that if the facilitator hadn't asked her to explore ways to organize the board, she wouldn't have noticed.

# Efficient: Process data

## User hesitation/confusion points

- There was some confusion in trying to share your board to the community. Many users thought that all of the community related activities would be in the community page.
- One participant was confused about adding an inspiration when they are already inside the board.



# Efficient: Bottom line data

## Error rate

- 6 total misclicks across all users throughout the different tasks
- Task 1 had the highest success rate (it was more clear for users to know how to add an inspiration source)
- Task 2 had the most misclicks (users were confused as to how to share their own board within the community)
  - But found it easy to save other people's board to their own boards.

# Task 1 - Adding an inspiration

## 2 Miscalcks

- When one participant wanted to add something while she was in the board, she had a hard time identifying that she could press the add button again.

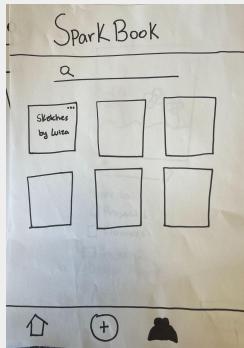


# Task 2 -

## Sharing your board to the community

### 4 Miscalclicks

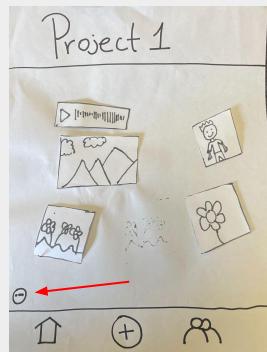
- 3 participants thought that the community button would have an option to share your board with the community.
- “Community space seems like it would be for sharing own work” - Mel



# 0 Miscalicks

## Task 3 - Organizing your board

- However 2 out of the 4 participants did not use the organization feature and manually organized it instead.
- “Button to organize was hard to see. Not clear to be for organization” - Grace



## Person #1: Lyla

About: Art history and English double major, passionate about film production.  
Age: 20

### Task 1

0 misclicks - Was able to quickly identify how to add her source of inspiration.

### Task 2

1 misclick - Clicked on the community icon and then clicked on the three dots inside the project.

### Task 3

0 misclicks - Was able to easily identify the three dots at the bottom of the page for organization.

## Person #2: Mel

About: Enjoys creating pottery and ceramics  
Age: 35

### Task 1

1 misclicks- First clicked on the individual boards instead of the plus sign.

### Task 2

2 misclicks - Spent a long time in the community page.

### Task 3

Was not able to identify the organization button.

## Person #3: Grace

About: Creates physical design prototypes and enjoys music.  
Age: 28

### Task 1

0 misclicks - Was able to quickly identify how to add her source of inspiration.

### Task 2

1 misclick - Clicked the plus button first.

### Task 3

Took a while to find the organize button. Noted that she did not know if there was anything to organize it with.

## Person #4: Mary

About: Enjoys creating poetry and music  
Age: 53

### Task 1

1 misclicks - Quickly identified the add button. But when she was in the board and wanted to add a note, she clicked in the board.

### Task 2

0 misclicks - Easily identified the three dots to share the specific board to the community.

### Task 3

Was not able to identify the organization button.

# OVERVIEW

6

Total misclicks

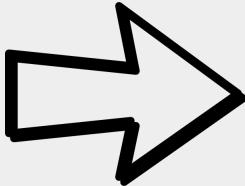
3/10

Difficulty navigating  
(1-10) 10 being the hardest

7/10

Likelihood of using the app  
(1-10) 10 being the most likely

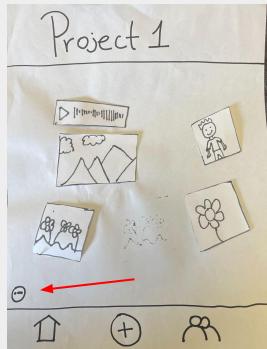
# Takeaway #1



# Design Changes

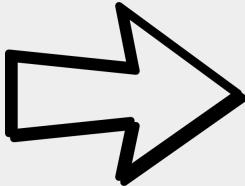
Multiple users had trouble finding the automated organization features and resorted to freeform

- We need a clear way for users to organize their boards
- Replace with a button that correlates with organization on a higher level



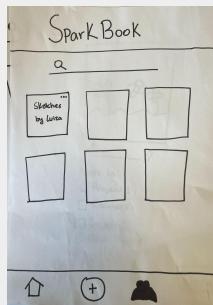
## Takeaway #2

Multiple users **initially believed** the community page would **provide a space** for them to share their items. They didn't expect the only way to share to be on the home page.



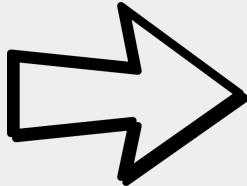
## Design Changes

- We should **provide a clear share button** on the community page
- It might also be helpful for users to be able to view the items that **they have shared on the community page** as well



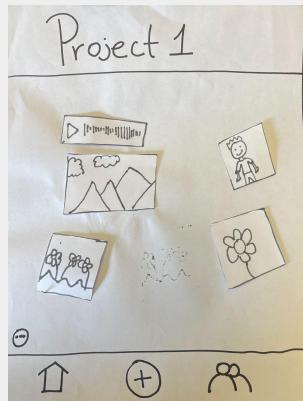
## Takeaway #3

Some users might want an **easier way** to add items to a board they are already in. The add button at the bottom creates an **extra step of picking which project** to save it in.



## Design Changes

- We should provide an **easy way** for users to add items to a board.
- We could **implement a radial menu** that activates when holding on an empty spot on a project a user is in or provide options across the top of the project



# Gaps in low-fi testing

- Hard for users to actually try to import/upload various different sources of inspiration that they had in a paper prototype.
- We couldn't really see how effective the smart organization feature was.

# Thank you!

# Appendix

## Two Roles:

- Computer
- Facilitator

Facilitator: We're creating SparkBook, an app that helps people organize and share their sources of inspiration. It does so by allowing you to store multimedia inputs in one place. You are able to organize these resources through project boards and also ask AI to help auto-organize them. Additionally, you can see the inspiration board from other users and include that in your own creations.

You can navigate through our paper vision by just clicking a button like this. [Name] will tell you if you're clicking on something that isn't clickable. We'd like to see how easily you can navigate through some key tasks on this app. Also while you are navigating the app please speak out loud and share your thoughts. Any questions?

### **First Task:**

Facilitator: The first task we want to try out is adding your different sources of inspiration. You can search the web and we will draw out your inspirations.

# of misclicks \_\_\_\_\_ 0 \_\_\_\_\_

### **Second Task:**

Facilitator: The second task we want to try out is sharing your board with the community.

1. We then want you to go to the community and select what board you want to add to your own board.

# of misclicks \_\_\_\_\_ 0 \_\_\_\_\_

### **Third Task:**

Facilitator: The third task we want you to try out is by organizing your board.

1.

# of misclicks \_\_\_\_\_ 0 \_\_\_\_\_

On a scale of 1 - 10 (10 hardest) how easy is it to navigate this app?

On a scale of 1 - 10 how likely are you to use this app?

**On a scale of 1 - 10 (10 hardest) how easy is it to navigate this app?**

2 (Person 1)

4 community oriented seems like it would be for sharing own work (Person 2)

3 button to organize was hard to see. Not clear to be for organization. Better icon (Person 3)

3 (Person 4)

**On a scale of 1 - 10 how likely are you to use this app?**

6 (Person 1)

8.5 (not sure abt share to community worried about stolen ideas in community) (Person 2)

7 (Person 3)

7 (Person 4)

.