

Assignment 5

Needfinding, POVs, HMWs, Experience Prototypes



Introduction

The Team

Kendall C.

Tina J.

Andrea S.

Steve W.

Studio Theme

Travel

Value Proposition

Reflection made simple.

Mission Statement

Our goal is to empower people to consistently record and reflect on their memories.

Problem / Solution Overview

Problems:

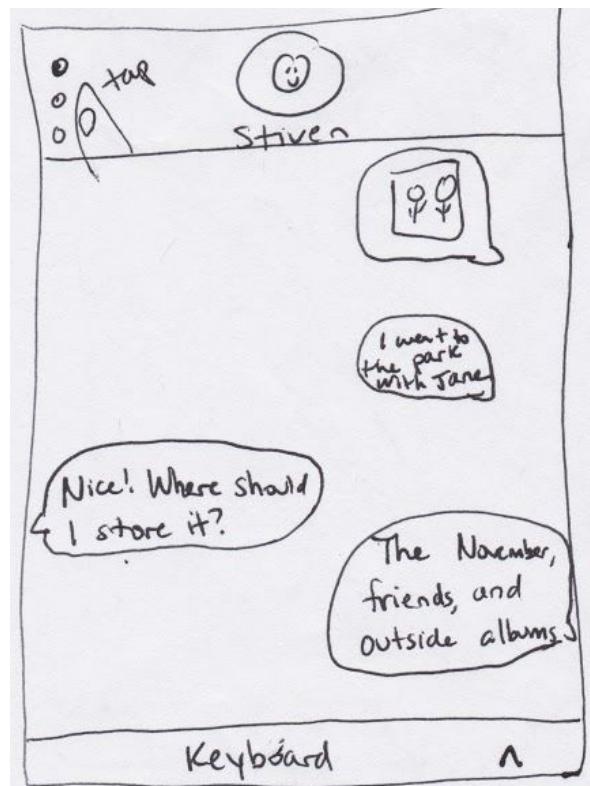
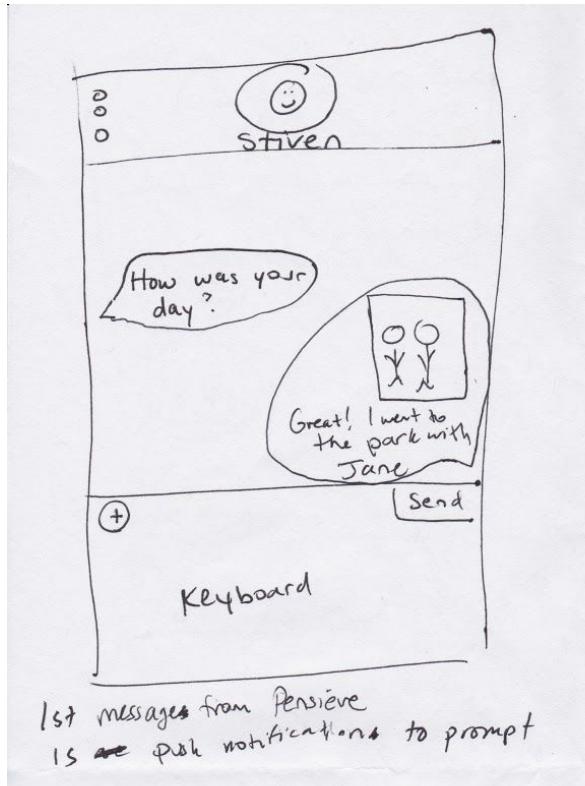
1. Users are unable to cement memories in a consistent and frictionless manner even though they wish they could
2. Existing solutions are unintuitive and result in unorganized collections of random experiences

Solution:

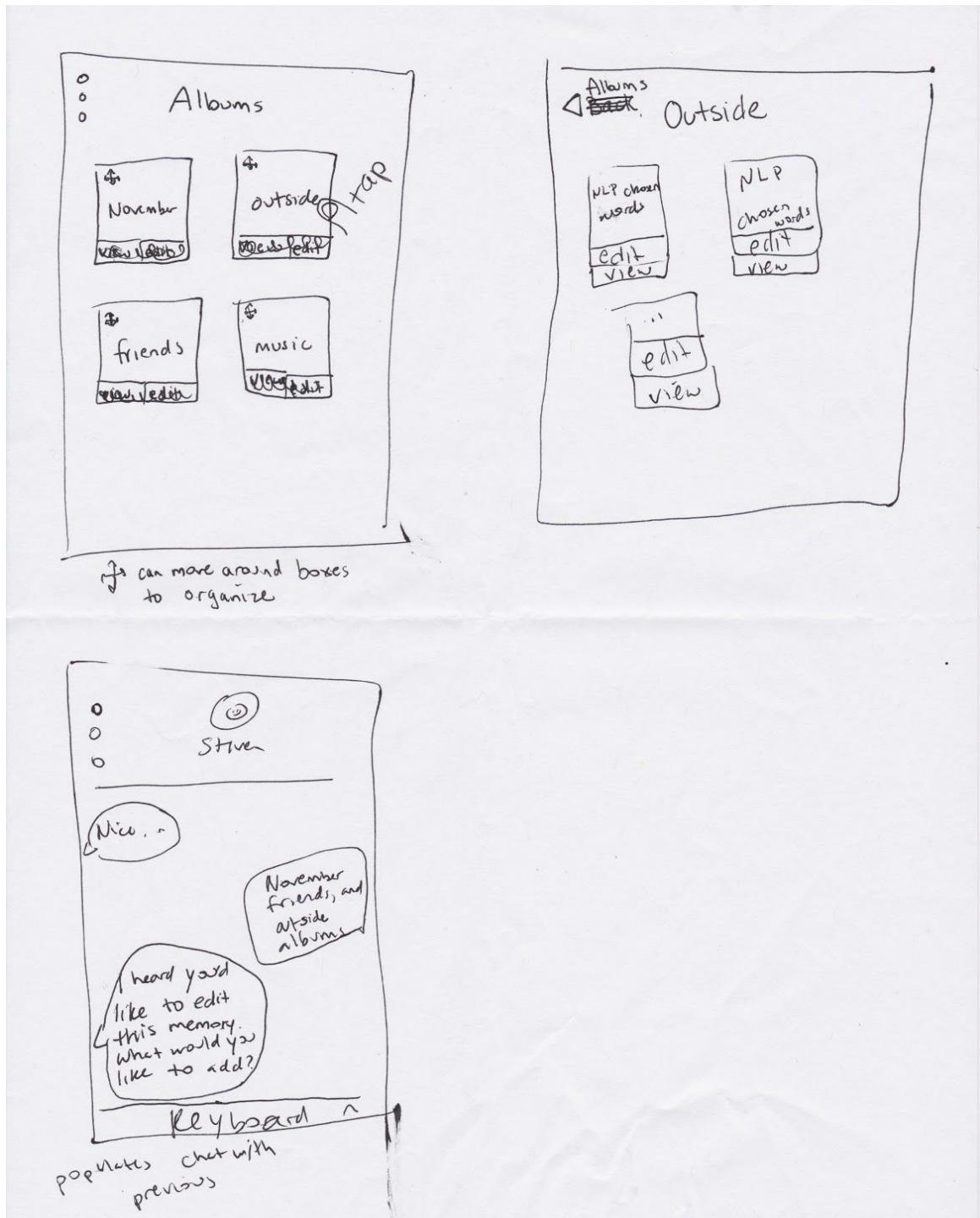
A blank slate that allows users to record, edit, and organize their memories in the most intuitive way possible.

Sketches

Top 5 Design ideas (18 Sketches)



Figures #1, 2: Mobile Application Chatbot Sketch



Figures #3: Mobile Application Chatbot Sketch

The chatbot requests insight into the user's day, the response is then saved, and the memory is categorized as the user pleases. The user can view these memories and add to the original conversations.

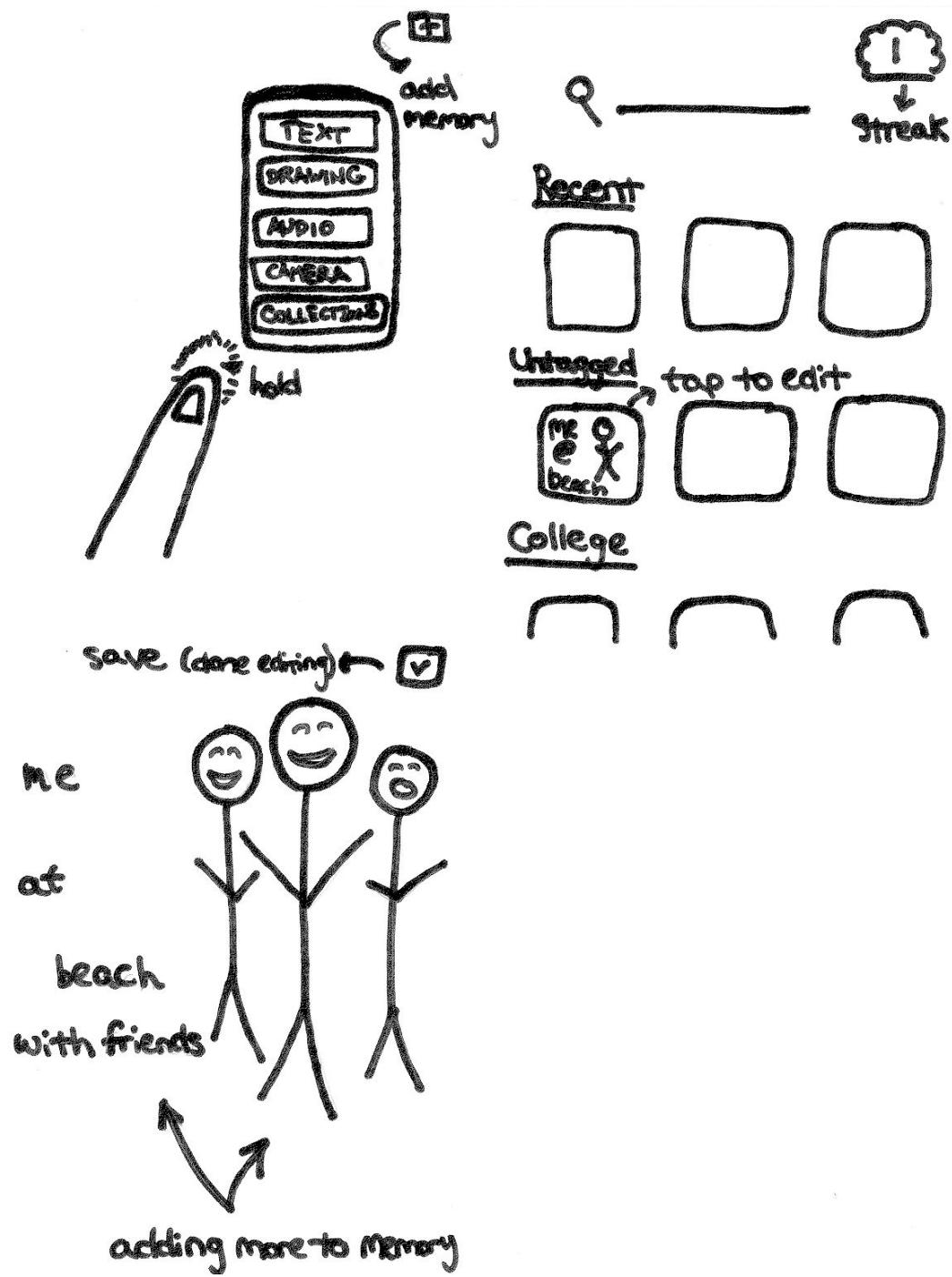


Figure #4: Gestural Mobile Application

Users can use simple gestures like holding down on the screen to add pieces of memory to the blank slate. Slates are organized by tags that you can edit. The streak encourages consistency.

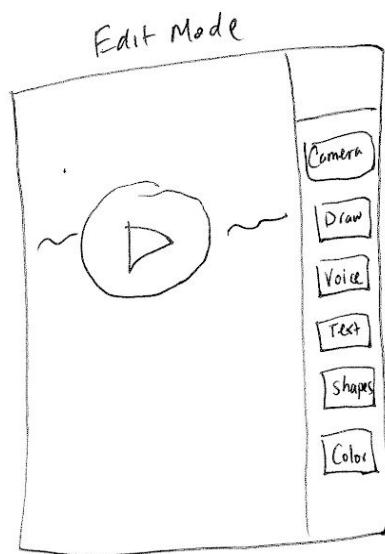
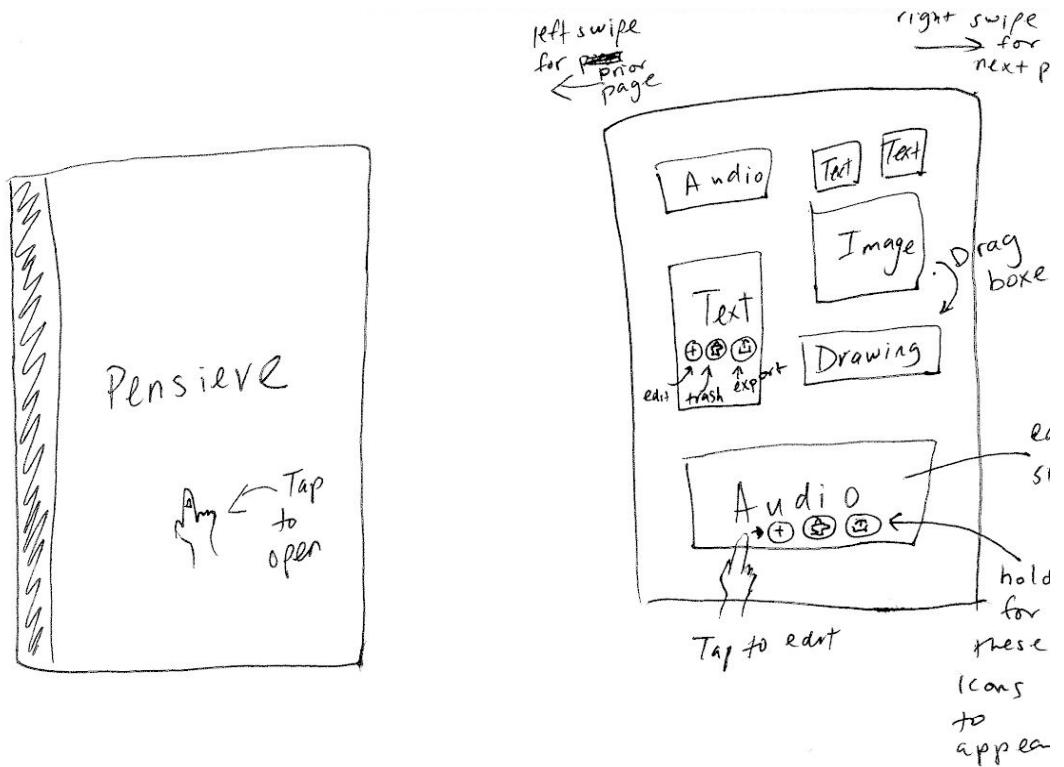


Figure #5: Mobile Scrapbooking Application Sketch

Users can add pages for their memories and, after some set time, they are no longer able to edit them. They can organize the media they put in the scrapbook.

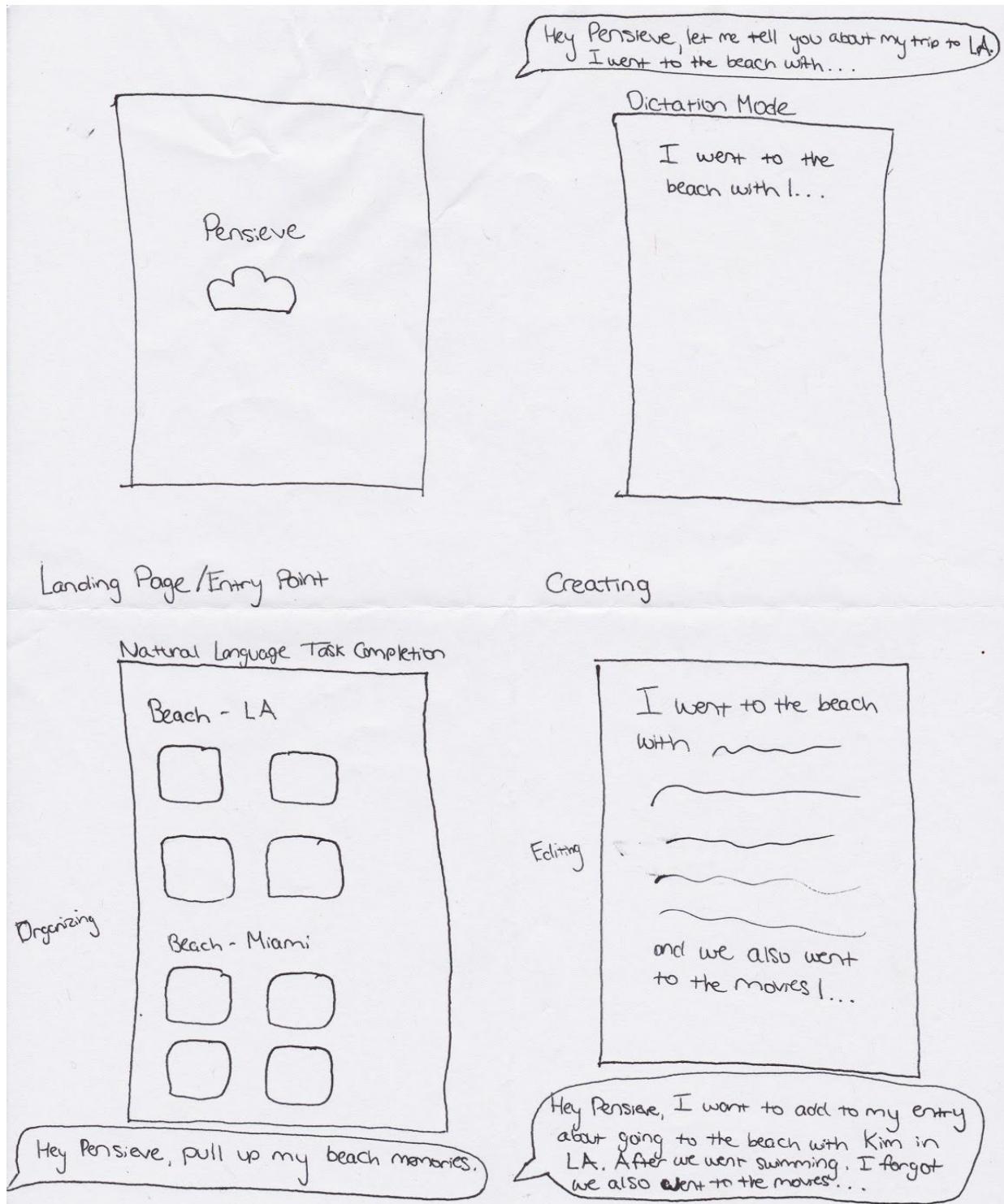
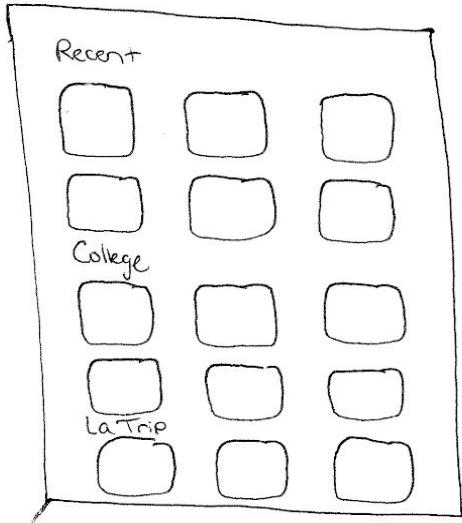
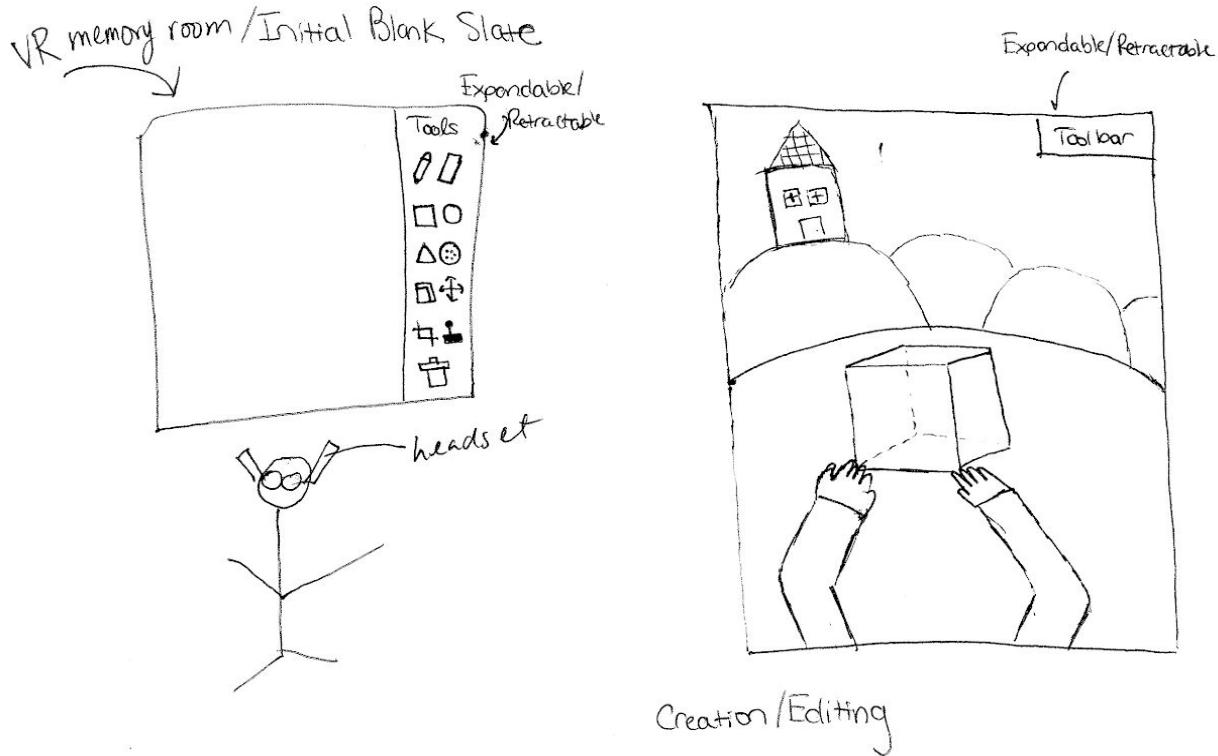


Figure #6: Dictation-Based Mobile Application Sketch

This interfaces solely with voice, so the user can activate Pensieve. They can tell the app whether they want to record, add to, or organize memories.



Open Palm to Clenched Fist to go to Memory Panel



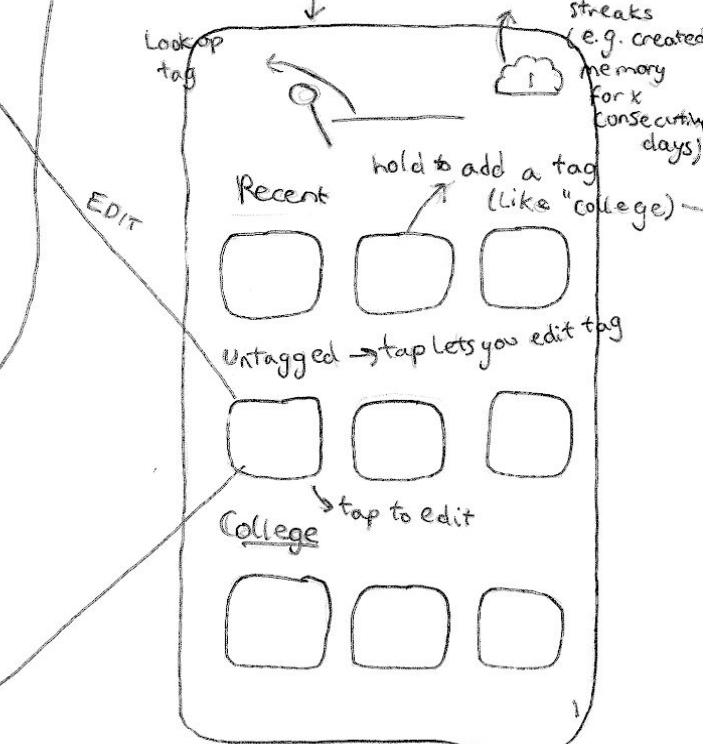
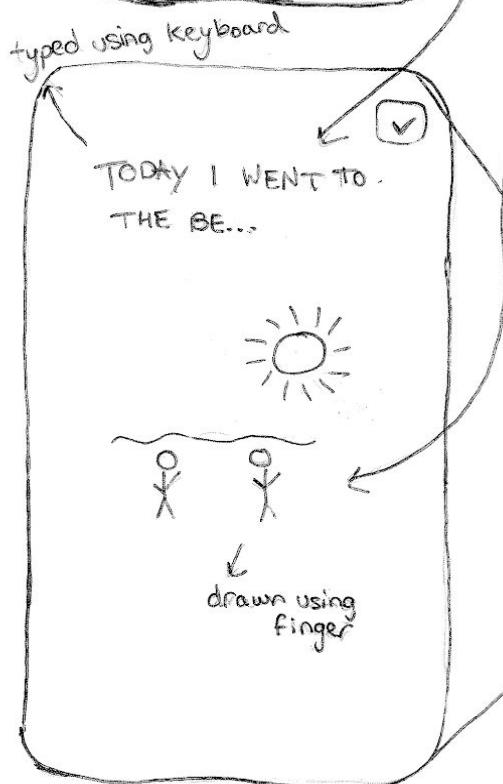
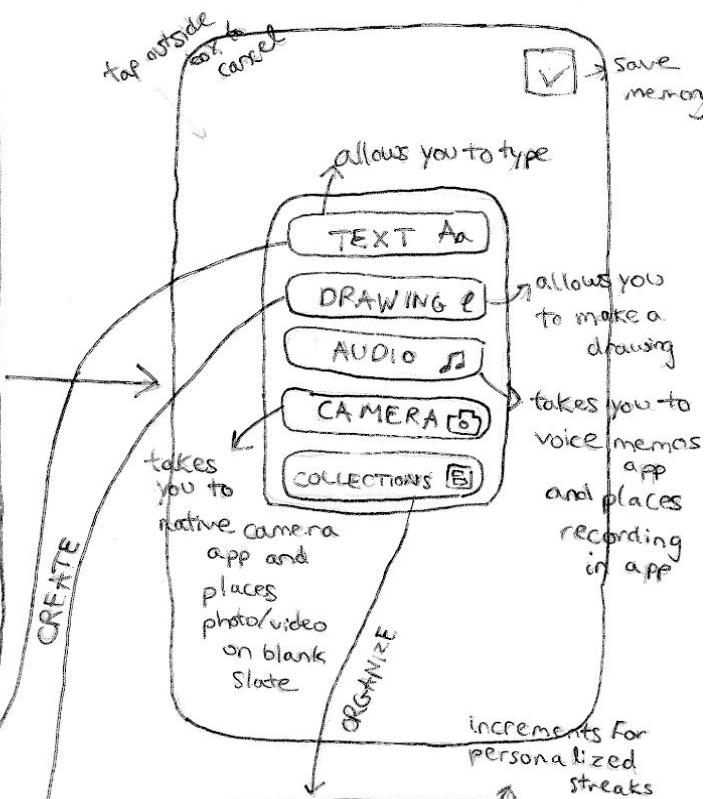
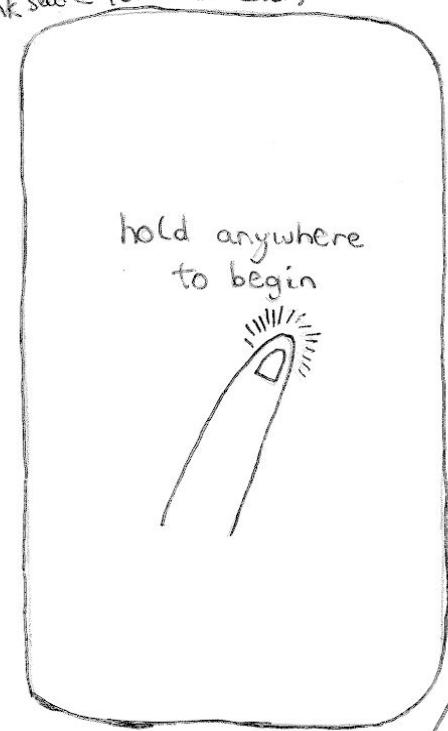
Figure #7: Virtual Reality Memory Room Sketch

Users enter a virtual memory room where they can construct their memories in 3D. They can add items into the world, edit past worlds, and organize their worlds.

Top 2 Designs with Further Storyboarding

The top two designs were the *Gestural* and *Scrapbook* ideas. Below are the more detailed storyboards for these designs.

blank slate (off-white color)



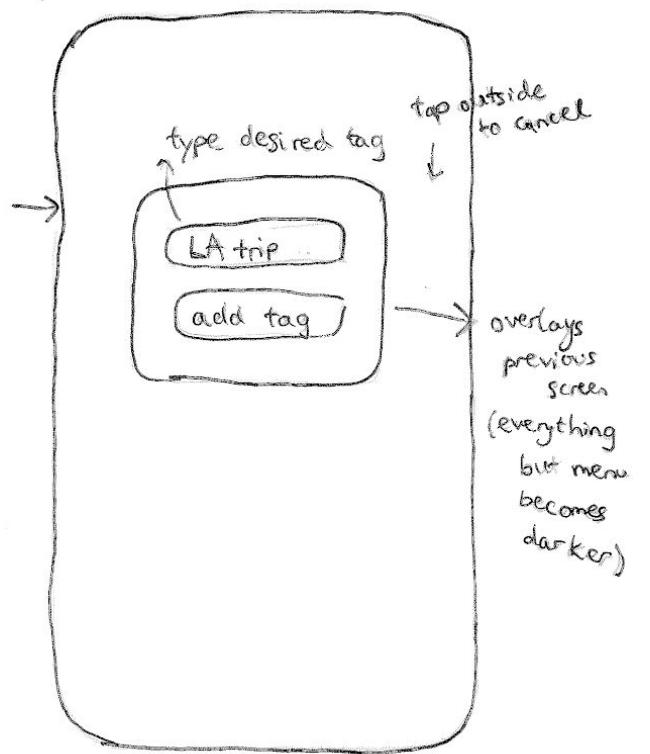
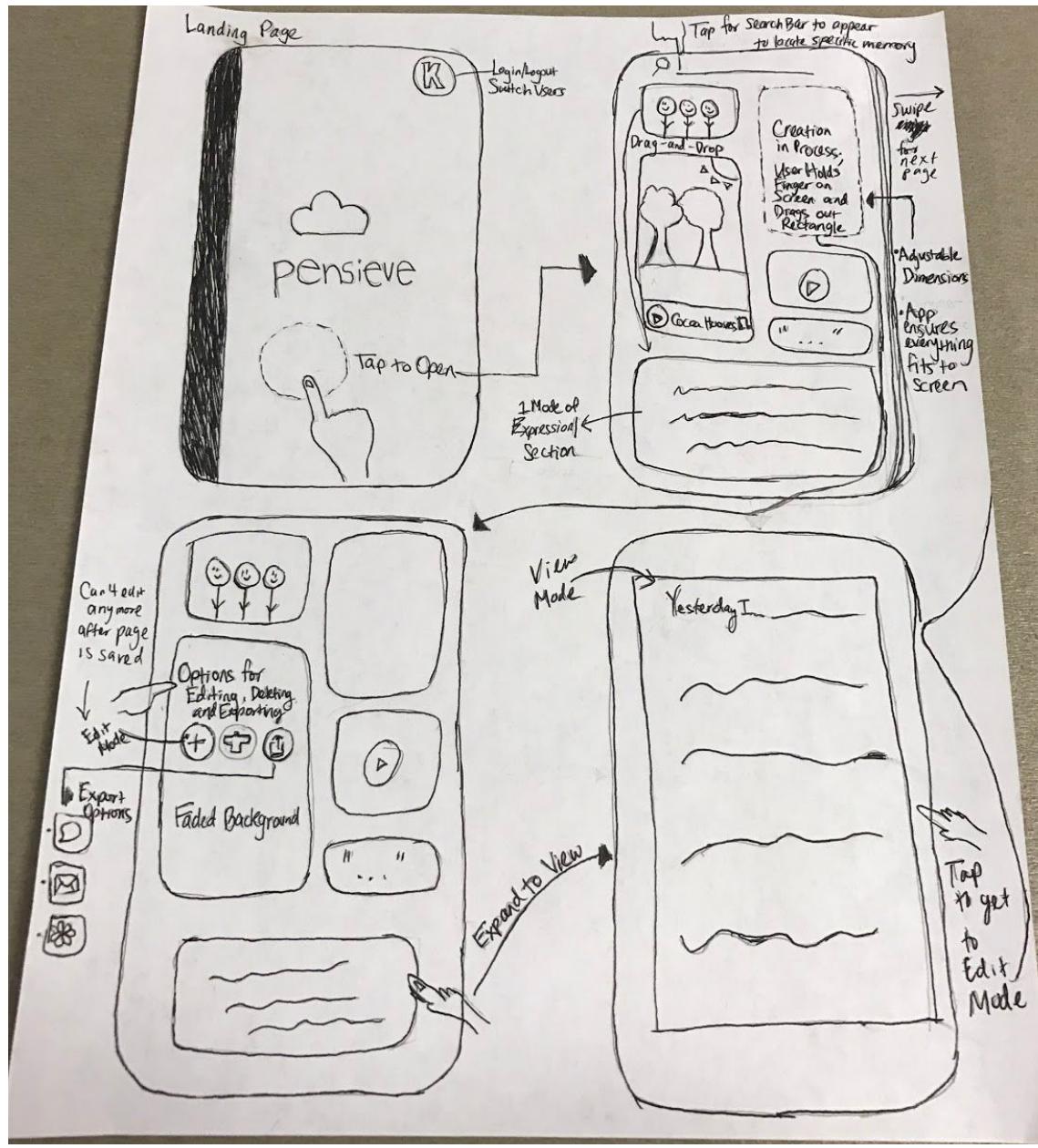


Figure #8: Top UI Sketch 1: Gestural Blank Slate



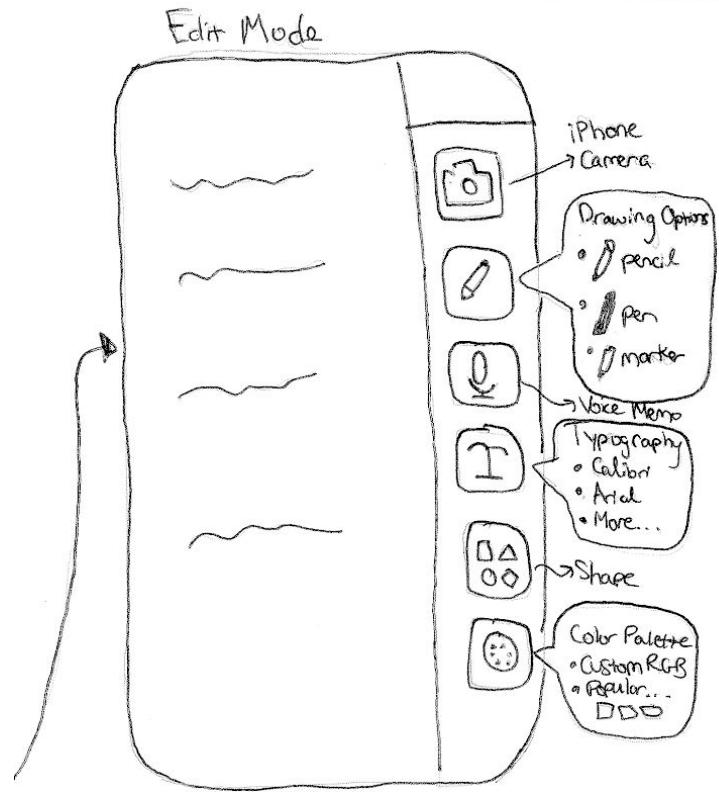


Figure #9: Top UI Sketch 2: Scrapbook

Gestural Blank Slate

Pros:

- Reduces friction for the user
- More conducive to ACTIVE recording
- Embodies the nugget experience
- Minimalist
- More malleable and hands off
- Infinite space; zoom in and zoom out
- Streak encourages consistency
- Streamlined organization

Cons:

- Open to interpretation
- Could be overwhelming OR underwhelming

Scrapbook

Pros:

- Users are familiar with the interface/concept
- Feels more like a collection based on page setup
- Embodies the nugget experience
- More hands-on; guidance/constraint

Cons:

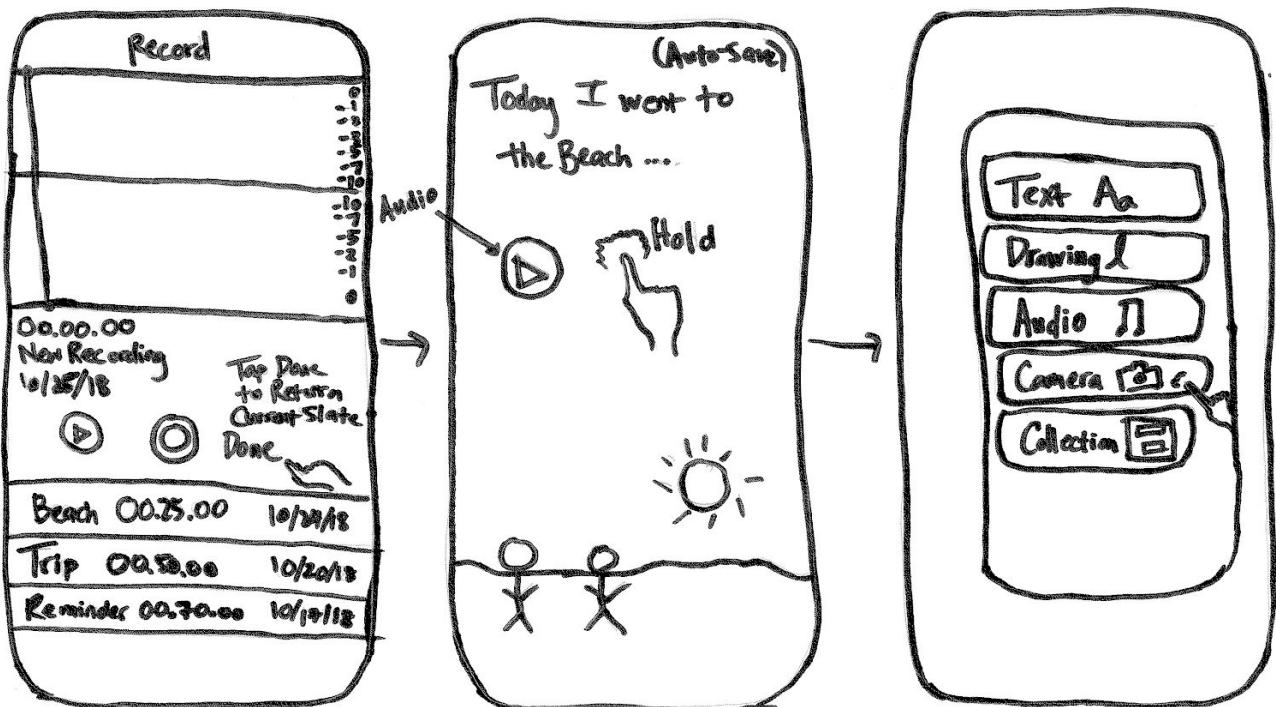
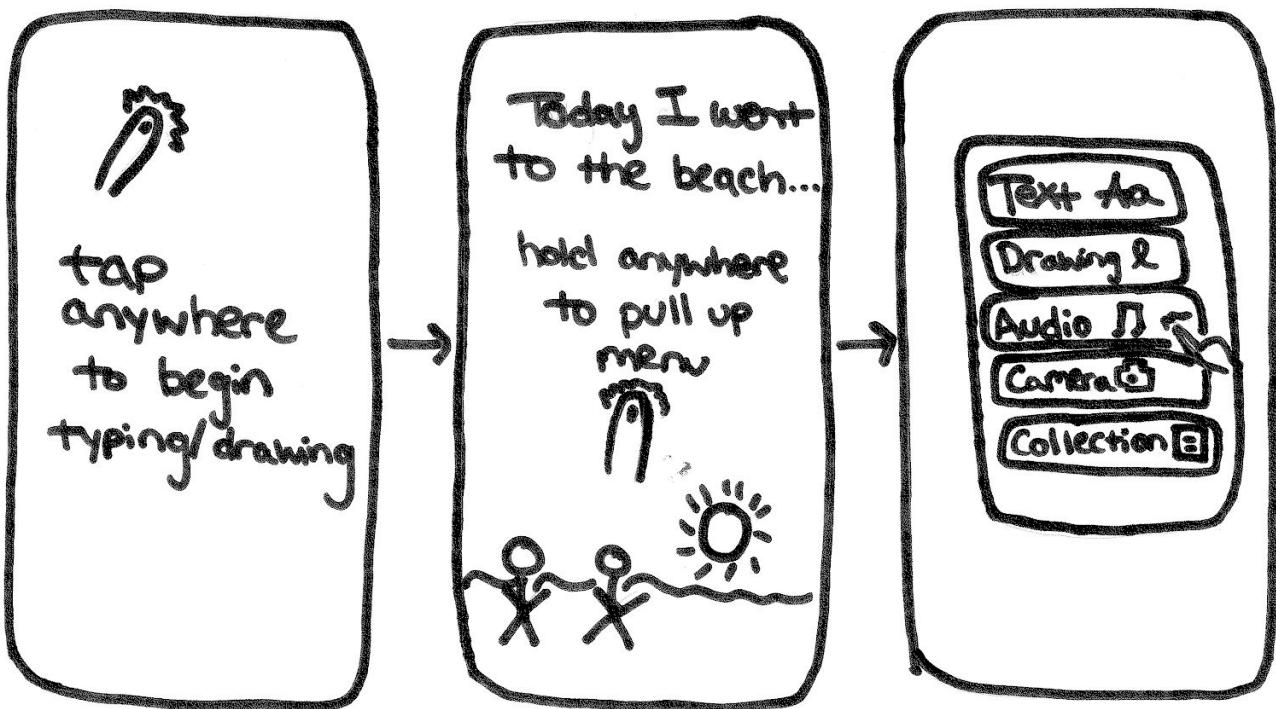
- More hands-on; guidance/constraint
- Harder to do active recording
- Forces one to organize WHILE creating (hinders the creative process)
- Harder to find certain experiences
- Not as hands-on as a physical scrapbook w/ tangible objects

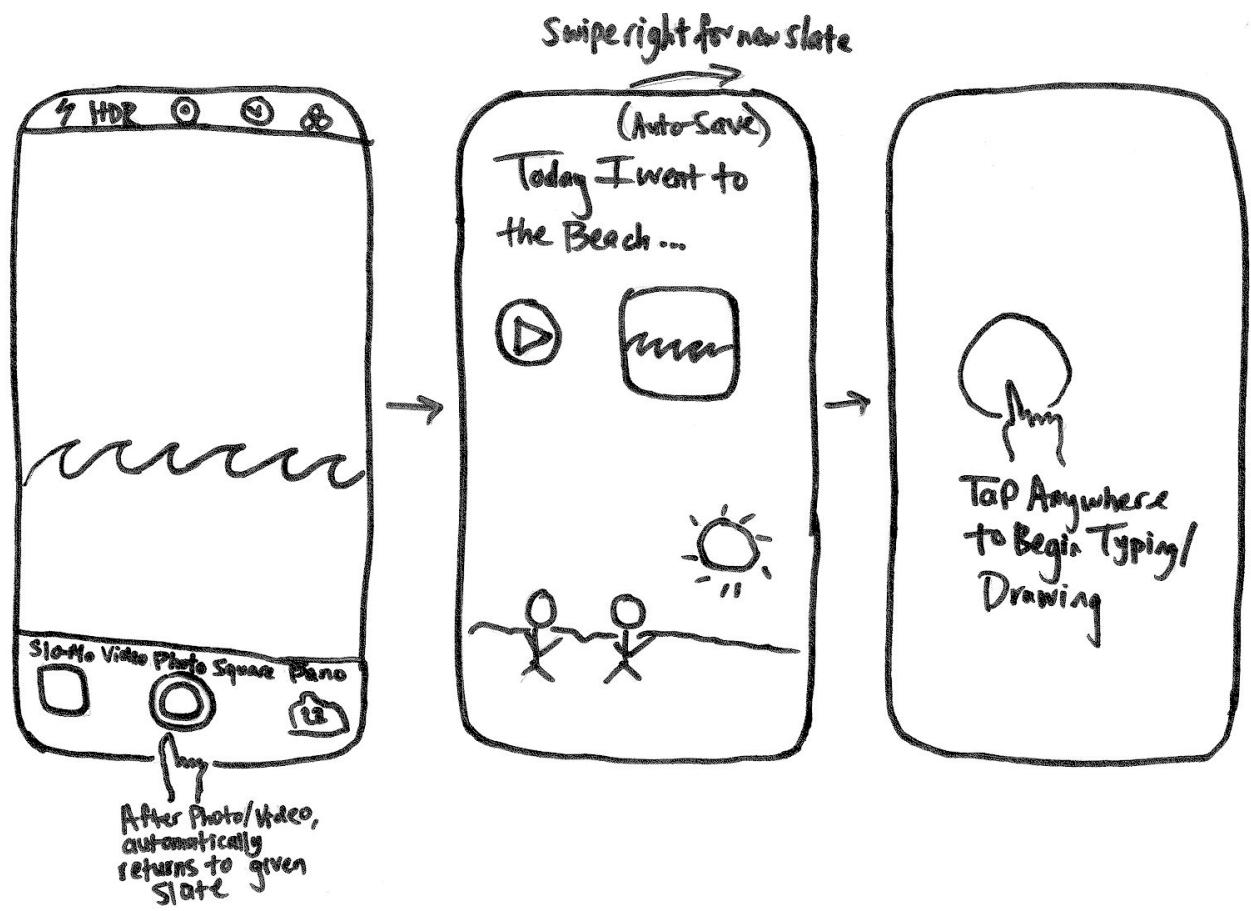
Overview

In the end, we chose the Gestural Blank Slate design idea as it is the simplest, most malleable, more frictionless, and most streamlined. This design is more conducive to active recording, which a big goal. Additionally, there is infinite space available, and there are streaks to help encourage consistency.

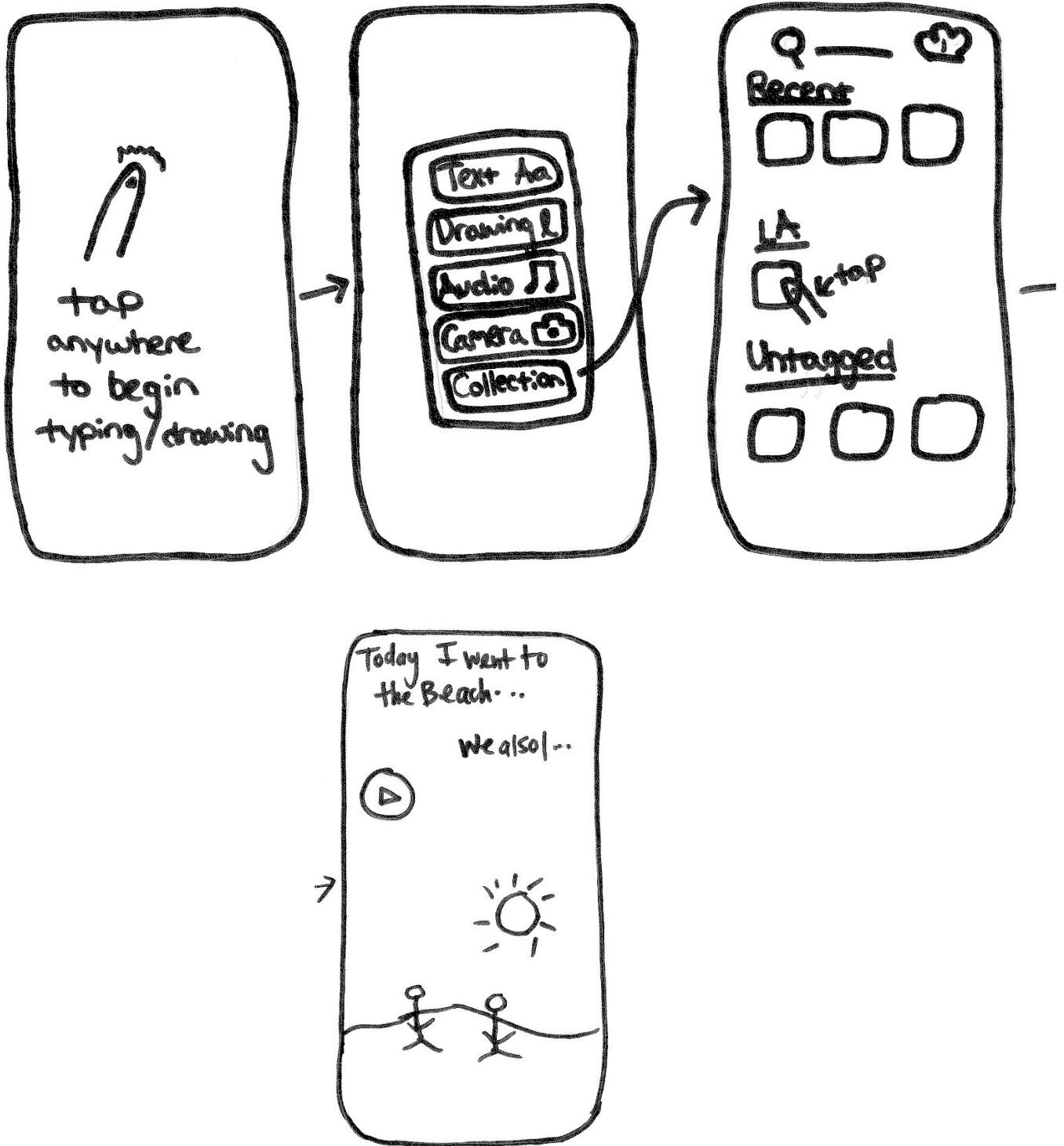
Selected Interface Design

Storyboard for 3 tasks





Figures #10, 11, 12: Taskflow for creating memories



Figures #13, 14: Taskflow for editing memories

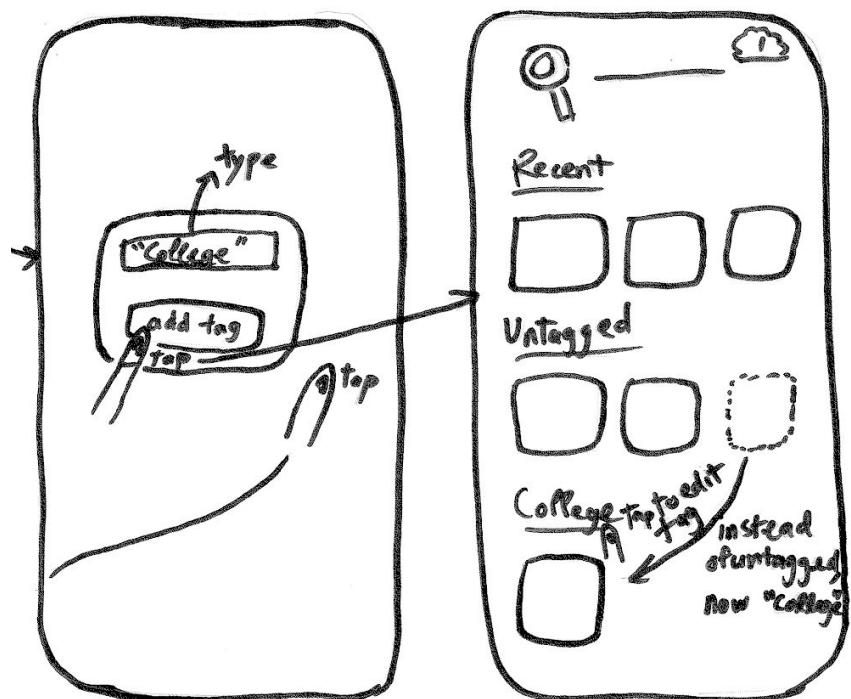
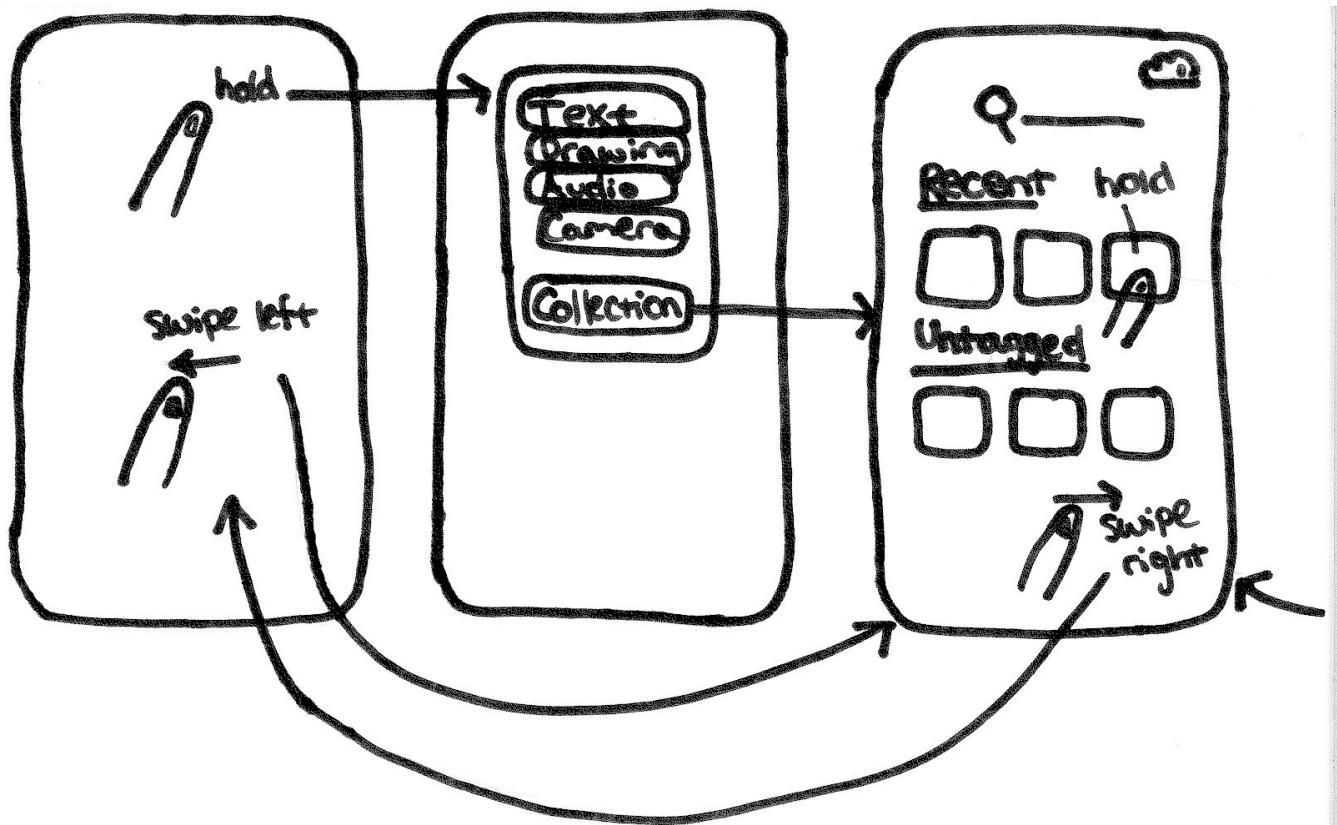


Figure #15, 16: Taskflow for organizing memories

Reasoning

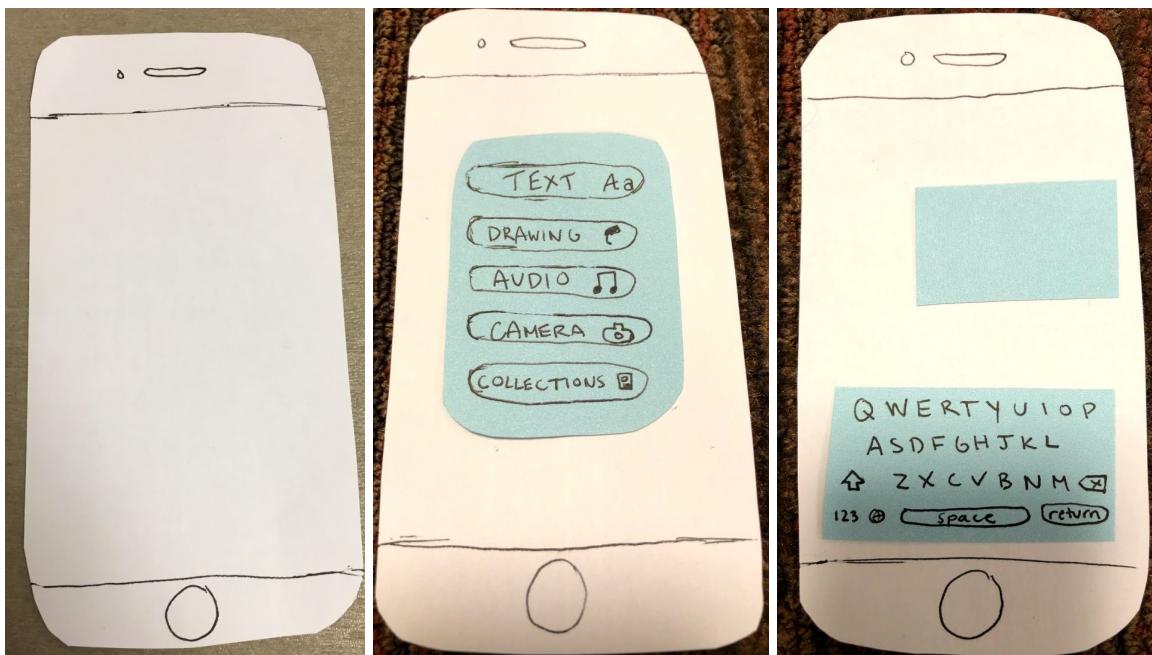
Interface element	Functionality
Blank slate page	Offers a canvas for the memory
Second blank slate page	Offers an additional canvas if they want to create multiple memories in a session
Collections page	Lists all memories organized by tags
Menu	Gives media options to add to the blank slate
Camera app	External, but brings a picture back to the app
Voice Memos app	External, but brings audio back to the app
Search bar in <i>Collections</i>	Can search for a memory with key words
Add tag button	Allows user to add tags to memories
Garbage can	Delete an item

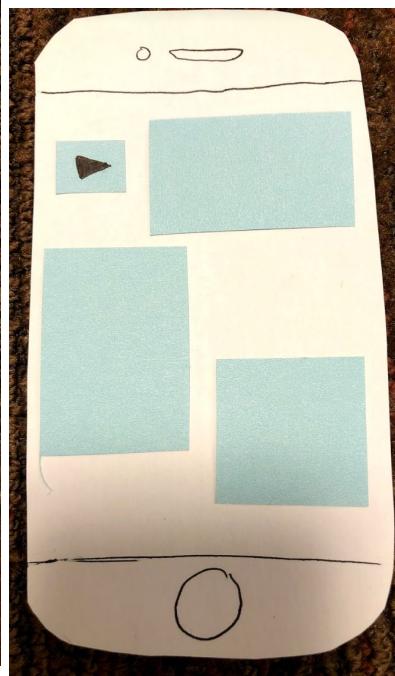
Prototype

Description

We designed the prototype on various index cards that were iPhones, and used pieces of index cards as media and pop up menus.

Screens





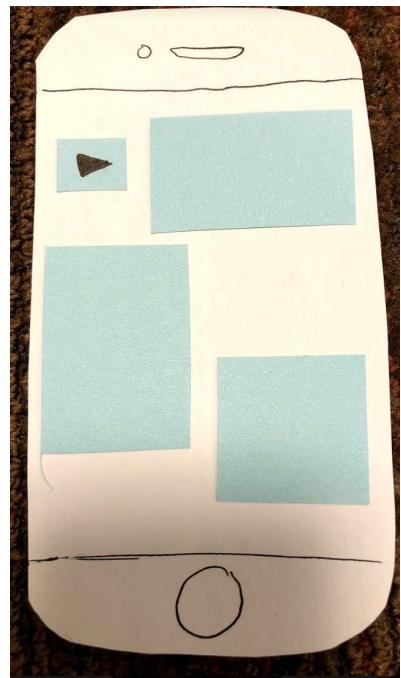
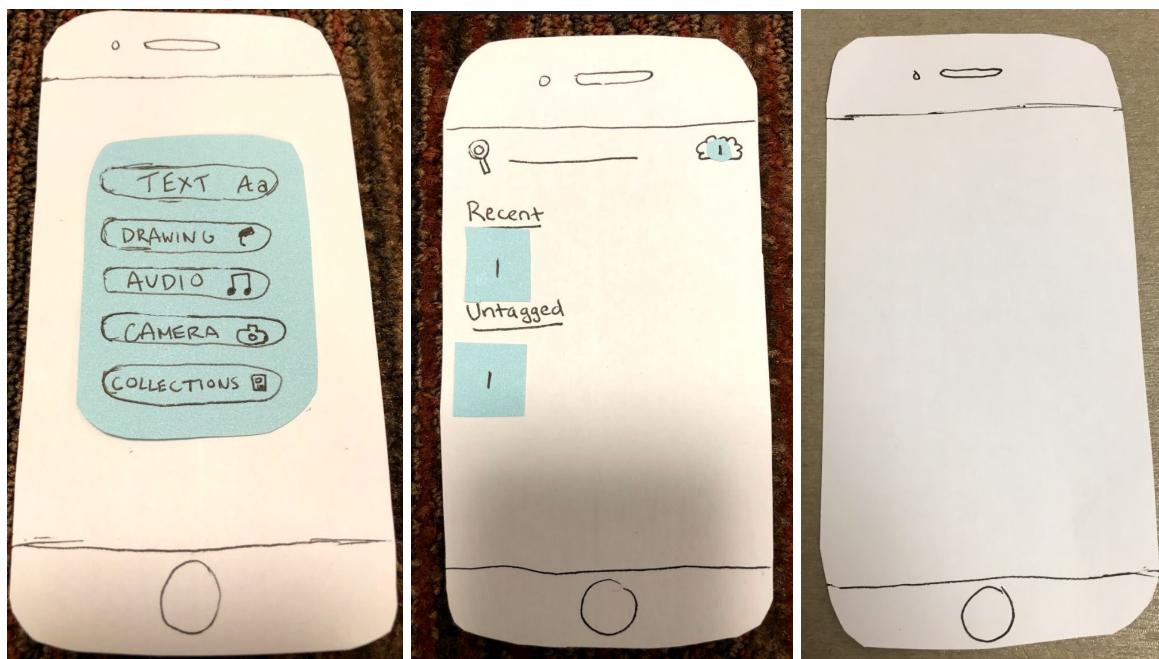


Figure #17: Prototype taskflow for creating memories at the time of



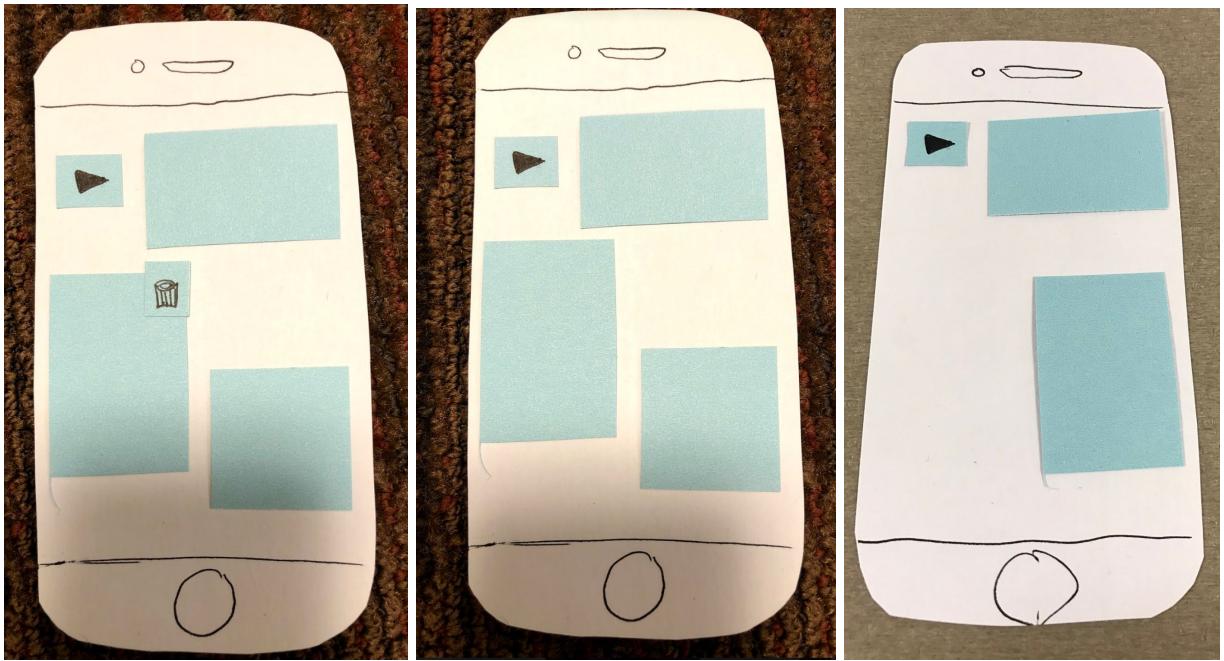
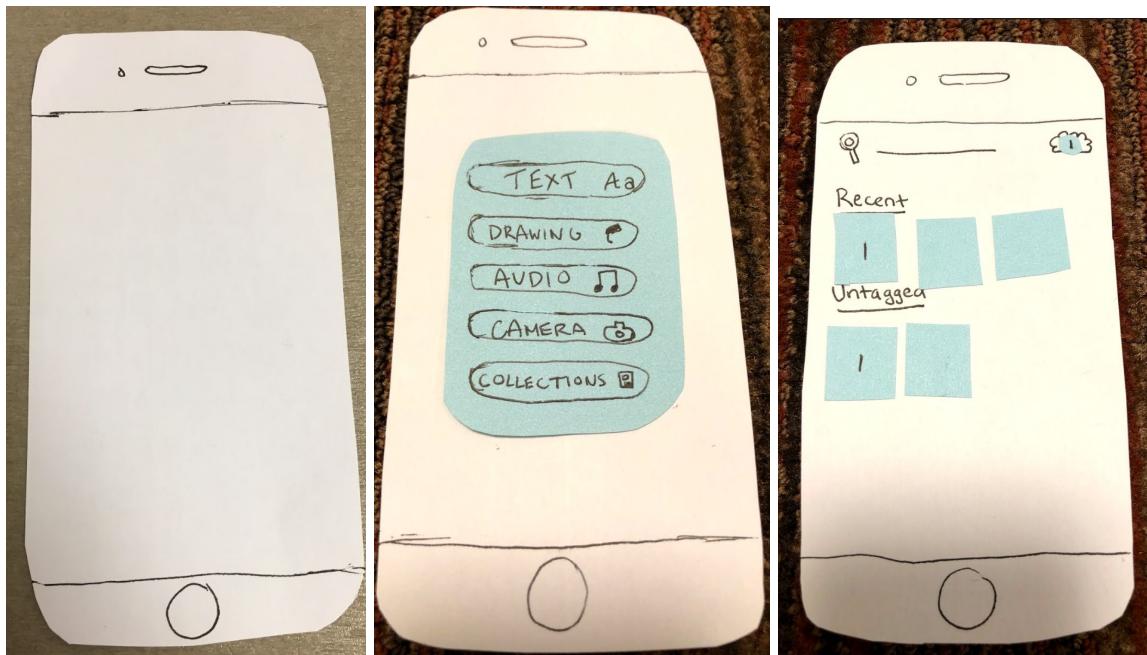


Figure #18: Prototype taskflow for reflecting about and editing a specific memory



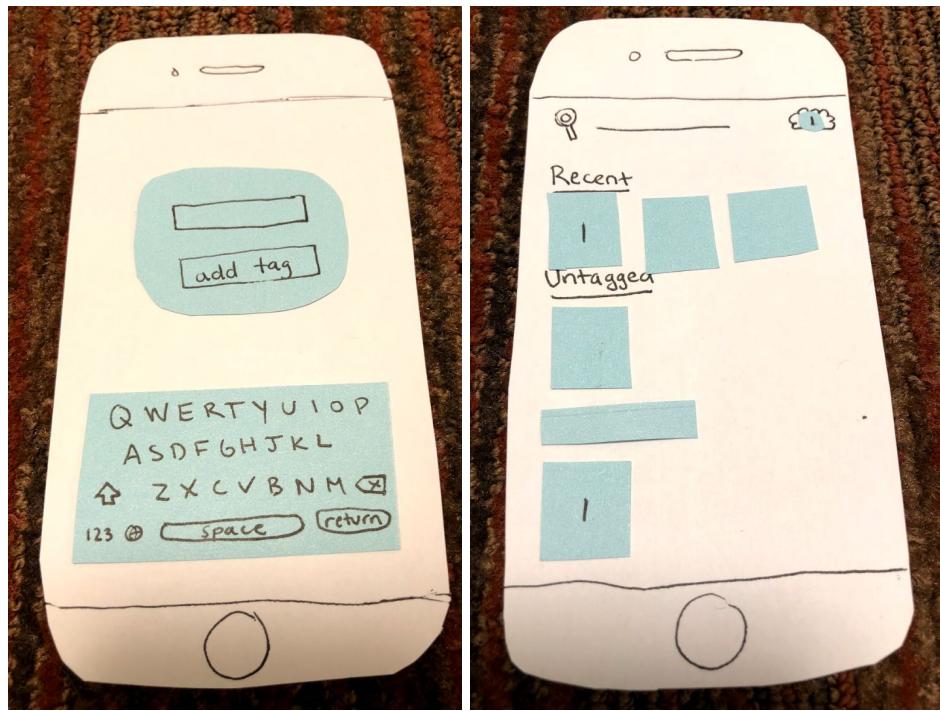


Figure #19: Prototype taskflow for organizing memories



Figure #20: Entire Prototype

Method

Participants

We decided age and gender diversity was sufficient for our testing. We didn't offer any of the participants compensation for their time. Our participants were:

- A global citizen in his thirties and has a preference for recording memories using audio.
- A 65-year-old Caucasian man who is visiting Stanford on a business trip.
- A Hispanic Stanford Student in her freshman year.

Environment

We interviewed our first two participants outside of Tresidder. The second participant was interviewed in one of the more quiet lounges in our residence.

Procedure + Team Member Roles

Our test procedure was:

- Explain the nature and purpose of our project to participants.
- Give consent form and ask participant if okay with notes.
- Quick demonstration of how to navigate the app without demonstrating any of the main tasks
- Explain that they will perform 3 tasks using our paper prototype, starting with the first task.
- Clearly indicate when they finished a task and could move on to the next one.
- Ask about how the experience felt and suggestions.

Because of scheduling conflicts, the interviews were carried out by Andrea and Steve, with Andrea as the computer and facilitator, and Steve as the notetaker.

Tasks

1. Create a new memory
2. Edit a memory
3. Organize memories

Test Measures

We developed our three test measures keeping in mind what is most important for our product: the usability. Therefore, the three main measures we looked at were:

1. Unexpected behaviors or “errors” that were made: a qualitative measure to look at what was unclear/confusing to participants and what might have seemed more natural.

2. Which parts of the product seemed intuitive and why: another qualitative measure to examine what features of our design produced the least friction.
3. Time taken to complete tasks: time taken was a huge barrier in incentivizing consistent recording so minimizing this quantitative measure is crucial.

Results

- **Task 1:** For the first task (create), we found that users very easily created new memories of different modalities after they knew the hold mechanism to have the main menu show up, taking between 20 seconds and 1 minute per modality. The exception to this was adding an audio recording, which took significantly longer. We saw that people were confused about how to actually save a memory. We also found it was unclear to users how to zoom out on the blank slate.
- **Task 2:** For the second task (edit), two of the three participants didn't use the collections button on the main menu to navigate to the collections page, which was unexpected. However, all of the participants knew very quickly that clicking on a memory allowed you to edit it. In terms of the actual editing, participants were confused about the hold mechanism to edit or delete an item from the blank slate, making the experience take 2-3 minutes.
- **Task 3:** For the third task (organize), we found that our tagging mechanism was very confusing. Making users hold the thumbnail of the blank slate to add a tag was unintuitive. Actually adding the tag when they got to the tagging popup was also confusing as users pressed 'add tag' without typing anything. Users wanted an easier way to tag.

Discussion

While our simple task, which is the crux of our product, was largely intuitive for the users, there were parts of the prototype that created some serious unwanted friction. This is especially relevant since we want to minimize any obstacles between the user and the creation, editing, and organization of memories.

Currently, our biggest problem is that, for a product which is based around gestures, some of the gestures are highly unintuitive. In particular, we found that the holding mechanism is the most confusing part of our app, both in the editing

of memories and in the organizing of memories (tasks 2 and 3). We might improve this by using different gestures for clearly different actions. Where we used hold to delete a memory, to add a tag, as well as to navigate to the main menu, we should distinguish between these tasks with different outcomes in order to make it more cognitively easy on the user; deleting should not have the same gesture as creating. We might consider changing the gesture for the main menu to a simple tap instead of a hold, after which holding to edit and delete might make more sense (like how it is to delete apps on your iPhone).

From this, we also realized that we have to improve how intuitive it is to organize memories after they have been created. Some of the users suggested that we might suggest tags for the user right after creation either based on what is on the blank slate (programmatically rather difficult) or what the most popular tags are. We also thought we might still have the hold mechanism for adding a tag, but made the menu for that more intuitive by, for example, removing the add tag button and having return on the keyboard add a new tag to the memory.

All in all, we felt that it was hard to test certain aspects of our app such as the zooming out on the blank slate page because participants quoted they felt this would have felt a lot more intuitive on an iPhone. We concluded that, given that our app is gestural, it is fundamentally difficult to test some of the aspects of the app that are so native to the feel of an iPhone. However, we did get a lot of useful insights that will help us make the product feel as intuitive as possible.

Appendix

Incident severity ratings

Red text denotes errors, green text denotes successes.

Participant #1

Incident	Severity
Non-native Voice Memo is too confusing / takes too long to get to	3
Tried to hold on the collections page for some menu (non-existent)	1
Wanted an audio transcript	1
Clicked “Collections” from the menu page and expected it to be another thing to add to the memory	3
Looked for an option to dictate to text	2
Tried to click cloud in corner	0
Thought cloud in corner was how many memories were saved	0
Looked for a tag button on the memory screen	1
Adding multiple tags is annoying	3
Not intuitive that you can zoom in and out of the memory	4
Thought pressing something would bring it to the front	2
Tried to drag memories into new tags	3

instead of clicking	
Clear to make first memory	4
Clear to add various types of media	4
Easy to figure out how to go to a specific memory from Collections	4

Participant #2

Incident	Severity
No buttons to see what to do - “that’s weird”	1
Very confused about saving - “I didn’t know what to do with it when I was done.”	1
Hit “return” instead of “add tag” when adding a tag	2
Was unsure when trying to add another piece of media to memory when she already had one there	4
Hoped to make it a prettier aesthetic	1
Made a picture very quickly	4
Very intuitive to go to collections by swiping right	4
Intuitive to edit	4

“Oh that’s actually pretty cool that you can [add more than one piece of media]”	4
“THAT’S COOL!” about being about to zoom out	3

Participant #3

Incident	Severity
After making a voice recording, thought the way to go back was clicking the home button	4
Looked to share his memory	2
Clicked piece of medium to get edit tools	3
Tried to edit photos; e.g. crop	1
Friction when adding additional item	3
Looked for premade tags	0
Tried to share	1
Wanted to delete entire memory	3
Tried to click the cloud	1
Intuitive that he was able to record, add pictures, etc.	4

Consent Form**PENSIEVE**

The ~~TEAM NAME HERE~~ application is being produced as part of the coursework for Computer Science course CS 147 at Stanford University. Participants in experimental evaluation of the application provide data that is used to evaluate and modify the interface of ~~TEAM NAME HERE~~. Data will be collected by interview, observation and questionnaire.

PENSIEVE

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers (~~TEAM MEMBERS NAMES HERE~~) or with Professor James Landay, the instructor of CS 147: *Stephen Weyns, Andrea Bulman, Tina Jiang, and Kendall Castello*

James A. Landay
CS Department
Stanford University
650-498-8215
landay at cs.stanford.edu

Participant anonymity will be provided by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their supervisors/teaching staff.

PENSIEVE

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the experiment and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to the ~~TEAM NAME HERE~~ experiment. I also give permission for images/video of me using the application to be used in presentations or publications as long as I am not personally identifiable in the images/video. I understand I may withdraw my permission at any time

Name Sarah Arriaga

Participant Number (773) 946-3510 2

Date 10-25-18

Signature Sarah Arriaga

Witness name STEPHEN WEYNS

Witness signature JWL

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Name Alan Lanzsch

Participant Number 1

Date 10/25/18

Signature AL

Witness name STEPHEN WEYN

Witness signature g

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Name _____

Jeff Costello

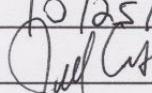
Participant Number _____

3

Date _____

10/25/18

Signature _____



Witness name _____

STEPHEN WEYN

Witness signature _____

