

CS 147 - Travel Studio -
Assignment 8 Interactive Hi-fi Prototype



reflection made simple

Meet The Team

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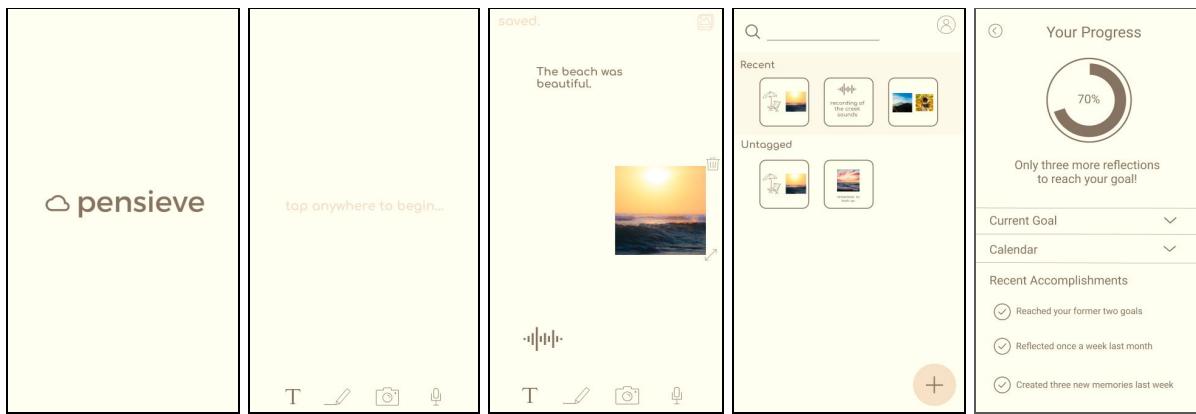
Our Value Proposition

pensieve | reflection made simple

Problem & Solution Overview

Users are unable to cement memories in a consistent and frictionless manner because they do not prioritize reflection. Existing solutions unintuitively incorporate multimedia and result in unorganized collections.

Our product solves these problems by providing a blank slate that allows users to record, edit, and organize their memories using a minimalist design and a multimodal approach to provide flexibility and freedom in the user experience.



Brief Overview of Design

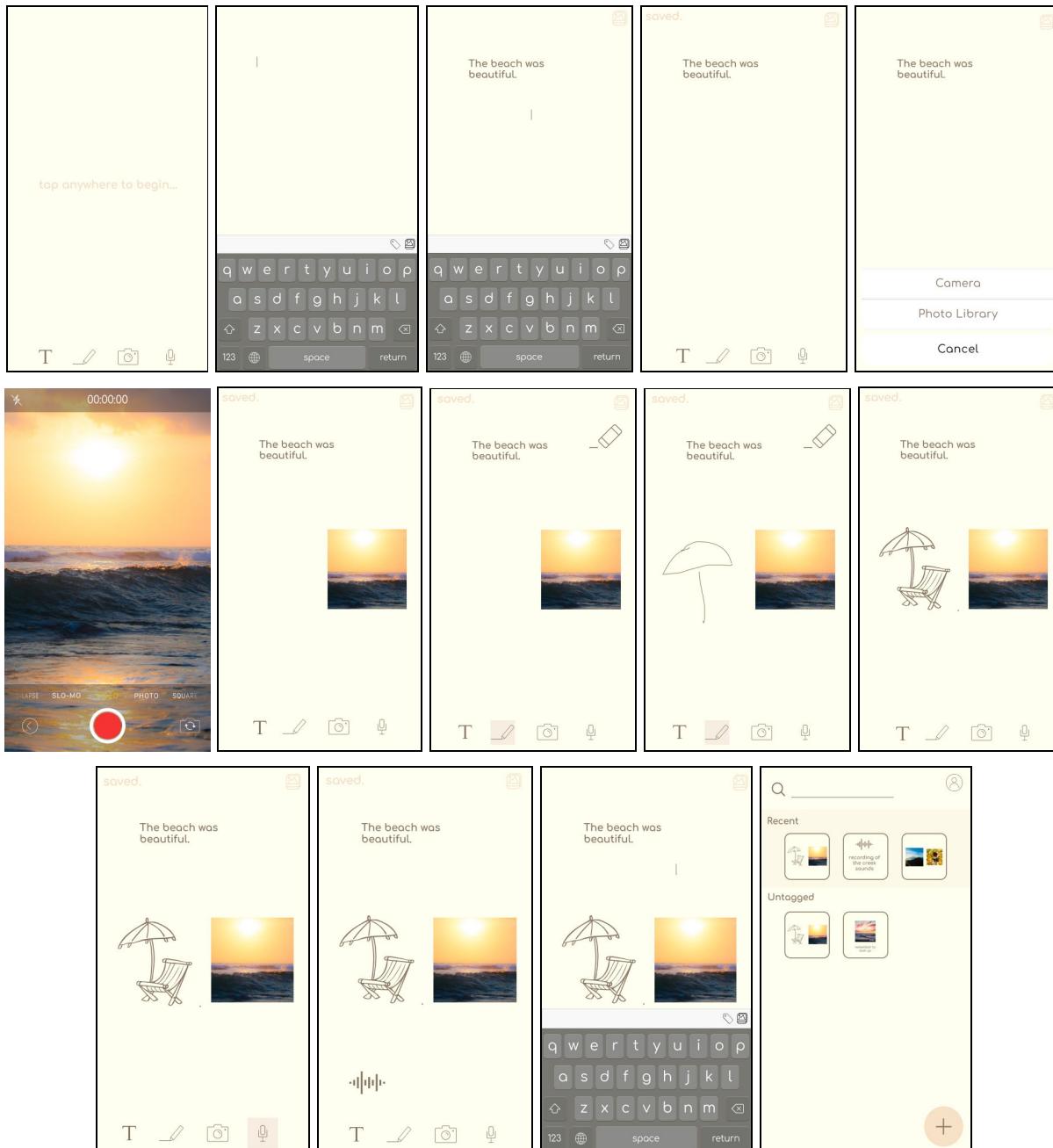
Tasks

Simple: Creating mementos on the go

While we were conducting needfinding, we noticed that while many people wanted to consistently journal, they did not want to go through the hassle of setting up their environment to journal. Rather, they wanted the ability to journal in the moment. As such, we decided to have a simple task be active journaling, where users can create mementos on the go.

For our simple task, the user taps anywhere to begin and is brought to a blank slate with floating icons on the bottom that represent the different options for recording a component of memory. You are then able to create text, drawings, photos, and audio. When you click on the text icon, you're able to type whatever you want. You can also simply tap on the screen to immediately type anywhere on the screen. You can exit typing mode by tapping the return key on the keyboard. When you click on the drawing icon, you are able to draw anything on the screen. You can click the drawing icon again to exit drawing mode. When you click on the photos icon, you can either take a picture or choose an existent photo from the camera roll. You can click cancel to exit photo mode. When you click on the audio icon it immediately starts recording. You can stop recording when you click the audio icon again.

Once you create any part of the memories on the blank slate, what you have created is automatically saved.



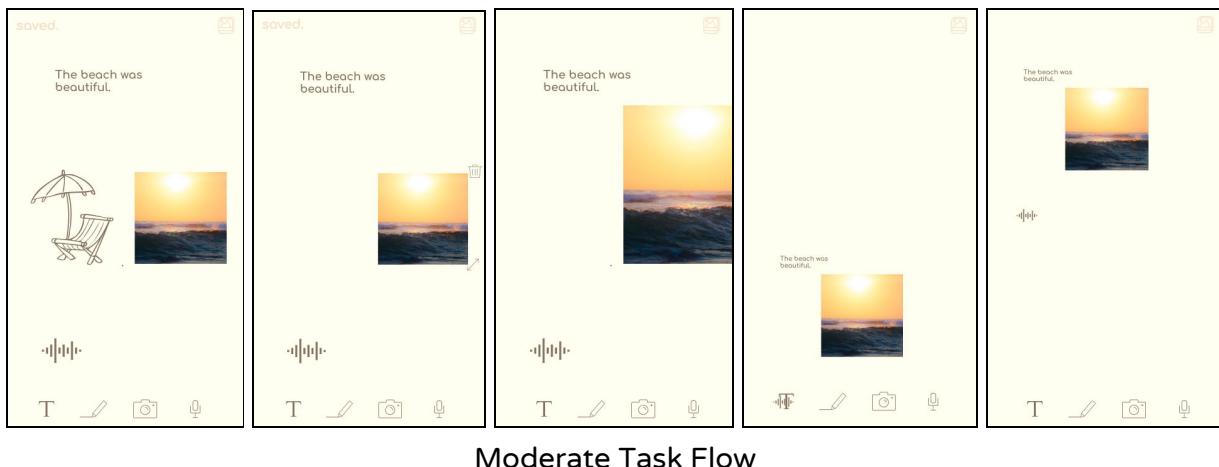
Simple Task Flow

Moderate: Reflecting on specific memories

Just as important to creating memory entries is the ability to go back and edit them. As such, we decided to provide retrospective functionality where a user can go back to a previous memory they created and can edit it by adding, deleting, or resizing the elements on that particular canvas.

Users can reflect on memories by going into the collections view and clicking on the memory they want to reflect on. They can look at that memory, replay certain things like audio, and also edit/add to the memory. Users can resize, move, and delete memories.

They are also free to add to the existent slate using the same process described in task 1 for creation.

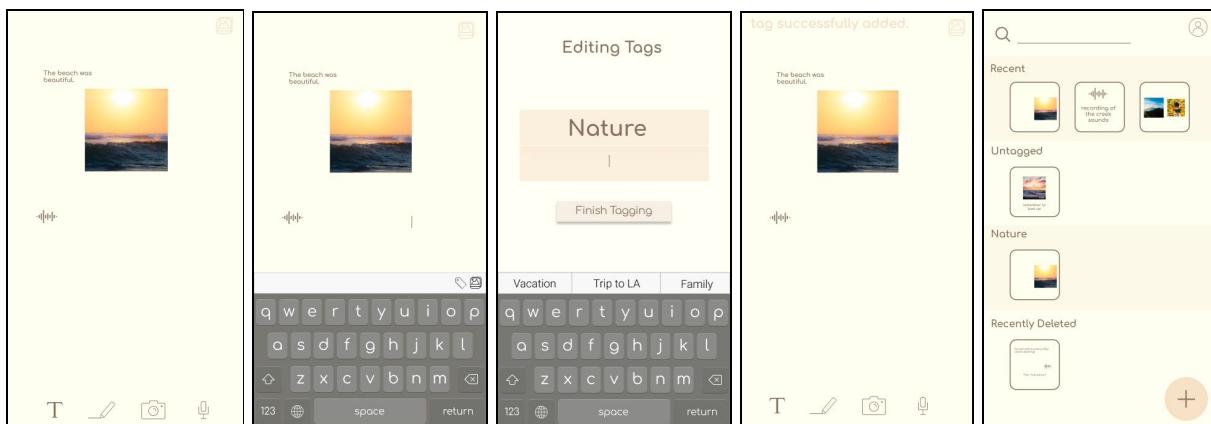


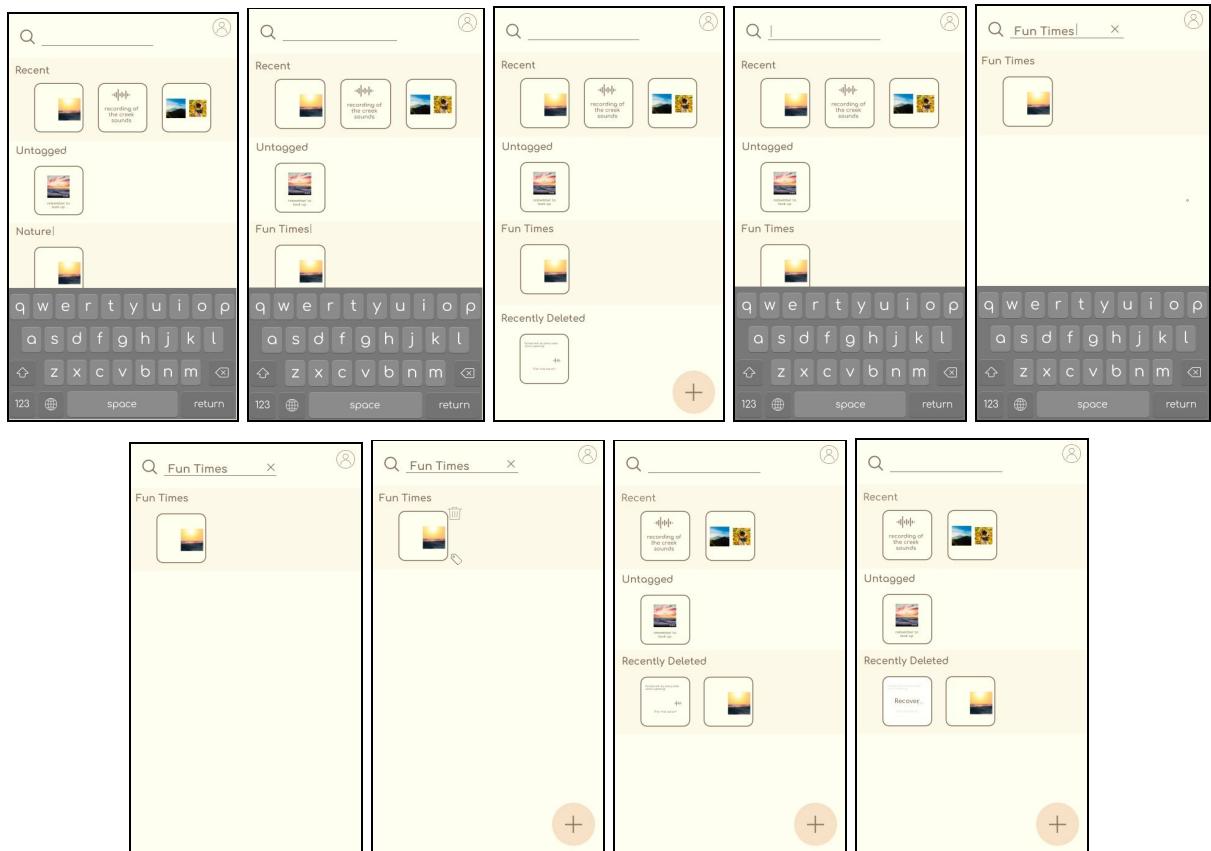
Moderate Task Flow

Complex Task: Mapping mementos by creating relational associations

While we were needfinding, we also discovered that users do not order their memories in a chronological order. Rather, they cluster memories together according to general themes consistent across these memories. As such, we decided to provide a similar functionality through tagging and displaying tagged memories on the collections page.

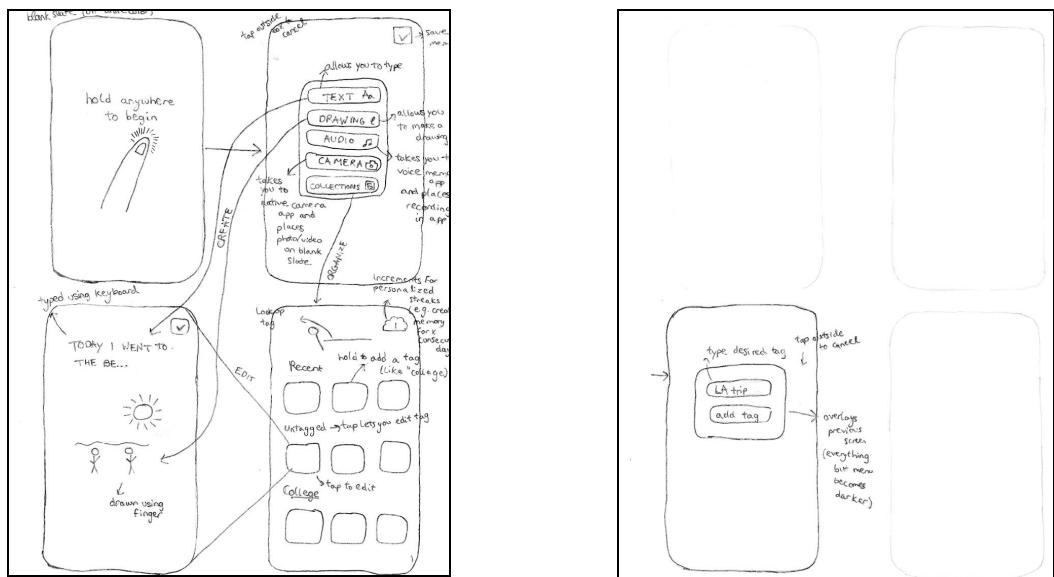
Users can create associations between memories by tagging each slate, thus creating links between memories and specific keywords. They can tag by clicking the tag icon on the keyboard, typing in the tags they want to use, and tapping finish tagging when done. Users can then view a visual representation of their mapping by clicking the collections icon on the keyboard. This brings the user to the collections view where they can see each slate they've created organized by recent, recently deleted, untagged, and tag categories.



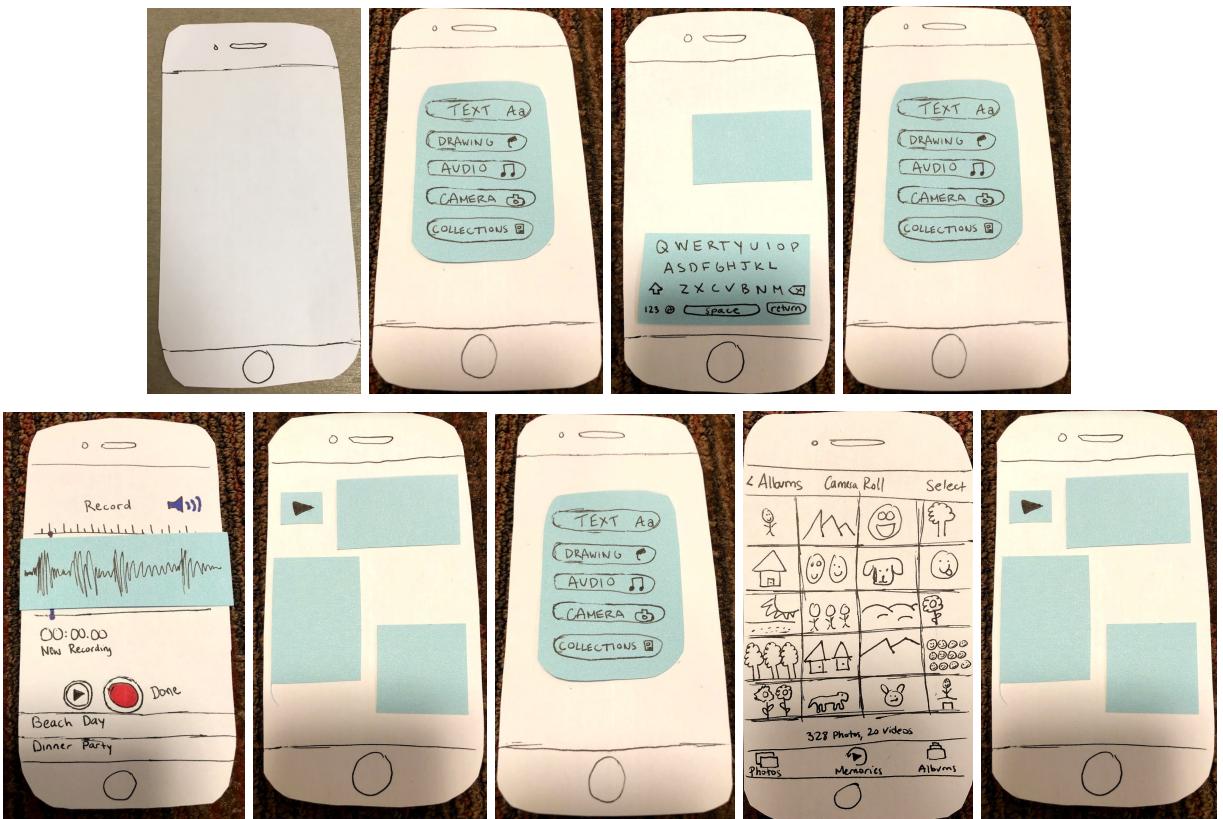


Complex Task Flow

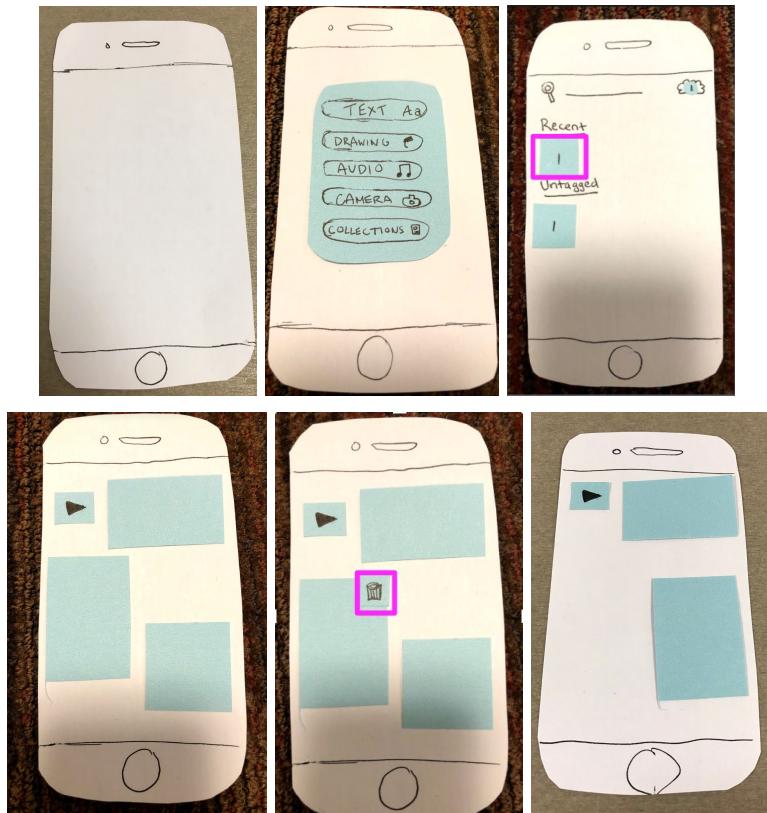
Design Evolution



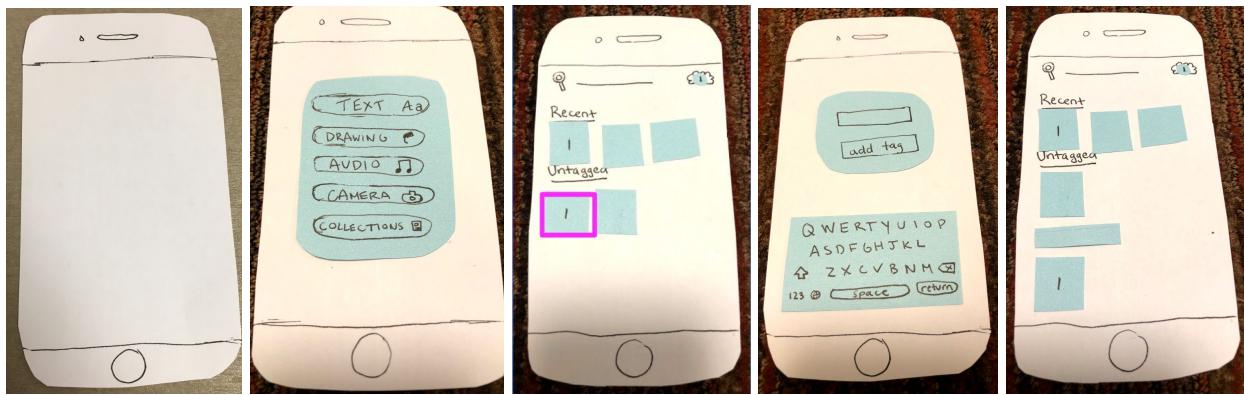
Initial UI Sketch



Low-fi prototype: UI flow for our simple task (creating mementos on the go)

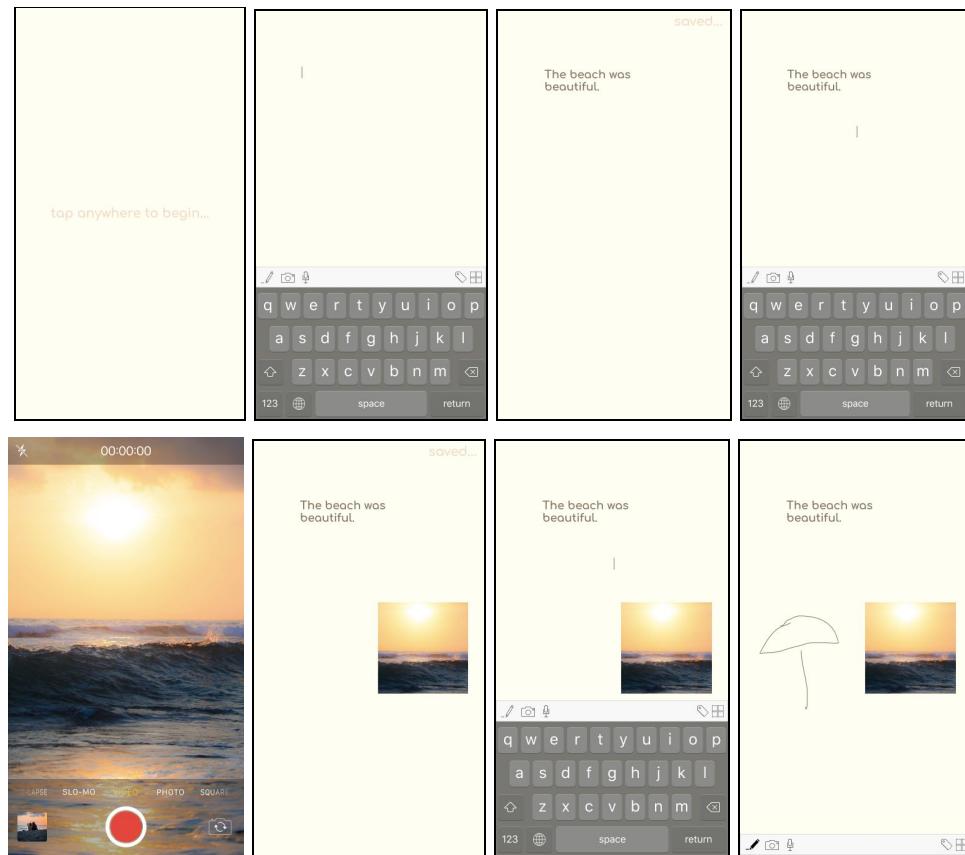


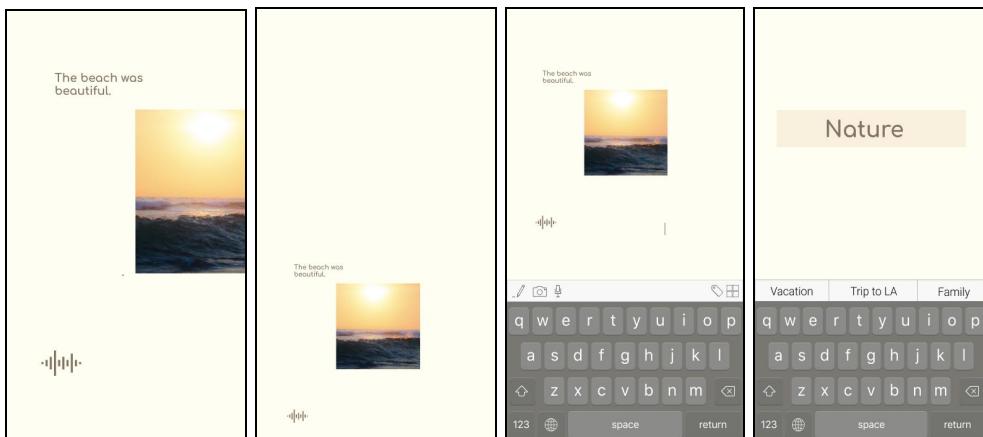
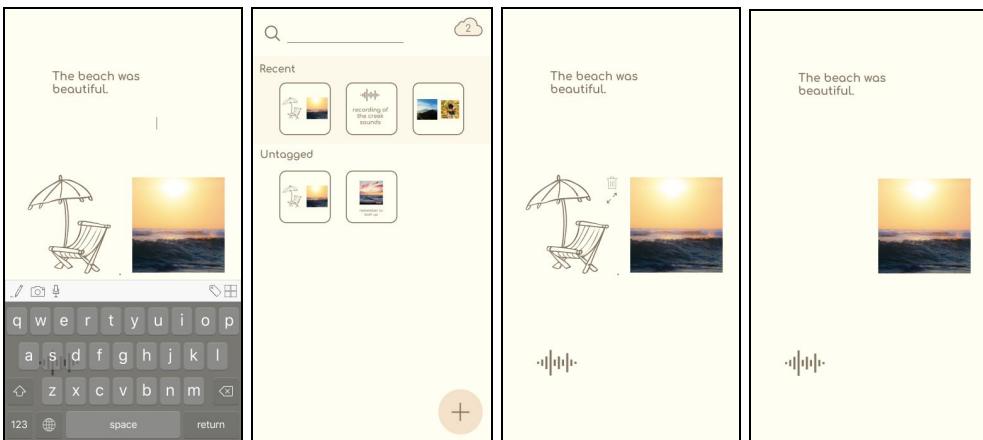
Low-fi prototype: UI flow for our moderate task (reflecting about specific memories)



Low-fi prototype: UI flow for our complex task (reflecting about specific memories)

In our initial UI sketch, we focused on the slate, collections, progress, and tagging view. Instead of using the force touch functionality from our low-fi prototype for accessing the different mediums of creating memories on the slate, we added the icons onto our keyboard. We thought this would create the most minimalist and clean design on our slate. We kept the collections page design the same from our low-fi prototype. For the progress view, we also kept that the same, where we have a cloud icon with a number on it that tracks how many memories the user has created. Our tagging view was implemented from the keyboard icon and allowed for user input and feedback on whether or not the tag was saved.



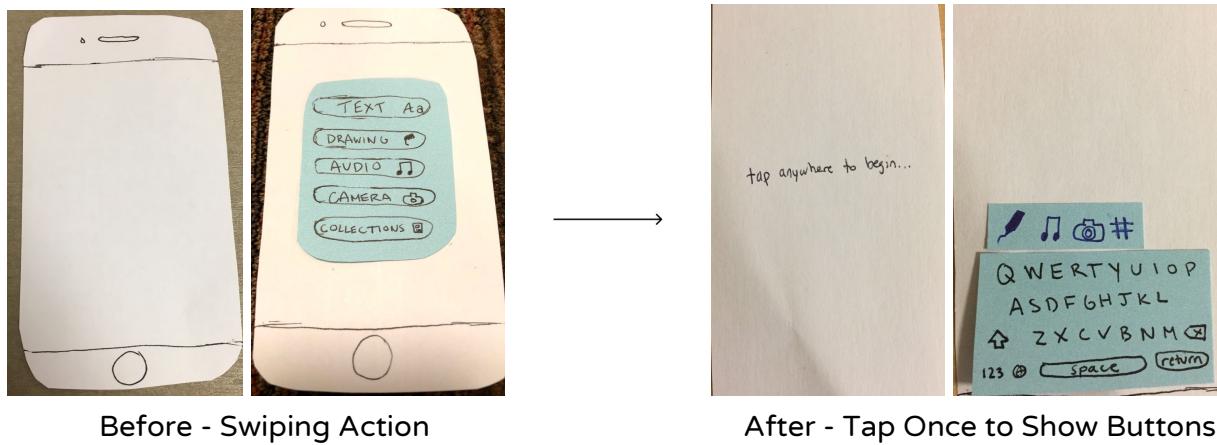




Overview of Medium-fi Prototype

From our low-fi prototype to our medium-fi prototype, we made the following adjustments:

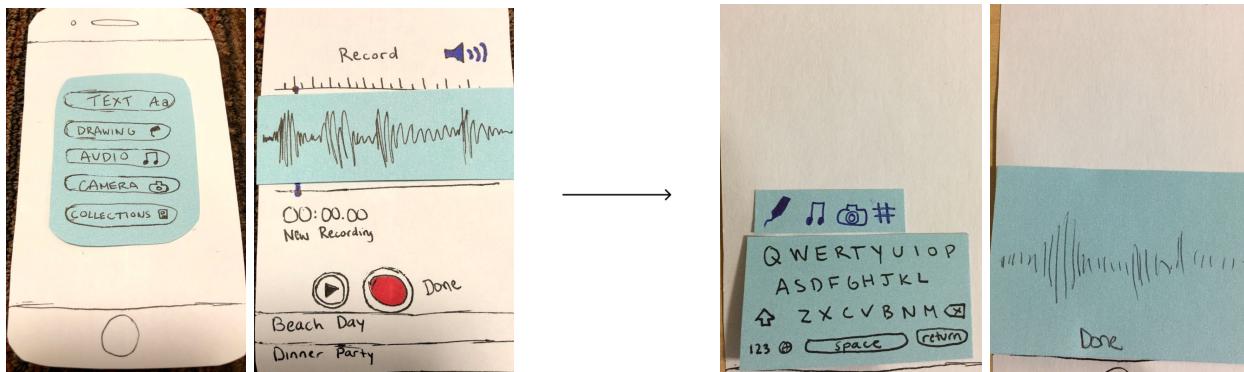
1. From Gestures to Providing a Few But Relevant Buttons: The main feedback we got was how a gestural based UI was actually more difficult to work with than a UI that had actual buttons that mapped to specific actions (ie drawing, texting, audio, etc.). Specifically, users did not like using the swiping up action to pull up the main menu. We fixed this by providing a few key buttons that map to the different mediums the user can work with on the infinite canvas.



Before - Swiping Action

After - Tap Once to Show Buttons

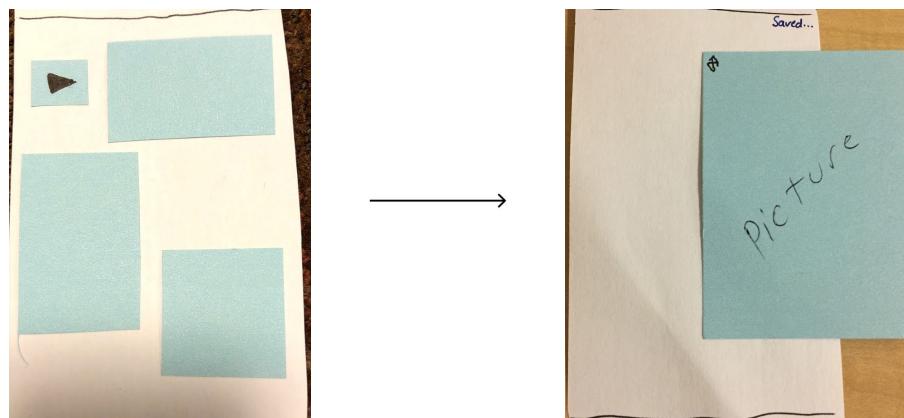
2. Providing Audio Recording Capabilities within the App: There was a significant time lag when exiting the app to go to voice memos to record from there. We also realized that most individuals preferred to not upload older audio recordings from voice memos; rather, they opted for recording in-the-moment sounds/music. Providing audio recording capabilities within Pensieve aligns more with these users' interests.



Before: Audio from Voice Memos

After: Audio Recording within App

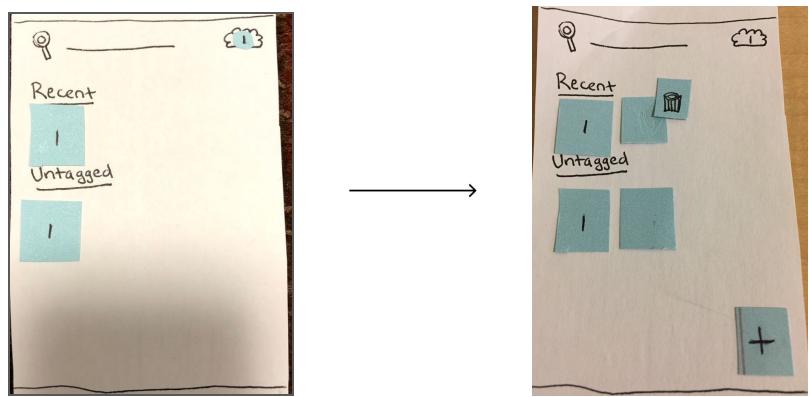
3. Adjustments to Showcase Capabilities of Infinite Canvas: Oftentimes users thought they were working with a finite rectangular space as opposed to an infinite canvas. To showcase the power and flexibility of having infinite space, we provided hints to the user such as adding resizable media to the side to let the user know they can scroll. In addition, we provided saving and resizing to infinite canvas as well.



Before: Looks Finite

After: Saving, Resizing, and Scrolling on Canvas

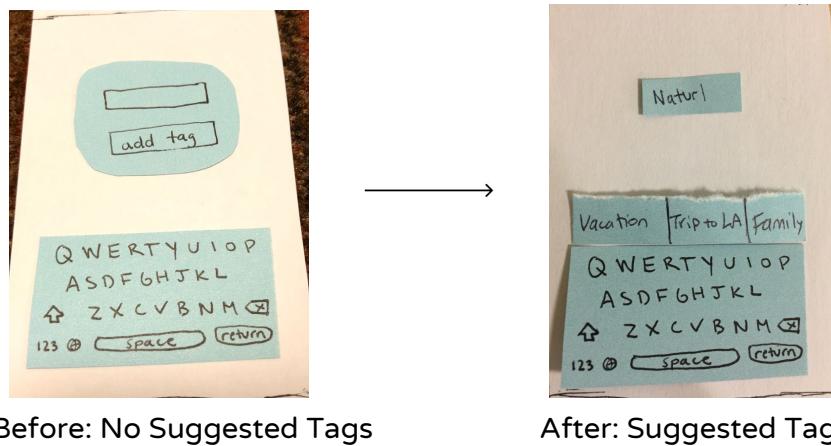
4. Allowing for Deleting Entire Memories: Previously we only allowed users to delete portions of a memory, not the entire memory. We fixed this by providing deleting options on the collections page.



Before: No Deleting

After: Deleting Allowed

5. Adding Suggestions to Tagging: By provided suggested labels, users do not have to remember what tags they had previously created. This helps minimize the memory overload on the part of the user.

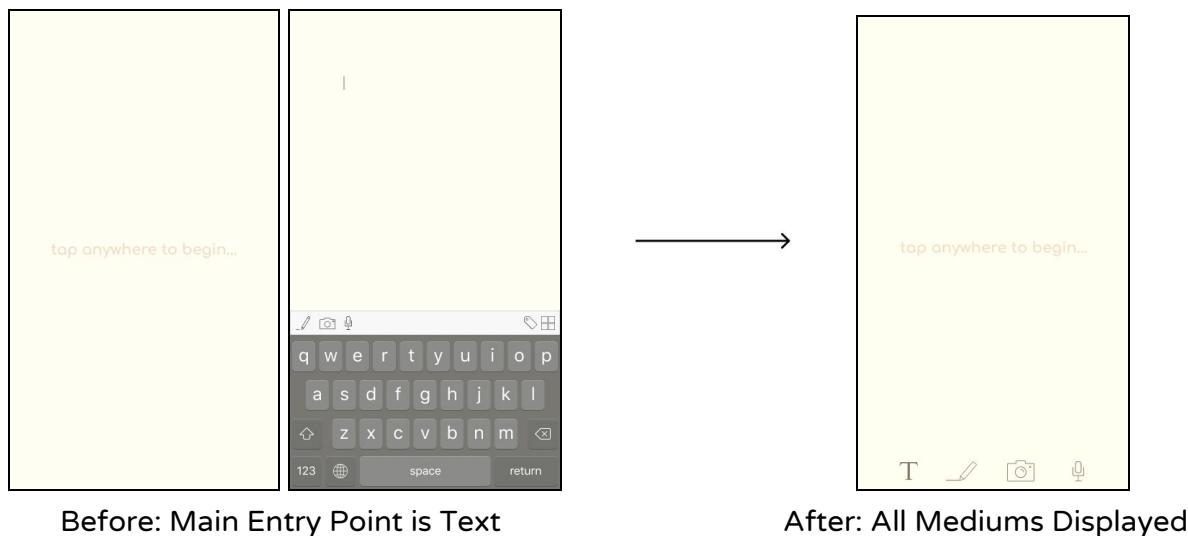


When transitioning from our medium-fi to high-fi prototype, we incorporated feedback from our overall heuristic evaluation to guide our design decisions. Changes from the evaluation included a variety of aspects, all of which were to make the UI more intuitive to use as well as to encourage consistency of usage.

Major Usability Problems Addressed

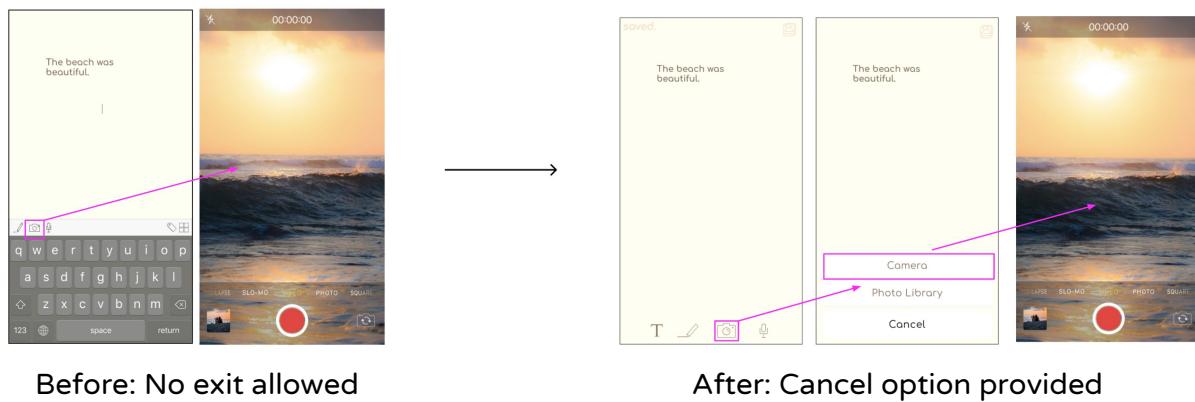
Our major usability challenges (level 3 and 4):

1. Forced into Text Medium upon Entering App
 - a. Users felt that immediately being taken to text mode upon tapping the screen on a slate was inflexible. It was also hard to find the other forms of media since you have to click on the keyboard first. We fixed this by adding floating buttons on the bottom of the slate for each form of media.



2. Unable to Cancel from Camera

- a. Users wanted a way to exit from camera so we added a cancel button.



Before: No exit allowed

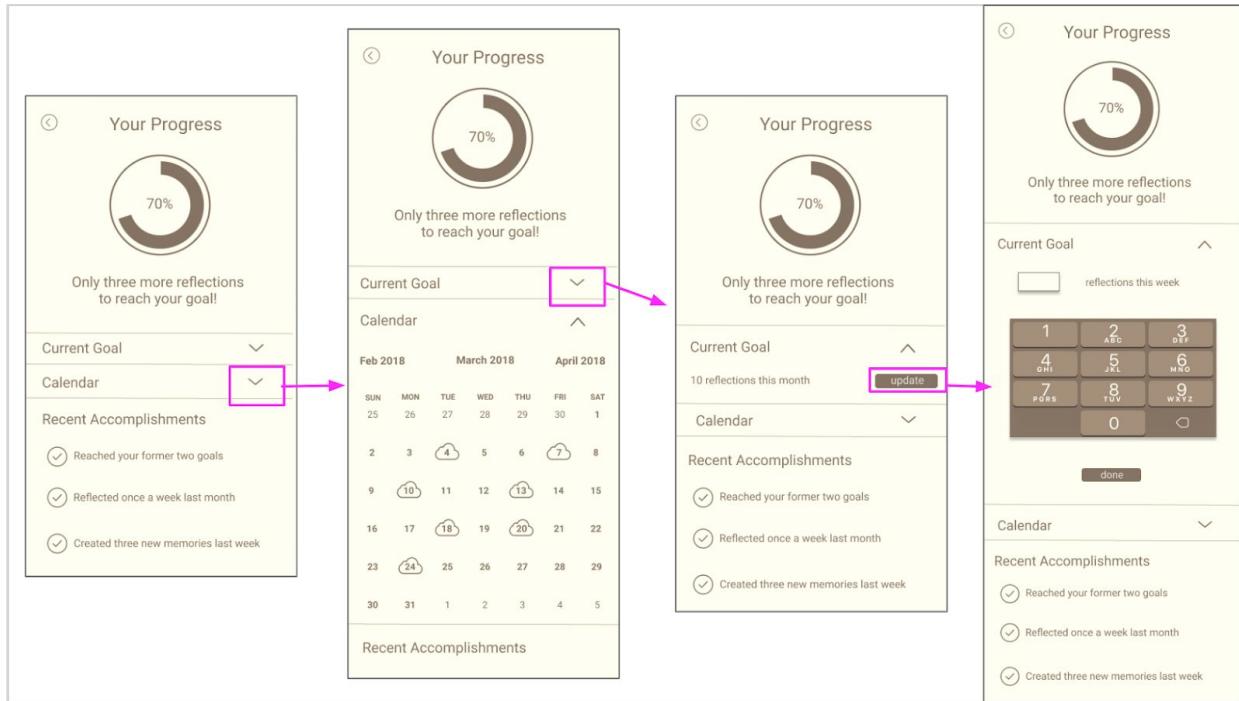
After: Cancel option provided

3. Streaks are Unintuitive and it is Unclear How to Set Goals

- a. Users thought streaks were unintuitive since they don't need to happen on consecutive days. People also didn't know how to set goals. To fix this we renamed streaks goals and added a progress indicator. We also made a clickable field where the user can input their own goal.



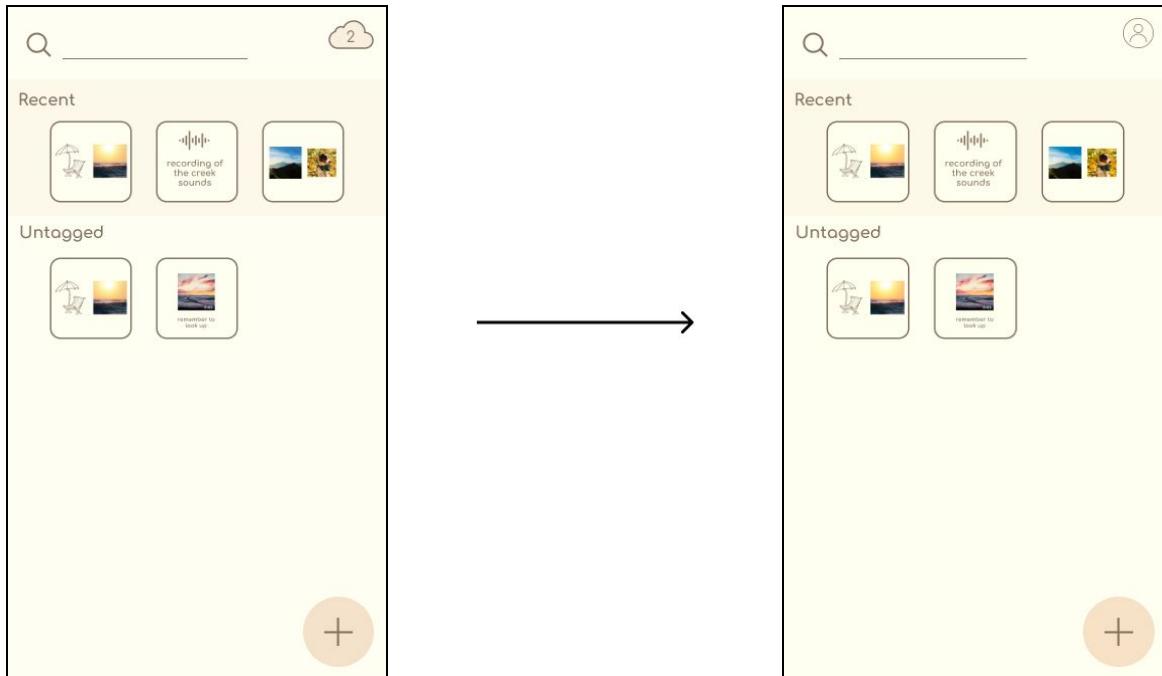
Before: Profile Page Unintuitive



After: A More Intuitive Personal Profile with More Options

4. Cloud Icon is Confusing

- a. Users thought the cloud icon that links to the calendar was confusing since it wasn't clear how the cloud relates to the calendar. We fixed this by using a profile icon instead of a cloud icon.

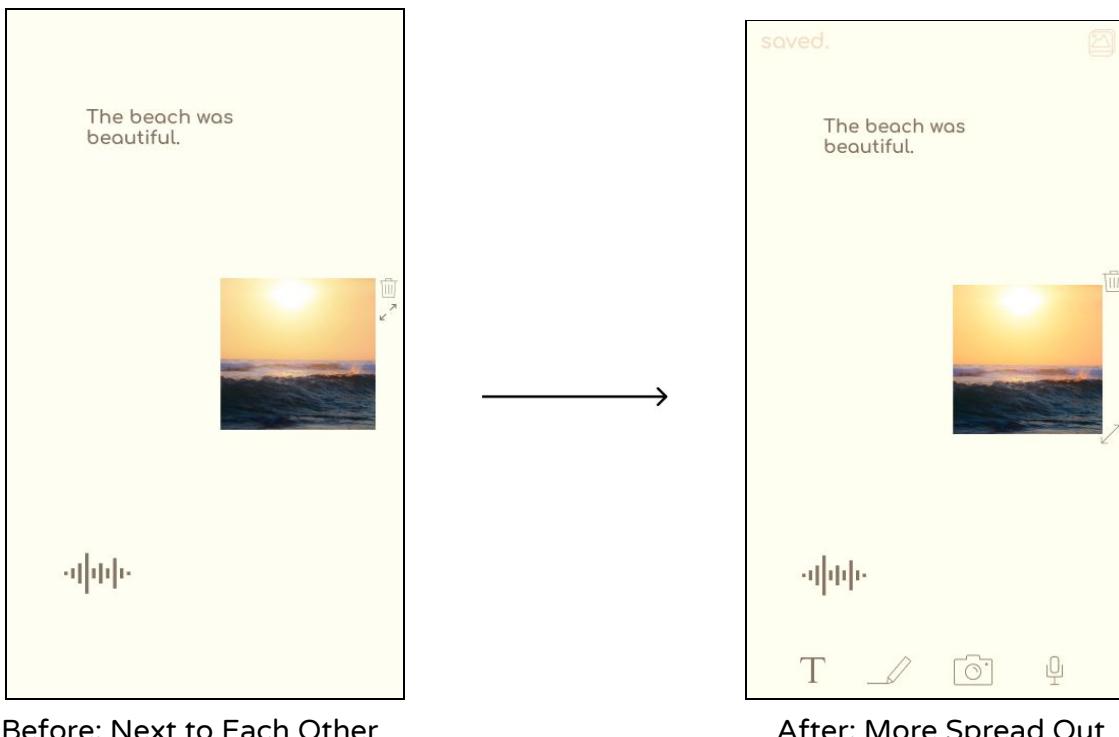


Before: Cloud Icon

After: Personal Profile Icon

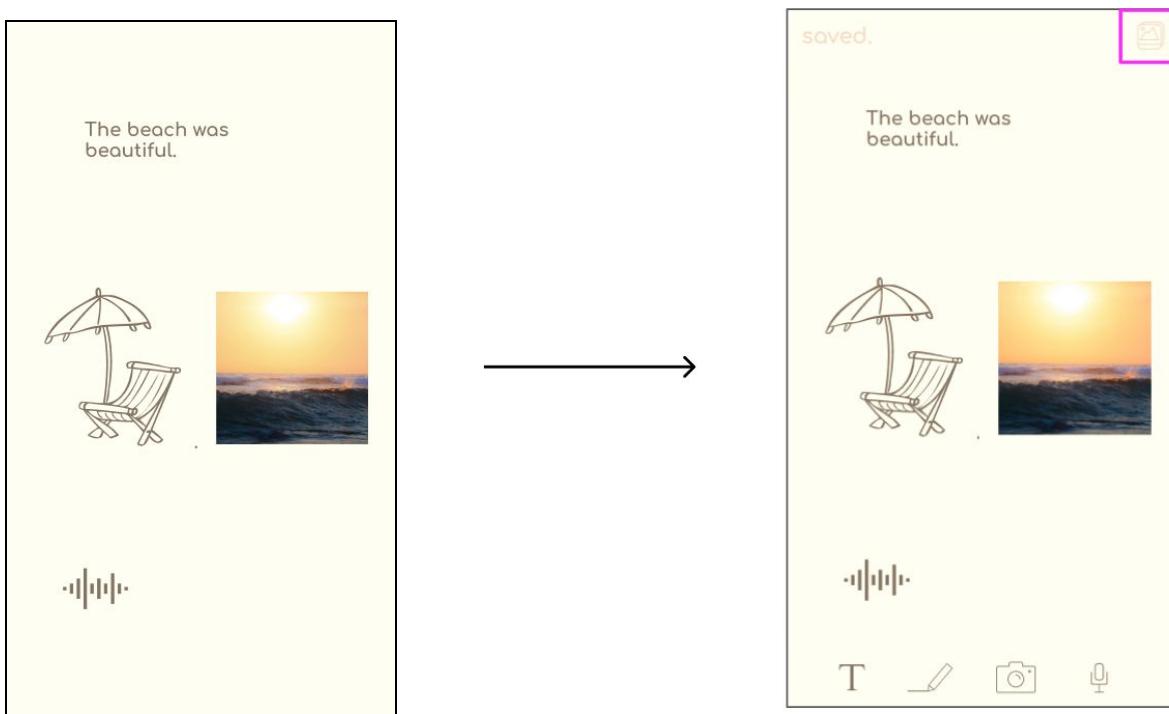
5. Resizing and Delete Icons are Too Close

- a. Users thought the proximity of the resizing and delete icons to each other would result in potential errors. To fix this, we made the icons larger and put them on different sides of the item.



6. Menu disappears inconsistently

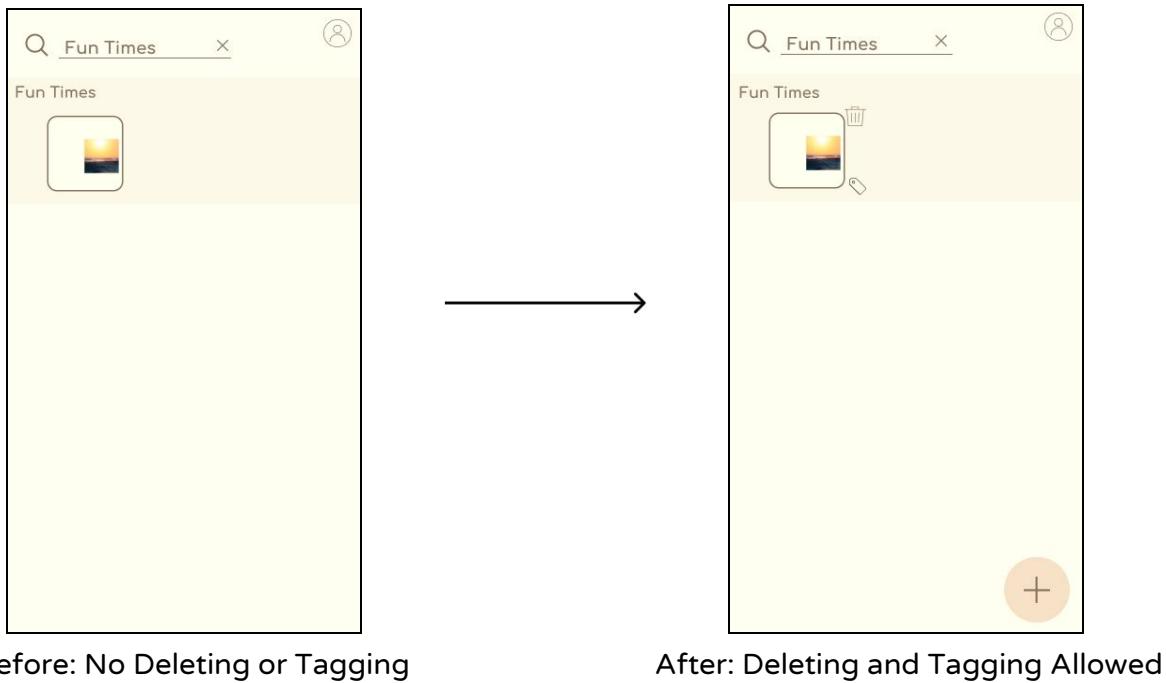
- a. Users noticed the menu disappears inconsistently when adding media to a page. To fix this we kept the menu up on the page at all times.



Before: No collections icon

After: Collections icon

Based on some other heuristic violations, we are also making deleting and tagging icons available with the collections page



Prototype Implementation

We built our prototype using Apple's native development tools: Xcode and Swift. Built-in components like buttons, labels, and images, allowed us to quickly build complex functionality. The storyboard was also really helpful in allowing us to efficiently design our user interface. Online resources were also generally very helpful for debugging and implementing certain functionality.

Despite these benefits, some parts of Xcode and Swift really hindered our ability to quickly develop the app, which was optimized for the iPhone 8 specifically. One big barrier was that the entire group had close to no experience using these two tools. There was a very big learning curve and it was difficult for us to fully understand where the code might be going wrong. Regardless, we were able to overcome these barriers to create a simple, intuitive, and easy-to-use high-fi prototype.

One Wizard of Oz technique we used was instead of making the slate actually infinite, we just created a zoomed in view that you could zoom out of.

We hard coded pre-populating the personal goals page, which included the personal goal for the user, the progress made towards that particular personal goal, and the days of the month the user created reflections. We also hard-coded the suggested tags the user sees on the tagging view. However, the collections page (which displays the tags created) is

able to dynamically update and sort the memories according to which tags each memory has.

Some features are still missing from the high-fi prototype. We chose not to add these features due to time constraints and the fact that they were not immediately relevant to any of our 3 tasks. If we had more time, we would have added the following:

- Allow for more than 3 or more slates within each tag (currently you can only put max 2 slates within each tag)
- Allow for users to select suggested tags (currently they are displayed but not clickable)
- Search bar functionality
- Goal editing functionality
- Dynamic progress bar
- Dynamic calendar
- Audio and text movement around the screen
- Erasing parts of a drawing
- Using different colors when drawing

Summary

Experiences are one of the most important things in people's lives. We remember these experiences through memory. Yet, most people have imperfect memories of events in their lives and are unable to capture moments effectively. We hope that by using Pensieve, people will be able to easily capture moments before they forget them, as well as reflect and organize moments. Throughout the quarter, we've iterated on our design to maximize utility, flexibility, and convenience for users. We learned about and executed on methodologies that allowed us to deeply understand our users and quickly test our assumptions about the best product that serves those users needs. Looking into the future, we hope to continue to incorporate what we've learned into new products.

