



# DiarWe

Low-Fi Prototyping & Usability Testing

# Team DiarWe



**Aaron Cho**

SymSys - HCI



**Katie Liu**

CS - HCI



**Eleanor Peng**

CS - HCI

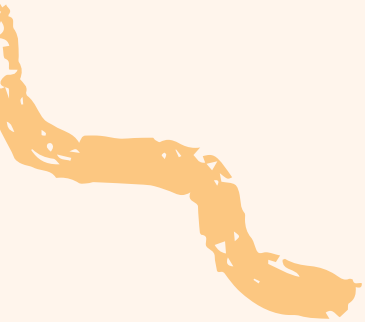


**Emma Su**

SymSys - Neuro

## Value Proposition

Interactive journaling to **connect, share,** and **learn** between generations.



# Problem

People are all, in some capacity, part of an intergenerational relationship in their lives. Whether it's grandparents with grandchildren or parents with children, **miscommunication** and **disconnects** become prevalent due to generational differences in slang, pop culture, technology, and more.

# Solution

To reduce these barriers, we aim to **bridge** these generational gaps through **interactive journaling** – harnessing **deeper connections** and facilitating **personal learning** experiences through first POV reflections.



# Overview



## Ideation

Concept sketches  
Top 2 realizations



## Prototyping

Selected interface  
Low-fi prototype/features  
Task flows



## User Testing

Testing methodology  
Testing results



## Analysis

Implications  
Next steps for UI changes

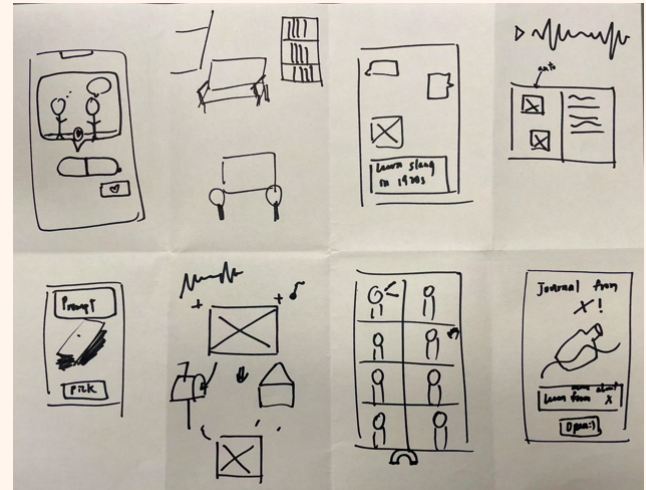
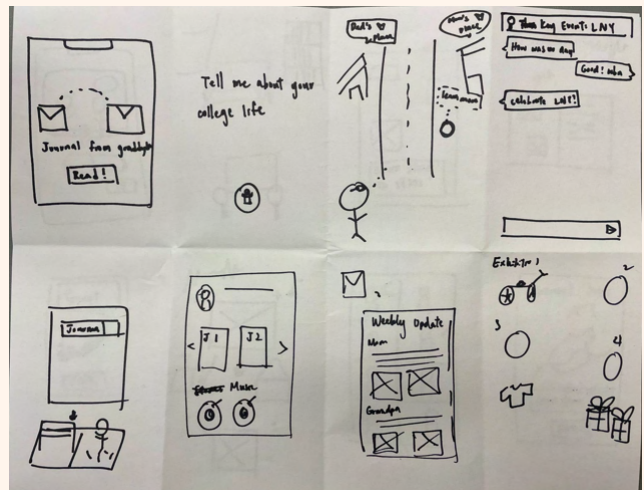
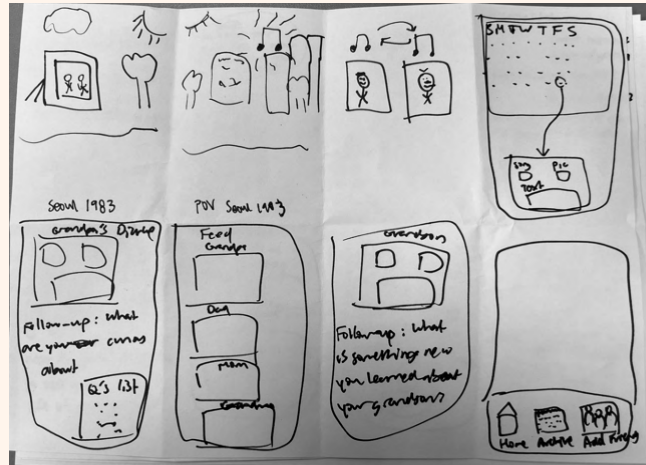
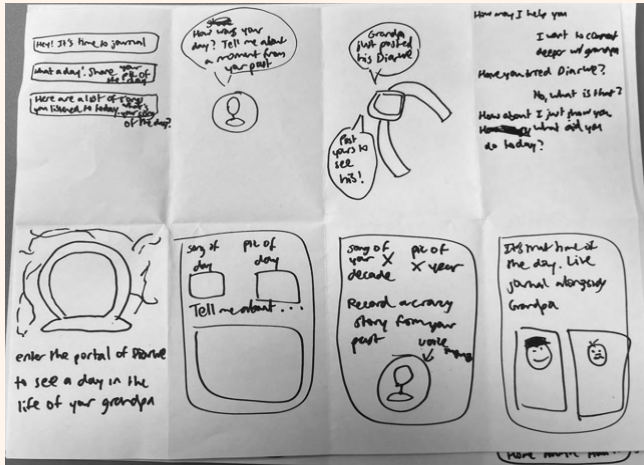


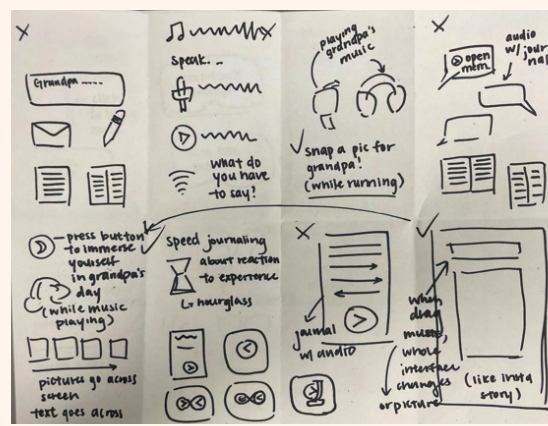
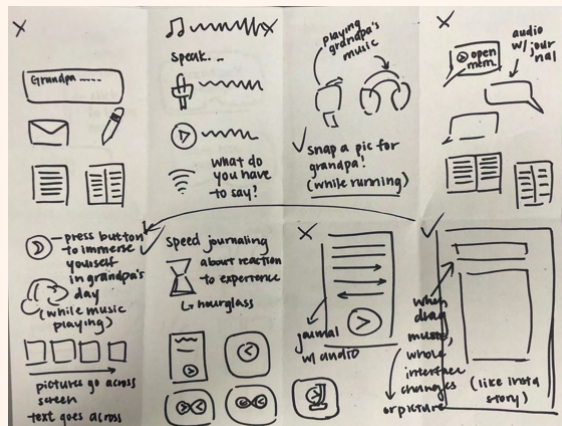
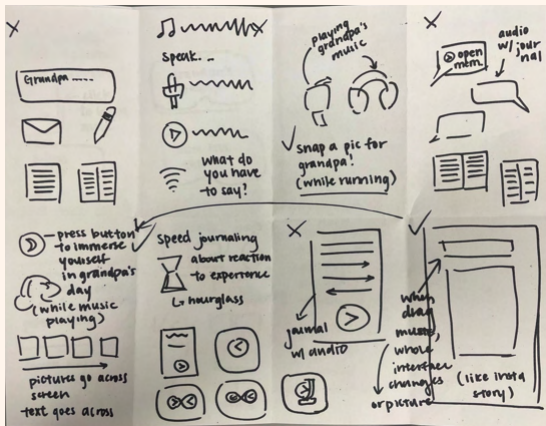
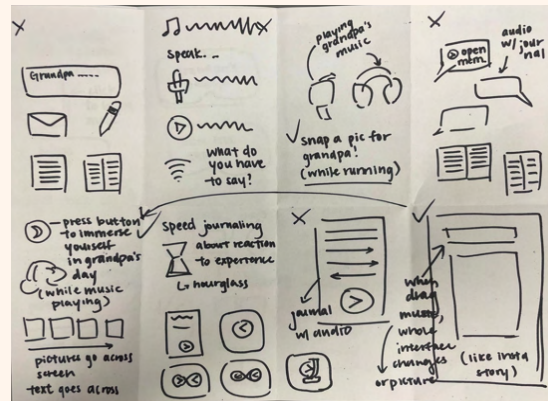
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# Sketches

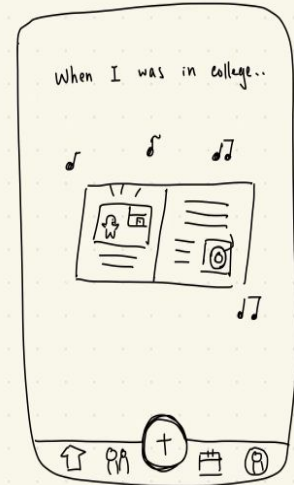
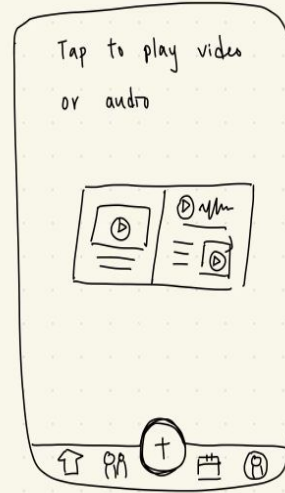
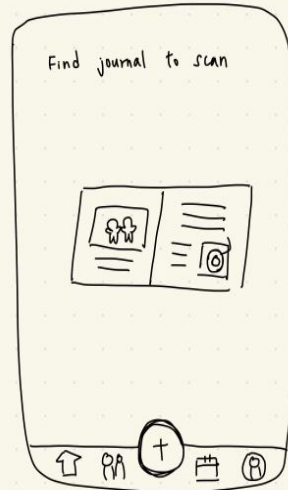
Drawing Explorations







# AR Realization



## Pros

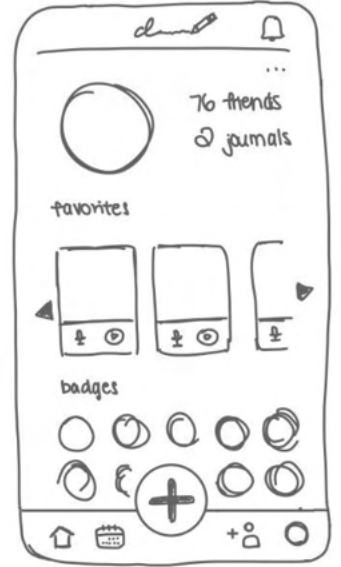
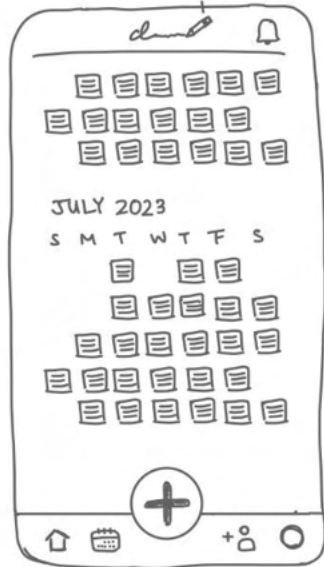
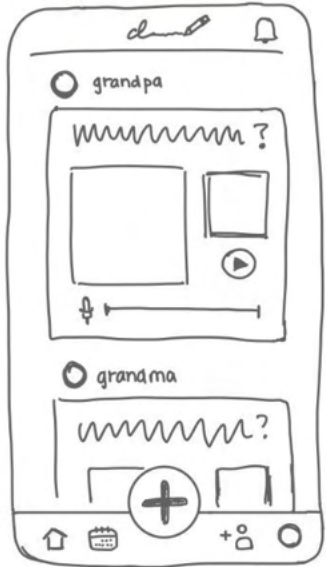
- **Immersive experience** that taps into the user's senses
- Provides a **richer user experience**: leads to increased engagement and interaction
- Sets DiarWe even further apart from other modern-day journaling apps

## Cons

- Potentially **hard to navigate**, especially for older generations who may not be as tech-savvy
- Only accessible for users who own a **physical journal/photo** for digital scanning
- Works **against** our priority of making DiarWe accessible, simple, and user-friendly for people of all generations



# Mobile Realization





## Pros

- **Simple** interface
- Integrates social features for inter-user experience
- Implements **intuitive navigation** with a chronological/calendar view for archived journal entries



## Cons


- Requires users to know how to use a phone/tablet
- Aligns with the “**status quo**” of common apps today
- Fails to take advantage of today’s cutting-edge technology to provide an **immersive** experience





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# Selected Interface: Mobile



# Why Mobile App?

- AR is a **relatively new technology** that older generations may not be as familiar with
- Only **3 out of 10** Americans currently use AR, while **9 out of 10** owns a smartphone
- Want to **prioritize the usability** and **ensure the accessibility** of our app to our target audience



# Mobile App Realization

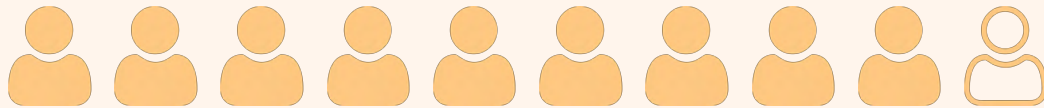
While an AR realization of *DiarWe* could drive forward an immersive and unique experience to achieve intergenerational learning, it also implements a **relatively new technology** that older generations may not be as familiar with.

As such, our team decided to choose the mobile app realization. This is because we want to **prioritize the usability** and **ensure the accessibility** of our app, all while keeping our target audience in mind, which comprises of **people across generations**, young and old.

# Rationale



3 out of 10 Americans currently use AR



9 out of 10 Americans own a smartphone

**People are much more familiar with mobile apps than AR.**

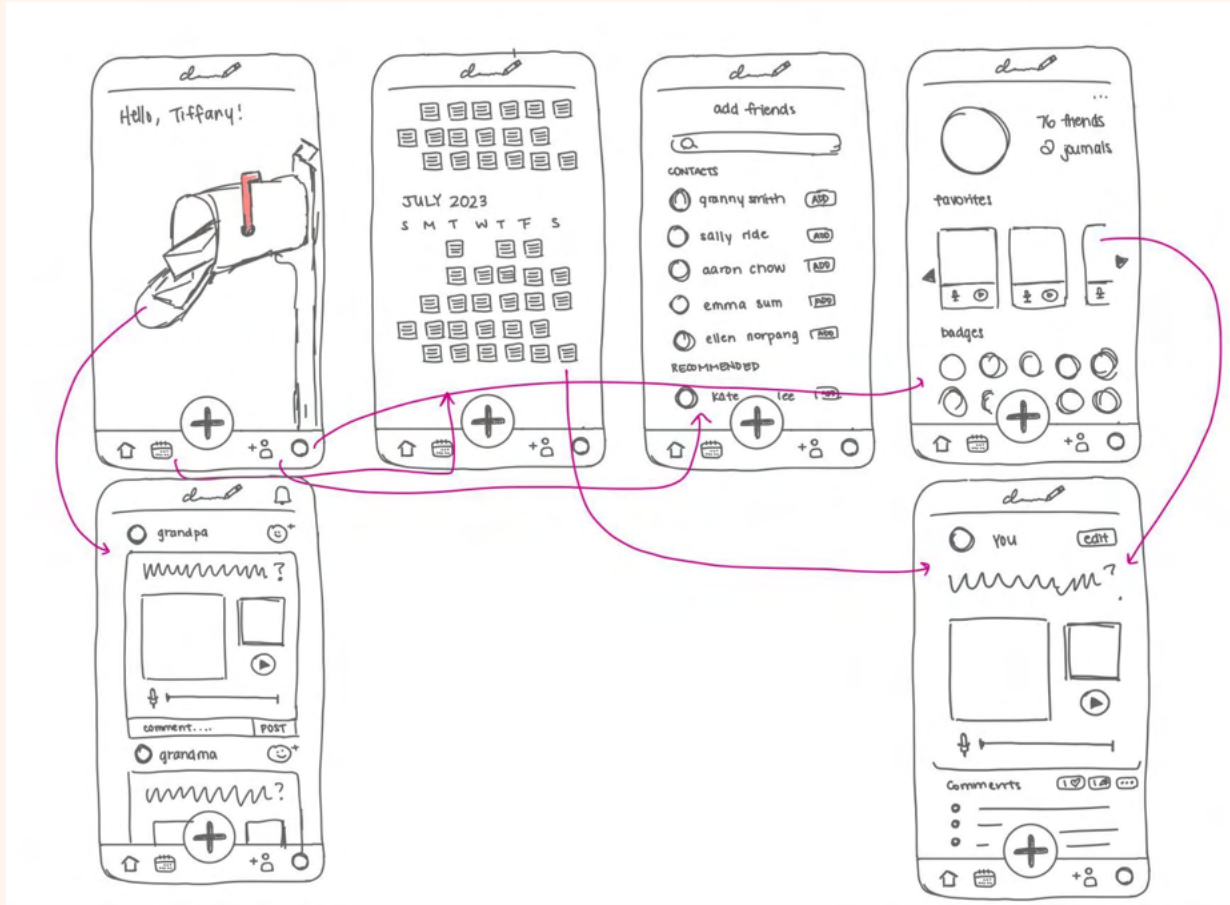


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# Low-fi Prototype

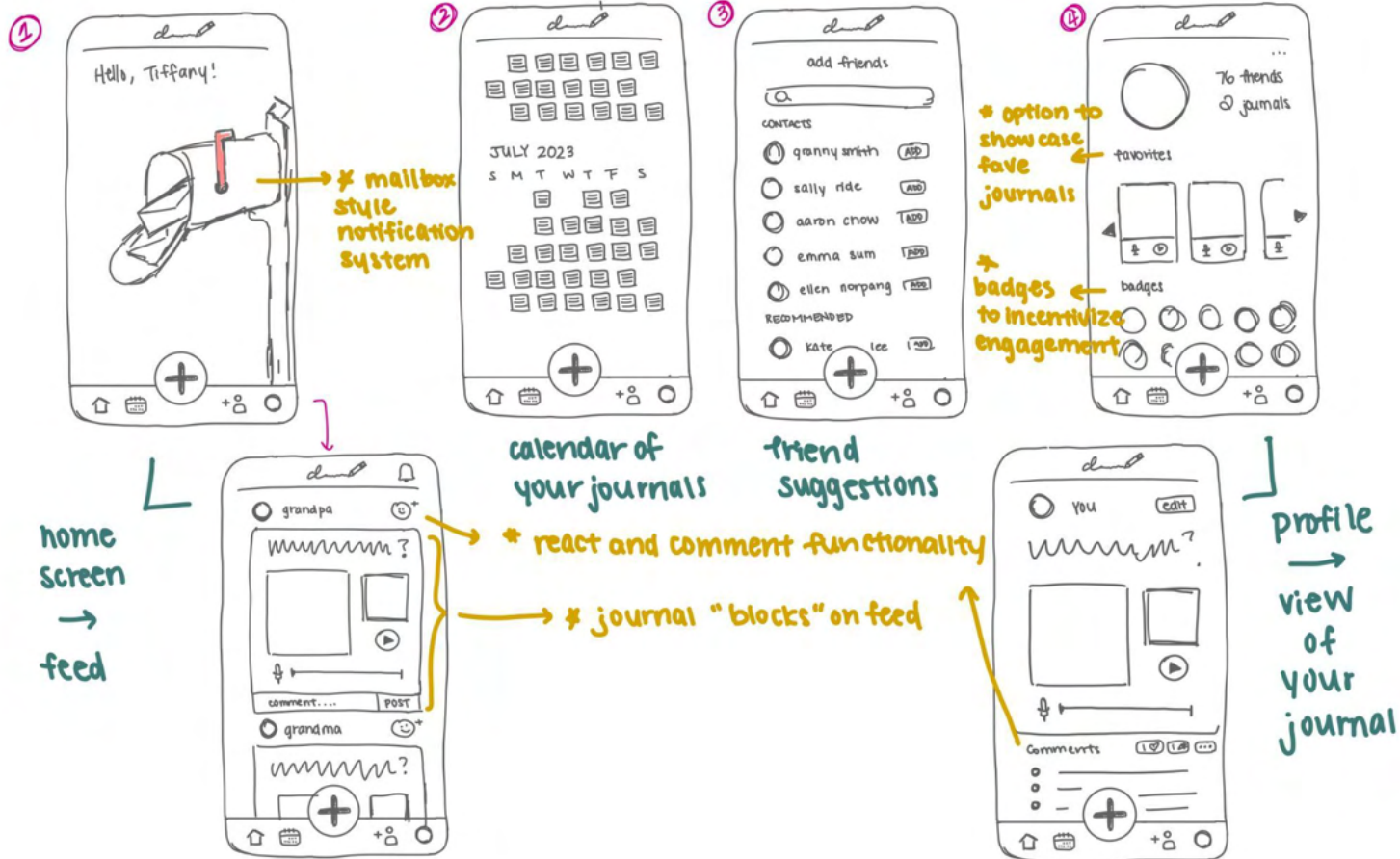


# Low-fi Prototype

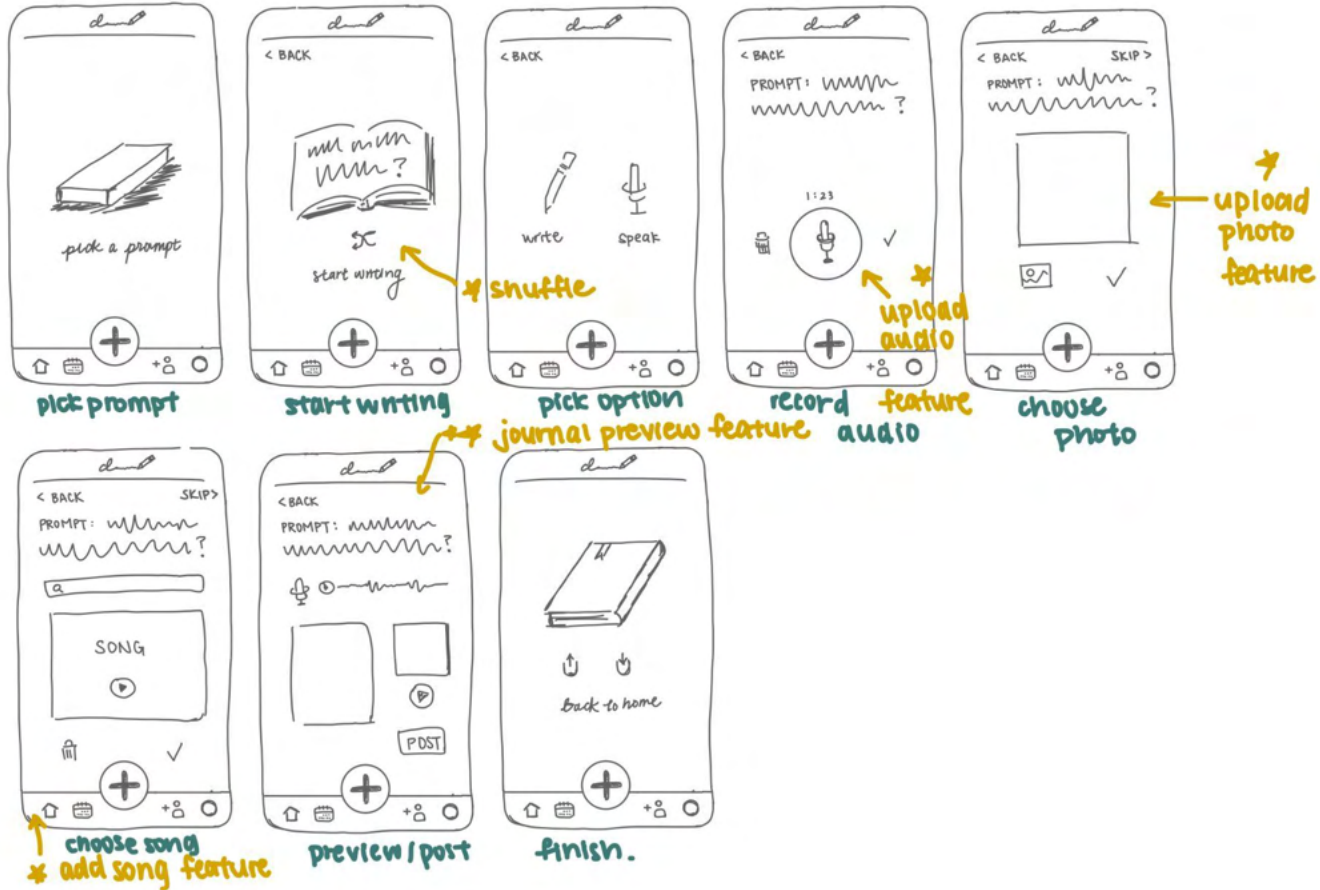




# Features

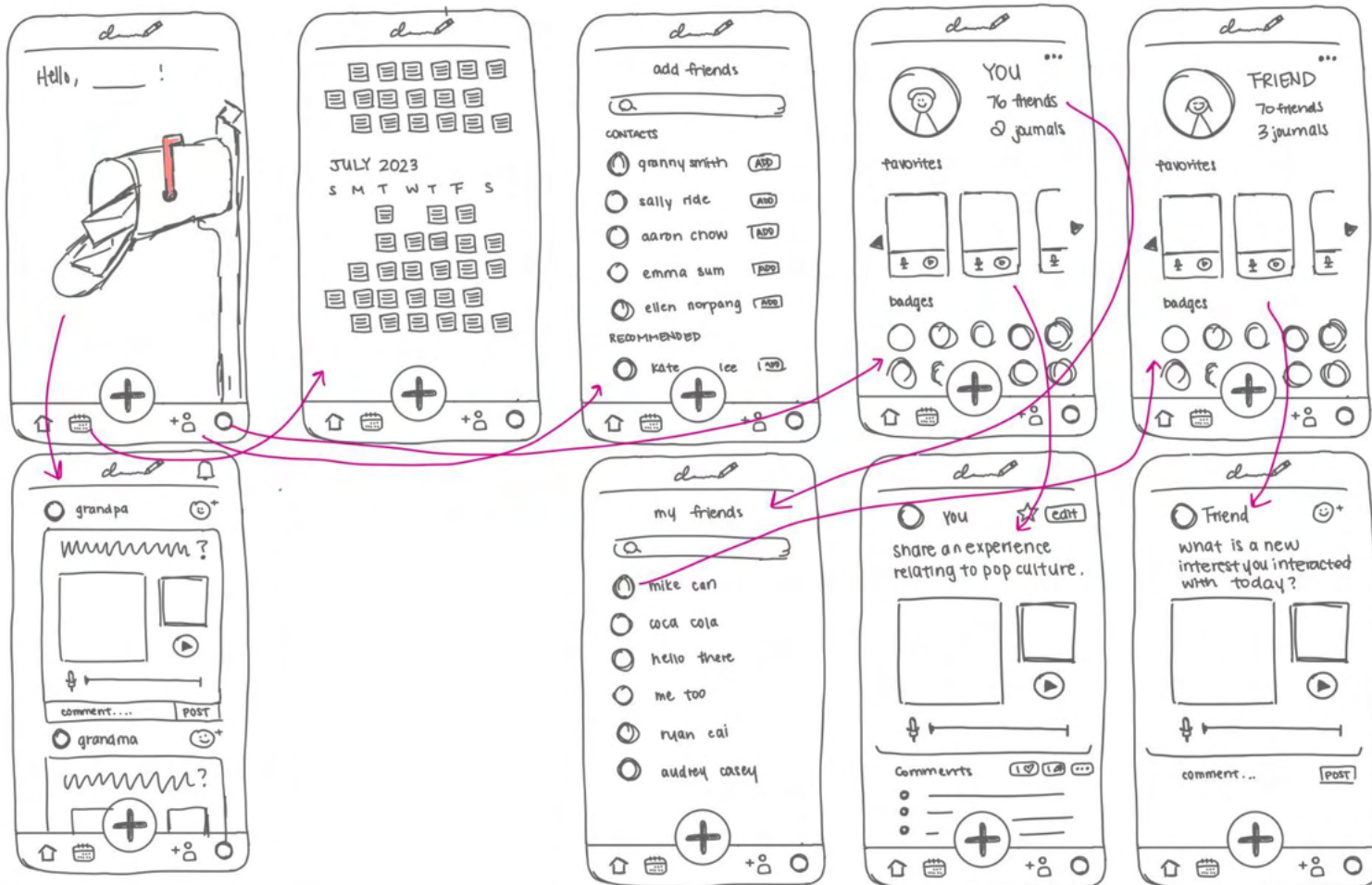
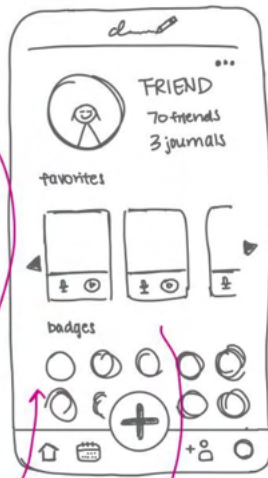
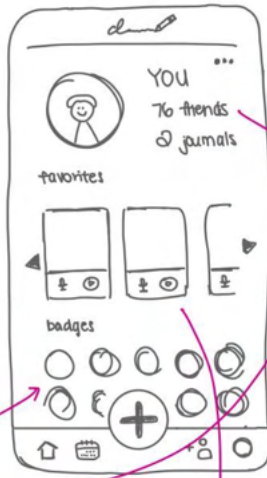
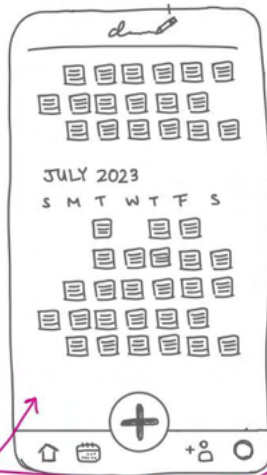
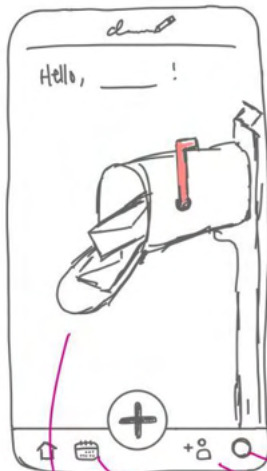


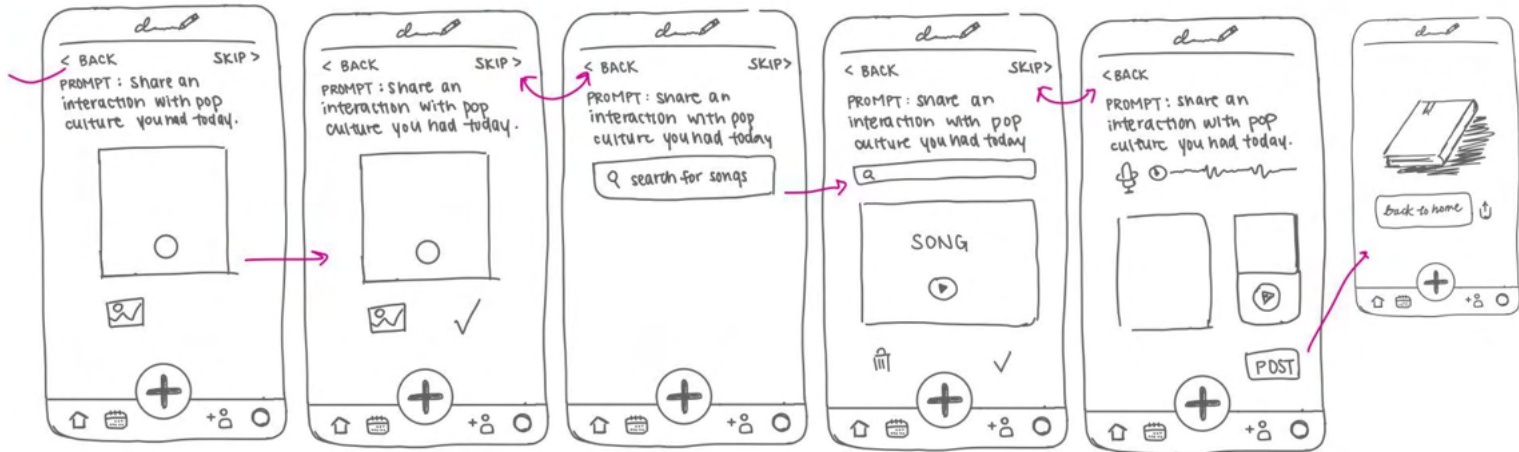
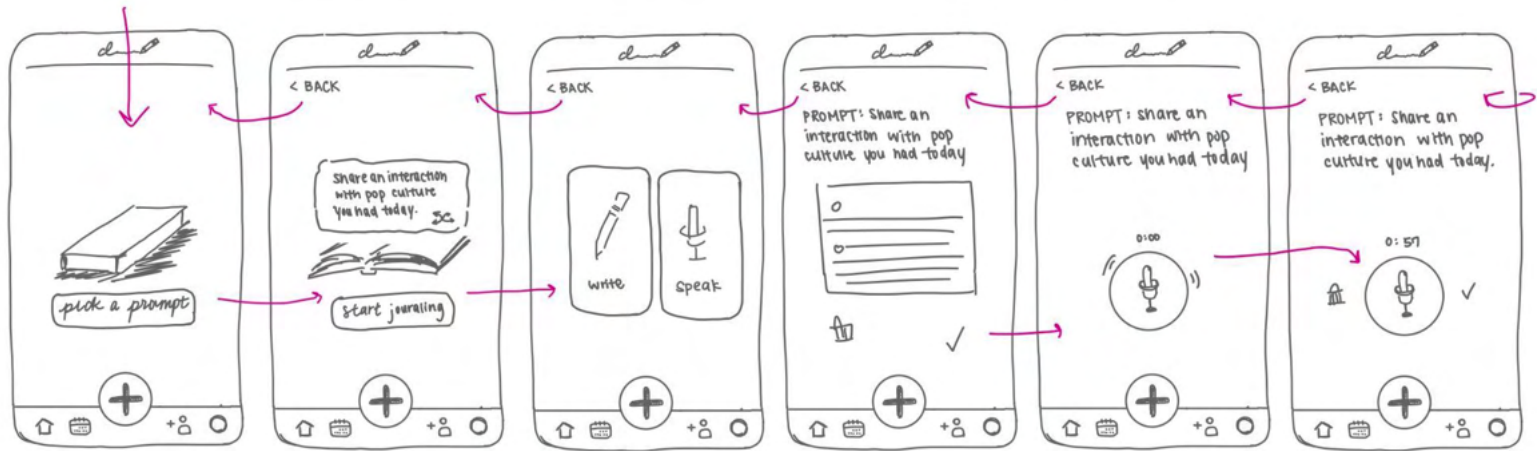
# Features





# **Revision after first prototype test**



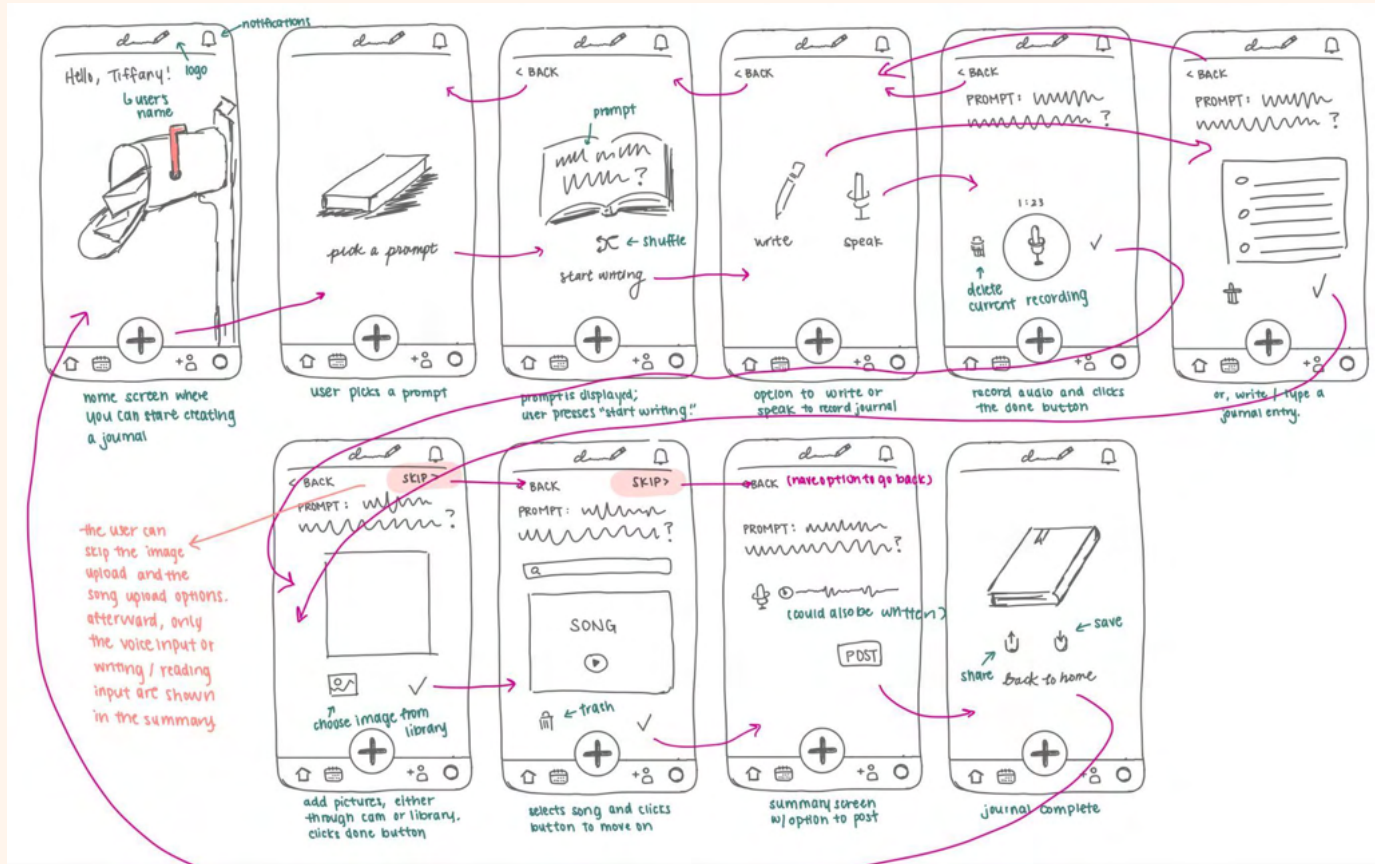




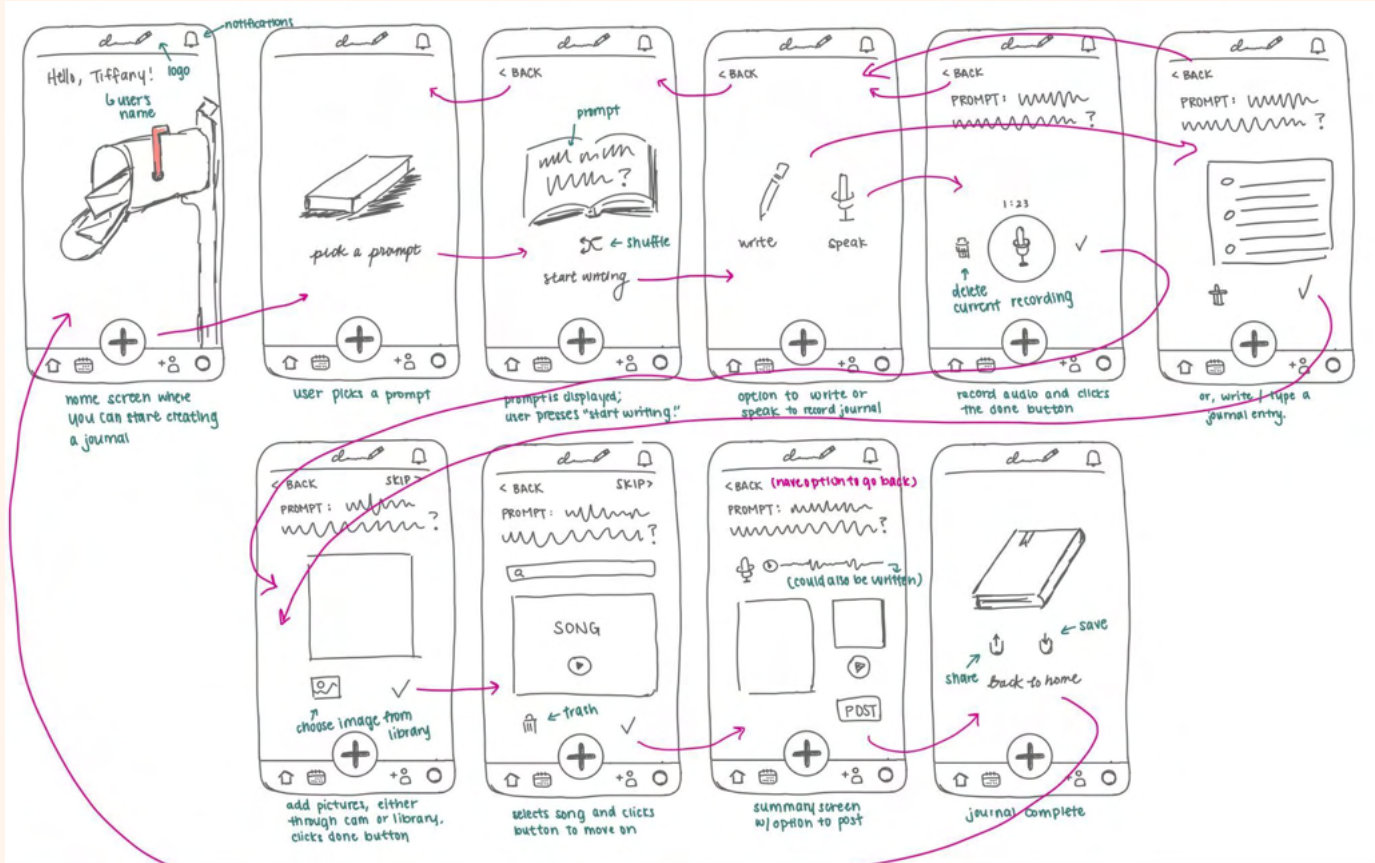
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# Task Flows

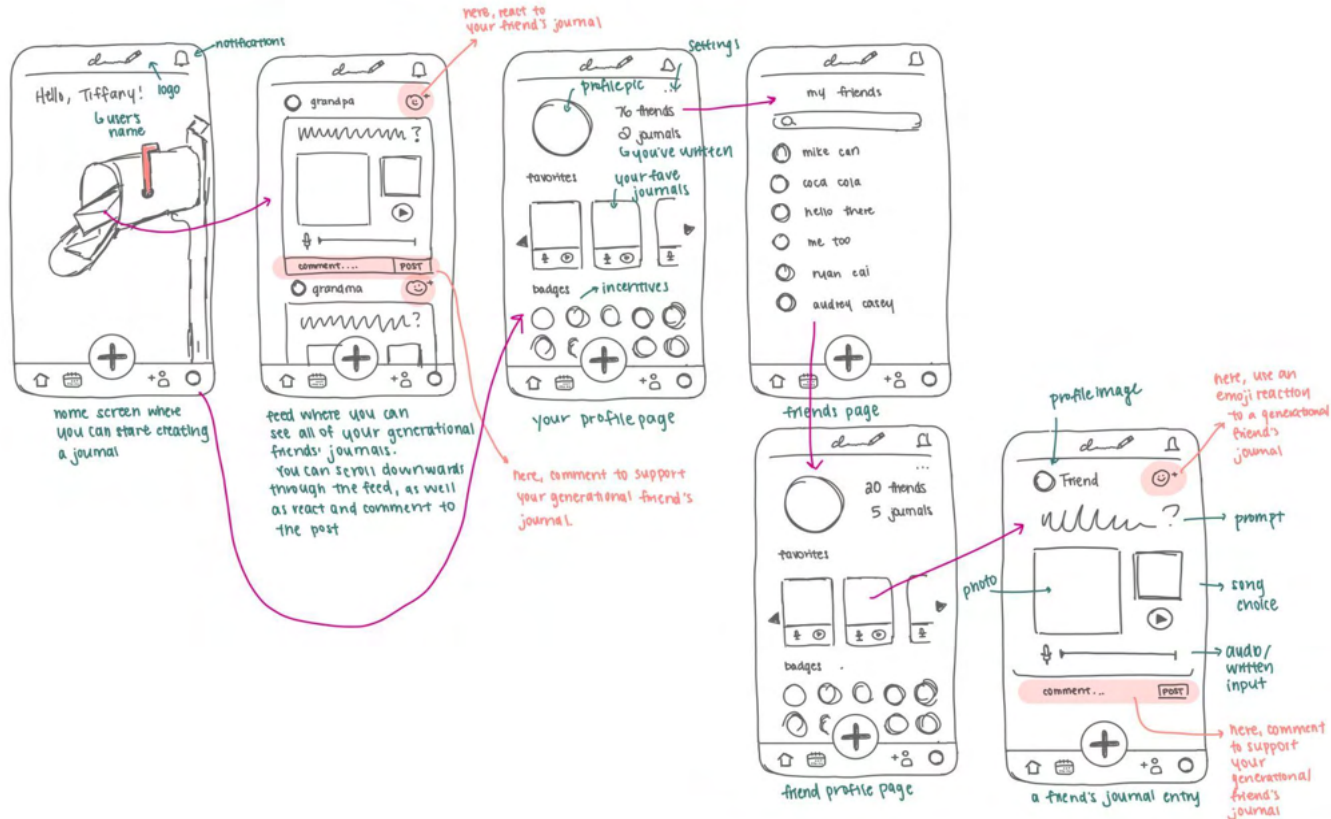
# Simple: Create a journal entry consisting of only text or audio



# Moderate: Create a journal entry with images and songs



# Complex: Read and react to other people's journal entries





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# Testing Methodology

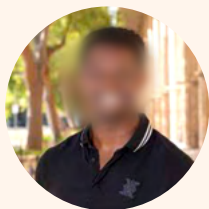
# Roles

**Notetaker:** Emma/Eleanor/Aaron

**Computer:** Katie/Emma

**Facilitator:** Aaron/Eleanor

# Participants

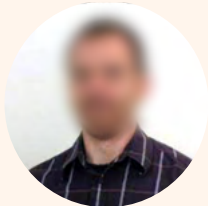


**DM**

Early 20s

Pre-med college grad

Compensation: meal

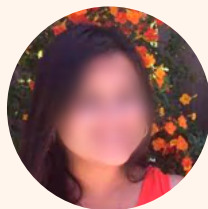


**RL**

60+

Stanford Friends of Music

Compensation: N/A

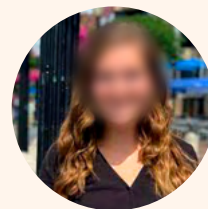


**AR**

40s

Stanford Dept. of Music

Compensation: N/A



**KW**

Early 20s

Clinical psychology researcher

Compensation: meal

# Procedure

- **Paper prototype**, 1 page/screen
- Participants **pointed** at icons to navigate through app/**vocalized thoughts**

# Environment and Apparatus

**Created Paper Prototype**



**20+** different screens from our app

**Participant Starts @ Home**

**Computer** hands participant a new screen based on button clicked

**Three Tasks**



**Facilitator** reads script + asks participant to complete set of three tasks

# Sample Setup



# Usability Goals

## Discoverable

Ability to learn new features of our app over time.

### MEASUREMENT

Counting number of main features of our app that participant successfully discovers.



## Learnable

Ability to remember how to navigate to certain features over time.

### MEASUREMENT

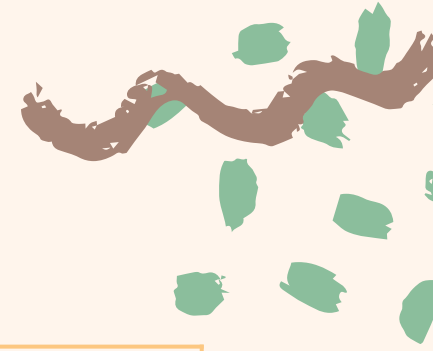
Timing how fast participant can successfully navigate to certain features of app.



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# Testing Results

# Process Data



**App goal and value** are clear to the users



All participants were able to complete **3 tasks**, but one needed more guidance compared to the others



Participants found the **function of the mailbox** on the homepage confusing



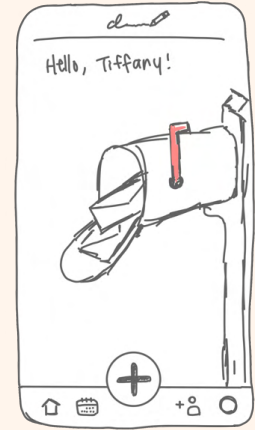
**Task 3** was the most challenging task for all participants, while **Task 1 & 2** had similar difficulty

# Usability Goal Measurements

**Discoverable** ~ 

3 participants were able to discover **6/6** features

1 participant was able to discover **5/6** features



	DM	RL	AR	KW
Features Discovered	6	5	6	6

# Usability Goal Measurements

## Learnable ~

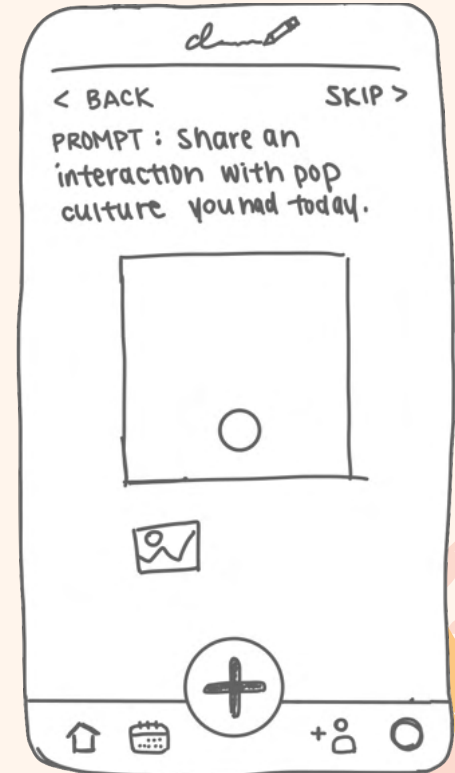
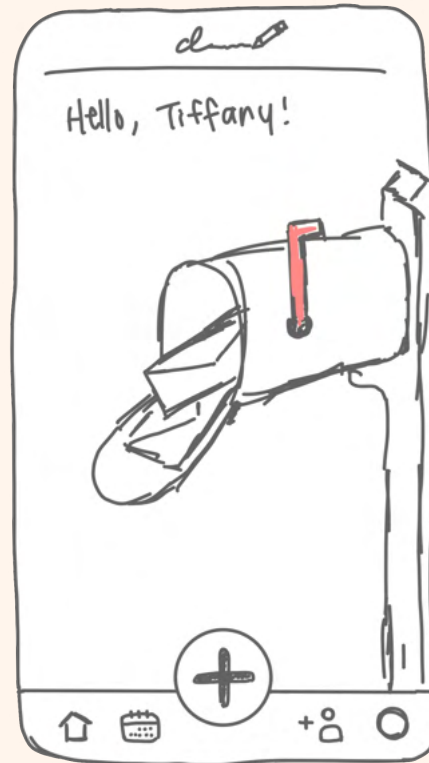
Participants were able to navigate through the app must faster the second time around



	DM	RL	AR	KW
Task 1	1 min 42 sec	6 min 46 sec	1 min 53 sec	0 min 32 sec
Task 2	0 min 37 sec	2 min 32 sec	0 min 58 sec	0 min 48 sec
Task 3	2 min 26 sec	8 min 13 sec	3 min 35 sec	0 min 18 sec

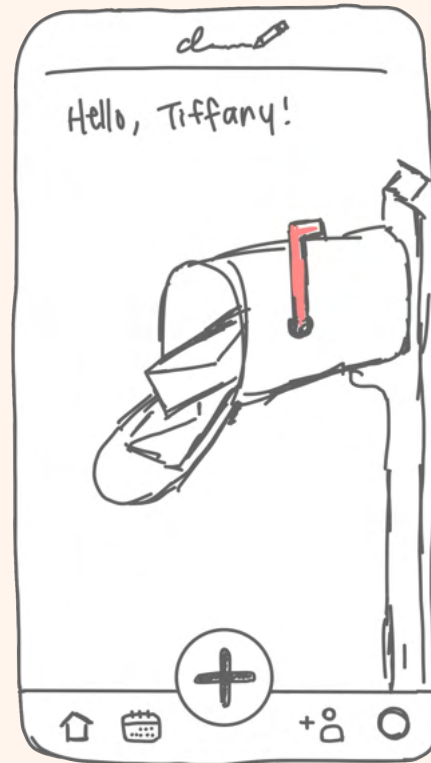
# Observation: Journal Entry Creation

- The + button to create journal is **intuitive**, but the process of **creating** a journal entry **needs more guidance**
- **Potential Reasons:**
  - Unclear as to which **features** are **clickable**
  - Not enough guidance on uploading photo and songs for people who are unfamiliar with technology



# Observation: Reacting to Journals

- Most participants are familiar with the **reaction feature**, but the navigation to the feed is *unintuitive*
- Participants notice the **number of likes** immediately
- **Potential Reasons:**
  - Mailbox design on the homepage feels **unconventional**
  - Reaction feature is similar to social media





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# Analyses

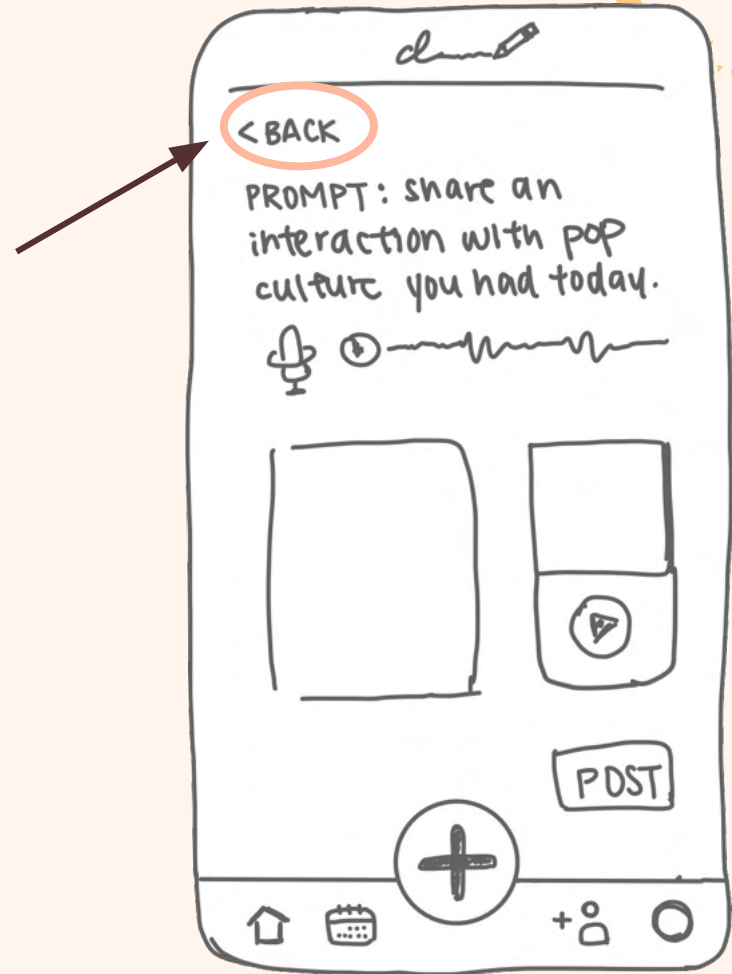
Implications & Next Steps for  
UI Changes

# UI Change #1

**Takeaway:** the *back* button is no longer intuitive on this page.

**Next Step:** replace *back* with an *edit* button on the upper-right where users can alter any section before posting.

Achieve **increased intuitiveness** and **smoother navigation**.

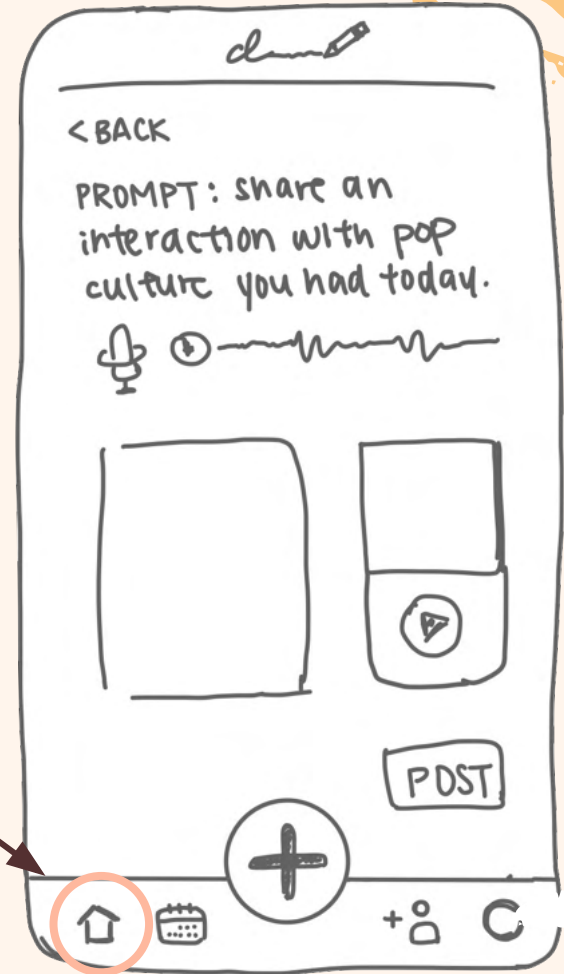


# UI Change #2

**Takeaway:** the **home button** confuses users and is often mistaken as an upload button.

**Next Step:** revise the home button illustration to clearly resemble a house.

Achieve a **flawless navigation bar**.



# UI Change #3

**Takeaway:** task flow for image upload and song search/upload wasn't always clear to users

**Next Step:** add clearer instructions and redesign buttons to facilitate user experience

Achieve a more **intuitive** approach for these moderate tasks.



# Key Implications



Older generation's **preset dissociation from technology** creates a barrier between our target user and our low-fi prototype.



Some flows are not immediately intuitive, and participants need some guidance to complete the tasks.



Need to integrate more clarity on **clickable areas** with **more descriptive button designs**



**Pop-up tutorials** and **clear instructions** could be transformative for smoother navigation

# Our testing couldn't reveal...



Whether **color integration** in the UI could have **improved navigation intuitiveness**



Whether our participant *RL* was an **edge case** and that their age range did not holistically demonstrate the capabilities of elder generation



**Thank You!**



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# Appendix

# AR Realization

## Pros

- An extremely immersive experience that taps into the user's senses
- Provides a richer user experience; could lead to increased engagement and interaction
- Sets DiarWe even further apart from other modern-day journaling apps
- More visually engaging than a mobile app
- Implements cutting-edge AI technology

## Cons

- Potentially hard to navigate, especially for older generations who may not be as tech-savvy
- Can only be accessed when you have a physical journal/photo in front of you ready to scan
- Works against our priority of making DiarWe accessible, simple, and usable to people of all generations
- Difficult to engage with AR in public spaces; limits user interaction
- People may not be too familiar with what AR is or how AR works
- Potentially dangerous for people too distracted by the AR that they lose track of what's happening around them in the real world

# Mobile App Realization

## Pros

- Simple interface
- Social component for inter-user experience
- Implements easy navigation and chronological/calendar-like view for archived journal entries
- Easier day-to-day use compared to AR, as users can use mobile apps wherever they are
- Most people are already familiar with mobile apps

## Cons

- Users must know how to use a phone/tablet
- Aligns with the “status quo” of common apps today in terms of realization
- Fails to take advantage of today's cutting-edge technology to contribute to an immersive experience
- Not as engaging and memorable as an AR experience



# Script

# Critical Incident Log - DM

Critical Incident	Severity
Confused by the point of the big mailbox on the home screen	4
Confused by what the "badges" section was for on profile	1
Confused about how there were certain blank days in the calendar	1
"Okay so I click on this big plus button to create an entry."	0

# Critical Incident Log - RL

Critical Incident	Severity
Facilitator had to provide hints throughout each task	4
Thought the top DiarWe logo led to a 'create journal' page	4
Save button was unclear for the photo upload - "The done button looks like a like button"	2
"Okay so I just hit the play button and I can hear their recorded journal."	0

# Critical Incident Log - AR

Critical Incident	Severity
Uncertain about the function of the mailbox	4
"I'm not sure what the badge is."	2
"Can I edit the journal entry?"	1
Click on the like button immediately	0

# Critical Incident Log - KW

Critical Incident	Severity
Thought a song's play button was a play button for grandma's audio recording	1
"Oh and if I want to shuffle a prompt, I just click on this!"	0
"I'm done writing...so i click this done button!"	0
Understood the mailbox illustration on the home screen would lead to a feed of unread entries	0

# Photos



DM testing our prototype at Stern dining hall.



RL testing our prototype at Braun Music Center.

# Photos



AR testing our prototype at Braun Music Center.



KW testing our prototype at Stern Dining Hall.