

# Sleep2Stream

A dream transcription intervention;  
Final Project Documentation

Allison Lee

ARTG2400 • Interaction Design Principles  
Spring 2025

# Agenda

**Prompt** -- Apple Health: What's in a dream?

Create an **intervention** for Apple Health that **records** data associated with users' **dreams**.

## Week 1

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Research

Part 1

Proposals

03

10

## Week 2

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Paper Wireframes

12

Digital Wireframes

14

## Week 3

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Final Digital Prototype

Part 2

20

# Week 1

## Research Questions:

- How can a phone record dreams while ensuring privacy and security? If full privacy isn't possible, what are the potential benefits to the user?
- Why might users want to remember their dreams? What are the benefits of dream journaling?
- How might dreams be visualized?

# Interview Script

## Dream Experiences

1. Tell me about your most memorable dream. (e.g. recent, recurring, or from childhood)
  - a. What made it significant to you?
  - b. How vividly could you perceive sensory details?

## Value of Dream Recall:

2. Why do you (or would you) want to remember your dreams?
3. What benefits do you see in capturing and revisiting dreams?

## Dream Retention Techniques:

4. What do you feel would help with remembering a dream?
5. Have you tried keeping a dream journal or using other methods?

## Dream Control & Agency:

6. How often do you feel in control in your dreams?
  - a. Is your behavior entirely your own?
7. Have you ever had lucid dreams where you were aware you were dreaming?

## Dream Frustrations:

8. Have you ever been frustrated by a dream?
9. What aspects of dreaming do you find challenging?

## Dream Visualization:

10. If you could see your dreams represented visually after waking, what form would be most meaningful to you? (e.g., images, animations, patterns, text descriptions)

## Dream Privacy & Trade-offs:

11. How do you feel about a phone recording your dreams?
  - a. What privacy concerns would you have, and what benefits might make those concerns acceptable?

## Dream Interpretation:

12. What do you believe is the purpose of dreams? (e.g. processing daily experiences, having psychological significance)
  - a. How might capturing dreams help you understand yourself better?

## Introduction

Hello, I'm Allison. Thank you for joining me today. I'm conducting user research on the topic of sleep and dreams. Today I'll be asking a series of questions regarding the benefits of dream recordings. The interview will be around 10 minutes long with a series of short questions to guide our conversation. Is it okay to record this conversation for reference?

## Cool down [~2 minutes]

1. Are there relevant digital applications that this conversation made you think of?
2. Do you have any questions for me?
3. Can I follow up with you if I have additional questions? If so, what is the best way to reach you?
4. This has been very helpful. You've given me a lot to think about as I continue to work on this project. Thank you for taking the time to talk with me.



## Interviewee 1

Name: Sally

Profile: Middle-aged mother

Tech: Uses Oura Ring

### Dream Patterns

- Recurring dreams trying to find a clean stall with strong visual/emotional elements
- Dreams fade quickly unless documented immediately
- Pregnancy enhanced dream vividness and frequency

### Dream Meaning

- Views recurring dreams as signals of unresolved issues
- Believes dreams are subconscious messages for self-alignment
- Struggles interpreting dreams' strange, incongruent nature

### Documentation & Technology

- Uses journaling for memorable dreams; prefers voice recording
- Favors animation for visual representation of dreams
- Open to digital interpretation tools with privacy protection
- Sees dream capture as pathway to understanding multi-dimensional self

### Dream Experience

- No lucid dreaming experience or dream control
- Spends time reflecting on impactful dreams
- Finds dream-to-waking-life connections challenging

*"I think dreams are our **subconscious** helping us **process/** trying to tell us things we may not be aware of in our waking lives."*



## Interviewee 2

Name: Audrey

Profile: 21 yr old business/dsgn. student.

Tech: N/A

*"If there's a **breach** someone will have access to **private** thoughts "*

### Dream Content & Vividness

- Recurring intense dream of hiding/escaping from a shooter
- Experiences dreams with high sensory clarity
- Can sometimes recognize when dreaming (lucid awareness)

### Dream Challenges & Control

- Experiences frustrating mobility limitations (can't run fast)
- Attempts to fly when lucid dreaming
- Values dreams primarily as conversation material

### Documentation Approach

- Uses notes app for interesting dreams
- Recognizes value of dream journaling but practices inconsistently
- Prefers visual formats (videos/images) for dream representation

### Privacy & Meaning

- Strong privacy concerns about dream recording
- Views dreams as mental "recaps" of life experiences and thoughts
- Nostalgic for digital diary apps from 2010s era

**Dream Content & Patterns**

- Recurring dream of flying to escape pursuers (often parental figures)
- Strong preference for flying dreams, especially without being chased
- Rare black and white dream stands out (normally dreams in color)
- Flying dreams began approximately one year ago

**Sensory Experience**

- Experiences multi-sensory dreams (vision, touch, smell, hearing)
- Dreams with vivid colors and physical sensations (especially flying)
- Would prefer a high dream recall rate (approximately every two days)

**Dream Control & Meaning**

- Values lucid dreaming for distinguishing reality from dreams
- Frustrated by dreams where she lacks control
- Sees dreams as reflections of daily thoughts and concerns
- Interested in pattern recognition for therapeutic insights

**Documentation Approach**

- Never kept a dream journal but expresses interest in starting one
- Would record dream events and characters if journaling
- Views journaling as way to identify patterns for therapy discussion
- Skeptical about sleep recording technology (concerns about battery drain)
- No privacy concerns about sharing dream content

## Interviewee 3

Name: Ivy

Profile: 12 yr old middle school student

Tech: Uses Apple Watch

*"I'd like to keep a dream journal so I can see **patterns** and have my **therapist** tell me what they mean"*

# Interview Analysis

- **Recurring** dreams of frustrations and/or running from something; often topics of **conflict**.
- **Frustrations** stem from lack of **control**: “When I want to run fast but I can’t”
- **Hormonal** changes evidence dream **intensity**: “When I was pregnant, I would often get very vivid dreams and I’d dream more often.”
- **Concern** regarding **privacy/intimacy** of thoughts.
- Dreams as materials for subconscious **reflection** or recaps of life events.
- Visualize dreams by **animation/video** open for interpretation.
- Dreams **fade** quickly unless documented **immediately**.

**HMW:** Help users face internal conflict?

## Persona & User Scenario

An average of the interviewees.

**Name:** Evelyn

**Profile:** 27 yr old part-time MBA student.

**Concerns:** Subconscious perceptions that may relate to her patterns of behavior. Talks to her therapist about them.

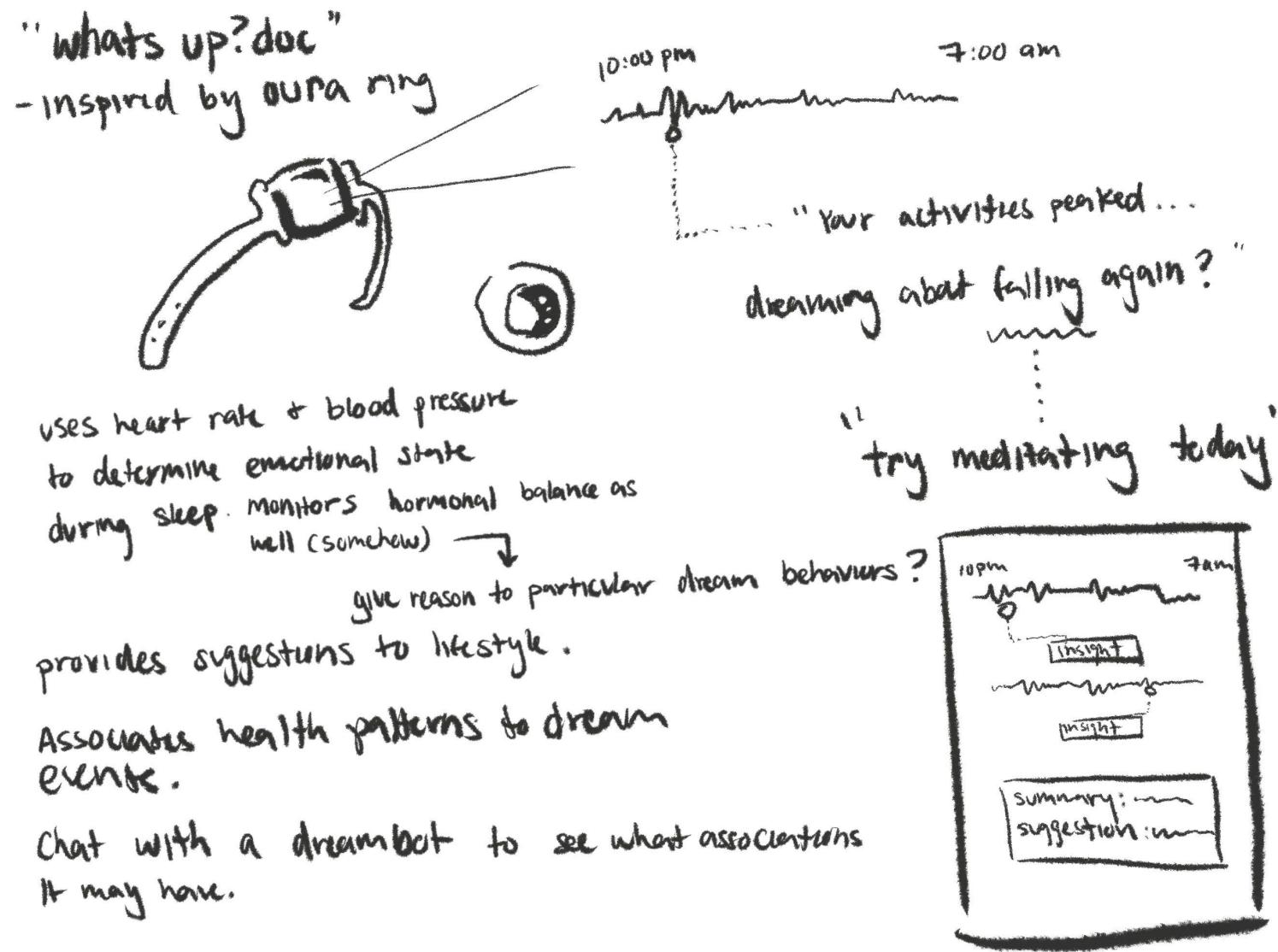
**Scenario:** Evelyn is at a turning point in her life and has been having vivid dreams lately. She's been talking to her therapist about it but has trouble recalling the details. She tries to journal where she often experiences strong emotional and visual feedback. She uses the intervention to help interpret her recurring dream about trying to fly but being stuck to the ground.

*"I want to understand why I feel so stuck"*



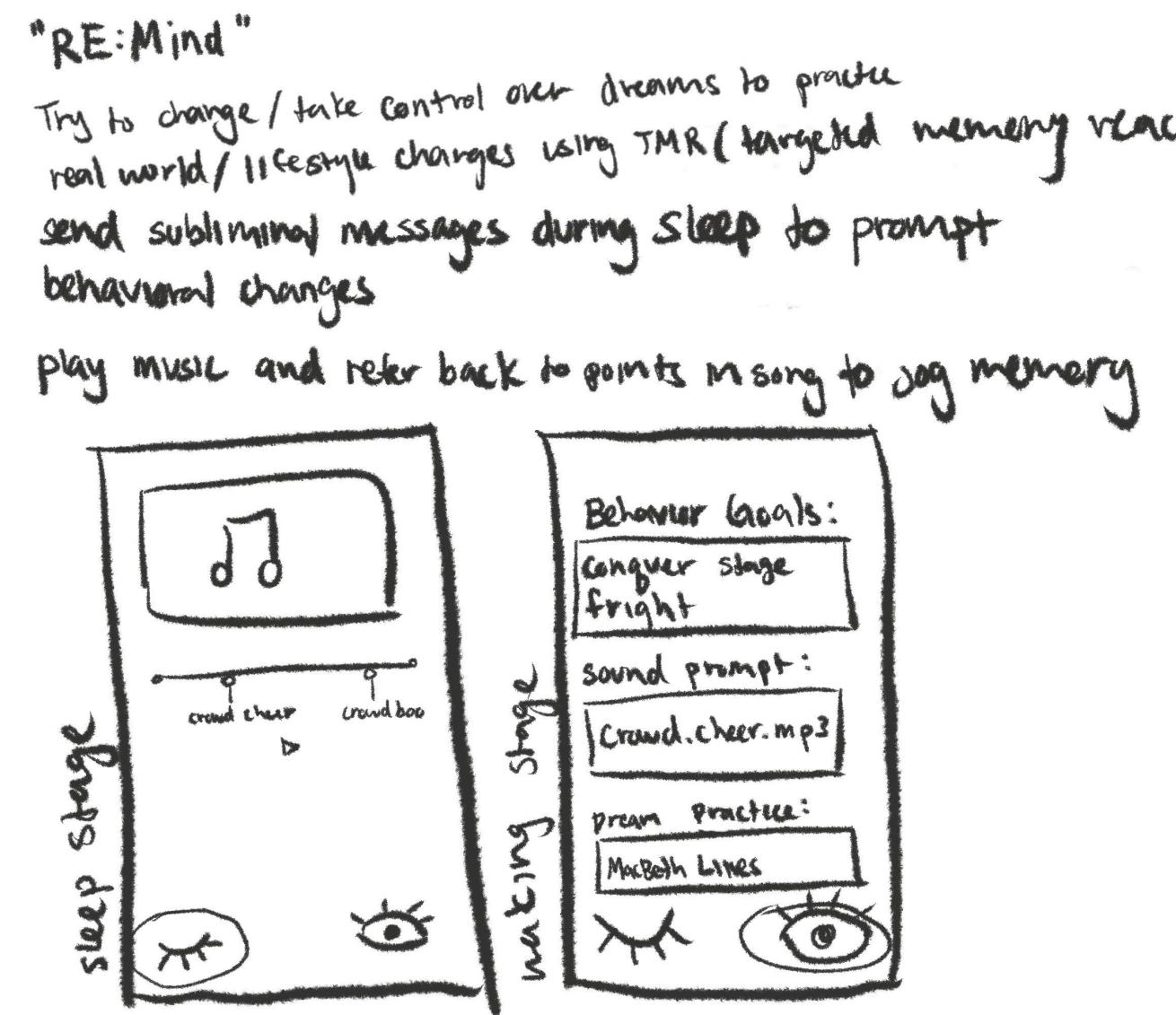
# Project Proposals

Three unique ideas for recording dream activity



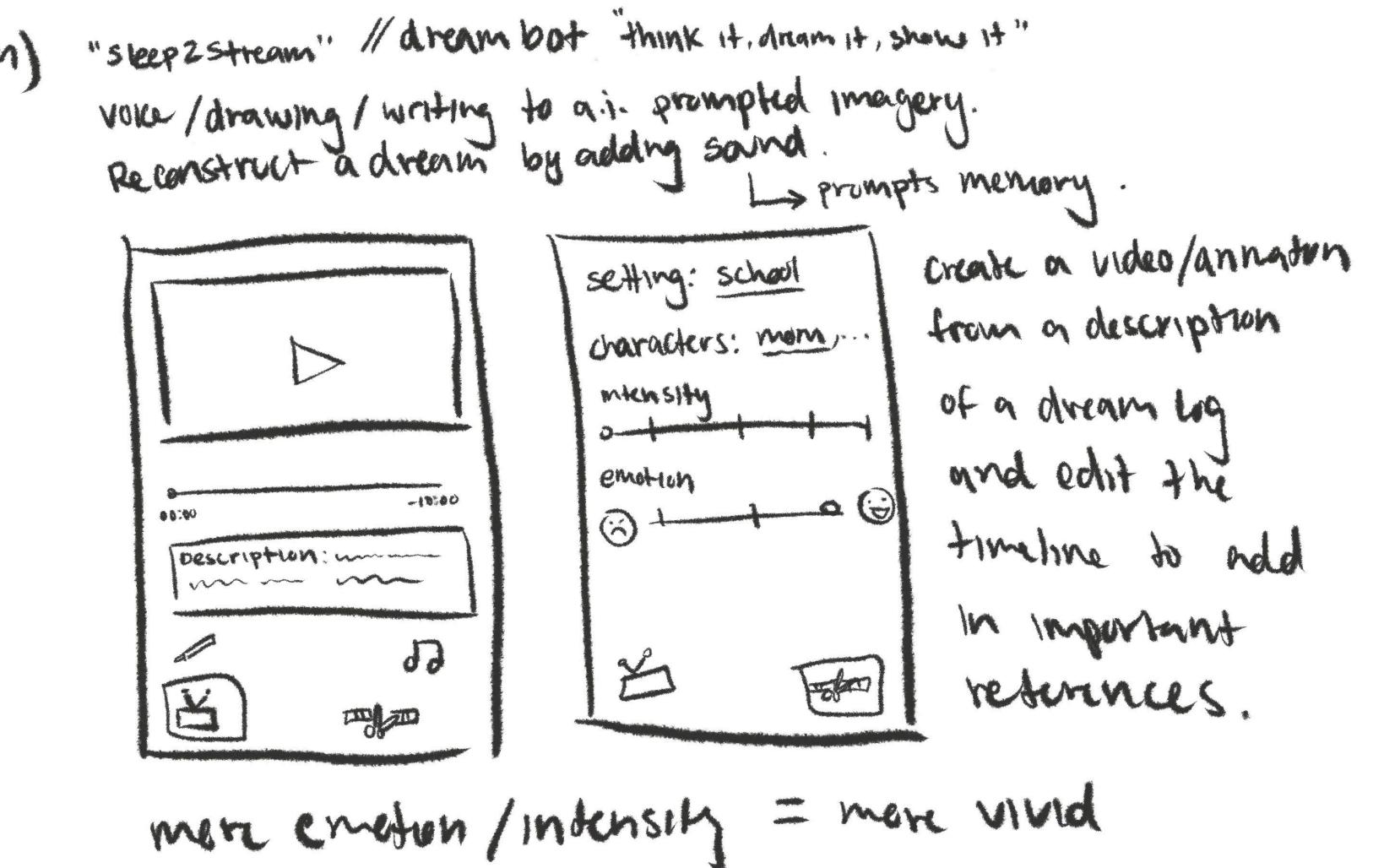
## WhatsUp?Doc

Physiological data based lifestyle recommendations



## RE:Mind

TMR prompted behavioral change subliminals



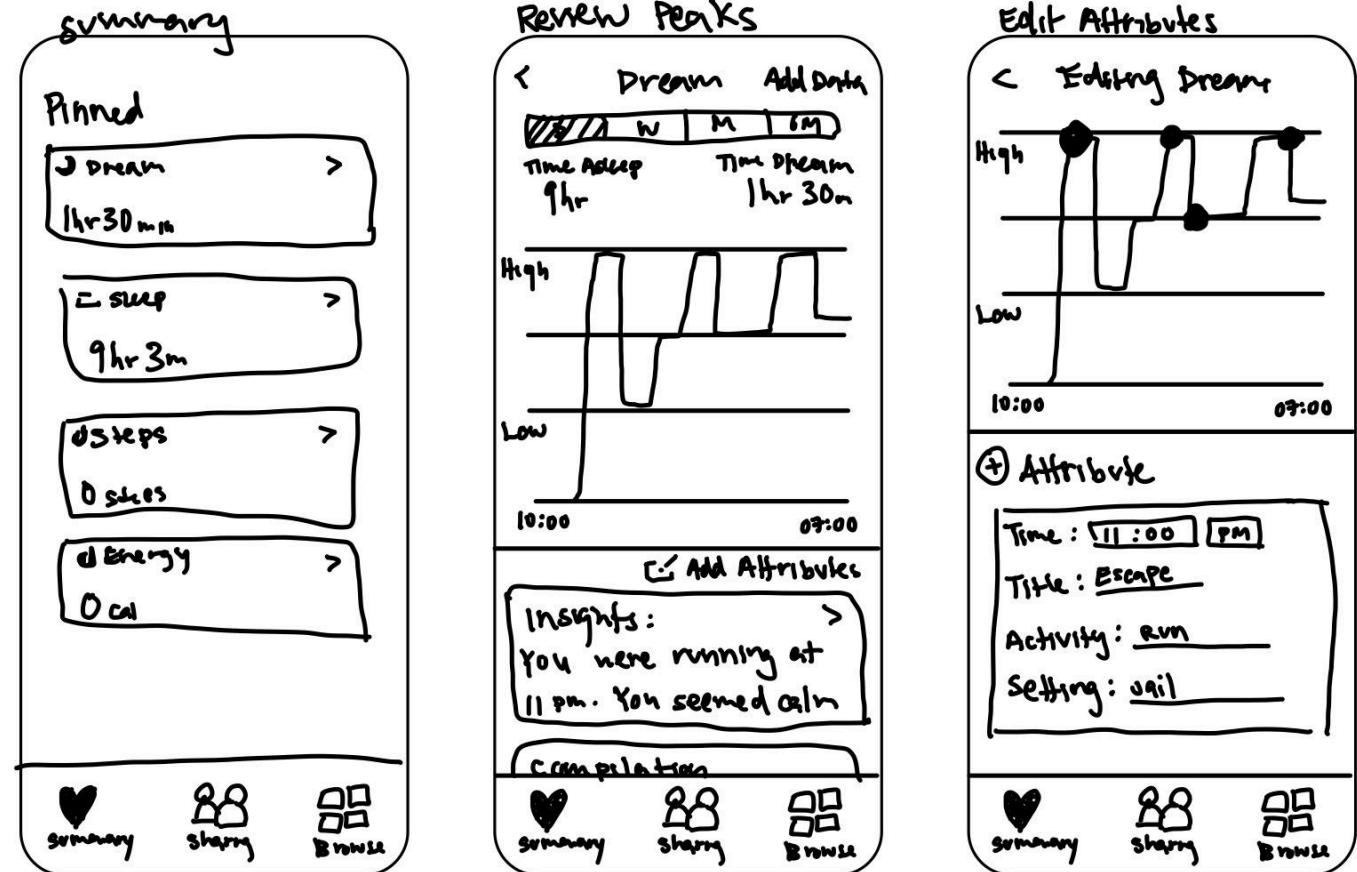
## Sleep2Stream

AI animated dream recreations

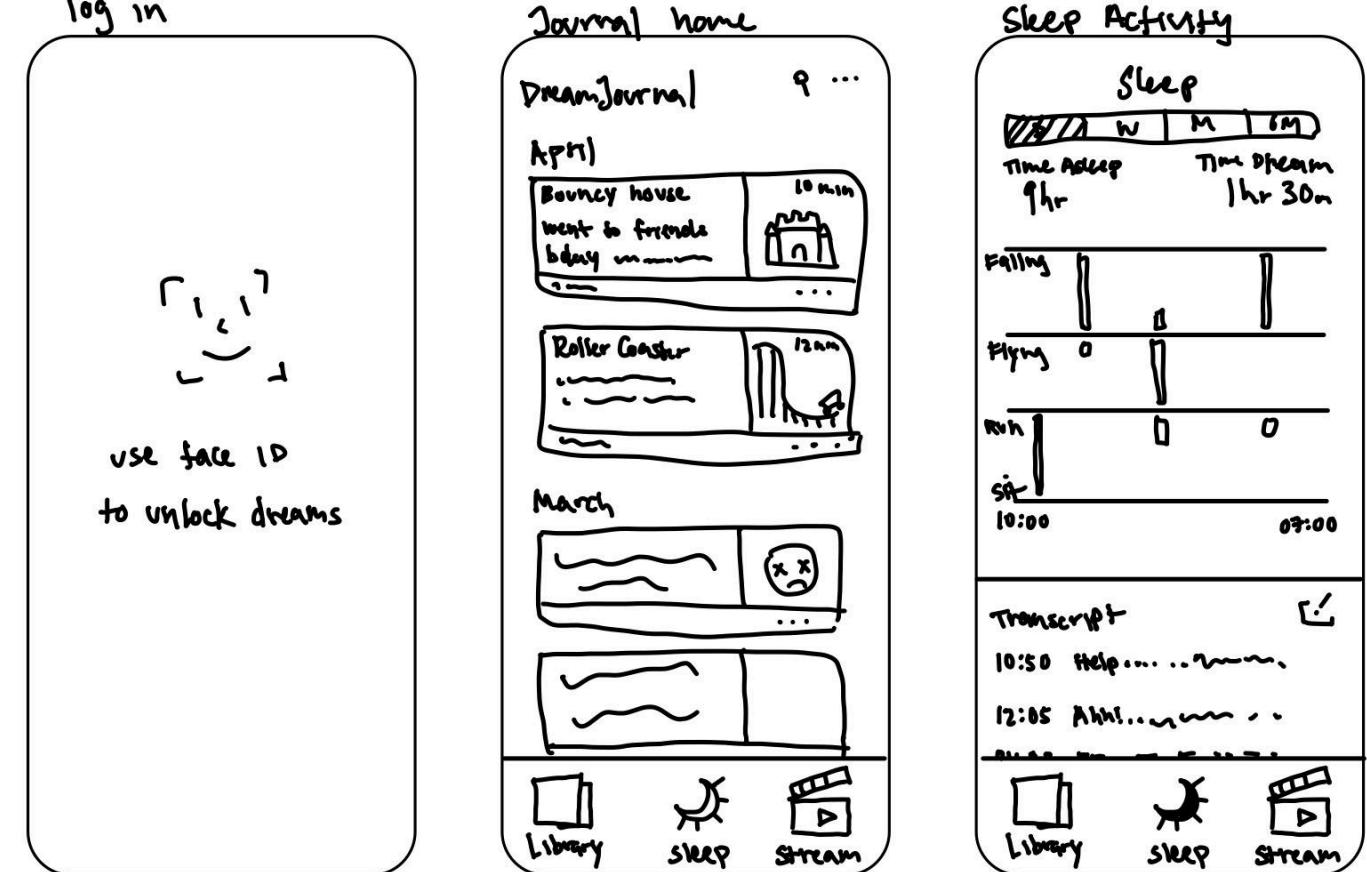
# Week 2

# Paper Wireframes Based on iOS apps

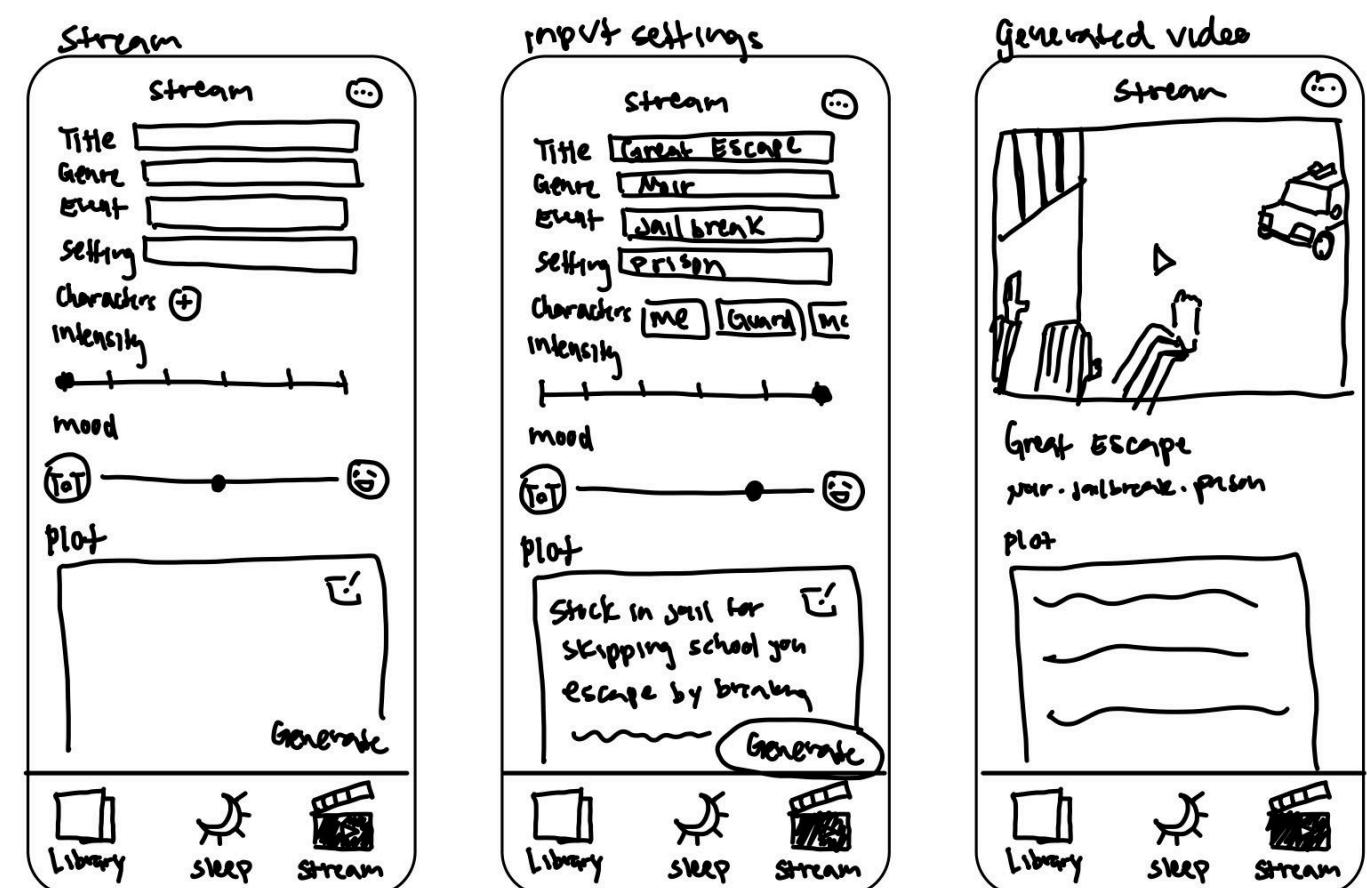
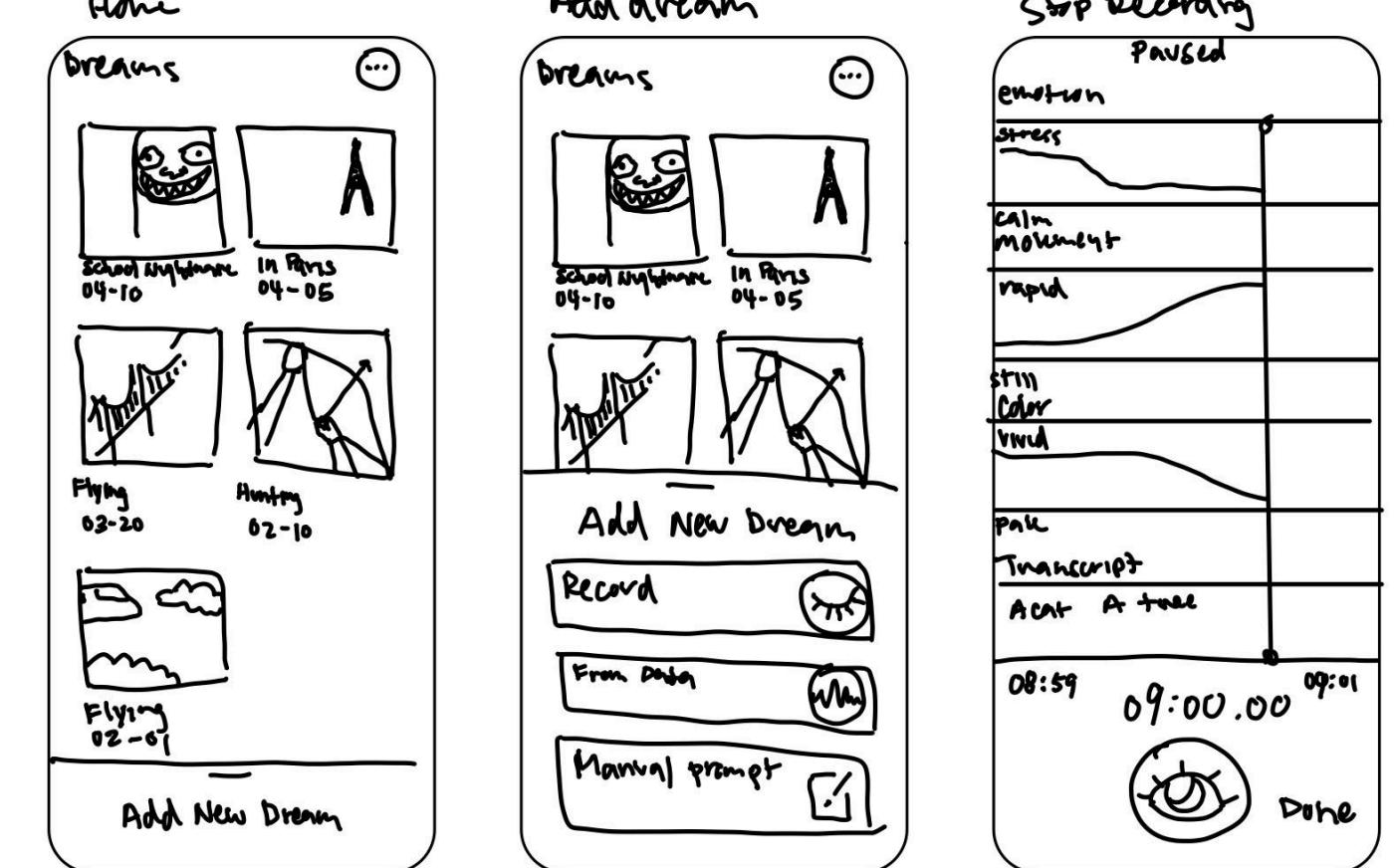
Goal: log dream for interpretation	Steps: Review activity peaks Write down associations ↳ edit dream sequence review / play.
Task: record dream	



Goal: log dream for interpretation	Steps: Review sleep activity go to Stream Input setting, event, people etc. generate video play
Task: record dream	



Goal: log dream for interpretation	Steps: Add new dream Record Edit transcript Generate video
Task: record dream	



Inspired by Health

Inspired by Journal

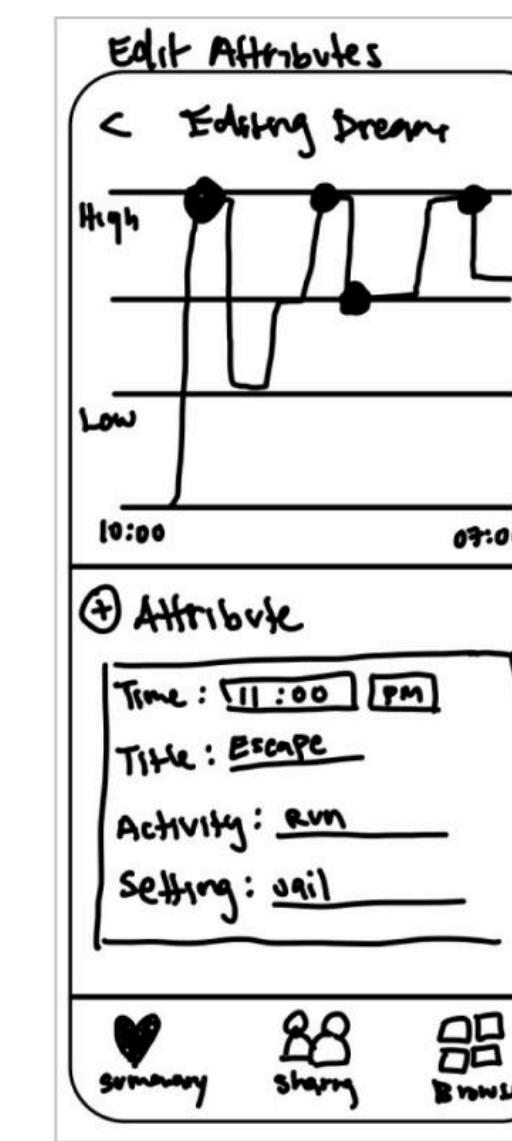
Inspired by iMovie

# Usability Testing

Tested 3 paper prototypes with Ivy

**Insights:** Third prototype was the most intuitive

Prototype 1 edit attributes



2  
Error prevention/help and documentation

What did you observe the participant do or say?  
"Not clear what to do here"  
participant was confused with layout/action

Provide clearer affordance/instruction to intended action

Prototype 1 review peaks

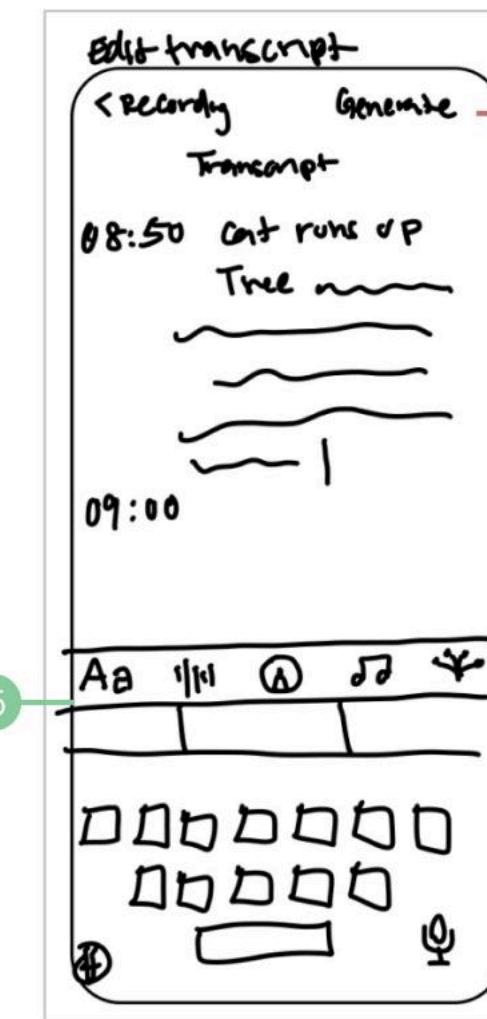


1  
Aesthetic and minimalist design

What did you observe the participant do or say?  
"It was hard to see because it was small"

Minimize information on screen and make buttons bigger

Prototype 3 edit transcript



5  
Consistency and standards

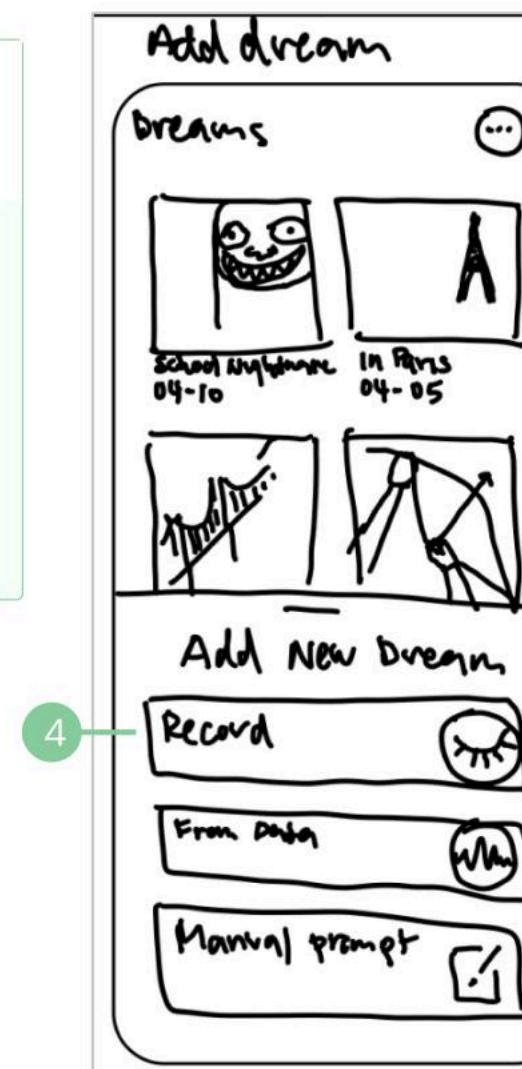
What did you observe the participant do or say?  
User used previous knowledge of UI conventions to understand the functions of buttons.

6  
Recognition rather than recall

What did you observe the participant do or say?  
Missed/had a hard time finding the generate button

Maybe make clearer or larger the button for next steps

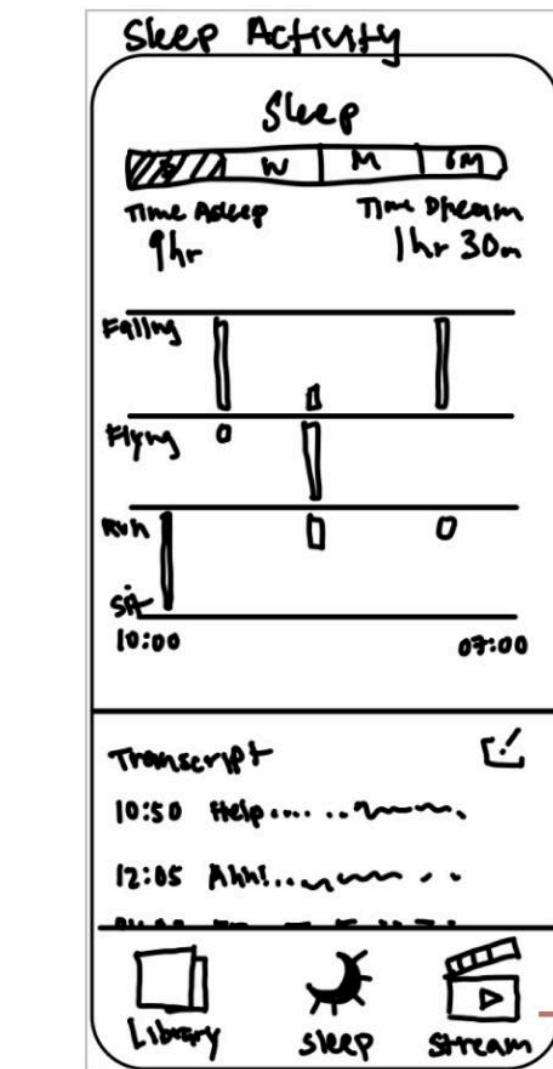
Prototype 3 add dream



4  
Match between system and real world

What did you observe the participant do or say?  
User quickly demonstrated recognition of button affordances by label and icon. "It was the easiest to understand"

Prototype 2 sleep activity



3  
Recognition rather than recall

What did you observe the participant do or say?  
"Why am I supposed to go to stream from sleep?"

Make workflow more linear. Minimize information

# Digital Wireframes

9:41

9:41

9:41

9:41

Use face ID to unlock dreams

Sleep2Stream

April

March

Add New Dream

Record

From Data

Manual Prompt

Sleep2Stream

April

March

Add New Dream

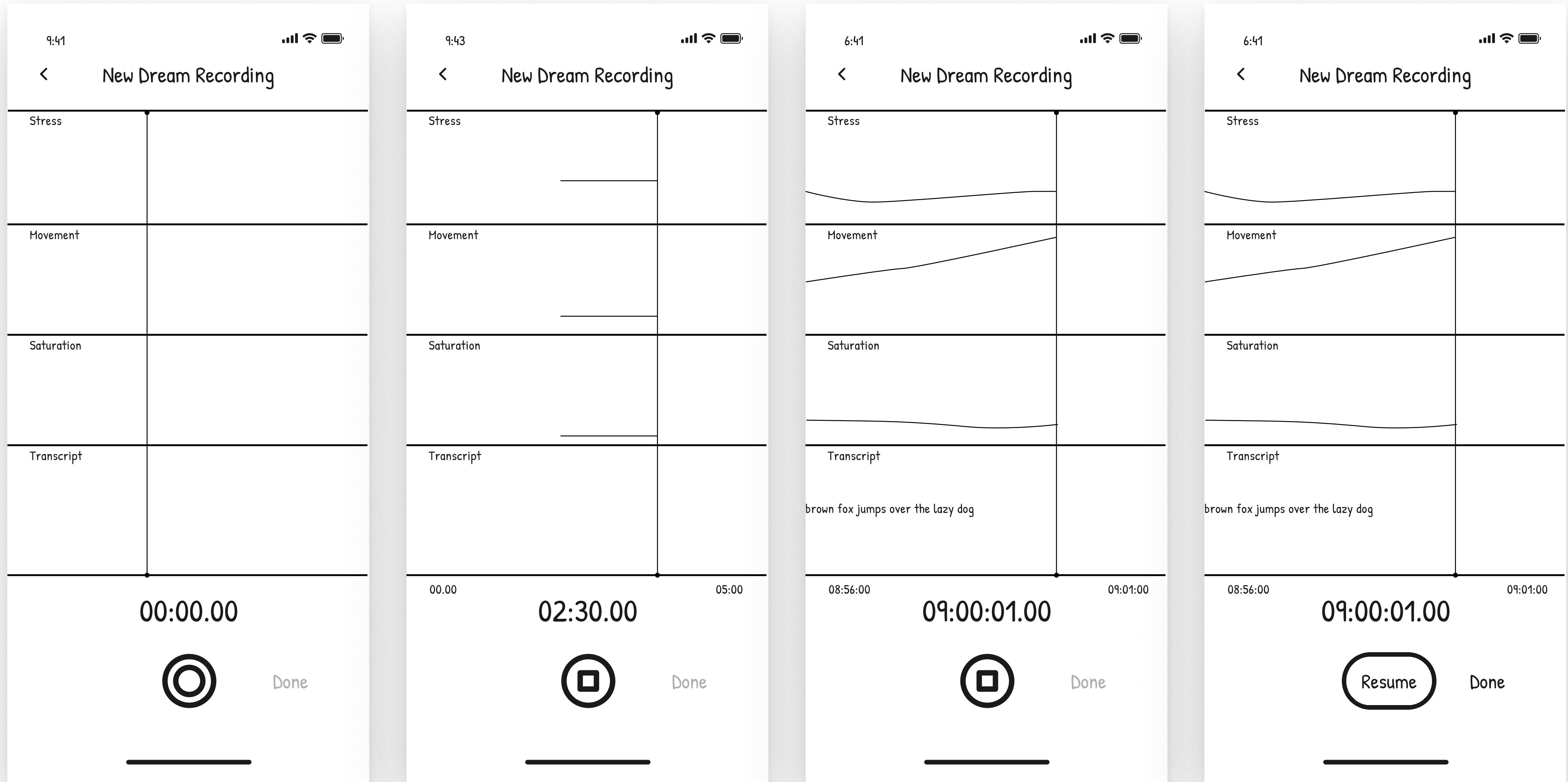
Don't Allow | Allow

"Sleep2Stream" Would Like Access to Your Dreams  
Recordings may include images, movements and emotions. These can be configured in Settings.

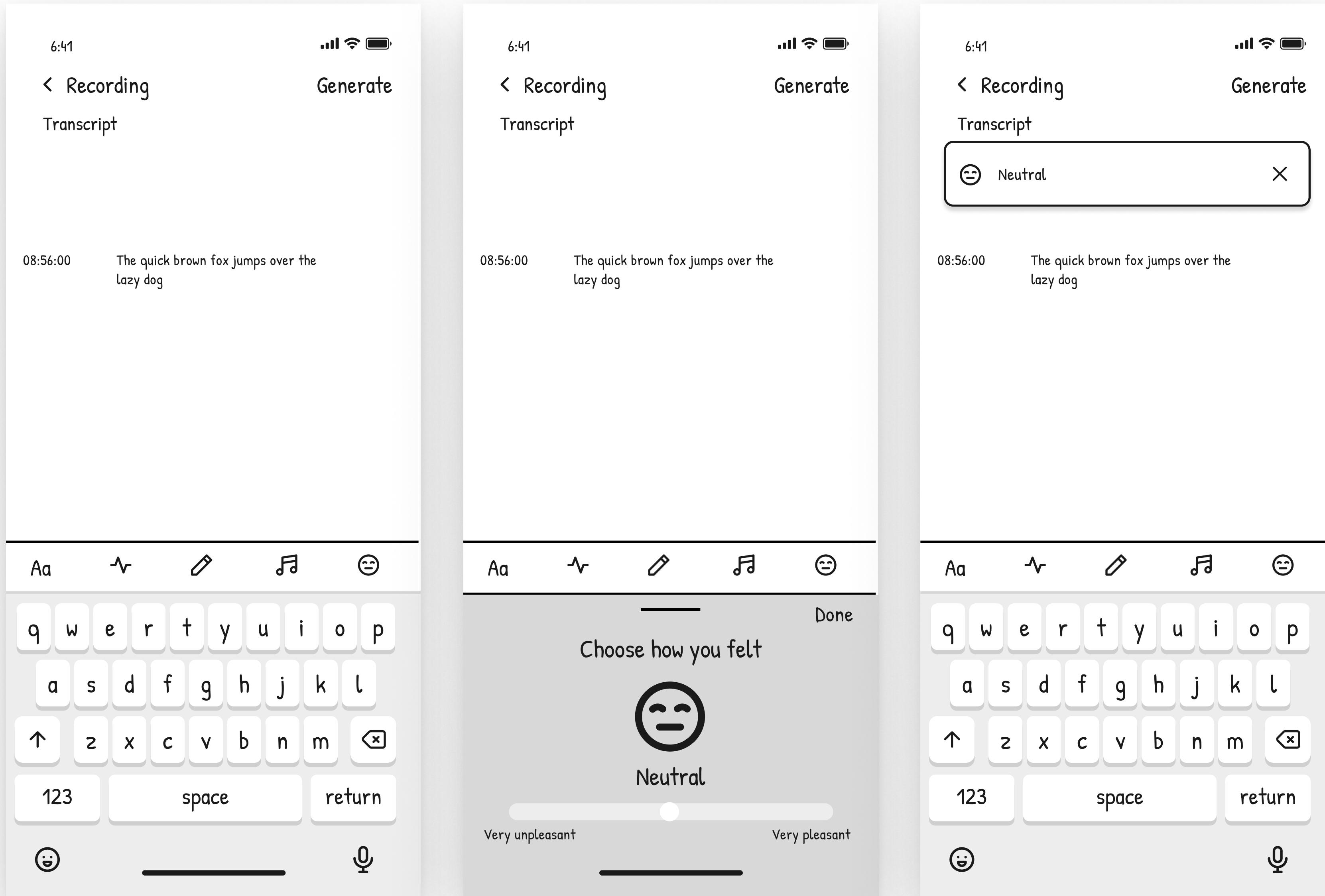
00:00:00

14

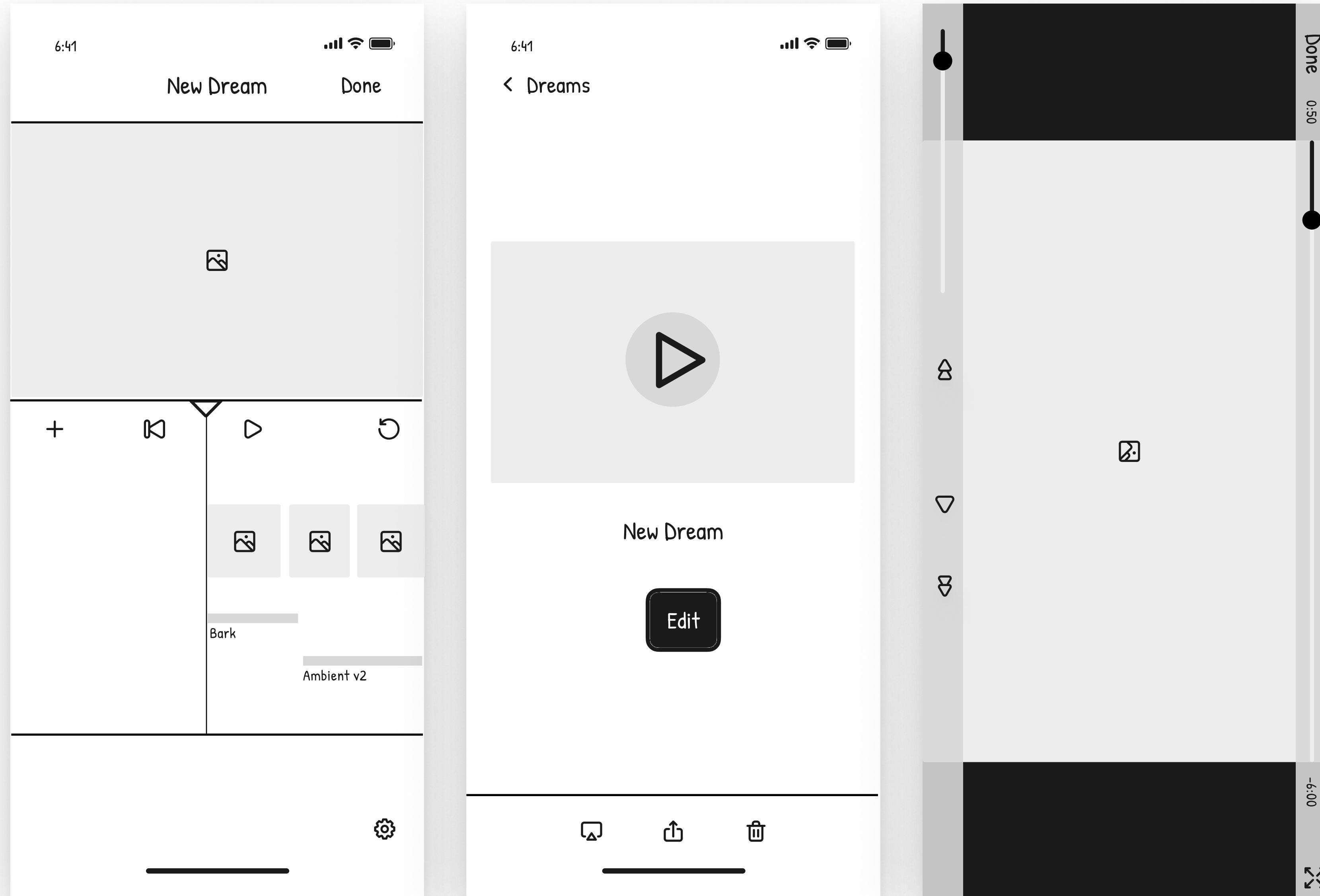
# Digital Wireframes



# Digital Wireframes



# Digital Wireframes



# Usability Testing

## Tested with Ivy

### USER GOAL

Log dream for interpretation

### TASK

Record neutral dream

### STEPS

1. Open app
2. Add new dream
3. Record
  - a. Allow access
  - b. Start recording
  - c. Stop recording
  - d. Hit done
4. Edit transcript
  - a. Add mood
5. Hit generate
6. Hit done

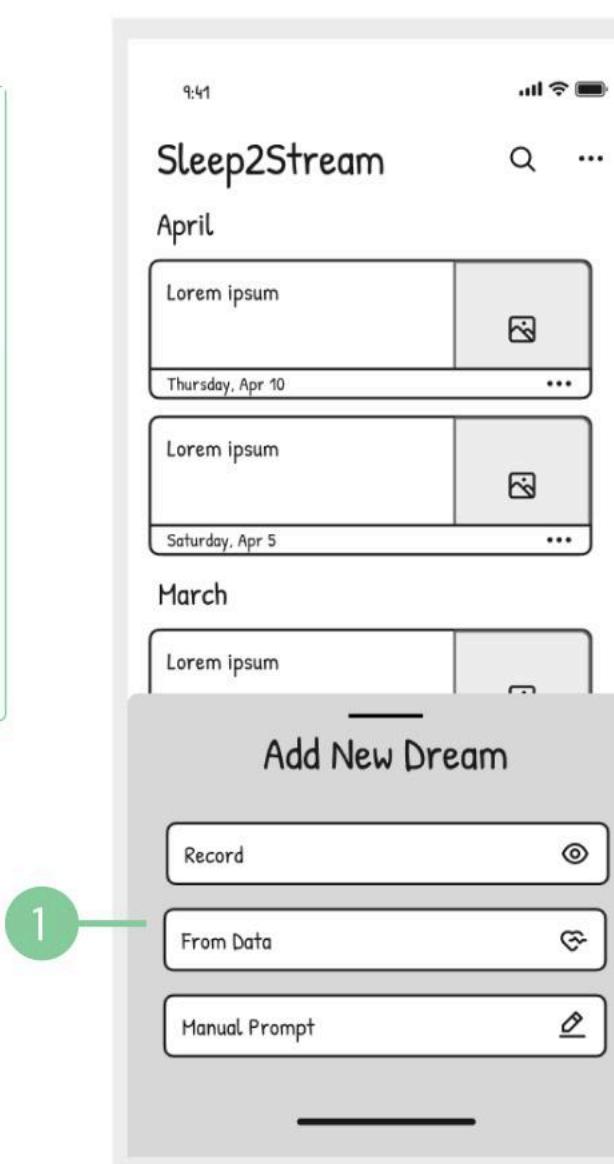
1

Recognition rather than recall + Aesthetic and minimalist design

What did you observe the participant do or say?

Again, user was quick to recognize the first steps of the process

Journal home -- add new dream



1

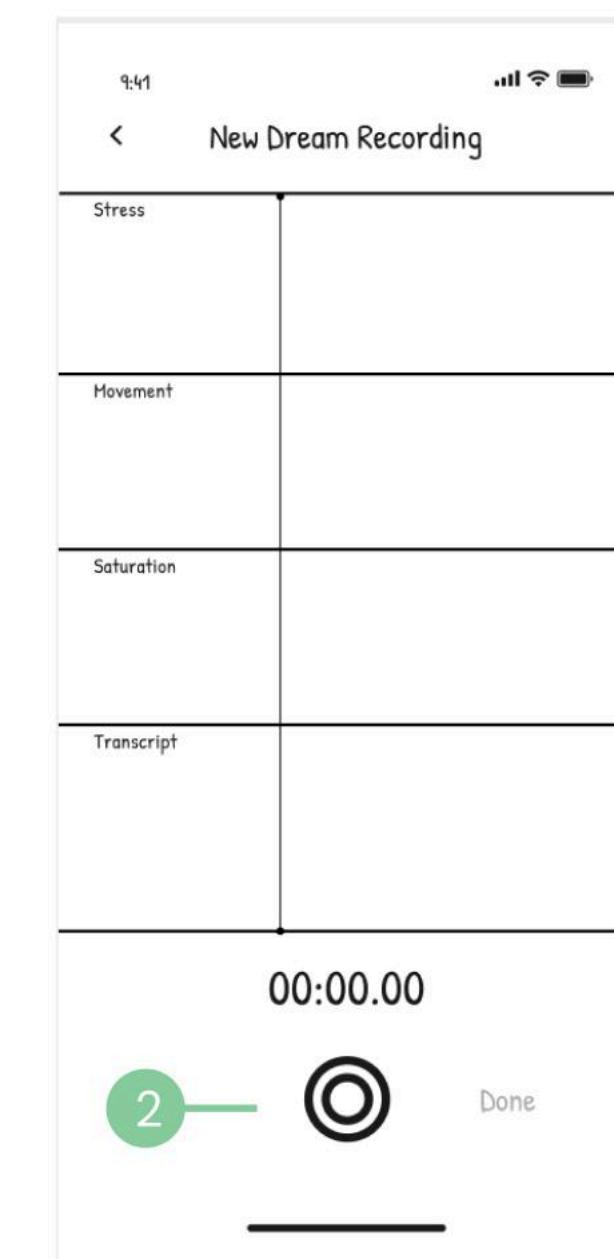
Consistency and standards

What did you observe the participant do or say?

User quickly recognized UI conventions of record icon standard to iOS.

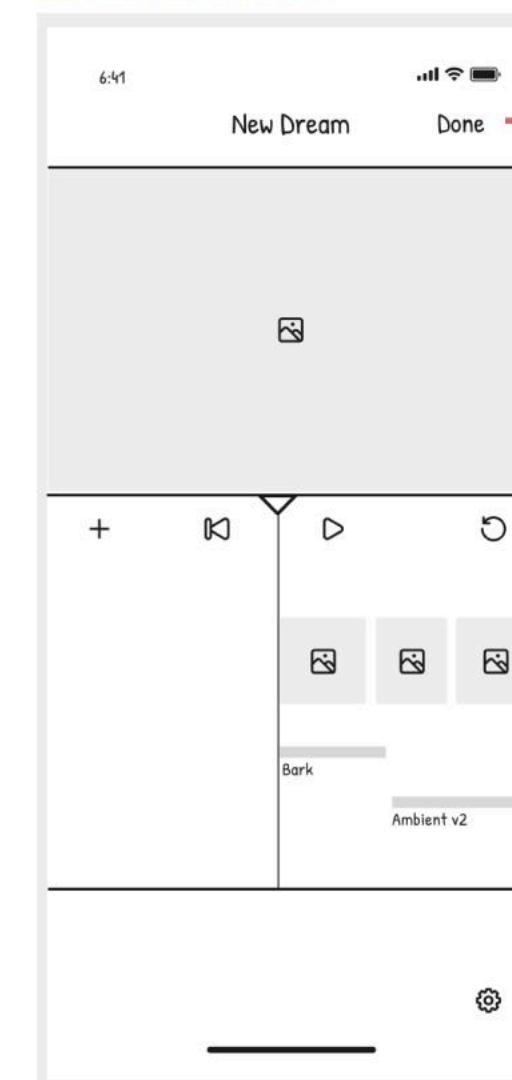
2

Record dream



2

Edit dream sequence



3

Recognition rather than recall

What did you observe the participant do or say?

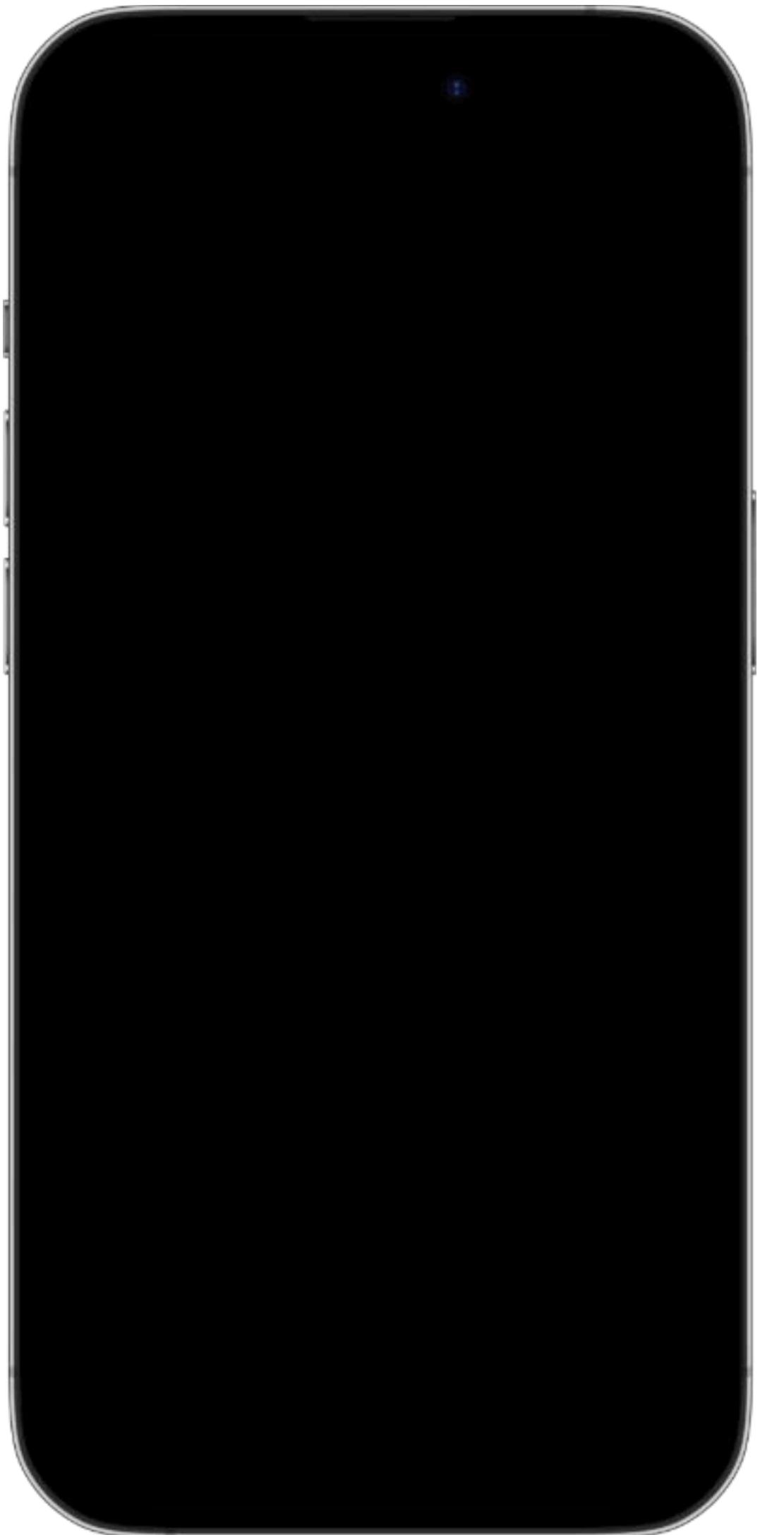
Missed/had a hard time finding the done button "I thought i was supposed to click new dream"

Rename title to something else "preview new dream"

# Week 3

## Digital Prototype

[https://www.figma.com/proto/JoATxyzNaQQm8qHLohUK9/Apple-Dreams?node-id=6018-4869&t=cQ27HyJ77W8Tj0WK-1&scaling=scale-down&content-scaling=fixed&page-id=1%3A5&starting\\_point-node-id=6018%3A4869](https://www.figma.com/proto/JoATxyzNaQQm8qHLohUK9/Apple-Dreams?node-id=6018-4869&t=cQ27HyJ77W8Tj0WK-1&scaling=scale-down&content-scaling=fixed&page-id=1%3A5&starting_point-node-id=6018%3A4869)



# Acknowledgements

Pictures used in the prototype were generated by AI engine Google Gemini as part of proof of concept.

Used paper wireframe kit from METHOD for digital wireframing

The following sources were referenced in initial research on dream recording strategies, targeted memory reactivation, sleep/dream stimuli, and dream visualization, accordingly.

Hsu, Y.-L., & Wu, F.-G. (2015). Dream Journal Design for Creative Inspiration Recording. *Procedia Manufacturing*, 3, 6321–6328. doi:10.1016/j.promfg.2015.

Konkoly, K. R., Morris, D., Cho, M., Hurka, K., Torres-Platas, S. G., Baehr, L., & Paller, K. A. (2025, February 28). Investigating dreams by strategically presenting sounds during REM sleep to reactivate waking experiences. [https://doi.org/10.31234/osf.io/a3j8w\\_v1](https://doi.org/10.31234/osf.io/a3j8w_v1)

LaBerge, S., & Levitan, L. (1995). Validity established of DreamLight cues for eliciting lucid dreaming. *Dreaming*, 5(3), 159–168. doi:10.1037/h0094432

Oldis, D. (2017). Animating Dreams and Future Dream Recording. In IASD Conference Abstracts. Chicago

# Reflection

## Q&A

Longterm impact & benefits:

- Provides basis for **reflection** and **documentation** for reference in conversation.
- Collect memories with continuous use as a low effort digital **diary**.
- Address **subconscious** by facing recurring frustrations.