

# AI BUDDY

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A journey to emotional  
awareness

Group 10

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# Understanding problem space

# How might we: Help AI foster emotional engagement with a human?

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Our study outlines the current limitations in the emotion AI area,  
and our suggestion of bringing an “AI Buddy” might open up new possibilities for future research.

# Literature review

## Trust

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Trust is an important factor to form self-confidence while controlling automation technologies.

## Human-like

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Both Anthropomorphism and Authenticity are significant factors that influence AI social interactions.

## Multi-modal data

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Multi-modal technique allows AI to interpret and respond to emotions more comprehensively.

# Goals

A.

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Enhancing  
emotional  
engagement

B.

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Developing for  
companionship

C.

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Gathering  
qualitative insights

D.

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Exploring ethical,  
technological  
implications

# User Study

# Target users

Artificial intelligence (AI) engagement and emotional requirements are the two main topics of our study. This helps define the target user group for our research:

Individual who are open to AI technology.

**Gen-Z generation**

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Digital natives who are more comfortable with AI technology but are also more prone to emotional instability due to heavy reliance on digital platforms.

Individual who are more likely to face emotional challenges.

**Students**

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Experience significant emotional fluctuations during specific stages, such as exams or job searches, which directly impact their well-being and performance.

# Methodology



In-depth  
Interview

## Why did we choose in-depth interview?

In order to gain emotional insights from interviewee which in-depth interview fosters us to establish rapport and trust and encourages them to provide honest feedback.

# Methodology



Qualitative  
Insights

## What is our focus?

AI's potential to

- identify
- boost, and
- react to emotional cues.

## Through?

- Individual experiences,
- thoughts,
- expectations of the advancements in an effort to elicit detailed and encouraging responses from them.

# Question framing

## Understanding the use of AI

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To determine the participants' baseline knowledge and the way in which they interact with AI technologies.

## Understanding how people establish emotional connections

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To reflect on their personal ways of building emotional bonds and have a deeper understanding of their social.

## Imaginative approaches for our design

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To inspire future design

# Recruitment criteria

How do we ensure diverse insight?

We differentiated our interviewees across two dimensions to ensure we gather diverse and varied user perspectives.

**Gen-Z student:**

**Dimension 1:  
Working experience**

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Encountered AI across various application levels, which may be more concerns about privacy and security, providing an opportunity to explore ethical implications.

**Dimension 2:  
Academic backgrounds**

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Provide a more comprehensive aspect of understanding emotional relationships between people and AI.

# Thematic Analysis

## AI perceived as a text-based tool for academic and work purposes

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*I use AI for research, writing emails, and organizing tasks at work. (P4)*

## Hesitation in emotional expression

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*Makes me feel weird. I prefer personal connections with people. Physical touch and just having somebody who knows my feelings is not enough. (P5)*

## AI's emotionless and unsettling nature

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*Texts feel robotic, don't have any warmth. (P6)*

## Appreciation of AI's non-judgmental nature

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*I feel secure when asking AI because I don't feel AI would judge me. (P7)*

## Discomfort and resistance toward forming emotional relationships with AI

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*It feels strange and uncomfortable to think about forming emotional bonds with something that isn't human. (P7)*

## Emotional connection through quality time and mutual feedback

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*I connect with people through careful listening and spending quality time together. (P4)*

# Define and Iterate

# Product definition

## Elevator pitch:

**For**

target user

Gen-Z Student

**That**

Key benefits

- Neutral safe sharing place
- Being aware about their potential emotional problems
- Intuitive interaction based on real world context

**Who**

pain points

- Hesitated to express emotions due to AI's non-human nature
- Desire for quality emotional connections
- Fear of being judged
- Strong focus on privacy when using AI

**Unlike**

competitive alternatives

- Chatbox AI: ChatGPT, Copilot
- Voice assistant: Siri, Alexa

**The**

name of the product

AI Buddy

**Our**

primary differentiation

- Proactively provide insight: actively engage with AI (offering insights and communicating with the user);
- Based on multimodal data: multiple wearable devices connected, the variety of input data

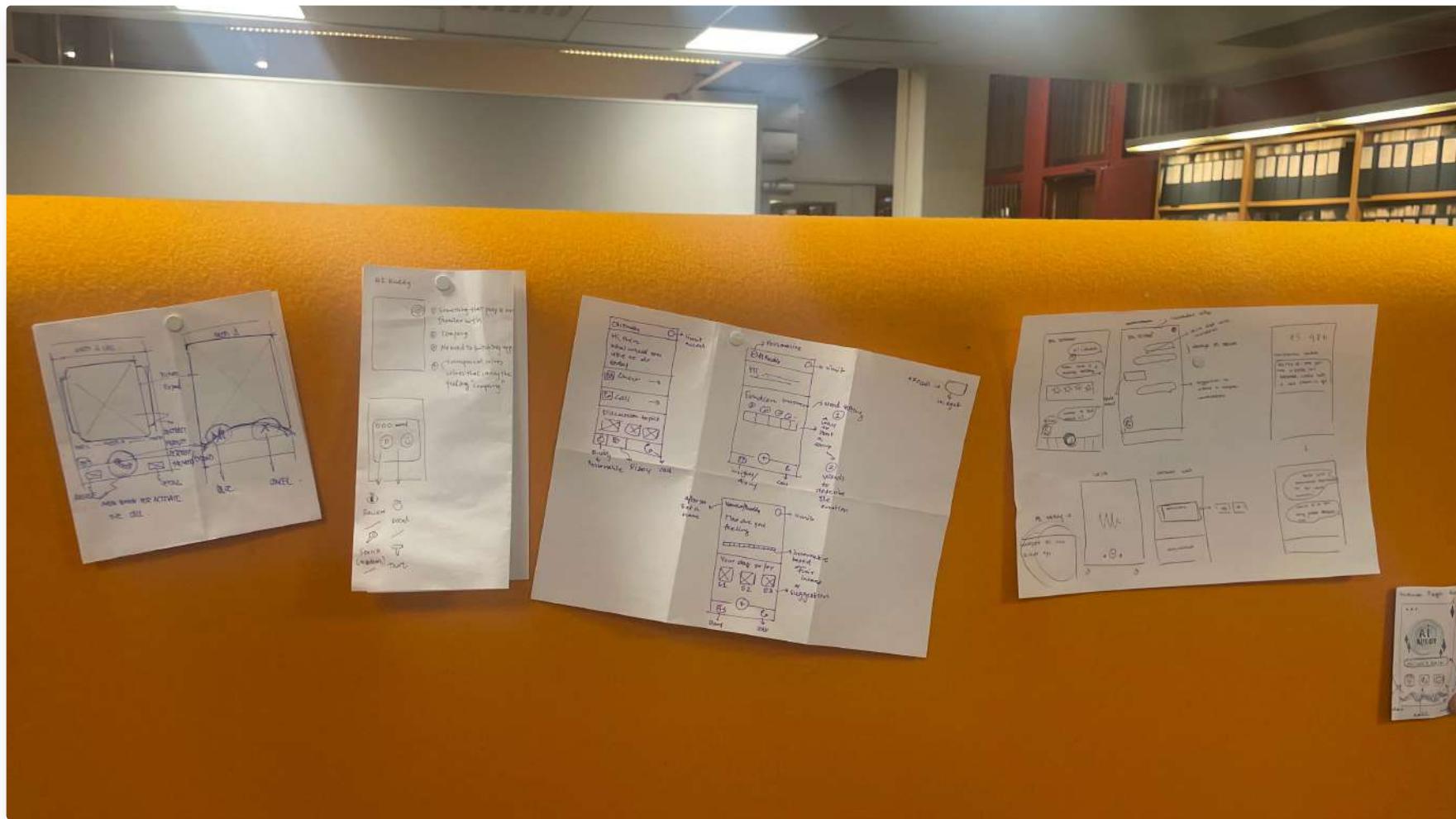
**Is A**

product category

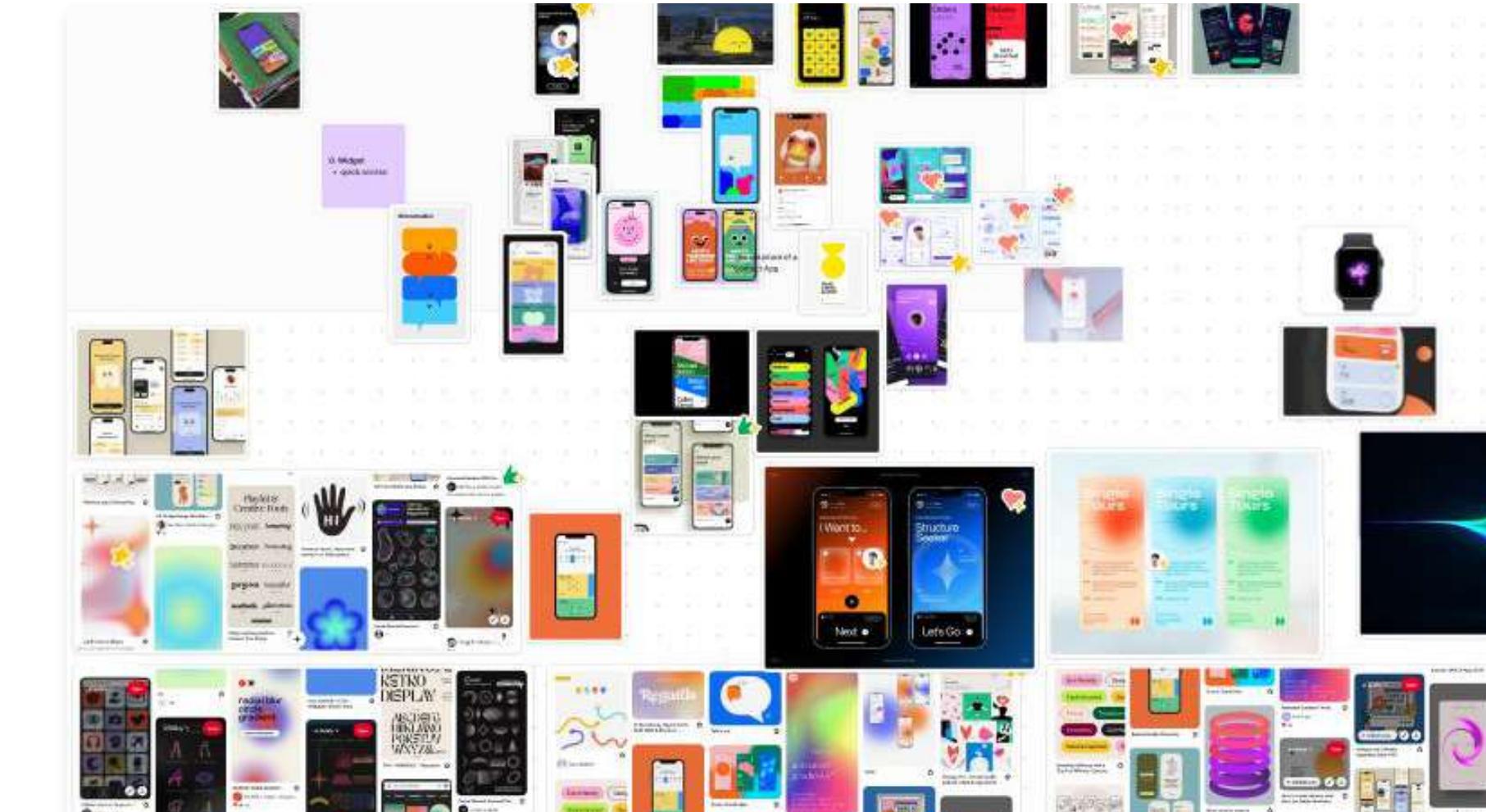
AI assistant

# Ideation

To gather ideas from both feature and visual aspects, we used hand-drawing and mood boards to express and brainstorm concept.



Hand-drawn sketch

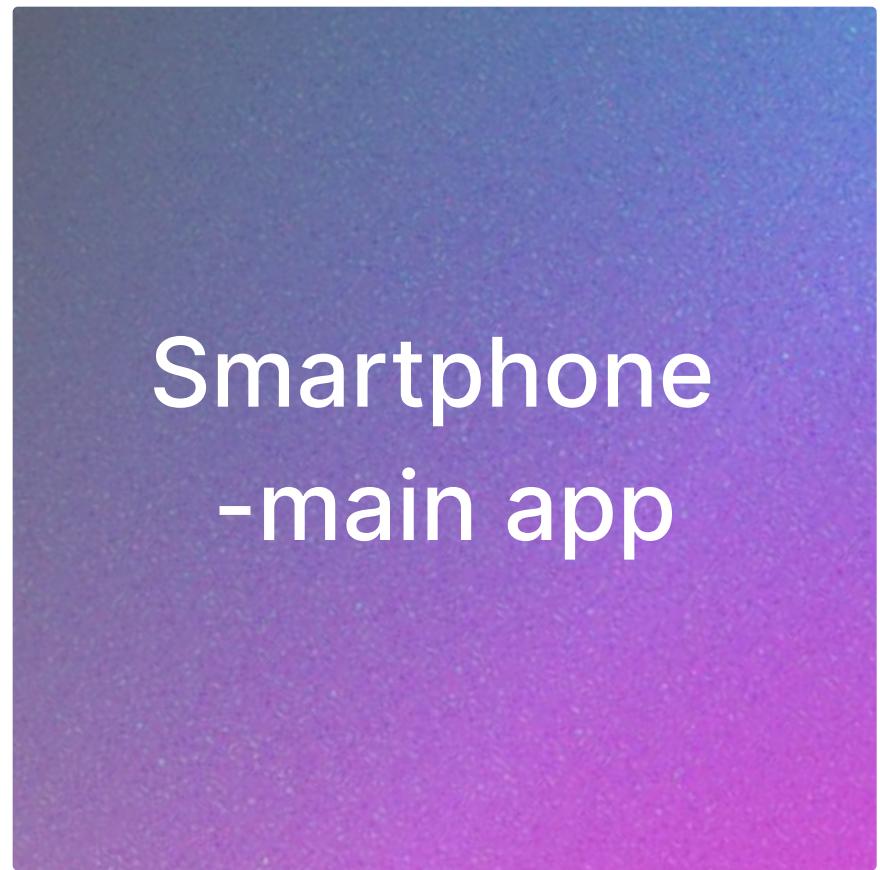


Mood board

# Design process

# Devices

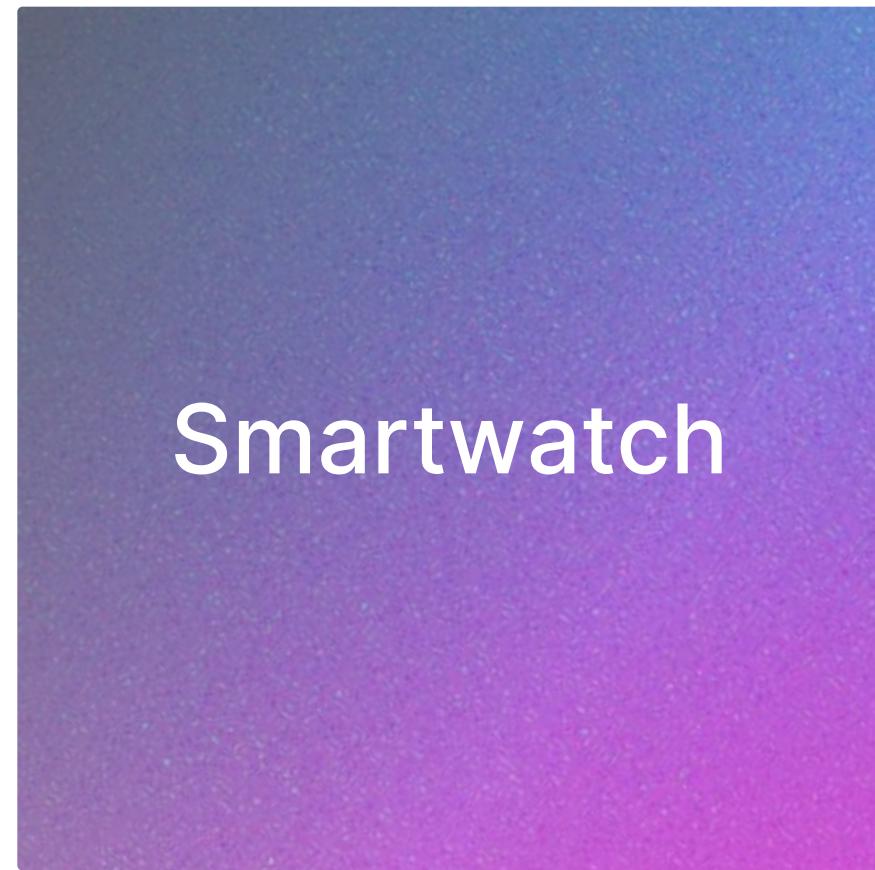
Our design proposal was developed for both smartphone and smartwatch interfaces, with each serving a distinct purpose.



- Integrate all features and functionalities

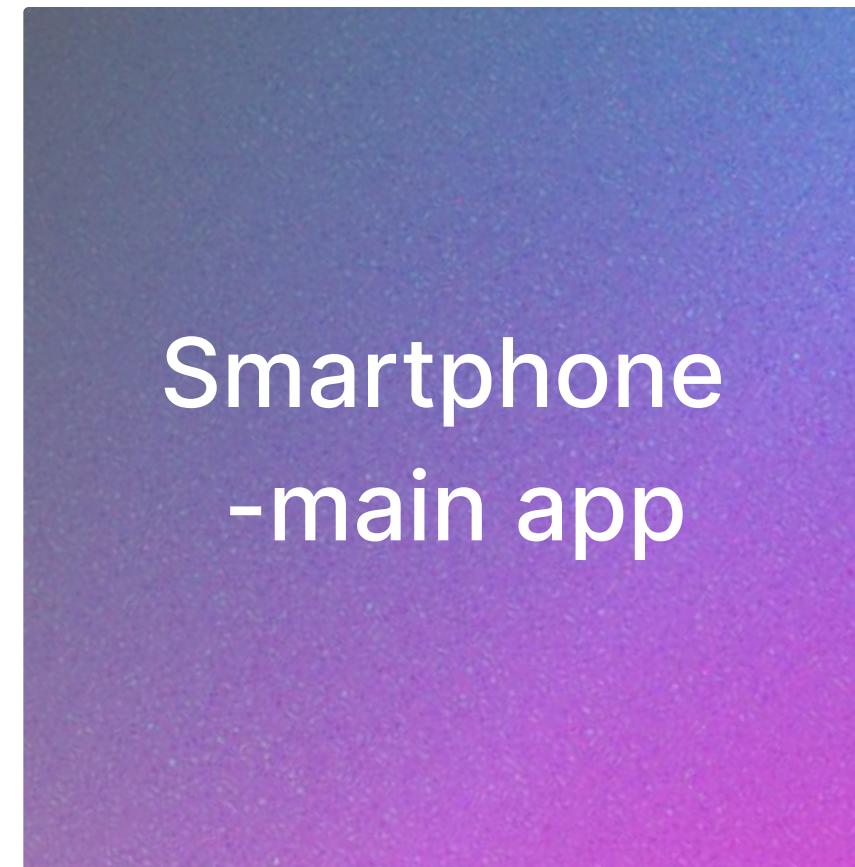


- Instant access for several features



- Instant access for several features;
- presenting concise information;

# Features- Smartphone- Main app



## Goal setting

To set the tone for your AI Buddy, personalize the level of engagement you want with it.

## Multimodal data control

Integrate wearable device data to more accurately predict user's emotional states while empowering them with the ability to disconnect at any time.

## Vary communication method

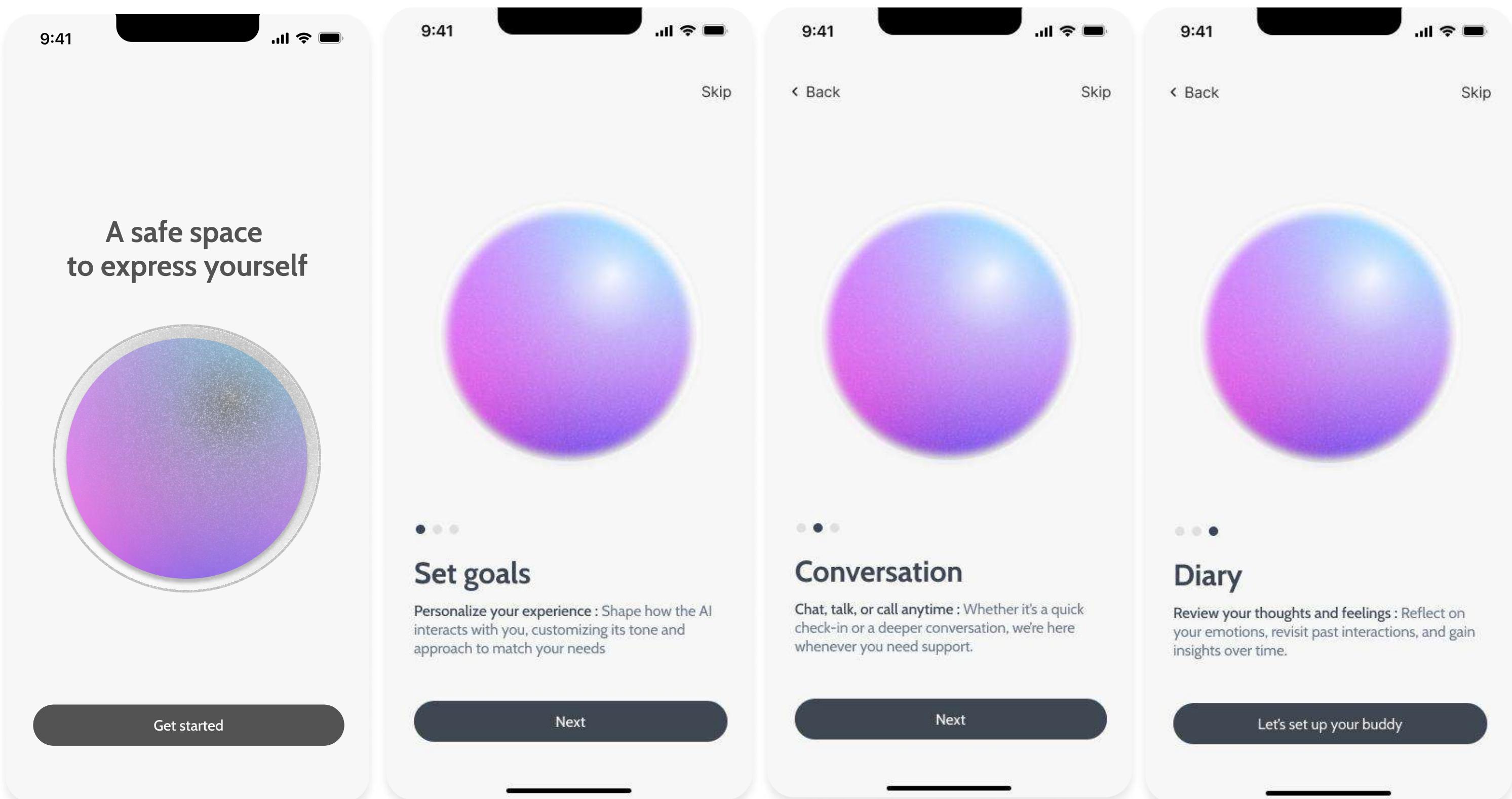
Offer a call feature that mimics real-life social interactions, allowing you to communicate with your AI Buddy through a phone-like conversation.

## AI generated diary

Using conversation and device data, we help users track emotions and explore potential causes of fluctuations.

# Main app- Boarding page 1

Presenting users an overview of what the app can do and how they can benefit from it.



## Previous version

- Lacking of context for the first interaction;
- Design can be refined to bring a more soothing and calming feeling;

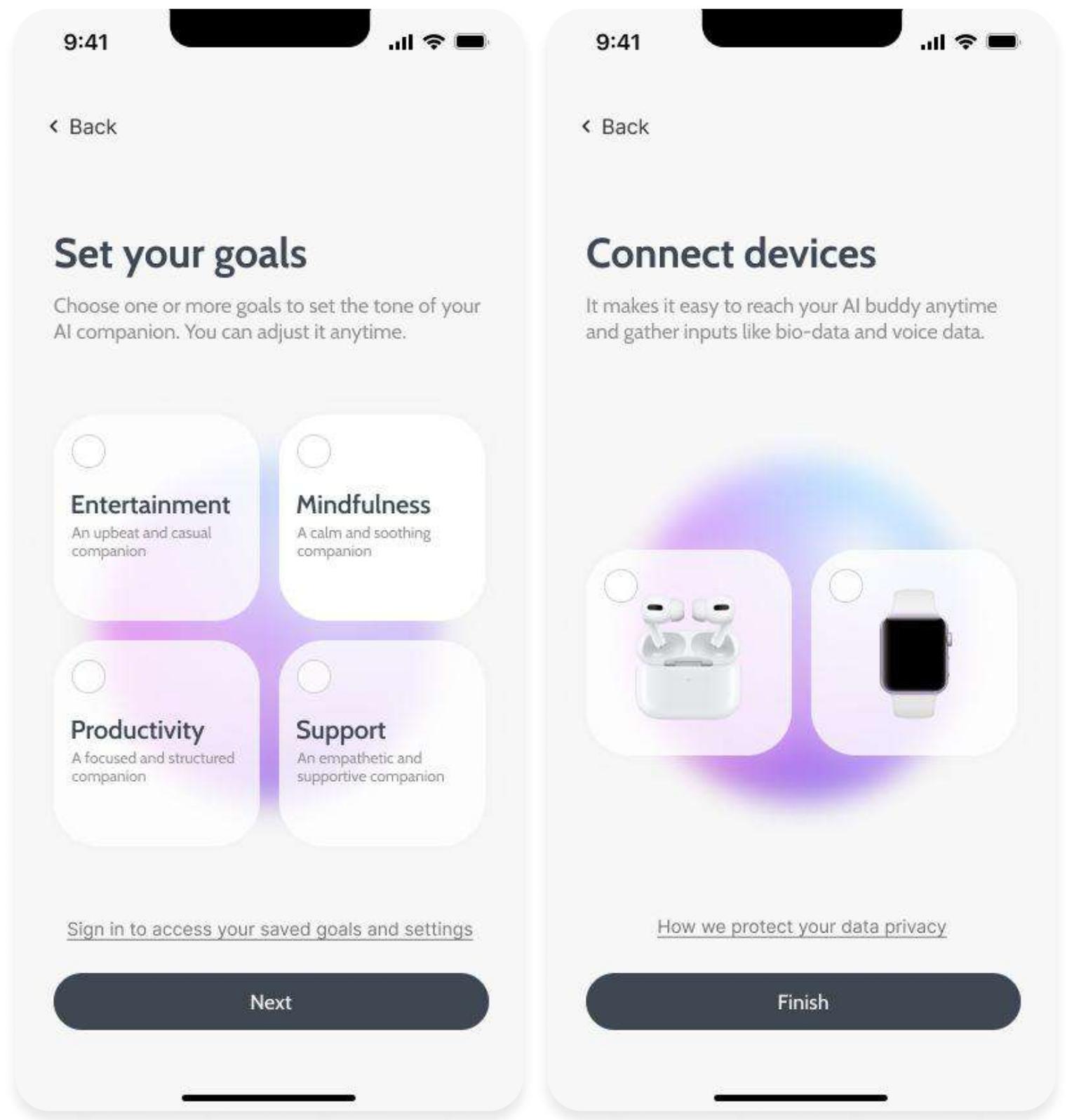


*Confused about the necessity of connecting a device, what devices are supported, and what benefits connecting will offer.*

# Main app- Boarding page 2

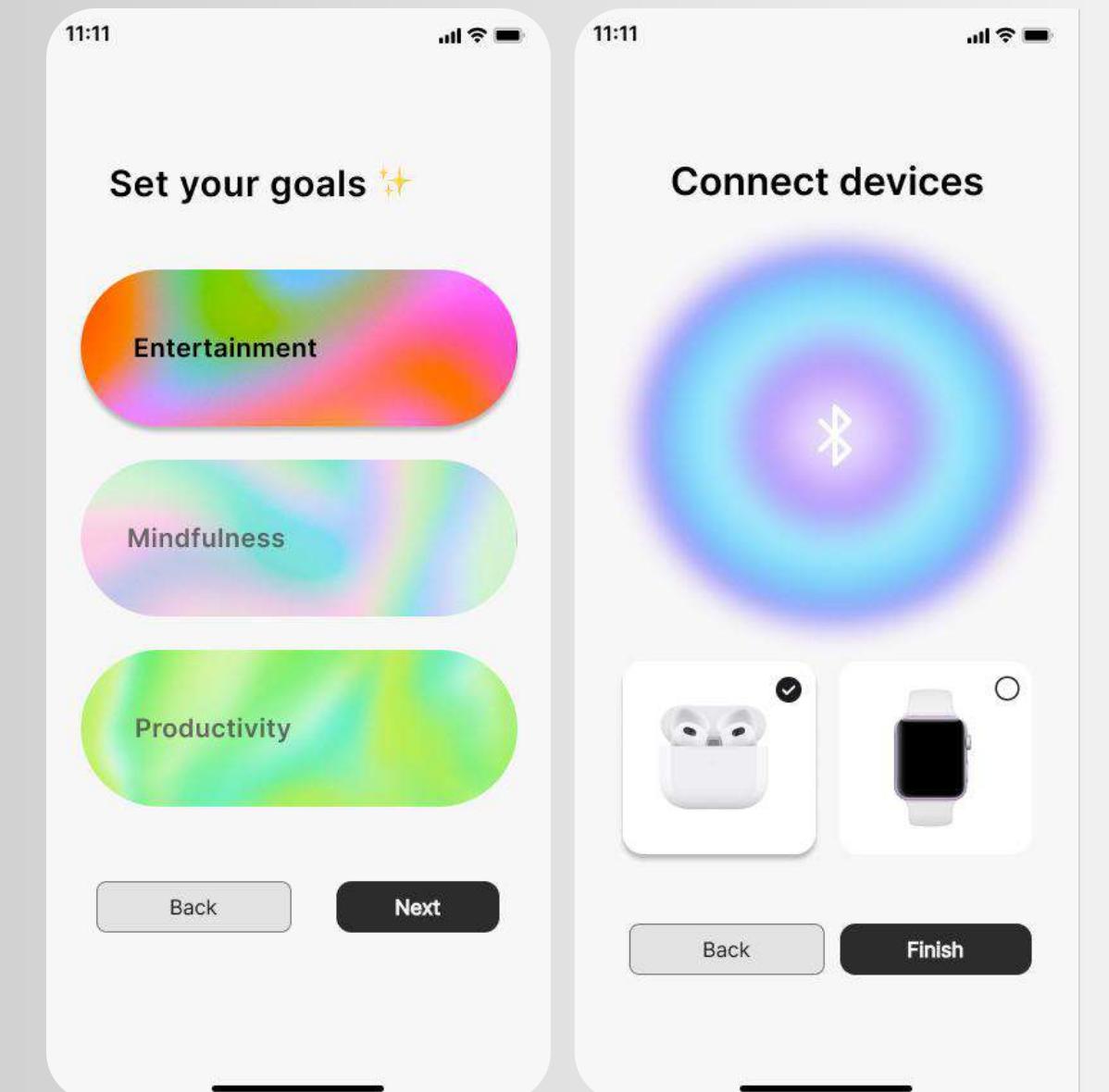
Guiding users through the setup process, where they define two elements:

- Goals: to set tone of your AI companion;
- Connected device: to enhance emotion recognition and analysis.



## Previous version

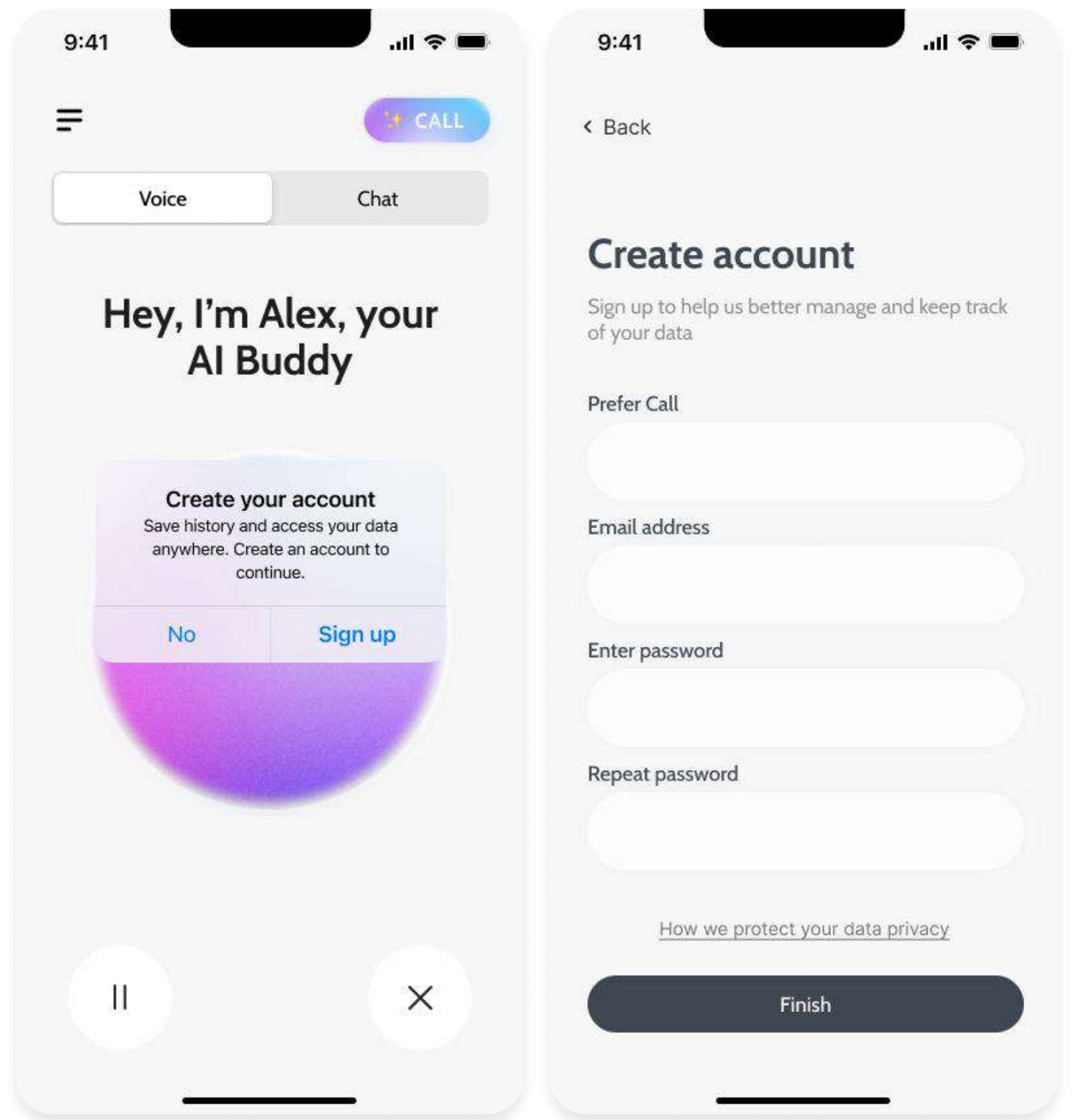
- Unclear about the purpose of connecting the device;
- Unclear about the impact (on AI) of setting goals;



*Provide a clear prompt indicating whether goals can be adjusted after the initial setup.*

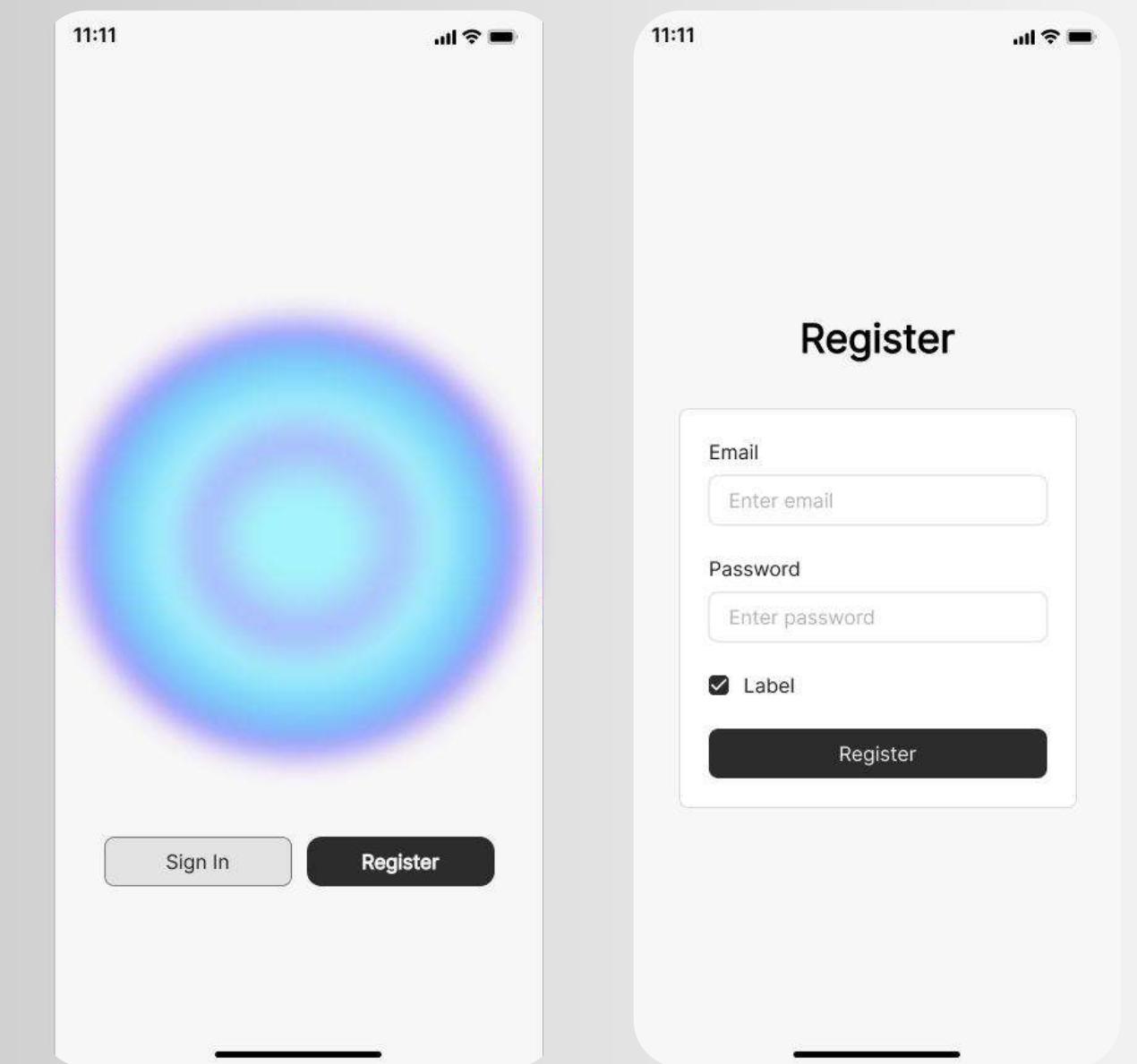
# Main app- Sign up

Allowing users to interact with the app first, then recommending them to sign up, creates a smooth and secure first-time experience.



## Previous version

- Concern about potential privacy leaks in the mandatory sign-in process
- Mandatory registration process disrupts the app experience;

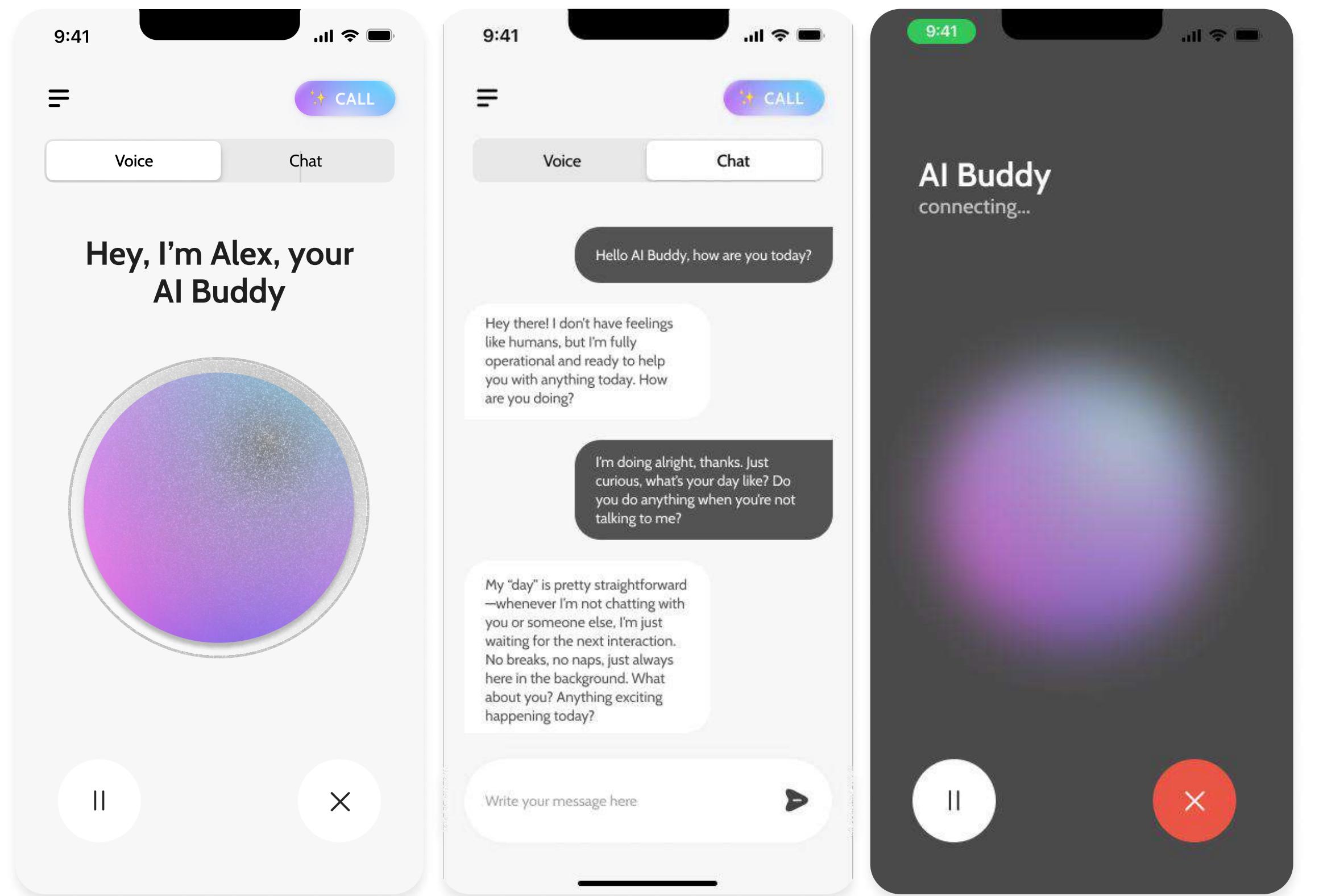


*The font color in the “journey” button and the “register” button are different. Not sure if it’s on purpose.*

# Main app- Communication methods

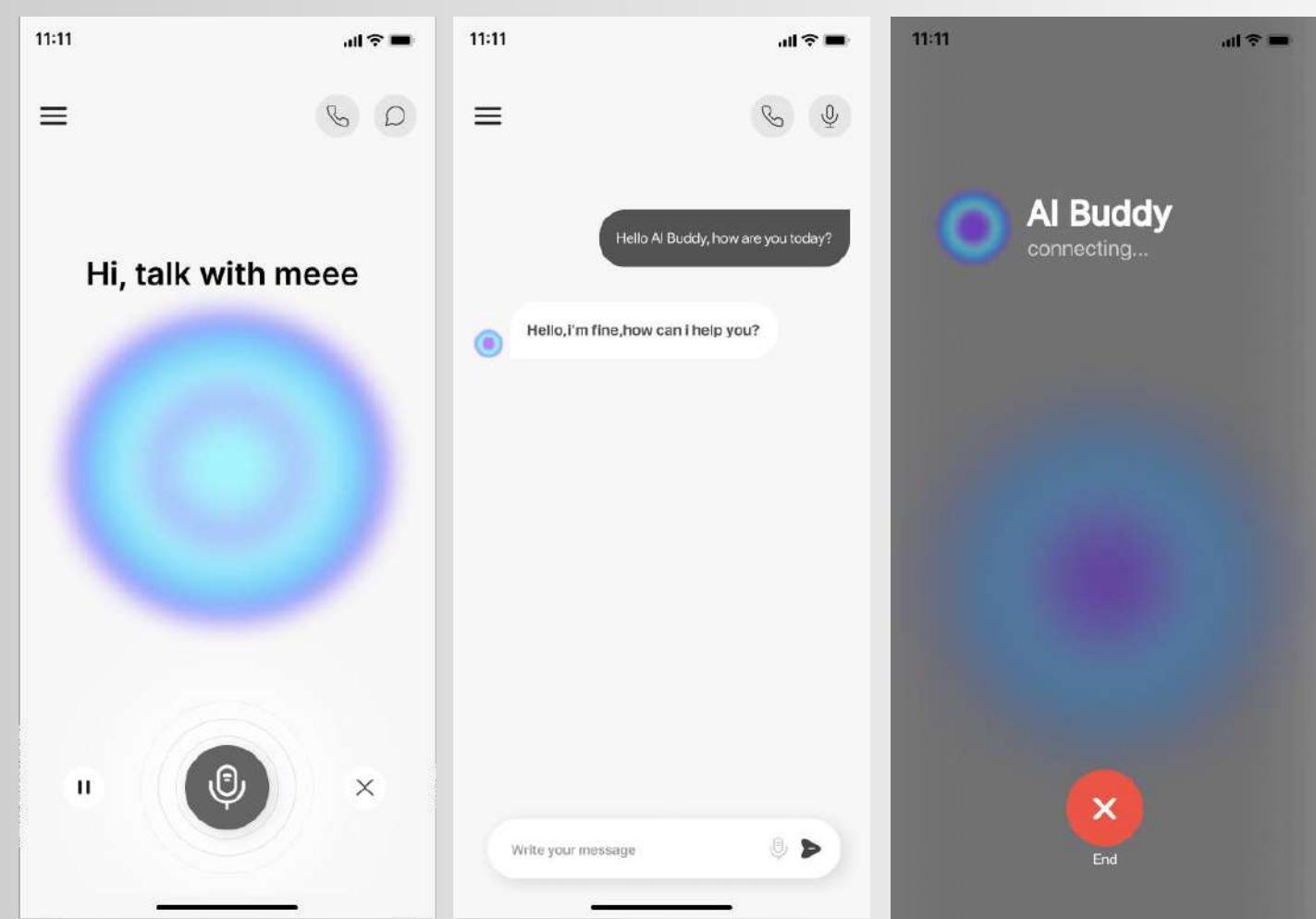
AI Buddy offers two communication types:

- Turn-based (**voice & text**) mirrors current AI tools for seamless interaction;
- Natural Dialogue (**call**) provides a more **social-like experience**.



## Previous version

- Confusion between the concepts of “call” and “voice” input communication;
- Considering the “voice” icon on the text page is repetitive;

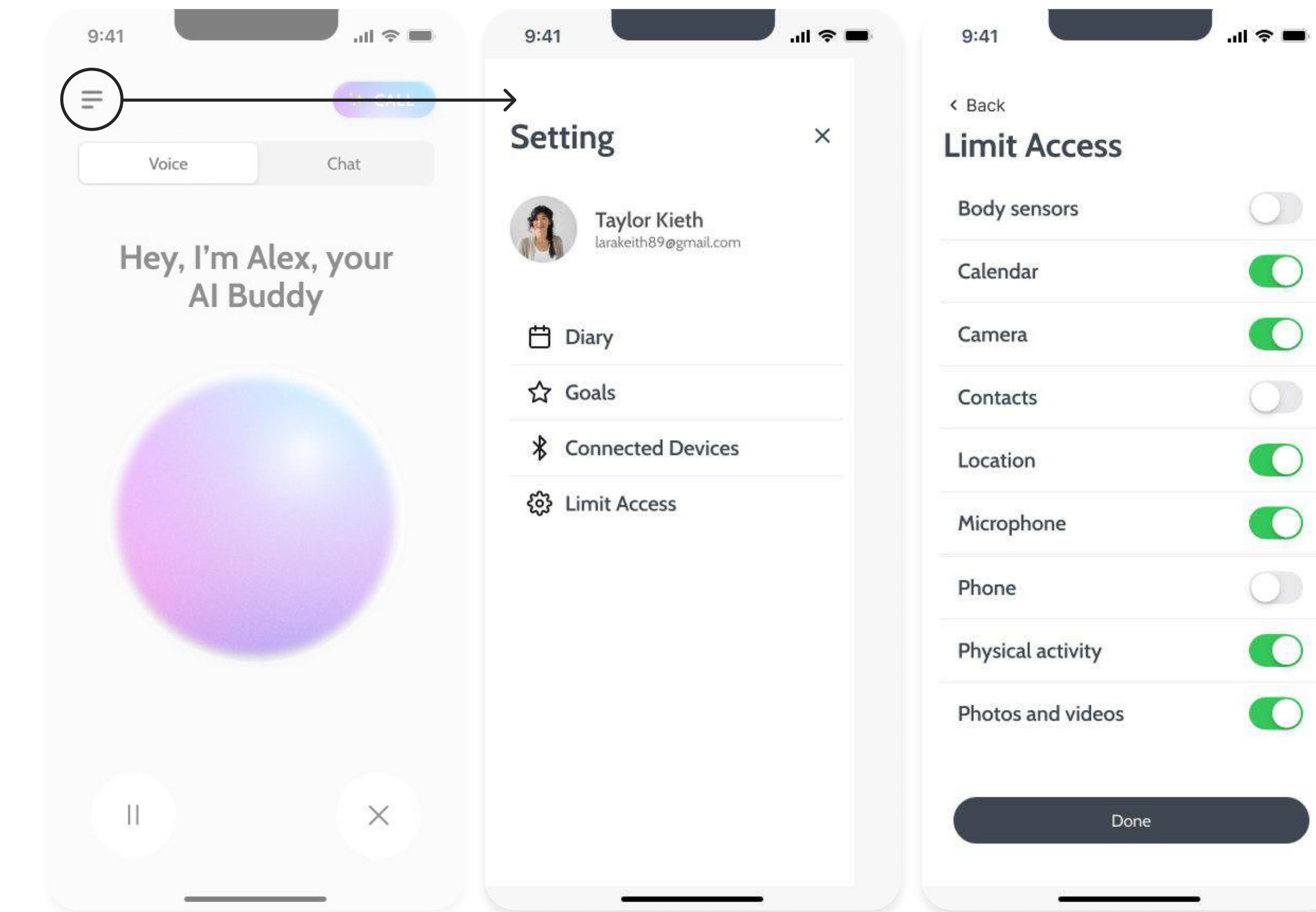


*I can't differentiate between the recording function on the call mode. Can we already talk with the AI on the homepage or is it only possible in the call mode?*

# Main app- Settings and limit access

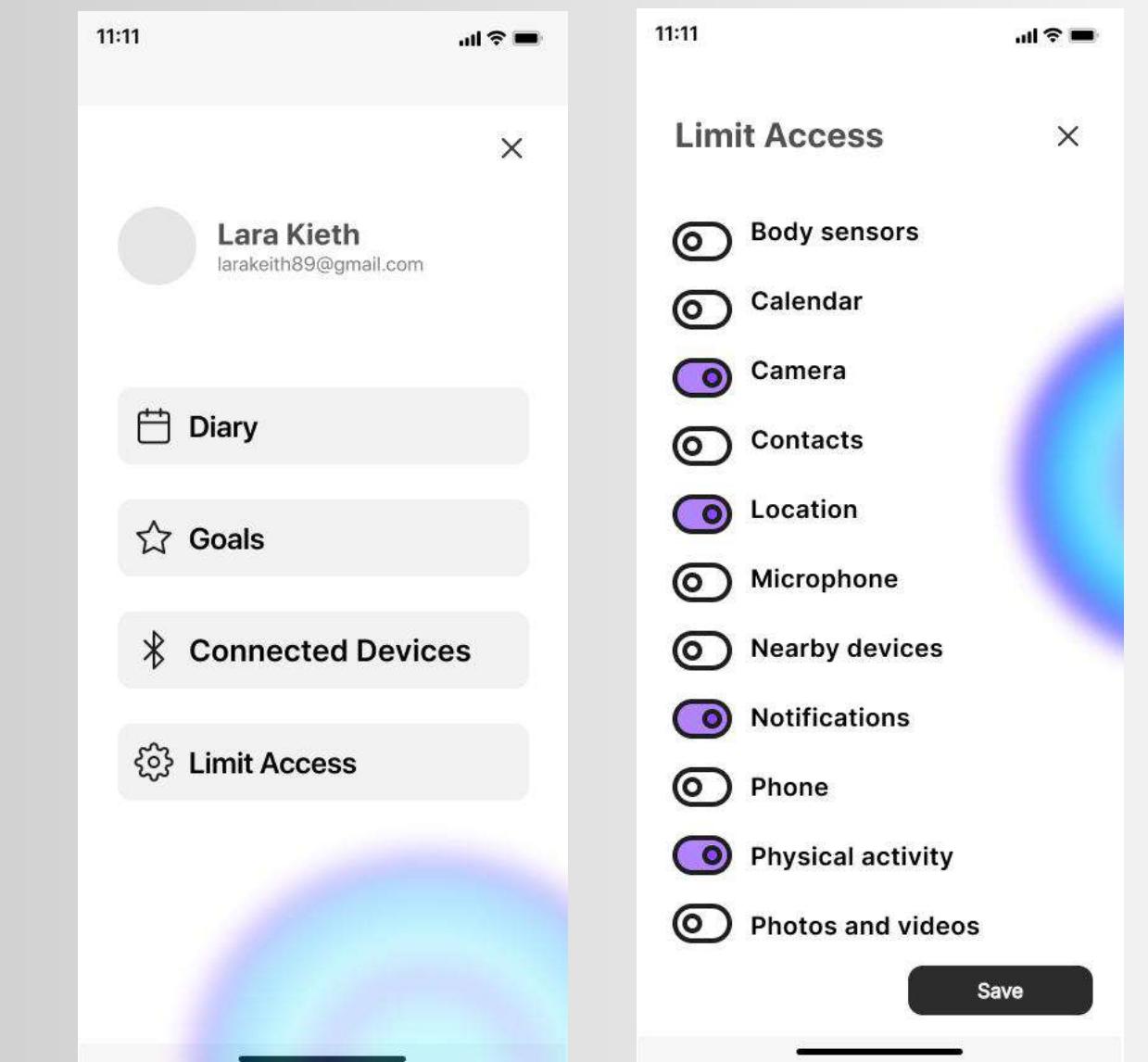
Providing a **hamburger menu** to organize other pages (e.g., setting, diary, permissions).

- permissions page empowers the user's control over the AI's access.



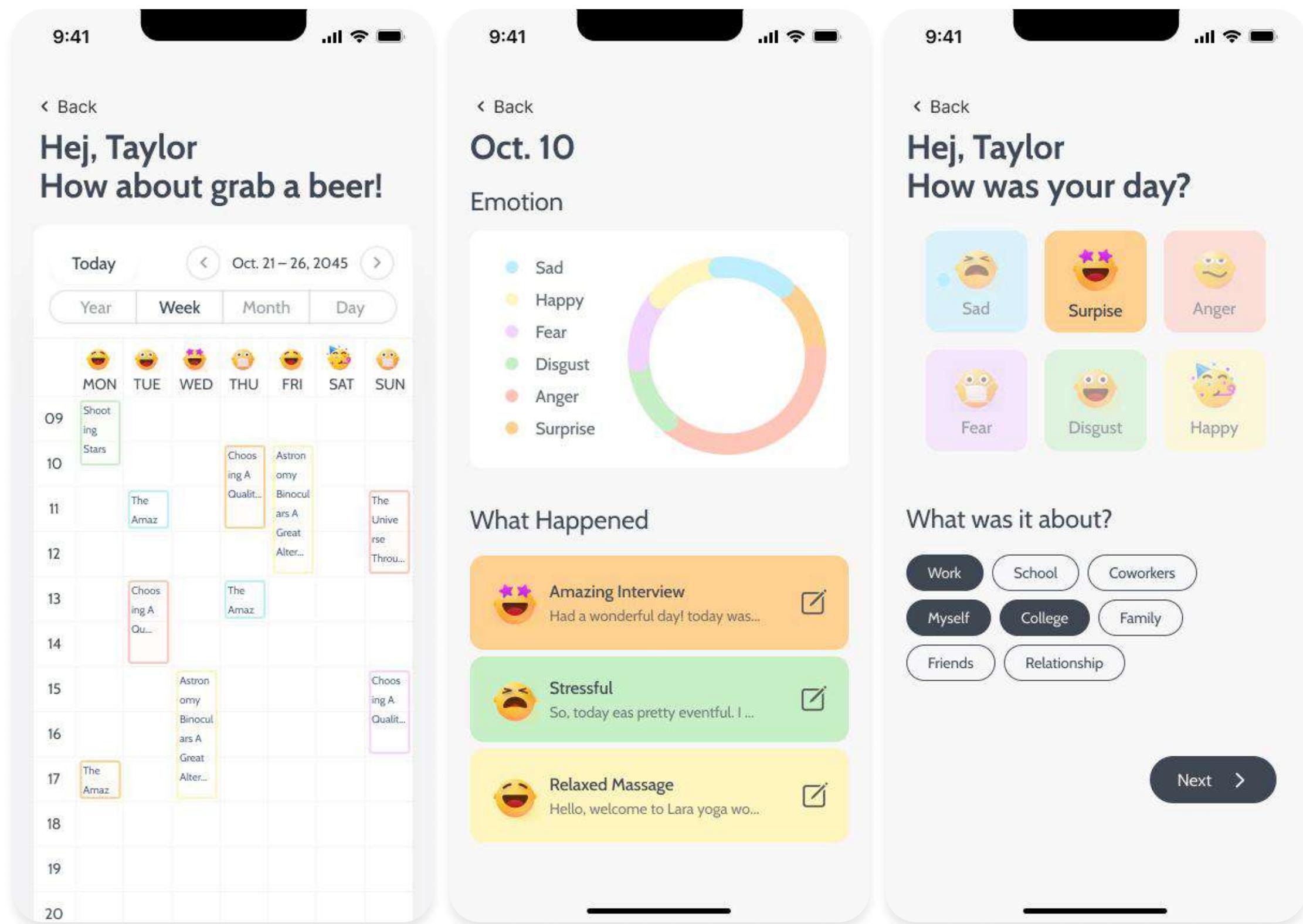
## Previous version

- The user name on this page differs from the formal pages;
- Unclear if this was accessed through the hamburger menu;



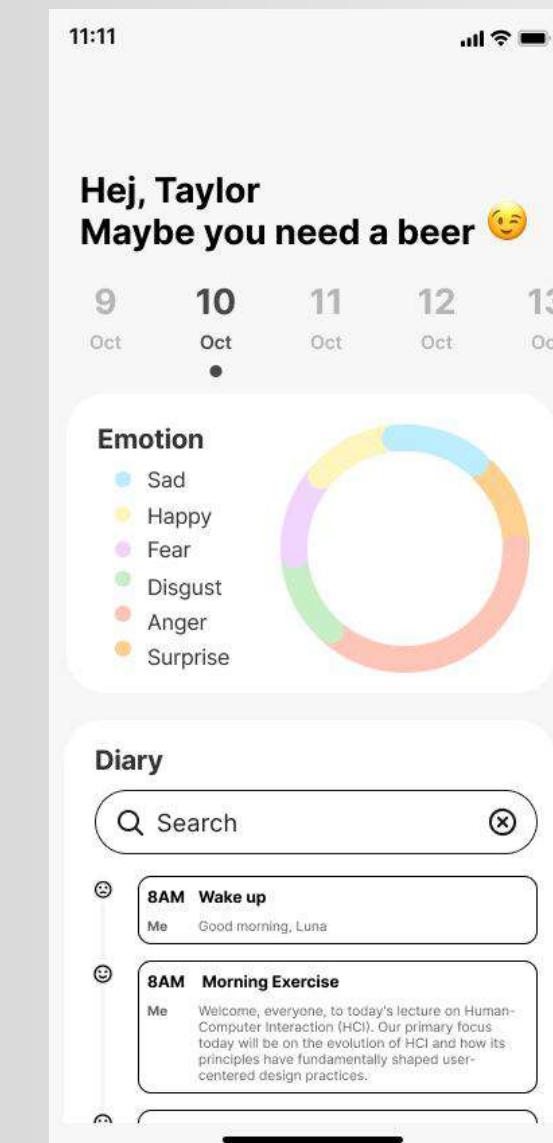
# Main app- Diary

Using conversation and device data, we help users track emotions and explore potential causes of fluctuations. Users can also adjust the results based on their own feelings.



## Previous version

- Confusion about the diary content is generated by AI or user;
- The current emotional summary for the topic lacks clarity;
- The user would like to adjust the emotion results to better reflect their own feelings.



# Features- Smartphone- Widget



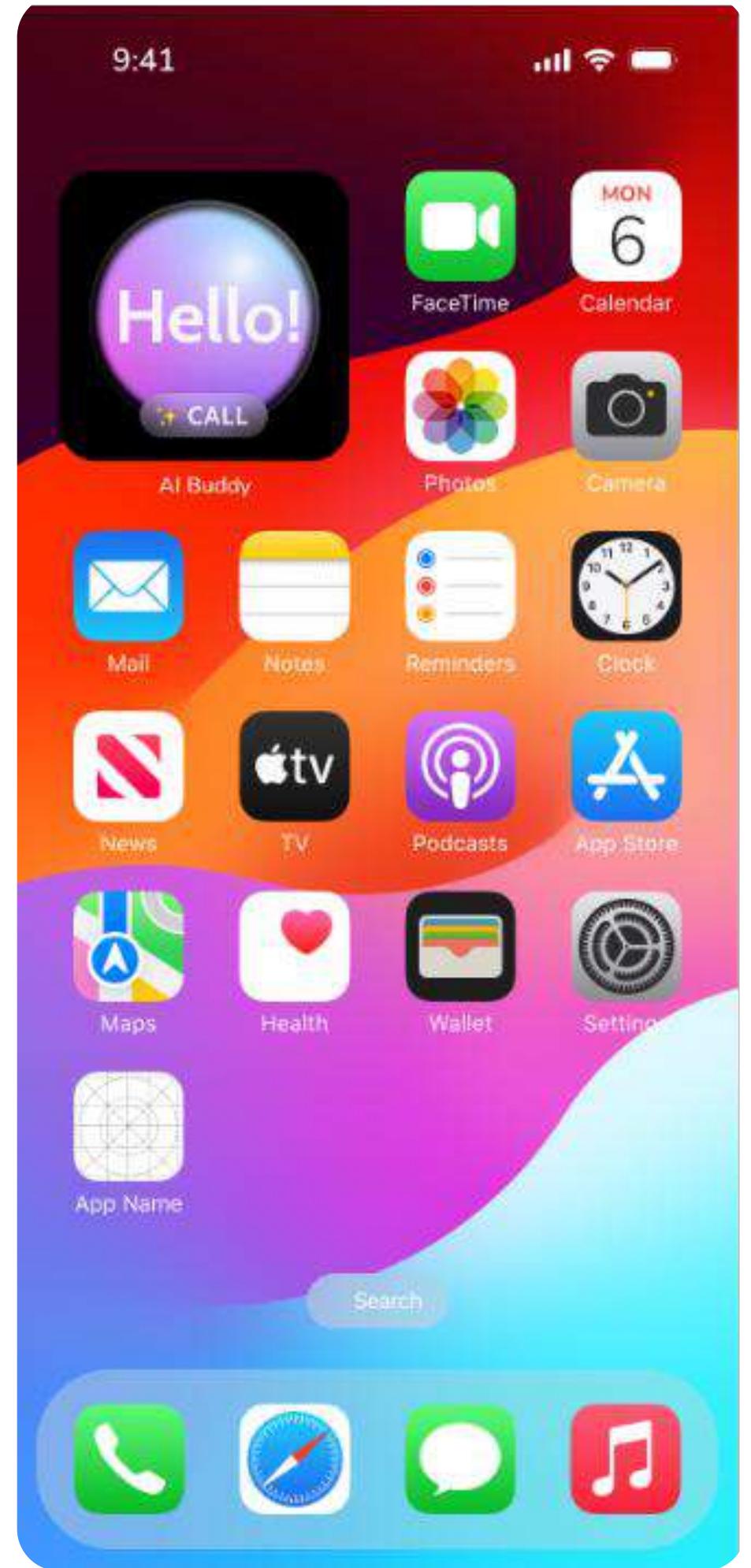
## Call shortcut

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Quickly initiate a call with your AI Buddy through a single tap.

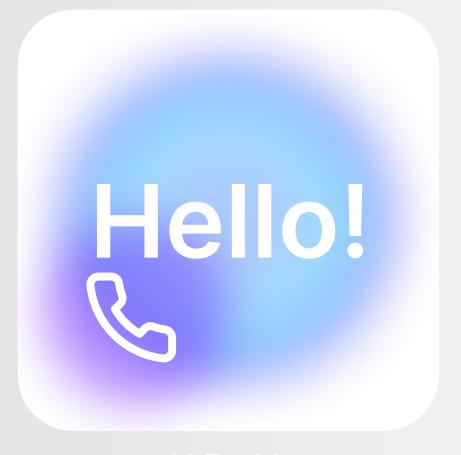
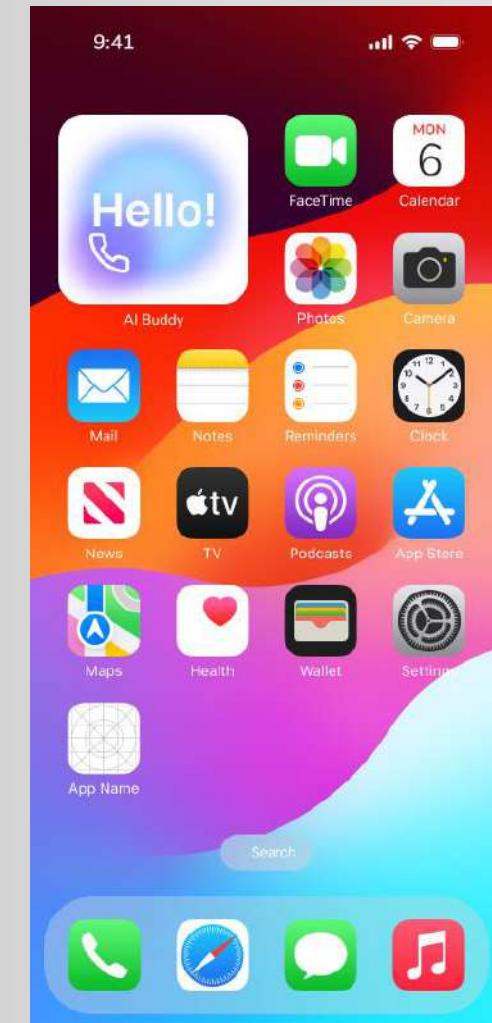
# Widget

Main app- Sign up

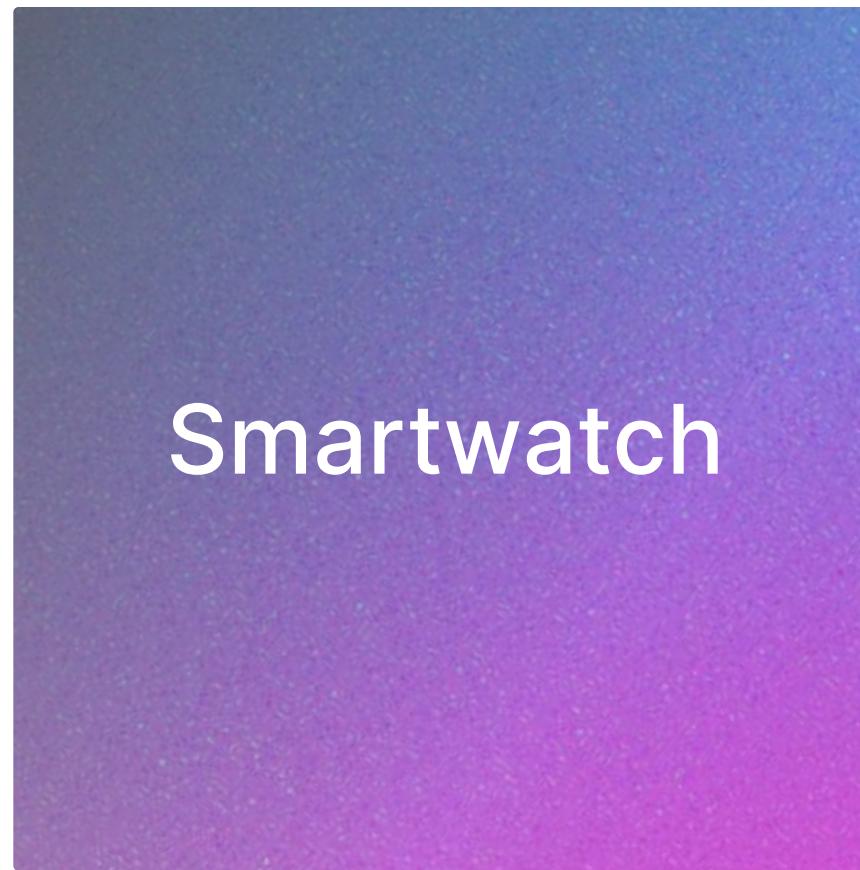


## Previous version

- Previous issues included a lack of contrast accessibility and insufficient context within the caller feature.



# Features- Smartwatch



## Call shortcut

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Quickly initiate a call with your AI Buddy through a single tap.

## Pressure notification

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Detect your stress level and give you a hint when you're under too much pressure.

## Brief diary

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Quickly review your emotional state based on calendar dates.

# Smartwatch

Assesses quick calls, active AI communication through notifications, and basic diary view.



## Previous version

- Visual improvements have been made in the smartwatch version, addressing issues like high contrasts, lack of clarity, and reduced usability in the previous design.



# Conclusion

# Conclusion

## Limitations

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Small sample size of user interviews may not fully represent the broader population.

Subjective interpretations of emotional engagement may not be fully captured in the design.

AI effectiveness depends on the reliability of connected devices, which may be prone to technical limitations

## Reflections and further discussion

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Ethical dilemmas arise around psychological dependency on AI for decision-making.

Constant surveillance and monitoring by AI systems pose concerns for user privacy and autonomy.

Rapid technological changes in AI and HCI require iterative updates to design choices

# Q&A