Togetherville

A voice-assistant app to empower the elderly to actively participate, connect, and contribute, enriching their lives and strengthening their relationships with family members.

What challenges need to be addressed?

Limited Face-to-Face Interaction

Physical distance and the busy schedules of the younger generation pose a challenge to meaningful face-to-face communication with the elderly, hindering family bonds.

Loneliness and Limited Remote Communication

The absence of efficient remote contact methods leads to loneliness and disconnection among the elderly. Their inability to use smart devices due to physical, cognitive, and knowledge limitations exacerbates this challenge.

Low Family Activity Participation

Generation gaps, communication difficulties, and restricted activity options contribute to decreased family engagement and participation in activities, impacting overall family connectedness.

Waterdrop

I Was There

Creating new memories by reenacting old family pictures with each other.

2013   2023

Remember that funny picture you took as a kid? Now it's time to recreate one by dressing up and posing just like that!

...all can share their joyful ...ies of the moment.

...tart?

6 weeks (July-August 2023)   **Duration**

Figma, Adobe, Photoshop, Procreate   **Tools**

User Research, Concept Development, Interface Design, Visual Design   **My role**

People are living longer – the number of older persons (aged 60 and above) is expected to more than **Double** globally by 2050 according to the UN.

With the aging population grows, services and supports have been offered by different countries, organizations, and communities. However, this has inadvertently led society to perceive the elderly as vulnerable. **They also desire to contribute and connect, beyond just receiving assistance.**

User Interview

I interviewed my grandparents and some elderly neighbors about the topic to find their needs and challenges regarding initiative.

81 years old, living alone

Distance and limited mobility make socialization difficult, and I often feel lonely. It would be great if I could have connection with my family and friends from home.

72 years old, living with his wife

We want to meet our kids, but their busy schedules make coordinating times hard. Phone calls are cumbersome, and we aren't adept at using social apps.

74 years old, living with his Kids

I want to chat with my kids, but starting conversations with young people is hard. I have no idea of what they like. I'm sure we would have fun if there could be something to share.

As many elderly mentioned family, I subsequently interviewed their family members to gather their perspectives.

I'm occupied with work, and besides ensuring my parents' physical well-being, I lack time to provide them with emotional support.

49 years old

I want to hear my grandparents' stories and feelings, but we struggle to find a good starting point for the conversation.

21 years old

Challenges

Elderly

The interview has revealed that **physical, knowledge, and cognitive limitations** are major challenges for elderly socialization. They restrict elderly individuals' socializing options, tools, and content, making it challenging for them to proactively connect with others.

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Physical Limitations ──┬── bad eyesights/hearing hinders smart-device usage
                       └── mobility hinders distance gatherings

Knowledge Limitations ──┬── hinders adaptation on smart devices
                        └── constrains the ways of communications

Cognitive Limitations ──┬── hinders adaptation on social media
                        └── creates generation gap with young people
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Younger generation

Additionally, the younger generation's limited time, energy, and generation gap pose challenges for meeting the elderly's emotional needs within the family.

Challenges they are facing together

Challenges of coordinating schedules · Geographic distance · Inefficient remote connections

Communication barriers · Different interests · Limited family activities · Different lifestyles

Insights

Elders' desired social circles mainly include family

Interviews revealed that most seniors seek closer family ties and positive interactions with their family.

Family interactions involve numerous steps

Communication, coordination, preparations, and potential last-minute changes - all require efforts.

Multiple factors lead to low family engagement

The factors include, but are not limited to, generation gaps, limited activity choices, mismatched schedules, and declining cognitive abilities in the elderly.

Elderly need a simple, accessible social platform

Interview and research highlight the elderly's limited familiarity with smart devices, necessitating a senior-friendly platform to socialize more frequently from anywhere.
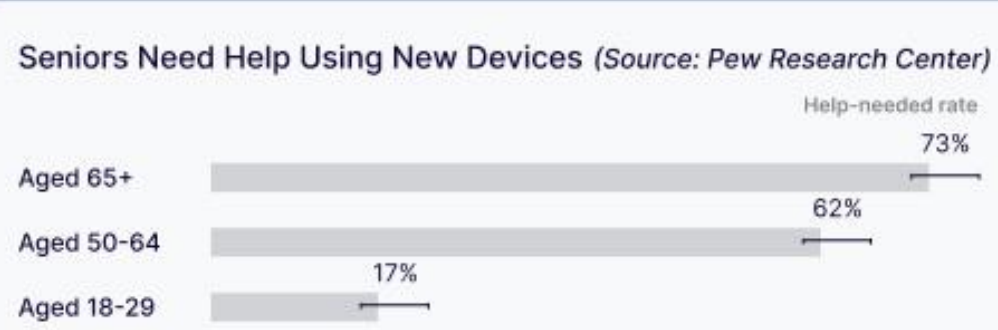
Remote connectivity is important for elderly and their family

It is vital to overcome barriers of coordinated in-person family activities caused by distance, schedules, and diverse lifestyles, enabling more frequent and closer family interactions.

Youth could address the challenges together

Interviews indicated that the younger generation is willing to provide more companionship and emotional support to the elderly, despite the lack of a suitable approach.

Seniors Need Help Using New Devices *(Source: Pew Research Center)*

Help-needed rate

Aged 65+	73%
Aged 50-64	62%
Aged 18-29	17%

(Research data)

Reframe the Problem

Considering both the needs of the elderly and the potential of the younger generation's participation, I propose a social platform that focuses on enhancing active family connections for the elderly. The central question becomes:

How can we create an elderly-friendly platform that enhances active, effective, and flexible family interactions?

User Persona

Ting Lee

🏛 81 years old
🏠 Living alone

Physical condition
Hearing
Mobility
Eyesight

Technological Literacy
Making phone calls
Sending text messages
Using other smart-device functions

> "I want to overcome distance and physical constraints to share joy with my family."

Goal
Establish meaningful remote connections and high-quality meet-ups with family.

Challenge
- Geographically distant and physical constraints limiting frequent meeting.
- Vision, hearing, and cognition decline hindering effective remote communication with family.

Job-to-be-done
- Achieve meaningful and effective contacts with family from home.
- Get assistance with device usage and cognitive engagement for active family interactions.

Yuan Chou

🏛 72 years old
🏠 Living with his kids

Physical condition
Hearing
Mobility
Eyesight

Technological Literacy
Making phone calls
Sending text messages
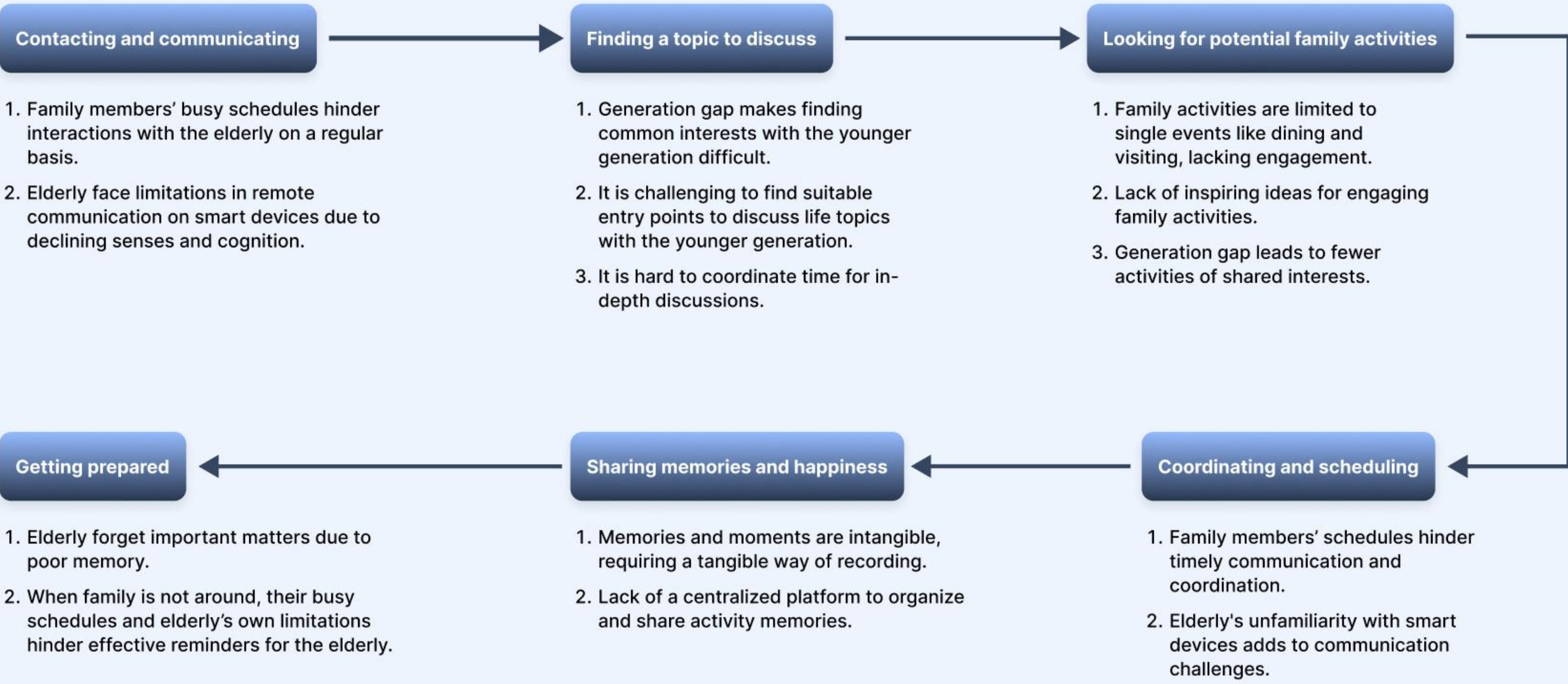Using other smart-device functions

> "I am seeking for active, joyful, and cross-generational family involvement."

Goal
Get active involvement and strong family bonds with more shared topics and quality time together with kids.

Challenge
- Kids' busy work schedules hindering coordinating family activities.
- Generation gap resulting in limited shared interests for activities with younger generations.

Job-to-be-done
- Plan and coordinate family activities efficiently with kids' various schedules.
- Bridge the generation gap by getting inspirations of family activities and topics.

Analyzing Elderly's Experience in Family Involvement

Scenario and pain points

Contacting and communicating
1. Family members' busy schedules hinder interactions with the elderly on a regular basis.
2. Elderly face limitations in remote communication on smart devices due to declining senses and cognition.

Finding a topic to discuss
1. Generation gap makes finding common interests with the younger generation difficult.
2. It is challenging to find suitable entry points to discuss life topics with the younger generation.
3. It is hard to coordinate time for in-depth discussions.

Looking for potential family activities
1. Family activities are limited to single events like dining and visiting, lacking engagement.
2. Lack of inspiring ideas for engaging family activities.
3. Generation gap leads to fewer activities of shared interests.

Coordinating and scheduling
1. Family members' schedules hinder timely communication and coordination.
2. Elderly's unfamiliarity with smart devices adds to communication challenges.

Sharing memories and happiness
1. Memories and moments are intangible, requiring a tangible way of recording.
2. Lack of a centralized platform to organize and share activity memories.

Getting prepared
1. Elderly forget important matters due to poor memory.
2. When family is not around, their busy schedules and elderly's own limitations hinder effective reminders for the elderly.
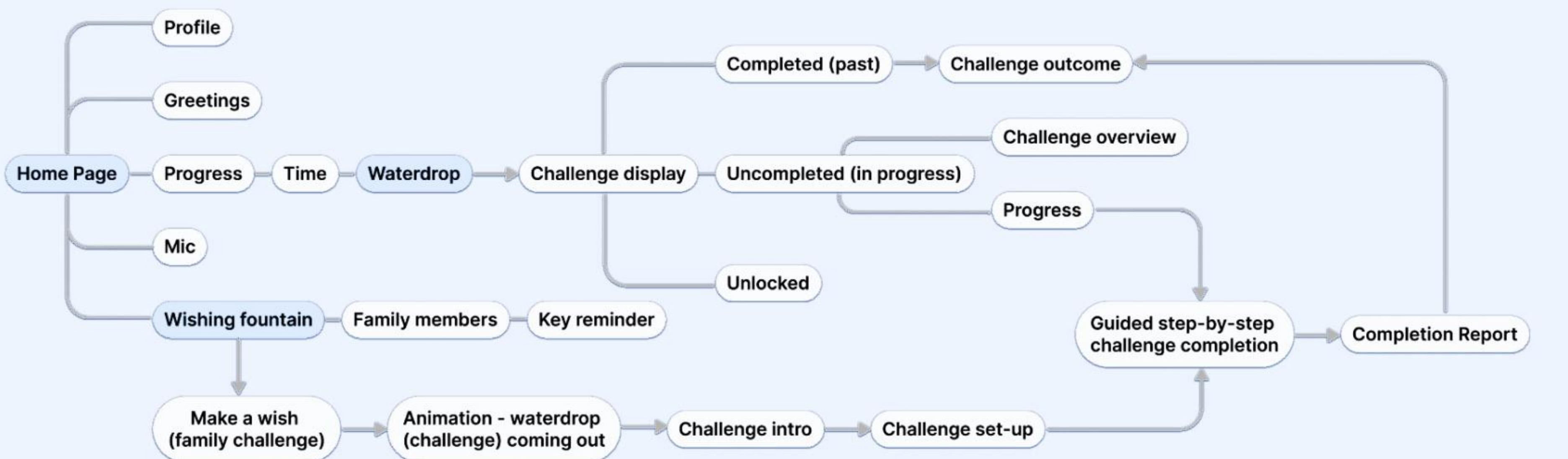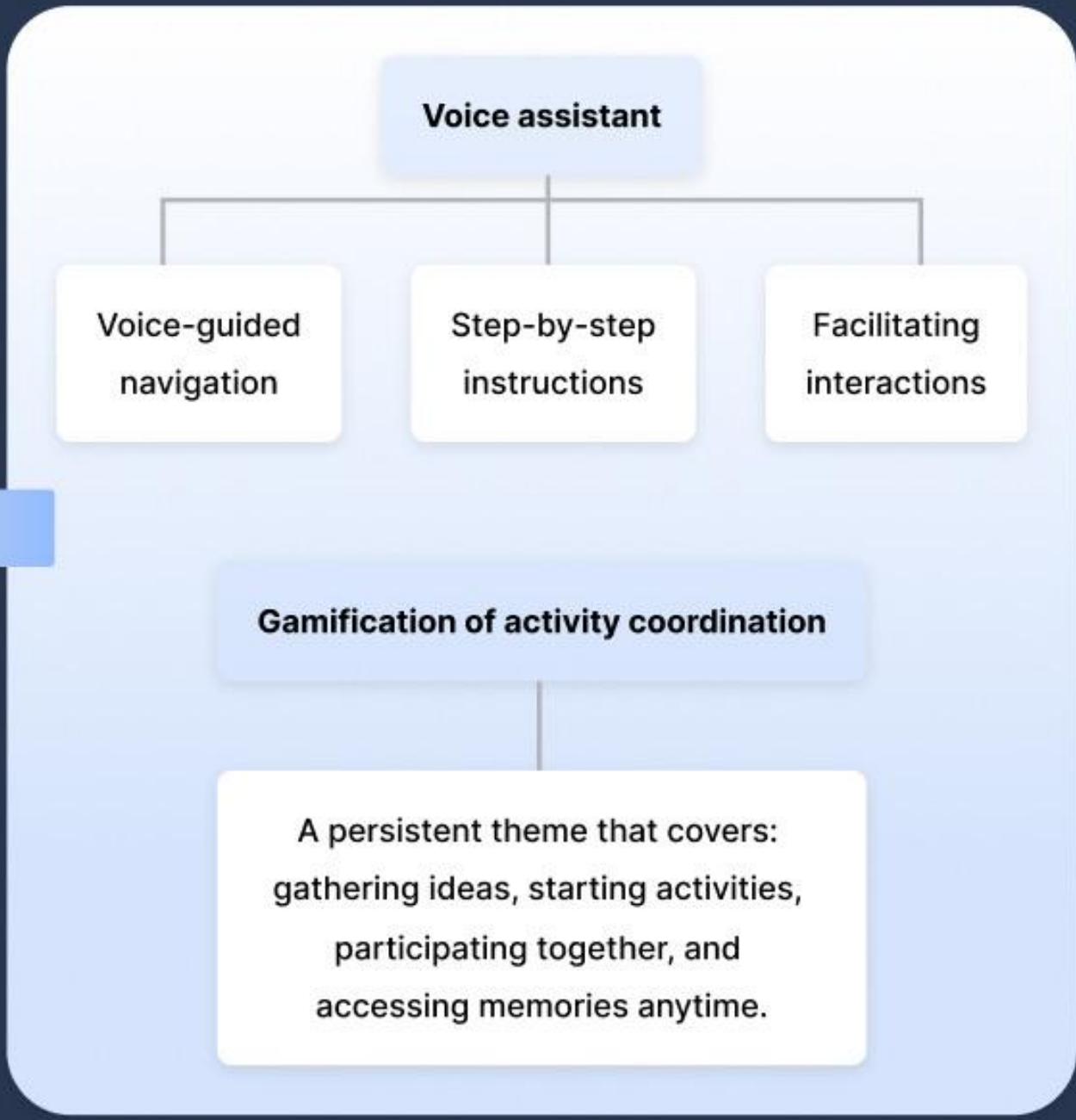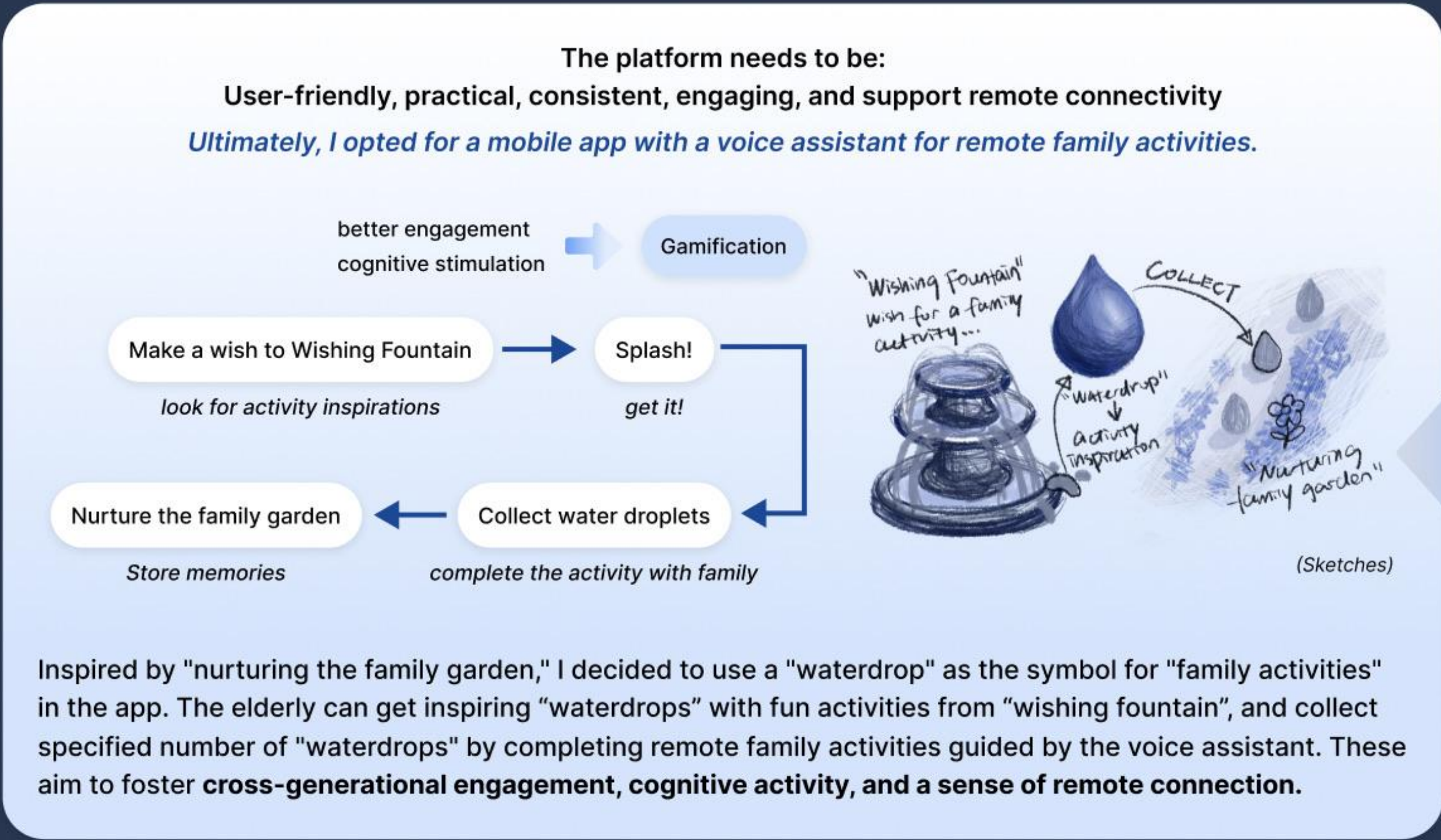
User Journey Map

Scenario	Contacting and communicating	Finding a topic to discuss	Looking for potential family activities	Coordinating and scheduling	Getting prepared	Sharing memories and happiness
User Action	Contacting family members, communicating, sharing updates, and coordinating meet-ups.	Looking for engaging and meaningful topics for conversation.	Discovering diverse family activities for joyful time together.	Coordinating suitable time with family members for activities.	Preparing for family activities, including time, items, and other necessities.	After family activities, capturing moments to share joy and feel connected with family even when apart.
Emotion	Happy 😊	Getting lost 🙁	Expecting 😌	Perplexed 😖	Expecting 😒 / Enjoying 😄	Overwhelmed 😣 / Satisfied 🤗
Pain Points	1. Family members' busy schedules hinder interactions with the elderly on a regular basis. 2. Elderly face limitations in remote communication on smart devices due to declining senses and cognition.	1. Generation gap makes finding common interests with the younger generation difficult. 2. Hard to find suitable entry points to discuss life topics with the younger generation. 3. Hard to coordinate time for in-depth discussions.	1. Family activities are limited to single events like dining and visiting, lacking engagement. 2. Lack of inspiring ideas for engaging family activities. 3. Generation gap leads to fewer activities of shared interests.	1. Family members' schedules hinder timely communication and coordination. 2. Elderly's unfamiliarity with smart devices adds to communication challenges.	1. Elderly forget important matters due to poor memory. 2. When family is not around, their busy schedules and elderly's own limitations hinder effective reminders for the elderly.	1. Memories and moments are intangible, requiring a tangible way of recording. 2. Lack of a centralized platform to organize and share activity memories.

User Scenarios

Elderly in family involvement

Pain Points and Design Opportunities

Elderly

- Physical constraints (e.g.Mobility, eyesight)
- Decreasing communi-nication skills
- Low accessibility of screen-based interaction
- Knowledge limitation
- Cognitive constraints
- Memory capacity

Younger generation

- Busy schedules
- Numerous daily responsibilities
- Insufficient ways of emotional support for the elderly
- Limited attention to the elderly

(overlap)
- Low engagement
- Limited activity choices
- Complex steps of coordination
- Limited ways to store activity memories
- Physical distance
- Generation gap

Can we establish a user-friendly platform for remote family bonding, addressing distance and time constraints?

Additionally, to help address pain points, what if we make the platform:

Elderly-friendly		Family-friendly
Easy to use Straightforward Stimulating for cognitive activity	**and**	Offering family activity ideas Bridging generation gaps Helping coordinate schedules Preserving memories

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The platform needs to be:
User-friendly, practical, consistent, engaging, and support remote connectivity
Ultimately, I opted for a mobile app with a voice assistant for remote family activities.

better engagement
cognitive stimulation → Gamification

Make a wish to Wishing Fountain → Splash!
look for activity inspirations → *get it!*

Nurture the family garden ← Collect water droplets ← complete the activity with family
Store memories

(Sketches)

"Wishing Fountain" wish for a family activity...
COLLECT
waterdrop! → activity inspiration
"Nurturing family garden"

Inspired by "nurturing the family garden," I decided to use a "waterdrop" as the symbol for "family activities" in the app. The elderly can get inspiring "waterdrops" with fun activities from "wishing fountain", and collect specified number of "waterdrops" by completing remote family activities guided by the voice assistant. These aim to foster **cross-generational engagement, cognitive activity, and a sense of remote connection.**

Voice assistant

- Voice-guided navigation
- Step-by-step instructions
- Facilitating interactions

Gamification of activity coordination

A persistent theme that covers:
gathering ideas, starting activities,
participating together, and
accessing memories anytime.

Design Development

Low-Fidelity Prototypes

Wishing Fountain -
family activity challenges/inspirations

Animation

Challenge intro

Coordination - conversations, step by step voice assistance

Coordination - conversations, step by step voice assistance

Challenge page/Home page

Version 1

Completing the challenge step by step

Complete

View what's done

Version 2 (developed)

(Text-based wireframes)

Illustration Evolution

Main symbol "Waterdrop"

Activity
- "Waterdrop" with name

Wishing Fountain
- making a wish (getting a family activity idea)

Nurturing the family garden
- collecting water droplets (completing activities) and retrieving each memories anytime

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Visual Identity

Fonts

Inter

Title XL	Semibold Italic, 40
Title L	Semibold Italic, 33
Title M	Semi-bold, 28
Title S	Regular, 24
Body L	Regular, 22
Body M1	Regular, 20

Body M2	Regular, 20
Highlight M	Semibold, 20
Body S	Regular, 17
Highlight S	Semibold, 17
Headline	Regular, 15
Highlight XS	Semibold, 15

Special Fonts

Fontdiner Swanky, Regular

40 **24** 18 16

Components

Colors

Gray Scale

Gray 100	Gray 200	Gray 300	Gray 400
Hex #FAFBFC	Hex #F1F0F7	Hex #E4E9EB	Hex #D0D2D6

Gray 500	Gray 600	Gray 700	Gray 800	Gray 900
Hex #83858A	Hex #64868A	Hex #6D6F73	Hex #3E3F42	Hex #191918

Primary Color

Primary Blue	Dark Blue	Light Blue
Hex #0133E8	Hex #143672	Hex #D0D2D6

Primary Yellow	Dark Yellow	Light Yellow
Hex #FCC569	Hex #818713	Hex #FEEFC7

Secondary Color

Hex #B8B90	Hex #D2AD40	Hex #7A4426	Hex #FC488	Hex #F28A14

Hex #818713	Hex #48480F	Hex #1C4695	Hex #98F0FC	Hex #7BA8D2	Hex #5885A6

Designing Interface

▌ Home page

The elderly can access related pages focusing on family activities and the symbol "Waterdrop".
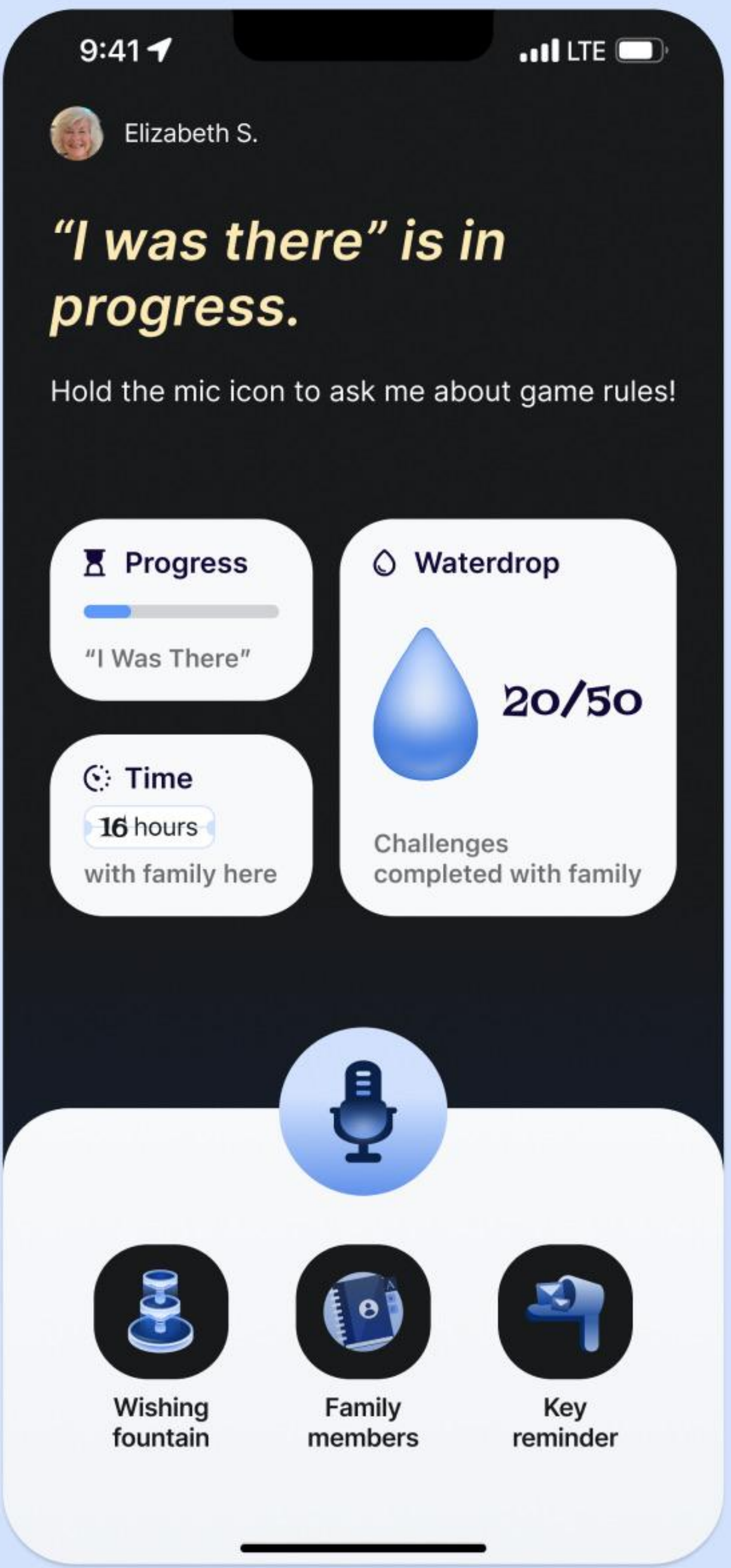
→ Profile

→ Reminder and encouragement for family activity challenges through voice interaction.

- Update challenge progress
- Record family time on the platform
→ Show the count of collected water droplets, linked to completed family activity challenges. Access to view specific activity details.

→ Access other pages to unlock diverse family activities, enjoy family time, and create colorful memories.

Wishing fountain

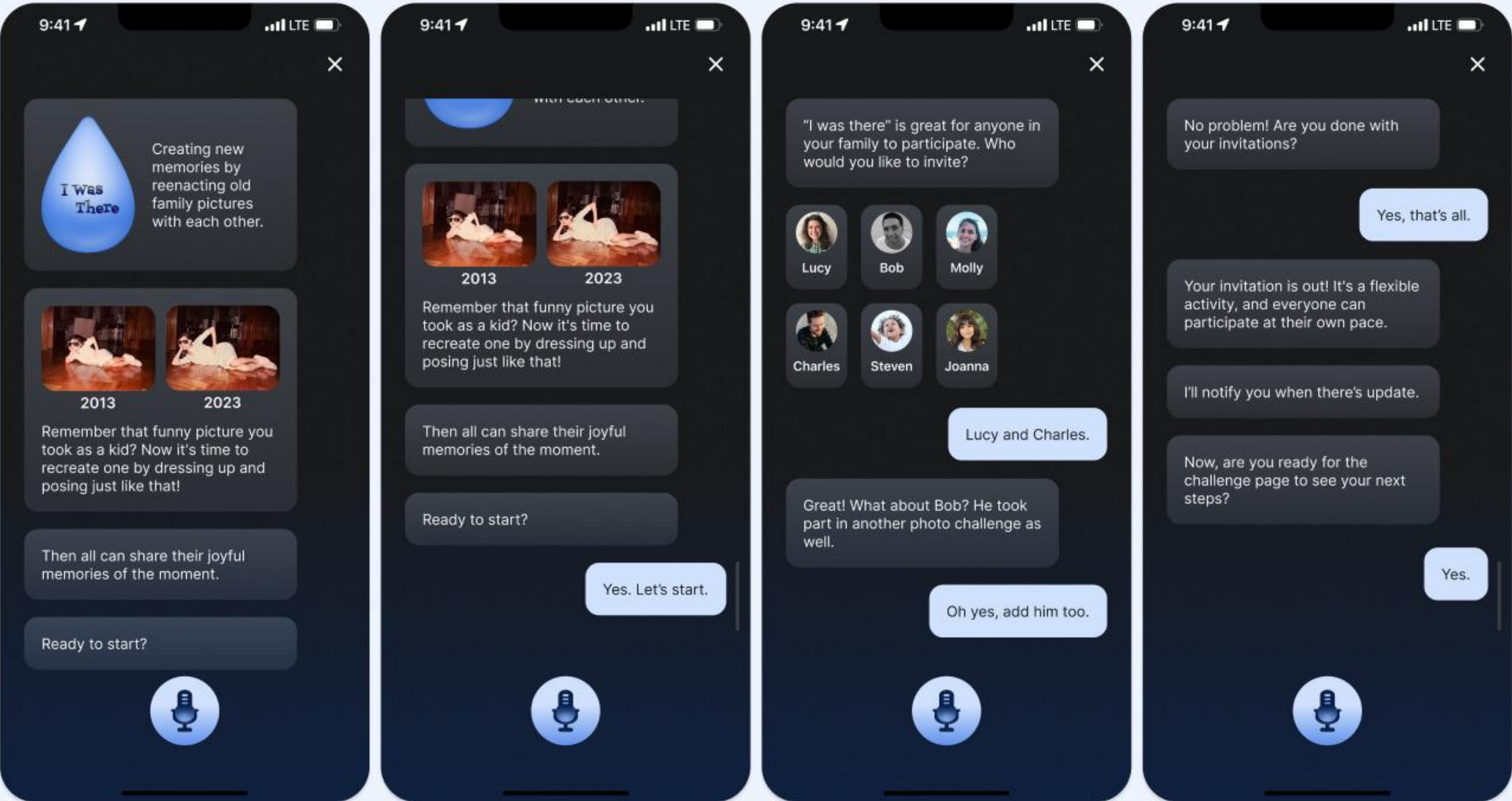## The elderly get family-activity inspirations from here.

Guided by Voice Assistant, the elderly make wishes to the wishing fountain, select "synchronous" or "asynchronous" family activities, and view activity details from the correspondingly released water droplets.

Good evening, Beth. Let's make a wish for a family challenge!

Choose a challenge type by saying "share the same moment" or "go at our own pace".

Good evening, Beth. Let's make a wish for a family challenge!

Choose a challenge type by saying "share the same moment" or "go at our own pace".

Share the same moment.

I was There

Activity intro & initiation

Voice Assistant guides the elderly to understand and initiate the family activity.

- Introduce activity information to the elderly through sound, text, and images for easy comprehension.
- Guide the elderly step by step in setting up activities.
- Offer personalized suggestions based on past records and family information.

Creating new memories by reenacting old family pictures with each other.

I was There

2013   2023

Remember that funny picture you took as a kid? Now it's time to recreate one by dressing up and posing just like that!

Then all can share their joyful memories of the moment.

Ready to start?

2013   2023

Remember that funny picture you took as a kid? Now it's time to recreate one by dressing up and posing just like that!

Then all can share their joyful memories of the moment.

Ready to start?

Yes. Let's start.

"I was there" is great for anyone in your family to participate. Who would you like to invite?

Lucy   Bob   Molly

Charles   Steven   Joanna

Lucy and Charles.

Great! What about Bob? He took part in another photo challenge as well.

Oh yes, add him too.

No problem! Are you done with your invitations?

Yes, that's all.

Your invitation is out! It's a flexible activity, and everyone can participate at their own pace.

I'll notify you when there's update.

Now, are you ready for the challenge page to see your next steps?

Yes.

Activity in progress - Asynchronous activity

## Users view activity details and complete the challenge with Voice Assistant

- Displays activity basics, rules, and participant progress.
- Voice Assistant is available for assistant at any time.

Voice Assistant guides step-by-step through completing the activity.

03

🕐 Multiple days
📅 Aug 14th-19th, 2023

Remember that funny picture you took as a kid? Now it's time to recreate one by dressing up and posing just like that!

Each participant is going to send an old photo and recreate a new one. Then all can share their joyful memories of the moment.

Me   Lucy   Bob   Charles

I Was There

Progress

Hi, Beth. It's time for you to upload an old photo of any of the participants.

Great! Who's in the photo and should recreate it?

Bob   Charles

I'll remind Bob and Charles to recreate the photo!

Any memories you'd like to share about the photo?

I Was There

Progress

Hi, Beth. Charles uploaded an old photo of you and needs your recreation!

Come back and upload anytime when you're ready!

Press " ⊕ " to upload anytime when you're ready!

Challenge completed

Personalized memories are generated after challenge completion, viewed anytime.

Designed with a "Nurturing the Family Garden" theme, this garden path features water droplets, each representing a family activity challenge. Water droplets collected along the path **nurtures the family garden of love and stores family activity memories.**
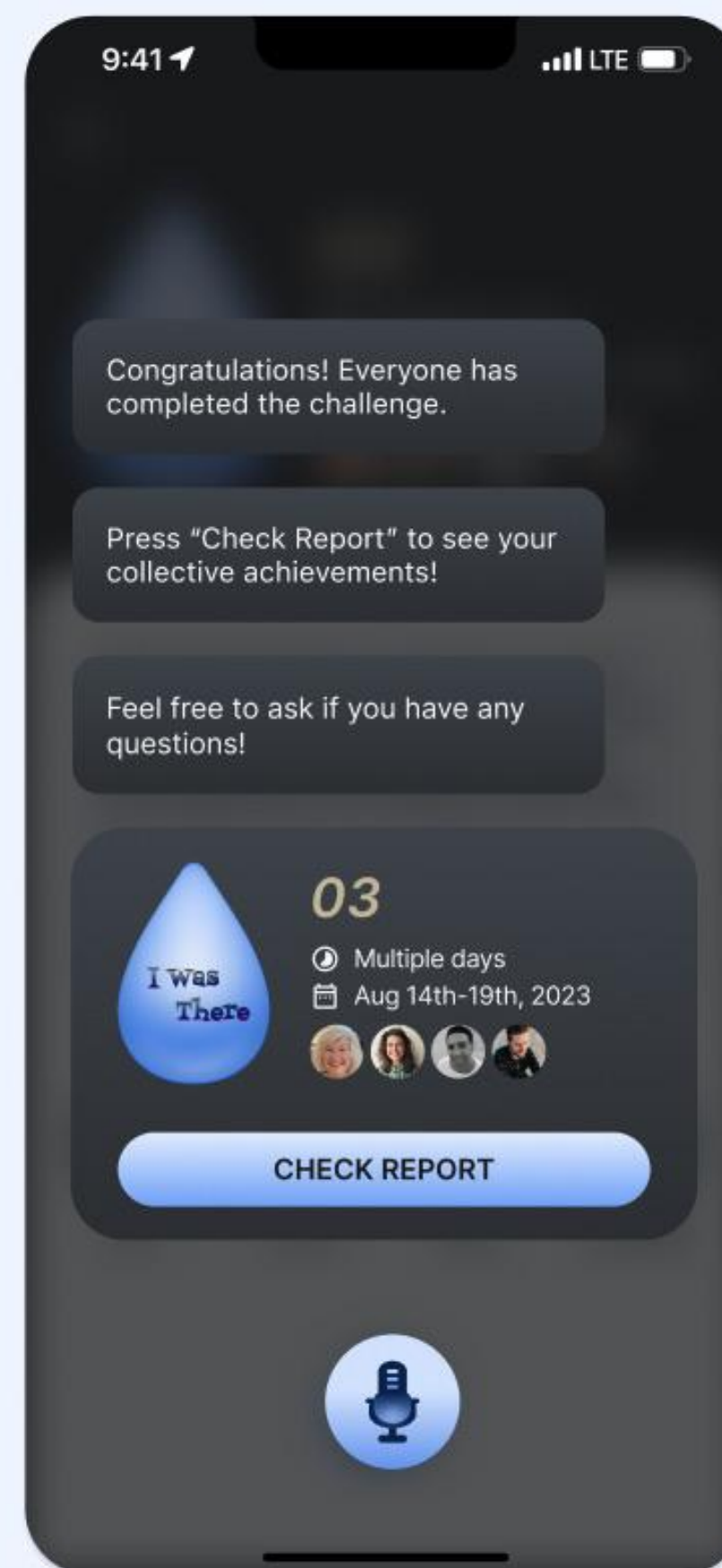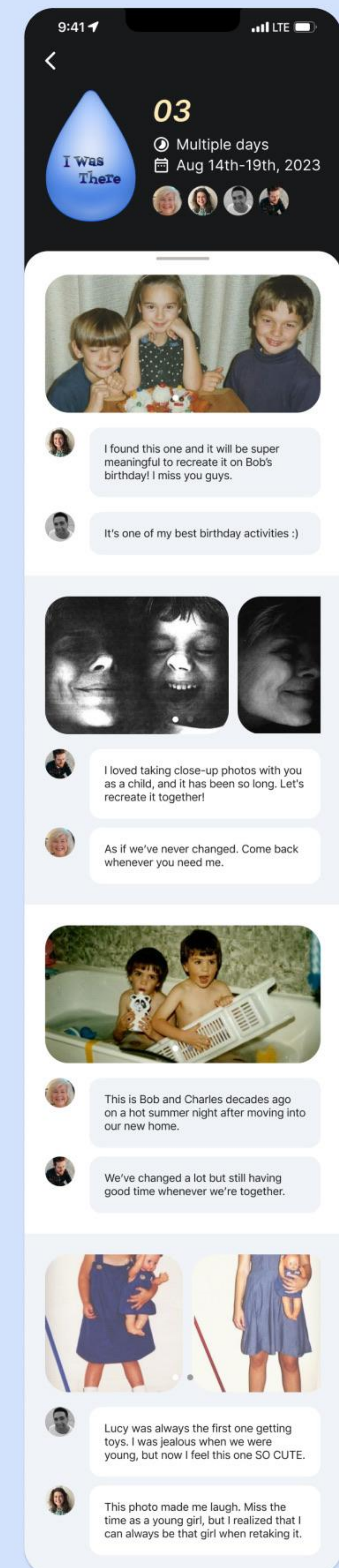

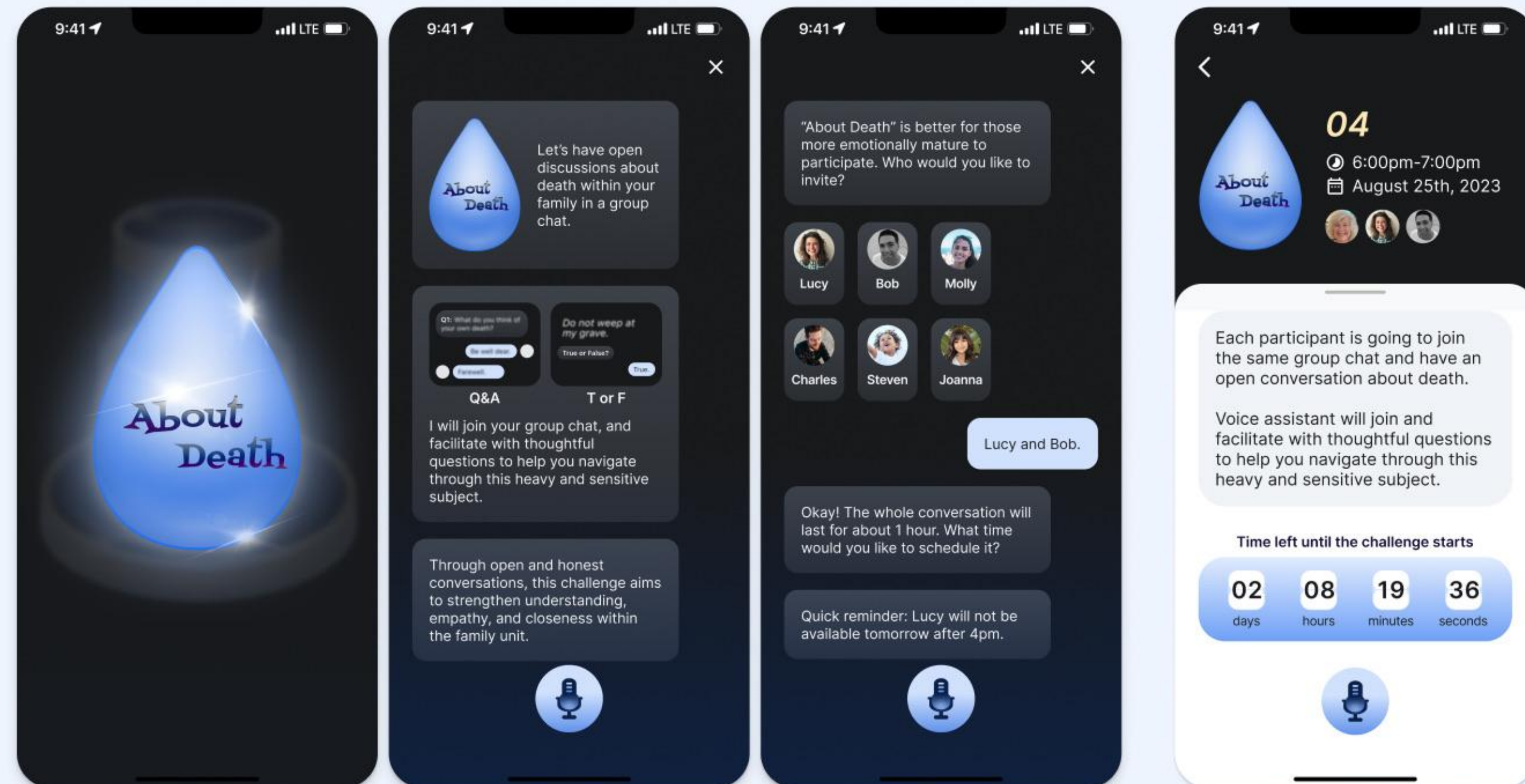*Create a unique activity report summarizing family achievements upon completion.*
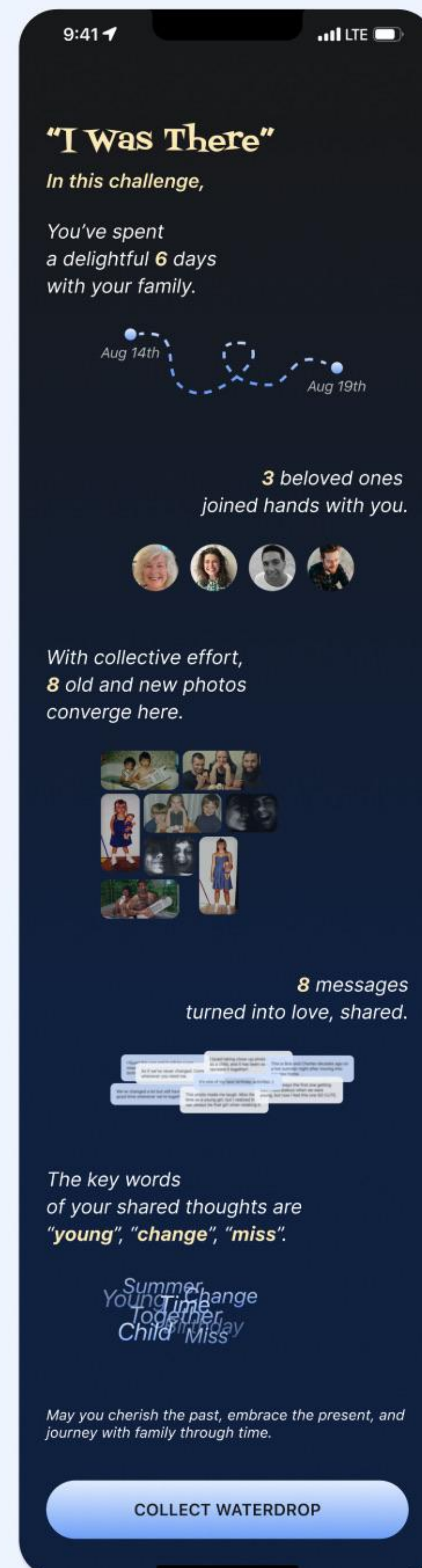
Completing a challenge collects a water droplet on the path.
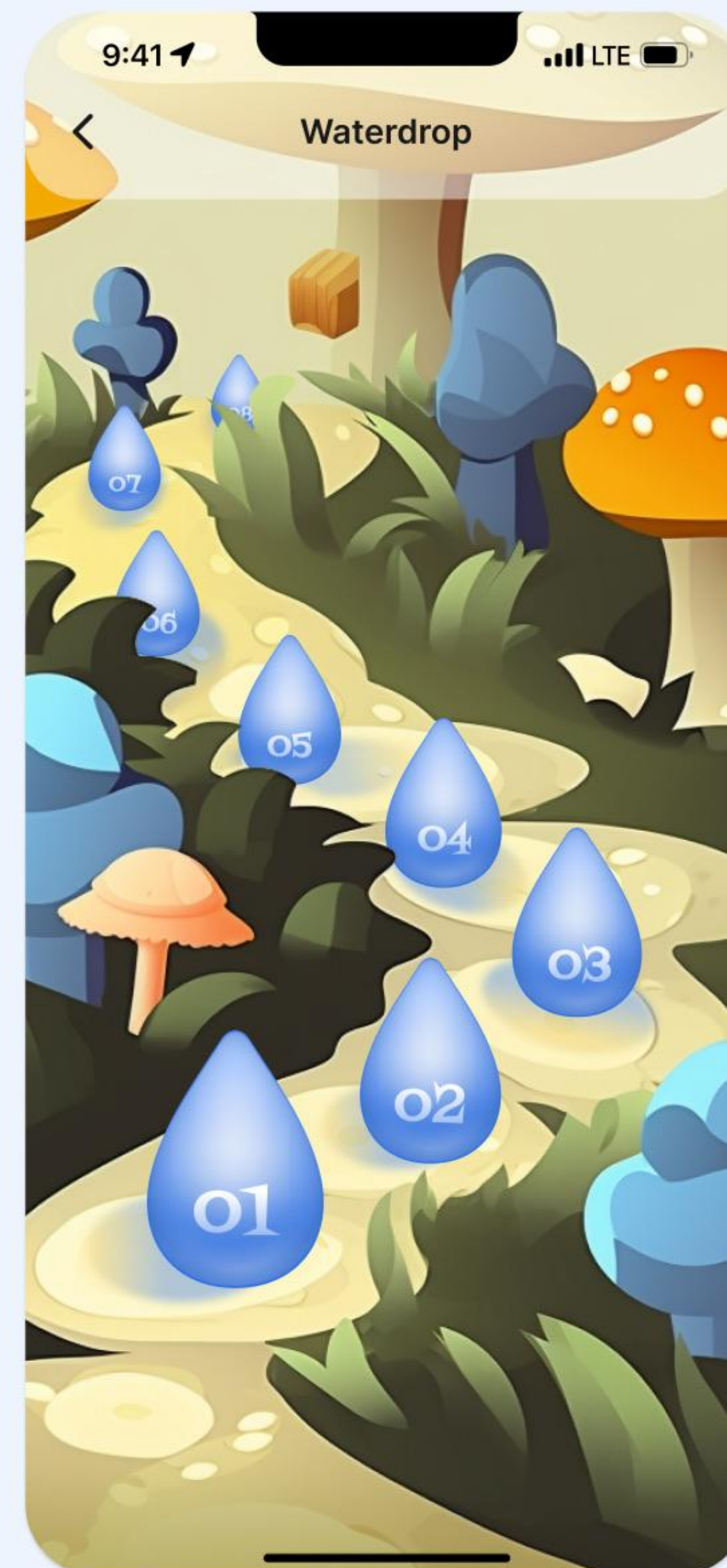
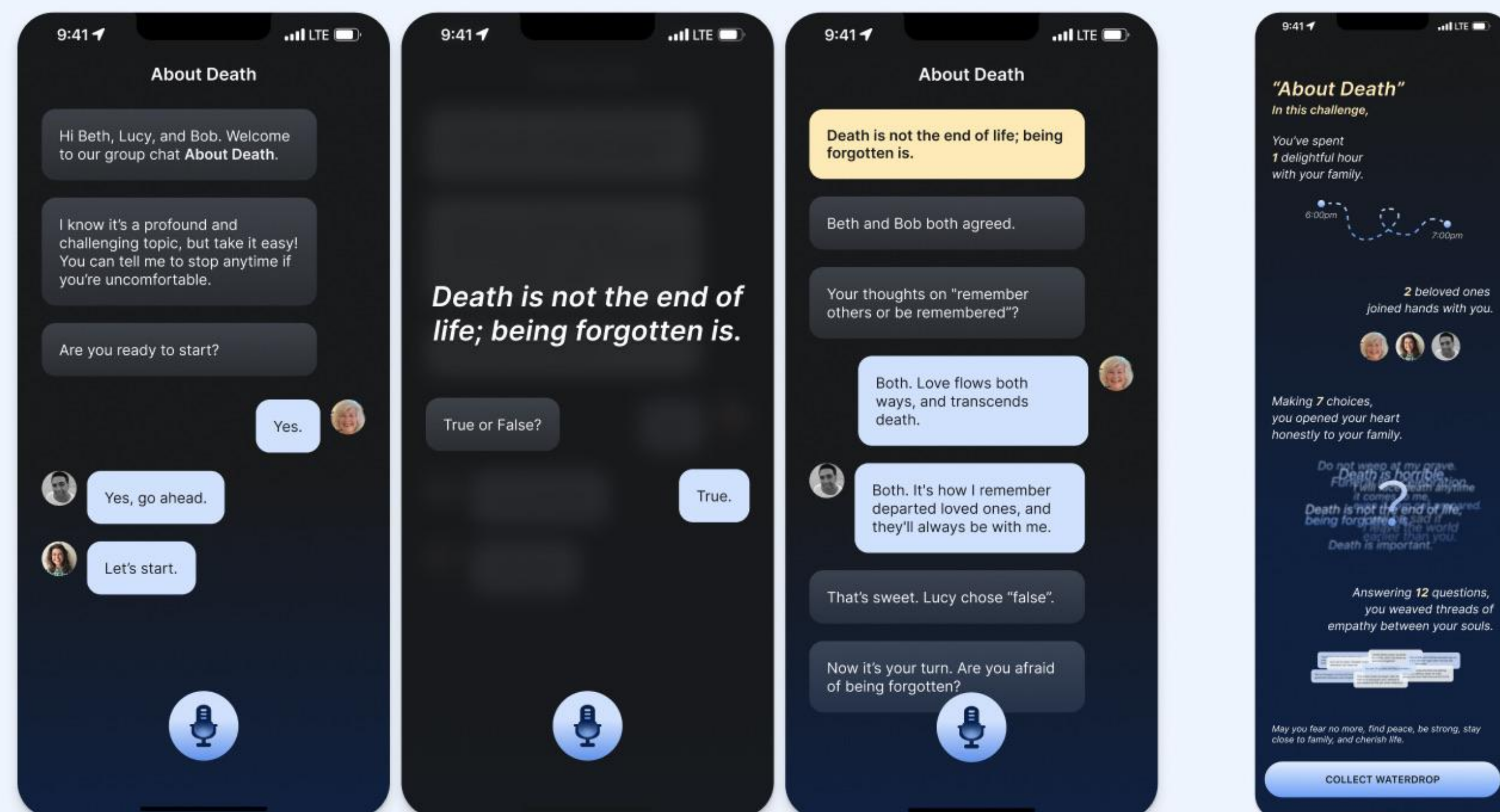*Accessing any water droplet reveals the corresponding memory record.*

Synchronous activity

Activity intro and initiation - personalized suggestions

Countdown - awaiting start

Activity in progress - participants in the same group chat

Report - unique to the activity

The Voice assistant is always ready to assist.

- The elderly can seek guidance with any operation problems.
- As depicted in the image, the voice assistant is asked to search for specific activities.