



# MEMORIARY

Team Project Final

19100720 Kim Siheon  
19102090 Park Hyunseo  
20102117 Lee Jeonghyeon

# CONTENTS

**01. Application Name**

**02. Role & Responsibilities**

**03. Application Features**

**04. Technical Methodology**

**05. Demonstrations**

**06. GitHub**

01

APPLICATION NAME.

# AGING POPULATION

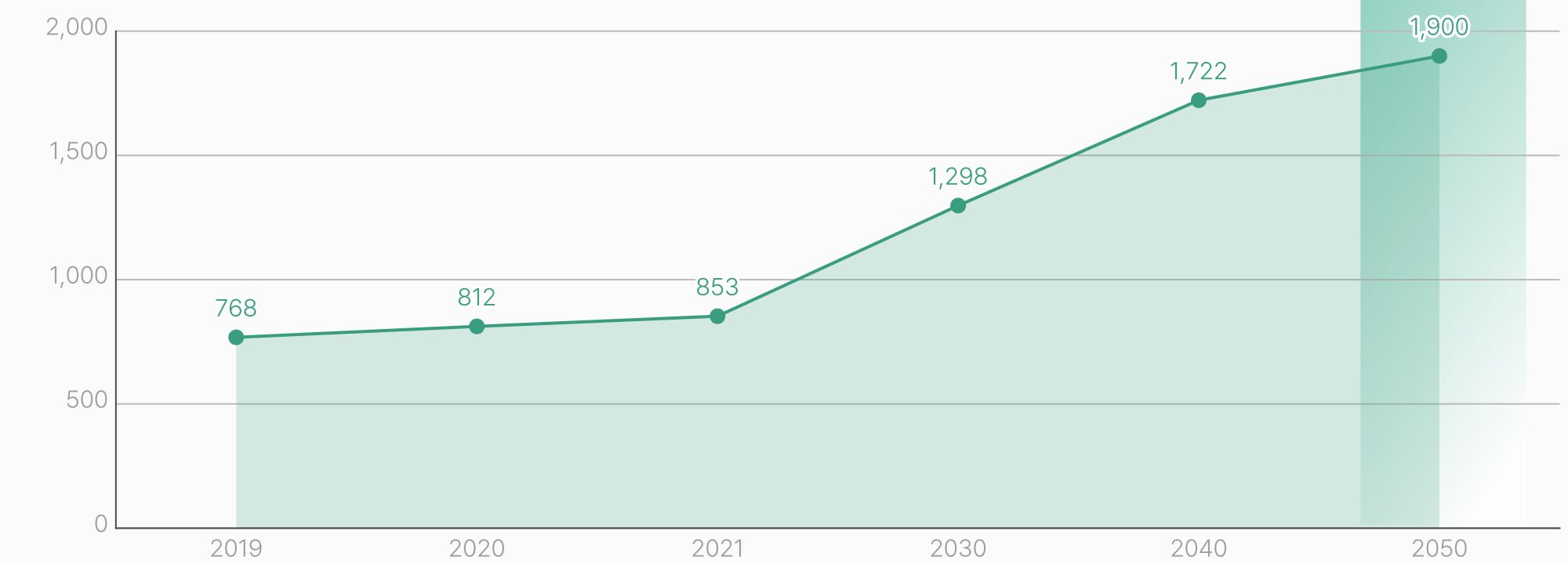
## ENTERING THE ERA OF AGING SOCIETY

Korea is currently in the preliminary stages of transitioning into a **super-aging society**. This transition signifies a growing proportion of individuals aged 65 and above, with expectations of an even more rapid increase in the future.

Among the elderly population, there is a noticeable increase in those experiencing **difficulties in their daily lives due to dementia**



### TRENDS IN THE POPULATION AGED 65 OR OLDER



<https://www.100ssd.co.kr/news/articleView.html?idxno=81109>

***Emphasizing the need for effective management and support.***

01

APPLICATION NAME

# #MEMORIARY

MEMORY + DIARY

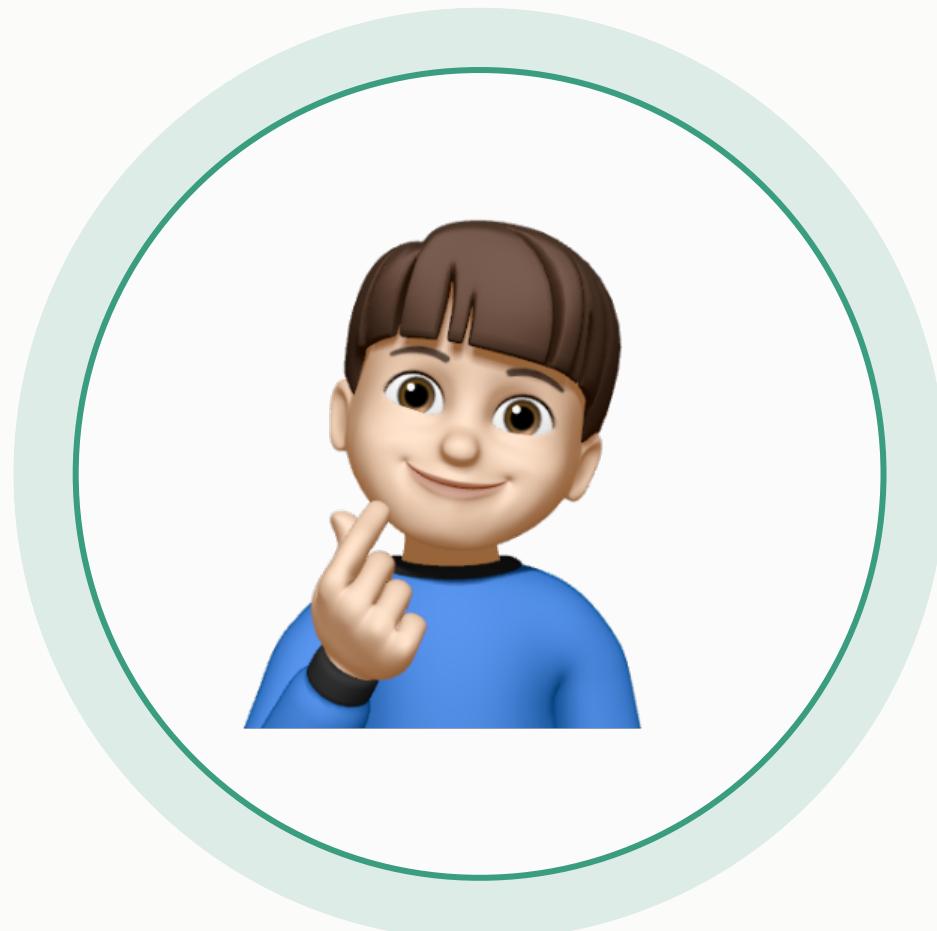
*The aim is to prevent the elderly  
from losing their memory by using a Diary.*



**02**  
ROLE &  
RESPONSIBILITIES.

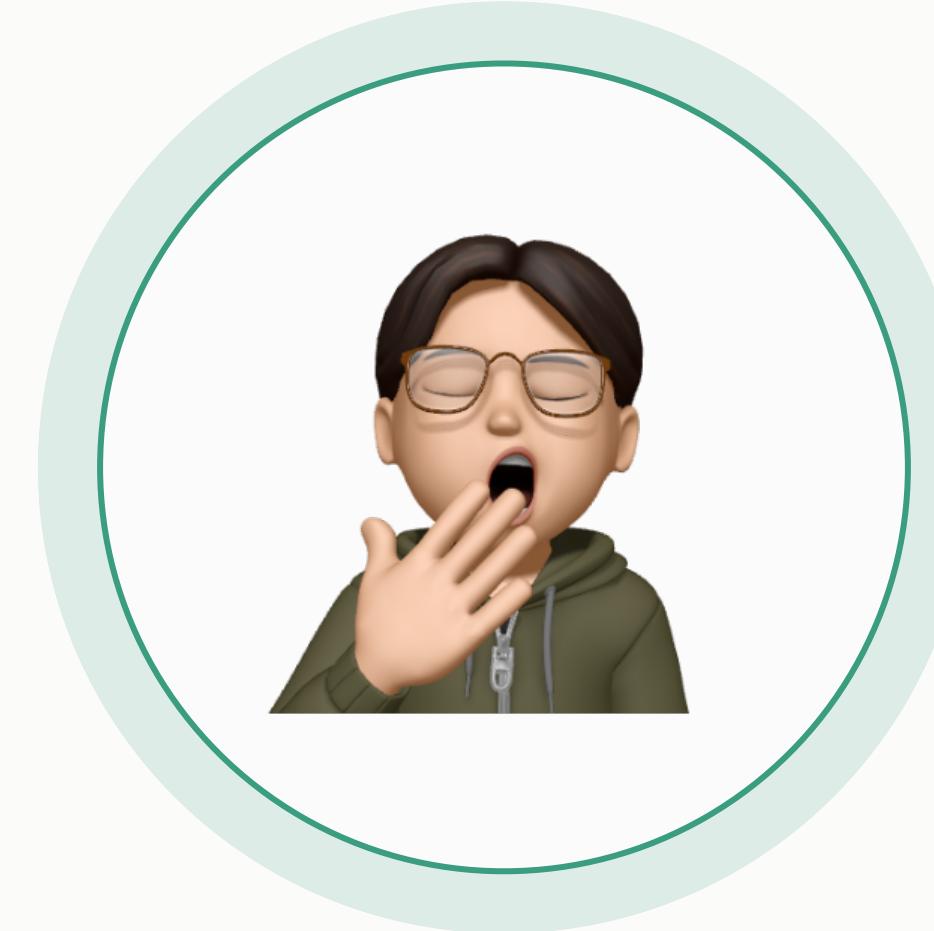
# MEMORIARY

## OUR TEAM MEMBER



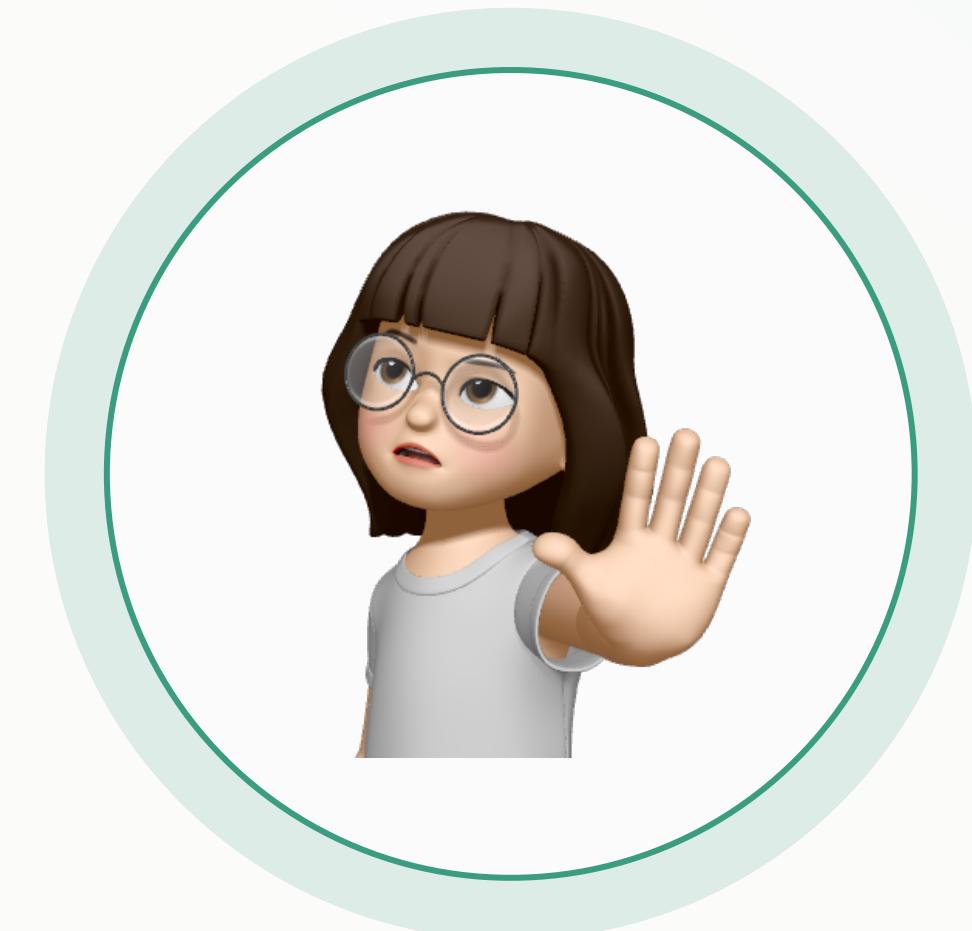
**Kim Siheon**

App development:  
Quiz, My page, Nav Bar



**Park Hyunseo**

App development:  
Diary, Exercise



**Lee Jeonghyeon**

App development:  
Todo, Membership

**03**  
FEATURES

# MEMORIARY

A DAILY APPLICATION TO PREVENT DEMENTIA IN THE ELDERLY

## Diary



- Diary & To-Do List
- Memory Retention Quizzes

## Exercising



- Promotion Physical and Cognitive Health
- Exercise Options

## 03 FEATURES

# MEMORIARY

WHAT DO WE NEED?



Karlo API



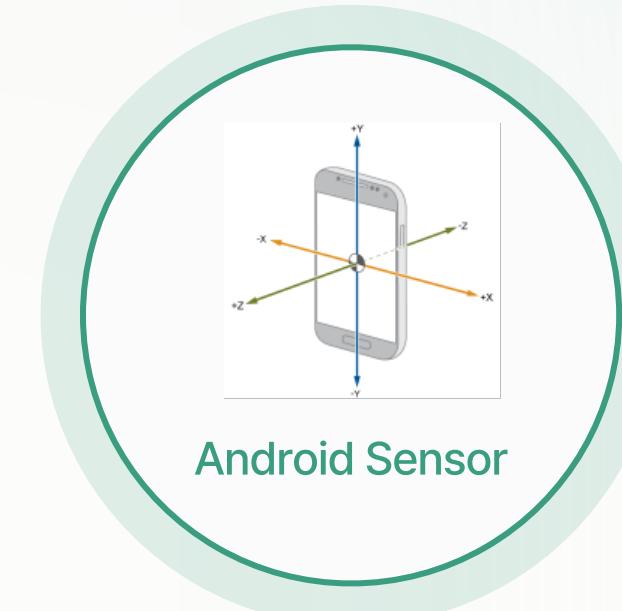
TTS/STT



MySQL



GPT API

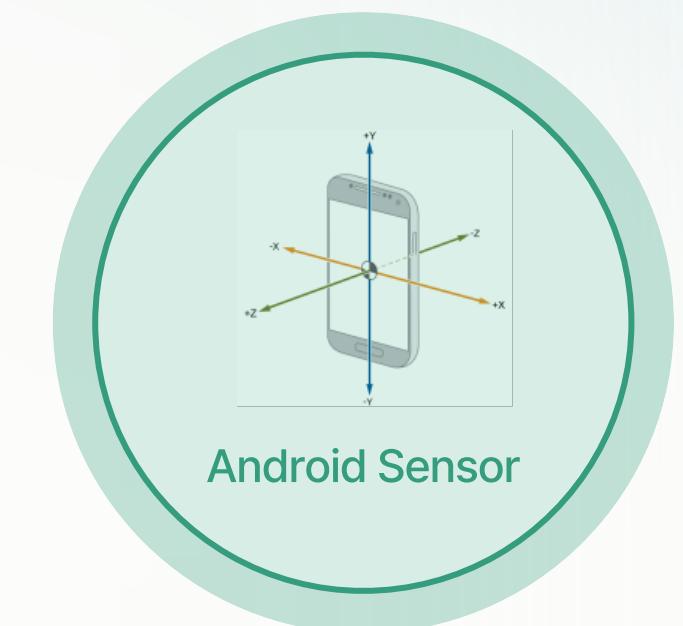
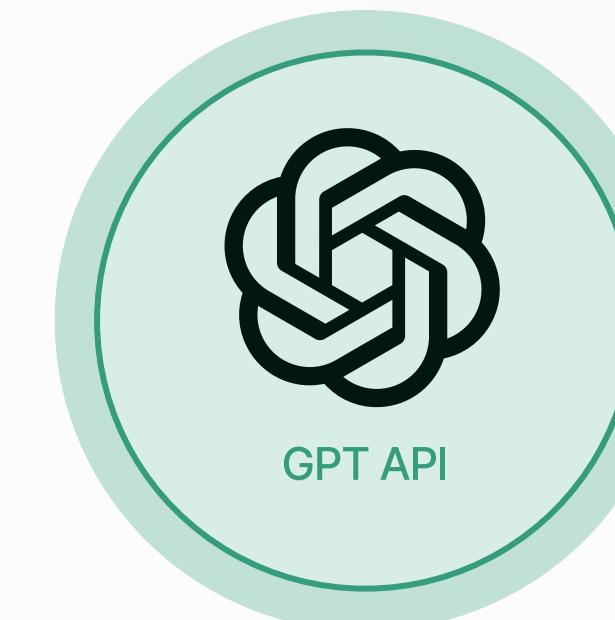
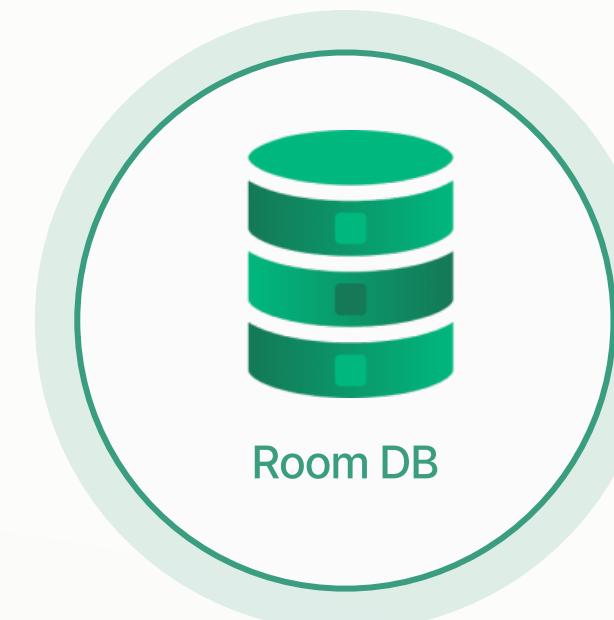


Android Sensor

## 03 FEATURES

# MEMORIARY

WHAT DO WE USED?



# 03

## FEATURE

# MEMBERSHIP

## SIGN UP, SIGN IN

- **Sign-in with ID & Password**
  - Enter your user ID and password to log in to your account.
- **Go to Sign Up Page**
  - Click here to proceed to the sign-up page.
  - During the sign-up process, please provide your name, birth date, user ID, password, and agree to the terms and conditions.
- **Completed Sign Up**
  - After successfully creating a member account, you will receive a confirmation message in a pop-up.
  - Once you've completed the sign-up process, you can return to the sign-in page.

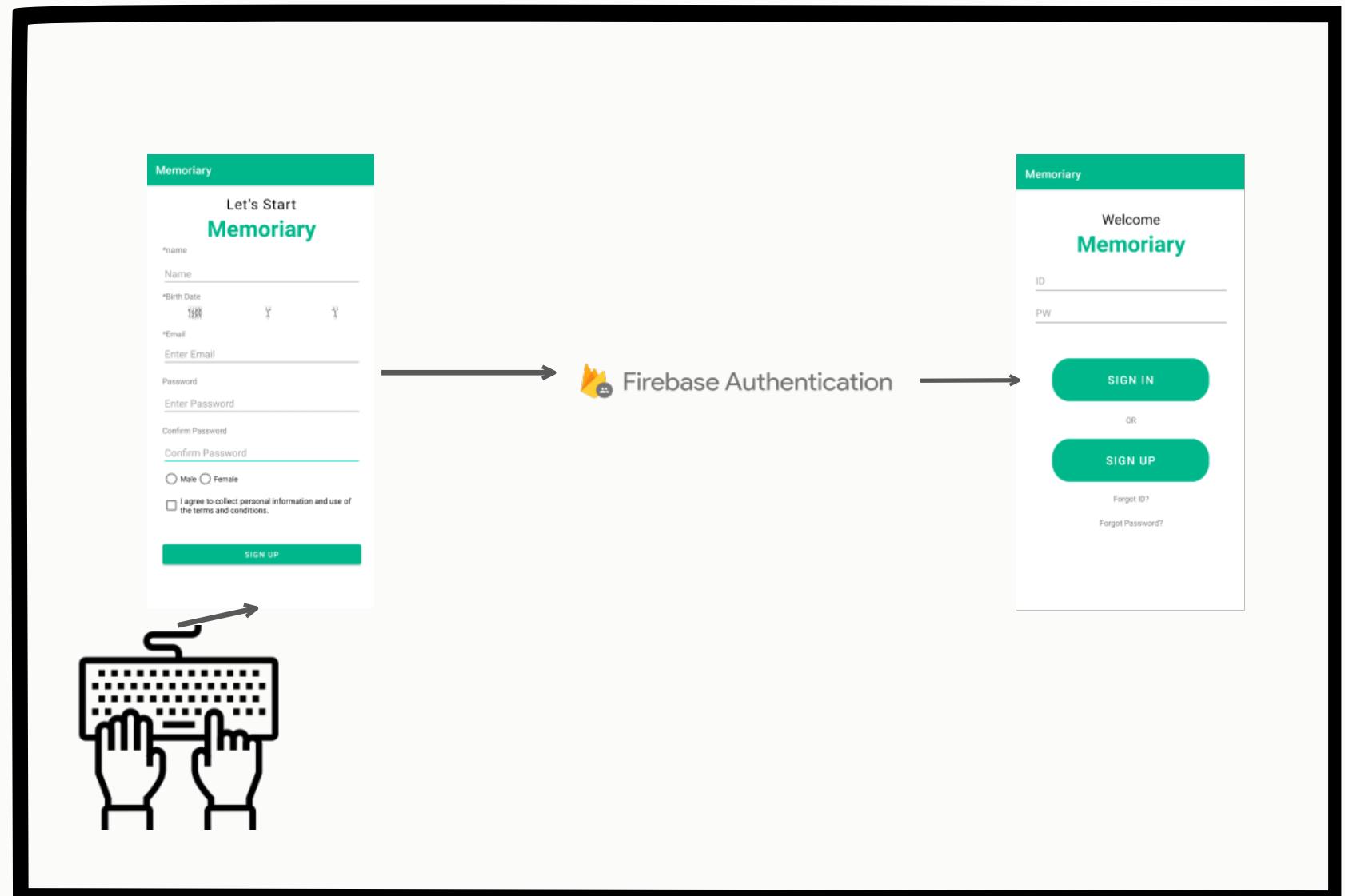
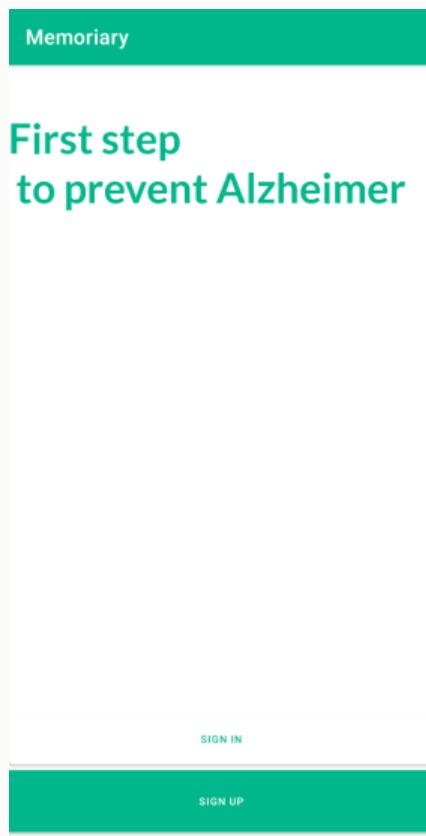
The image displays three screenshots of the Memoriary mobile application interface:

- Left Screenshot (Sign-In):** Shows the "SIGN IN" button at the top and "SIGN UP" at the bottom.
- Middle Screenshot (Sign-Up Step 1):** Displays the heading "First step to prevent Alzheimer". It includes fields for Name, Birth Date (with dropdown menus for year, month, and day), Email, Password, Confirm Password, Gender selection (Male/Female), and a checkbox for agreeing to terms and conditions. A "SIGN UP" button is at the bottom.
- Right Screenshot (Sign-Up Step 2):** Shows the heading "Let's Start Memoriary". It includes fields for Name, Birth Date (with dropdown menus for year, month, and day), Email, Password, Confirm Password, Gender selection (Male/Female), and a checkbox for agreeing to terms and conditions. It also includes "SIGN IN" and "SIGN UP" buttons, as well as links for "Forgot ID?" and "Forgot Password?".

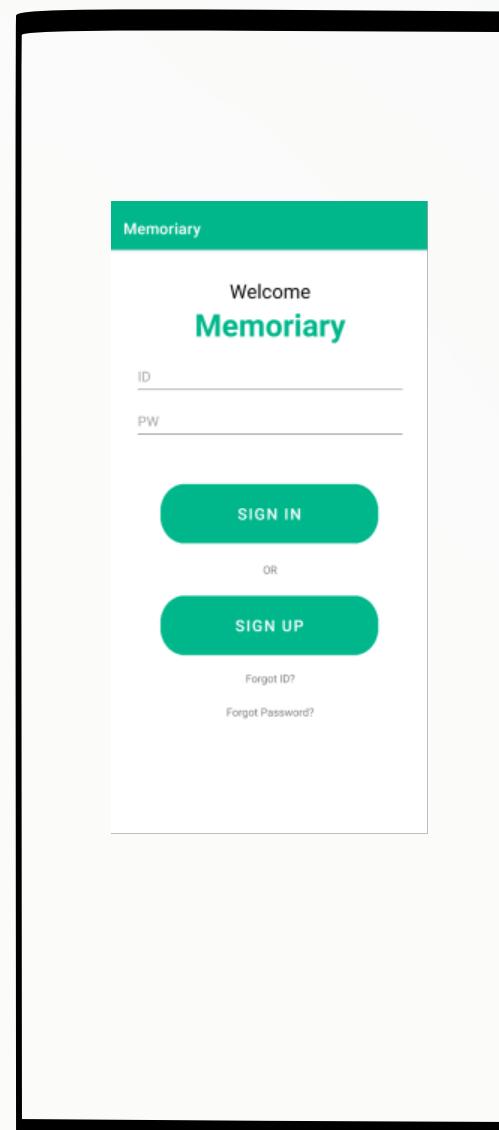
03

FEATURE

# MEMBERSHIP



Sign Up



Sign In

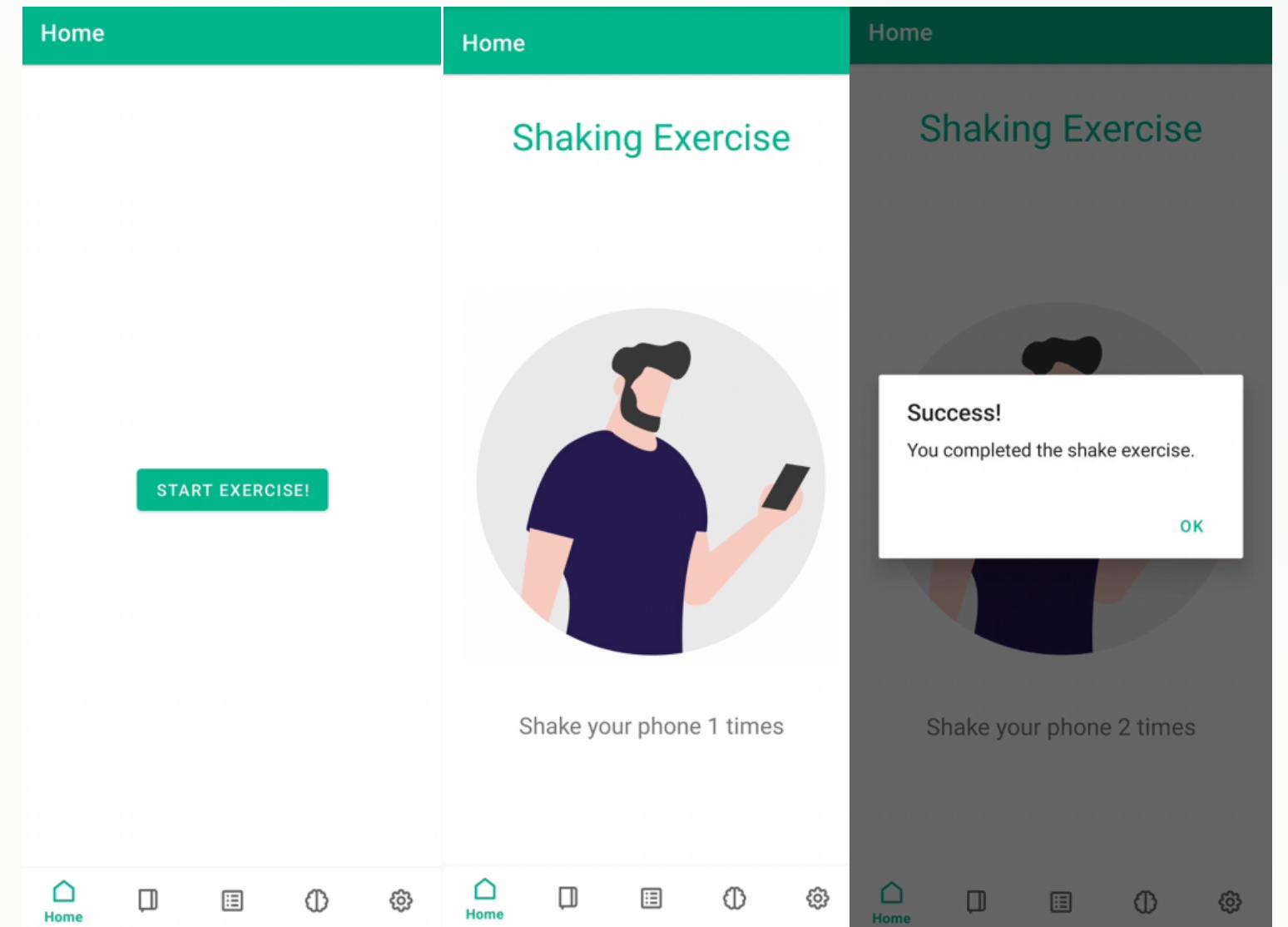
03

FEATURE

# EXERCISE

## FOLLOWING THE INSTRUCTION

- **Phone shaking exercise**
  - The service gives an instruction to the user regarding shaking phone exercise
  - User has to follow the instruction to be successful on the exercise
  - When the user successfully completes the exercise, the user will be notified by the dialog popup that it was successful

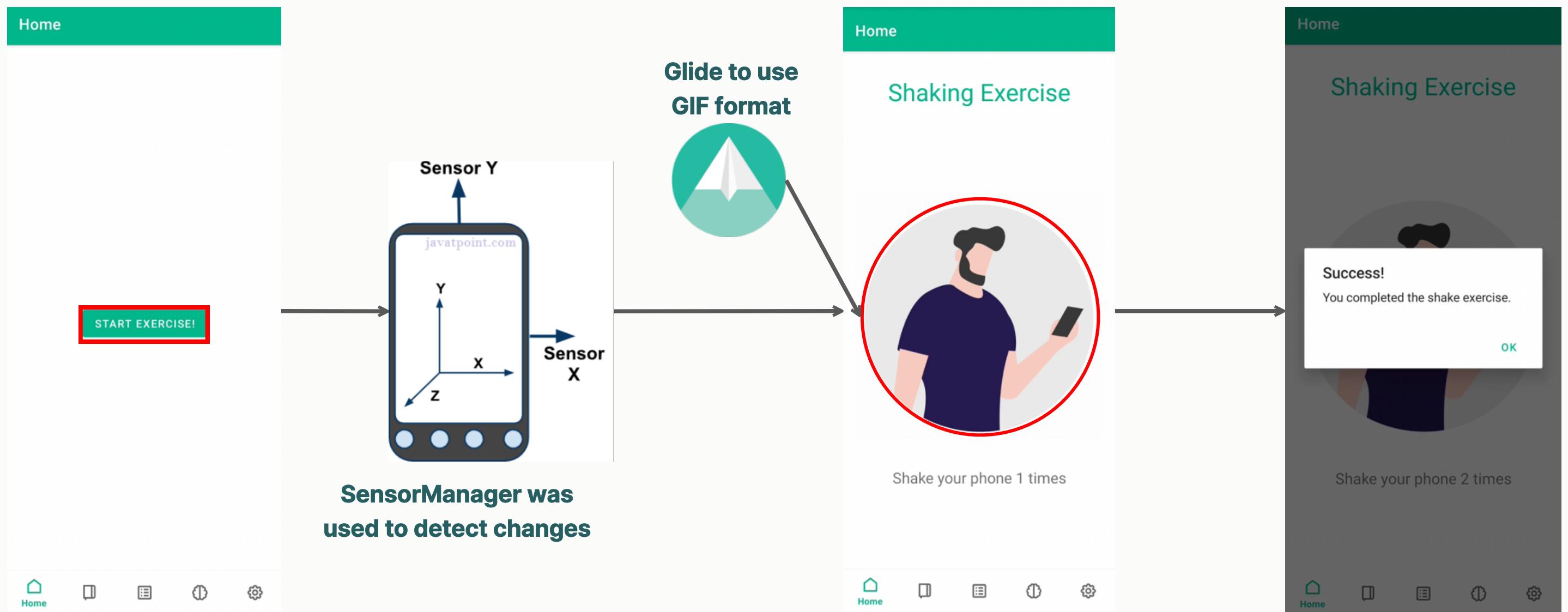


**03**

FEATURE

# EXERCISE

## FOLLOWING THE INSTRUCTION



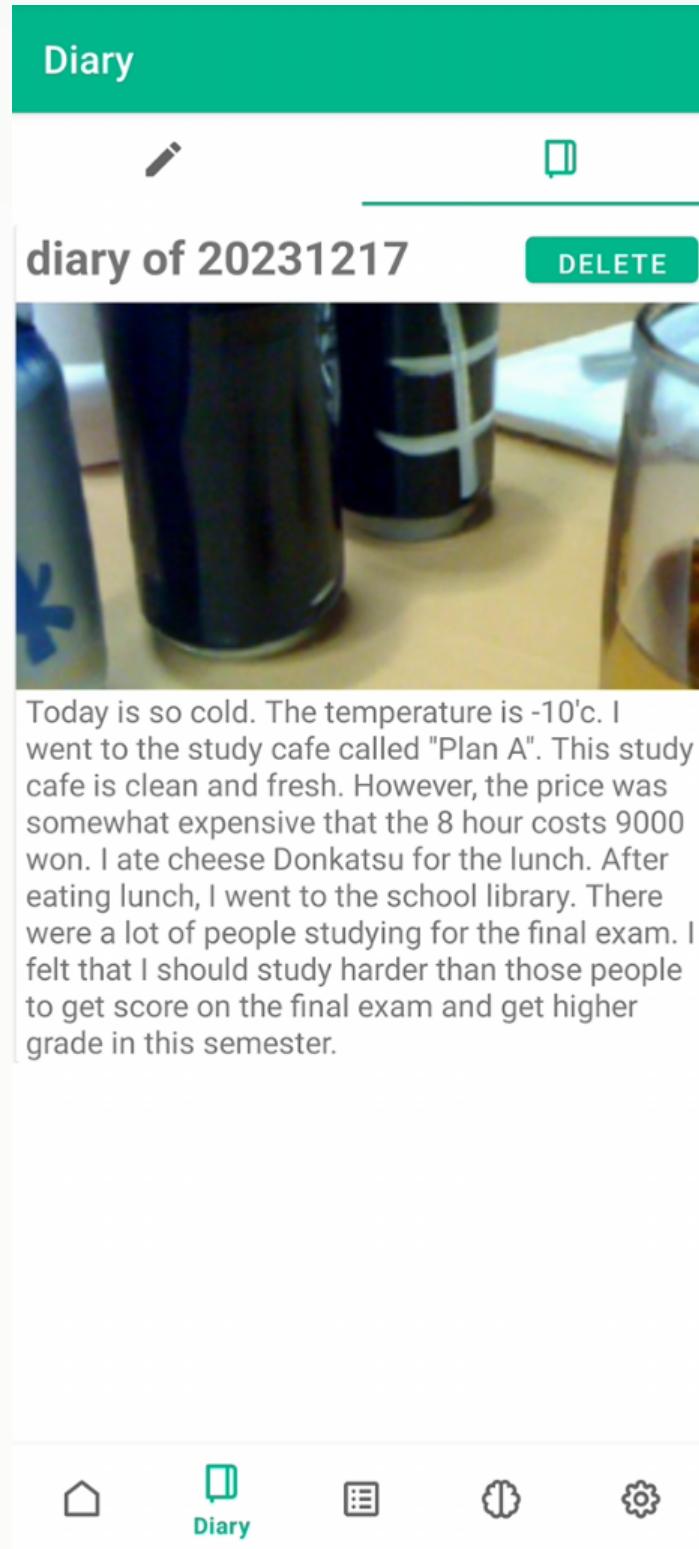
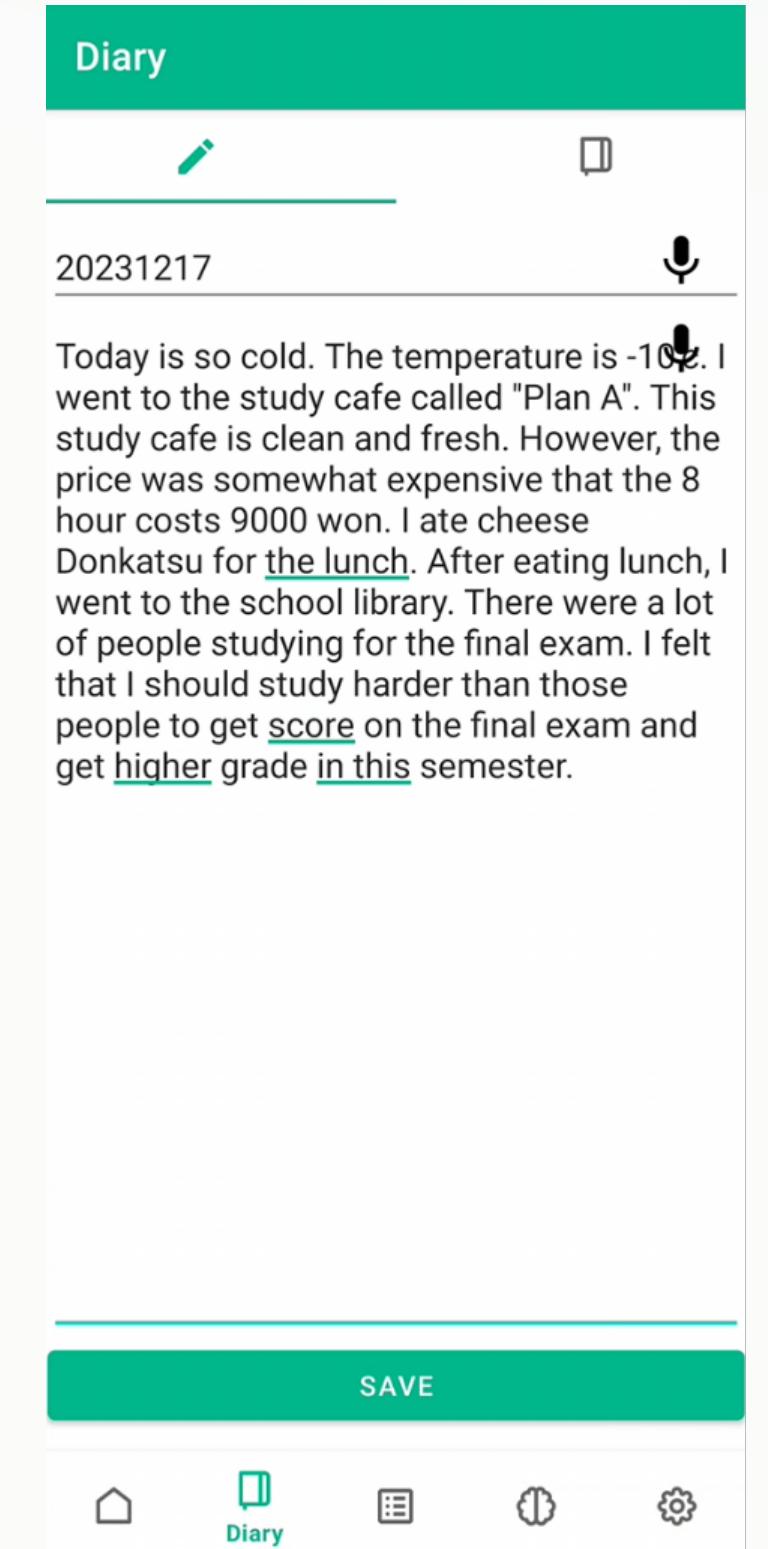
## 03

## FEATURE

# DIARY

## WRITE DOWN DIARY

- **Typing for Diary Entries**
  - Traditional Typing Users have the option to type their diary entries for a more conventional approach to journaling.
- **Voice Recognition for Diary Entries**
  - Voice Input Recognizing that some seniors may face typing challenges, our app allows users to speak their diary entries, transcribed using Speech-to-Text (STT) technology.
- **Visual Enhancement with OpenAI DALL-E2 API**
  - Diary Thumbnails To make diary entries more visually engaging and memorable, our app incorporates the Karlo API, automatically generating captivating thumbnails for each diary entry.

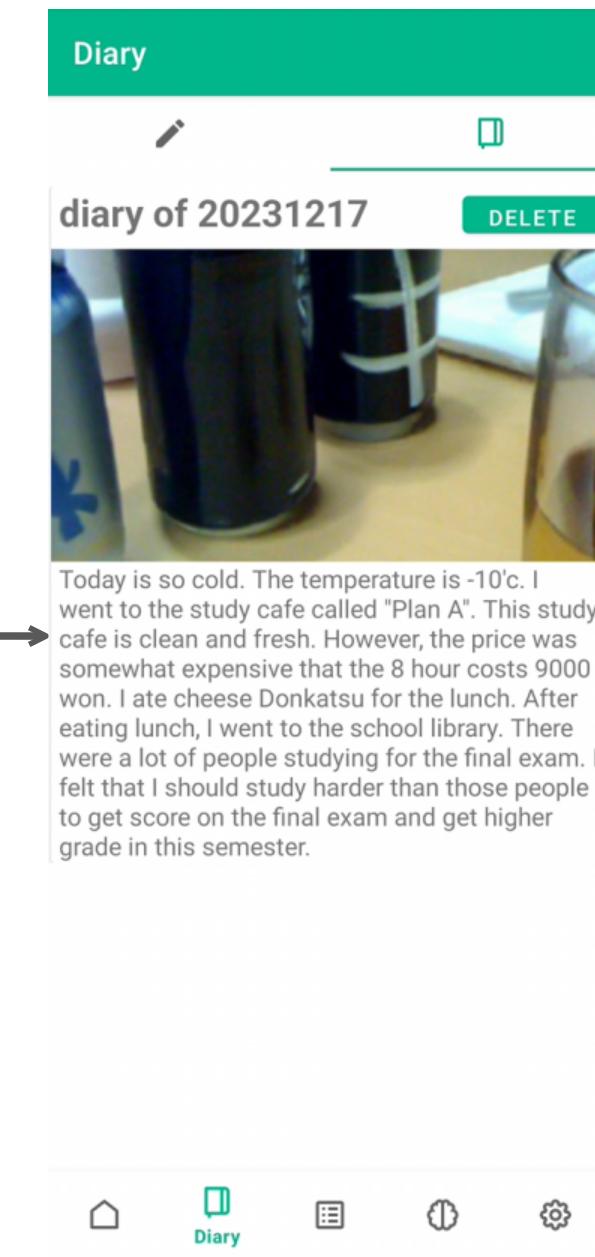
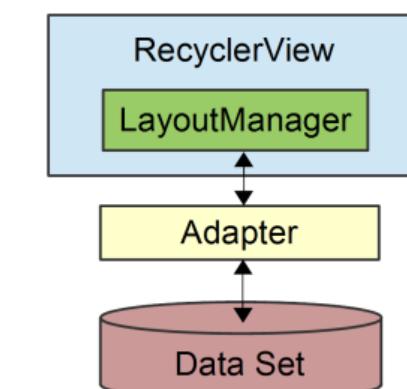
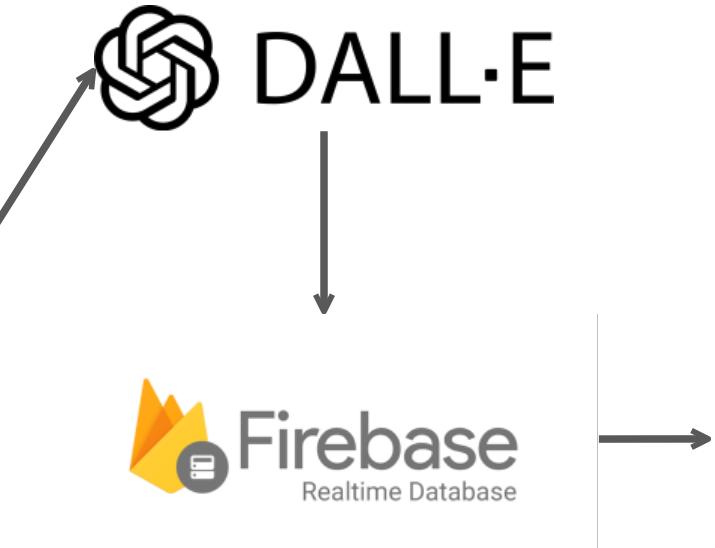
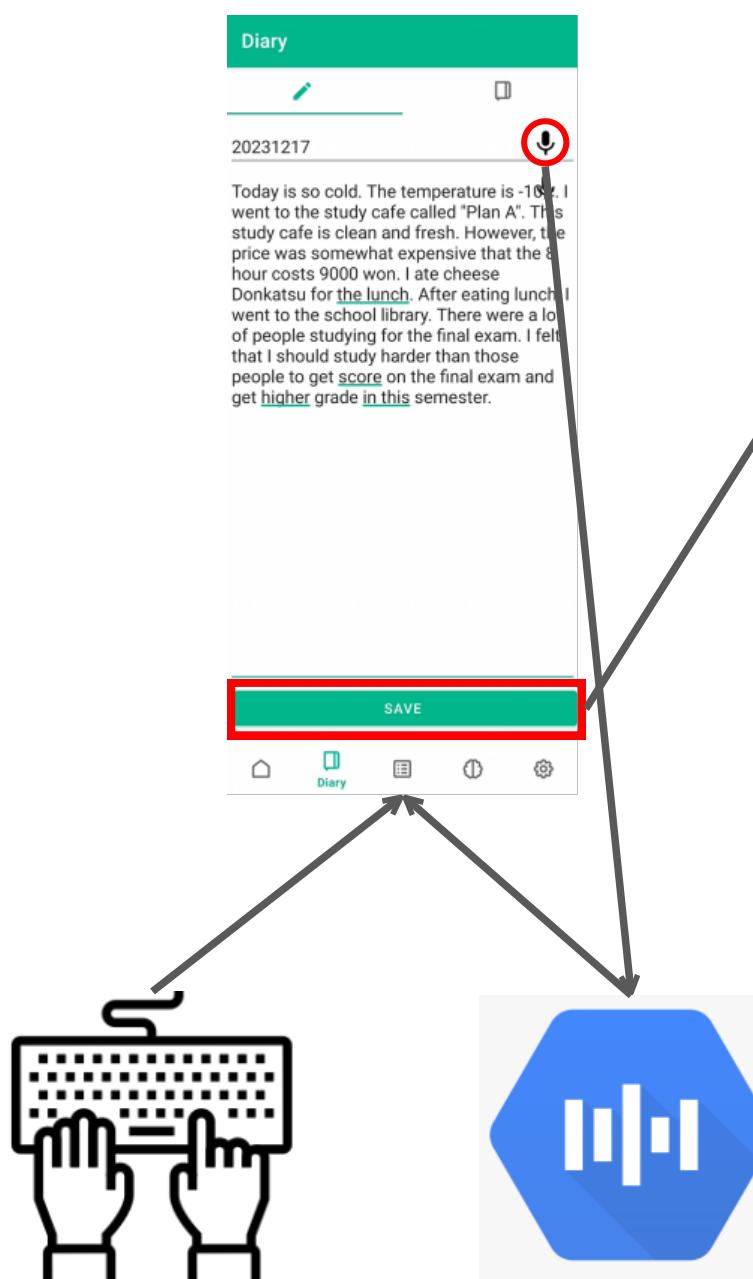


# 03

## FEATURE

# DIARY

## WRITE DOWN DIARY



# 03

## FEATURE

# QUIZ

## GENERATE QUIZ BASED ON THE DIARY

- **Open AI API used for Quiz Generation**

- Based on the contents of today's diary, three questions are generated.
- The correct answer is also set with respect to each question.

- **Generated Questions**

- Q1) Select one correct answer among five choices.
- Q2) Select one incorrect answer among five choices.
- Q3) Given expression is true or false?

- **Grading the answer**

- User's answer would be graded through the correct answer.

### Memriary

#### Today's Diary

Today is so cold. The temperature is -10'c. I went to the study cafe called "Plan A". This study cafe is clean and fresh. However, the price was somewhat expensive that the 8 hour costs 9000 won. I ate cheese Donkatsu for the lunch. After eating lunch, I went to the school library. There were a lot of people studying for the final exam. I felt that I should study harder than those people to get score on the final exam and get higher grade in this semester.

### Quiz

#### Question 1

What is the name of the study cafe that the author visited?

1. Plan B
2. Study Zone
3. Fresh Cafe
4. Plan A
5. Study A

1  2  3  4  5

#### Question 2

Which of the following statements is not true about the author's day?

1. The author went to a study cafe.
2. The author had cheese Donkatsu for lunch.
3. The temperature was -10'c.
4. The author went to a movie theater.
5. The author visited the school library.

### Memriary

#### Question 1

What is the name of the study cafe that the author visited?

1. Plan B
2. Study Zone
3. Fresh Cafe
4. Plan A
5. Study A

1  2  3  4  5

#### Question 2

Which of the following statements is not true about the author's day?

1. The author went to a study cafe.
2. The author had cheese Donkatsu for lunch.
3. The temperature was -10'c.
4. The author went to a movie theater.
5. The author visited the school library.

1  2  3  4  5

#### Question 3

The author felt that they didn't need to study hard for the final exam.

True  False

SUBMIT

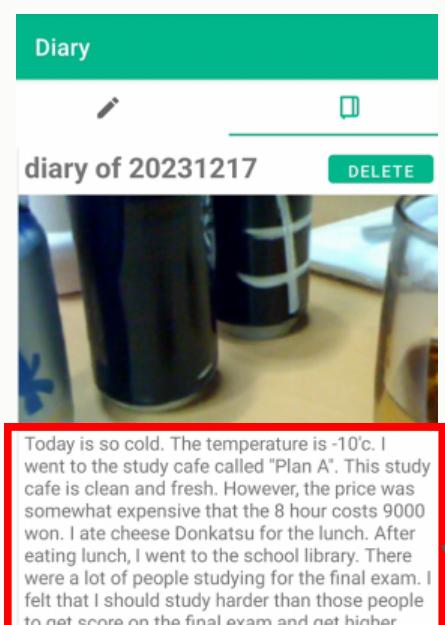
Q1 correct  
Q2 correct  
Q3 correct

## 03

## FEATURE

# QUIZ

## GENERATE QUIZ BASED ON THE DIARY



# ChatGPT

## Memoriary

**Question 1**

What is the name of the study cafe that the author visited?

1. Plan B
2. Study Zone
3. Fresh Cafe
4. Plan A
5. Study A

1  2  3  4  5

**Question 2**

Which of the following statements is not true about the author's day?

1. The author went to a study cafe.
2. The author had cheese Donkatsu for lunch.
3. The temperature was -10c.
4. The author went to a movie theater.
5. The author visited the school library.

1  2  3  4  5

**Question 3**

The author felt that they didn't need to study hard for the final exam.

True  False

SUBMIT

Q1 correct  
Q2 correct  
Q3 correct

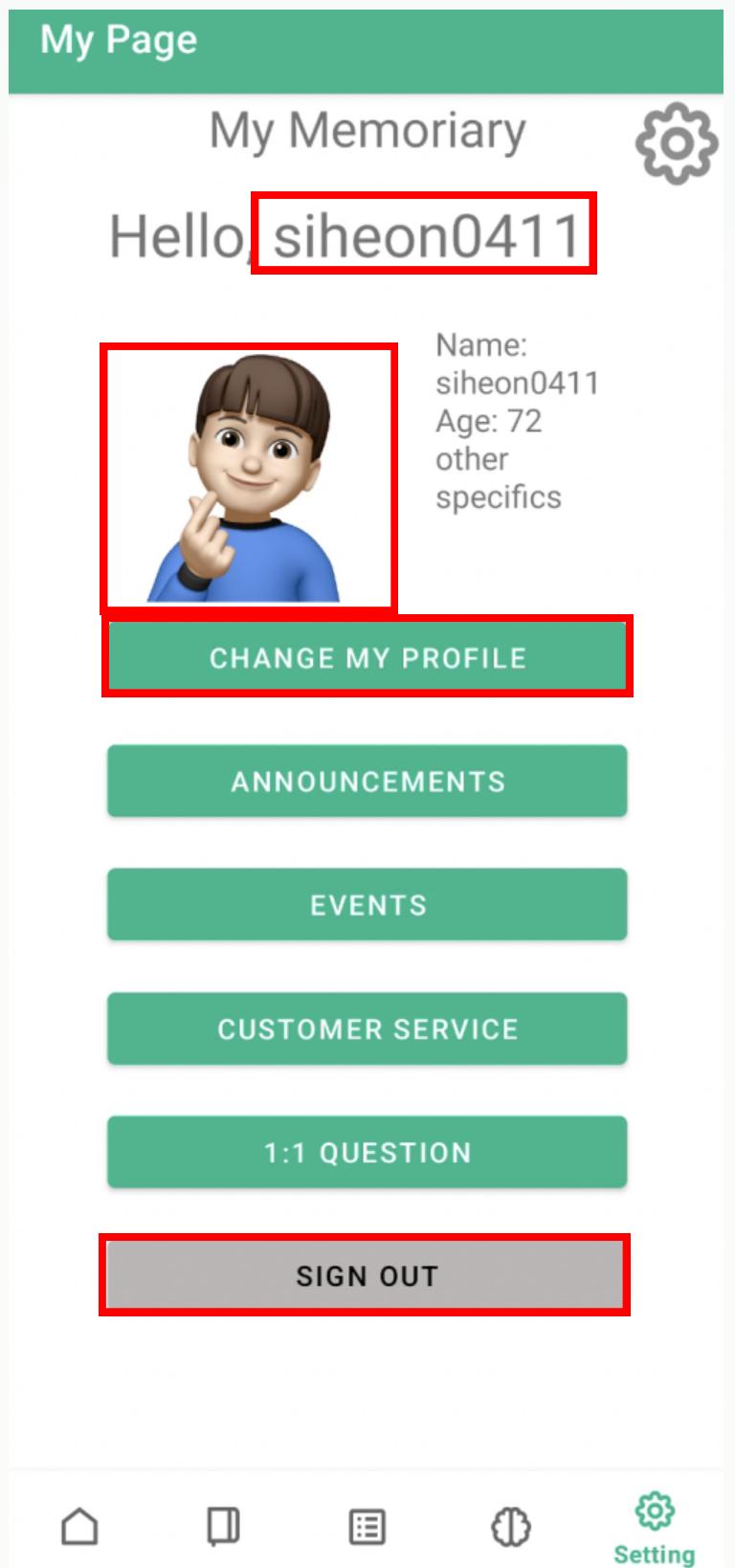
## 03

## FEATURE

# MY PAGE

## PERSONAL INFORMATION IS INCLUDED

- **User information**
  - User's name is appeared.
  - User's profile picture is appeared
- **Change user's profile picture**
  - User can change the profile picture.
- **Sign out (Log-out)**
  - User can sign out the application.

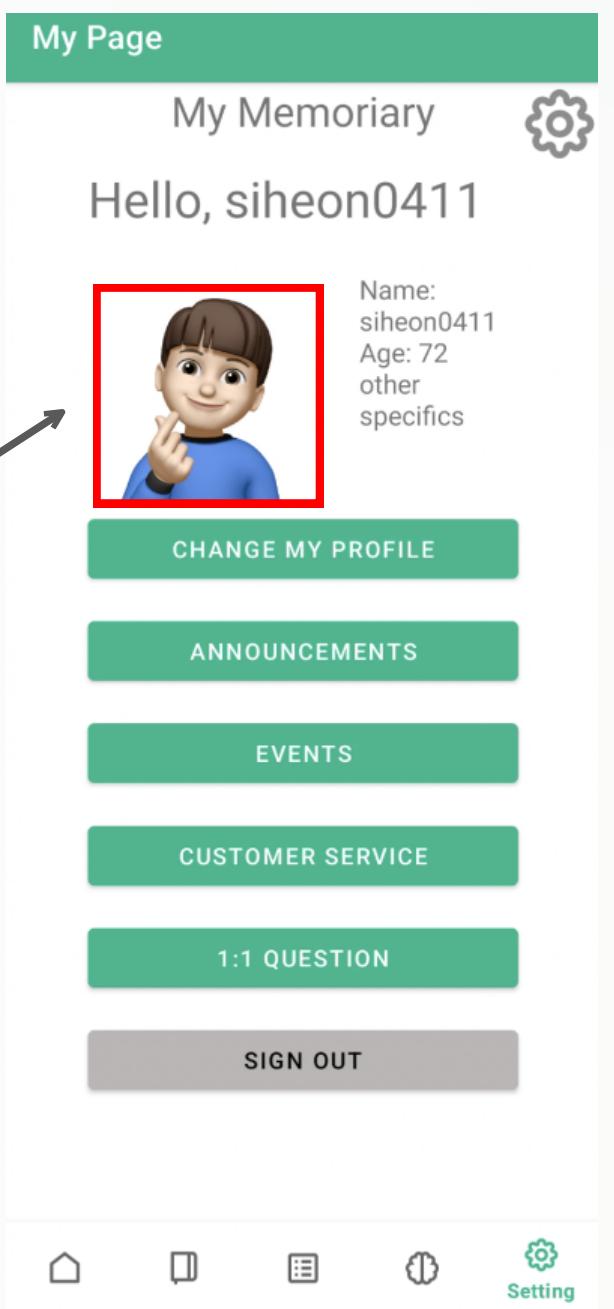
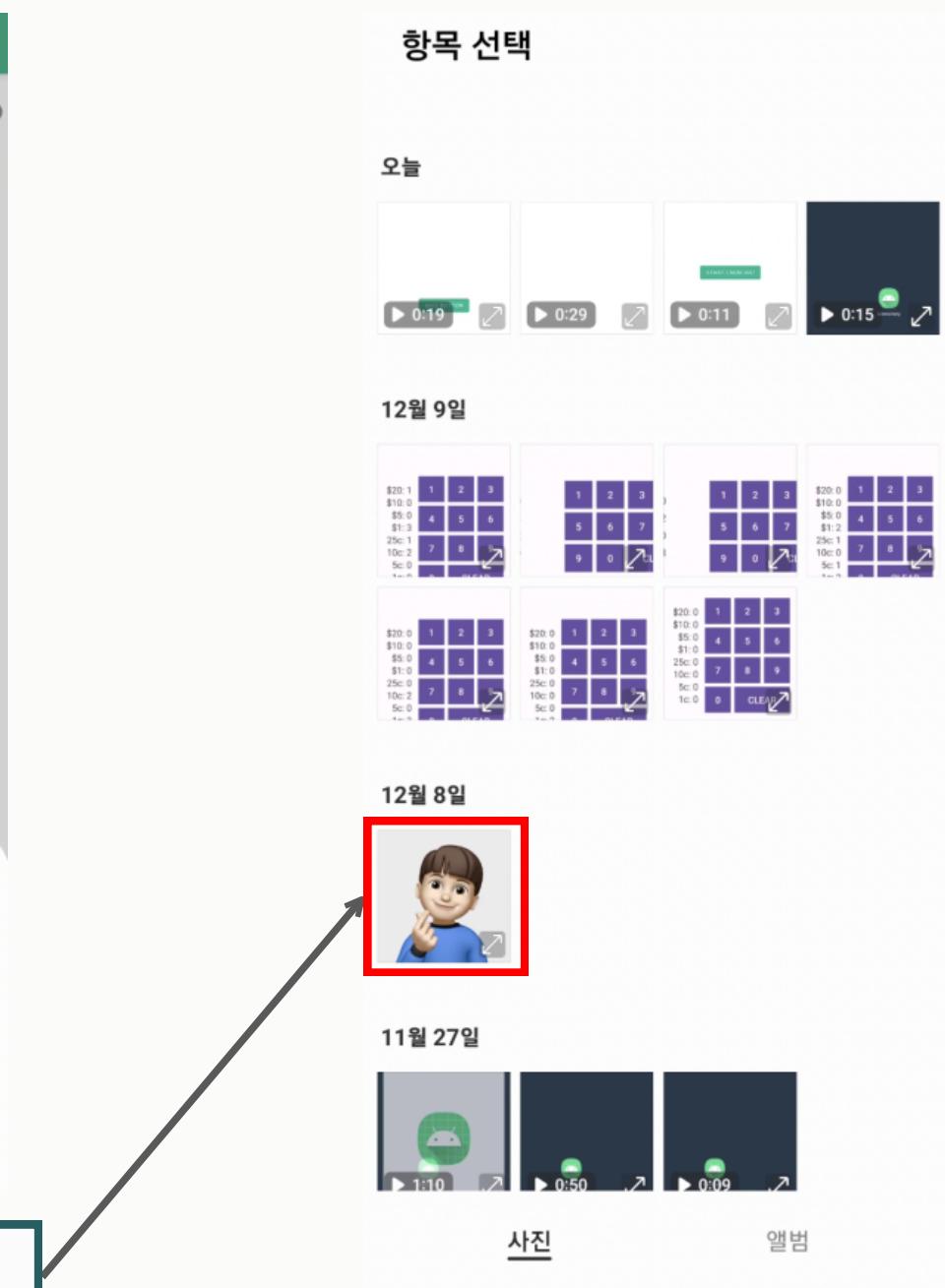
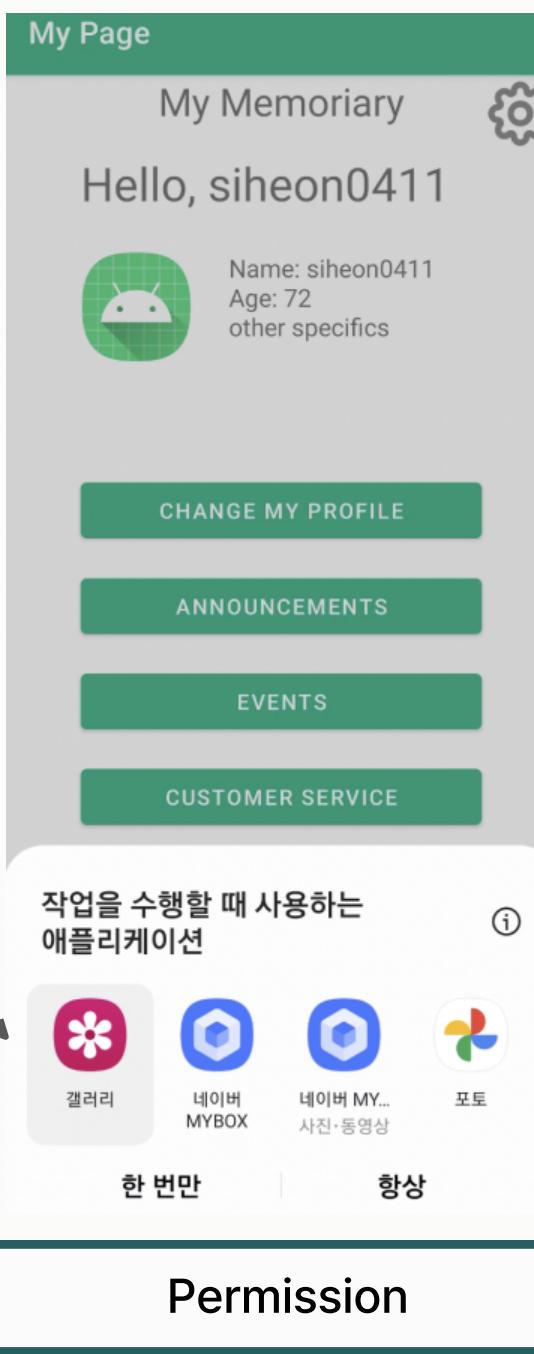
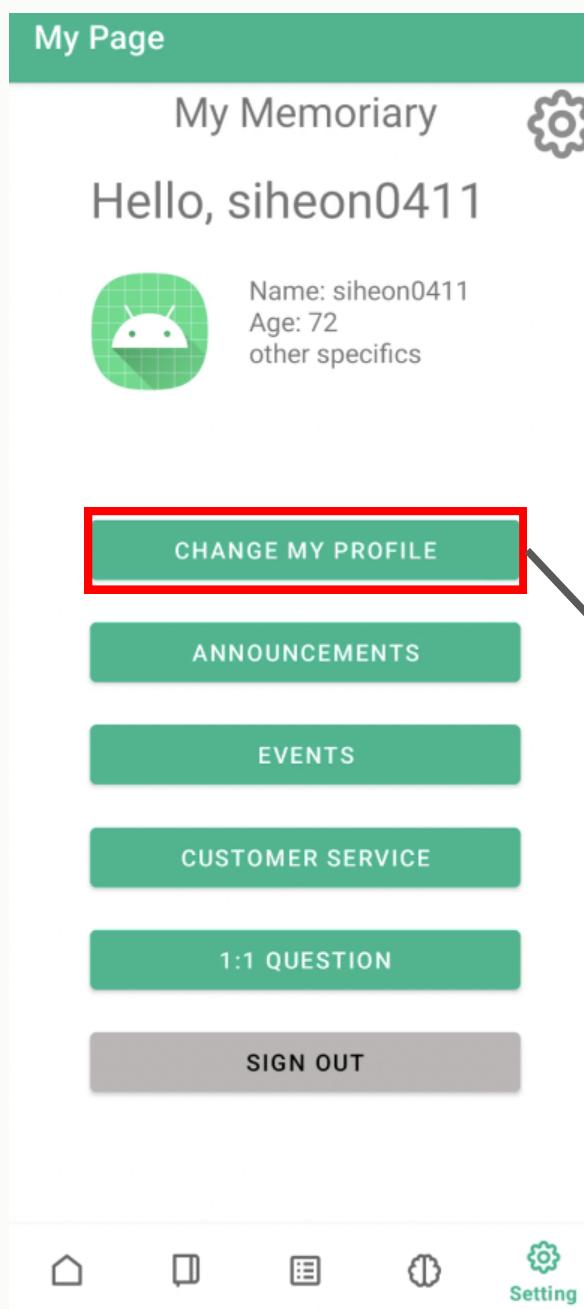


## 03

## FEATURE

# MY PAGE

PERSONAL INFORMATION IS INCLUDED



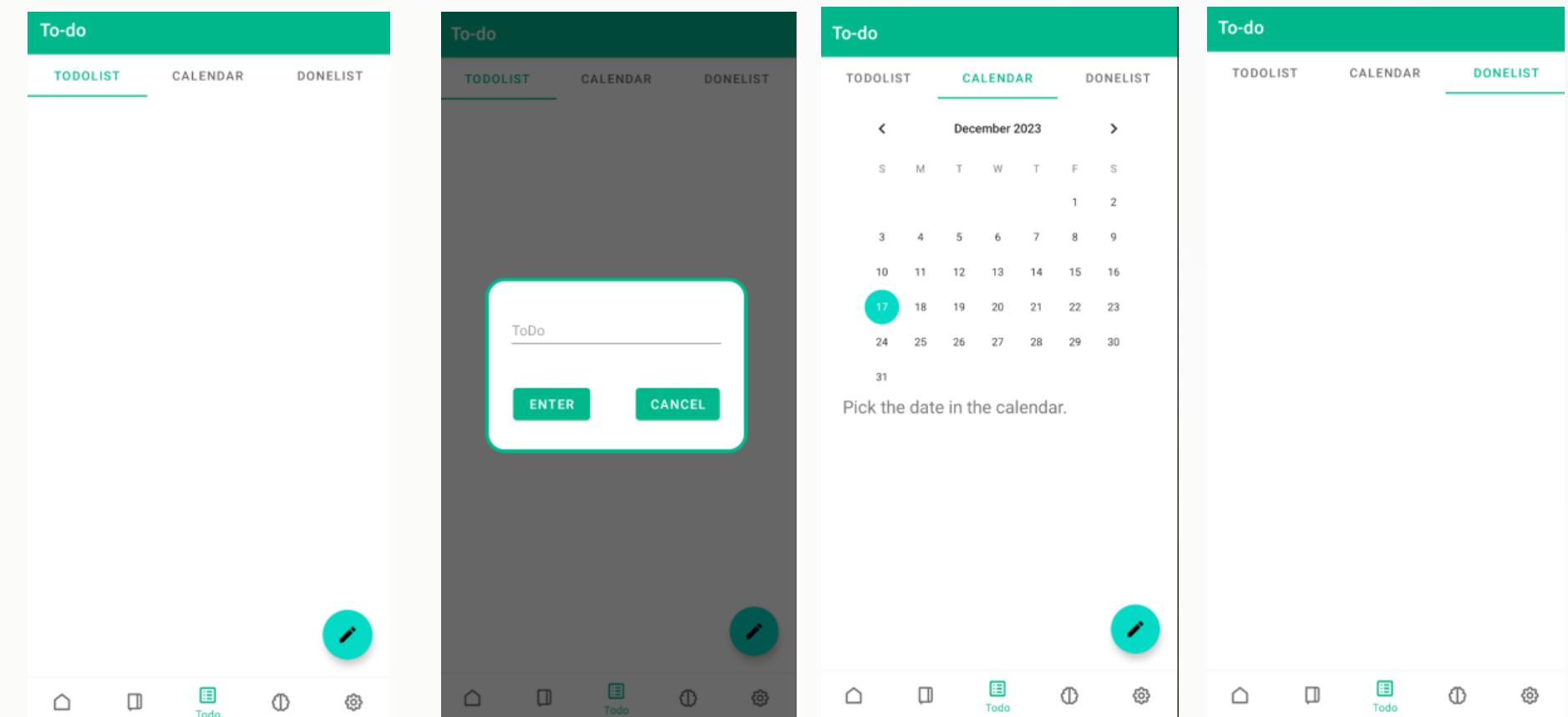
## 03

## FEATURE

# TO-DO LIST

## MAKE TO-DO LIST

- **Input To-Do Tasks via Typing**
  - Enter your to-do tasks by typing them in.
- **Mark as Completed After Finishing the Task**
  - Once you've completed a task, you can check it off or mark it as done.
- **Show the Calendar View**
  - See the Todo list through the Calendar
- **Show the Done List**
  - Show the checked list in DoneList

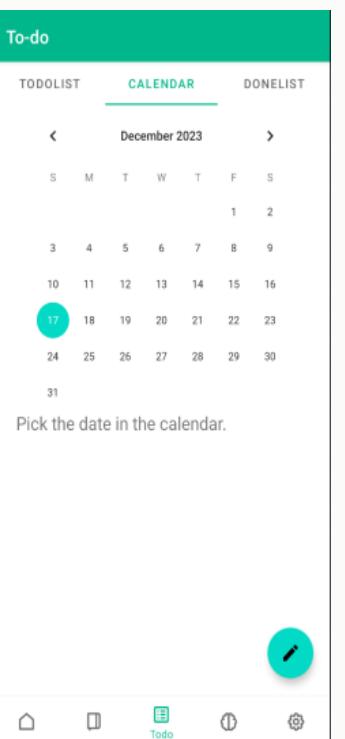
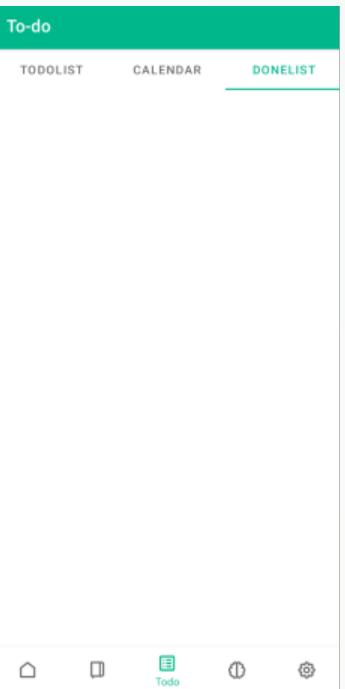
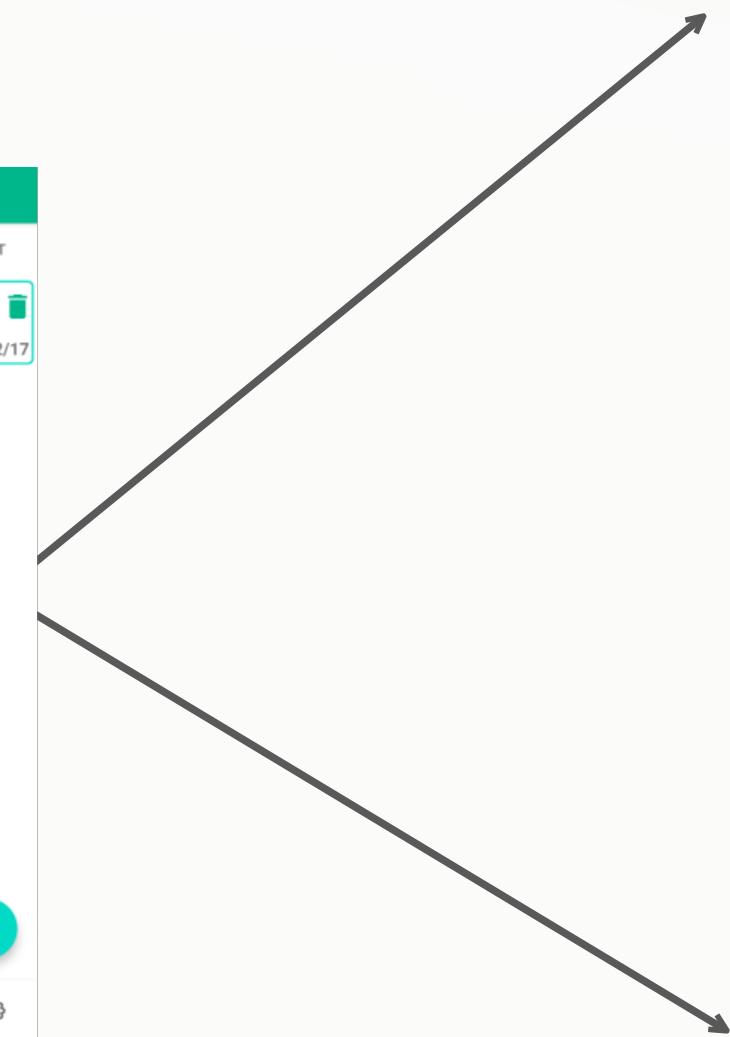
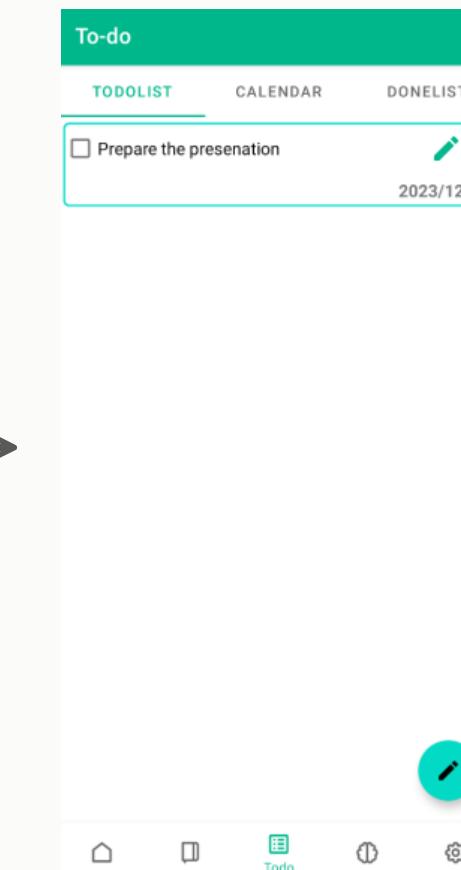
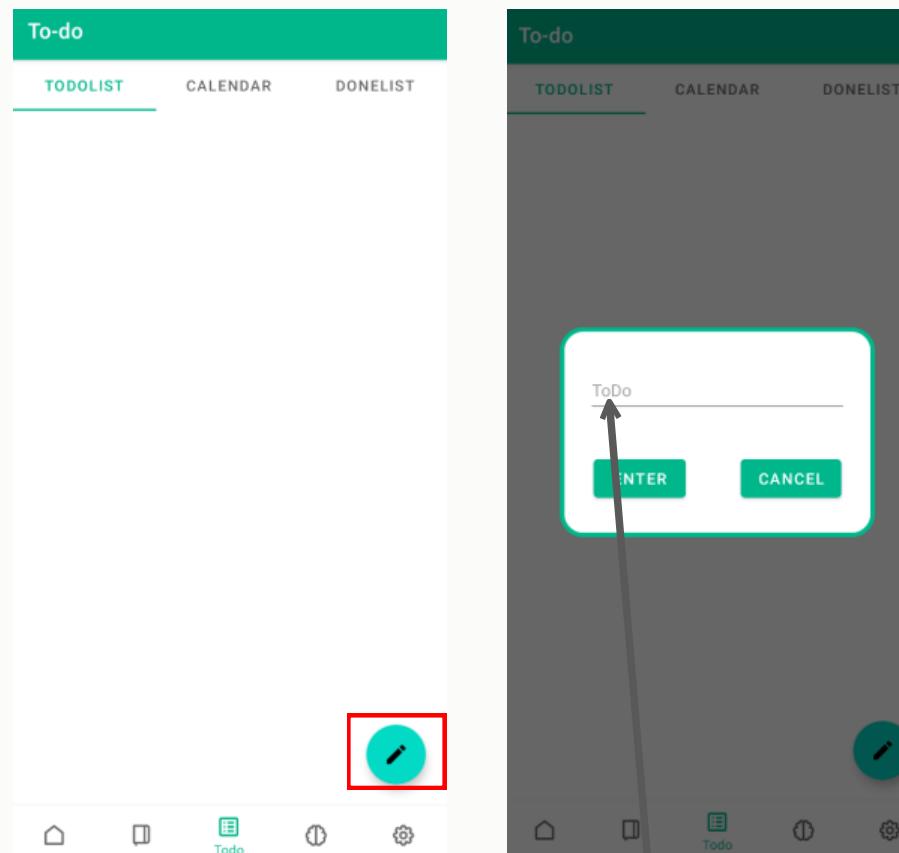


# 03

## FEATURE

# TO-DO LIST

## MAKE TO-DO LIST



# 04

## TECHNOLOGICAL METHODOLOGY

# DATABASE

## FIREBASE AUTHENTICATION

Use user's email and password to sign in and verify accounts

이메일 주소, 전화번호 또는 사용자 UID로 검색					사용자 추가	⋮
식별자	제공업체	생성한 날짜 ↓	로그인한 날짜	사용자 UID		
siheon0411@naver.com	✉️	2023. 12. 17.	2023. 12. 17.	jEtLpx1z5eTfbwBcLGBpj7WH...		
danielkim411@gmail.c...	✉️	2023. 12. 17.	2023. 12. 17.	S223gNpu5XWZSr6XOUCjwL4...		
rainday0828@naver.com	✉️	2023. 12. 7.	2023. 12. 17.	A9tZ6eiBmLQ3B6qHftGE3rl2n...		
rainday0828@gmail.com	✉️	2023. 11. 27.	2023. 12. 15.	tpJ34JAxfloI411VjmztSkkeN...		
siheon0411@gmail.com	✉️	2023. 11. 27.	2023. 12. 17.	BMGL6vH21tShu5tkUGk1WF5...		
jlh1218@naver.com	✉️	2023. 11. 27.	2023. 12. 16.	E2ZsaDJLh8bhdFSgo6oY3FBc...		
페이지당 행 수:		50	▼	1 – 6 of 6	<	>



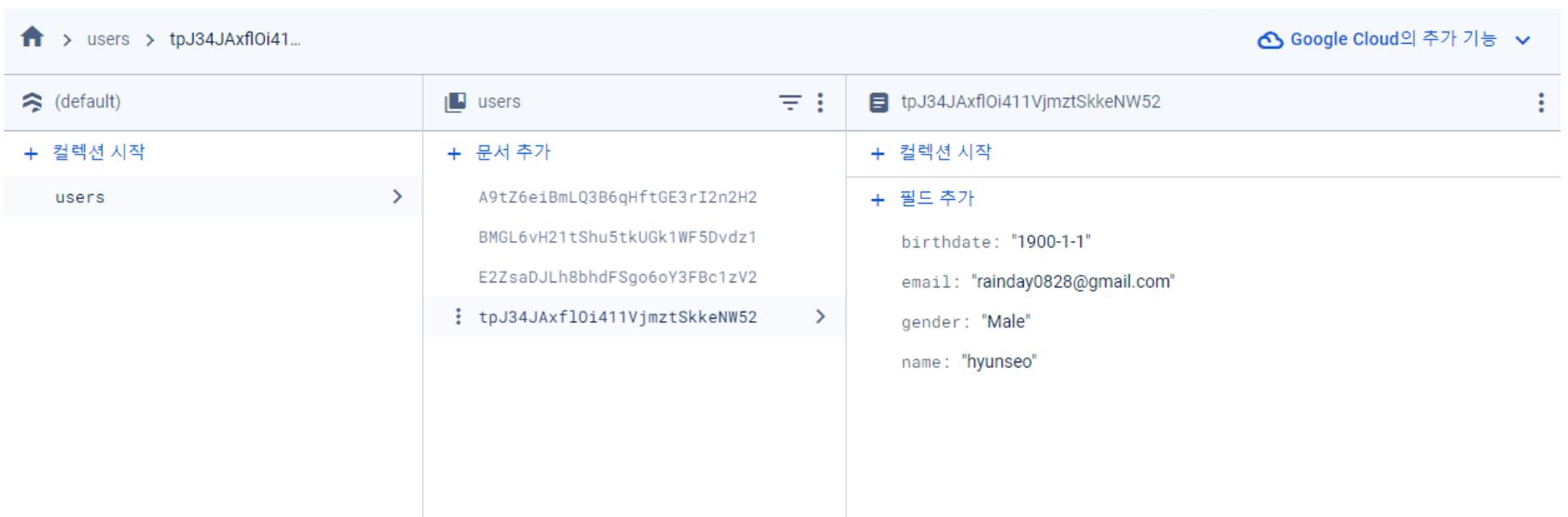
# 04

## TECHNOLOGICAL METHODOLOGY

# DATABASE

## FIRESTORE DATABASE

Users' accounts are saved with their birth date, email, gender and name



The screenshot shows the Google Cloud Firestore interface. On the left, there's a sidebar with a 'users' collection. Under 'users', several document IDs are listed: A9tZ6eiBmLQ3B6qHftGE3rI2n2H2, BMGL6vH21tShu5tkUGk1WF5Dvdz1, E2ZsaDJLh8bhdFSgo6oY3FBc1zV2, and tpJ34JAxf10i411VjmztSkkeNW52. The last document is selected. The main panel displays the fields and values for this selected document:

Field	Type	Value
birthdate	String	"1900-1-1"
email	String	"rainday0828@gmail.com"
gender	String	"Male"
name	String	"hyunseo"



Cloud Firestore

# 04

## TECHNOLOGICAL METHODOLOGY

# DATABASE

## FIREBASE REALTIME DATABASE

Each user's posts are saved, and the posts contains content, image and title



The screenshot shows the Firebase Realtime Database interface with the URL <https://memoriary-7e2d6-default-rtbd.firebaseio.com/>. The database structure is as follows:

```
https://memoriary-7e2d6-default-rtbd.firebaseio.com/
  rainday0828
    posts
      -Nlm0AcSgkzFSwZWha2S
        content: "I went to Han river for the field trip! I ate ramyeon and played badminton"
        image
        title: "Field trip"
      -NlmX20VMFN81DIKobPm
```

The interface includes a header with a refresh icon, a URL bar, and a toolbar with three icons.

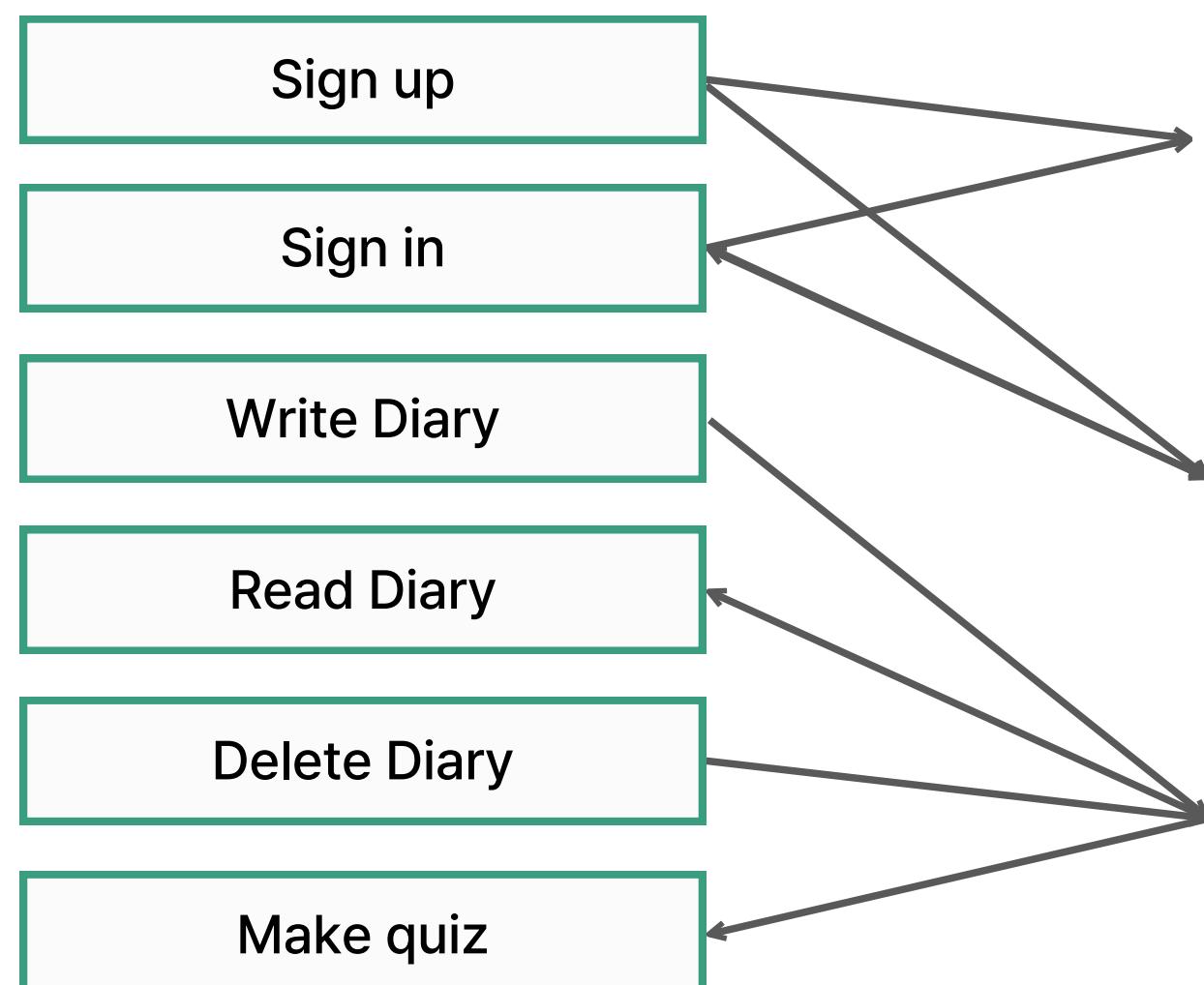


# 04

## TECHNOLOGICAL METHODOLOGY

# DATABASE

- Saves created account to firestore
- Sign in if the account is in firestore
- Save written diary into realtime database
- Read written diary from realtime database
- Delete diary from realtime database
- Read written diary to make quiz



 Firebase Authentication

 Cloud Firestore

 Firebase  
Realtime Database

**04**TECHNOLOGICAL  
METHODOLOGY

# WIDGETS/COMPONENTS

**Widgets/Components**

TextView

ImageView

Button

EditText

RadioGroup

DialogPopup

NumberPicker

CheckBox

EditText

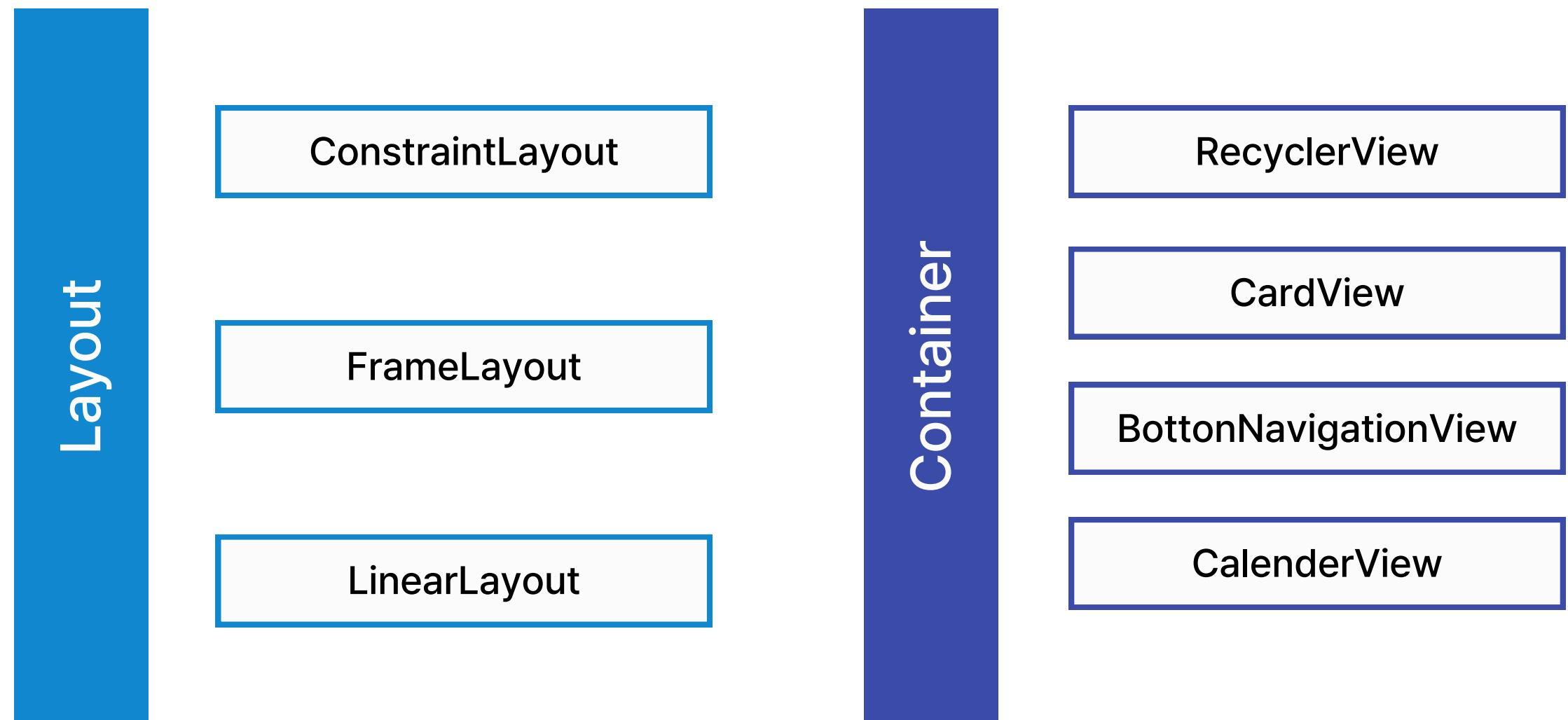
RadioButton

Fragment

# 04

## TECHNOLOGICAL METHODOLOGY

# LAYOUT/CONTAINER



# 04

## TECHNOLOGICAL METHODOLOGY

# LIBRARIES AND FRAMEWORKS

### External Library

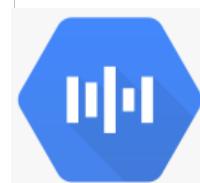
Firebase

Glide

Biometric

SpeechToText

RoomDB



### Framework

OpenAI GPT-4 API

OpenAI DALL-E2 API



**ChatGPT**



**DALL-E**

# 04

## TECHNOLOGICAL METHODOLOGY

# DEVICE FEATURES

### Device Features

Permission

SensorManager

External Storage

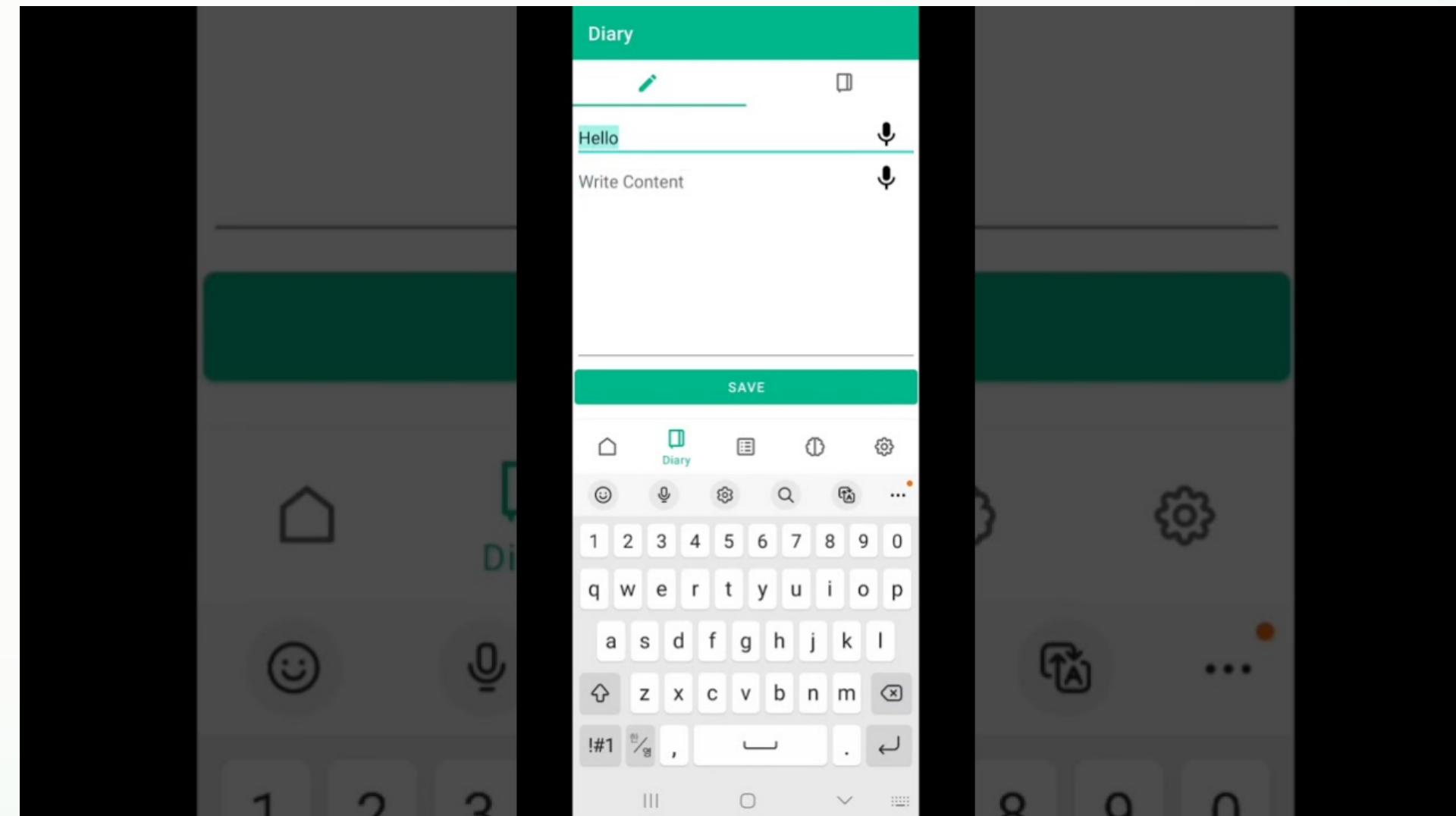
SharedPreference

FingerPrint

## 05

### DEMONSTRATION

# MEMORIARY



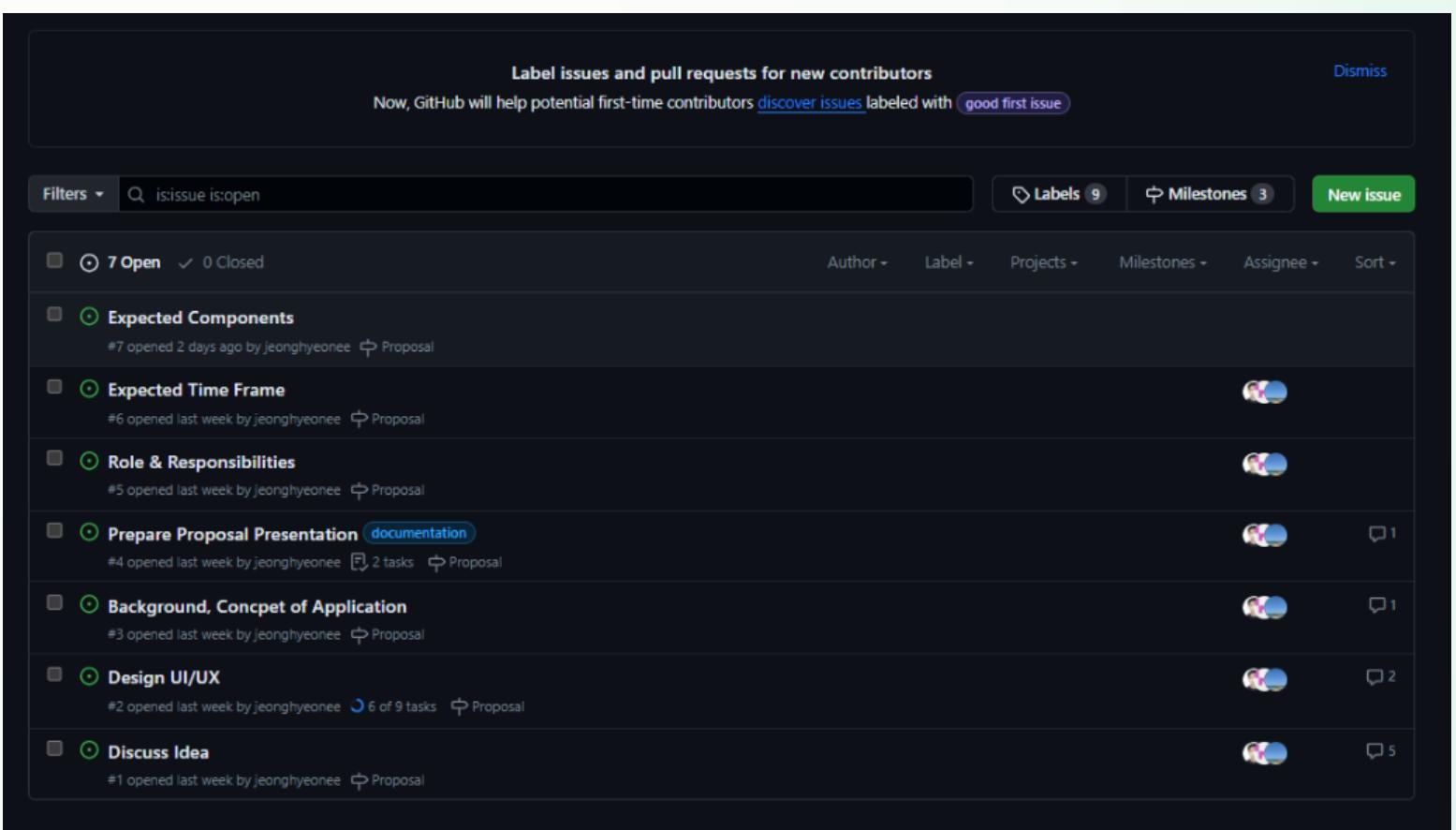
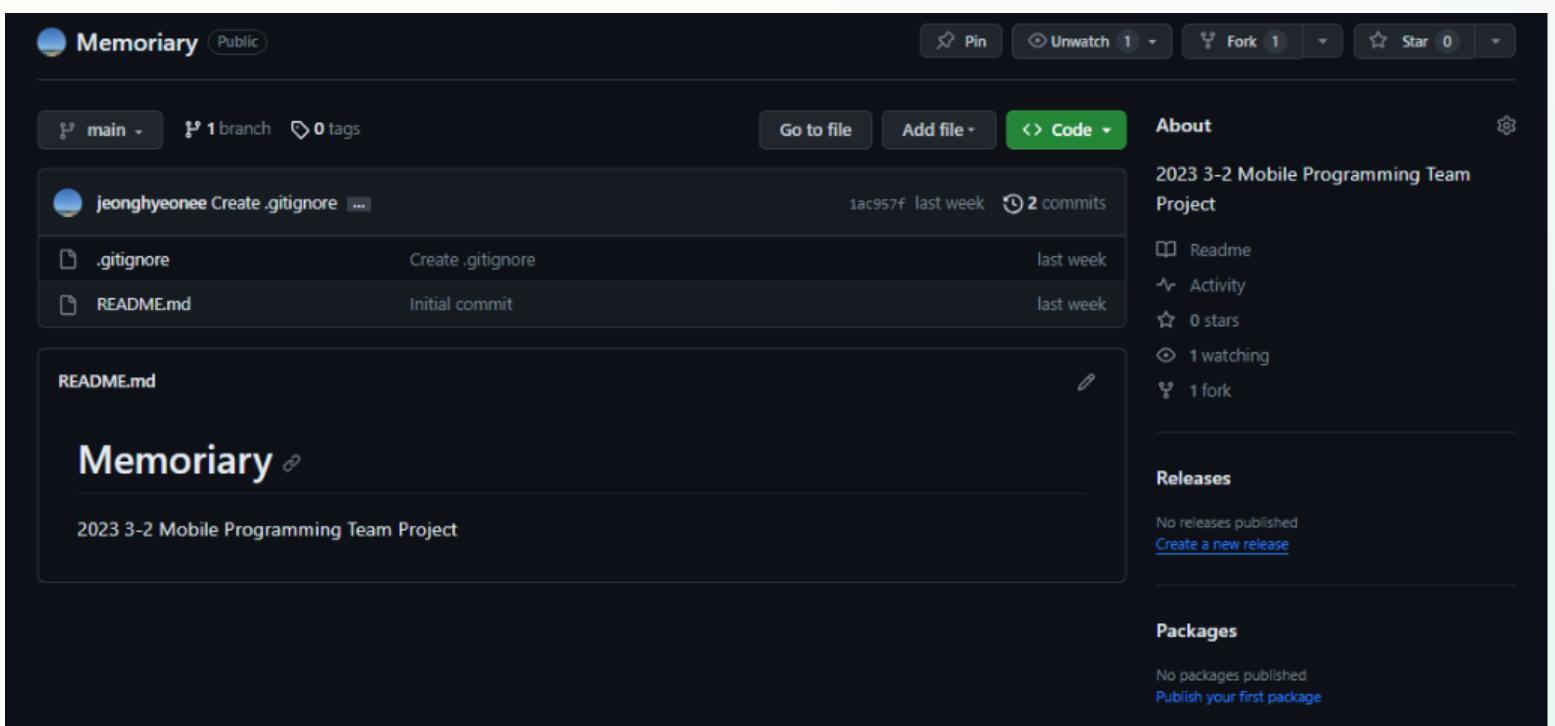
<https://www.youtube.com/watch?v=j5adWDyW67Q>

06  
GITHUB.

“  
MEMORIARY'S  
**GITHUB**

[HTTPS://GITHUB.COM/JEONGHYEONEE/MEMORIARY](https://github.com/jeonghyeonee/memoriary)

“



# THANK YOU.