COUPLE'S DAILY LIFE APPLICATION

BY

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A REPORT

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ABSTRACT

This project is a development-based project called Couple's Daily Life Application project. This project is to develop a mobile application that provides aid for couples to solve their problems that faced in their relationship. Many of them broke up because of lacking new date activity ideas that could refresh the freshness of their relationship. Many of them also fail to manage their shared household tasks well and broke up because one of them is lazy and one of them is too tired of the household tasks. Some of them also fail to maintain their relationship due to the reason of lack of understanding about their partners. Thus, the objectives of this project are to help the couples to maintain the freshness of a relationship and guide the couples on how to reduce the burdens of each other. Another objective of this project is to lead the couples to listen and understand more about each other, so that they can respect each other. Based on the similar applications like Merge, Cobble and Couple Game application, there are three solutions that can be used for the problems mentioned above. Firstly, add the date ideas generator into the application, so that couples can refer to the interesting date ideas generated by the application for their dates. Secondly, allow users to create the shared tasks and sync the tasks together, so that couples can see the shared tasks and their own tasks together. Thirdly, add interesting quizzes in the application, so this could help couples to understand more each other. This project includes home module, games module, tasks module, date ideas module and profile module where the special thing is the date ideas module included date idea generator with the help of AI.

Area of Study (Maximum 2): Mobile Application Development

Keywords (Minimum 5 and Maximum 10): Mobile Application, Relationship Support, Date Ideas, Shared Tasks, Communication Enhancement

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LIST OF ABBREVIATIONS

ADB	Android Debug Bridge
AI	Artificial Intelligence
API	Application Programming Interface
CLI	Command-Line Interface
CPU	Central Processing Unit
GPU	Graphics Processing Unit
HP	Hewlett Packard
JDK	Java Development Kit
JS	JavaScript
JSON	JavaScript Object Notation
NDK	Native Development Kit
OS	Operating System
QA	Quality Assurance
RAM	Random Access Memory
SDK	Software Development Kit
SSD	Solid State Drive
TB	Terabyte
USB	Universal Serial Bus
UI	User Interface
WSL2	Windows Subsystem for Linux 2

Chapter 1

Introduction

This project which called Couple's Daily Life Application is a mobile application that helps unmarried couples, including long-distance relationships couples, to maintain and improve their relationships. It provides supports and references for unmarried couples to solve their common daily relationship problems at anywhere and anytime by using just a mobile phone. This project helps unmarried couples to have more date ideas, helping them to think out of the box on every date idea and getting over of the boring date ideas. It also helps unmarried couples to manage their household tasks well, reduce one's burden and remind themselves to complete the tasks. This project gives unmarried couples chances to know more about each other on different aspects, so that they could understand more about each other and learn to respect each other's perspectives.

1.1   Problem Statement and Motivation

1.1.1   Problem Statement

1. Stagnation in date idea generation

Some of the people do not have a creative brain and hard to think out of the box on new and creative ideas. However, to improve the relationship between them and their partners, they need to refresh their relationship. Some of them will just think of having new and creative date ideas to refresh their relationships, but sadly, they might run out of the ideas in one day. Some of them would just choose to use back the same ideas for their dates as many of them might busy and no time to think of new date ideas. However, when the same situation keeps happening every time at the same place, at the same time, people would feel bored on it as they already knew what will happen next. This might make the situation becomes awkward and not surprised anymore. Some of them would prefer to do their stuff or stay at home instead of going out for the boring date. This might make their partner feel insecure due to not given attention [1], [2], [3]. If the time goes on like this, their relationship will become dull. Some of them might try to look for new things or new flavour like new partners when they could not find any interesting matter in the current relationship. This would easily cause the relationship becomes unstable because of the dullness in the relationship. Thus, lacking

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interesting date ideas in a relationship can be considered as a big problem for couples [4].

2. Poor household teamwork among unmarried couples

Studies showed that most of the couples had experience household fights before and causes them to be stressful and tired on the household tasks, especially housewives [5]. This is because they did not ask the help from their partners to complete the household tasks together and in the end, they get extremely tired. Usually, the wife will be doing the household while the husband will be ignoring the household tasks [6], [7], [8], [9], [10], [11]. When people are tired and stressed, people will easily get frustrated when there are more things to be bothered, especially women [12]. If the one who do not do the household making it worse, the one who do the household confirm would get frustrated. When the partner gets frustrated, both of them are going to have a fight because of the household tasks. Actually, it might be just a small thing, but because he or she is tired of the household tasks, he or she gets frustrated [13]. It is normal that couples always get into fights as it allows both partners to talk and discuss about the problem. However, if the fight is not effective, it may easily break the relationship. Thus, in order to reduce partner's burden and maintain the relationship well, both of them will have to manage their shared tasks well [4], [14].

3. Lack of Daily Feedback Leads to Misunderstandings

When ones not giving timely feedback, especially between partners, will easily lead to misunderstandings [15]. They might feel their partners avoiding from them or being confused about how their partners thought or felt about their relationships. For example, they go for a date today and came back, realizing their partner is not happy. In this case, if they are not asking their partner for the reason and the other one also not going to tell anything about the upset, both of them might have their own thoughts. If the thoughts are positive, then it would probably not affecting much the relationship, but if the thought are negative, it would probably affect the relationship easily. However, if they could open it and talk about it with each other, or maybe they could leave a message or an emoji telling their day to each other, like they are upset for today. Then, their partner could know that he or she are upset for today's date, and probably would discuss about the reason and the solution after that. In this situation, the feedback would be their good

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future reference of the date idea for each other. Also, by telling each other about their feedback and thoughts of the day, both of them could have the chance to understand and know each other's thought clear and feelings clearer, and this would also reduce the misunderstandings between partners.

1.1.2   Motivation

The generation nowadays are not the same with the previous generation. Many couples nowadays breaking up easily, like a new couple just get into relationship today and they break up after a week or maybe a month. Some of them lost the freshness to their partner easily in their relationship. They feel bored that their daily activities with their partners are the same. For example, some of the couples broke up is because of they felt bored on their partner and does not love each other anymore. This is because they do not know how to find new things to maintain their relationship. Besides, there are many videos that some of the couples that are living under the same roof suffering the problems related to the household tasks almost every day. Thus, in order to reduce the problem, separating and managing the shared tasks well would be the better solution. This can help to reduce partners' burdens by completing the tasks together. Furthermore, sometimes, many of the couples do not know how to express their feelings correctly to their receiver in their daily life. For example, when they get into trouble in their relationship, they like to argue who is right or wrong. However, in this situation, mostly they will easily forget to change to their side and think from their side. They will just focus on their own feelings or keep saying they are the right one. Thus, they need to stay calm first, then discuss calmly about the problem that faced and the solutions that they would prefer. However, sometimes, people will forget to review their problems and ignore it. Then, when a similar problem happens again, if couples ignore the problem again, it would not be reduced and might getting even worse that it will be rotate and rotate back to them.

1.2   Objectives

Use AI to generate creative and attractive dating ideas based on profile details

As mentioned above, many of the couples broke up includes the reason of lacking new and interesting date ideas. In order to maintain the freshness of a relationship well, both of the partners would have to think out of the box about the date ideas, so that everything

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and every detail planned for the date is special and interesting. There is a sentence says, 'The freshness of a relationship is to explore new things with the same person but not explore old things with different person'. Thus, couples have to brainstorm about more new date ideas. However, some of them would run out of the new date ideas as they may not enough experiences on creating and brainstorming about creative date ideas. Therefore, the Couple's Daily Life Application is here to give supports related to the problem. It provides couples varieties of new date ideas for users based on their preferences written in profile details. This can help to reduce couple's burden on brainstorming of an interesting and creative date ideas that meet both of their preferences.

Provide a household list with assignee and picture attached

As mentioned above, everyone would have their own tasks to do. It will be extra burdens if there are extra tasks like helping others to wash their clothes or cleaning their rooms. These situations usually happen for the couples who live under the same roof. Some of them would keep complaining that their partners do not have time for them and accompany them and is likely because one person has too many tasks like work tasks and household tasks and another person has lesser tasks. Thus, in order to reduce partner's burden and increase the time for couples to spend together, they need to help each other to complete their tasks as how they could. Thus, here is the Couple's Daily Life Application helps on this. Since some of the tasks cannot be completed by one person, they can categorize it into shared tasks. In the Couple's Daily Life Application, users can assign the shared tasks for both of them and share it to their partners. Users also can assign the tasks for each other or themselves only and filter the tasks to see which task have not completed. Then, some of them might concern that their partner would keep giving them tasks and having this household list is not enough. Thus, the application would also provide the task handling percentage agreement where the agreement is about how many percent of the household tasks that both users and their partners should handle. When they agree to the agreement, both of them should arrange and set the task according to the task handling percentage that set in the agreement.

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Enable Each Other to Share Daily Emotions and Feedback

To reduce the misunderstandings between each other that caused by lack of providing daily feedback between couples, giving them a place to record their daily emotions and feedback could help them to let each other know better about their feelings and thoughts of the day. Thus, Couple's Daily Life Application provides a dairy module to let users to insert and record their daily emotions and their thoughts of the day with the minimum requirement of at least record down an emoji of the day to the dairy [16], [17]. Of course, they could also view their partners' records, so that they could also know their partners' feelings and thoughts of the day. Couple's Daily Life Application also provides data analysis for their daily emotions and thoughts, so that they could make a compare or conclusion to their daily life.

1.3 Project Scope and Direction

The scopes of the project include authentication module, home module, diary module, tasks module, date ideas module and profile module. The home module shows the summary of the tasks of the current day, the numbers of the expired tasks and upcoming tasks, user's and partner's mood of the current day and the recommended date ideas category which is also the similar date ideas category that both users and their partners have saved.

In the date ideas module, there are a bunch of interesting and creative date ideas for users that generated using the help of AI. Users can choose to let it generate the date idea randomly or based on their profile details. In this module, users can view, save the idea and pick the next idea. Users can also view the horizontal graph and the summary generated by AI in Date Ideas Analysis page by clicking the graph icon. There is also a page called Saved Ideas page that shows the date ideas that user saved previously. Users are allowed to delete the saved ideas if they want to. Inside the Saved Ideas page, users can also go to Partner Saved Ideas page to view their partner's saved ideas.

Next, in the tasks module, it will display the tasks in rows form. This module allows users to view, create, edit and delete the tasks. Users are allowed to add or edit the details to the tasks like the title, date, time, remarks, assignee and picture for prove.

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There will be assignee's profile beside the task title, so that users could easily know the task belongs to who. There is also a fairness analyzer which helps users and their partners to balance the tasks, so that both of them will not be frustrated due to overburden or any household stuff.

Then, the diary module provides calendar for users to record their mood and feedback of everyday. This can help each other to understand themselves and their partners more. There is also a Mood Analyzer that help to analyze both of their mood over a month in line graph form with a summary generated by AI, so that they could easily know their mood changes in every month and the main reasons of their mood changes.

Lastly, the profile module allows users to view and edit their profile details and view their partners' details. This module also helps calculate how many days that users and their partners have been together. There is also a reset password button, logout button and unbind with partner button for users. After users clicked on the unbind button and confirmed to unbind, all the data in diary and tasks module will be deleted, so that it would not make the users to think back of their previous partners and let users move on.

1.4   Contributions

Couple's Daily Life Application is a mobile application that helps unmarried couples to maintain and improve their relationships. Couples could use the mobile application to help them to save or maintain their relationship by bringing their partners to have some interesting new dating activities. In Couple's Daily Life Application, they could find varieties of interesting date ideas based on their preferences. Besides, couples could also use the mobile application to help their partners to discuss and manage their household tasks, so that they could reduce their partners' burdens and completing the household tasks willingly. Couples could also use the mobile application to help them to understand more about themselves and their partners by sharing at least one of their thoughts daily. They could record down their feedback of the day like their emotions or any comments about the day they had in the diary, so that their partner or maybe they themselves could know more about themselves and even could take it as their future references like future date ideas or self-improvement.

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1.5   Report Organization

This report is organised into 7 chapters: Chapter 1 Introduction, Chapter 2 Literature Review, Chapter 3 System Methodology/Approach, Chapter 4 System Design, Chapter 5 System Implementation, Chapter 6 System Evaluation and Discussion, Chapter 7 Conclusion and Recommendation. The first chapter is the introduction of this project which includes problem statement and motivation, objectives, project scope, contributions, and report organization. The second chapter is the literature review carried out on several existing IoT and some similar applications in the market to evaluate the strengths and weaknesses of each product. The third chapter is discussing the overall system methodology of this project. The fourth chapter is regarding the details on how to implement the design of the system. Furthermore, the fifth chapter is discussing about the system implementation for the Couple's Daily Life Application. Then, the sixth chapter is the system evaluation and discussion which includes the system testing and performance metrics, testing setup and result, project challenges, objectives evaluation and concluding remark. Last chapter is the conclusion and recommendations.

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Chapter 2

Literature Review

2.1 Review of the Technologies

The mobile app is built with React Native and run during development with Expo Go on Android devices. Firebase provides the database and Node.js runs the backend and local servers. Development and emulation happen on an HP gaming laptop that can host two or three Android emulators alongside the Firebase Cloud Firestore and terminal windows. The Redmi Turbo 3 is the primary test device, and a second Expo Go compatible Android mobile is used for cross device checks. Backups and large build artifacts are stored on a one terabyte pendrive and copied with a high-speed USB cable.

Table 2.1 Specifications of laptop

Description	Specifications
Model	HP Victus 15-fb3721AX
Processor	AMD R5 8645HS
Operating System	Windows 11
Graphic	NVIDIA RTX4050 6 GB GDDR6
Memory	16GB DDR5 RAM
Storage	512GB M.2 SSD

2.1.1 Hardware Platform

The hardware setup for this project is compact but chosen to make development feel fast and effortless. We build on an HP gaming laptop because it stays snappy and avoids the frustrating slowdowns of ordinary office machines and because it can run two or three Android emulators at once while the Firebase website and several terminal windows remain open for building, debugging, and monitoring. It works so well because the laptop gives the right combination of multicore processing, memory, and fast local storage so that builds, local servers, and emulators do not block one another. Ample RAM keeps tools and emulators in memory instead of swapping to disk, and the SSD makes builds and emulator disk operations quick. That means we can iterate with

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live reload, run development servers, inspect Firebase logs, and profile performance without long waits. Real device checks still happen on a Redmi Turbo 3 and on another Expo Go compatible Android mobile, and a fast USB cable is used to copy large build artifacts to a one-terabyte pendrive for backups. USB debugging through ADB is used for installing builds, capturing logs, and profiling device behaviour, and spare cables, charging routines, and testing on both Wi-Fi and cellular are part of the everyday workflow so long tests and builds do not interrupt progress. Overall, the laptop and supporting devices keep the feedback loop tight so testing, building, and debugging happen in parallel rather than one after another.

2.1.2 Firmware/OS

React Native with Expo is cross-platform and can be developed on Linux, macOS and Windows while testing on physical devices with Expo Go. macOS is the only operating system that can run the iOS Simulator and produce signed iOS builds using Xcode. Windows and Linux fully support the Android toolchain, such as the Android SDK and platform tools with adb, and they support the full Expo workflow. For everyday Expo development a modest machine is usually sufficient, but more CPU and RAM will make emulators and parallel tooling snappier. Common tooling to install includes Node.js with npm or yarn, Expo CLI and DevTools, a Java JDK, the Android SDK and platform tools and, on macOS and Linux, the watchman file watcher. Windows users often benefit from WSL2 for Linux style tooling [18], [19].

2.1.3 Database

This project stores its data in Firebase Cloud Firestore, Google's cloud hosted document-based NoSQL database that keeps information in JSON like documents and can push updates to connected clients via real time listeners, so that users always see the latest content without having to refresh. Firestore was chosen because it integrates naturally with React Native and Node.js and provides ready-made SDKs and simple APIs that let the team focus on building features instead of managing servers. As a managed Google Cloud service Firestore removes the overhead of installing or maintaining database infrastructure, automatically scales as the app grows, supports

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fine grained security rules and authentication, works across platforms, and keeps the app functional offline by synchronizing local cache changes when the device reconnects. For this project the data is organised into collections, documents and subcollections rather than a single monolithic JSON tree to enable efficient targeted reads and reduce duplicated records. The Firebase SDKs handle client and server database calls and Node.js performs any heavier server-side processing or integrations with other services [20], [21], [22], [23].

2.1.4 Programming Language

The app is built with React Native and the user interface is written in JavaScript so developers can craft native-feeling Android screens from reusable components while maintaining a single shared codebase that accelerates development and simplifies maintenance. Styles are defined in JavaScript using the StyleSheet API or plain style objects with camelCase property names and can be organized in separate files to keep UI code tidy and easy to read. Node.js powers the local development environment and build tasks because the React Native toolchain depends on a JavaScript bundler and a development server for package installation, asset bundling, and fast iteration. Data is stored in Firebase Firestore, providing structured, scalable documents and collections with powerful query capabilities, offline caching, and real-time listeners so the interface receives timely updates without relying on static JSON files. Artificial intelligence features provide helpful suggestions, automate repetitive work, and enhance perceived intelligence by calling cloud-based AI services from Node.js and the app; where feasible, small models run on-device to lower latency and improve privacy. Keeping JavaScript across the entire stack enables easy sharing of utilities and data models between app and server and leverages a rich ecosystem of libraries and community knowledge [20], [24], [25], [26], [27], [28], [29], [30].

2.1.5 Summary of the Technologies Review

A compact high performance development setup centered on an HP gaming laptop with ample CPU cores, RAM, and SSD keeps emulators, build tools, terminals, and the Firebase console running in parallel while physical testing occurs on a Redmi Turbo 3

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and an Expo Go compatible Android device. Fast USB cables and a one terabyte pendrive are used for large artifact transfer and backups, and ADB plus spare cables enable installation, logging, and profiling over Wi-Fi and cellular. Development uses React Native with Expo and JavaScript for a single shared codebase, Node.js for local tooling and server tasks, and Firebase Cloud Firestore for scalable document storage with real time listeners, offline sync, and fine-grained security rules. AI features call cloud services with small on device models where feasible to automate repetitive tasks and reduce latency. Sensitive secrets remain server side under Firebase rules and Node.js validation, and telemetry on latency, throughput, and errors enables continuous monitoring and performance tuning.

2.2   Review of the Existing Systems/Applications

Before developing the Couple's Daily Life Application, the research on getting some references from the similar applications have done here. There are three applications that have reviewed which are Couple Game, Couple2 and Couple Tree.

2.2.1   Couple Game
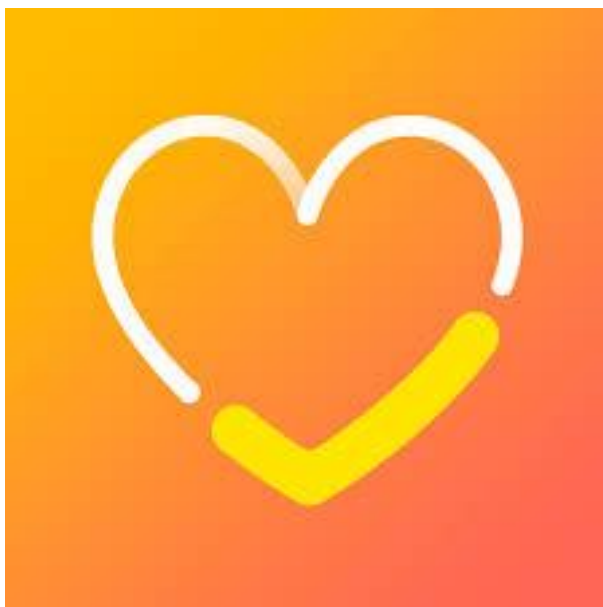
Figure 2.1 Profile of Couple Game Application

Couple Game is a mobile application that provides different types of activities ideas for couples to help them to get closer and understand more about each other.

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It provides conversation topics according to different themes for couples to start their conversation as shown in Figure 2.2 below [31].
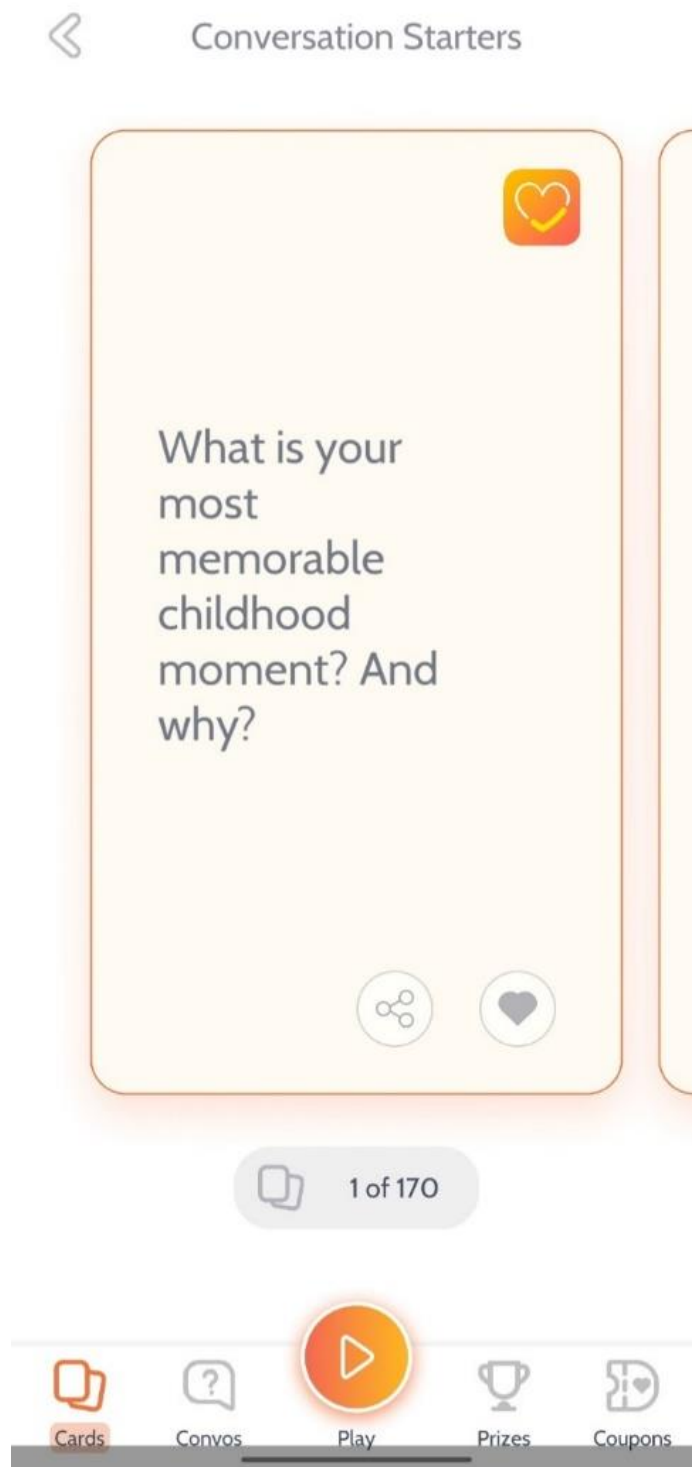
Figure 2.2 Conversation Starter Pack Page under Cards Page in Couple Game Application

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It also provides quizzes according to different themes and topics for couples as shown in Figure 2.3 & Figure 2.4 below. It also provides comments area for users to write down their comments during the quiz sessions [31], [32].
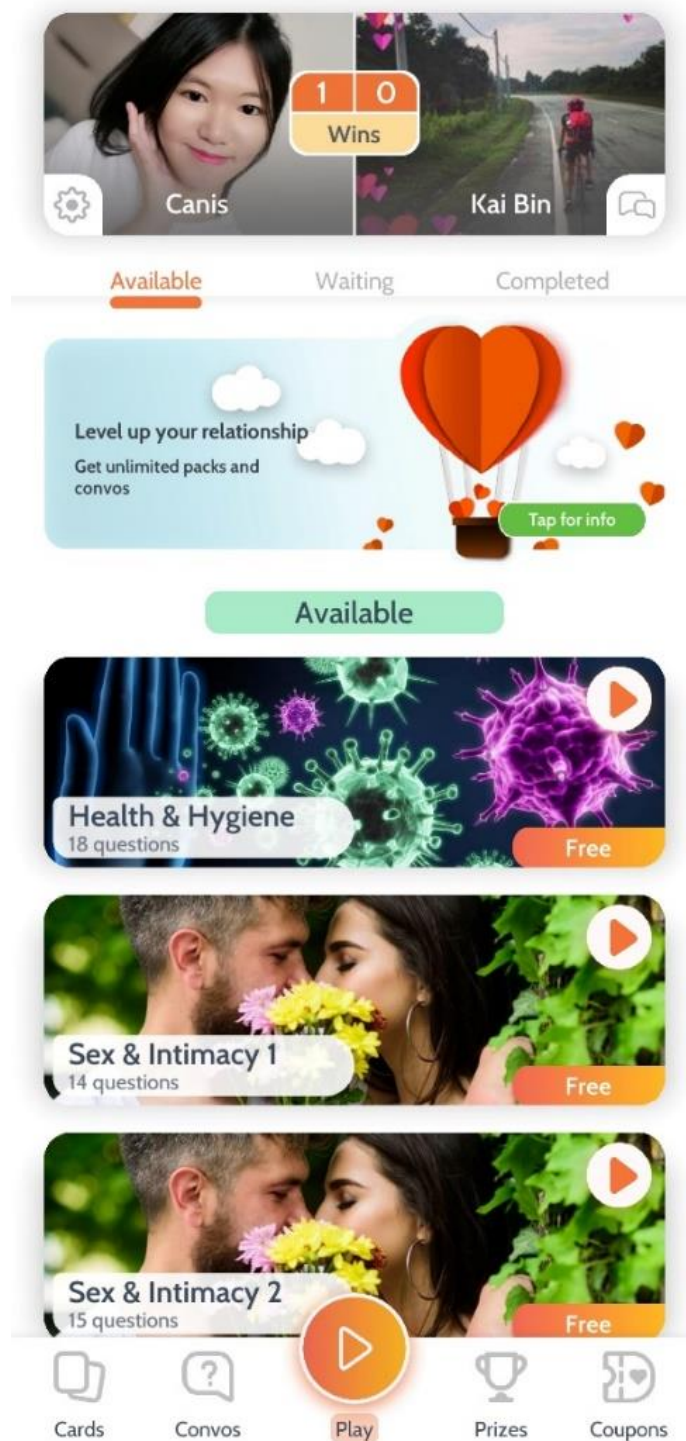
Figure 2.3 Main Page with Different Types of Quiz Topics in Couple Game Application

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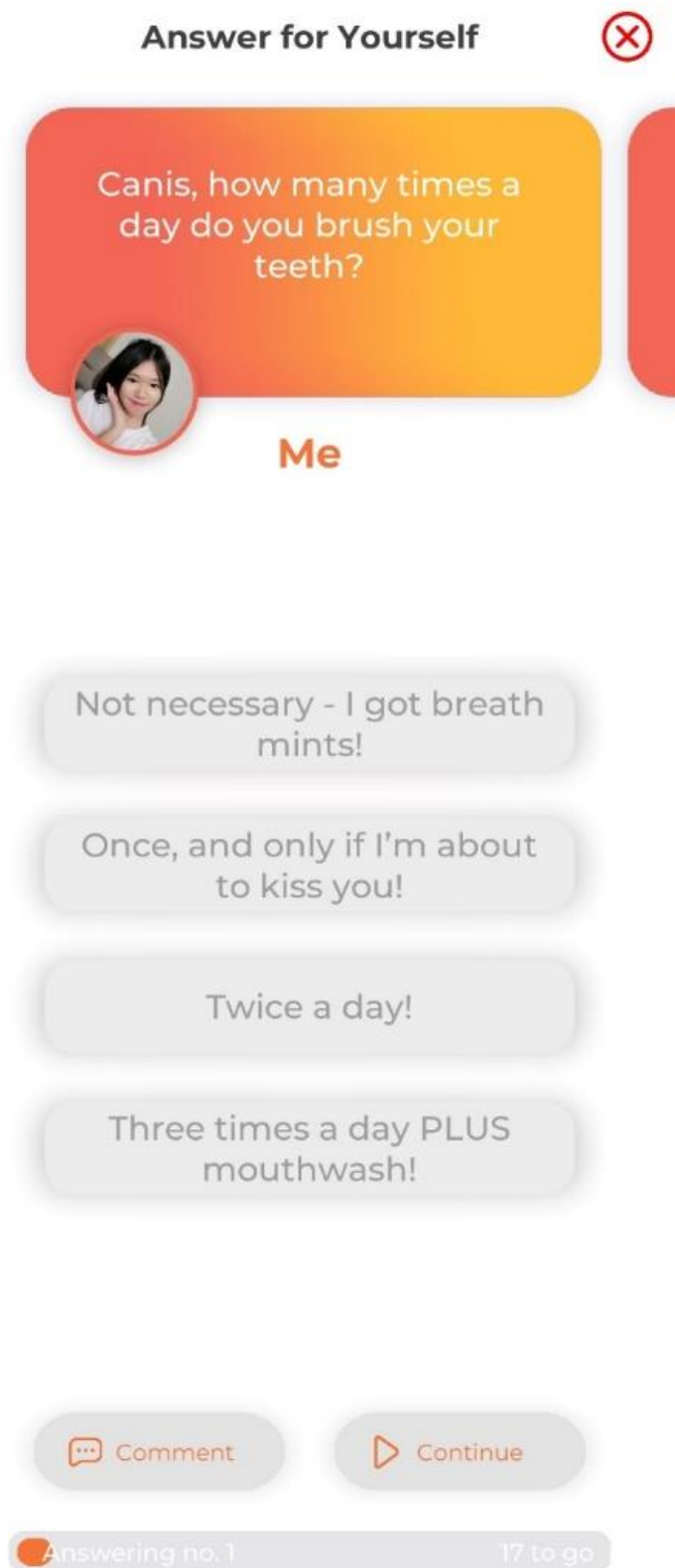
Figure 2.4 Quiz Page in Couple Game Application

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It also allows their partners to see what they have answered for the quizzes as shown in Figure 2.5 below, so that both of them can understand more about each other's thoughts and perspectives.
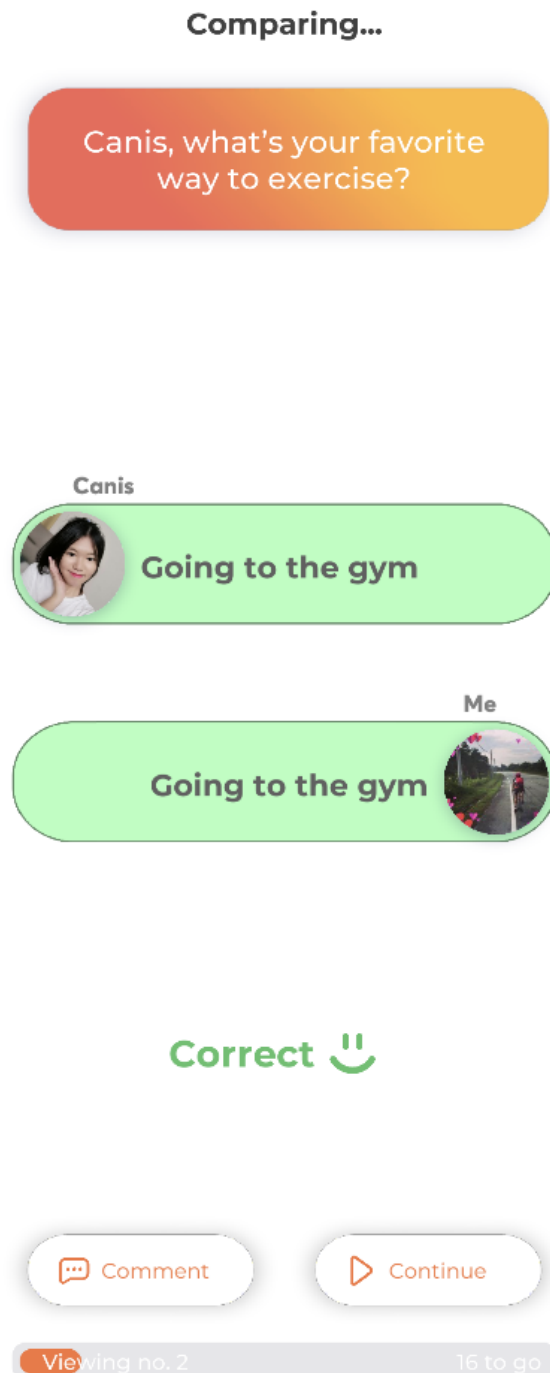
Figure 2.5 Reviewing & Comparing User's Answer with His Partner's Answer in the Quiz

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After both of them have completed and reviewed the quizzes, the person who gets the most correct answer will be the winner. Then, the winner will have the chance to create a coupon that is generated by the Couple Game application to redeem in the future as the reward of understanding their partner more than how their partner understands them (Figure 2.6).
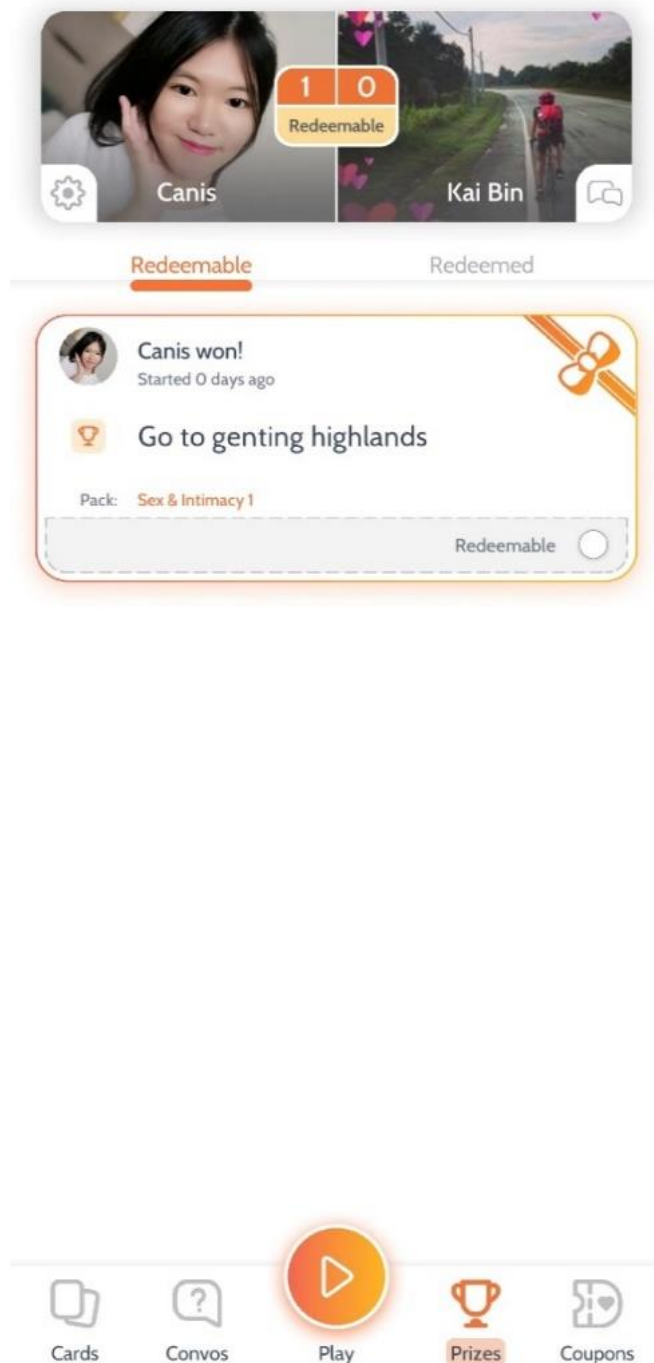
Figure 2.6 Prizes Page in Couple Game Application

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Besides, users also can create their coupon as the rewards for their partner themselves or based on different theme categories as shown in Figure 2.7 & Figure 2.8 below.
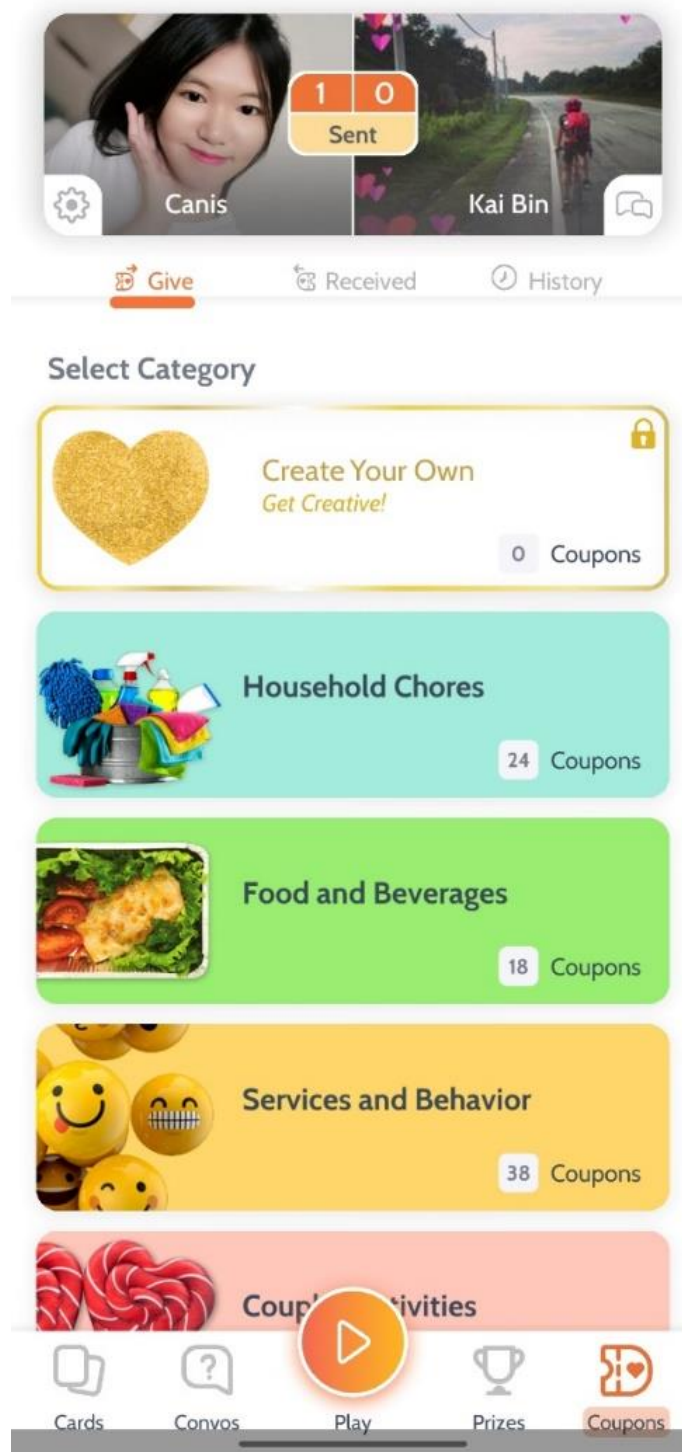
Figure 2.7 Coupons Page in Couple Game Application

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Figure 2.8 Coupon that Have Been Redeemed Showing at the Coupons Page in Couple Game Application

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Other than that, Couple Game application also provides spaces for every different question that are possible to have a big discussion (Figure 2.9 & Figure 2.10).
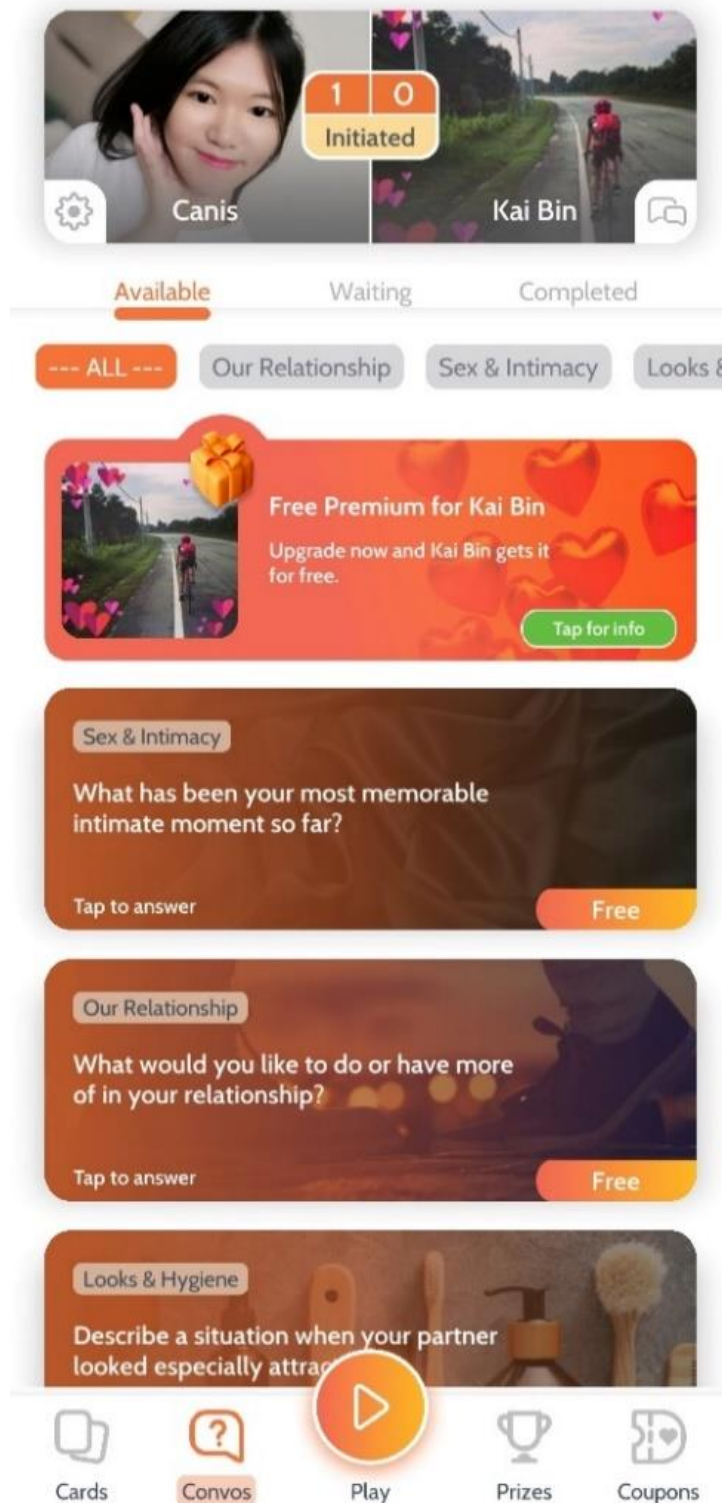
Figure 2.9 Convos Page that Containing Different Types of Big Discussion Topics in Couple Game Application

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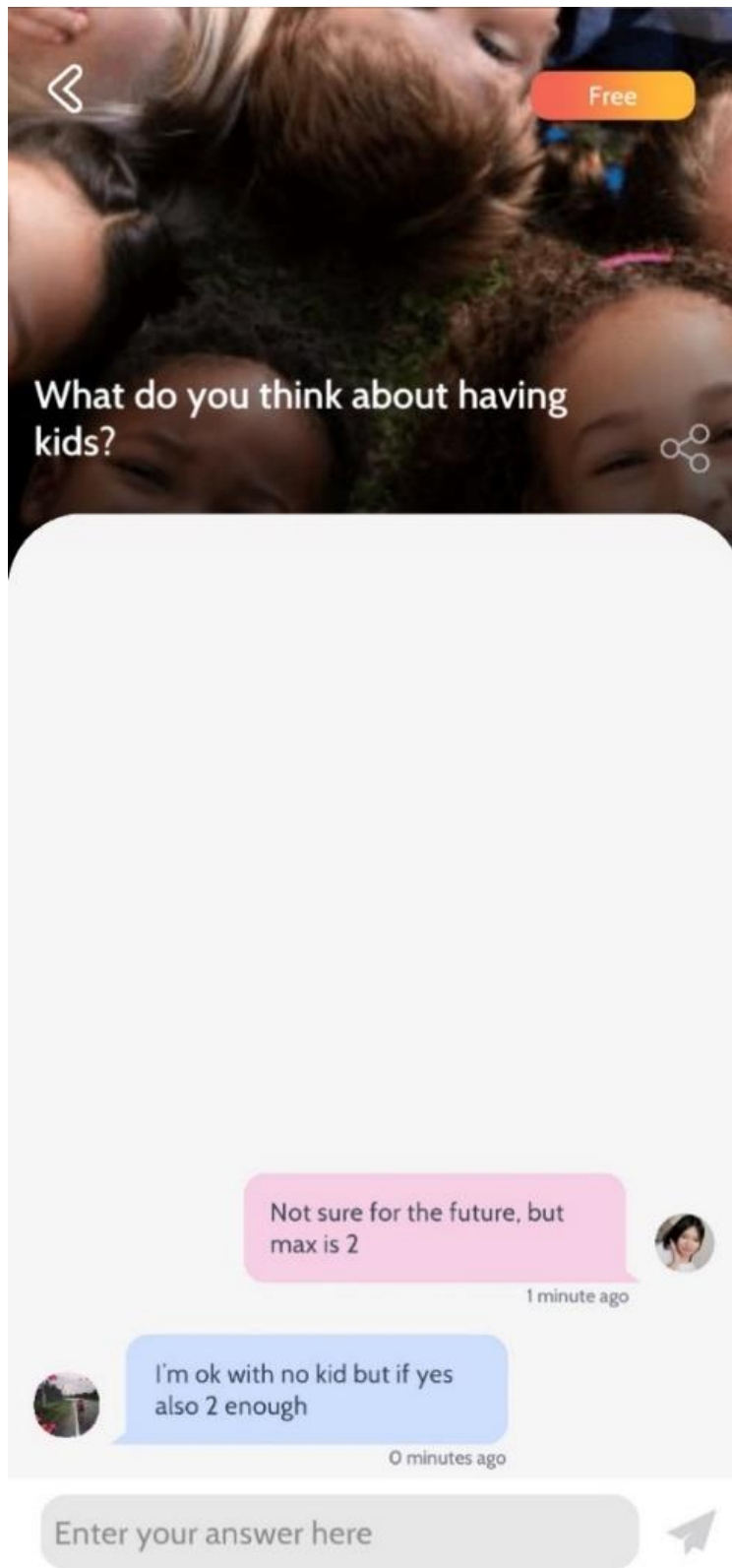
Figure 2.10 Private Chat Page of a Question under Convos Page in Couple Game Application

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2.2.2 Couple2

Figure 2.11 Couple2 Logo

Couple2 is also a mobile application that helps to improve couples' relationships by helping them to understand more about each other and guiding them to the healthy relationship [33].

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In Couple2, there is a virtual home that allows users to customize their furniture using the Couple2 currency, coin, as Figure 2.12 [33].
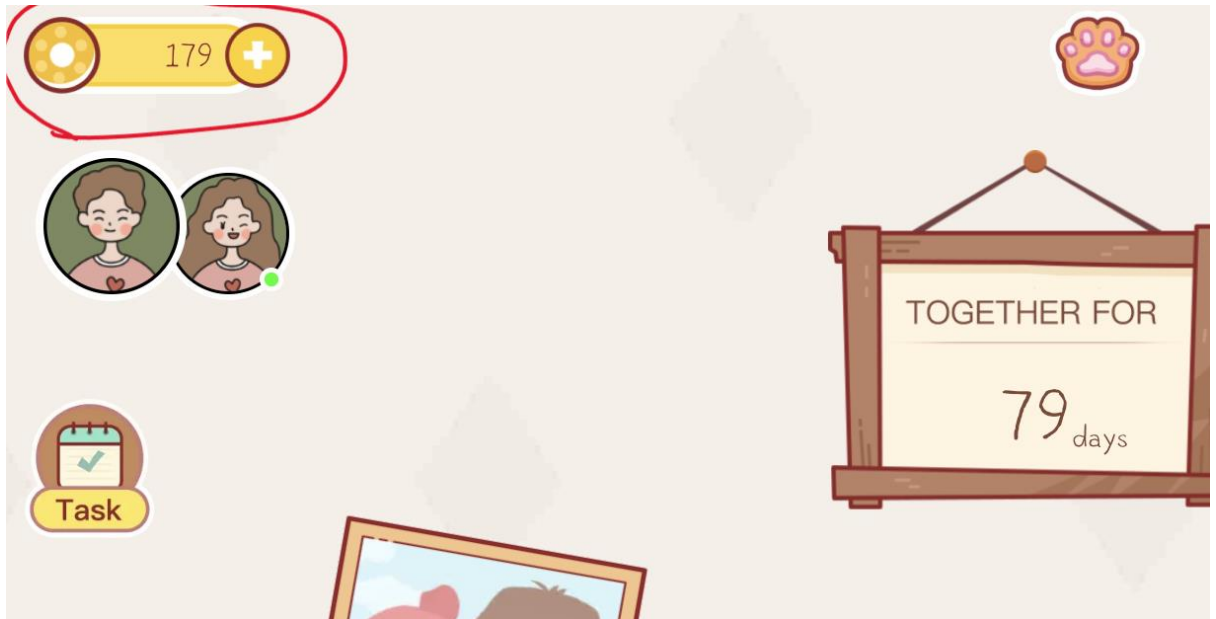
Figure 2.12 Couple2 application's currency

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In the main page, user can also change their status like "Busy" or "Resting" by pressing their character as Figure 2.13. Then, the character will change as Figure 2.14 based on the two different statuses where sitting on the sofa means "Busy" and sitting on the floor means "Resting" and the partner can also view the status of the characters.

Figure 2.13 Couple2 User Avatar Status 1
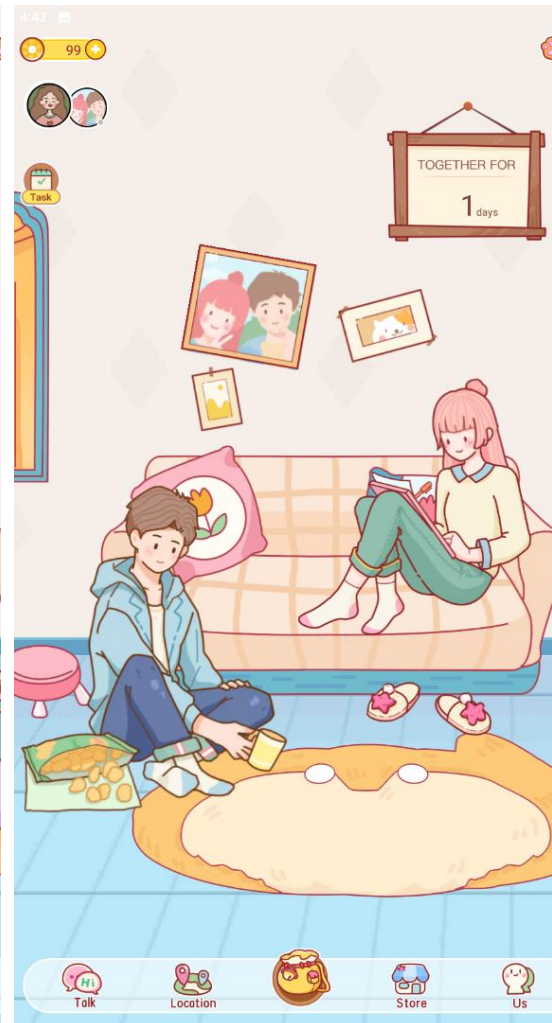
Figure 2.14 Couple2 User Avatar Status 2

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User can also press on the partner avatar and press the button "Miss you" as Figure 2.15 to send a notification to partner of telling them 'I miss you' or "contact" button as Figure 2.16 to send direct messages like emojis, voice messages, locations and pictures to the partner [33].

Figure 2.15 Couple2 Partner Avatar Status

Figure 2.16 Couple2 Partner Avatar Contact Feature

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In the main page, there is also a pet jaw icon at the right top corner that navigates user to the Pet page as Figure 2.17 which allows users and their partners to play and take care of the pet. User can feed, rub and bath it, play and travel with it. User can also buy pet's food and toys from the pet store. If no one care about the pet, it will fall a sick and they need to buy a pill to recover it. If they continue to ignore it, it will die and they need to spend lots of Couple2 money to revive it.

Figure 2.17 Couple2 Pet Page

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User and partner will need to prepare food for the pet before travel as Figure 2.18. User can also check the past story, travel records and travel instruction in this page.

Figure 2.18 Couple2 Pet Travel Page

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Next, Couple2 has a Talk page that allows couple to chat and send messages among each other. User can also view the status of partner's phone and partner's activities in the app if they pay for the premium plan as Figure 2.19. User can also edit the chat settings as Figure 2.20 [33].
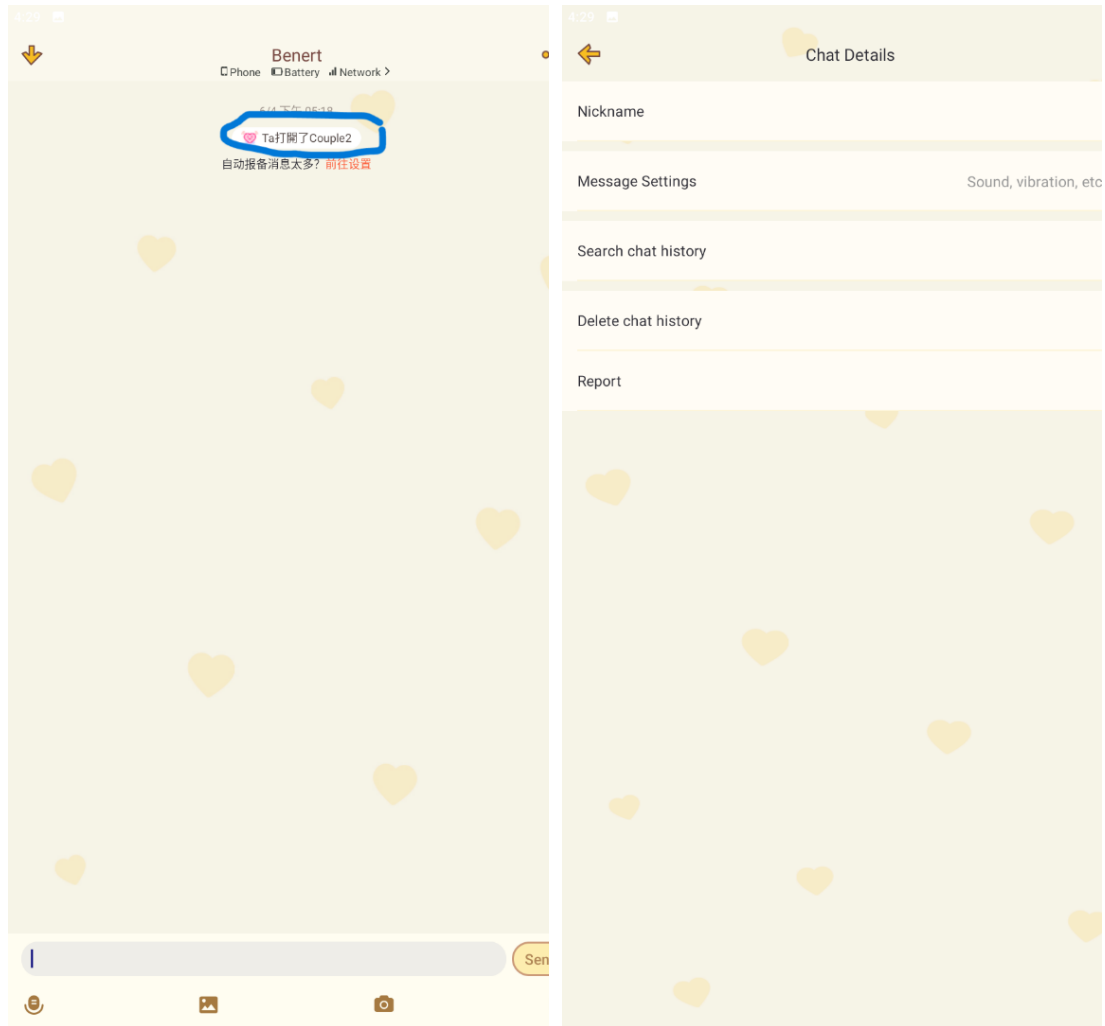
Figure 2.19 Couple2 Chat Page & Figure 2.20 Couple2 Chat Setting Page
Partner Activity Status Notification

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Following is the Location page as Figure 2.21. If the couple pay for the premium plan, they will get to use this Location feature. They need to open their location in their phone and the system will detect their location. Then, they can check the distance between their current locations, share their locations to each other and track their real-time locations. This is beneficial for long-distance relationships couples [33].
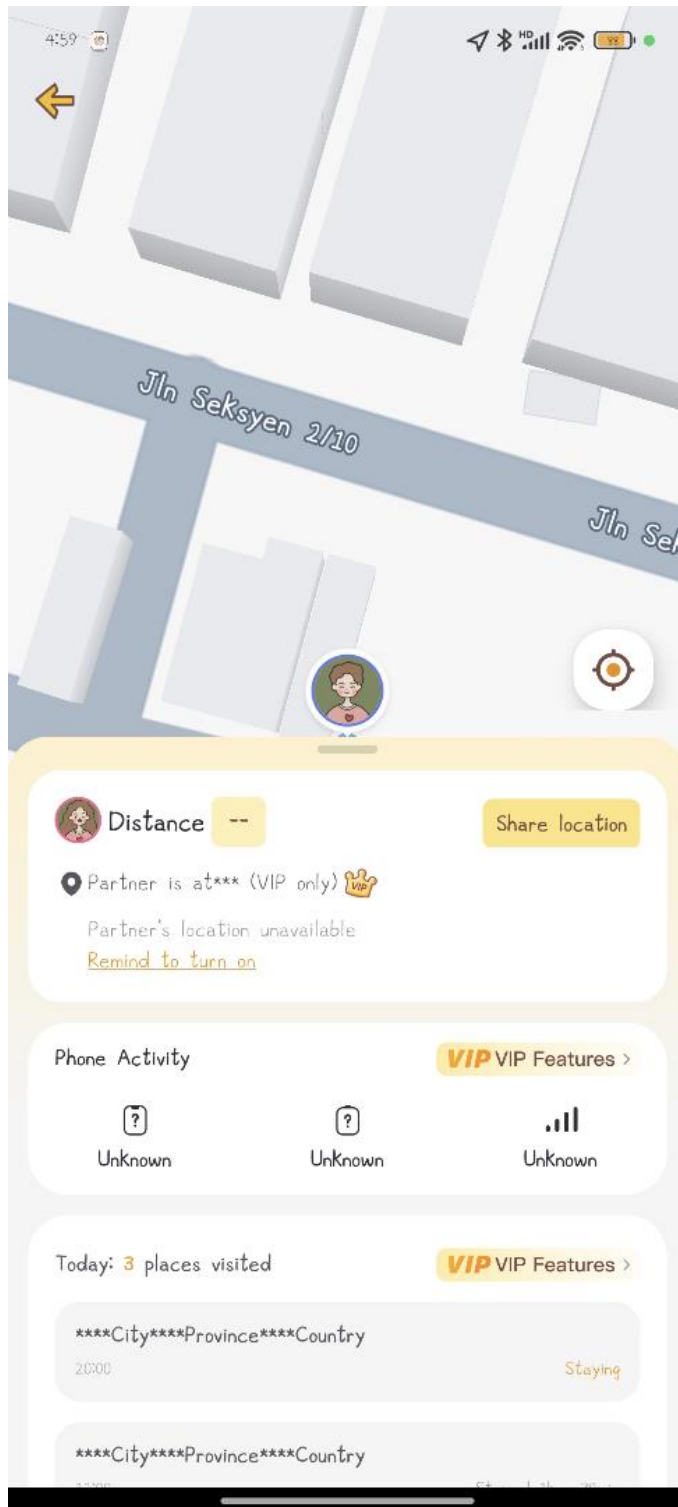
Figure 2.21 Couple2 Location Page

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Next, there is a Shop page as Figure 2.22 that allows user to buy and change their furniture and character's appearance using the Couple2 currency where the currency can get from the Task feature as Figure 2.23.

Figure 2.22 Couple2 Shop Feature   *Figure 2.23 Couple2 Currency – Daily Sign In Page*
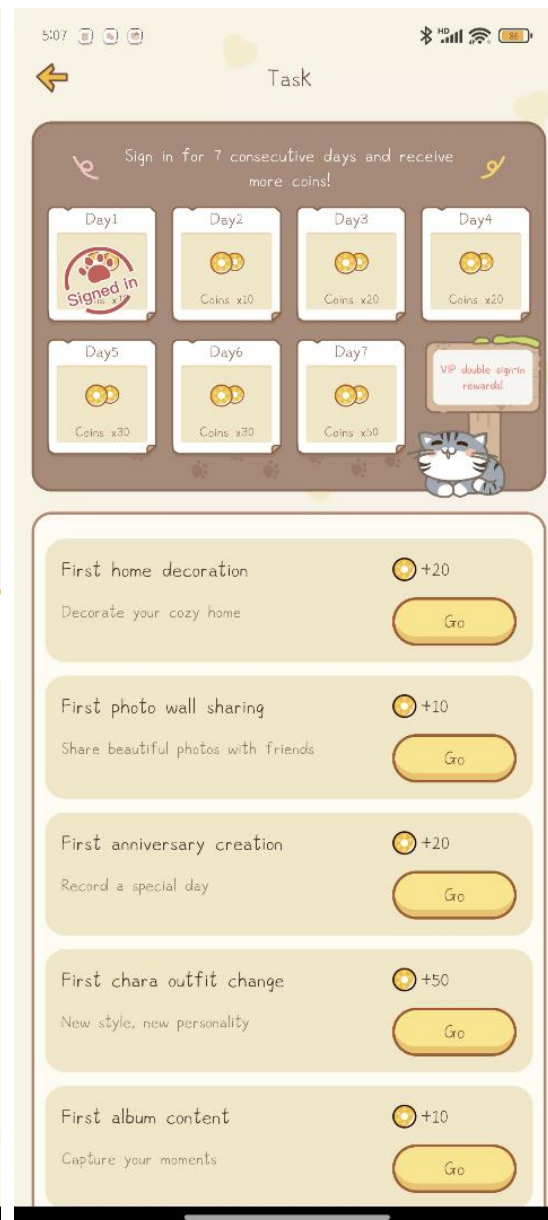
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Besides, there is also an Us page as Figure 2.24 that allows user to view their profile and settings. In this page, user is also allowed to view the steps of how to add widgets, how to send feedback about the app, the details of privacy policy of the app, change app's language, give review to the app, check the details of the app, unpair with partner and logout.
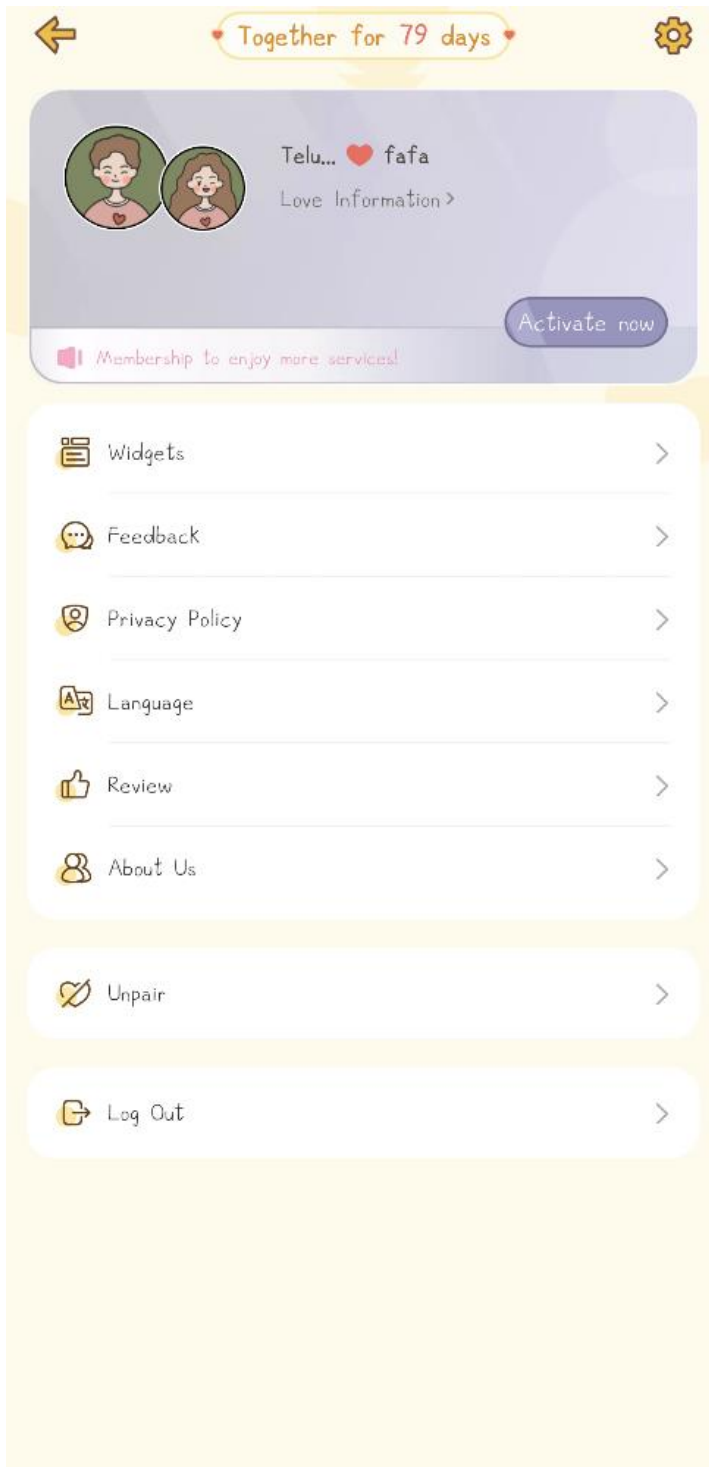
Figure 2.24 Couple2 Us Page

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User can click on the "Love information" beside the profile pictures to navigate to the profile details as Figure 2.25. Users can also edit their own profile and view their and their partners' profile.
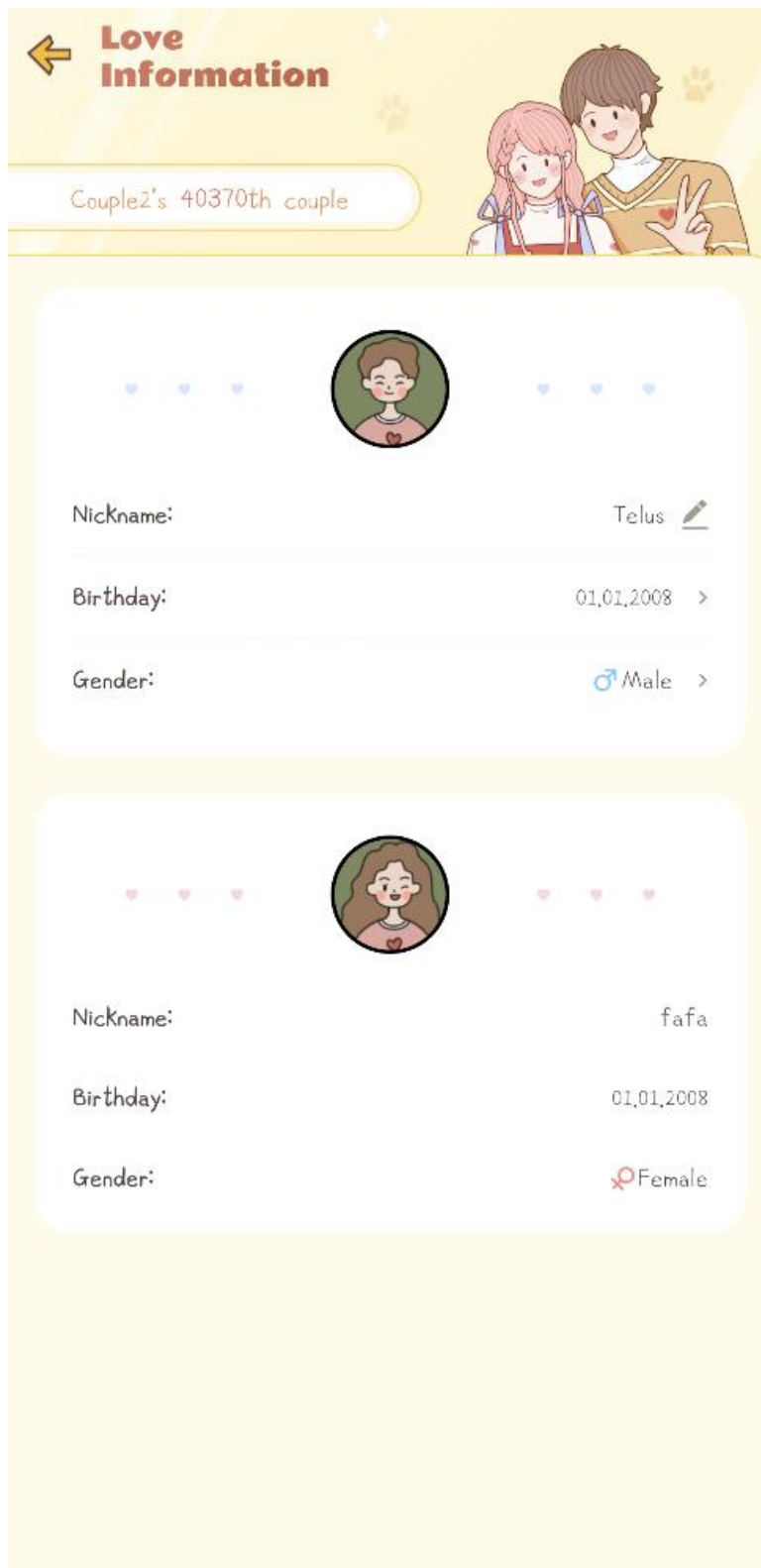
Figure 2.25 Couple2 Profile Details Page

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User can also press on the setting button on the right top corner of the Us page to view more setting where user can turn on or off the sound effects, change the background music as Figure 2.26 and delete their account.
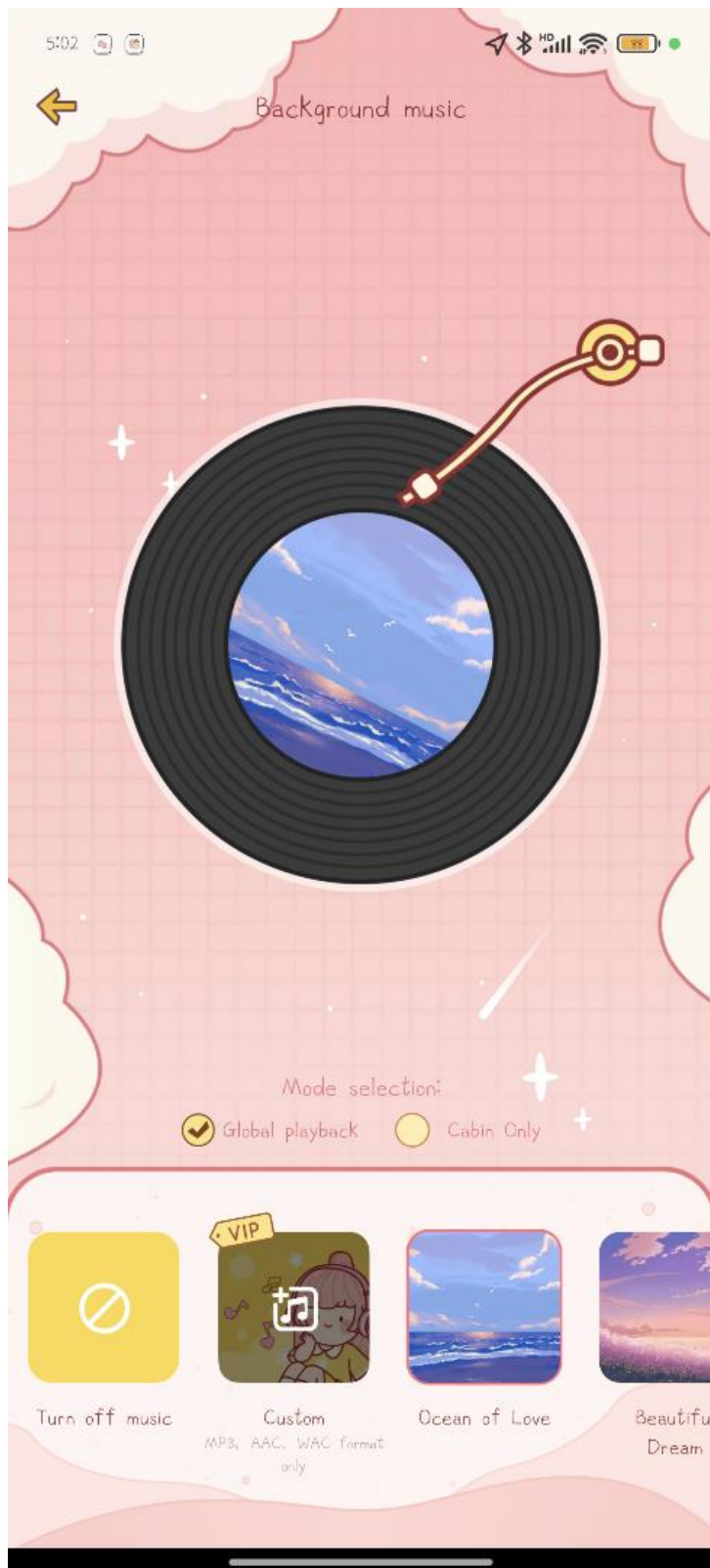
Figure 2.26 Couple2 Background Music Page

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Next, user can view the menu window as Figure 2.27 by pressing the coin bag icon which located at the middle of the bottom navigation bar.

Figure 2.27 Couple2 Menu Window

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The Diary icon navigates user to Diary page as Figure 2.28 which allows user to record their daily emotions and diary details. User can lock their dairy to prevent partner to view the diary details.

Figure 2.28 Couple2 Diary Page

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Next, the Notes icon navigates user to fridge note page as Figure 2.29 which allows users to write some notes as Figure 2.30 as reminder.
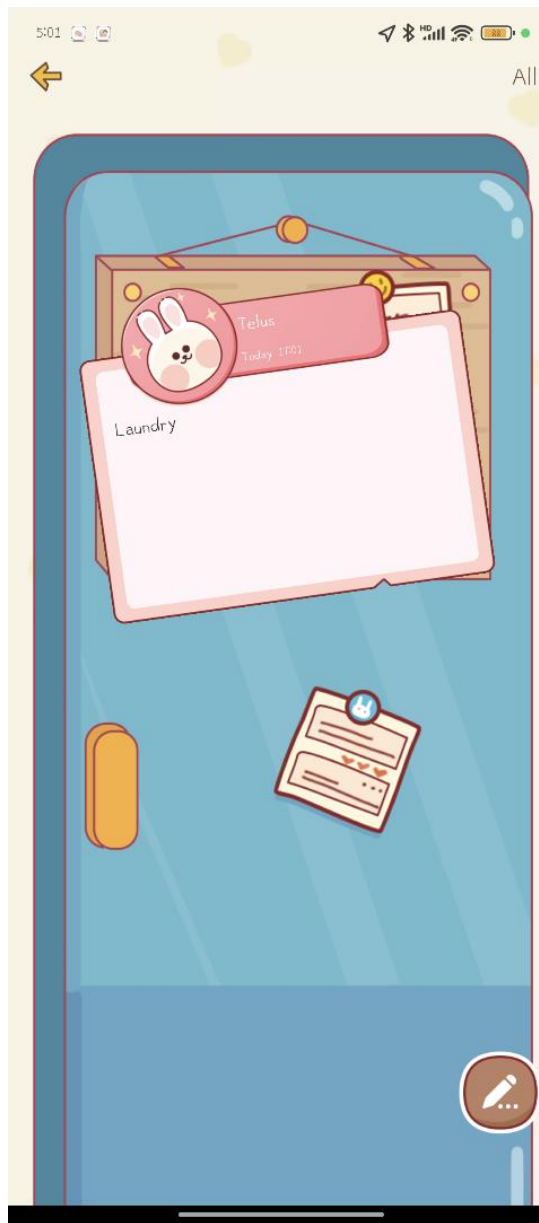
Figure 2.29 Couple Note Page – Fridge Note   *Figure 2.30 Couple2 Add Note Page*

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Then, the Occasions icon navigates user to Anniversary page as Figure 2.31 which allows users to view all the upcoming events. User can also add or edit events as Figure 2.32.

Figure 2.31 Couple2 Occasion Page – Anniversary

Figure 2.32 Couple2 Edit Anniversary Page

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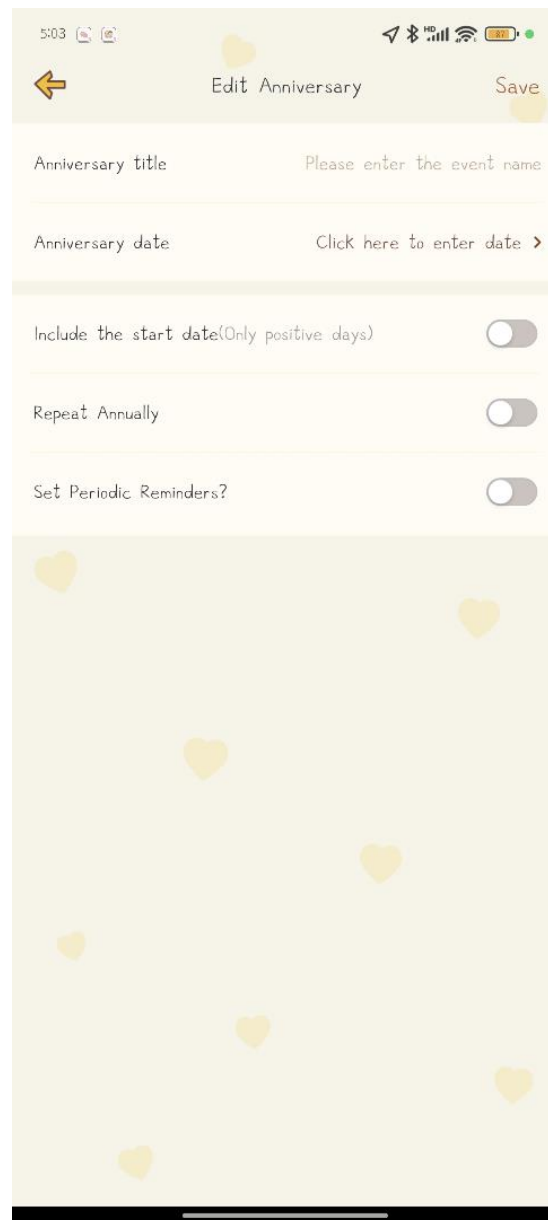
Following is the Album icon that navigates user to the album page as Figure 2.33 and
Figure 2.34. In this page, users are allowed to view and upload pictures and videos.
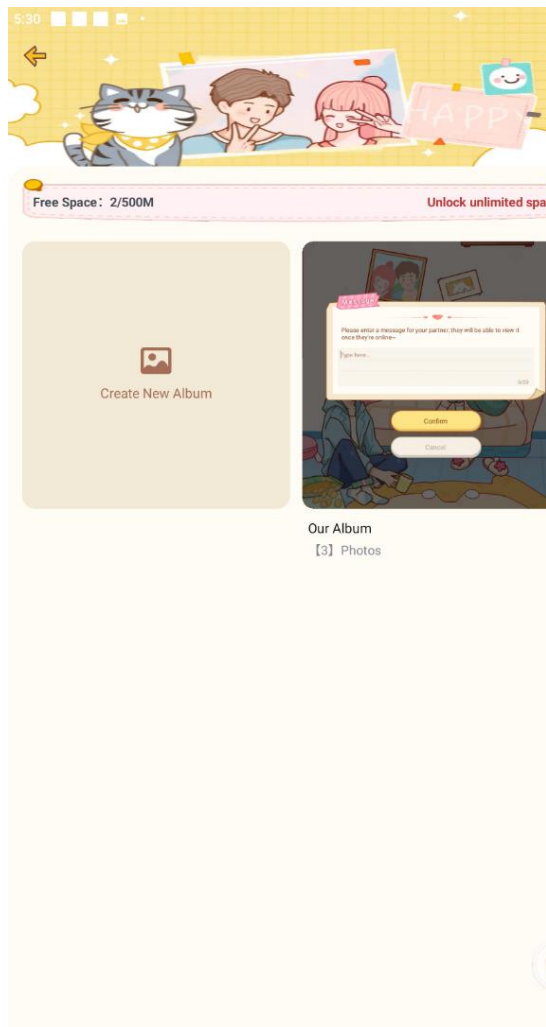
Figure 2.33 Couple2 Album Page 1   *Figure 2.34 Couple2 Album Page 2*
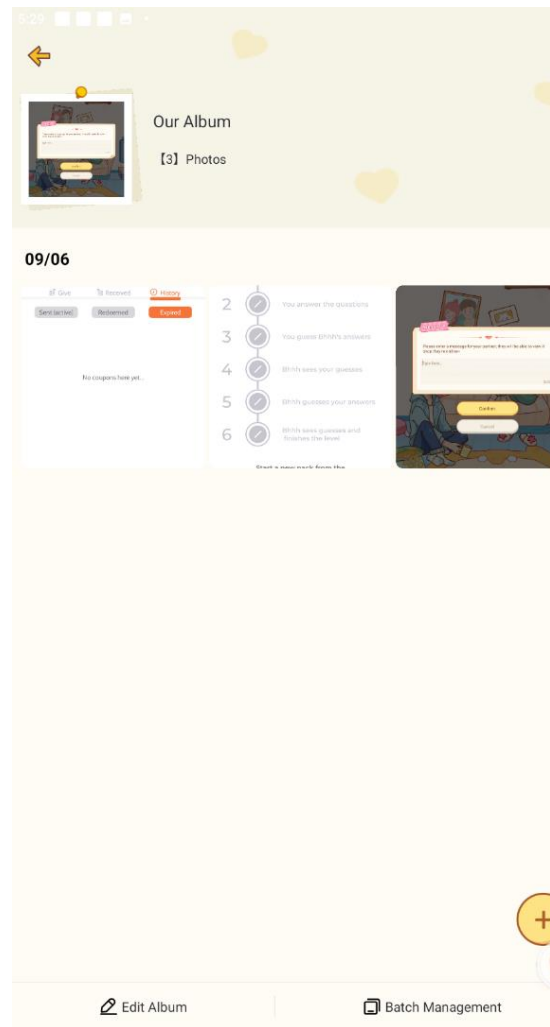
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Besides, the List icon navigates user to the Love Checklist page as Figure 2.35 and
Figure 2.36 that allows users to view and create tasks that need to complete as reminder.
User can upload a picture onto the specific task and edit the task details as Figure 2.37.
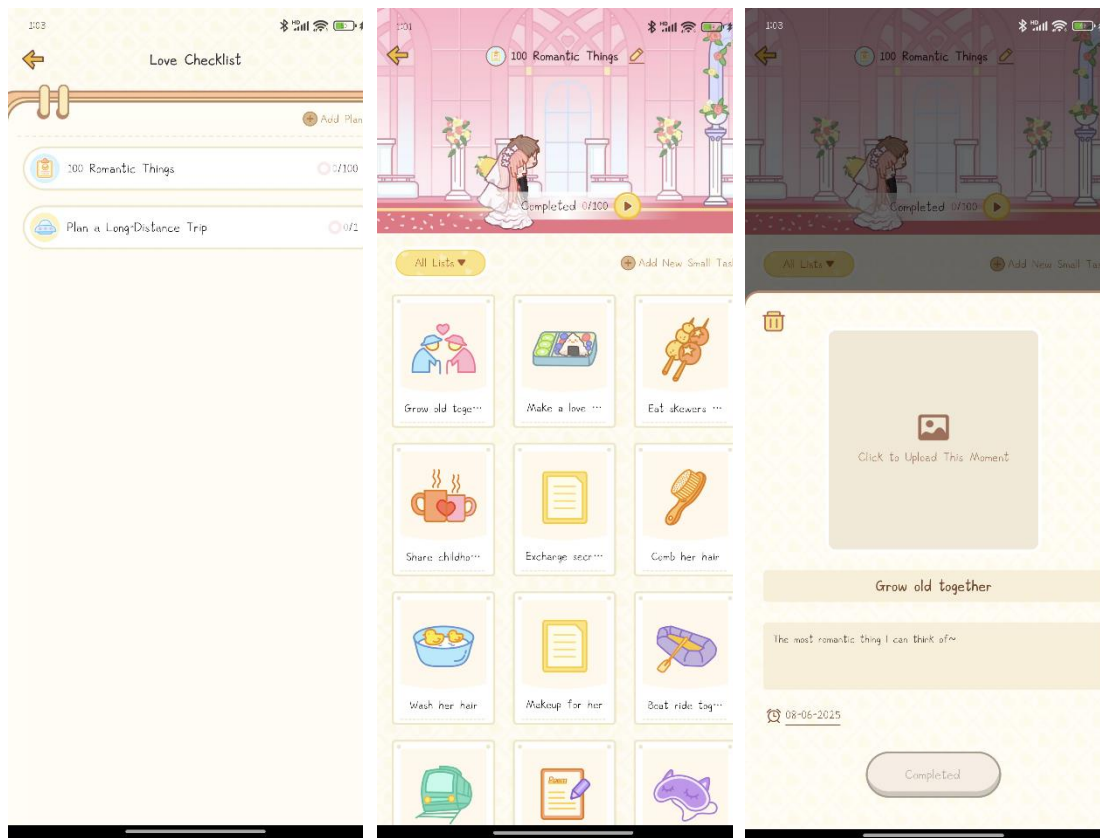
Figure 2.35 Couple2 List Page – Task Category View

Figure 2.36 Couple2 List Page – Task View

Figure 2.37 Couple2 List Page – Add Task

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Lastly, is the Pic Drop feature that navigates user to the Pic Drop page as Figure 2.38. User can snap or upload a picture and send to partner. Then, the partner can view the picture sent by the user through the widget on the home screen of their phone as Figure 2.39 after the widget is added to the home screen of the phone.

Figure 2.38 Couple2 Pic Drop Page – Widget
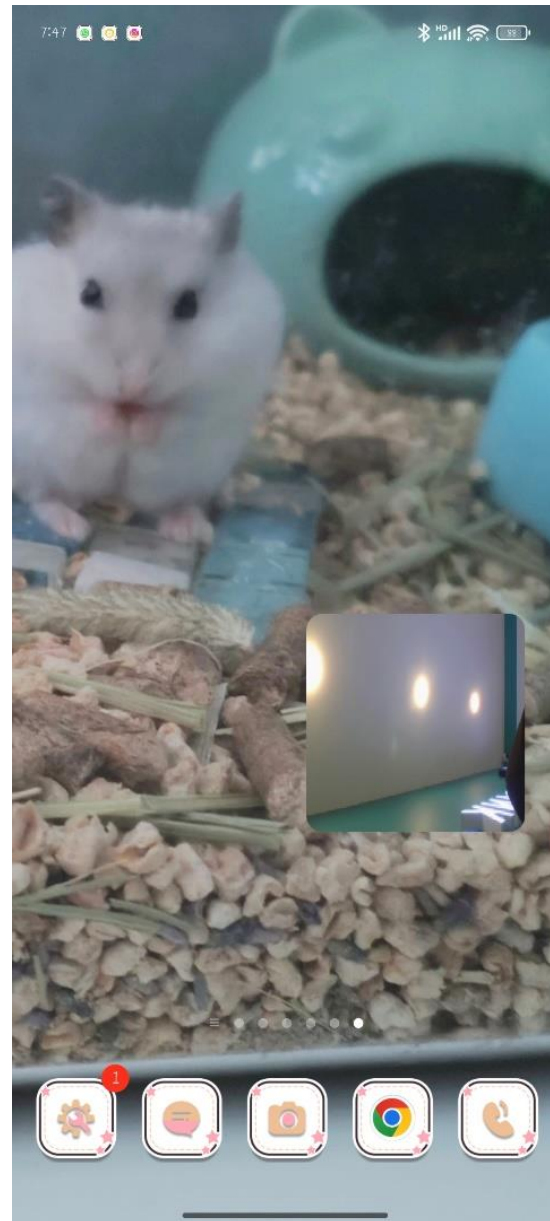
Figure 2.39 Couple2 Pic Drop Page – Widget View on Phone Home Screen

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User can also view the picture sent in the past period in the history of Pic Drop page below as Figure 2.40. User is allowed to delete and view one-by-one or in gallery form as Figure 2.41.
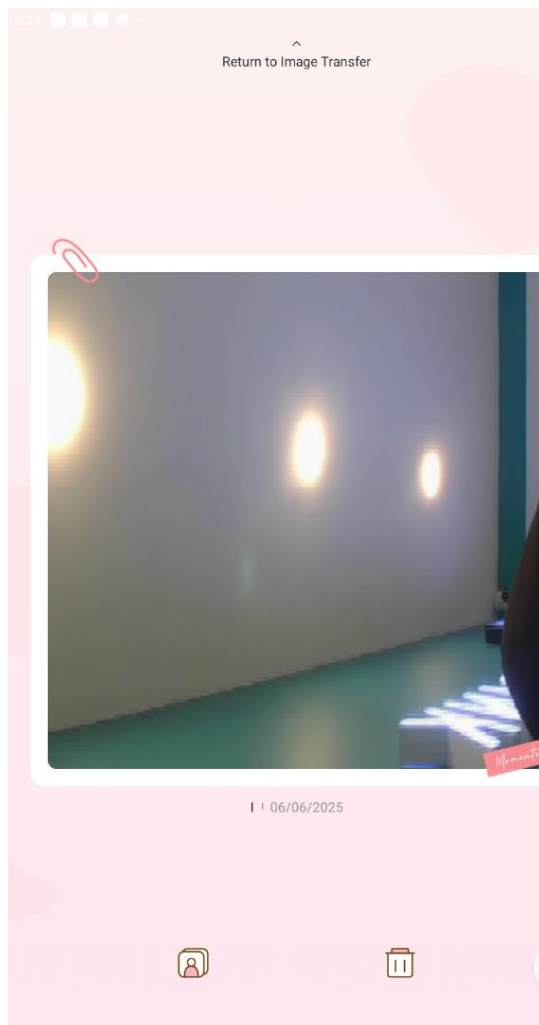
Figure 2.40 Couple2 Pic Drop Page – History Page 1
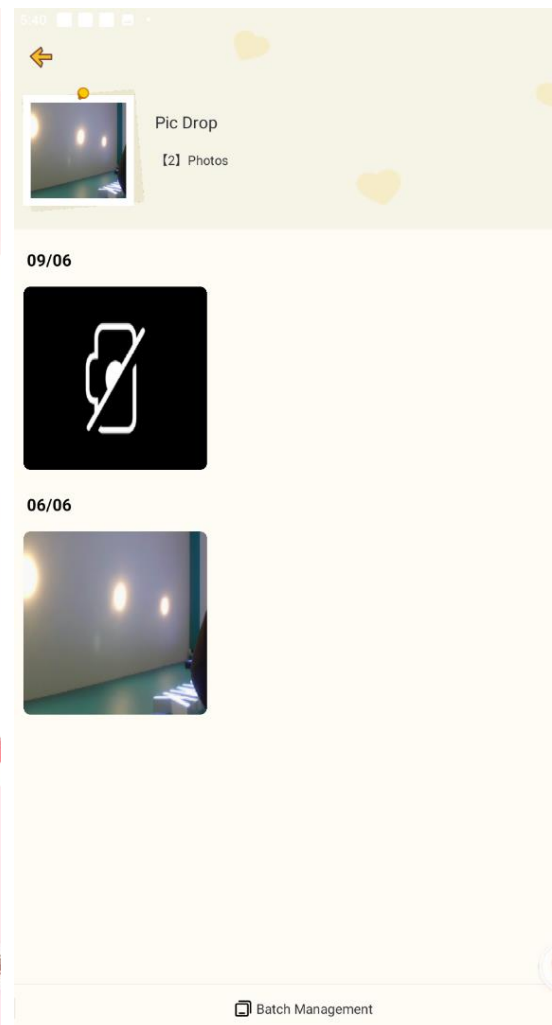
Figure 2.41 Couple2 Pic Drop Page – History Page 2

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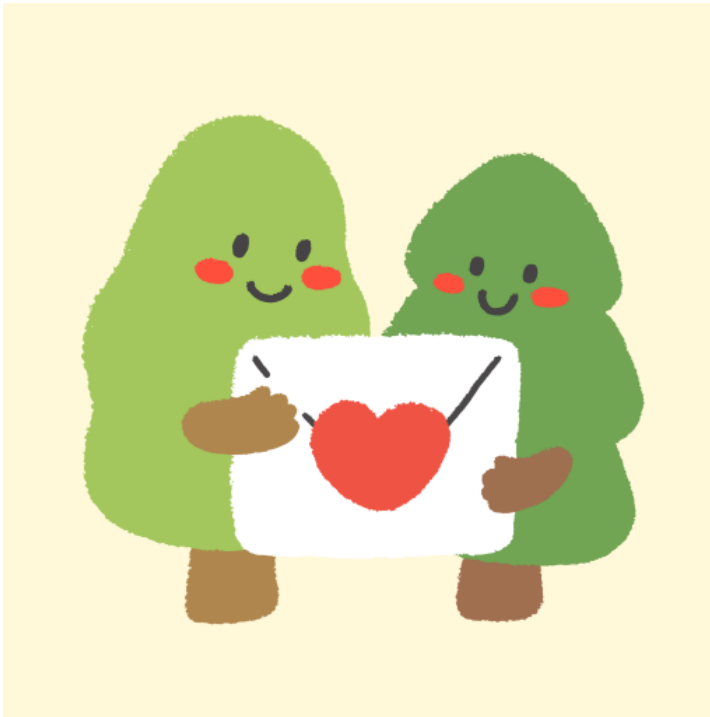
2.2.3 Couple Tree

Figure 2.42 Couple Tree Logo

Couple Tree, also known as Memory Tree, is also a mobile application that help couples to improve their relationships by Hayoung Koh and it is launched in year 2021 [33].

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In Couple Tree, there is a daily question pop up in the main page which is Today page, which allows users and partners to answer as Figure 2.43. There is also an Evening Diary that allows users to choose about topic they want to write as their daily diary records as Figure 2.44.
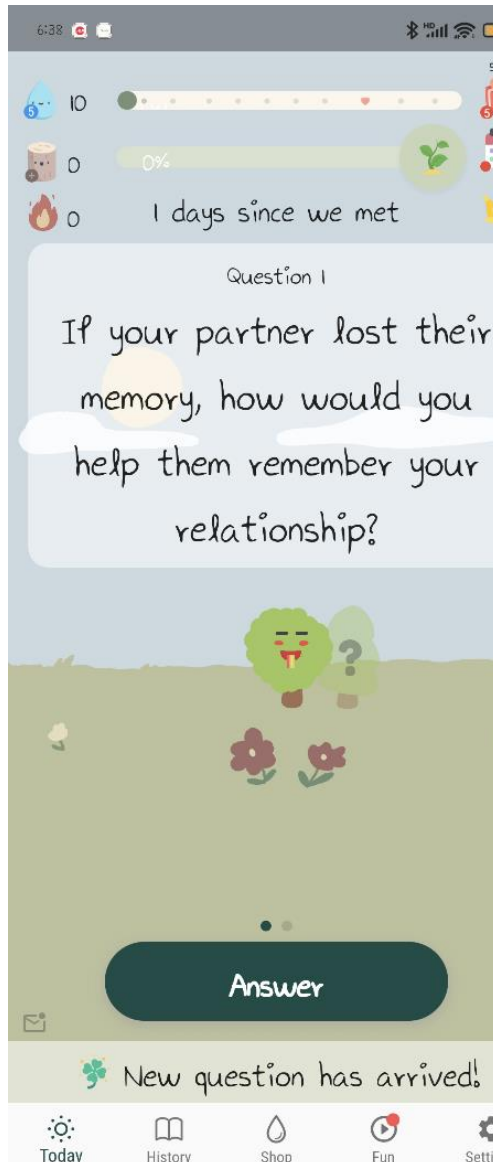
Figure 2.43 Couple Tree Main Page – Today Page 1
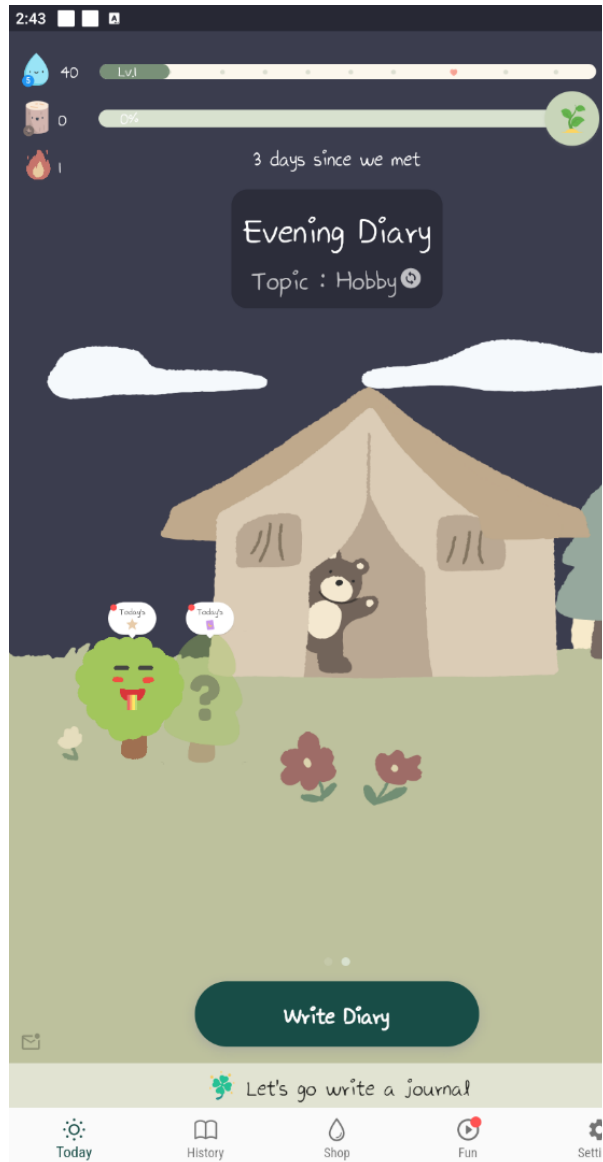
Figure 2.44 Couple Tree Main Page – Today Page 2

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In the answer page, users are allowed to insert their answer and representative emoji or sticker as Figure 2.45 and Figure 2.46.
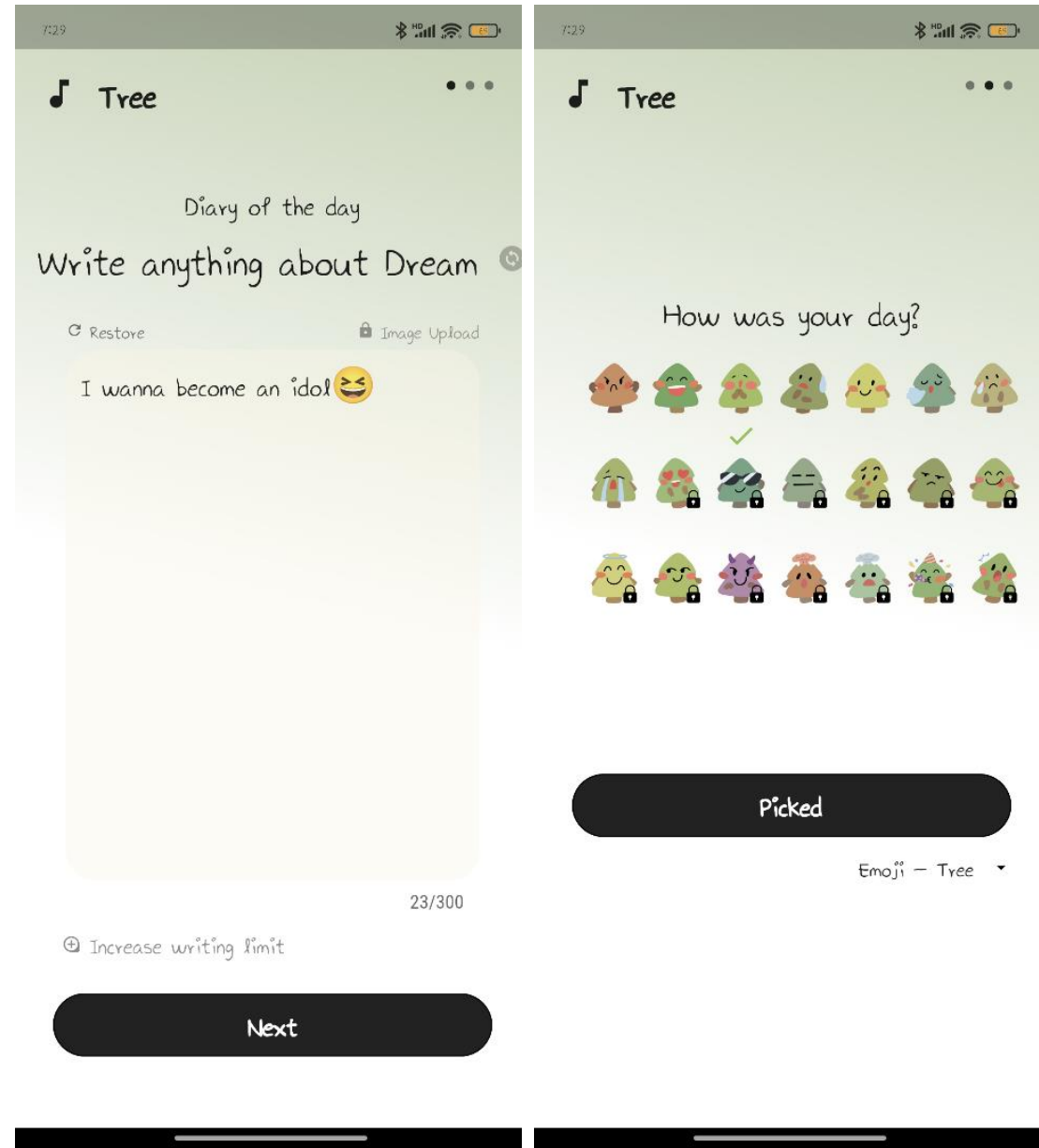
Figure 2.45 Couple Tree Edit Question Page 1

Figure 2.46 Couple Tree Edit Question Page 2

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Then, in History page, users is allowed to view the answered questions included the Warm-up question in the Journal section as Figure 2.47, answer the questions and dairy if they have not and discuss about the related questions or topics in the specific section as Figure 2.48. There is also a virtual space like Couple2, called virtual forest which allows users and their partners to customize and decorate with the trees and characters they claim from the daily sign-in or shop.
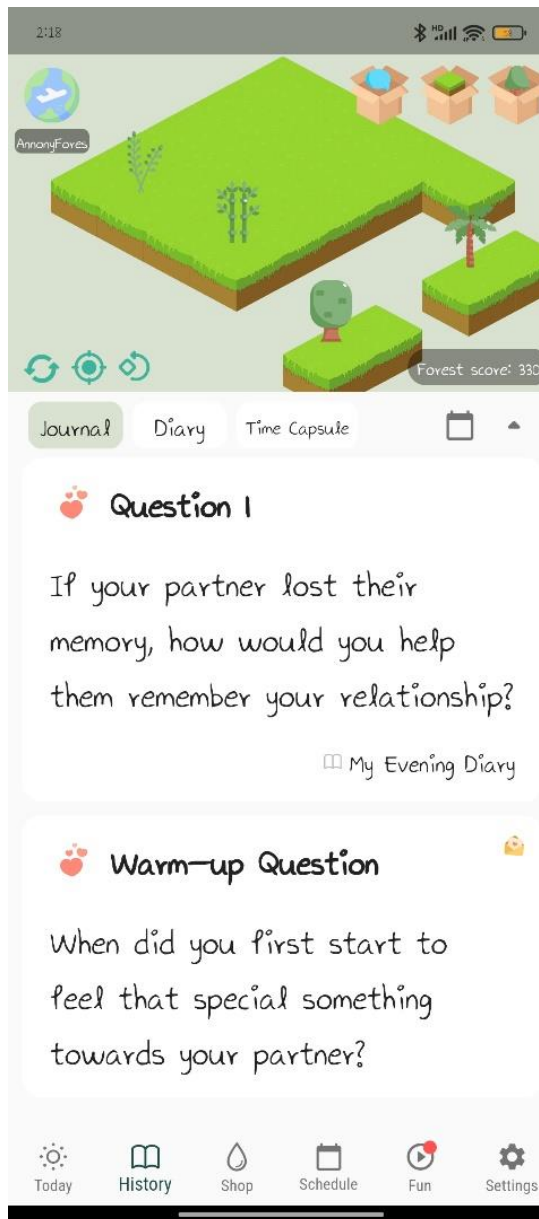
Figure 2.47 Couple Tree History Page – Journal Section 1
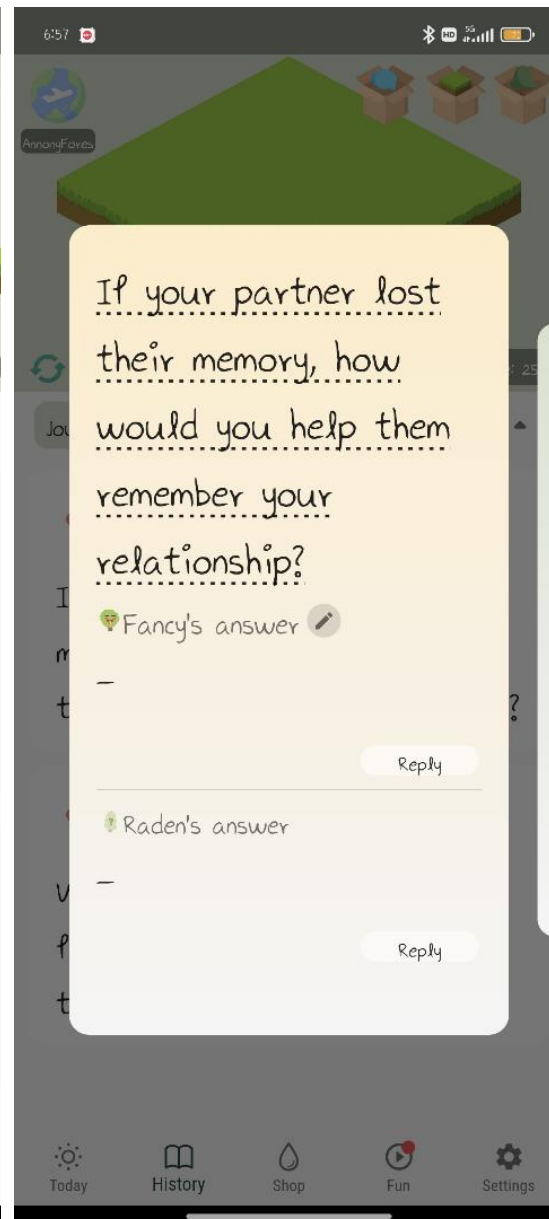
Figure 2.48 Couple Tree History Page – Journal Section 2

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Then, in Diary section, users are allowed to view the written diaries as Figure 2.49 and discuss about the content in the section similar as the Journal section.
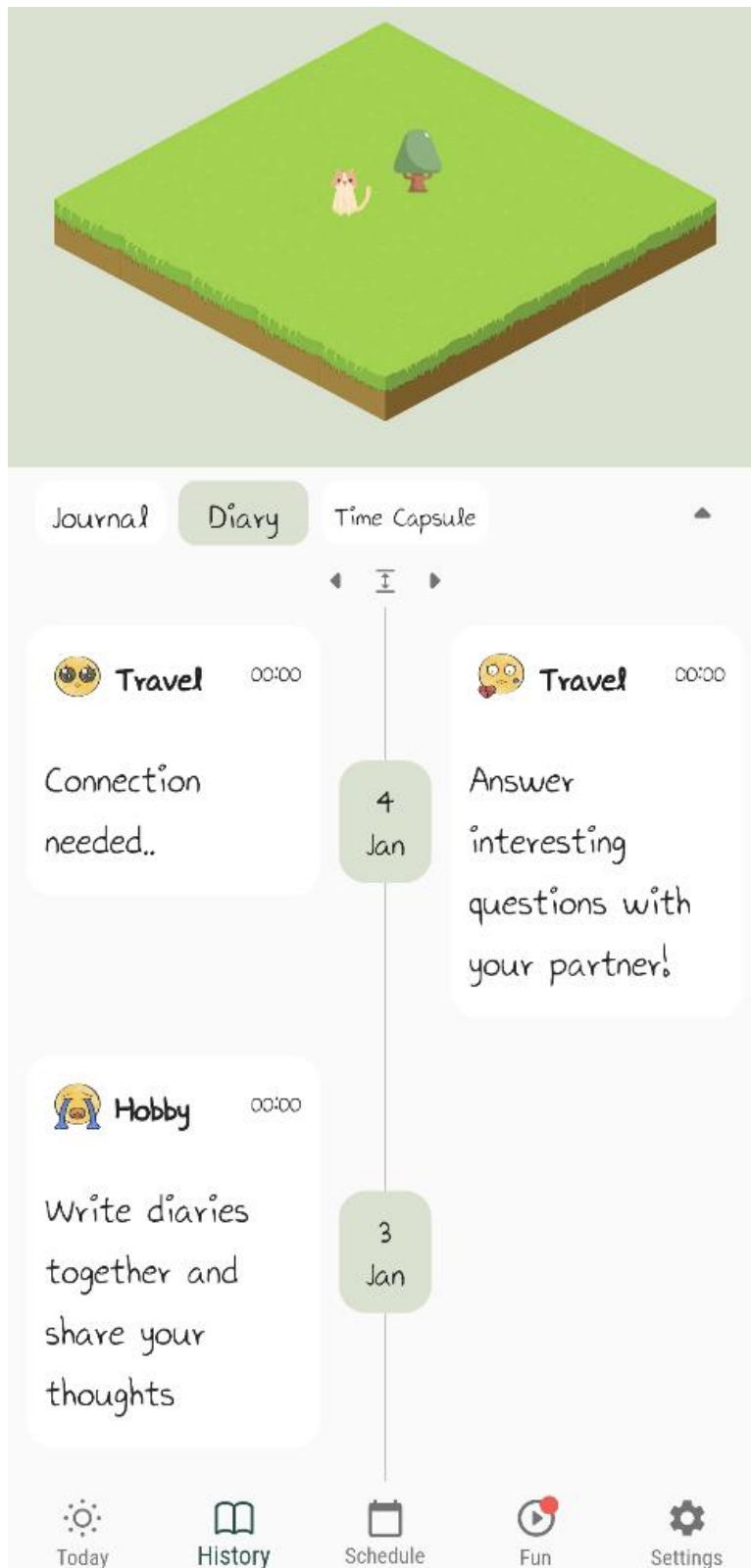
Figure 2.49 Couple Tree History Page – Diary Section

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There is also a Time Capsule section which allows users to write messages to their future self as Figure 2.50.
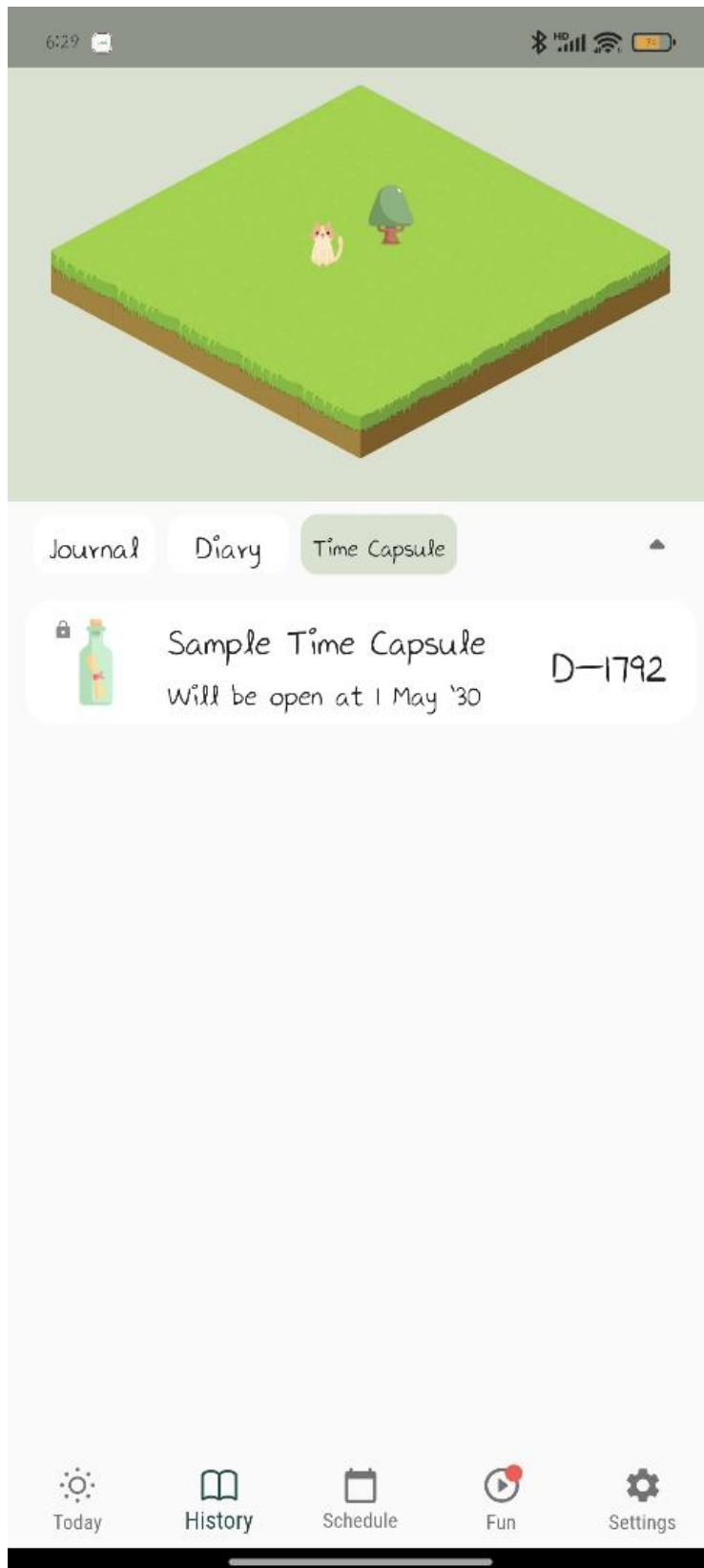
Figure 2.50 Couple Tree History Page – Time Capsule Section

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Besides, there is a calendar icon in the History page that navigates users to a calendar as Figure 2.51, or is called schedule, that shows the records of diaries, questions done and the schedules in the calendar. There are also list feature and add schedule feature as Figure 2.52 at the bottom of the page.
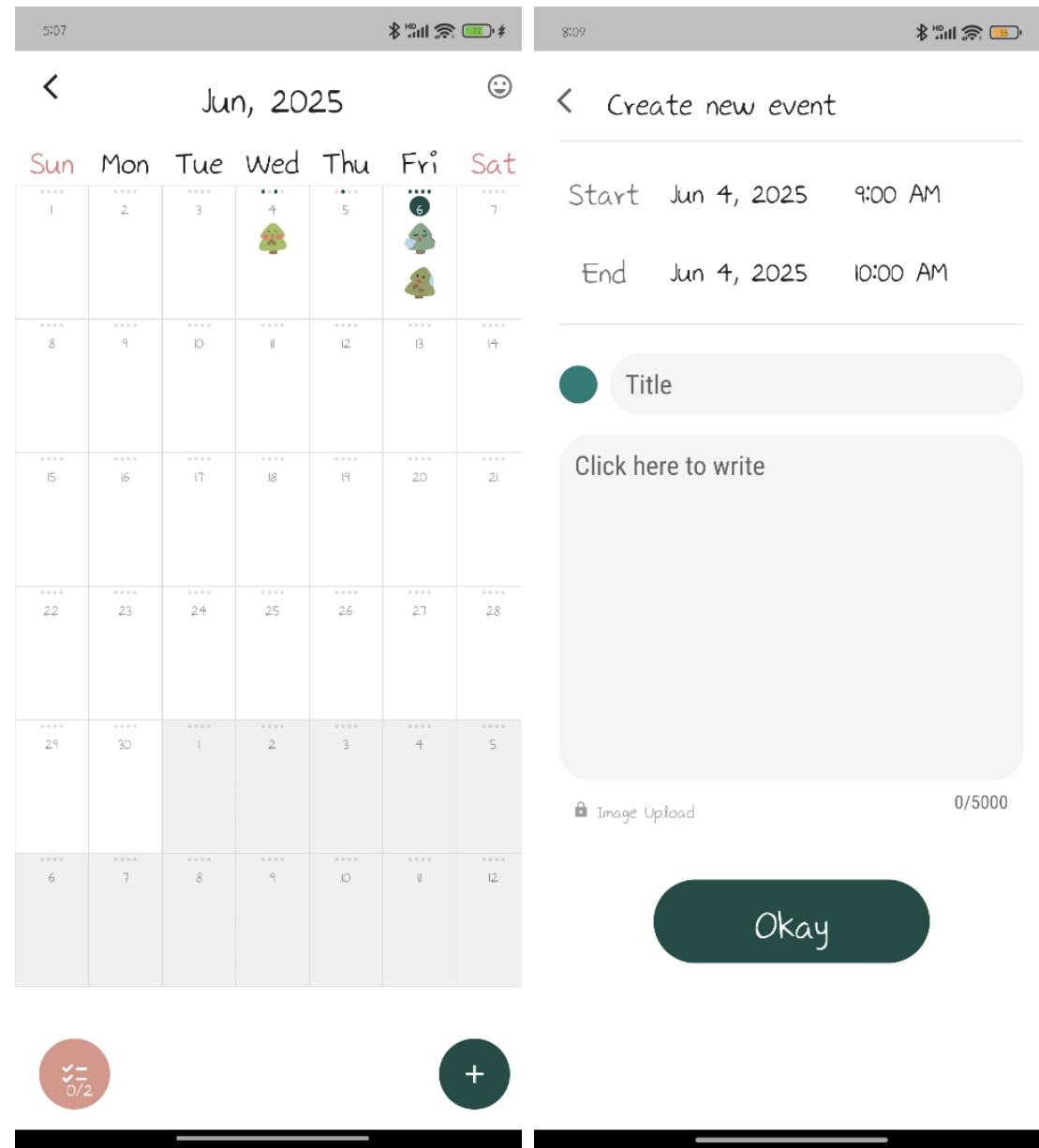
Figure 2.51 Couple Tree Schedule Page

Figure 2.52 Couple Tree Schedule Page – Add New Schedule/Event

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In the list feature as Figure 2.53 which is also called Our Goals page, users can view the tasks shown based on the inserted categories, edit and add their tasks or goals as Figure 2.54.
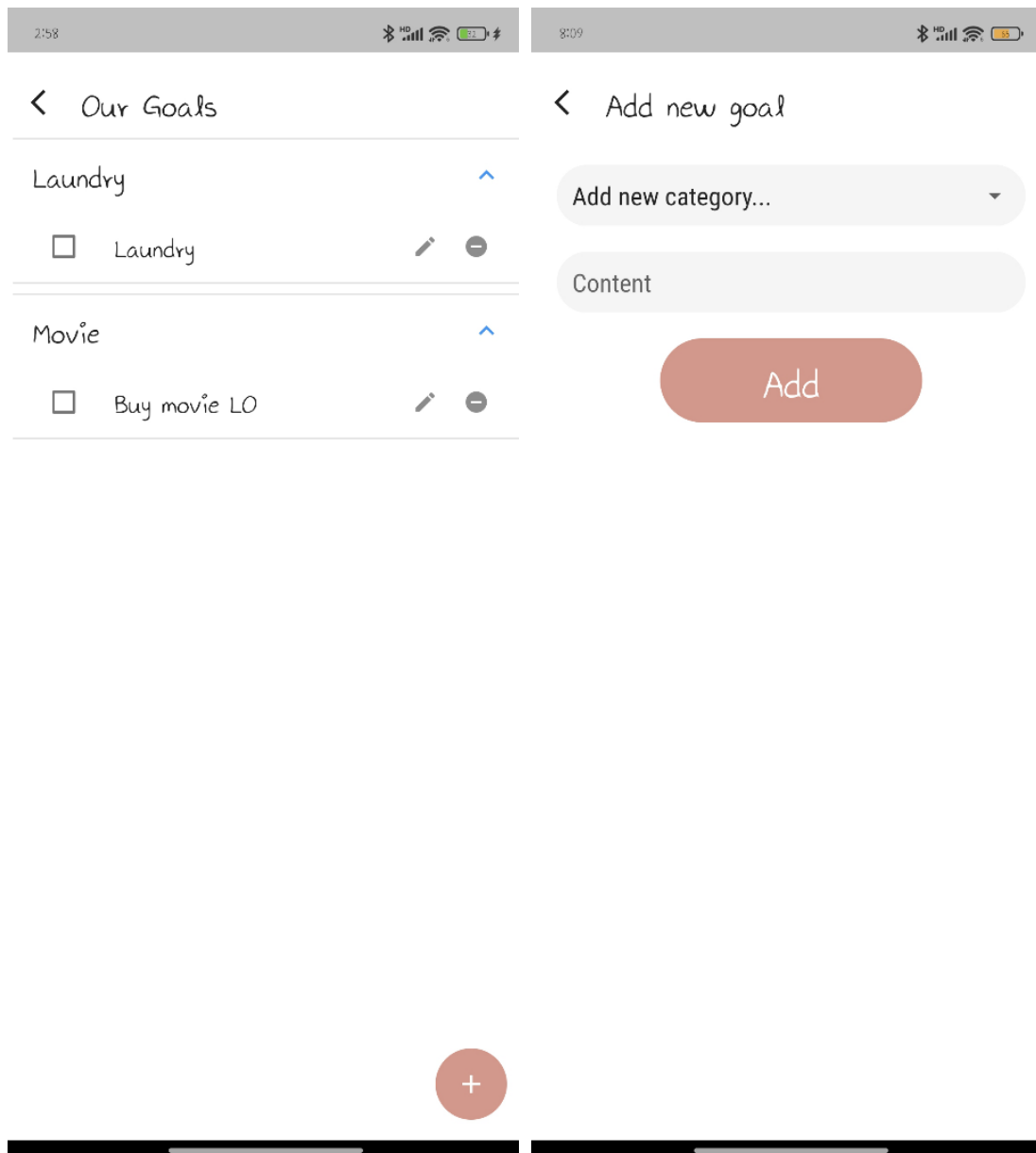
Figure 2.53 Couple Tree Schedule Page - List Feature

Figure 2.54 Couple Tree Schedule Page - Add List

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To change between the diaries, questions and schedules emojis, users will need to press on the icon at the right top corner of the page and the system will display the diaries emojis as Figure 2.55, questions emoji as Figure 2.56 and schedules as Figure 2.57. The area above belongs to users while the area below belongs to their partners. This allows users and their partners to view and edit the details in the calendar.
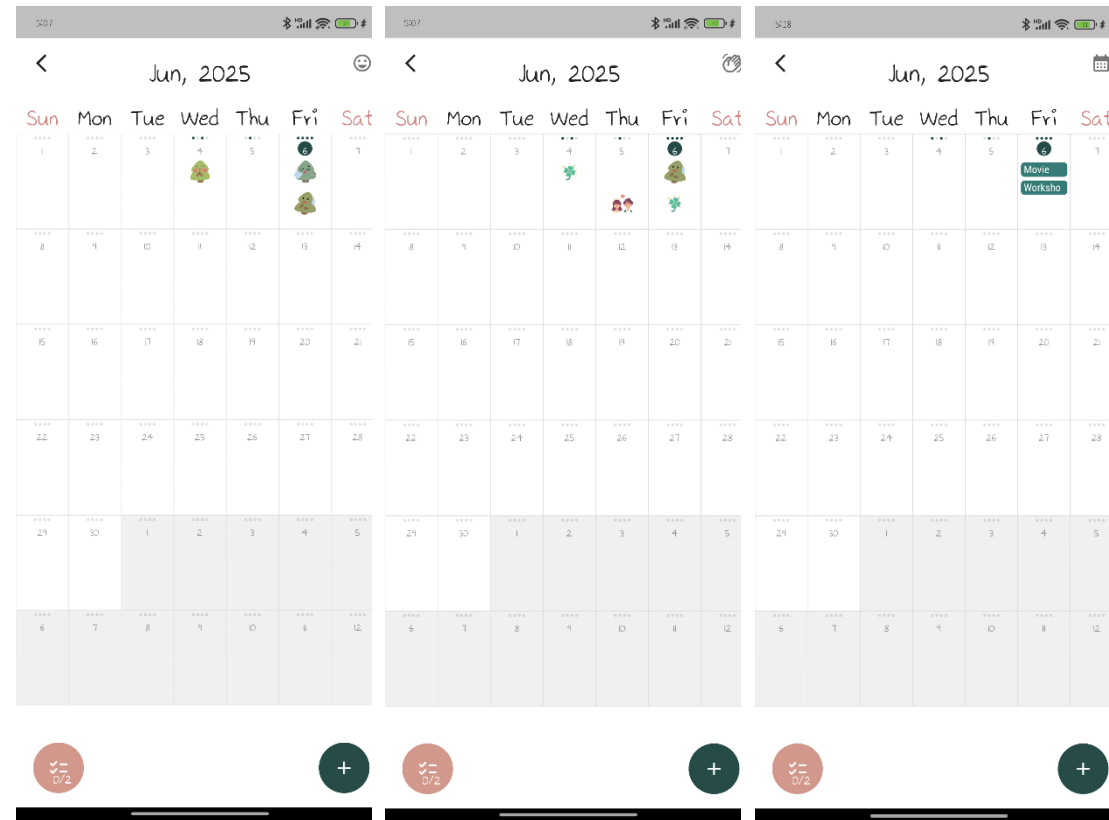
Figure 2.55 Couple Tree Schedule Page Diary View Mode

Figure 2.56 Couple Tree Schedule Page Question View Mode

Figure 2.57 Couple Tree Schedule Page Event View Mode

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Users can also view the details in the calendar as Figure 2.58 when they pressed on the date.
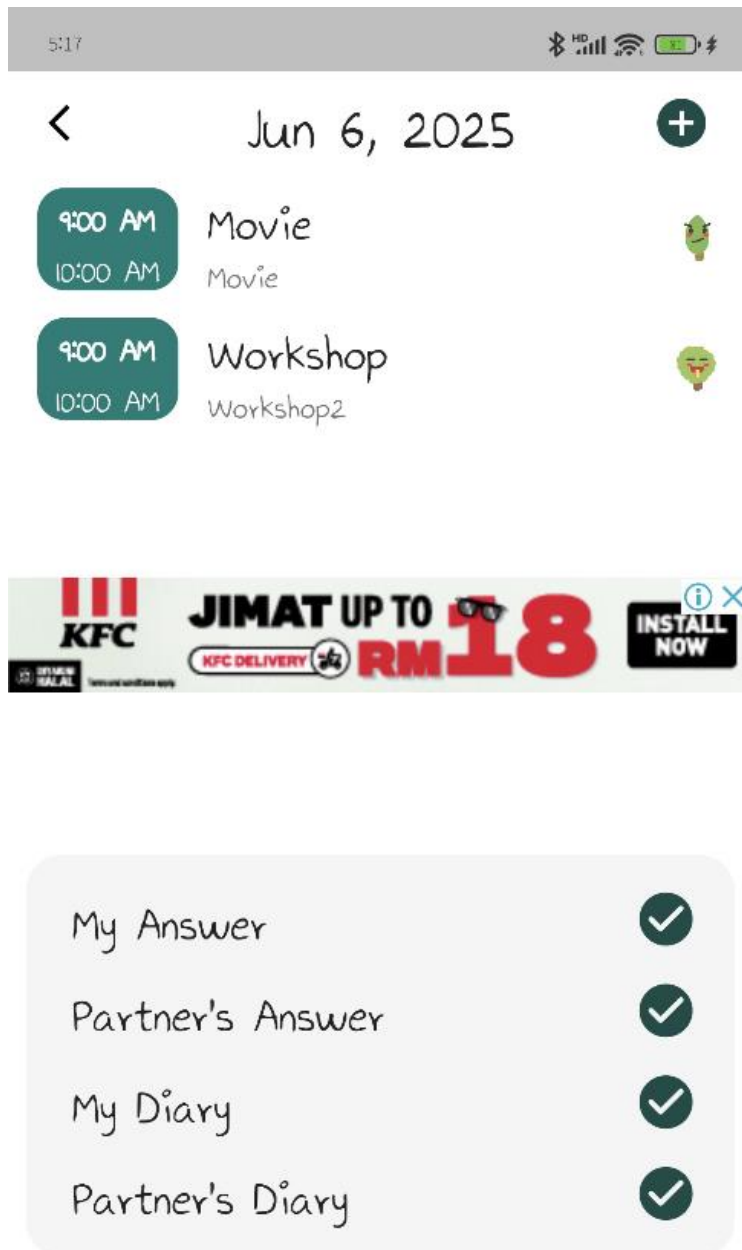
Figure 2.58 Couple Tree Schedule Page – Specific Date Details Page

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Users can view, edit the details of the schedules and have discussions about the schedule as Figure 2.59.
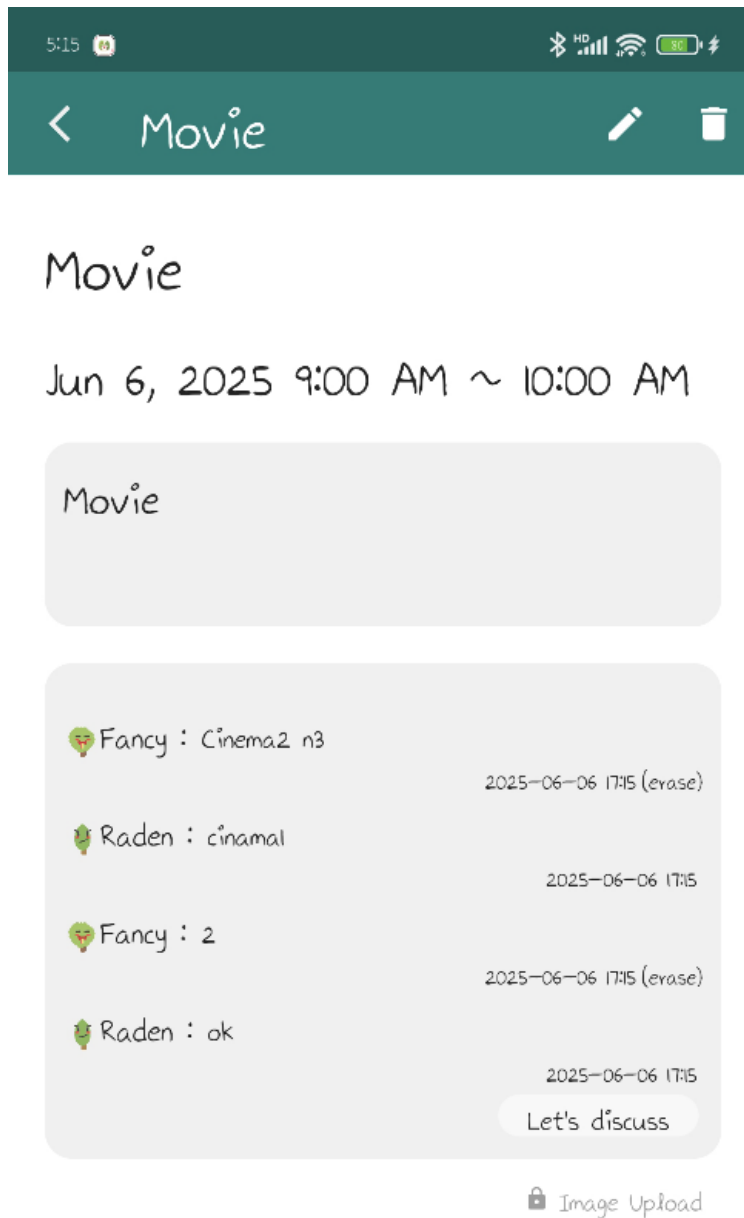
Figure 2.59 Couple Tree Schedule Page – Edit Event Details

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Next, the Shop page as Figure 2.60 allows users to exchange things like trees, persons, pets and land to decorate their virtual forest in the History page mentioned above by the droplets which is Couple Tree's currency [33].
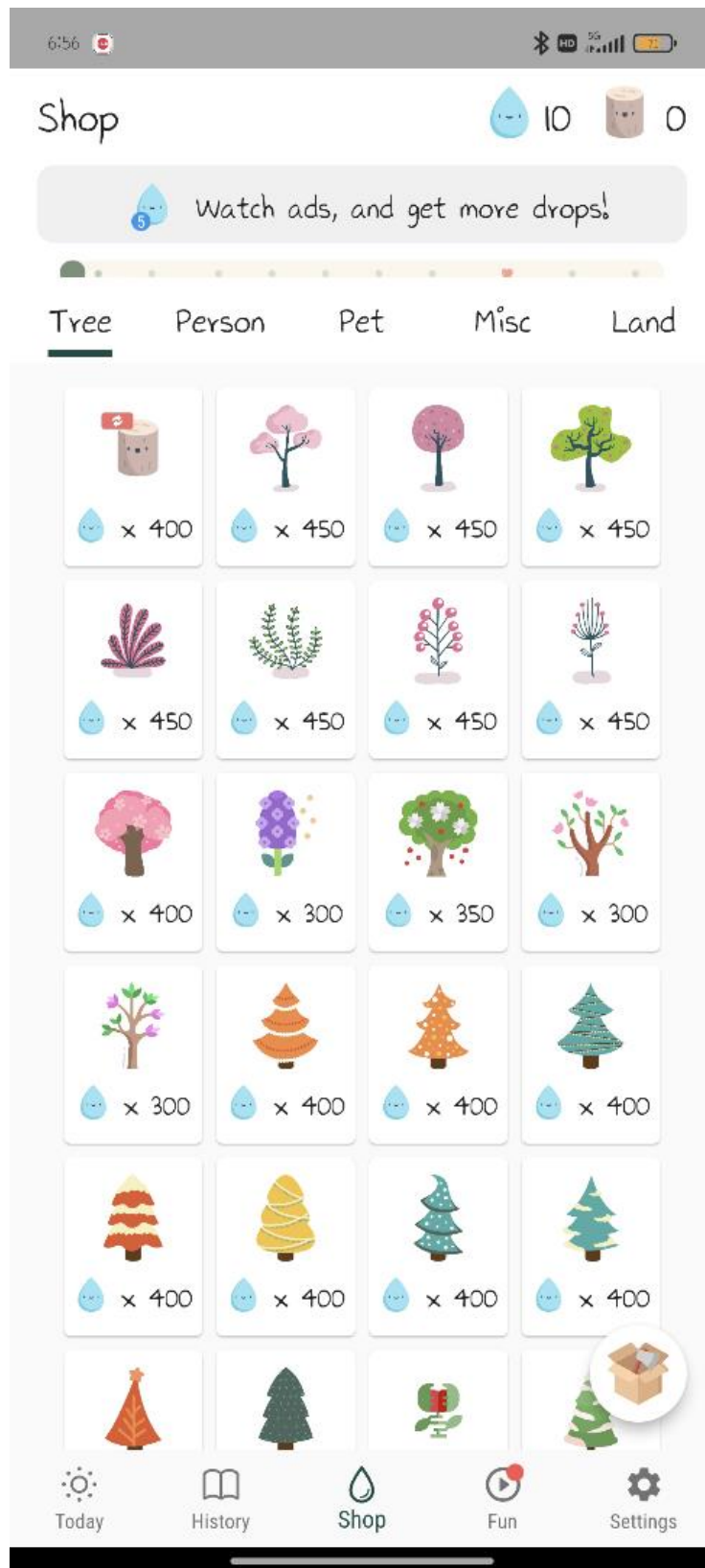
Figure 2.60 Couple Tree Shop Page

Following is the Fun page as Figure 2.61 that allows users to play and have fun with their partners. In Balance Game section, users are allowed to test their relationship MBTI and their preferences among the couples themselves.
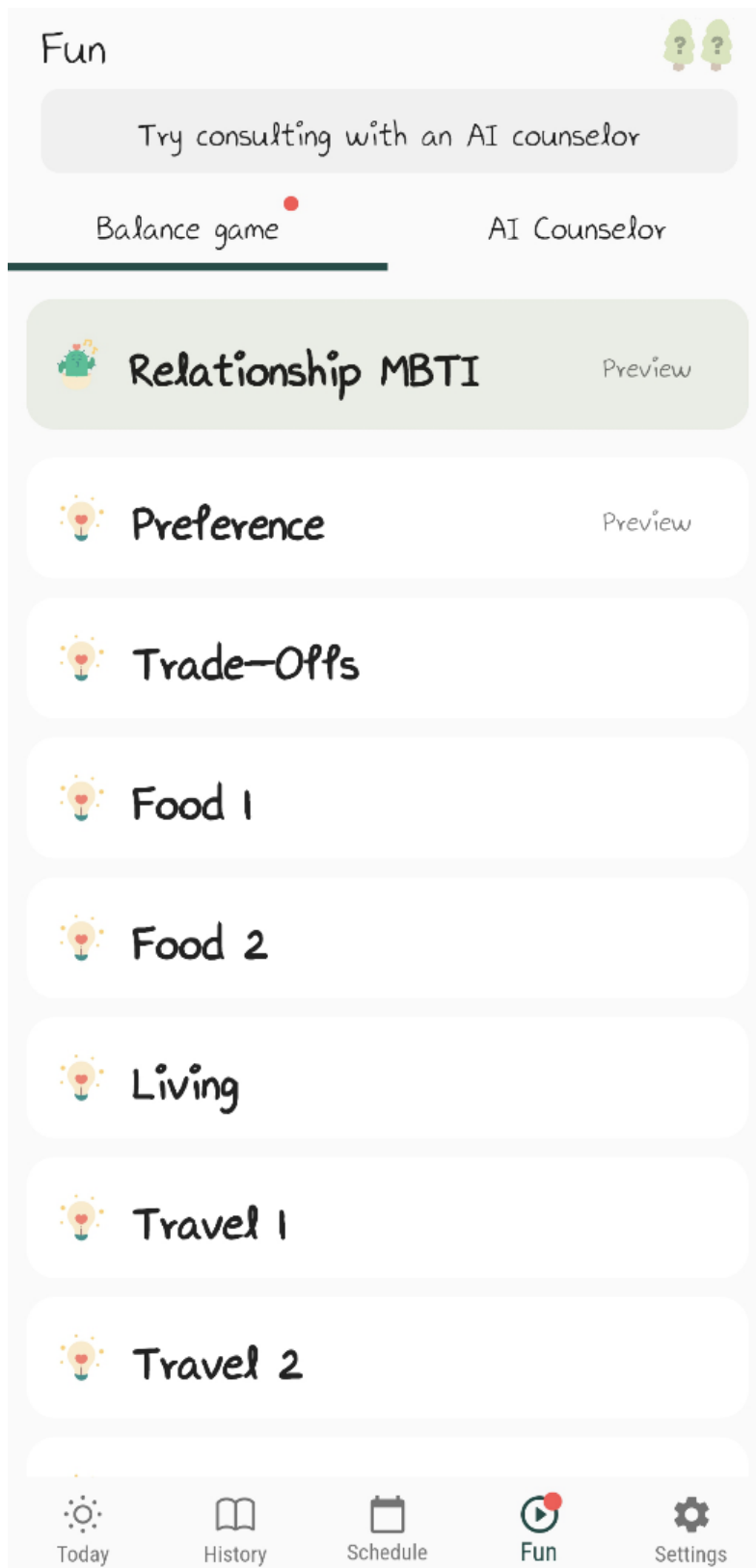
Figure 2.61 Couple Tree Fun Page - Balance Game Section

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Figure 2.62 and Figure 2.63 shows the relationship MBTI pages and users will need to answer all the questions.
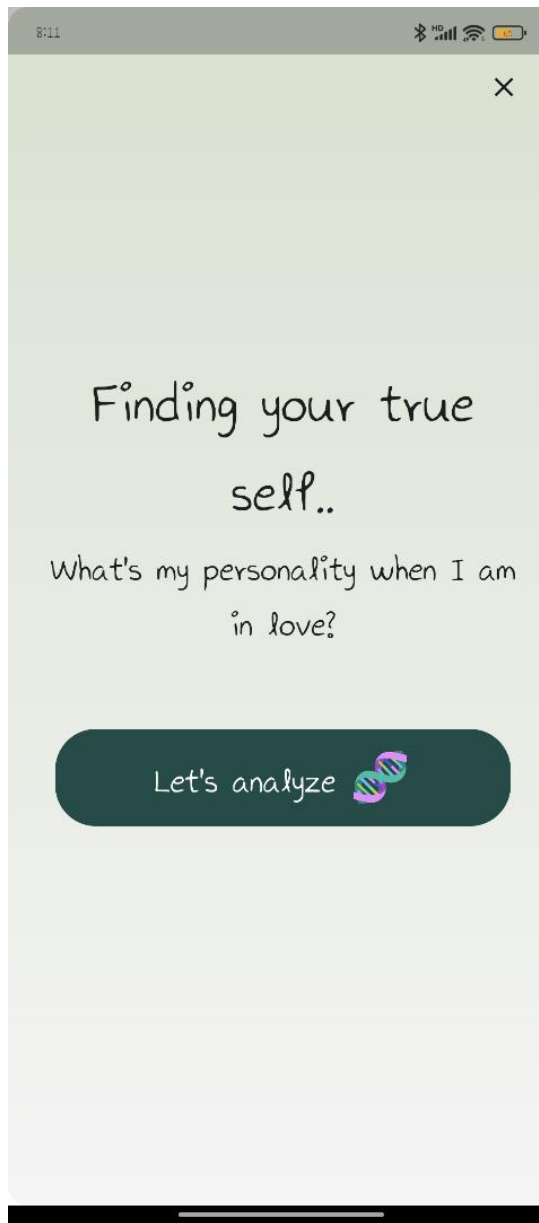
Figure 2.62 Couple Tree Fun Page - Balance Game Section - Relationship MBTI Page
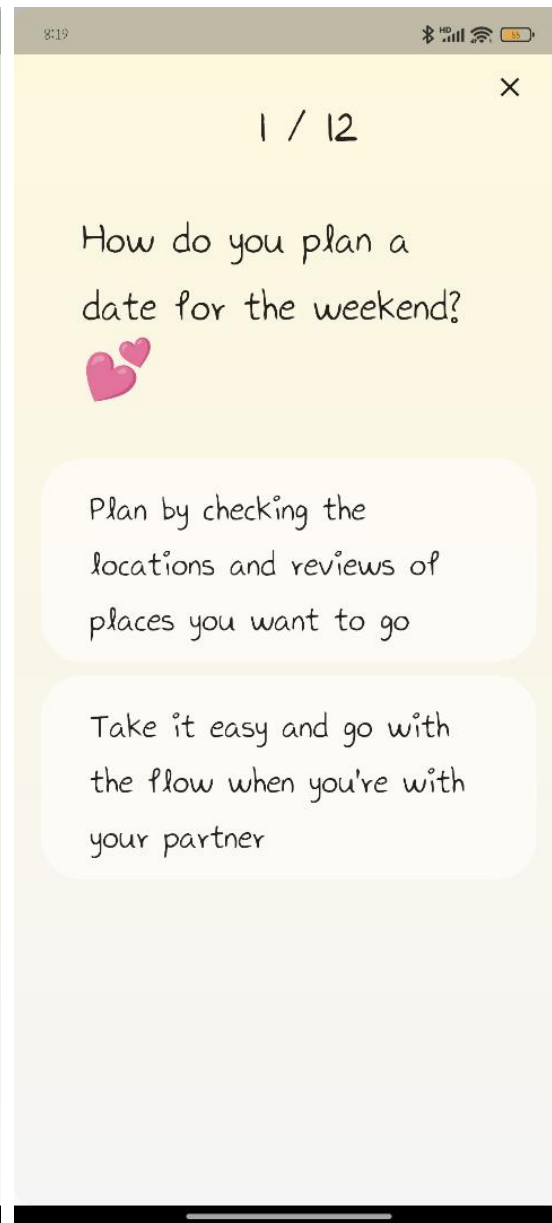
Figure 2.63 Couple Tree Fun Page - Balance Game Section - Relationship MBTI Question

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Figure 2.64 and Figure 2.65 shows the results of the relationship MBTI.
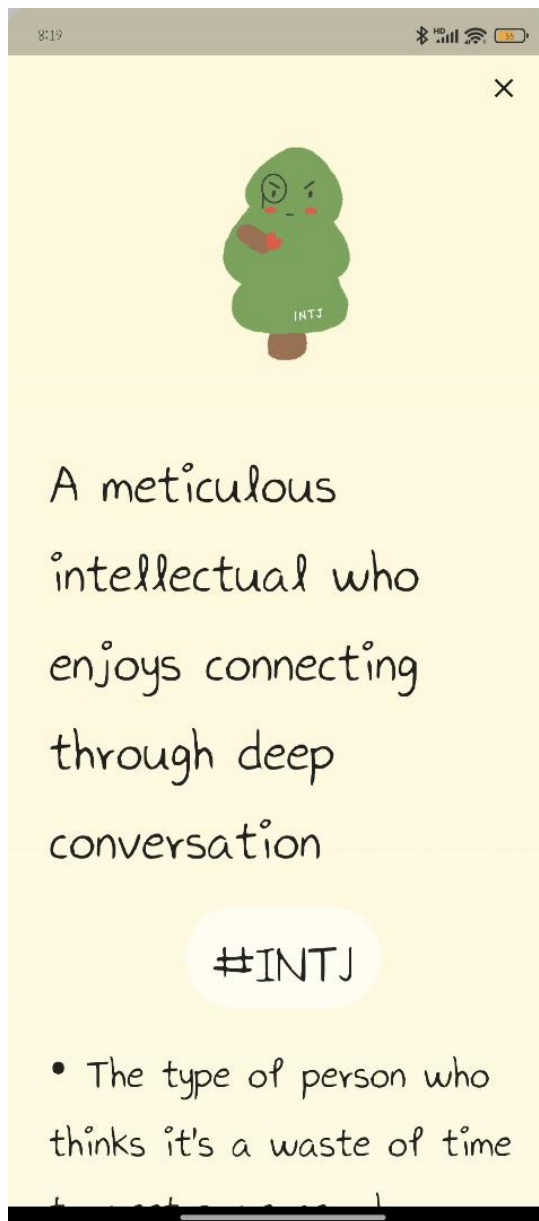
Figure 2.64 Couple Tree Fun Page - Balance Game Section - Relationship MBTI Results 1
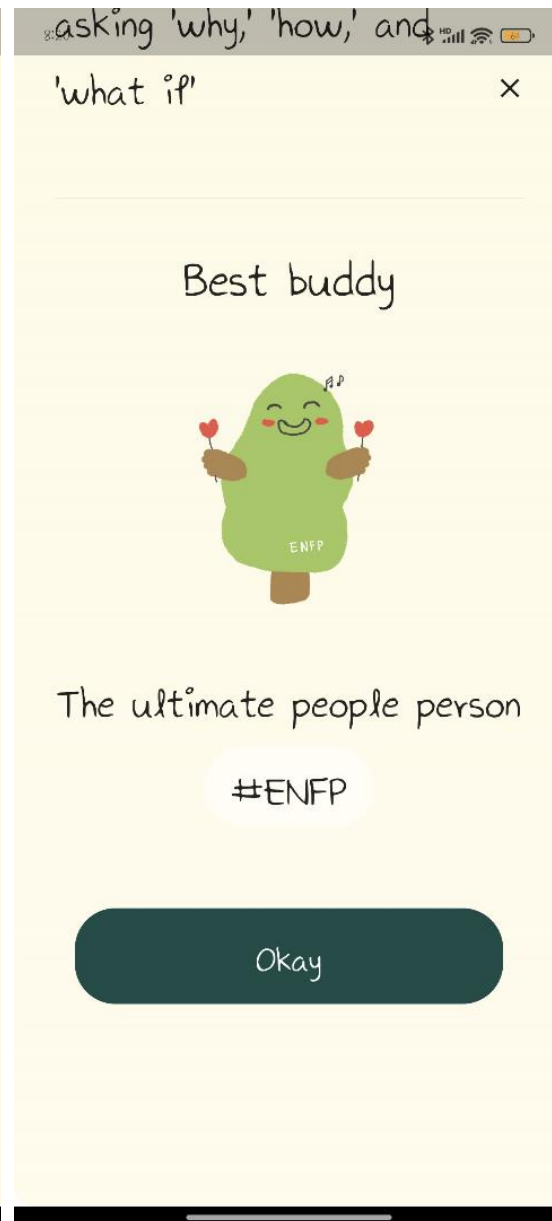
Figure 2.65 Couple Tree Fun Page - Balance Game Section - Relationship MBTI Results 2

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For the other question topics, users can just choose their preferred answers as Figure 2.66 and wait for their partners to answer as Figure 2.67.
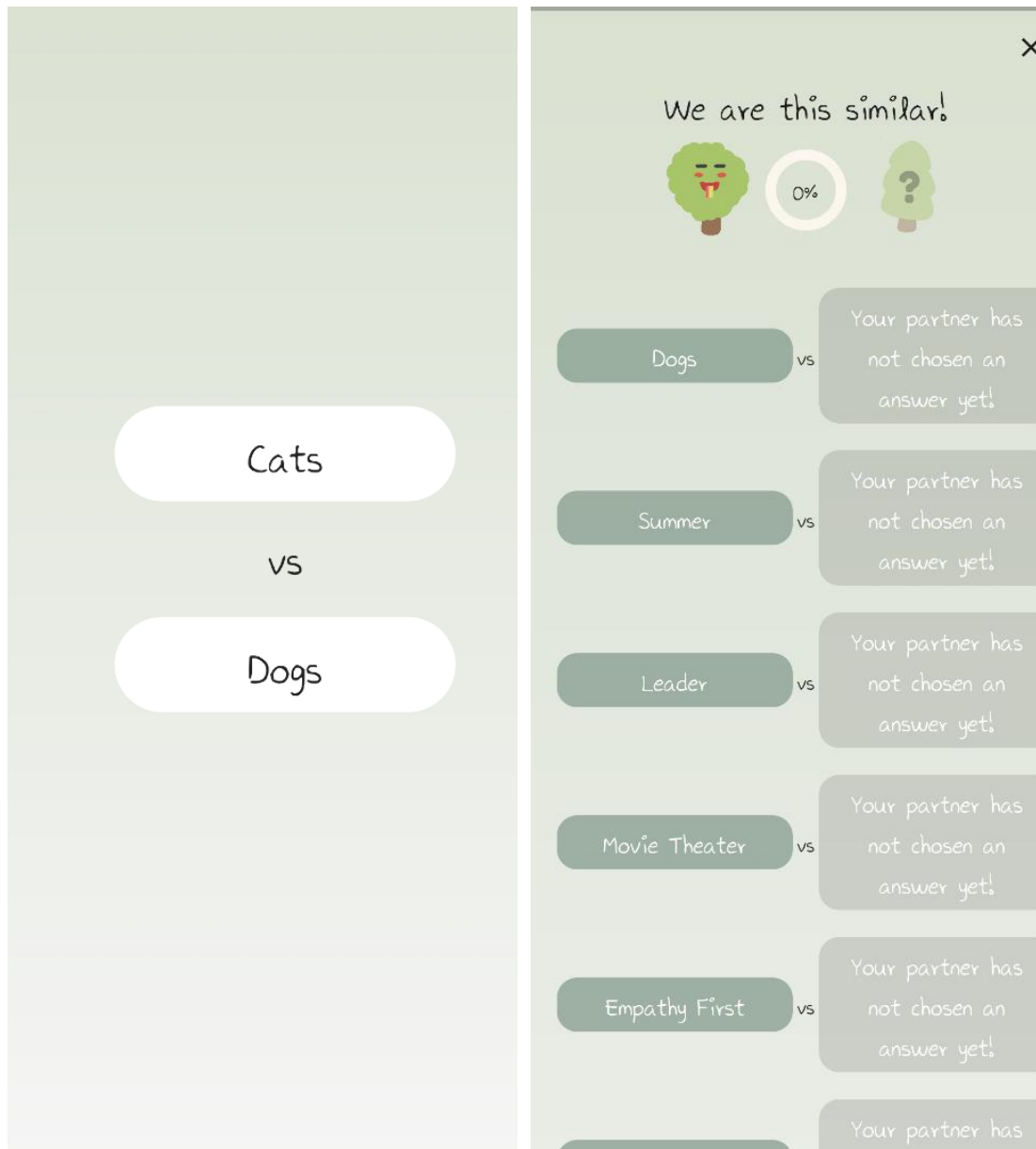
Figure 2.66 Couple Tree Fun Page - Balance Game Section – Preferable Question Page

Figure 2.67 Couple Tree Fun Page - Balance Game Section – User Done Preferable Question

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After their partners had answered, the system will show as Figure 2.68 to users to compare the answers between the couples.
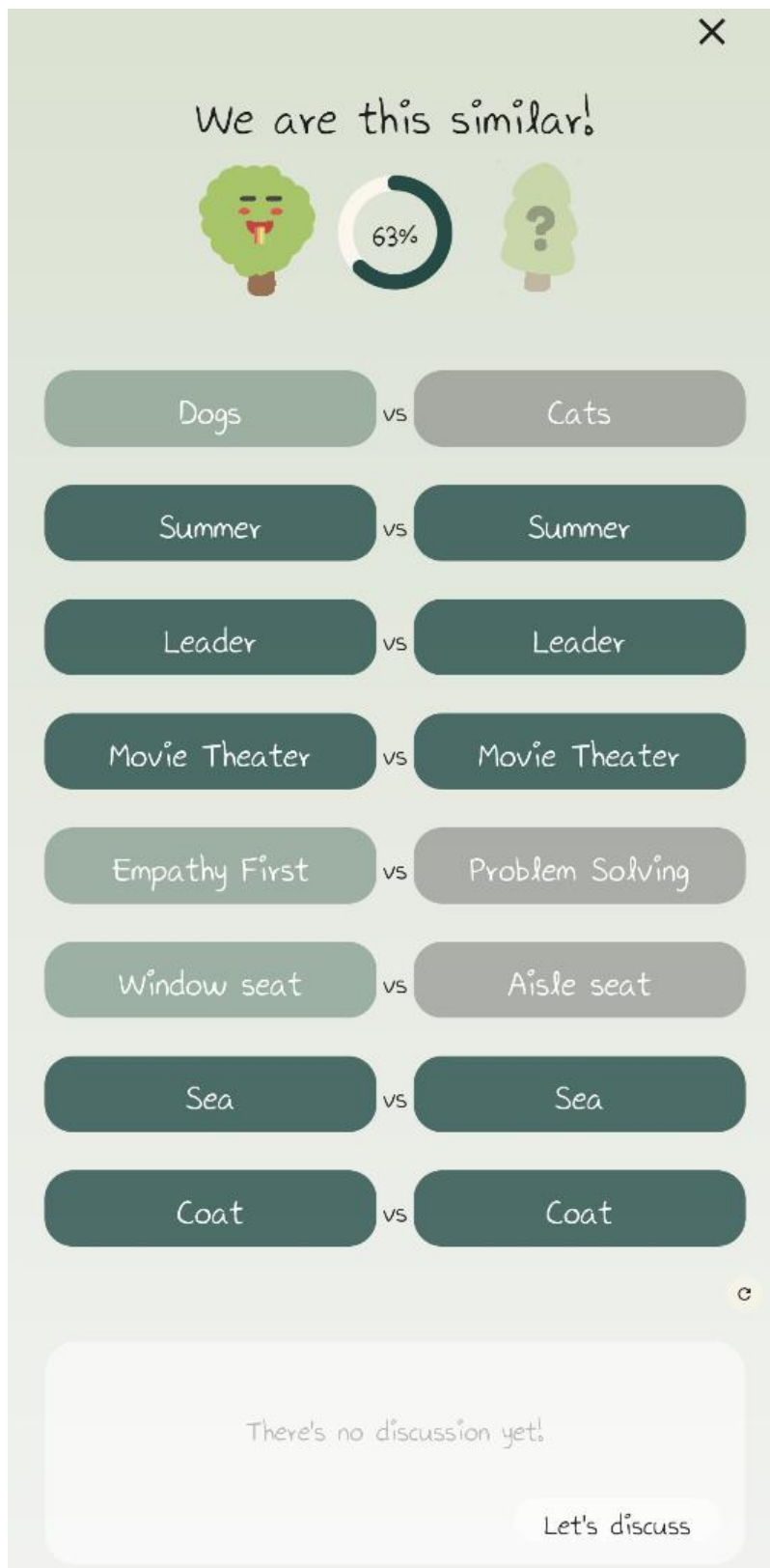
Figure 2.68 Couple Tree Fun Page - Balance Game Section – Both User & Partner Done Preferable Question

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Then, in AI Counselor section, users can know their daily horoscope and tarot as Figure 2.69. In the Today's Horoscope, they need to enter their partners and their own birthdates as Figure 2.70 to let the system ai to analyze and they will get the results as Figure 2.71.
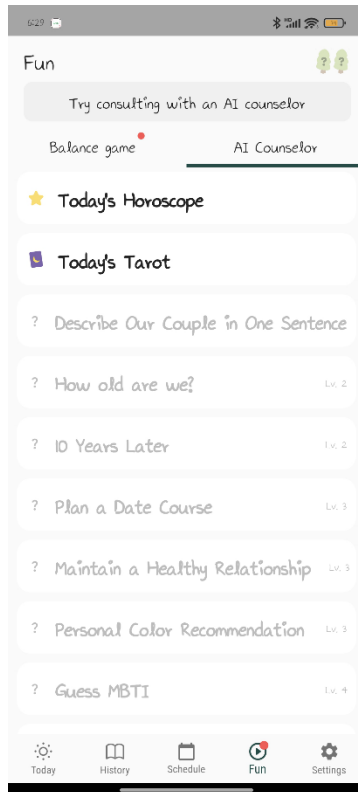
Figure 2.69 Couple Tree Fun Page - AI Counselor Section
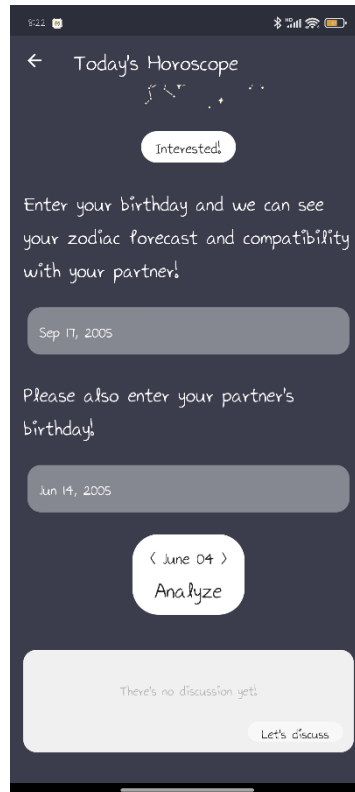
Figure 2.70 Couple Tree Fun Page - AI Counselor Section – Today's Horoscope Page
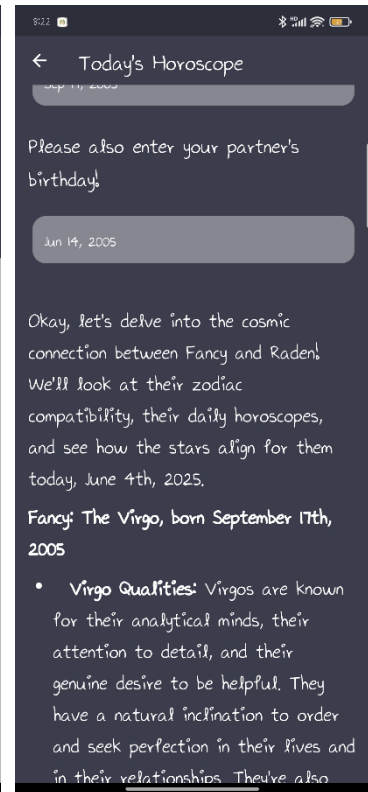
Figure 2.71 Couple Tree Fun Page - AI Counselor Section – Today's Horoscope Results

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In the Today's Tarot, users need to choose a card and the ai system will analyze the card chosen and display the results and the details as Figure 2.72. If their partners has done the tarot test, the system will display as Figure 2.73.
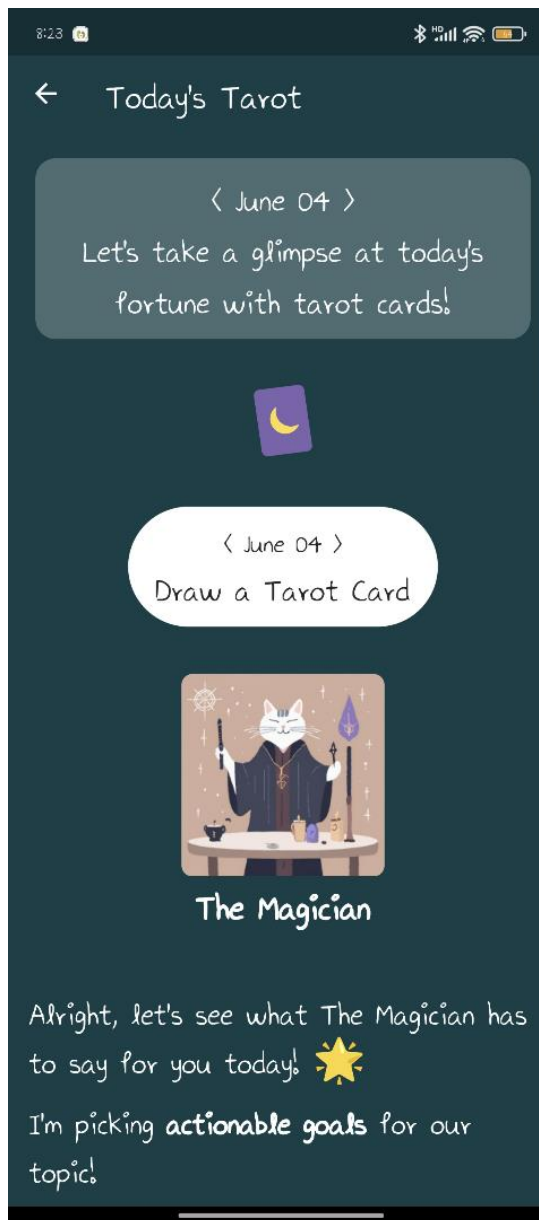
Figure 2.72 Couple Tree Fun Page - AI Counselor Section – Today's Tarot Page

Figure 2.73 Couple Tree Fun Page - AI Counselor Section – Today's Tarot Page Results 1

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Then, to unlock other ai counselor topic, users and their partners need to put more effort and upgrade their account levels. After they upgraded the levels, they can play any one of the ai counselor topics like "Describe Our Couple in One Sentence" as Figure 2.74. Then, the system will straight analyze based on the specific topic and the answers that users and their couples had answered and display as Figure 2.75.
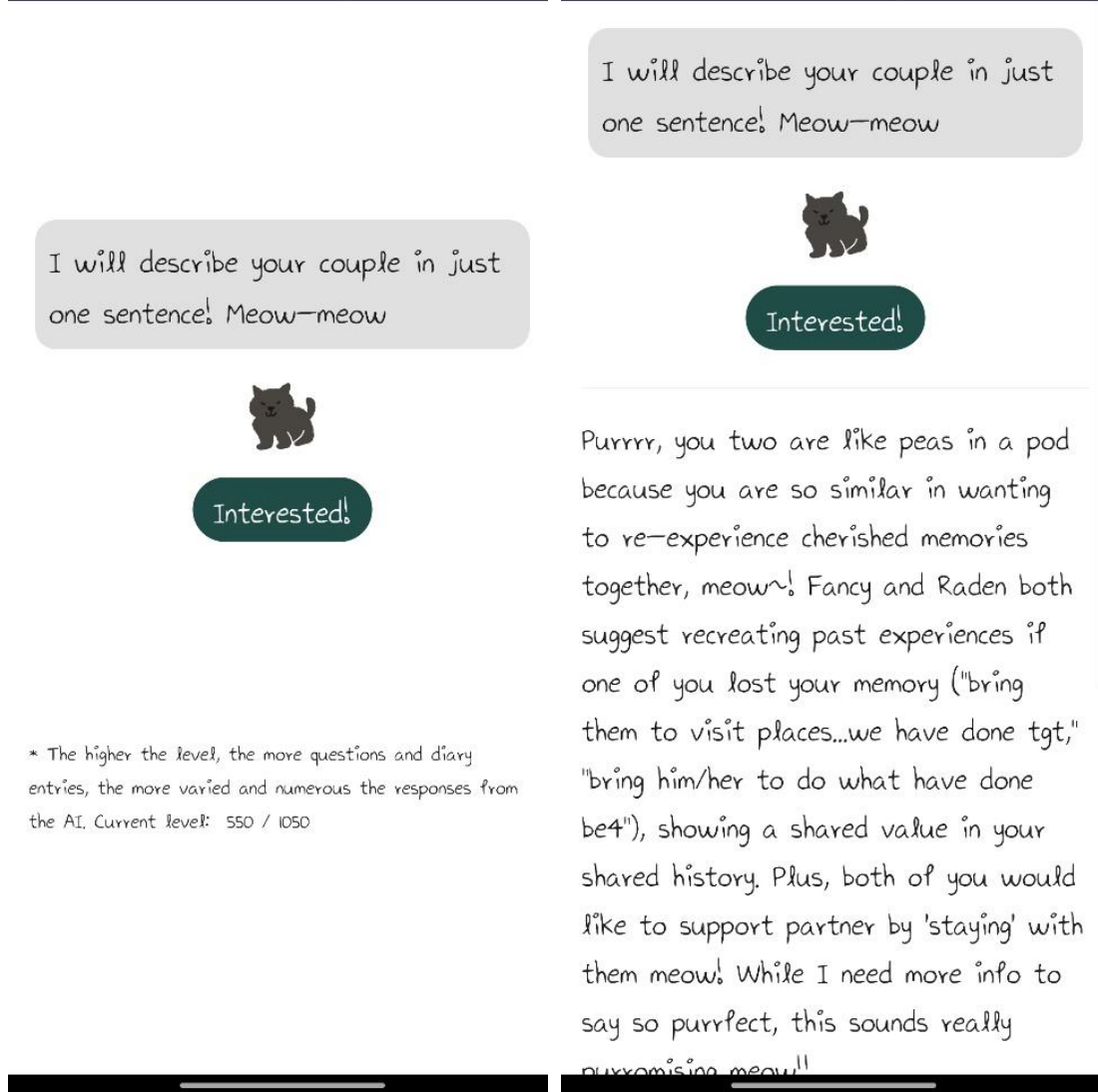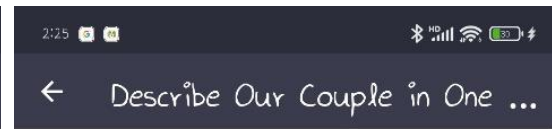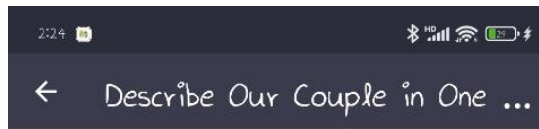
Figure 2.74 Couple Tree Fun Page - AI Counselor Section – Specific Topic Page

Figure 2.75 Couple Tree Fun Page - AI Counselor Section – Specific Topic Results

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Lastly is the Settings page. As Figure 2.76, users are allowed to login to save their data, edit their profile details, get FAQ supports and developer contact, fix translation errors, go to User Community page and more setting page.
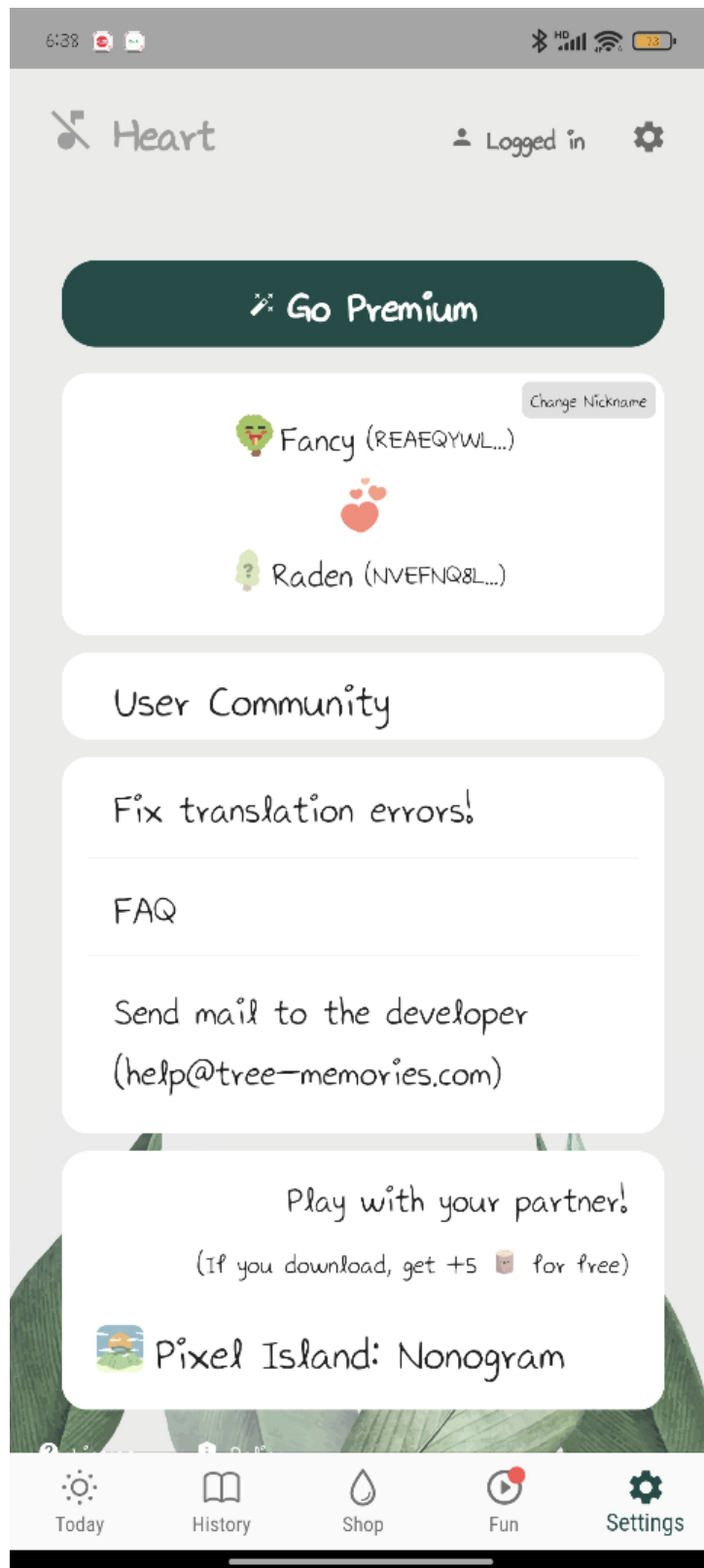
Figure 2.76 Couple Tree Settings Page

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As Figure 2.77, User Community page is currently in Beta Testing. All the Couple Tree users can have discussions in this page. There are Free Topic section that discuss any topics, Question Idea section as Figure 2.78 that discuss about the idea of daily questions and Balance Game Idea section as Figure 2.79 that discuss about the question idea of the quizzes game.
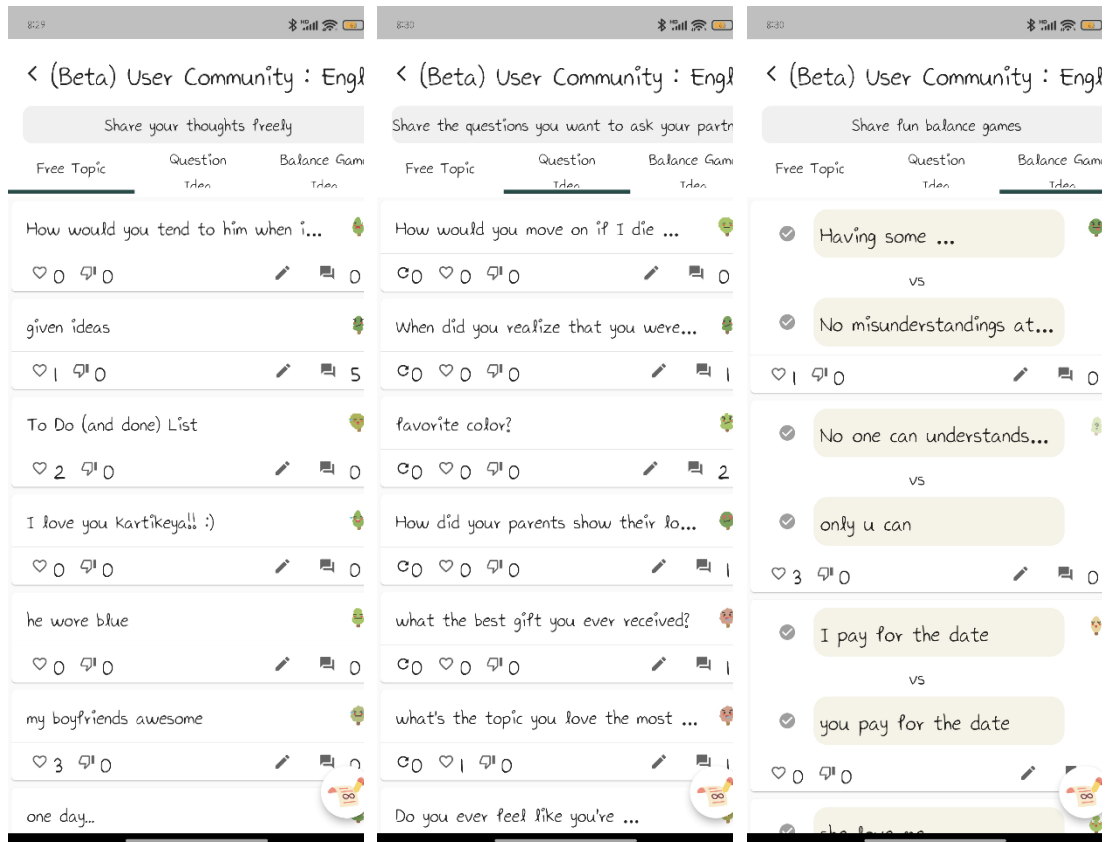
Figure 2.77 Couple Tree Setting Page – User Community – Free Topic Section

Figure 2.78 Couple Tree Setting Page – User Community – Question Idea Section

Figure 2.79 Couple Tree Setting Page – User Community – Balance Game Section

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2.3   Limitation of Existing Applications Reviews

Although the applications mentioned above are interesting and creative, however, there are some limitations that needed to be improved.

Couple Game

In Couple Game, there are many quizzes for users and their partners to play. However, the questions and the answers given in the quizzes are too broad and not specific enough. For example, there is a question that asking users whether the users believe in ghosts or not. One of the answers given was 'No. I only believe in things I can see,'. Users might not be surely not believing in all the things that he or she cannot see, but like some of them are still believe in God or wind that cannot see by human's eyes. This makes users to be confused and hard to answer the question.

Moreover, when users started the quizzes in the Couple Game application, the one who started the game cannot choose to skip the steps to guess his or her partner's answers although his or her partner has completed the quizzes. He or she must follow the steps provided in the Couple Game application and wait for his or her partner to complete the steps, then he or she is allowed to guess his or her partners' answers. This makes users feel a little of inconvenient.

Then, the ideas of the dating activities and the topics to discuss in the Card Feature is confusing. Users might think that the Cards in the Card page is for dating ideas but they got questions. Besides, the number of every collection of the ideas in the Card page is fixed. It might not enough for users although the total ideas have up to 170 as not all the ideas is suitable or preferable by the users. Even though it is useful for users, the ideas would have run out in one day. On that time, there is no more idea for users as references. People are greedy. They will not feel enough if they get something in a fixed amount.

Furthermore, users are not allowed to replay the topics in the quiz section that have played. It might make users loss of interest to the application as most of them would like to replay the game. People might change and have different thoughts after a long time. It might be different answer for the same question after a long time.

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Lastly will be costly. There are many features that need to pay if users want to play for more features. For those who not willing to spend their money in the application would not be able to experience all the features and would stop playing it after completing all the games in the app [31].

Couple2

In Couple2, users need to pay and subscribe for the premium plan to have the full access. As mentioned above, if users do not want to pay, users will not get to have full access and experience those interesting features. Not all the users are willing to pay so many times to get an application's full access. They might feel they got scammed. Even it is not a scam, not all the users is rich. Some of the unmarried couples might be just some fresh graduates from universities or maybe they are still a student. Some of them might also suffering from the lack of money, and that is why most of the university students will have a part-time job. If the person is lacking money, and at the same time, suffering the relationship unstable problem which hoping someone could give some advice, but no one, and finally get an application that might help but it needs to pay, the person might be very disappointed. Somebody says that if the person does not have money, then the person is not allowed or not qualified to have a partner. It is unfair for those who do not have enough money to not getting a partner. They are also human. The amount for the subscription should not be too expensive, it should be student friendly.

Next, the second limitation is the currency feature which called coin in this Couple2 application. Although most of the unmarried couples might be students but they might also busy for their academic. It is impossible to ask students to play more with the application to earn the coin just have more fun or access of the application and focus lesser on their studies. Some of the students might says that it is fun and relaxing to have earning coin feature but they do not know that sometimes their academic would be affected by this feature. For example, some of them would angry if their partners or themselves fail to earn the coin and cause their pets died. To revive it, they need to earn more money, and students might easily spend more time on the application and lesser time on their academic which could affect their results badly. It should help to have fun and release stress and help them on their relationship matters, but not to lower down the grades and affect their life badly.

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Furthermore, in the dairy page of Couple2, there is a private lock function that allows users to lock their dairies to prevent their partners from viewing their diary details. Transparency is very important among a couple in a relationship, especially unmarried couples. Nowadays, there are too many relationships break up cases is because of lack of transparency among the couples themselves. If there is no transparency between couples themselves, there will be one person in the relationship feeling insecure and easily doubt everything their partners do. This will seriously affect the trust between each other badly. The reason of why transparency is very important for couples is because the trust between each other is built from the transparency among each other where the trust is one of the keys to maintain a relationship. If the person do not trust the partner, they would easily get into arguments and break up for not able to solve the serious problems. The application should be helping couples to maintain the relationship and solve their problems but not breaking them up.

Lastly, in the list page in Couple2, users cannot edit the main title that shows at the task page. Users are only allowed to edit the details and the dates which cannot be viewed from the task page directly. This causes the inconvenient and ineffective for users about the list feature that they have to delete the task and add another new task just because some typo or missing a word. The list is to let users to view the task faster and more direct, and get the job done more efficiently, not to slow down the efficiency.

Couple Tree

In Couple Tree, there are daily questions and dairy questions that allow users to answer. Users could view, reply and edit the two same questions details in the main page and history page. This might confuse the users. They might think that there are the different features or pages, but they get the same questions details from two different pages and two different windows. Some of them would say that it is a quick button for users to view the details. However, it should not be showing the same thing in two different pages and two different windows. If it is a quick button, it should be navigating the users to the specific window or page. This would clarify the users that that is a quick button for viewing the questions details.

Next, there is a schedule page which shows a calendar to users where users could view the calendar in 3 modes, which are schedules, diaries and question done. The system

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uses the same emoji list for the diary and question which means there would be a chance that users might choose the same emoji for the diary and question sections. If so, when users want to view the diary and question records, the emoji would not be change. This might confuse the users. Although there is an icon showing the current mode of the schedule page, it would still be inconvenient for users to view the small icon located at the corner instead of viewing the emojis in the calendar directly.

Lastly, there is a currency like Couple2, called droplets. Users need to get the droplets to decorate and customize their virtual forest with their partners if they want to. Users will also need the droplets to grow and take care of their tree in the main page so that they could up their relationship level to get more access of the quizzes or topics in the Fun page. However, the extra droplets can only be earned through watching ads or paying for the subscription. As mentioned above, most of the unmarried couples are students. They do not have much money as working adults to spend on applications. They also might not have much time to spend on applications due to their academics. Also, even they have time, they might not every time holding their phone, playing and levelling up in the application just to have more access to the features or helps for their relationships. They are human also. They would not be spending time only on phone but reality, like friends, sleeping, family, and hobbies. An application should not be destroying their life but helping them to grow and maintain happiness.

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2.4 Summary of the Existing Systems

Table 2.2 Summary of the Existing Systems

Application Reviewed	Strength	Limitation
Couple Game [31], [32]	• Various date ideas • Provide quizzes & topics to discuss • Rewards feature	• Question content scope too broad • Method of playing quiz is a little inconvenient • Unable to replay the answered quiz • Fixed amount of date ideas provided • Unclear categorization for date ideas and questions • Costly • Need to pay for full access
Couple2 [33], [34]	• Beautiful & Attractive UI Design • Virtual home feature • Chat feature • Location & phone activity detection feature	• Diary lock feature • List main title cannot be edited • The presence of currency feature • Need to pay for full access

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	• Pic Drop & Widget feature • Pet & feeding guide feature	
Couple Tree [35]	• Various feature views in the schedule page • Emoji-represented feature • Result comparison table at the end of the quiz • Virtual forest & Time Capsule feature • Allowing users to have discussions about app features among all the app users in this world	• Confusing UI Design & Feature Categorization • The presence of currency • Need to pay for full access • Need to spend time to level up to access to more features
Proposed Solution	• Household list with assignee attached • Fairness Analyzer Feature • Date idea generator with the choices of generating based on profile information or randomly	• Only available for Android users • Language only in English

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	• Data Analysis Feature by AI	

Table 2.3 Summary of Specifications Comparison between Applications

Specification	Couple Game	Couple2	Couple Tree	Couple's Daily Life Application (Proposed Solution)
Authentication	√	√	√	√
Data Analysis System by AI				√
Data Dashboard				√
Date Idea AI Generator				√
Date Idea Provider	√			√
Diary		√	√	√
Fairness Analyzer				√
Household List		√	√	√
Household Assignee & Filter System				√
Partner Binding	√	√	√	√

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Chapter 3

System Methodology/Approach

3.1 System Design Diagram

3.1.1   System Architecture Diagram
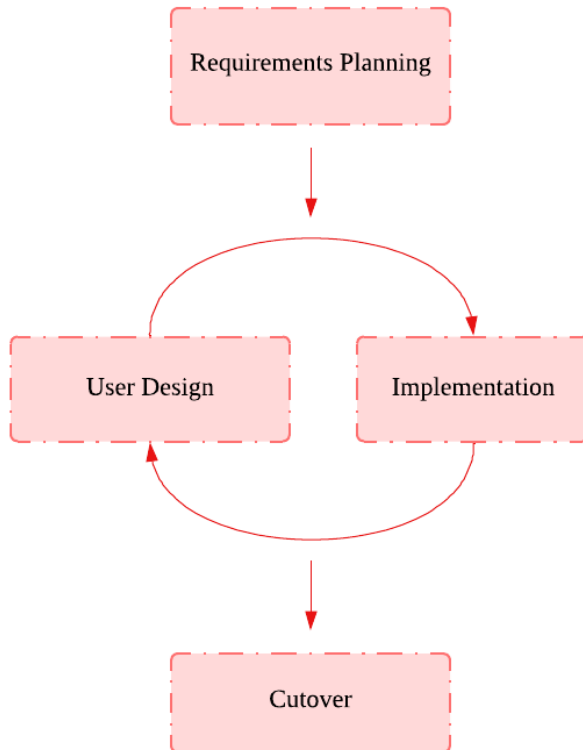
Figure 3.1 Rapid Application Development (RAD) Methodology

The system methodology of the project is using Rapid Application Development (RAD) methodology. The RAD process included four phases which are requirements planning, user design, construction and cutover. User design phase and construction phase will keep repeating until the application has done. The RAD methodology is used because it is suitable for small projects like this Couple's Daily Life Application and it allows me to break the project into smaller projects, so that I can manage the smaller tasks well. The methodology is also developed based on feedback, just suits my project that needs to develop based on other users' feedback on other similar applications [36]. By using RAD methodology in this project, I can change the user interface designs following the updated requirements, so that it will not be mistakes or errors after implementing the application to the world. In RAD methodology, requirements planning phase will be researching current problems and collecting requirements. Then,

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the user design phase will be designing the user interface using different types of programming languages. When it is done for the coding, the application will be run and tested as a prototype where this is the rapid construction stage. The application will be tested by some beta testers and collect feedback on whether there are changes required. If yes, then it will repeat the user design phase and construction phase until all the requirements are matched. Then, the final phase which is cutover phase where the application is completed and ready to launch [37].

3.1.2 Use Case Diagram and Description

3.1.2.1 Use Case Diagram
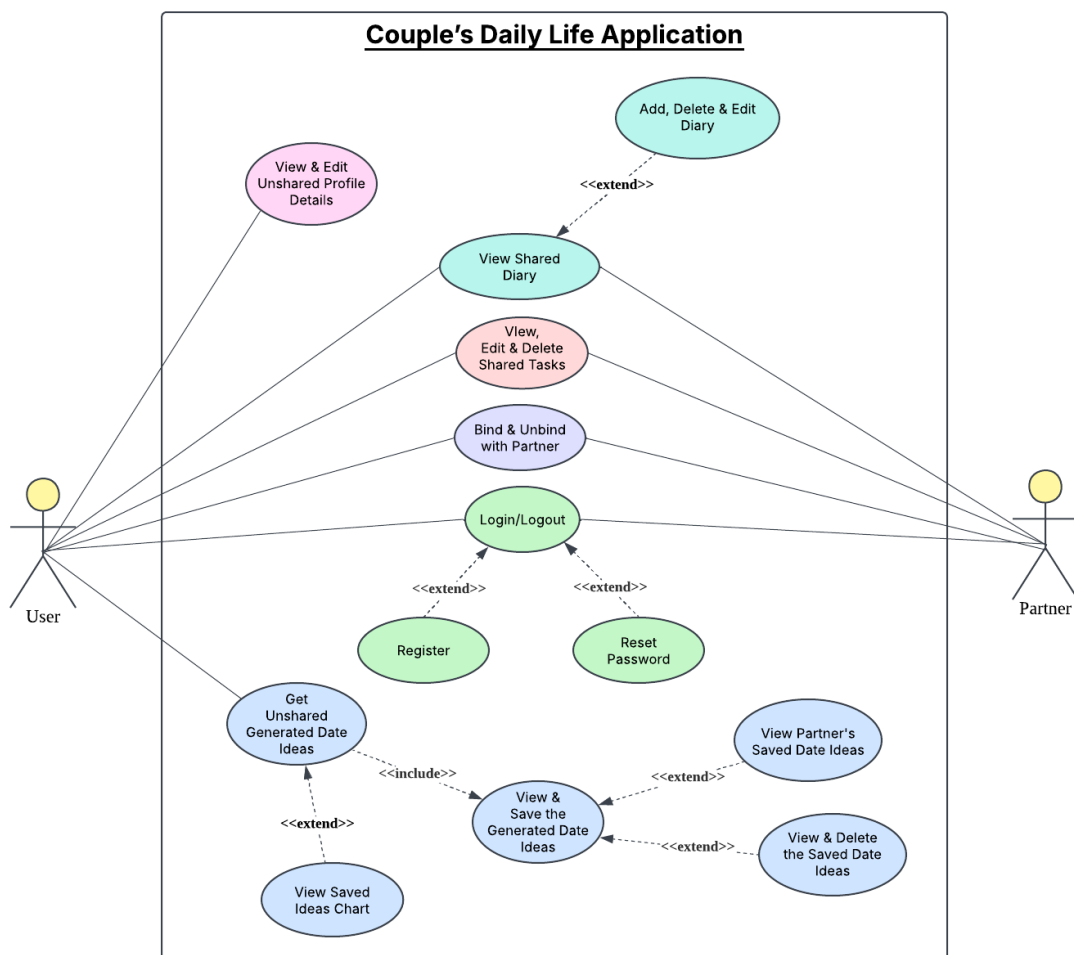
Figure 3.2 Use Case Diagram

The Use Case Diagram above shows the overview design of the system of Couple's Daily Life Application project. In this application, there are 6 main functions for user

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and partner to use. For the authentication part, user and partner can login and logout the application, register a new account and reset their password. User can also bind or unbind with their partners in this application. Next, user can view the view partner's saved ideas, view and manage the shared tasks and view the shared diary with partner in this application. Then, user can also get the unshared date ideas from this application where user can view, delete and save the unshared date ideas generated. User can view and delete the unshared saved date ideas after they save the date ideas. Lastly, user can view and edit their unshared profile details and view partner's profile details in this application.

3.1.2.2 Flow Chart Diagram
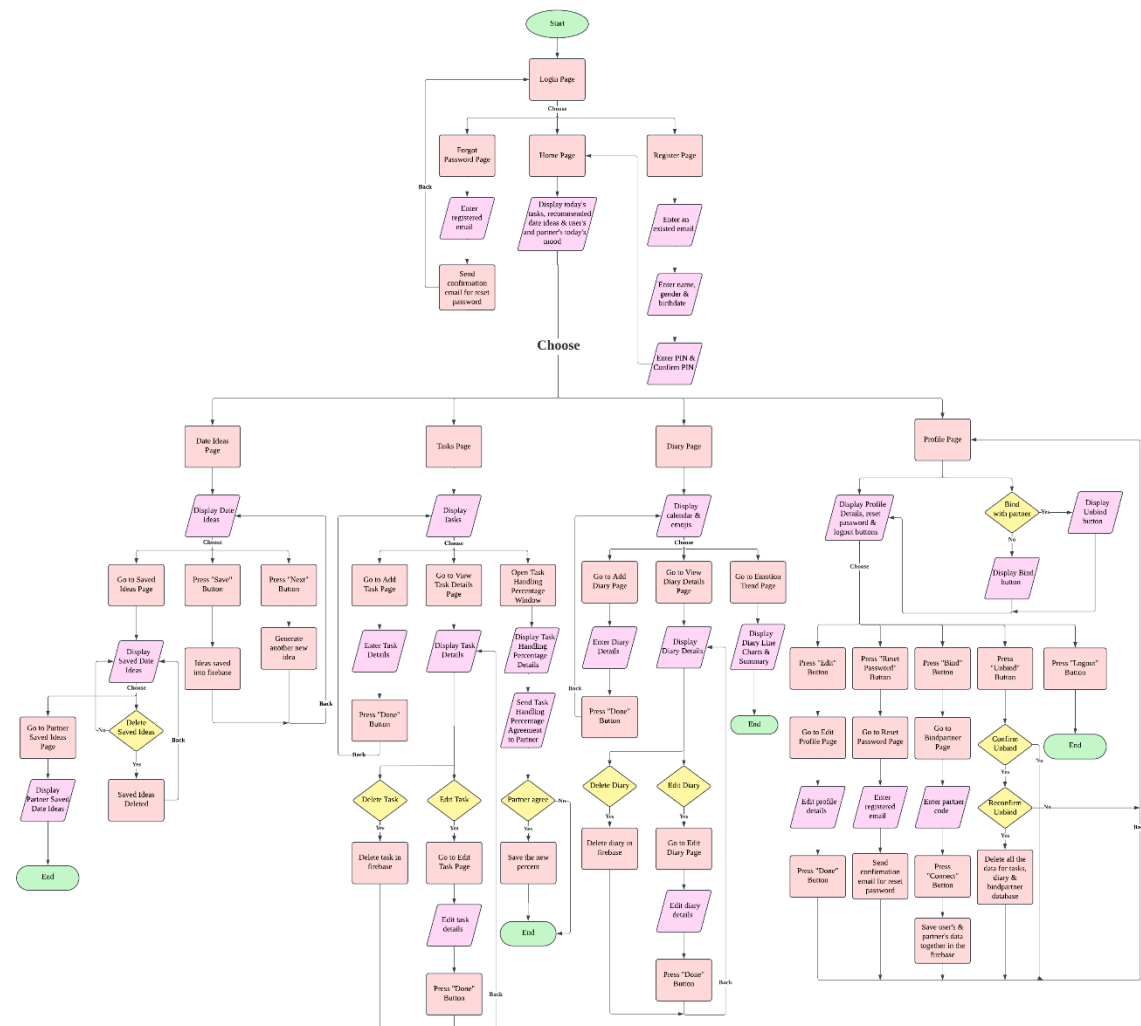
Figure 3.3 Flow Chart Diagram

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The Flow Chart Diagram above shows the overview design flow of the system of Couple's Daily Life Application project. Firstly, user will be navigated to Login page. In this page, user can choose to login into the app, reset password or register a new account. If user forgot their password while logging in, they can go to the Forgot Password page and reset their password by entering their registered email address. User will receive a confirmation email of resetting password and they can reset their password there. If user does not have an account yet, they can go to Register page and register an account by entering their email address, name, gender and birthdate as their profile details, as well as their PIN and confirm PIN for security. If user chooses to login, they will be navigated to the Home page. In Home page, user will see a summary or a dashboard of today's tasks, recommended date ideas and today's mood of user and partner displayed. Then, user can choose to go to other pages like Date Ideas page, Tasks page, Diary page and Profile page. In Date Ideas page, user can choose to generate date ideas randomly or based on the profile details. After the date idea generated, user can choose to save the idea or press "Next" button to generate another new idea. If user presses "Save" button, the idea will be saved in a database. If user choose to go to the Saved Date Ideas page, user will see all the saved date ideas in the page. User is allowed to delete any of the saved date ideas. Moreover, user can also go to Partner Saved Ideas page to view partner's saved ideas. In Tasks Page, user will see a tasks list below a short summary of current task handling percentage. Besides, user can choose to view and set the task handling percentage if user opens the task handling percentage window. If user choose to set new task handling percent, user will need to send an agreement of the new percent set to partner. If partner agree with the new percent set, then the new percent will be stored. If partner disagree, then the percent will not be stored. User can also insert a new task in this module by entering task details and save the task, then the task will appear in the Tasks page. User is also allowed to view the tasks details by pressing on any one of the task rows. Then, user can choose to delete or edit the task in the task details page. If user choose to delete, then the task will be deleted. If user choose to edit the task, then user will be navigated to the Edit Task page and user can edit the details and save the details after user done editing. In Diary page, there will be a calendar and emojis of user and partner displaying. User can choose to view the diary details, add new diary or go to Emotion Trend page. If user choose to view the diary details, user will be navigated to the Diary Details page and user can choose to delete the diary or edit the diary details if the diary belongs to user.

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If the diary belongs to partner, user can only view the diary details. If user choose to delete, then the diary will be deleted. If user choose to edit, user will be navigated to Edit Diary page and user can edit the diary details and save the details. If user choose to add new diary, user will be navigated to the Add New Diary page and user can enter the diary details and save the new diary. If user choose to go to the Emotion Trend page, user will see two separate line graphs that show the emotion trend over a month of user and partner along with an analyzed summary. User can choose to view the data of different months by selecting the year and month. In Profile page, there are user's and partner's profile details, a Reset Password button, a Bind or Unbind button and a logout button. If the user has already bind with the partner, then it will display Unbind button, or else it will display Bind button. If user presses "Bind" button, user will be navigated to the Bind with Partner page and user can enter the partner code and press "Connect" button to bind with the partner. If user presses "Unbind" button, it will prompt twice of alert window to let user confirm two times, whether to unbind with the partner. If user choose to unbind, then all the data except for the user's profile and the date ideas data will be deleted. If user wants to edit their profile details, user will be navigated to Edit Profile page and user can edit their profile details and save the edited details. If user choose to reset password, user will be navigated to the Reset Password page and ask user to insert the registered email. Then, the reset password link will be sent through email using the inserted email to user and user can reset the password through the link sent. If user chooses to logout, user will be navigated back to Login page.

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3.1.2.3 Class Diagram

Tasks

- TaskID : str
- CreatedUser : doc
- CreatedUserID : doc
- BoundPartners : doc
- TaskTime : str
- TaskTitle : str
- TaskDetails : str
- TaskStatus : bool
- Taskprovephoto : str
- startDate : str
- TaskAssignee : str
- UpdatedDate : str
- UpdatedUser : str

handleSendAgreement
handleAgree
handleDisagree
buildSectionsFrom
fetchTasks
fetchBindAndPercent

User

- userid : str
+ about : str
- displayName : str
- email : str
- password : str
- gender : str
- tokenId : str
- photoURL : str
- birthDate : str
- code : str
- BoundPartners : doc

+ checkvalidation()
+ pickAvatar()
+ showDatePicker()
+ hideDatePicker()
+ handleConfirm()
+ getBlobFromUri(uri: string) :
Promise<Blob>
+ register()

Diary

- DiaryID : str
- CreatedUser : doc
- BoundPartner : doc
- content : str
- emoji : str
- rating: str
- label : str
- date : str
- createdAt : str

loadMarks
loadEntries
handleDelete
loadAll

Date Ideas

- DateideasID : str
- CreatedUser : doc
- BoundPartners : doc
- idea : str
- category : str
- startDate : str

+ generateidea()
+ generateidea2()
+ categorizeIdea()
+ saveIdeasToFirebase
fetchLikedIdeasFromDB
handleDeletePress
fetchPartnerIdeas
generateSummary
fetchAll

Figure 3.4 Class Diagram

The Class Diagram above shows the data structure of the system of Couple's Daily Life Application project. There are main key entitles like User, Task, Date Ideas and Diary. Firstly, the User class manages user accounts that created by user. Then, the DateIdeas class manages the date ideas created by user while the Tasks class manages tasks created by user and partner. Lastly, the Diary class manages the diary created by user and partner.

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3.1.2.4 Use Case Description

Bind With Partner Module

Use Case	Bind With Partner Module
Purpose	To allow users to bind with partner
Actor	User, Partner
Normal Flow of Event	The system will display a random code and an input box. 1) User needs to enter partner's code or let partner enters user's code to bind with each other. When user presses "Copy" icon button 1) System will copy the code for user and user can paste at any places and platforms to send to partner to connect.
Alternate Flow	None

Date Ideas Module

Use Case	Date Ideas Module
Purpose	To allow users to get some ideas on dating aspect
Actor	User
Normal Flow of Event	The system will display "Let's Start!" button if user has not explored this page yet for today. There is also a "About-Based" on-off button displayed. When user presses "Save" text button 1) The system will save the specific idea in another database and update the status in the original database which is for display. When user presses "Next" icon

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	1) System will check whether the "About-Based" button has turned on or not. 2) If it's on, then the system will generate a date idea based on the profile details and display the generated date idea to user. 3) If it's off, it will generate a random date idea and display the generated date idea to user.

Alternate Flow	When user presses "Graph" icon button
	
	    1) The user will be navigated to Saved Idea Chart page, then the system will analyze and display user's and partner's saved ideas categories in two separate horizontal bar charts with a summary.
	
	When user presses "Save" icon button
	
	    1) The user will be navigated to Saved Date Ideas page and display user's saved ideas.
	
	When user presses "Partner" icon in "Saved Date Ideas" page
	
	    1) The user will be navigated to Partner Saved Ideas page and display partner's saved ideas.
	
	When user presses "Delete" icon in "Saved Date Ideas" page
	
	    1) The system will delete the date idea in the database which is for displaying on this page.
	
	    2) The system will also update the status of the idea in the database which is used to display on the main Date Idea page if the idea still existed in it.

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Tasks Module

Use Case	Tasks Module
Purpose	To allow users to manage and complete their tasks well and willingly with their partner
Actor	User, Partner
Normal Flow of Event	The system will display a task list and a summary of the task handling percentages for both user and partner. When user presses "Delete" 1) The system will delete the tasks and update the data in the Firebase. When user presses "Done" 1) The system will update the data in the Firebase to "Done" status. When user presses "Undone" 1) The system will update the data in the Firebase to "Undone" status. When user presses "Add" 1) System will bring user to Add New Task page. 2) Both user and partner can insert the task details. 3) They needs to press "Done" icon button to save the details.
Alternate Flow	When they press "Setting" icon button 1) System will prompt a task handling percentage window and display both user's and partner's task handling percentage details. 2) They can set their new percent if they want to. 3) They will need to send the agreement related to the new set percent details to another one if one of them would like to change the task handling percent.

Diary Module

Use Case	Diary Module
Purpose	To allow users to understand more about each other and themselves and get some daily feedbacks for their future references
Actor	User, Partner
Normal Flow of Event	The system will display a calendar and an "Add" button. If there is data, the system will display the emojis of the user or/and partner in the calendar. When they press any one of the emoji 1) They will be navigated to the Diary View page. 2) If it's the partner's diary, user can only view the diary details. 3) If it's the user's diary, user can view and edit the diary details and delete the diary. When user presses "Delete" icon button in the Diary View page. 1) System will delete the diary in the firebase. When user presses "Edit" icon button in the Diary View page. 1) The user will be navigated to the Edit Diary page. 2) User can edit the diary details and press "Save" button to save the details. When user presses "Add" icon button in the calendar of a day 3) The user will be navigated to the Add New Diary page. 4) Then, the user can enter the diary details.

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	5) User needs to press "Done" icon button to save the information into the Firebase.
Alternate Flow	When they presses "Graph" icon button 1) They will be navigated to the Emotion Trend page. 2) The system will analyze and display the user's and partner's emotions level in line charts separately over a month along with the analyzed summary. 3) They could also choose to view other months' data by selecting different month and year.

Profile Module

Use Case	Profile Module
Purpose	To allow users to view their profile details and update their profile details and logout
Actor	User
Normal Flow of Event	The system will display user profile details and a logout button on the page. When user presses "Edit" 1) The user will be navigated to Edit Profile Details page. 2) The user will need to edit or insert their profile details. 3) User needs to press "Done" button to submit their edited profile details. 4) The system will store the profile details into the Firebase. When the user presses partner's profile picture 1) The system will display a window that shows the partner's profile details.

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	When the user presses "Reset Password" 1) The user will be navigated to Reset Password page and ask user to enter the registered email. 2) Then, it will send the reset password link to the entered email and user can reset the password through the link. When user presses "Unbind" 1) The system will delete all the data except for the date idea and user's profile details. 2) User will be navigated back to Bind With Partner page. When user presses "Logout" 1) The user will be navigated back to Login page.
Alternate Flow	None

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3.1.3   Activity Diagram

Date Ideas Module

Figure 3.5 Date Ideas – Activity Diagram

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The activity diagram above shows the activity flow of the Date Ideas module. When user goes to Date Ideas page, system will check whether today has generate any date idea or not. If no, then system will display "Let's Start" & "About-Based" switch button only on the card. If yes, system will display the generated date idea, the "About-Based" switch button, a "Save" button & a "Next" icon on the card. Then, there is an on-off switch button for generate date ideas based on the profile details. If user turns on the button, the system will generate a date idea based on the profile details, or else, it will generate a random date idea for user. Then, the system displays the generated date idea for user on the card. If user wants to save the idea, user can press the "Save" button and the system will analyze and generate a suitable keyword as the idea's category name by AI and save it with the date idea together into the firebase. If user pressed "Graph" icon, user will be navigated to the Date Ideas Chart page and display two separate horizontal bar charts of user's and partner's saved date idea categories along with the AI analyzed summary. Then, if user pressed the "Save" icon, user will be navigated to the Saved Date Ideas page and user can view the saved ideas. If user pressed "Delete" icon, system will delete the idea in the firebase. If user pressed "Partner" icon, system would bring user to the Partner's Saved Ideas page and display partner's saved date ideas for user.

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Tasks Module

Figure 3.6 Tasks – Activity Diagram

The activity diagram above shows the activity flow of the Tasks module. When both user and partner go to Tasks page, the system will display tasks list below the short summary of the task handling percentage of user and partner along with an "Add" icon button and a "Setting" icon. Both user and partner can choose to press "Delete", "Done" and "Undone" for a specific task. If they press "Delete", the system will delete the task and update the data in Firebase. If they press "Done", then system will update the task's status in Firebase and categorize it to the Completed Task part. If they press "Undone",

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system will update the task's status in Firebase and categorize it to the Incomplete Task part. Both user and partner can also press on one of the tasks in the task list to view the task details. They can choose to edit or delete the specific task. If they choose to delete, then the task will be deleted in the firebase. If they choose to edit, then they will be navigated to the Edit Task page, and they can edit the task details and press "Save" icon to save the details. Then, if they press "Setting" icon, the system will display the task handling percentage details in a window. If they want to set new task handling percent, one of them need to enter the new percent and send the agreement to another one. If another one agrees, then the new percent will be stored. If another one disagrees, then the new percent will not be stored. Besides, both user and partner can add new task by pressing "Add" icon button. Then, they can enter the tasks details and press "Done" to save the task. The system will save the information in the Firebase.

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Diary Module

Figure 3.7 Diary – Activity Diagram

The activity diagram above shows the activity flow of the Diary module. When both user and partner is navigated to this page, the system will display a calendar, an "Add" icon and a "Graph" icon. If there is diary data in the firebase, then the emoji data will be displayed in the calendar. Both user and partner can view the emojis of their own

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and another one. If they pressed "Add" icon button, they will be navigated to the Add Diary page, and they can insert diary details and save the details. If they pressed "Graph" icon, they will be navigated to the Emotion Trend page. In that page, both user and partner can view two separate line graphs that show the emotion trend of themselves and another one over a month, along with the analyzed summary. They can view the emotion trend for other months by selecting different year and month. Lastly, they can press on the emoji to view the diary details. If the details belong to the user, then it will display a "Delete" and "Edit" icon. If it does not belong to the user, which means it belongs to the partner, then it will not display the icons. Then, when user pressed "Delete" icon, the diary will be deleted in the firebase. If user pressed "Edit" icon, user will be navigated to Edit Diary page and user can edit the details and press "Save" icon to save the details.

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Chapter 4

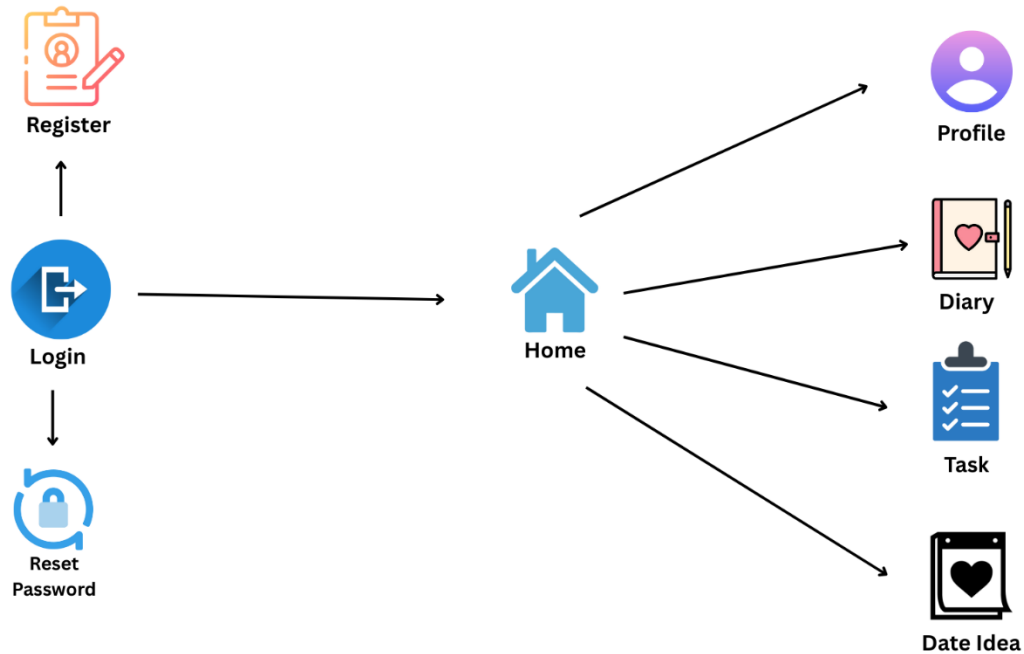**System Design**

4.1   System Block Diagram

Figure 4.1 Block Diagram of Couple's Daily Life Application

The diagram above shows the block diagram of the whole system of Couple's Daily Life Application. The system will first show the Login page with subpages of Register page and Reset Password page. After login page, the system will show the Home page first, then show the 3 main pages which are Date Idea page, Diary page and Task page and an alternative page which is Profile page if one of the pages is chosen.

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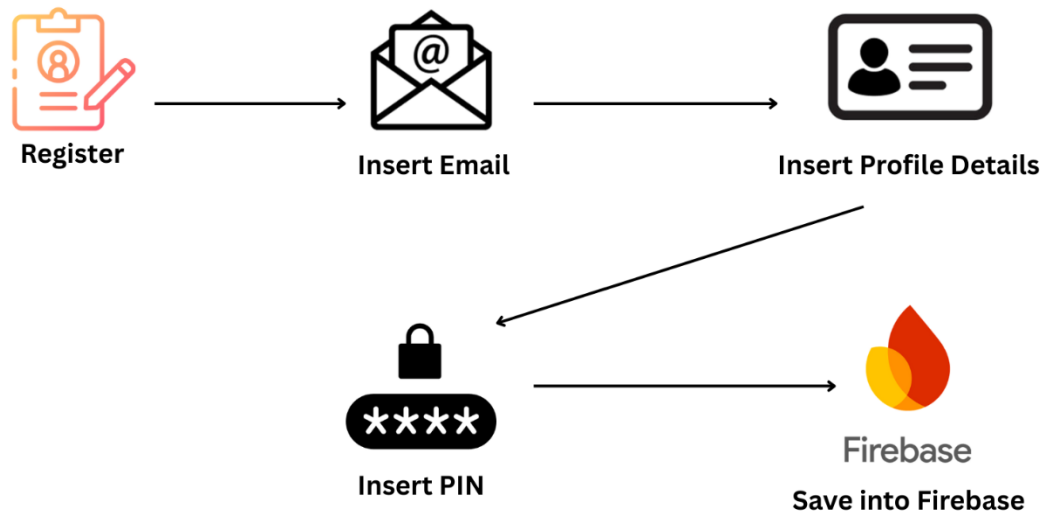
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4.2 System Components Specifications

Figure 4.2 Block Diagram of Register Module

The diagram above shows the block diagram of the Register page of Couple's Daily Life Application. In this feature, the system will need an email, some profile details and PIN password to be inserted. Then, the details will save into the firebase after done filling all the details.
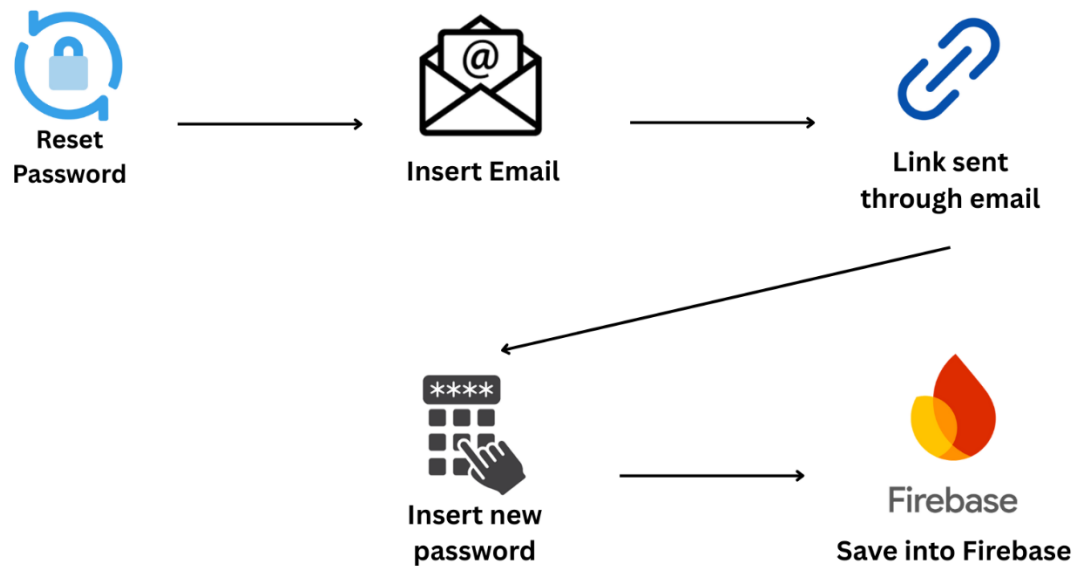

Figure 4.3 Block Diagram of Reset Password Module

The diagram above shows the block diagram of the Reset Password page of Couple's Daily Life Application. In this feature, the system will need an email to be inserted,

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then an email of reset password link will be sent to the inserted email. Then, the system will need the new password inserted in the website from the link sent and it will update in the Firebase.
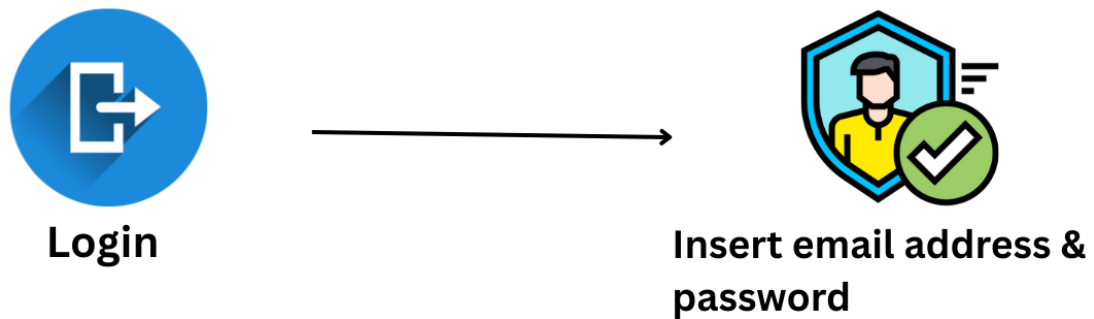

Figure 4.4 Block Diagram of Login Module

The diagram above shows the block diagram of the Login page of Couple's Daily Life Application. In this feature, the system will need registered email address and the password and the system will check whether the inserted data is correct.

Figure 4.5 Block Diagram of Home Module
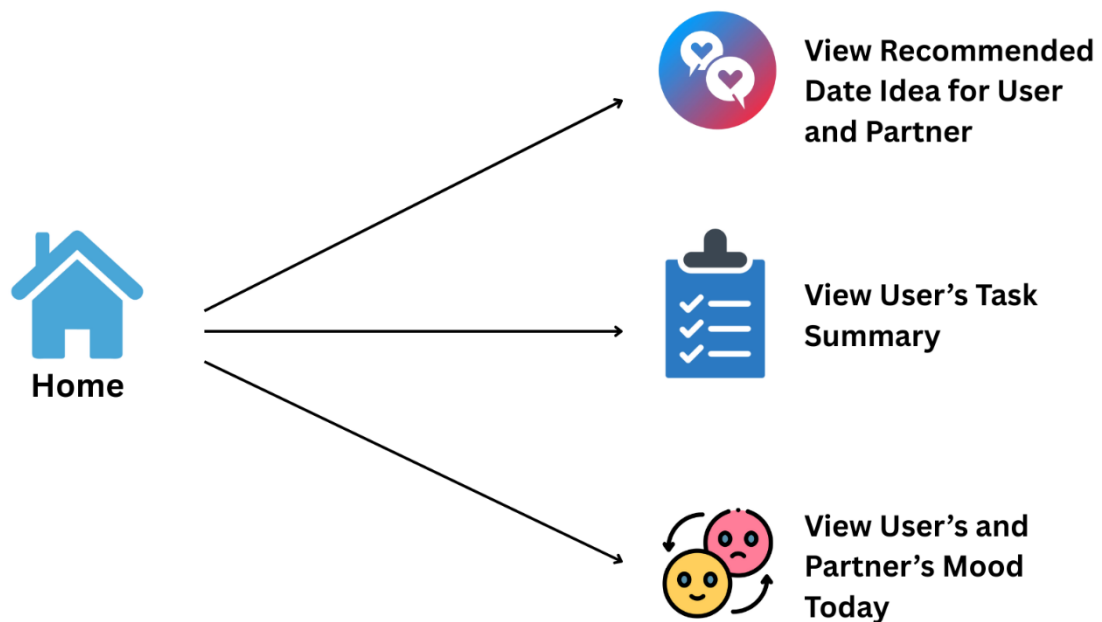
The diagram above shows the block diagram of the Home page of Couple's Daily Life Application. In this feature, the system will show recommended date idea category of user and partner, user's task summary and their mood today.

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Figure 4.6 Block Diagram of Date Idea Module

The diagram above shows the block diagram of the Reset Password page of Couple's Daily Life Application. In this feature, the system will first show a button that could generate a random date idea by AI and another button for generating based on profile details. Then, the system will use AI to generate a keyword from the idea generated before saving the idea into firebase. There are other features in this page where the system will show the own and partner's saved date ideas, and the analyzed data or charts.

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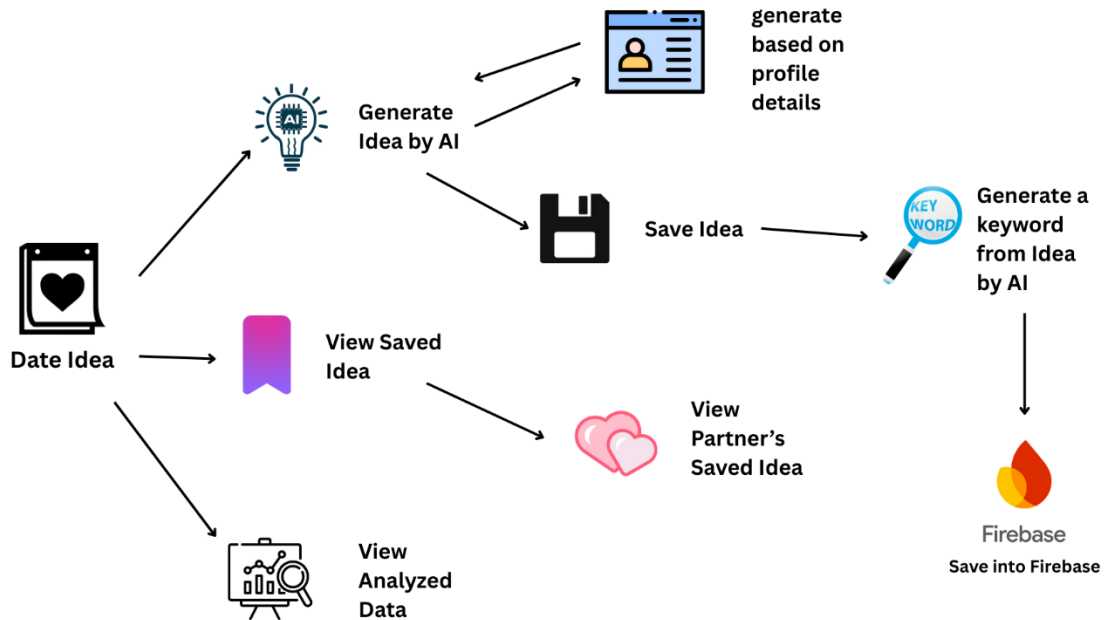Faculty of Information and Communication Technology (Kampar Campus), UTAR

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Figure 4.7 Block Diagram of Diary Module

The diagram above shows the block diagram of the Reset Password page of Couple's Daily Life Application. The system will first show a calendar with or without the diary data which is the emoji. The own and partner's diary details can be viewed unless there there is no data for the specific date. Only the own diary details can be edited and deleted. The analyzed data also can be viewed. New diary details are allowed to add and the details will be saved into firebase.

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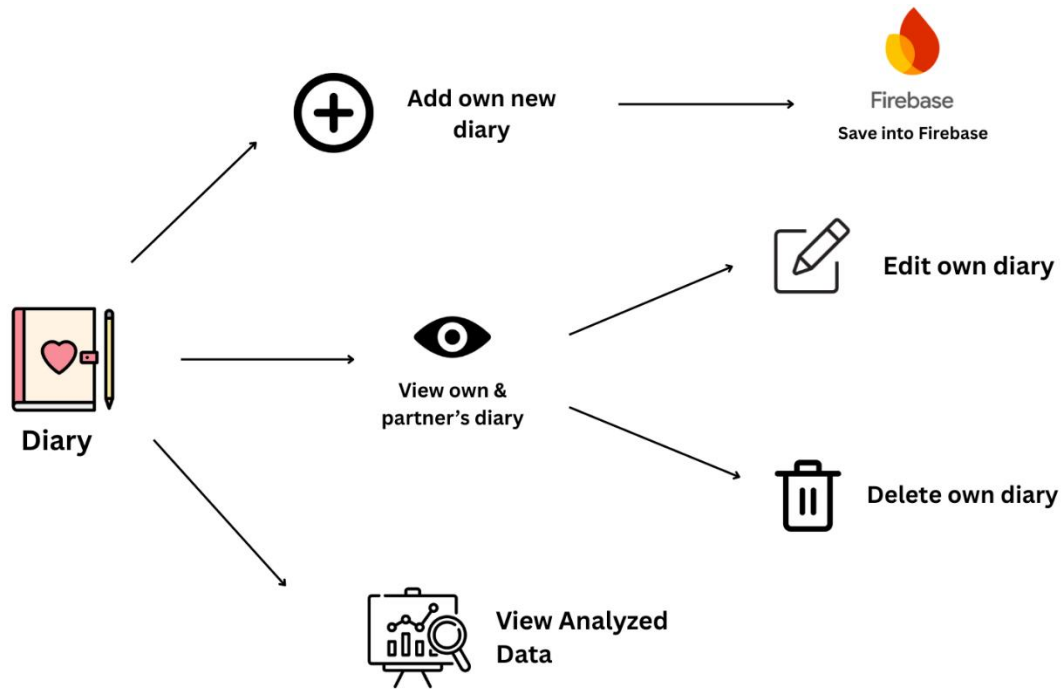Faculty of Information and Communication Technology (Kampar Campus), UTAR

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Figure 4.8 Block Diagram of Task Module

The diagram above shows the block diagram of the Reset Password page of Couple's Daily Life Application. In this feature, a summary of task handling percentage details and a task list can be viewed. New task handling percentage is also allowed to be set by sending an agreement to partner. An existed specific task can be edited and deleted. A new task is also allowed to be added in this feature, then the details will be saved into firebase.

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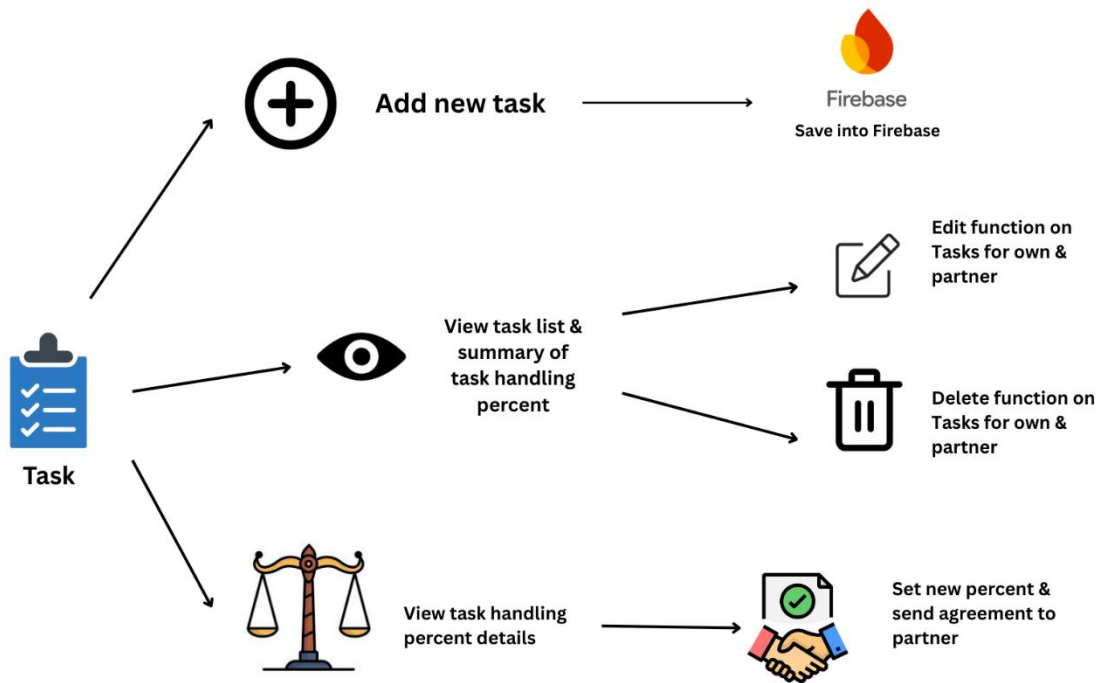
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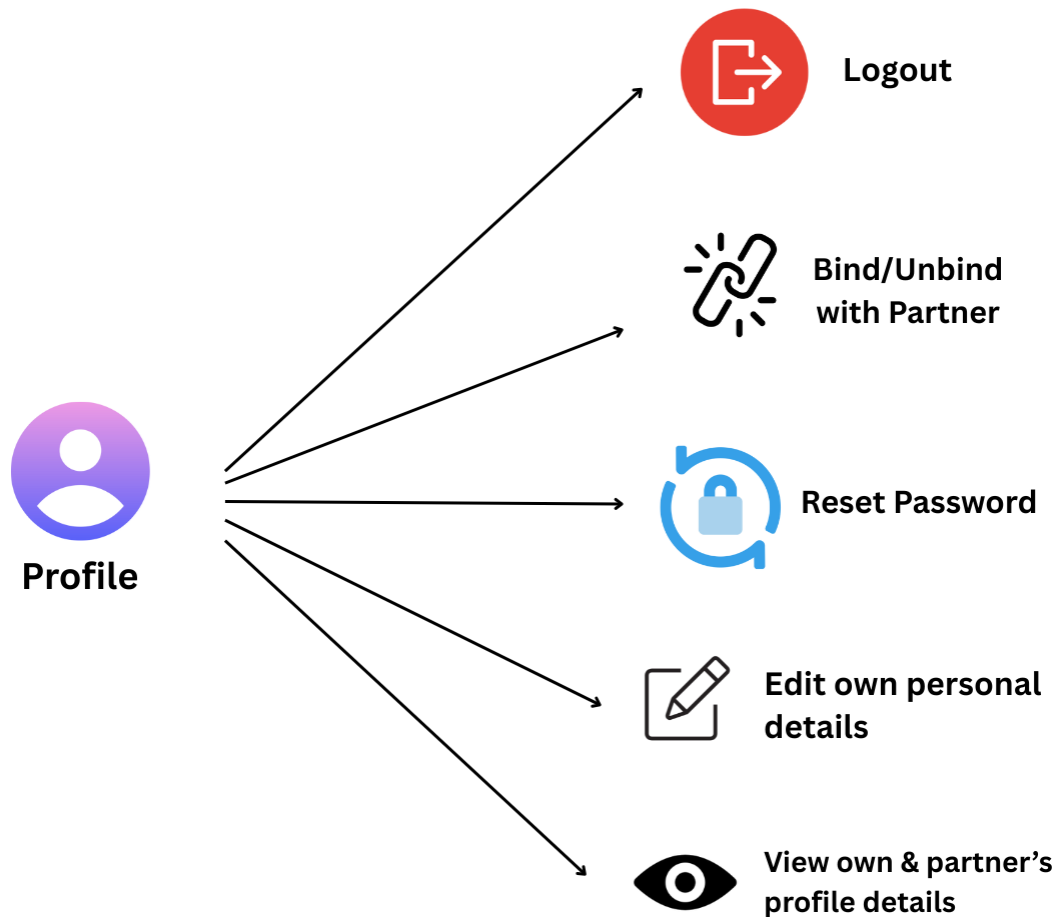
Figure 4.9 Block Diagram of Profile Module

The diagram above shows the block diagram of the Reset Password page of Couple's Daily Life Application. In this feature, own and partner's personal details can be viewed. Only the own personal details can be edited. Other setting functions like reset password, bind or unbind with partner and logout is also allowed too.

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4.3   System Components Interaction Operations

After the system design, application testing was done to check the design approach. There are few modules included in the testing process which are Login module, Register module, Forgot Password module, Home module, Date Ideas Module, Task Module, Diary Module and Profile Module.

4.3.1 Login module
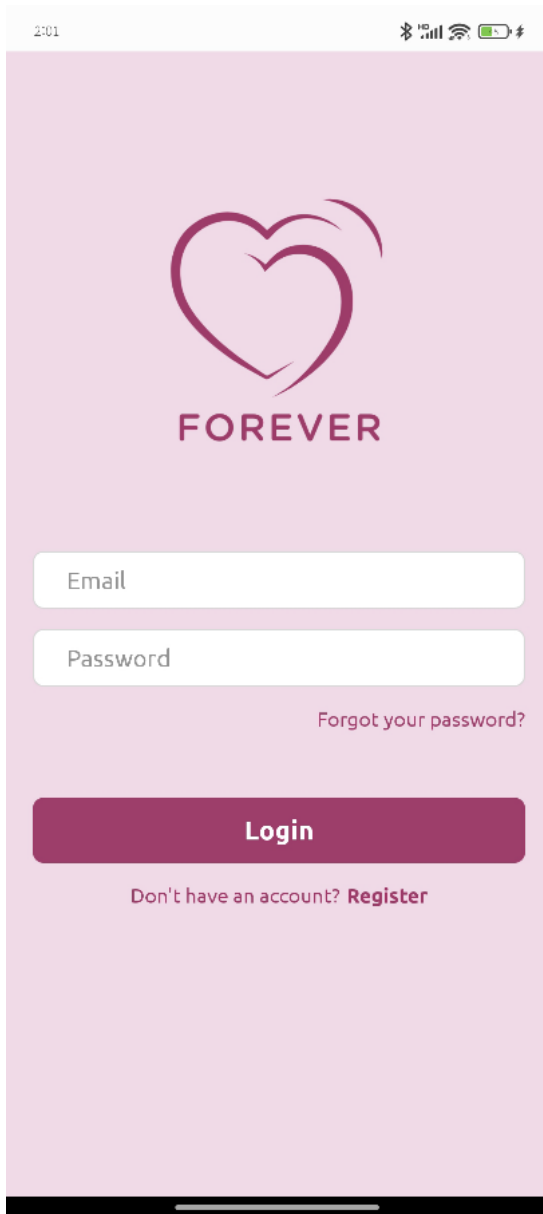
Figure 4.10 Login module

Figure 4.10 shows the Login page.

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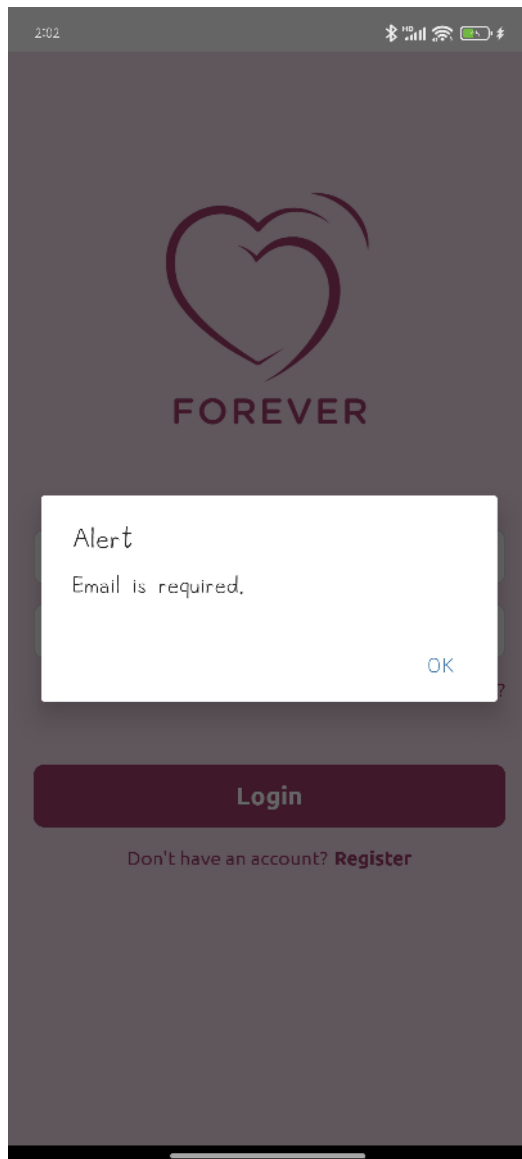
Figure 4.11 Login module Alert 1   *Figure 4.12 Login module Alert 2*
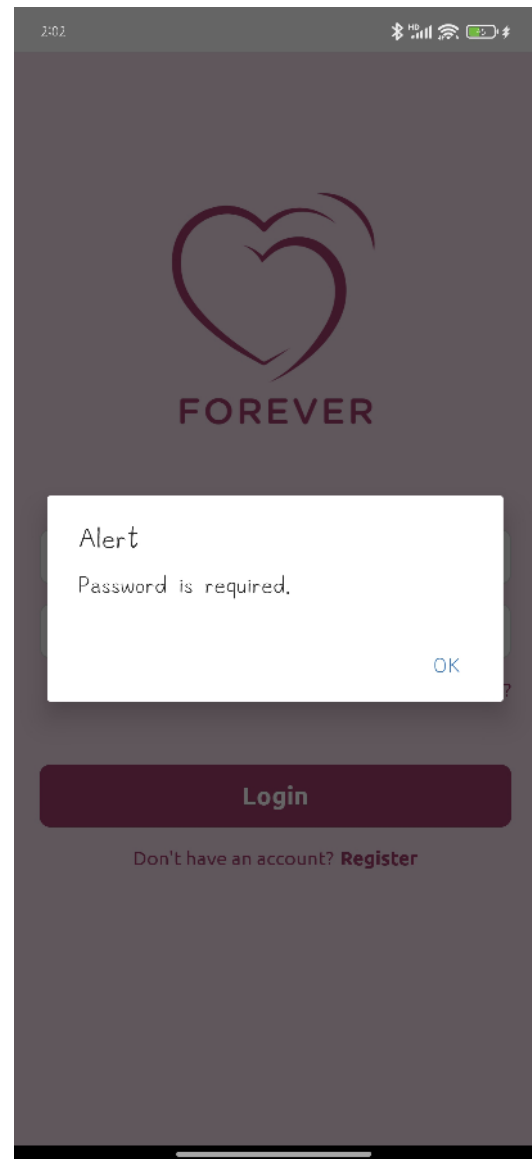
User will get an alert prompt as Figure 4.11 and Figure 4.12 if user press "Login" button without completing the email and password,
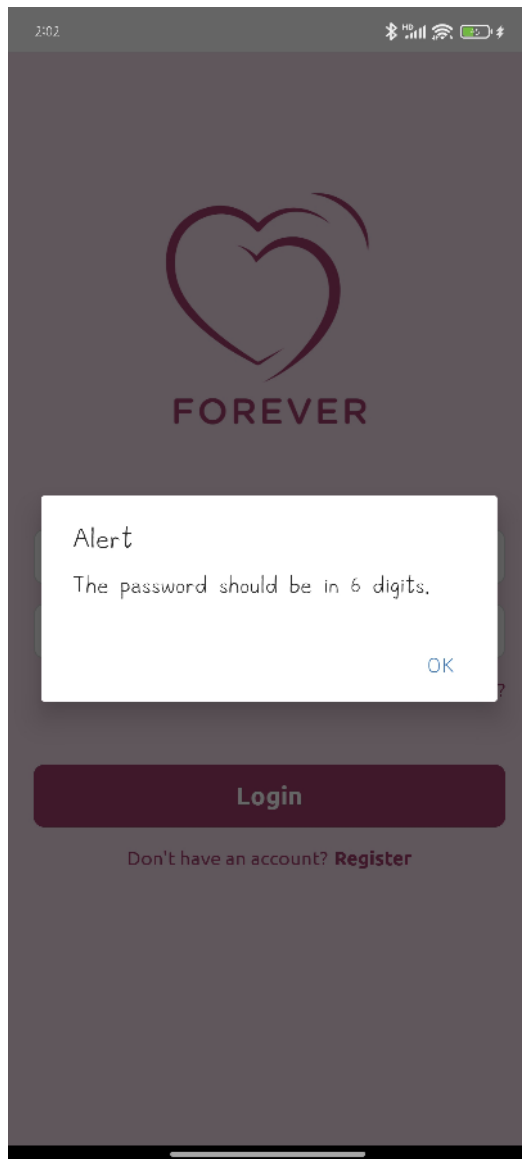
Figure 4.13 Login module Alert 3   *Figure 4.14 Login module Alert 4*
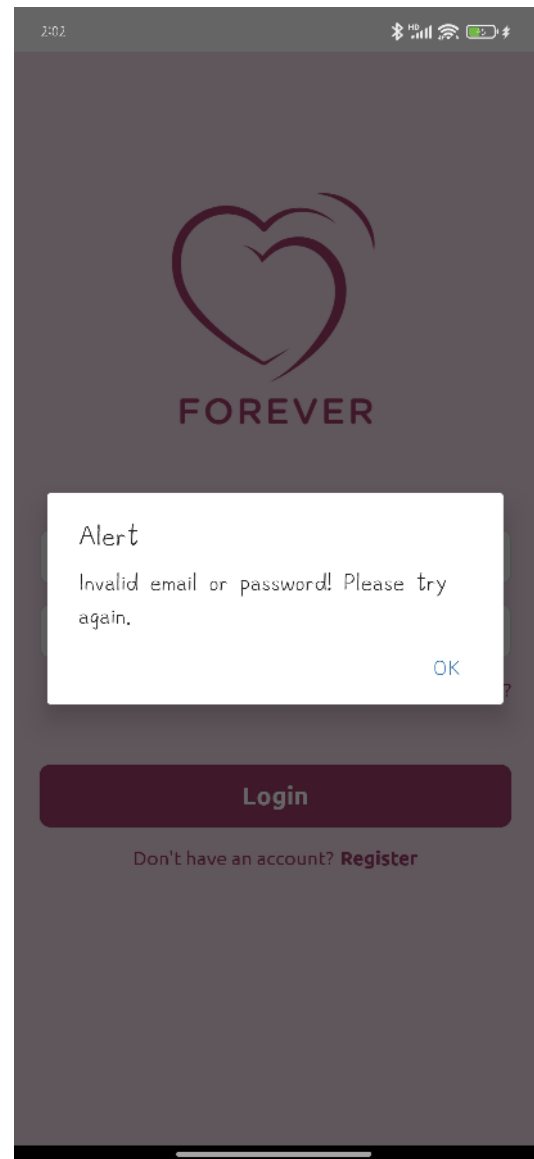
Figure 4.13 if user did not enter meets the password minimum requirements and Figure 4.14 if user entered wrong email or password. If user enter everything correctly, user will be navigated to Home page.

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4.3.2 Register module
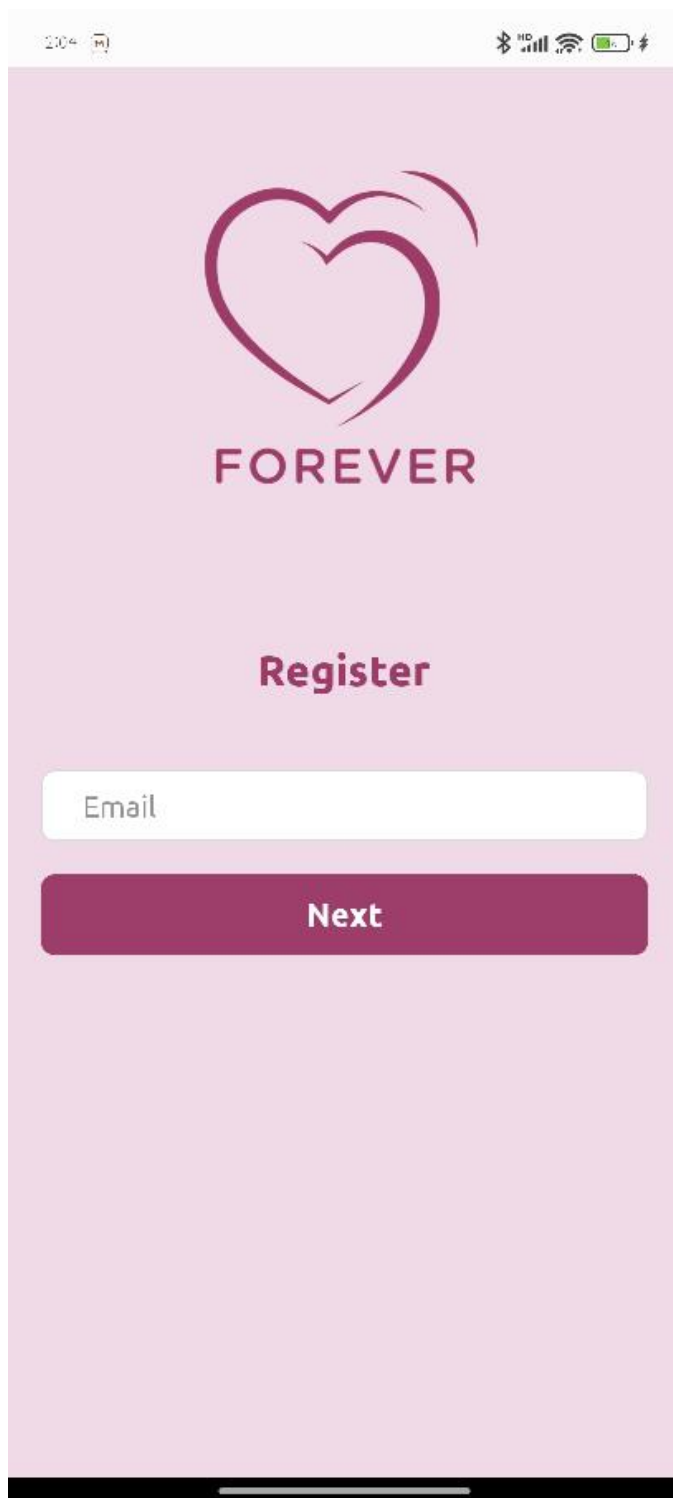
Figure 4.15 Register module Page 1

There are 3 parts for Register module. Figure 4.15 shows the first Register page.

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Figure 4.16

Register module Page 1 Alert 1

Figure 4.17

Register module Page 1 Alert 2
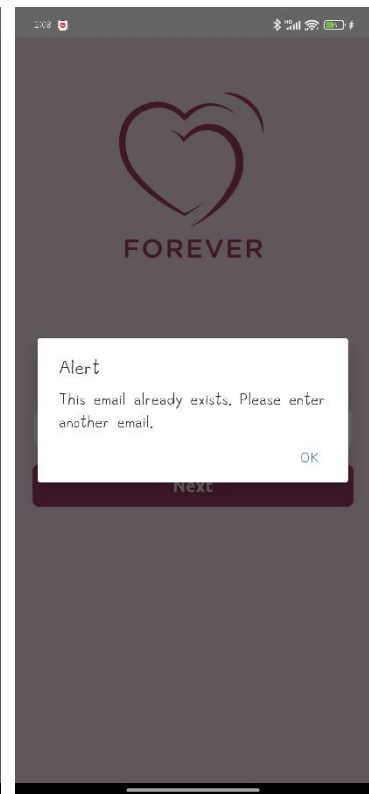
Figure 4.18

Register module Page 1 Alert 3

User will get an alert prompt as Figure 4.16 if user pressed "Next" button before entering an email, Figure 4.17 if user entered an invalid email and Figure 4.18 if user entered an existed email. If user entered an valid email, user will be navigated to the second page of Register module.

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Figure 4.19 Register module Page 2

Figure 4.19 shows the second Register page.

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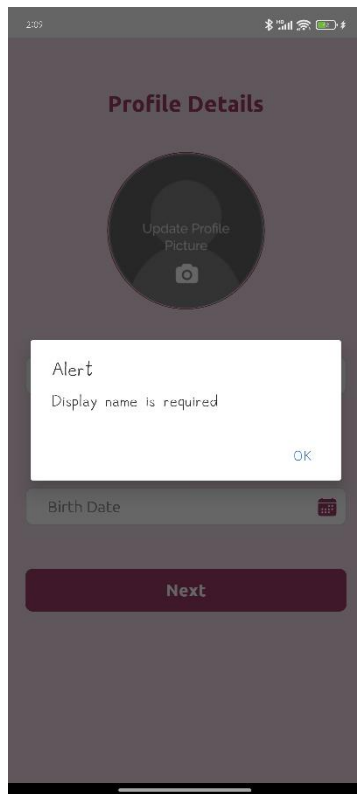
Figure 4.20
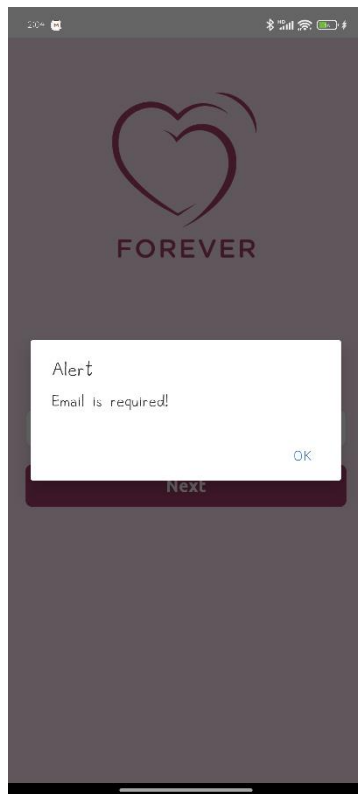
Register module Page 2 Alert 1

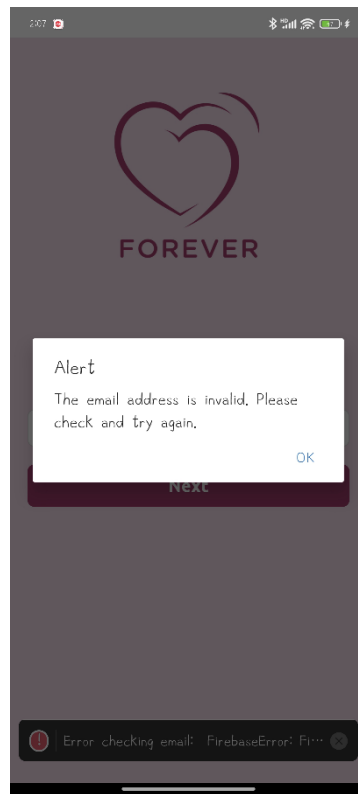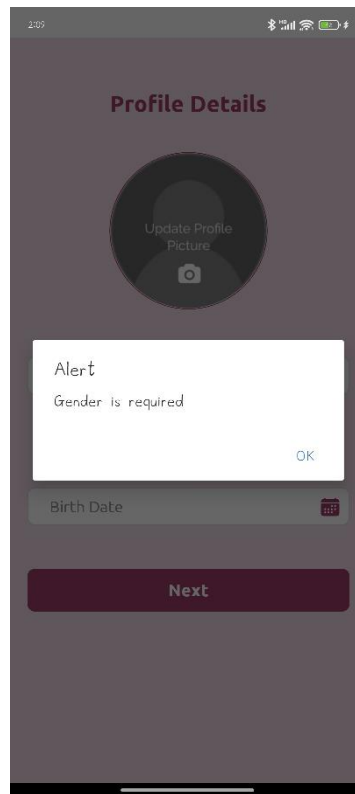*Figure 4.21*

Register module Page 2 Alert 2
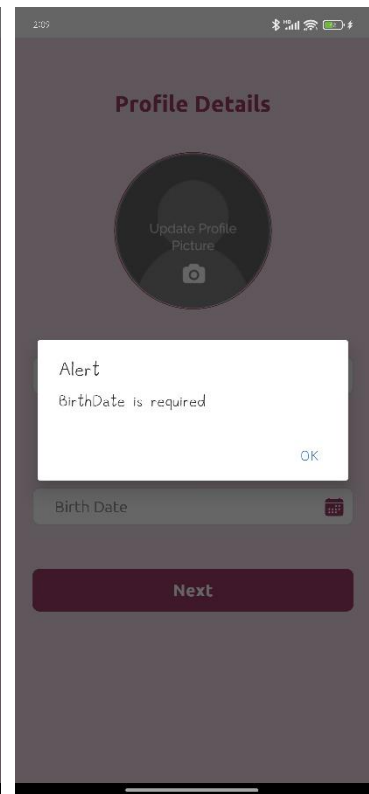
Figure 4.22

Register module Page 2 Alert 3

User will get alert prompt as Figure 4.20, Figure 4.21 and Figure 4.22 if user did not complete the second Register page.

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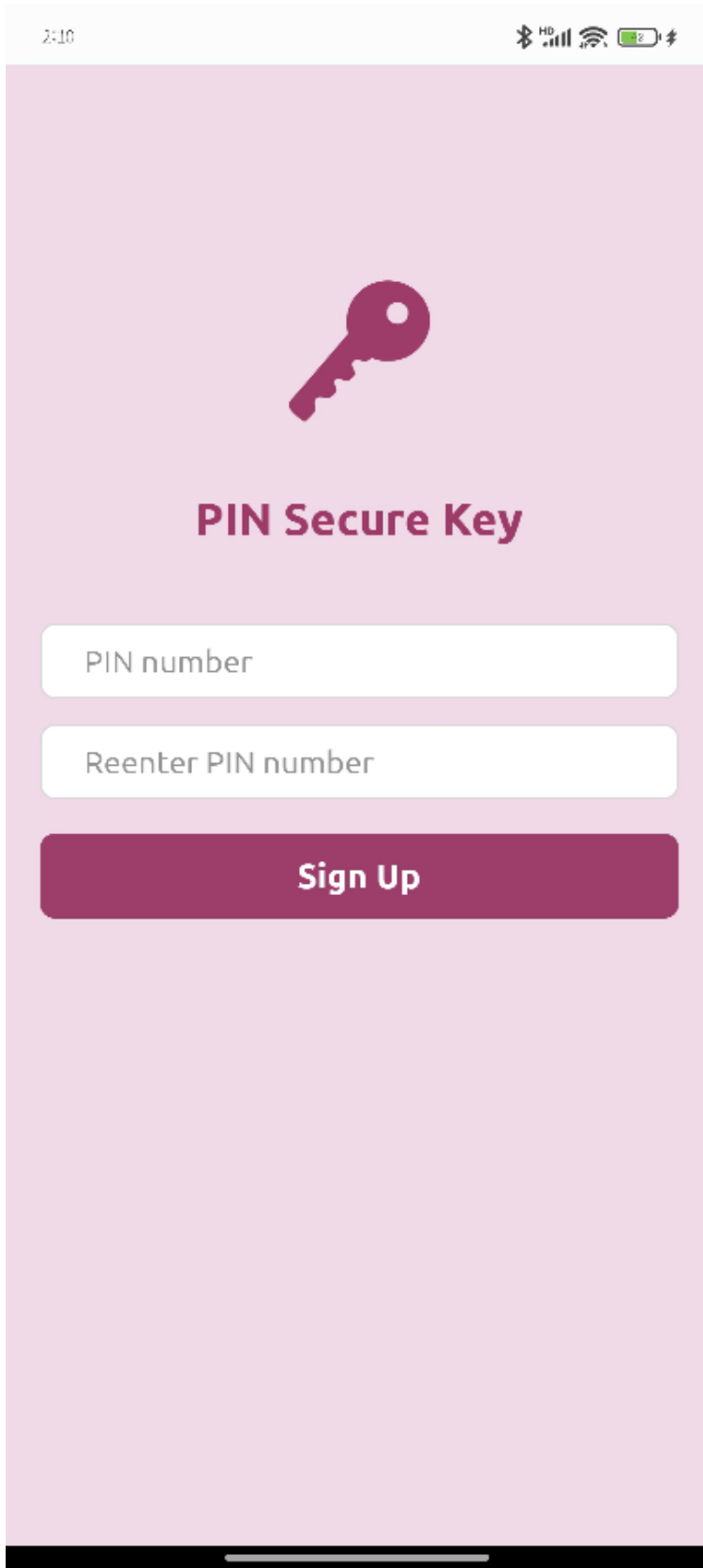
Figure 4.23

Register module Page 2 Calendar

Figure 4.24

Register module Page 2 Complete Form

Figure 4.23 shows the calendar window for the birthdate particular and Figure 4.24 shows the complete details version of the second Register page.

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Figure 4.25 Register module Page 3

Figure 4.25 shows the third Register page.

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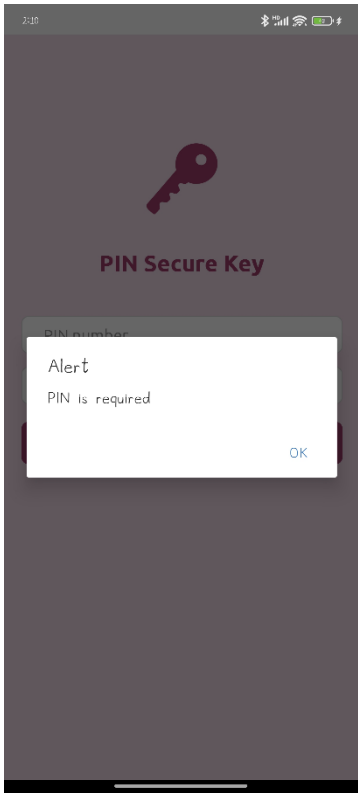
Figure 4.26

Register module Page 3 Alert 1
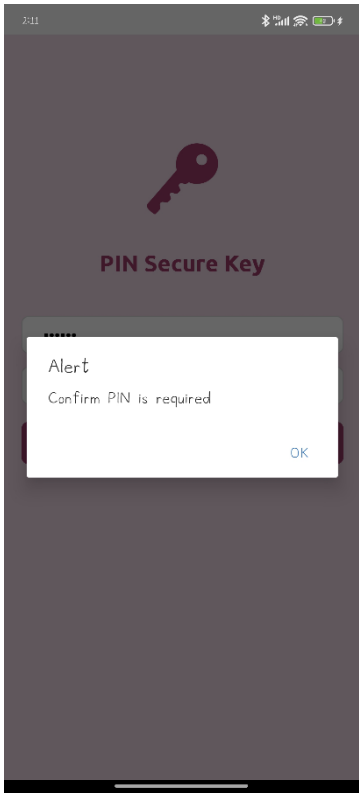
Figure 4.27

Register module Page 3 Alert 2
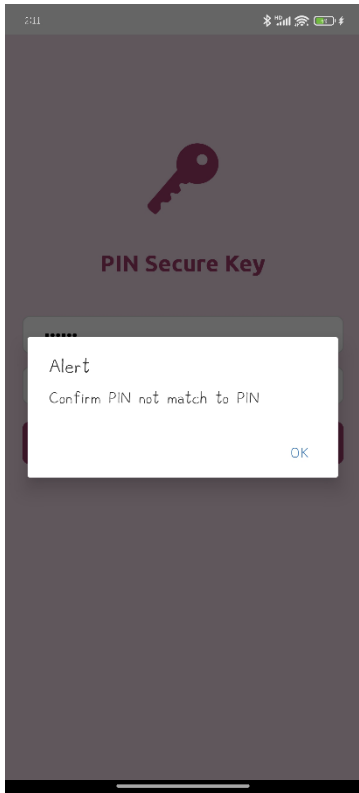
Figure 4.28

Register module Page 3 Alert 3

User will get alert prompt as Figure 4.26 and Figure 4.27 if user did not complete the third Register page and Figure 4.28 if user entered different PIN for both particulars. If user entered everything correctly, user will be navigated to Home Page.

Figure 4.29 Register module Firebase 1

Then, the email address and the password will be stored in the firebase authentication as Figure 4.29.

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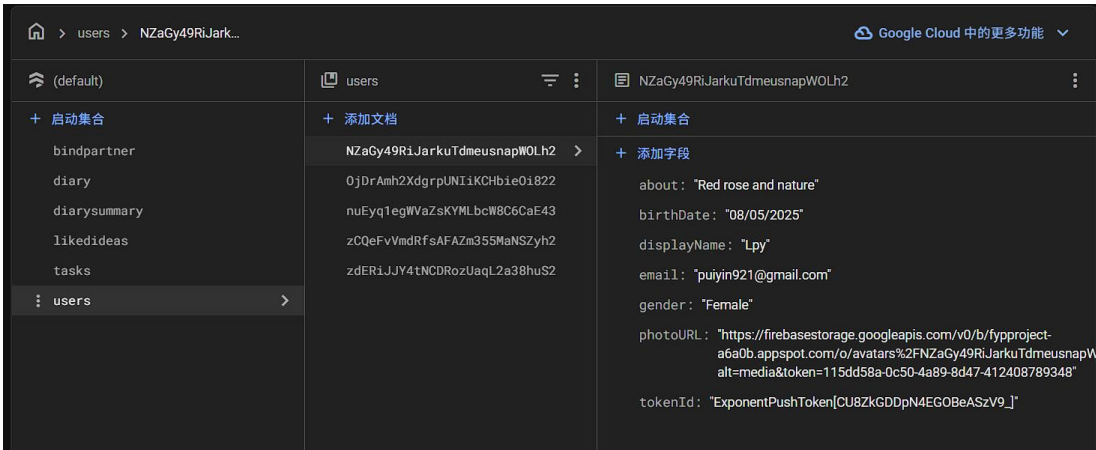
Figure 4.30 Register module Firebase 2

The personal details will be stored in the firebase database as Figure 4.30.
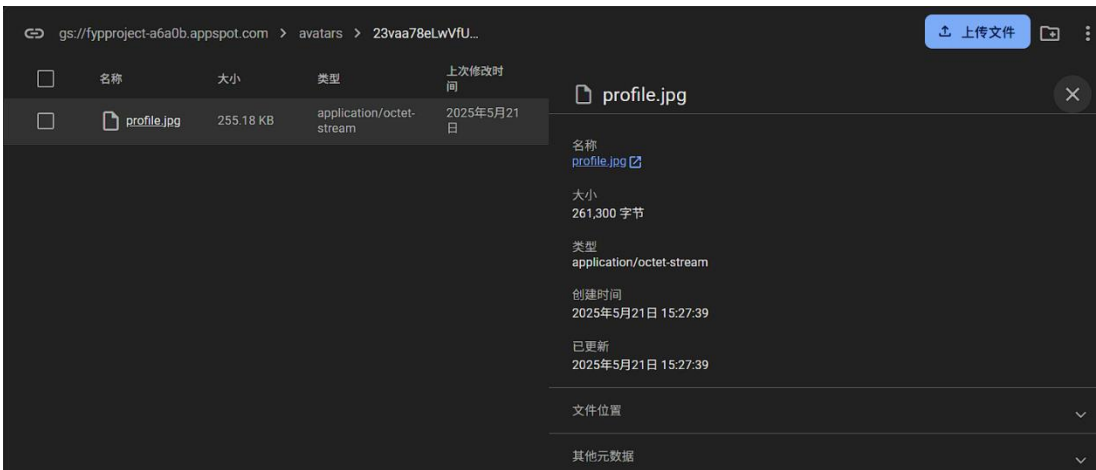
Figure 4.31 Register module Firebase 3

The profile picture will also be stored in the firebase as Figure 4.31.

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4.3.3 Forgot Password module
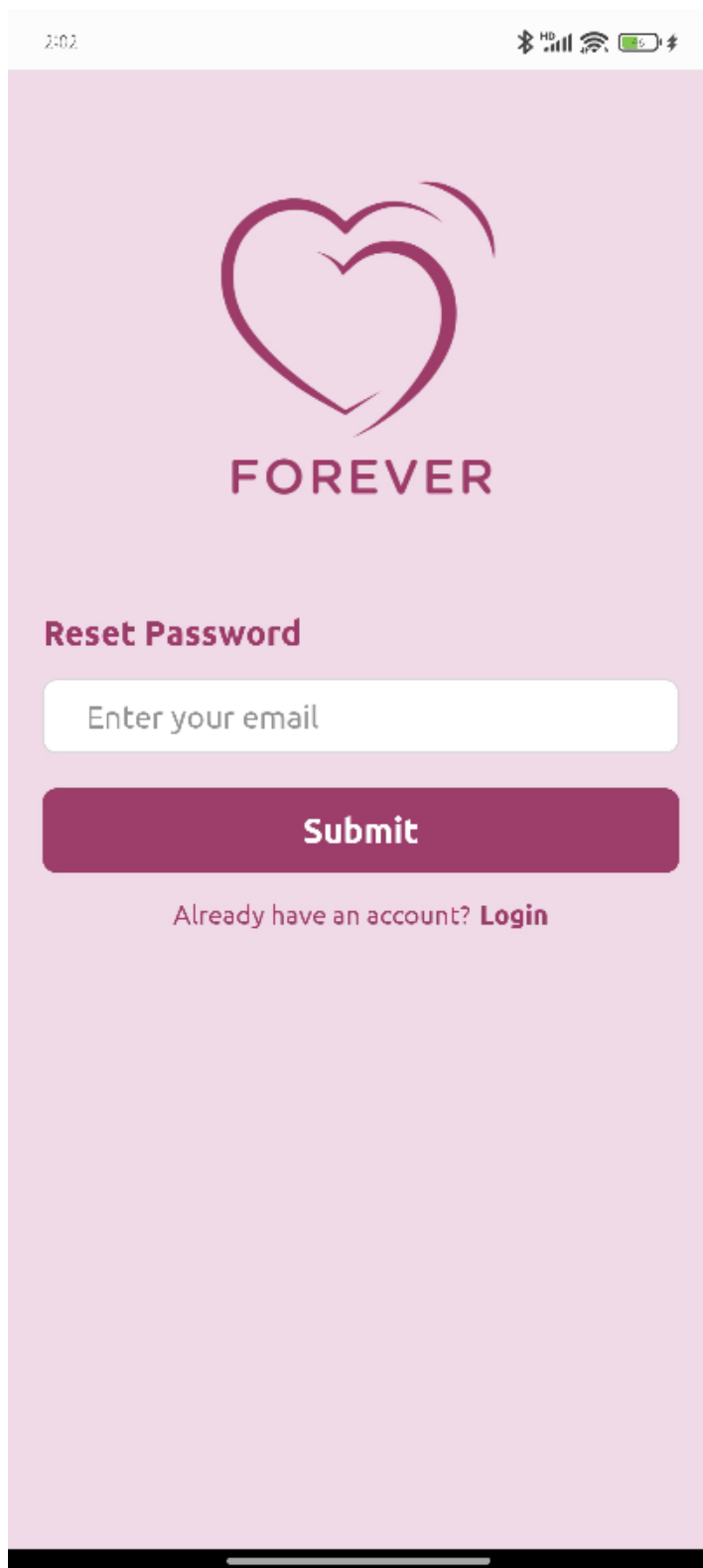
Figure 4.32 Forgot Password module

Figure 4.32 shows the Forgot Password page.

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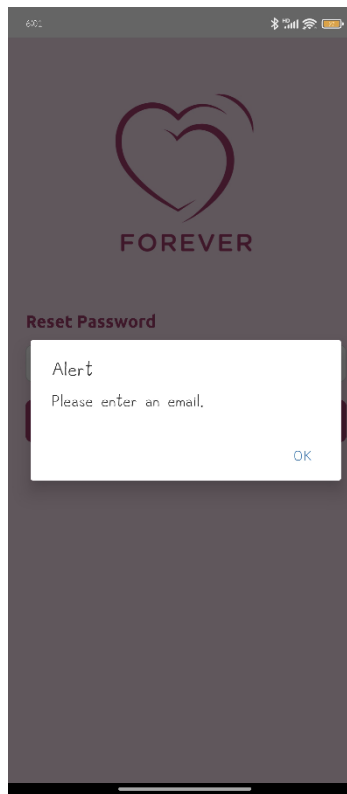
Figure 4.33

Forgot Password module

Alert 1
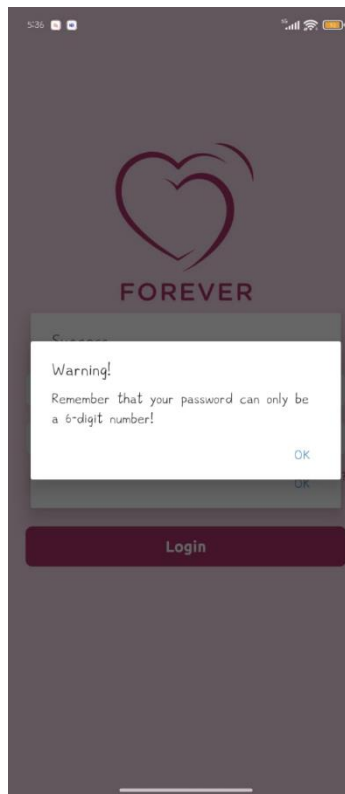
Figure 4.34

Forgot Password module

Alert 2
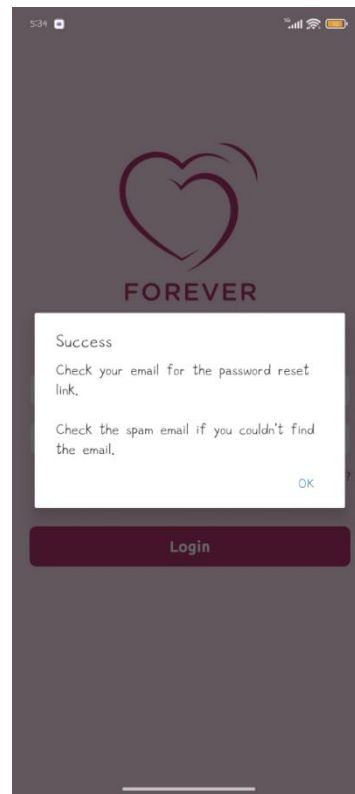
Figure 4.35

Forgot Password module

Alert 3

User will get alert prompt as Figure 4.33 if user pressed "Submit" button before entering an email and Figure 4.34 and Figure 4.35 if user pressed "Submit" button after entering an email. Figure 4.35 will is shown because the email might accidentally been categorized in the spam email.

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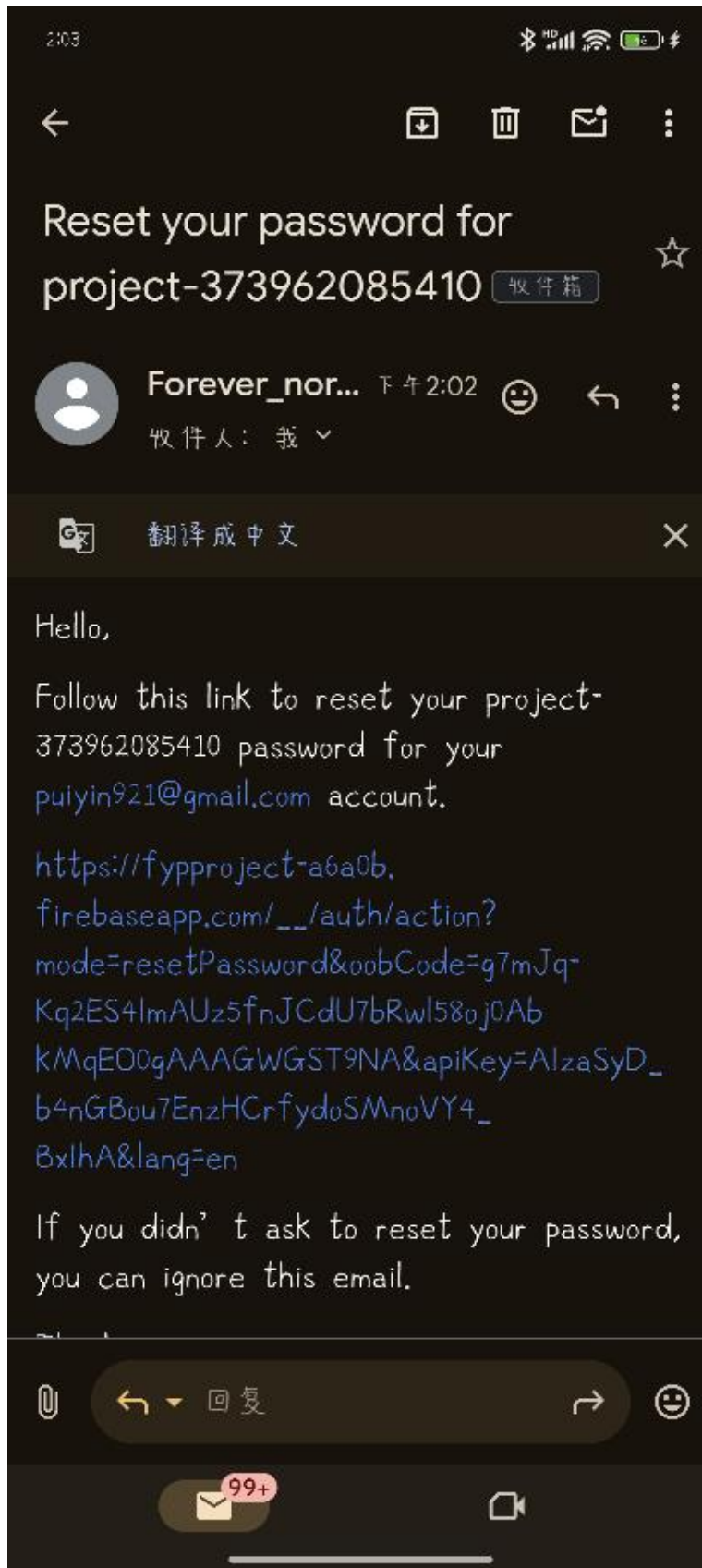
Figure 4.36 Forgot Password module – Send Reset Password Link through Email

Then, user will get an email as Figure 4.36.

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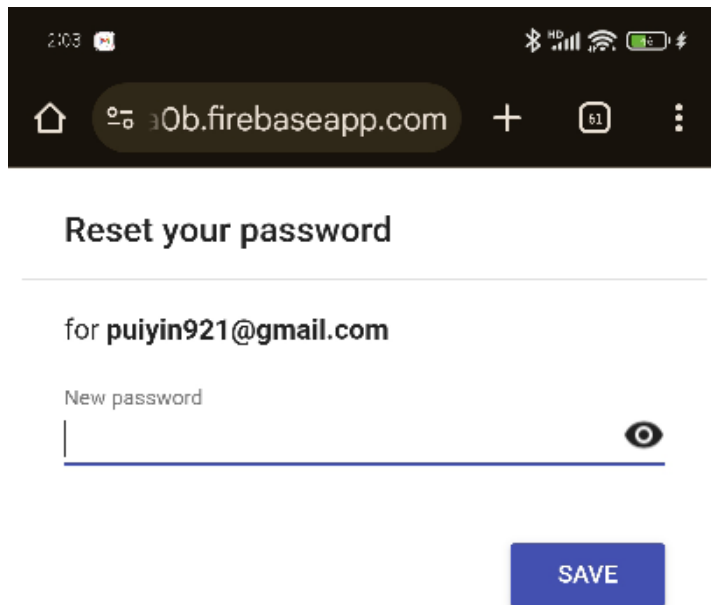
Figure 4.37 Forgot Password module – Reset Password Web Page

User needs to press the link in the email and user will be navigated to reset password page as Figure 4.37.

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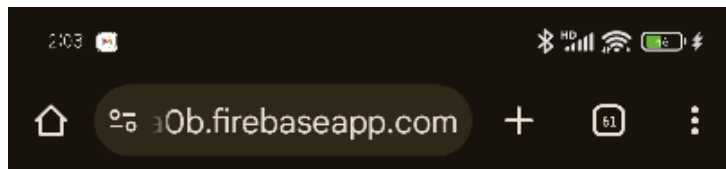
Figure 4.38 Forgot Password module – Done Reset Password

Figure 4.38 shows the page after user has reset their password and user can login the application with their new password.

4.3.4 Home module
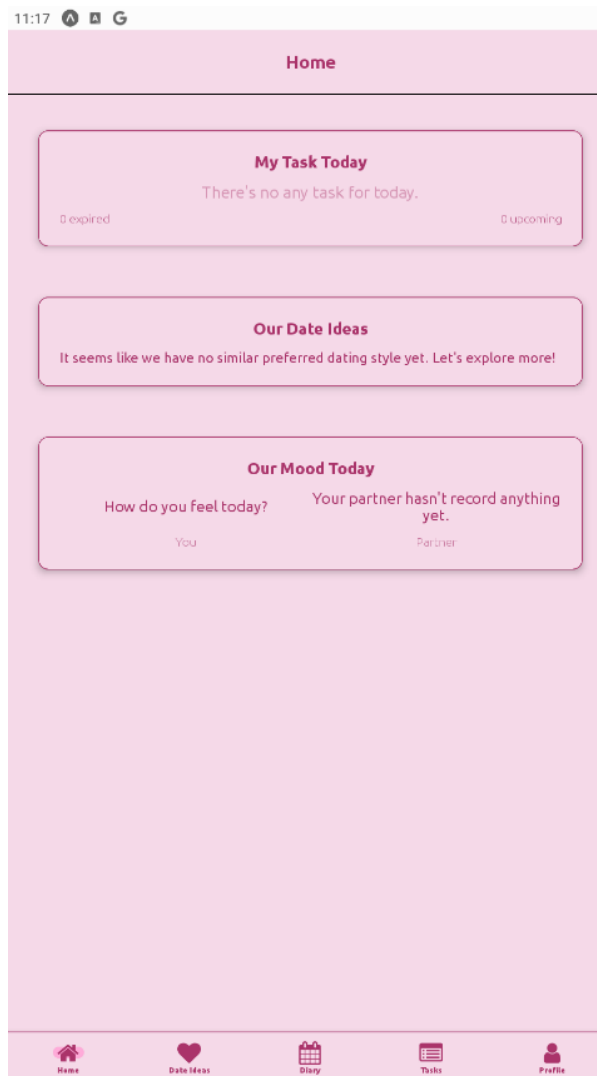
Figure 4.39 Home module without data
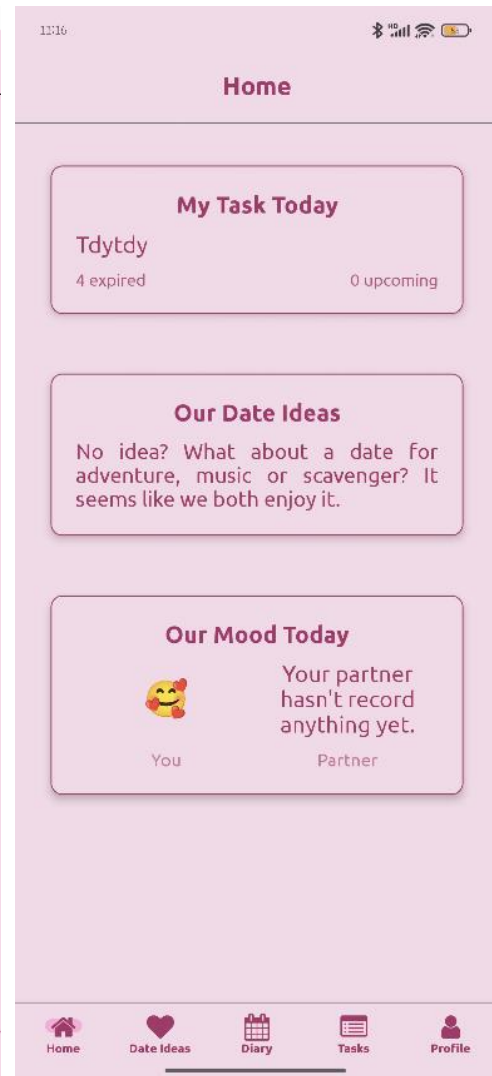
Figure 4.40 Home module with data

Figure 4.39 shows the Home page without data while Figure 4.40 shows the Home page with data.

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4.3.5 Date Ideas Module
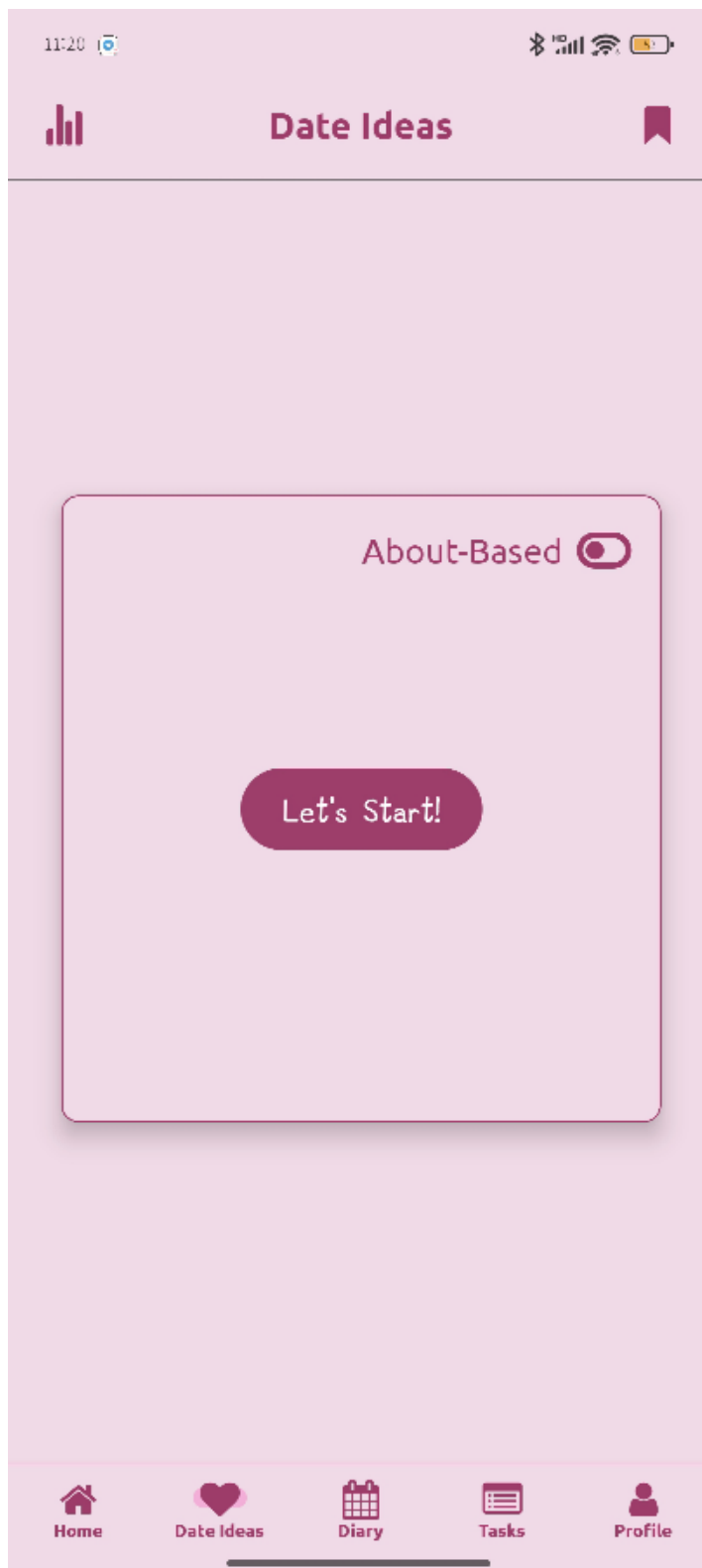
Figure 4.41 Date Ideas Module

Figure 4.41 shows the Date Ideas page.

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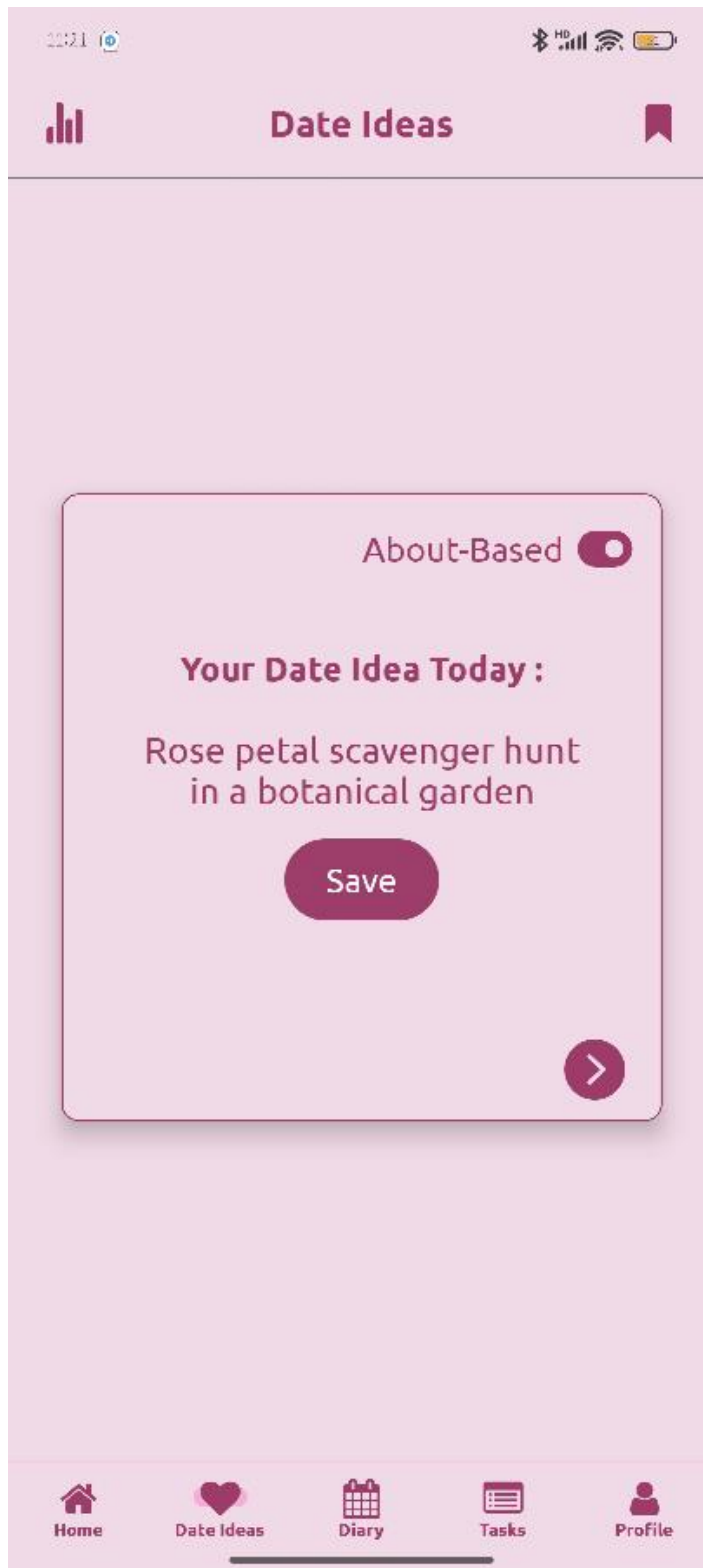
Figure 4.42 Date Ideas Generated Idea

Figure 4.42 shows the Date Idea page after idea generated. If the "About-Based" switch button has been turned on, then the idea will be generated based on the profile details, if not, it will generate a random date idea.

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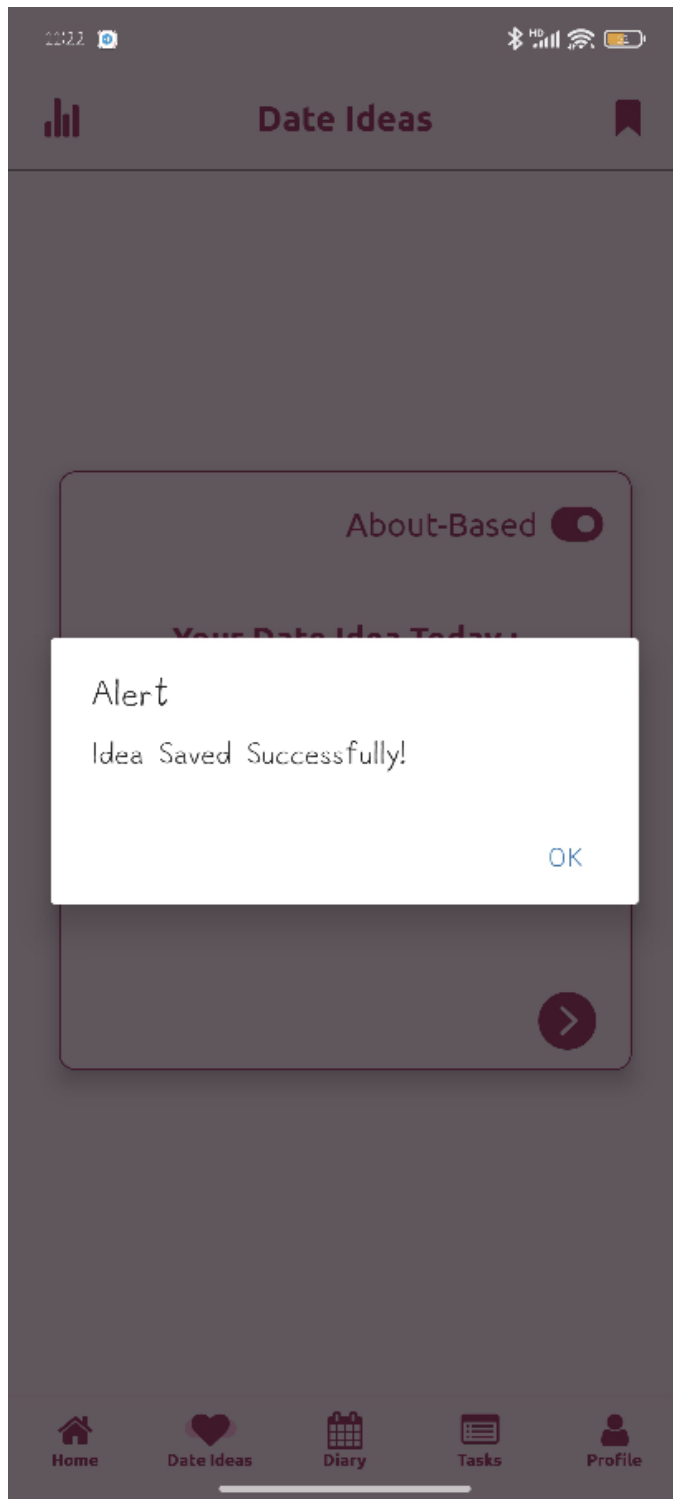
Figure 4.43 Date Ideas Module Alert 1

When user pressed "Save" button, The system will then use AI to analyze the phrase of the generated date idea and pick a suitable keyword that could be use as the category name based on the phrase. Then, the system will save the keyword and the date idea generated into firebase. Then, user will get an alert prompt as Figure 4.43.
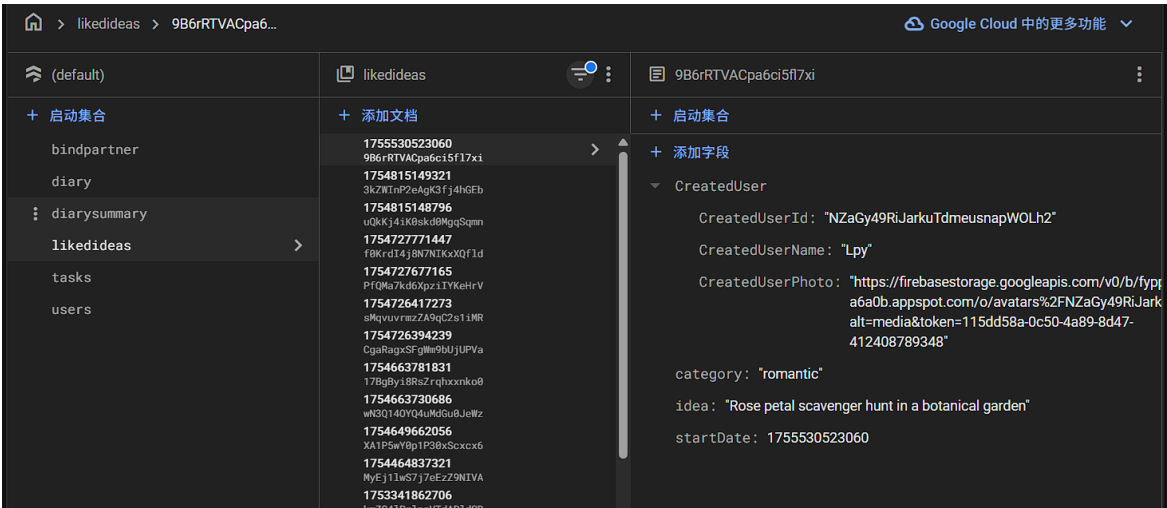
Figure 4.44 Date Ideas Module Firebase

Figure 4.44 shows the data of the date idea and the keyword that picked by AI as the category name in the firebase.

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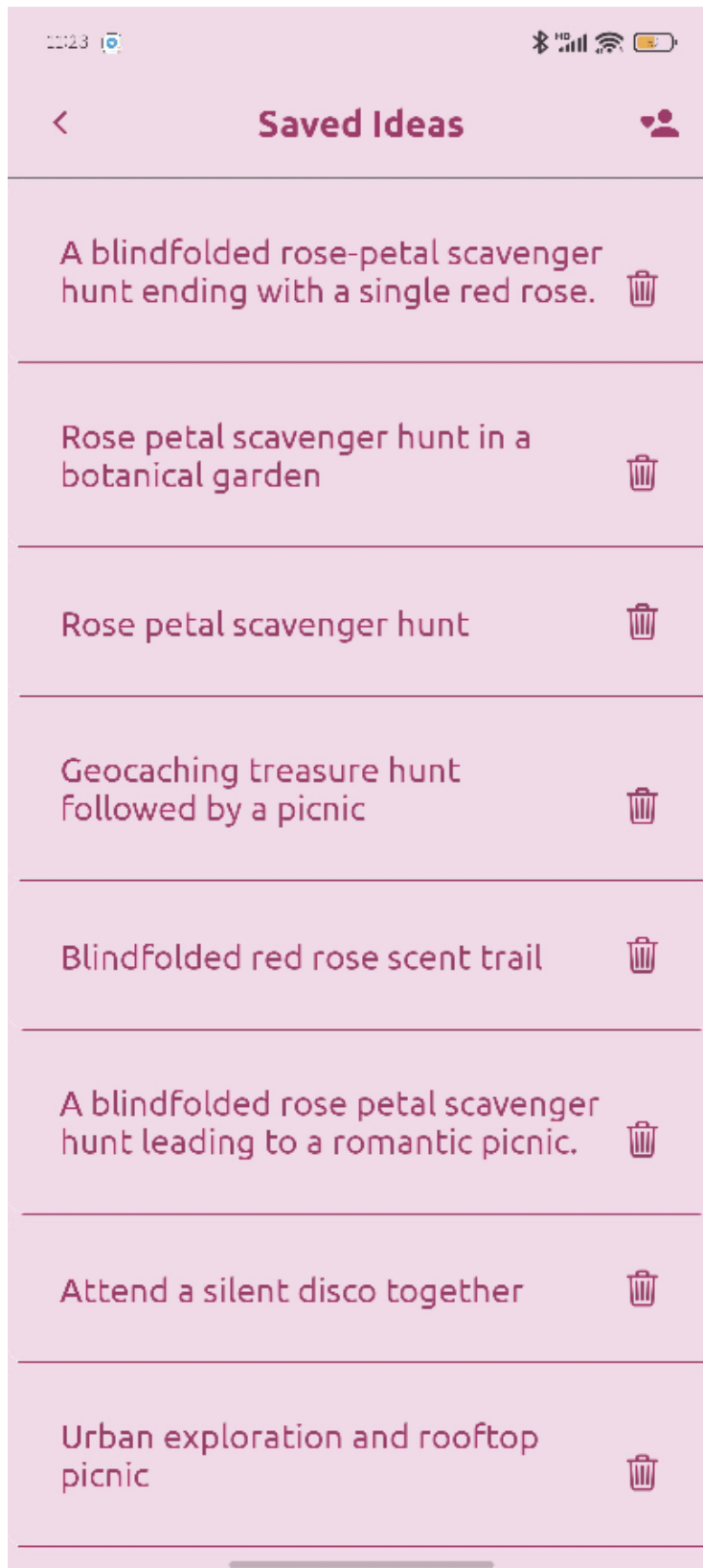
Figure 4.45 Date Ideas Module Saved Idea Page

User can press the "Save" icon and go to the Saved Ideas page to view the saved ideas as Figure 4.45.

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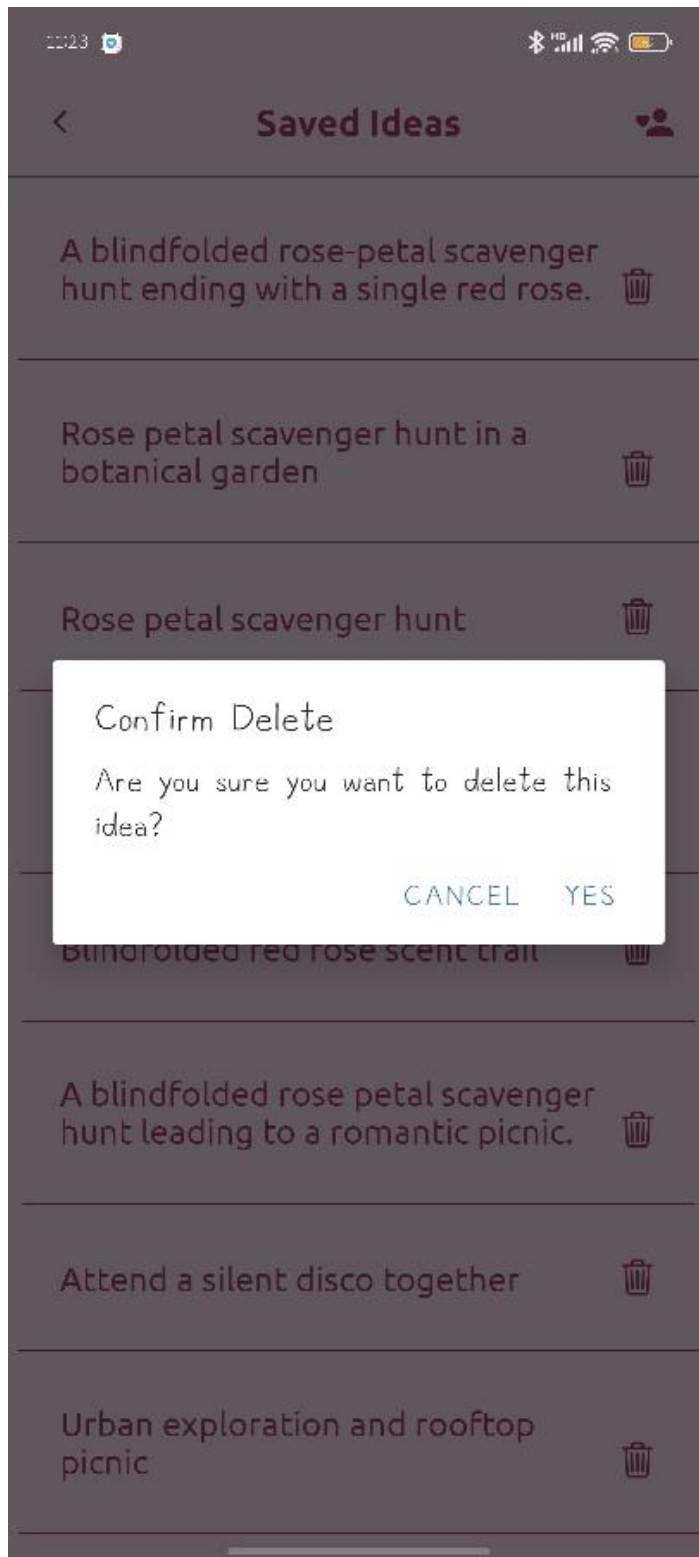
Figure 4.46 Date Ideas Module Saved Idea Page Delete Alert

As Figure 4.46, user can press the delete icon if want to delete a specific idea and press yes to confirm delete the idea. Then, the idea will be deleted in the firebase. Press cancel to cancel the delete process.

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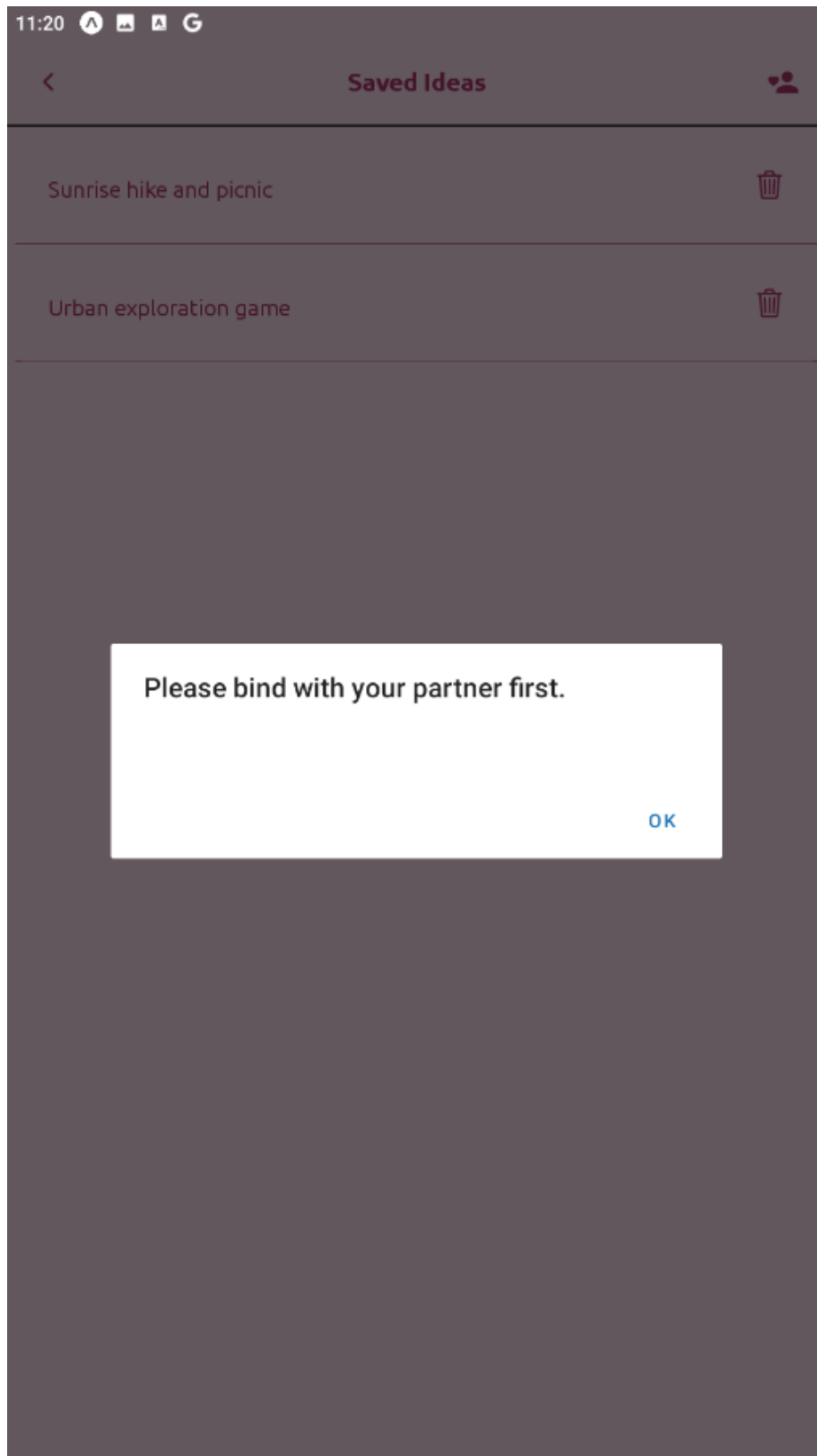
Figure 4.47 Date Ideas Module Saved Idea Page No Partner Alert

If the user has no partner yet, it will prompt an alert as Figure 4.47 when the user press the partner icon.

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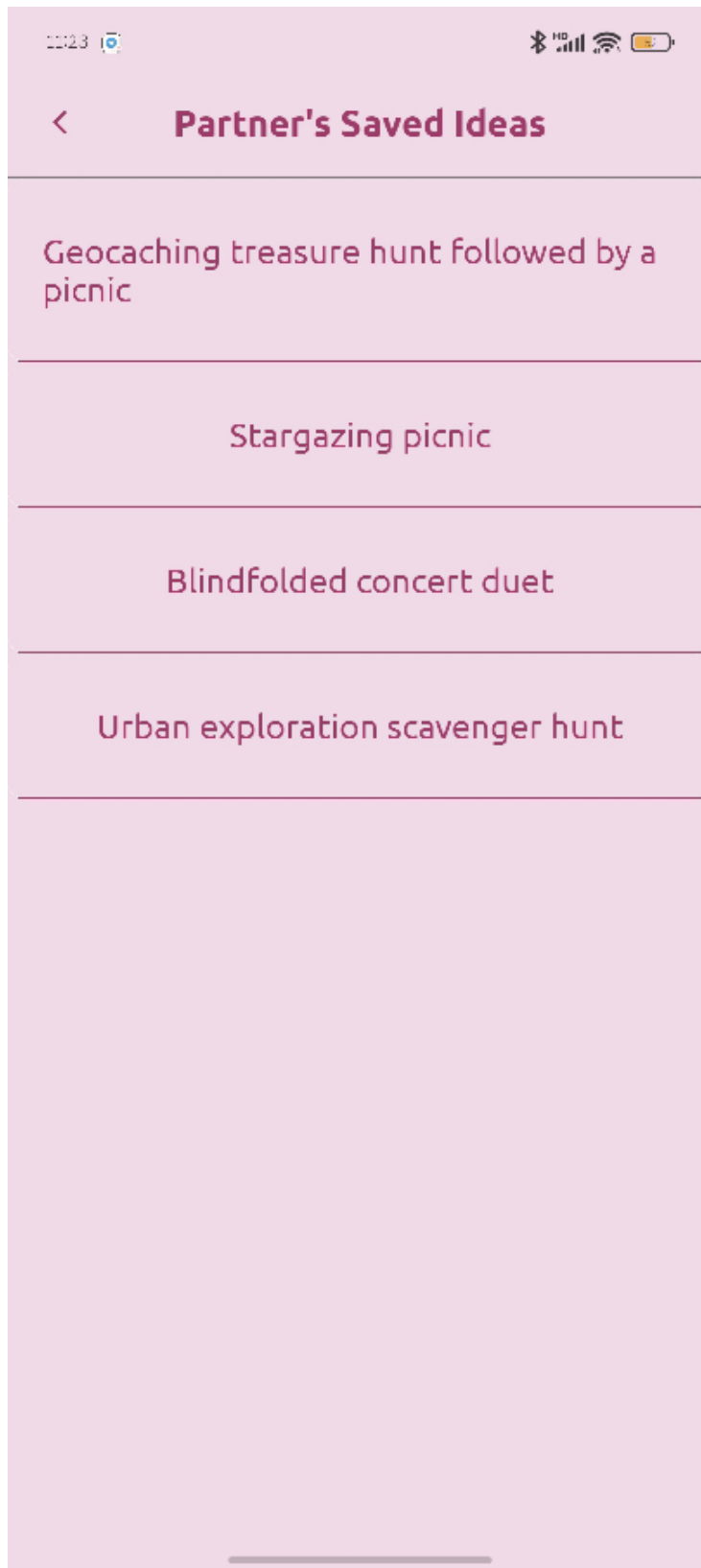
Figure 4.48 Date Ideas Module Partner Idea Page

If the user has bind with partner, then it will show the partner's saved ideas as Figure 4.48.

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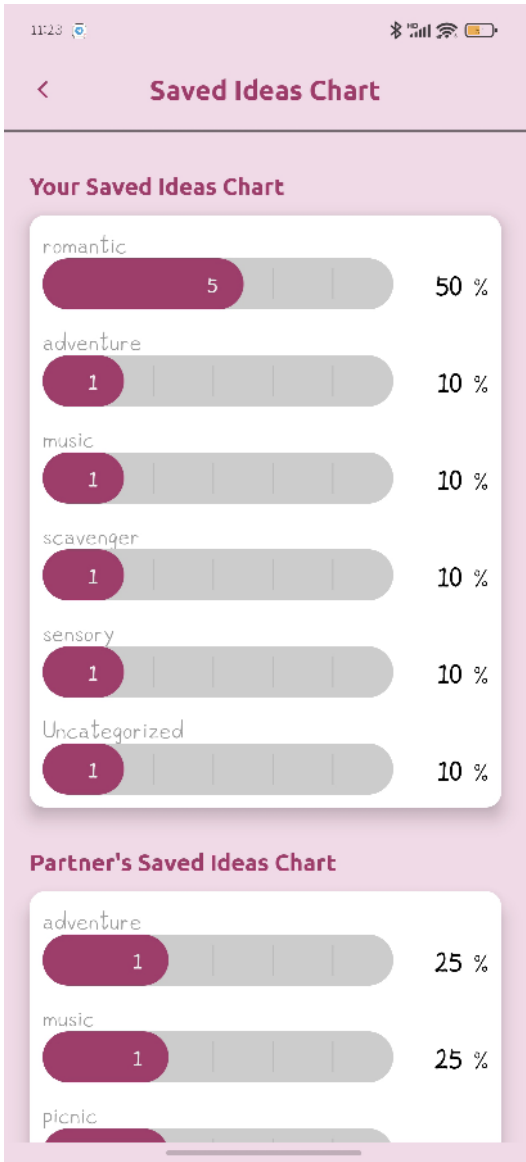
Figure 4.49 Date Ideas Module Saved Ideas Chart Page 1
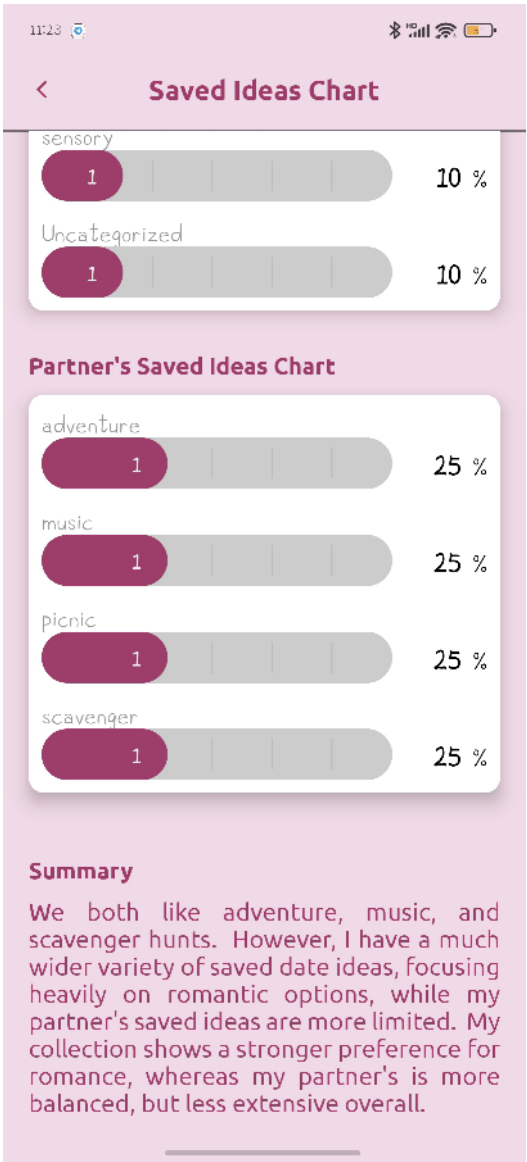
Figure 4.50 Date Ideas Module Saved Ideas Chart Page 2

Figure 4.49 and Figure 4.50 shows the Saved Ideas Chart page when user pressed "Graph" icon. The horizontal bar charts are based on the number of the categories and the category name while the summary is an analyzed summary using the AI. The summary is analyzed based on the total number of the date ideas' categories, so that it could tell the favourite dating ideas for user and partner.

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4.3.6 Diary Module

Figure 4.51 Diary Module
without data
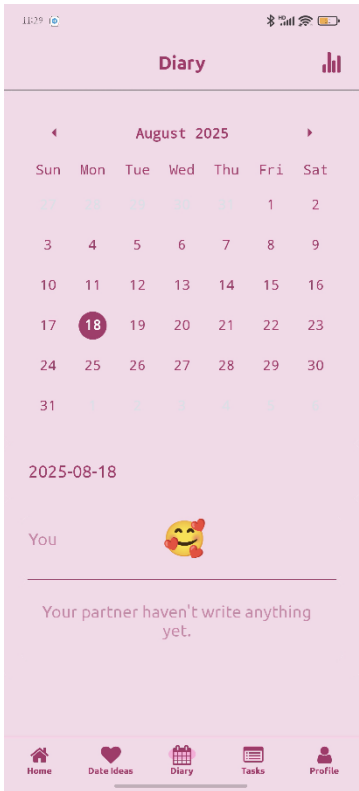
Figure 4.52 Diary Module
with user's data
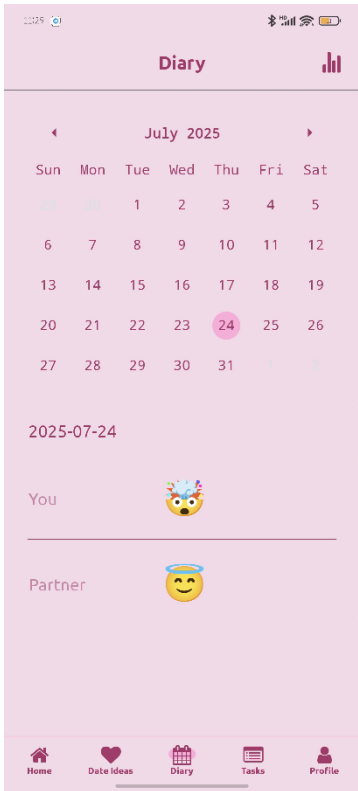
Figure 4.53 Diary Module
with user's and partner's
data for other day

Figure 4.51 shows the Diary Module without data while Figure 4.52 shows the Diary
Module with user's data. Figure 4.53 shows the Diary Module with the other day's data
along with the partner's data.

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Figure 4.54 Diary Module Add Page
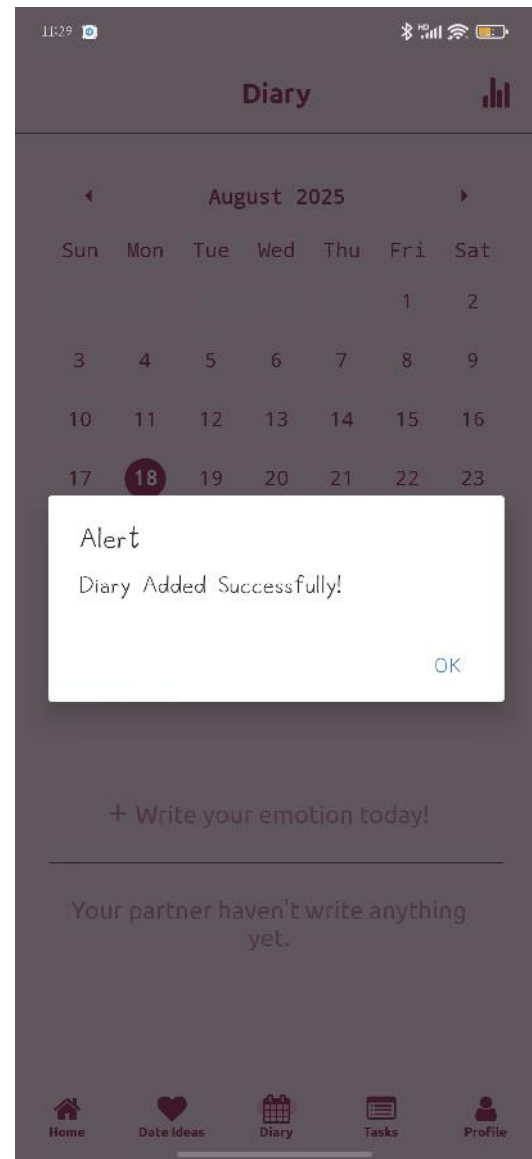
Figure 4.55 Diary Module Add Page Alert

When user pressed the "Add" icon, user will be navigated to the Add Diary page as Figure 4.54. After user done inserting the details and press "Tick" icon, it will prompt an alert as Figure 4.55. If the user does not have partner, it will show an alert as Figure 4.47 and will not navigating to the page.

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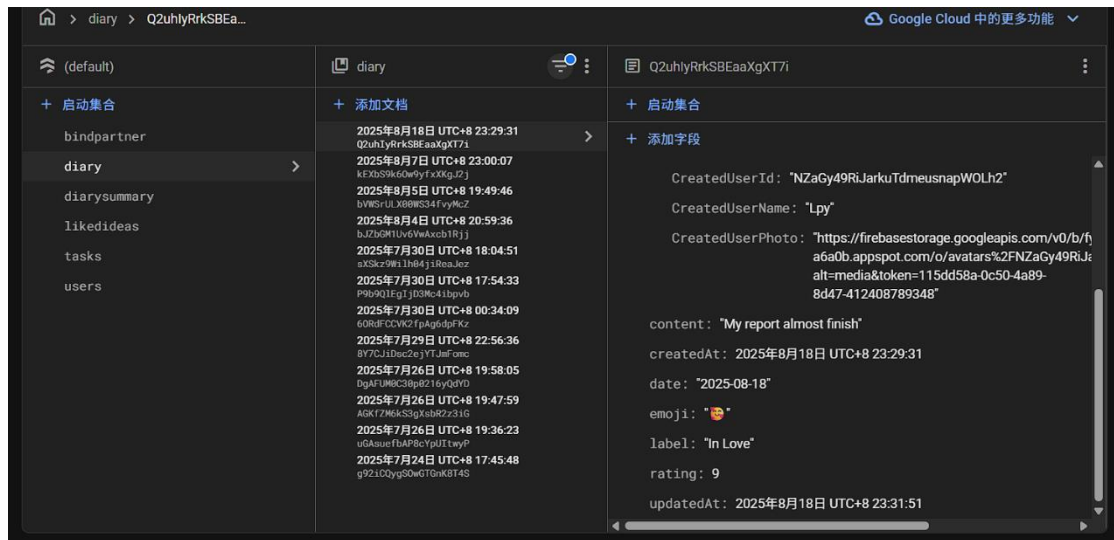
Figure 4.56 Diary Module Add Diary Firebase

Then, the diary details will be saved in the firebase as Figure 4.56.

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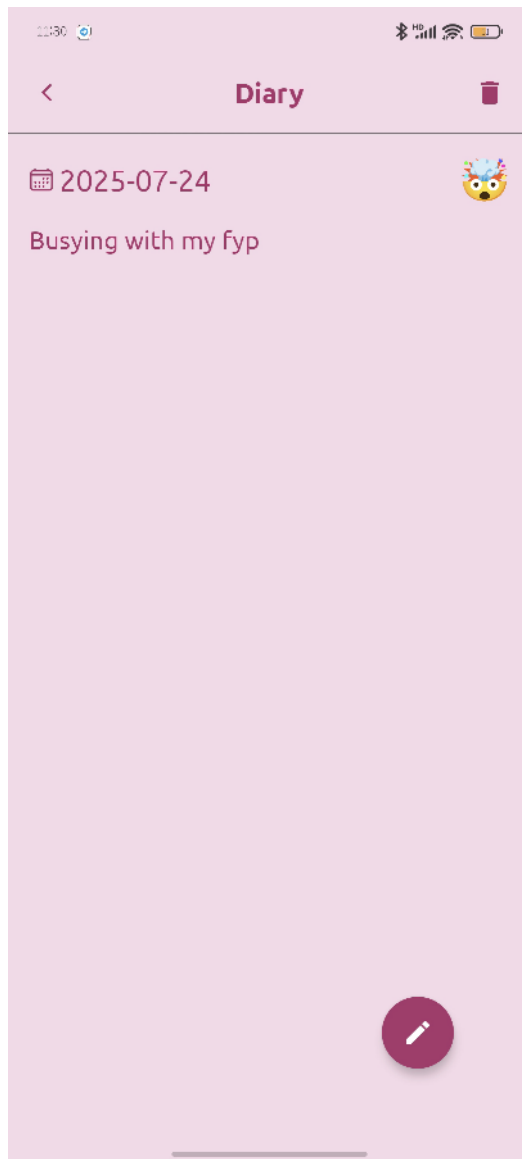
Figure 4.57 Diary Module - View Diary Details - User
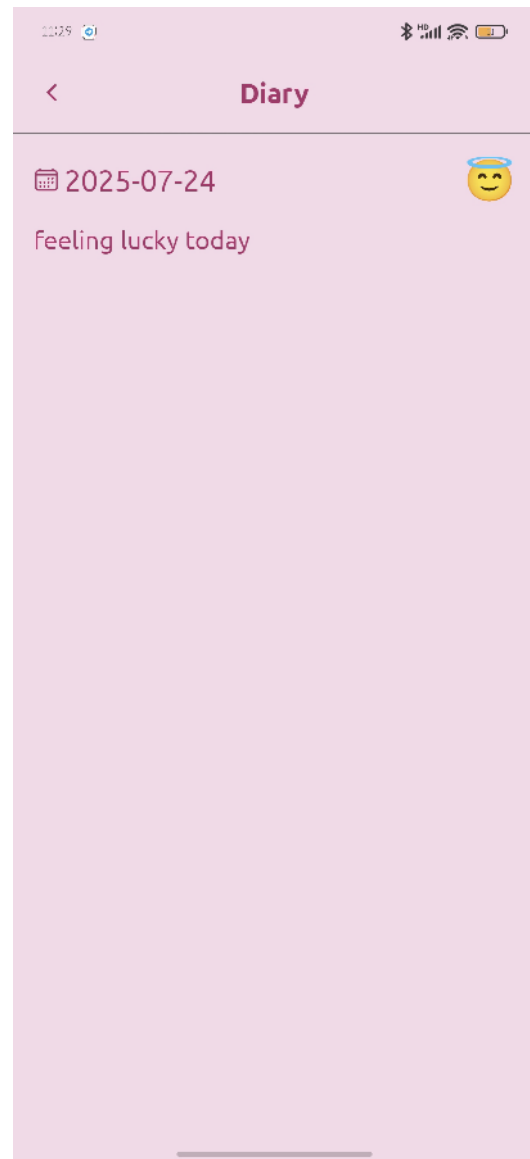
Figure 4.58 Diary Module - View Diary Details – Partner

If user press one of the emoji in the calendar in the Diary page, user will be navigated to the Diary View page. If the diary belongs to the user, then it will show as Figure 4.57 and user can choose to press the delete or edit icon. If the diary belongs to the partner, then it will show as Figure 4.58.

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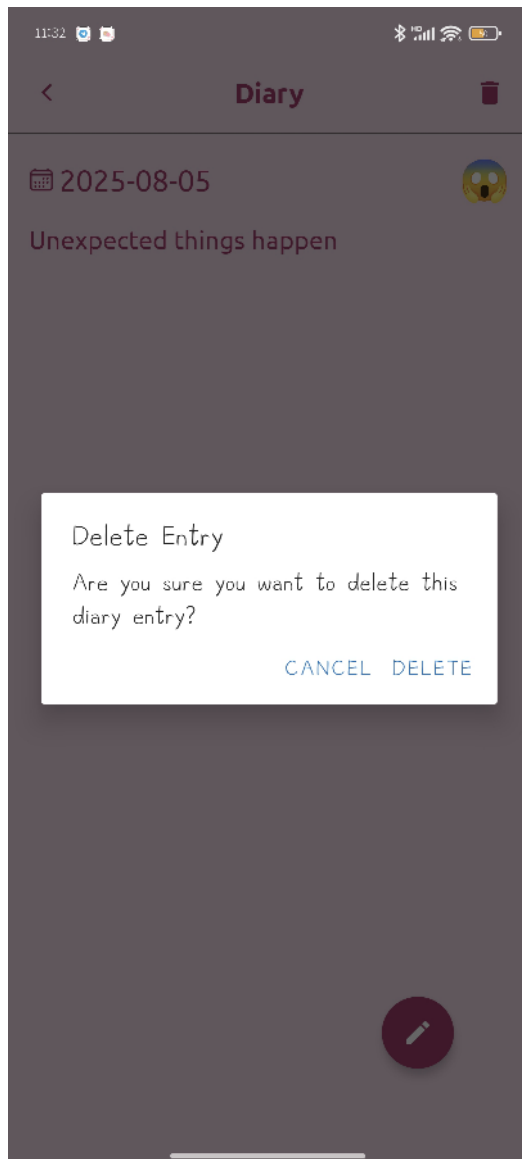
Figure 4.59 Diary Module – Delete Diary Alert 1
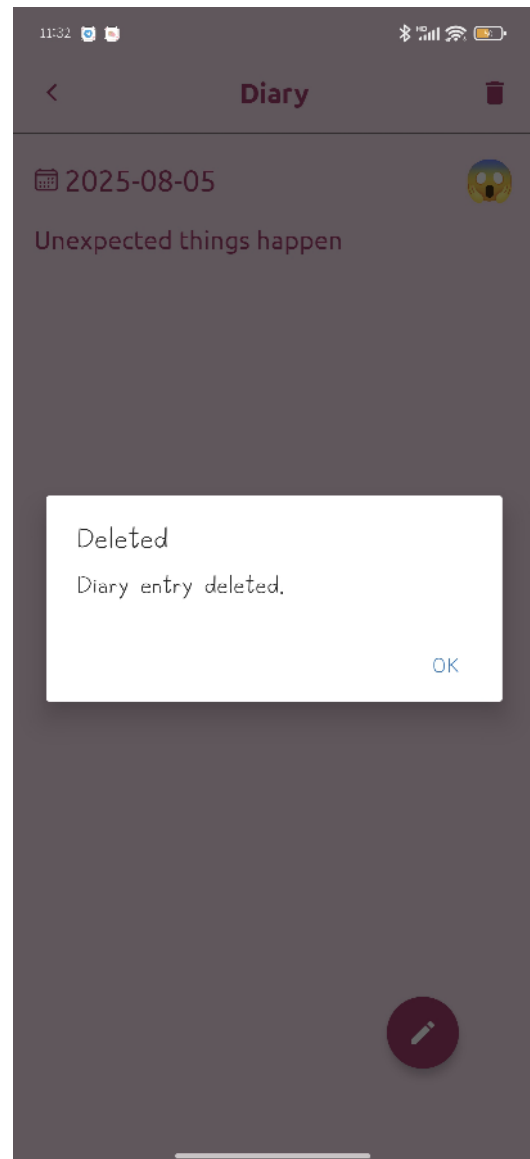
Figure 4.60 Diary Module – Delete Diary Alert 2

When user press the delete icon, it will prompt an alert as Figure 4.59 and user can press "Delete" to confirm delete. Then, it will prompt an alert as Figure 4.60 after the diary has been deleted in the firebase.

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Figure 4.61 Diary Module – Edit Diary Page
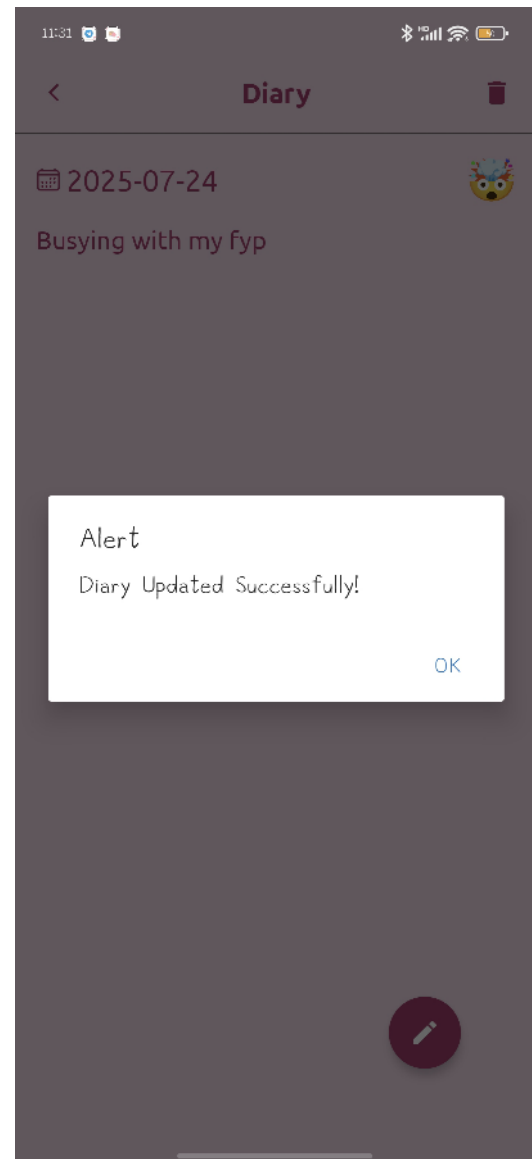
Figure 4.62 Diary Module – Edit Diary Alert

When user press "Edit" icon, it will navigate the user to the Edit Diary page as Figure 4.61. After user done edited and press the "Tick" icon, it will prompt an alert as Figure 4.62.

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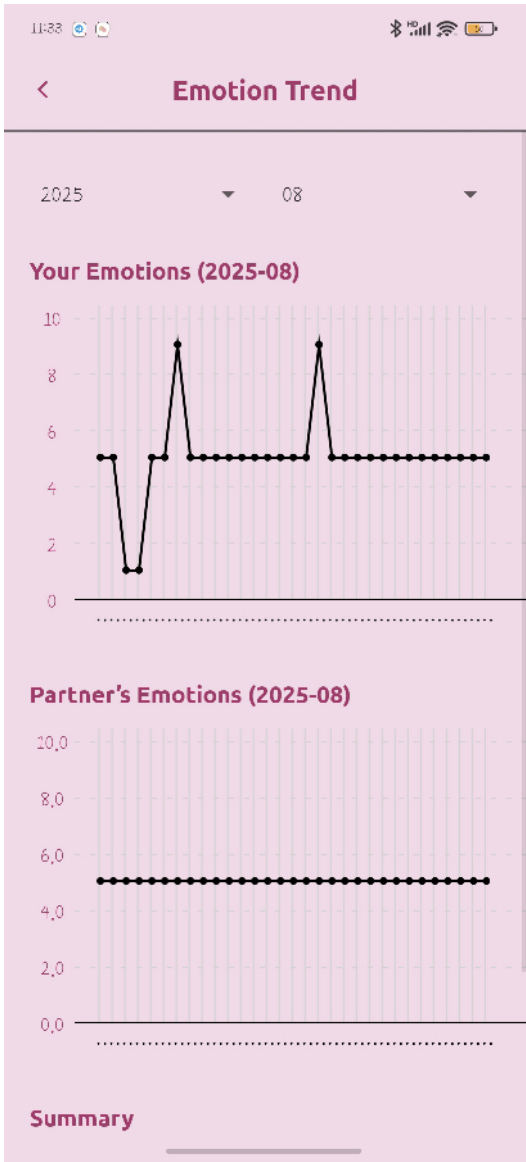
Figure 4.63 Diary Module – Emotion Trend Page Current Month 1
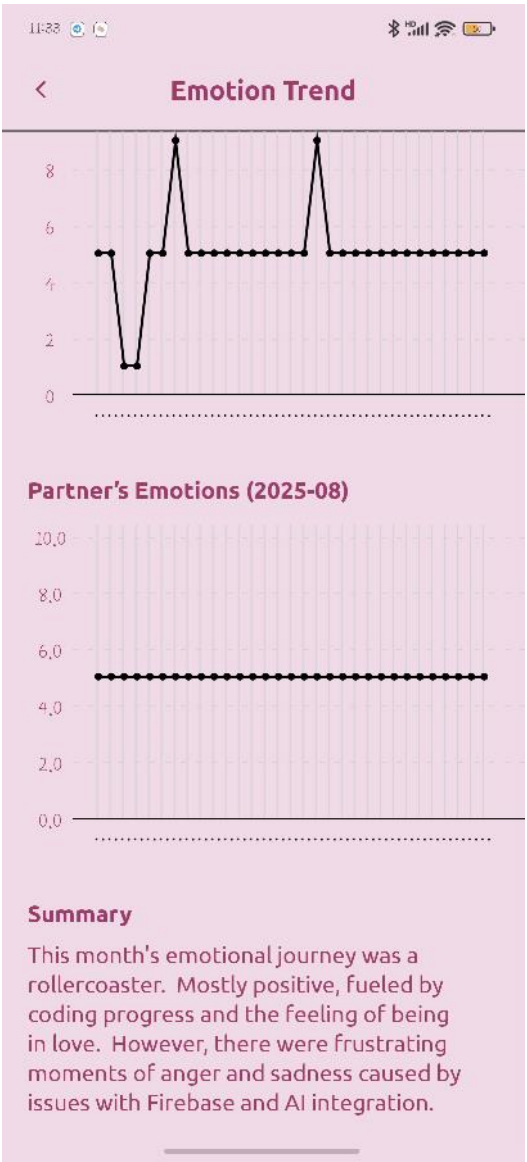
Figure 4.64 Diary Module – Emotion Trend Page Current Month 2

When user press the "Graph" icon in the Diary page, user will be navigated to the Emotion Trend page as Figure 4.63 and Figure 4.64. If the user has no partner, it will show an alert as Figure 4.47 and will not navigating to this page. Based on the line charts, the dots with value 5 means neutral and it is also the default value in the graph while the dots below and above the value 5 means sad and happy respectively.

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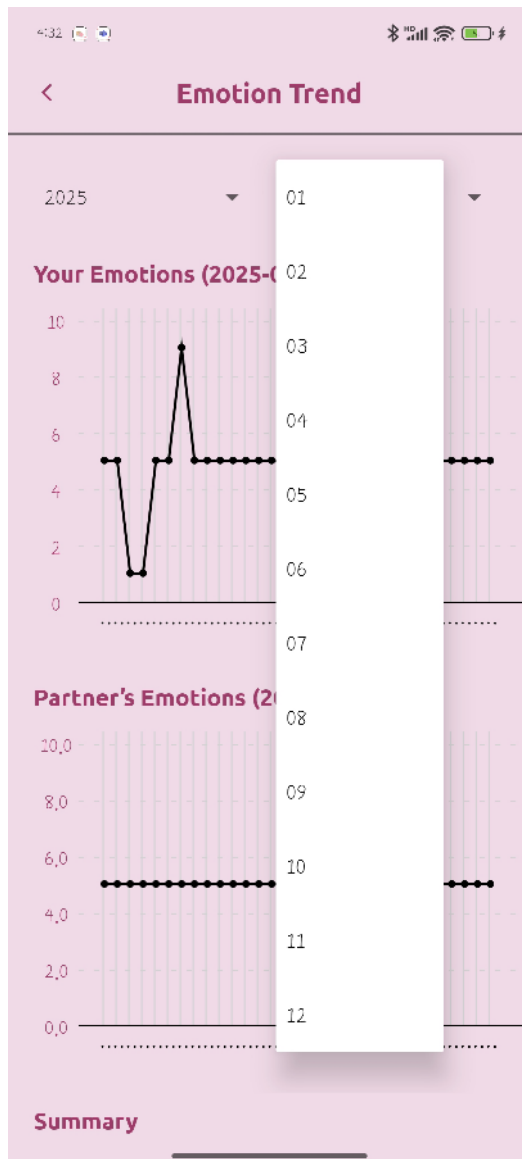
Figure 4.65 Diary Module – Emotion Trend Page Select Month
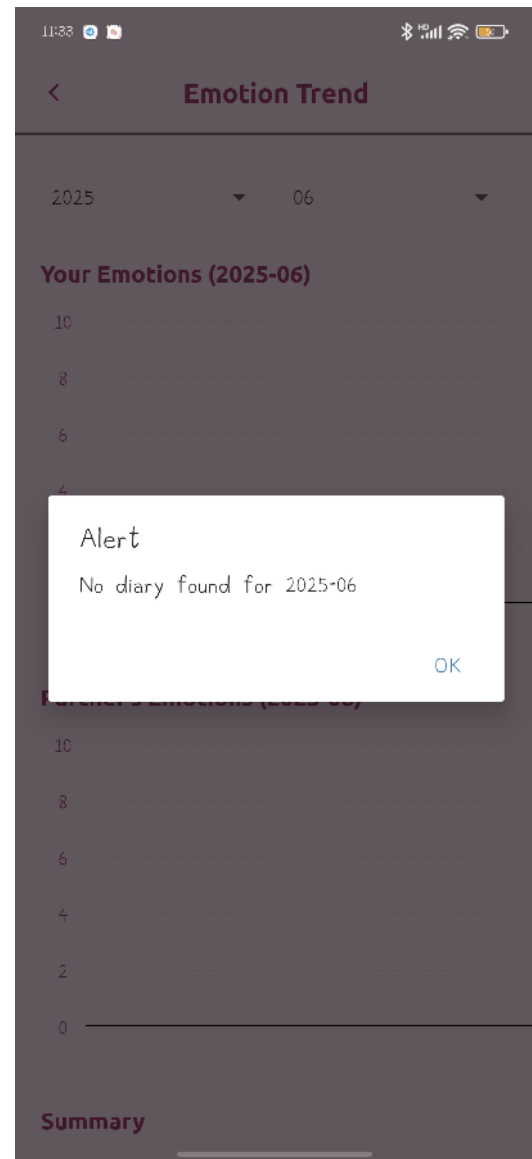
Figure 4.66 Diary Module – Emotion Trend Page No Data for Month Select Alert

User can also choose to view another month's data by selecting different year and month as Figure 4.65. If there is no data for the selected month and year, it will prompt an alert as Figure 4.66.

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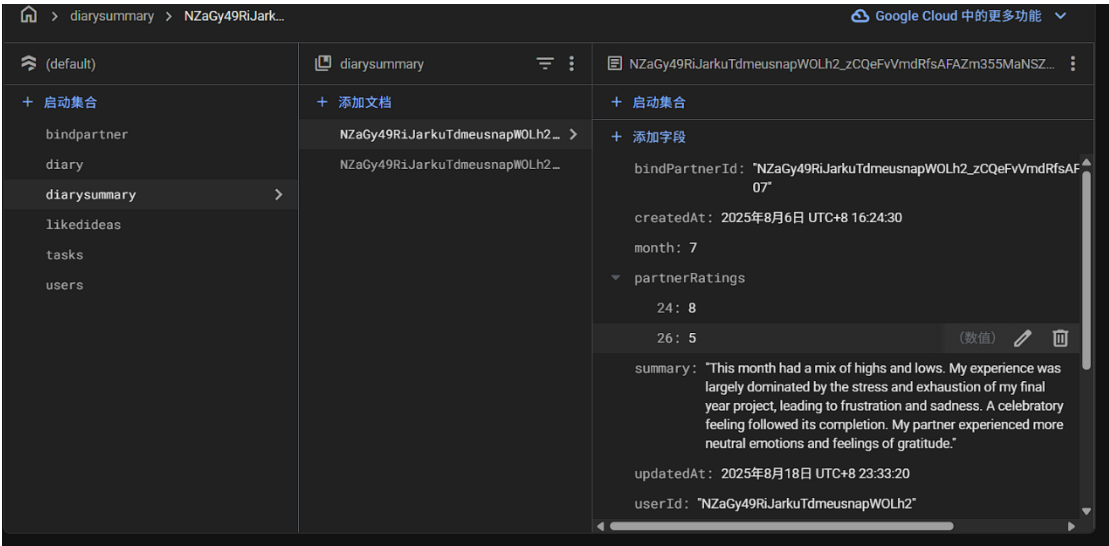
Figure 4.67 Diary Module – Emotion Trend Page Firebase

The data for the Emotion Trend page will be saved in the firebase as Figure 4.67 for the comparison between the current data and the saved previous data, so that it could know when to update and change the data in the page.

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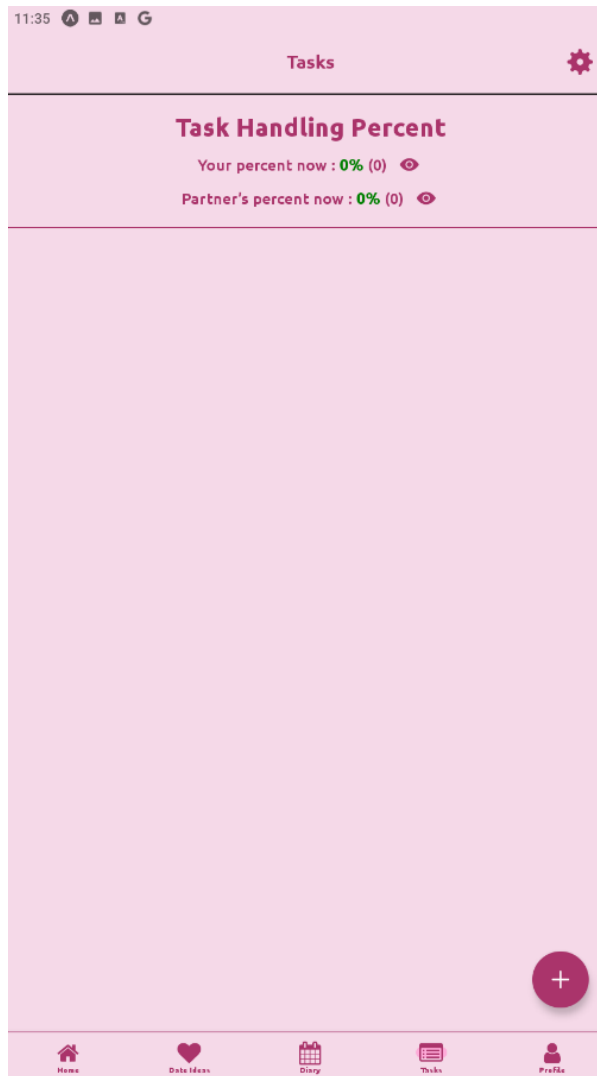
4.3.7 Task Module

Figure 4.68 Task module without data
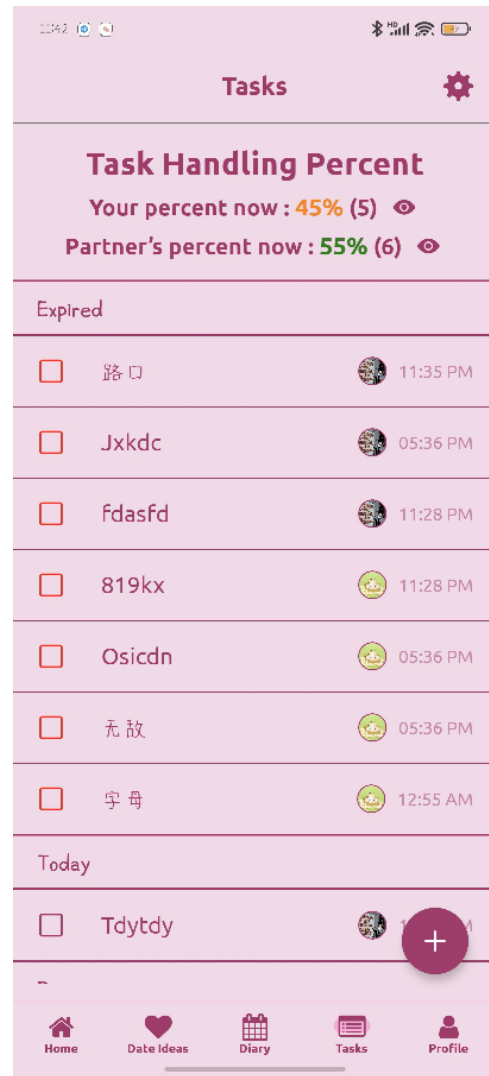
Figure 4.69 Task module with data

Figure 4.68 shows the Task module without data while Figure 4.69 shows the Task module with data. There are 3 colours for the percentage which are green, orange and red. Green means below or equal to the task handling percent set, orange means a little higher than the percent set, and red means seriously higher than the percent set.

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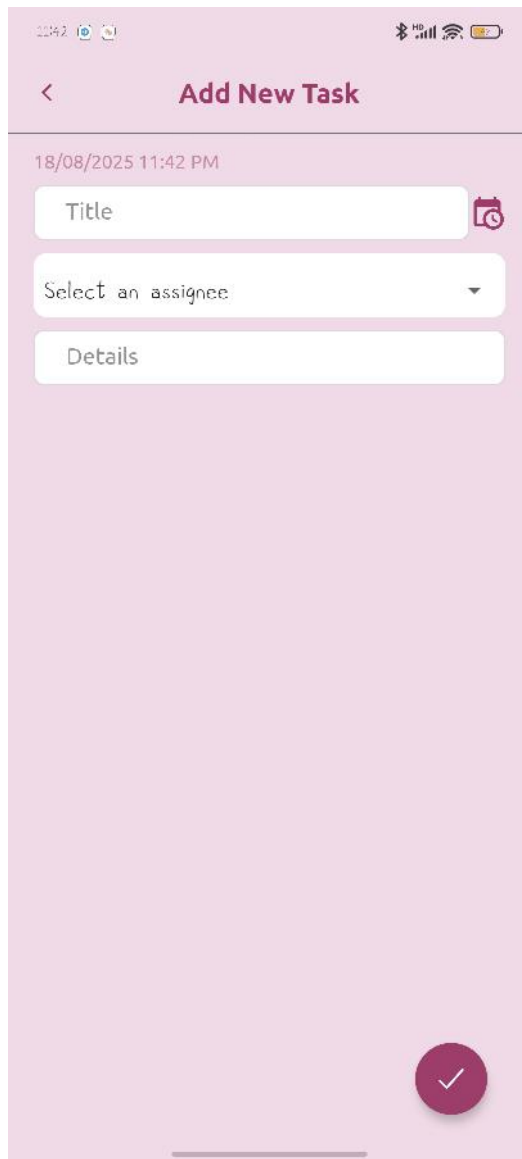
Figure 4.70 Task Module – Add New Task

Figure 4.71 Task Module – Add New Task Alert

When user pressed the "Add" icon, it will navigate user to the Add New Task Page as Figure 4.70. After user done inserting the details and press the "Tick" icon, it will show an alert as Figure 4.71. If the task assignee's task handling percentage has exceeded the set percent, it will show an alert as Figure 4.79 and if user still can continue to save the details, it will show an alert as Figure 4.80.

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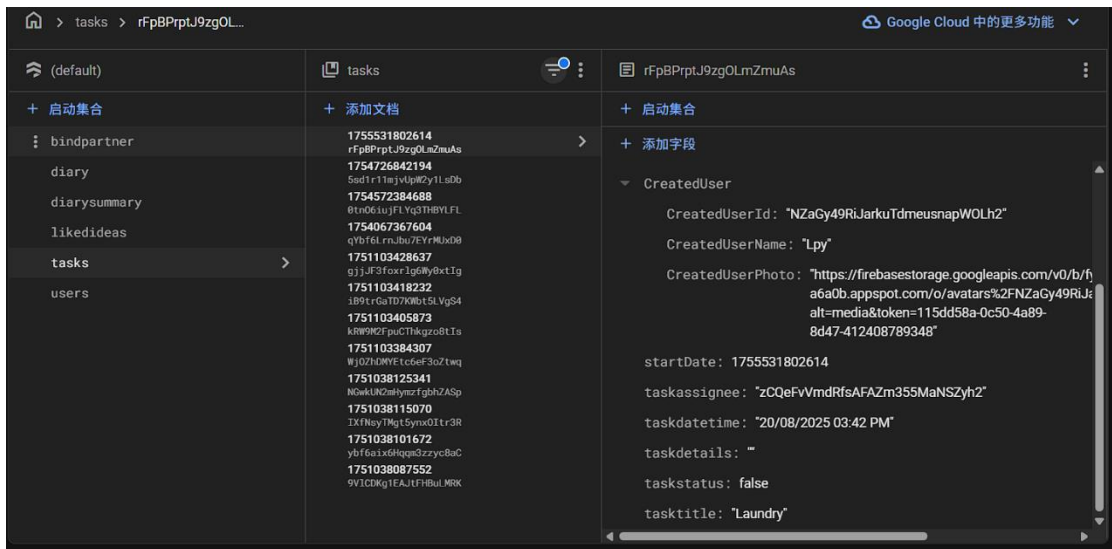
Figure 4.72 Task Module – Add New Task Firebase

Then, the new task will be saved in the firebase as Figure 4.72.

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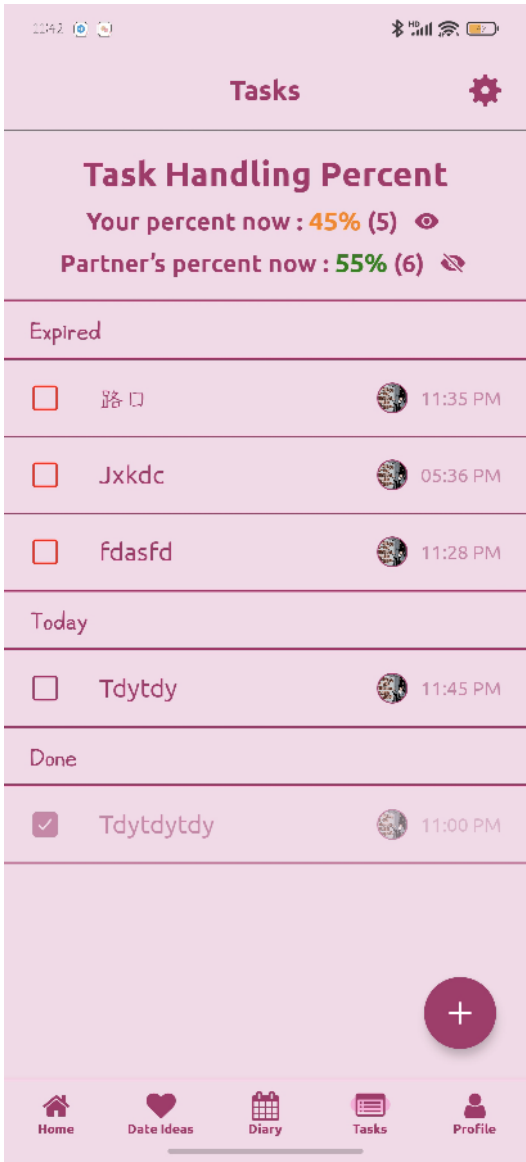
Figure 4.73 Task Module Filter Function
- User
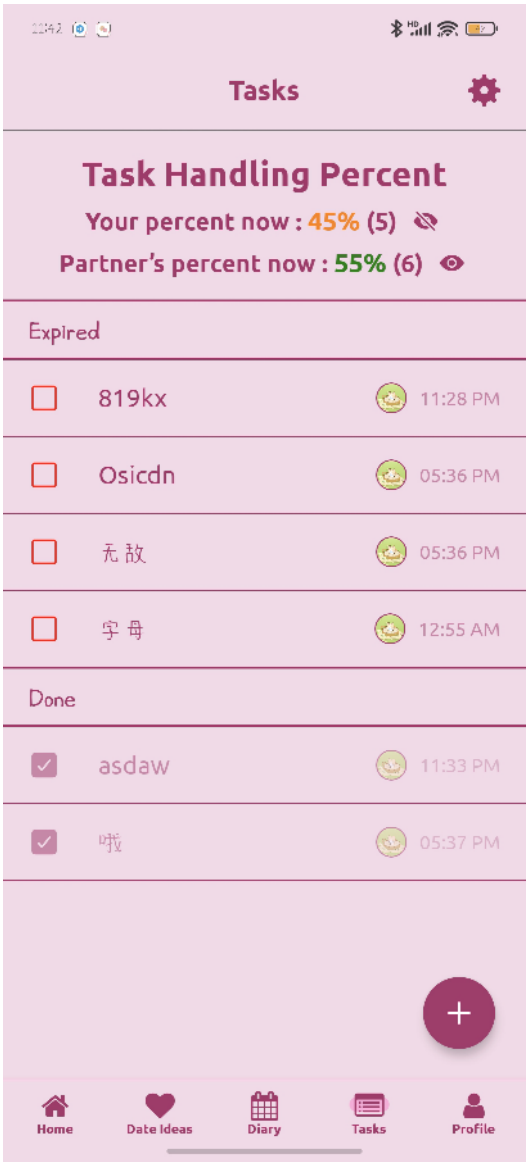
Figure 4.74 Task Module Filter Function
- Partner

There is a filter function that user can press the "eye" icon to hide the partner's task as Figure 4.73, so that user could view the own task clearly while Figure 4.74 shows the user's task has been hide. The UI of the completed task and the expired task have also been shown on the two figures above.

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Figure 4.75 Task Module –Task Details Page

Figure 4.75 shows the Task Details page.

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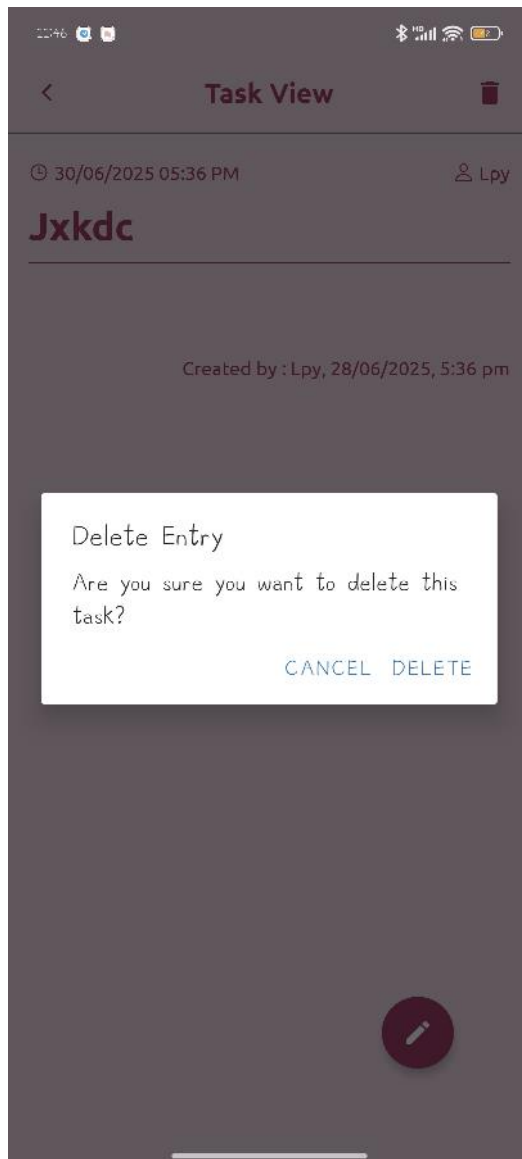
Figure 4.76 Task Module – Task Details
Page – Delete Alert 1

Figure 4.77 Task Module – Task Details
Page – Delete Alert 2

When user pressed the delete icon in the Task Details page, it will show an alert as Figure 4.76. Press "Delete" to confirm to delete and it will show the alert as Figure 4.77 after delete the task in the firebase successfully.

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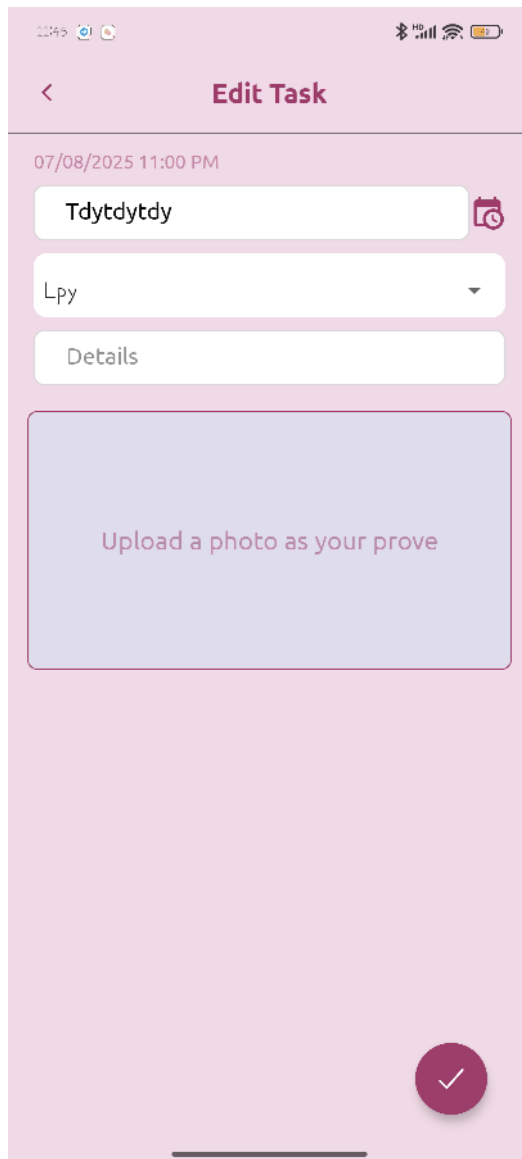
Figure 4.78 Task Module – Task Details Page – Edit Task Page
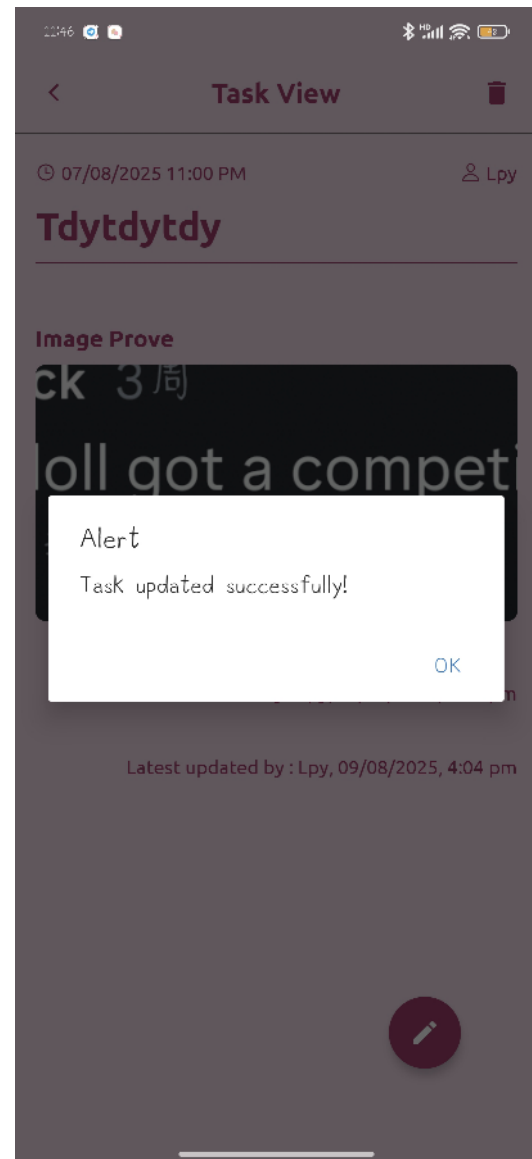
Figure 4.79 Task Module – Task Details Page – Edit Task Page Alert 1

When user pressed "Edit" icon, it will navigate to the Edit Task Page as Figure 4.78. After done editing and press "Tick" icon, it will show an alert as Figure 4.79.

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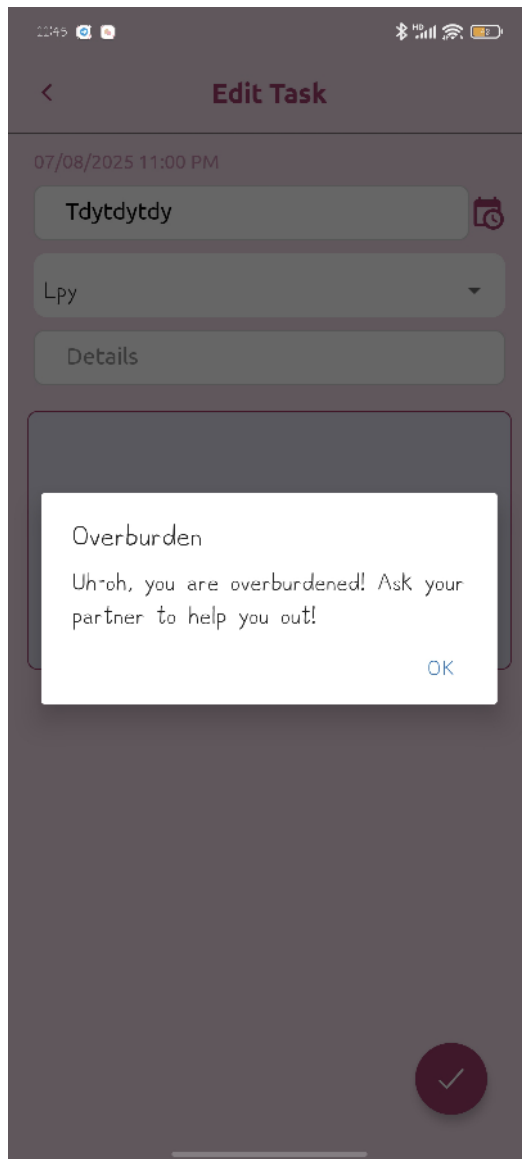
Figure 4.80 Task Module – Task Details Page – Edit Task Page Alert 2
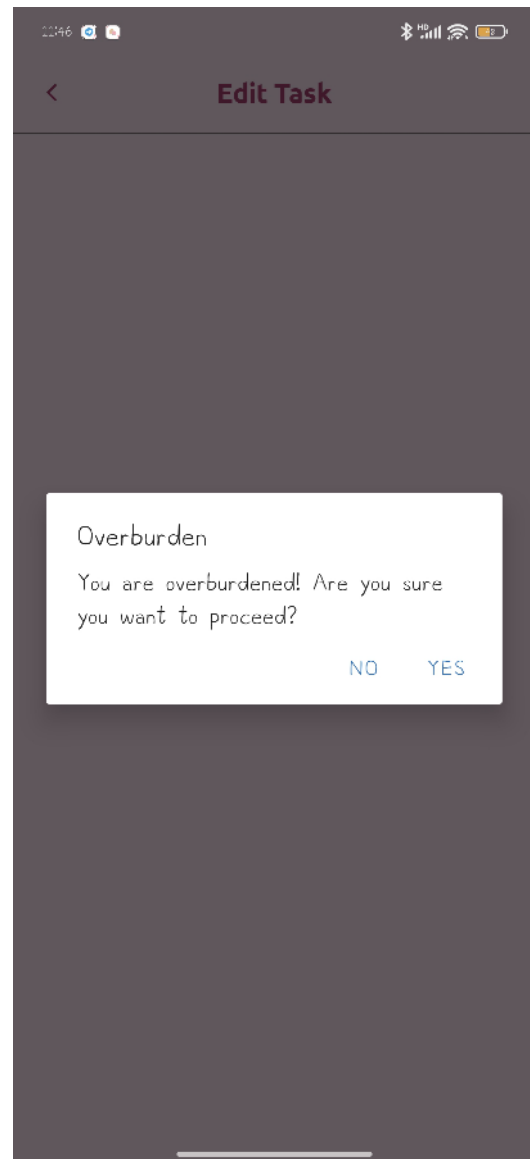
Figure 4.81 Task Module – Task Details Page – Edit Task Page Alert 2

If the assignee has exceeded the set task handling percentage, it will prompt an alert as Figure 4.80 and if user choose to save with the assignee, it will prompt an alert as Figure 4.81.

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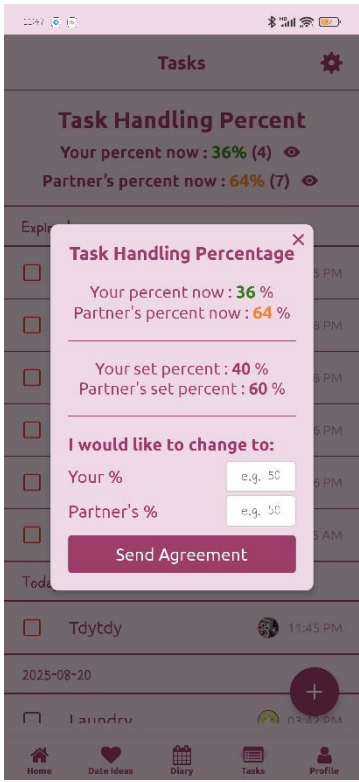
| Figure 4.82 Task Module – Task Handling Percentage Window | Figure 4.83 Task Module – Task Handling Percentage Alert | Figure 4.84 Task Module – Task Handling Percentage - Pending Agreement |
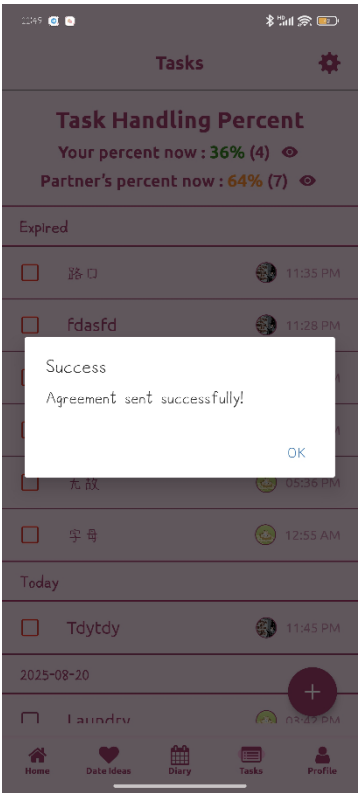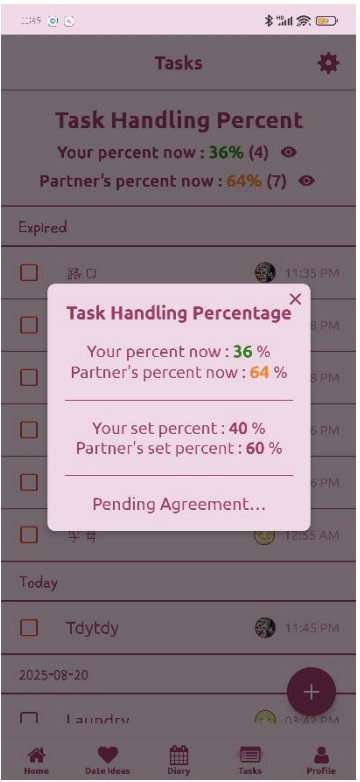
Figure 4.82 shows the Task Handling Percentage Window after user pressed "Setting" icon. After inserting the new percent and press "Send Agreement" button, it will show an alert as Figure 4.83 and the window as Figure 4.84 will remain until the agreement is being replied.

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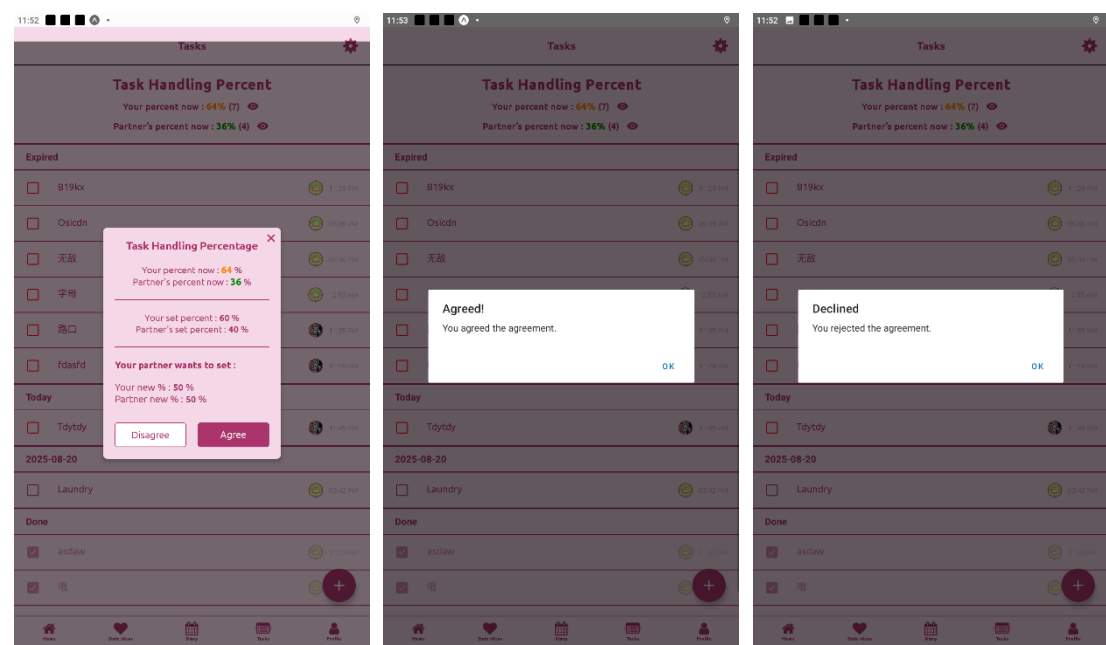
Figure 4.85 Task Module – Task Handling Percentage Window – Reply the Agreement

Figure 4.86 Task Module – Task Handling Percentage Window – Accept the Agreement Alert

Figure 4.87 Task Module – Task Handling Percentage Window – Reject the Agreement Alert

Figure 4.85 shows the Task Handling Percentage Window when partner sent an agreement of the new task handling percentage. If user accepts the agreement, it will show an alert as Figure 4.86, but if user rejects the agreement, it will show an alert as Figure 4.87.

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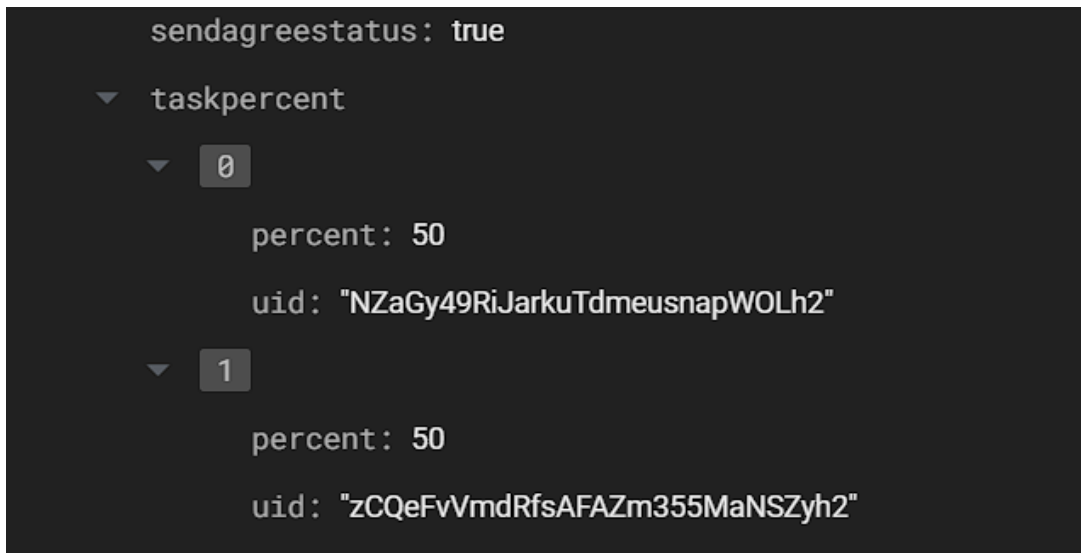
Figure 4.88 Task Module - New Task Handling Percent Agreement Sent Firebase

When the agreement has been sent, the firebase will update the data as Figure 4.88.
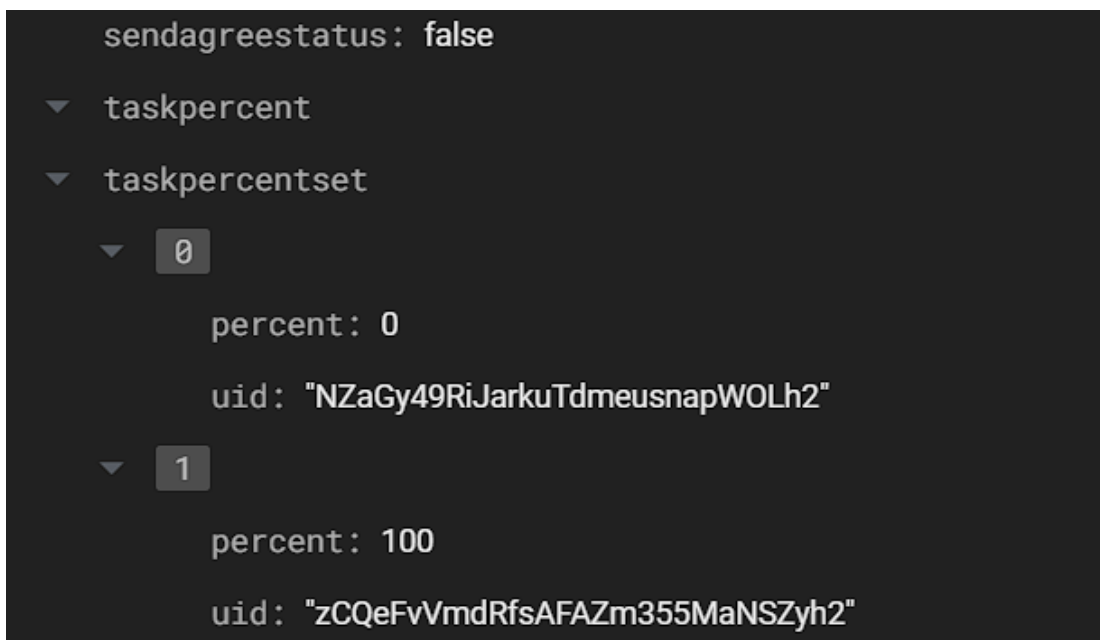
Figure 4.89 Task Module - New Task Handling Percent Agreement Accepted

Then, if the agreement has been accepted, the firebase will save the new percentage in the firebase as Figure 4.89.

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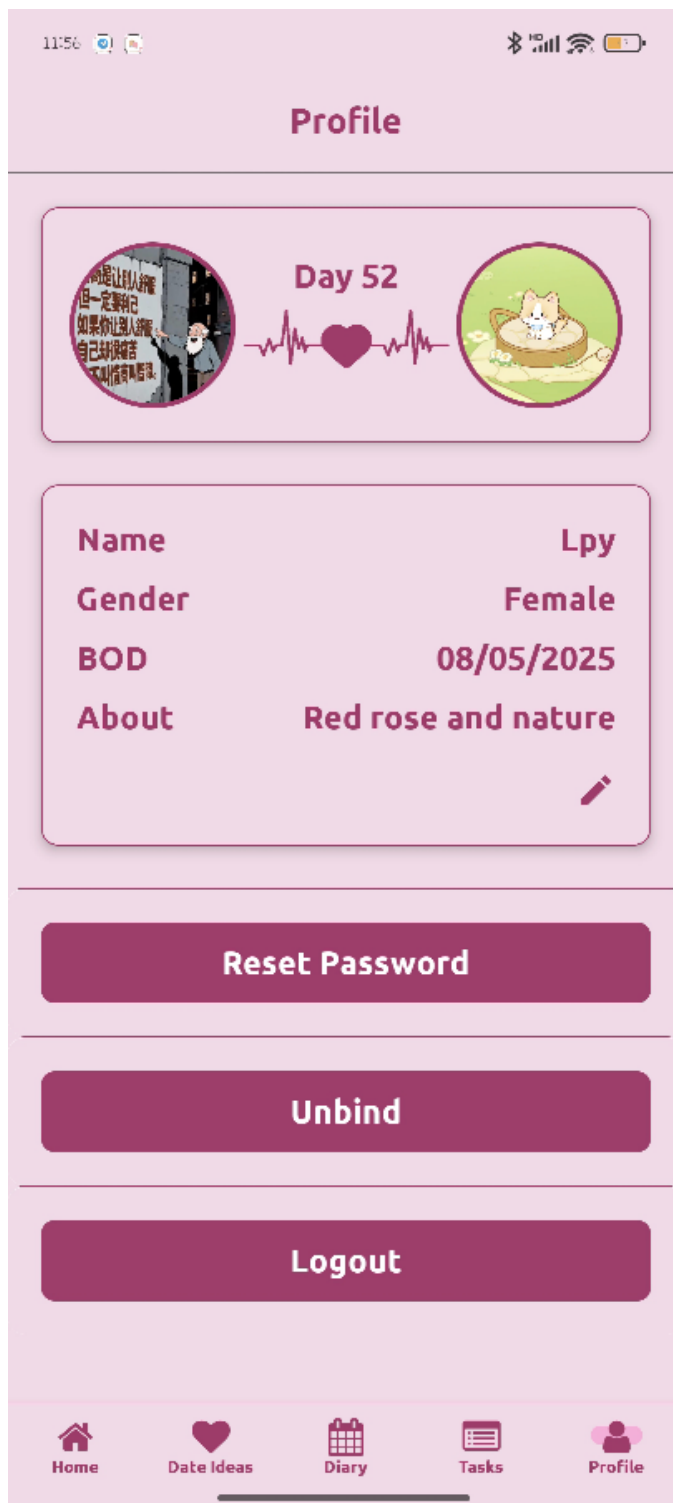
4.3.8 Profile Module

Figure 4.90 Profile Module

Figure 4.90 shows the Profile page. If user pressed "Reset Password" button, user will be navigated to the Reset Password page as Figure 4.32. If user pressed "Logout" button, user will be navigated to the Login page.

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Figure 4.91 Profile Module – Edit Profile Page

If user wants to edit their profile details, user can press on the "Edit" button and will be navigated to the Edit Profile page as Figure 4.91. User can edit their details and press "Done" button to save the edited details.
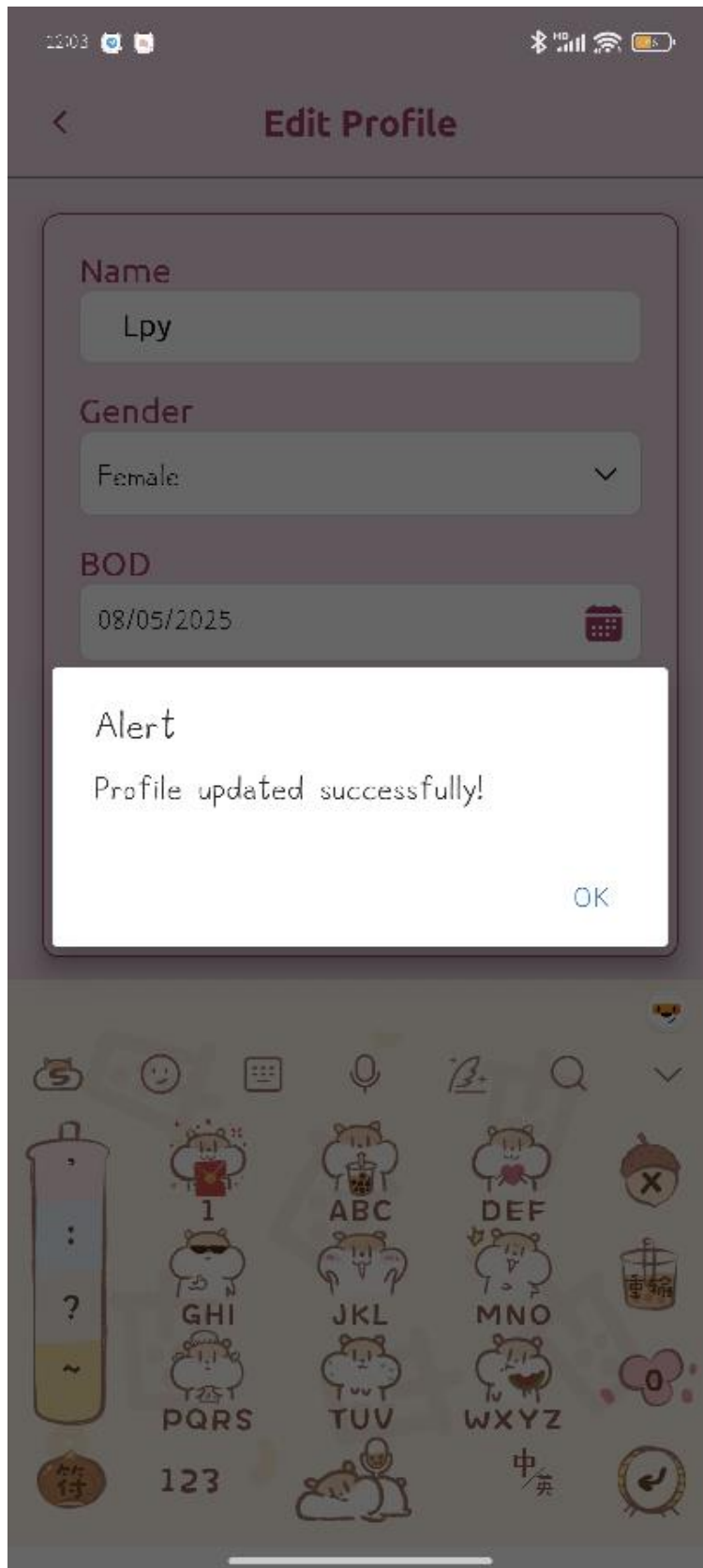
Figure 4.92 Profile Module Alert 1

Then, an alert prompt as Figure 4.92 will be displayed.

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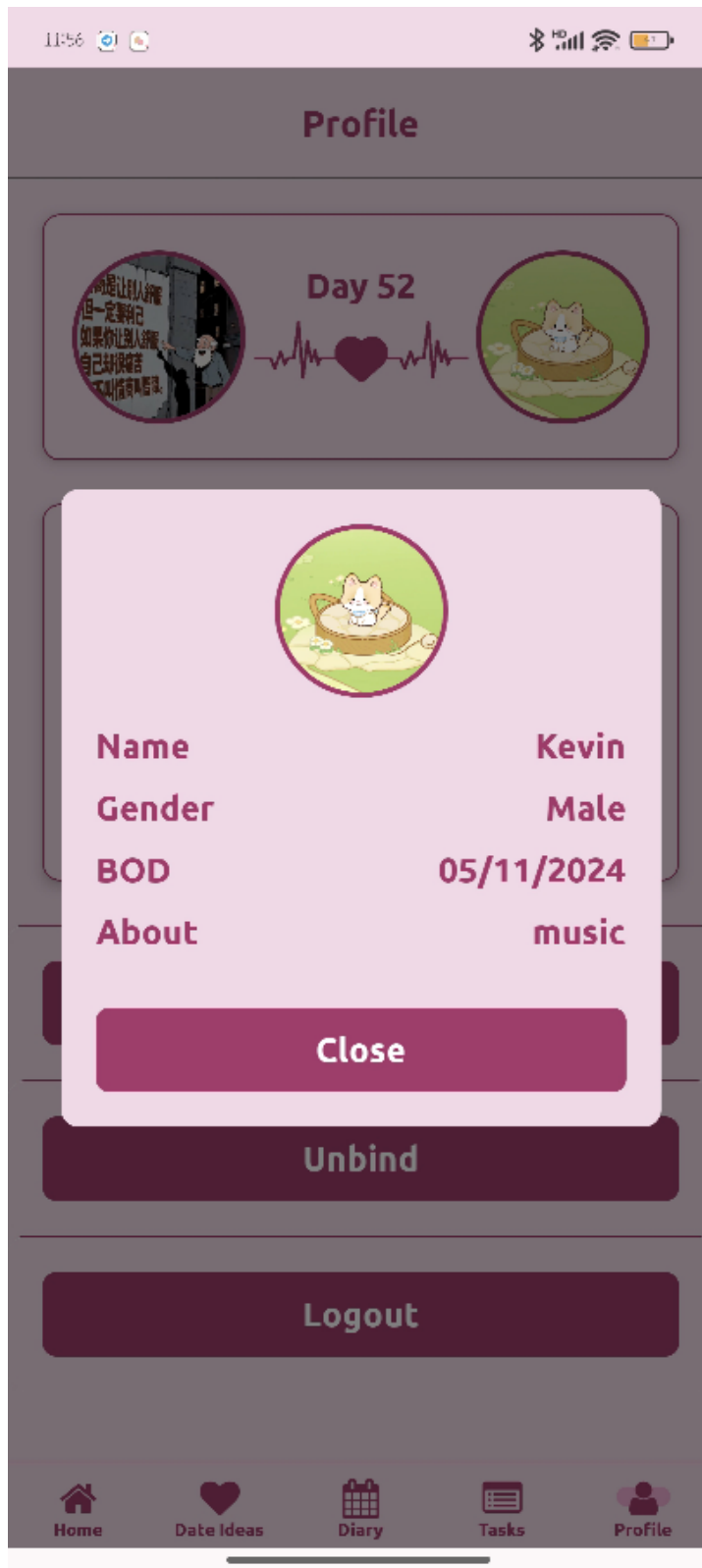
Figure 4.93 Profile Module – View Partner Details

User can press the own profile picture to upload a new picture. User can also press the partner's profile picture to view partner's details as Figure 4.93.
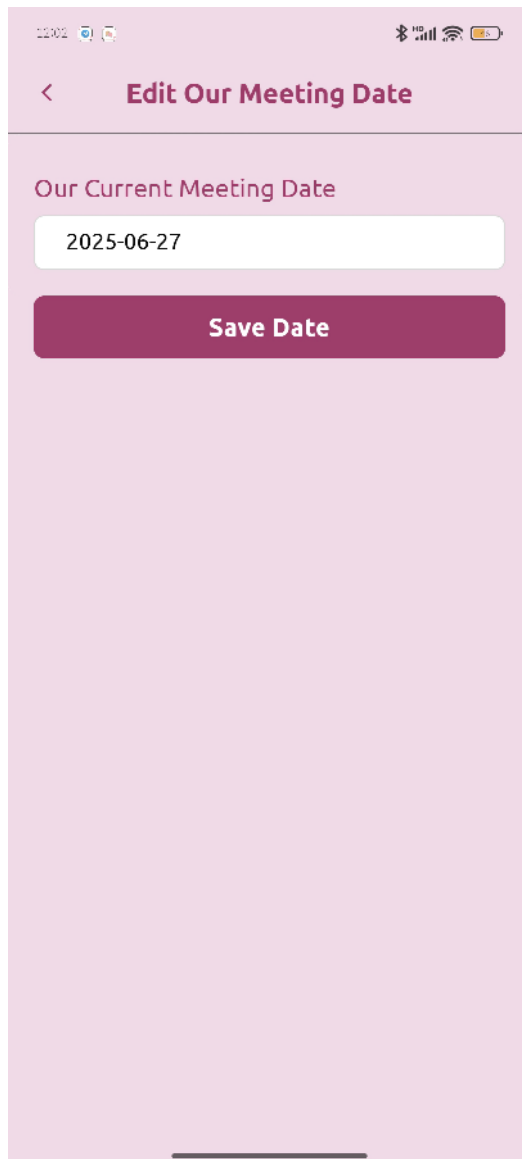
Figure 4.94 Profile Module – Edit Meeting Date Page
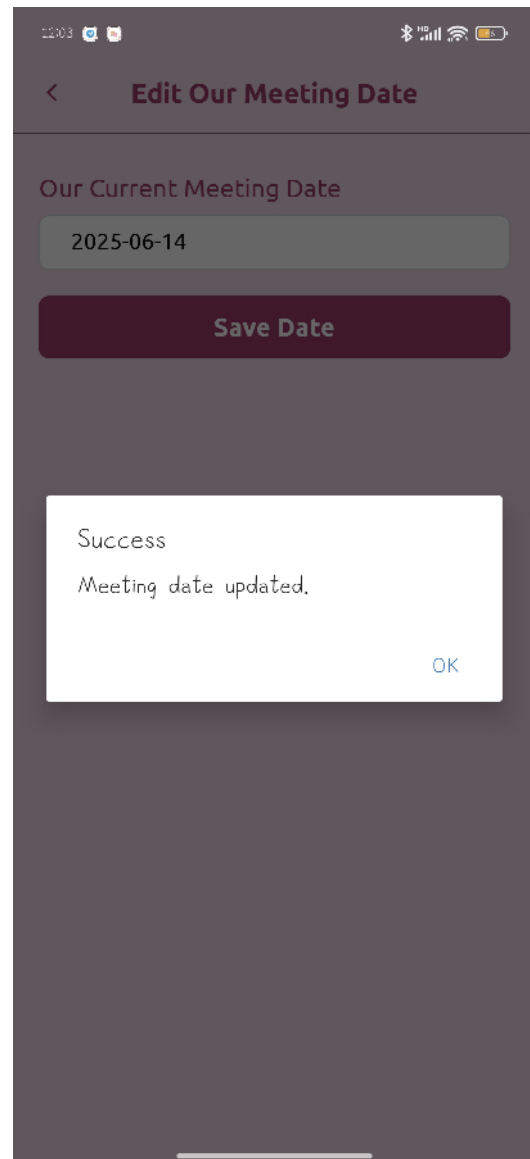
Figure 4.95 Profile Module – Edit Meeting Date Page Alert

User can also press the heartbeat icon between the two profile pictures or the day count text to go to the Edit Our Meeting Date page as Figure 4.94 to edit the meeting date. After done editing and press "Save Date" button, it will show an alert as Figure 4.95.

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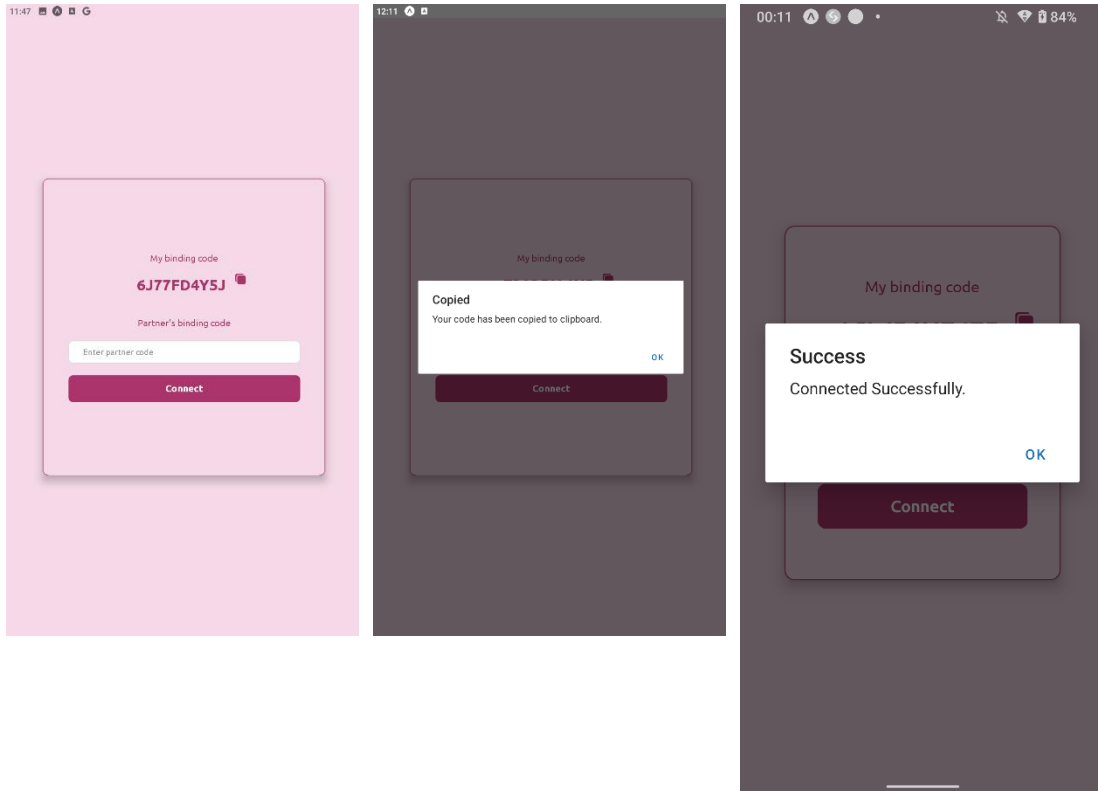
Figure 4.96 Profile Module – Bind Page

Figure 4.97 Profile Module – Bind Page Copy Code Alert

Figure 4.98 Profile Module – Bind Success Alert

Figure 4.96 shows the Bind with Partner Page. User can copy the code in the page and it will show an alert as Figure 4.97 after copy the code successfully. After user inserted the code and press "Connect" button, it will show an alert as Figure 4.98 after bind successfully with partner.

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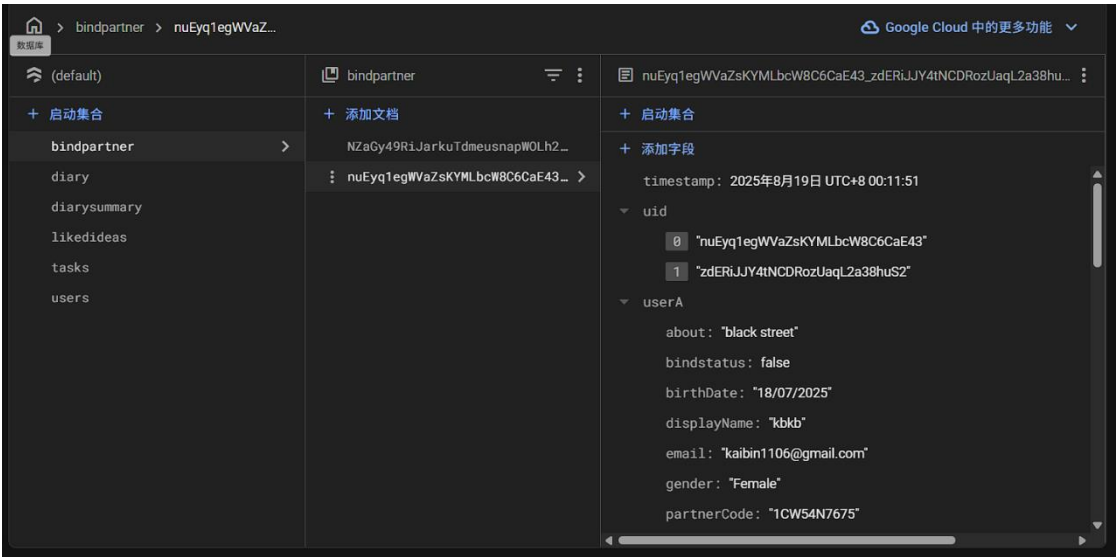
Figure 4.99 Profile Module – Bind Success Firebase

Then, the details of the user and partner will be saved together in the firebase as Figure 4.99.

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Chapter 5

System Implementation

5.1   Hardware Setup

For user, the hardware needed is only an Android mobile and a good and strong Wi-Fi to run the app.

For developer, the hardware needed mainly for the application is a laptop that supports the newest version of Node.js and Visual Studio Code, and two Android mobiles that support the newest Expo Go application. The laptop is for running the app as developer while the mobile is for running the app as user. Then, a pendrive for the backup. Lastly, a good and strong Wi-Fi is also needed as it also needs Wi-Fi to run.

5.2   Software Setup

For user, only an Expo Go application needs to be downloaded in the Android mobile.

For developer, the software needed mainly for the application is Node.js, Visual Studio Code in the laptop and Expo Go in the two Android mobiles. The Node.js app can get from the website: https://nodejs.org/en/ while the Visual Studio Code can be get from the website: https://code.visualstudio.com/download. Make sure the Node.js app is in the newest version.

The Expo Go app can simply download from the Google Play Store in the mobile. To run a project in the Expo Go app, it needs an Expo account. To register an Expo account, go to the website: https://expo.dev/signup and fill in the form with a valid email address, a unique username and a secure password. Then, click on the "New Project" and insert the project's details.

This project also needs a Firebase database account to store the data of the app. To open a Firebase account, go to Firebase homepage, click on "Go to console" and sign in with a Google account. Then, click on "Add Project" or "Get Started" button and enter a project name. Then, pressing "Continue" till the end and the project will be created successfully. Then, click on "Cloud Firestore" and click on "Create Database". Click

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on "All products" if cannot find it. Then, choose the location as nam5 (United Status), then choose the "test mode" and click "Create". Then, go to "Rules" in the Cloud Firestore section and feel free to change the timestamp date as Figure 5.1 and click on "Publish" to save the edited timestamp date.
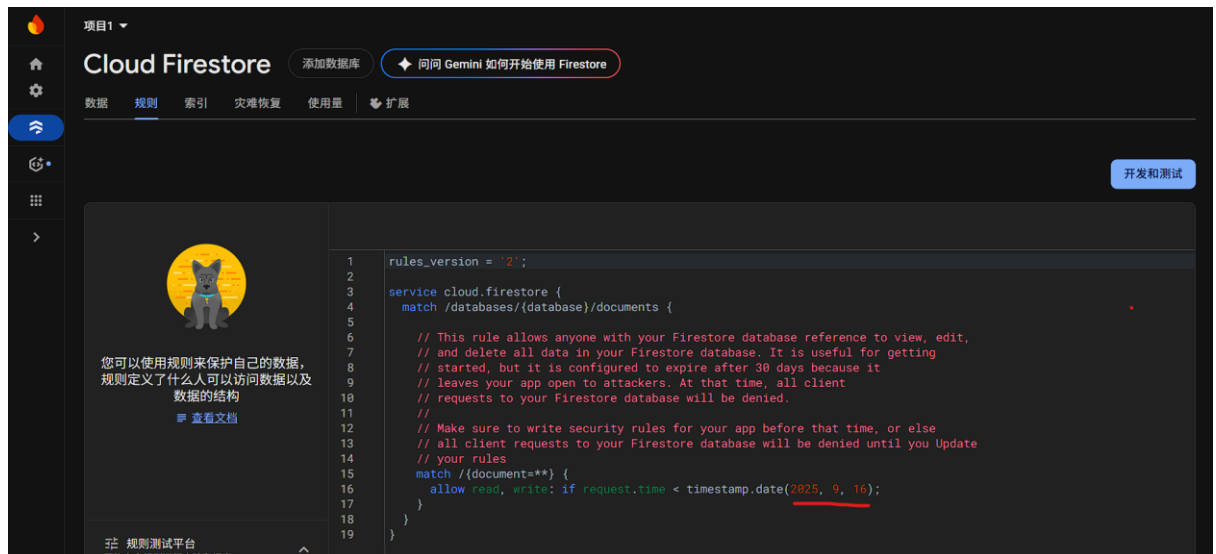
Figure 5.1 Firebase Cloud Firestore Rules Setting

Then, to create a storage, go to "All products", click on "Storage" and click on "Get Started". Then, choose the "test mode" and press "Done". Feel free to change the timestamp date as Figure 5.1 and click on "Publish" to save the edited timestamp date. Then, go to "All products", click on "Authentication", click on "Get Started" and choose only the "email address/password" for the authentication method. Then, turn on the email address/password button as Figure 5.2 and press "Save" to save the details.

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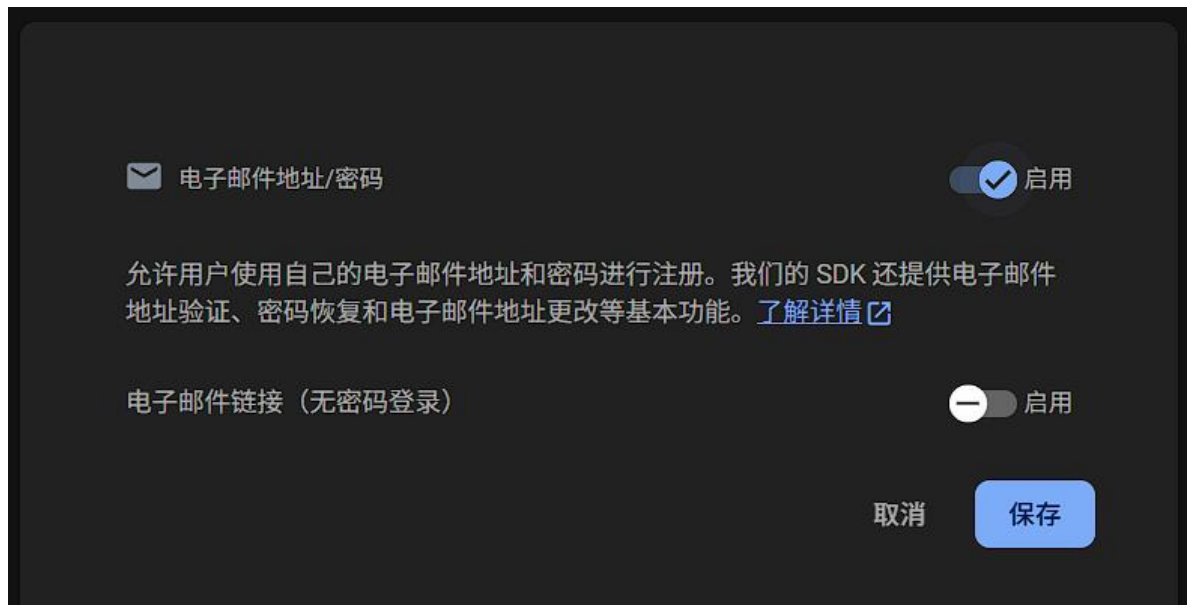
Figure 5.2 Firebase Cloud Firestore Authentication Method - Email Address

5.3   Setting and Configuration

First, to create a project file named FYPProject in a specific file, open a Command Prompt window and type in "npx create-expo-app FYPProject -t blank-typescript". Then, type in "cd FYPProject" to go inside the file and type "npx expo login" to login into the registered expo account. Then, insert the registered email address or username and password and press enter. After login successfully, type in "npx expo start" to start to run the blank application. Feel free to press Ctrl + C to stop the project.

Then, to open the project in mobile, run the app with "npx expo start", open the Expo Go app, login with the registered email address or username and password and the running app will be pop up in the home page. If it does not pop up, feel free to scan with the QR code or insert the URL link from the command prompt. To open the project in web page, in the project file, type in "npx expo install react-dom react-native-web @expo/metro-runtime" and run the app again with "npx expo start" and press w for web debugger after running the app successfully. To enable tunnelling, in the project, type in "npm i -g @expo/ngrok" and run "npx expo start –tunnel". This can be use if there is no Wi-Fi or is using own data network to run.

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Next, in Visual Studio Code, copy all the existed image and code sources into the project file. There are the libraries that need to be installed in the project file to run the project:

npm install react-native-rapi-ui

npx expo install react-native-safe-area-context expo-font @expo/vector-icons expo-asset

npm install @react-native-async-storage/async-storage

npm install @react-native-picker/picker

npx expo install @react-native-community/datetimepicker react-native-modal-datetime-picker

npm install expo-image-picker

npm install expo-clipboard

npm install react-native-dropdown-picker

npm install react-native-masked-text

npm install react-native-calendars

npm install react-native-gifted-charts

npm install @google/generative-ai

npm install expo-notifications

npm install react-native-swipe-list-view

npx expo install react-native-safe-area-context expo-font @expo/vector-icons expo-asset

npx expo install @react-native-community/datetimepicker

npx expo install @react-navigation/native

npx expo install @react-navigation/native-stack

npx expo install @react-navigation/drawer

npx expo install react-native-gesture-handler react-native-reanimated

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npx expo install @react-navigation/bottom-tabs

npx expo install react-native-rapi-ui

npx expo install firebase

npx expo customize metro.config.js

5.4   Implementation Issues and Challenges

While implementing, it might have some issues. If anything cannot run, feel free to check the network and make sure the network is stable and connected to the devices. For users, if the Expo Go app cannot open or cannot find the project, try to restart the app. If not, try to uninstall and reinstall it again. For developers, if cannot run the project in command prompt, make sure the network is also stable and connected to the devices. If still cannot run, then make sure the command used is correct. If the command of "npx expo start" is used, make sure that the laptop and the mobile devices are connected to the same Wi-Fi network. If not connecting to the same Wi-Fi network or using data instead of Wi-Fi network, please use the command of "npx expo start –tunnel" to run the project. If it still got issue, please feel free to check the version of Expo Go app and the version of Node.js app. Make sure that the Expo Go app is using SDK53 version and Node.js app is using v22.18.0 version.

5.5   Concluding Remark

In conclusion, to run the project, for user, only need an Android mobile with the Expo Go app installed. For developer, a laptop that supports newest versions of Node.js app and Visual Studio Code app with two Android mobile phones will be needed while for user, an Android mobile phone will be needed. There is few software to be setup to run the project which are Node.js app, Visual Studio Code app, Cloud Firebase and Firebase Account, Expo Go app and Expo account. Followed by creating and setting up a project file that can run using the command prompt and Expo account, along with copying all the image and code sources into the project file through the Visual Studio Code app. Lastly, install all the libraries needed using the command prompt to run the application successfully.

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Chapter 6
System Evaluation and Discussion

6.1 Testing Setup and Result

Table 6.1 Testing Setup and Result

No	Test Case	Function Name & Description	Inputs	Expected Output	Actual Output	Action/ Remark
1	Create New Task	handlePartnerNavigate() *Notes: This function enables users to create new task*	Title, Date, Time, Details, and press the "Tick" icon	Able to press on the icon button and an alert message pop out show "Task Added Successfully!"	Able to press on the icon button and an alert message pop out show "Task Added Successfully!"	PASS
2	View Task List	renderItem() *Notes: This function enables users to view all the task in the task list area*	Press the Task icon in the application's bottom navigation	Able to press on the icon button and show all the tasks in task list area and a summary of task handling percentage	Able to press on the icon button and show all the tasks in task list area and a summary of task handling percentage	PASS
3	View Task Details	fetchTask() *Notes: This function enables users to view*	Press one of the users' or partners'	Able to press the task title and show the	Able to press the task title and show the	PASS

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		the task details of users or partners	task titles in the task list	task details, delete icon and edit icon	task's details, delete icon and edit icon	
4	Edit Existed Task	handlePress() *Notes: This function enables users to edit the task details*	Press the "Edit" icon	Able to press the icon button, go to the Edit Task page and edit the task details. The edited task details will be saved in the firebase and updated in the task list.	Able to press the icon button, go to the Edit Task page and edit the task details. The edited task details will be saved in the firebase and updated in the task list.	PASS
5	Delete Existed Task	handleDelete() *Notes: This function enables users to delete the task*	Press the "Delete" icon	Able to press the icon button and delete the task.	Able to press the icon button and delete the task.	PASS
6	View Task Handling Percentage Details	handletaskagreement () *Notes: This function enables users to view the task handling percentage details*	Press the "Setting" icon	Able to press the icon button and show the task handling percentage.	Able to press the icon button and show the task handling percentage.	PASS
7	Set New Task	handleSendAgreement()	New percent for	Able to input new	Able to input new	PASS

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	Handling Percent	*Notes: This function enables users to set new task handling percent*	users and partners and press "Send Agreement" button	task handling percent and press the "Send Agreement" button.	task handling percent and press the "Send Agreement" button.	
8	Agree New Task Handling Percent	handleAgree() *Notes: This function enables users to agree to the new task handling percent agreement sent by partner*	Press "Agree" button	Able to press the "Agree" button and save the new percent in the firebase.	Able to press the "Agree" button and save the new percent in the firebase.	PASS
9	Disagree New Task Handling Percent	handleDisagree() *Notes: This function enables users to disagree with the new task handling percent agreement sent by partner*	Press "Disagree" button	Able to press the "Disagree" button and delete the new percent in the firebase.	Able to press the "Disagree" button and delete the new percent in the firebase.	PASS
10	Mark the Task Status	toggleComplete() *Notes: This function enables users to mark the task status in the task list*	Press "tickbox" icon	Able to press the "tickbox" icon for task status of "Done" or "Undone" and update the status in	Able to press the "tickbox" icon for task status of "Done" or "Undone" and update the status in	PASS

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				task list and firebase.	task list and firebase.	
11	Filter the Task based on Assignee	fetchTasks() *Notes: This function enables users to filter the task based on assignee*	Press "eye" or "eye-off" icon for the specific assignee	Able to press the "eye" or "eye-off" icon to filter and show the task based on the specific assignee.	Able to press the "eye" or "eye-off" icon to filter and show the task based on the specific assignee.	PASS
12	Create New Diary	handlePartnerNavigate() *Notes: This function enables users to create new diary*	Emoji, Date, Feedback, and press the "Tick" icon	Able to press the icon button and an alert message pop out show "Diary Added Successfully!"	Able to press the icon button and an alert message pop out show "Diary Added Successfully!"	PASS
13	View Diary	loadEntries() *Notes: This function enables users to view diary of users and partners in calendar*	Press the Diary icon in the application's bottom navigation and press the date or the right left arrow	Able to press the Diary icon button and show a calendar. Able to press the date and the right left	Able to press the Diary icon button and show a calendar. Able to press the date and the right left	PASS

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			in the calendar	arrow in the calendar. If there is diary data in firebase, show emoji in calendar.	arrow in the calendar. If there is diary data in firebase, show emoji in calendar.	
14	View Diary Details	loadEntries() *Notes: This function enables users to view diary details of users and partners*	Press one of the users' or partners' emojis in calendar	Able to press the emoji and show the diary details, delete icon and edit icon. Only show the diary details if the diary belongs to partners.	Able to press the emoji and show the diary details, delete icon and edit icon. Only show the diary details if the diary belongs to partners.	PASS
15	Edit Existed Diary	handlePress() *Notes: This function enables users to edit the diary details*	Press the "Edit" icon	Able to press the icon button, go to the Edit Diary page and edit the diary details.	Able to press the icon button, go to the Edit Diary page and edit the diary details.	PASS
16	Delete Existed Diary	handleDelete()	Press the "Delete" icon	Able to press the icon button	Able to press the icon button	PASS

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				and delete the diary.	and delete the diary.	
		Notes: This function enables users to delete the diary				
17	View Diary Analyzed Data	loadEntries() Notes: This function enables users to view analyzed data for the diary data of users and partners	Press the Graph icon in the right corner of the Diary page	Able to press the icon button, go to Emotion Trend page and show the two selections of years and months and two line graphs of users' and partners' emotion trend over a month along with an analyzed summary of the diary data. The graphs and the summary will change based on the selected	Able to press the icon button, go to Emotion Trend page and show the two selections of years and months and two line graphs of users' and partners' emotion trend over a month along with an analyzed summary of the diary data. The graphs and the summary will change based on the selected	PASS

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				year and month.	year and month.	
18	Generate a Random Date Idea	generateidea() *Notes: This function enables users to generate a random date idea*	Press the "Let's Start!" or "Next" icon	Able to press the button and generate a random date idea and display on a card	Able to press the button and generate a random date idea and display on a card	PASS
19	Generate a Date Idea Based on Profile Details	generateidea2() *Notes: This function enables users to generate a date idea based on profile details*	Turn on the "About-Based" switch button and press the "Let's Start!" or "Next" icon	Able to press the buttons and generate a date idea based on profile details and display on a card	Able to press the buttons and generate a date idea based on profile details and display on a card	PASS
20	Save a Generated Date Idea	saveIdeasToFirebase() *Notes: This function enables users to save a generated date idea*	Press "Save" button	Able to press the button and generate a keyword from the idea as category name by AI and save the date idea with the	Able to press the button and generate a keyword from the idea as category name by AI and save the date idea with the	PASS

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				category name into the firebase.	category name into the firebase.	
21	View Saved Date Ideas	handlePartnerNavigate() *Notes: This function enables users to view saved date ideas*	Press the "Save" icon at the right corner of the Date Idea page	Able to press the "Save" button and navigate to the Saved Date Idea page, then display the saved date ideas of users along with a delete button for each idea.	Able to press the "Save" button and navigate to the Saved Date Idea page, then display the saved date ideas of users along with a delete button for each idea.	PASS
22	View Partner's Saved Date Ideas	handlePartnerNavigate() *Notes: This function enables users to view partners' saved date ideas*	Press the "Partner" icon at the right corner of the Saved Date Ideas page	Able to press the icon and navigate to the Partner's Saved Idea page, then display the saved date ideas of partners.	Able to press the icon and navigate to the Partner's Saved Idea page, then display the saved date ideas of partners.	PASS
23	Delete Existed Date Idea	handleDelete()	Press the "Delete" icon	Able to press the icon button	Able to press the icon button	PASS

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				and delete the task.	and delete the task.	
24	View Saved Date Ideas Analyzed Data	fetchAll() *Notes: This function enables users to view analyzed data for the date ideas of users and partners*	Press the Graph icon in the right corner of the Date Idea page	Able to press the icon button, go to Date Idea Chart page and show two horizontal bar graphs of users' and partners' saved date ideas categories along with an analyzed summary of the saved date ideas categories.	Able to press the icon button, go to Date Idea Chart page and show two horizontal bar graphs of users' and partners' saved date ideas categories along with an analyzed summary of the saved date ideas categories.	PASS

6.2 Project Challenges

The project challenge was that Legacy Expo SDK versions no longer run in Expo Go, forcing developers to perform upgrades. Those upgrades often introduce breaking API changes, native-module incompatibility, and dependency mismatches that can render existing code and third-party libraries unusable without significant refactoring. This creates additional development and QA overhead and raises schedule and technical-debt risk.

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6.3 Objectives Evaluation

The original objectives for the Couple's Daily Life Application have been implemented and integrated as documented, with the AI dating idea generator, the household task list with assignees, photo attachments, task handling percent agreement, and the shared daily emotion and diary module with analytics operating as intended. The evaluation was necessarily based on functional completeness and developer test reports because the objectives were expressed as functional goals rather than measurable acceptance criteria. For greater rigour in future evaluations each objective should include numeric success criteria such as a target user satisfaction score, a required reliability percentage for critical services, and an acceptance rate for generated ideas so that evidence-based validation can supplement the current feature-based assessment. Given the available evidence the objectives may be recorded as achieved, but formal acceptance should be contingent on pilot results, instrumented telemetry and predefined pass-fail thresholds.

6.4 Concluding Remark

In conclusion, despite early uncertainty about where to begin and recurring concerns such as Firebase consumption limits, AI integration, intermittent bugs and network interruptions and the extra work caused by legacy Expo SDKs no longer running in Expo Go which required breaking upgrades, dependency mismatches and refactoring, the planned features were implemented and integrated successfully. The app now includes an AI date idea generator, a household task list with assignees and photo attachments, task handling percentage agreement and a shared daily emotion and diary module with analytics. All test cases passed, and developer test reports indicate functional completeness and stable AI behavior under test. The evaluation so far is feature based rather than metric driven so formal acceptance should be deferred until a pilot with instrumented telemetry is completed and each objective is tied to numeric success criteria such as target user satisfaction scores, required reliability percentages for critical services and acceptance rates for generated ideas with predefined pass and fail thresholds. This approach will reduce schedule and technical debt risk and provide stronger evidence-based confidence in the system benefits for users.

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Chapter 7

Conclusion and Recommendation

7.1   Conclusion

Couple's Daily Life Application is a mobile application that helps unmarried couples including long distance couples maintain and improve their relationships. The app integrates an AI driven date idea generator, a shared household task manager with assignees and photo attachments, and a diary module for recording daily emotions with simple analytics.

All core objectives were implemented and integrated. Functional tests and developer reports show the AI generator, task management and diary analytics operate as intended. The system runs for users on Android with the Expo Go app and for developers using Node.js, Visual Studio Code, Firebase and Android devices.

The application addresses the main problems identified at the start by supplying fresh creative date ideas, reducing household burden through explicit task ownership, and lowering the chance of misunderstandings by giving partners an easy place to share daily feedback and emotions. Development encountered challenges such as initial uncertainty about where to begin, limits and constraints of Firebase Cloud Firestore and the AI service integration, debugging and occasional network interruptions. These challenges were resolved through iterative problem solving and resulted in a stable working product.

7.2   Recommendations

In the future, the following recommendations are proposed for Couple's Daily Life. Main priority is to increase AI capability to remove current limitations and provide faster more accurate and highly personalized assistance across the app and to release the application on iOS to broaden reach and improve accessibility. Secondary recommendations include introducing a more animated and engaging user interface with polished micro interactions to boost delight and retention, implementing full localization to support multiple languages, adding AI driven features such as intelligent reminders mood driven date suggestions automated shared task generation and

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contextual conversation prompts, and expanding social and customization features to include secure voice and video calls threaded messaging customizable virtual pets and avatars and deep personalization options. Together these measures will transform the product into a practical playful companion that strengthens daily connection coordination and long-term engagement for couples.

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Appendices

Survey 1

How old are you?
（53 条回复）

- Below 13
- 13-18
- 19-25
- 26-45
- 45-64
- Above 64

9.4%
83%
7.5%

What's your gender?
（53 条回复）

- Female
- Male

50.9%
49.1%

Are you studying or working?
（53 条回复）

- Studying
- Working

50.9%
49.1%

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Appendices B

What's your current status?
（53 条回复）

- Single
- In a relationship

60.4%

39.6%

Are you in long-distance relationship?
（53 条回复）

- Yes
- No
- I'm single

37.7%

32.1%

30.2%

How many times will you meet with your partner physically in a month?
（53 条回复）

- less than 2 times
- 2 times (once in two weeks)
- 4 times (once a week)
- 8 times (twice a week)
- more than 8 times but not everyday
- everyday
- I'm single

35.8%

26.4%

26.4%

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Appendices B

How long have you been in your current relationship?
（53 条回复）

- Less than 3 months
- 3-5 months
- 6-11 months
- 1-2 Years
- 3 years & Above
- I'm single
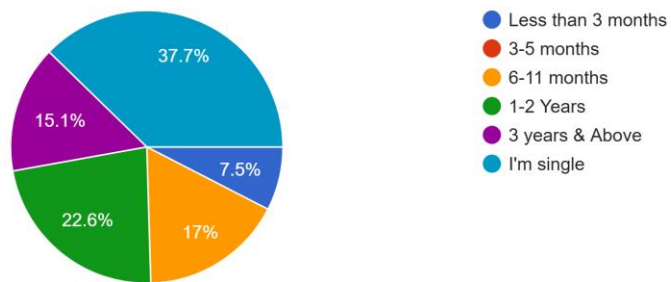
Have you ever broken up due to conflicts?
（53 条回复）

- Yes
- No
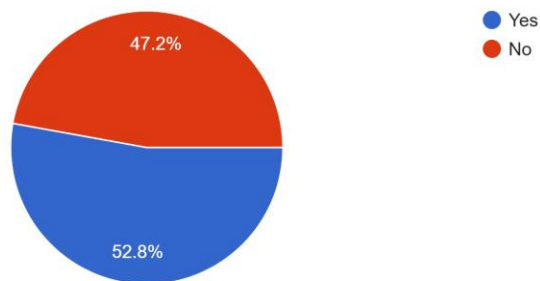
If you're currently in relationship, would you always have conflicts with your partner?
（53 条回复）

- Yes
- No
- I'm single

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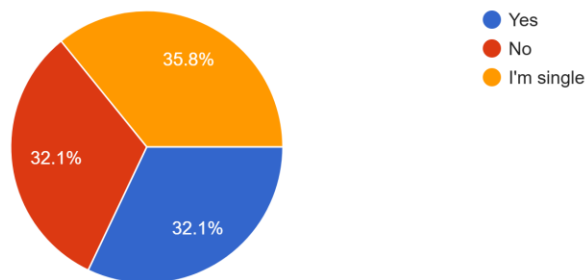
Appendices B

Would you refer to someone or application to get some help or advice when the conflicts is/are not solved?
（53 条回复）
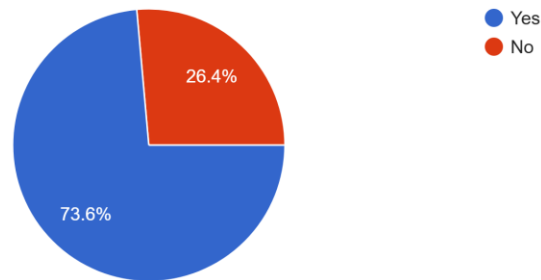
Would you or your partner can't understand clearly each other's words sometimes?
（53 条回复）
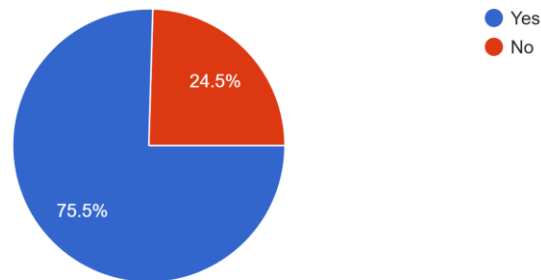
Would you or your partner always think "I'm the right one" during the conflicts?
（53 条回复）

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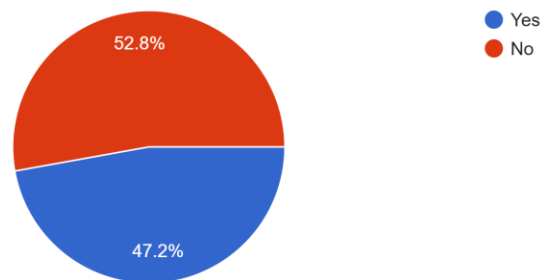
Which one do you agree about the main root cause(s) of conflicts?
（53 条回复）

Misunderstanding between you & your partner.	50 (94.3%)
Lack of the freshness in relationship	14 (26.4%)
Lack of collaboration on the household chores.	12 (22.6%)
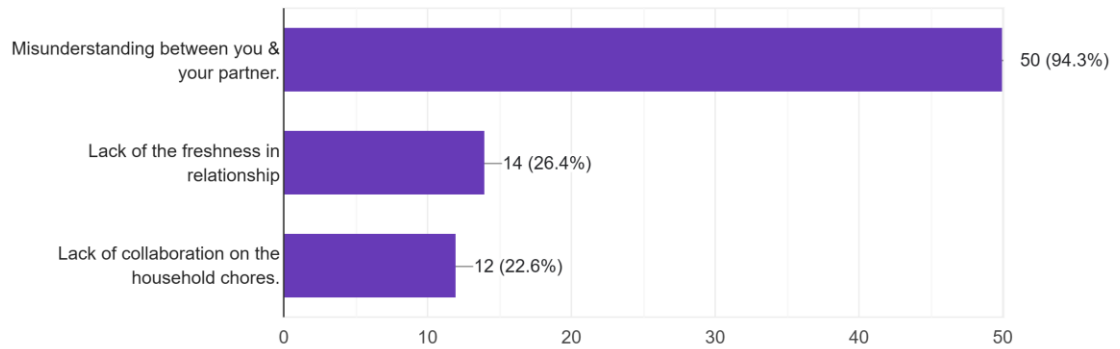
Do you agree that ignoring the problem(s) that cause conflict(s) would make the relationship become worse?
（53 条回复）

- Yes
- No

9.4%
90.6%
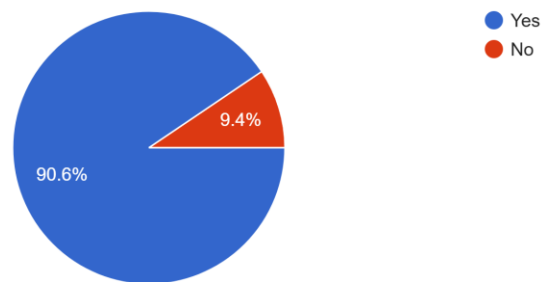
Do you agree that solving the root cause(s) of the conflict(s) could help to maintain & improve the relationship?
（53 条回复）

- Yes
- No

98.1%

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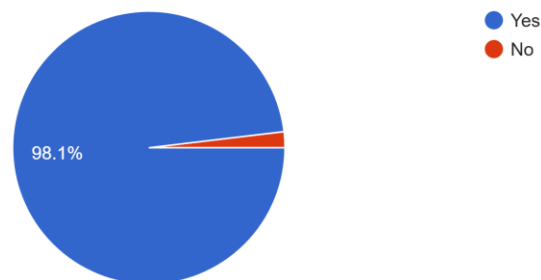
Appendices B

Do you agree that having new & fun date activities with partner could refresh the freshness of a relationship?
（53 条回复）

- Yes
- No

96.2%
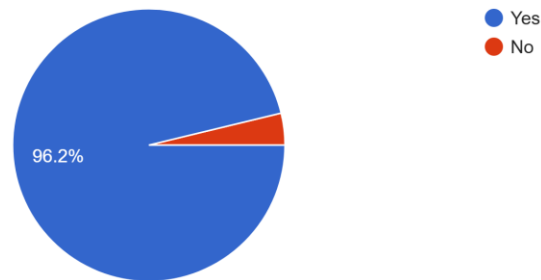
Do you agree that listing out a clear household list with the assignee could solve the conflict of household tasks & reduce burdens?
（53 条回复）

- Yes
- No

18.9%

81.1%
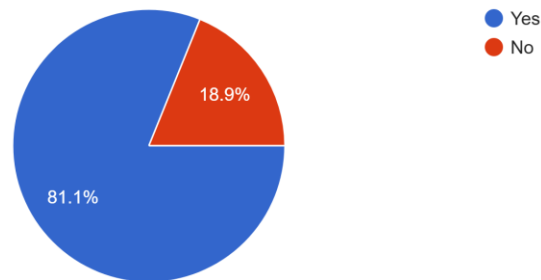
Which app(s) have you used before & would like to recommend?
（53 条回复）

Couple Game	6 (11.3%)
Couple2	14 (26.4%)
Couple Tree	5 (9.4%)
Between	1 (1.9%)
Lovewick	2 (3.8%)
I never use this type of app bef…	35 (66%)
The couple	2 (3.8%)
Tinder	1 (1.9%)
Tuesday	1 (1.9%)

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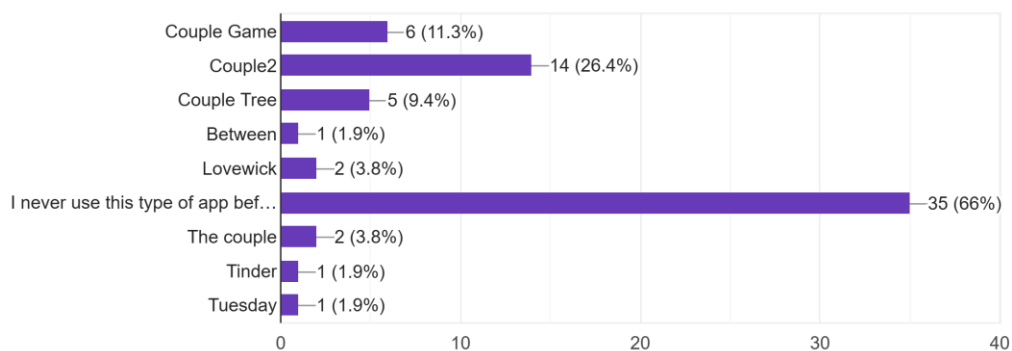
Would you prefer it to have a feature of only allowed to register once in one phone?
（53 条回复）

- Yes, so that I could know he/she is cheating if there's another similar app in his/her phone.
- No, I would like to login with more accounts.

30.2%
69.8%
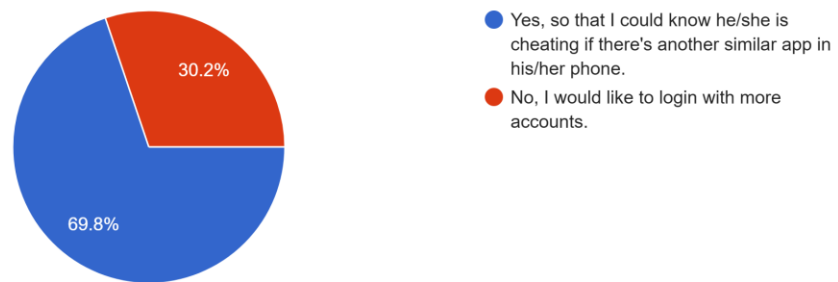
What is/are the main objective(s) for you on using this type of app?
（53 条回复）

Understanding more about each other — 44 (83%)
Getting references about date ideas — 27 (50.9%)
Managing well the household tasks together — 15 (28.3%)
N/A — 1 (1.9%)
No use — 1 (1.9%)
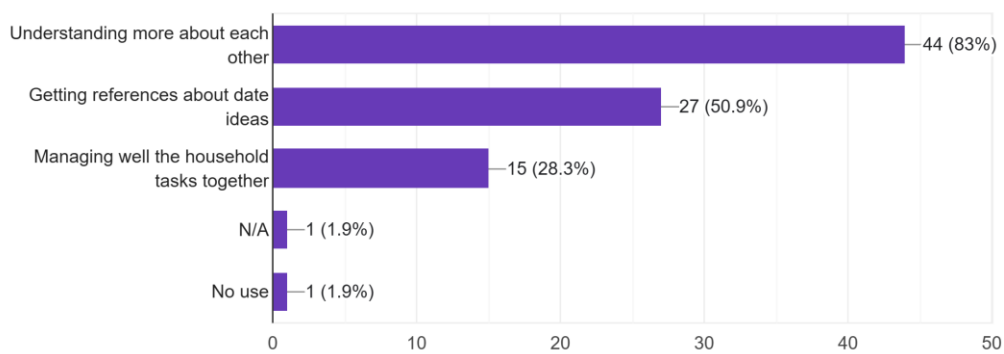
Would you like to let your partner view your own task list in the app?
（53 条回复）

- Yes, so that he/she could know me more.
- No, I need privacy.

22.6%
77.4%

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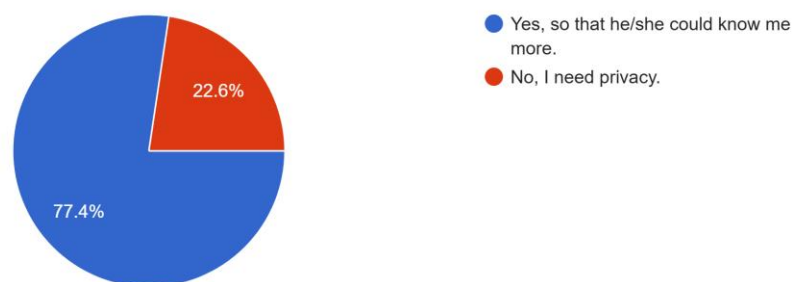
Would you like to let your partner view your personal details in this app?
（53 条回复）
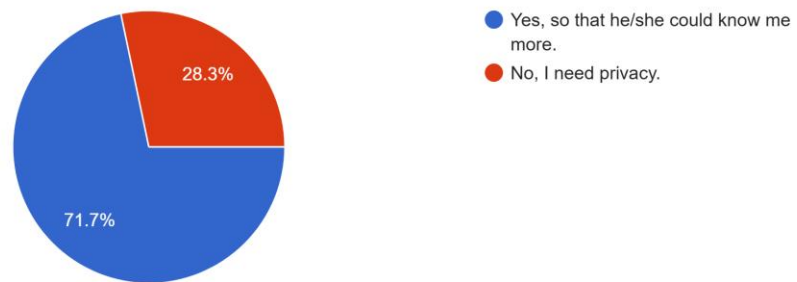
- Yes, so that he/she could know me more.
- No, I need privacy.

28.3%

71.7%

Since it's an digital application, can you accept if it's not 100% able to solve all the conflicts of you & your partner as it's only provide you references on how to solve the conflicts?
（53 条回复）

- Yes, I understand as even a professional counsellor also not 100% solve if we don't do anything.
- No, I don't care, it said it can solve but now can't solve, then it's the app problem.

96.2%

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B-8

Appendices B

Since it's an digital application, can you accept if it's not 100% able to solve all the conflicts of you & your partner as it's only provide you references on how to solve the conflicts?
（53 条回复）

- Yes, I understand as even a professional counsellor also not 100% solve if we don't do anything.
- No, I don't care, it said it can solve but now can't solve, then it's the app problem.

96.2%

Would you prefer a random date ideas or date ideas based on preferences?
（53 条回复）

- Random Date Ideas. I like to explore more new things.
- Based on Preferences. I want the ideas that I like only.

24.5%

75.5%

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B-9
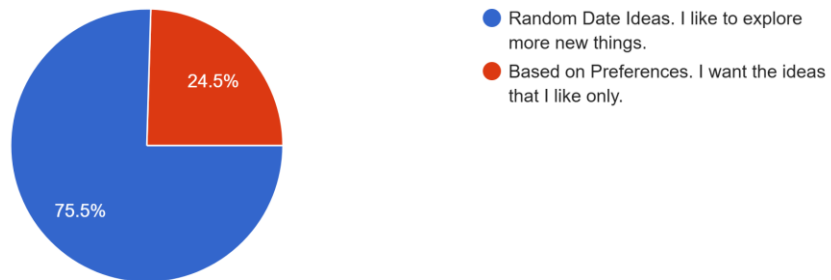
Survey 2

How old are you?
（55 条回复）
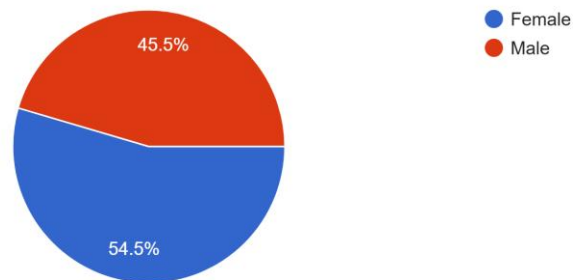
- Below 13
- 13-18
- 19-25
- 26-45
- 45-64
- Above 64

78.2% 12.7% 9.1%

What's your gender?
（55 条回复）

- Female
- Male

45.5% 54.5%

Are you studying or working?
（55 条回复）
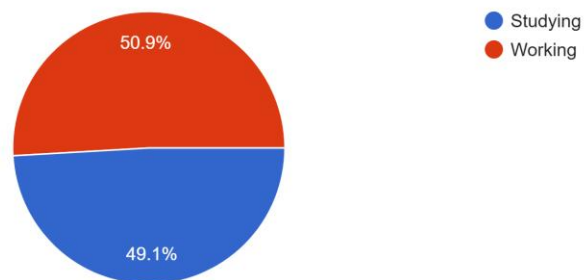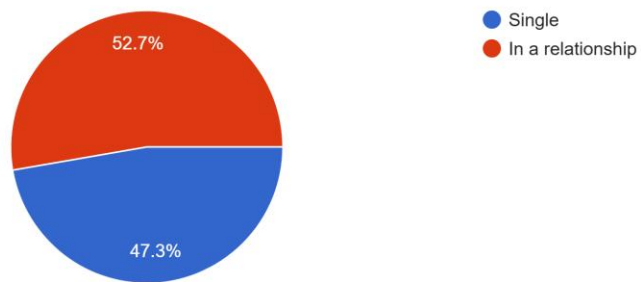
- Studying
- Working

50.9% 49.1%

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B-10

Appendices B

What's your current status?
（55 条回复）

- Single
- In a relationship

52.7%

47.3%

Are you in long-distance relationship?
（55 条回复）

- Yes
- No
- I'm single

45.5%

27.3%

27.3%

How long have you been in your current relationship?
（55 条回复）

- Less than 3 months
- 3-5 months
- 6-11 months
- 1-2 Years
- 3 years & Above
- I'm single

43.6%

7.3%

7.3%

14.5%

20%

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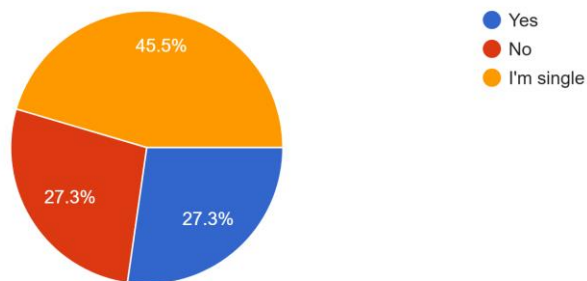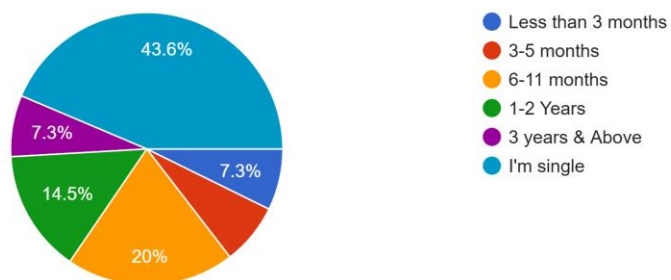
Appendices B

How many times will you meet with your partner physically in a month?
（55 条回复）

- less than 2 times
- 2 times (once in two weeks)
- 4 times (once a week)
- 8 times (twice a week)
- more than 8 times but not everyday
- everyday
- I'm single

43.6%
23.6%
18.2%
9.1%

Have you ever broken up due to conflicts?
（55 条回复）

- Yes
- No
- I've never been in a relationship before.

29.1%
18.2%
52.7%
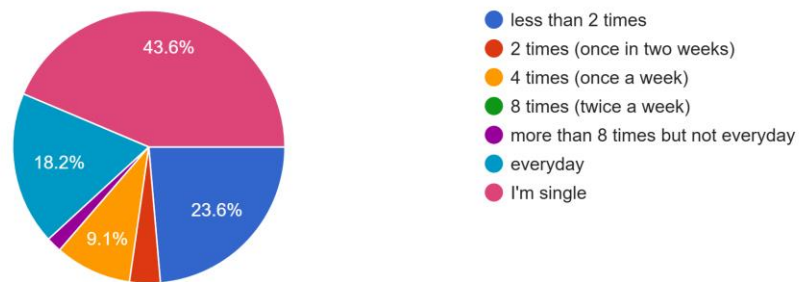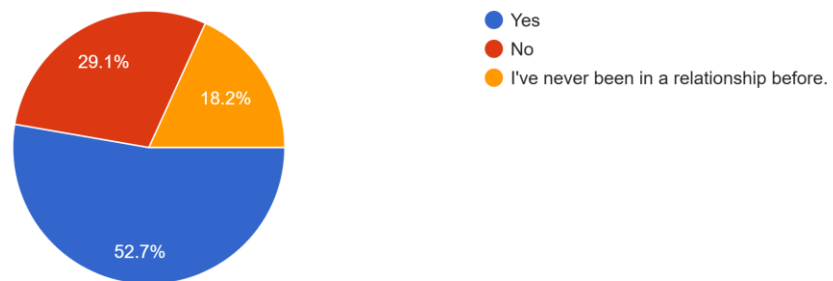
Which one have you use before?
（55 条回复）

Couple Game — 6 (10.9%)
Couple2 — 18 (32.7%)
Couple Tree — 10 (18.2%)
I never use these app before — 34 (61.8%)

0   10   20   30   40

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B-12
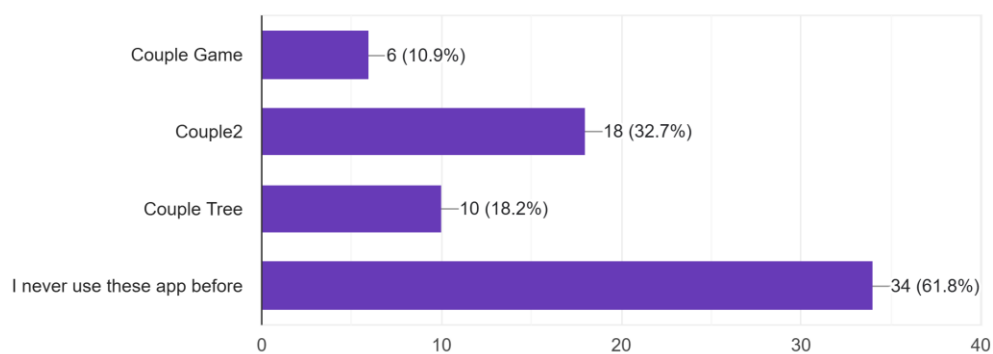
If you used any 3 of the app above, do you think that the apps could help to solve you & your partner's daily conflict(s)?

（55 条回复）

- Yes. It could help, although not all of them are solved.
- No. I don't think so.
- I never used those before.

47.3%
49.1%
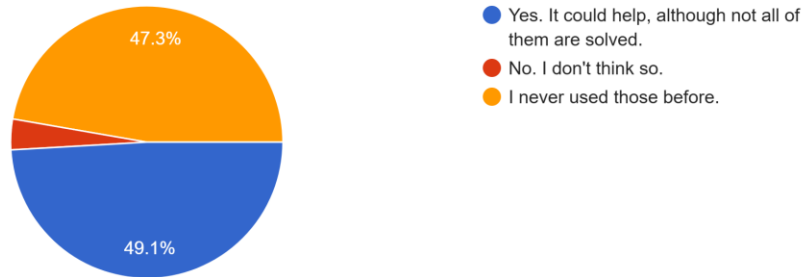
Will you feel bother if the app needs you to spend time to level up or earn coin to access some features?

（55 条回复）

- Yes! I'm already so busy with my life and I don't wish that this small thing come to bother me.
- No. It's fun for me.

27.3%
72.7%
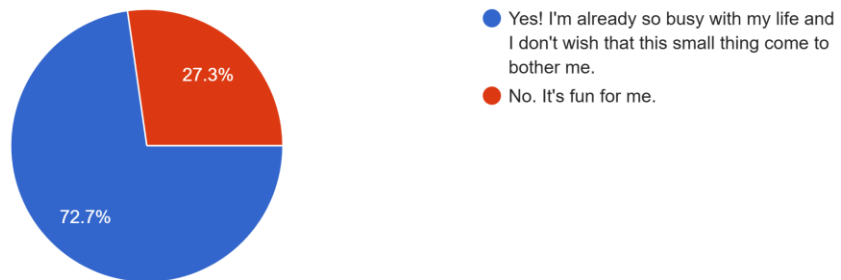
Since the application is to give you support on solving daily conflicts, will you prefer to have a simple ui for this app?

（55 条回复）

- Yes. Effectiveness is the most important.
- No. I want to have more interesting design.

16.4%
83.6%

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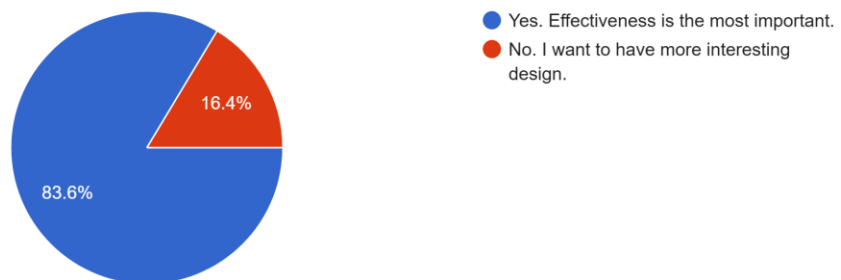
Do you think the Couple Game's process of the guessing answer is abit unconvenient based on the picture below?

（55 条回复）

- Yes. Too many steps.
- No. It looks normal for me.

47.3%

52.7%
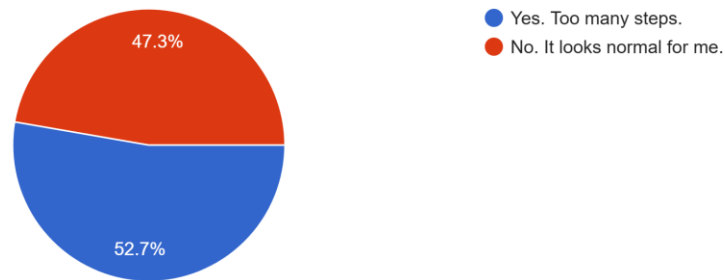
In Couple Game, you are not allowed to replay the quiz of the topic you've done. Will you wish to replay the specific topic of quiz?

（55 条回复）

- Yes. We might have different thoughts after a long time.
- No. It's so boring to replay the same topic.

14.5%

85.5%
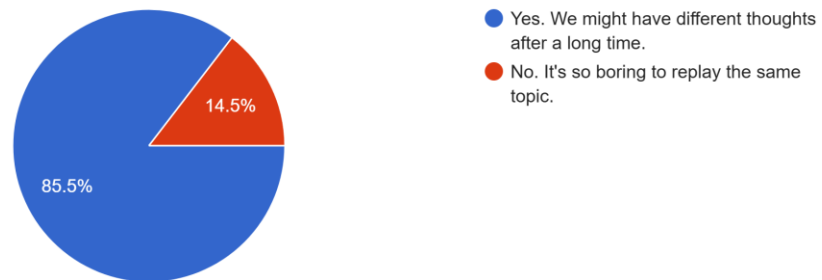
In Couple Game, there's Cards page which provides some ideas of interesting dating activities & topics to discuss. Will you feel confused if both of them are put in the same area?

（55 条回复）

- Yes. I might think that the Cards page is for dating ideas but I got questions.
- No. I won't confused.

29.1%

70.9%

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B-14
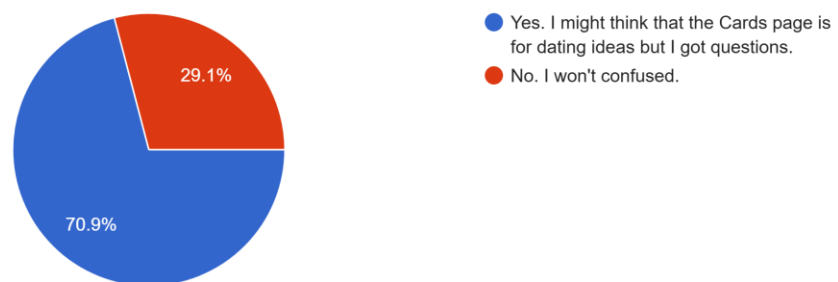
Appendices B

As mentioned above, there're dating ideas provides in the Cards page, however, the dating ideas are showed prepared. There'll be one day that the ideas...ld you feel bored of the feature when this happen?
（55 条回复）

- Yes. I need more ideas.
- No. I'm ok with that.

27.3%

72.7%
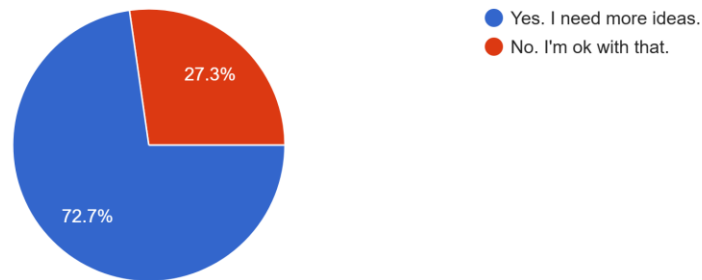
In Couple2, there's diary feature, however, one's diary can be locked as private & the diary details can't be viewed by partner. Do you think it's good to have the private lock function?
（55 条回复）

- Yes. I need some privacy.
- No. We need transparency among couples, or else, it will be very suspicious.

60%

40%
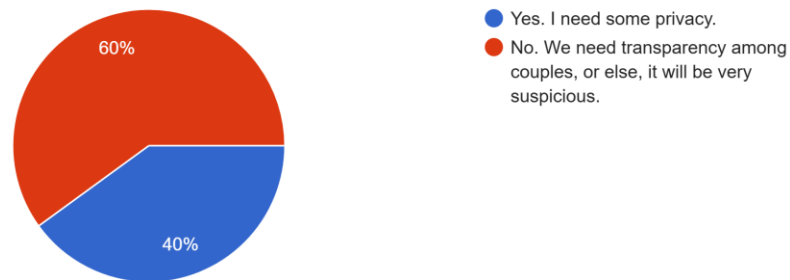
In Couple2, there's task list feature, however, you can't edit the main title that shows at the main page of the list feature but you can edit the date & ...ge. Do you think the current edit function effective?
（55 条回复）

- Yes. It's effective.
- No. I need the task list so that I could see the task directly from the main page, what for if I can't edit the main title since it only shows the main title?

72.7%

27.3%

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B-15

As mentioned above, Couple2 has a task list feature & the main title of a task can't show in full is because it contains an area for the picture. Do you t...s necessary to have a picture for a task in the list?

（55 条回复）

- ● Yes. It proves that I've done the job.
- ● No. I need the task list is to remind me of my tasks only. Having a picture is useless & wasting the space.
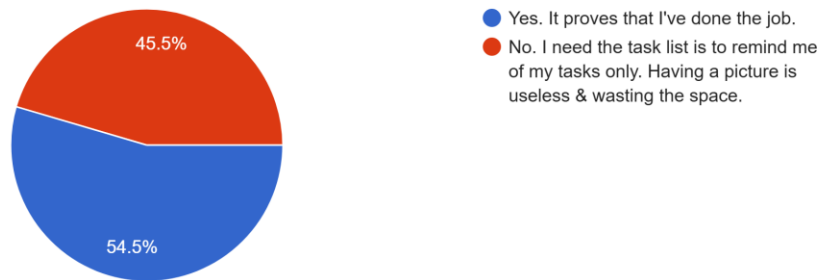
Will you angry if your partner did not complete the task in the app & cause the lack of money (the currency in the app) in the app?

（55 条回复）

- ● Yes! This means he/she is not responsible!
- ● No. Whatever, it's just an app.
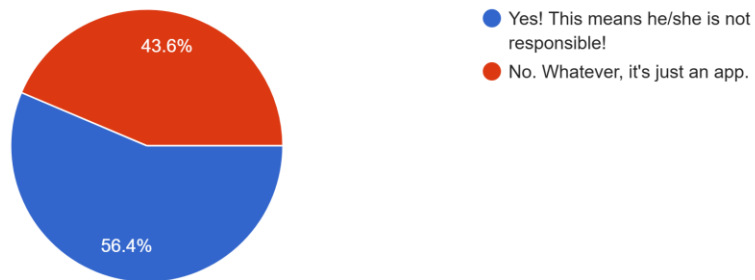
In Couple Tree, there are lots of features, however, some of them are repeated features but in the simple term. Will you feel confused of these duplicate features?

（55 条回复）

- ● Yes. I feel confused.
- ● No. I feel convenient.

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B-16
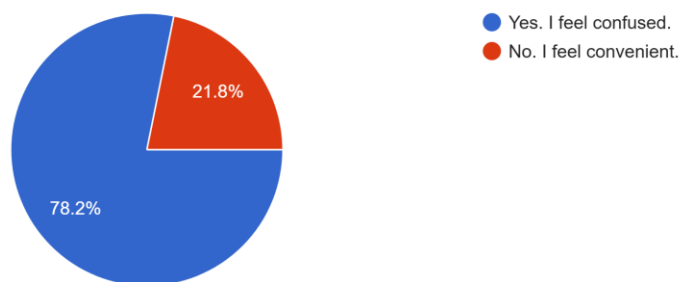
In Couple Tree, there's a calendar that have 3 modes which show schedules, & diaries & questions in emoji form. Will you feel confused for the diaries & questions modes in the calendar?
（55 条回复）

- Yes. I feel confused.
- No. I feel convenient.

40%

60%
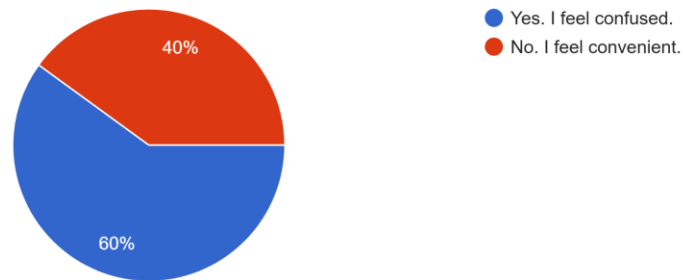
Do you prefer to have a date idea generator?
（55 条回复）

- Yes
- No

12.7%

87.3%
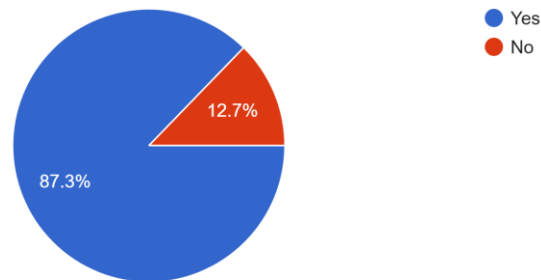
Based on the previous question, do you prefer to generate date idea only when you press on a next button?
（55 条回复）

- Yes
- No

14.5%

85.5%

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B-17
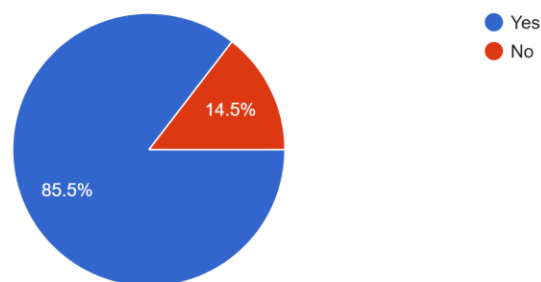
Appendices B

Survey 3

How old are you?
（26 条回复）

- Below 13
- 13-18
- 19-25
- 26-45
- 45-64
- Above 64

65.4%
15.4%
19.2%
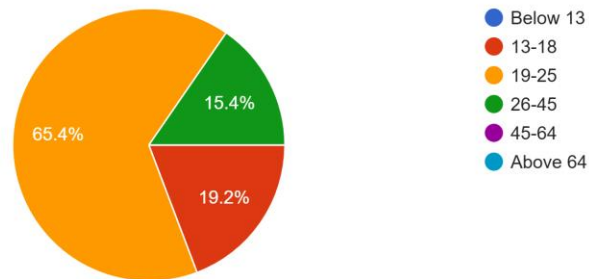
What's your gender?
（26 条回复）

- Female
- Male

76.9%
23.1%

Are you studying or working?
（26 条回复）

- Studying
- Working

61.5%
38.5%

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B-18
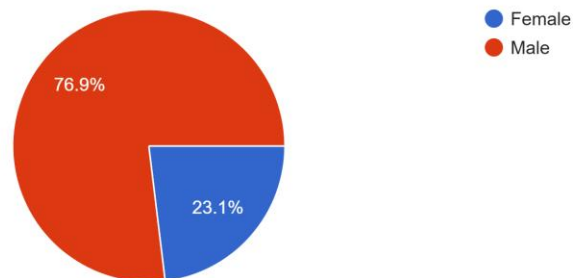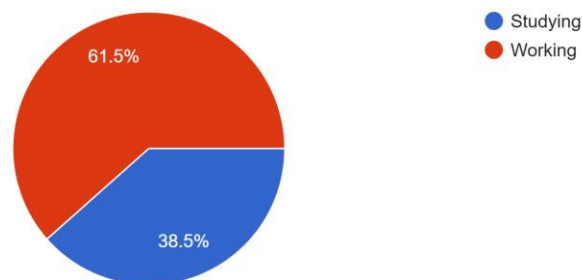
Are you in long-distance relationship?
（26 条回复）

- Yes
- No

53.8%

46.2%

How long have you been in your current relationship?
（26 条回复）
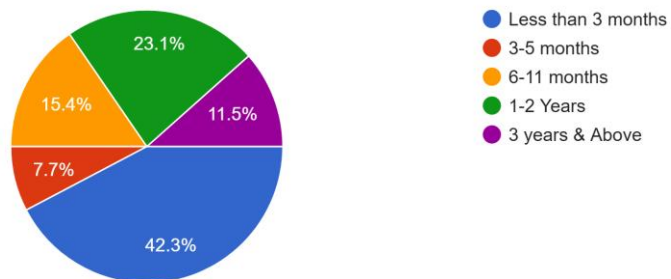
- Less than 3 months
- 3-5 months
- 6-11 months
- 1-2 Years
- 3 years & Above

23.1%

11.5%

15.4%

7.7%

42.3%

How many times will you meet with your partner physically in a month?
（26 条回复）

- less than 2 times
- 2 times (once in two weeks)
- 4 times (once a week)
- 8 times (twice a week)
- more than 8 times but not everyday
- everyday

23.1%

61.5%

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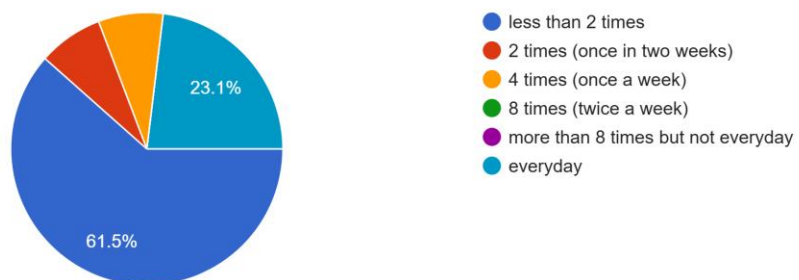
Have you ever broken up due to conflicts?
（26 条回复）

- Yes
- No

46.2%

53.8%
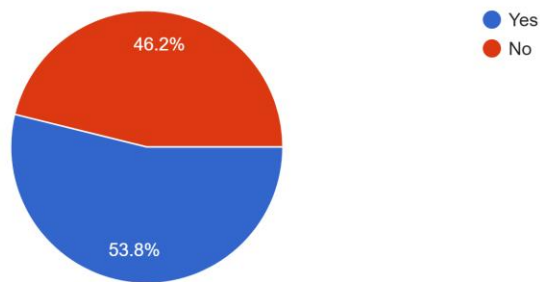
Do you agree that this feature meets the first objective/proposed ways and the main purpose of this application?
（26 条回复）

- Yes
- No

7.7%

92.3%
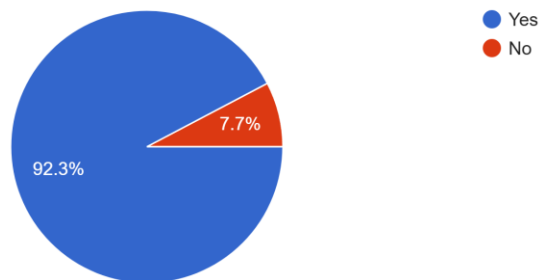
Do you agree that this feature meets the second objective/proposed ways and the main purpose of this application?
（26 条回复）

- Yes
- No

96.2%

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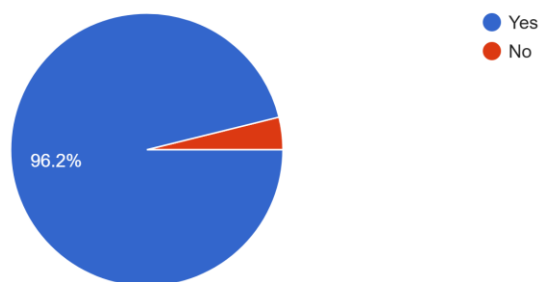
Appendices B

Do you agree that this feature meets the third objective/proposed ways and the main purpose of this application?
（26 条回复）

- Yes
- No

92.3%

7.7%
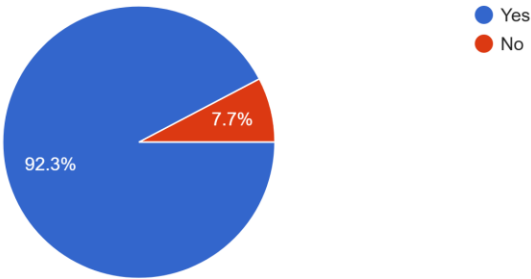
Any suggestion/recommendation for the app improvement?
（9 条回复）

| NA |
Make UI more friendly
All good
This app proposal is good no recommendation
No
very good
So far so good
no, but overall is good application

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POSTER

Couple's Daily Life
Application

01

Introduction
This application provides speedy conflict resolution by fixing relationship problems in a simple, button-based method. It improves communication between partners by guiding them in understanding each other's perspectives. In order help couples maintain their relationship, it also handles shared tasks and provides new date ideas using AI and location detection.

Methods
The Login Page lets users login, register, or reset password. After logging in, the Home page allows users to view the dashboard of Date Ideas, Diary and Task features. Users can navigate to the Date Ideas page to get date ideas. The Tasks page displays shared task list and task handling percent along with the task handling percent agreement. The Diary page allows users to share their daily feedbacks including emotions. The Profile Page lets users view or edit personal details and log out.

02

Discussion
Relationships can sometimes become routine, making things feel boring. It is designed to provide new and creative date ideas, manage shared tasks smoothly, and encourage interesting conversations through interesting quizzes. The purpose is to assist couples in reconnecting, reducing their daily loads, and keeping their love fresh.

03

Conclusion
This application helps couples maintain their relationship by resolving conflicts, improving communication, and reducing daily stress. It offers AI-generated date ideas, location-based task reminders, relationship quizzes, and easy event tracking. With a simple interface, it supports stronger, more engaging connections.

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C-1