

Proposed Level of Achievement: Gemini

Features Developed

1. User registration / log in

This is the basic feature of our application. Users must register for an account in order to access the remaining features of the app. Currently, users can only use their email address with a password to register for an account. If users have already registered before, they can log in to their account directly. User accounts are essential to keep track of users' individual data, as well as collective data calculation by all users. We use firebase to record and analyze users' information. When a user registers for an account, it will reflect in the authentication in firebase, including the user's email address, time for registration and login, and their respective user ID.

Problems encountered: The keyboard was unable to drop down after the user finishes text editing. We added a few functions to resolve this problem.

2. Track daily action

Front-end wise, Action page can be accessed from the main menu, which includes all the essential features of the app. On the Action page, the list of actions is presented in Table View. Upon selection, the action will be recorded in the user's database. The action will be transferred into points and reflected in their account information. This data will then be used to calculate the total number of users who have taken the same action, and other relevant statistics calculated from this action.

3. View achievements

Achievement page can be accessed from the main menu as well. User's individual achievement is presented in the form of a daily timeline with the respective actions taken on that day. Community's achievement is presented in the form of charts for the user to visualize.

4. Gain knowledge

Like above, Article page can be accessed from the main menu page. There will be a list of articles for users to read. The articles will be updated weekly. The individual article is presented in Web View. Currently, we only have one article available.

5. UI design of basic pages

At the end of milestone 2, we have built 9 main pages of our app using Xcode. However, the design is mostly basic and needs further improvement. We are still trying to learn better ui design techniques and tools to help us achieve our final product.

Progress and Problems

We divide our project into several parts to search for online tutorials/solutions.

1.Firebase

- **Add Firebase to Xcode project**

We use Cocoapod to add Firebase to Xcode project. However, the official document only shows the codes we need to add to our project, so we did not know which document need to modified and where it is. So we searched for some other websites that show the screenshot to help us. Also, the online resources seldom mention that pod files need to use Xcode workspace, so when we use Xcode project, it shows a lot of errors. So we spent some more time to search the difference between Xcode project and workspace.

- Problems we encountered: Install Firebase via Cocoapod. Use Xcode workspace.

- **Log in / Register**

Our app uses Firebase to store user information and data, so the app needs a function to add the user account to our Firebase project. This part we use the official Firebase document and other blogs as the tutorial, and also search for more online information to restrict the style of email and password(password need to be longer than 8 words, or an error message will appear)

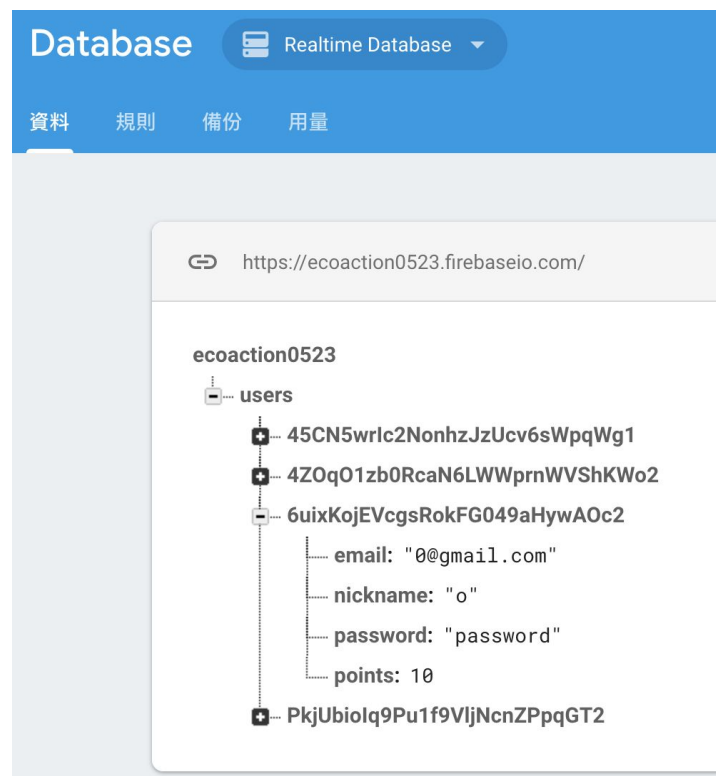
- Problems we encountered: Perform the segue way only when the email and password are correct.

- **User Data / User Property**

The application needs to store basic user information including name, email, password, etc. Firebase has a realtime database, cloud database and user property that can store user data. We first searched for the difference between user property and database, and found out that database is more suitable to our

project. However, most of the online tutorials only teach how to store data to the database manually, yet we want to have individual data. So we spent a while searching for how to store users data individually, and find out that Firebase has set user ID for every user registered. But we still have a problem with modifying user data in an easier way. Also, we are still learning how to turn data in the database to charts in iOS because the tutorials online are mostly for Android user. The way to store Achievement data depends on how we make the chart, so we decide to learn about chart first.

- Problems we encountered: Few tutorials for IOS user. Lack of knowledge about Firebase Database.



One example of our data in database

2.Track daily action / View achievements

The page of daily action needs to show the chart and is able to add a new action to it. We decide to use tableview to show their achievements. However, most online tutorials use Chart.js, so we need to find the software that can use on Xcode. Also, Xcode does not provide multiple choice function, so we are still searching for a better way that does not need to create buttons to collect data.

- Problems encountered: Unfamiliar with Xcode, searching for more information on the implementation

3. Gain knowledge

- Problems encountered: Also using tableview, but still considering how to store data to show the page in a better way.

4. Design of basic pages

- Problems encountered: Too many segue way in the storyboard, want to use navigation controller but do not know whether it can use on the non-root view controller.

Development Plan

We are unable to develop all the features planned at milestone 1 due to insufficient time management and skill development. The gamification system and social media sharing features are still not fully developed yet. There is a lack of intensive testing on our application as well. We hope to finish all the features and improve ui design by the end of milestone 3.

By milestone 3:

- Finish and improve UI design of all pages
- Continue research on environmental topics
- Improve on developed features including tracking daily action, achievement, gaining knowledge from articles
- Finish developing the remaining features including game and social media sharing
- Perform user testing on our application

Project Log

1.	Team Meeting	11/5/2019	3	3	1) Decide on the project topic and development type 2) Discuss the basic features of our application
2.	Lift-off 1	13/5/2019	8	8	Lift-off day 1

3.	Lift-off 2	14/5/2019	8	8	Lift-off day 2
4.	FS-2019	15/5/2019	8	8	HTML/Web programming
5.	Team Meeting	15/5/2019	1	1	Milestone document drafting
6.	Team meeting	16/5/2019	2	2	Panning and milestone document drafting
7.	FS-2019	17/5/2019	4	4	CSS fundamentals and Creativity
8.	Team meeting	18/5/2019	5	5	1) Planning and Milestone document drafting 2) Learn git
9.	Team meeting	19/5/2019	5.5	5.5	1) Make poster 2) Learn git/web programming
10.	Team learning	20/5/2019	5	5	Learn iOS App development
11.	FS-2019	21/5/2019	10	10	1) TypeScript/Vue 2) Self-learning iOS App development
12.	Team meeting	23/5/2019	5	5	1) Milestone 1 video making
13.	FS-2019 and team meeting	24/5/2019	6.5	6.5	1) Backend programming 2) Discussed the development plan in detail
14.	Mission Control Workshop and Team meeting	25/5/2019	6	6	1) Game development with Unity 2) Created project on firebase and GitHub
15.	Team meeting	27/5/2019	4	4	The front-end design of starting page, login and register page, the main page
16.	Team meeting	29/5/2019	2	2	1) Swift learning

					2) Github working
17.	Mission Control Workshop and project consultation	1/6/2019	5	5	1) UI/UX 2) Project consultation and refinement 3) Team discussion on product design improvement
18.	Self Learning	4/6/2019	3	3	Swift
19.	Self Learning	5/6/2019	1.5	1	Swift
20.	Self Learning	6/6/2019	3	3	Swift
21.	Peer Evaluation	7/6/2019	1	1	Read all the feedback provided by other groups
22.	Peer Evaluation	9/6/2019	3	3	Discuss and write peer evaluation
23.	Self Learning	11/6/2019	3	2	Swift
24.	Self Learning	12/6/2019	3	-	Swift/Table View
25.	Self Learning	13/6/2019	3	-	Table View
26.	Self Learning	15/6/2019	2	-	Table View
27.	Self Learning	16/6/2019	1	-	Table View
28.	Self Learning	17/6/2019	2	-	Table View
29.	Self Learning	18/6/2019	3	-	Table View
30.	Self Learning	19/6/2019	2	-	Table View
31.	Self Learning	20/6/2019	1.5	-	Saving Data in IOS
32.	Self Learning	21/6/2019	1	-	Saving Data in IOS
33.	Self Learning & Debugging	24/6/2019	2	-	Database in Firebase
34.	Team discussion and programming	24/6/2019	3	3	1) Discuss schedule update and further planning 2) UI design and back-end development with firebase

35.	Team discussion and programming	27/6/2019	3	3	1) Research and resolve issues 2) UI design and further back-end development
36.	Team discussion and programming	29/6/2019	3	3	1) Research and resolve issues 2) UI design and further back-end development
37.	Self Learning & Coding	30/6/2019	3	-	1) How to Use User ID set Firebase Database 2)How to Add Chart Function to Xcode
38.	Milestone drafting	30/6/2019	-	4	Document drafting
39.	Coding and Searching	1/7/2019	2	-	Add More Property to Database, Build more segue way and testing

Total

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137	114	251