

IPHONE Report of a Money Management APP : Easy Money

Group 55

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Github link : https://github.com/rmit-S2-2020-iPhone/a1-s3699534_s3765724_s3699777

Group Member (Name Student Number)	Score #
Student 1: Guo Yong 3699534	9
Student 2: Qiaochu Wang 3699777	8
Student 3: Bowen Lu 3765724	7

Group dynamics	Score #
We were in complete sync with each other.	4
We communicated on a regular basis.	4
We had positive disagreements.	4
We were very productive in terms of outcomes.	4
We took initiative.	4

Catalogue

App Statement	2
Research(Other four APPs)	3
Summary(Selling Points)	6
REST based API	7
Sample responses:	7
Successful request:	7
Sketches(low fidelity)	8
Sketches(middle fidelity)	8
Sketches(high fidelity - final update)	9
Sketches(Views)	11
UIView and TableView in the app Main page	11
CollectionView in Add Expense/Income page	11
Cocoa Frame	12
Tabbar	12
Design Principles	14
Proximity	14
Alignment	14
Repetition	14
Contrast	15
App Store Design - final update	16
Assessment Review : Parts that not completed - final update	17
Features cut down	17
UI Design change	17
App manual (user guidance) - final update	18

App Statement

Slogan:	Track your money, track your life
Main Purpose:	An application for quick billing
Selling Points:	Used to record user's life and consumption and give user's general idea about how they spend their money using graph visualization such as line chart and pie chart
Use Case:	<p>Wondering where the money is spent each month?</p> <p>Always can't put down any savings?</p> <p>Then it is time to use a billing track software to manage your income and track your spending habits!</p> <p>When you buy a new makeup product you can click the add button and add this new expense and label it as makeup. At the end of the month you are able to see how much money you spend on makeup and compare it to the spending you did last month ! Consider tracking your spending for a week or two at least, writing down every purchase, so that you can see where your money is going.</p>
Keywords:	Accounting/Budget/Save Money/Income Managmentment

Research(Other four APPs)

1. Fudget

website URL :

<http://www.fudget.com/>

apple store :

<https://apps.apple.com/cn/app/timi%E6%97%B6%E5%85%89%E8%AE%B0%E8%B4%A6/id730234563>



App Store Review

★★★★★

"I really like this app, and have been using it for almost 6 months. I have a lot of different bills and to be honest I always forget some of them, so when it comes time to pay on them, all I have to do is go into Fudget and look at each bill. This app allows you to add as many bills as you wish, as well as mark off the bills you pay as you go on. You can also do multiple months/weeks/days at a time and it's such an easy click of the button, that it will transfer all recurring monthly bills to the next month/week/day."

★★

"I think that the app is too rudimentary, it lacks important features, and it is hard to organize different budgets. while I was using the app I had trouble organizing and categorizing my spendings. I needed to keep track of the things that I bought, but I also needed to categorize them into different categories without the help of the app. I

ended up having to create twice as many budgets to keep track of where I spent my money, along with which type of category it went to. but once I figured out how to do it it did become easier to use.”

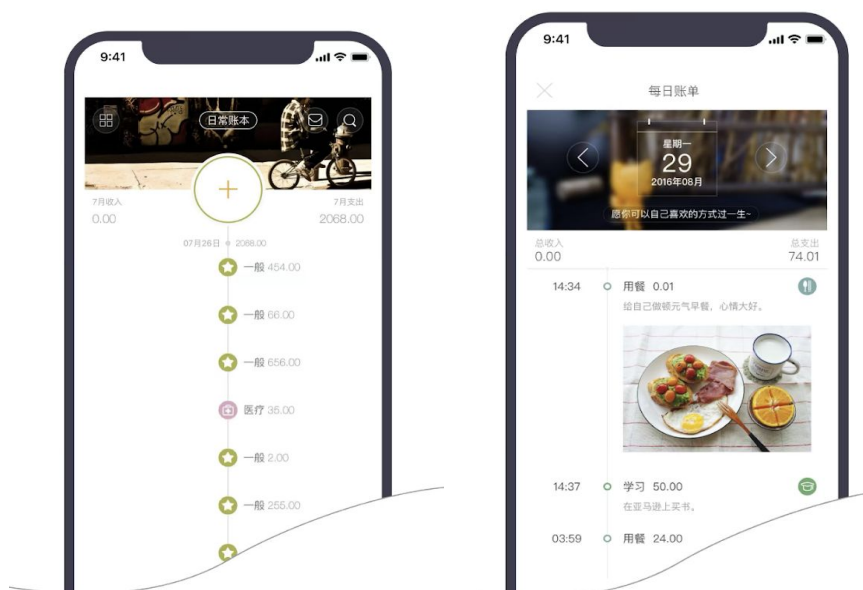
2. Timi 记账 / TimiTime

website URL :

<https://www.timitime.com/#page-0>

apple store :

<https://apps.apple.com/cn/app/timi%E6%97%B6%E5%85%89%E8%AE%B0%E8%B4%A6/id730234563>



记录你的开支和生活

精美的时光轴诉说你的生活点滴
让琐碎的记账变得有趣、高逼格

你的精致账单日记

轻触单条账目查看每日账单
记账本也可以华丽变身你的生活手记

App Store Review

★★★★★

“Seen and tried a lot of software, but they are not suitable for a young girl . This looks clean and pretty, very practical and has no redundant functions and convenient billing. Also remind yourself that you must learn to plan your assets, don't every time hair wages in a few days”

★★

“Sometimes I like to record things randomly at any time of the day, but when you add the latest in the same day rank first, and also cannot modify the order or adjust the time of bills, this is really inconvenient!

For example, the dinner bill sometimes accounts before breakfast! I hope developers can solve this problem! Even if the project cannot be modified, can only add or subtract also is not very convenient!”

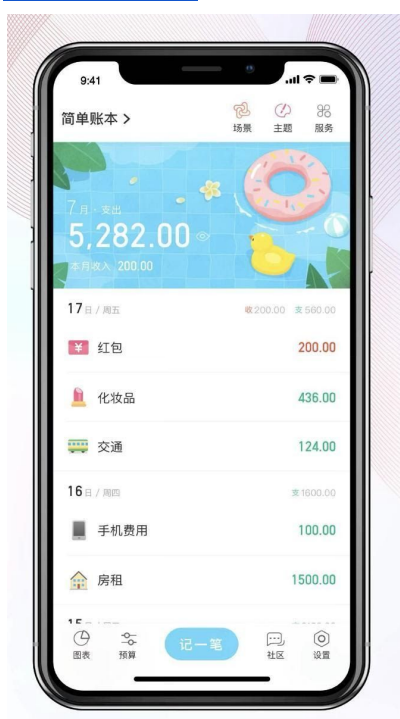
3. 随手记 / SUI

website URL :

<https://www.sui.com/>

apple store :

<https://apps.apple.com/cn/app/%E9%9A%8F%E6%89%8B%E8%AE%B0-%E8%AE%B0%E8%B4%A6%E8%B4%A2%E5%8A%A1%E4%B8%93%E4%B8%9A%E8%BD%AF%E4%BB%B6/id372353614>



App Store Review

★★★★★

“Really very professional, also easy to understand, support many accounting algorithm, account details can be customized for you to add, support multinational currency can add modify the exchange rate, our accounting records can be automatically converted into foreign currency. The only advice is fast add to an account that can like sharks(another app) be simple”

★★★

“Have been using note-taking, because can be oneself and family account record respectively, powerful functions, but have recently emerged two books loading failure, can't open, response to customer service, also didn't respond, can only enter

account information from the resume template, waste a lot of time and interest in using the software, hope to be able to repair in time”

Pros and Cons of each research app are shown in the following table. Our app ‘Easy Money’ collects the advantages and gets rid of the flaw to make our app more unique than the existing apps in the market.

	Fudget	Timi	随手记
Record spending	Yes	Yes	Yes
Statistic analysis	No	Yes	Yes
Budget remaining	Yes	Yes	Yes
Bills reorder and edit	Yes	No	Yes

Summary(Selling Points)

EasyMoney is a professional but easy to use accounting software. Minimalist operation processes allow the user to easily get started. Simple, uncluttered page design making it easier for users to find navigation elements. Keeping accurate financial records is an essential key to your life success and our app can help you to make you manage your financial records quicker and easier.

Our app provides you with one-tap adding and editing expenses to history record features, in addition we provide many icons for the user to choose for the corresponding expense therefore the category of users’ expenses can be viewed more straightforwardly. The user can also set their budget goal using this app and budget can be tracked automatically through recorded expenses.

In addition, our report page has a report feature which allows users to review their last 6 months spending according to total amount or spending category. History spending and income can be arranged into a visual representation so that data can seem straightforward.

Overall, this is a lightweight APP that gives users quick access to record and track their spending habits by clean and concise app pages.

REST based API

We are using multiple self design REST APIs to fetch data for our application. Our REST API use Amazon API Gateway and AWS Lambda to build

The following REST API's are being used:

- The DB API will be used to fetch user's personal data
- The DB API will be used to fetch users' historical money spending data
- The DB API will be used to fetch categories

Sample URL Request : GET

https://yjpilhuk36.execute-api.ap-southeast-2.amazonaws.com/iPhone_SE_Assignment/getcategories

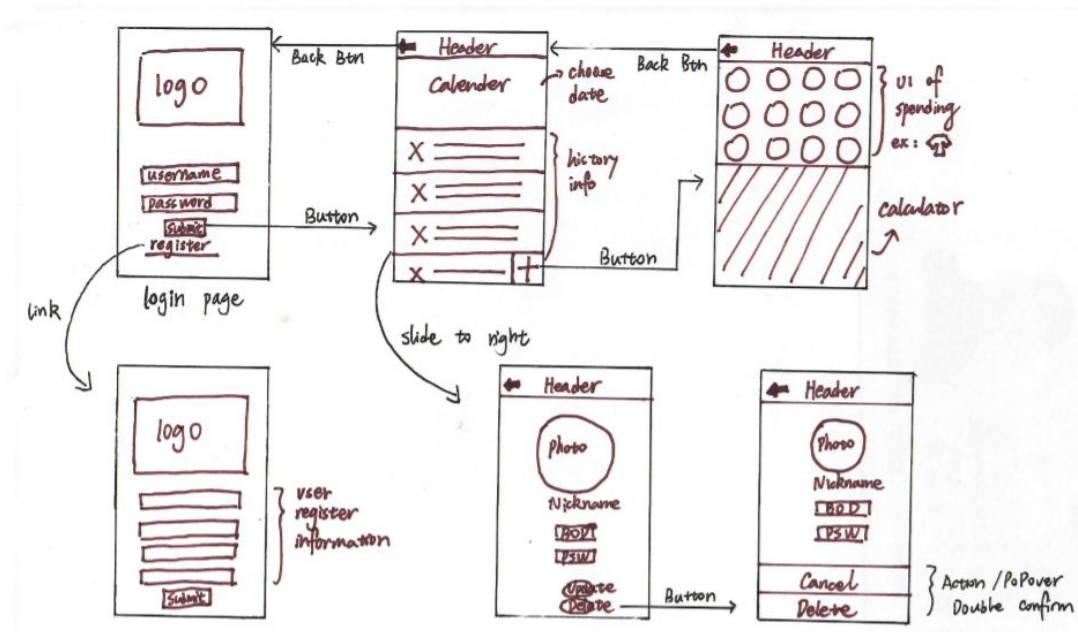
Sample responses:

Successful request:

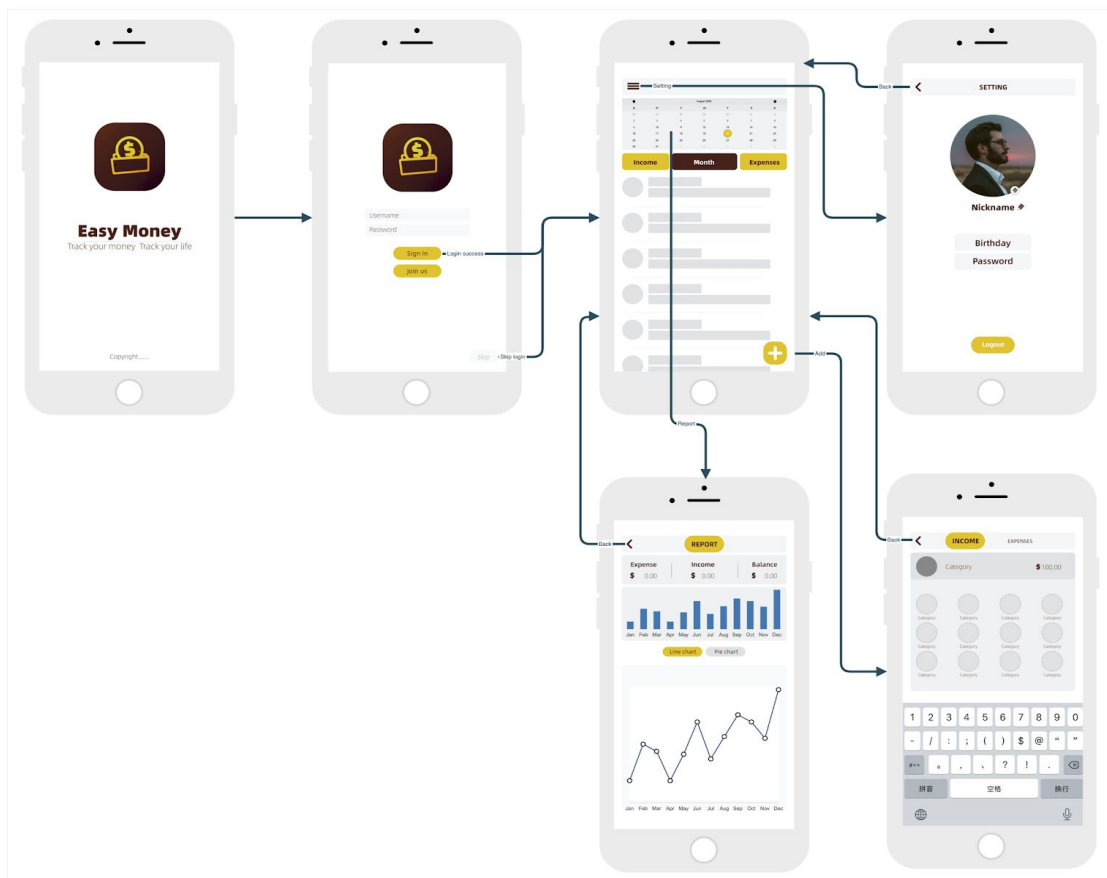
```
/getuser:{
  "status": "success",
  "data": {
    "id": 1001,
    "name": "Wing",
    "dob": "19/07/1996",
    "password": "123456Lia",
    "History":{
      "history1":{"date":"20/06/2020","value":"50.30","category":"grocery"},
      "history2":{"date":"03/07/2020","value":"32.00","category":"lunch"},
      "history3":{"date":"03/07/2020","value":"42.00","category":"makeup"}
    }
  }
}
```

```
/getcategory:{
  {
    "C_ID" : "2",
    "Name" : "bill"
  },
  {
    "C_ID" : "1",
    "Name" : "live"
  },
  {
    "C_ID" : "4",
    "Name" : "other income"
  }
}
```


Sketches(low fidelity)



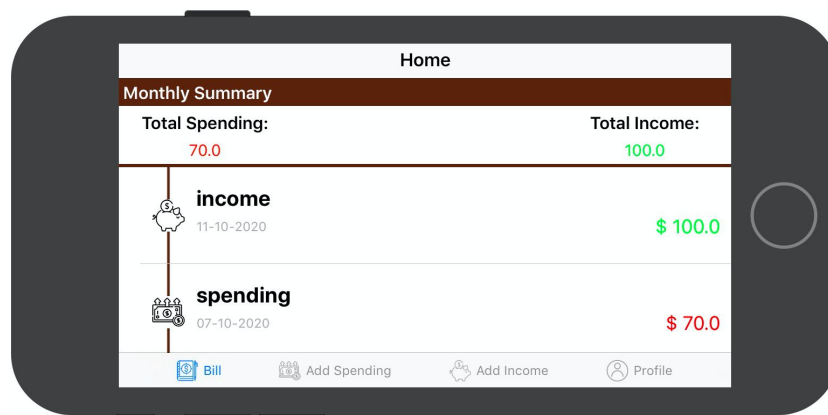
Sketches(middle fidelity)



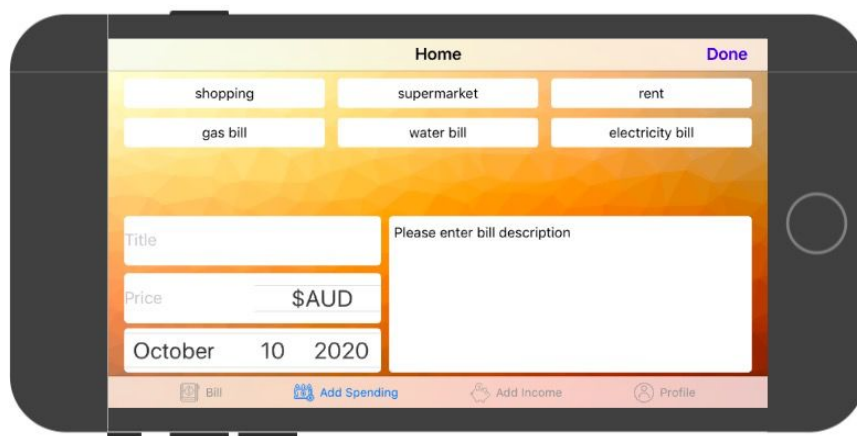
Sketches(high fidelity - final update)



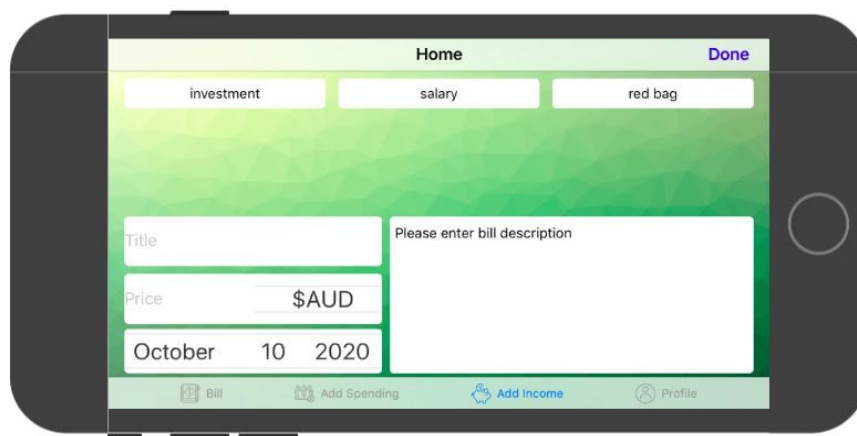
Graph 1. Overall app flow chart



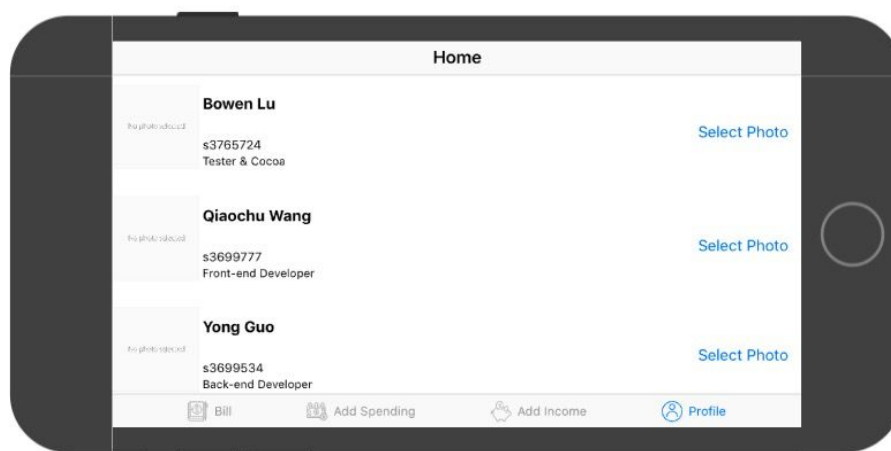
Graph 2. Horizontal main page : User history bills



Graph 3. Horizontal add spending page : user add new spending to bill record



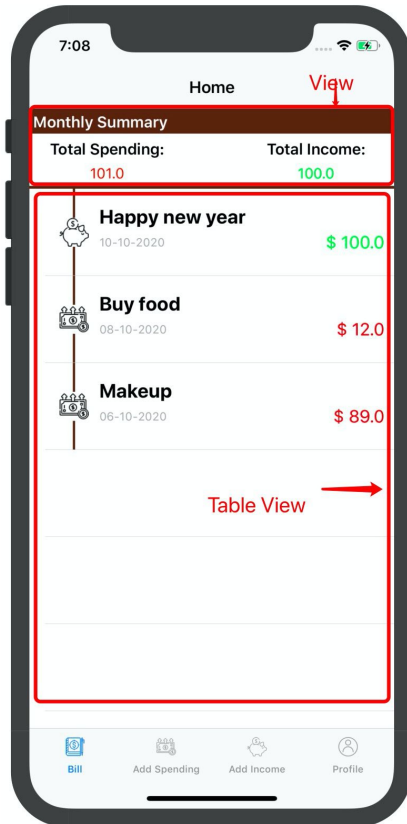
Graph 4. Horizontal add income page : user add new income to bill record



Graph 5. Horizontal profile page : students profile which can add photos

Sketches(Views)

Views are the fundamental building blocks of your app's user interface.

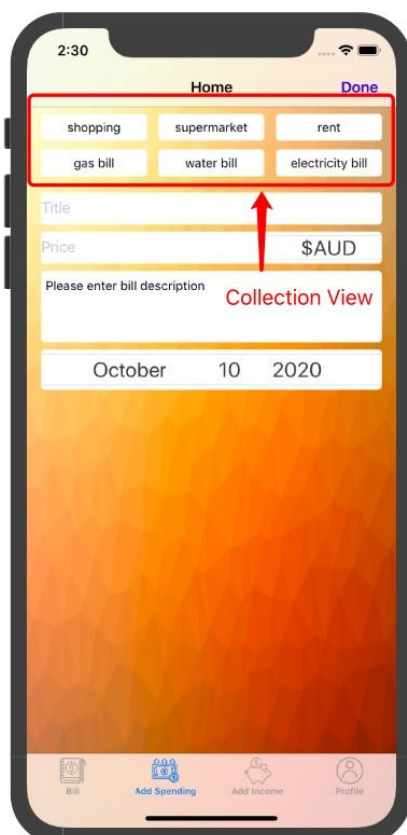


UIView and TableView in the app Main page

UIView is a view object that renders content within its bounds rectangle and handles any interactions with that content.

UIView in the main page of the app acts as a container for all other elements such as Total Spending and Total Income texts.

TableView displays custom data in rows and columns and it is used in the main page to show history expenses. Users can select specific dates to show expenses or income information of that date.

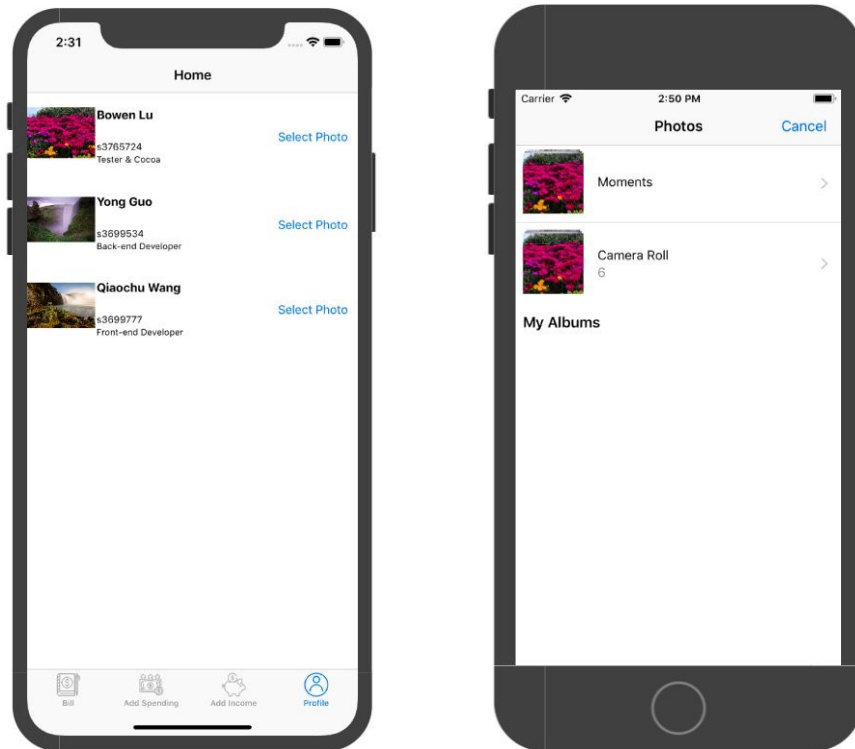


Collection View in Add Expense/Income page

The purpose of collection view is to display one or more subviews in a highly configurable arrangement.

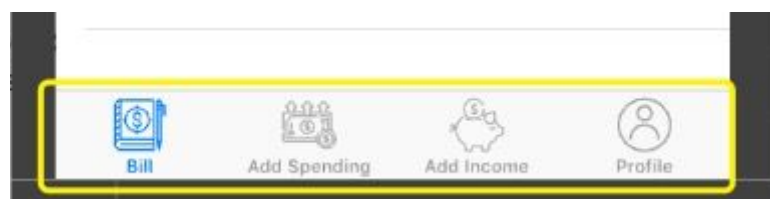
Collection view is used in the add expense and income page. The cell size is custom and there are 6 different cells that represent each spending/income category.

Cocoa Frame



Cocoa frame is used in students' profiles to take a photo or select from album for a individual head portrait.

Tabbar

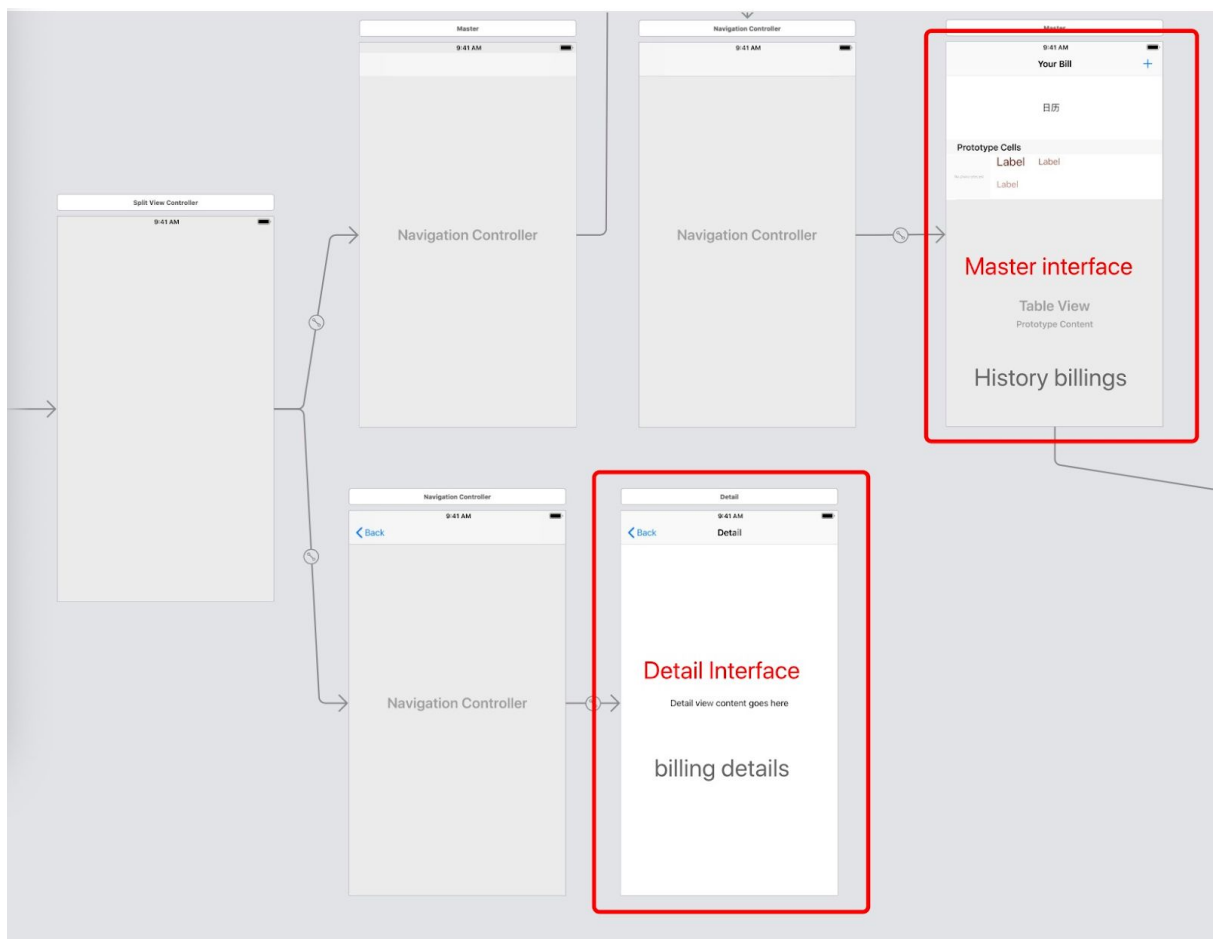


The tab bar view is associated with the UITabBar controller. TabBarViewController() is put in the bottom of the app and users can click each of them to go to the corresponding page. There are four tabs, 'Bill', 'Add spending', 'Add income' and 'Profile'. The user can click the 'Add spending' to add expenses and 'Add Income' to record money such as salary.

Master-Detail Configuration

In our application, the master interface is implemented by a pre-designed Master-design template. The user can select objects from a list of history billings and inspect the selected billing to see details.

The master interface displays the collection of objects, and the detail interface implements an inspector of the selected object. Whenever the user changes the selection in the master interface, the detail interface is updated to show the new selection. If no object is selected, the detail interface displays nothing or disables itself (if it is editable). This interface also allows users to update and remove history billings from the table collection.



Design Principles

There are four principles of design: Proximity, Alignment, Repetition, Contrast

1. Proximity

According to the Proximity principle, the associated elements need to be grouped in a group, making them establish closer proximity relationships. This helps to organize information to express more clearly information to users, reduce confusion, and provide readers with a clear content structure.

For example, in the Report page. Elements that show the user's current financial status are put together and buttons with click and show graph functionality are put together.

2. Alignment

Anything on the page cannot be placed at random, each element should be with another element on the page and have some sort of visual contact. This is to establish a clear and delicate appearance.

For example, in the Report page, all elements are centered vertically. The width of all element containers are the same therefore the borderlines are also aligned.

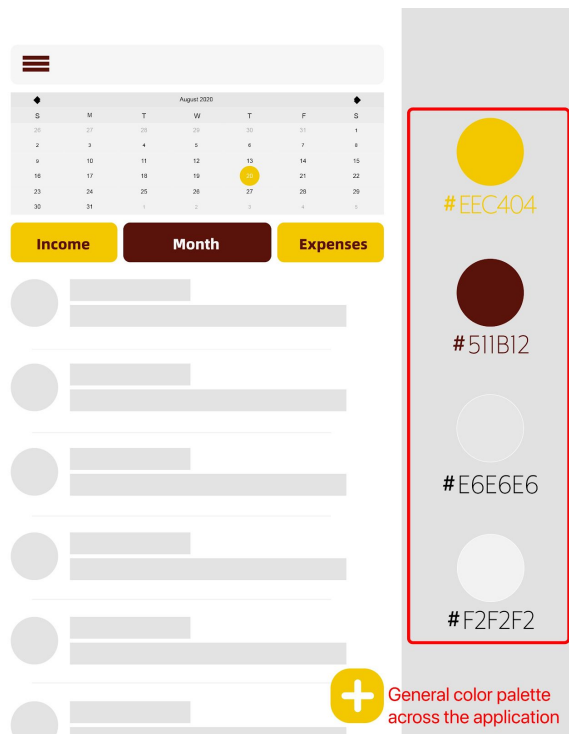
3. Repetition

The principle of repetition simply means the reusing of the same or similar elements throughout your design.

Let the visual design elements be repeated in the whole project. For example, repeat color, shape, texture, spatial relationships, line width, font, pictures and etc. This can increase the orderliness, and also can strengthen unity between page elements.

For example, all pages, buttons and graphs are using the same color palette and all buttons are obtuse design as shown in the following picture. The font and size of all headers are the same, the animation shares the same pattern such as selected button will change to color #511B12 to become more striking to users. The logo also follows the same kind of design, besides the background color are the same to help give the entire app a unified look.

Furthermore, TableView containers in the main page contain history expenses of the selected date on the calendar. These history records are classified together by using the same repeated design, therefore users can understand these data belong to the same functionality immediately.



Old design : repetition principle in main page

4. Contrast



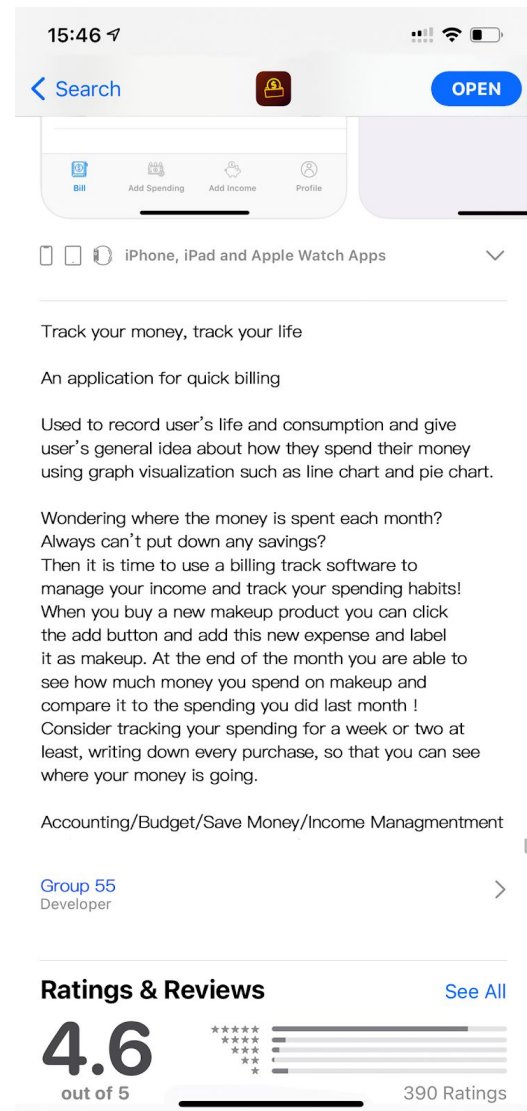
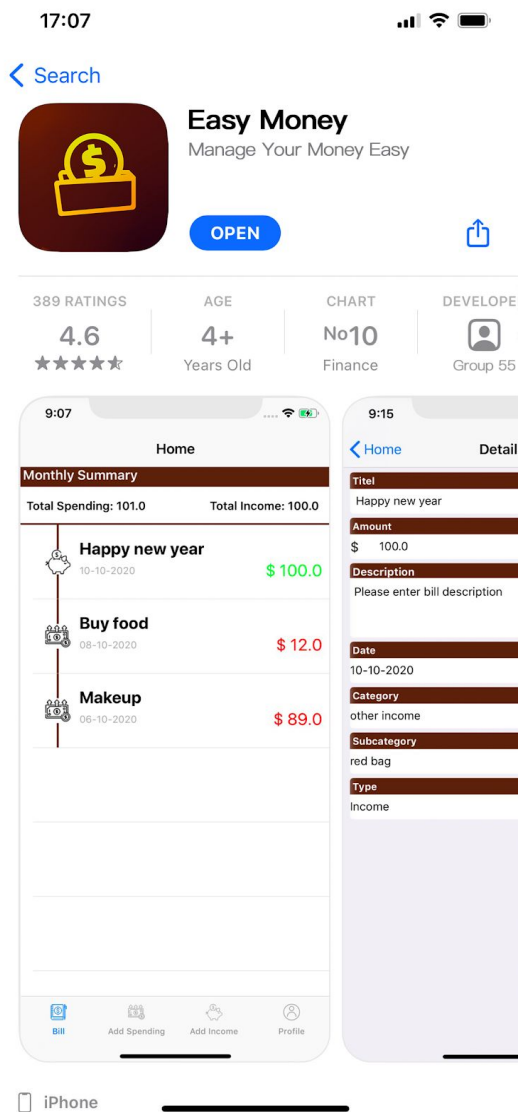
Contrast simply means difference. To avoid elements on a page is too similar, if the functionality is not the same, then simply make them different. Contrast can make the page more attractive, also can make the page more content structure clear, easy to read.

For example, in the Report page, the button's style will change after the user clicks it, making the selected button easier to visualize. Making use of contrast can also help you create a design in which one item is clearly dominant

Old design : contrast principle in report page

App Store Design - final update

The design of our app store page based on our app statement



Assessment Review : Parts that not completed - final update

1. Features cut down

At the beginning of our design , we have a large feature set including user login and register, user data statistics report and so on. After several consultations with the lecturer, we decided to cut it down to the minimum to cut out the extras of our application and let the final version focus on the important bits. Our group makes this decision because of the limited time and the lack of app development experience of complex features. Besides, the balance between functionality and simplicity of the app is essential, we believe some functions such as login and register do not fit the apple design theme because it causes extra steps needed and degrades the user experience.

Therefore, the final version of the app contains only the following functions: **Add spending to bills, Add Income to bills, Review history bills and Student profiles page** with take photo ability. Details of deleted functions are in the following table

Functions	Reason for removal of functionality
User Login and Register	Does not meet the design principle because user need to take extra steps to use the app which is not necessary
Calendar in main page	The third party plug-ins can not be used therefore we use local build-in datepicker as an alternative method
User Report	Lack of time and this is not the core feature of our app
User Profile	Students profile cocoa framework instead of individual user profile

2. UI Design change

Connecting functionality : In our middle fidelity design, we use buttons to link each page such as click an add button and go to the add spending page. In our final version design, a tab bar replaces these buttons and connects the various sections with different tabs. It allows a reasonable overall layout with clear function zones which are clear to identify and convenient to use.

Change of general color and icons design : we design the UI fairly early in the process, soon after we have gathered the requirements. At that time we lacked the understanding of how to implement design to our story boards element leading to the deviation between design and practice. The designers doubling up as coders implies that the design and coding processes occur at least sequentially, if not concurrently. So our UI design changes through time and the final version depends on the UI implement ability of programmers.

App manual (user guidance) - final update

This is a link to a video of how to use this app to let users have easier access.

<https://web.microsoftstream.com/video/d280ea52-12fc-42f6-a4b7-47cdc2f8e848>