CS386 Android Programming Final Project

Application Name: **Expense Tracker**

Team member(s):
This is a **solo** project.
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Background:
Some tools of bookkeeping or tracking expenses are very useful in my daily life. I have used and was accustomed to several good-to-use similar applications in my countries but unfortunately, they were all out-of-maintain or removed from the store now, which is very annoying! So I will like to use what I have learned in this class to build a DIY tally book and add more custom features to fit my personal requirements step by step.

Features:
1. The core function is to record income and expenses.
2. You can choose various classification options for them, such as "clothes", "snacks", "shopping", "education", etc.
3. You can also add notes and modify the date.
4. Your support and income information for this month will then be displayed on the home page.
5. You can choose to hide the information to protect your privacy.
6. You can view all your records and the corresponding status in a bar chart.
7. You can clear all data in the settings.
8. You can long press to delete a single piece of data.

Demo screenshots:

[1] When I open the application for the first time:
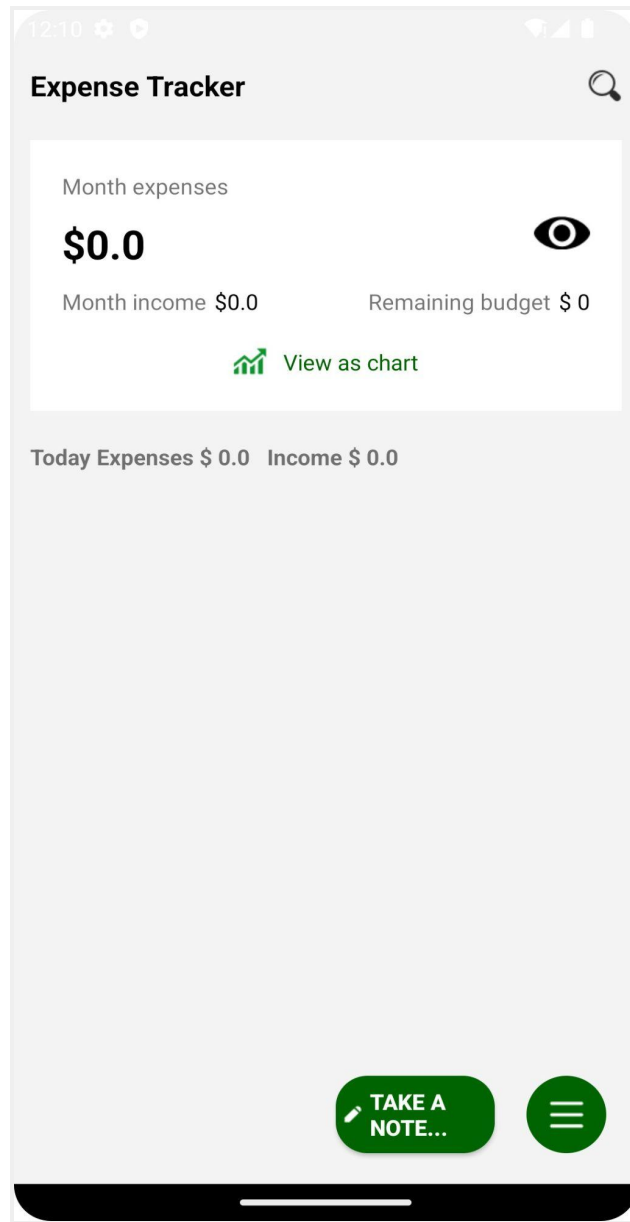
[2] I got my salary for October. It was $2000 in total. Let's add it with the exact time information.

[3] And I would like to set my budget for this month to $1500.
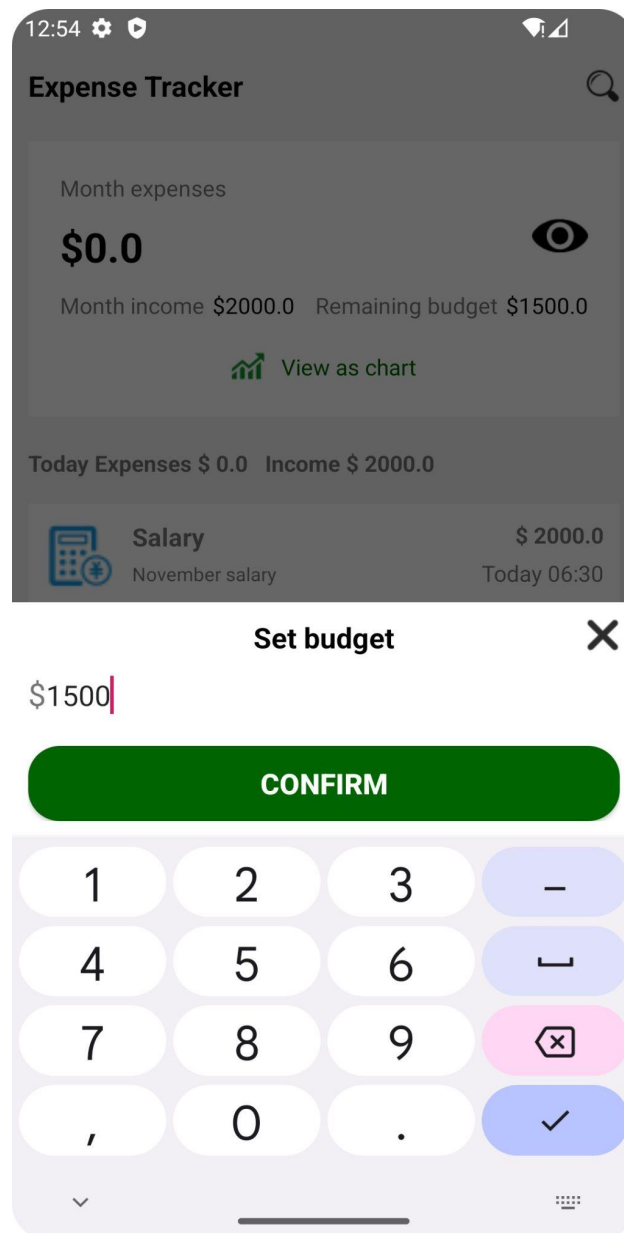
[4] Let's return to the main page:
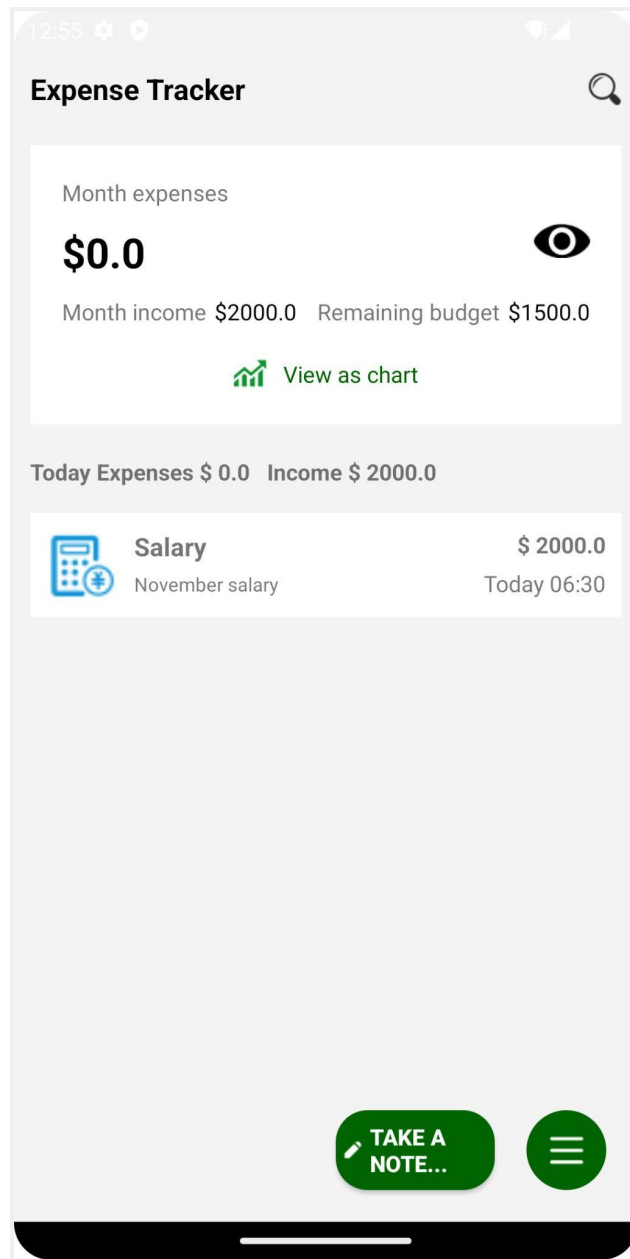
[5] Then I had breakfast ($6.5) and it was a really delicious hamburger. Let's use the remark to mark it down!
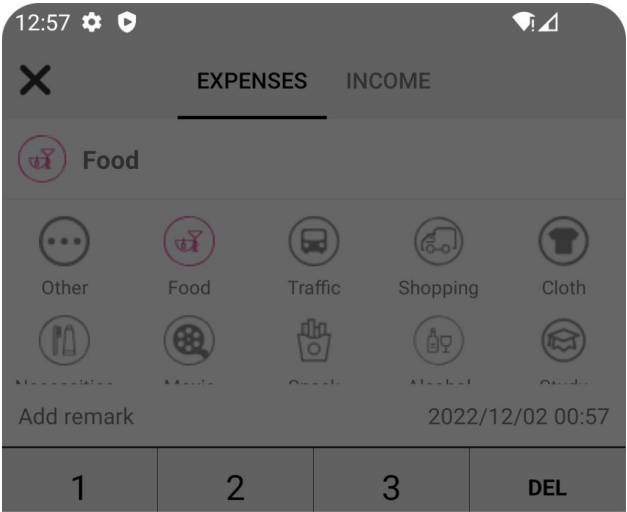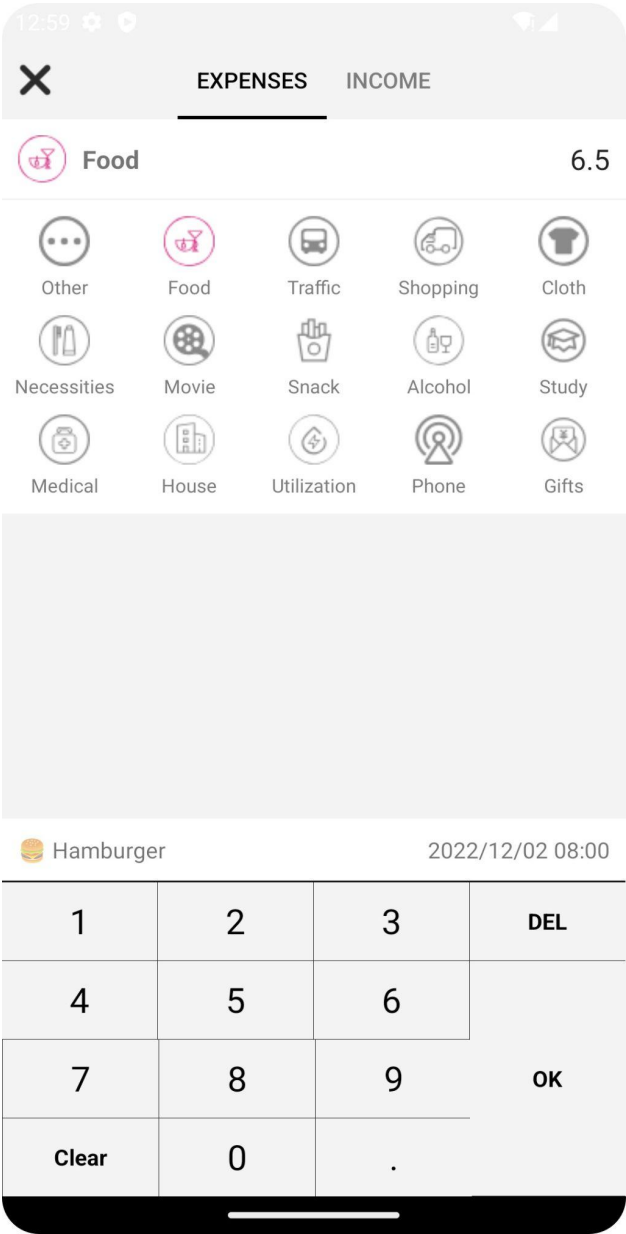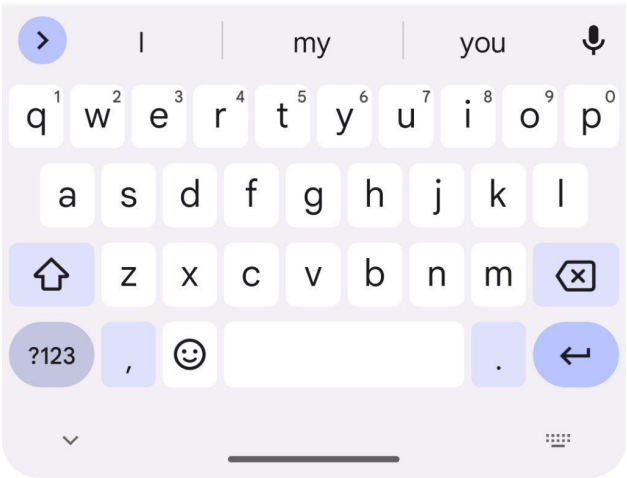
[6] As the main page shows, my remaining budget is correctly reduced to $1493.5 now. And my up-to-now month expenses are $6.5.
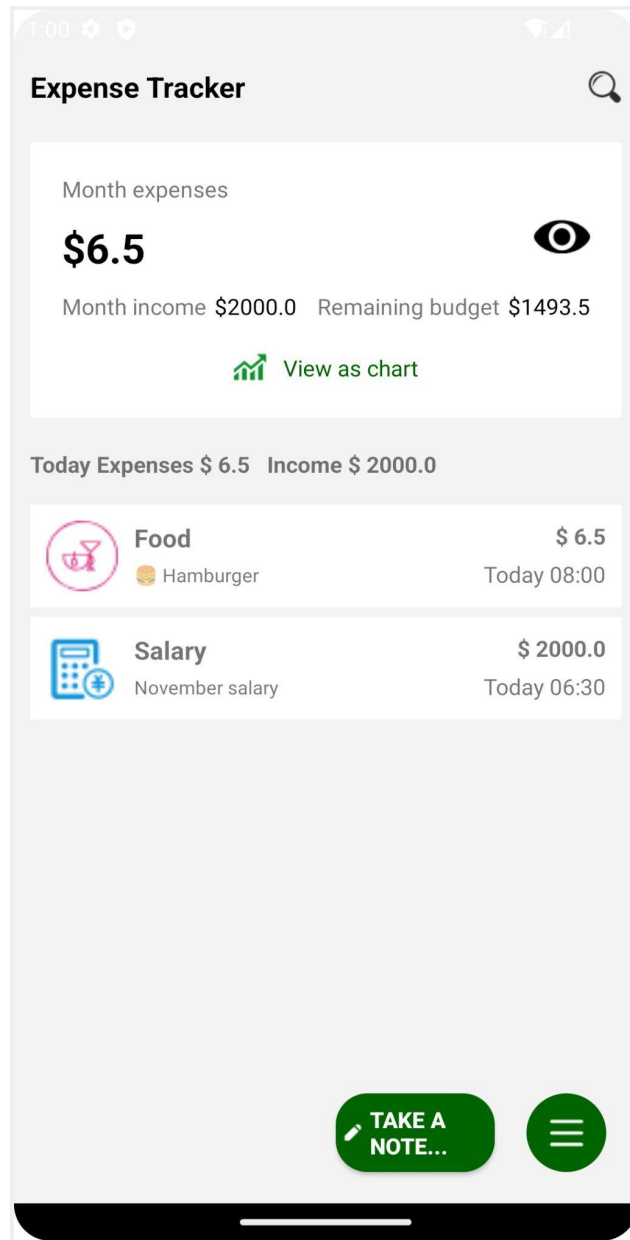
[7] Keep tracking my expense today:

Expense Tracker

Month expenses

$32.5

Month income $2000.0   Remaining budget $1467.5

View as chart

Today Expenses $ 32.5   Income $ 2000.0

Movie Avatar 2		**$ 9.0** Today 18:00
Snack		**$ 3.0** Today 15:00
Food A bread with coffee		**$ 12.0** Today 12:30
Traffic		**$ 2.0** Today 09:00
Food 🍔 Hamburger		**$ 6.5** Today 08:00
Salary November salary		$ 2000.0 Today

TAKE A NOTE...
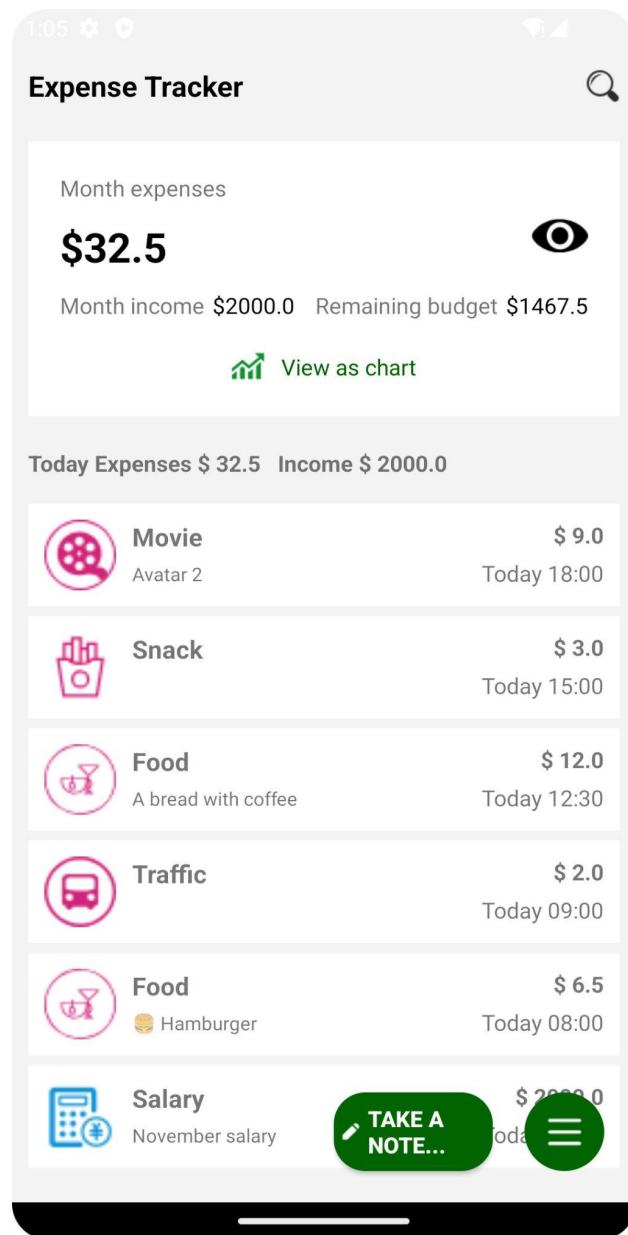
[8] After one month, I filled out the application with my income and expenses. Oh, my remaining budget is still $17.4 so I successfully hit my saving plan!
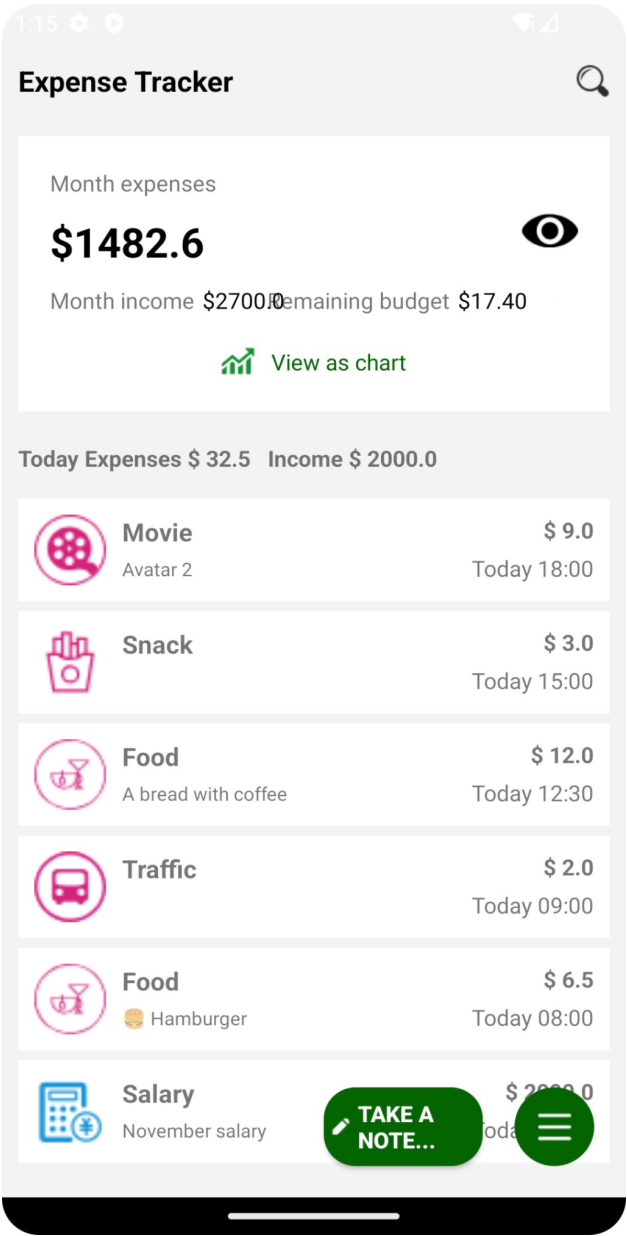
[9] Besides, I can choose to hide the information to protect my privacy.
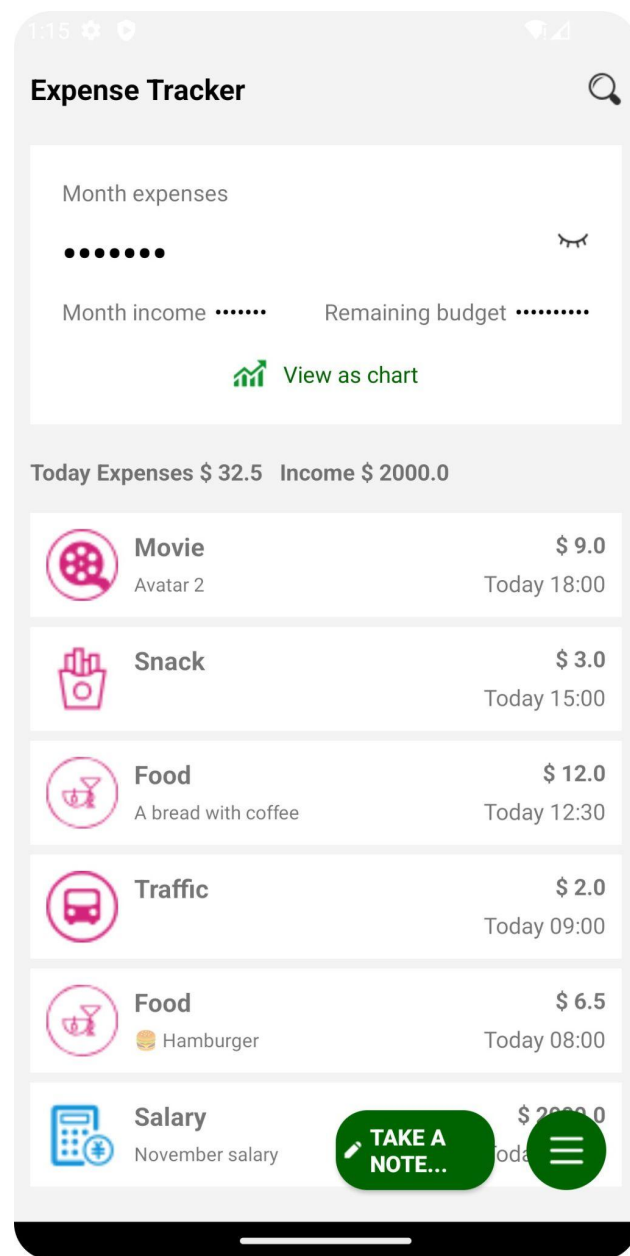
[10] For more convenience, I can easily view my monthly expenses in a bar chart.

2022/12 Month Expense		
31 term(s) of Expenses, $ 1482.6		
3 term(s) of Income, $ 2700.0		

	EXPENSES	INCOME
House	30.35%	$ 450.0
Shopping	26.64%	$ 395.0
Cloth	13.49%	$ 200.0
Food	11.88%	$ 176.1

2022/12 Month Expense		
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	EXPENSES	INCOME
House	30.35%	$ 450.0
Shopping	26.64%	$ 395.0
Cloth	13.49%	$ 200.0
Food	11.88%	$ 176.1
Snack	4.92%	$ 73.0
Utilization	3.37%	$ 50.0
Phone	3.37%	$ 50.0
Traffic	2.16%	$ 32.0
Medical	1.35%	$ 20.0

[11] The same as the income section:
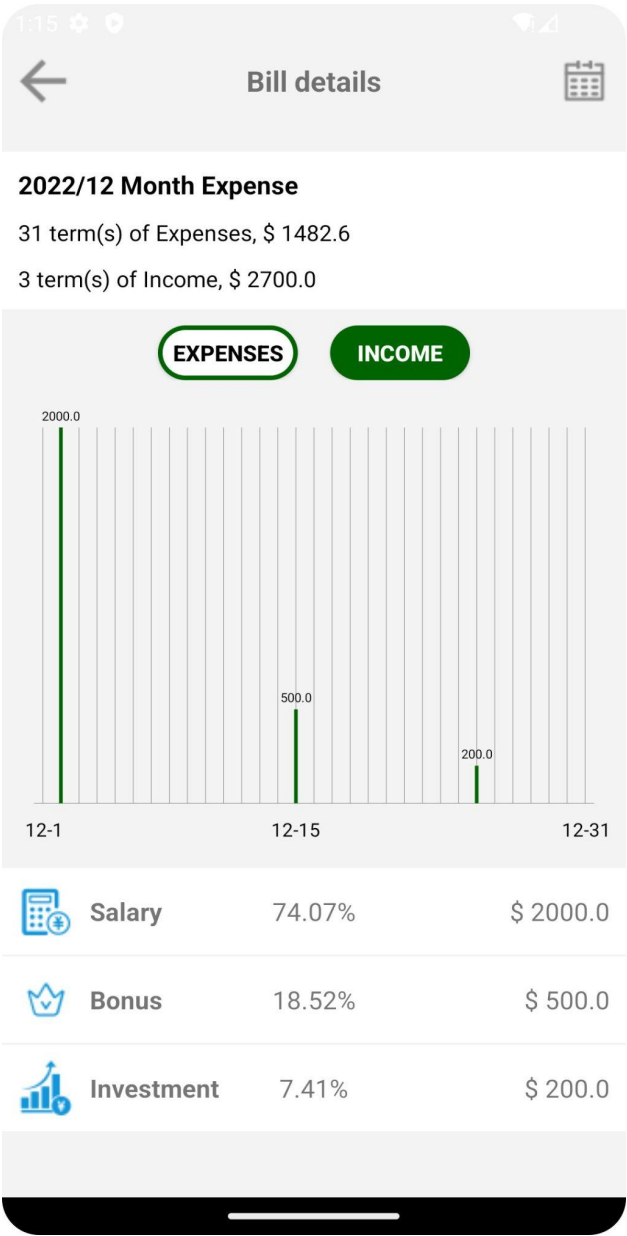
[12] On this page, I can easily switch to the corresponding billing of the selected month.
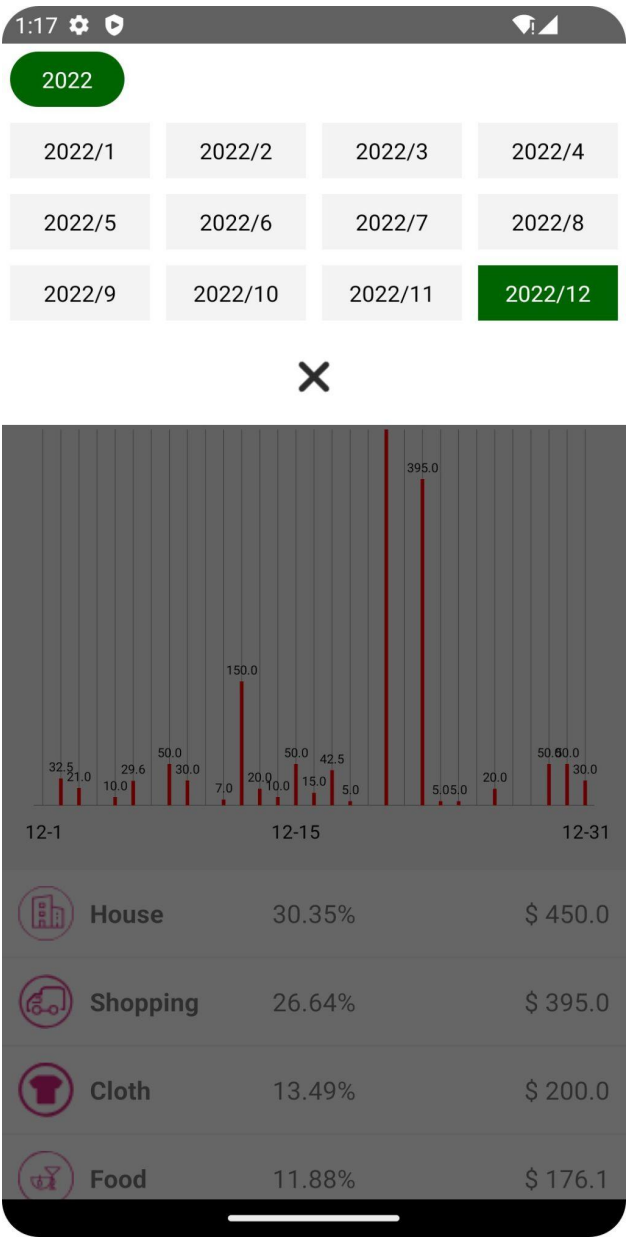
[13] User can clear their data in one action. The application will pop up a warning message for double confirmation.

[14] The page "Abou me"

About

Application info

Version

1.0

About

Just for fun

Developer

About me

Somewhere

citaowu@gmail.com

...

Source code

Github

...

...
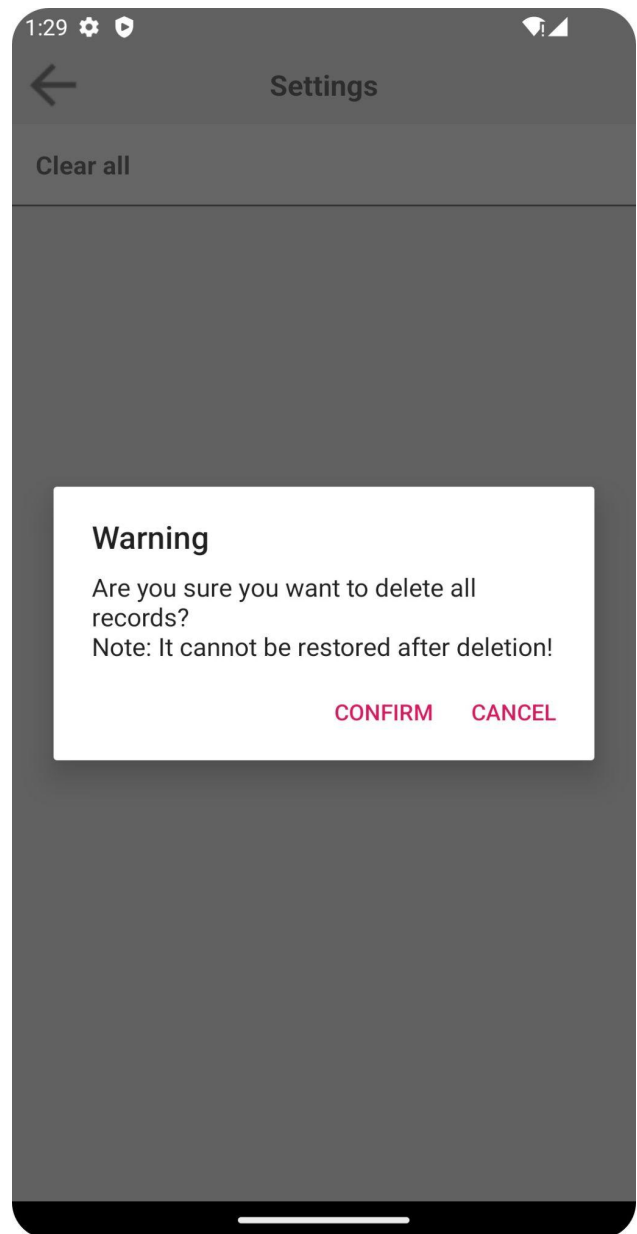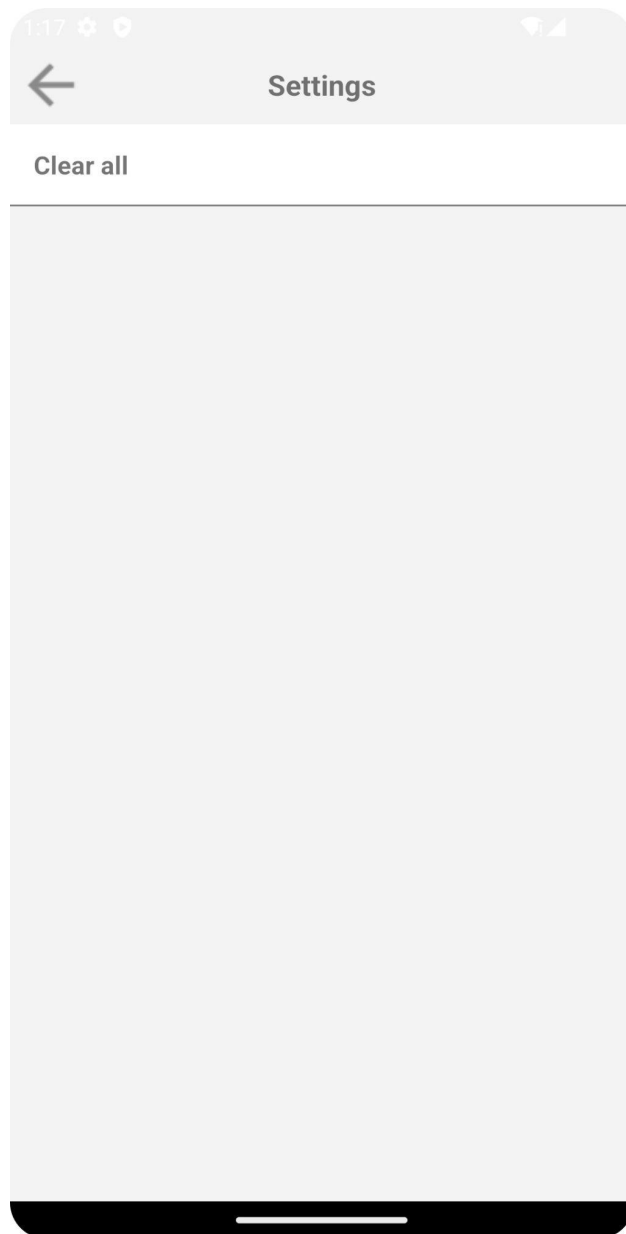
More discussion:

- This is an offline expense-tracking application so no APIs are used.

- No third-party services are used for the same reason.

- Used third-party libraries:
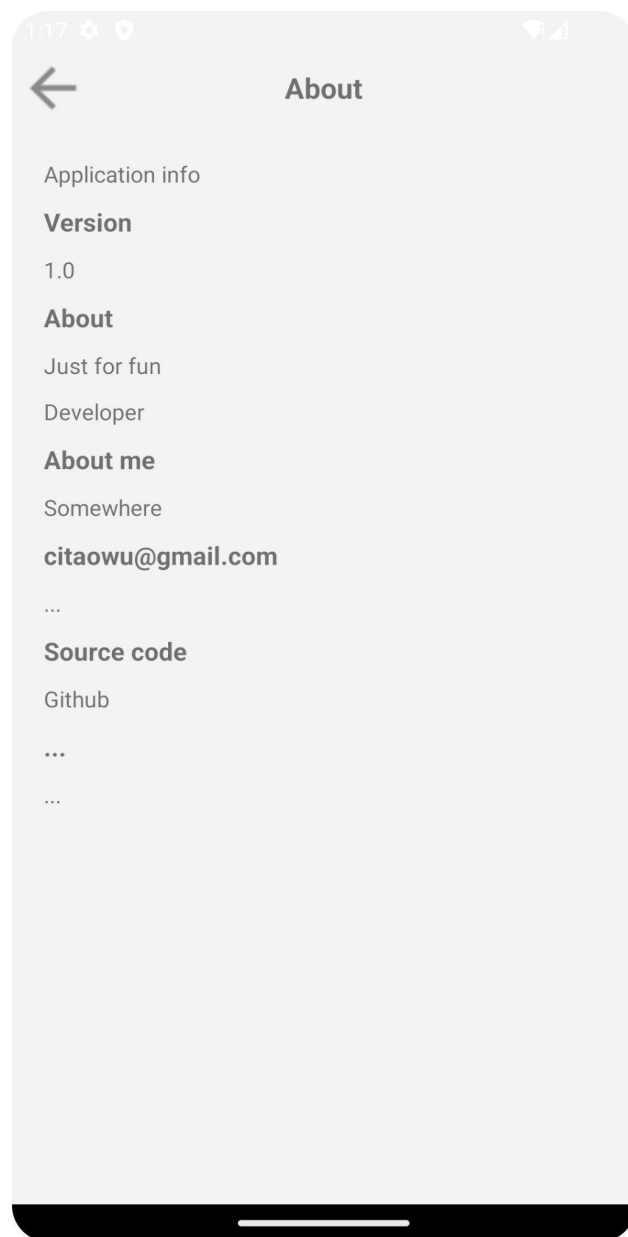 - MPAndroidChart [https://github.com/PhilJay/MPAndroidChart]. It is really a powerful & easy to use chart library for Android. And I use the library for chart display in the monthly billing section.

- I implement the database operation through the Android official libraries. And all data are stored in the phone directly and so now it is a device-level tally book, not supporting multi-accounts. A future improvement is to migrate the storage to Firebase and allow users login to their personal accounts.

- Collecting the icons for each category of income and expenses is really funny! Of course, some of them are for non-commercial purposes only. Anyway, this process made me feel like a product manager and designer. :)

- I was pushed to study Android's Dialog from zero to implement the following components:
  - month selector
  - calendar selector
  - editor for adding remarks
  - editor for setting budget

- One significant time-costing part is to ensure the data accuracy about storage and display. When the users add, edit, or delete a record, it will affect the following parts:
  - Database operations.
  - The number of today's expenses/income on the main page if necessary.
  - The number of monthly expenses / income on the main page if necessary.
  - The number of remaining budgets on the main page.
  - The list of records of expenses/income on the main page.
  - Correspsong monthly bar charts.

Code statistics

The count of lines of code in this project by cloc:

[text output]

Language	files	blank	comment	code
Java	33	356	122	2419
XML	32	19	10	1376
SUM	65	346	250	3795

[screenshot]

Language	files	blank	comment	code
Java	33	356	122	2419
XML	32	19	10	1376
SUM:	65	375	132	3795