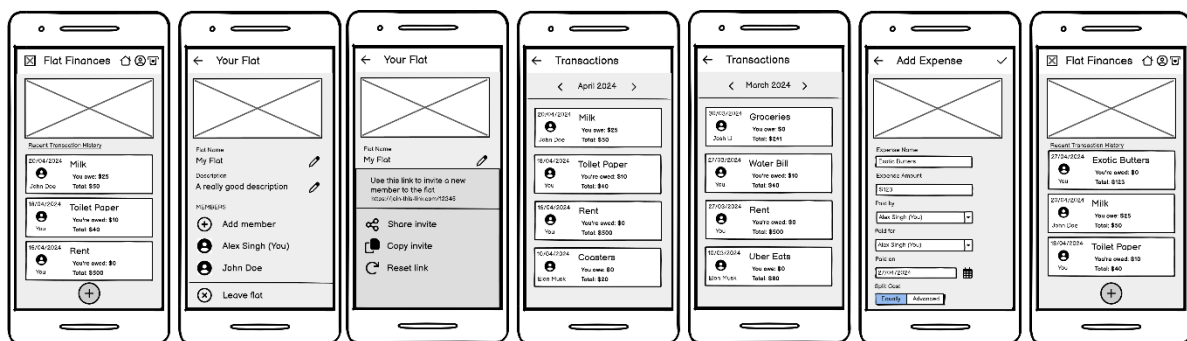# SWEN303 Assignment 2

Wireframes and User Flows

My Tasks (belonging to the Alex Singh Persona)

1. Creating a new expense entry for today's Exotic Butters he bought
2. Viewing the history of all expenses for *last* month (March 2024)
3. Adding a new flatmate to the app by giving them a unique join link
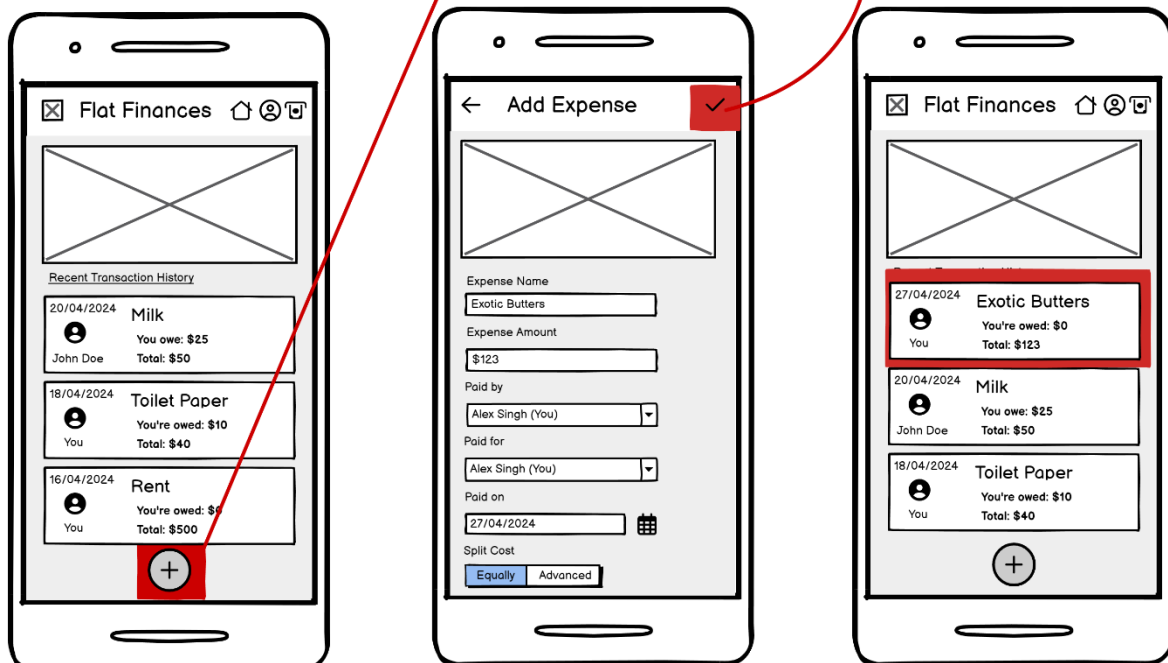
All my wireframes

Task One

Wireframe and User Flow

1. Press the Add Expense button (the big '+' circle button at the bottom) to open the add expense page

2. Add in the relevant expense information then press the tick to confirm the expense

3. Confirm the new expense can be seen at the top of 'Recent Transaction History'
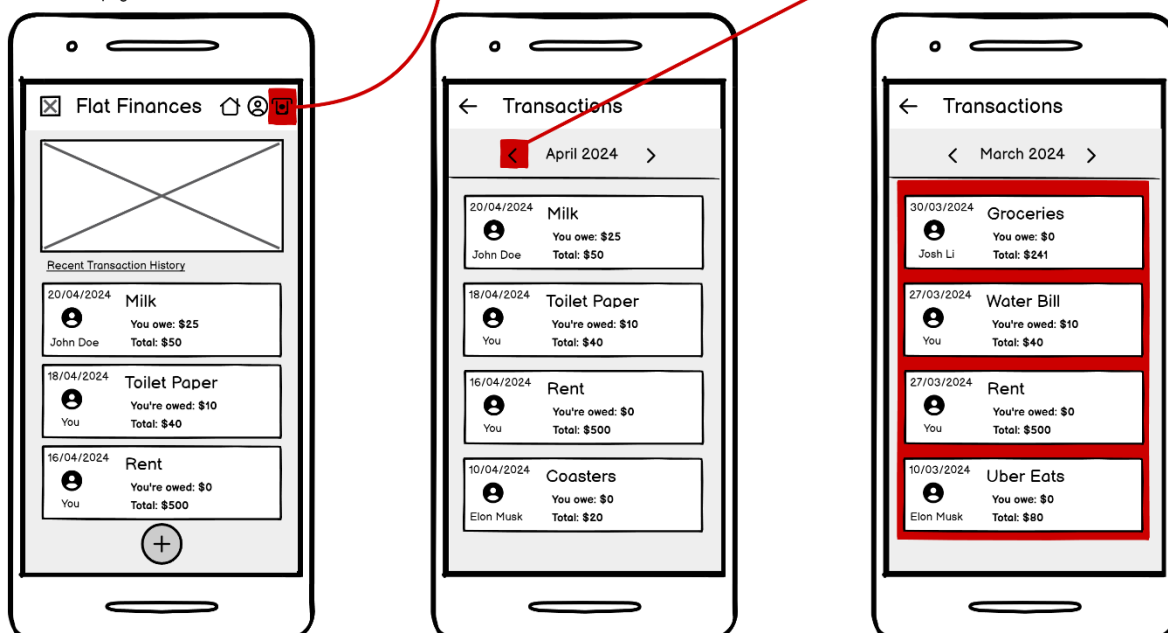
Sequence of Interaction

1. Press the 'Add Expense Button' from the homepage (first wireframe)
2. Fill in the name of the expense in the 'Expense Name' field (e.g "Exotic Butters)
3. Fill in the expense amount in the 'Expense Amount' field (e.g $123)
4. Using the 'Paid by' dropdown, indicate who paid for the expense from the available flatmates (Alex paid, in this case)
5. Using the 'Paid for' dropdown, indicate who the purchase was for (just Alex, in this case)
6. Using the date picker, indicate when the expense was incurred (e.g 27/04/2024)
7. If necessary, indicate whether the cost will be split evenly among the people being paid for, or if advanced splitting is required (Alex pays for Alex so 'Equally' is the simplest option here)
8. Press on the big tick at the top-right corner of the screen to confirm the expense
9. View/note the new expense entry at the top of the 'Recent Transaction History' section of the home page

Task Two

Wireframe and User Flow

Sequence of Interaction

1. Press the 'Transactions' button from the homepage
2. This takes you to the transactions page for the current month (March). To view previous months, press the 'Previous Month' button (the left arrow next to the current month)

3. This takes you to the transactions for March 2024 where Alex can see all the expenses of last month

Task Three

Wireframe and User Flow

1. Press the 'My Flat' button (the 'house' icon in the top bar) to view Flat related settings

2. Press on the 'Add member' button under 'Members' to add a new member

3. Use one of the available option (Share or Copy) buttons to get and share the unique join link (in this case, assume Copy is
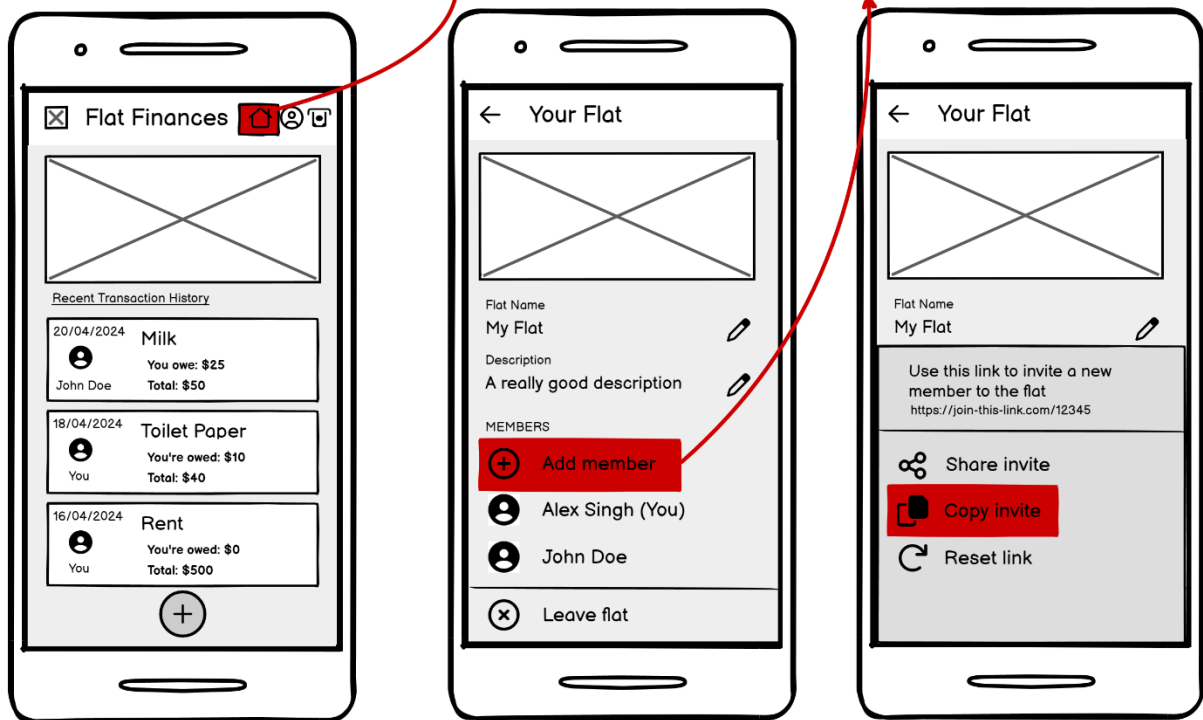
Sequence of Interaction

1. Press the 'My Flat' button at the top of the homepage
2. Press the 'Add member' button under 'Members' in the 'My Flat' page
3. This opens up the options on how to add the member – namely, whether to share the code directly via a predefined sharing method (email, SMS, etc) or to simply copy the link to the clipboard and share it your own way (the second method is what's chosen here)

UX guidelines

Proximity Principle

The proximity principle in UX design states that elements that are related or function together should be visually grouped together. This is because users naturally perceive close-together elements or elements in the same region as related or part of the same entity [1]. Designers can use this to help users to understand the relationships between

elements on the screen, reducing cognitive load and making it easier to process information.

Note how, in the home-page, each transaction is contained within a rectangle representing all the elements of the transaction. The date of the transaction, the item, who paid for it, how much it was, how much you owe for the transaction – all the relevant details grouped together to help users understand that these are part of the same element. The same is true for the Transactions page, where transactions are similarly shown, making for consistent grouping across the app wireframes, something which further reduces cognitive load.

In the 'Your Flat' page, Members are also grouped together, separated distinctly from the 'Leave flat' button and the flat name and description. The same is also true for the different options available when adding a new member to the flat (sharing the invite, copying the invite, or resetting the invite link).

In hindsight, I think I could have made use of the vertical separator to separate the Flat Name/Description from the Members in the 'Your Flat' page. I could also have potentially used it to separate the Share Invite/Copy Invite buttons from the Reset Link button, as while they are related the first two are more related to each other than the third.

Scale Principle

The scale principle in UX design refers to the concept of using varying sizes and proportions to assign importance and hierarchy within a design [2]. By changing the sizes of elements, a user's attention can be guided through the design in the intended fashion by the designer.

On the home-page, I've intentionally made the 'Add Expense' button (the big plus at the bottom) noticeably bigger than the buttons at the top. This is due to the fact that adding an expense is one of the core features of this app, and one that would likely be done far more often than say...adding a flat member.

In the 'Flat Settings' page, I've made the Members section somewhat bigger than the 'Flat Name' and 'Description' for similar reasons. One is more likely to check the members list or add a new member, than they are to change the flat name or description.

When adding a new member, in the window that comes up, the three buttons, along with the instruction, are noticeably bigger than the actual link provided. The link provided is merely additional information and is not particularly important, and to reflect this is smaller.

Notably, I think some of the labels could have been a bit bigger – in particular, the 'Recent Transaction History' label could probably have been larger. However, this is not a particularly huge concern.

Balance Principle

The balance principle in UX design refers to how elements are distributed within a design to increase satisfaction and visual stability [3]. This doesn't necessarily mean that the design needs to be symmetrical (although it can be), but rather just that no part of the design feels too overwhelming or heavy [4].

In the homepage and the transaction page, balance is used by symmetrically centering the recent transactions, with each transaction being given the same size. These fill up the space horizontally, and are one after another vertically, giving a smooth sense of harmony.

On the 'Add Expense' page, the different inputs are also given equal sizing and are spaced out in such a way that feels natural and clean by creating a predictable pattern that creates a sense of order.

In hindsight, I had not considered how colour could have also assisted in achieving balance. For example, colour could have been used to give more visual 'weight' to the Add Expense button at the bottom of the homepage.

In the home-page and the transactions page, within each transaction, balance could be further improved by better utilizing the space to the right of each 'rectangle' for each transaction. The current design is somewhat left-weighted, which reduces the visual appeal somewhat.

Other Design Guidelines

User Control and Freedom

I provided several back-links that allow the user to return, or to cancel (such as the back arrow in the top bar of the 'Your Flat' page, the 'Transactions Page', and the 'Add Expense' page. This allows the user to quickly backtrack on choices they've made [5].

These back-links are intuitive and return the user to the home page, and are consistently in the same place with the same symbol [3]. Given the simplicity of the wireframes, they take the user back exactly one step.

Error Prevention

In hindsight, it would have been better to provide a 'Confirm Expense' popup that shows up when you press the tick on the 'Add Expense' page. This would be better than how I designed it currently, which was with the idea that if a mistake was made the user could edit the task after the fact (by long pressing, perhaps), as it better follows the idea of

'prevention is better than a cure' [3]. While a popup would have slowed down the user flow, it can help prevent mistakes in the added expense by providing a second chance for the user to correct themselves [6].

Other

It should also be noted that certain design decisions have been made that aren't worth writing an entire section for. For example, the 'Recent Transaction History' is sorted in order of most to least recent, as this fits better with user expectations. Additionally, in the 'Add Expense' page, 'Equally' is provided as the default splitting option, as this is what I believe most expenses would be split by and thus it would reduce the processing time and stress of users (they don't have to change the option except in rare cases) [7].

Sources

[1] Interaction Design Foundation, "What Are Gestalt Principles?," *The Interaction Design Foundation*, 2016. https://www.interaction-design.org/literature/topics/gestalt-principles

[2] K. Gordon, "5 Principles of Visual-Design in UX," *Nielsen Norman Group*, Mar. 01, 2020. https://www.nngroup.com/articles/principles-visual-design/

[3] Dr J. Ferreira (2024). SWEN303 Lecture 10 User Experience Guidelines [PDF].

[4] N. Rollins, "Principles of Design: Balance – UX Engineer," *UX Engineer*, Nov. 13, 2018. https://uxengineer.com/principles-of-design/balance (accessed Apr. 23, 2024).

[5] M. Rosala, "User Control and Freedom," *Nielsen Norman Group*, Nov. 29, 2020. https://www.nngroup.com/articles/user-control-and-freedom/

[6] J. Nielsen, "Confirmation Dialogs Can Prevent User Errors (If Not Overused)," *Nielsen Norman Group*, Feb. 18, 2018. https://www.nngroup.com/articles/confirmation-dialog/

[7] "Guiding Principles for UX Designers," *UX Magazine*. https://uxmag.com/articles/guiding-principles-for-ux-designers