Wireframes

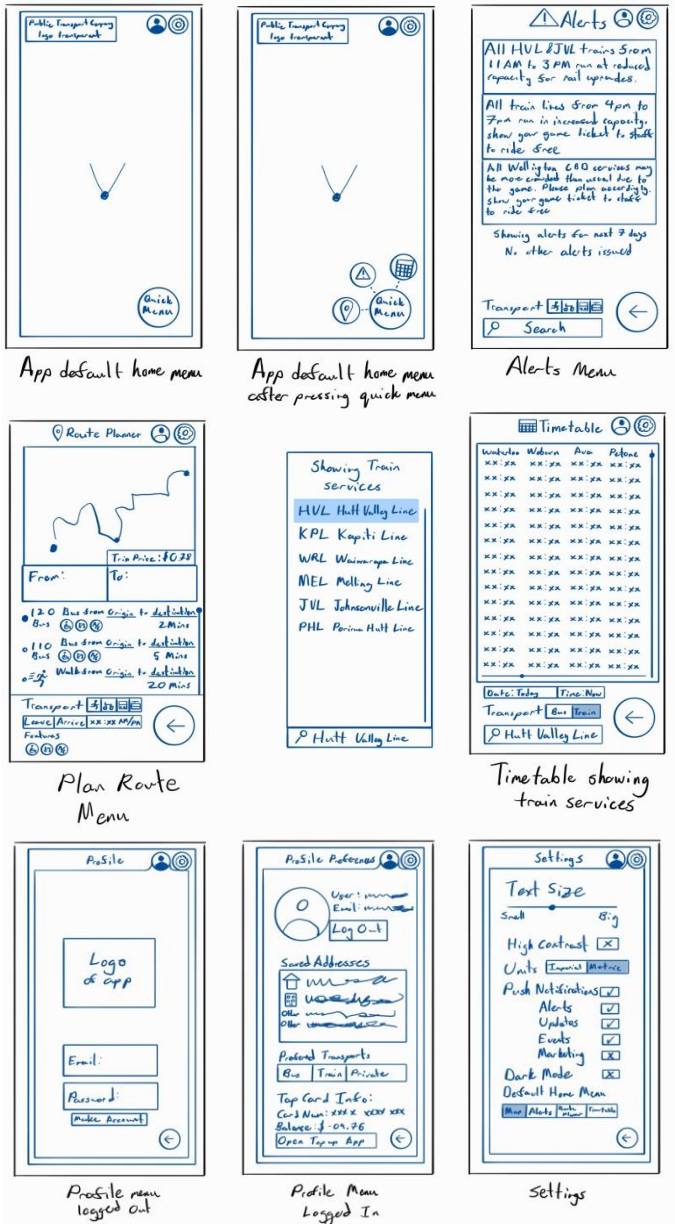
Displayed to the right of this page shows all the panels designed for the public transport mobile app, first without annotations.

(annotated version can be seen here)

These wireframes were hand drawn on Samsung Notes, using my Samsung tablet, and display several actions being done on the prototype app.

These actions will display functionality of showing a map of the local area, seeing service alerts, planning routes between point to point, showing timetables of services, a log in menu for users that have profiles for the app, as well as the customisable settings that are available to the user when they are logged on.

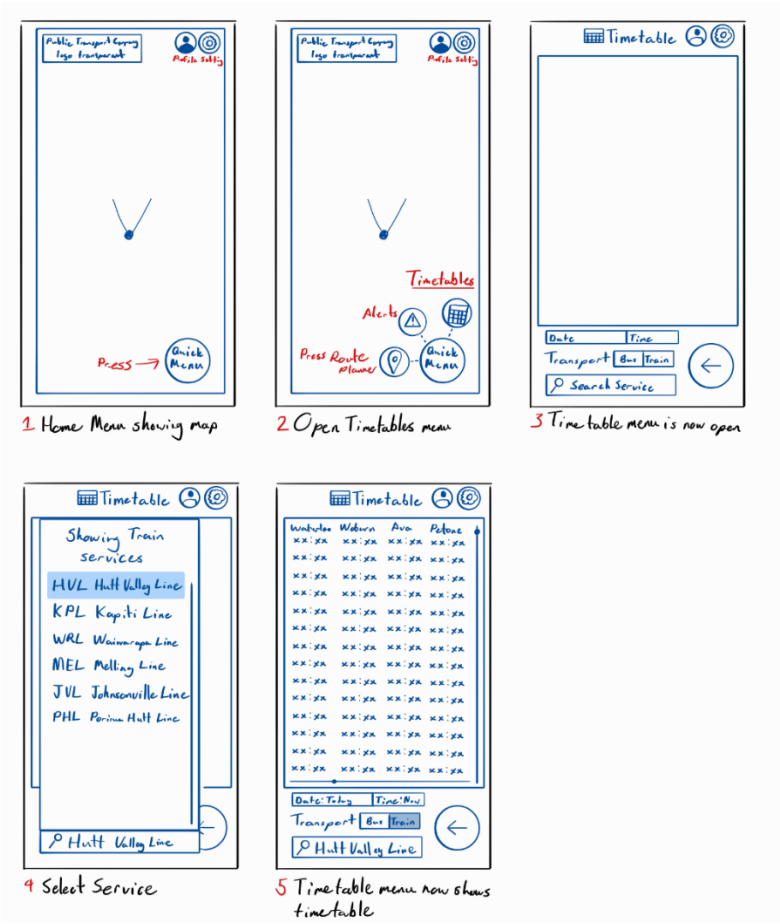
My design for these concepts focuses highly on user ergonomics, specifically with the concept of having anything interactable within a users' thumbs reach, as can be shown. Considerations have also been placed for reader accessibility by including a text size adjustment slider, togglable high contrast UI elements, and the inclusion of a dark mode being available in the settings menu.



User Flows

There are three user flows that will be shown in this assignment. Each user flow will display a different goal, where each goal aims to cater the made-up requirements of the personas from Assignment 1.

Persona's Goal: Check the HVL Train Timetable



Step 1:
Press the quick menu to display the action shortcuts

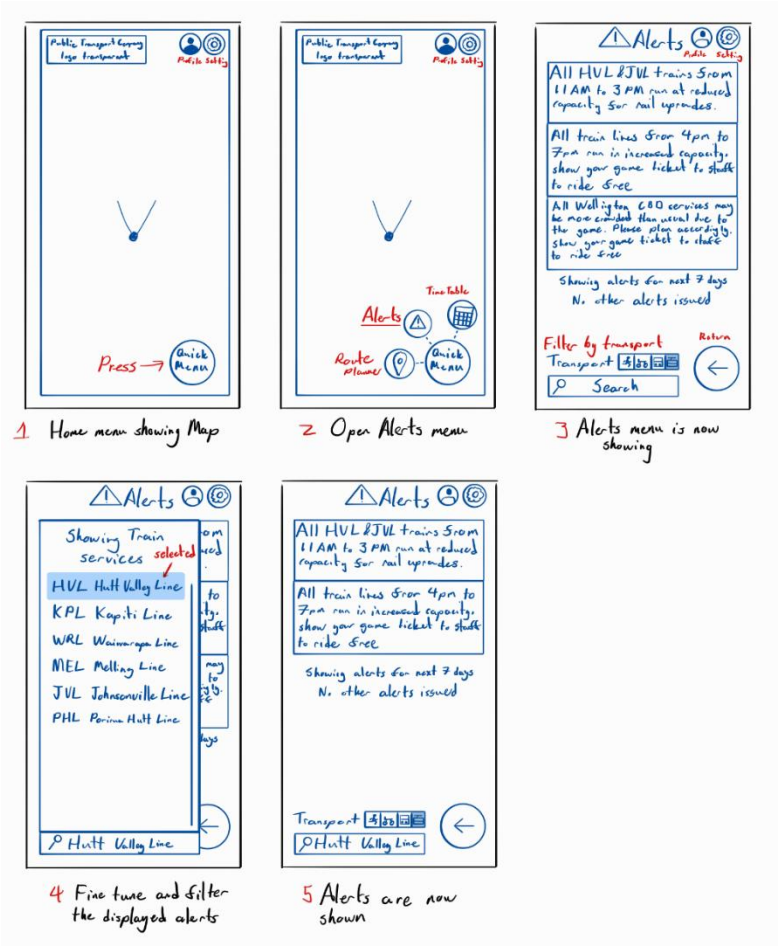
Step 2:
Open the Timetables page by clicking on the timetables button

Step 3:
Now that the timetables page is open, select the desired mode of transport, and select the service that you want to be shown.

Step 4:
View the timetable as necessary, and when finished, press the return button to come back to the default home screen.

(non annotated version can be viewed here)

Persona's Goal: Find Alerts for the HVL Train service



Step 1:

Press the quick menu to display the action shortcuts

Step 2:

Open the Alerts page by clicking on the Alerts button

Step 3:

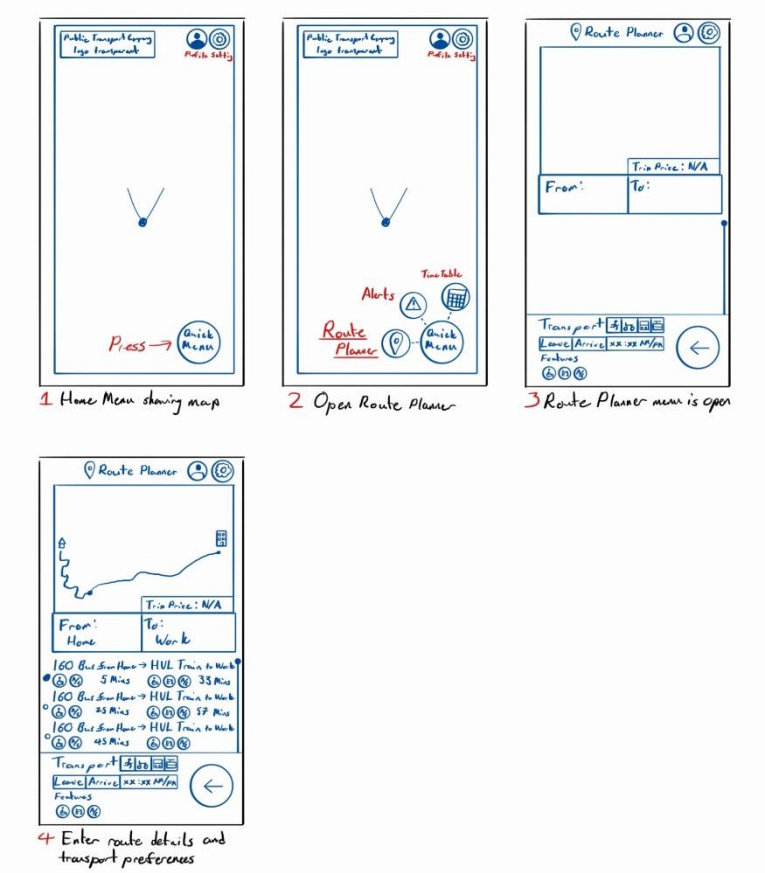
The alerts page is now open and showing all alerts for the next 7 days. Filter the alerts by transport method and optionally selecting the specific service to see more specific alerts.

Step 4:

The alerts page is now displaying all the alerts relevant to the filters that have been placed.

(non annotated version can be viewed here)

Persona's Goal: Plan a route from home to work



Step 1:
Press the quick menu to display the action shortcuts

Step 2:
Open the Route Planner page by clicking on the Route Planner button

Step 3:
The route planner page is now on the screen but is empty. Enter the point of origin and destination, and optionally filter by transport medium, leaving or arrival time, and features to show results.

Step 4:
From the provided information, the route planner now displays all the relevant information that a user will need to plan their trip.

(non annotated version can be viewed here)

UX Guidelines

Strengths

General UI Interaction and Navigation

As said in the Wireframes section of this document, my app design has a focus on the ergonomics of the use of the app. My UI design uses the Touch Hierarchy as its core philosophy, [2] enabling a more comfortable user experience. Placing all interactable functions of the app at the bottom third of the phone screen makes app navigation more optimized for thumb operation, while also accommodating for human scanning patterns and behaviours like the F or Z pattern. [1] Placing bunches of information close together was a strategy that was used to subtly indicate to the user that items placed on the same parts of the screen had related and relevant information to each other, [2][3] which also takes advantage of the F and Z scanning behavioural patterns.

Quick Menu System

[5] Practices about making UI elements to appear large enough to be easily interacted has also been another core aspect of my design,[4] with the implementation of the “Quick Menu” button to traverse the app between different menus, rather than the more traditional bottom row or top row buttons, while also saving more vertical space to pack more relevant information efficiently into spaces. Having the quick menu functionality rather than the traditional home row gives multiple benefits,[2] making navigation more ergonomic by considering touch hierarchy, [1][5] bunching up relevant and related functions into a singular place to give better context for a user to intuitively understand how to navigate the app,[2] clearing up space on the screen and decluttering the visuals of the app to avoid overwhelming the user with information,[5] while also following the design heuristics set out in Fitts’s Law by making the quick menu system large enough to interact with using the thumb.

[5] Studies show that clear contexts when navigating an application significantly boosts the productivity, and usage efficiency of an application, while also increasing user satisfaction. With this in mind, [1][2] it’s clear to figure out that app consistency heavily plays a part in giving clear context clues to the user. Since the quick menu system appears as a floating button, the quick menu system is able to stay consistent on all of the utility menus and adapt to whatever menu is currently selected.

Interaction at the bottom, visual information at the top

Thanks to the inclusion of the quick menu system, this makes space for more information and interactables to be placed on the screen. As can be seen in the timetable menu, alerts menu, and route planner menu, the extra space from the quick menu has been used to place the user search filters at the bottom,[1] which then enabled the use of larger and more visible information displays, taking advantage of principles of scale. [1][5] Visual Appeal was also considered with the sizing of the UI elements, following the rule of thirds and the golden rectangle rules, with information displays placed on the top two thirds of the screen, and user interaction elements placed on the bottom third.

Consistency

[1][2][5] Consistency has been another one of the core design principles throughout the entire design process. The look and feel of each menu in the app have been designed to stay consistent with one another, so that users are able to quickly and easily navigate the app without feeling lost, and eventually allow for them to build muscle memory when using the app, furthering the app’s user friendliness even further.

Despite the constant considerations for consistency however, it was still important to give some level of differentiation to which menu the user currently has open, in order to avoid confusion. As shown in the first image of all of the wireframes, the quick menu appears in most of the app menus in order to easily navigate between menus. And even in areas of the app where the quick menu is not appropriate for the context (such as in the profile and settings menu), the quick menu is replaced by a return button that closes the settings and profile menus.

Weaknesses

The weaknesses discussed here are not anything major, however they are still important to consider, as these weaknesses can still affect the user experience, especially of those in certain demographics.

Reliance of icons over text on menu buttons

My designs as shown above commonly use iconography over using text in order to give context and clues about what a button will do. This design choice was to simplify the visuals within the app, giving it a minimalistic yet stylish look. [5] However as a consequence of using icons, navigation through the app can become difficult if the user is unfamiliar with the icons presented at them, or if they do not understand the context clues that have been given to the user. If such problems occur for any user, they may find it confusing or difficult to navigate through the application, possibly resulting in a user having to brute force their way through the UI, or at worst giving up entirely and deleting the app. Future iterations of the UI design may include the combined use of icons and labels in order to make navigation easier for any users that may find difficulty in what they are looking for.

Reliance on users understanding design context and clues such as using text boxes or opening drop down menus

The wireframes displayed at the top of this document shows that there are some menus that have user input text boxes, more specifically for entering usernames, passwords, addresses, etc. [5] An example that Fitts's law describes is the use of labels to describe what a text box expects to be input into, however these designs that Fitts's laws propose all display the labels outside and on top of the text box fields.

My designs however, in order to efficiently safe space, place the labels within the text box, rather than outside and above them. The primary reason for this design choice is, as said before, to safe space. It is important to consider the small size constrictions from Mobile User Interfaces, as any wasted space can mean overcrowding in other areas of the UI or simply being unable to cram the necessary information onto the screen. So, while placing the text box labels within the textbox themselves was a conscious decision to save space, there is a potential for a user to be confused when presented with said visuals, as they may possibly mistake the text boxes for a button.

References

[1] Dr Jennifer Ferreira, "UX Guidelines" Lecture (Victoria University, Wellington), Mar. 27, 2025.
[2] Dr Jennifer Ferreira, "Mobile UX" Lecture (Victoria University, Wellington), Feb. 27, 2025.
[3] J. Nielsen, "F-Shaped Pattern of Reading Web Content," Nielsen Norman Group. [Online]. Available: https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content-discovered/. [Accessed: Apr. 29, 2025].
[4] M. S. A. Kahfa, Theresiawati, and I. N. Isnainiyah, "User Experience Analysis of the Moovit Application using the User Experience Questionnaire (UEQ) and User Centered Design Method," Universitas Pembangunan Nasional Veteran Jakarta, Jakarta, Indonesia.
[5] J. Yablonski "Laws of UX, Using Psychology to Design Better Products & Services": O Riley, Apr.21, 2020