

# TraceTogether 2.0 Proposal Report

TRACETOGETHER, SAFER TOGETHER

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## Introduction

This report focuses on the proposed enhanced version to the current TraceTogether Application to stay relevant and updated. The changes take into account the transition we have undergone throughout the pandemic; pre and post covid. It also provides users a better experience as well as the convenience of a Smart watch feature.

## Background, Purpose & Goal

### Background:

The TraceTogether app was first launched to the public on March 20<sup>th</sup>, 2020 (Tan See Kit, 2020) during the COVID-19 outbreak in Singapore. It was introduced as a contact tracing app in the government's efforts to contain the spread of the virus. The app works by exchanging Bluetooth signals between mobile phones to detect other app users within close proximity. The app notifies users who have been in close contact with others who had contracted the virus.

### Purpose & Goal

The purpose of the app is to contain the spread of COVID-19. As many who have contracted the disease often do not remember who they have come into contact with, it is stated that the app aims to facilitate the on-going contact tracing process by allowing the app to inform users who have been in close contact with COVID-19 cases more efficiently (Tan See KitAqil, 2020).

The goal of the app is to contain the outbreak of Covid-19 in Singapore as it provides:

- Users' information on their close contacts who have tested positive for the virus
- Status update on the users' vaccination status
- Safe Entry Check-in
- Source of data for the Singapore government allowing them to plan and strategies on the appropriate actions

# Compleitive Analysis

## Covid-19 prevention apps launched by government

### TraceTogether:

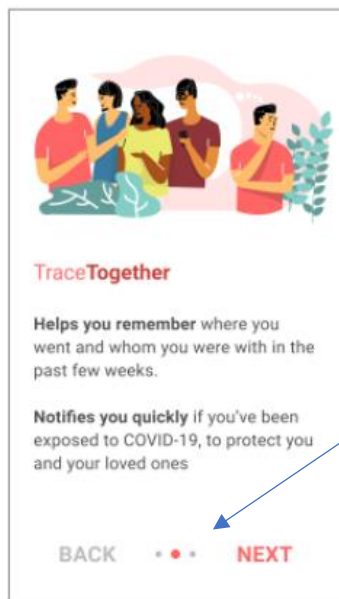
#### Login:

When the user first downloads TraceTogrther and starts up the app, the app would first prompt the user on their preferred language.



Wide variety of languages to choose from. Makes the app more inclusive for users of all nationalities.

After selecting the preferred language, the app would display some benefits and reminders to the users (the feature of skipping the app is allowed). The dots located at the bottom of the screen indicates the number of pages for the user's information and reading pleasure.



The dots are an indicator to the user on the number of pages to read on.

The word next highlighted in red draws users' attention prompting them to scroll to the next page.

Once the user is done viewing the benefits/reminders, the user would be prompted to enter their mobile number. Upon completion, there will be a notification at the bottom of the screen; “Get OTP” . When the user clicks onto the “Get OTP” indicator, the user would be required to key in the OTP (One Time Password) in order to register their device.

OTP is automatically triggered by the system as a security measure and it is sent to the user via SMS on the user’s mobile device.

The screenshot shows a mobile app interface for entering a mobile number. At the top, a red task bar is partially visible. The main heading is "Enter your mobile number". Below it, a message states: "MOH will use this number to contact you if you had possible exposure to COVID-19." There is a dropdown menu for the country code, currently set to "+65" with a red flag icon. To the right of the dropdown is a text input field containing the number "9123 4567". At the bottom of the screen is a large red button labeled "GET OTP".

Task bar shows the user the journey in the registration process.

Get OTP button is clear and highlighted in red. It is an indicator to the user on the next action step.

Once the above steps are done, the user is deemed to have registered their device. The next step would be to create their profile which includes information such as their full name, date of birth, NRIC number as well as the date of issue of the NRIC.

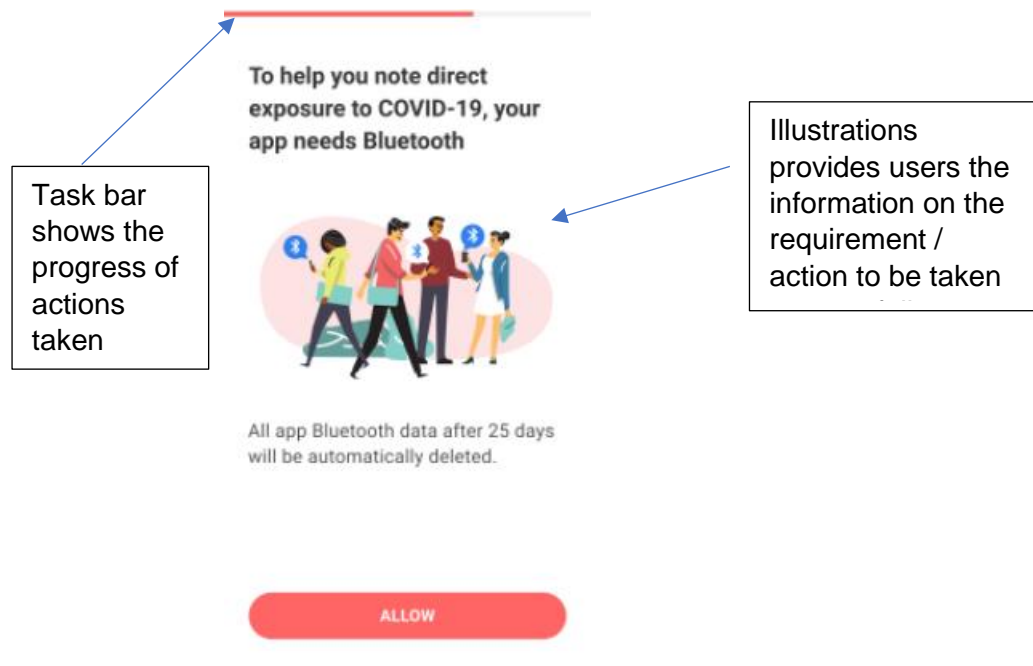
The left screenshot shows the "Select your profile" screen. It has a red task bar at the top. Below the heading, there are several options: "NRIC", "FIN - Work Pass" (highlighted in red), "Please have your Work Pass ready :)", "FIN - Dependent's Pass", "FIN - Student's Pass", "FIN - LTVP", and "I'm Visiting Singapore". At the bottom is a red button labeled "PROCEED".

Task bar shows the progress of actions taken

The right screenshot shows the "Complete your profile" screen. It has a red task bar at the top. Below the heading, there are fields for "Name" (with a red icon), "Date of Birth" (with a red icon), "NRIC" (with a red icon), and "Date of Issue" (with a red icon). Below these fields is a section titled "How to find?" with a note: "For National Servicemen, please approach your Unit Chief Clerk for the Date of Issue stated at the back of your NRIC." There is a checkbox labeled "The details that you provided are true. You agree to our Terms of Use, Privacy Statement, and for your data to be shared with MOH if you test positive for COVID-19, for the sole purpose of contact tracing." At the bottom is a red button labeled "NEXT".

Shows appropriate icons to complete the user profile

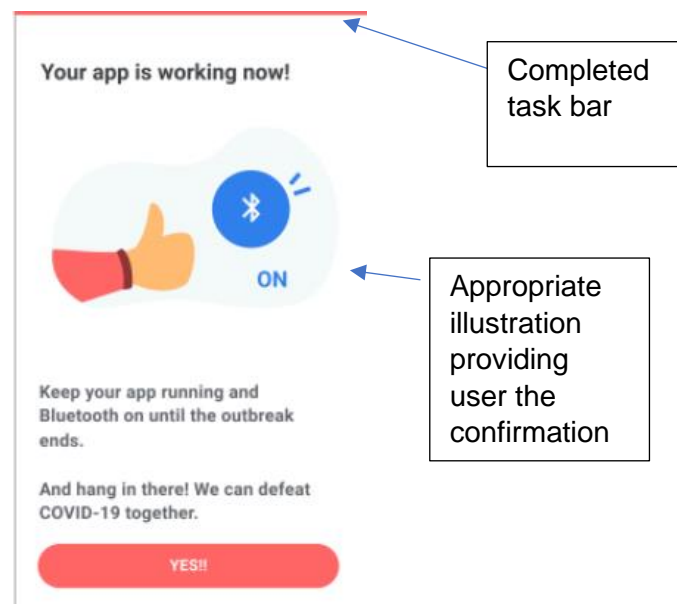
After completing their profile and clicking the “next” indicator at the bottom of the second page, the app would prompt the user to allow Bluetooth. Users are to click “Allow” at the bottom of the page to allow the Bluetooth connection on their device.



The final stage posts the activation of the Bluetooth on their device, the app would display a screen informing users that the set-up is successfully launched and ready for use.

After clicking the “Yes!!” button at the end of the page, the user would be directed to the homepage of the app.

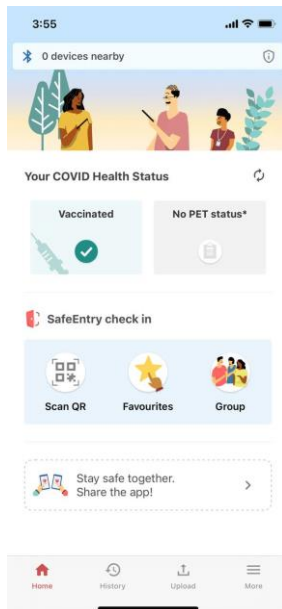
Here we can see that the progress bar is full indicating that the task has been completed.



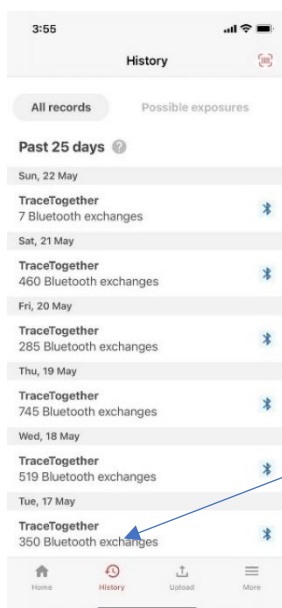
## Homepage:

When the user reaches the homepage, the user would be presented with the following information:

- number of devices nearby
- their Covid Health status
- SafeEntry check in with 3 options: (a) Scan QR (b) Favourites (c) Group.

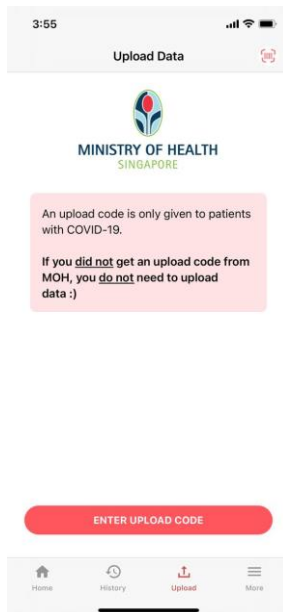


At the bottom of the screen, there is a menu which show the user which page they are currently on and the other pages available in the app. When the user clicks on the icon beside the red home icon, they would be directed to the history page. The history page shows all the records of the user's past exchanges within the past 25 days as well as the possible exposures that the users might have.

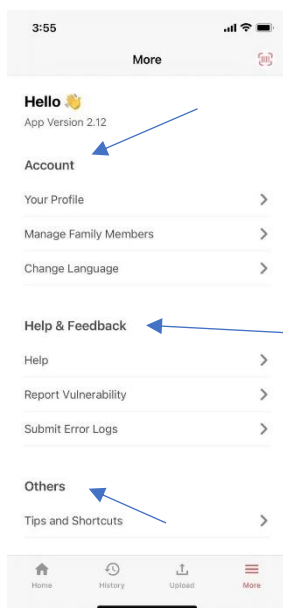


History  
page icon

By clicking on the upload option in the menu, the user will be brought to the upload page. This page is only utilized for patients with COVID-19.



The last icon on the menu would be the “More” icon. This is a useful link for the management of the user’s account, getting the user help as well as receiving feedback and others such as tips and shortcuts.



# Competitive Analysis

## My Sejahtera (Malaysia)

Login/ Setting up of app:

Once the user has downloaded the app and starts up the app, the app would first display the app logo followed by a button at the end of the screen stating “Get Started”.

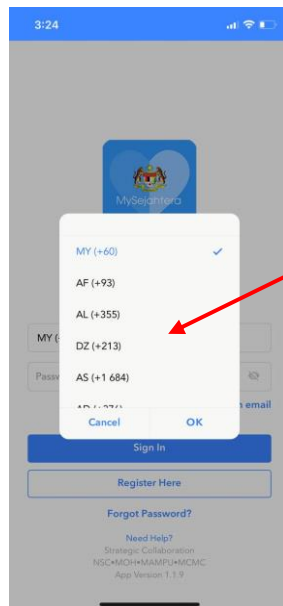
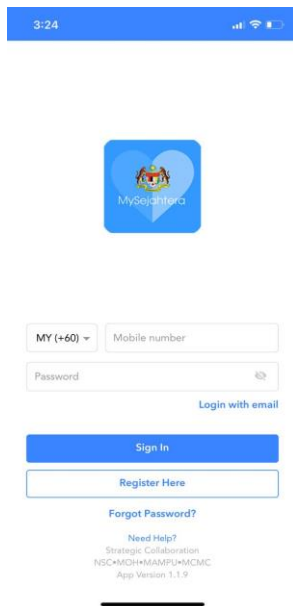


After the user clicks on the “Get Started” button, the app would prompt users to key in their mobile number as well as their password.

The app offers a variety of country codes for the user to choose from, unfortunately, the dropdown menu does not offer a search option which means the user would need time to scroll down to the country of their choice. Additionally, the lists of countries are in acronyms which may be challenging to some users and perhaps even cumbersome as users would need to conduct a search for the respective country code each time they want to log in to the app, if they are unfamiliar.

Below the login details, there is a login with email option, followed by the “Sign In” button. Right below the “Sign In” button there is a “Register Here” button followed by a “Forgot Password” link and a smaller link stating “Need Help?”



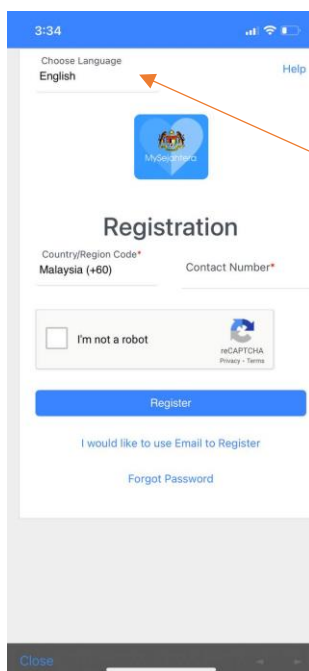


No search option and countries are in acronyms

Once the user has clicked into the “Register Here” button, the app would redirect the user to another page allowing them to choose their preferred language providing 2 options, English or Bahasa Malaysia.

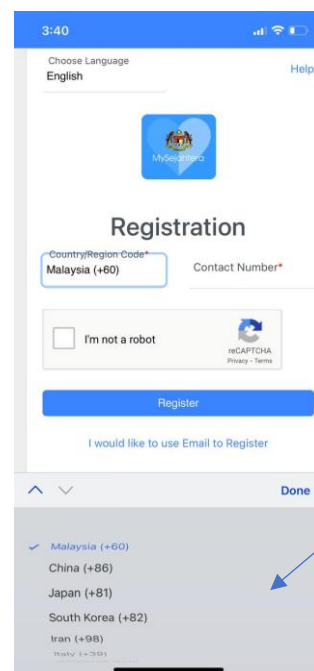
Then the user is prompted to select the respective country code from a pop-up scroll menu. This pop-up scroll menu unlike the login page’s menu, displays the full name of the country, making easier for users to navigate.

After selecting the user’s country code, the user would have to key in their contact number as well as verify that they are “not a robot” using reCAPTCHA, then click the register button at the end of the page.



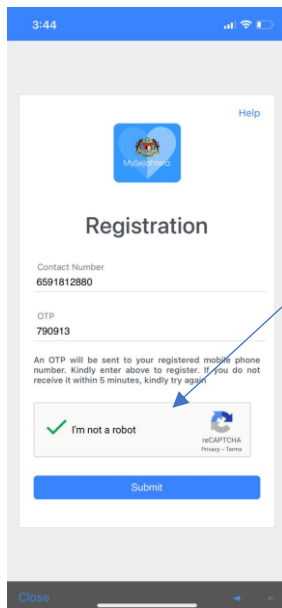
Choose preferred language from 2 options: English or Bahasa Malaysia.

The limited language choices make the app less inclusive for users who are not fluent in either English or Malay



Selection of country code through pop-up scroll menu

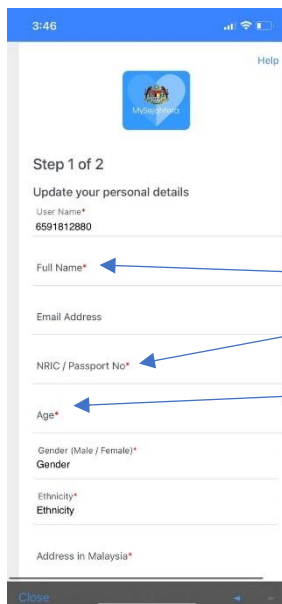
After clicking on the “Register” button the user would be directed to a page requiring them to key in an OTP which has been sent to their mobile phone. After keying in the OTP, the user would have to do another round of verification using reCAPTCHA, then clicking “Submit”.



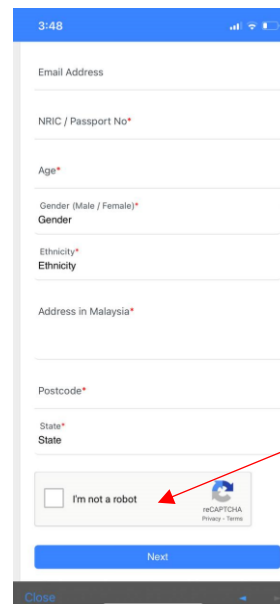
Repeated verification using reCAPTCHA, can be frustrating for users.

After clicking “Submit” the user would have to fill in their personal details such as their full name, email address, NRIC/Passport number, age, gender, ethnicity and address in Malaysia.

After filling in the personal details, the user would need complete another verification using reCAPTCHA before proceeding onto the next page by clicking “Next”.

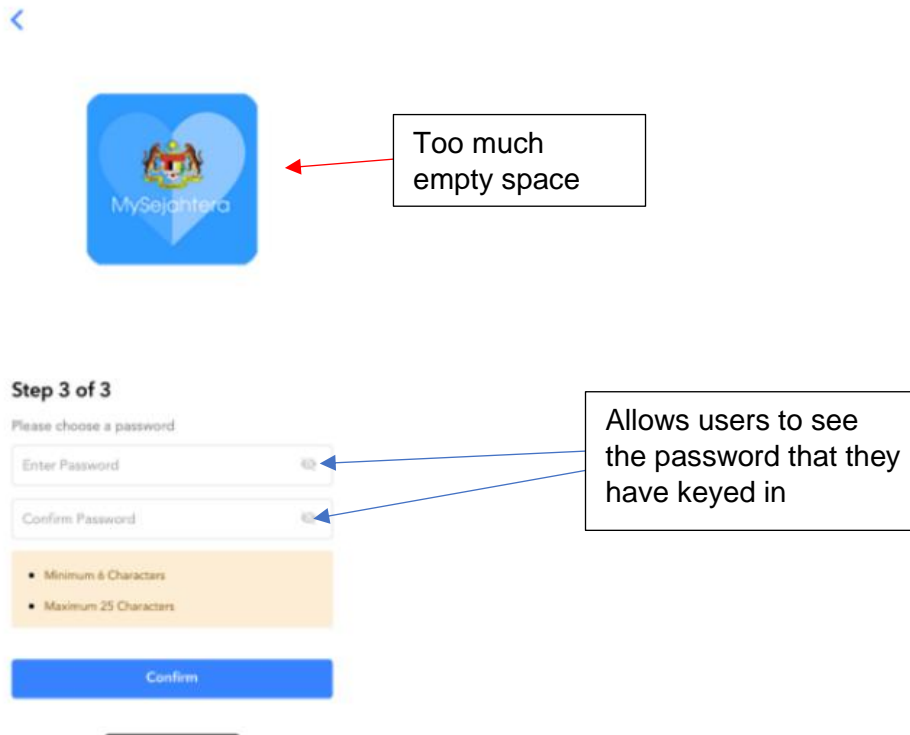


The asterisk in red tells the user which of the fields are necessary to fill in



Repeated verification using reCAPTCHA can be frustrating for users

The next page that the user would be directed to would be a page where the user has to create a password for the app. The app gives the users instructions on what the password should contain. When the user is done, they proceed to click “Confirm”.



Step 3 of 3

Please choose a password

Enter Password

Confirm Password

- Minimum 8 Characters
- Maximum 25 Characters

Confirm

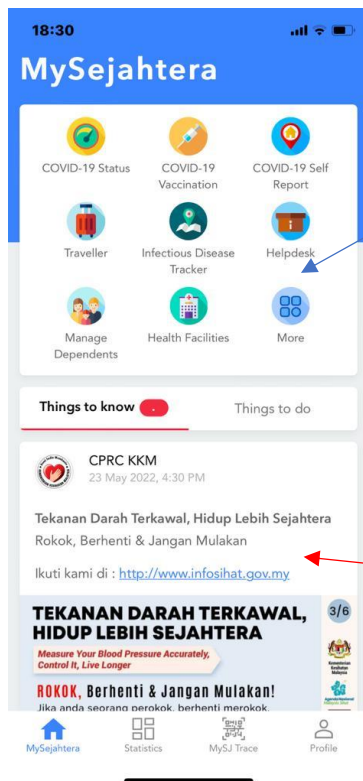
After the user clicks “Confirm” they would be prompted to confirm that their registration is successfully complete and registered for a MySejahtera account.

The user is alerted to expect a notification when the user’s account has successfully been activated.



## Homepage:

Compared to the TraceTogether app, the MySejahtera app has many more functions. It is evidently displayed by the menu containing a variety of functions such as a section for travellers, health facilities as well as a helpdesk.

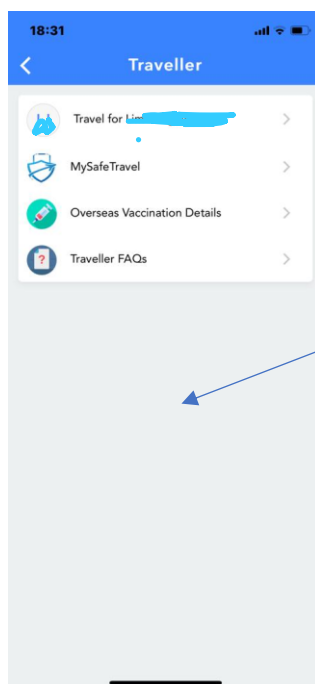


Menu

Notices are only in Malay, despite the selected preferred language being set to English.

Notices placed at the home screen also make the layout of the entire screen messy.

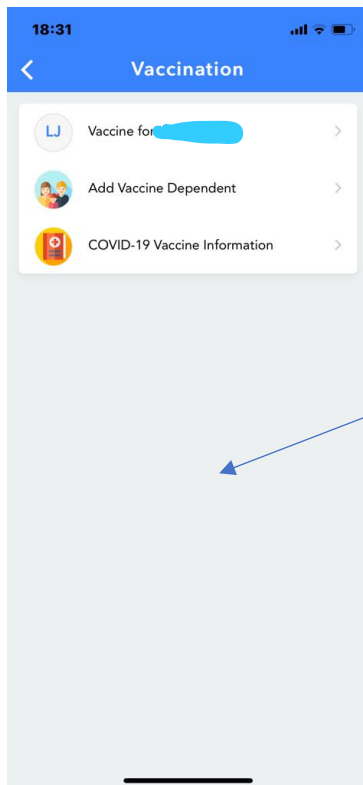
Upon clicking into the “Traveller” function, the user has access to 4 options; Travel for the user, MySafeTravel, Overseas Vaccination Details as well as Travellers FAQs.



Wasted space.

Use of boxes and making the icon for each option bigger would be a better use of space

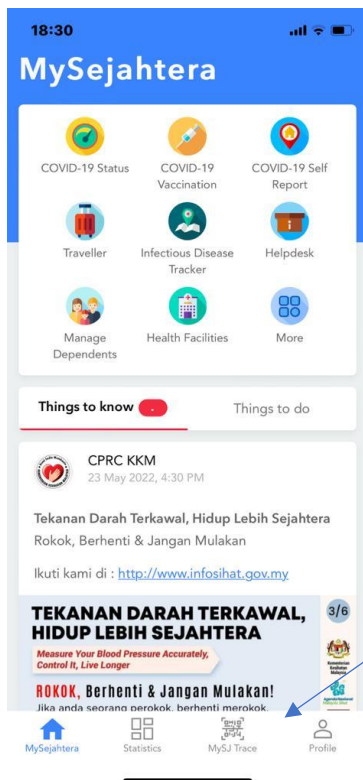
Besides the Traveller function the menu also has a vaccination section for users to view more on general vaccine information, their personal vaccine as well as a function to add a vaccine dependent.



Wasted space.

Use of boxes and making the icon for each option bigger would be a better use of space

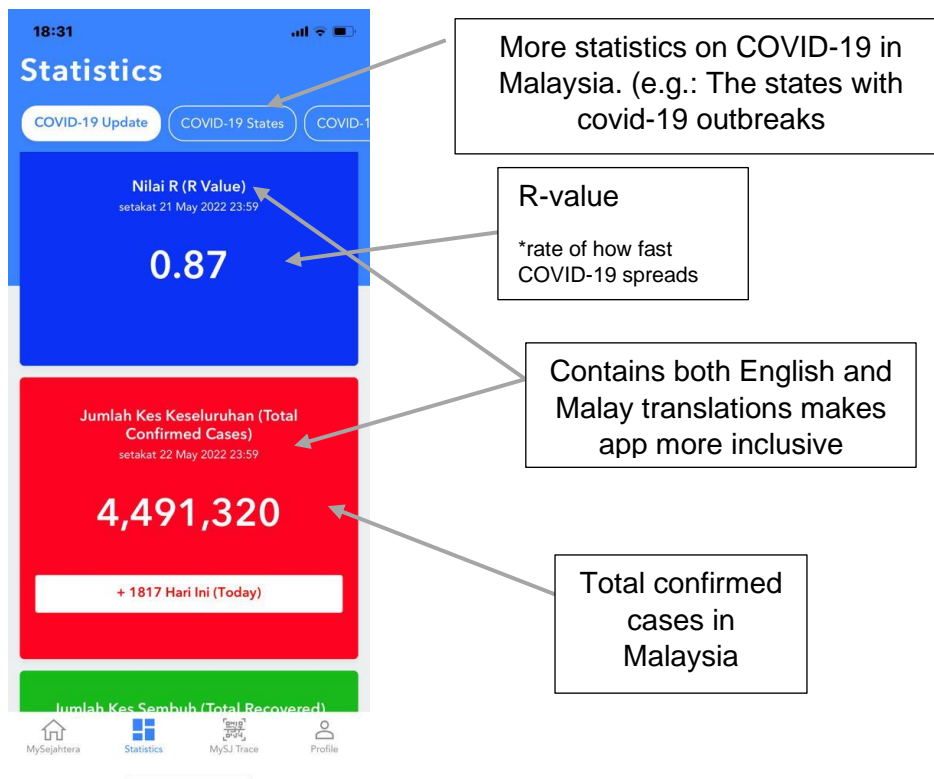
Going back to the home page at the bottom of the screen there is a navigation bar in which there are 4 sections



Menu

The first section would be the homepage which contains most of the general information.

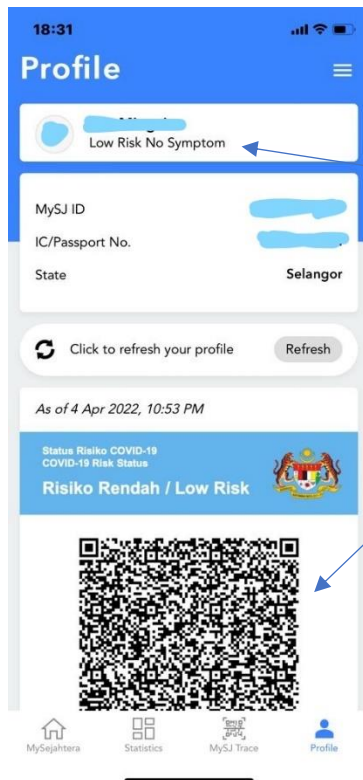
The next section beside the home icon would be the statistics section. This contains the number of confirmed cases, the locations of the new cases as well as the R value which is the rate of which covid-19 is spreading.



The next section would be “MySJ Trace”. It contains information about the user’s COVID health status as well as their vaccination status. At the bottom of the page, there is a “Check-In” button; when clicked, the app would enable the camera to check in to the venue, similar to Singapore’s TraceTogether check-in function.

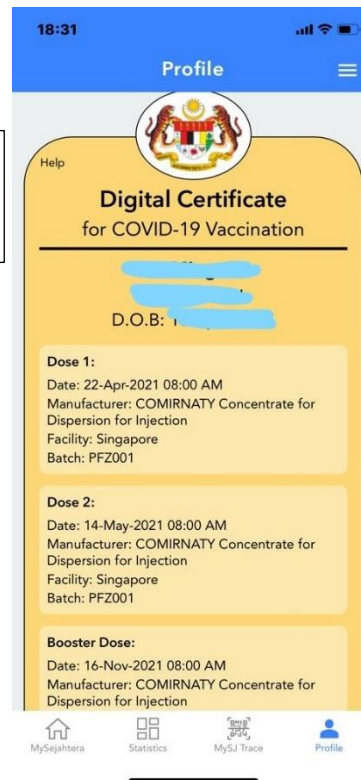


The last icon in the menu would be the user's profile section. This section displays the user's COVID-19 health status, their MySejahtera ID, their IC/Passport number as well as the state of their residence during their time of stay. It also includes their personal QR code which users can use to check into venues. Under their personal QR code, the app displays the digital vaccination certificate which states the date and location the user has taken their first dose, second dose and their booster.



User's covid health status

The user's personal QR code



Digital Vaccination Certificate for COVID-19

# Competitive Analysis

## COVIDSafe (Australia)

Login/Register:

Setting up the app starts with a loading screen which displays the Australian Government logo as well as the app logo. After the login screen the user is directed to a few pages notifying the user on what the COVIDSafe app is, how the app works as well as the registration and privacy. After these pages with buttons at the end of each page which brings the user to the next notice, the user would be brought to a page requiring the user's registration consent. The user then has to click "I agree" at the end of the page to continue.

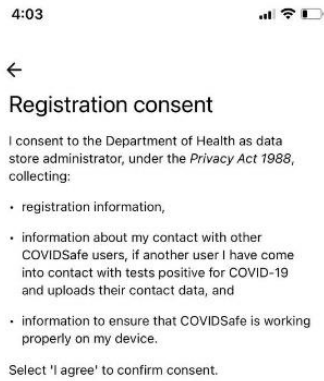


### Login Page



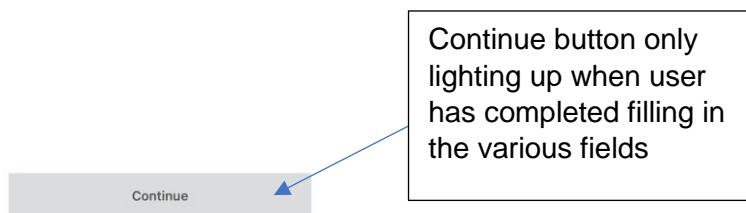
### Notice Pages





## Registration consent page

After providing their consent, the app prompts the user to enter their personal details.



Continue button only lighting up when user has completed filling in the various fields


Once the user has entered their personal details and the “continue” button at the bottom of the screen lights up in green, the user can click the button which would bring them to the next page.

The next page prompts the user for their mobile number. The user would need to select their country/region code from a dropdown menu and thereafter key in their mobile number. Under the prompts, there is a statement telling the user the purpose of them providing their mobile number which is to allow the app to send them a 6-digit code to verify their device.

←


**Enter your mobile number**

Select country or region

Australia (+61)  >

Enter your mobile number

We'll send you a 6-digit PIN to verify your mobile number.

 Trying to register on behalf of a friend or relative?

They will need to register using their own device and phone number so that COVIDSafe can work for them.

Get PIN

After the user clicks the “Get Pin” button, they would be directed to a page prompting them to key in the code which has been sent to their mobile device.

The app clearly displays the mobile number that the user has keyed in and includes a link seeking confirmation on the mobile number; allowing the user to edit their input in the event they had incorrectly provided the wrong number or if they so decide to change to another mobile number.

After the user has keyed in the PIN, they click verify which would bring them to the next page.

←

**Enter the PIN sent to +61 452 882 801**

[Is this mobile number wrong?](#)

Your PIN will expire in 1:49

[Resend PIN](#)

[Issues receiving your PIN?](#)

Verify

←

**Enter the PIN sent to +61 452 882 801**

[Is this mobile number wrong?](#)

4 2 3 6 3 4

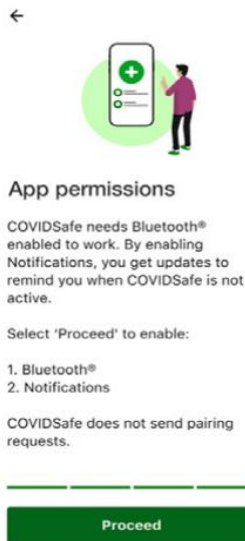
Your PIN will expire in 0:23

[Resend PIN](#)

[Issues receiving your PIN?](#)

Verify

The next page titled “App permissions” requests for the user to turn on Bluetooth on their devices. The app also lets the user know that by clicking the “Proceed” button that the app would help the user turn on Bluetooth on their device.



Once the user clicks proceed, the app would notify the user that they have been successfully registered on the app. It also includes some reminders for the user to take note of while using the app.

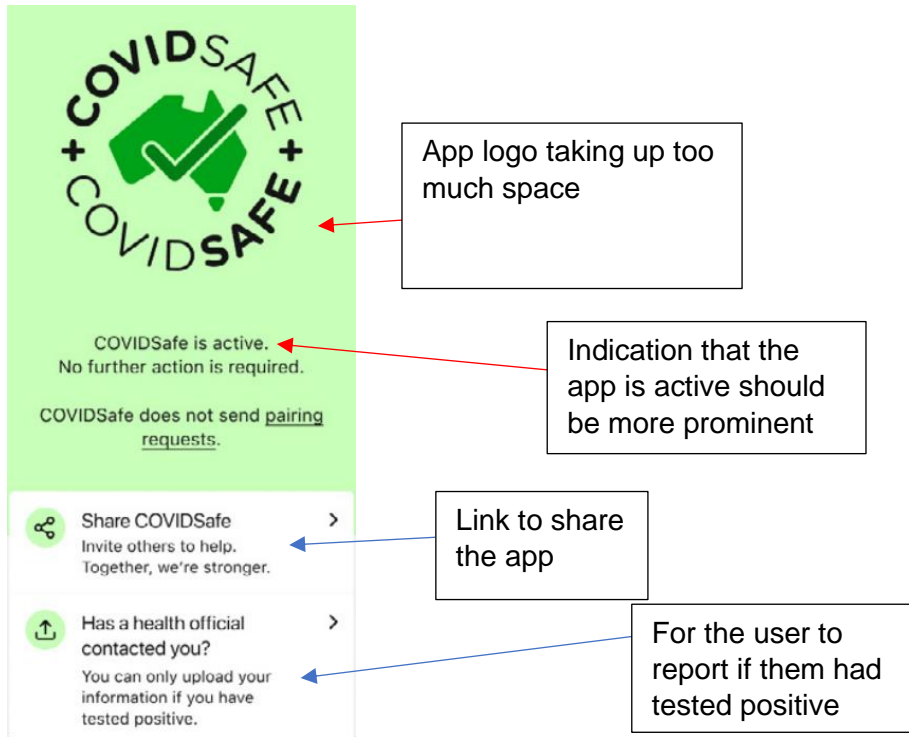
By clicking “Continue” the user would then move on to the homepage of the app.



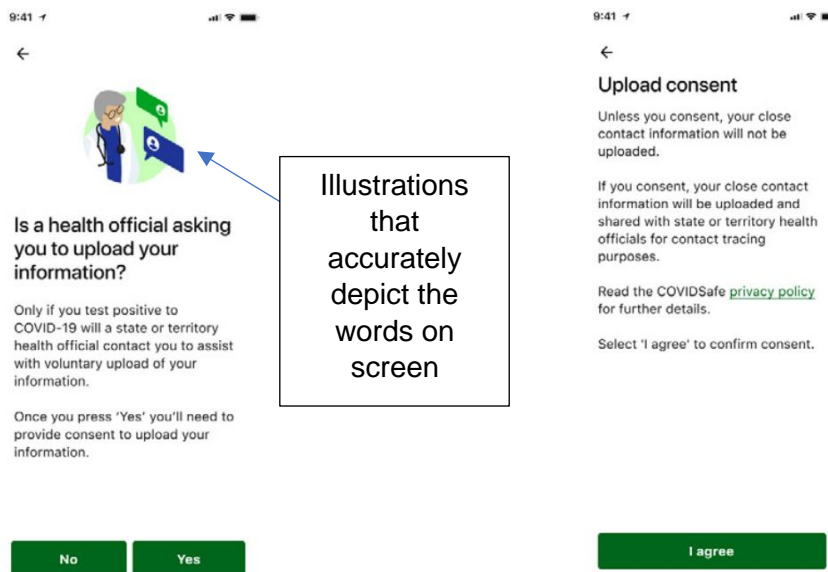
## Homepage:

The homepage of the COVID safe app consists of 3 sections:

- App logo as the biggest section
- option to share COVIDSafe
- “Has a health official contacted you?”



By clicking on the last section; “Has a health official contacted you?” the user will be prompted to allow the app to upload their information.






After the user has clicked “Yes”, the user will be brought to a page where they are required to enter a pin which the app has sent to their device.


# Competitive Analysis

## EZ-Link / E-payment apps

### EZ-Link

Login:

6:46   

< 

**Welcome to EZ-Link!**

Mobile/Email




Password



[Login via NRIC/FIN](#) [Forgot your password](#)


[Log In](#)

[Register](#)

Homepage:

6:50   

**My EZ-Link**  



Concession cards cannot be added into your EZ-Link app currently but top-ups can be done via the Express Top-Up function! 

**EZ-Link Wallet**


- Scan to pay with SQQR
- Enable payments at all Mastercard acceptance points with Mastercard® Pay by Account
- Payments in Japan with Allpay™

[Sign Up Now!](#)

**My Cards**

Add Card Express Top-Up

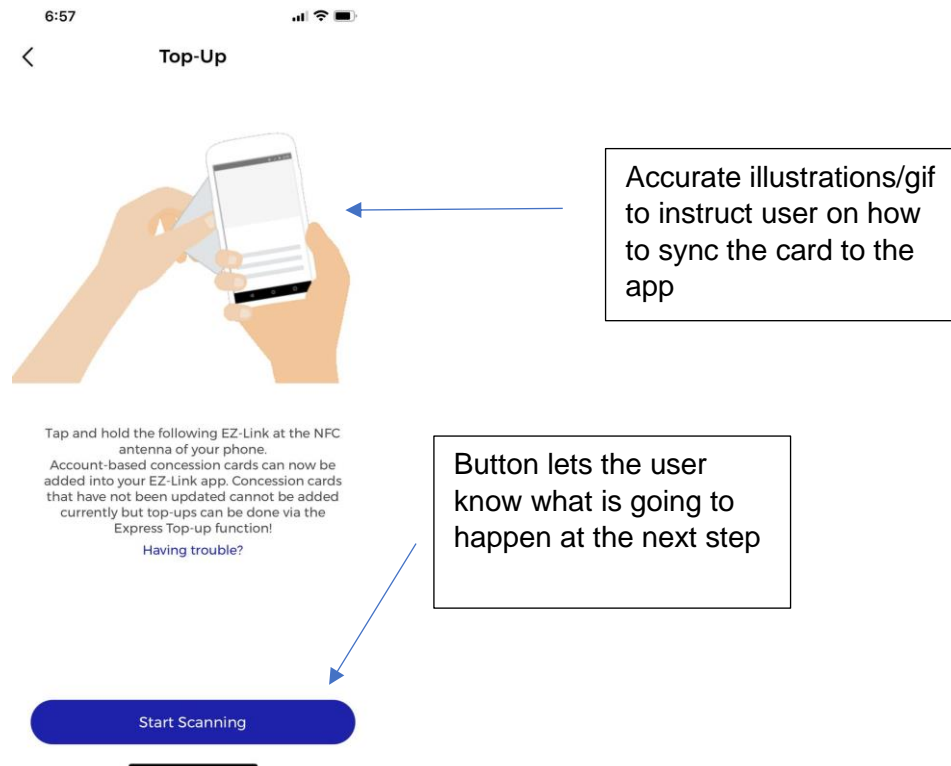


Start adding EZ-Link to check balance, view your transactions and earn EZ-Link Rewards Points!

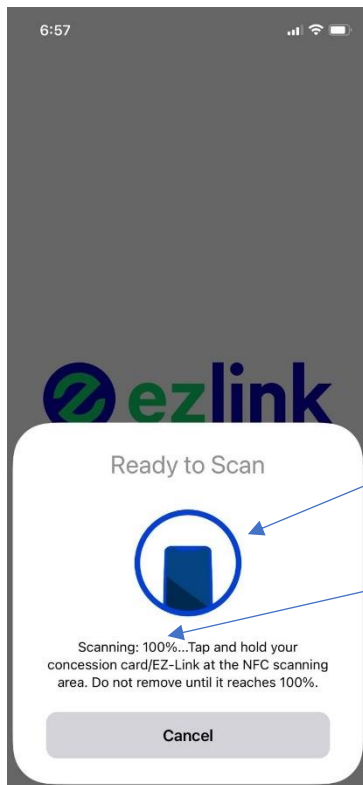
[My EZ-Link](#) [Discover](#) [Rewards](#) [Inbox](#) [Profile](#)

## Express Top-up Feature

When the user has clicked the “Express Top-Up” function in the homepage they would be directed to the page which instructs the user on how to sync their EZ-Link card to the app. After reading the instructions the user can move on by clicking the “Start Scanning” button.



Once the user has clicked “Start Scanning”, the app would immediately let the user know that it is ready to scan.



Animation of scanning lets the user know that they have to place the card at the back of their phone to allow the app to scan it

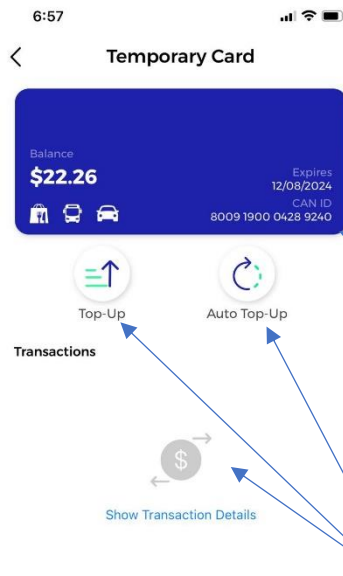
Shows the percentage of how much the app has scanned. Lets the user know how much progress has been made instead of keeping them in the dark

Once the app is done with scanning the popup from above would change to a tick.



The tick lets the user know that the scanning has been completed

Once scanning has been completed, the app would automatically direct the user to this page where they can see the balance left in their EZ-Link card as well as 2 options, Top-Up and Auto Top-Up.

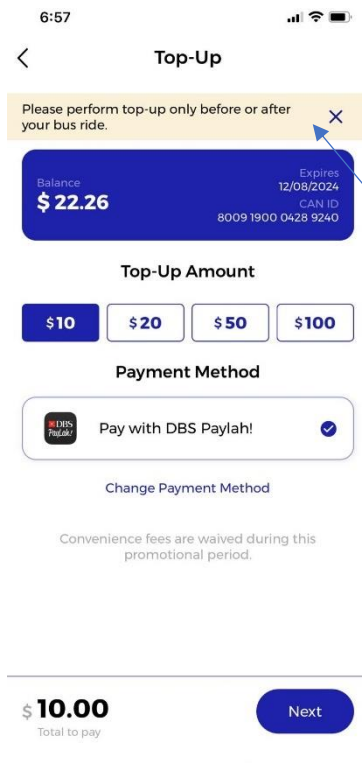


Card Information is separated with a different background colour. Makes it easier for users to decipher the card details from the options that the app offers

The icons picked for each option is appropriate for what the function does.

When the user clicks the Top-Up option they would be directed to this page where they can choose a top up amount from the 4 options available and select their payment method.





Should they choose to pay via DBS PayLah, they would immediately be directed to the DBS PayLah app to make the transaction.



Notice to the user has a contrast colour from the app's original colour scheme; making it bound to catch the attention of the user



## Analysis summary

	TraceTogether 	MySejahtera 	COVIDSAFE 	EZ-Link 
UI design (register)	Good	Average	Good	-
UX design (register)	Good	Average	Average	-
Process (register)	Good	Bad	Good	-
Home Page: UI design	Good	Average	Bad	Good
Home Page: UX design	Good	Good	Average	Good
Inclusivity	Good	Average	Bad	Average
Informative	Average	Good	Bad	Good
<b>Overall assessment</b>	<b>Good</b>	<b>Average</b>	<b>Average</b>	<b>Good</b>

# Introducing a revamped version of the TraceTogether App

## Background

Due to the relaxation of travel restrictions as well as the opening of travel borders, many are taking this as a chance to travel overseas. Thus, I chose travel as the topic to work on for improvements to be made to the TraceTogether app.

With the new features implemented, users would be able to travel with ease and convenience as well as be more informed when travelling overseas. These would be lasting features, which can still be used even after the pandemic is over.

## Purpose

The main objective is to enhance the user experience and making the TraceTogether app more relevant. Taking into consideration the changes we have undergone throughout the evolution of the pandemic situation; my proposal includes an up-to-date app as well as incorporating travel functions. Additionally, I have also introduced a smart watch feature into the app.

## Goals

Provides convenient and a hassle-free travel for users locally as well as overseas. Promotes sustainability through a seamless cashless payment method.

### Summary of Proposed enhancements:

1. Providing updated information on regulatory requirements and documentation for travel overseas
2. Option to upload their travel documents, view which documents they have already uploaded as well as view what documents they need prior to their travel
3. International connectivity via \ EZ-Link function
  - a. The app includes the maps of the various countries' rail way system to allow users the ability to plan their route
  - b. Provides the estimated travel time to their destination
  - c. This is aligned to promoting / changing the mindset of users towards public commuting

### Smart Watch

1. All in one concept where the payment channel is made available to user's smart watch
2. EZ-Link function promotes a cashless society where users are able to make payments for their transportation fares locally as well as overseas
3. Navigation system is also made available to users via the smart watch
4. Lastly in the event of an unfortunate circumstance requiring us to activate the TraceTogether app for tracking, the plan is to allow TraceTogether to be downloaded

to the smart watch. This provides a holistic all in one channel allowing users to check in and out with just a tap instead of having to open up the app via their mobile device.

## Target Audience

The improvements made on this app would attract current users as well as others who intent to travel overseas. This effectively means that the target audience will be larger than the current number.

Frequent travellers would find the app most useful as it provides them with detailed information, guidance and navigation functions.

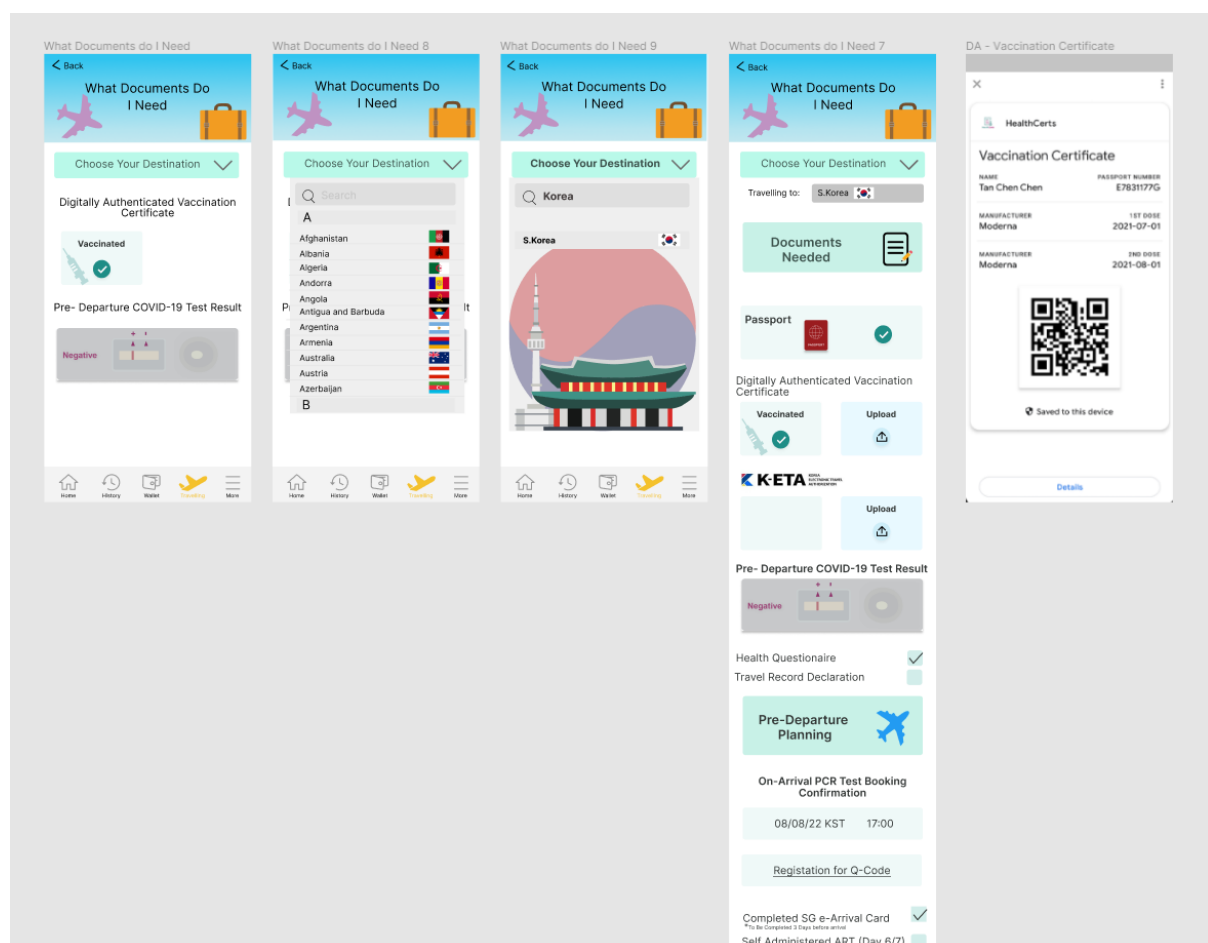
The added feature providing the all-in-one functionality would also encourage more users, especially so the younger generation and tech savvy users.

## Features

### Mobile App

A unique feature introduced in the mobile app relates on travel.

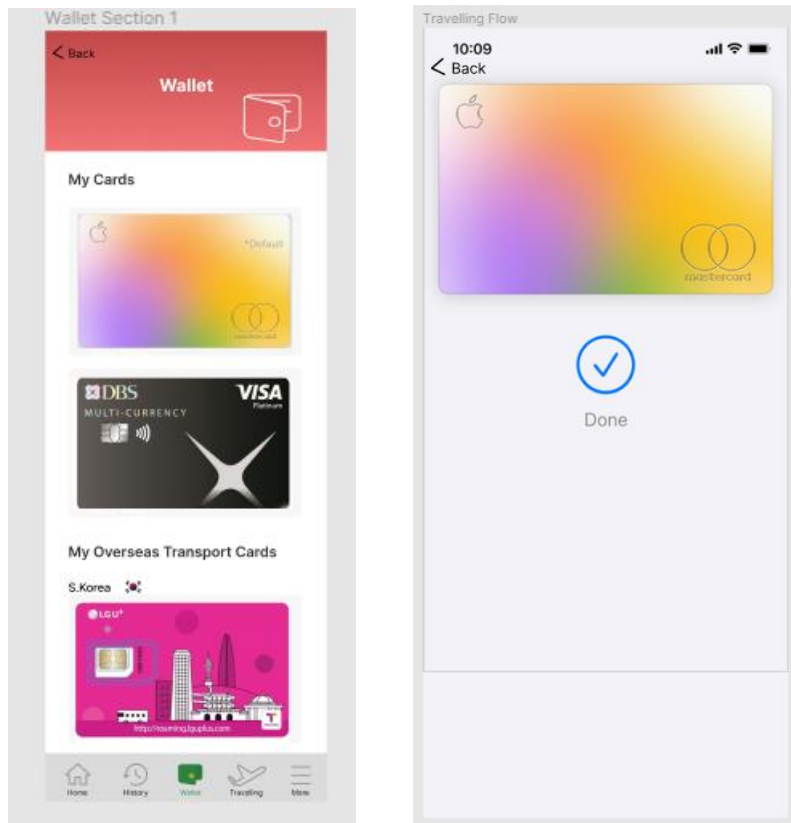
The feature provides information relating to travel including regulations (including health related matters) and documents required prior to their travel. Users are able to upload their documents or view documents already on record using an easy dropdown menu.



In regards to privacy, the users can be assured of secrecy as the TraceTogether app is a government owned app, this provides users a peace of mind.

Another mobile app feature would be the EZ-Link feature. This EZ-Link feature promotes a hassle-free payment method through cashless payment for users' transportation fares in Singapore as well as overseas.

This is made possible through close partnership and collaboration with other counties with the same mindset/strategy and focus on a cashless society.

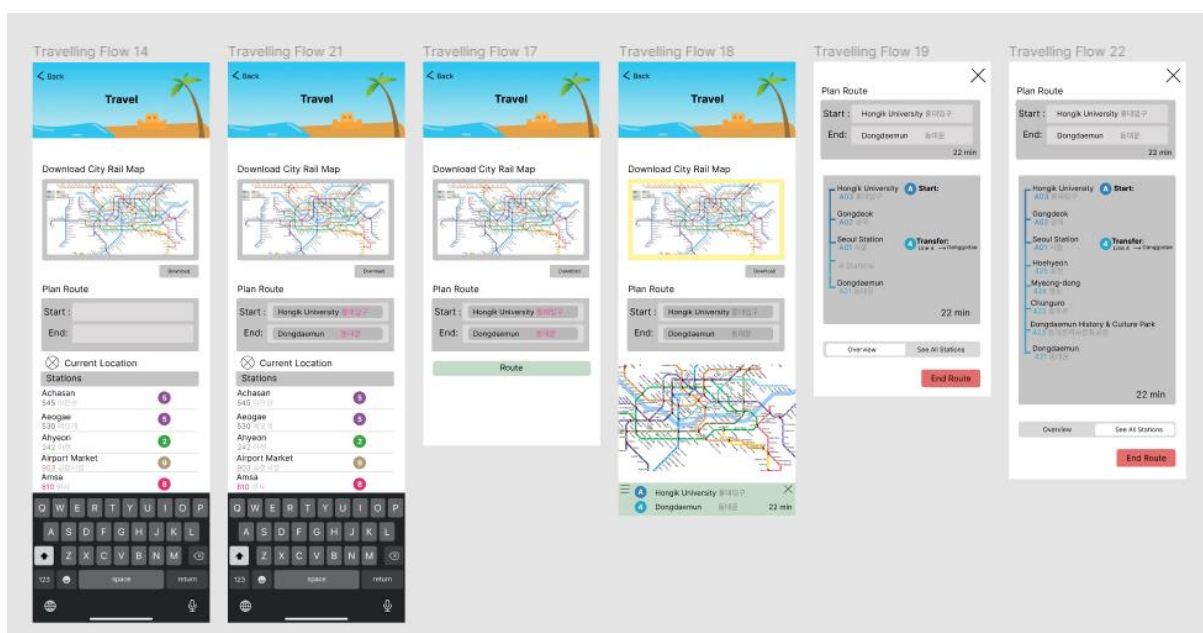
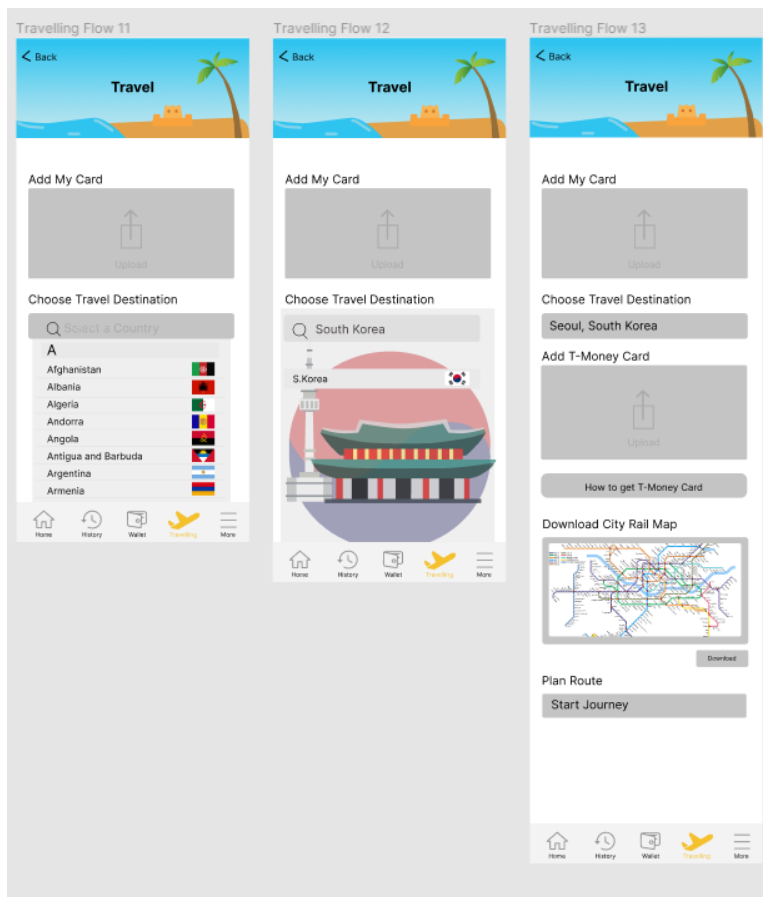


Since the pandemic, we have seen the evolution of payment method. Cashless payment is now more prevalent.

Promoting this approach as a payment channel allows users the convenience and better user experience. Payment for transport fares will be fast, efficient and safe.

Additionally challenges such as language barriers at the ticketing booth would be addressed and users can commute with a peace of mind without fear of losing their ticket during the ride.

Lastly, the mobile app includes a detailed information on rail way map function. This allows users to select the rail way map from a list of countries & the various lines allowing them to navigate their route as well as providing them the estimated travel time to the destination of their choice.

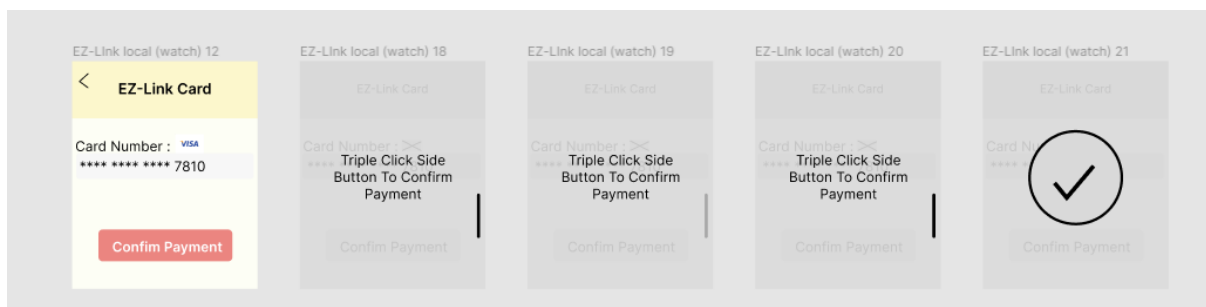


When travelling overseas, using public transport can be confusing. Having the rail way map function provides guidance to users to navigate around the city using the map or even plan or calculate the fastest route to head to the destination of their choice. This helps the user to avoid any confusion when travelling along the different railway lines and also help them to plan their route effectively with the estimated duration of travel.

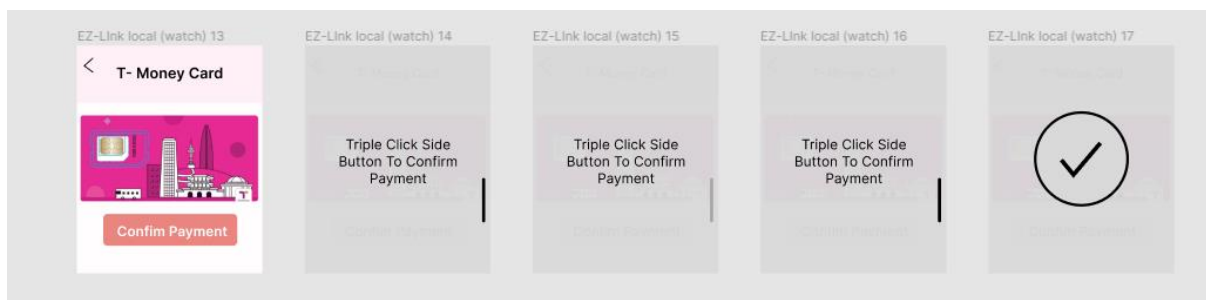
## Smart Watch App

The smart watch app would have the above mentioned EZ-Link function where users can pay for their public transport fares with just a tap of their wrist.

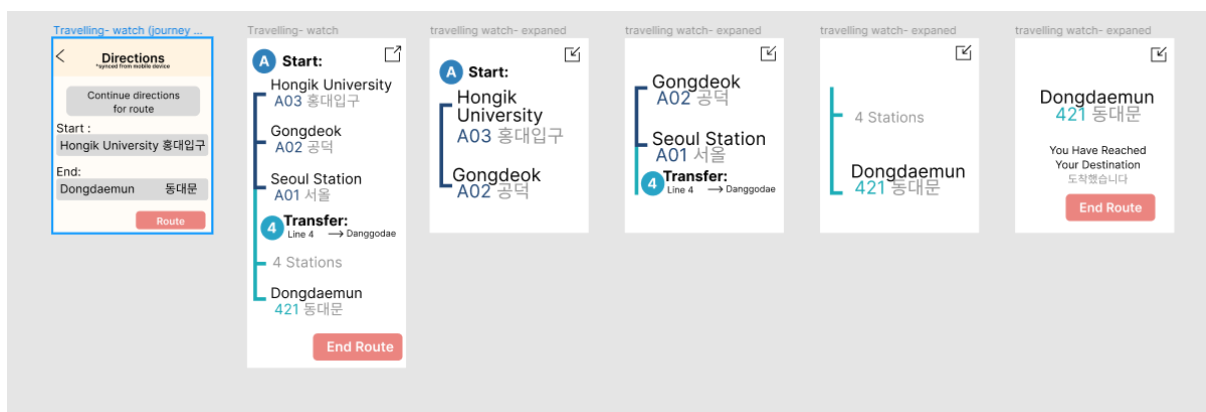
### Local EZ-Link



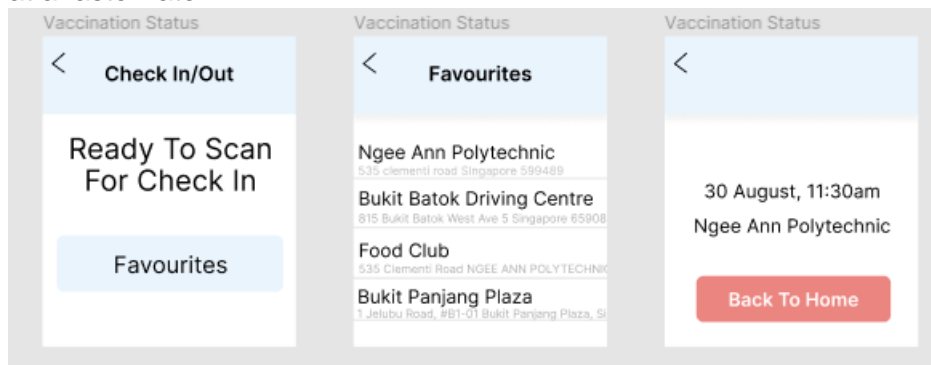
### Overseas EZ-Link



In addition to the EZ-Link function the smart watch app can also help users to navigate around the rail way lines so users do not need to be holding their phones to navigate around the lines as the instructions would be displayed on their smart watch screen.



Lastly, should there be a need for reimplementation of contact tracing, users can simply tap their smart watches on the scanner instead of having to use their phones, open the app then tap. This allows for more convenience and keeps the check in and check out queue moving at a faster rate.



## User perspective

### 2 Core Objectives:

Being able to travel with ease and convenience

As the app has a function which calculates the fastest route for users to take when taking the train, users would be able to have a smoother travelling experience when going overseas to travel.

In addition, the feature which allows users to be able to store their travel documents in the app would making the immigration process much more convenient.

Modernise the functions of the TraceTogether App

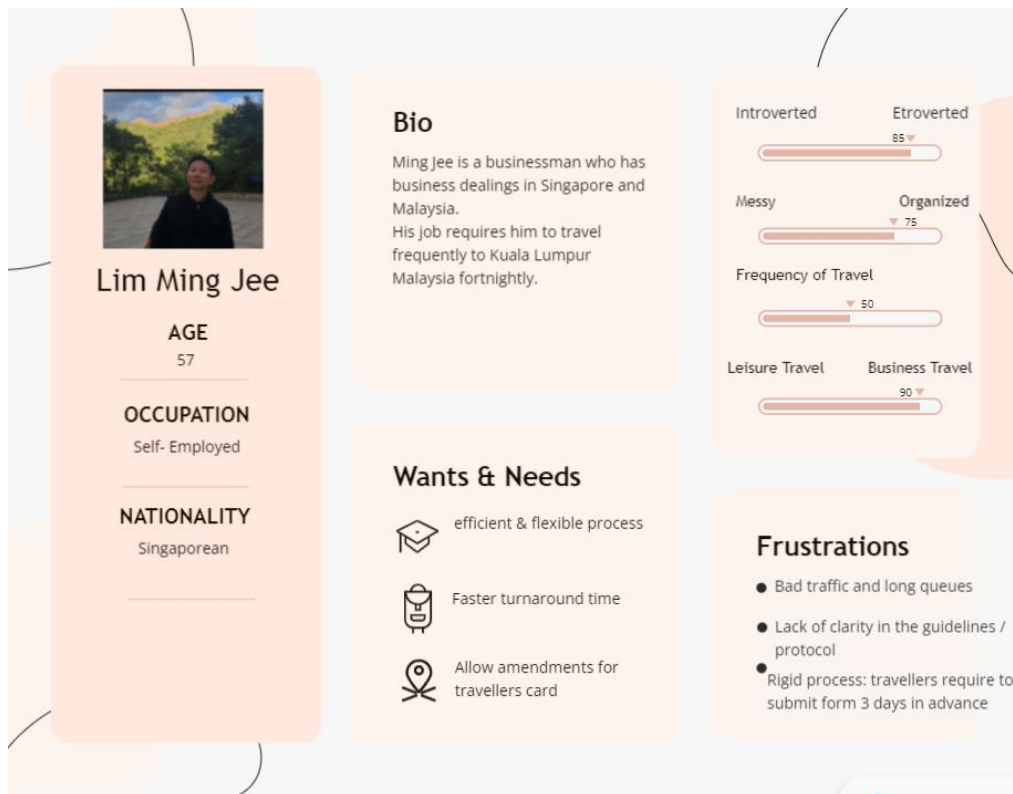
Due to the government phasing out contact tracing, many have deemed the TraceTogether app as “no longer useful”. Thus, in coherence to the travel borders opening up as well as the travel restrictions loosening, I have decided to incorporate new features that would be useful for users.

Features such as:

- Helping users take note of what are the travel documents and arrangements they should make before flying to a country
  - The user can click into the “What documents do I need function” and select the country that they are headed to, from there users are presented with the documents needed when travelling to that country as well as arrangements such as booking an ART test upon arrival.
- Helping the user navigate their journey in a foreign land
  - The user can use the “Plan Route” function to help them calculate the best and fastest route possible along the railway lines of that particular country.

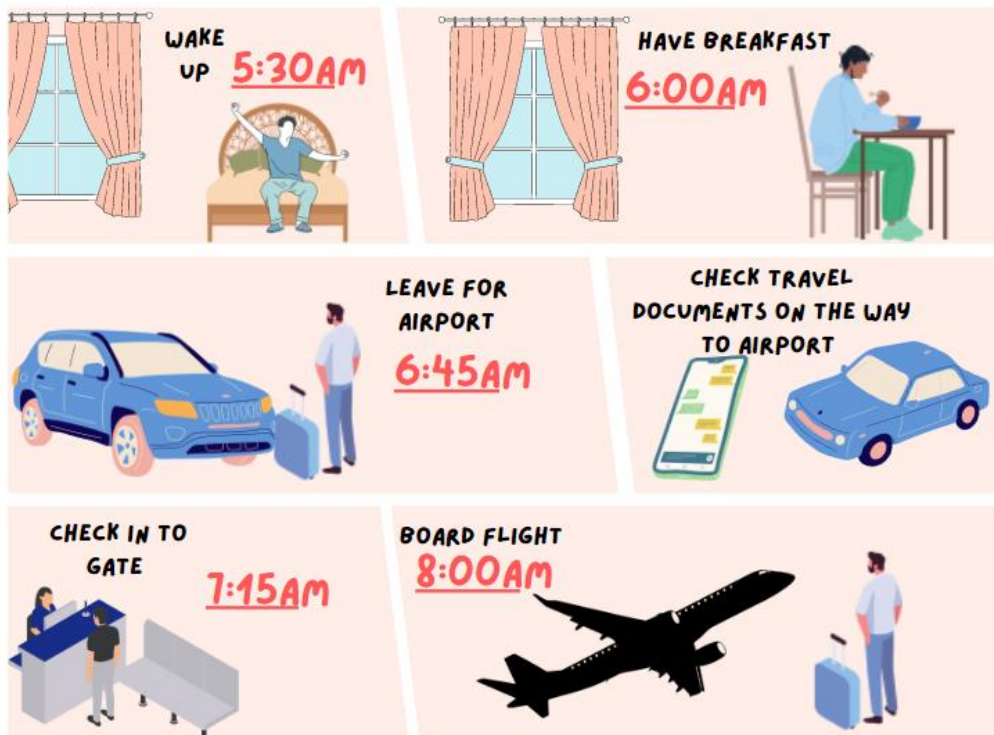


## Persona



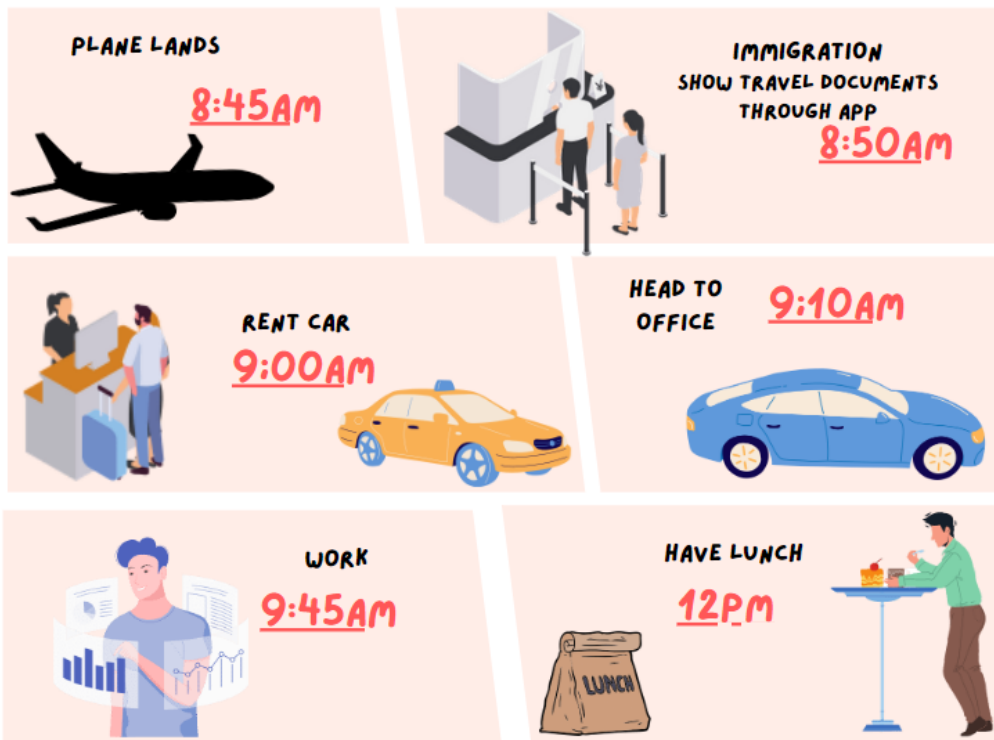
## A Day in The Life

### A DAY IN THE LIFE - LIM MING JEE

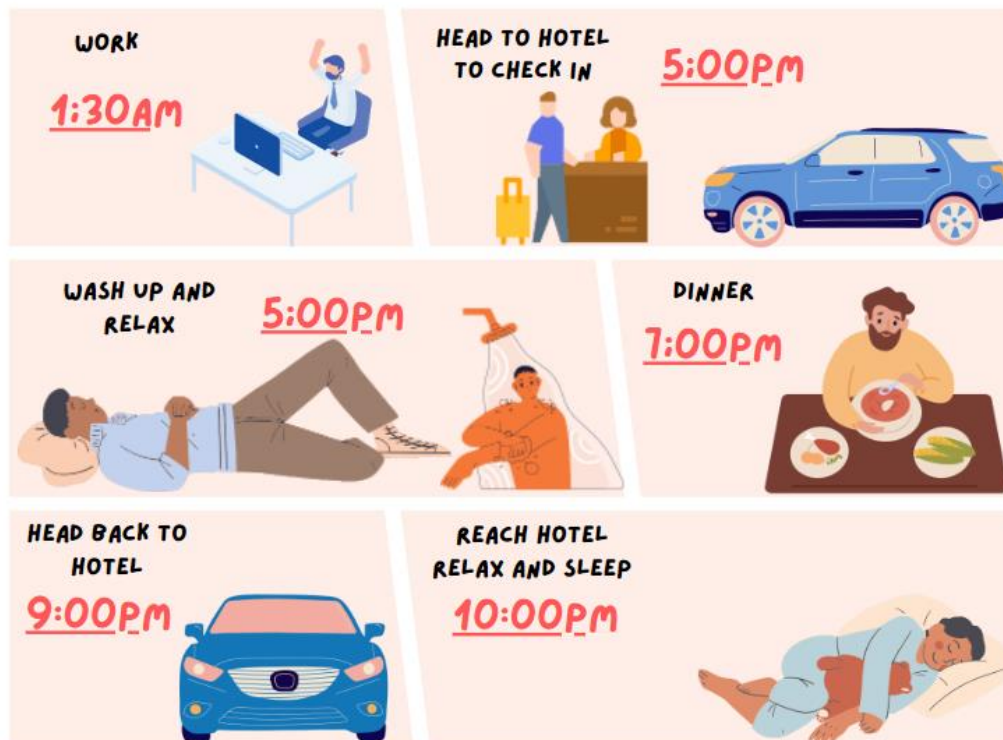




## DAY IN THE LIFE- LIM MING JEE



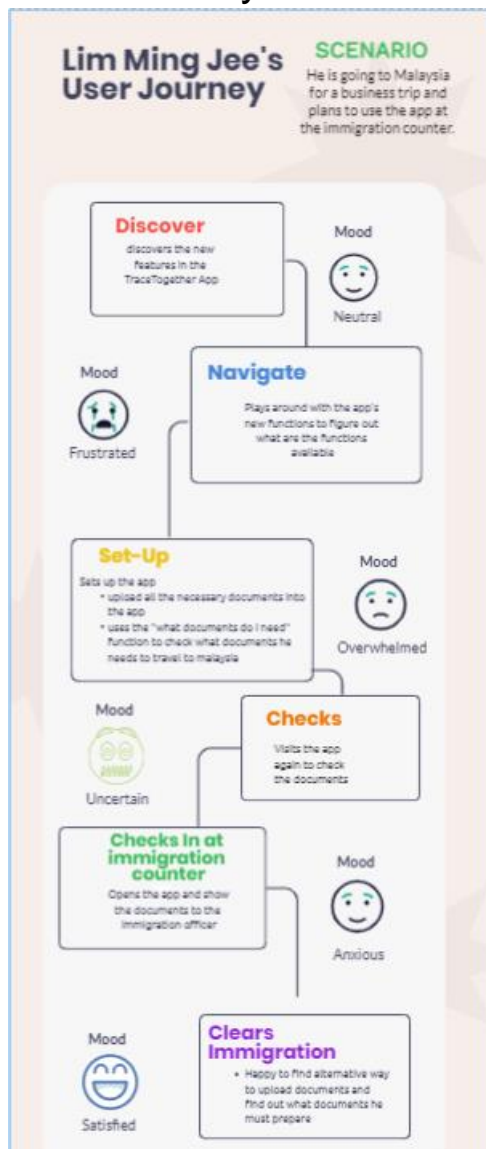
## DAY IN THE LIFE- LIM MING JEE



# Empathy Map



# User Journey



## Conclusion

Throughout the assignment period, I have been kept busy conducting research and socialising with users for a better understanding in order to submit my proposal.

I have gained exposure and knowledge which have helped to contribute to the ideation and refinement embracing digitalisation.

It is interesting to note of the various functionalities, design concepts and digital capabilities of the apps from different countries.

The platform provides me the chance to review the experience from the Users' lenses which in turn provides the opportunity for me to explore areas for refinement to improve the overall experience.

Additionally, this project stretches my thought process and provide a challenge to my creative thinking. Applying the facts uncovered, taking into account users' needs and wants allow me to apply forward looking concept and ideas. I have also taken into account the popularity of digitalisation in today's environment as well as the technological capabilities available in the market. Hence my proposal for a holistic and an all-inclusive TraceTogether app.

## References

Tan See Kit, A. H. (21 March, 2020). *Singapore launches TraceTogether mobile app to boost COVID-19 contact tracing efforts*. Retrieved from CNA:  
<https://www.channelnewsasia.com/singapore/covid19-trace-together-mobile-app-contact-tracing-coronavirus-773571>

## Digital Wireframes

[https://www.figma.com/proto/6BmVdUaMOdkUipZlhvpGKM/DUX\\_Assg1-team-library?page-id=0%3A1&node-id=437%3A8&viewport=56753%2C32667%2C0.9&scaling=scale-down&starting-point-node-id=437%3A7&show-proto-sidebar=1](https://www.figma.com/proto/6BmVdUaMOdkUipZlhvpGKM/DUX_Assg1-team-library?page-id=0%3A1&node-id=437%3A8&viewport=56753%2C32667%2C0.9&scaling=scale-down&starting-point-node-id=437%3A7&show-proto-sidebar=1)

## Low-Fidelity Wireframe

Mobile App: Flow 1

Smart Watch: Flow 2

## High-Fidelity Wireframe

Mobile App: Flow 4

Smart Watch: Flow 3

## Demo Video Link

[https://ivid2.np.edu.sg/media/DUX\\_Assg1\\_Lim+Janel\\_VideoDemo/1\\_fs8l1vch](https://ivid2.np.edu.sg/media/DUX_Assg1_Lim+Janel_VideoDemo/1_fs8l1vch)