

# Part 1

: Introduction to this project

## Description

### Background Illustration

The goal of this report is to develop an app (or website) that contains all the basic processes of vaccination including place of the vaccination, approaches to book, Identification system, reminder system for the customer to come back in certain weeks. My focus of this project will be mainly on the technology used in the development that fits the customer's initial desire. To do this I will create a couple of individual personas that would be likely to represent the certain group of people. Go from those representative figures would make my report more convincing and vivid. Features like usability of the booking and logging system will also be put emphasis on discuss throughout this report as well.

### Business Objective

Good Service and awesome website layout can really assure people, as everyone likes professional, especially during the quarantine, by doing so can **avoid panic effectively**.

**Making people to book vaccine easier.** This can be achieved in many ways, such as enabling customers to make multiple application at a same time and in the same device instead of making one order in one device at a time. To achieve that, a system called "chart" will be used on this program. Basically, it is just as same as the chart we use in amazon. Apart from all of these, the website also contains a quick identification system using the surname and the telephone as key to distinguish people, then put all the 'orders' in the chart (basically a queue in Java programming).

This application can make it possible to **promote everyone to get vaccinated and draw public awareness to the COVID** that the epidemic is not far from us by listing the people who got vaccinated in the place where the customers live. The herd mentality is not always a bad thing, it depends on how we humans make use of it.

In general, this website (or app) is designed to meet those objectives providing people in NZ a systematic package of services with the vaccine. The majority group of people who choose this website to book should be people who do not prefer to go to the spot(hospital) to make reservation in person. They may either have their own health concern due to the epidemic, or just simply being lazy and do not feel like going out if unnecessary. In this case simple design will play a main role in the plan, otherwise people cannot be bothered to use a complex program instead of going to the hospital to book in person. All in all, a user-friendly environment really contributes a lot in development.

### Importance of the System to Stakeholders

Importance for the Individuals:

With COVID's spread all over the world, places like hospital and medical centre have already become sites with high infection rates regardless domestic or NZ, which means we need to avoid crowds as much as we can. This website is dedicated providing the citizen a contact-free choice for booking. No ideas where the hospital is, not feel like to book in site due to the distance to the hospital, forgetting the vaccination time, complex face-to-face identification system (taking the mask off would increase the infection probability), no

ideas who to turn to when holds question about the vaccine and etc ... This website is targeting all the puzzles listed above, so the user interface design should eliminate these puzzles in a targeted manner.

Importance for the Government:

Currently we are back to the alert level two, and the government of NZ is making every effort to stop the virus. With the development of the vaccine, people from all over the world see the dawn. Subsequently, how to stop Kiwi from getting infected during the vaccination has become a serious concern due to the large migration, huge amount of people out for injection for which put the public security and COVID concern on the table. For this case, a new means for reserving as well as consultation and guidance are required more than ever. Our application can solve this urgent need perfectly. Sorting out everything online can be a way of resolving this potential risk and gain reputation for the government.

## Part 2: Personas and Requirements

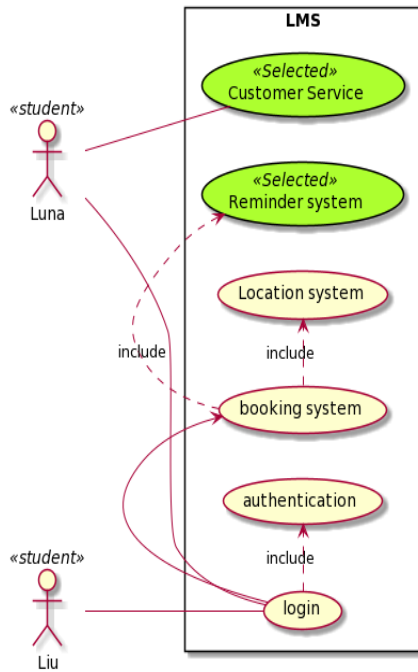
### Model Overview

The personas are critical in terms of data analysing. By summarizing the potential customers into multiple groups would makes this assumption much more convincing and representative. However, things would get tricky as soon as we estimate a certain group in the general term, so at this point, making an overall representation figure to its' kind seems to be a good choice. And this is exactly what we are going to do at this stage, which is creating personas using the techniques such as user modelling to emphasize my research. My plan of attack is to hypothesis the desire or goal of the customer in the first place, and then study what are they going to do to achieve this goal, then dividing those big goals into small chunks according to the customers' motivations. Subsequently, I will prioritize the most likely groups to be engaging using this app and what is their behaviour. Two sperate personas out of two different groups will be created, hereinafter:

#### Youngshin Liu:

Liu is a student doing architecture second year in Victoria University of Wellington, he was supposed to be a third year, but he dropped all the courses during the epidemic and chose to gap the whole year as he thought that taking courses on Zoom was too complex and energy-consuming, especially in China, managing to use the VPN and all those sorts of things made him to frustrated, but right now he is regrated for this choice as most of his friends are going to graduate at the end of 2021, leaving him alone at Victoria.

The figure of Liu stands for the impulse people who will easily get down and feel negative about the current predicament, sophisticated Things will give him headaches. The figure of architecture engineer potentially makes him a perfectionist. His concern of UI would be simple and straightforward, which is to displace the place of the vaccine, as well as how to book one. So, we assume that his goal would be getting to know the locations of the vaccinations && the booking system. And we are going to combine both as well as the identification verifying system into one.



## Luna Lyu:

Luna is an International student doing accounting final year in Victoria University of Wellington. In the early 2020 she sensed the border lockdown of COVID and persuaded her parents to let her back to NZ in January. The border closed one month after her arrival. She is doing a great job on her study and attend every lecture even during the epidemic. Now her hard-working receives payback, she will make it to graduate with a high score if she passes all the courses for this year. However, she is a bit of forgetful sometimes. For instance, she always left the key in her accommodation while going out and often end up calling her landlord for help.

Luna's figure is the representative of the mature people who will sort everything out before diving into the business. She is a perfection as well, but of a different kind. She is visionary and always has a plan, when facing trouble, her choice would be negotiating with the authority or the one

she trusts. For this case, we should put some efforts on the customer service UI. Besides, due to her bad memory, an effective reminder system is necessary as well.

Nevertheless, my priority of creating this project will be first vaccine booking then customer service then reminder system. As booking system contains various subsets like location identification, as well as reminder system, we can include a lot of areas if we put booking system in the priority position. Subsequently, we log into the app for the purpose of booking a vaccine, which makes the UI design more direct in some ways. So the booking service turned out to be as essential as other tasks. The next priority would be the customer service, as I issued above, customer service makes it possible for the people who hold questions to solve their puzzles.

## Persona:

### Persona 1:



Name: Youngshin Liu

Age:21

Status: Undergraduate

Location: Wellington, NZ

#### Goals:

1. To graduate from Victoria, maybe next year.
2. Work out more to get a strong build and good-looking figure.
3. Become a Senior engineer couple years later and get well paid.

#### Frustrations:

1. Do not have a good temper under some circumstances, this means when things confused him, he might get angry.
2. Complex and duplicated stuff, this means we would better avoid meaning less and duplicated stuff during development.
3. Read a lot of thing in a time. We could avoid this by putting all the reading material in another hyperlink, or

displaying the key things in a video.

4. Won't even give a glance to the time wasting things, this means to control the user experience time.

Bio:

Liu is a student doing architecture design at Victoria University of Wellington, he has some basic concepts of software development as he has learned a bit of programming in his faculty and he's keen on the neat coding during the programming, this means he can tell whether it is a good design or not. If the information he gets is chaotic, he would get really frustrated and give up on the halfway. To avoid this happening, we'd better use predictable and ordered UI design. Liu particularly dose not like the hyperlink, "Those long, underline and blue things make me nervous." Is what he said.

How I came up with this persona?

Before actually diving into the development, I've already gone through all the key things that might affect the design, one of them is the simplicity. Simplicity means ordered format and reducing length tasks. To express this I'll use a person with rigorous personality, most probably a people doing science and engineering. I then overviewed all the friends of mine who might fits this, then I find out that Liu is the best one, and this persona was created.

Persona 2:



Name: Luna Lyu

Age:22

Status: Undergraduate

Location: Wellington

Goals:

1. Make it to graduate from Victoria without getting infected by covid.
2. Getting to know people from all over the world.
3. To work for a big accounting firm after graduation.

Frustrations:

1. Forgetful under some circumstances, this means a reminder system would be needed.
2. Messy things, and things out of control, this is similar to the one above, predictable and ordered format will be needed.
3. Being distracted while doing one thing. She probably dose not like the functions of the website being too multiple, this means we would better block some functions while a pops-up window appears to reduce the distraction.

Bio:

Luna is currently studying at Victoria University for her accounting bachelor degree. She has always been among the best in her major. She is talkative and with empathies. She has a clear arrangement of her life. She expected to graduate with a relatively high score to get the offer form University of Auckland. She will not Stop utile she reaches her goal, this means a help link and customer service tab might be needed in the website for her puzzle.

How I came up with this persona?

I was confused on the customer service that what kind of persona can fits into this topic. It occurred to me that the people who are strict to themselves and cannot stand problems would most likely to be the ones I'm looking for. Then I took an overview of the so-called "Nerd" around me, and then choose Luna.

## Scenarios

### Scenario 1: Customer Service Autoreply

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**Liu** has problem on how many doses will be needed, so he clicked the customer service, and saw the size of waiting list. There's approximately 10 people waiting in front of him, he got a little bit impatient at this stage, but he still clicked next because he knew that he had to get everything clear before going any further. Then the web site pops up a page with many options, some of them are artificial and some of them are autoreply. Liu chooses the one he is confused about which is an autoreply that ask him to check out the link underneath the number of doses picking tab, and a video is also in the link directed website. He then went back to the main page to login satisfyingly.

Referential image: "SWEN303Wireframe.pdf" with hand-written index "17,18,19" on the right -button Corner

### Scenario 2: Booked a Location:

#### User Journey Map:

Choose	Rejected	Choose again	booked
Doing: Choose the location with a yellow color out of many blue ones.	Doing: Wait for a few minutes.	Doing: Choose that blue spot.	Doing: Continue booking.
System React: Estimate whether the spot is fully booked or not.	System React: Pops up a page to alarm the user that the yellow spot is now fully booked.	System React: Estimate the blue one.	System React: Estimation finished, the Spot is good to go, then direct the user to the next page.
Thinking: A little bit anxious in the first place as the user do not like to make choices, then gets better he when find the yellow spots.	Thinking: Starts to be impatient as the user is being rejected, which means that he has to make choice again.	Thinking: Decided to choose another blue spot that is closer to the yellow one.	Thinking: Assured.

**Liu** just completes the registration and login successfully. Then he reached the location picking page. There are approximately 5 to 10 available addresses labelled in front of him, he had got a little bit impatient. Since did not feel like to make choices, he is about to choose randomly. But soon he found out that one of the addresses dots' yellow colour is different from the others. Besides, that one is relatively closer to his position. "This could be the closest one around my place, since they have highlighted it" He thought. Then he clicked the one with different colour. Some how that one is fully booked and pops up a window ask him to pick another one. He then picks anther one which is relatively closer to his position. Unsurprisingly, that one is available to book. Subsequently, he completed everything behind and get his vaccine booked.

Referential Image: "SWEN303Wireframe.pdf" with hand-written index "7,8" on the right -button Corner

### Scenario 3: Going Backwards

While doing the registration, **Liu** found that he had got his Identity wrong as he just got his permanent residents ID, but in the "New Zealand citizen" tab he chose "No", he wanted to take a step back to that page.

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However, he totally forgot which page is it and had no ideas how many “back” tap he is about to click. Luckily, he found that there’s couple buttons that allowed him to go back to certain pages and one of them is the “citizenship”, he then clicked that one and went back to the specific page successfully.

Referential Image: “SWEN303Wireframe.pdf” with hand-written index “3,4,5,6” on the right -button Corner

### Scenario 4: “Information” Link in the Main Page

Information	Back	Wait	Customer Service	Puzzle solved
Doing: Click the “information” button to find something useful.	Doing: Click the “Back” button.	Doing: Click the “Customer Service” and saw the waiting list, then wait.	Doing: Get into the customer service page and then choose “b”, which is the manual reply.	Doing: Do the registration or login.
System React: Direct the user to a new page that contains introduction of the vaccine and a video.	System React: System then directed the user to the main login page.	System React: System then directed the user to the customer service and then display the waiting list.	System React: System then processed a stuff to treat the user.	System React: Direct the user to the main page.
Thinking: Puzzle the vaccine, want to find more information about it.	Thinking: The “information” tab dose not literally solved my puzzle, maybe I’ll try somewhere else.	Thinking: Maybe I can give the customer service a try, hopefully I can get a solution there.	Thinking: Both of a and b does not contains the answer I want, so maybe I can only choose b which is manual one.	Thinking: Puzzle solved, then it is the time for booking.

**Luna** opened the website’s login page, she should have logged in in the first place, but before that she wanted to know more about the vaccine, so she clicked the “information” tab, but the thing in this page seems to be too limited, then she backed to the main page and clicked the customer service tab, after waiting for 10 minutes, its finally her term. She then chose b, which is an artificial replay, after sorting everything out, she then back to the login page.

Referential Image: “SWEN303Wireframe.pdf” with hand-written index “18,20” (manual customer service) “22” (information) on the right-button Corner.

### Scenario 5: Cancel Picking and Choose Reminder

**Luna** just finished picking the places, she had been directed to another anther page to choose date. Soon she found out that the left dates are not satisfying as she already had plans in those days, then she took a step back to the date picking page by clicking “cancel”. “That really saved a lot of time” She thought. Then she finally got the last step of the process which is to leave her contact number and she is clear to go. But She also noticed that there is a small button under the input tab that asked whether she wants to get reminded before the vaccination or not, “Well, that’s exactly what I want. Since I am a little bit forgetful sometimes, so

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I guess my answer is 'yes'. After finishing all of these, she finally finished her vaccine booking.

Referential Image: "SWEN303Wireframe.pdf" with hand-written index "10" (cancel picking) "11" (choose reminder) on the right-button Corner.

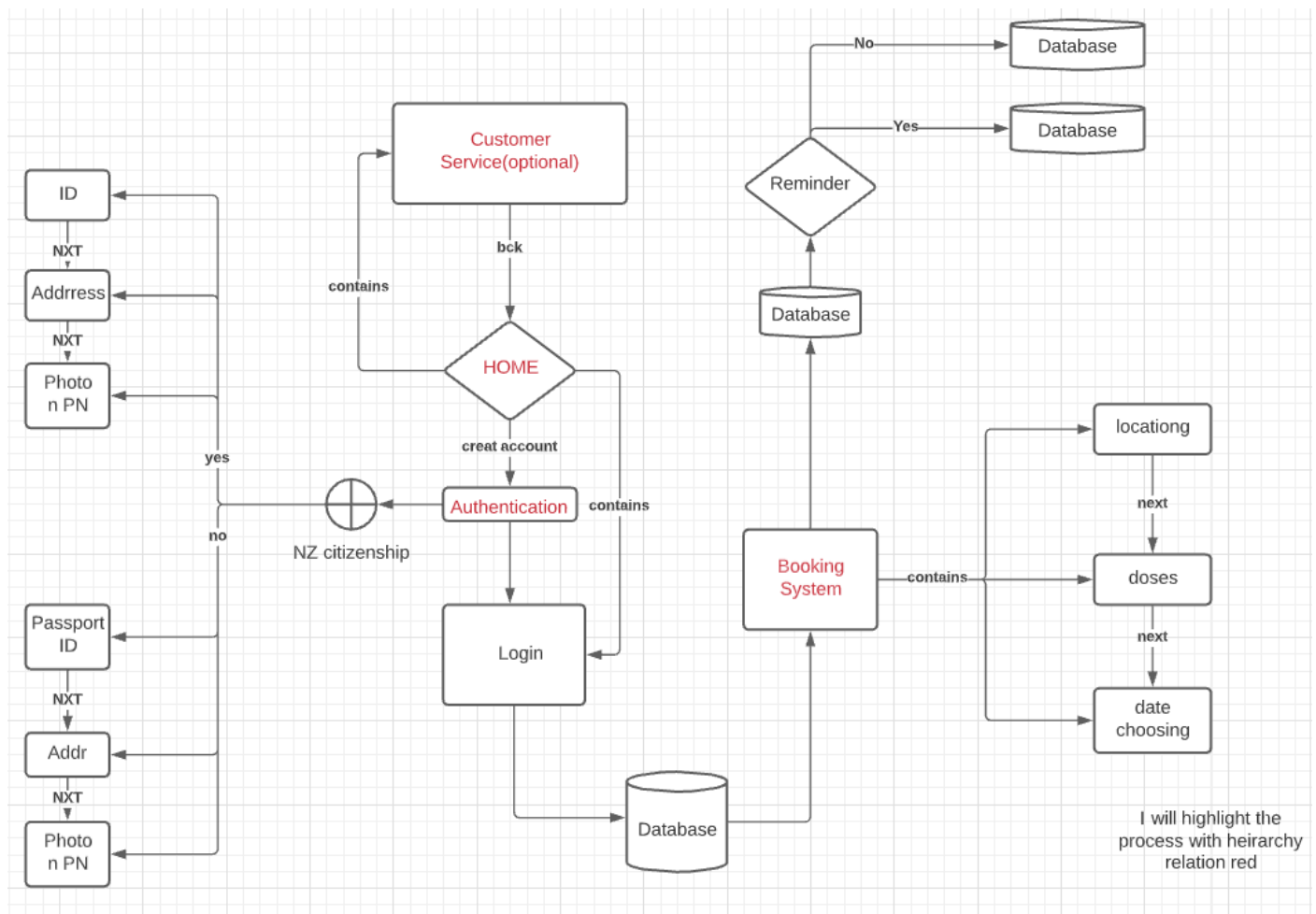
## Scenario 6: "Your Order" page

Before login, Luna found that there is a 'your order' button on the up-right corner of the page, "How could I have orders without login? Anyway, let's see what they have got." She thought and clicked that button. Then the system popped up a window that asked her to login first. Luna immediately understood that this is the place where she could overview her order after booking. So, after bookings had been settled she clicked that "Your Order" button to checked her order at the main page and found out that her order is really there.

Referential Image: "SWEN303Wireframe.pdf" with hand-written index "1" (before login page) "15" (after login page) "2"(before "your order") "16"(after "your order") on the right -button Corner

## Part 3 : Design

Firstly, to make my description more vivid, I create an overview UML:



The wireframe diagram can be found in the attached Balsamiq PDF

'SWEN303Wireframe.pdf'

Overview:

This design can be split into overall 3 three stages, which are Customer Service, pre-login (or registration) and booking system.

### 1. Customer Service:

Firstly, the users who holds question on the vaccine can check the “information” button in the main login page or click the “customer service” button below the input tab to check out. After clicking the button “Customer Service”, the users will then be directed to a page with a display of how many users are waiting in front of him/her. Users can choose either to wait or quit to the main page. If the user chooses to wait, he/she will be directed to a page with three options, two of the options (option “a” and “c”) are the autoreply to some elementary question, if that’s not enough, then try option b, for which our stuff would treat the users one by one. After the user’s puzzles have been solved, he/she will then be directed to the main login page.

### 2. Pre-login

After customer service, the user without an account will be directed to the account creating page by clicking the link “create an account”, then he/she will be walking through the process of citizenship Identification and inputting the address and username & password setting, after all of these are done, the user will directed back to the home page to login.

### 3. Booking System && Reminder System

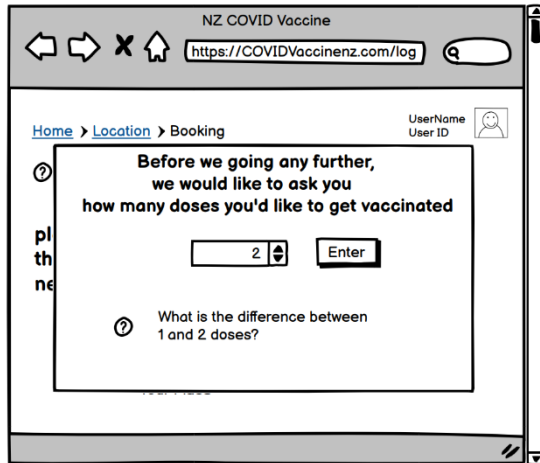
The booking system is consisting of locating, ask the user for how many doses he/she is willing to get vaccinated, then choosing the specific vaccination date. After login, the customer will see a map with many clickable dots representing each one of the addresses near his/her place he left in pre-login. The address that is closets to the user’s place will be marked as yellow whereas the rest dots is blue. However, the user cannot make it to book if the spot is fully reserved. After choosing a place, the user will then be directed to another page to choose the vaccination date, if the available date is not good for the user, the user can get back to the place picking page by clicking the button “back” to check if there is any other medical center that could fit the user in in that specific day. After all of these is done the user can choose whether they want to be reminded before the vaccination or not by clicking that flipping button. Eventually, the booking is done, the user will be directed back to the main page, his/her order will be display on the up-left corner of the screen.

## Part 4 : Reflection

### Pros of the design:

1. One of the pros of my deign is the flexibility that allowed that user to make changes on their former decision if it triggered a subsequent chain reaction. For example, when the chosen medical spot’s available reservation date is fully booked, the user would have a choice to go back the addressing place by a flip of the button “back” or clicking the “location” button on the up-right corner.





neat to look at and browse.

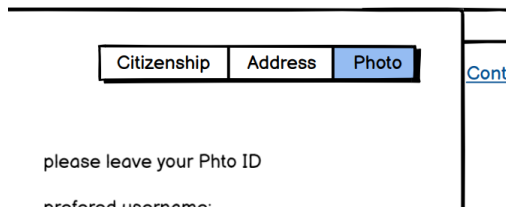
2. My design makes multiple choices for the customer to solve their puzzle. Not only by the information page but also customer service. Besides, information hyperlink has been inserted on separate pages, if the user feels confused, they can just check out the information links in a local page instead of goes back to the home page to find that link.

3. The flip button of the reminder system also contributes a lot, it reduces the redundant pages effectively.

4. Pop-up pages like the one on the right have also been wildly used in this design, this makes the user feel the website is predictable and

## Cons of the design:

1. The biggest con of this design from my perspective is that I sacrifice the readability of the website to grantee the website's format. For example, it could be better if I list all the available time schedule of the nearest medical centre near the user's place on the map so that the users can know which one to choose better. But unfortunately, due to the overall layout of the design, things like this can never be achieved.
2. If I click the back button or a previously filled page button (like the example below), all the things I wrote in the current page will be lost once I return to the current page.



3. I do not make it to make the reminder button to be clicked twice to return to the previous closed state.



## What have I learned about a problem by proposing a solution?

I have learned about how the user experience do effects on the software design in real life. I also have learned about the routine which is first creating the persona and then establish scenarios and finally wireframe design, by doing so I make it to frame an overview of the program.

## Reflection on the changes I made to the persona and other tasks:

1. I fix the layout of my previous persona as the previous one looks too chaotic.
2. I also add contents on how persona's figure would correspond to the website design.
3. I add an extra paragraph at the end of each one of the personas to demonstrate how I came up with these personas and what does those persona stands for in real life.

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4. I break each one of the two scenarios into three big chunks in order to make the whole process more intuitive and add more details in each one of the six scenarios.
5. I add referential pages of the wireframe design at the end of each scenario to makes the description more vivid.
6. An overall UML has been created to overview the project.