CS3240 Design Exercise Milestone 2

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Contents

1 Introduction

1.1 Choice of Exercise

I chose to work on **Exercise 5**, which involves designing **a mobile product experience** for millennials to make it safe to find an ideal roommate or housemate.

1.2 Target User

The target user as mentioned in the problem summary would be of **millennials who want to find the ideal roommate or housemate to live with in Singapore**.
They can be separated into two categories:

1. A millennial who has a place to live but is looking for a roommate or housemate. We will define this as a **room owner**.
2. A millennial who **does not have** a place to live, is looking for a roommate or housemate **and a place to live in**. We will define this as a **room seeker**.

The issues which the users will face while finding an ideal roommate or housemate will be discovered and elaborated on in the later sections.

2 User Journey Maps

The following User Journey Maps describe the issues faced by the room owner and room seeker.

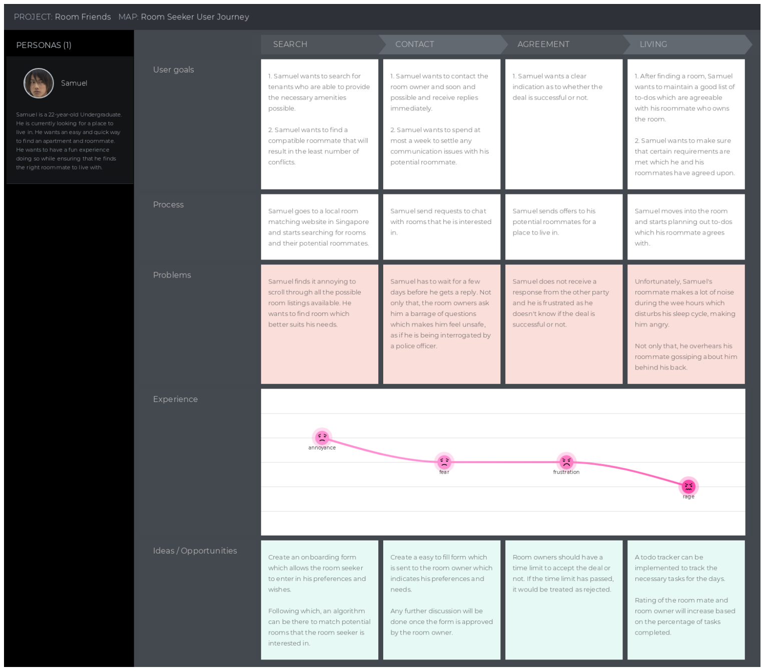

Figure 1: User Journey Map of Room Seeker

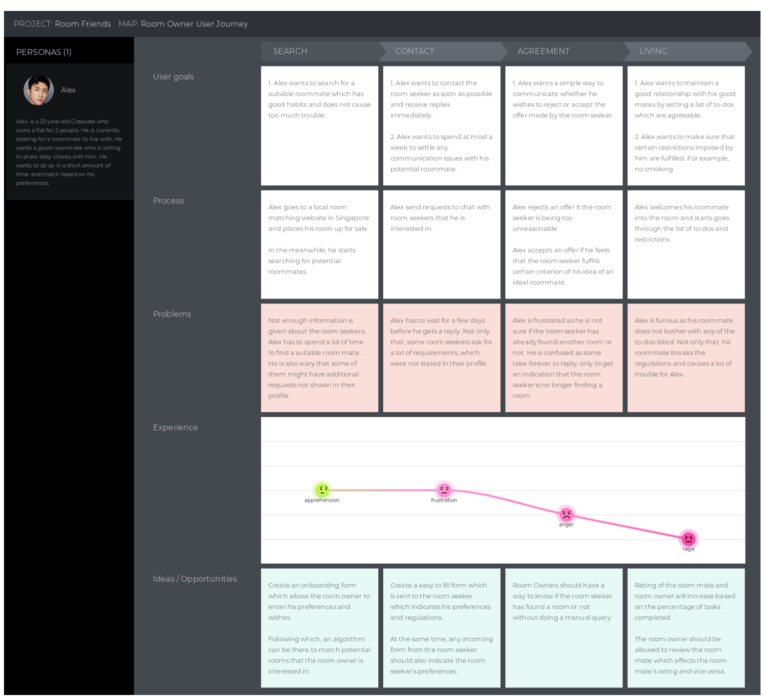

Figure 2: User Journey Map of Room Owner

3 Generated Ideas for Room Seeker

As a room seeker, we can generalize his or her problems into 5 subsections.

3.1 Pain Points of Room Seeker

1. Having to scroll through all possible rooms instead of a specialize list of rooms which match his preferences and needs.
2. Miscommunication of preferences and needs between the room seeker and the room owner.
3. Receiving no reply from room owner with respects to offer status
4. Having an unpleasant living experience when living with roommate due to bad habits and negative behaviour.

3.2 Ideas to Solve Room Seeker Pain Points

3.2.1 Onboarding Form for Registration

Before a Room Seeker starts finding for a room, he or she will need to fill up **an onboarding form**, indicating his or her preference. This helps the application to **filter suggested rooms** based on the given preferences. As a result, it would be easier to find a room which suits his or her preferences.

3.2.2 Details Form before chatting with potential roommate

Before a Room Seeker requests to chat with a room owner, he or she will need to fill up details with respect to what preference he or she wants from living together with the potential room owner, which will become his or her roommate.

3.2.3 Showing Status of Room Seekers

This would be a simple indicator to show if the Room Seeker is **Looking for a Room or has Found a Room already**. As a result, Room Owners can move on to find other room seekers if need be.

3.2.4 To-do List

This helps making the living experience more pleasant when living together with the room owner, aka the roommate. By completing more tasks together, the rating of both parties will increase. This encourages both parties to collaborate to increase their own ratings while having fun at the same time.

3.3 Generated Ideas for Room Owner

As a room owner, we can generalize his or her problems into similar 5 sections.

1. Having to look through all possible roommates.
2. Miscommunication of preferences and needs between the room seeker and the room owner.
3. Receiving no reply from room seeker with respects to offer status
4. Having an unpleasant living experience when living with roommate due to bad habits and negative behaviour.

3.4 Ideas to Solve Room Owner Pain Points

Simply which, we can use the ideas generated for the room seeker for the room owner as well.

3.4.1 Onboarding Form for Registration

This is the same as **Idea 3.2.1**. As a result, it would be easier to match the room owner with potential room seekers.

3.4.2 Listing Preferences and Needs on Profile

As a Room Owner, it would be important to be open about rules and regulations for staying at his or her house. This would complement **Idea 3.2.2** to reduce communication overhead between the room seeker and the room owner.

3.4.3 To-do List

This is the same as **Idea 3.2.4**.

3.5 Evaluation of Ideas

After taking a look at the ideas that I have generated, I feel that these two sets of ideas actually complement each other very well. However, there is one important aspect that I have missed out: **Verification and Authenticity of Room Owners, Rooms and Room Seekers**.

3.5.1 Verification of identity using 2-Factor authentication

Before the resgistration is completed, the user will need to **verify his identity** via 2-Factor Authentication (2-FA). As a result, it would be best to do a simple authentication to veirfy the identity of the users before they are allowed to use the application.

As a result, these ideas will be able to tackle the issues mentioned in **Section 3.1 and Section 3.3**.

4 Sketches

4.1 Initial Sketches

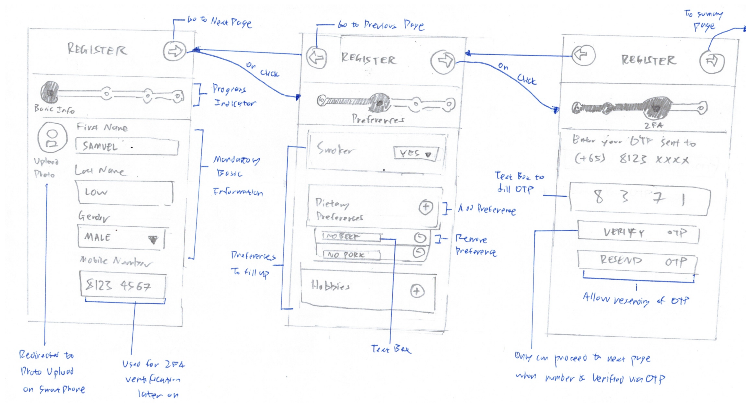

Figure 3: Registration Part One

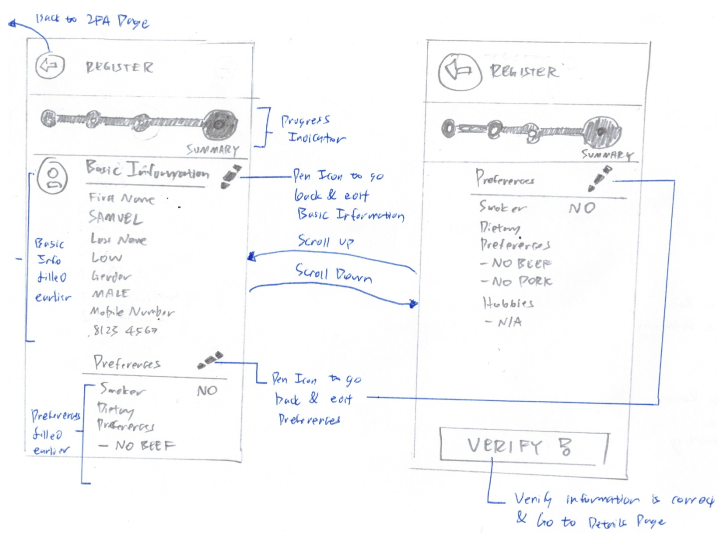

Figure 4: Registration Part Two

My initial idea was to ensure that regardless of being a **Room Owner** or a **Room Seeker**, one **must** go through the same registration process to indicate their preferences to better match them with people **compatible** with them.
It is important to note that there is a **progress bar** at the top of the page, to allow the user to know **which step he or she is at** to give a clear indication of the following steps.
Also note that there **2 Factor Authentication** is needed before the user registers into the system in order to verify the **authenticity** of the user.

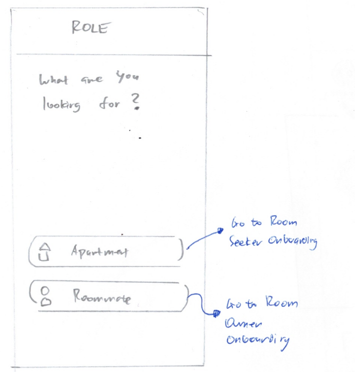

Figure 5: Role Selection

Once the registration **has been completed**, it would ask the user for a simple prompt to choose whether the user is a room seeker or a room owner. Following which, a simple **onboarding form** will be given depending on the role selected.

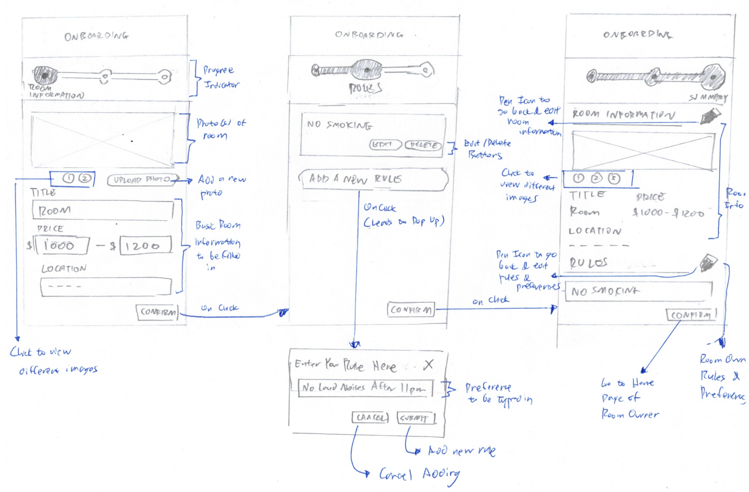

Figure 6: Onboarding Process for Room Owner

Simply enough, the room owner will need to key in basic information of the room / apartment and also upload some screenshots of the room / apartment for room seekers to view.
Not only that, he or she will need to indicate what he or she expects out of the room / apartment in terms of **rules and regulations**. This is so that there would be less miscommunication **in terms of expectations** of the living environment.

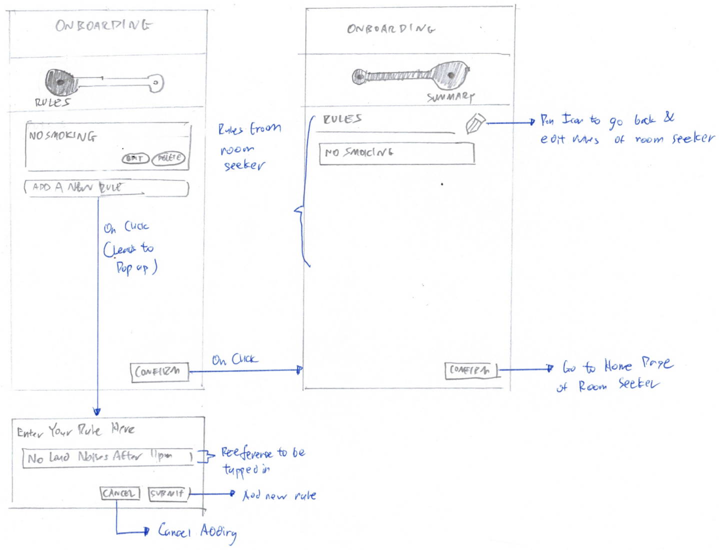

Figure 7: Onboarding Process for Room Seeker

For the room seeker, he or she will need to indicate what he or she expects out of the room / apartment in terms of **rules and regulations**. This is so that there would be less miscommunication **in terms of expectations** of the living environment.

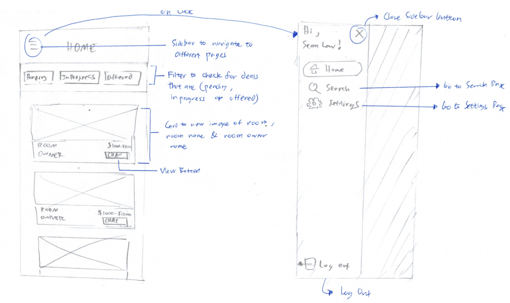

Figure 8: Home Page and Sidebar for Room Seeker

The Room Seeker will be able to see the current deals he or she currently has. They are split into **three categories**.

1. **Pending:** where the room seeker has made a request to chat with the room owner about the room / apartment.

2. **In Progress:** where the room owner accepts the chat invitation and are currently undergoing negotiation of the room / apartment.

3. **Offered:** where the room owner offers the room seeker the place to stay with for a price and negotiated rules and regulations. It's the duty of the room seeker to **accept or reject** the offer.

With Regards to the Sidebar, it is simply a simple add-on for **easy accessibility** of the main subpages, **Search Page and Settings Page**

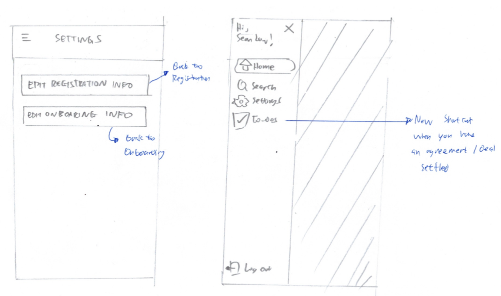

Figure 9: Settings and Updated Sidebar for Room Seeker

The **Settings Page** is simply for users to reconfigure the details they have entered in for their registration and onboarding process if they do wish so.
The Updated Sidebar will contain the **To-Dos** page **if and only if** a deal has been struck, and that the associated room seeker is now a roommate with a room owner.

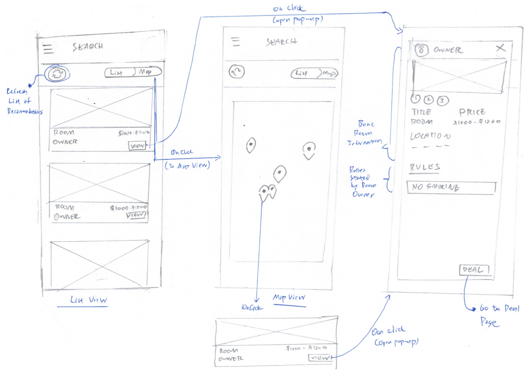

Figure 10: Search User Flow for Room Seeker

Essentially, when a user requires to **search for apartments**, he or she will require to go on to the **Settings Page** and look at the apartments recommended to him or her based on the information he or she has filled in with respect to the **Registration and Onboarding Forms**.
If the user requires a new recommended list, he or she can click on the **refresh button**.
Also, there are two views available for the user, mainly:

1. List View.
2. Map View, where he or she can view the closest apartments using **Google Maps API**

Once the room seeker has found a suitable apartment, he or she can start to make the deal, aka the request to chat.

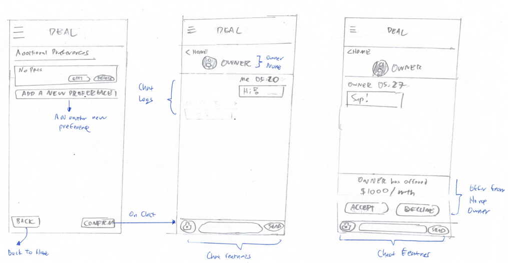

Figure 11: Room Seeker Deal Frames

Following which, the room seeker can add any additional preferences he or she needs before making a request to contact with the room owner.
If the room owner **accepts the request**, they can start communicating and negotiating about any further arrangements.
If the owner sends an offer, the room seeker can then choose to accept or reject the offer.

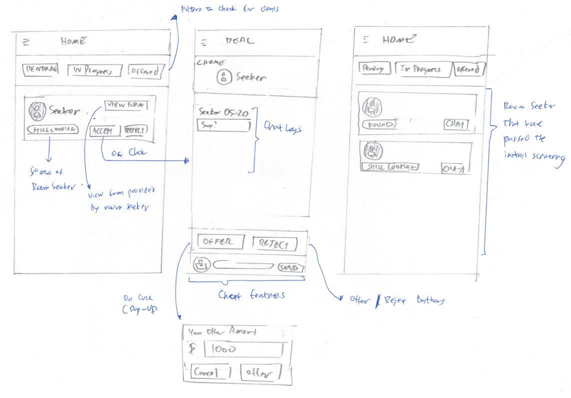

Figure 12: Owner Wireframes

For the Owner, it will be simply such that he or she will just need to access the following pages

1. The Home page to view the ongoing deals.
2. The settings page to change information entered from the **Registration and Onboarding Pages**
3. The To-Dos page **once a deal has been settled**.

The owner's Deal page will be a bit special, where he or she can make an offer to the room seeker **if and only if** the owner has accepted the offer to make contact with the room seeker.

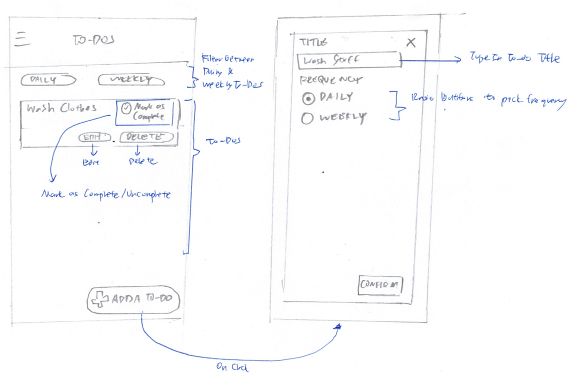

Figure 13: To-Dos Page

For the To-Dos page, it is help the application **make the roommate experience better**. By encouraging both roommates to communicate by adding and completing daily or weekly tasks or chores, they can make each other's living environment more pleasant while gaining bonus review points for themselves.

4.2 Issues with Sketches

There are a few issues with the sketches, which I will address in this subsection and use fix this issue in my wireframe flows.

4.2.1 Replacing Dropdowns with Radio Buttons

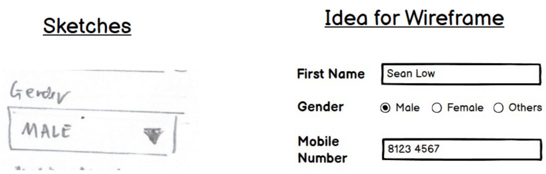

Figure 14: Improving Dropdowns with Radio Buttons

The key idea for most of my dropdowns is that **there is no clear default value**. Furthermore, I would want the user to **see all options available**. As a result, I have decided to replace dropdowns with radio buttons for easier viewing and selection.

4.2.2 Separation of Concerns for To-Dos

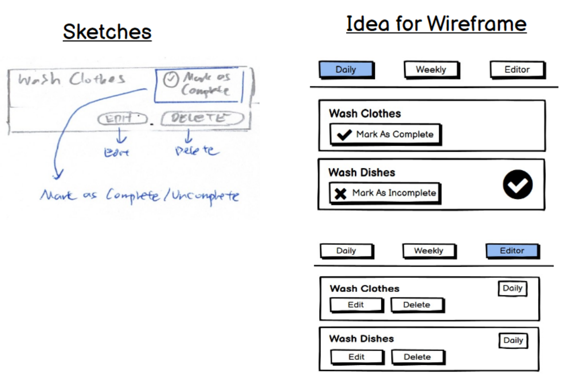

Figure 15: Seperating Concerns of Editing and Marking a To-Do as Complete

The issue with my original sketch is that **there is too much information presented** in a To-Do Card. As a result, an improvement that I would like to have would be to **separate there concerns** such that user flow would be easier in terms of the possible paths he or she would need to take.

5 Main User Flow for Room Seeker via Wireframes

The Main User Flow **for a Room Seeker** will be as follows:

1. Register as a New User
2. Select Role as **Room Seeker**
3. Complete Onboarding Form by indicating expectations
4. User is to Search for an apartment
5. User needs to send a chat request to Room Owner with the preferences form fill up
   (a) If it is not successful, go back to Step 4.
   (b) Else, go to Step 6.
6. User chats with the Room Owner to negotiate and query about the room if necessary.
   (a) If the user does not get an offer, go back to Step 4.
   (b) Else, go to Step 8.
7. When the User receives an offer, the user can choose to accept it or not.
   (a) If the user does not accept offer and **does not wish** to re-negotiate, go back to Step 4.
   (b) If the user wishes to negotiate, he or she can reject the offer and go back to Step 6 and renegotiate if possible.
   (c) Else, go to Step 10.
8. The To-Dos Page will appear and the user and his or her new roommates can plan out tasks to complete together.

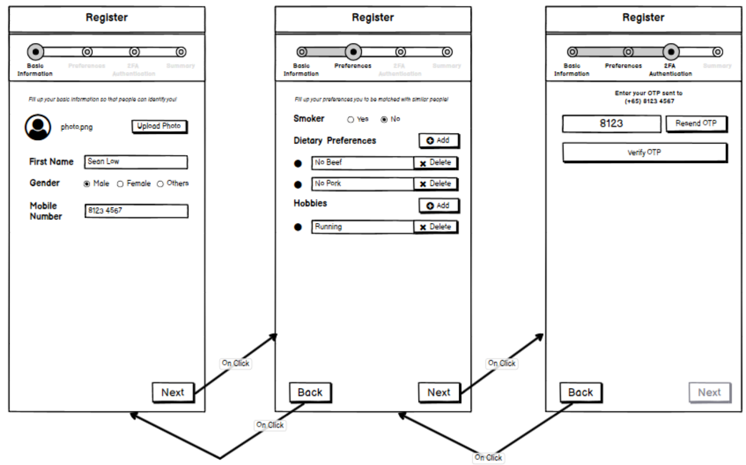

Figure 16: Registration Flow Part One

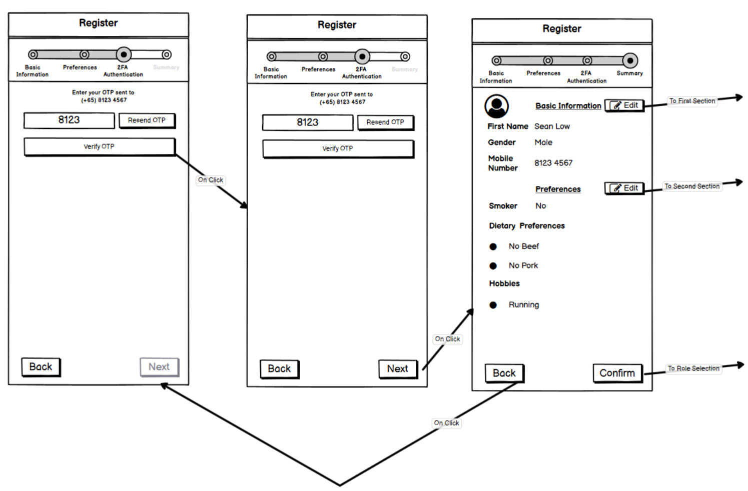

Figure 17: Registration Flow Part Two

One thing to note about the Registration Flow is that: On the third section where the user **has to verify his handphone number** before moving onto the last section of the registration flow, which is the Summary Page.

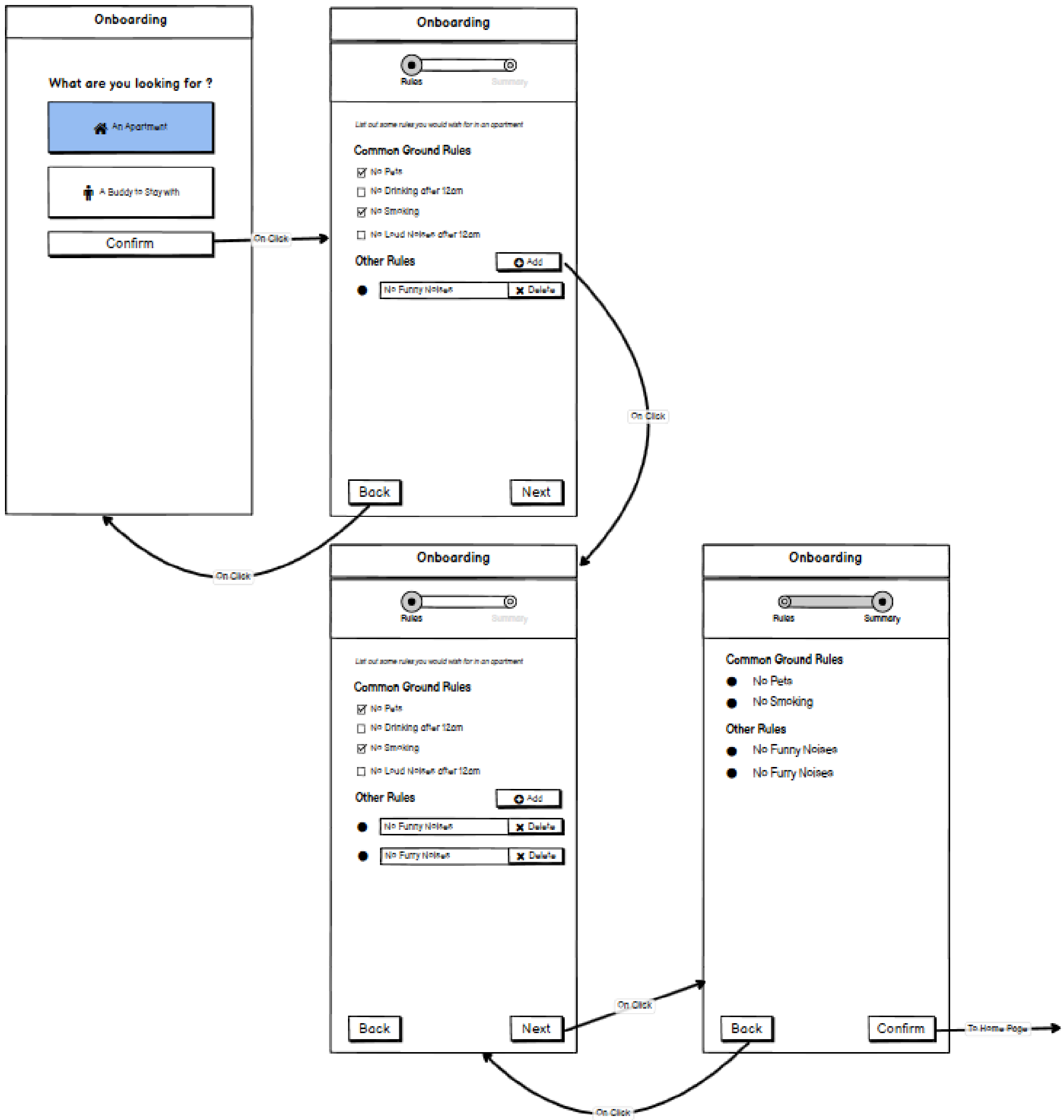

Figure 18: Onboarding Flow

For the Onboarding Process, I have split the expected rules into two parts.

1. Common Ground Rules, which are common for roommates sharing a room
2. Other Rules, which the user wants to incorporate into his or her future room.

This would make it easier to list out what the room seeker **expects of a room** in terms of rules and regulations which suits his or her needs.

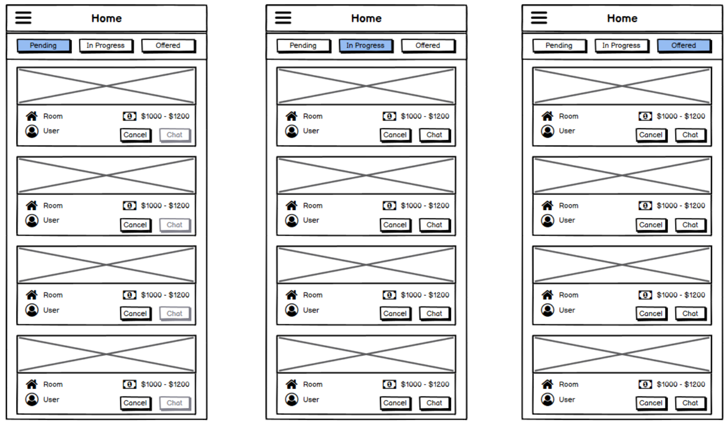

Figure 19: Onboarding Flow

For the Home Page, there are 3 separate filters as mentioned earlier.
To Note: for the **Pending Filter**, do not that the chat button **is disabled** due to the fact that the room seeker **has to wait for the room owner to accept the chat request**.

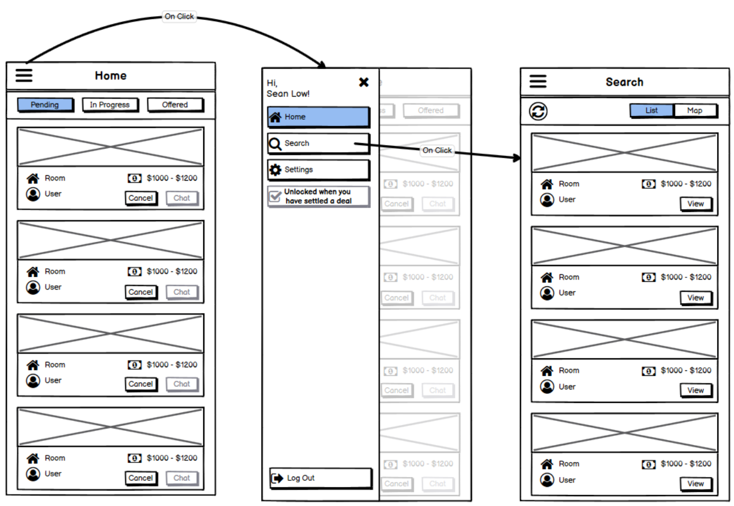

Figure 20: Navigating to Search Page

To Navigate the Search Page, it is important to note that the user has to click on the **Sidebar Icon** on the top left hand corner. Then the user will be able to see the links leading to the **Search Page**

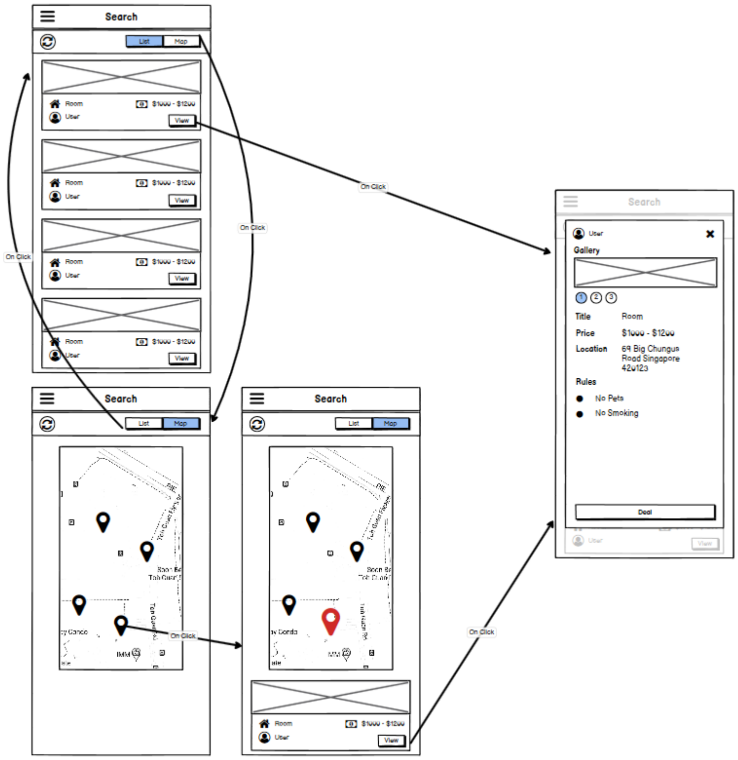

Figure 21: Searching For Suitable Apartment

As mentioned earlier, the **Refresh Button** is meant to refresh the **List of Recommended Apartments** to the room seeker.
Not only that, the user can toggle between the **List View** and **Map View**. The **Map View** is more suited for those who wish to view the apartments closer to them.
Do note that once a marker has been selected under **Map View**, the **Card displaying the room information** will be displayed at the bottom.

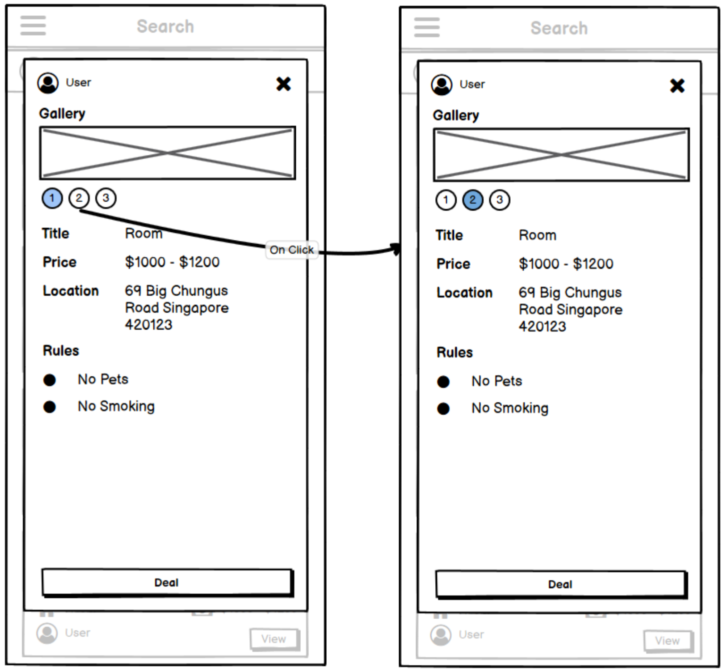

Figure 22: Pop-up Details of the Room

In order to view more information about the room, the **full details will be shown to the user.** within a pop-up. The User is able to toggle between the images using the buttons below the image in the popup.

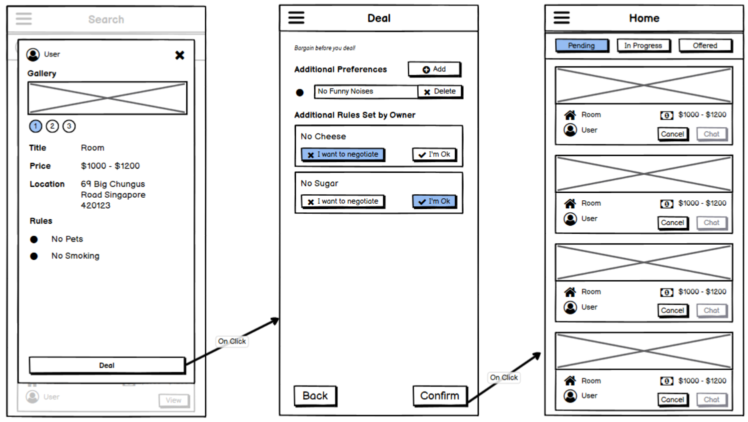

Figure 23: Sending a Chat Request to the Room Owner

Upon clicking the deal button, the room seeker will be prompted to fill in any additional preferences required. Not only that, a simple **algorithm** will be made to compare the differences between the rules requested by the owner and the rules requested by the room seeker.
Following the example shown in the Figure above, there are two additional requests made by the owner. The Room Seeker can choose to negotiate or just accept.
Once the user has finished filling up the form, the chat request will be sent automatically to the room owner. And it will appear **as a record** under the **Pending Section** of the Home Page. The chat button **is disabled** as no communication should be done before the owner exxcepts the chat request.

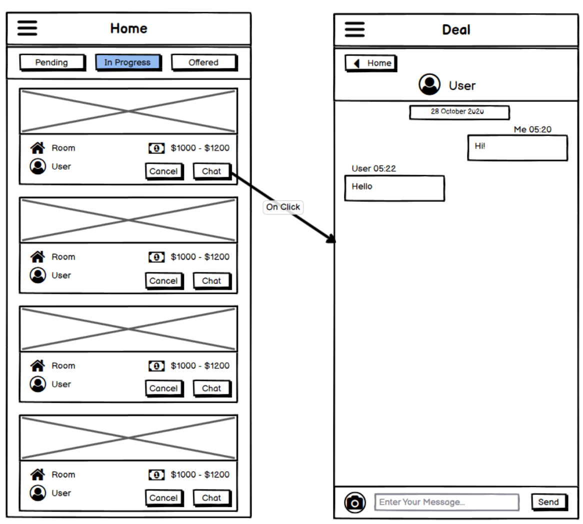

Figure 24: Chatting with the Room Owner

As a result, if the room owner **accepts** the chat request, it will appear **as a record** under the **In Progress Section** of the Home Page.
The chat icon **will be enabled** and the room seeker can start negotiating with the room owner.

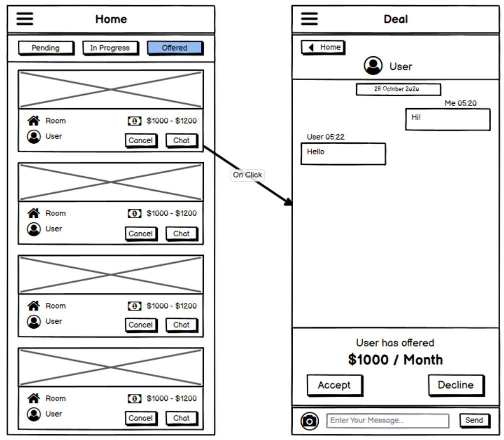

Figure 25: Accepting the Offer

Once the room owner **makes an offer** to the room seeker, it will appear **as a record** under the **Offered Section** of the Home Page.
Following which, in the chat room, the room seeker will be given an option to **accept or decline the offer made**.

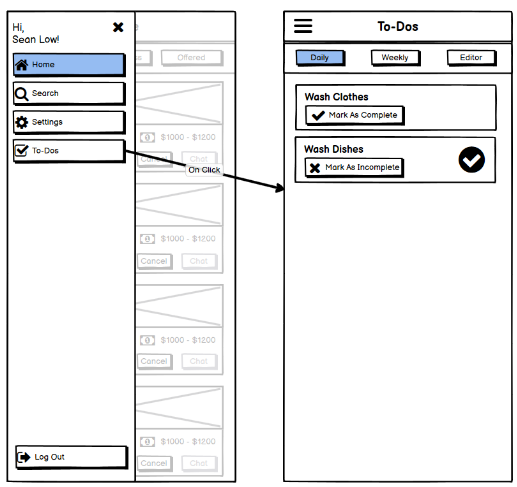

Figure 26: Navigating to the To-Dos Page

Once the room owner **makes an offer** to the room seeker, it will appear **as a record** under the **Offered Section** of the Home Page.
Following which, in the chat room, the room seeker will be given an option to **accept or decline the offer made**.

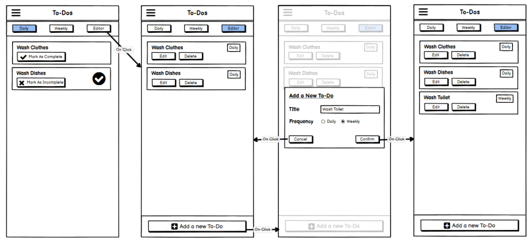

Figure 27: Adding a New To-Do Task

As mentioned earlier, we separate the concerns of marking a task as complete and adding a new task.
The user is required to go onto the **Editor** section and add the new task using the **Add a new To-Do** button at the bottom of the screen.

6 Main User Flow for Room Owner via Wireframes

The Main User Flow **for a Room Owner** will be as follows:

1. Register as a New User
2. Select Role as **Room Owner**
3. Complete Onboarding Form by entering in room information indicating expectations
4. User waits for chat requests from a Room Seeker.
5. User views the form with the preferences of the Room Seeker.
   (a) If the room owner rejects the chat request, go back to Step 4.
   (b) Else, go to Step 6.
6. User chats with the Room Seeker to negotiate and query about the room if necessary.
   (a) If the user rejects communication with the Room Seeker, go back to Step 6.
   (b) Else, go to Step 8.
7. The Room Owner then sends a offer to the room seeker if the negotiation is successful
   (a) If the room seeker does not accept offer, go back to step 6.
   (b) Else, go to Step 10.
8. The To-Dos Page will appear and the user and his or her new roommates can plan out tasks to complete together.

Do note that **Steps 1 and 8** are exactly the same as that of a **Room Seeker**. As a result, we will mainly dive into Steps **2 to 7.**

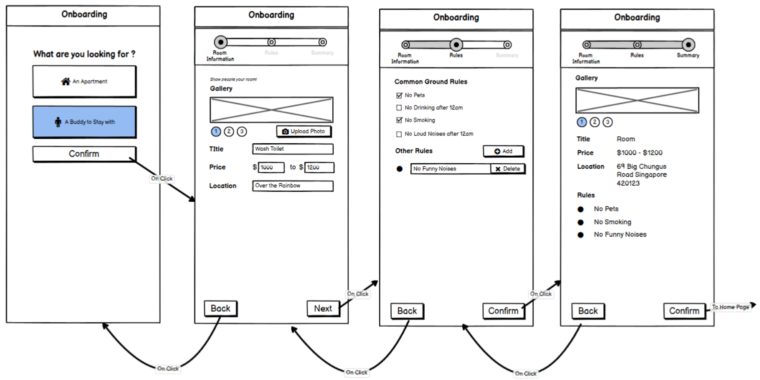

Figure 28: Onboarding Form for Room Owner

The difference between the Onboarding from for a Room Owner is that the Room owner will need to **fill in the room information**

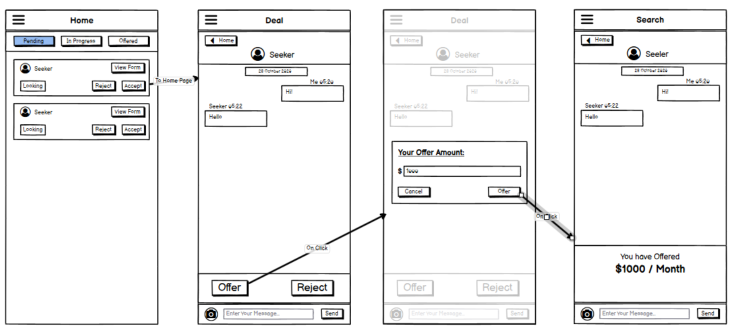

Figure 29: User Flow for Offering a Room Seeker

The User Flow for accepting a chat request and sending an offer is summarized in four simple steps.

1. Once the room owner has viewed the form, he or she will click on the **Accept Button if and only if** the preferences stated in the form are reasonable.
2. After discussion, if they have come to negotiable terms, the room owner will click on the offer button.
3. Following which, the owner can key in the amount payable **PER MONTH**.
4. Finally, it will be sent as an offer, waiting for the room seeker's reply.

7 High Fidelity Prototype for Room Seeker User Flow

Click here to view the interactive prototype.

7.1 Notable Key Differences between Prototype and Wireframe Flow

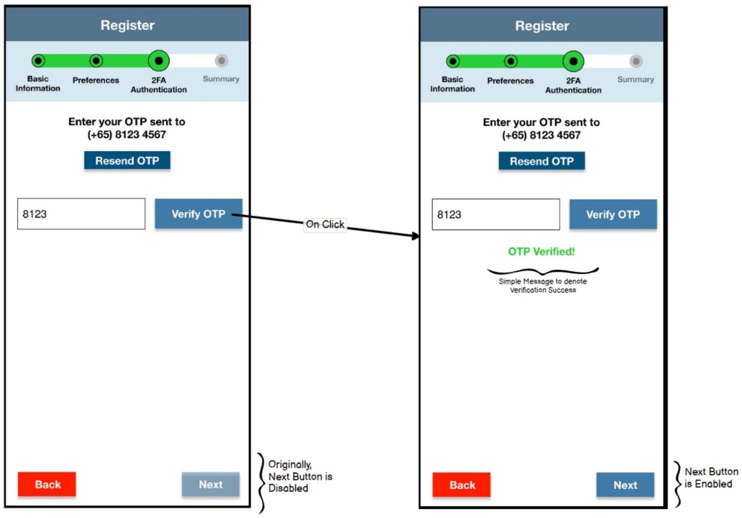

Figure 30: Feedback for Handphone Number Verification

From the figure above, it is easier to tell whether the verification was a success or not.
If it wasn't the **button** would still be disabled. On the other hand, if the verification was successful, a short green message would be present to inform the user that the veirifcation was successful. The next button subsequently will be enabled as well.
It is critical to have such functionality so that the room owner can easily navigate back and **fix the mistakes made** previously in filling up either the room information or the rules to be set.

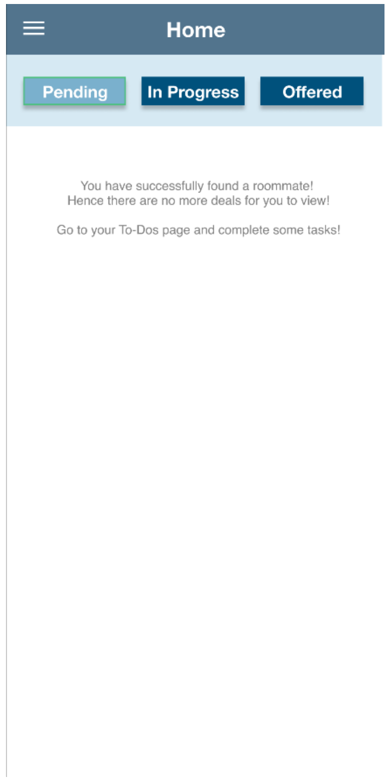

Figure 31: Feedback when Offer is Accepted

To prevent the user from making unnecessary errors, it is important to establish the fact that **no deals should be made** while the room seeker has accepted an offer.
As a result, a simple note should be given at the home page.

8 High Fidelity Prototype for Room Owner User Flow

Click here to view the interactive prototype.

8.1 Notable Key Differences between Prototype and Wireframe Flow

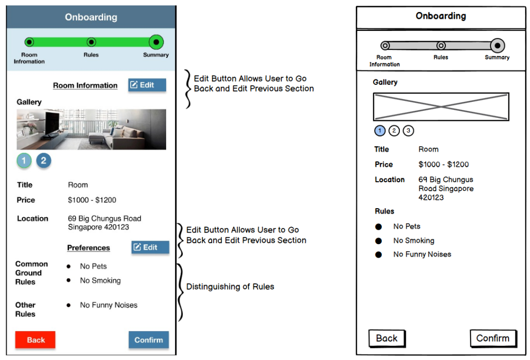

Figure 32: Inclusion of Edit Buttons for Onboarding Form

It is **crucial to note** that the edit buttons **were not included** in the original wireframe flow for the Room Owner User Flow.

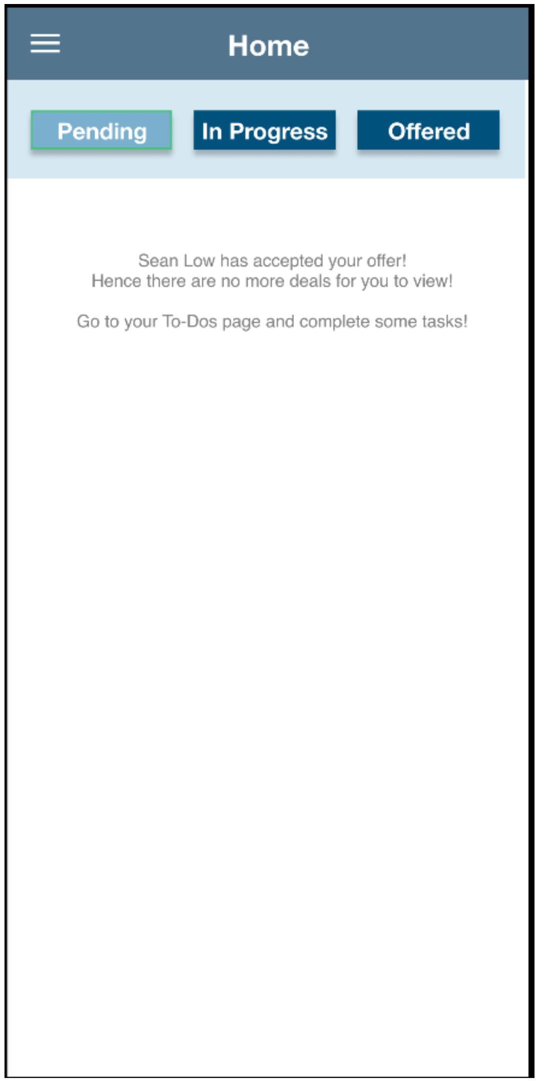

Figure 33: Feedback when Offer is Accepted

This is similar to what was mentioned earlier, where similarly, a room owner **should not be able to make new deals** when he has a new roommate to begin with.

9 Other Notable Differences between Prototype and Wireframes

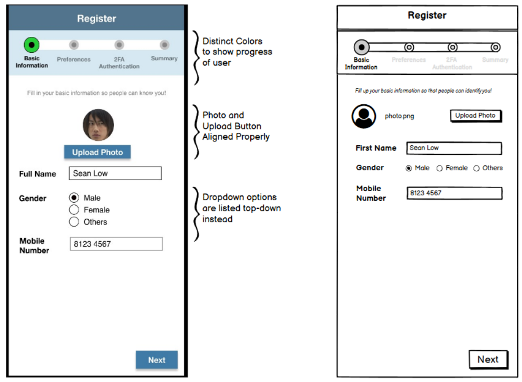

Figure 34: Arrangment and Color Coding for the Registration Form

It is important to note that **Colour Coding plays an important part** in helping the user recognize interactions. The progress bar uses distinct colours to help indicate the user's progress with regards to the forms needed to onboard the user.
Also, The dropdown options are now listed top-down to make it easier for the user to select which option he or she needs to.