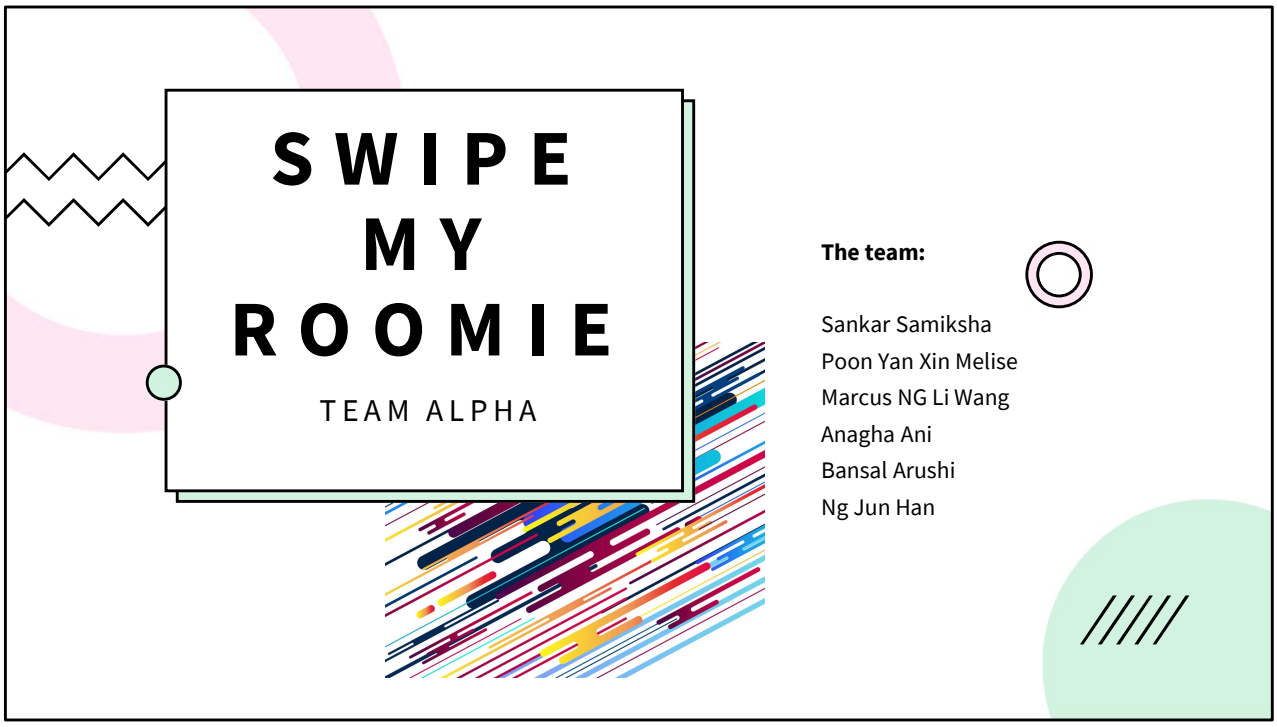
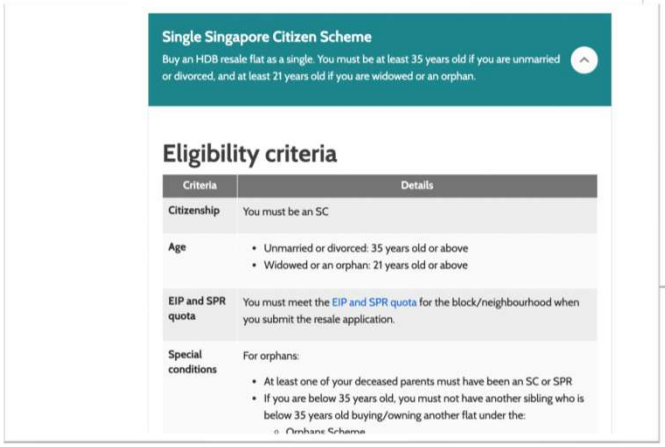


Good afternoon, we are team Alpha, and today we will be presenting to you our app Swipe my Roomie. Let me first introduce my team, our group leader Samiksha,
Marcus, Junhan, Anagha, Melise and I am Arushi.

Introduction



Single Singapore Citizen Scheme

Buy an HDB resale flat as a single. You must be at least 35 years old if you are unmarried or divorced, and at least 21 years old if you are widowed or an orphan.

Eligibility criteria

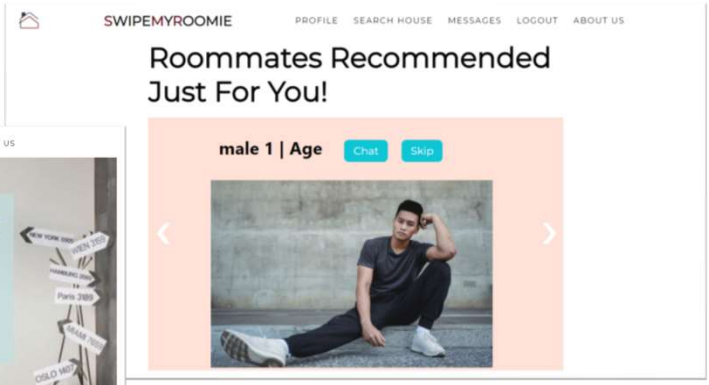
Criteria	Details
Citizenship	You must be an SC
Age	• Unmarried or divorced: 35 years old or above • Widowed or an orphan: 21 years old or above
EIP and SPR quota	You must meet the EIP and SPR quota for the block/neighbourhood when you submit the resale application.
Special conditions	For orphans: • At least one of your deceased parents must have been an SC or SPR • If you are below 35 years old, you must not have another sibling who is below 35 years old buying/owning another flat under the: ◦ Orphans Scheme

THE STRAITS TIMES BUSINESS

Singapore private home prices rise at faster pace of 1.1% in Q3, led by landed properties

In Singapore, by law, it is not possible to own a HDB flat unless you are married or above the age of 35. And affording a private condo in Singapore is impossible for most. Hence, university students and young adults need to find places to rent while studying or working in Singapore. This website aims to help them in their search for roommates. Youngsters often would seek roommates to share the apartment with. Young adults who are immigrants may not have a family here in Singapore and may intend to stay with others to make rentals affordable.

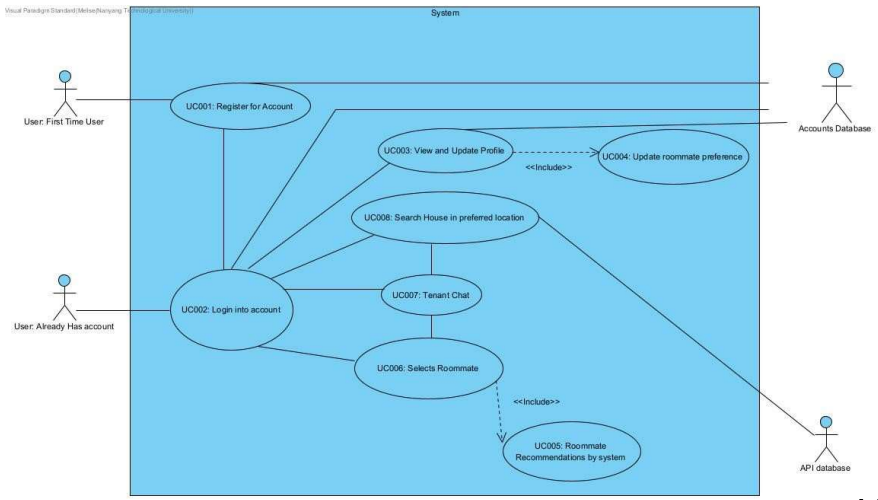
- Website brought to you by team Alpha
- To find compatible roommates in Singapore
- Hassle free and affordable rental and living experience



Hence, we present to you our website SwipeMyRoomie, a hassle-free platform to find roommates and rent rooms.

Requirement Elicitation:

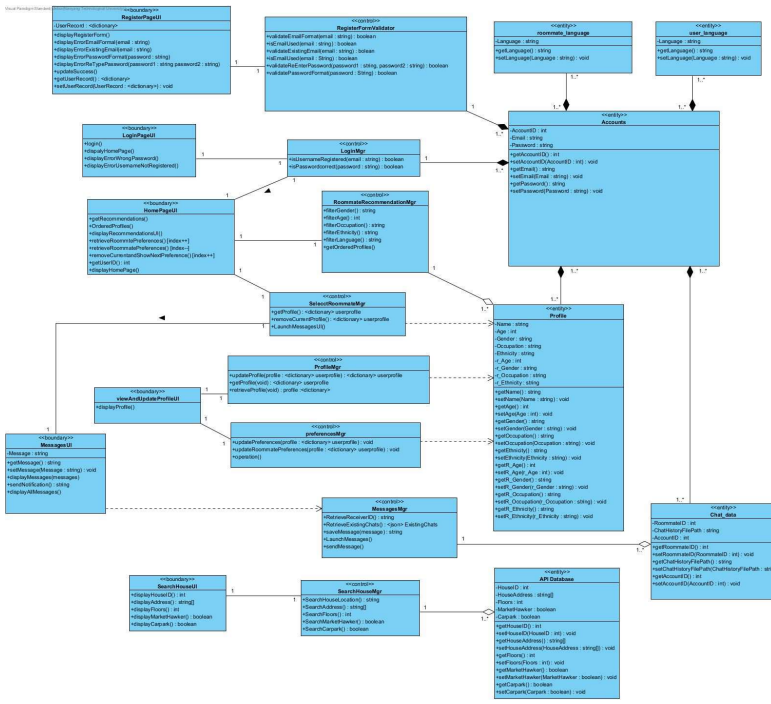
Use Case Diagram



In the process of developing the website we first began by outlining the initial specifications. We defined our use cases and outlined the use case diagram as seen. It shows the interaction between various actors and the system.

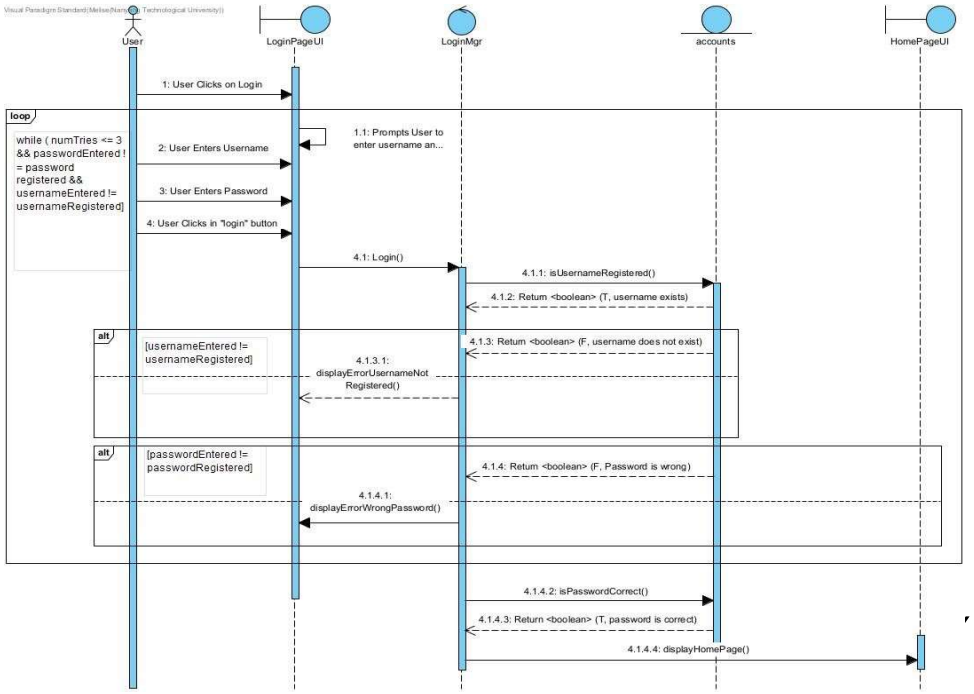
Requirement Analysis:

Class Diagram



Next, we made the class diagram as seen on the screen. We defined the classes and methods which provided a basis for coding the website later on.

UC002: Login into account



This is one of the 8 sequence diagrams we prepared to depict object interactions arranged in time sequence. It shows the objects involved in the case of logging into the account and the sequence of messages exchanged between the objects needed to carry out the said functionality.

As we can see, there is one bigger loop inside which there are two alternative flows in the case of wrong password and other in the case of wrong username.

All the UML diagrams shown above were drawn on visual paradigm, a lisenced software.

System Design :

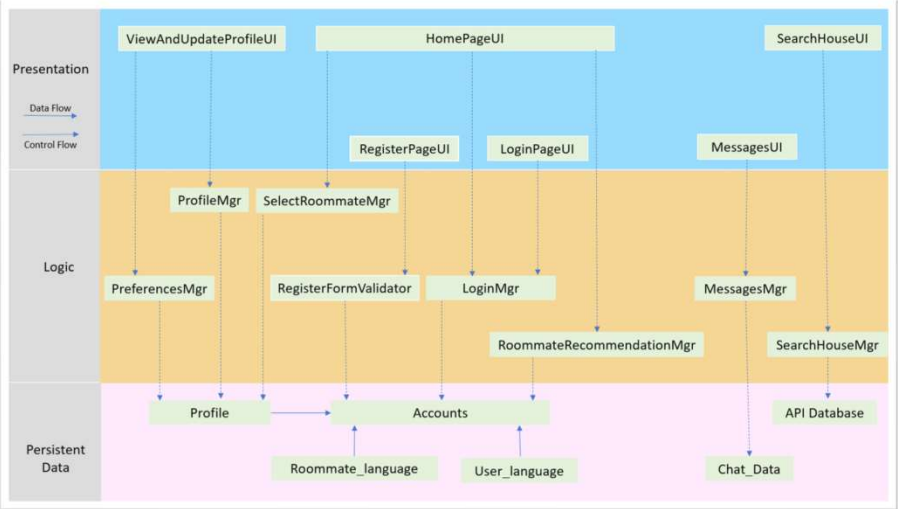
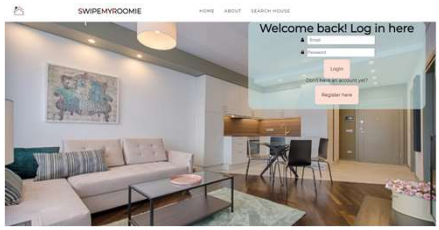
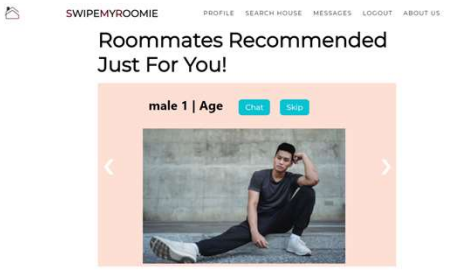


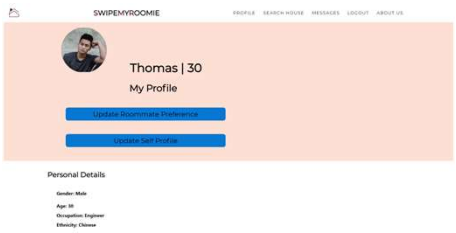
Fig: system architecture

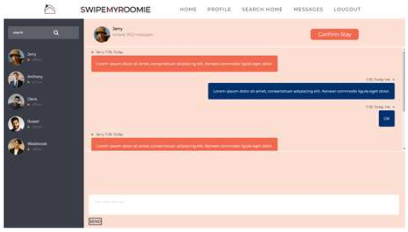
I will now go on to share with you more about our system architecture diagram. As you can see in the slide here,
The system architecture highlights the structure of our software system in terms of the architectural elements and the interactions between them. This diagram showcases the overall properties of the system.

Main Features







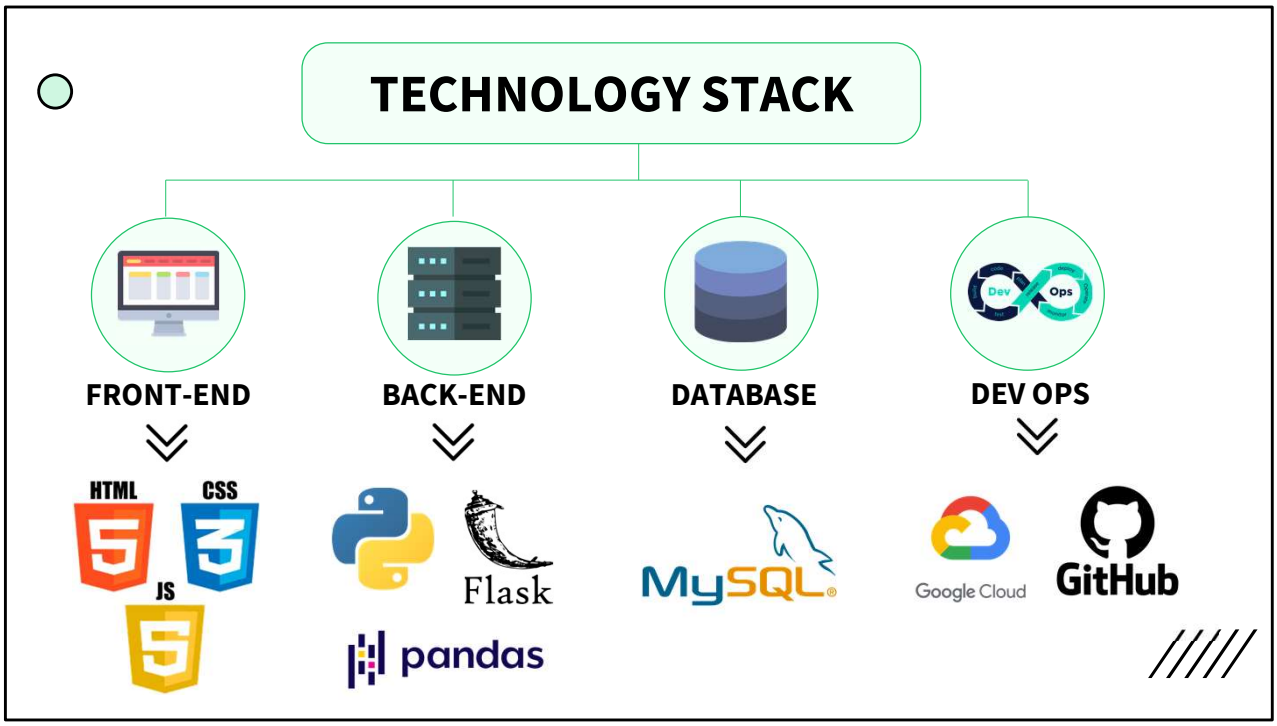


Here you can see the main features of our website. Once you set up your account, log in and key in your preferences, roommate recommendations will pop on your home screen to match you up with your ideal roommate. You can chat with them to get to know each other more once your profiles match.

Expected Users

- University students
- Young adults
- Expats and immigrants

The expected users for our website include university students, immigrants, expats, young adults and others looking for affordable housing with compatible roommates in Singapore. Now I pass my time to Samiksha who will walk you through our live website.



For the front end we have used HTML, CSS and javascript

To enable our website to be interactive as well as dynamic we have used python flask. Python flask is a light weight micro web framework. Having no requirement for particular tools or libraries, it is easier to learn and integrate with html, css, and javascript.

To store our databases, we have used MySQL. To collaborate on the mysql database, we have learnt how to use google cloud. This is was an important learning point for our team as we were able to integrate what we have learn in CX2007 and take it a step further, learning beyond our syllabus.

Finally we used github for version control. To explain in further detail let me bring you to my next slide

Most of the software we used supports good software engineering practices. The use case and sequence diagrams explained by my teammate Arushi earlier one is a licensed software. This supports good traceability in coding and documentation. For example, if we encounter a software bug, we would we able to track where exactly when exactly the error has occurred and who was in charge of the code that was made.

However, good traceability is not good enough. We need to ensure real time collaboration and documentation. Such that when a person changes a code, the teammate is able to view it. This is where github comes in to help us code as a team. Additionally we used softwares such as vs code and vs code live share.

While coding it is important to keep track of the various versions of the code. What better way to do this than to use github a well known version control platform.

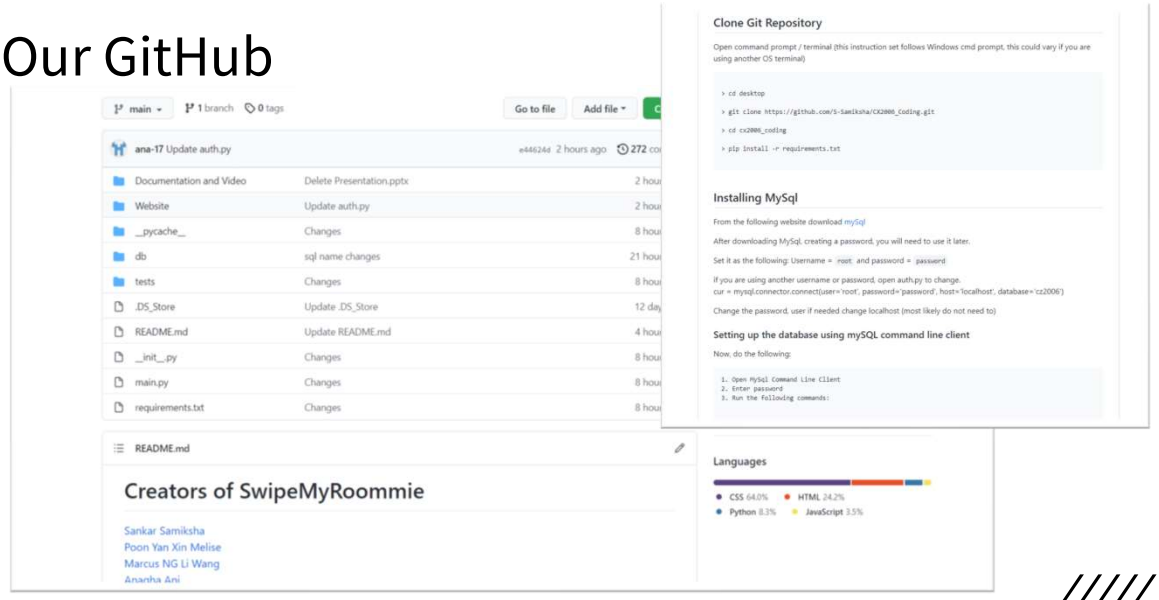
Additionally, we need to ensure dynamic coding to make our website easily upgradeable in the future.

This lead me to show the product of our software engineering practices – our product Swipe my roommie

- Explain the SE techniques:

Testing is essential SE practice and we ensured we included enough test cases for our website
Used GitHub repository for version control- helped trace our old code back if needed – ensured good traceability I accountability
Used google cloud for databases and OneDrive for real-time collaboration of documentation
We made all our UML diagrams and architecture diagrams on Visual Paradigm
Dynamic coding Support to make our website easily upgradable in the future

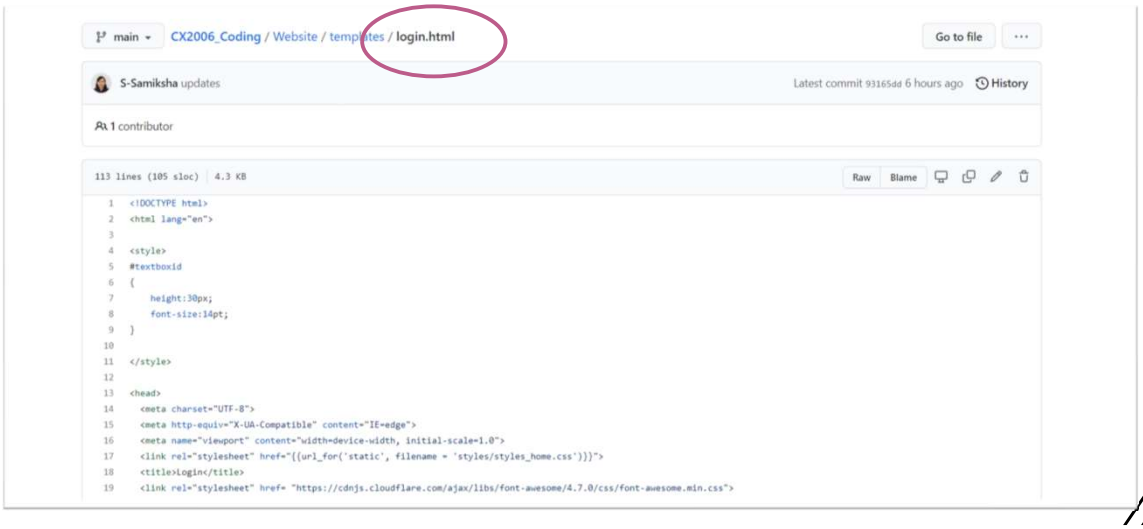
Our GitHub



https://github.com/S-Samiksha/CX2006_Coding.git

Our github is arranged in such a way that it allows us to trace back to the use case. Let's take for example

One Important Use Case explained….



This is the html file
Knowing that the use case is for the login, we name the file login.html

One important Use Case Explained…..

```
87  @auth.route('/login', methods=['GET', 'POST'])
88  def login():
89      global current_account_id
90      msg = ''
91      if request.method == 'POST' and 'usernam
```

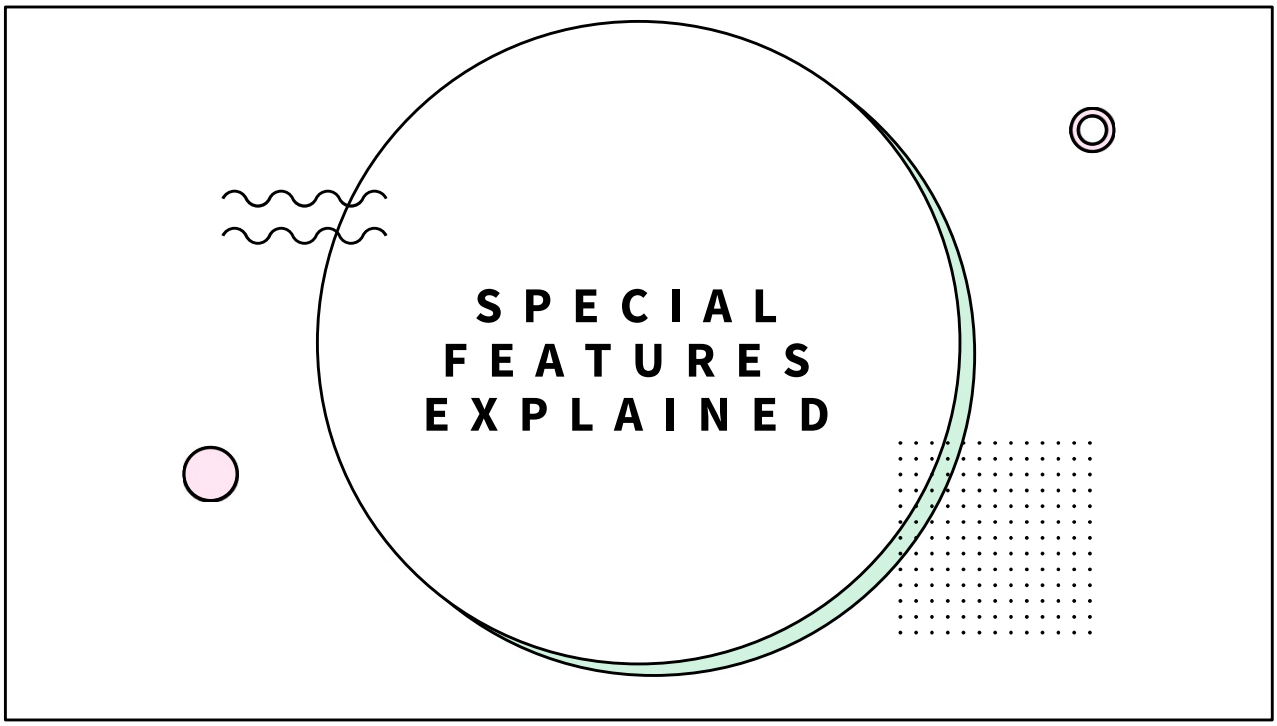
```
121 #the button also does not close when clickin
122 @auth.route('/register', methods=['GET', 'PO
123 def register():
124
125     msg = ''
126     if request.method=='POST'  and 'username
127         details = request.form
128         username = details['username']
129         password = details['pwd']
130         confirmpassword = details['confirmpw
131
132         if password != confirmpassword:
133             msg = "The passwords don't match
134         if len(username) < 4:
```

```
337 @auth.route('/search_house')
338 def search_house():
339
340     return render_template("search_house.html")
341 # display short form town into full name
342 def convertToFullTown(town):
343     if(town == 'AMK'):
344         town = 'ANG MO KIO'
345     elif (town == 'BB'):
346         town = 'BUKIT BATOK'
347     elif (town == 'BD'):
348         town = 'BEDOK'
349     elif (town == 'BH'):
350         town = 'BISHAN'
351     elif (town == 'BM'):
352         town = 'BUKIT MERAH'
353     elif (town == 'BP'):
354         town = 'BUKIT PANJANG'
355     elif (town == 'BT'):
356         town = 'BUKIT TIMAH'
```

Now for the python backend… For login, we need to authenticate whether the users have a pre existing account or not. This is a partial code segment to show the use case for login where the function is called login

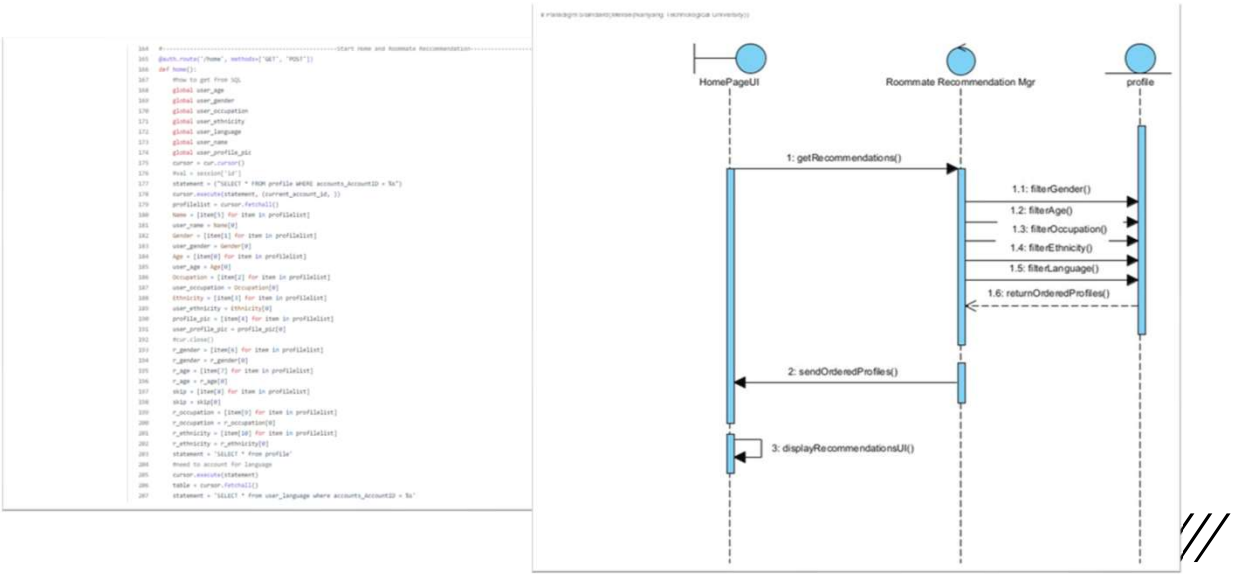
Hence if there is an error with login we can easily trace back to the login function and the login html file

To give more examples here are the register, and the search houses functions



In this section I will explain the salient features in our product

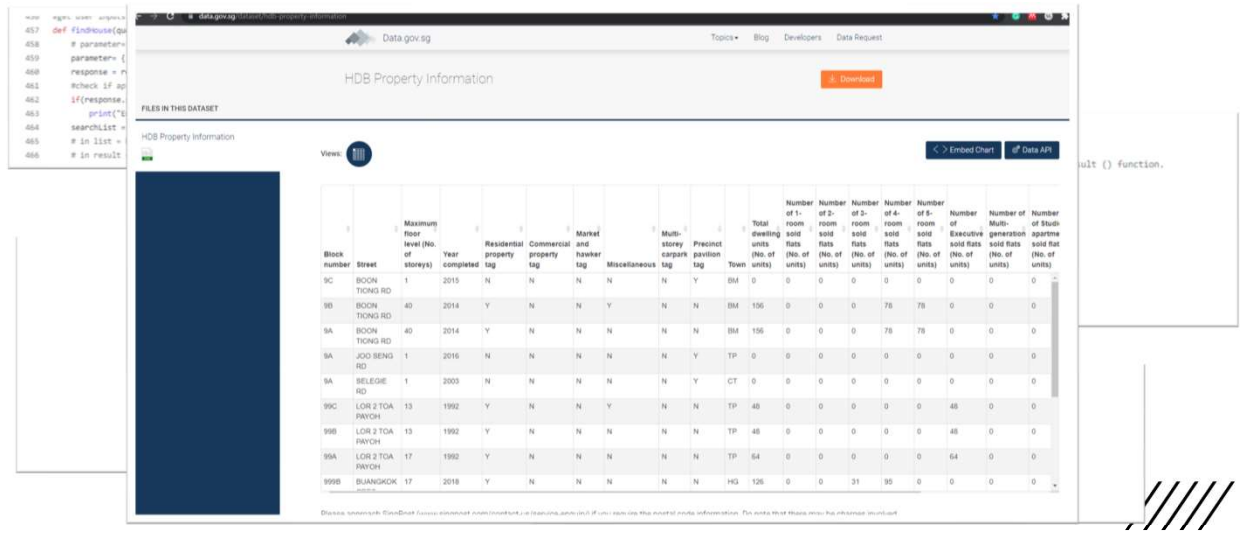
Roommate Recommendation



In this slide I will explain how the Roommate Recommendation works. For the Roommate Recommendation system, we will be using the pandas framework.

1. Filter gender
2. Filter age
3. Filter occupation
4. Filter Ethnicity
5. Filter Language
6. Then return ordered profile

Search Houses



1. Here is the code snippets
2. This is the api that we used from the data.gov.sg website

Samiksha: Registering with invalid password, about us page

SAY EXPLICITLY the TESTING PART
Update roommate as well

Explain the roommate recommendation

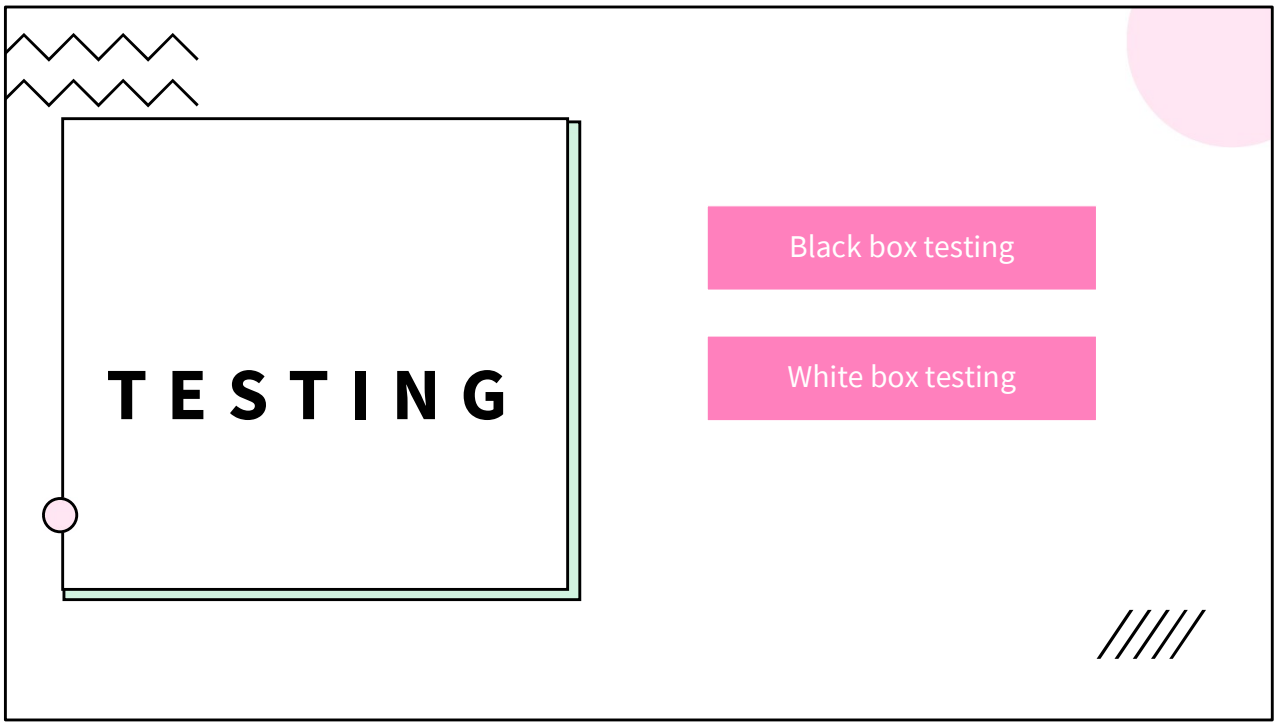
When you login to the website with a preexisting account, this is what will take place. First, we will demonstrate that when you login with a wrong username-password combination, you will not be logged in. As you can see, an error message is displayed, prompting the user to enter the correct username and password.
When we do enter the correct username and password, the user is redirected to the home page, with personalised welcome message containing the name of the current user. As you scroll down on the home page, the website will display the users who are recommended to be compatible with you based on the information you enter in your profile, under roommate preferences, as demonstrated earlier. the user is able to view the profile picture and information associated with the profile and can choose to skip or chat with each

recommended profile. Alternatively, the user can also click on the left or right buttons to browse all the recommended profiles, without actively skipping or chatting with any of them.

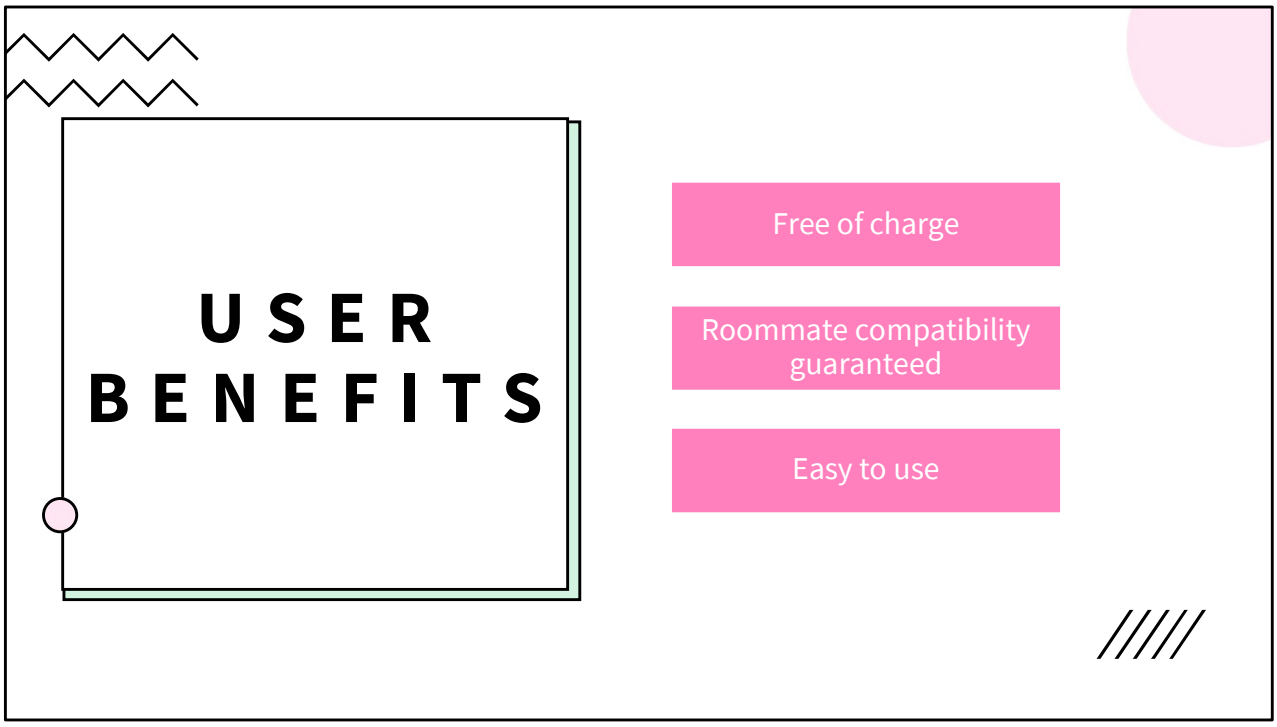
If you click on the skip button, this profile will not be recommended to you again. If you click on the chat button, you are taken to a chat containing the user that you just viewed on the home page. You can proceed to chat with this user, and get to know them, and exchange information regarding your preferences for housing regarding location, no. of rooms, etc., and ultimately decide to proceed with applying to live at a specific listing.
In addition, the user can see all the current and previous chats on the left hand side.
When the user clicks on the search house button, they are redirected to the page includes a search bar. The user can type in their preferred location and click on the search icon. The website will then display all the currently available listings which are within the preferred location.
Users can use information from this page to chat with their potential roommates, and discuss their preferences.
The user can also click on the about button, to be redirected to this page to learn more about our website and the algorithm we used.
When the user clicks on the logout button, they are redirected to the main page, where they have the option to login again.
That’s all we have for the product demonstration- I will now pass my time to Melise.

Click right click left

- Live Demo here - 10 mins (includes slides 7,8,9,10)
  - walk through of the website – demonstrate ALL main features
  - Elaborate on testing in slide 10



(pointers appear on mouse click)
I will now explain about the Testing portion. (click 2x)
We tested our website for performance and bugs using both black box and white box testing methods. The test outcomes have been outlined in detail in our SRS document.

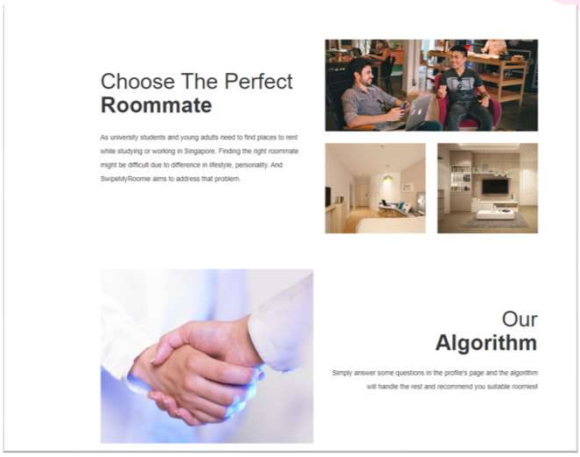


So you may wonder why choose SwipeMyRoomie then? Why not PropertyGuru, Trivago or even hire a private real estate agent?

Let us start with the users:
(click)
Firstly, SwipeMyRoomie enables users to use this platform free of charge. Doesn't that sound nice? Especially for students with tight budget constraints, I believe this would be a huge incentive for them to use our website instead.
(click)
Secondly, SwipeMyRoomie guarantees that users would be able to find a roommate that is compatible with them before moving on to the next step, which is to rent a house. I believe this feature is crucial as roommates would have to share the same space, hence they should first have a good relationship with each other before moving in together.
(click)
Lastly, SwipeMyRoomie is easy to use, we also provide a step-by-step video tutorial for users to refer to.

Then, let me share with you why SwipeMyRoomie would benefit investors:
(click)
Firstly, through the development of SwipeMyRoomie, good Software Engineering practices were applied as previously mentioned. This ensures that the website would be reliable and safe for all.
(click)
Secondly, there are still many areas and features that can be developed for SwipeMyRoomie. One such area would be expanding the scope of our website to include rentals of private housing and condominiums in Singapore. We can also look into collaborating with landlords, making it an all in one website for both tenants and landlords.
(click)
Lastly, I believe in due time, SwipeMyRoomie can be easily globalised and can be implemented in other countries too! Thereby helping students and young adults all around the world to find a home for themselves.

CONCLUSION



In conclusion, I believe we all have heard of this phrase “There’s no place like home”. I hope with SwipeMyRoomie, people will be able to find not just a house to live in, but a home, a place where they can surround themselves with warmth and love, a place where they can make it their safe haven, and lastly, a place where they can comfortably come back to every night. So, what are you waiting for! Create an account in SwipeMyRoomie now!

Thank you for your kind attention and I hope you have enjoyed our presentation.