

INFORMATION TECHNOLOGY PROGRAMME

SOFT808 Software User Experience

Trimester 3, 2024

Assignment 1

Name (Student ID)	Yoon Woo Choi (20241037)
	Joshua Paul Peralta (20240022)
	Pavitharan Rajaratnam (20232094)
	Caique Ribeiro Silva (20241524)

Table of Contents

Table of Contents	2
Question 1	3
a) In this question, you need to choose a New Zealand-based company that has proper website. Apply your user experience (UX) research skills and explain the user experience (UX) and UX design concept.	
b) Based on your research skills, you should explain at least two possible effects of its user experience (UX) and UX design on the performance of the company? 12	2
Question 214	4
a) Develop a digital prototype for a mobile network operators management website or mobile application. Use the lean startup method for this purpose14	
b) Critically evaluate your software by comparative analysis. Use at least two such systems available/used in New Zealand	8
Question 319	9
a) Create a digital prototype or wireframe to address a business problem that you have identified yourself	9
b) State the user testing report describing your participants and your findings 2	1
c) Research UX metrics and justify the importance of usability research. Employ suitable UX metrics to measure UX and possibly implement in the following part	
d) Conduct user experience by adopting at least two UX research methods for your	
analysis24	4
e) Based on all the above findings, enhance your digital prototype 28	8

Question 1

a) In this question, you need to choose a New Zealand-based company that has proper website. Apply your user experience (UX) research skills and explain the user experience (UX) and UX design concept.

For this assignment, I have taken https://www.nzflatmates.co.nz/ to apply my UX research skills and evaluate the website. NZ Flatmates is a company owned in New Zealand that allows users to find rooms for rent across New Zealand. It also allows users to browse flatmates for their house based on the user's profiles. I have used the design tool Figma to develop the personas (Figma, 2024), and I have also used Grammarly to enhance the content presented in this report (Grammarly, 2024).

User Personas

Figure 1

User Persona of Amelia Kerr

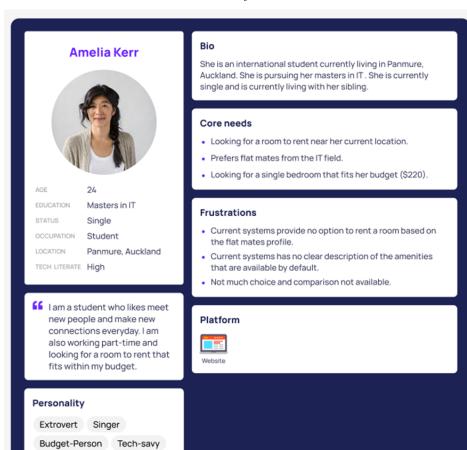


Figure 2

User Persona of Kane Williamson



Journey Mapping

Table 1

A table containing the journey mapping of the NZ Flatmates website

ortunit
ies
SEO
words
oetter
h.
oe

Considerati	Website	Searches,	Excited,	Poor	Improve
on	search bar.	sorts, and	curious.	search	result
		compares		results.	sorting
		results.			functionality
Decision	Room	Clicks on	Confide	Images	Load
	image,	room	nt,	are not	images
	room	images and	cautious	loading	quickly.
	location.	location.		correctly	
Contact	Send	Sends a	Satisfied	Not	Include a
	message	message to	,	knowing	'seen'
	field.	the	eager.	whether	symbol if
		advertiser.		the	the
				message	advertiser
				is seen	saw the
				or not.	message.

UX Key Elements

Key elements of UX include Usability, Desirability, Accessibility, and Functionality (Focus7 International, 2020). Below is an analysis of the NZ Flatmates website based on these key elements.

Usability. The website is easy to navigate, and its flow is designed in such a way that even a non-tech person can easily find a room for rent or find a flatmate. The entire process, from finding a room or flatmate to messaging the advertiser, is simple and streamlined. This is achieved by ensuring that the navigation bar contains only 2 to 3 navigation tabs that clearly state the goal of the application. (Find a Flat, Find a Flatmate, How it Works).

Desirability. The visual appearance of the website is appealing and engaging. The use of pastel colours makes it easy on the user's eyes and gives a calm tone to the website. Additionally, using GIFs on the homepage makes it more attractive and fun for the users. Moreover, when surfing through the 'Find a Flatmate' section, the images of the users displayed in the cards have a fixed ratio with a background blur, making it more approachable. On the contrary, when looking

at a similar website of a competitor(https://www.roomies.co.nz/), the users' images were zoomed to fit the canvas of the card, making it a bit spooky and unsettling. An example of this is given below.

Figure 3

A user profile card from nzflatmates.co.nz

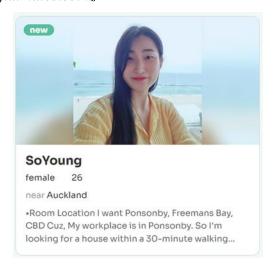
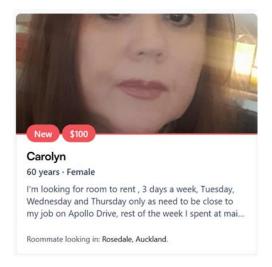


Figure 4

A user profile card from roomies.co.nz



Accessibility. It is essential for a website to be usable by people with disabilities. Offering features such as voice control and compatibility with screen readers is essential to the user experience. To measure the accessibility of nzflatmates.co.nz, I made use of the 'Google Lighthouse' tool, which gave it a score of 86/100. This explains that the site is quite accessible for all users with few missing attributes for screen readers. For example, a few buttons and links do not have an accessible name assigned to them for the screen readers to pick up, which ends up being difficult for users with disabilities to understand. An example of this is given below.

Figure 5

Missing accessible names for buttons. (Report from Google Lighthouse)

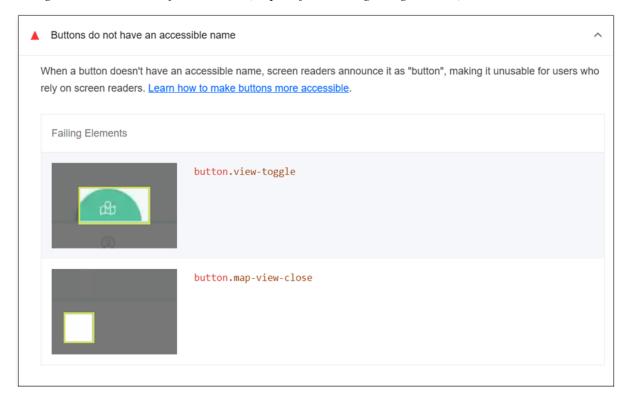


Figure 6

Missing accessible name for logo link. (Report from Google Lighthouse)

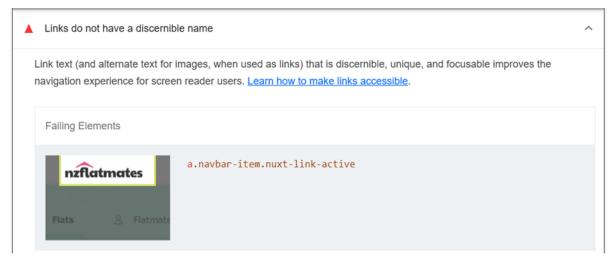
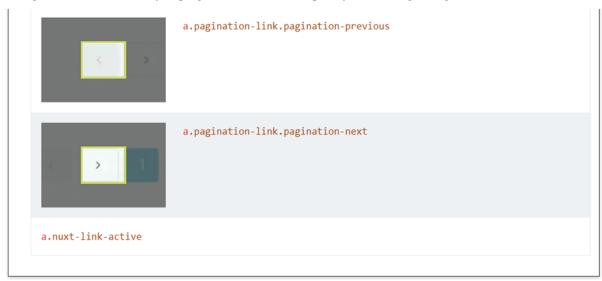


Figure 7

Missing accessible names for pagination links. (Report from Google Lighthouse)



Functionality. The core functionality of a website should be working correctly in order to provide a positive user experience. The core functionalities of NZ Flatmates are browsing and finding a flat, and finding flatmate, which the website achieves successfully without any errors or glitches. Therefore, the user experience in terms of functionality is satisfied.

UX Evaluation Metrics

The UX evaluation metrics help in evaluating the performance of a website based on user interactions and behavior. The NZ Flatmates website is being evaluated here based on three key metrics: Usability testing, Time on task, and User satisfaction (CSAT Score).

Table 2

Metric	Measurement	Target	Requirements
		Result	
Usability testing	Percentage of users	85%	 Making the 'Find a
	able to find a flat or		Flat' and 'Find a
	flatmate and contact		Flatmate' sections
	them.		more accessible
			without any initial
			profile setup.

Time on task	Time taken to find a	10 minutes	Postpone the profile
	flat or flatmate.		setup process and
			implement filters and
			sorters to minimise
			the average task
			completion time.
User satisfaction	Rating on a scale	3.5	Add optional survey
(CSAT Score)	from 1 to 5		forms to collect more
			feedback from users.
			Implement a mobile
			app to get more
			reviews from the app
			store.

UX Design Concepts

To explain the UX design concept of the website **NZ Flatmates** (https://www.nzflatmates.co.nz/), the website is analysed based on four core UX principles such as user-centred design, navigation, visual hierarchy, and interactivity. Since NZ Flatmates is a website primarily focused on connecting people to find a flat for rent or a flatmate, a user-friendly design is essential as their user base will consist of people of varying ages and tech knowledge.

User-Centred Design. The website's primary goal is to cater towards two main user groups, i.e., people who want to find a flat for rent and people looking for a flatmate. The website's design is simple and elegant, offering a straightforward profile setup option and a well-separated 'Flat' and 'Flatmates' tab for users to navigate to their required page. Searching for flats, creating user profiles, and messaging potential matches is made quick and easy for all users.

Easy Navigation. The top navigation bar comes with clear and easy-to-understand tabs such as 'Find a Flat', 'Find a Flatmate', and 'How it Works'. This helps users navigate to their desired page and provides a guide on how the website works, thereby minimising any chance of task incompletion.

Visual Design and Layout. The website's design comes with a clean layout with consistent white spaces and pastel colours, making it visually appealing and engaging to the users. Some of the critical parts of the website (such as images, profiles of flatmates, and flat listings) are made

notable by using card-like containers, making the options easily comparable for the users. The use of 'new' tags on new listings informs users about the latest listings, thereby enabling users to make early contact with the advertiser. To ensure readability, the text is well presented with readable font size and colours.

Interactivity and Feedback. Users can create detailed profiles where they can add images, personal interests, and preferred living conditions. This helps users to find matches that are more compatible with them. There is feedback (messages) for actions such as creating a listing and sending a message, which results in more user engagement. The site is also dynamic in terms of accessibility and performance on various devices, such as mobile phones, tablets, and desktops.

Building User Trust and Ensuring Data Safety. The user profile verification feature gives users the confidence to interact with other users without worrying about fake profiles. Additionally, terms of use and privacy policies information is easily accessible at the bottom of the site, giving users the right to know how the site uses their data.

Accessibility and Usability. The site uses pastel colours with good colour contrast and readable text, making it accessible to users who are visually challenged. It also supports navigation using a keyboard, which can help users who do not use a mouse for navigation. Including error correction/prevention prompts when setting up a profile helps minimise user errors, thereby improving the website's usability. This results in fewer users quitting the website without completing their desired task, i.e. finding a flat or a flatmate.

b) Based on your research skills, you should explain at least two possible effects of its user experience (UX) and UX design on the performance of the company? Effects of UV and UV Design on the Performance of the Company

Effects of UX and UX Design on the Performance of the Company

The user experience (UX) and UX design of the NZ Flatmates website have some flaws, which can significantly impact the overall user experience, thereby affecting the company's growth. The two key effects of UX on the company's performance are,

The Design of the Home Page. As a new user looking to find a flat for rent or a flatmate, when I visit the home page of the NZ Flatmates website, the first task the user is directed to do is the profile creation. As a user, I was looking for a way to postpone the profile setup process and wanted to look at some listings initially. But every tab I clicked on top of the home page directed me to the profile setup page, which was annoying as a user. Later, I discovered that the option to look at listings without creating a profile was located at the bottom (in the footer section). This deliberate design move can affect the overall user experience and result in low task completion

rates. This can also increase the time users spend on tasks, resulting in lower CSAT scores. Therefore, to improve the UX, the company can design their website so that the option to find a flat or flatmate is streamlined without having to create a user profile as the first step. They can allow users to create a profile once they are satisfied with a listing and when they want to send a message to the advertiser. This can significantly improve the user task completion rate and bring more users to the website.

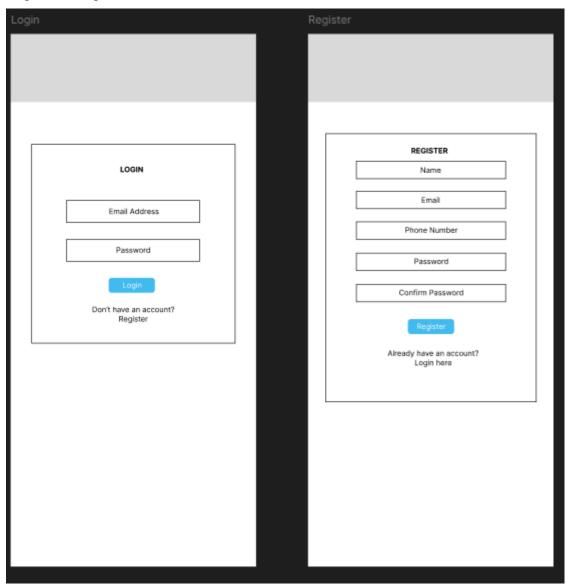
Improved Filtering and Sorting Options. As a user, under the 'Find a Flat' section, there are limited filtering options to select from, such as when choosing the location of the flat I want to rent, the current filter section has only cities to pick from and not any suburbs. Also, there is no option to filter the flats' prices or the flats based on bedrooms. This makes the searching process tiring and consumes a lot of time. The users are bombarded with listings that they are not necessarily seeking. Similarly, under the 'Find a Flatmate' section, flatmates cannot be filtered based on age, profession, or interests. They can only be filtered based on the cities they live in. Furthermore, there is no sorting option to sort the results based on relevance, price, or popularity. This affects the usability and time-on-task aspects of user experience, which in turn can result in lower user ratings/negative feedback for the website. By adding the filtering and sorting options with the abovementioned features, the company can significantly improve overall user experience and increase its user base while retaining existing users.

Question 2

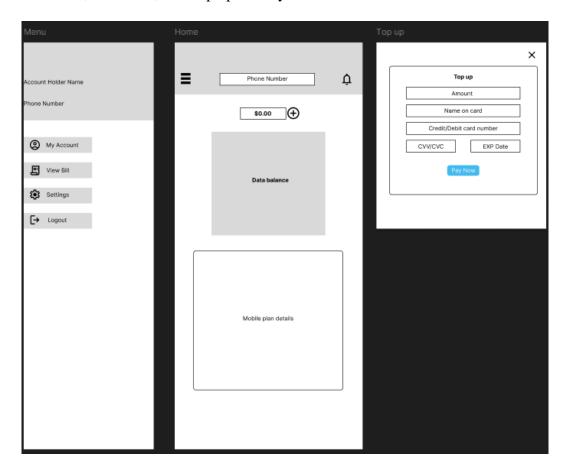
a) Develop a digital prototype for a mobile network operators management website or mobile application. Use the *lean startup method* for this purpose.

We have created a mobile application digital prototype for a mobile network operator. Found below are the screenshots of the developed prototype.

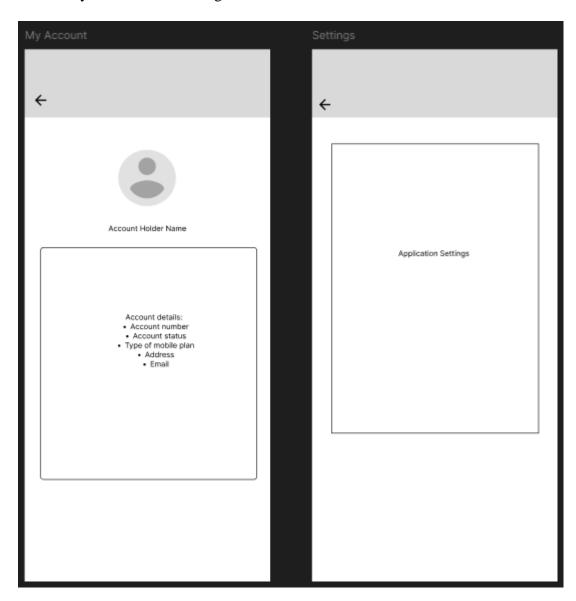
• Login and Register



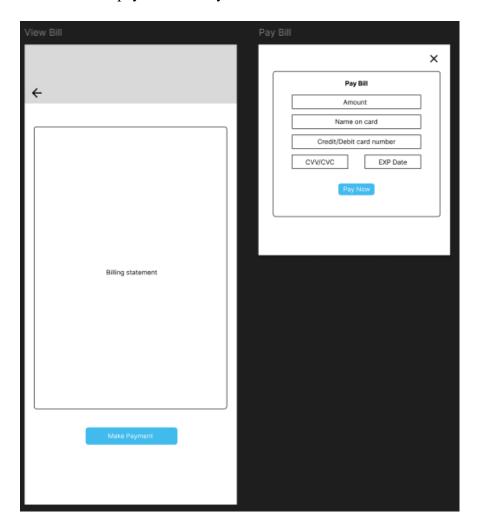
• Home, Menu bar, and Top up overlay



• My Account and Settings



• View Bill and payment overlay



b) Critically evaluate your software by comparative analysis. Use at least two such systems available/used in New Zealand.

We compared our software with 2Degrees and One NZ mobile for comparative analysis. Our software's UI is like 2Degrees; we want users to have no difficulties using the app. Hence, the user interface is straightforward and has simple navigation around crucial tasks such as topping up their accounts, checking their bills, accounts, etc. With One NZ, the home page of their mobile application is a bit scattered with different types of information. Some are useful, and some are not. Our application's home page contains the key information about the user's mobile plan and the remaining amount of data they have.

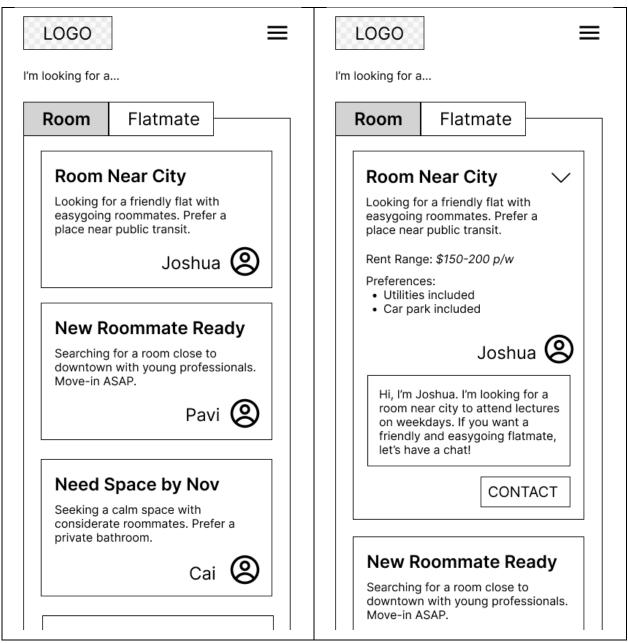
Viewing the latest bill for 2Degrees and One NZ is very simple but lacks the information other users want to check, like how much they spend on international calls and texts and a breakdown of their mobile plans. Our approach towards viewing the bill for our application is more of a receipt type of view. The users can see the breakdown of the total amount they must pay. Like the two mentioned applications, we also allow payment via the application by using their credit/debit cards.

Question 3

a) Create a digital prototype or wireframe to address a business problem that you have identified yourself.

Flatsharing is a big part of student life in New Zealand, where students rent houses with multiple bedrooms to share costs. One problem in the flatshare culture is that finding flatmates relies on personal networks, often leading to the challenge of unverified flatmates when students go outside their network.

The proposed digital wireframe below, FlatFinder, is designed as a mobile platform where students can connect with potential flatmates or look for available rooms in shared houses. It allows users to either post a room vacancy to find new flatmates or post a personal profile with their preferences or expectations for flatmates.



The screen on the left represents the homepage of the platform, offering two main options for viewing lists of users looking for a room and users looking for a flatmate. Selecting a card on the list provides a brief overview of their expectations, including desired weekly rent range, preferences around utilities and parking spots, as seen on the screen on the right. In addition, a personal quote from the user is displayed to provide insight into their profile and compatibility for the potential flatmates.

b) State the user testing report describing your participants and your findings.

Test Case Information

• Test Case ID: SOFT808-A1-TC-001

• **Date**: 30th October 2024

• **Role**: University student looking for a flat

Test Scenario

You are a university student who is starting your semester in two months. You have heard about a platform where you see available flat sharing opportunities and want to find a flat to move in before the semester starts.

Task

1. Open the FlatFinder website.

- 2. Navigate to the "Looking for a Room" section.
- 3. Browse the list and click on the first listing that catches your eye.
- 4. Read the description, rent range and preferences.
- 5. Check the personal profile of the user.
- 6. If you are happy with the specifications, contact the person.

Test Execution

- 1. Open the FlatFinder website.
 - a. Outcome: Successfully opened the FlatFinder website in 5 seconds.
- 2. Navigate to the "Looking for a Room" section.
 - a. Outcome: Clicked "Room" section selector in 2 seconds.
- 3. Browse the list and click on the first listing that catches your eye.
 - a. Outcome: Expanded and collapsed different listings many times to compare them for 30 seconds.
- 4. Read the description, rent range and preferences.
 - a. Outcome: Expanded a listing and read through the content for 15 seconds.
- 5. Check the personal profile of the user.
 - a. Outcome: Scrolled down to the bottom of the listing and read the user profile for 10 seconds.
- 6. If you are happy with the specifications, contact the person.
 - a. Contacted a person who the tester found interesting for flatting.

Comments

- The participant particularly liked the copy "I'm looking for a room/flatmate", as it provided a clear position on where the user is currently located in a user-friendly language for students.
- Filtering and sorting features were highly required to narrow down the listings, such as by location or date posted.
- User profiles were appreciated for offering deeper insights into potential flatmates beyond basic details, including their lifestyle preferences and personalities.
- The participant questioned if there are any additional verifications done on the platform since it is risky to accept a flatmate after one phone call.

Recommendations

- Provide filters and sorters on both the Room and Flatmate lists.
- Consider implementing a verification process such as ID checks and displaying verification status.
- Research on how users can shortlist potential flatmates, for example, bookmarks or dashboards.

Conclusion

The FlatFinder website solves a key problem of student life in New Zealand, especially for students who move to a different city where they do not have any existing networks. However, there are some potential improvements on the user interface and overall experience to satisfy the target user group of students, who are not used to property terms but are proficient in mobile platforms.

c) Research UX metrics and justify the importance of usability research. Employ suitable UX metrics to measure UX and possibly implement in the following part.

Users find a product "usable" when they can complete their goals accurately (effectiveness), quickly (efficiency), pleasantly (engagement), easily (ease of learning), as well as when they can come back to the previous status when they have made a mistake (error tolerance). Usability research is conducted to find how users feel about a product as they use a product by assessing specific metrics including measurement, target result and actual result.

Metric	Measurement	Target Result	Requirements
Task Completion	Percentage of users	90%	Intuitive user interface
Rate	able to find a potential		with user-friendly
	flatmate		language
Task Completion	Time taken to contact	5 minutes	Filters and sorters to
time	a potential flatmate		minimize the average
			task completion time
User Satisfaction	Rating on a scale from	4	Survey forms
Score	1 to 5		Extra verification
			processes to provide
			additional layer of
			security
			Modern and mobile-
			friendly user interface
Success Rate on	Percentage of new	70%	Clear direction on how
First Use	users contacting a		to browse the listings
	potential flatmate on		and contact a potential
	first use		flatmate

d) Conduct user experience by adopting at least two UX research methods for your analysis.

User Experience Research Methods

To achieve a user expectation, it is pivotal to understand the audience and build a system that englobes usability, effectiveness and, most importantly, human-centred design. Baxter et al. (2015) cited, "Fundamentally, UX research is about understanding people, the domain, and the technology". Moreover, research methods for knowing the user were created throughout the development of User Experience as a must-practice for companies.

Qualitative x Quantitative

To understand and interpret the user, UX Designers must apply methods that will return multiple data styles. In fact, the research aims at numerical data, this information is acquired through quantitative processes. This type of research focuses on objectivity and checks the reality. For instance, questions using How Many and/or How Much help professionals develop straightforward questionnaires during their interviews. As a result, the numbers will become statistics that can be measured and summarized to enhance prototypes later, used in case studies and for future consultation when developing the product (McLeod, 2023). As for qualitative research, the goal is to learn in-depth about the user questions now focused on answering why. In addition, emotions are also taken into consideration. The stress level while using the service/product counts and other non-numeric data: opinions, interpretation and open-ended questions. The qualitative method demands from its user designer interpretation and understanding of their subject's context (Interaction Design Foundation, 2016).

Applying Research Methods to Users

Three distinct research methods were used to identify points of improvement for the user towards the website's usability.

Survey

A survey was conducted with participants. The survey took place online, where an email with 8 questions was directed to users registered as looking for a place or a flatmate.

Questions:

- 1. Considering that you are looking for a new apartment, how long does it take to find an interesting post offer? (Consider as less than 2 minutes, 2 to 10 minutes, 10 to 20 minutes or longer).
- 2. On a scale from 0 to 10, how much of the renters' profile helps make an offer? (Consider 0 as never taken into consideration and 10 as highly influential)
- 3. How often the pictures posted by the renters are not very clear/badly focused? (Very often, a few times only, rarely, never).
- 4. Select an option based on your experience:

 The use of the website for finding flatmates is confusing and lacks explanation / it is easy and straightforward / it doesn't work for finding flatmates / it is useful, but I struggled.
- 5. On average, how often do you access the same profile in one search?
- 6. What is your preferred way to contact renters: by email, contact number or through the website?
- 7. What percentage of your time is spent finding a specific location?
- 8. How many alert emails were highly relevant for your new apartment/flatmate research in the past 7 days?

The survey above utilizes characteristics of a quantitative research method, where the focus is acquiring data from many users, and patterns and numbers can be translated into enhancement for the web application. The survey was done using references from Houston (2024).

Interview

For the following topic, an online interview via Skype (Microsoft) was conducted with users registered as renters on the website. The interviewer already had some user information, as it is requested to create a profile on the website. The questions during the interview were focused on the point of view of keeping contact with interested users.

Questions:

- 1. In your opinion, do you believe that having your place selected is related to how the website is designed?
- 2. What is the average number of offers you receive per week? Are all of them legit contacts?
- 3. If you could add one filter option, which one would that be?

- 4. In case you have found a person to occupy/share the flat with, has their profile matched their personal characteristics? If not, what was the difference?
- 5. Do you believe the fact that the website requires a \$5 deposit helps to filter only people with a legitimate interest in renting/finding a flat?
- 6. Have you, for any reason, regretted posting personal information on the website? If yes, what was the reason?
- 7. Do you believe security policies influence people's behavior towards other users? Have you at any point felt threatened by someone messaging you?
- 8. Would you find it positive to post your advertisement on multiple web media sites? For example: Facebook Market, videos on Tik-Tok

The method used above was conducted with users whose profiles are over 2 years old and who have rented their facilities to more than three users.

Experiment and Observation

Once the data was collected and the interviews had finished, a last method took place, and an observation of a few new tools that were introduced was made with experimental subjects. The subjects are a mix of news and registered users, renters over 2 years old on the website, and recently registered.

The experiment focused on:

- Users use the new interface where the apartment, rooms, or house are separate from the flatmate's tabs. The intention is to keep the user focused on a specific type of search rather than too many options
- Included rent range in the main catalogue page
- Inclusion of a logo indicating that the user has been verified by the website
- One week of free access for users looking for an apartment to rent
- Inclusion of a deeper search option, where the user can now define the kilometre range

As a result, users registered as renters (new and old) have experienced a noticeable increase in their page access towards apartments and rooms. However, users with a badge received more messages than new users.

On the other hand, the team that was responsible for the feedback on the observation method noticed that

- People looking for rooms now only access the profile when the price range meets their criteria
- A drastic increase in new users on the website. Although the percentage of renting kept levelled off
- The search tools now improved suburbs search, rather than focusing only on pricing
- There are noticeable differences between users with and without a badge, but the contact percentage does not show the incredible disparity between the profiles.

About the findings

In conclusion, the research method has brought new insight into the website interface; with a few more new tools, users can now distinguish between renters who have been using the service longer, which will bring more reliability when contacting them. However, new users may feel safer knowing that new renter users will see that their time using the application will convert liability into profits. As for users, a more dynamic interface will help users make better use of the website and find what they are after.

e) Based on all the above findings, enhance your digital prototype.

After conducting a series of interviews, questionnaires and observations, a new prototype was developed with the addition of new tools.

New user access for a week page:



Image: Prototype page. FlatFinder. Retrieved from figma.com

Inclusion of a verified badge and separate the Room tab from the Flatmate tab

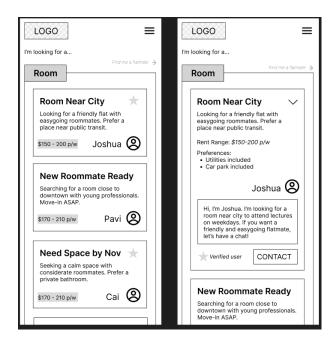


Image: Verified badge for user and find me a flatmate option add. Retrieved from figma.com
Creation of a page dedicated to Flatmates

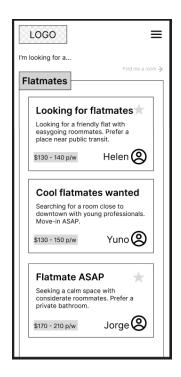


Image: Look for flatmates page. Retrieved from figma.com

Inclusion of a detailed search tool



Image: Deep search page. Retrieved from figma.com

References

- Baxter, K., Courage, C., & Caine, K. (2015). *Understanding your users: A practical guide to user research methods*. Elsevier, Morgan Kaufmann.
- Figma. (2024). *Figma (Version 124.1.6) [Software]*. Retrieved from https://www.figma.com
- Focus 7 International. (2020, March 10). *The 7 key elements of good user experience (UX) design*. Focus 7 International. https://focus7international.com/2020/03/10/the-7-key-elements-of-good-user-experience-ux-design/
- Grammarly. (2024). *Grammarly (Version 1.2.84.1444) [Software]*. Retrieved from https://www.grammarly.com
- Houston, K. (2024, February 22). *Quantitative research question examples*. The Jotform Blog. https://www.jotform.com/blog/quantitative-research-questions-examples/
- Interaction Design Foundation. (2016, June 2). *What is UX research?* Interaction Design Foundation. https://www.interaction-design.org/literature/topics/ux-research
- McLeod, S. (2023, December 18). *Qualitative vs quantitative research methods & data analysis*. Simply Psychology. https://www.simplypsychology.org/qualitative-quantitative.html
- University of Southern California Libraries. (2022). Research guides: Organizing your social sciences research paper: Quantitative methods. USC Libraries. https://libguides.usc.edu/writingguide/quantitative

APPENDIX A: TEAM AGREEMENT/CONTRACT FORM



INFORMATION TECHNOLOGY PROGRAMME

Team Agreement	Date of submission: 26th	October 2024	Time: 16:00		
Students should learn to work effectively in groups.					
	mplete the following form and sub				
C	must be completed and signed off by	•	0 1		
	will be guided by the group's cho n following this procedure, students	•			
Names of Group Member	3				
1. NameYoon Wo	o Choi Student II	D no20241037	····		
2. NameJoshua Pa	ul Peralta Student II	D no20240022			
3. NamePavithara	n Rajaratnam Student ID no.	20242094			
4. NameCaique R	beiro Silva Student ID	o no20241524.			
Note: For both options below, all team members are expected to gain the knowledge related to all items in the Group Assignment Option 1: All group members should receive the same mark; under this option, all students must contribute equally to the submission.					

Signed





Caique Ribeiro Silva 4.