

Your key to  
**Effortless**  
Rental Search



# Project **Proposal**

Evelyn Esponda, Laís Alves, Madhu Nyoupane,  
Mahima Muhki, Monica Varma, Natasja Berzoini,  
Sanjana, Xiaozhou Ji (Sean)



# Table of Contents

## 01

### Project Overview

- 04 Project Overview
- 05 About RentO
- 06 Main Features
- 09 Competitive Analysis

## 03

### Design Process

- 20 Design Timeline
- 21 User Research
- 22 User Personas
- 25 User flows
- 27 Wireframes
- 29 Branding & UI
- 35 Mockups

## 02

### Tech Overview

- 13 Development Timeline
- 14 Overview
- 15 Tech Stack
- 16 System Architecture

## 04

### The team

- 39 Meet the team
- 41 Credits



# Project Overview



# Project Overview

Navigating challenges in Vancouver's rental market: struggles and solutions for tenants and owners

Vancouver's rental property market has long been characterized by its complexity and shortage of rental units. A lack of transparency, outdated listings, and unreliable information make finding rental properties challenging for prospective tenants.

Property owners encounter their own set of struggles to efficiently list and promote their rentals while also choosing the ideal tenants.



# Introducing RentO

## Welcome to the new era of finding your next home sweet home

Acknowledging the complexity of the rental market in Metro Vancouver and the common challenges reported by many in their search for a new home, we identified the need for a streamlined and user-centric solution.

RentO is an innovative application designed to revolutionize the way tenants and property owners engage in the rental process.

RentO offers an end-to-end solution that connects potential tenants to property owners, effectively streamlining the renting process and elevating the apartment search experience, making it a valuable resource in Vancouver's competitive real estate market.

RentO also offers a secure platform for property owners to efficiently list and promote their rentals with accurate descriptions and stunning panoramic visuals of their properties, potentially reaching a wider audience.

Our solution provides a faster and more successful tenant-landlord match, lowering vacancies and increasing occupancy rates, resulting in increased profits and satisfaction for all stakeholders in the real estate market.



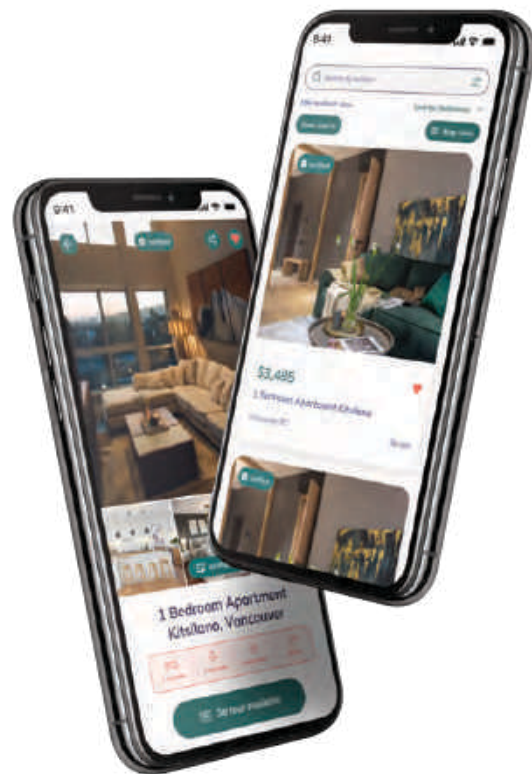
# Key Features

## Verified Listings

Providing peace of mind to home seekers

RentO gives access to verified listings, reducing the prevalent risk of falling victim to rental scams. In our commitment to transparency and security, property owners creating listings within our app are required to upload real-time pictures of their properties so we can establish them as Verified Users.

As a result, potential renters can be confident that the property exists and that it is represented accurately in the listing.



## 3D virtual tour

Immersive panoramic views to explore and visualize the space

As potential renters navigate through listings, they can virtually explore each property from different angles using our 360 virtual tour. This feature will allow them to see the layout of the space and visualize the sizes of the rooms, therefore they will be able to filter better-suited options with the help of our virtual tours before moving to the in-person tour stage.

Also, it will help to avoid surprises when they visit the place in person since they will already have a good understanding of the property.

# Conversational Interface

Using conversational interface to provide a delightful user experience

## For Home Seekers

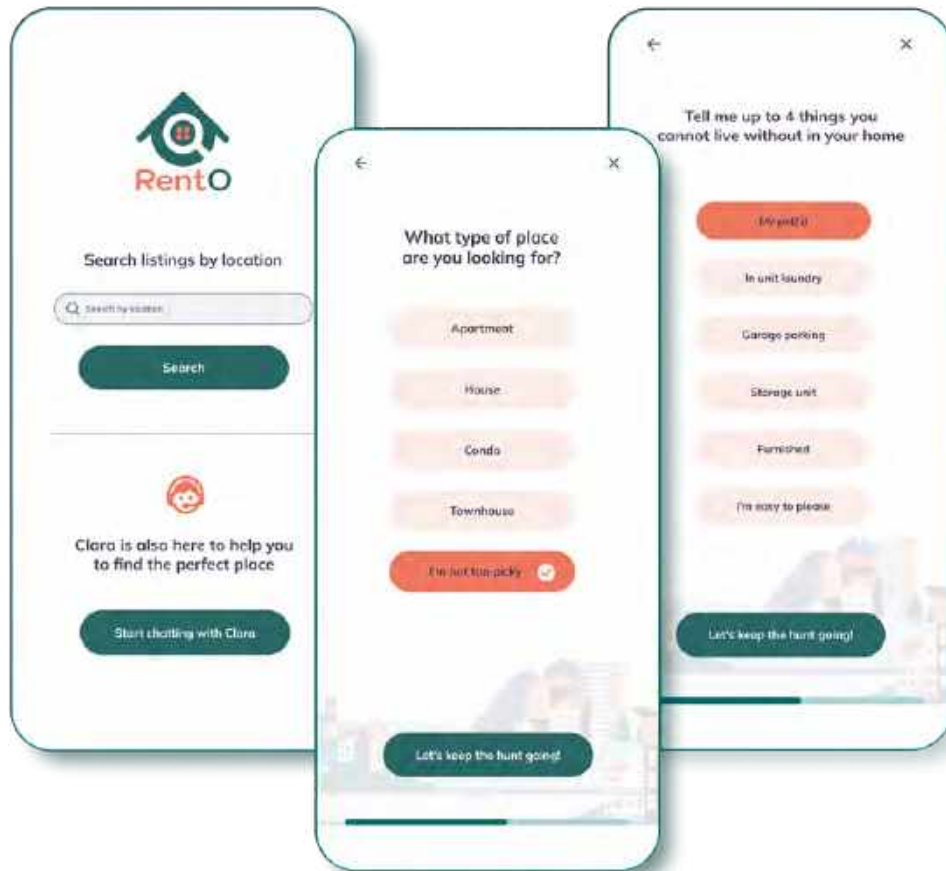
RentO provides a easy and joyful experience for those who are looking for a new place to live. It all starts with the search experience where the user can include their preferences, save searches and create alerts. This way, their preferences will be saved for future searches, which can save a lot of time and repetitive work.

The goal is to assist users in their home search journey, a process that can often be time-consuming and overwhelming.

## For Property Owners

Our application offers an intuitive conversational interface for property owners, simplifying the creation of new listings through carefully guided steps. This ensures that essential details are not overlooked.

The goal is to streamline the listing process, elevating the quality of listings and effectively engaging with ideal tenants.

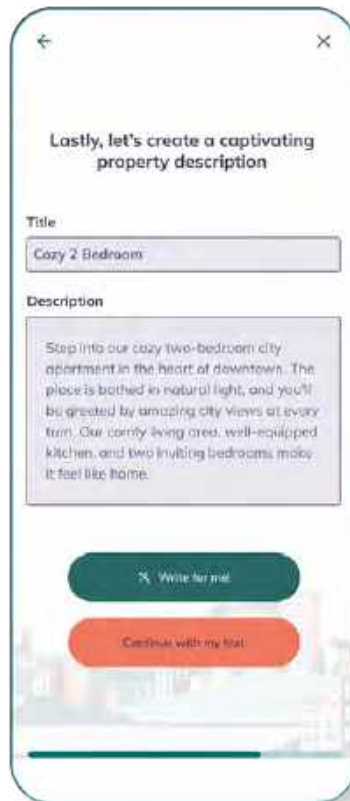
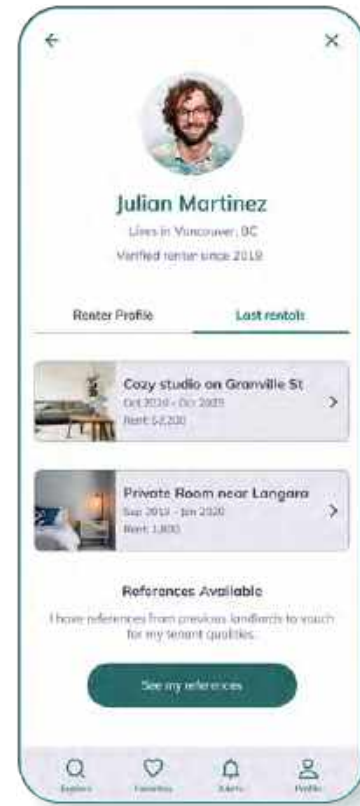




## Ideal Tenant Match

### Minimizing risks, maximizing property management success

RentO assists property owners in finding the ideal tenants. When they receive an application, they will check the detailed profile of the renter and will know if they are suitable or not. It helps property owners and managers make more informed and risk-aware decisions when screening and selecting tenants, leading to better property management and potentially reducing problems or disputes during the rental period.



## AI rental descriptions

### Smart Descriptions: a little help from AI to elevate the rental experience

RentIO helps property managers go beyond conventional descriptions by providing tailored information in a captivating way.

Our AI tool ensures that each property is presented with transparency and precision, emphasizing the unique characteristics of each place to appeal to the needs and preferences of prospective tenants.

# Competitive Analysis

























## Why RentO is different?

RentO stands out by seamlessly integrating technological innovation, a commitment to user trust and security, and advanced features that elevate the efficiency and convenience of the rental experience. This distinctive approach firmly establishes RentO as a leading solution in the competitive rental market

Our has personally experienced the challenges of finding a home in Vancouver, which motivates us to create the best solution for others facing similar difficulties.



# Competitive Analysis

	 RentO	 Craigslist	 Marketplace	 Padmapper
360 Virtual Tour				
Verified Listings				
Ideal Tenant Match				
Personalized Search Filters				
Conversational Interface				

# Competitive Analysis

## **Craigslist**

[www.craigslist.org](http://www.craigslist.org)

Craigslist has been a longstanding platform for various classifieds, including rentals. It provides a wide range of listings but lacks in-depth property details and often lacks verification mechanisms. Craigslist, while diverse in its listings, often suffers from outdated information and limited visual representation, which can be a drawback for users seeking detailed insights into rental properties. Rento's emphasis on verified listings and immersive 360-degree virtual tours not only ensures reliability but also allows potential tenants to explore properties extensively before committing to viewings, offering a higher level of confidence and convenience in the rental search process.

## **Facebook Marketplace**

[www.facebook.com/marketplace](http://www.facebook.com/marketplace)

Facebook Marketplace, a multifunctional platform, may not prioritize the depth of features necessary for a dedicated rental search. The absence of tailored search filters in its rental section might lead to a less refined search experience for users seeking specific criteria in their rental properties. Moreover, the lack of verified listings on Facebook Marketplace could pose a risk for users, as it might increase uncertainty and credibility issues, contrasting with Rento's commitment to offering secure, verified listings that improve the reliability of the rental search process.

## **PadMapper**

[www.padmapper.com](http://www.padmapper.com)

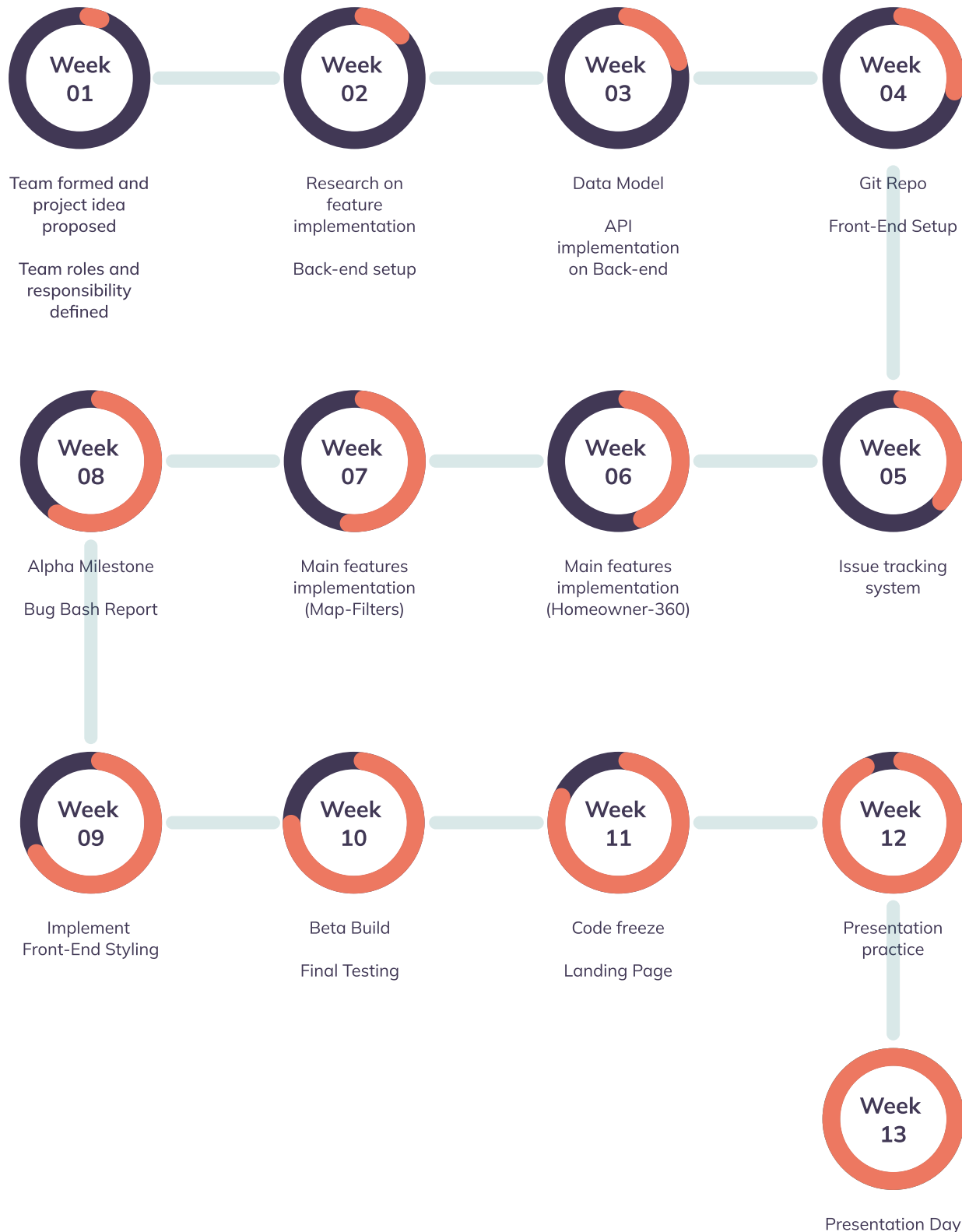
Padmapper's emphasis on a map-centric approach is beneficial for users seeking location-specific rental listings. However, it might not provide the level of personalized filtering tools found in Rento. Rento's personalized search filters cater to individual preferences, allowing users to fine-tune their searches based on specific criteria, creating a more tailored and efficient rental hunting experience. Additionally, while Padmapper offers a map-centric interface, it lacks the conversational interface feature that Rento provides, that fosters a more interactive and user-centric experience, enabling more natural and personalized interactions between users and the platform.



# Tech Overview



# Development Timeline



# Overview

## Cloud Feature

The Rento app harnesses the power of cloud-based databases like MongoDB Atlas and Firebase Firestore to efficiently handle and organize crucial application data. From user profiles to property listings and user-generated content, these databases ensure seamless storage and management. By leveraging MongoDB Atlas and Firebase Firestore, Rento guarantees robust data security, scalability, and reliable performance, catering to a diverse array of users and their needs. The advanced querying capabilities empower users to effortlessly access property details and manage their profiles, elevating their experience within the app.

## Platform

RentO utilizes React Native as its development platform, offering a unified experience across iOS and Android devices through a single codebase. This streamlined approach saves time and resources, eliminating the need for separate app development.

React Native's flexibility facilitates seamless integration with backend services via RESTful APIs, ensuring effortless connections to databases and servers. This capability enhances user experience by enabling smooth access to critical data like user profiles and property listings, fostering a dynamic and interconnected rental platform across devices.

## Security

RentO ensures robust security by employing encrypted storage for user-uploaded rental information and secure hashing for password protection, ensuring data integrity and confidentiality. Additionally, API endpoints are safeguarded using JWT, validating user identities and preventing unauthorized access to backend services. These measures collectively fortify RentO's platform, prioritizing user data protection and bolstering overall security within the rental application.

# Tech Stack

## Team Management

Jira was used for planning, assigning, and keeping track of tasks. The platform's features, including its ability to plan sprints, and its flexibility that allows any team member to create and monitor tickets, were factors in the decision to utilize Jira. Slack was used for general communication and team meetings. GitHub was utilized by the development team to monitor platform bugs.



## Design

The primary tool employed by the design team was Figma, chosen for its collaborative's features. It allowed the team to provide instantaneous feedback on each other's designs, creating a dynamic and efficient workflow. Figma was used to design user flows, wireframes, mockups, components, and marketing materials.

Illustrator played a crucial role to create icons and illustrations, while Photoshop was the tool for editing photos and images. The team also used Premiere and After Effects to create promotional videos for the app. Finally, with Lottie Files the designers created animations for micro-interactions to enrich the user experience.

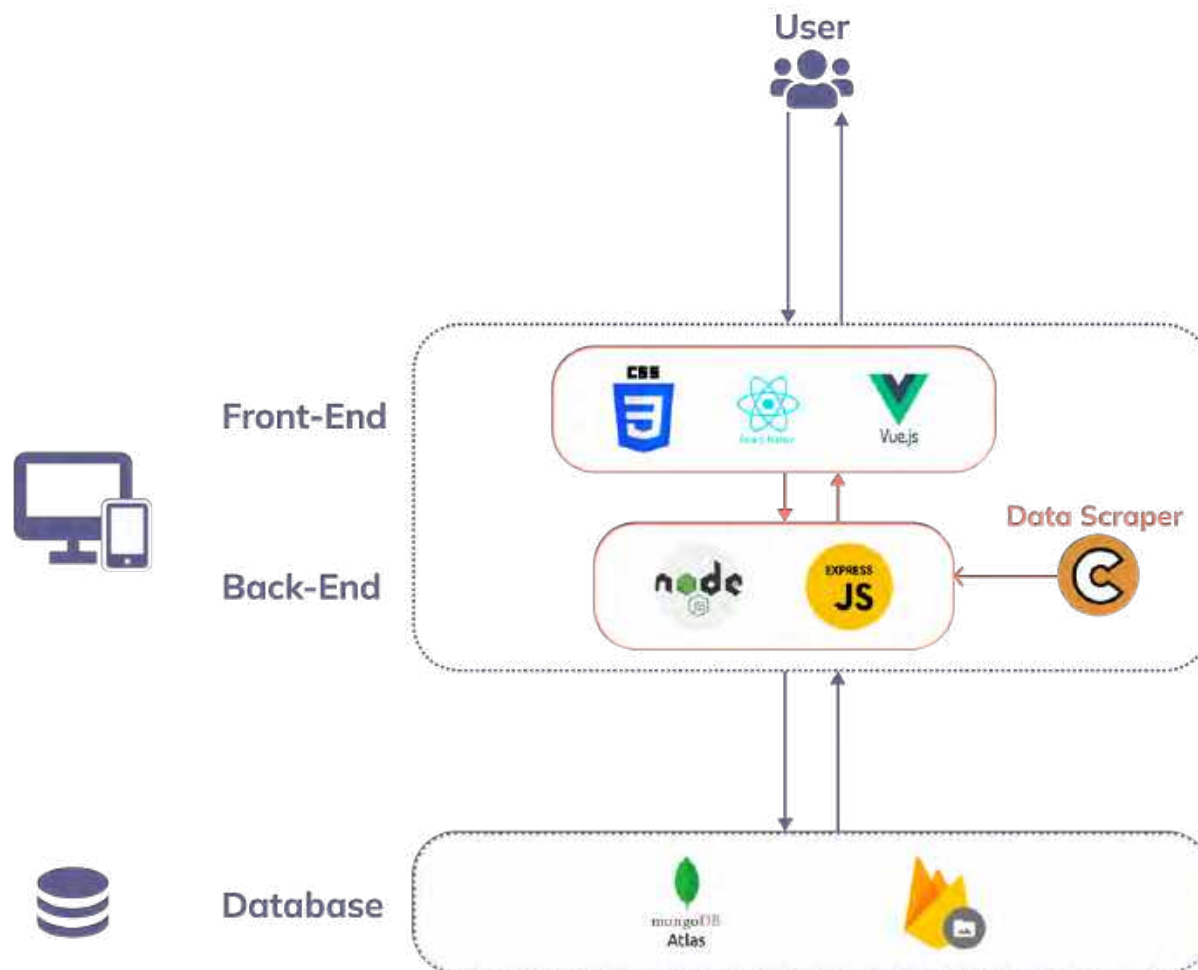


## Development

For more details on the technologies used in the development process, please refer to the System Architecture section on the next page.



# System Architecture



## Front-end Technologies

- **CSS:** We leverage CSS to style and design our user interface, ensuring an engaging and user-friendly experience on both mobile and web platforms.
- **React Native:** Our choice of React Native for mobile app development enables us to build cross-platform applications that work seamlessly on both iOS and Android, reducing development time and cost while ensuring a consistent user experience.
- **Vue.js:** For making the utilizations of three.js libraries easier.

# System Architecture

## Backend Technologies

- **Node.js:** Node.js serves as our server-side runtime environment. Its non-blocking, event-driven architecture enhances system performance, making it suitable for handling concurrent connections and real-time functionality.
- **Express.js:** Express.js is our web application framework for Node.js, offering a robust set of features for routing, middleware, and RESTful API development. It streamlines server-side development and ensures efficient request handling.

## Data Scraping Tool

**Cheerio:** We employ Cheerio as a data scraping tool to gather relevant information from external sources (Craigslist) and integrate it into our "RentO" application. This tool helps us keep our data up-to-date and enrich our listings.

## Database and Data Storage

- **MongoDB Atlas:** MongoDB Atlas serves as our database solution. Its NoSQL, document-oriented nature enables us to store and retrieve data efficiently, especially in cases where the data structure may evolve over time. It also provides excellent scalability and redundancy options.
- **Firebase Cloud Storage:** We utilize Firebase Cloud Storage for image storage. It offers scalable, secure, and highly available cloud-based storage for our "RentO" application's images, ensuring fast retrieval and minimal latency.

# System Architecture

By employing this technology stack for RentO we aim to achieve the following key objectives:

## Stability

The use of well-established frameworks and tools ensures system stability by reducing the likelihood of unexpected issues.

## Scalability

MongoDB Atlas and Firebase Cloud Storage provide the scalability needed to accommodate growing user demand and data storage requirements, allowing our "RentO" platform to handle increased traffic gracefully.

## Adherence to Industry Standards

Our technology choices align with industry standards and best practices, ensuring that our "RentO" project meets or exceeds expectations in terms of performance, security, and usability.

## Efficient Development

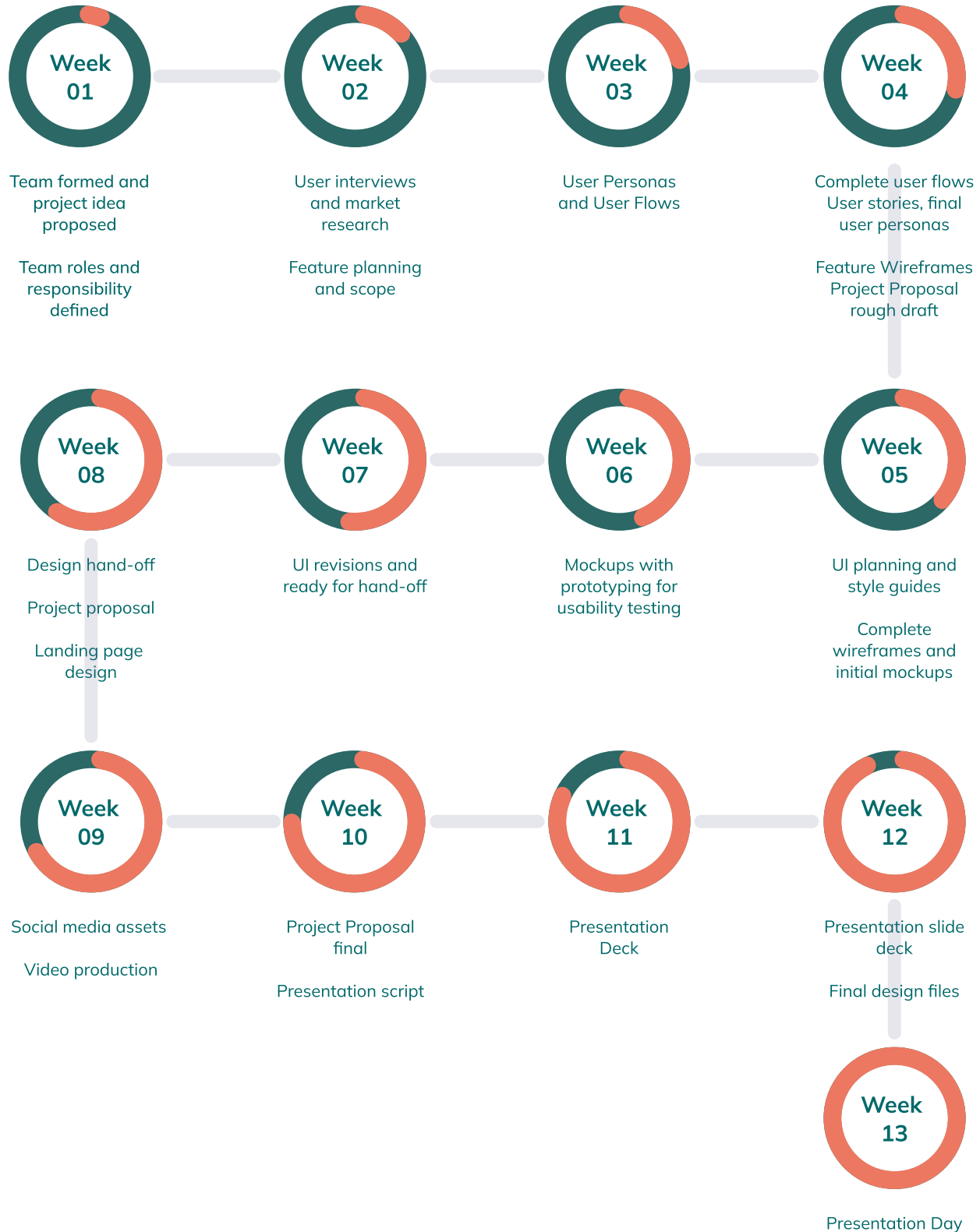
Leveraging React Native for mobile app development and Vue.js for web interfaces streamlines development, reducing development time and effort. In summary, our technology stack for "RentO" reflects a careful consideration of factors like stability, scalability, and industry standards. It enables us to deliver a robust housing rental platform, providing a reliable and user-friendly experience to our users while efficiently managing data and external information.



# Design Process



# Design Timeline



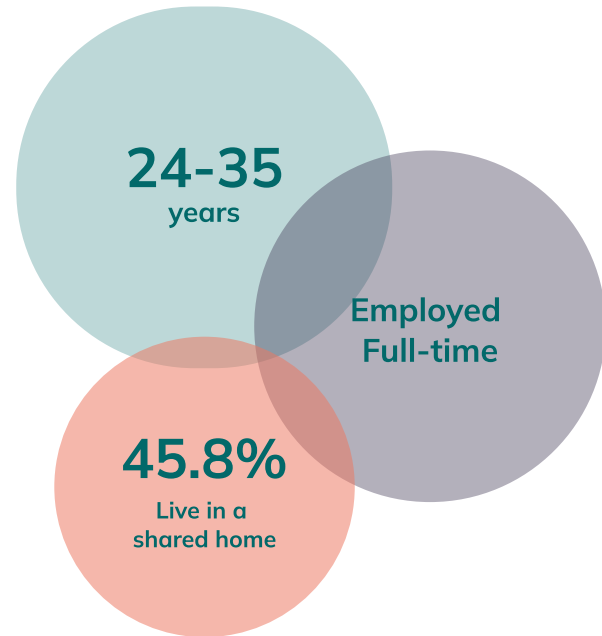
# User Research

## Survey & User Interviews

We focused on a problem that every member of the group has experienced when we moved to Vancouver: finding a new place to live. Having different pain points and goals, we formulated the following research question and created a research plan to validate this problem and gather insights:

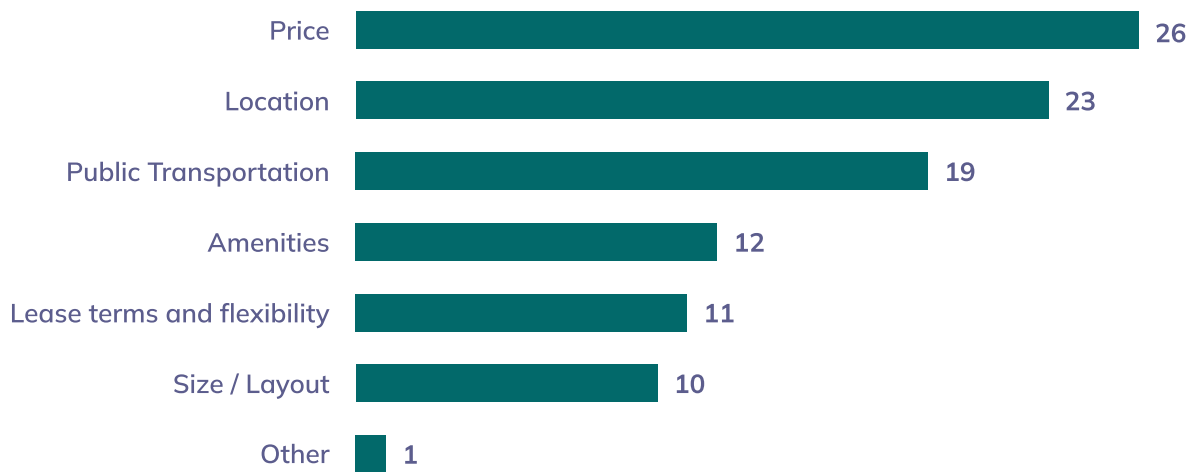
*How might we improve the searching experience and streamline the renting process for both tenants and property owners?*

This question guided our research, leading us to conduct a survey and user interviews. Through these methods, we gathered valuable data, gaining a better understanding of our users' needs, pain points and goals.



## Most important factors when searching for a new place to live

In our survey, the 26 participants were asked to select up to three of the most important factors.



# User Personas

After analyzing and synthesizing the data from the survey and user interviews, we gathered valuable insights to develop two distinct personas—one for home seekers and the other for property owners—, based on the users' preferences, and challenges faced by our research participants, allowing us to deeply empathize with the pain points and needs unique to each group: tenants and property owners.

Conducting user research in the early stages of the design process enabled us to create a user-centric solution, ensuring that we are addressing the specific requirements of both user groups.

# Persona

## The tenant

### Goals

- Seeks to optimize his visits by avoiding properties that don't meet his criteria.
- Prefers listings with clear photos and videos to facilitate a more informed decision-making process but also to minimize the number of in-person tours.
- Hopes for a more efficient and straightforward application process

### Pain Points

- Josue feels overwhelmed by the quantity of places available, but as he schedules a view he feels discouraged about how the apartment are nothing like their descriptions.
- Between his studies and his work, he doesn't have enough time to go through hundreds of listings and filtering the search every time he visits a apartment search website.
- Currently, he finds himself navigating through numerous similar forms, often leading to dead ends, which can be a cumbersome and tiresome experience.

### Motivations

- He is highly motivated by a pursuit of academic excellence. His primary goal is to succeed in his studies, and make the most of his international education experience abroad
- Find a new place to live that offers a comfortable environment for both study and relaxing. He seeks a living space that aligns with his lifestyle, providing a balance between tranquility and accessibility to campus and work.



## Josue

25 years-old    Student

Josue is international student who juggles the demands of college with a part-time job. He has called Vancouver home for nearly two years. With a desire for a new living arrangement, he is seeking a practical and reliable approach to simplify the apartment-hunting process by avoiding wasted visits to places that don't align with his needs and preferences.

### Behaviors

- Given his limited time, Josue tends to do a thorough research before making decisions. Whether it's selecting courses, choosing a part-time job, or looking for a new place to live, he meticulously gathers information to make informed choices.
- He avoids impulsive choices and prefers to evaluate all available information before committing to a new living arrangement, ensuring it aligns with his academic and financial goals.



# Persona

## The Property Owner

### Goals

- Simplify the renting process, from listing her property to screening, contacting and selecting the ideal tenant.
- Aims to find tenants who are interested in a long-term rental arrangement and want to contribute positively to the household atmosphere, ensuring a peaceful and respectful co-living.
- Wants to receive enough applications to compare between them than receive dozens that don't even match her requirements.

### Pain Points

- The process of selecting suitable tenants, contact applicants, do in-person tours demands time and effort, which can be a source of inconvenience
- Finding tenants who are trustworthy, respectful, and responsible. The fear of incompatible or unreliable tenants creates a significant source of stress.
- Creating a good listing from writing compelling descriptions, capturing photos that authentically showcase her home, ensuring the information provided is both inviting and honest demands a considerable investment of time and effort.

### Motivations

- Generate a reliable and sustainable extra income stream by renting out the basement and one room of her house for the long term.
- Lilian is driven by the idea of optimizing the use of her property by making effective and purposeful use of available spaces, aligning with her lifestyle and financial goals.



## Lilian

45 years-old      Film Producer

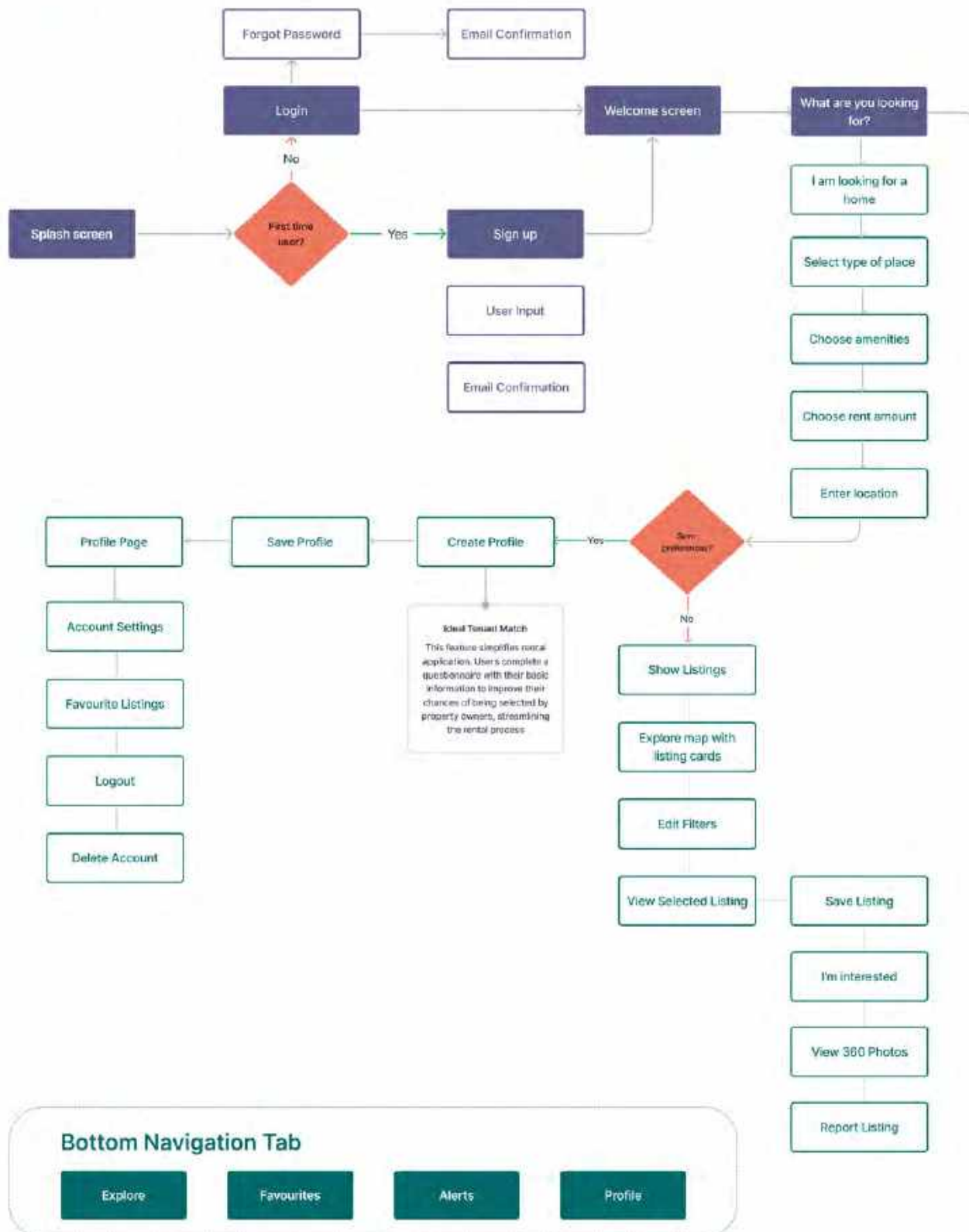
Lilian is a film producer semi-retired who lives in Metro Vancouver. She owns a 3-bedroom townhouse and wants to have an extra income generated by a long-term rental of her basement and one her rooms. She lives with her 10 years-old son and works from home, so she wants tenants who are trustworthy, respectful, and responsible.

### Behaviors

- Conducts thorough background checks and reference verifications to ensure that potential tenants meet her criteria for trustworthiness, respectfulness, and responsibility.
- Values transparent and clear communication with potential tenants.
- Prefers tenants who share a similar lifestyle and vision for stability and consistency.

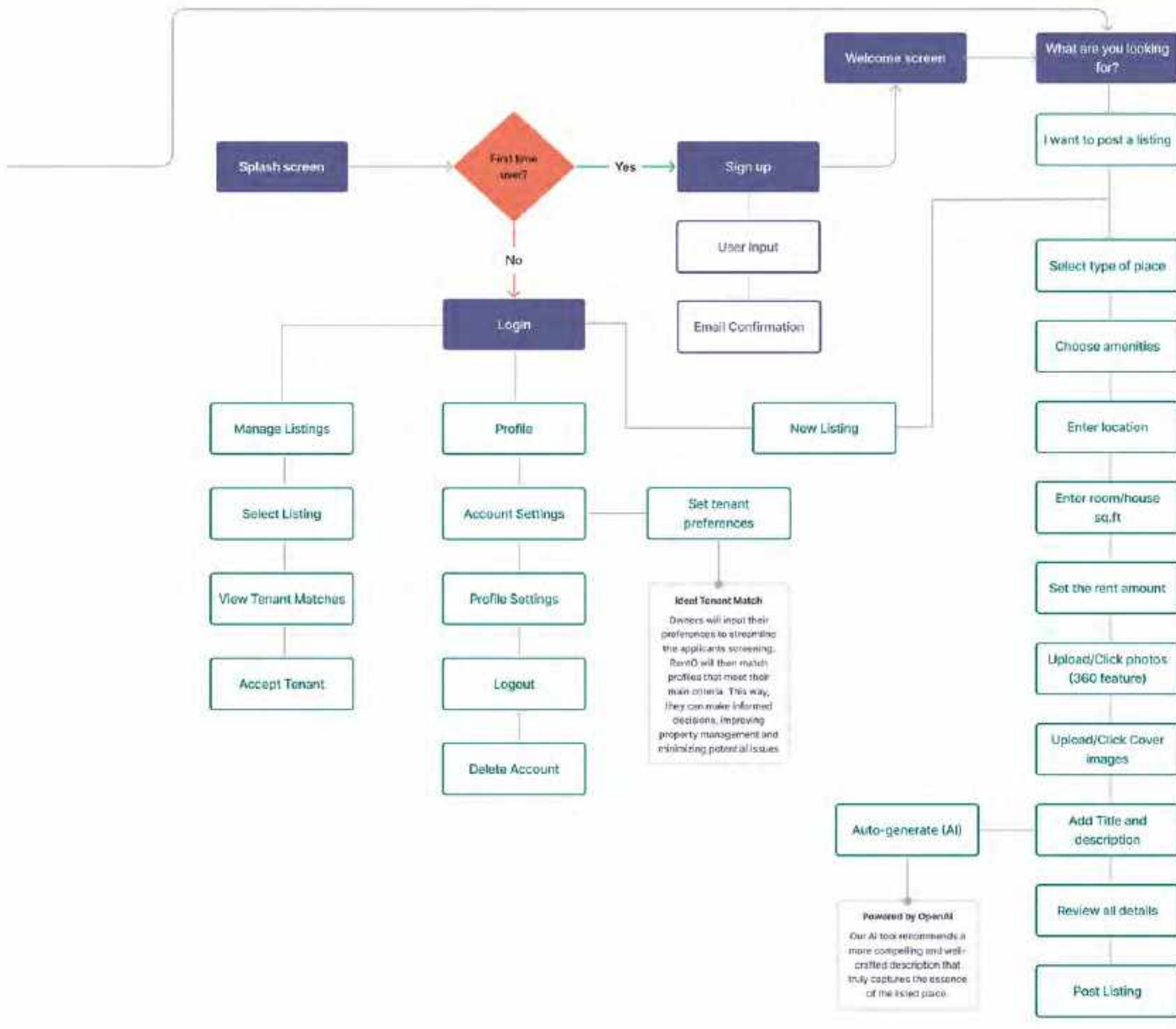
# User Flow

## Tenant



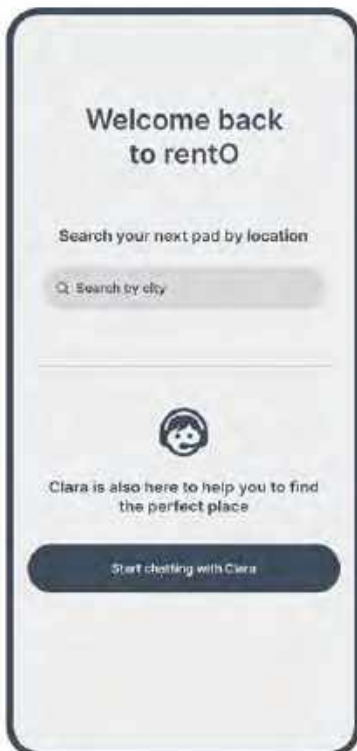
# User Flow

## Property Owner



# Wireframes

## Tenants



# Wireframes

## Property Owners



# Branding

## Logo

The RentO logo concept features a sleek house silhouette nestled within the letter 'O' of RentO, symbolizing the core focus on homes.

A magnifying glass overlays the house, representing the app's search and discovery functionalities and experiences.

The clean and modern design embodies RentO's commitment to helping tenants find their ideal rental properties effortlessly.



+



+



=



Favicon



Vertical Arrangement



Horizontal Arrangement

# Typography

We selected the Mulish typeface for its versatility and contemporary aesthetic. As a minimalist Sans Serif typeface, Mulish is thoughtfully crafted for both display and text typography, ensuring clear readability and legibility across various devices and screen sizes.

The clean, lightweight design and well-balanced proportions of Mulish seamlessly align with our brand aesthetics, contributing to a cohesive and harmonious user experience throughout the app.

## Mulish

Aa

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

012345678

!@#\$%&+=?

Style	Font Size	Line Height	Weight	Sample
H1	32px	34px	Bold	The quick brown fox jumps over the lazy dog
H2	24px	30px	Bold	The quick brown fox jumps over the lazy dog
H3	20px	24px	Bold	The quick brown fox jumps over the lazy dog
H4	18px	20px	Bold	The quick brown fox jumps over the lazy dog
body text M	16px	18px	Regular / mid / bold	The quick brown fox jumps over the lazy dog
body text S	14px	16px	Regular / mid / bold	The quick brown fox jumps over the lazy dog
body text XS	12px	14px	Regular / mid / bold	The quick brown fox jumps over the lazy dog

# Color Palette

We carefully selected hues that evoke specific emotions aligned with our brand identity and product mission. The primary green signifies harmony and balance, reflecting the idea of finding a home that fosters a sense of well-being and stability. Coral, our secondary color, evokes warmth and energy, representing the excitement in the search for a new home. Finally, the deep purple, our accent color, adds depth and sophistication to our text interface.

## Main Colors

### PRIMARY



#02696A

### SECONDARY



#ED7861

### ACCENT



#413855

### PRIMARY LIGHT



#B1D4D2

### SECONDARY LIGHT



#FBEDEA

### ACCENT LIGHT



#E9E7EE

## Supporting Colors

### ON BACKGROUND



#5C5D8D

### SEMANTIC COLORS



#439F6E

Success Color



#EC5353

Error Color



#3174CE

Info Color

### NEUTRAL COLORS



#FFFFFF



#E4E4E4

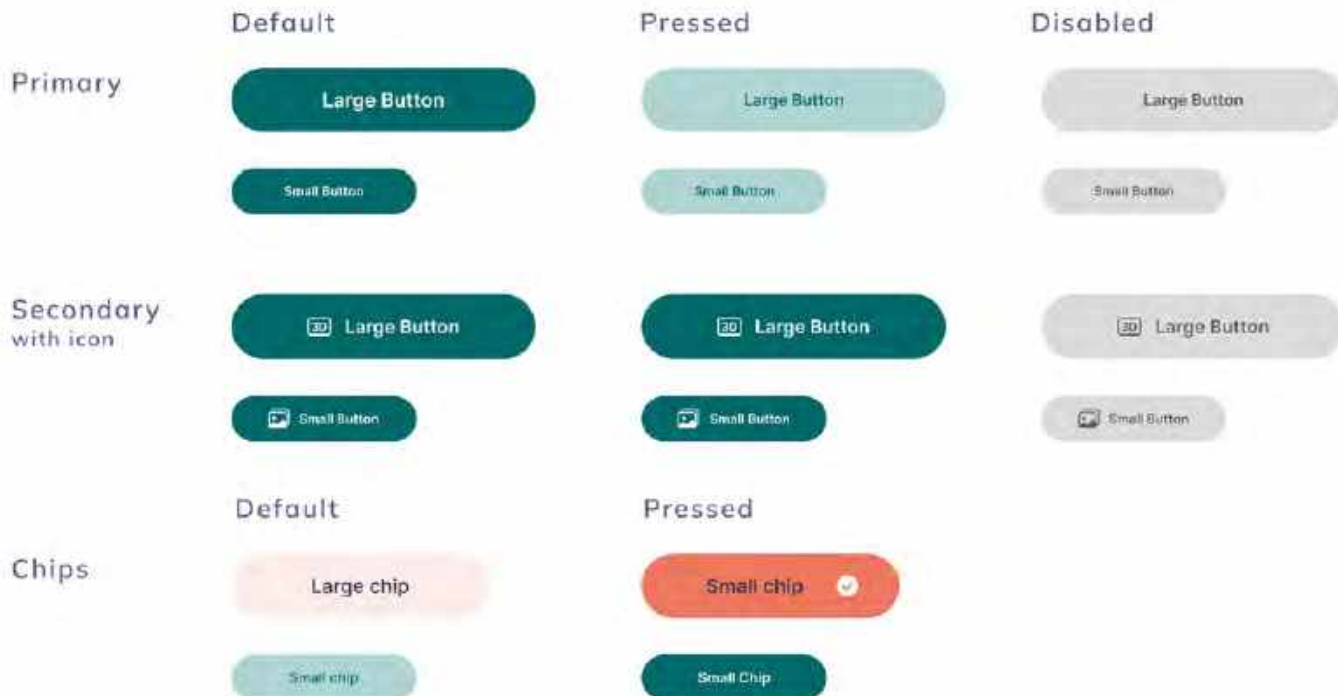


# User Interface

## Components

Guided by design and usability principles we have carefully crafted a range of elements, icons, components, and charts, ensuring a seamless and intuitive user experience across all devices.

## Buttons



## Navigation

Nav Bar / Tenants



Nav Bar / Property owners



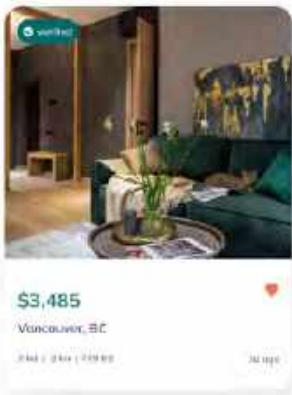
Tab bar



# User Interface

## Components

### Cards



### Input fields

Default

Label

Enabled

Label

Disabled

Label

### Search bar

Default

Dropdown

Recent searches

- Vancouver, BC
- Burnaby, BC

Multi city selection

# User Interface

## Icons & Illustration

Our iconography, designed for intuitive navigation, serves as a visual guide for users. Additionally, our landscape illustration captures the dynamic atmosphere of Vancouver, resonating with users familiar with the city and fostering a sense of belonging and familiarity within our app's interface.

### Iconography



### Illustrations

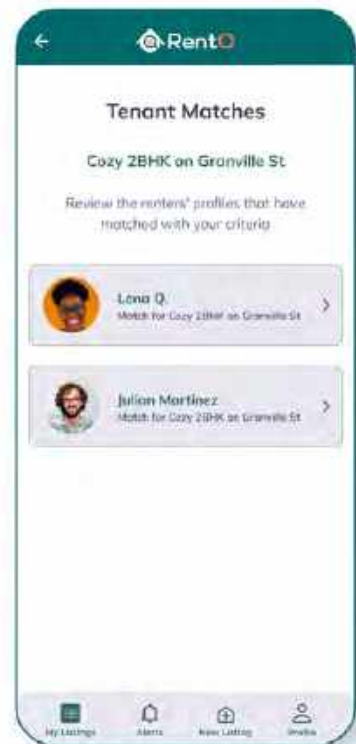
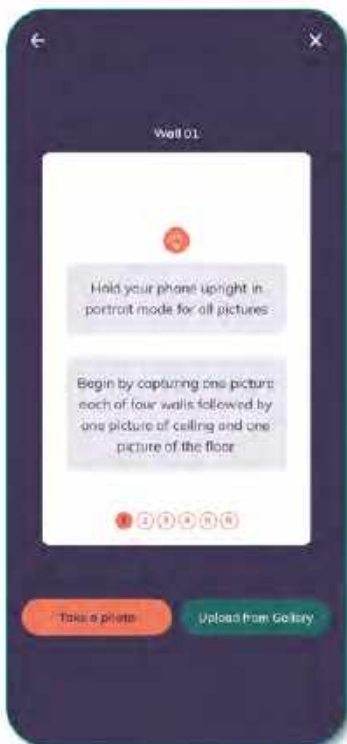
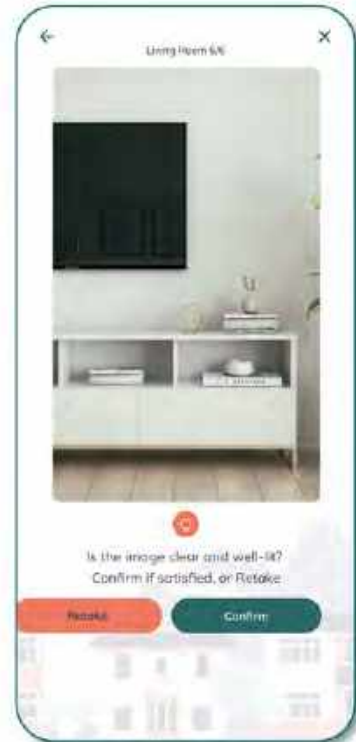
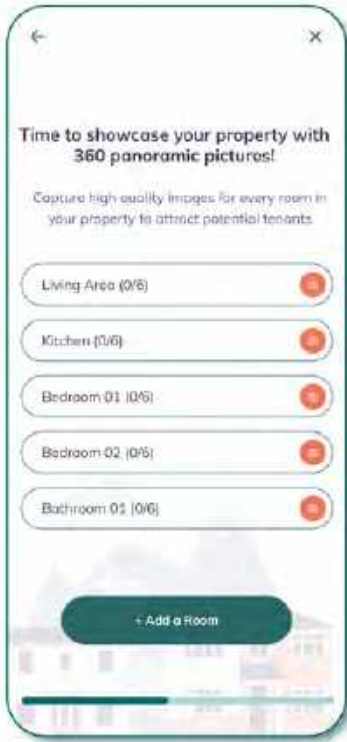


### Illustrations for animation



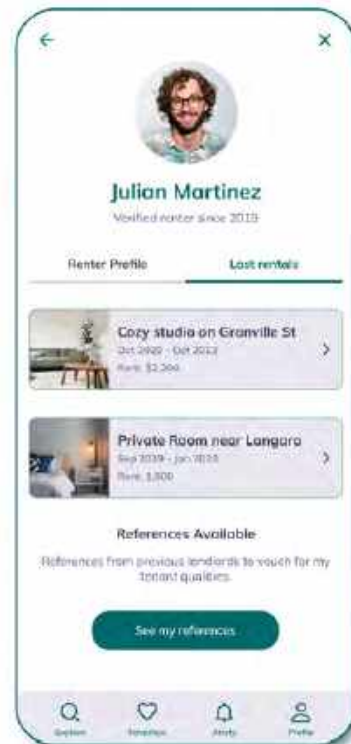
# Mockups

## Property Owners



# Mockups

## Tenants

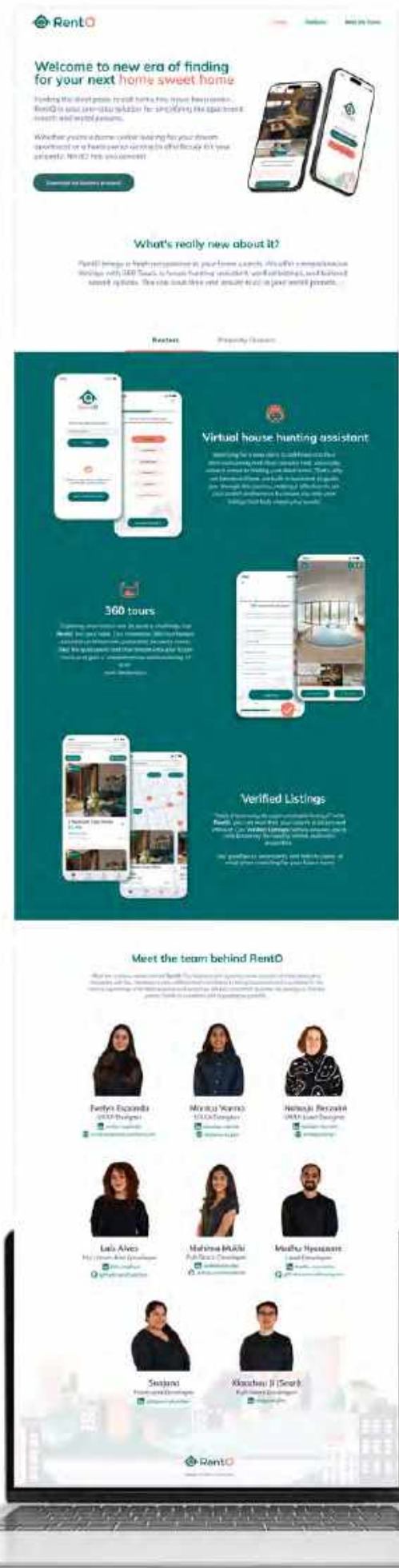


# Mockups

## Landing Page

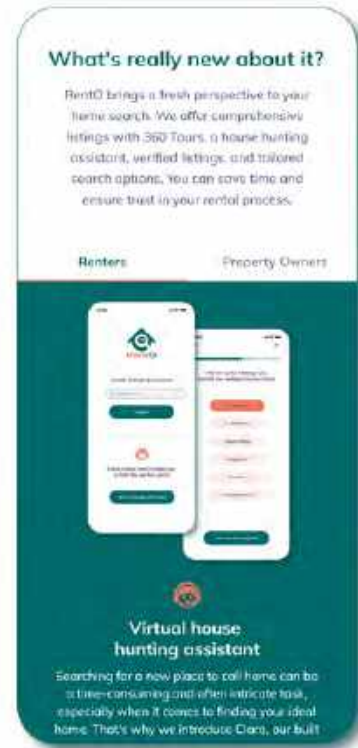
- Meticulously designed landing page serves as a comprehensive overview of Rento's mobile app project.
- Prominent Call-to-Action button directs users to the detailed project proposal PDF, offering clear direction.
- Separate tabs highlight app functionalities for tenants and homeowners, catering to distinct user needs.
- Inclusion of team members' profiles, roles, and LinkedIn handles fosters a personal connection and establishes credibility.
- Accessibility prioritized with alt text for images and legible fonts, ensuring usability for diverse user groups.
- The mobile responsive design approach guarantees that content remains easily accessible, readable, and navigable, regardless of the device used, fostering user engagement and satisfaction on all platforms.

\*See some samples of the mockups for the mobile version on next page



# Mockups

## Landing Page



# Meet the Team

Meet the RentO team: talented designers and developers passionate about revolutionizing the renting experience and committed to making tenants and property owners' journeys seamless and enjoyable.





**Evelyn Esponda**  
UX/UI Designer

 [evelyn-esponda](#)  
 [evelynesponda-portfolio.com](#)

Evelyn is a professional designer with project experience in UX and UI design. A background in law has given her an ability to approach design challenges with a strategic and analytical mindset. Evelyn incorporates empathy into her designs, considering the end-users' needs and perspectives.



**Monica Varma**  
UX/UI Designer

 [monica-varma](#)  
 [monica-v.com](#)

Monica is a UX/UI designer whose diverse background in graphic design and architecture/interior design has sculpted her into a versatile creative force. With a collaborative spirit and an inclination for teamwork, Monica works towards leveraging her skills to enhance user experiences. Her attention to detail and commitment to creativity ensure that each design she crafts meets high standards at all times.



**Natasja Berzoini**  
UX/UI Lead Designer

 [natasja-berzoini](#)  
 [natasja.design](#)

Natasja is a UX/UI designer with over 4 years of experience dedicated to creating innovative digital solutions across diverse sectors, from health tech, cybersecurity, environment, and education. Curious by nature, she is driven by understanding what motivates human behavior. She loves solving challenging problems focusing on people, first and foremost, to bring about meaningful and positive changes in their lives



**Laís Alves**  
PM / Front-End Developer

 [lais-coalves](#)  
 [github.com/lalves-hub](#)

Laís merges a background in marketing and design with a passion for seamless digital experiences. Leveraging leadership, communication, and organizational skills, she is a driving force behind RentO's realization. Dedicated to transforming ideas into impactful solutions, Laís thrives at the intersection of technology and creativity with the goal of enhancing user experiences.





## Madhu Nyoupane

Lead Developer

 [madhu-nyoupane](#)

 [github.com/madhuneupane](#)

Madhu graduated with a Bachelor's degree in Computer Engineering and possesses 3.5 years of experience as a Lecturer for undergraduate engineering students in Nepal. Madhu is a hardworking, great team player with a strong passion and a keen ability to analytically solve complex problems in coding.



## Mahima Mukhi

Full-Stack Developer

 [mahimamukhi](#)

 [github.com/mmukhi00](#)

Mahima has two years of expertise as a full-stack developer. She is able to design, create, and test applications at a professional level that meets all of the client's expectations because of her zeal for learning new skills and technologies. She is a capable team player who enjoys taking on new tasks.



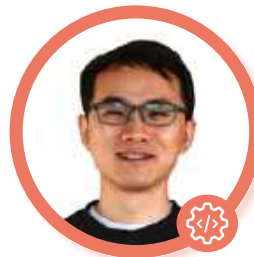
## Sanjana

Front-end Developer

 [sanjana-chumber](#)

 [github.com/Sanjana199921](#)

Innovative web developer with 2 years of hands-on Front-End experience crafting and managing responsive websites. Adept in HTML, CSS, and JavaScript, with expertise in cutting-edge libraries and the React framework. Responsible for the front end of application, she is enthusiastic about optimizing user experiences and is backed by creative proficiency in Adobe Photoshop and Adobe Illustrator.



## Xiaozhou Ji (Sean)

Full-Stack Developer

 [dingostiglitz](#)

 [sugerladen.com](#)

Sean has been working with network protocols for a while. He's interested in solving real-world problems using full-stack tools and enhancing users' privacy against censorship and surveillance.

# Credits

Pg 2 - Photo by Rach Teo on Unsplash

<https://unsplash.com/es/fotos/una-ciudad-con-edificios-altos-Gn2LjAeCVNU>

Pg 4 - Photo by Adrian Yu

[https://unsplash.com/photos/an-aerial-view-of-a-city-and-a-harbor-Wc45W-dQFIA?utm\\_content=creditCopyText&utm\\_medium=referral&utm\\_source=unsplash](https://unsplash.com/photos/an-aerial-view-of-a-city-and-a-harbor-Wc45W-dQFIA?utm_content=creditCopyText&utm_medium=referral&utm_source=unsplash)

Pg 9 - Photo by peopleimages.com on Adobe Stock

[https://stock.adobe.com/ca/images/portrait-keys-and-couple-selfie-with-smile-and-excited-from-real-estate-investment-in-a-home-happy-love-and-achievement-with-picture-for-social-media-post-and-memory-from-mortgage-and-loan-success/671764351?prev\\_url=detail](https://stock.adobe.com/ca/images/portrait-keys-and-couple-selfie-with-smile-and-excited-from-real-estate-investment-in-a-home-happy-love-and-achievement-with-picture-for-social-media-post-and-memory-from-mortgage-and-loan-success/671764351?prev_url=detail)

Pg 20 - Photo by Keira Burton

<https://www.pexels.com/photo/happy-black-guy-smiling-while-standing-near-aged-building-with-hands-in-pockets-6147070/>

Pg 21 - Photo by Jonathan Borba on Unsplash

<https://unsplash.com/es/fotos/mujer-con-camisa-negra-de-manga-larga-sentada-en-un-sofa-blanco-n1B6ftPB5Eg>





RentO

rent-o.com

