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# RoomMagnet

## Final Solution Report

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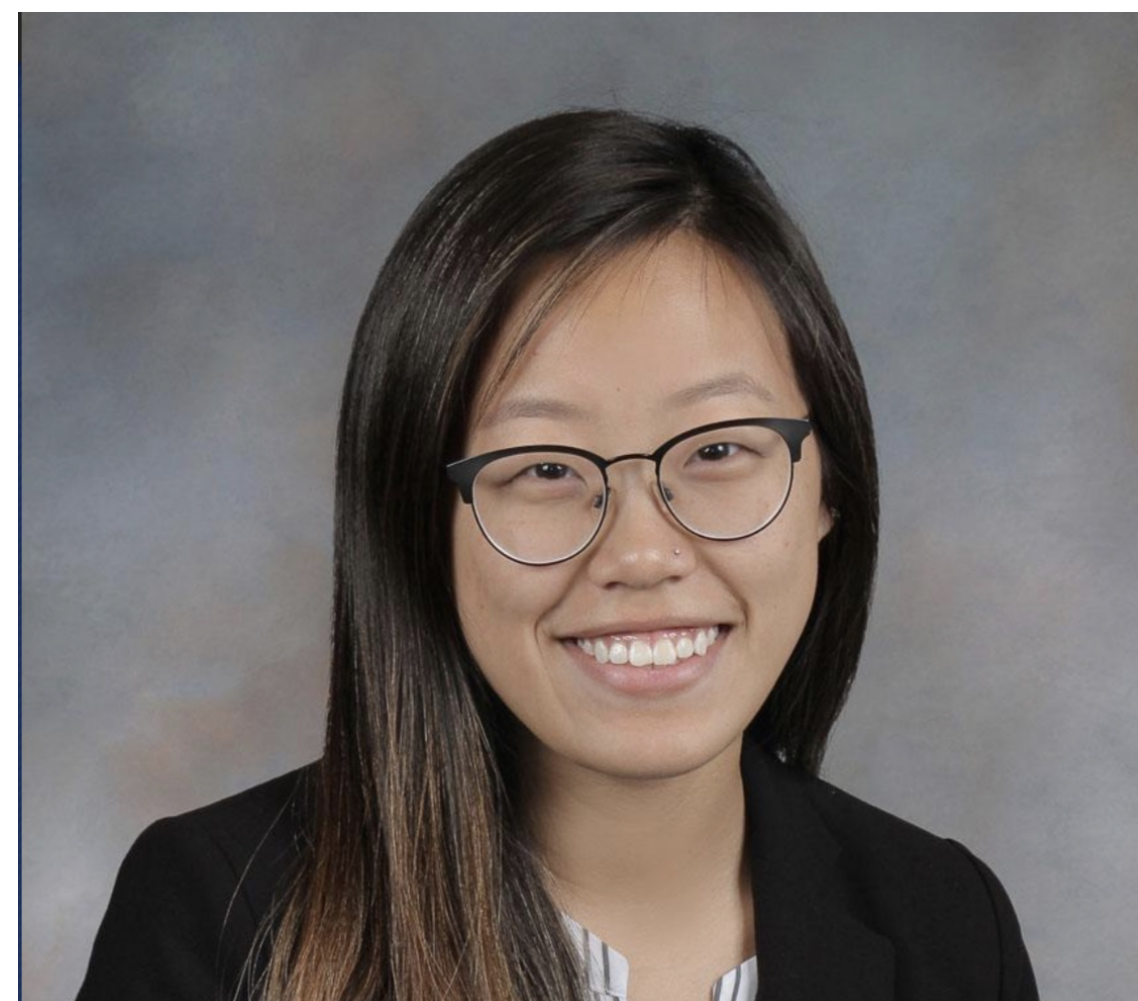
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## MEET THE TEAM



Emily Hoang - CIS  
Project Manager



Amanda Cho - CIS  
Database Engineer



Billy Gerhardt - CIS  
Back End Developer



Chrissy Garrett  
Lead Designer



Kyleigh Kessler - CIS  
Full-Stack Developer



Michael Messina  
Front-End Developer



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UX/UI Researcher



Soheyl Rafi - CIS  
Systems Engineer

## GOAL AND SOLUTION



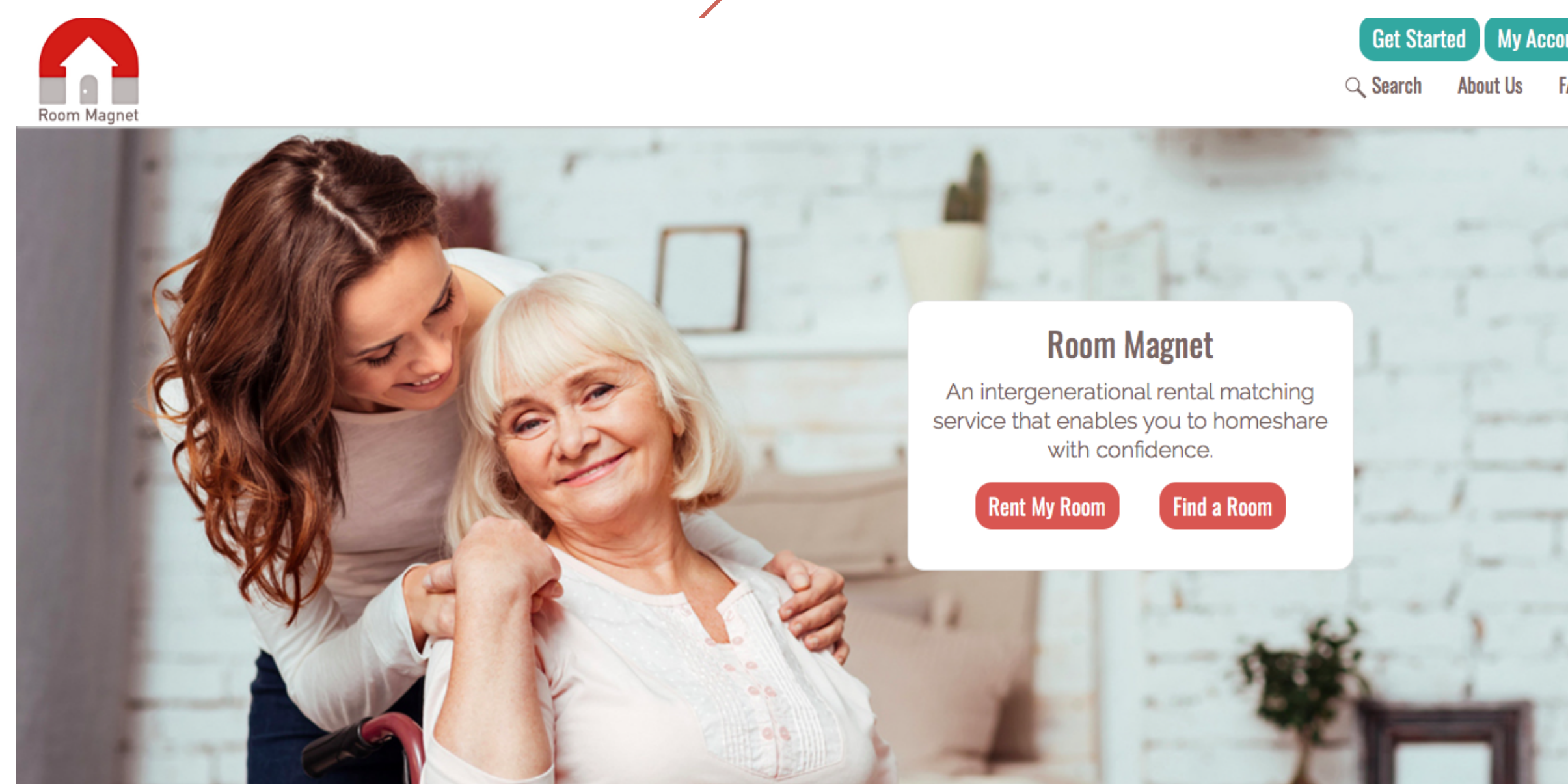
## Room Magnet's Goal

Room Magnet strives to bring professional and semi-professionals such as, graduate students, international students, doctoral and nursing interns as well as college students seeking affordable housing together with hosts who have extra room to share. Students can do light housekeeping and chores in exchange for reduced rent, while hosts enjoy having help available and earning income from their extra living space.

## 360 Stack Consulting's Solution

Our team has spent the semester collaborating on our website solution for Room Magnet. We have developed a fully functional website that features a simplistic, beautiful design. Our site is easy to use and self-evident so any user age demographic can navigate through the process. Our site includes an

informational home page, an easy get started process and a simple, modular dashboard designed specifically for each type of user - host, tenant, admin. Our search is filterable by many variables and users/properties can select personalized 'badges' to describe themselves in order to help users find the perfect home-sharing match for them.



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## USER RESEARCH



Prior to design, our team conducted user research through the use of two **Google Surveys**. One was designed for a younger demographic - college students and young professionals-while the other was designed for an older demographic - those who own a home.

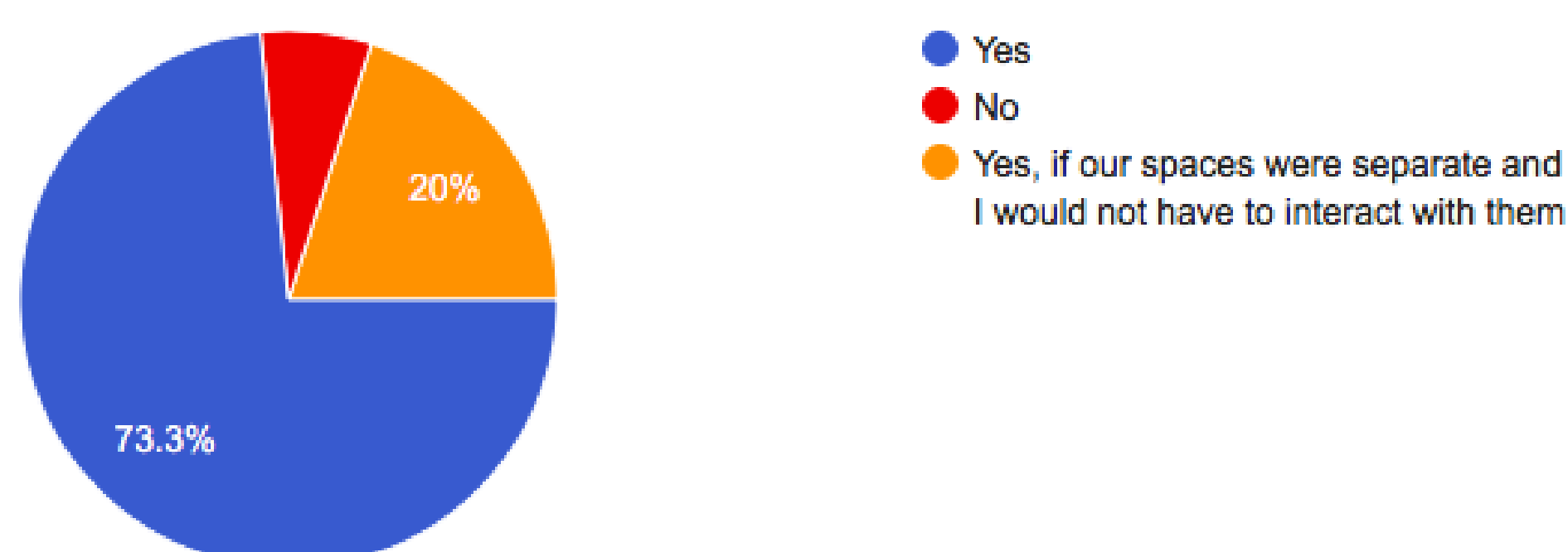
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## Our Findings

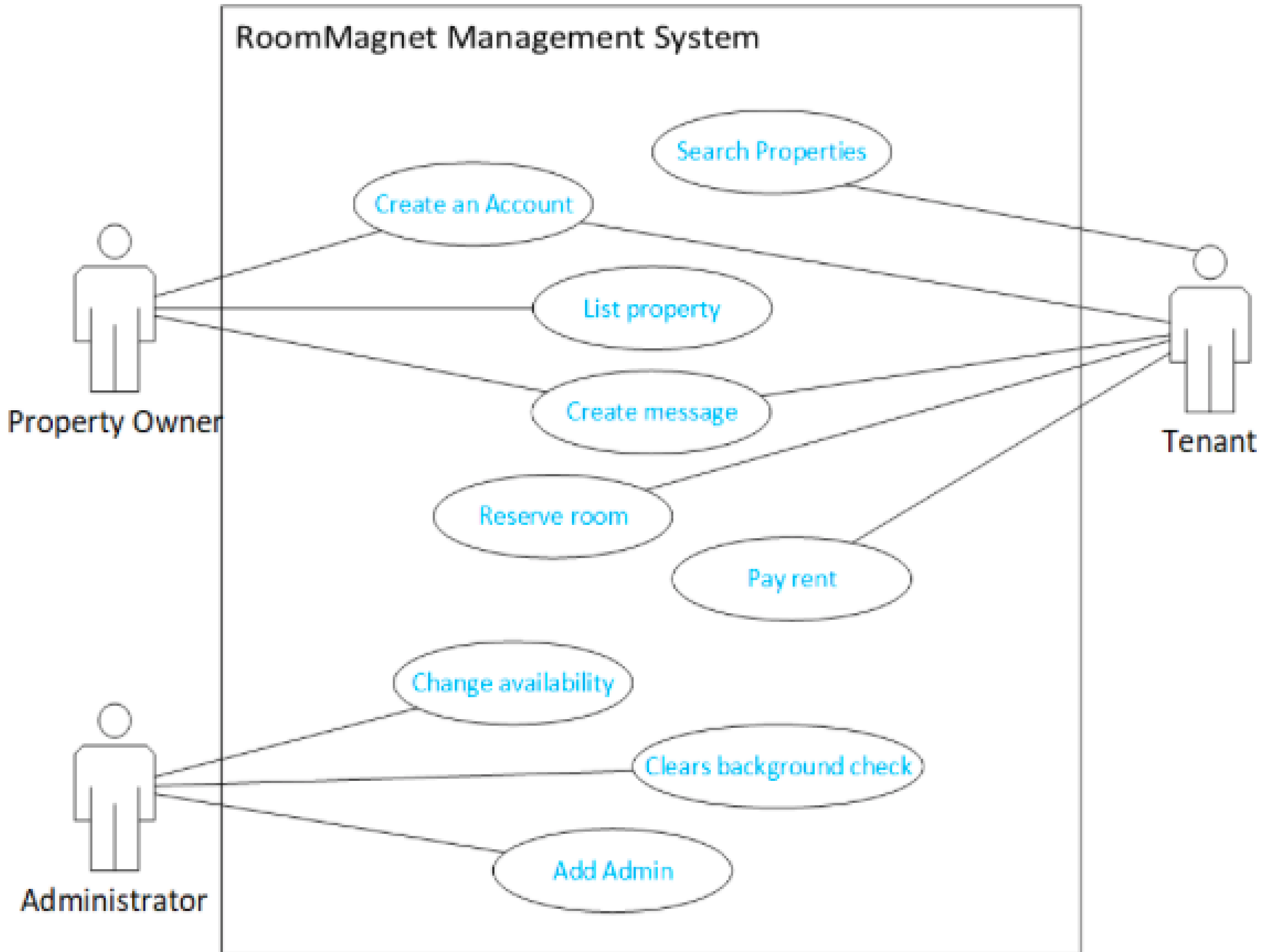
- 1 People trusted a site that featured testimonials, reviews or an additional security feature.
- 2 To appeal to all user demographics, use a design that features bright colors and a simple interface.
- 3 A lot of people use and trust AirBnB and we should try to find inspiration from this site.
- 4 When asked what you would want to know before sharing a living space with someone, common answers were:  
Criminal Record, If they smoke, Their lifestyle

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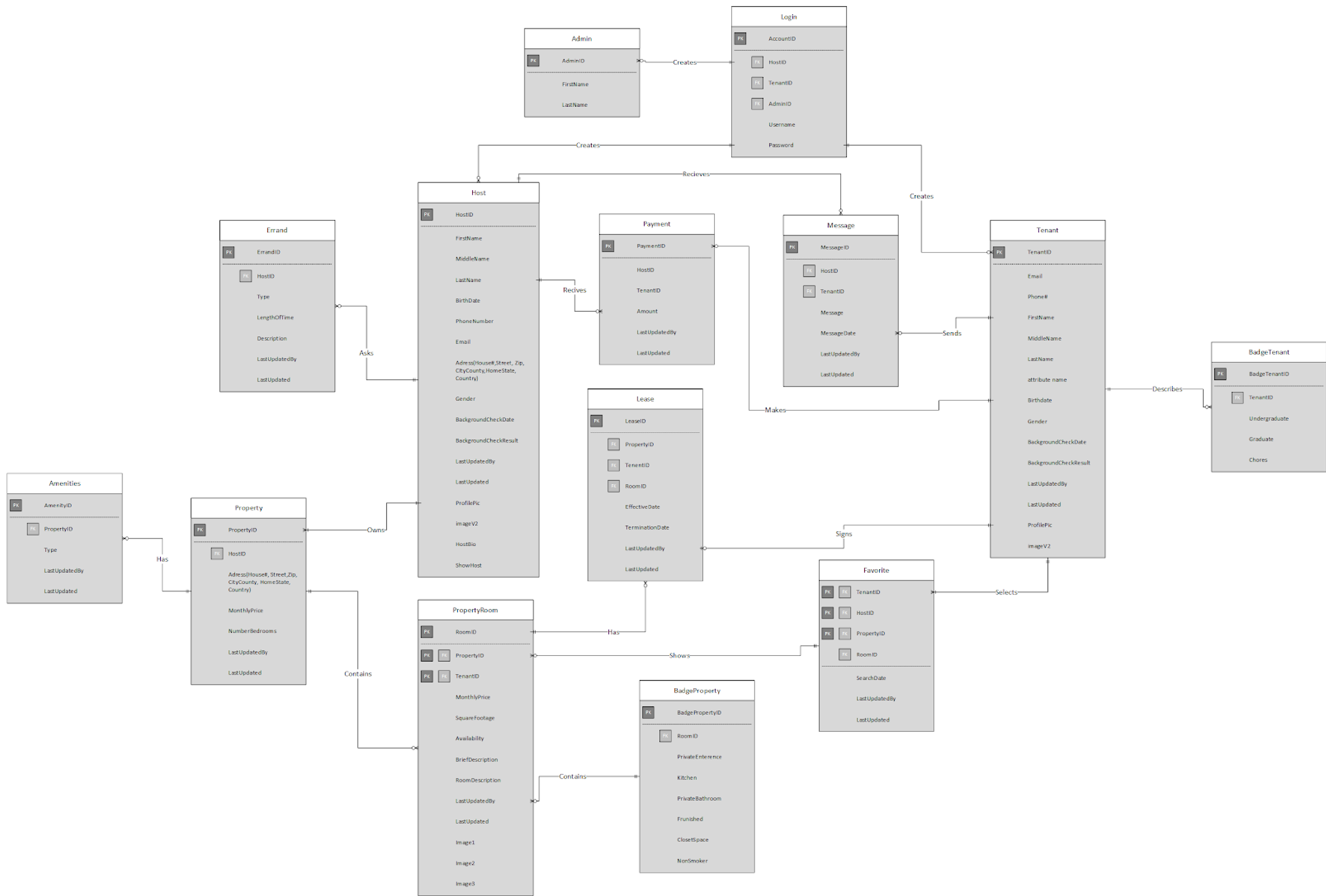
"Would you rent a shared space from someone older than you?"



# USE CASE DIAGRAM



# DATABASE RELATIONSHIPS



# Front End Requirements

1

Easy, Clear,  
Interface

- User-friendly interface to accommodate to all target user age groups
- Clear, Simple, Modular Dashboard
- Low number of clicks to complete any task on the website

2

Sense of Security

- Emphasizing Room Magnet's competitive edge with the focus on security and background check

3

Communicate  
Company's Mission

- Intergenerational, diverse images
- Secure process

# Back End Requirements

1

Creation of Log In  
For All Users

- Tenant
- Host
- Admin

2

Integration of  
Accounts

- Tenant can start messages to host
- Host can reserve room for tenant
- Admin can approve background checks

3

Data Validation  
and Security

- Number fields only accept numbers
- Password requirements
- Prevent Cross-site Scripting and SQL Injection

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## USER STORIES

# Debra Lin

## Host In Harrisonburg

"I live with my husband who is a diabetic and we have extra space in our home. We are looking for a nursing student to help my husband with his insulin injections. We are also looking for someone who can help run errands for us in return for reduced rent."



# Diana Russo

## Tenant Looking In Harrisonburg

"I am a nursing student at James Madison University who is looking for an affordable apartment near school. I am going into my senior year and I have had multiple internships at hospitals in the area. I am willing to help out with any medical assistance."



## USER FLOW ON SITE

# Debra Lin; Host

This screenshot shows the 'Tell us about the room' form. It includes fields for 'Room Picture' (three upload buttons), 'Monthly Price' (a dropdown menu), 'Room Size' (a dropdown menu), and 'Availability' (a dropdown menu). There is also a 'Property Room Title' field with an example 'Ex. Basement bedroom near City' and a 'Property Description/Biography' field.

Debra can create an account as a host and list information about the property she has available to rent out. She also is required to provide information about herself as well as we deem it necessary to ensure that tenants feel safe and secure finding a housemate on our site.

This screenshot shows the host dashboard. It features a 'Message Board' with a message from Diana Russo dated 12/5/2019 8:01:45 PM. There is also a 'Background Check Status' section showing an 'Incomplete' status with a yellow 'NC' icon and a 'More Information' button.

Once Debra has made an account, she can access her host dashboard. Here, she can edit her personal profile, view the status of her background check, message with prospective tenants and reserve a room for a tenant she wants to share a space with.

This screenshot shows Debra's dashboard. It includes a 'Your Profile' section with her name 'Debra Lin', email 'Debral22@gmail.com', and phone number '(640) 843-2094'. There is also a 'Your Property' section titled 'Your Available Rooms in: 496 Virginia Avenue Harrisonburg, VA 22802', featuring a 'Bedroom Near Historic Downtown' for \$425/Week.

Diana has shown interest in Debra's property by favoriting it and messaging her. After Diana decides she would like to rent her property to Debra, she can choose to reserve the room for Diana. They can now proceed to the payment and rental agreement stage of the arrangement.

# Diana Russo; Tenant

This screenshot shows the 'Tell us about yourself' form. It includes fields for 'First Name\*', 'Last Name\*', 'Gender\*', 'Date of Birth\*' (with a DD-MM-YYYY format), 'Email\*', 'Confirm Email\*', 'Phone Number\*', and 'Institution Level'.

Diana can create an account as a tenant where she fills out information about herself. This way, prospective hosts can get to know more about prospective tenants before renting their space to them.

This screenshot shows Diana's dashboard. It features a 'Reserved Properties' section with a listing for 'Bedroom Near Historic Downtown' by Debra Lin in Harrisonburg, VA, with a 'Pay With Card' button. There is also a 'Your Rental Agreements' section with a 'Sample Agreement' button.

Diana can search for potential properties on the site. She searches for Harrisonburg and finds a property that she is interested in. She decides to favorite the property so she can come back to it on her dashboard later and message the host Debra.

This screenshot shows Diana's dashboard. It includes a 'Your Profile' section with her name 'Diana Russo', email 'Russodigdukesjmu.edu', and phone number '(640) 372-8974'. There is also a 'Your Favorites' section showing a listing for 'Debra Lin' in Harrisonburg, VA 22802, for \$425/Week.

Diana and Debra message back and forth and agree to rent from each other. Debra reserves the property for Diana and then Diana is able to pay rent and they are both able to view and download the rental agreement.

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## COST

- **AWS Cost Estimate (1 year): \$8,958.12**

- EC2 (Instance): \$ 2,923.21
- S3 (Storage): \$282.72
- RDS (Database): \$5,781.12

- **Developer Costs: \$316,000**

- Front-End: \$102,000
- Back-End: \$127,000
- Database Administrator: \$87,000

- **Tableau Costs: \$840**

- \$70 user/month

- **Stripe API (1 year): \$6,150**

- Background Check:  $\$24.95 * (2.9\% + \$0.30 \text{ fee})$
- 500 estimated users created per month

- **Google API (1 year): \$420**

- \$7 per 1000 requests
- 5000 estimated requests per month

- **Visual Studio Enterprise (1 year): \$3000**

- \$250 per month

- **Cost without Salary: \$19,368.12**

- **Total Cost: \$335,368**

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LOOKING AHEAD

- 1 Functional Stripe Payment Feature**
- 2 Forgot Password - Link to Email**
- 3 Log In Using Facebook**
- 4 More Advanced Search Features**
- 5 Host Rating Feedback System**
- 6 Admin Can Mark Hosts As Unavailable**