



MIS 6308.003 - System Analysis And Project Management - S24



ResiRent

Submitted By:

Group 3

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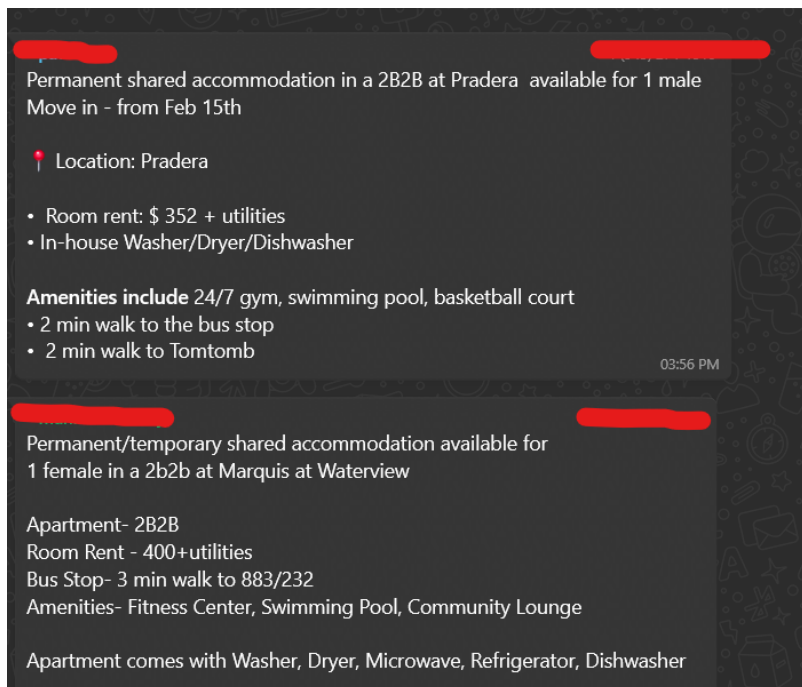
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Problem Statement:

Finding affordable, conveniently accessible housing can be incredibly challenging for students switching fields or universities and those starting jobs in far-off states. This timeline necessitates additional accommodation and adds a great deal of complication. With a central housing platform, students can often make fast decisions and fall prey to con artists as they navigate a vast, unregulated market from a distance.

Relying on decentralized platforms such as Facebook and WhatsApp to house information exacerbates the issue because these channels often contain outdated and erroneous information. This puts a lot of financial and mental burden on people, especially those changing employment or educational paths. Because they cannot conduct in-person visits and must rely solely on digital communications and photos, international students and students with little financial resources face additional challenges.



Moreover, because state-by-state rental markets differ, students must prepare to manage living abroad's financial and legal complexities. Lack of local knowledge or access to trustworthy information could land students in costly or legally problematic leases, which could harm their living situation, financial security, and success in the classroom or at work.

Students find it more challenging to adjust to their new academic or professional contexts because of the current unstable and fragmented nature of the student housing market. A robust and unified system is sorely needed to provide verified housing information and individualized support services and foster a more inclusive and hospitable environment for students embarking on new chapters in their lives.

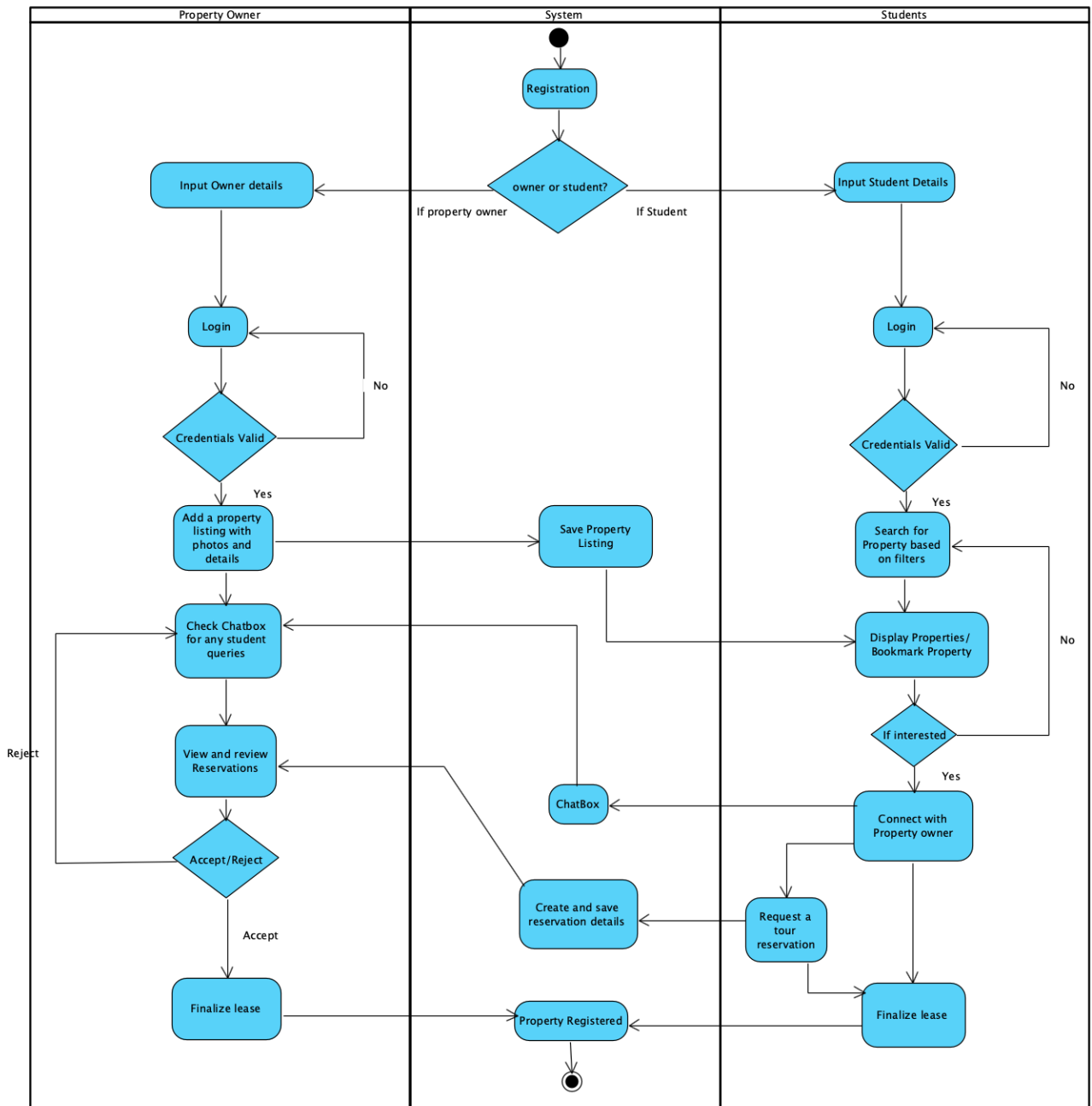
Proposed Solution:

To enhance the proposed solution to the widespread housing difficulties faced by students, particularly those transitioning between universities or starting jobs in new states, our ResiRent application will help in student friendly confirmed listing of housing accommodation as well as integrate several key features aimed at addressing the core issues outlined in the problem statement. This comprehensive approach will not only connect students with verified listings but also provide a suite of tools and services designed to mitigate the risks and challenges of finding suitable accommodations.

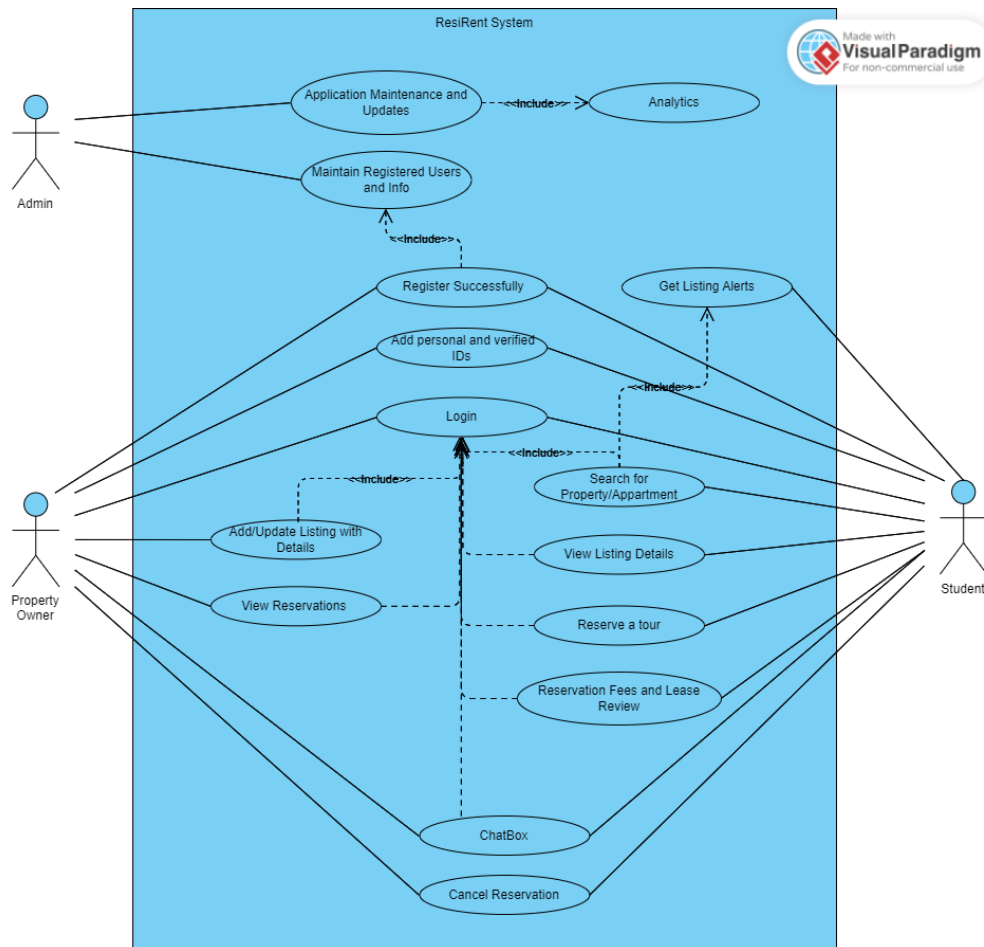
Expanded Features and Services:

- **Personalized Matching Algorithm:** Leveraging advanced algorithms, the platform will offer personalized matching services that connect students with housing options that best fit their preferences, budget, and lifestyle. This tailored approach will simplify the search process and ensure that students find accommodations that meet their specific needs.
- **Virtual Tours and Verified Images:** To tackle the problem of students being unable to conduct in-person visits, the platform will offer virtual tours and verified images for each listing. This feature will help ensure that students have a realistic understanding of the property before planning, reducing the risk of misinformation and scams.
- **Local Market Insights and Legal Support:** Recognizing the challenges posed by different state rental markets, the platform will provide users with insights into local rental market trends, average prices, and legal requirements. Additionally, a partnership with legal services will offer students guidance on lease agreements to avoid legally problematic leases and ensure their financial and legal security.
- **Community Reviews and Ratings:** To foster a sense of trust and community, the platform will feature reviews and ratings from previous tenants. This feedback system will help new users make better decisions, further reducing the risk of falling prey to con artists.
- **Financial Planning Tools:** Understanding the financial burden of housing, the platform will include financial planning tools to help students budget for their housing needs. This feature will assist students in managing their finances effectively, ensuring that they can afford their accommodations without compromising their financial security.
- **Emergency Support Services:** For students who find themselves in immediate need of housing due to unforeseen circumstances, the platform will offer an emergency support service. This service will provide rapid assistance and access to temporary housing options to ensure that students are not left without accommodations.
- **Integration with University and Employer Resources:** To support students transitioning to new jobs or universities, the platform will integrate resources and information from universities and employers. This collaboration will help students find housing options that are convenient for their academic or professional commitments.

Activity Diagram:



Use Case Diagram:



Use Cases:

The document includes four fully developed use cases that are comprehensively detailed. Additionally, there are several other use cases presented in a more concise manner, offering brief descriptions of system interactions.

Use Case 1: Registration

Use Case 1:	Registration (Fully Developed)
Actors:	Student, Property Owner
Description:	Students and Property Owners must be able to create an account in the system to access its features.
Preconditions:	1. The accommodation platform is deployed and operational.
	2. The registration feature is accessible and functional.
	3. Users have access to a stable internet connection and a compatible device.

Trigger:	Student or Property Owner chooses to register.
Normal Flow:	
1.	Student or Property Owner selects the registration option.
2.	System presents the registration form.
3.	User provides necessary personal and verification details.
4.	System validates the provided information.
5.	System registers the user's account.
Postconditions:	1. The user's account is successfully registered on the accommodation platform.
	2. The user can now access the platform's features and services using their registered account credentials.
Exception:	If registration fails, the system prompts the student and Property Owner to correct their information or try again later.
Exception Flow:	
6.	Registration Failure:
	- System encounters issues during the registration process.
	- Error messages are displayed, prompting the user to correct errors or provide missing information.
	- Guidance or assistance is provided to help the user resolve registration issues.
	- If necessary, the user is advised to try registering again later.

Use Case 2: Login

Use Case 2:	Login (Fully Developed)
Actors:	Student, Property Owner
Description:	Users must be able to log in to access their accounts and use the system's features.
Preconditions:	1. The accommodation platform is deployed and operational.
	2. User accounts have been previously created through the registration process.
	3. The login feature is accessible and functional.
Trigger:	User selects the login option.
Normal Flow:	
1.	User enters their credentials.
2.	System verifies the credentials and logs the user in.

Postconditions:	1. User is successfully logged into their account.
	2. User gains access to the system's features and functionalities associated with their account.
Exception:	If login fails, the system informs the user and allows them to retry or reset their password.
Exception Flow:	
3.	Login Failure:
	- System encounters issues during the login process.
	- Error message is displayed, informing the user that login has failed.
	- User is provided with options to retry logging in or reset their password.

Use Case 3: Add/Update Listing Details

Use Case 3:	Add/Update Listing Details (Fully Developed)
Actors:	Property Owner
Description:	Property owners must be able to add new listings or update existing ones, including images and videos.
Preconditions:	1. The accommodation platform is deployed and operational. 2. Property owners have successfully logged into their accounts.
Trigger:	Property owner chooses to manage listings.
Normal Flow:	
1.	Owner selects the option to add/update listings.
2.	System presents the list of existing listings or an option to add a new listing.
3.	Owner selects the specific listing to update or chooses to add a new listing.
4.	Owner enters or updates property details such as title, description, amenities, and location.
5.	Owner adds images and videos to display the property.
6.	Owner submits the changes.
7.	System validates the entered data, including images and videos, and saves the changes.
Postconditions:	1. Property details, including images and videos, are successfully added, or updated in the system.
	2. Owner can view the updated or newly added listing with images and videos in their account.
Exception:	If updating fails, the system alerts the owner and provides the option to retry.
Exception Flow:	
8.	Update Failure:

	- System encounters issues while saving the changes.
	- Error message is displayed, alerting the owner about the failure.
	- Owner is provided with the option to retry the update.

Use Case 4: Search for Property/Apartment

Use Case 4:	Search for Property/Apartment (Fully Developed)
Actors:	Student
Description:	Students must be able to search and view listings of properties or apartments based on various filter conditions such as location, amenities, eating habit preferences, etc.
Preconditions:	1. The accommodation platform is deployed and operational. 2. Students have successfully logged into their accounts.
Trigger:	Student opts to search for properties.
Normal Flow:	
1.	Student inputs search criteria, including:
	- Location (e.g., city, neighborhood)
	- Type of property (e.g., apartment, house, dorm)
	- Number of bedrooms and bathrooms
	- Price range
	- Amenities (e.g., gym, swimming pool, parking)
	- Eating habit preferences (e.g., vegetarian-friendly, pet-friendly)
2.	System processes the search criteria.
3.	System retrieves and displays listings matching the criteria.
Postconditions:	Student views listings of properties or apartments matching their search criteria.
Exception:	If no properties match, the system advises the student to adjust the criteria.
Exception Flow:	
4.	No Listings Found:
	- System finds no properties matching the search criteria.
	- Message is displayed, advising the student to adjust their search criteria.

Use Case 5: View Reservations

- **Actors:** Property Owner
- **Description:** Property owners should be able to view all current reservations for their properties.

- **Trigger:** Property owner selects to view reservations.
- **Normal Flow of Events:**
 - Owner opens the reservations section.
 - System displays all current reservations.
- **Exception:** If there are no current reservations, the system informs the owner.

Use Case 6: View Listing Details

- **Actors:** Student
- **Description:** Students must be able to view detailed information about the listings they are interested in.
- **Trigger:** Student selects a property from the search results.
- **Normal Flow of Events:**
 - Student clicks on a listing.
 - System provides detailed information about the property.
- **Exception:** If details cannot be retrieved, the system notifies the student and offers alternative actions.

Use Case 7: Reserve a Tour

- **Actors:** Student
- **Description:** Students should be able to schedule a tour of a property they are interested in.
- **Trigger:** Student decides to schedule a tour for a listing.
- **Normal Flow of Events:**
 - Students choose the option to reserve a tour.
 - Student selects a date and time.
 - System confirms the tour reservation.
- **Exception:** If the reservation cannot be made, the system provides the next available slots.

Use Case 8: Chat Box

- **Actors:** Student, Property Owner
- **Description:** Students can interact with an automated system for assistance or to answer questions they may have.
- **Trigger:** Student/Property Owner selects the chat box option.
- **Normal Flow of Events:**
 - Student initiates a chat.
 - System responds with automated messages or directs to a Property Owner.
- **Exception:** If the chat system is offline, the student is informed and provided with an alternative contact method.

Use Case 9: Cancel Reservation

- **Actors:** Student
- **Description:** Students must be able to cancel a previously made reservation.
- **Trigger:** Student decides to cancel a reservation.
- **Normal Flow of Events:**
 - Student selects the reservation.
 - Student chooses the option to cancel.
 - System processes the cancellation.
- **Exception:** If cancellation is within a non-refundable period, the system notifies the student of the policy.

Use Case 10: Application Maintenance

- **Actors:** Admin
- **Description:** Admin ensures that the system is running smoothly and performs regular maintenance tasks.
- **Trigger:** Scheduled maintenance time is reached, or an issue arises.
- **Normal Flow of Events:**
 - Admin logs into the maintenance portal.
 - Admin performs necessary updates and checks.
 - System is updated or repaired, and a maintenance log is updated.
- **Exception:** If an update fails, the admin is notified, and rollback procedures are initiated.

Use Case 11: Maintain Registered Users and Info

- **Actors:** Admin
- **Description:** Admin manages the user accounts and their information within the system.
- **Trigger:** Admin receives a task to update user information.
- **Normal Flow of Events:**
 - Admin accesses the user management module.
 - Admin adds, updates, or removes user accounts as needed.
 - Changes are saved and audited.
- **Exception:** If a user cannot be updated, the admin is alerted and investigates the issue

Use Case 12: Handle Analytics

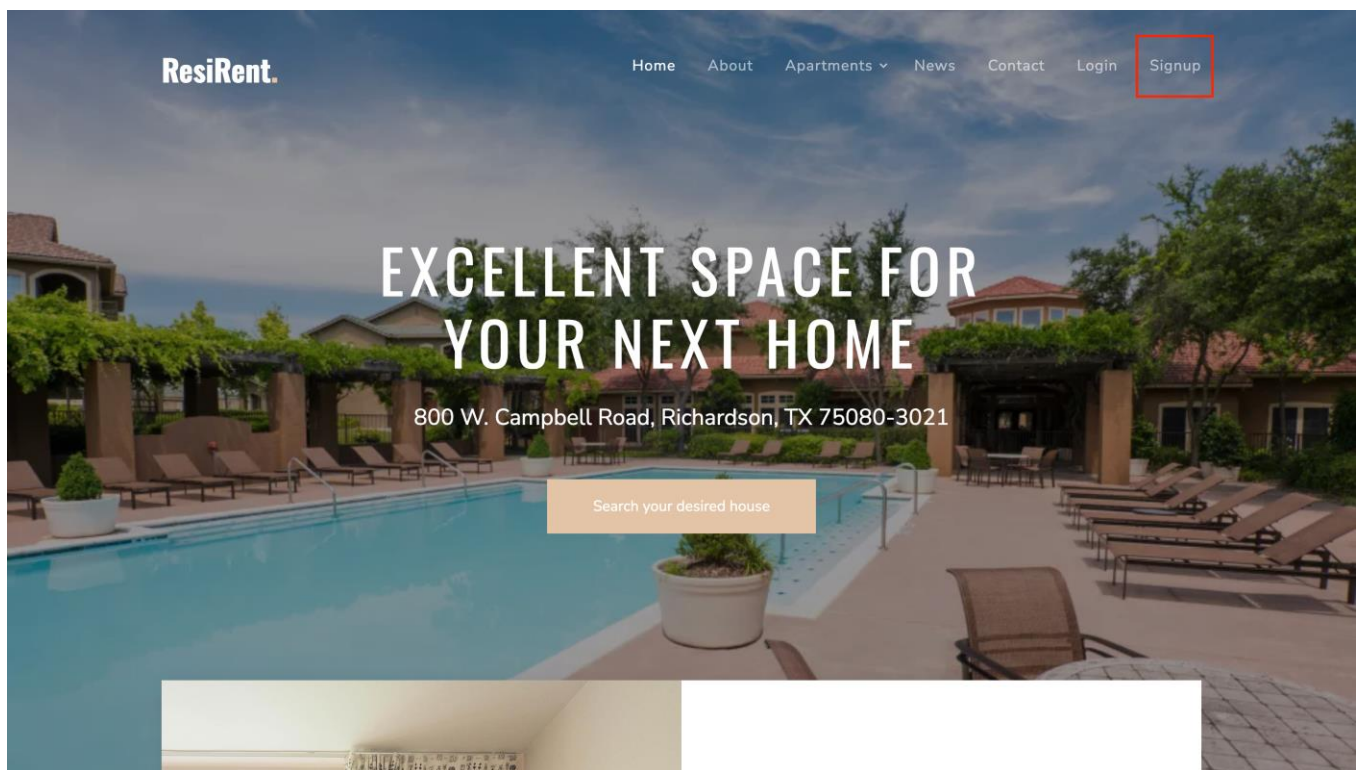
- **Actors:** Admin
- **Description:** Admin reviews and analyzes system usage data to improve services.
- **Trigger:** Admin decides to review the system analytics.
- **Normal Flow of Events:**
 - Admin accesses the analytics dashboard.
 - Admin reviews reports and gathers insights.
 - Admin makes recommendations or changes based on data.
- **Exception:** If data is corrupted or unavailable, admin troubleshoots the analytics tools.

User Interface:

Flow 1: As a Student

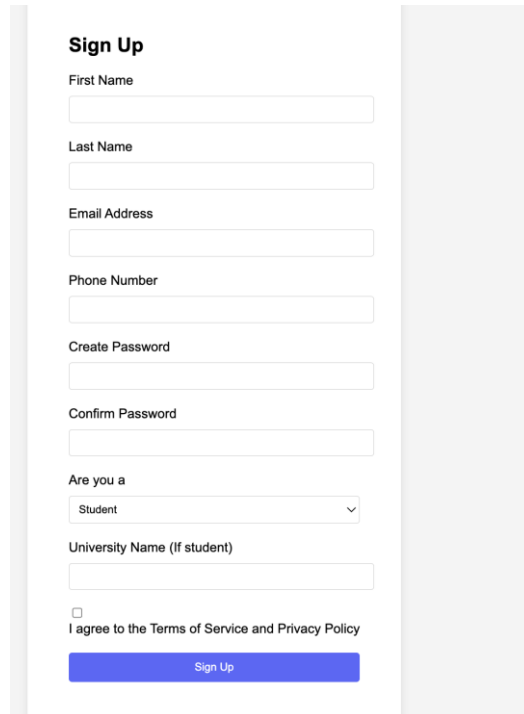
Step 1: Homepage:

- The image below displays the homepage where students or property owners can sign up for our web application.
- Here, users can easily navigate through the website's features, explore available properties, and access relevant information about the rental process.
- Additionally, they can conveniently register for an account by clicking on the "Sign Up" button, which initiates the registration process.



Step 2: Sign Up Page:

- This page facilitates user registration for both students and property owners. Users can fill out the required information to create their account, specifying whether they are registering as a student or a property owner.
- The registration process is straightforward, guiding users through the necessary fields to complete their profile setup efficiently.

A vertical sign-up form with a light gray background. It contains several input fields for personal information, a dropdown menu for user type, and a checkbox for terms and conditions. A blue button is at the bottom.

Sign Up

First Name

Last Name

Email Address

Phone Number

Create Password

Confirm Password

Are you a

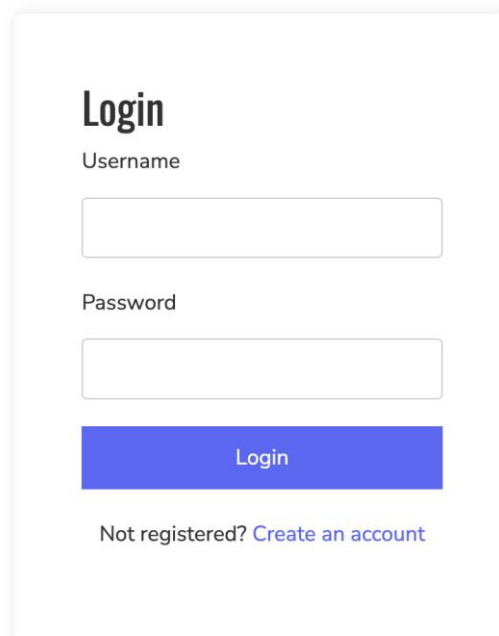
University Name (If student)

☐ I agree to the Terms of Service and Privacy Policy

Sign Up

Step 3: Login Page:

- Here, users can access their accounts by entering their credentials. If users haven't registered yet, they also have the option to create an account directly from the loginpage.
- This seamless process allows users to either sign in or register with ease, ensuring a smooth transition between accessing the platform and initiating their journey within the application.

A vertical login form with a light gray background. It has two input fields for username and password, a blue login button, and a link to create an account.

Login

Username

Password

Login

Not registered? [Create an account](#)

Step 4: Upon Logging In:

- Once logged in, students gain access to browse available listings tailored to their preferences. They can specify their search criteria such as location, rental price range, property type, and amenities to refine their search results.
- This personalized browsing experience enables students to explore listings that best match their requirements, facilitating a more efficient and satisfying property search process.

BROWSE APARTMENTS

Explore a curated selection of apartments tailored to your lifestyle and preferences. From cozy studios to spacious multi-bedroom homes, find a place that feels like home and suits your budget. Start your journey towards the perfect living space with just a few clicks.

Select Location ▾ House ▾ 2 Bedrooms ▾ 2 Bathrooms ▾ \$0 - \$500 ▾

Amenities: ☒ Gym ☒ Swimming Pool ☐ Parking Preferences: ☒ Vegetarian-friendly ☐ Pet-friendly

Search



Step 5: Property Details:

- When a student clicks on a listing, they can view all the property's details.
- They have two options: either contact the owner if interested or bookmark the property for later.



Apartment Details

Explore our fully furnished studio apartments perfect for students, located near University of Texas at Dallas. Amenities include high-speed internet, a study area, and access to a community lounge.

Location: **10 minutes from university**

Monthly Rent: **\$450**

Utilities Includes: **Washing Machine, Dryer, Furniture**

Nearby: **2 minutes: 7-Eleven, 10 minutes: Walmart, 10 minutes: Tom Thumb**

Lease Term: **12 months**

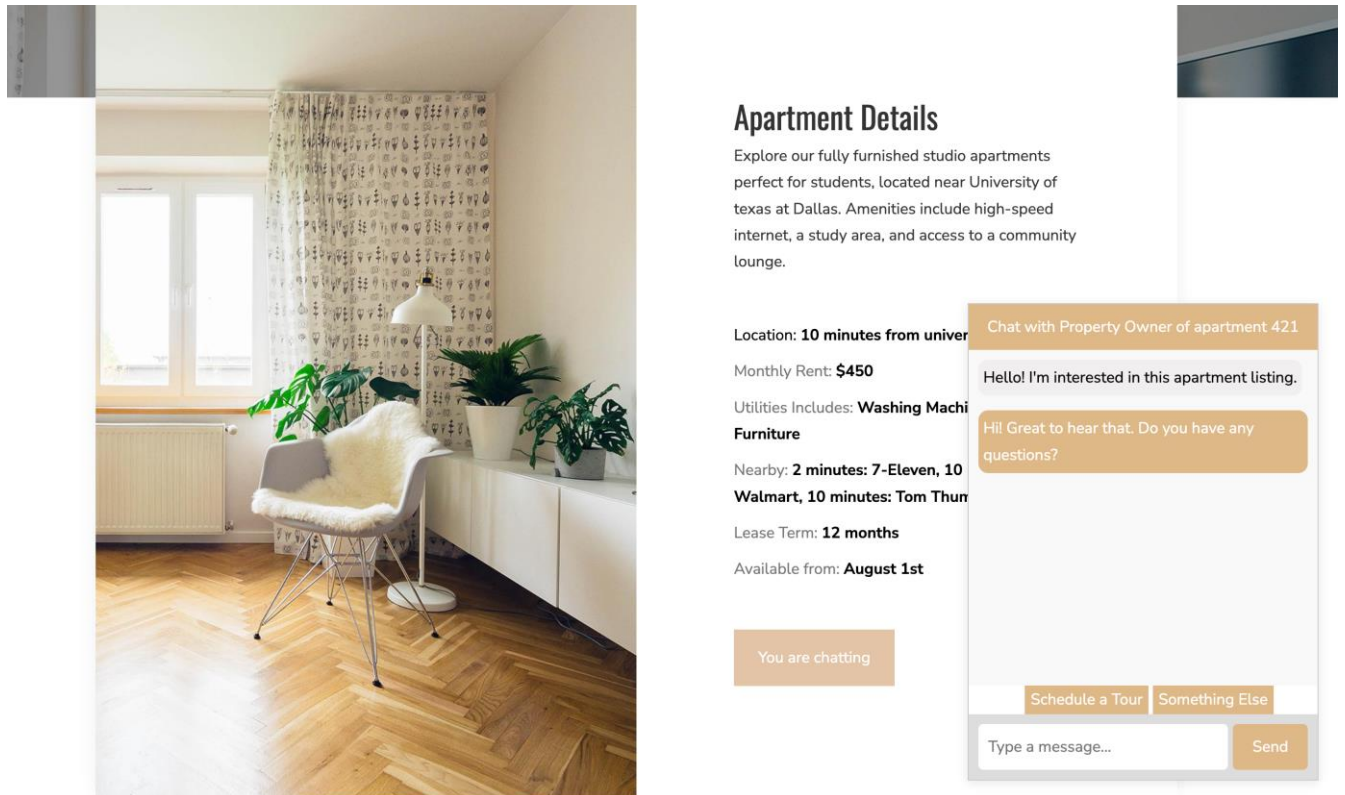
Available from: **August 1st**

Contact the owner

Bookmark this property

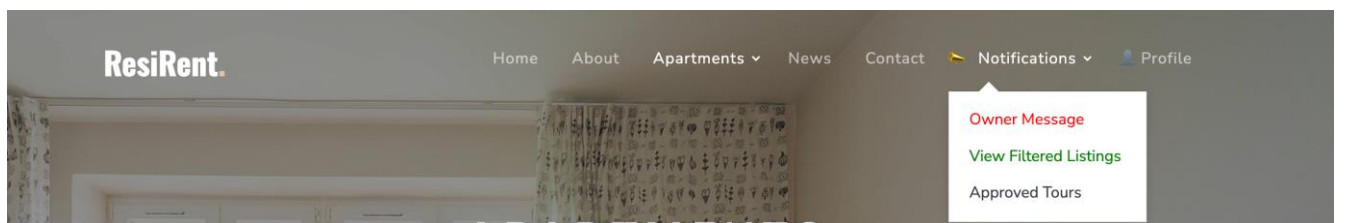
Step 6: Chatbox for Contacting Owner:

- Upon selecting the "Contact the Owner" option, a chatbox will appear, allowing the student to schedule a tour or ask any queries directly to the owner.



Step 7: Notifications:

- In addition to the chat functionality, students will receive notifications for various events. These notifications include messages from property owners, updates on available properties matching their preferences, and notifications when their requested property tours are approved.
- This ensures that students stay informed and up-to-date on relevant activities within the platform, enhancing their overall user experience.

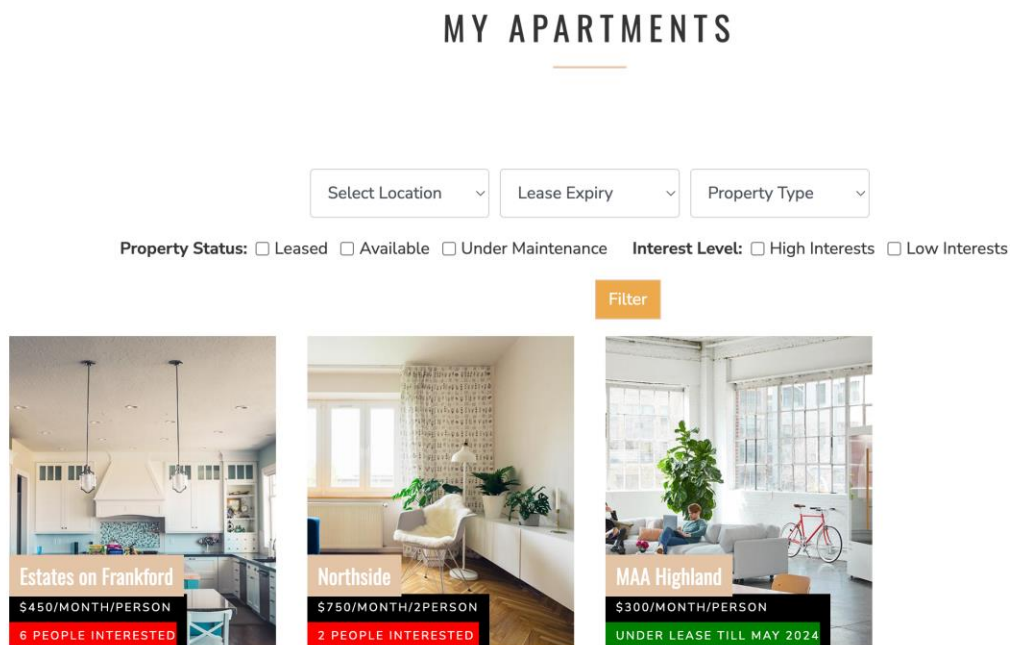


Flow 2: As a Property Owner

The Steps from 1 to 3 will remain same for the Property owner as well as he is also a user of the ResiRent WebApp

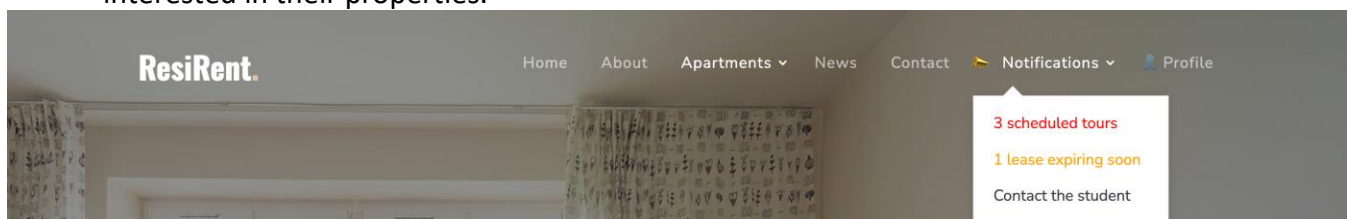
Step 4: My Apartments:

- Upon logging in, property owners can access their listed properties. They can navigate through their listings using available filters, such as location, rental status, and more.
- The platform provides real-time updates on the status of each listing, including the number of interested parties, properties under lease, and lease expiration dates.

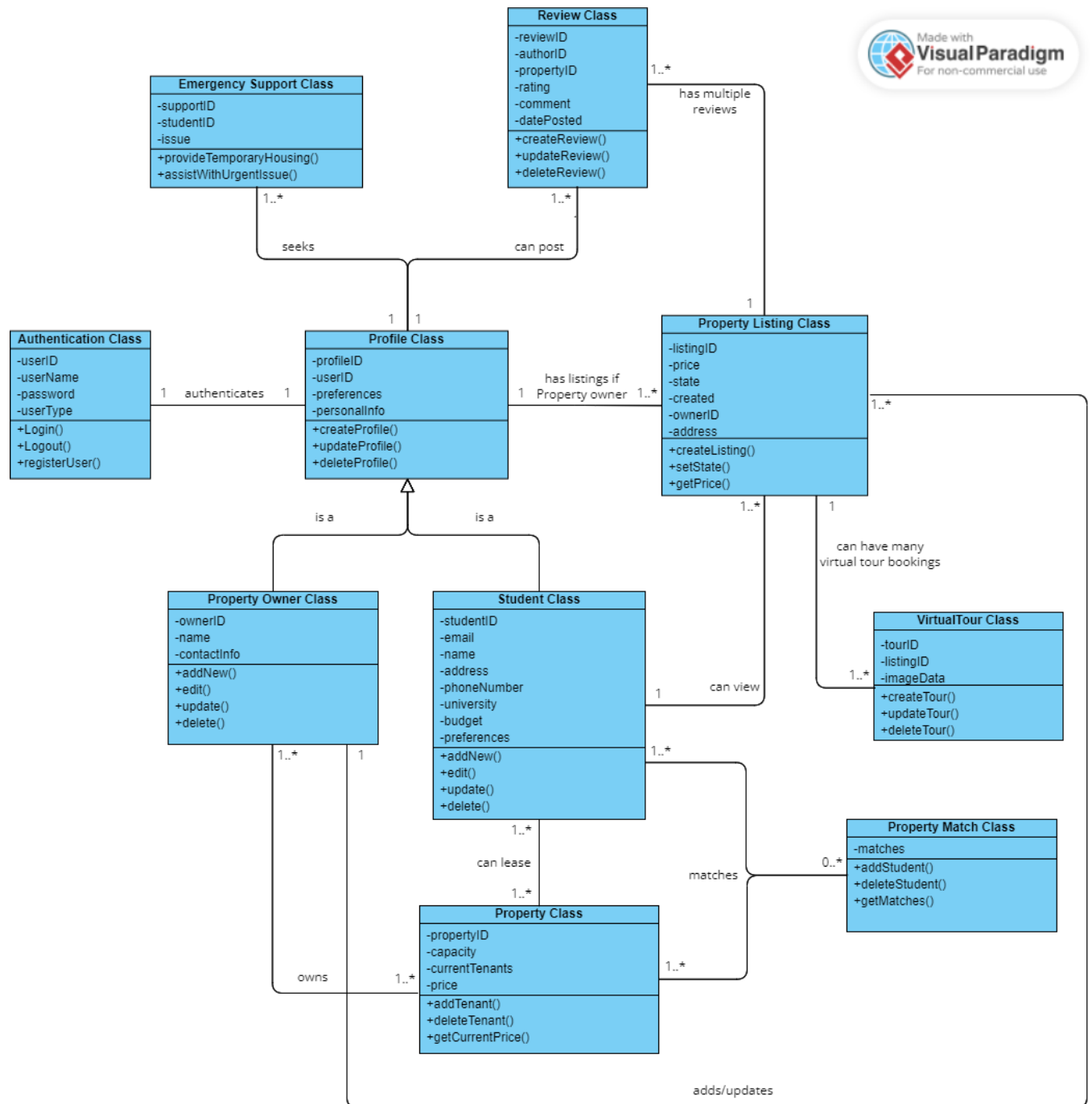


Step 5: Notifications:

- Property owners will receive notifications to stay informed about various activities related to their listings.
- These notifications include updates on scheduled property tours, reminders about upcoming lease expirations, and notifications about contact requests from students interested in their properties.



Class Diagram:



References:

1. Systems Analysis and Design in a Changing World" by John Satzinger, Robert Jackson, and Stephen Burd - Cengage Learning, Seventh Edition ISBN-13: 9781305117204
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