

Grand Real Estate Requirements Specification

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Version 1.0

June 17 , 2022

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1. Executive Summary

1.1 Project Overview

There are numerous real estate information service providers available within Albania that offers commercial properties tailored towards the international and local needs of the real estate industry. As there is an increasingly demanding market for this in Albania, there are hundreds if not thousands of real estate properties for rent that falls under different categories. It not only includes commercial office spaces but single, family houses and land. As a result, this is attracting investors, property managers, landlords, appraisers and national buyers to rent their ideal property.

What we will be doing is to build a platform which would help buyer to look at the available properties with photographs, description and necessary specifications. Since any website that isn't UX friendly may push potential buyers away, we'll be focusing on providing easy to use and attractive interface for both the host and the buyer. Not only that, after quite a thorough market research we have noticed is that the majority of the Albanian real estate sites do not provide an accurate search engine. We'll be focusing on developing a powerful search engine that provides accurate GPS location and listing details.

Apart from this features, we'll like to make sure everything is automated as much as possible. We'll like to make the process of renting/selling a house only a click away.

On top of it, we will also be ensuring a quick support availability. This will ensure the both buyers and sellers a way to communicate to someone when they are needing help.

1.2 Purpose and Scope of this Specification

The purpose of this project is to provide a platform for landowners, real estate agents, property managers to host and rent their property with an easy-to-use site. While sellers will be able to post your property information, the buyers will be able to search them easily. This is due to the SEO-friendly built as well as the search engine available on the platform.

Additionally, the purpose of this specification is to provide the requirements of the project developed by our team, mainly focusing on the entire infrastructure of the project.

In scope:

- Documentation of the features
- Functional / Non-Functional Requirements

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- Constraints
- Domain Requirements

Out of Scope:

- Requirements dealing with Albanian Legislation regarding Real Estate/Property Renting
- Approach on how the website shall be marketed.
- Technical Implementation of the system.
- Development obstacles and solution approach

2. Product/Service Description

A Grand Real Estate is a website application that makes it easy for a host to manage multiple properties, while also making it really easy for a buyer to rent a property. Our main focus of our website is to provide pleasant experience to hosts as well as interested buyers.

The website will help the host with putting up new properties, tracking already booked properties, making any changes according to needs of the host whether that is to increase the price or change the description. With this after an initial registering the property, the host will only have to check if it is booked and withdraw their income.

On the other hand, the potential buyers easily search through the search feature and find any property they may be interested. Then they could easily book it with a single click. Afterwards they can easily keep track of their booked properties.

2.1 Product Context

This product is related to booking management for hosts and potential buyers. While the operations behind is independent, it is still dependent on payment approval as well as login from other products. As it is a booking management system, it will be used by property owners/host that want to lease/rent out their properties as well as buyers who are looking book a property and enhance their experience.

2.2 User Characteristics

The users of this products are Viewer, Host, and Admin, and they include the following features:

Viewer

- Sign in and sign out anytime
- View and edit their personal information
- Can manage and view its booked properties

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- Can pay and book a property
- Search for more properties
- Visit Hosts profile and see their listings

Host

A viewer can become a host after connecting their bank to the website.

- Post a Listing/Property
- View and edit their personal information
- Manage all the listings
- Edit the listing
- Withdraw income
- Sign in and sign out anytime
- Can also pay and book a property
- Manage and view booked properties
- Search for more properties

Admin

Are basically the website owners with access to everything behind the scenes.

- They can add, edit, remove listings
- They can add, edit, remove users.
- They can add, edit, remove bookings
- They can make changes to website (backend/frontend).
- They can create more databases.
- Grand permissions to other users.

2.3 Assumptions

- It is assumed that the viewer and host are above the age of 18.
- It is assumed that the users have basic knowledge in English (until Albanian language is implemented)
- It is assumed the host also will upload valid images of their property to the Website
- It is assumed every user has access to internet.
- It is assumed that the log in is done through a Google Email.
- It is assumed that the system is not subject to Albanian state legislations during the interactions between host and viewer.
- It is assumed the payment will be done using a reliable payment provider rather than pay at checking (pay with hand).
- It is assumed the property information provided by the Host is accurate.
- It is assumed the information during the sign in is accurate for both the host and buyer.

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- It is assumed the personal information will be kept secure.

2.4 Constraints

The website application will have the following constraints:

- The payment for booking will be handled by a third party payment provider (Stripe). Any TOS and conditions change may affect the website directly.
- As the website relies on Googles OAuth , if the google servers are down/website is blacklisted, it will affect the website directly.
- A reliable internet connection is needed for the website to work properly.
- The targeting audience shall be capable of understanding and using the platform as intended.
- Due to website scales, there is a need of a large database capable of efficiently working.
- The website may not work on old devices.

2.5 Dependencies

- As our application is web-based, Internet access will be essential for the application to run. Internet speed should be more than 10mbps or higher.
- The user shall have Internet Explorer 10 or higher version
- Sign in as well as payment feature is depended on third party providers.

3. Requirements

3.1 Functional Requirements

For Example:

Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_01	Different account roles and types	Scope and every operation involves this this roles/types	1	6/16/22	Kamil Ertekin
BR_02	The product should be implemented as a website application.	This is the main platform for the product.	1	6/16/22	Kamil Ertekin

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Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_03	The website shall be mobile-friendly.	This is so the users can use the website properly. (Most user uses mobile)	1	6/16/22	Kamil Ertekin
BR_04	There shall be a database that website stores the data into it.	For the information to be stored and shown, it must be connected to a database.	1	6/16/22	Kamil Ertekin
BR_05	Different roles should have additional features/ non-identical views.	The host and the viewer has different features so they must have different views.	2	6/16/22	Kamil Ertekin
BR_06	All roles shall have a require a sign-in to enable features.	As each user may have different bookings/listings, they must first sign in to their unique account.	1	6/16/22	Kamil Ertekin
BR_07	Direct sign-in option	Users shall be able to log-in to the website directly using their gmail account.	1	6/16/22	Kamil Ertekin
BR_08	Users can change their password.	Users shall be able to change their password in case they forget it.	2	6/16/22	Kamil Ertekin
BR_09	Users should not be able to change their personal information after signing in with gmail.	Both host and viewers shall not be able to change their information; name, surname, etc.	2	6/16/22	Kamil Ertekin
BR_10	Only one email shall be associated with one account.	Duplicate accounts with same email may lead to bugs/ data bugs.	3	6/16/22	Kamil Ertekin

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Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_11	Each of the users must have a unique ID.	A Unique ID is assigned to every user (host or viewer) with their own personal info and preference.	1	6/16/22	Kamil Ertekin
BR_12	Making sure each ID is accurate and matches gmail account	IDs will be defined randomly and assigned to users	1	6/16/22	Kamil Ertekin
BR_13	Any user whether they are logged in or not shall be able to search property	Host and Viewer can search property before listing/booking a place.	2	6/16/22	Kamil Ertekin
BR_14	Viewers can apply to becoming a host	Any viewer can become a host by linking their bank to website and enable features of host.	1	6/16/22	Kamil Ertekin
BR_15	Host can put up new property listings	Host shall be able to put listings for viewers to see.	1	6/16/22	Kamil Ertekin
BR_16	Host can have multiple listings	The host can put more than one listing active (whether it is booked or not).	1	6/16/22	Kamil Ertekin
BR_17	Host shall be able to edit the property information	In case there is any mistake, the host shall be able to easily modify the information	2	6/16/22	Kamil Ertekin
BR_18	Host shall be able to delete a property	The host shall easily be delete a property if they wish.	2	6/16/22	Kamil Ertekin
BR_19	Host shall be able to withdraw payment after getting paid.	As it is one of the main features, the host shall be paid.	1	6/16/22	Kamil Ertekin

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Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_20	Host shall be able to see their bookings as well as their listings all together.	They shall be able to see the all properties they have posted.	2	6/16/22	Kamil Ertekin
BR_21	Viewers shall be able to see their booked properties	They shall be able to see a list of all the booked properties with their dates shown.	2	6/16/22	Kamil Ertekin
BR_22	Viewers shall be able to contact the host to ask questions	This shall be implemented incase there is lack of information provided by the host and more details are needed.	3	6/16/22	Kamil Ertekin
BR_23	Users shall be able to see all the listings of a host	All the listings of a host shall be organized in a single page.	3	6/16/22	Kamil Ertekin
BR_24	Viewer shall be able to book a property available on website.	They shall be able to book, pick dates and pay for the booking.	1	6/16/22	Kamil Ertekin
BR_25	Users shall be able to log out from their account	They shall be able to exit their unique account.	2	6/16/22	Kamil Ertekin
BR_26	Viewers shall be able to cancel their booking.	Viewers shall be able to cancel their booking and get refunded.	3	6/16/22	Kamil Ertekin
BR_27	Users can contact the website support for any change	They shall be able to get more information from the support	4	6/16/22	Kamil Ertekin
BR_28	After a property is booked, it should not be available to other viewers	The property shall only be available to the viewer who purchased it.	1	6/16/22	Kamil Ertekin
BR_29	Admin shall be able to remove listings	The Admin shall be able to remove listings in case it is not correct.	3	6/16/22	Kamil Ertekin

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Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_30	Admin shall be able to add and remove users from the system.	In case of sign up problems, the admin can add a user or remove manually	4	6/16/22	Kamil Ertekin

3.2 Non-Functional Requirements

3.2.1 User Interface Requirements

- Simple layout that is focused on functionality while keeping its simplicity
- As many users may have different devices whether that is a mobile or a desktop, they all have different screen sizes. The website will make optimize the screen according to the device and make sure it is responsive.
- Real time Notifications messages, and alerts that appears and occupies a small portion of the website which provides reliable feedback.
- Ease to use and user-friendly structure.
- The interface is clear and concise and makes sure the important parts are obvious and readable.

3.2.2 Usability

Learnability

- The website has an intuitive design which makes it really easy to navigate around as well as understand how the website works. An user can easily learn to use the website within the first 30 minutes.

Consistency

- As the website uses a really popular design system which is used by enterprises, visually everything is consistent. They are designed according to patterns and guidelines that are approved by UX experts.

No need for guide/tutorial:

- As the website is really easy to understand, there is no need for a guide/tutorial to use it.

Efficiency

- The user will be able to provide the users (viewers and hosts) fast ways of performing what they are trying to achieve.

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- Usually everything can be done with no more than few clicks making it so efficient for the users to use.

3.2.3 Performance

As it is a web application, the performance of the website will depend on the internet connection.

3.2.3.1 Capacity

- The Capacity of the database will be around 512MB to 5GB of storage due to the limitation of using free shared server.
- The number of the users that the website shall be able to handle will really depend on the hosting and the server packages used. However with the users increasing, scaling shall not be an issue.

3.2.3.2 Availability

- As the booking process is automated and the host doesn't need to be online to receive an booking, placing booking can occur 24 hours a day.
- The website will be available 24/7.
- Impact of downtime will really depend on the hosting provider.
- As our servers are located in Frankfurt, users accessing it from other continents may receive a response slower.

3.2.3.3 Latency

- The of the website will really depend on the:
 - o Internet connection speed
 - o Algorithm used shall be effective with the respect to their complexity
 - o The size as well as the location of the database server, which shall scale up with the increase of users.

3.2.4 Manageability/Maintainability

3.2.4.1 Monitoring

There are multiple error detections setup in code, which will describe the nature of the error and point it out to developer to fix it. Some predicted error handling are also already placed around to handle any upcoming error. Also the major issues the website may face are the login as well as the payment, which are both handled by the reliable 3rd party applications (Stripe and Google OAuth).

Include any requirements for product or service health monitoring, failure conditions, error detection, logging, and correction.

3.2.4.2 Maintenance

As the website relies on Typescript, most of the common issues are handling with it. The construction of the website will also be simple and will be kept well-organized. If there is a feature that shall be added a certain maintenance may be needed to get it done. Also the developers shall update the new libraries to prevent any deprecated dependencies to cause future errors.

3.2.4.3 Operations

The users are divided into three user module:

The Viewer:

- Can sign in using their gmail account and sign out.
- Manage and view their booked properties
- Book Properties
- Search for properties

The Host

- Can sign in using their gmail account and sign out.
- Manage the listings
- Manage bookings
- Withdraw Income

The Admin

- CRUD Functionalities related to bookings, listings and users.
- Viewing and monitoring all the Database collections.

Also in case there are a data loss of a property being booked and the viewer being charged, the host and the viewer will be paid accordingly and the website will take responsibility for any other damaged caused.

If the website does indeed go offline or get hacked, the website application be backed up to an older version.

3.2.5 System Interface/Integration

3.2.5.1 Network and Hardware Interfaces

The website will be using mobile data, Ethernet or even Wi-Fi to connect to the internet. It will be stored in a web server , which will be a HTTP server. The browser will have to establish a TCP connection to this connect to the website.

3.2.6 Security

3.2.6.1 Protection

- The Users will only be able to see their own personal information (email , password).
- The sign-in information will be handled using Google-OAuth2, which will be validated with the website.
- The payment information will be handled using Stripe.
- Algorithms will be use to encrypt the secret key which is used for the token

3.2.6.2 Authorization and Authentication

- The user will be using a single-factor authentication directly signing in using gmail.
- There will be sessions for logged viewers/hosts.
- The credentials of the user will be checked to validate and verify it exists.
- Private information of users will only be accessible to themselves.

3.2.7 Data Management

- Database is NoSQL, to be more precise MongoDB Atlas, as we'll like to host it in cloud.
- Response and request from the database is quite fast.
- The database also has the potential to increase in scalability if there is a need to.

3.2.8 Standards Compliance

The website will respect the Albanian Constitution and regulations and follow the "Law no 8561" regarding the real estate booking property in Albania.

3.2.9 Portability

- As it is a web application, it can operate on any device that has an internet connection.
- To develop this website, you'll need
 - o Nodejs
 - o React
 - o Typescript
 - o Apollo
 - o GraphQL
 - o Express
 - o MongoDB
- It can also be imported and worked on any desktop whether it is Windows, Unix, or Mac OS.

4. User Scenarios / Use Cases

Scenario 1: Guest Views and Search

- User can click one of the cities and check out the properties located in that city
- Can click on properties on the home page.
- Can check out deals which also redirects to location which offer ongoing.
- User can also search for location in the search bar located in the home page.

Scenario 2: User Logs in Successfully

- Click on Sign In on top right.
- Click Sign in with Google.
- The website redirects to google sign in page.
- User enters their gmail as well as their password.
- Redirects back to /users page.
- An alert pops up saying, you have signed in successfully.

Scenario 3: User Fails to Login

- Click on Sign In on top right.
- Click Sign in with Google.
- The website redirects to google sign in page.
- User enters their gmail as well as their password.
- It is incorrect, so user has to retry until it is correct or can go back to Homepage without signing in.

Scenario 4: User Logouts

- The user has to be logged in first.
- Then the user can logged out using the logout button available on top right.
- It will log out the user.

Scenario 5: Guest Booking a Property

- Search and click on any property.
- Will require the user to sign in the website.
- The user will be redirected to /users page
- This time when user clicks on property
- Pick a check-in date as well as check-out date and requests to book.
- Then it will ask for their credit card information and after confirmed, the property will be booked for those days.

Scenario 6: Viewer Books a Property

- Search and click on any Property
- Pick a check-in date as well as check-out date and requests to book.
- Then it will ask for their credit card information and after confirmed, the property will be booked for those days.

Scenario 7: Viewer wants to check all their Bookings

- Viewer clicks on profile avatar.
- Clicks on Profile.
- All the Bookings are available below.

Scenario 8: Viewer Apply to Host

- Viewer goes to users page from profile
- Clicks on Connect to Stripe and fills in the details.
- Gets approved.

Scenario 9: Host Postings a Listing

- Click on Host Button on top.
- Fill in the home type, number of guest, title, description, address, city/town, state, zip/postal code, upload an image and lastly set a daily price.
- Click on Submit Button
- Redirects to users page.

Scenario 10: Host Postings a Listing but forgetting to fill all details

- Click on Host Button on top.
- Fill the fields and leave one empty.
- Submit
- A pop appears with "Please complete all required form fields!" and highlights all fields that are empty in red.

Scenario 11: Host wants to check all their Listings

- Viewer clicks on profile avatar.
- Clicks on Profile.
- All the Hosting are available below.

Scenario 12: Admin Logs in Successfully

- Click on Sign In on top right.
- Click Sign in with Google.
- The website redirects to google sign in page.

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- User enters their gmail as well as their password.
- Redirects back to /users page.
- An alert pops up saying, you have signed in successfully.

Scenario 13: Admin Fails to Login

- Click on Sign In on top right.
- Click Sign in with Google.
- The website redirects to google sign in page.
- User enters their gmail as well as their password.
- It is incorrect, so user has to retry until it is correct or can go back to Homepage without signing in.

Scenario 14: Admin User Delete

- After logged in, admin can view 3 categories, booking, listings, users.
- Click on Users
- Click on Delete Icon Next to User Name
- Successfully Deleted.

Scenario 15: Admin Listing Delete

- After logged in, admin can view 3 categories, booking, listings, users.
- Click on Listings
- Click on Delete Icon Next to Listings Name
- Successfully Deleted.

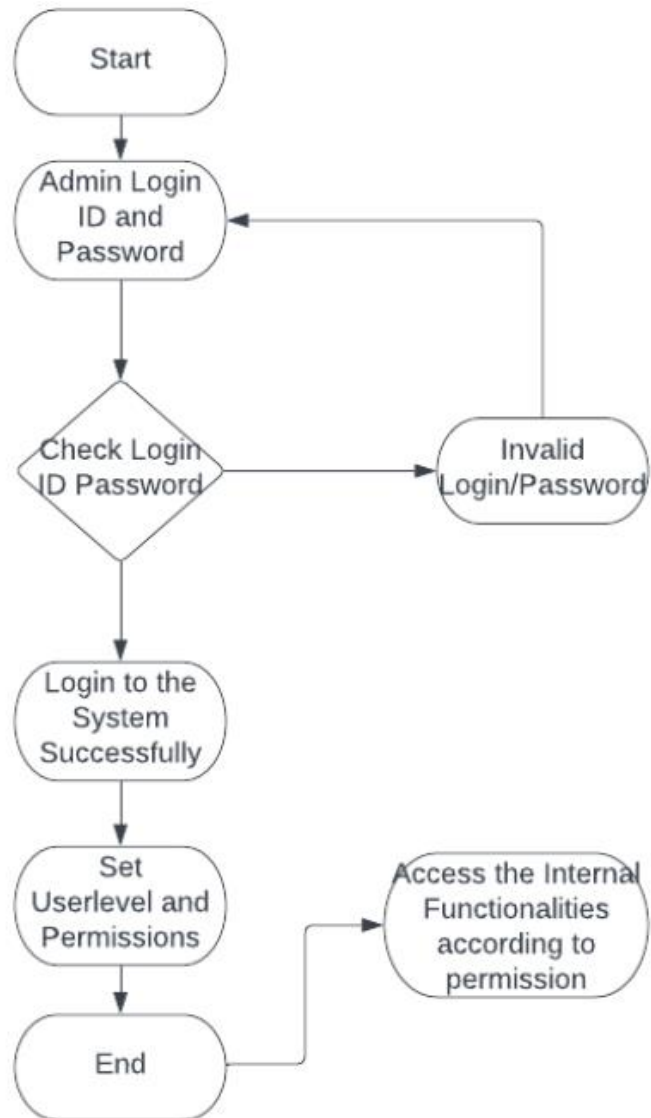
Scenario 16: Admin Booking Delete

- After logged in, admin can view 3 categories, booking, listings, users.
- Click on Bookings
- Click on Delete Icon Next to Booking Name
- Successfully Deleted.

Scenario 17: Admin Logouts

- The Admin has to be logged in first.
- Then the Admin can logged out using the logout button available on top right.
- It will log out the Admin.

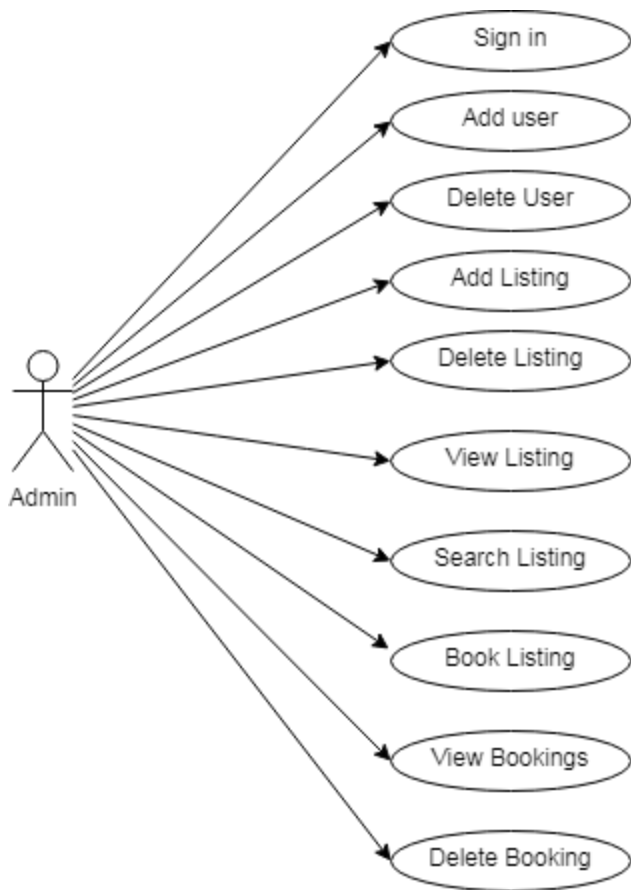
Diagrams



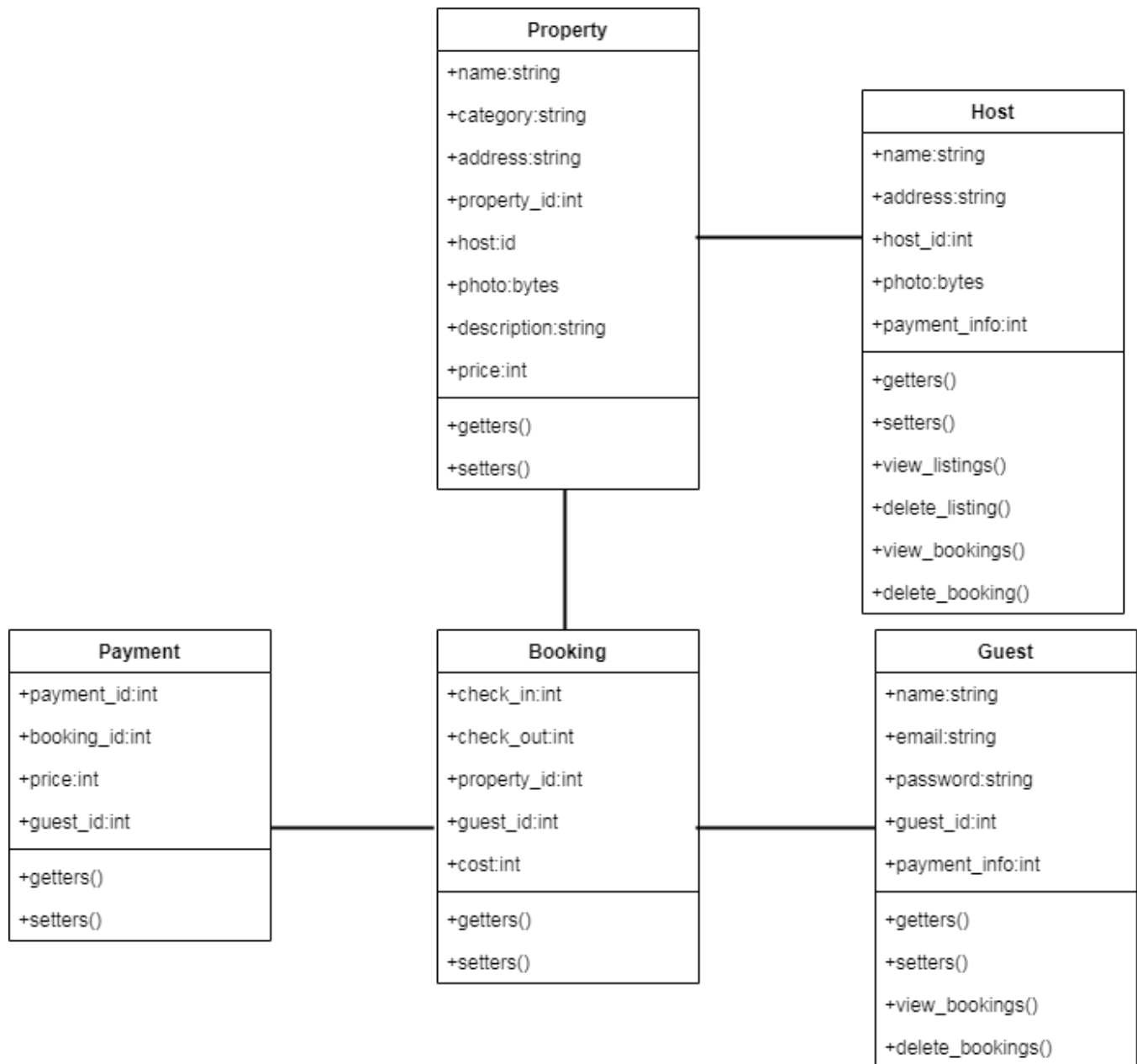
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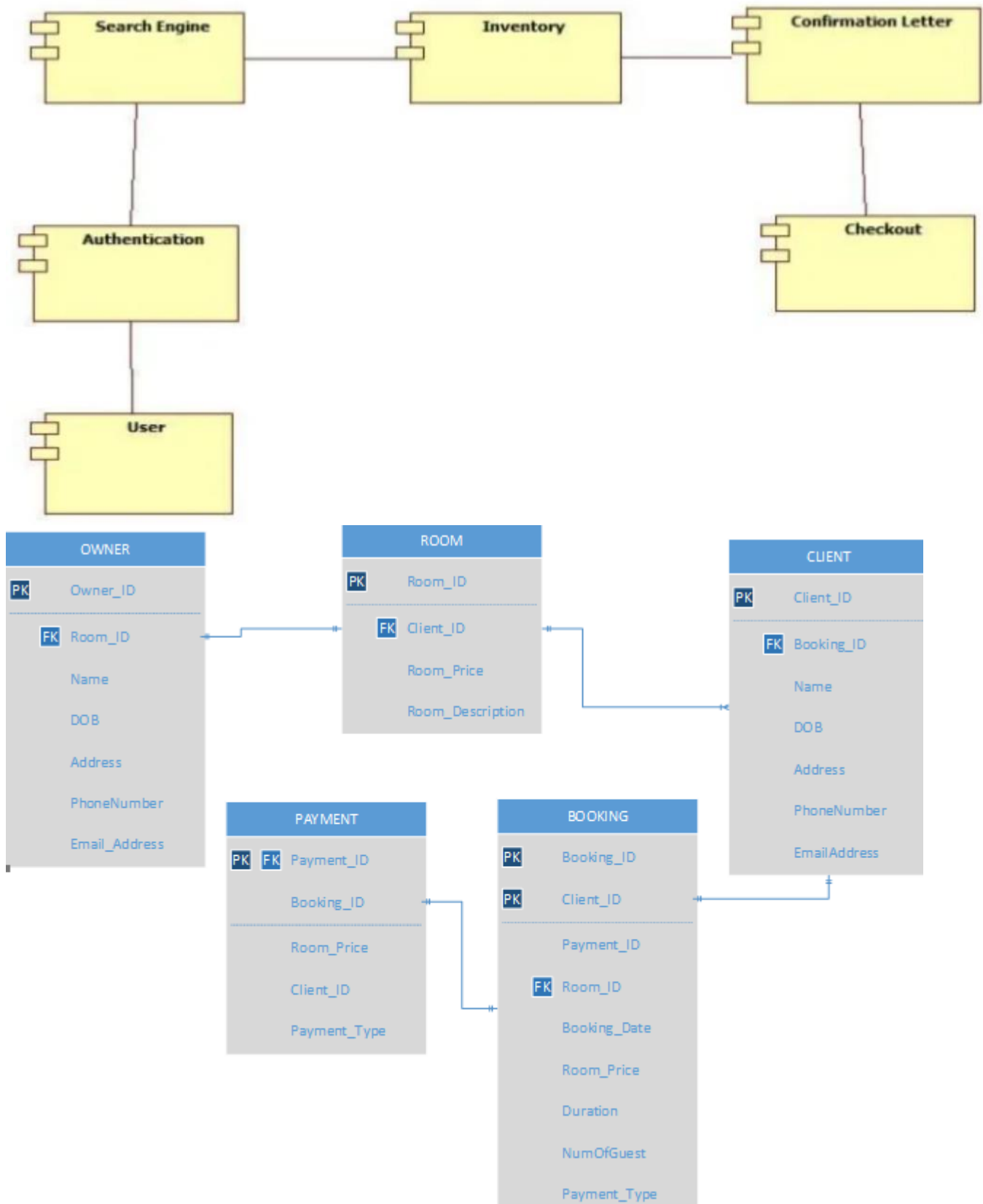
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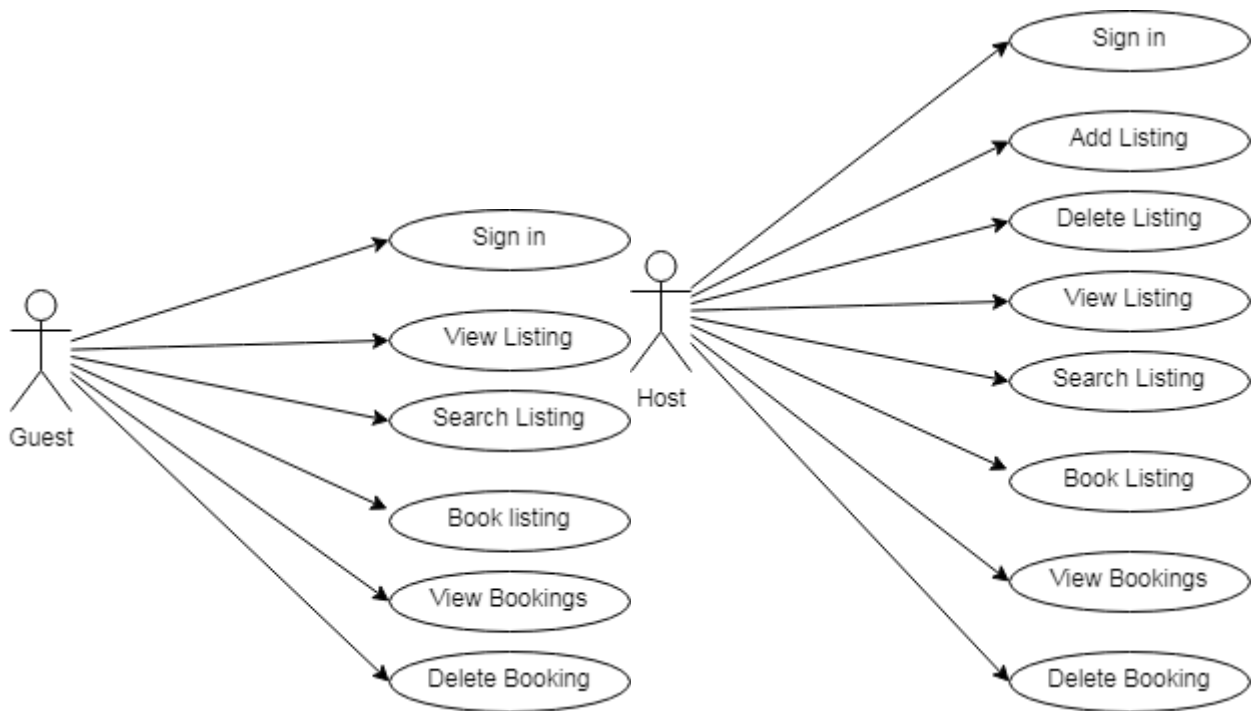
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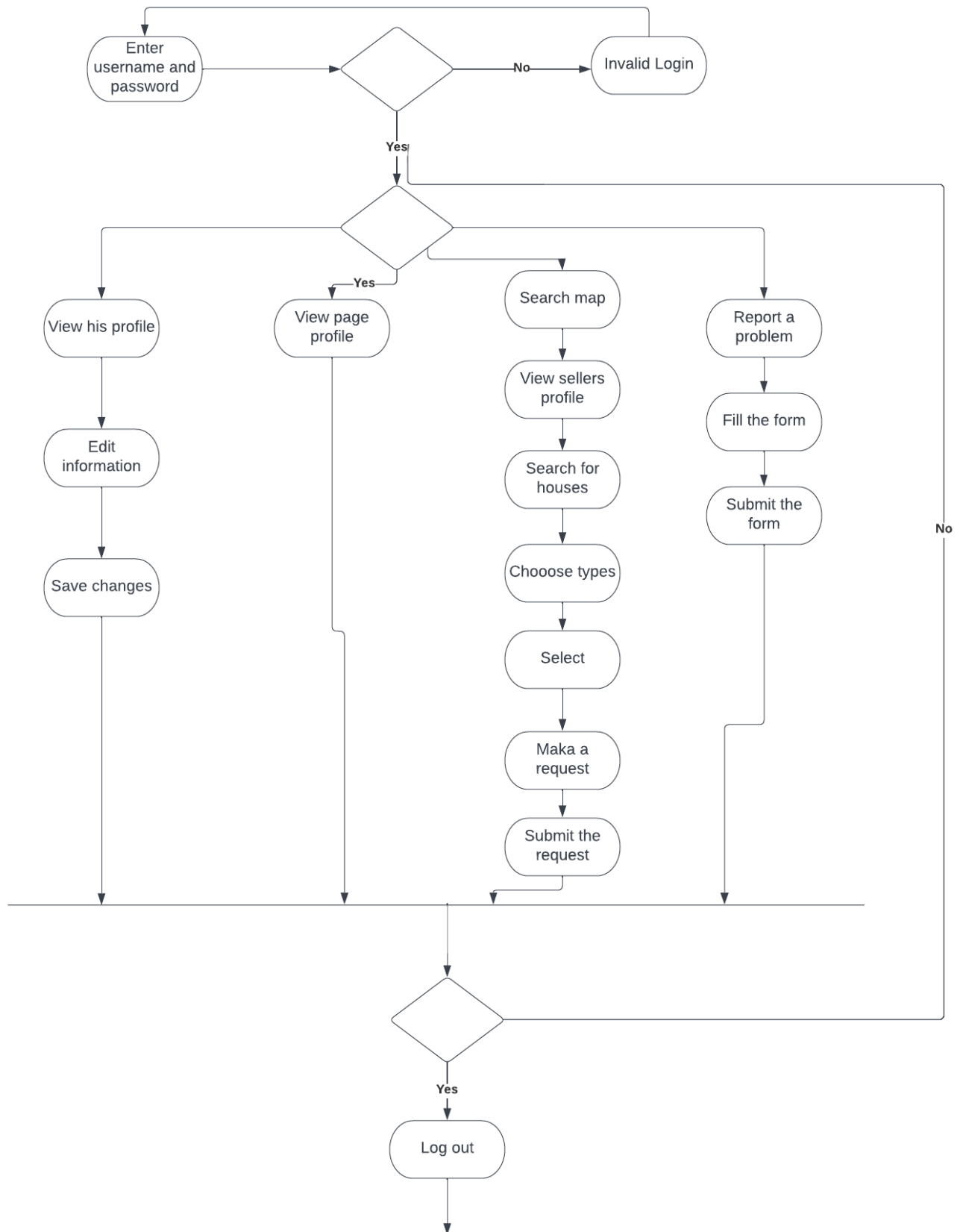
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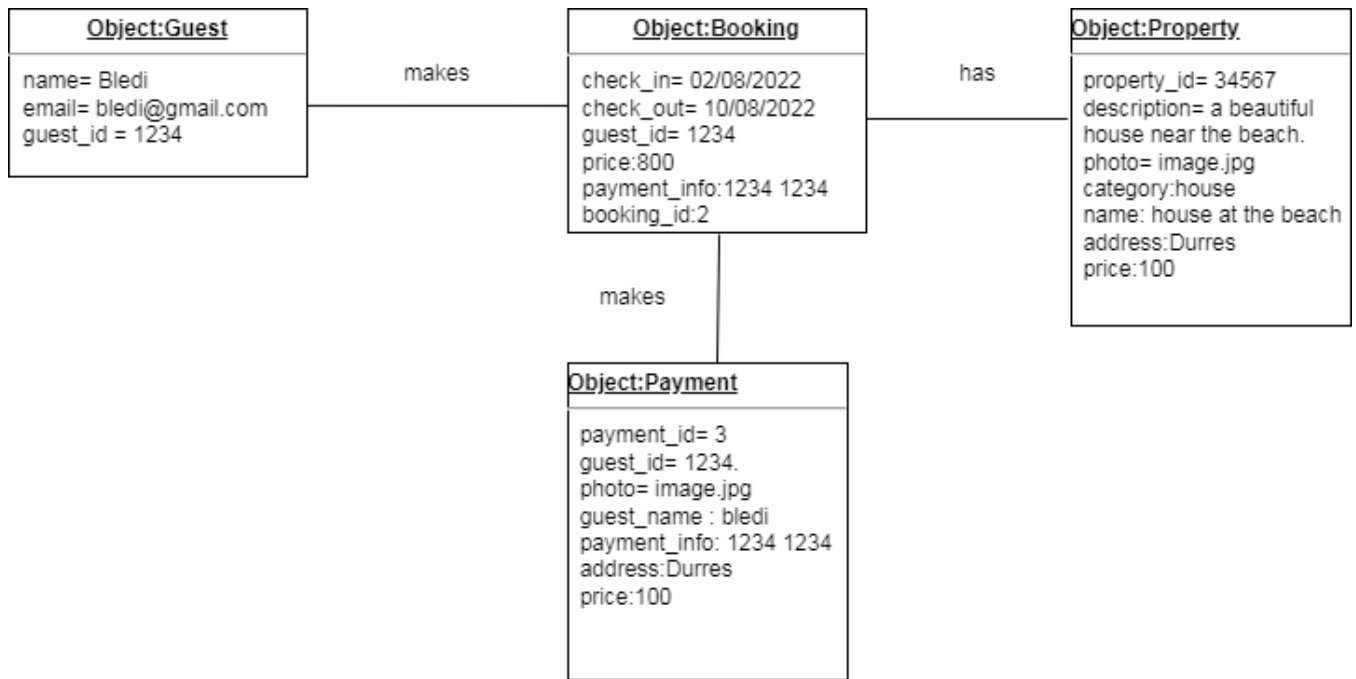
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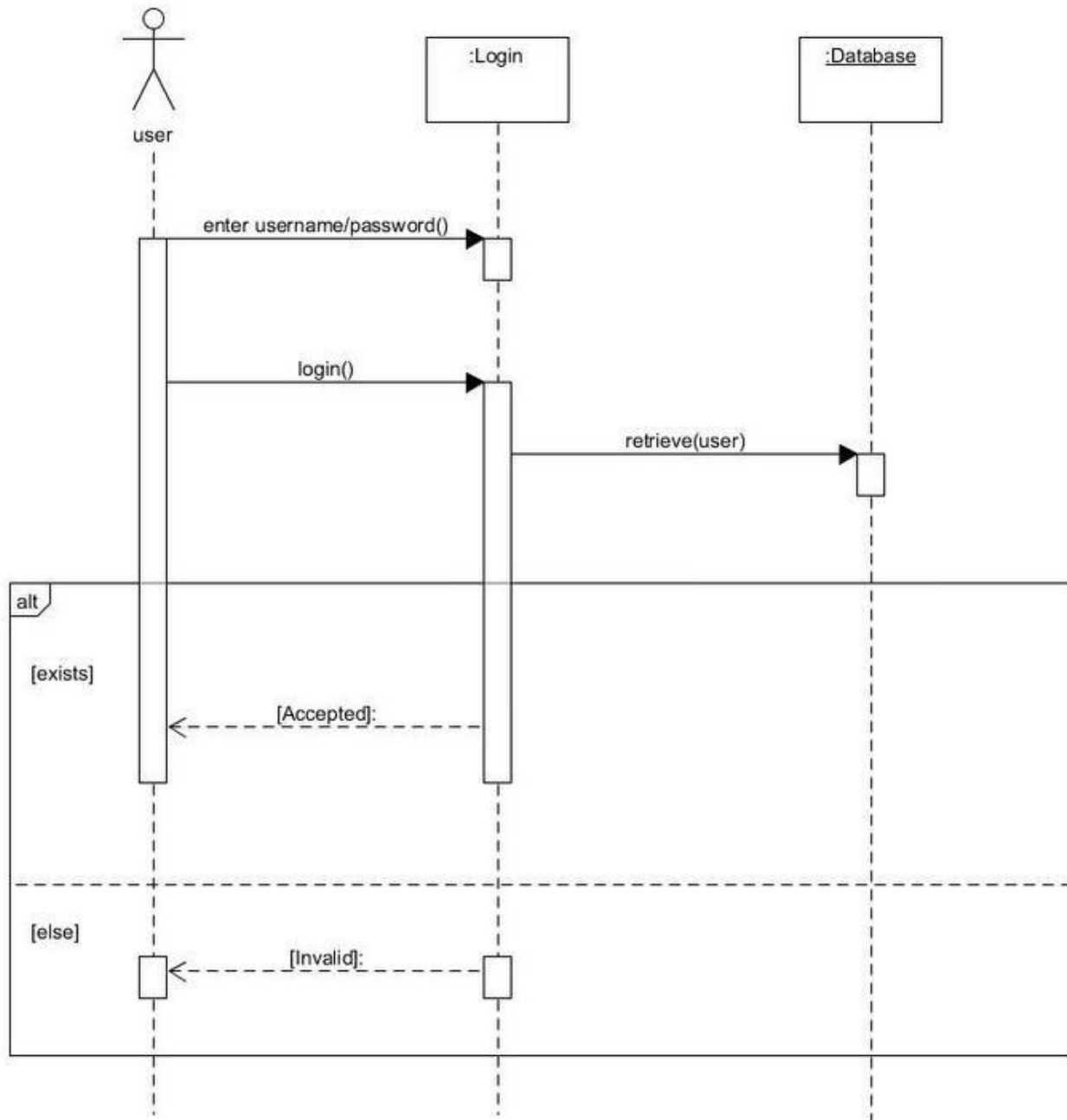
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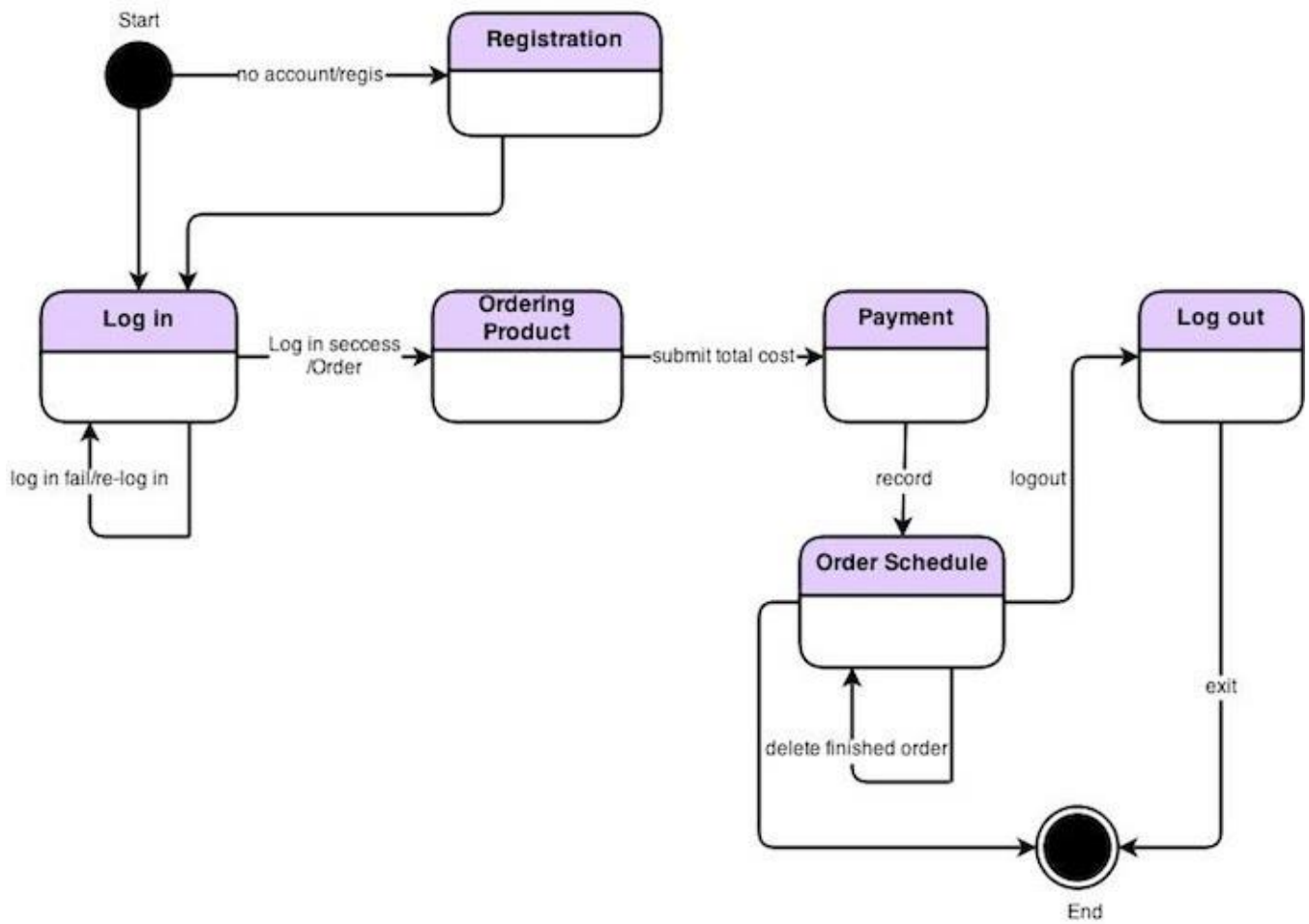
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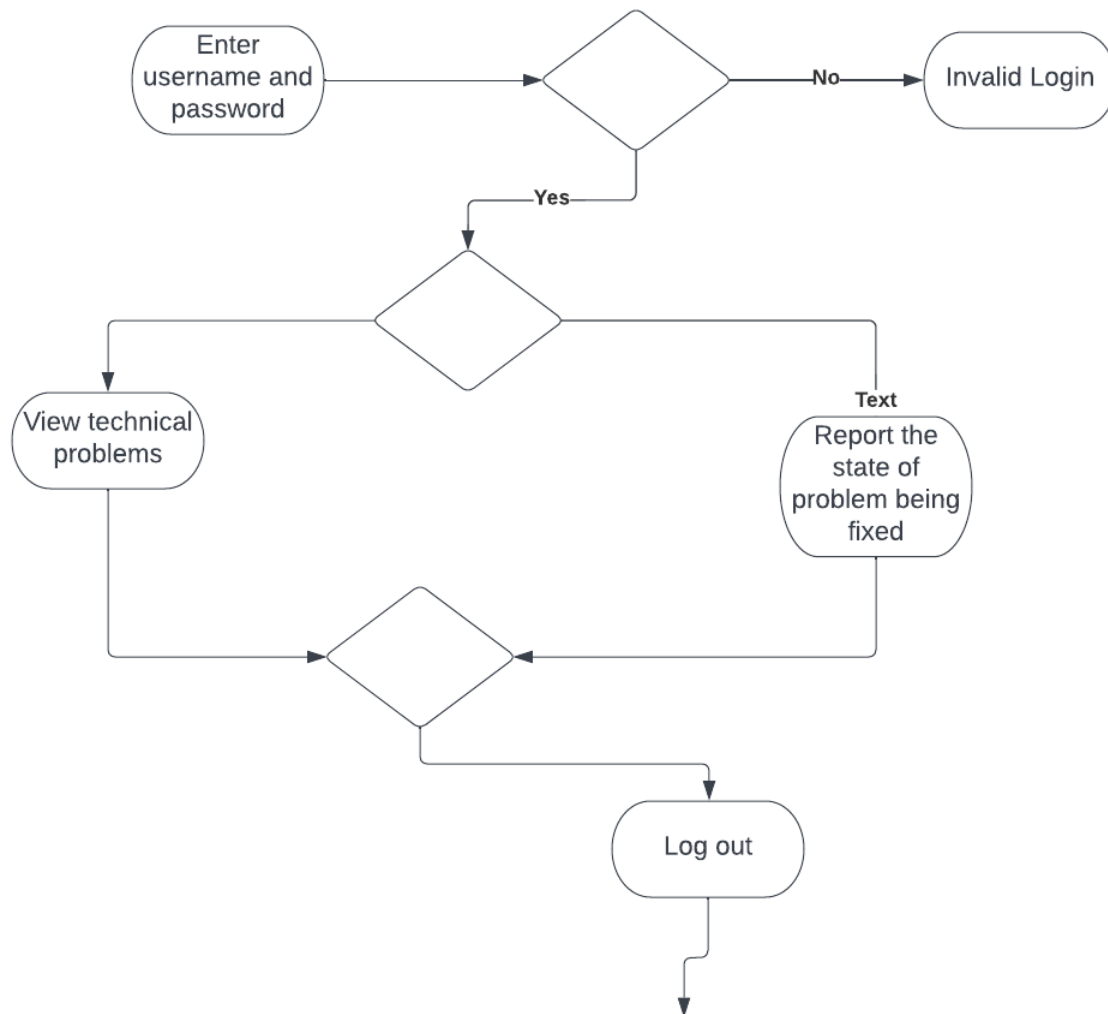
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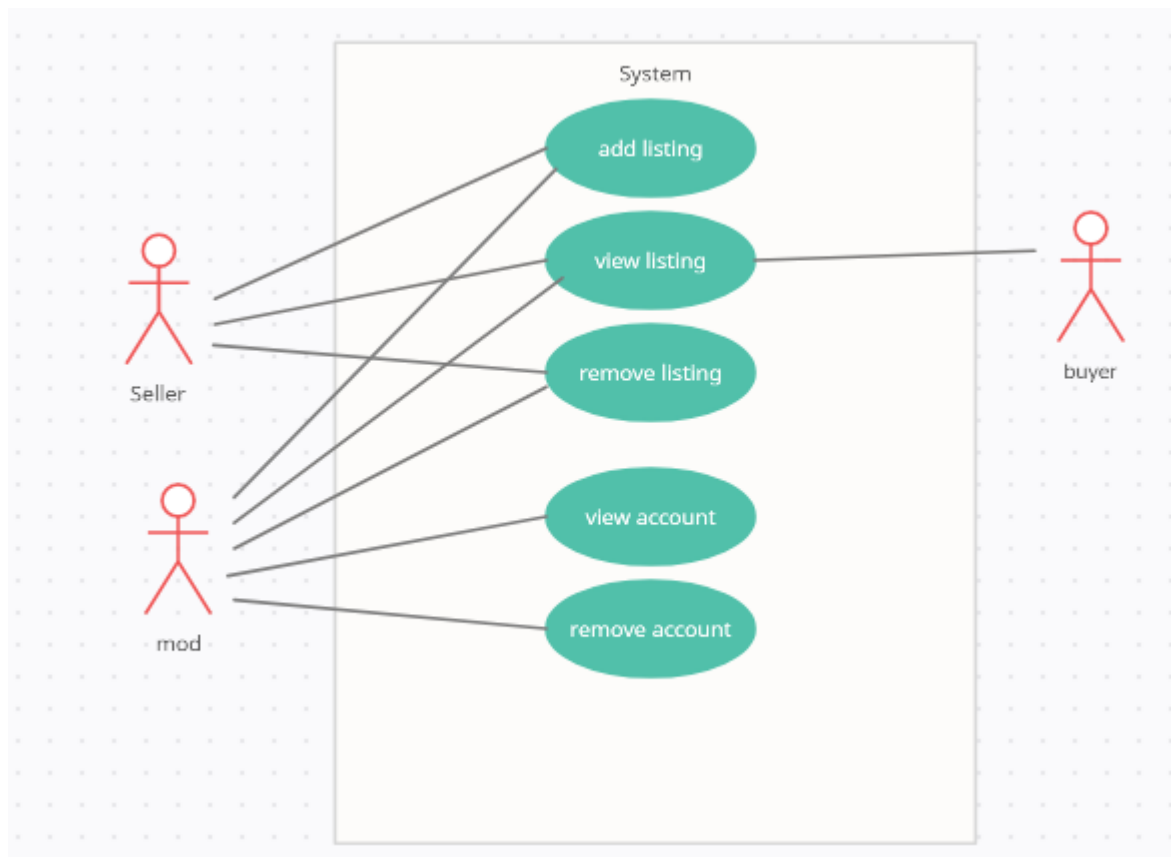
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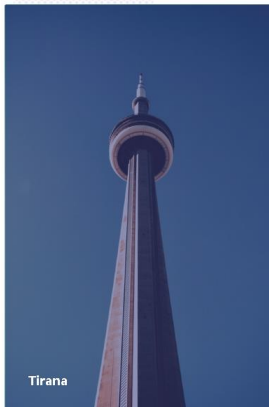


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Find a place you'll love to stay at

Search Albania



Tirana



Durres



Elbasan



Saranda

Your guide for all things rental

Helping you make the best decisions in renting your last minute locations.

Popular listings in the Albania

Premium Listings



\$248/day

Spacious 2 story beach house
Laprak



4 guests



\$239/day

Chic downtown condo
Zoguzi



4 guests



\$235/day

Beautiful 2 bedroom townhouse
Toptani



4 guests



\$230/day

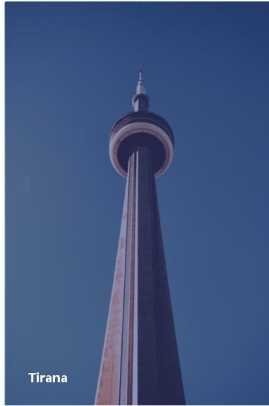
Beachfront suite
Qender Tirana



1 guests

Find a place you'll love to stay at

Search Albania



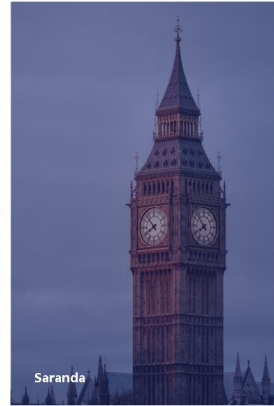
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\$248/day

Spacious 2 story beach house
Laprak



4 guests



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Chic downtown condo
Zoguzi



4 guests



\$235/day

Beautiful 2 bedroom townhouse
Toptani



4 guests



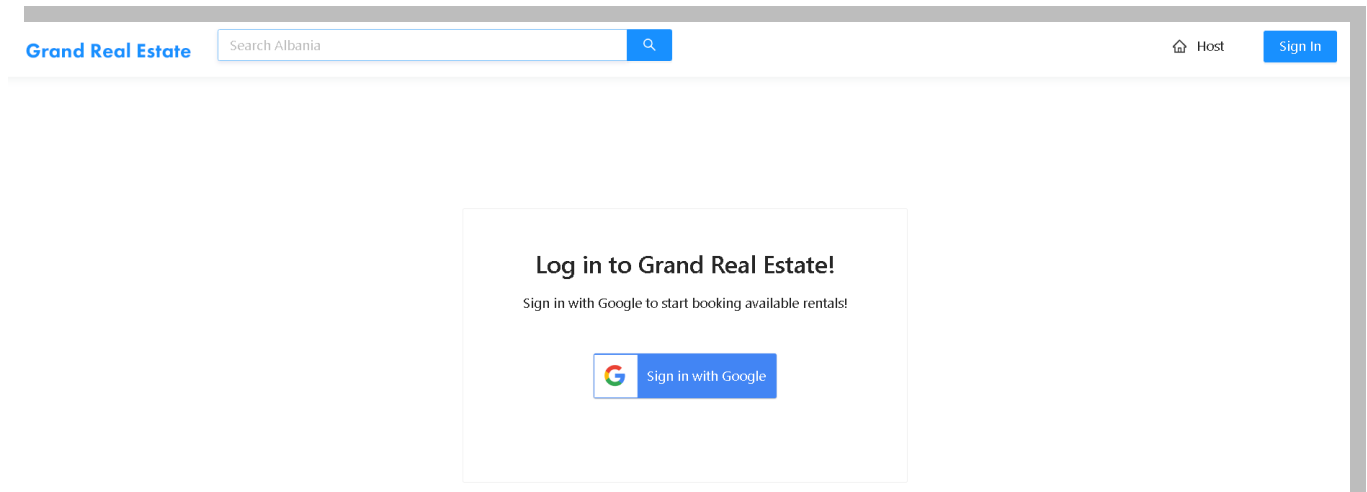
\$230/day

Beachfront suite
Qender Tirana



1 guests

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Grand Real Estate Requirements Specification

Grand Real Estate



Host



Details

Name:

Contact:

Additional Details

Register with your Stripe account!

Connect with Stripe

Listings

User doesn't have any listings yet!

Bookings

You haven't made any bookings!



Hi! Let's get started listing your place.

In this form, we'll collect some basic and additional information about your listing.

* Home Type

☐ Apartment ☐ House

* Title

Max character count of 45

* Description of listing

Max character count of 400

* Max # of Guests

* Address

* City/Town

* State/Province

* Zip/Postal Code

* Image



Images have to be under 1MB in size and of type JPG or PNG

* Price

All prices in Lek/day



Tirana Qender Tirana

Spacious 2 story house



Loren

About this space

HOUSE 4 Guests

Close to toptani.

\$248/day

Check In

Select date



Check Out

Select date



Request to book!

You won't be charged yet.