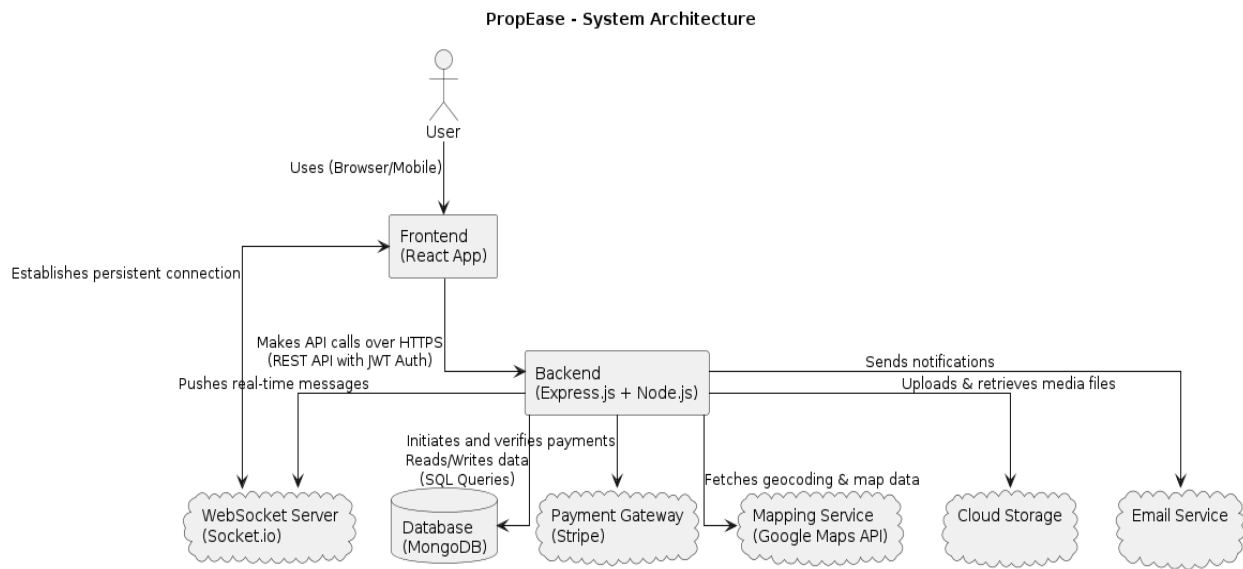


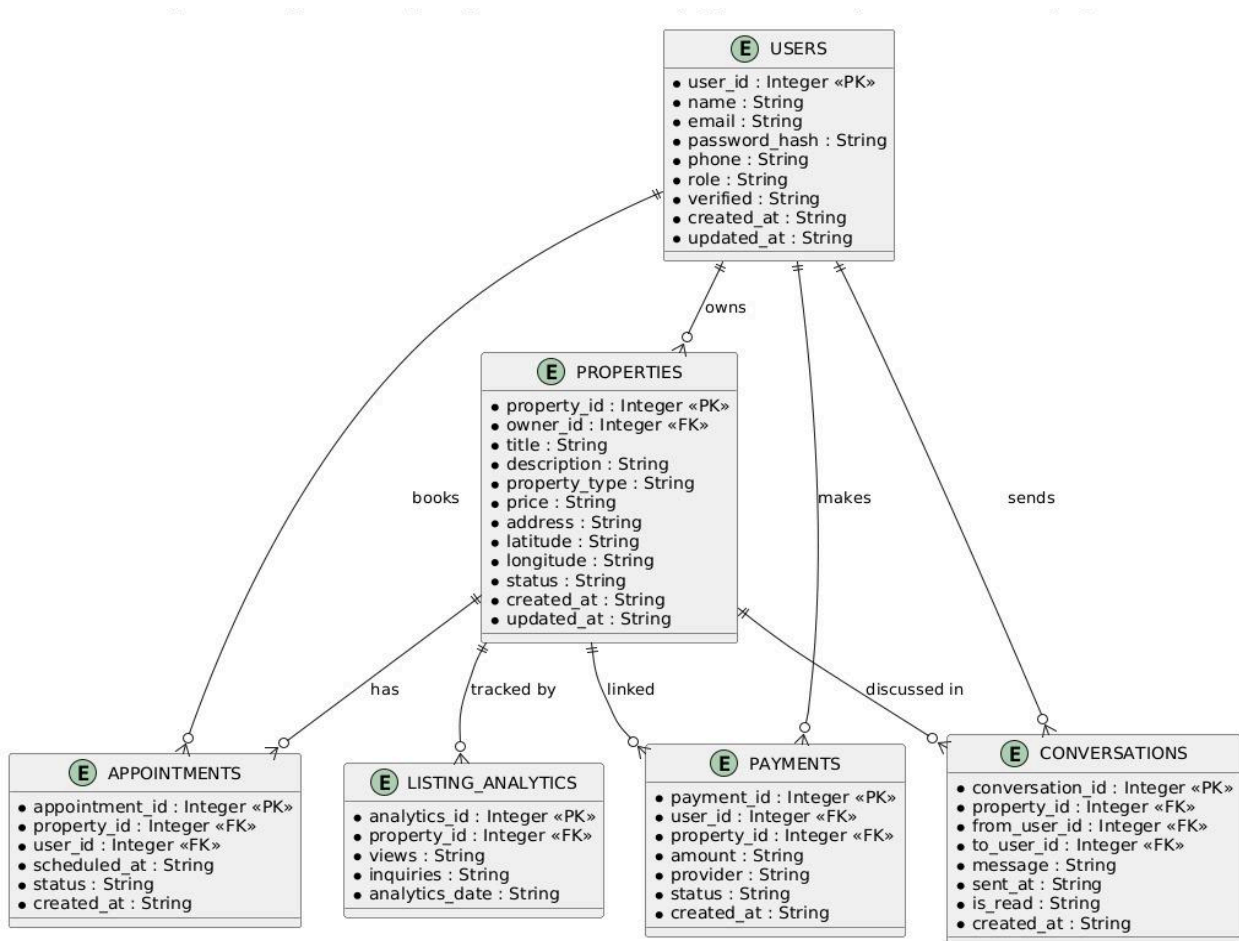
PropEase - Real Estate Management System

System Design Document

1. Architecture diagram

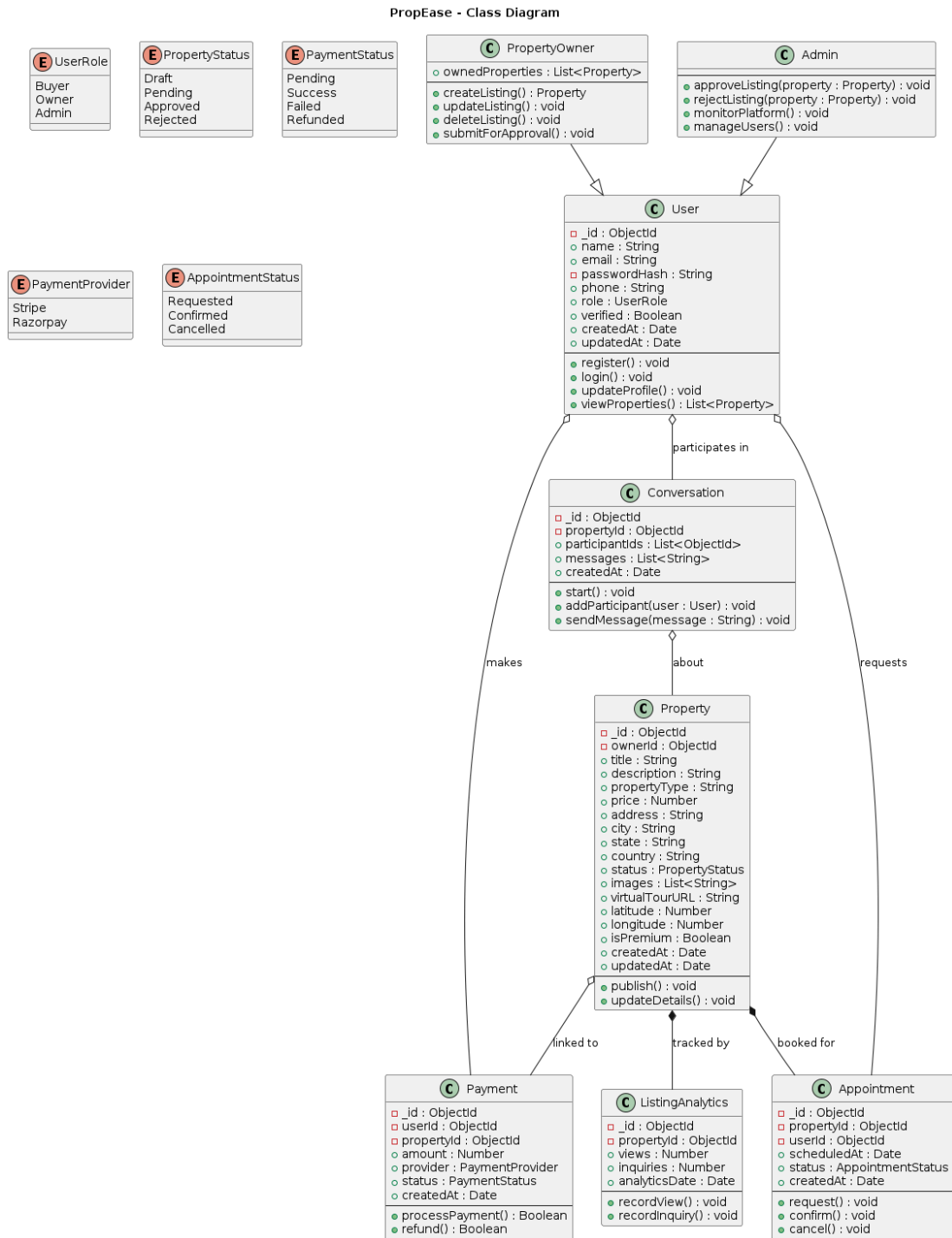


2. Database schema (ER diagram)

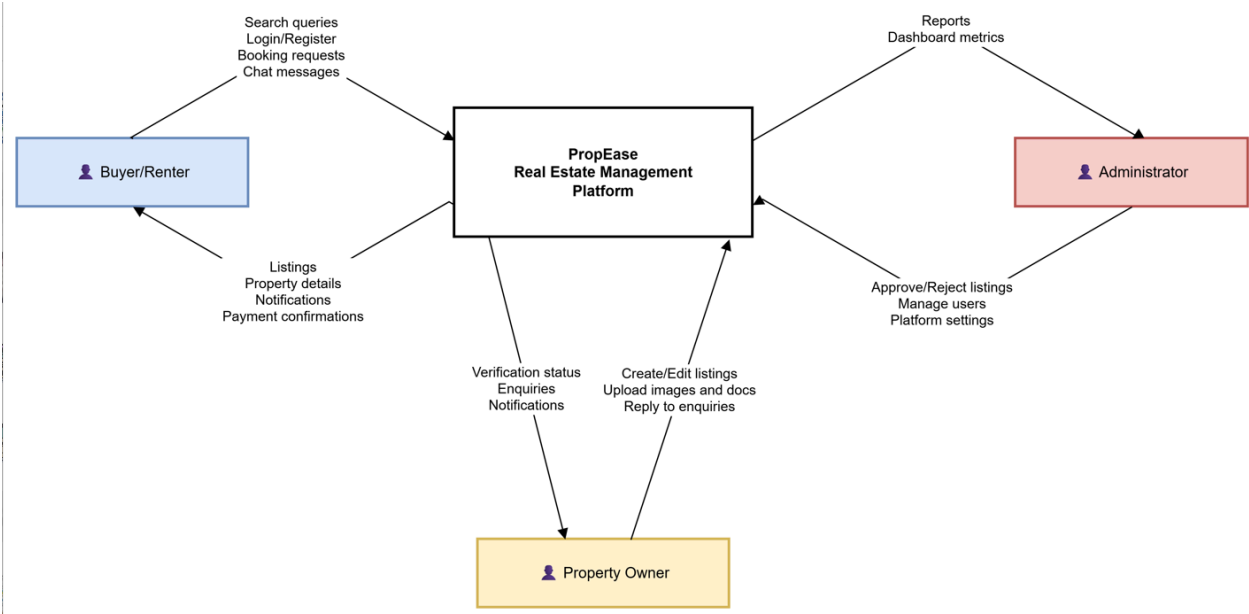


3. Class/component diagrams (Add other diagrams for a more detailed design)

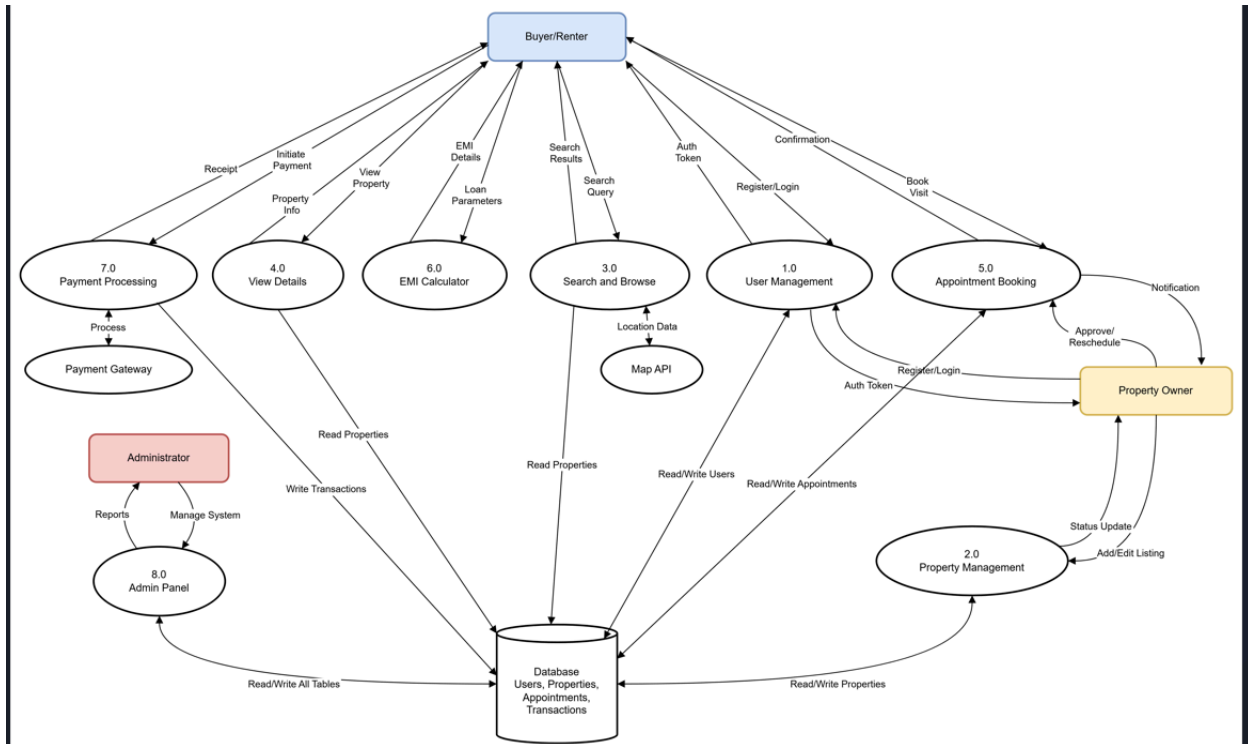
Class Diagram



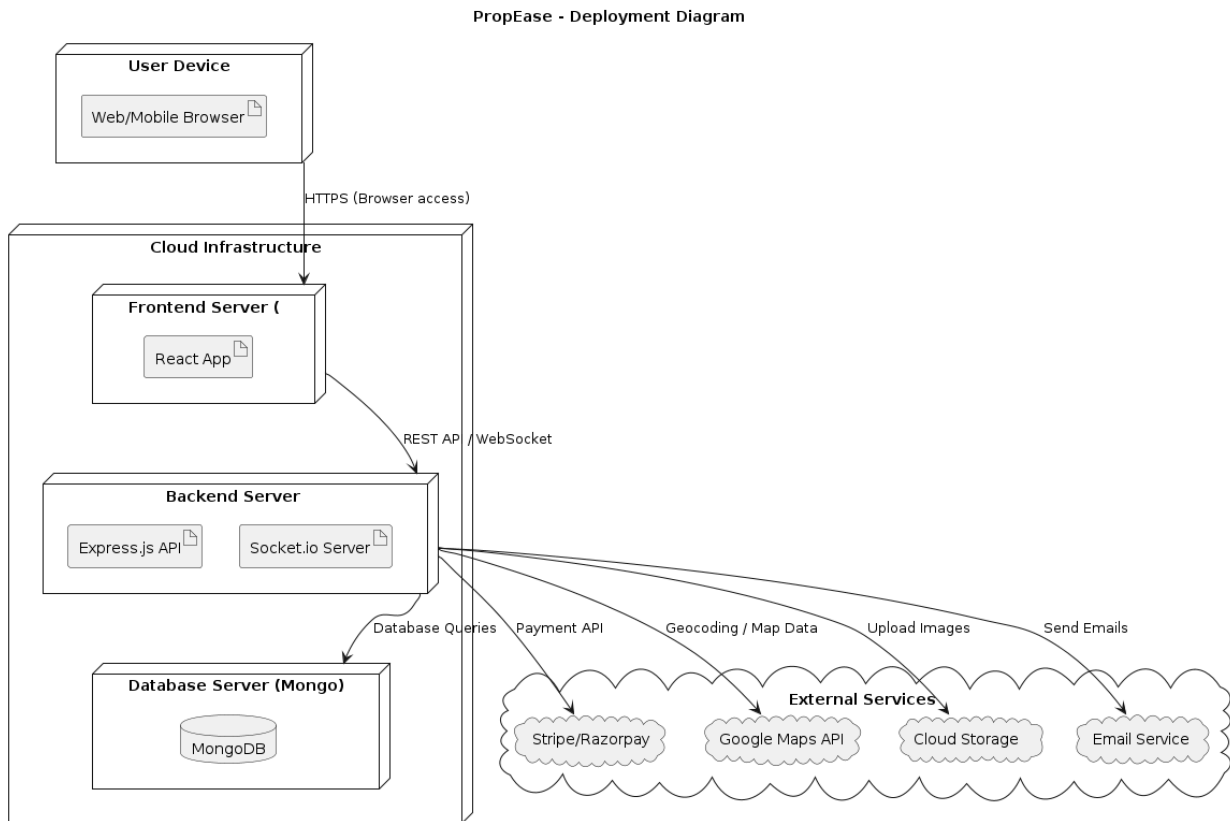
DFD Level 0



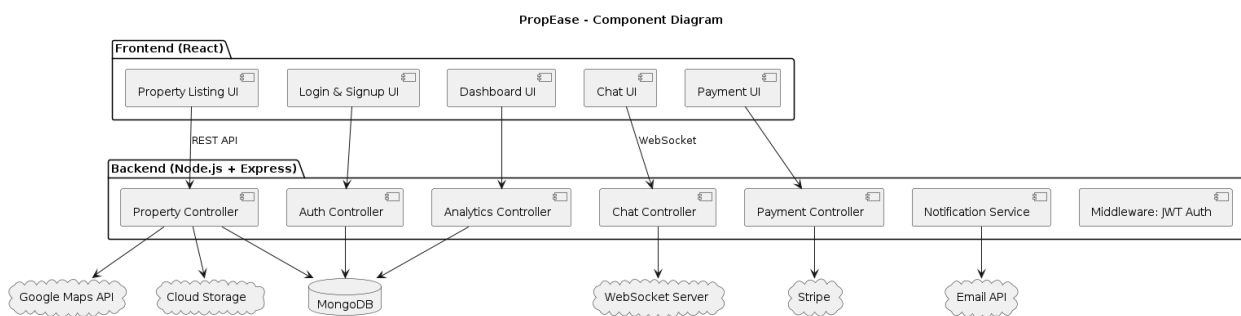
DFD Level 1



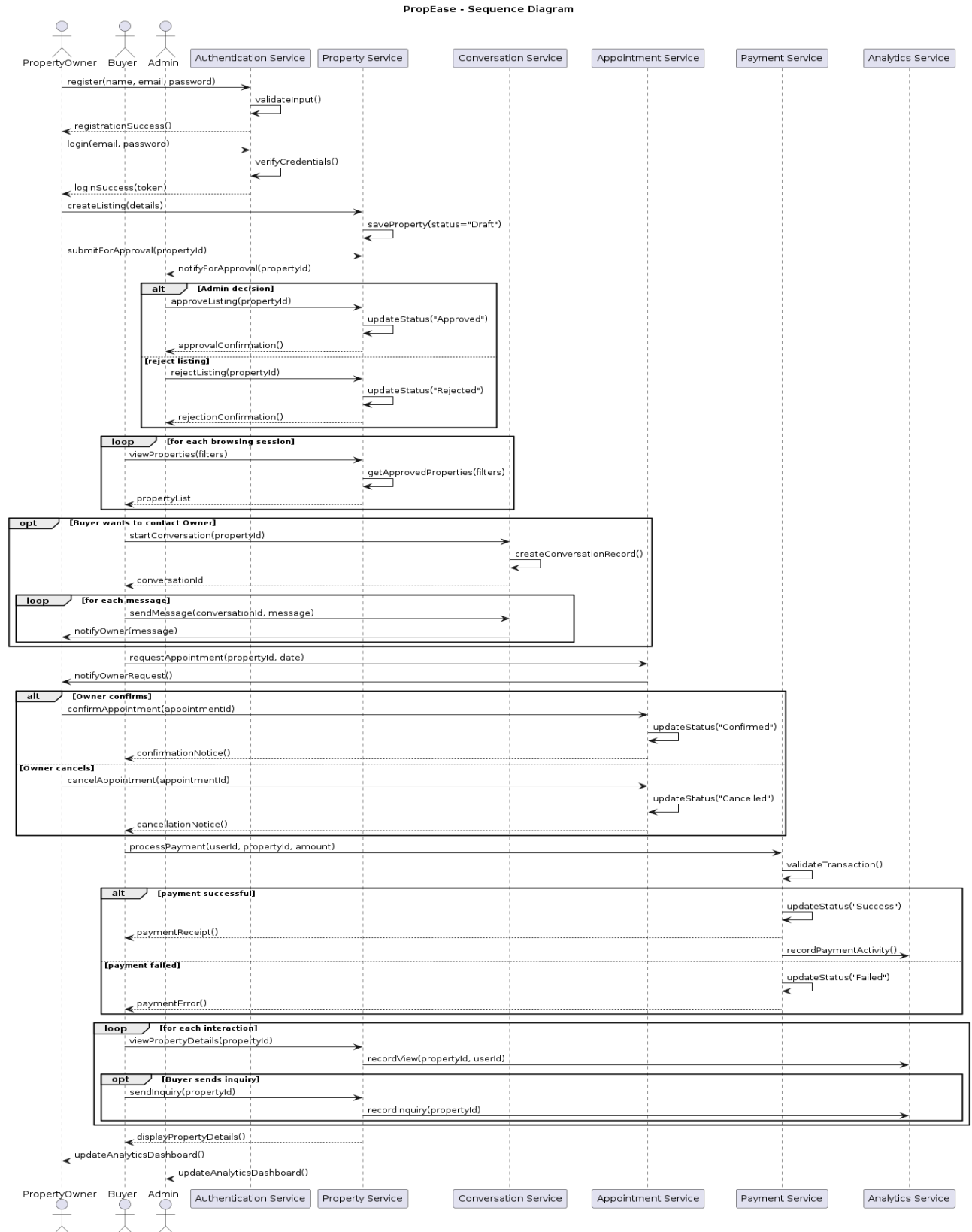
Deployment Diagram



Component Diagram



Sequence Diagram



4. REST API contracts (Swagger/OpenAPI)

Users

POST

/users/register

Register a new user

Try it out

Parameters

No parameters

Request body required

application/json

Example Value Schema

```
{  "name": "string",  "email": "string",  "password": "string",  "phone": "string",  "role": "string"}
```

Responses

Code	Description	Links
201	User registered successfully	No links

Media type

application/json

Controls Accept header

Example Value Schema

```
{  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",  "name": "string",  "email": "string",  "phone": "string",  "role": "string",  "verified": true}
```

POST

/users/login

Login a user

Try it out

Parameters

No parameters

Request body required

application/json

Example Value Schema

```
{  "email": "string",  "password": "string"}
```

Responses

Code	Description	Links
200	Login successful	No links

Media type

application/json

Controls Accept header

Example Value Schema

```
{  "token": "string",  "user": {    "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",    "name": "string",    "email": "string",    "phone": "string",    "role": "string",    "verified": true  }}
```

GET

/users/me

Get current user profile

🔒 ⬆

Parameters

Try it out

No parameters

Responses

Code	Description	Links
200	Current user profile	No links

Media type

application/json

Continue Accept header

Example Value

Schema

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "name": "string",
  "email": "string",
  "phone": "string",
  "role": "string",
  "verified": true
}
```

PUT

/users/me

Update current user profile

🔒 ⬆

Parameters

Try it out

No parameters

Request body

required

application/json

Example Value

Schema

```
{
  "name": "string",
  "phone": "string"
}
```

Responses

Code	Description	Links
200	Updated user profile	No links

Media type

application/json

Continue Accept header

Example Value

Schema



```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "name": "string",
  "email": "string",
  "phone": "string",
  "role": "string",
  "verified": true
}
```

Properties

POST

/properties

Create a property listing



Parameters

Try it out

No parameters

Request body

required

application/json

Example Value

Schema

```
{
  "title": "string",
  "description": "string",
  "property_type": "string",
  "price": 0,
  "address": "string",
  "latitude": 0,
  "longitude": 0
}
```

Responses

Code	Description	Links
201	Property created	No links

Media type

application/json

Continue Accept header

Example Value

Schema



```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66af6",
  "owner_id": "3fa85f64-5717-4562-b3fc-2c963f66af6",
  "title": "string",
  "description": "string",
  "property_type": "string",
  "price": 0,
  "address": "string",
  "latitude": 0,
  "longitude": 0,
  "status": "string",
  "created_at": "2025-10-11T14:50:53.685Z"
}
```

Appointments

POST

/appointments

Book an appointment



Parameters

Try it out

No parameters

Request body

required

application/json

Example Value

Schema

```
{
  "property_id": "string",
  "scheduled_at": "2025-10-11T14:50:53.697Z"
}
```

Responses

Code	Description	Links
201	Appointment booked	No links

Media type

application/json

Continue Accept header

Example Value

Schema

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66af6",
  "property_id": "3fa85f64-5717-4562-b3fc-2c963f66af6",
  "user_id": "3fa85f64-5717-4562-b3fc-2c963f66af6",
  "scheduled_at": "2025-10-11T14:50:53.698Z",
  "status": "string",
  "created_at": "2025-10-11T14:50:53.698Z"
}
```

GET

/properties

List/search properties

⌵

Parameters

Try it out

Name	Description
property_type	<input type="text" value="property_type"/>
string (query)	
min_price	<input type="text" value="min_price"/>
number (query)	
max_price	<input type="text" value="max_price"/>
number (query)	
location	<input type="text" value="location"/>
string (query)	

Responses

Code	Description	Links
200	List of properties <div><div>Media type</div><div><div>application/json</div></div><div>Continue Accept header</div><div>Example ValueSchema</div><div><pre>[{ "id": "3fa85f64-5717-4562-b3fc-2c963f66afad", "owner_id": "3fa85f64-5717-4562-b3fc-2c963f66afad", "title": "string", "description": "string", "property_type": "string", "price": 0, "address": "string", "latitude": 0, "longitude": 0, "status": "string", "created_at": "2025-10-11T14:50:53.692Z" }]</pre></div></div>	No links

GET

/appointments

List user appointments

⌵

Parameters

Try it out

No parameters

Responses



Code	Description	Links
200	List of appointments <div><div>Media type</div><div><div>application/json</div></div><div>Continue Accept header</div><div>Example ValueSchema</div><div><pre>[{ "id": "3fa85f64-5717-4562-b3fc-2c963f66afad", "property_id": "3fa85f64-5717-4562-b3fc-2c963f66afad", "user_id": "3fa85f64-5717-4562-b3fc-2c963f66afad", "scheduled_at": "2025-10-11T14:50:53.706Z", "status": "string", "created_at": "2025-10-11T14:50:53.706Z" }]</pre></div></div>	No links

Conversations

GET

/conversations

List user conversations



Parameters

Try it out

No parameters



Responses

Code	Description	Links
200	<div>List of conversations</div> <div>Media type</div> <div>application/json</div> <div>Content Accept header:</div> <div>Example Value</div> <div>Schema</div> <div><pre>[{ "id": "3fa85f64-5717-4562-b3fc-2c963f66af6", "property_id": "3fa85f64-5717-4562-b3fc-2c963f66af6", "created_at": "2025-10-11T14:50:53.709Z" }]</pre></div>	

POST

/conversations

Start a conversation



Parameters

Try it out

No parameters

Request body

required

application/json

Example Value

Schema

```
{
  "property_id": "string"
}
```

Responses

Code	Description	Links
201	<div>Conversation created</div> <div>Media type</div> <div>application/json</div> <div>Content Accept header:</div> <div>Example Value</div> <div>Schema</div> <div><pre>{ "id": "3fa85f64-5717-4562-b3fc-2c963f66af6", "property_id": "3fa85f64-5717-4562-b3fc-2c963f66af6", "created_at": "2025-10-11T14:50:53.714Z" }</pre></div>	

Messages

GET

/conversations/{id}/messages

Get messages in a conversation

Try it out

Name	Description
id required	
string	
(path)	

Responses

Code	Description	Links
200	List of messages	No links

Media type

application/json

Controls Accept header:

Example Value

Schema

```
[
  {
    "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "conversation_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "from_user_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "to_user_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "message": "string",
    "sent_at": "2025-10-11T14:50:53.717Z",
    "read": true
  }
]
```

POST

/conversations/{id}/messages

Send a message

Try it out

Name	Description
id required	
string	
(path)	

Request body required

application/json

Example Value

Schema

```
{
  "to_user_id": "string",
  "message": "string"
}
```

Responses

Code	Description	Links
201	Message sent	No links

Media type

application/json

Controls Accept header:

Example Value

Schema

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "conversation_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "from_user_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "to_user_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "message": "string",
  "sent_at": "2025-10-11T14:50:53.723Z",
  "read": true
}
```

Favorites

GET

/favorites

List user favorites

Parameters

Try it out

No parameters

Responses

Code	Description	Links
200	List of favorites	No links

Media type

application/json

Continue Accept header

Example Value

Schema

```
{
  {
    "id": "3fa85f64-5717-4562-b3fc-2c963f66afaf",
    "user_id": "3fa85f64-5717-4562-b3fc-2c963f66afaf",
    "property_id": "3fa85f64-5717-4562-b3fc-2c963f66afaf",
    "created_at": "2023-10-11T14:50:53.726Z"
  }
}
```

POST

/favorites

Add favorite property

Parameters

Try it out

No parameters

Request body

required

application/json

Example Value

Schema

```
{
  "property_id": "string"
}
```

Responses

Code	Description	Links
201	Favorite added	No links

Media type

application/json

Continue Accept header

Example Value

Schema

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afaf",
  "user_id": "3fa85f64-5717-4562-b3fc-2c963f66afaf",
  "property_id": "3fa85f64-5717-4562-b3fc-2c963f66afaf",
  "created_at": "2025-10-11T14:50:53.730Z"
}
```

DELETE

/favorites

Remove a favorite property

Parameters

Try it out

Name	Description
property_id * required	property_id
string	
(query)	

Responses

Code	Description	Links
200	Favorite removed	No links

Payments

Payments

POST /payments Initiate a payment

Parameters

Try it out

No parameters

Request body **required**

application/json

Example Value Schema

```
{  "user_id": "string",  "property_id": "string",  "amount": 0,  "provider": "string"}
```

Responses

Code	Description	Links
201	Payment initiated <div>Media type<div>application/json</div><div>Continue Accept Header:</div></div> <div>Example Value Schema</div> <div><pre>{ "id": "3fa85f64-5717-4562-b3fc-2c963f66afaf", "user_id": "3fa85f64-5717-4562-b3fc-2c963f66afaf", "property_id": "3fa85f64-5717-4562-b3fc-2c963f66afaf", "amount": 0, "provider": "string", "status": "string", "created_at": "2025-10-11T14:50:53.736Z"}</pre></div>	No links

GET /payments List user payments

Parameters

Try it out

No parameters

Responses

Code	Description	Links
200	List of payments <div>Media type<div>application/json</div><div>Continue Accept Header:</div></div> <div>Example Value Schema</div> <div><pre>[{ "id": "3fa85f64-5717-4562-b3fc-2c963f66afaf", "user_id": "3fa85f64-5717-4562-b3fc-2c963f66afaf", "property_id": "3fa85f64-5717-4562-b3fc-2c963f66afaf", "amount": 0, "provider": "string", "status": "string", "created_at": "2025-10-11T14:50:53.740Z" }]</pre></div>	No links

Analytics

GET

/listing-analytics

Admin: view property analytics

^

Parameters

Try it out

No parameters

Responses

Code	Description	Links
200	List of analytics	No links

Media type

application/json

Content Accept header

Example Value

Schema

```
{
  "property_id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "views": 0,
  "inquiries": 0,
  "date": "2025-10-11"
}
```

Schemas

User {

id*	> [...]
name*	> [...]
email*	> [...]
phone	> [...]
role*	> [...]
verified	> [...]

}

Property {

id*	> [...]
owner_id*	> [...]
title*	> [...]
description	> [...]
property_type	> [...]
price	> [...]
address	> [...]
latitude	> [...]
longitude	> [...]
status	> [...]
created_at	> [...]

}

Appointment {

id*	> [...]
property_id*	> [...]
user_id*	> [...]
scheduled_at*	> [...]
status	> [...]
created_at	> [...]

}

Message ▾

id*

conversation_id*

from_user_id*

to_user_id*

message*

sent_at

read

> [...]

> [...]

> [...]

> [...]

> [...]

> [...]

> [...]

}

Payment ▾

id*

user_id*

property_id*

amount*

provider

status*

created_at

> [...]

> [...]

> [...]

> [...]

> [...]

> [...]

> [...]

}

Favorite ▾

id*

user_id*

property_id*

created_at

> [...]

> [...]

> [...]


> [...]

}

5. Wireframes or UI/UX mockups (Majorly Final)

User Side Register Page

Register Page



Propease

- Map
- Properties
- Mortgage Calc
- Settings

- About
- Register
- Sign In

Full Name
Harsh Wadhvani

Email
harsh567@gmail.com

Password
Harsh@1234

Confirm Password
Harsh@1234

By continuing, you agree to our [User Agreement](#) and [Privacy Policy](#).


SIGN UP

ALREADY HAVE AN ACCOUNT? [SIGN IN](#)

Real Estate Management System
<https://github.com/evan7afinal/real-estate-management>

User Side Login Page

Sign In Page



Propease

- Map
- Properties
- Mortgage Calc
- Settings

- About
- Register
- Sign In

Email
test@email.com

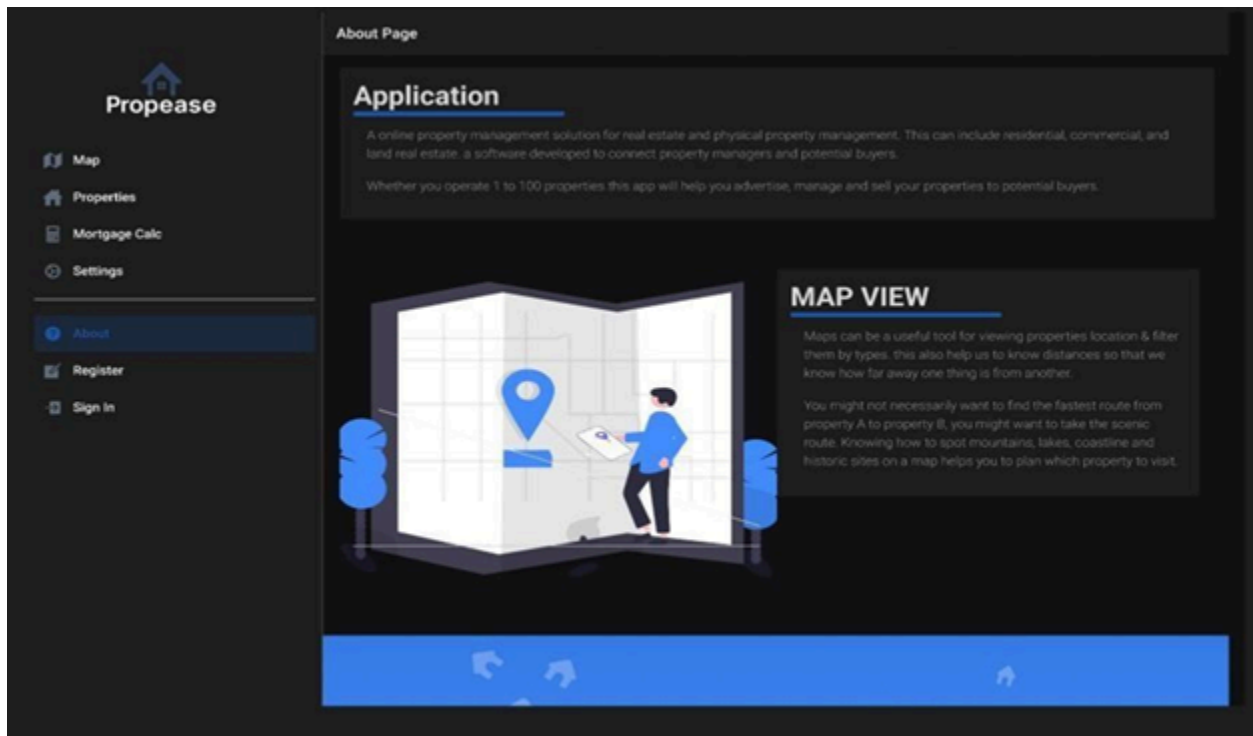
Password
password

SIGN IN

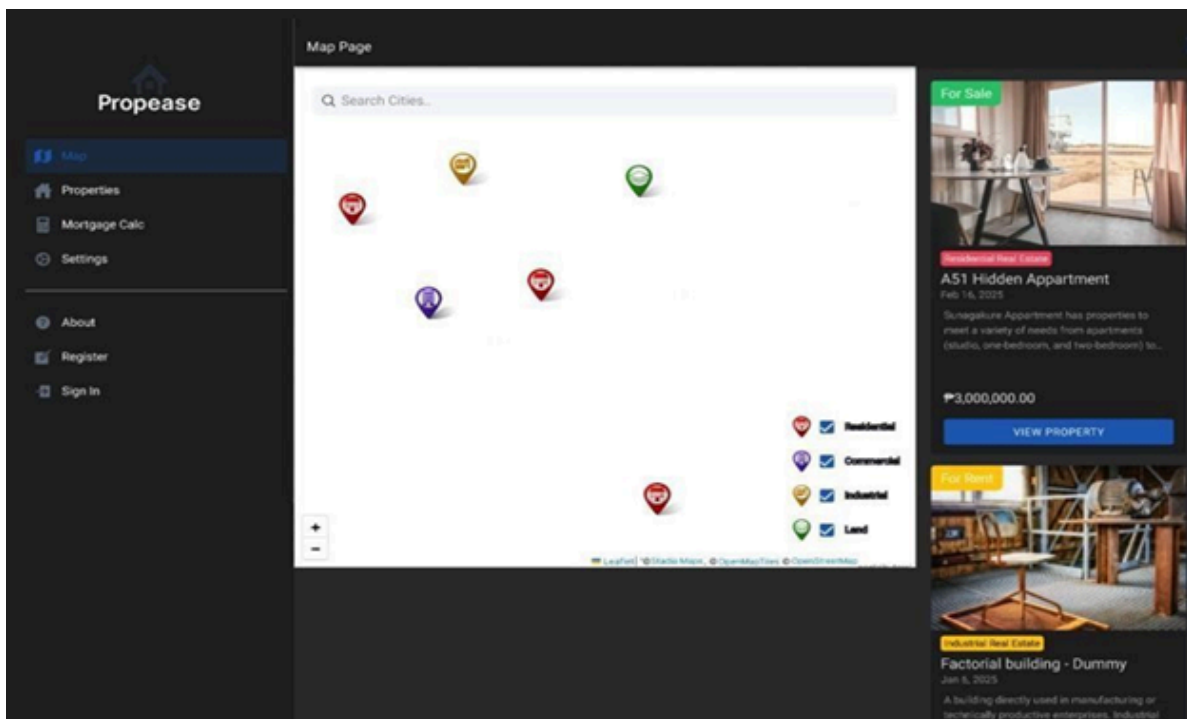
FIRST TIME HERE? [REGISTER](#)

Real Estate Management System
<https://github.com/evan7afinal/real-estate-management>

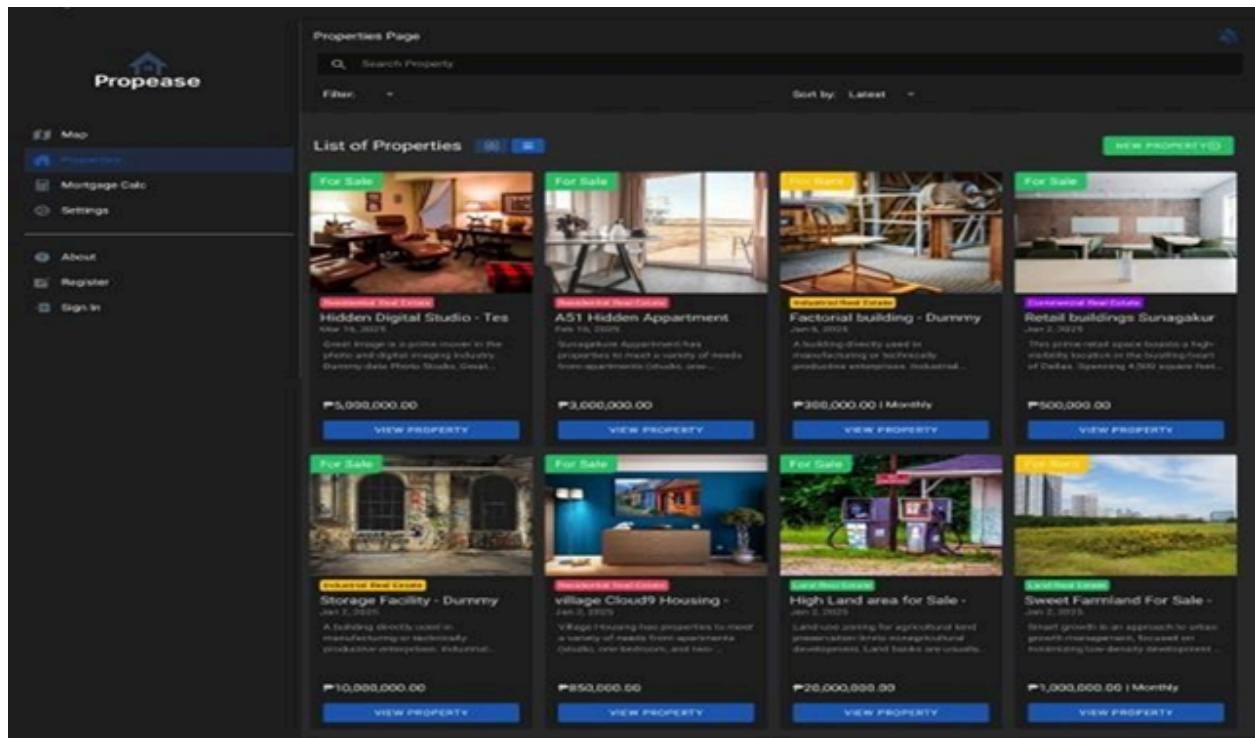
User Side About Page



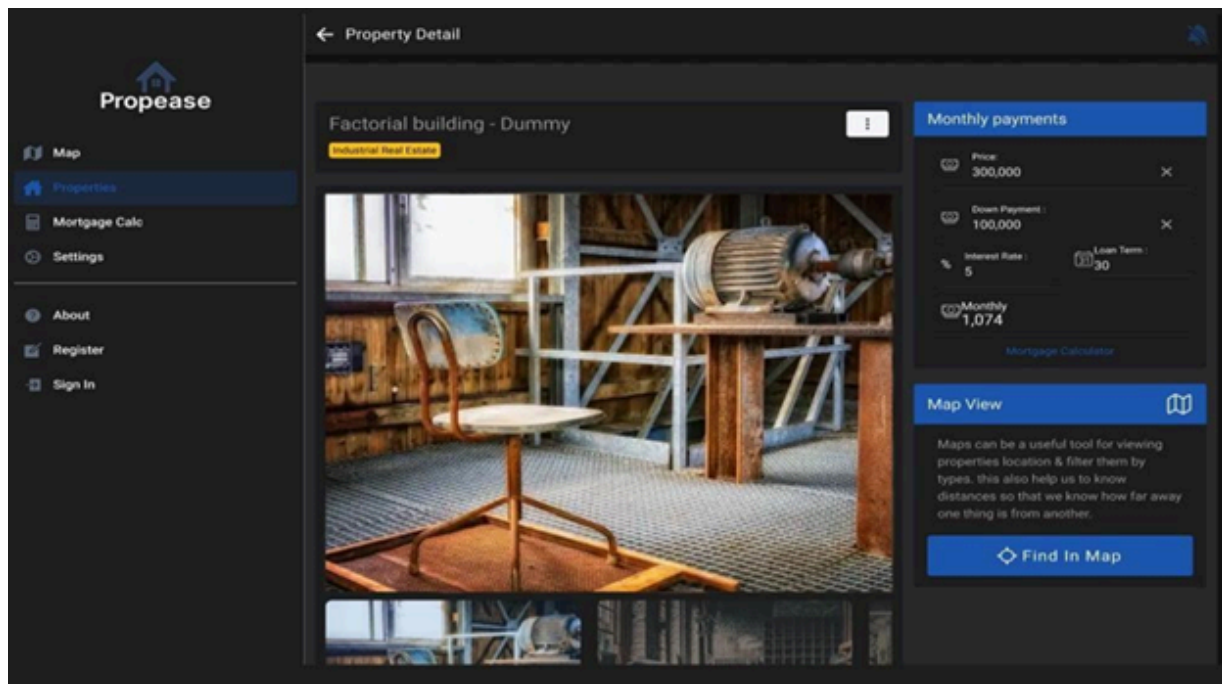
User Side Map Page



User Side Property Page



User Side Property Detail Page



User Side EMI Calculator Page

Propease

Map

Properties

Mortgage Calc

Settings

About

Register

Sign In

Mortgage Calculator Page

How a mortgage calculator can help ?

Buying a Real-Estate-Property is one of the largest purchase most people will make, so you should think carefully about how you're going to finance it. You can adjust the property price, down payment and mortgage terms to see how your monthly payment will change.

Monthly & Lifetime payments

Price: 300,000

Down Payment : 100,000

Interest Rate : 5


Property tax : 150

Property Insurance : 300

Loan Term : 30

Monthly Payment Graph

Principal Interest Property Tax Insurance



User Settings Page

Propease

Map

Properties

Mortgage Calc

Settings

About

Register

Sign In

Settings Page

Change Application Theme

Theme Switcher

Change Default Coordinates

Open Map

Latitude: 8.947416086535465

Longitude: 125.5451552207221

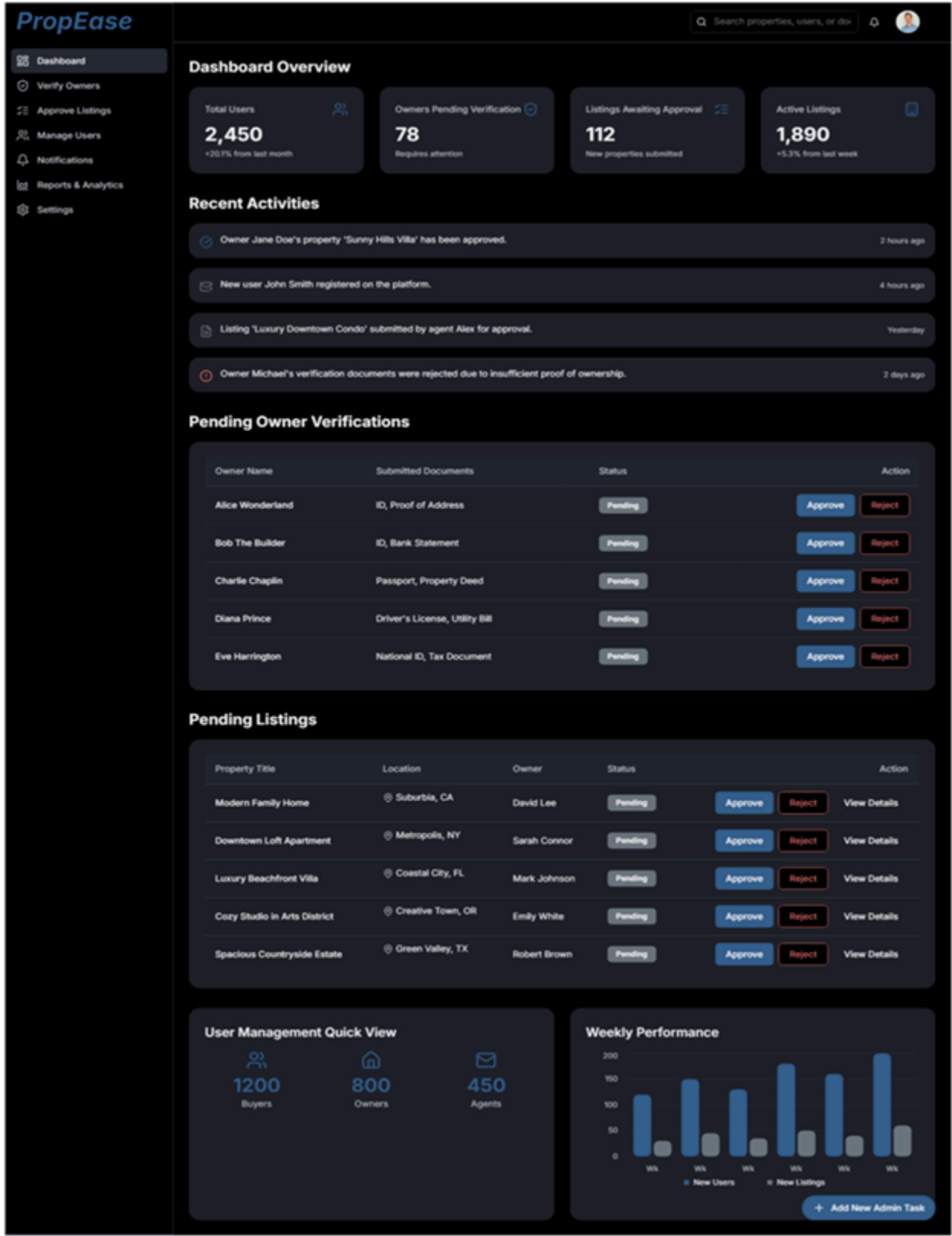
SET COORDINATES

RESET COORDINATES

Real Estate Management System

<https://github.com/raavan7ali/real-estate-management>

Admin Side Dashboard



Admin Side Manage Users

PropEase

Dashboard

Verify Owners

Approve Listings

Manage Users

Notifications

Reports & Analytics

Settings

Search users, roles, or status...

Manage Users

View, edit, and manage platform users.

Search users...

Filter by Role

Filter by Status

Total Users
5,200
+15% this month

Active Users
4,800
92% of total users

Suspended Users
120
Requires attention

New Registrations This Month
280
Steady growth

User Accounts

Select All

Suspend Selected (0)

Delete Selected (0)

User ID	Full Name	Email	Role	Status	Joined Date	Actions			
U001	Alice Smith	alice@example.com	Buyer	Active	2023-01-15	View Profile	Edit	Suspend	Delete
U002	Bob Johnson	bob@example.com	Owner	Active	2023-02-20	View Profile	Edit	Suspend	Delete
U003	Charlie Brown	charlie@example.com	Agent	Suspended	2023-03-10	View Profile	Edit	Suspend	Delete
U004	Diana Prince	diana@example.com	Admin	Active	2022-11-01	View Profile	Edit	Suspend	Delete
U005	Eve Adams	eve@example.com	Buyer	Active	2023-04-05	View Profile	Edit	Suspend	Delete
U006	Frank White	frank@example.com	Owner	Active	2023-05-12	View Profile	Edit	Suspend	Delete
U007	Grace Lee	grace@example.com	Agent	Suspended	2023-06-18	View Profile	Edit	Suspend	Delete
U008	Henry King	henry@example.com	Buyer	Active	2023-07-22	View Profile	Edit	Suspend	Delete

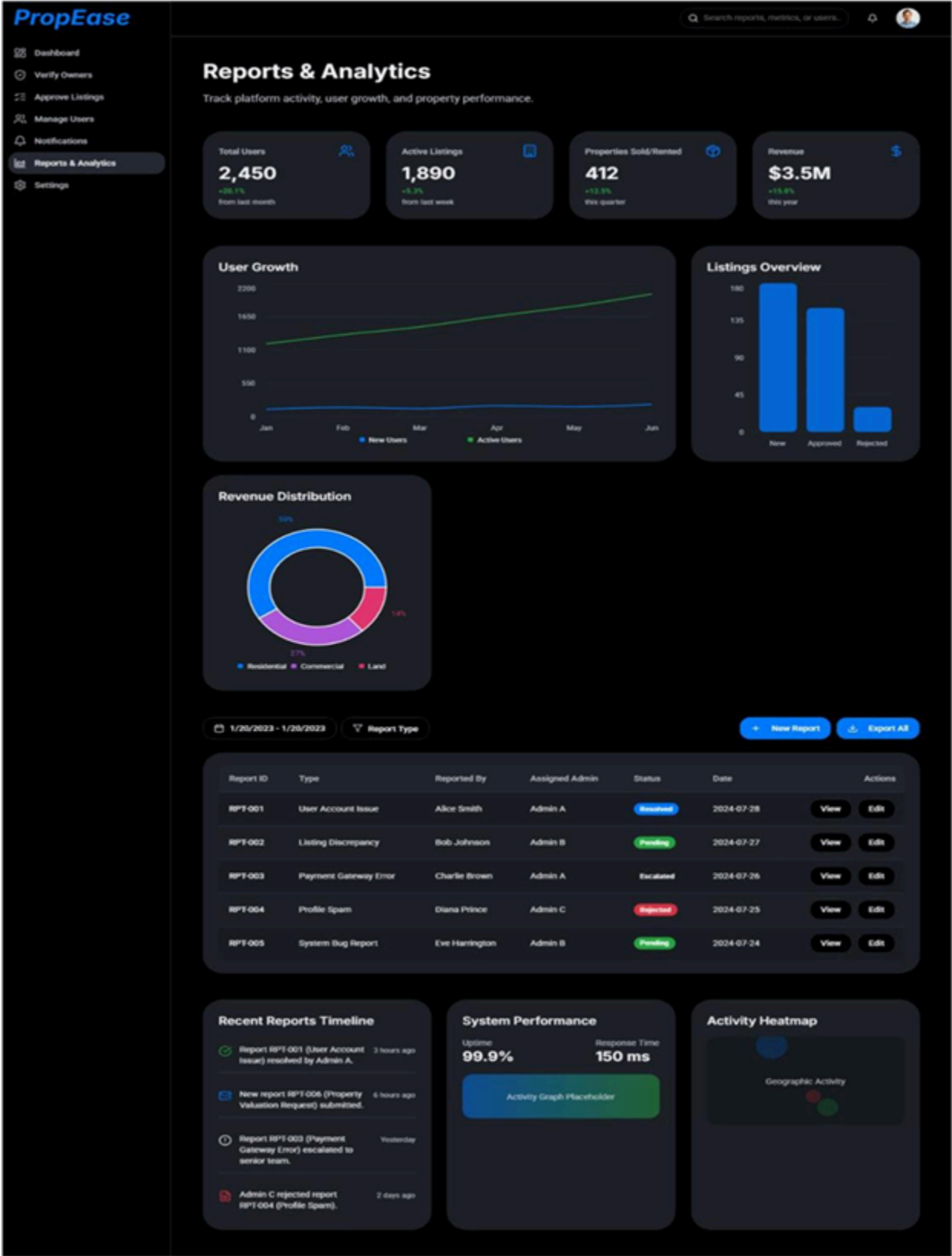
Showing 1 to 8 of 8 entries

Previous

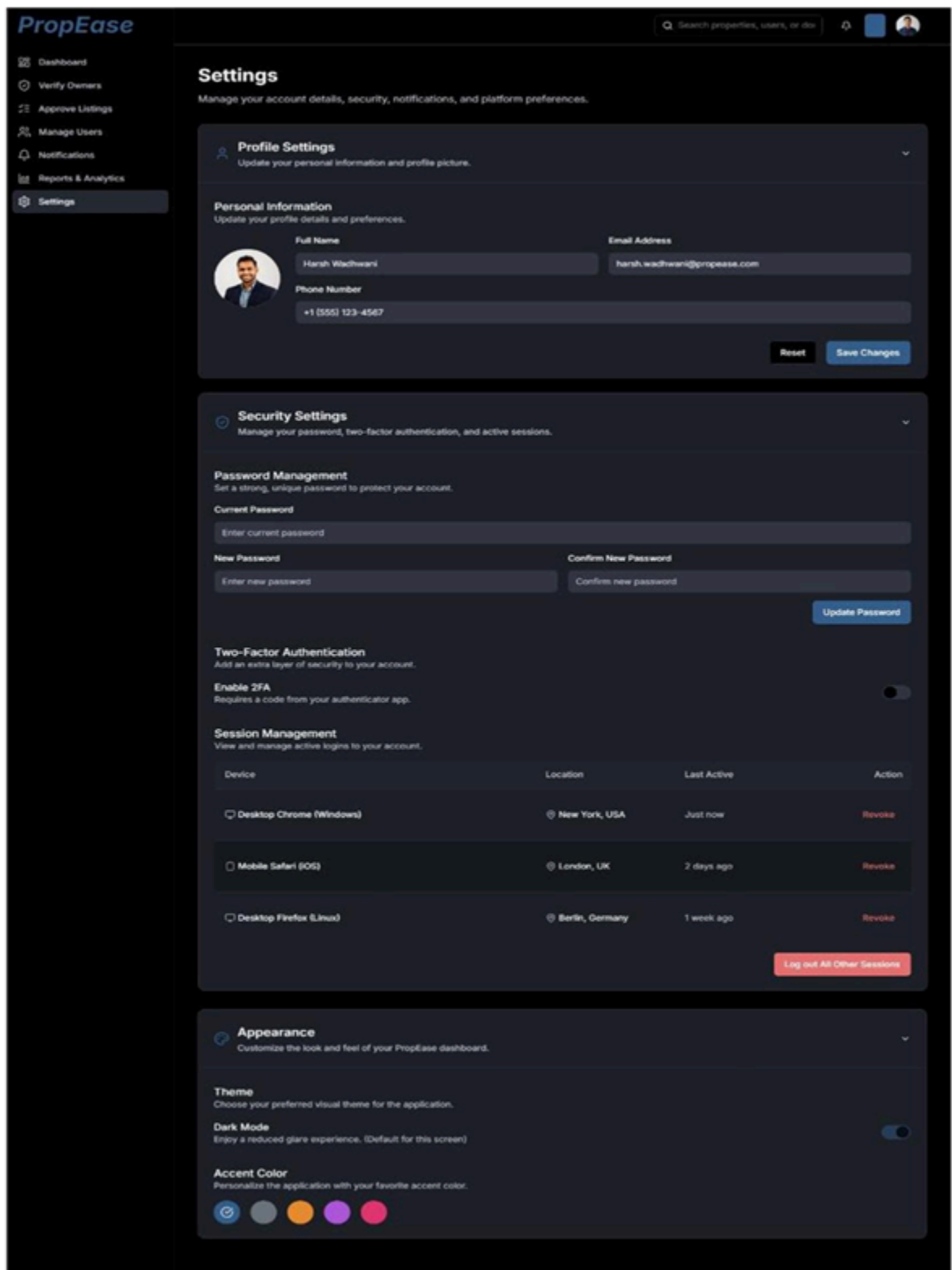
Next

Add New User

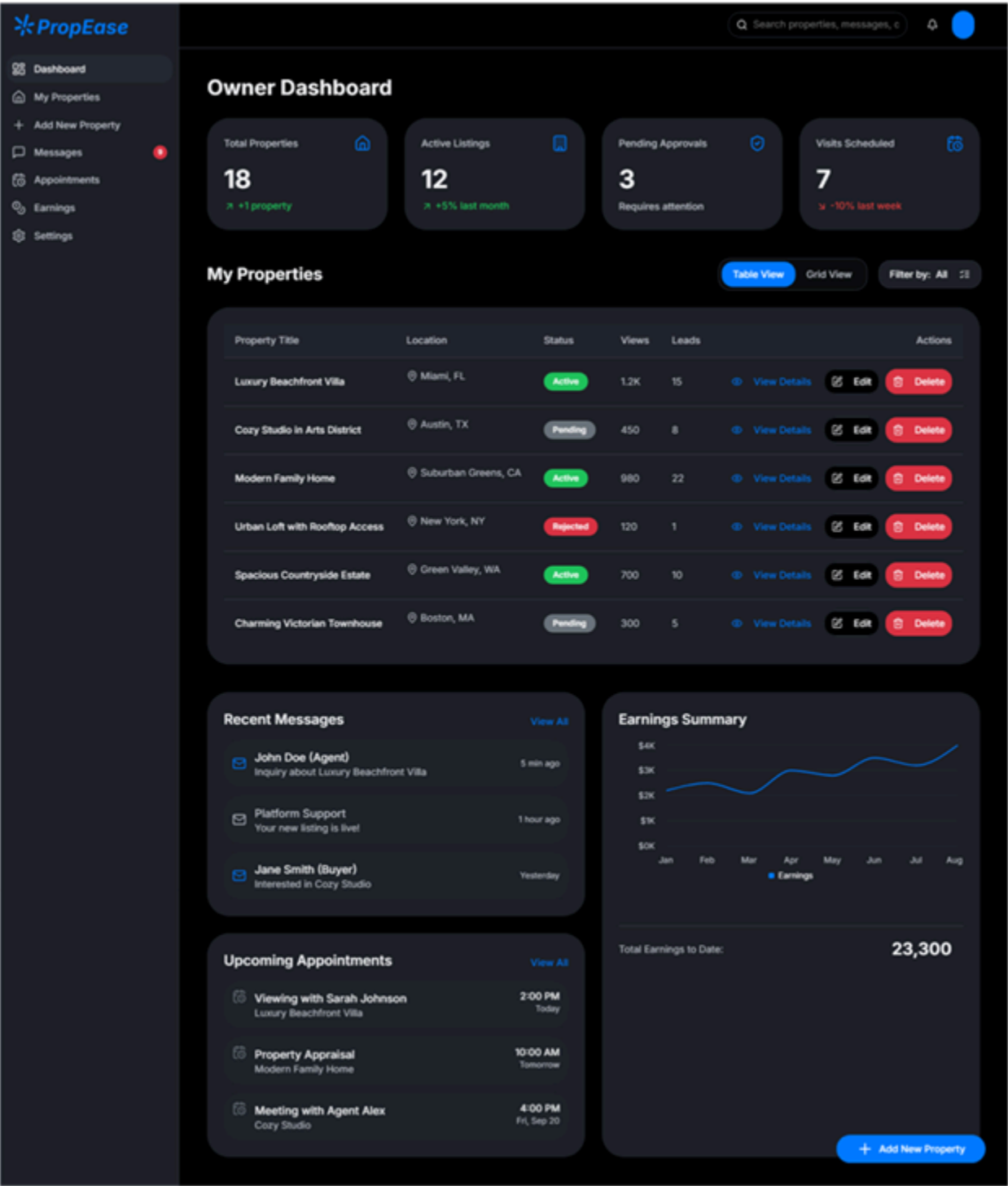
Admin Side Reports and Analytics



Admin Side Settings Page




Owner Side



Owner Side Add New Property Page

[illegible]



Dashboard

My Properties

+ Add New Property

Messages

Appointments

Earnings

Settings

...

Add New Property

Fill in the details to create a new property listing.

Property Details

Provide essential information about your property.

Property Title

E.g., Luxury Downtown Apartment

Property Type

E.g., Apartment, House, Condo

Description

Brief description of the property features...

Furnished Property

☐

Price (USD)

E.g., 500000

EMI Calculator

Loan Amount (USD)

500000

Interest Rate (%)

5.5

Loan Term (Years)

30

Estimated Monthly EMI:

\$2,839

Location Details

Specify the exact address of your property.

Address Line 1

E.g., 123 Main Street

Address Line 2 (Optional)

E.g., Apt 4B

City

E.g., Springfield

State

E.g., IL

Search properties, messages, c

