

DBMS Project Report

Title : House Rental System

Team:

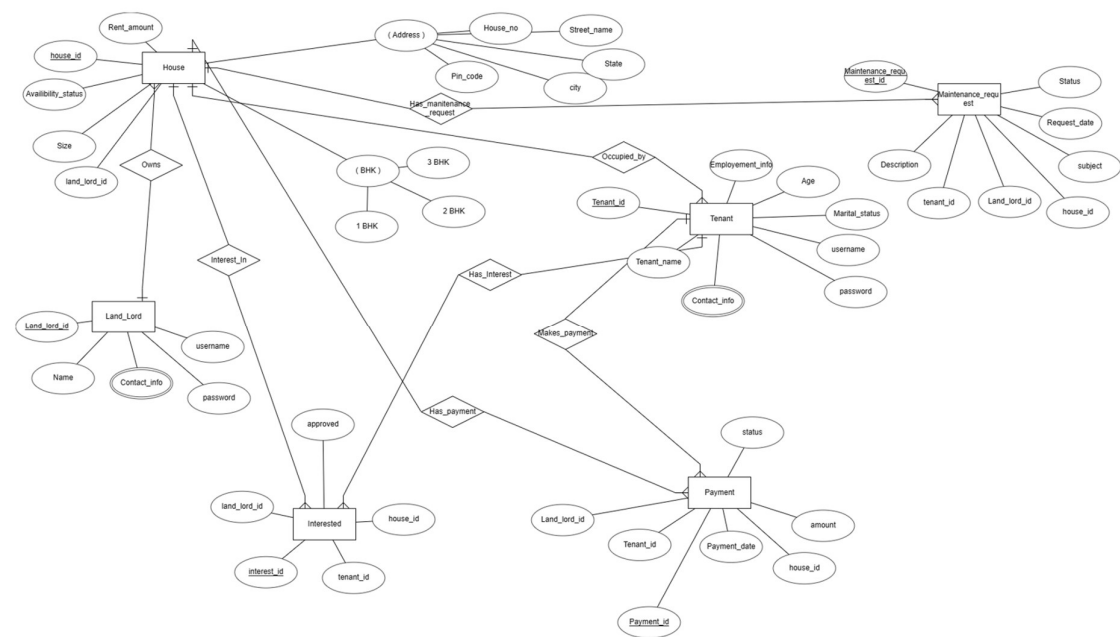
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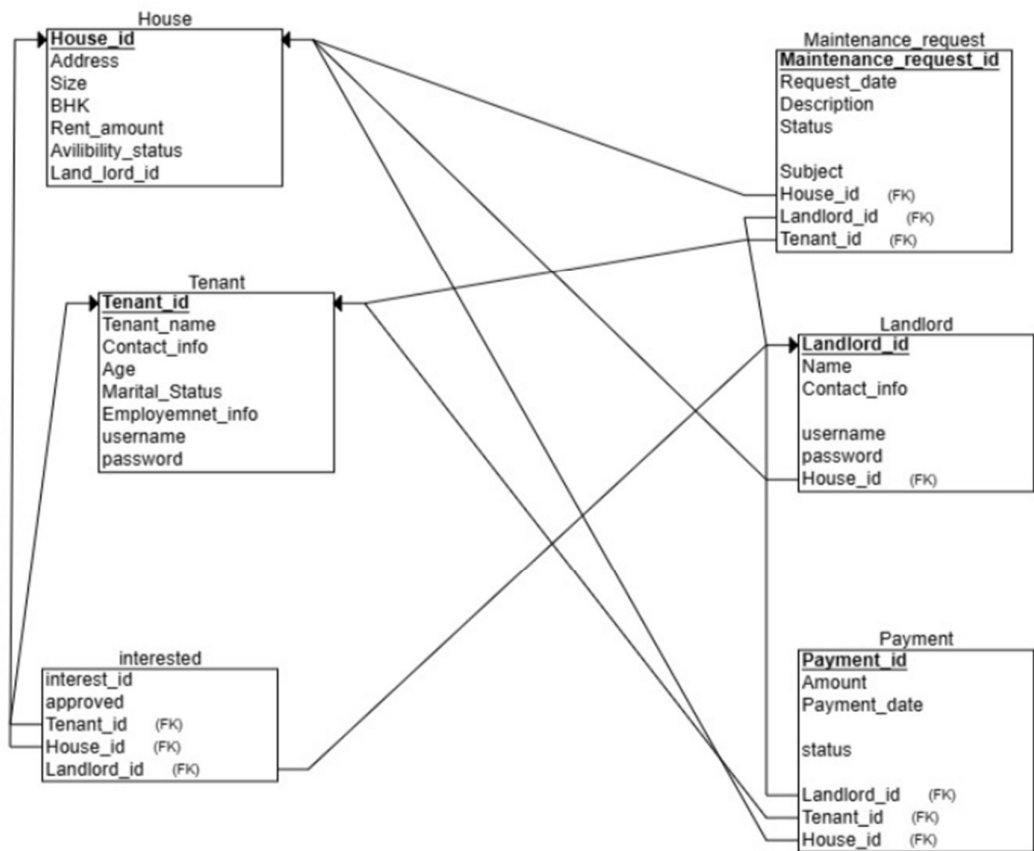
Abstract:

Our House rental system website, the tenant experience is enriched with user-friendly features that simplify the house hunting process. Tenants can easily search for available houses, streamlining their search with filters that match their preferences. The system facilitates seamless communication between tenants and landlords through maintenance request submissions, allowing tenants to address property-related concerns directly. Additionally, tenants can efficiently manage rent payments, receiving timely reminders and notifications for pending requests. On the landlord side, the platform empowers property owners with tools for effective property management. Landlords can effortlessly add and showcase rental properties, enhancing their visibility to potential tenants. The system provides a centralized hub for landlords to review maintenance requests, ensuring prompt and efficient property maintenance. The ability to generate payment requests and manage tenant requests for a specific property adds a layer of control and convenience for landlords, creating a holistic solution for property management. Together, these features create a balanced and comprehensive house rental ecosystem, catering to the distinct needs of both tenants and landlords.

ER - Diagram



Relational Schema



Queries:

The queries that we have used in our Project are

Join query

DDL Sql Command:

1) Create Table

Interested table

```
CREATE TABLE `interested` (  
  `interest_id` int NOT NULL AUTO_INCREMENT,  
  `tenant_id` int NOT NULL,  
  `land_lord_id` int NOT NULL,  
  `house_id` int NOT NULL,  
  `approved` tinyint(1) DEFAULT NULL,  
  PRIMARY KEY (`interest_id`),  
  KEY `tenant_id` (`tenant_id`),  
  KEY `land_lord_id` (`land_lord_id`),  
  KEY `house_id` (`house_id`),  
  CONSTRAINT `interested_ibfk_1` FOREIGN KEY (`tenant_id`) REFERENCES `tenant` (`tenant_id`),  
  CONSTRAINT `interested_ibfk_2` FOREIGN KEY (`land_lord_id`) REFERENCES `land_lord` (`land_lord_id`),  
  CONSTRAINT `interested_ibfk_3` FOREIGN KEY (`house_id`) REFERENCES `house` (`house_id`)  
) ENGINE=InnoDB AUTO_INCREMENT=58 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
```

House

```
CREATE TABLE `house` (  
  `house_id` int NOT NULL AUTO_INCREMENT,  
  `size` int NOT NULL,  
  `bhk` int NOT NULL,  
  `rent_amount` int NOT NULL,  
  `house_no` varchar(10) NOT NULL,  
  `street_name` varchar(20) NOT NULL,  
  `city` varchar(20) NOT NULL,  
  `pincode` varchar(10) NOT NULL,  
  `state` varchar(20) NOT NULL,  
  `availability_status` tinyint(1) NOT NULL,  
  `land_lord_id` int NOT NULL,  
  PRIMARY KEY (`house_id`),  
  KEY `land_lord_id` (`land_lord_id`),  
  CONSTRAINT `house_ibfk_1` FOREIGN KEY (`land_lord_id`) REFERENCES `land_lord` (`land_lord_id`)
```

Tenant

```
CREATE TABLE `tenant` (
  `tenant_id` int NOT NULL AUTO_INCREMENT,
  `username` varchar(50) NOT NULL,
  `password` varchar(255) NOT NULL,
  `age` int NOT NULL,
  `contact_info` varchar(20) NOT NULL,
  `employment_info` char(1) DEFAULT NULL,
  `tenant_name` varchar(255) DEFAULT NULL,
  `marital_status` char(1) DEFAULT NULL,
  `house_id` int DEFAULT NULL,
  PRIMARY KEY (`tenant_id`),
  KEY `house_id` (`house_id`),
  CONSTRAINT `tenant_ibfk_1` FOREIGN KEY (`house_id`) REFERENCES `house` (`house_id`)
) ENGINE=InnoDB AUTO_INCREMENT=14 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
```

Land_lord

```
CREATE TABLE `land_lord` (
  `land_lord_id` int NOT NULL AUTO_INCREMENT,
  `username` varchar(50) NOT NULL,
  `password` varchar(50) NOT NULL,
  `name` varchar(50) NOT NULL,
  `contact_info` varchar(20) NOT NULL,
  PRIMARY KEY (`land_lord_id`)
) ENGINE=InnoDB AUTO_INCREMENT=15 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
```

Maintenance_req table

```
CREATE TABLE `maintenance_req` (
  `main_req_id` int NOT NULL AUTO_INCREMENT,
  `house_id` int NOT NULL,
  `tenant_id` int NOT NULL,
  `request_date` varchar(10) NOT NULL,
  `subject` varchar(40) NOT NULL,
  `description` varchar(300) DEFAULT NULL,
  `land_lord_id` int NOT NULL,
  `status` tinyint(1) NOT NULL,
  PRIMARY KEY (`main_req_id`),
  KEY `house_id` (`house_id`),
  KEY `tenant_id` (`tenant_id`),
  KEY `land_lord_id` (`land_lord_id`),
  CONSTRAINT `maintenance_req_ibfk_1` FOREIGN KEY (`house_id`) REFERENCES `house` (`house_id`),
  CONSTRAINT `maintenance_req_ibfk_2` FOREIGN KEY (`tenant_id`) REFERENCES `tenant` (`tenant_id`),
  CONSTRAINT `maintenance_req_ibfk_3` FOREIGN KEY (`land_lord_id`) REFERENCES `land_lord` (`land_lord_id`)
) ENGINE=InnoDB AUTO_INCREMENT=16 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
```

Payment:

```
CREATE TABLE `payment` (  
  `payment_id` int NOT NULL AUTO_INCREMENT,  
  `amount` int NOT NULL,  
  `status` tinyint(1) NOT NULL,  
  `payment_date` varchar(10) NOT NULL,  
  `tenant_id` int NOT NULL,  
  `land_lord_id` int NOT NULL,  
  `house_id` int NOT NULL,  
  PRIMARY KEY (`payment_id`)  
) ENGINE=InnoDB AUTO_INCREMENT=30 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;  
/!*40101 SET character_set_client = @saved_cs_client */;
```

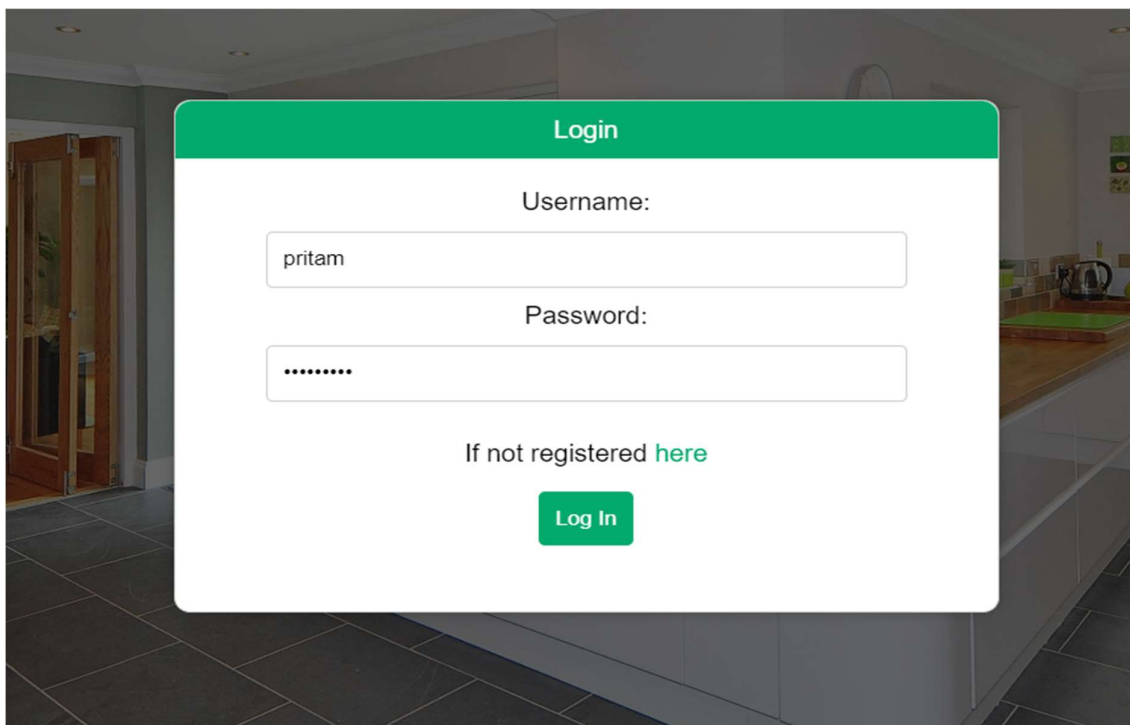
CRUD Operation

Select Command:

There are many select some of them are

```
cur.execute('SELECT * FROM tenant WHERE username = %s AND password =  
%s',(username,password))
```

This will check the password and username if the account is present then it will show the account is present or else it will login



```
str = f"SELECT * FROM tenant WHERE username = '{(username)}'"
```

gets the user details

User Details	
Name:	Pritam S Gurav
Contact:	8073426487
Age:	21
Marital Status:	1
Employee Status:	1

```
cur.execute(f"select * from house where city = '{search_city}' and bhk = '{bhk}' and rent_amount >= '{1000}' and rent_amount <= '{price_range}' and availability_status = 1")
```

this is a search query that will search in the database according to the city , price and bhk

Enter the city you want to rent a house Filter

Search

Search Results

Street: Banshankari City: Bangaluru BHK: 3 Rent: 12000

```
cur.execute(f"SELECT * from house where house_id = '{house_details_id}'")
account = cur.fetchone()
cur.execute(f"SELECT * from land_lord where land_lord_id = '{account[-1]}'"
landlord = cur.fetchone()
```

This query will get the house details and landlord details

The screenshot displays two data entry forms on a web application. The first form, titled 'House Details', contains the following information: Area (1200), BHK (3), Rent (12000), Address (House No :45 , Banshankari), City (Bangaluru), State (Karnataka), and Pincode (581325). The second form, titled 'Landlord Details', contains: Name (Pratheek K N) and Contact (7896541230). Both forms have a green header bar with their respective titles.

House Details	
Area :	1200
BHK :	3
Rent :	12000
Address :	House No :45 , Banshankari
City :	Bangaluru
State:	Karnataka
Pincode:	581325

Landlord Details	
Name:	Pratheek K N
Contact:	7896541230

These are some of this select queries

2) Update

```
payment_id = request.form['payment']
cur.execute(f"UPDATE payment SET status = 0 where payment_id = '{payment_id}'")
db.commit()
```

If paid it will show none update command will set availability status to 0

before

The screenshot shows a form titled 'Rent Payment Pending Request'. It displays 'Amount: 20000' and 'Date: 11/24/2023'. There is a blue button labeled 'pay' on the right side of the form.

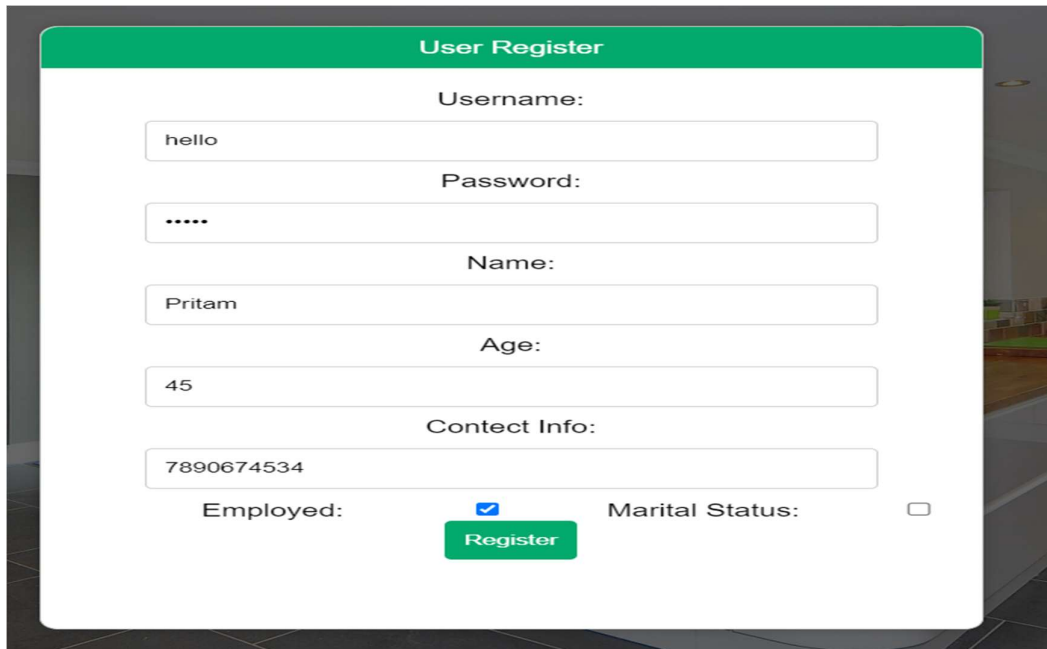
After update

The screenshot shows the same form titled 'Rent Payment Pending Request', but now it displays 'No Payment Request Found' in the center, indicating that the payment has been successfully processed and the request is no longer pending.

3) Insert

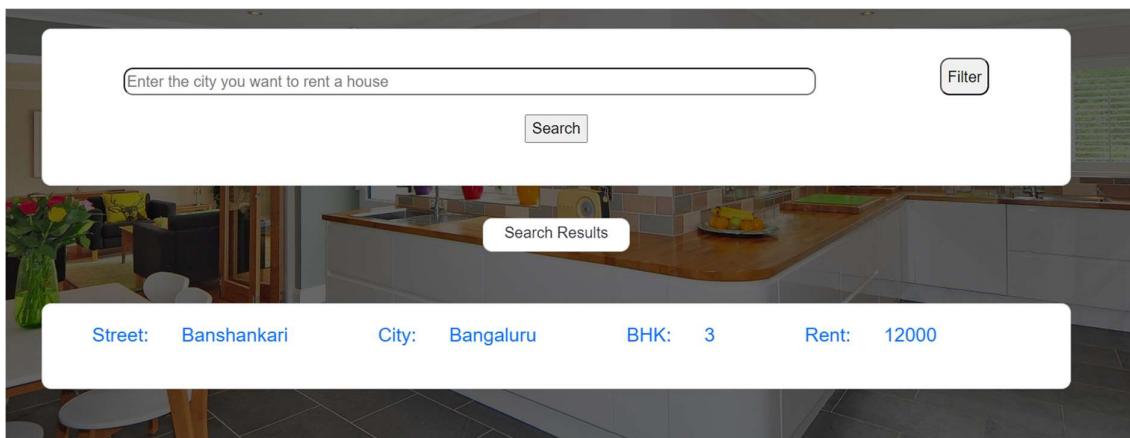
```
cur.execute("insert into land_lord (username,password,name,contact_info) values (%s,%s,%s,%s)", (ownername,password,name,contact))
db.commit()
msg = "Land Lord Register"
```

This code is used for register the user register same for landlord

A screenshot of a web form titled "User Register". The form has a green header bar with the title. It contains several input fields: "Username:" with the value "hello", "Password:" with masked characters "*****", "Name:" with the value "Pritam", "Age:" with the value "45", and "Contact Info:" with the value "7890674534". Below these fields are two checkboxes: "Employed:" which is checked, and "Marital Status:" which is unchecked. A green "Register" button is positioned between the two checkboxes.

Functionality:

Search:

A screenshot of a search results interface for house rental. At the top, there is a search bar with the placeholder text "Enter the city you want to rent a house" and a "Filter" button. Below the search bar is a "Search" button. The search results are displayed in a white box with a "Search Results" header. The results show: "Street: Banshankari", "City: Bangaluru", "BHK: 3", and "Rent: 12000". The background of the interface shows a modern kitchen and living area.

Maintenance_req

Pending maintenance req at user side

Pending Maintenance Request

Date: 2023-11-24
Subject: PLumber required
Description: Plumber is required please send fast

Date: 2023-11-24
Subject: Solar Not working
Description: Please fix the Solar

Pending maintenance req at land_lord side

Maintenance Requests

Date: 2023-11-24
Address: 78, WhiteField, Bangaluru Karnataka 581325
Subject: PLumber required
Description: Plumber is required please send fast

Done

Date: 2023-11-24
Address: 78, WhiteField, Bangaluru Karnataka 581325
Subject: Solar Not working
Description: Please fix the Solar

Done

House Interested Request

If user request for a house the interested request will be shown on both side user and land_lord and land_lord has the right to accept and reject

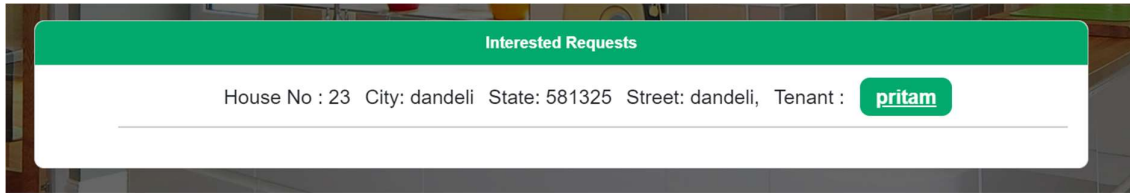
At user side

Pending House Approval request

Address: House No 45 Banshankari, Bangaluru Karnataka 581325,
Rent: 12000, BHK : 3

Address: House No 23 dandeli, dandeli karnataka 581325,
Rent: 14000, BHK : 2

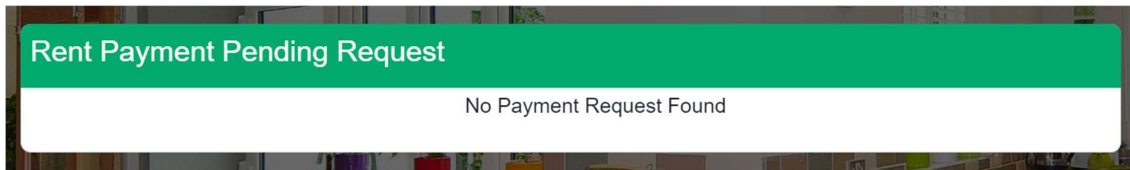
At land_lord side



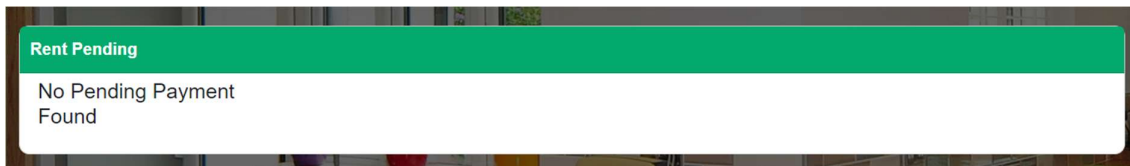
Rent Payment Pending Request:

All the pending payment request will be shown here

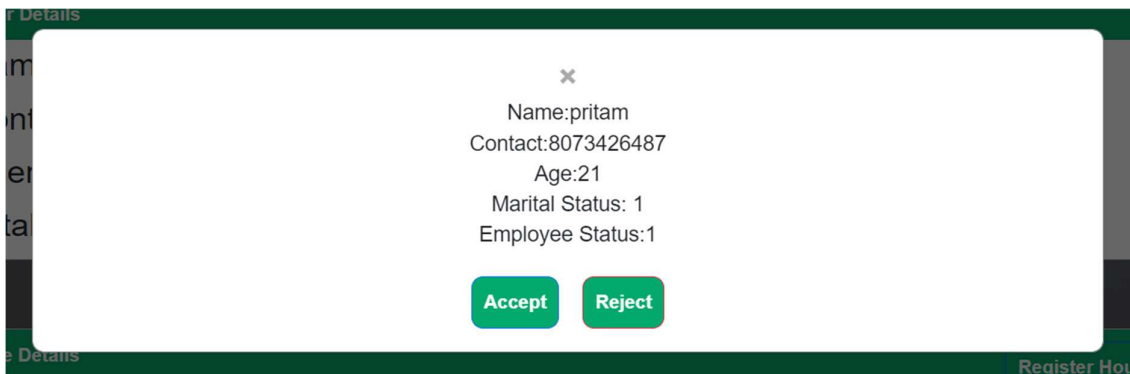
At user side



At land_lord req:



House Request Approval:(Only for Land_lord)



House Register Page(Only for Land_lord)

House Register

Size (sq m):

BHK:

Rent Amount:

House Number:

Street Name:

City:

State:

DINCODE.

User Register (Tenant Register Page)

User Register

Username:

Password:

Name:

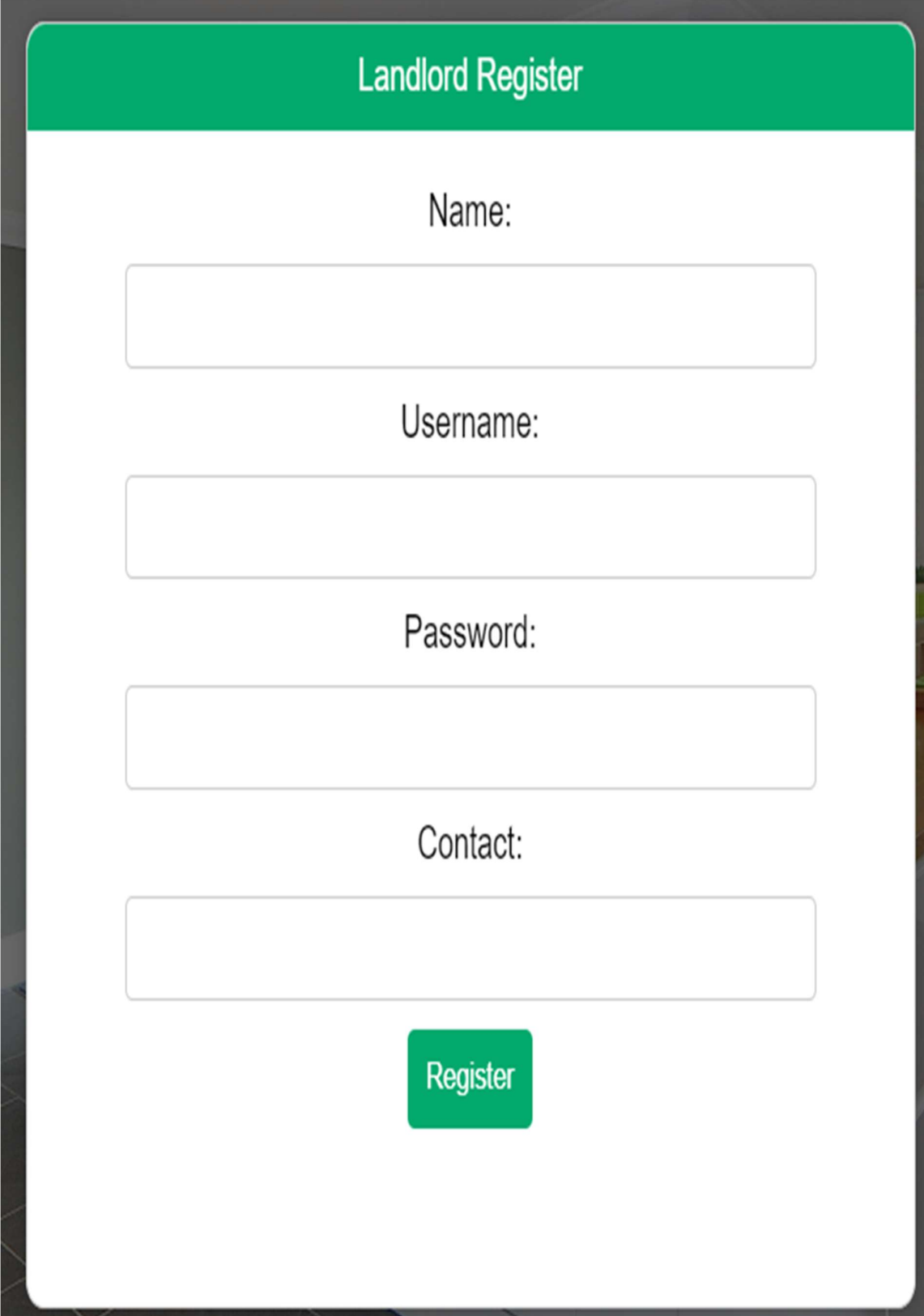
Age:

Contact Info:

Employed: ☐ Marital Status: ☐

[Register](#)

Owner Register:

A screenshot of a web form titled "Landlord Register". The form is contained within a white rounded rectangle with a green header bar. The header bar has the text "Landlord Register" in white. Below the header, there are four text input fields, each preceded by a label: "Name:", "Username:", "Password:", and "Contact:". At the bottom of the form is a green button with the text "Register" in white. The form is set against a dark gray background.

Landlord Register

Name:

Username:

Password:

Contact:

Register

House_Details Page (Only for User ot tenant)

House Details	
Area :	1200
BHK :	3
Rent :	12000
Address :	House No :45 , Banshankari
City :	Bangaluru
State:	Karnataka
Pincode:	581325

Landlord Details	
Name:	Pratheek K N
Contact:	7896541230

Are you interested?

[Click Here if Yes](#)

User page

User Details	
Name:	Pritam S Gurav
Contact:	8073426487
Age:	21
Marital Status:	1
Employee Status:	1

House	
City:	Bangaluru
State:	Karnataka
Rent:	16000

[Maintenance request](#)

Rent Payment Pending Request

No Payment Request Found

Pending House Approval request

Address: House No 45 Banshankari, Bangaluru Karnataka 581325,
Rent: 12000, BHK : 3

Address: House No 23 dandeli, dandeli karnataka 581325,
Rent: 14000, BHK : 2

Pending Maintenance Request

Date: 2023-11-24
Subject: PLumber required
Description: Plumber is required please send fast

Owner Page:

Owner Details

Name: PRITAM GURAV
Contact Info : 7022843610
Username : pritam2
Total House : 2

House Details

[Register House](#)

Rent: 14000
BHK: 2
Address: House No :dandeli, dandeli, karnataka,581325

Rent: 16000
BHK: 1
Address: House No :WhiteField, Bangaluru, Karnataka,581325

Rent Pending

No Pending Payment Found

Interested Requests

House No : 23 City: dandeli State: 581325 Street: dandeli, Tenant : **pritam**

Maintenance Requests

Date: 2023-11-24

Address: 78, WhiteField, Bangaluru Karnataka 581325

Subject: PLumber required

Description: Plumber is required please send fast

Done

Maintenance request form

Maintenance Request

Subject:

Description:

Submit

Procedure and triggers:

Procedure:

Procedure Definition

```
CREATE DEFINER=`root`@`localhost` PROCEDURE `delete_interested_with_house_id`(IN house_id_to_delete INT)
BEGIN
    DELETE FROM interested
    WHERE house_id = house_id_to_delete;
END
```

Calling the procedure

```
cur.execute(f"call delete_interested_with_house_id({accept_id[0]})")
db.commit()
```

Trigger:

For Invoking Trigger (after_tenant_update)

```
cur.execute(f"update tenant set house_id = {accept_id[0]} where tenant_id = '{accept_id[1]}'")
db.commit()
# cur.execute(f"delete from interested where house_id = {accept_id[0]} and tenant_id = {accept_id[1]}")
```

When there is an update in tenant the trigger will invoke

Trigger Definition

```
after_tenant_update | UPDATE | tenant | BEGIN
IF NEW.house_id IS NOT NULL THEN
    UPDATE house
    SET availability_status = 0
    WHERE house_id = NEW.house_id;
END IF;
```

Trigger Result:

Before Trigger –

```
mysql> select * from house;
```

house_id	size	bhk	rent_amount	house_no	street_name	city	pincode	state	availability_status	land_lord_id
24	400	2	20000	23	Banashakari	Bangaluru	581325	karnataka	1	12
25	4586	3	30000	80	Jayanagar	Bangaluru	581325	karnataka	0	12
26	4500	1	8000	5	Bhogur	Hyderabad	581340	Karnataka	1	12
27	1000	2	15000	78	Bangur Nagar	Dandeli	581369	Karnataka	1	12
29	2500	2	14000	23	dandeli	dandeli	581325	karnataka	1	14
30	2500	1	16000	78	WhiteField	Bangaluru	581325	Karnataka	0	14
31	1200	3	12000	45	Banshankari	Bangaluru	581325	Karnataka	1	12

7 rows in set (0.00 sec)

```
mysql> select * from tenant;
```

tenant_id	username	password	age	contact_info	employment_info	tenant_name	marital_status	house_id
8	pritam	qwerty123	21	8073426487	1	Pritam S Gurav	1	30
12	garuda	qwerty123	45	8073426487	1	Garuda Naik	0	25
13	hello	world	45	9876543210	1	isfjkn	0	NULL

3 rows in set (0.61 sec)

The availability of house with house_id 30 is 1 and tenant is tenant_id 8

After Trigger :

When there is update in tenant table then it will set availability of previous house to 1

```
mysql> select * from house;
```

house_id	size	bhk	rent_amount	house_no	street_name	city	pincode	state	availability_status	land_lord_id
24	400	2	20000	23	Banashakari	Bangaluru	581325	karnataka	0	12
25	4586	3	30000	80	Jayanagar	Bangaluru	581325	karnataka	0	12
26	4500	1	8000	5	Bhogur	Hyderabad	581340	Karnataka	1	12
27	1000	2	15000	78	Bangur Nagar	Dandeli	581369	Karnataka	1	12
29	2500	2	14000	23	dandeli	dandeli	581325	karnataka	1	14
30	2500	1	16000	78	WhiteField	Bangaluru	581325	Karnataka	1	14
31	1200	3	12000	45	Banshankari	Bangaluru	581325	Karnataka	1	12

7 rows in set (0.00 sec)