**Dr. AMBEDKAR INSTITUTE OF TECHNOLOGY**

Near Jnana Bharathi Campus, Bengaluru-560 056.

(An Autonomous Institution, Aided by Government of Karnataka)

**Department of computer science & engineering 2023-24**

# DBMS MINI PROJECT

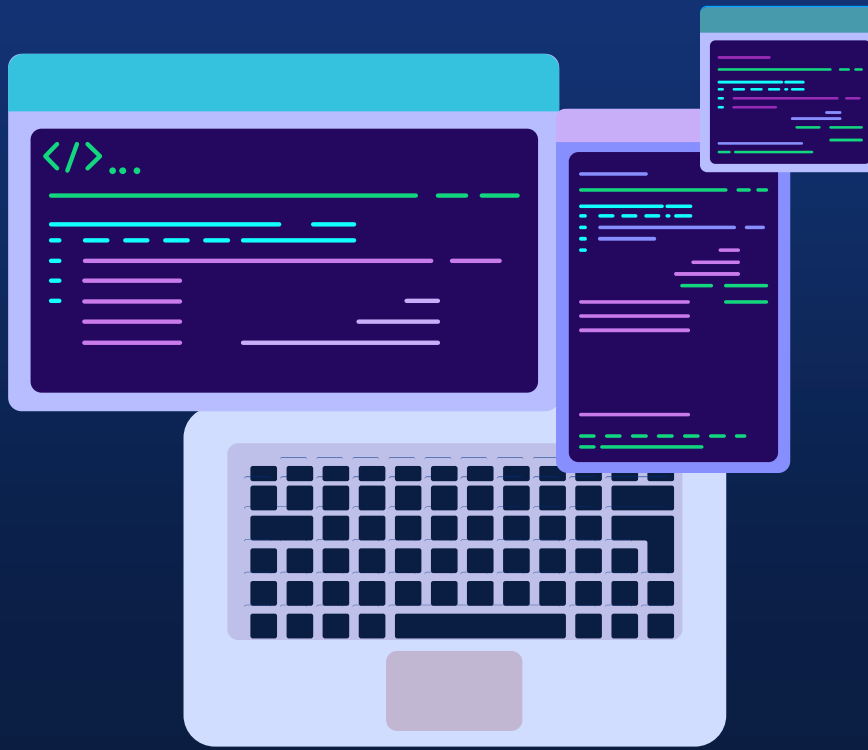
Course Code : 21CLS505

Mini project on

"Streamlining Room Management and Rentals"

Bachelor of engineering in

**Computer science and engineering**



# Streamlining Room Management and Rentals:

## PROJECT MEMBERS:

### 1DA21CS092: NADDANA YASHWANTH

#### BACKEND:

Design Of Schema.

- Listing Schema.
- Review Schema.
- User Schema .
- With Schema and Entity Rational Diagrams.

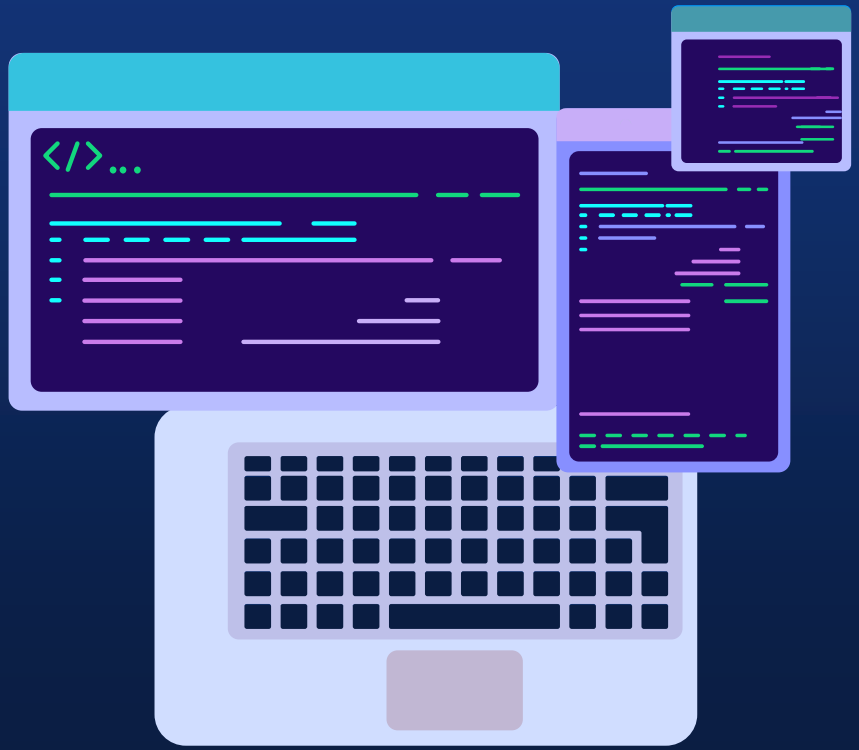
### 1DA22CS409: HAJARATALI S MOGALLAI

#### FRONTEND:

- Index page
- Show page
- Commenting
- Review
- With Express js

#### BACKEND:

- Writing Routes
- Writing Methods
- With node js



## Project Overview:

The project seems to be a property rental and listing platform where users can browse, create, and manage property listings. It includes features for creating, updating, and deleting property listings, managing reviews, categorizing listings by type, and implementing a search functionality. Additionally, there are modules for user authentication, menu management, and the creation of rental menus associated with specific listings.

**Key Features and Functionalities:**

**1.Property Listings:**

- •Users can view a list of all property listings on the homepage.
- •Detailed information about each listing, including images, is displayed on individual listing pages.
- •The project allows for the creation, editing, and deletion of property listings.

**2.User Authentication:**

- •Users can sign up for accounts, log in, and log out.
- •Authentication is integrated with Passport.js, providing secure user registration and login processes.

**3.Menu Management:**

- •There is a module for creating and managing menus associated with specific listings.
- •Menus include information about different items, and users can create, edit, and delete menu items.

**4.Search Functionality:**

- •The project includes a search feature allowing users to search for listings based on titles, categories, or locations.

**5.Listing Categories:**

- •Property listings are categorized based on types such as Cottage, Residential, Commercial, Vacation, Apartment, Condo, Townhouse, and Other.

**6.Review System:**

- •Users can leave reviews for specific property listings.
- •The reviews are associated with the respective listings and are displayed on the listing detail pages.

**7.User Profile:**

- •Users have profiles where they can manage their information and potentially view their rental history.

**8.Trending Listings:**

- •There is a module to display trending listings based on reviews with a rating of 5.

**9.Search Functionality:**

- •Users can perform searches for listings based on titles, categories, and locations.

**10.Error Handling and Flash Messages:**

- •The project includes error handling to manage potential issues during user interactions.
- •Flash messages are used to provide feedback to users after certain operations.

**Additional Modules:**

**•Menu Integration:**

- •There is a separate set of modules related to menu creation and management, allowing users to add menus to specific listings.

**•User Authentication and Authorization:**

- •Passport.js is used for user authentication, providing a secure and customizable authentication system.

**•Rental Module:**

- •There is a module related to renting properties, allowing users to book and manage rental periods.

**Considerations:**

•The project appears to be built using a Node.js framework, possibly Express.js, and is likely connected to a MongoDB database.

•Middleware like **connect-flash** is used for displaying flash messages to users.

•File uploads, possibly for listing images, are handled using middleware that works with file paths and filenames.

# Streamlining Room Management and Rentals: BACKEND: Design Of Schema.

User:

| User_id | User_name | User_email | User_password | Rents_Id | Menu_Id |
|---|---|---|---|---|---|

Listing:

| Listing_Id | Title | Description | Image | Category | Price | City | Location | Reviews_id | Owner_id |
|---|---|---|---|---|---|---|---|---|---|

Reviews:

| Reviews_id | Comments | Rating | Createdat | Author_id | Listing_Id |
|---|---|---|---|---|---|

Rent:

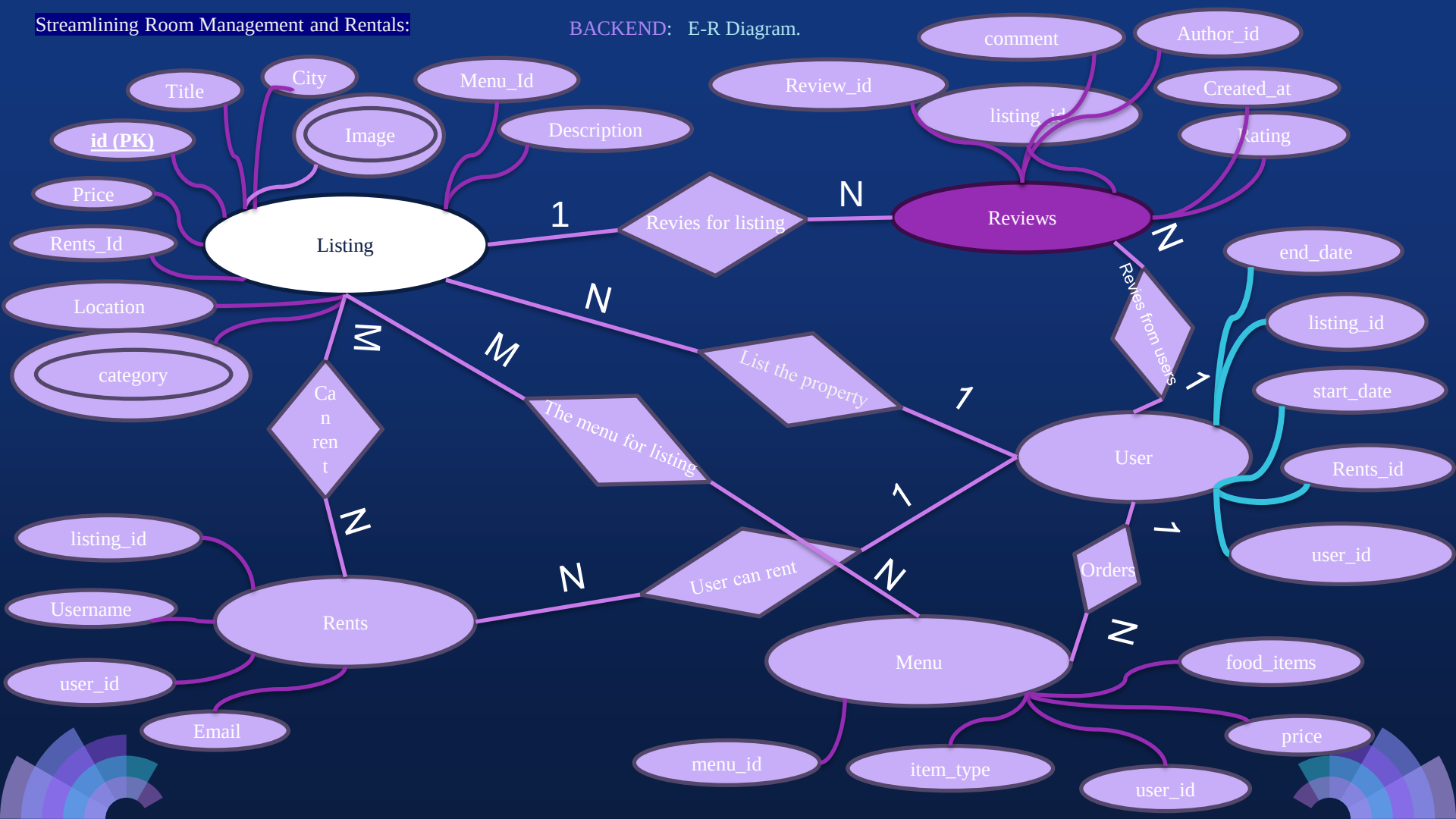
| Rent_id | SatartDate | EndDate | Listing_Id |
|---|---|---|---|

Menu:

| Menu_id | Item_type | Food_item | price | Listing_id |
|---|---|---|---|---|

Streamlining Room Management and Rentals:

BACKEND: E-R Diagram.



BACKEND: Backend-Data

# All Shema's in mongoose using MongoDB:

## User Schema:

```
const mongoose = require('mongoose');

const userSchema = new
mongoose.Schema({
    username: String,
    email: String,
    password: String
});

const User = mongoose.model('User',
userSchema);

module.exports = User;
```

## Review Schema:

```
const mongoose = require('mongoose');

const reviewSchema = new mongoose.Schema({
    property_id: mongoose.Schema.Types.ObjectId,
    user_id: mongoose.Schema.Types.ObjectId,
    rating: Number,
    comment: String
});

const Review = mongoose.model('Review',
reviewSchema);

module.exports = Review;
```

BACKEND: Backend-Data

# All Shema's in mongoose using MongoDB:

## listing Schema

```
const mongoose = require('mongoose');

const propertySchema = new mongoose.Schema({
    title: String,
    description: String,
    image: { url: String, filename: String },
    price: Number,
    location: String,
    country: String,
    category: String,
    owner_id: mongoose.Schema.Types.ObjectId,
    reviews: [{ type:
mongoose.Schema.Types.ObjectId, ref: 'Review' }],
    __v: Number
});
const Property = mongoose.model('Property',
propertySchema);
module.exports = Property;
```

## Rent Schema

```
const mongoose = require('mongoose');

const rentSchema = new mongoose.Schema({
    property_id: mongoose.Schema.Types.ObjectId,
    start_date: Date,
    end_date: Date
});

const Rent = mongoose.model('Rent', rentSchema);

module.exports = Rent;
```

BACKEND: Backend-Data

# All Shema's in mongoose using MongoDB:

## Menu Schema:

```
const mongoose = require('mongoose');

const menuSchema = new mongoose.Schema({
    property_id:
mongoose.Schema.Types.ObjectId,
    dish_name: String
});

const Menu = mongoose.model('Menu',
menuSchema);

module.exports = Menu;
```

BACKEND: Backend-Data

# Quires and Back end Data:

```
const listings = await listing.find({});
```

| id | title | description | image_url | price | location | City |
|---|---|---|---|---|---|---|
| 1 | Rose Cottage. | Cozy cottage wi | https://example.co | 12000 | Bangalore | Bangalore |
| 2 | Silver Springs Towers | Luxury residenti | https://example.co | 25000 | Whitefield | Bangalore |
| 3 | Harmony Gardens | Tranquil reside | https://example.co | 30000 | Jayanagar | Bangalore |
| 4 | Kanakapura Cottage | Idyllic cottage ir | https://example.co | 13000 | Bangalore, Kanakapura | Bangalore |
| 5 | Coorg (Kodagu) Cottage | Experience the | https://example.co | 15000 | Bangalore, Coorg (Kodagu) | Bangalore |
| 6 | Chikmagalur Cottage | Serene hill stati | https://example.co | 1000 | Bangalore, Chikmagalur | Bangalore |
| 7 | Nandi Hills | Picturesque des | https://example.co | 15000 | Bangalore, Nandi Hills | Bangalore |

BACKEND: Backend-Data

# Quires and Back end Data:

```
const listings = await listing.find({});
```

| category | owner | reviews |
|---|---|---|
| Cottage | John Doe | [] |
| Residential | Jane Smith | [65acb575b50176a5024484d5,] |
| Residential | Robert Johnson | [] |
| Cottage | Maria Rodriguez | [65acb6cfd35f62331e89ef62] |
| Cottage | Michael Brown | [65acb6b2d35f62331e89ef54] |
| Cottage | Emily Davis | [65acb693d35f62331e89ef41] |
| Vacation | William Johnson | [65acb67cd35f62331e89ef33, 65afe506d62d5af4d685b2e7] |

BACKEND: Backend-Data

# Quires and Back end Data:

```
const rents = await Rent.find({});
```

| id | property_id | start_date | end_date |
|---|---|---|---|
| 1 | 1 | 01-02-2024 | 07-02-2024 |
| 2 | 1 | 15-03-2024 | 20-03-2024 |
| 3 | 2 | 10-02-2024 | 18-02-2024 |
| 4 | 2 | 01-03-2024 | 10-03-2024 |
| 5 | 4 | 25-02-2024 | 05-03-2024 |
| 6 | 4 | 10-04-2024 | 18-04-2024 |
| 7 | 1 | 01-02-2024 | 07-02-2024 |
| 8 | 1 | 15-03-2024 | 20-03-2024 |
| 9 | 2 | 10-02-2024 | 18-02-2024 |
| 10 | 2 | 01-03-2024 | 10-03-2024 |
| 11 | 4 | 25-02-2024 | 05-03-2024 |
| 12 | 4 | 10-04-2024 | 18-04-2024 |

BACKEND: Backend-Data

# Quires and Back end Data:

```
const menuItems = await Menu.find({});
```

| id | property_id | dish_name |
|---|---|---|
| 1 | 1 | Breakfast: Pancakes |
| 2 | 1 | Lunch: Grilled Chicken Salad |
| 3 | 1 | Dinner: Pasta Alfredo |
| 4 | 2 | Breakfast: Avocado Toast |
| 5 | 2 | Lunch: Sushi Bowl |
| 6 | 2 | Dinner: Filet Mignon |
| 7 | 4 | Breakfast: Belgian Waffles |
| 8 | 4 | Lunch: Margherita Pizza |
| 9 | 4 | Dinner: Shrimp Scampi |
| 10 | 6 | Breakfast: Omelette |
| 11 | 6 | Lunch: Caprese Salad |
| 12 | 6 | Dinner: Vegetable Biryani |
| 13 | 7 | Breakfast: French Toast |
| 14 | 7 | Lunch: Chicken Curry |
| 15 | 7 | Dinner: Chocolate Cake |
| 16 | 1 | Breakfast: Pancakes |
| 17 | 1 | Lunch: Grilled Chicken Salad |
| 18 | 1 | Dinner: Pasta Alfredo |
| 19 | 2 | Breakfast: Avocado Toast |

BACKEND: Backend-Data

## Quires and Back end Data:

```
const reviews = await Review.find({});
```

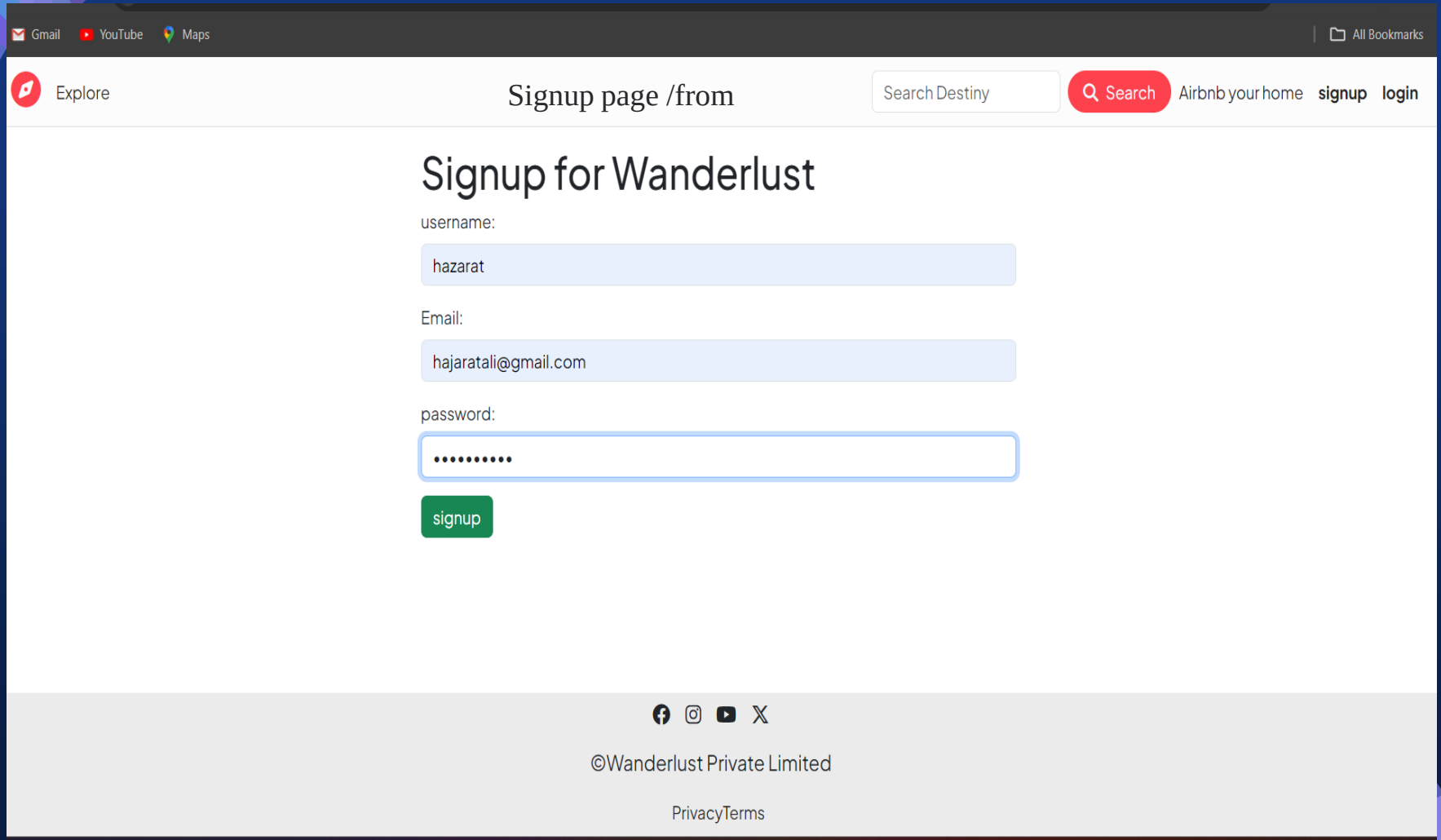
| id | property_id | user_id | rating | comment |
|---|---|---|---|---|
| 1 | 2 | 1 | 5 | Great place! Highly recommended. |
| 2 | 2 | 2 | 4 | Beautiful view from the towers. |
| 3 | 2 | 3 | 5 | Luxurious amenities. |
| 4 | 2 | 4 | 4 | Enjoyed the stay at Silver Springs Towers. |
| 5 | 6 | 5 | 3 | Nice cottage in Chikmagalur. |
| 6 | 6 | 6 | 4 | Peaceful and serene environment. |
| 7 | 6 | 7 | 5 | Perfect getaway! |
| 8 | 7 | 1 | 5 | Nandi Hills is a fantastic destination. |
| 9 | 7 | 2 | 4 | Scenic views and comfortable stay. |

BACKEND: Backend-Data

# Quires and Back end Data:

```
const users = await User. Find({});
```

| id | username | email | password |
|---|---|---|---|
| 1 | john_doe | john@example.com | hashed_password_1 |
| 2 | jane_smith | jane@example.com | hashed_password_2 |
| 3 | robert_johnson | robert@example.com | hashed_password_3 |
| 4 | maria_rodriguez | maria@example.com | hashed_password_4 |
| 5 | michael_brown | michael@example.com | hashed_password_5 |
| 6 | emily_davis | emily@example.com | hashed_password_6 |
| 7 | william_johnson | william@example.com | hashed_password_7 |
| 8 | john_doe | john@example.com | hashed_password_1 |
| 9 | jane_smith | jane@example.com | hashed_password_2 |
| 10 | robert_johnson | robert@example.com | hashed_password_3 |
| 11 | maria_rodriguez | maria@example.com | hashed_password_4 |
| 12 | michael_brown | michael@example.com | hashed_password_5 |
| 13 | emily_davis | emily@example.com | hashed_password_6 |
| 14 | william_johnson | william@example.com | hashed_password_7 |


Gmail
YouTube
Maps
All Bookmarks
Explore
Signup page /from
Search Destiny
Search
Airbnb your home
signup
login
Signup for Wanderlust
username:
hazarat
Email:
hajaratali@gmail.com
password:
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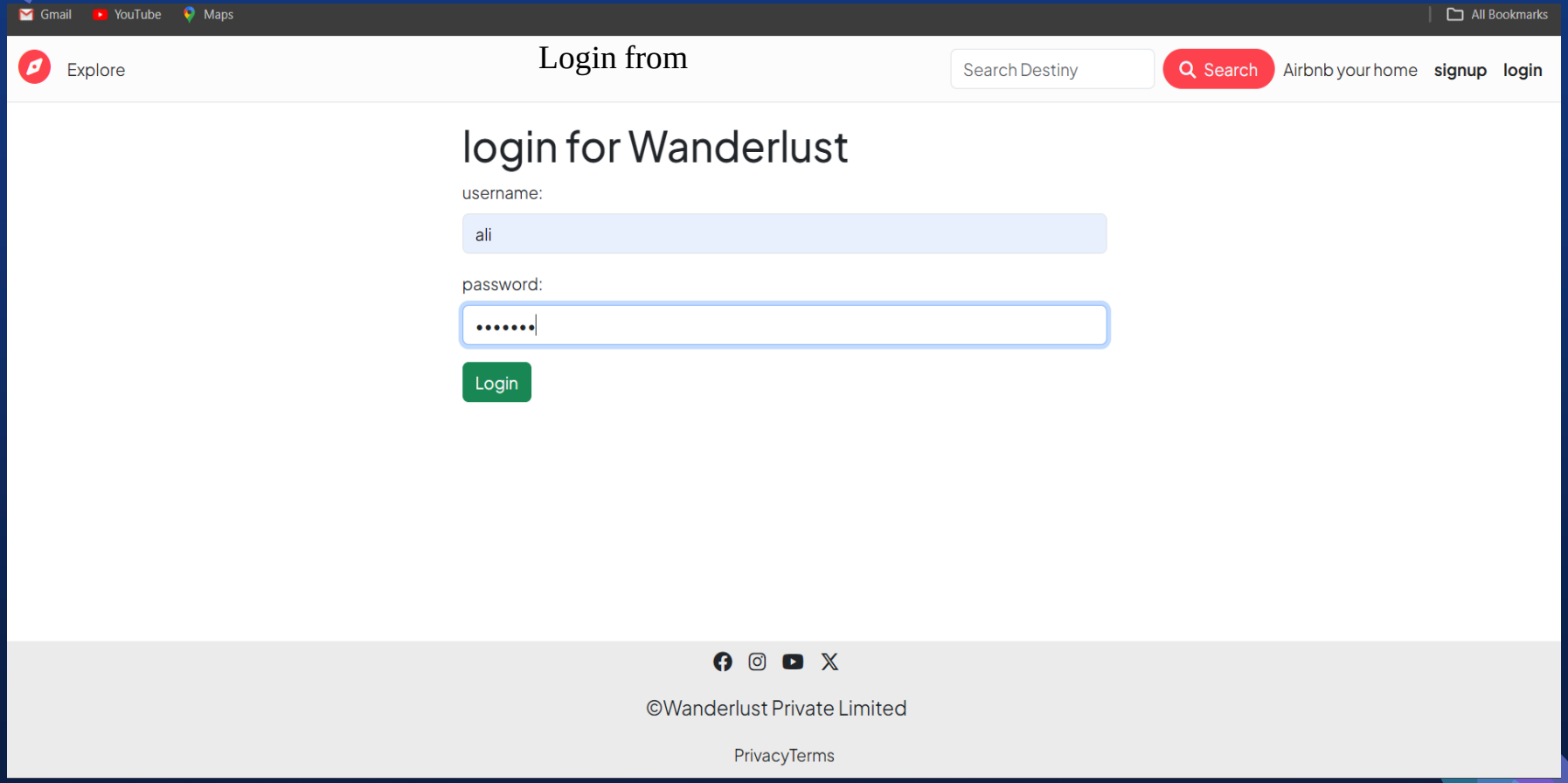
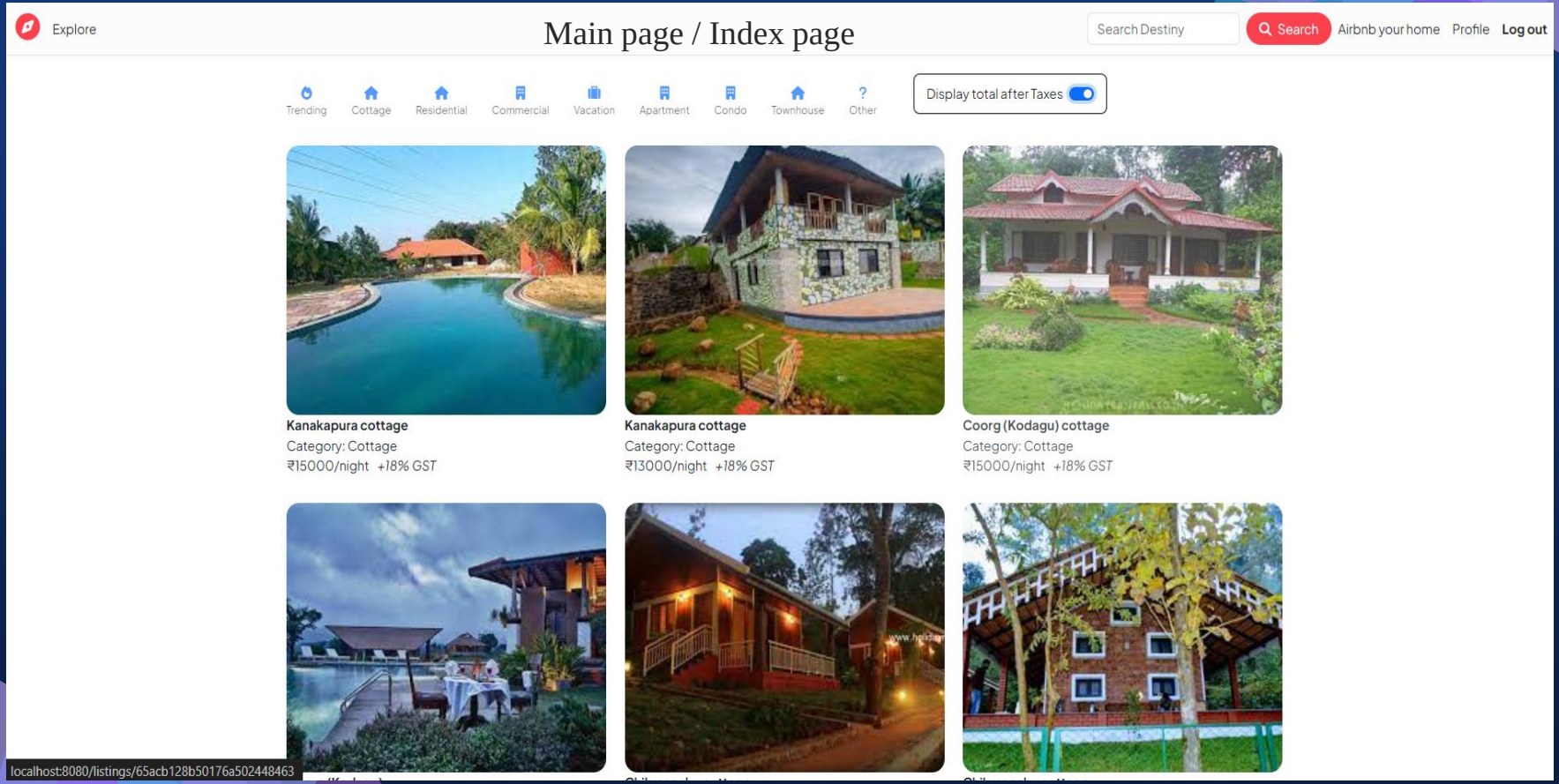
signup
©Wanderlust Private Limited
PrivacyTerms


Gmail
YouTube
Maps
All Bookmarks
Explore
Login from
Search Destiny
Search
Airbnb your home
signup
login
login for Wanderlust
username:
ali
password:
Login
©Wanderlust Private Limited
PrivacyTerms

# Front End:

## The Front-End snapshots



Gmail YouTube Maps All Bookmarks

# Main page / Index page

Explore Search Destiny Search Airbnb your home Profile Log out

Listings searched by Location

Trending Cottage Residential Commercial Vacation Apartment Condo Townhouse Other

Display total after Taxes

**Yercaud**
Category: Vacation
₹8000/night

**Nandi Hills**
Category: Vacation
₹15000/night

**Chikmagalur cottage**
Category: Cottage
₹1000/night

*Owned By:ali*

Welcome to Urban Oasis Towers, an exclusive retreat in the heart of Bangalore, where modern luxury converges with urban convenience to create a haven for contemporary living. As you enter this architectural masterpiece, prepare to be captivated by a world where every detail is meticulously curated to offer a lifestyle that transcends expectations.

₹32,000

Koramangala

Bangalore

Edit Delete

## Leave a Review

Review From

Rating

Comment

super good

Submit

All Reviews

## All Reviews

@ali

super good.

Delete

@ali

I recently had the pleasure of staying at Rose Cottage in Bangalore, and it was truly an amazing experience. The cottage is nestled in a serene location in Bangalore, providing a perfect escape from the hustle and bustle of the city.

Delete

@Miss kim

The ambiance of Rose Cottage is charming, with a beautiful blend of modern amenities and a touch of rustic elegance. The interior decor is tastefully done, creating a cozy and comfortable atmosphere. The attention to detail in every aspect of the cottage, from the furnishings to the amenities, exceeded my expectations.

Delete

@Miss kim

I highly recommend Rose Cottage to anyone looking for a peaceful and rejuvenating getaway in Bangalore. Whether you're a solo traveler, a couple seeking a romantic retreat, or a family looking for a cozy vacation home, Rose Cottage is the perfect choice.

Delete

Gmail YouTube Maps All Bookmarks

Explore

# Edit from

Search Destiny Search Airbnb your home Profile **Log out**

Description:

Welcome to Urban Oasis Towers, an exclusive retreat in the heart of Bangalore, where modern luxury converges with urban convenience to create a haven for contemporary living. As you enter this architectural masterpiece, prepare to be captivated by a world where every detail is meticulously curated to offer a lifestyle that transcends expectations.

## old image

Upload New Image:

Choose file No file chosen

Price:

32000

Country:

Bangalore

Location:

Koramangala

Edit

Explore

# Reviews

Search Destiny | Search | Airbnb your home | Profile | Log out

**All Reviews**

@ali

super good.

Delete

@ali

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Delete

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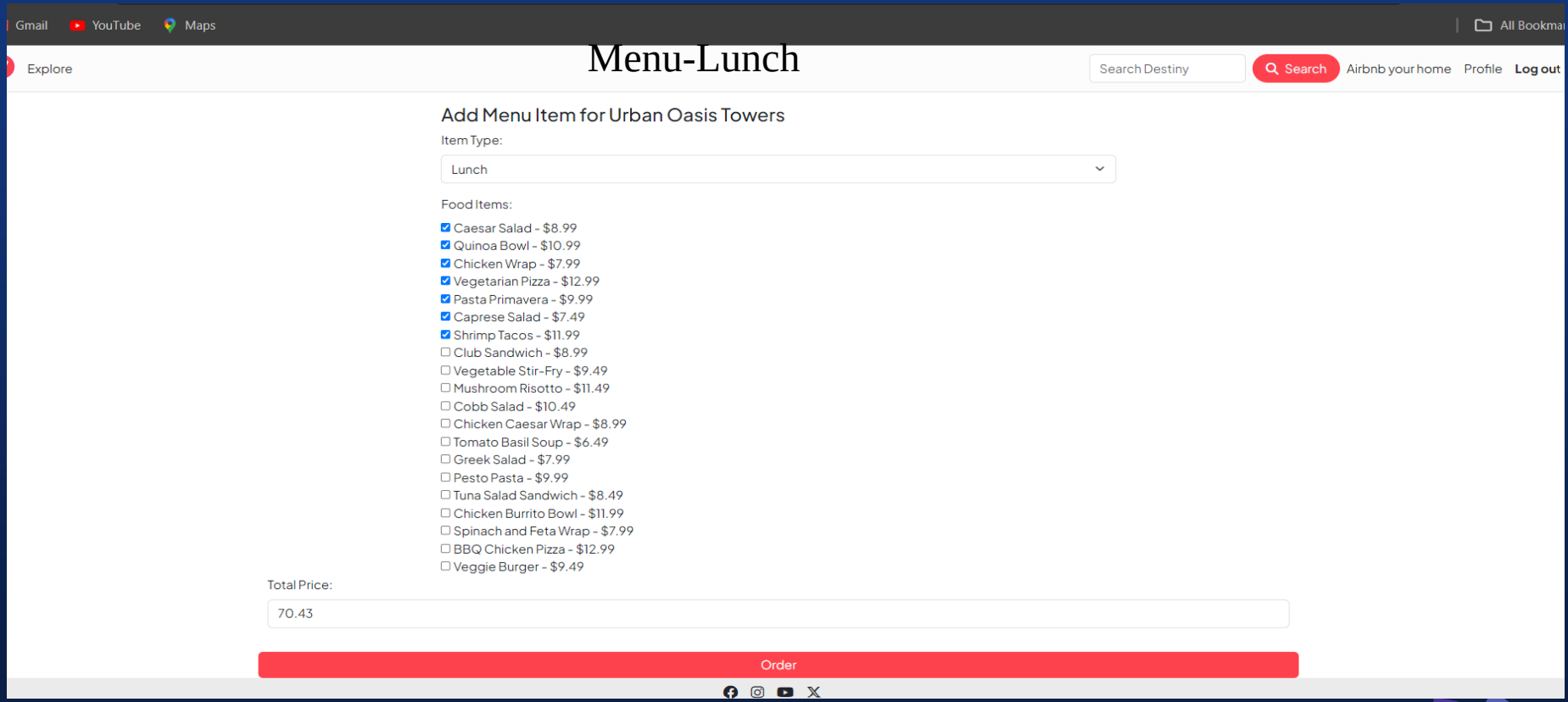
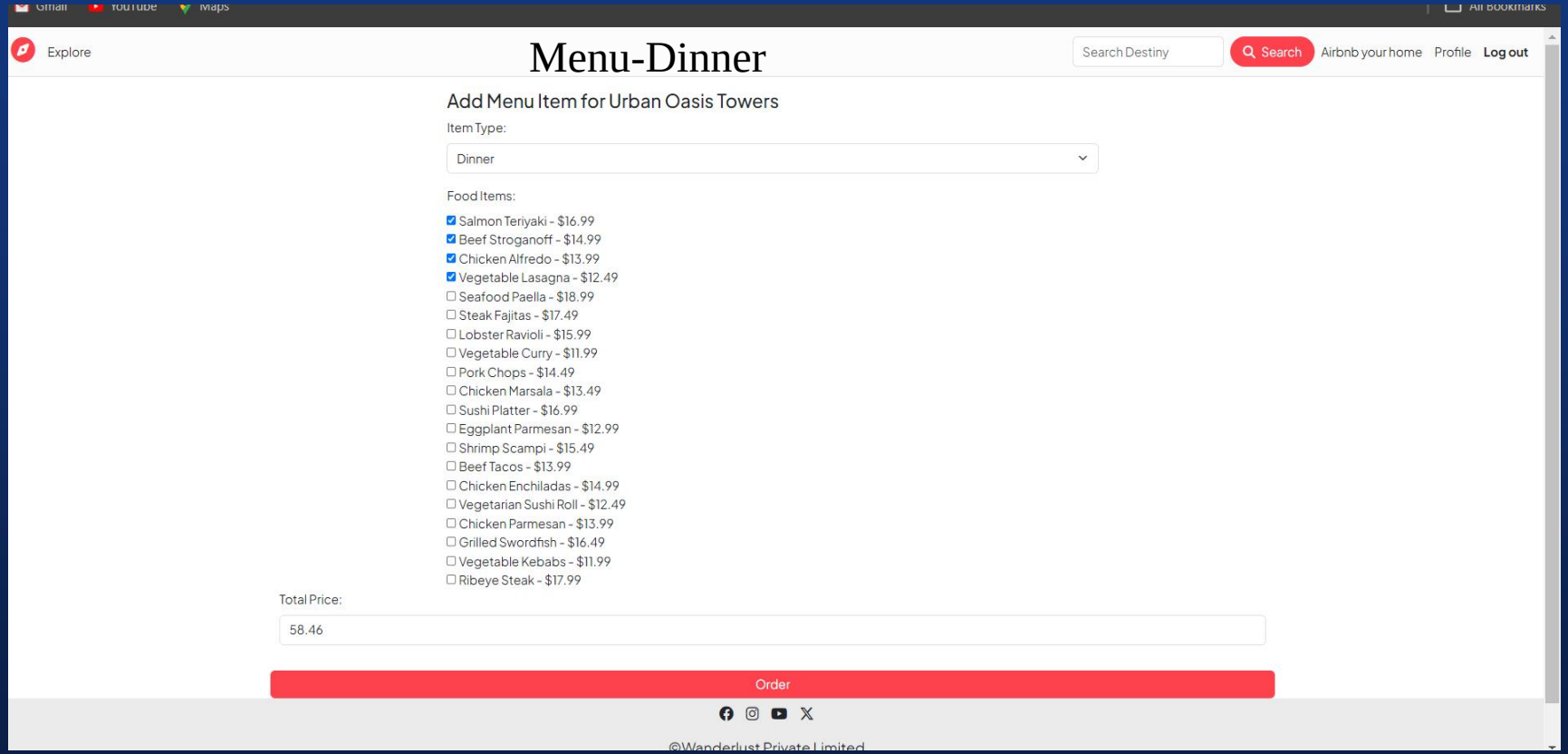
Delete

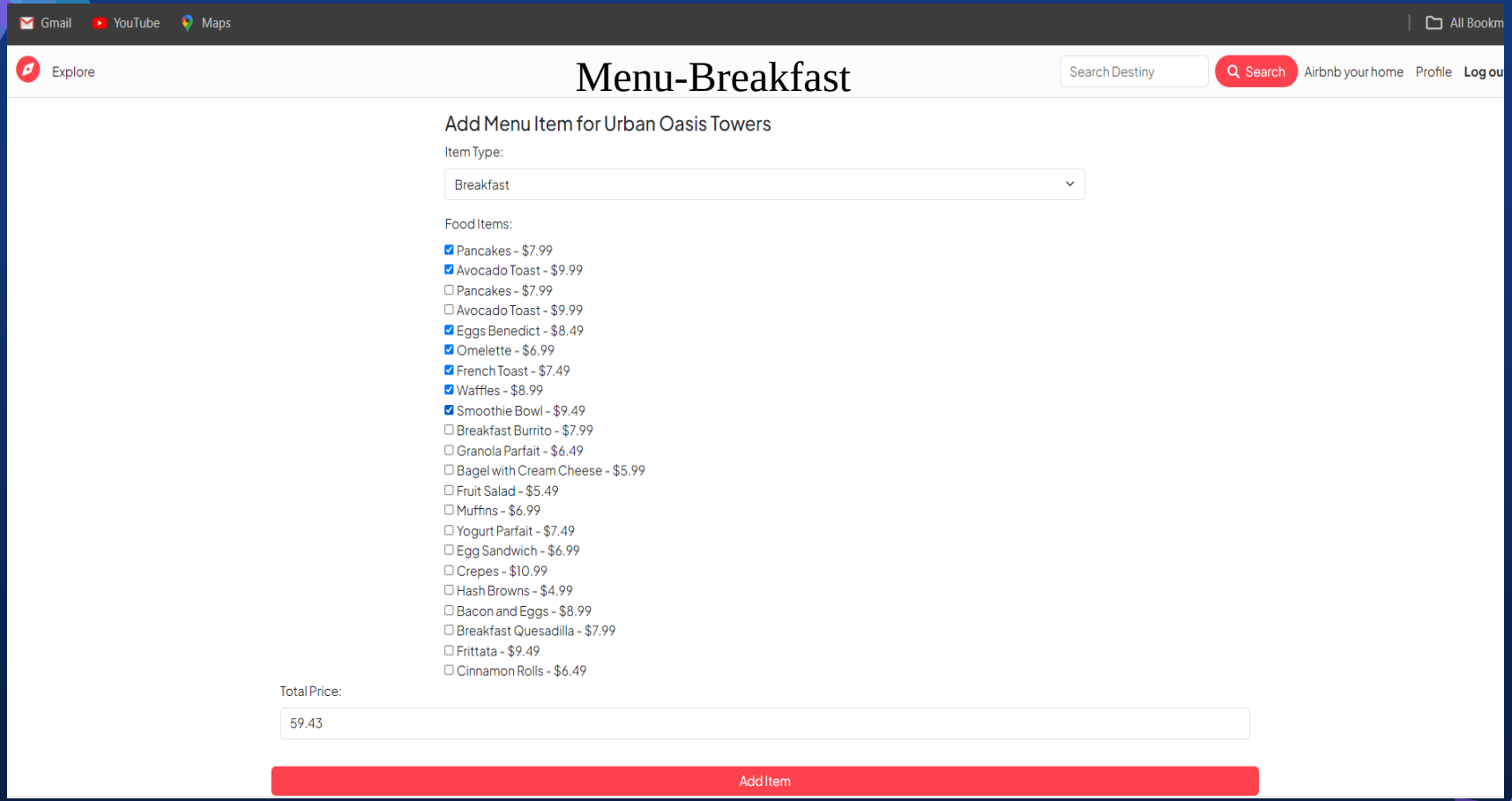
@Miss kim

I highly recommend Rose Cottage to anyone looking for a peaceful and rejuvenating getaway in Bangalore. Whether you're a solo traveler, a couple seeking a romantic retreat, or a family looking for a cozy vacation home, Rose Cottage is the perfect choice.

Delete


Gmail
YouTube
Maps
All Bookma
Explore
Menu-Lunch
Search Destiny
Search
Airbnb your home
Profile
Log out
Add Menu Item for Urban Oasis Towers
Item Type:
Lunch
Food Items:
Caesar Salad - $8.99
Quinoa Bowl - $10.99
Chicken Wrap - $7.99
Vegetarian Pizza - $12.99
Pasta Primavera - $9.99
Caprese Salad - $7.49
Shrimp Tacos - $11.99
Club Sandwich - $8.99
Vegetable Stir-Fry - $9.49
Mushroom Risotto - $11.49
Cobb Salad - $10.49
Chicken Caesar Wrap - $8.99
Tomato Basil Soup - $6.49
Greek Salad - $7.99
Pesto Pasta - $9.99
Tuna Salad Sandwich - $8.49
Chicken Burrito Bowl - $11.99
Spinach and Feta Wrap - $7.99
BBQ Chicken Pizza - $12.99
Veggie Burger - $9.49
Total Price:
70.43
Order


Gmail
YouTube
Maps
All Bookmarks
Explore
Menu-Dinner
Search Destiny
Search
Airbnb your home
Profile
Log out
Add Menu Item for Urban Oasis Towers
Item Type:
Dinner
Food Items:
Salmon Teriyaki - $16.99
Beef Stroganoff - $14.99
Chicken Alfredo - $13.99
Vegetable Lasagna - $12.49
Seafood Paella - $18.99
Steak Fajitas - $17.49
Lobster Ravioli - $15.99
Vegetable Curry - $11.99
Pork Chops - $14.49
Chicken Marsala - $13.49
Sushi Platter - $16.99
Eggplant Parmesan - $12.99
Shrimp Scampi - $15.49
Beef Tacos - $13.99
Chicken Enchiladas - $14.99
Vegetarian Sushi Roll - $12.49
Chicken Parmesan - $13.99
Grilled Swordfish - $16.49
Vegetable Kebabs - $11.99
Ribeye Steak - $17.99
Total Price:
58.46
Order
©Wanderlust Private Limited


Gmail
YouTube
Maps
All Bookm
Explore
Menu-Breakfast
Search Destiny
Search
Airbnb your home
Profile
Log ou
Add Menu Item for Urban Oasis Towers
Item Type:
Breakfast
Food Items:
Pancakes - $7.99
Avocado Toast - $9.99
Pancakes - $7.99
Avocado Toast - $9.99
Eggs Benedict - $8.49
Omelette - $6.99
French Toast - $7.49
Waffles - $8.99
Smoothie Bowl - $9.49
Breakfast Burrito - $7.99
Granola Parfait - $6.49
Bagel with Cream Cheese - $5.99
Fruit Salad - $5.49
Muffins - $6.99
Yogurt Parfait - $7.49
Egg Sandwich - $6.99
Crepes - $10.99
Hash Browns - $4.99
Bacon and Eggs - $8.99
Breakfast Quesadilla - $7.99
Frittata - $9.49
Cinnamon Rolls - $6.49
Total Price:
59.43
Add Item

# All Quires from All Modules

**Retrieve all listings:**
const All Listings = await Listing.find({});

**New Form Module:**
Render the form for creating a newlisting:res.render("listing/new.ejs");

**Show Listing Module:**
Retrieve a specific listing by ID and populate its reviews and owner:
const listing = await Listing.findById(id).populate({ path: "reviews", populate: { path: "author" } }).populate("owner");

**Create New Listing Module:**
Create a new listing with the provided data and save it to the database.
**Edit Listing Module:**
Retrieve a specific listing by ID for editing:const listing = await Listing.findById(id);

**Update Listing Module:**
Update an existing listing with the provided data and image (if provided).
**Delete Listing Module:**
Delete a listing by ID :let deleted = await Listing.findByIdAndDelete(id);

To retrieve listings based on different categories

```
// Example for retrieving Cottage listings
const cottageListings = await Cottage(req, res);
// Example for retrieving Residential listings
const residentialListings = await Residential(req, res);
// Example for retrieving Commercial listings
const commercialListings = await Commercial(req, res);
// Example for retrieving Vacation listings
const vacationListings = await Vacation(req, res);
// Example for retrieving Apartment listings
const apartmentListings = await Apartment(req, res);
// Example for retrieving Condo listings
const condoListings = await Condo(req, res);
// Example for retrieving Townhouse listings
const townhouseListings = await Townhouse(req, res);
// Example for retrieving Other listings
const otherListings = await Other(req, res);
```

**getMenuForm:**

- Retrieve a specific listing by ID and populate its 'menu' field: const listingId = req.params.id;
- const listing = await Listing.findById(listingId).populate('menu');

**storeMenu:**

- Extract data from the request body:const listingId = req.params.id;
- const { itemType, foodItems, price } = req.body.item;
- Find the listing with the specified ID:const listing = await Listing.findById(listingId);

Create a new **Menu** item:

```
const newMenuItem = new Menu({
 itemType,
foodItems,
 price,
});
```

- Push the new menu item to the 'menu' array of the listing:
  listing.menu.push(newMenuItem);
- Save changes to the listing:await listing.save();

**Fetch Listing:**Query to fetch a specific listing by its ID.
const listing = await Listing.findById(req.params.id);

**Handle Listing Not Found:**Check if the listing exists. If not, flash an error message and redirect.
if (!listing) { req.flash('error', 'Listing not found'); return res.redirect('/'); }

**Create Rent Instance:**Extract start and end dates from the request body.
Create a new **Rent** instance with the extracted dates.
const rental = new Rent({ startDate, end Date, });

**Save Rental:**Save the rental to the database using **rental.save()**.await rental.save();

**Update Listing with Rental:**Ensure the **rents** array is initialized in the listing.
Push the rental into the **rents** array of the listing.
Save the changes to the listing.
listing.rents = listing.rents || [];
listing.rents.push(rental); await listing.save();

**Flash Success Message:**
Flash a success message indicating that the listing has been successfully rented.
req.flash('success', 'Successfully rented the listing!');

**Redirect:**
Redirect to the page displaying details of the rented listing.
res.redirect(`/listings/${listing.id}`);

**CreateReview:**

•Fetch the listing by its ID:

let listing = await Listing.findById(req.params.id);

•Create a new **Review** instance with the data from the request body:

let NewReview = new Review(req.body.review);

•Set the author of the review to the current user's ID:

NewReview.author = req.user._id;

•Push the new review into the **reviews** array of the listing:

listing.reviews.push(NewReview);

•Save the new review and the updated listing:

await NewReview.save(); await listing.save();

**DeleteReview:**

•Retrieve the listing ID and review ID from the request parameters:

let { id, reviewId } = req.params;

•Use **findByIdAndUpdate** to pull the specified review ID from the **reviews** array of the listing:

await Listing.findByIdAndUpdate(id, { $pull: { reviews: reviewId } });

•Use **findByIdAndDelete** to delete the specified review:

await Review.findByIdAndDelete(reviewId);

**SignupUpForm:**

- Purpose: Render the signup form.

```
res.render("../views/users/signup.ejs");
```

**SignUpUser:**

- Purpose: Create a new user account.
- Steps:
  - Extract username, email, and password from the request body.
  - Create a new **User** instance with the provided email and username.
  - Use **User.register** method to register the user with the provided password.
  - Log in the registered user and redirect to the listings page.

```
let newUser = new User({ email, username }); const registeredUser = await User.register(newUser, password);
req.login(registeredUser, (err) => { /* ... */ });
```

**userprofile:**

- Purpose: Render the user profile page.

```
res.render("users/usetprofile.ejs");
```

**LoginForm:**

- Purpose: Render the login form.

```
res.render("users/login.ejs");
```

**LoginByUser:**

- Purpose: Log in a user

```
req.flash('success', "Welcome Back to wanderlust ");
 let redirectUrl = res.locals.redirectUrl || "/listings"; res.redirect(redirectUrl);
```

**LogOut:**

- Purpose: Log out the currently authenticated user.

```
req.logout((err) => { /* ... */ });
```

**Reservation System**

**Centralized Reservation System:**

- Implement a centralized reservation system using Property Management Software (PMS).
- Ensure real-time updates to prevent overbooking.
- Enable seamless communication between front-desk operations and online booking platforms.

**Online Booking**

**Online Booking Platforms:**

- Provide a user-friendly online booking platform for guests.
- Integrate the online booking system with the centralized reservation system for real-time data synchronization.

**Check-In and Check-Out Automation**

**Automated Check-In and Check-Out:**

- Implement automated processes to minimize guest waiting times.
- Explore mobile check-in options for increased guest convenience.

**Pricing Optimization**

**Dynamic Pricing Strategies:**

- Implement dynamic pricing based on demand, seasonality, and other factors.
- Utilize analytics and historical data to optimize pricing decisions.

**Menu Creation and Configuration**

**Menu Setup:**

1. Define the types of items to be offered in the menu (e.g., appetizers, main courses, beverages).
2. Specify the structure and layout of the menu.

**Item Configuration:**

1. Add and configure individual menu items.
2. Include details such as item name, description, category, and pricing.
3. Attach images to visually represent each menu item.


Thank you