

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.

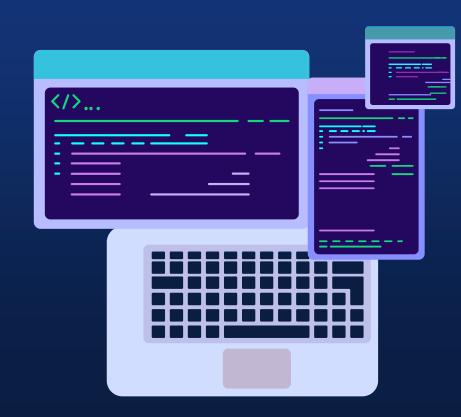
1DA22CS409: HAJARATALI S MOGALLAI

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:

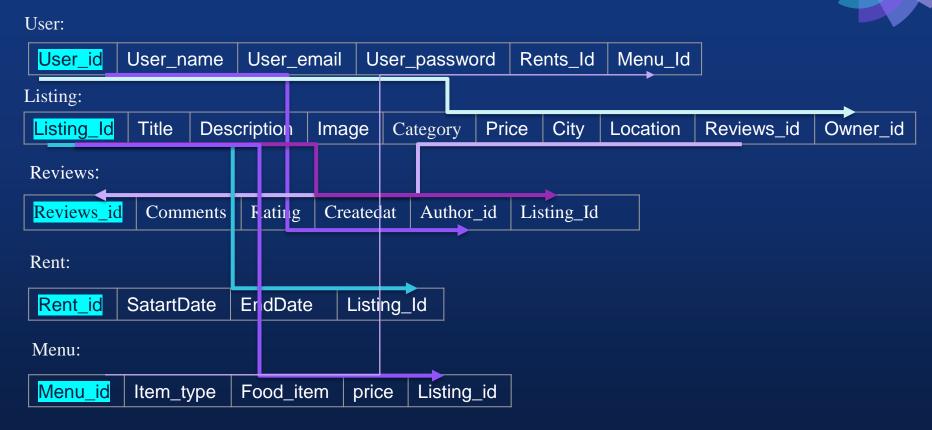
•There is a module related to renting properties, allowing users to book and manage rental periods.

Considerations:

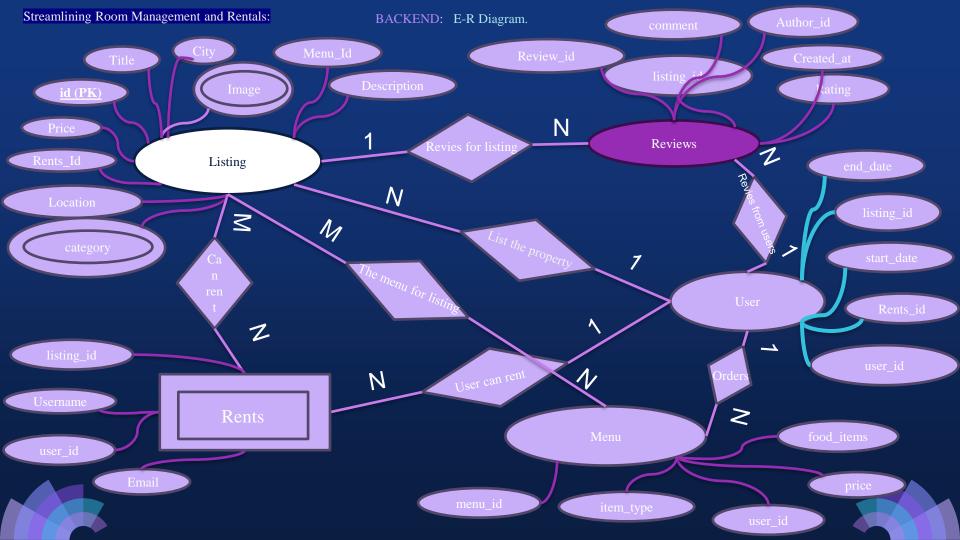
- •The project appears to be built using a Node.js framework, possibly Express.js, and is likely connected to a MongoDB database.
- •Middleware like **connect-flash** is used for displaying flash messages to users.
- •File uploads, possibly for listing images, are handled using middleware that works with file paths and filenames.



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







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.com | 12000 | Bangalore | Bangalore |
| 2 | Silver Springs Towers | Luxury residenti | https://example.com | 25000 | Whitefield | Bangalore |
| 3 | Harmony Gardens | Tranquil resider | https://example.com | 30000 | Jayanagar | Bangalore |
| 4 | Kanakapura Cottage | Idyllic cottage in | https://example.com | 13000 | Bangalore, Kanakapura | Bangalore |
| 5 | Coorg (Kodagu) Cottage | Experience the | https://example.com | 15000 | Bangalore, Coorg (Kodagu) | Bangalore |
| 6 | Chikmagalur Cottage | Serene hill station | https://example.com | 1000 | Bangalore, Chikmagalur | Bangalore |
| 7 | Nandi Hills | Picturesque des | https://example.com | 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 | | Breakfast: Pancakes |
| 2 | | 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 |

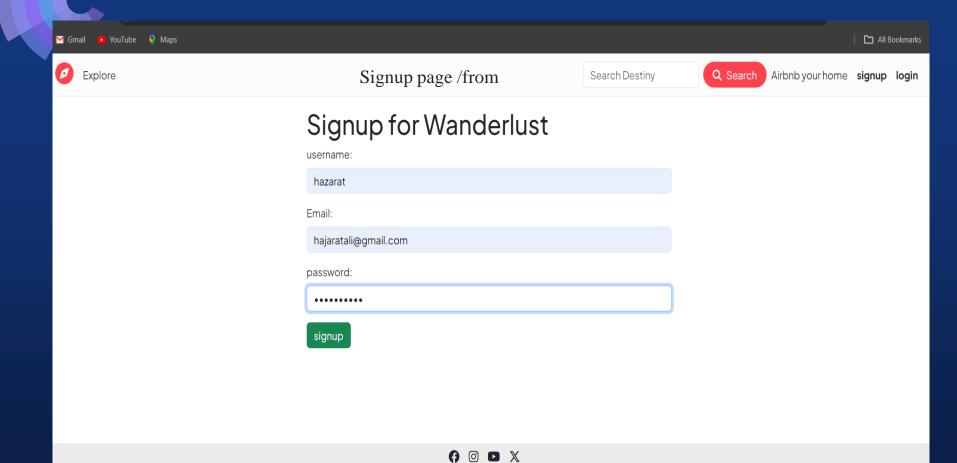
BACKEND: Backend-Data Quires and Back end Data:

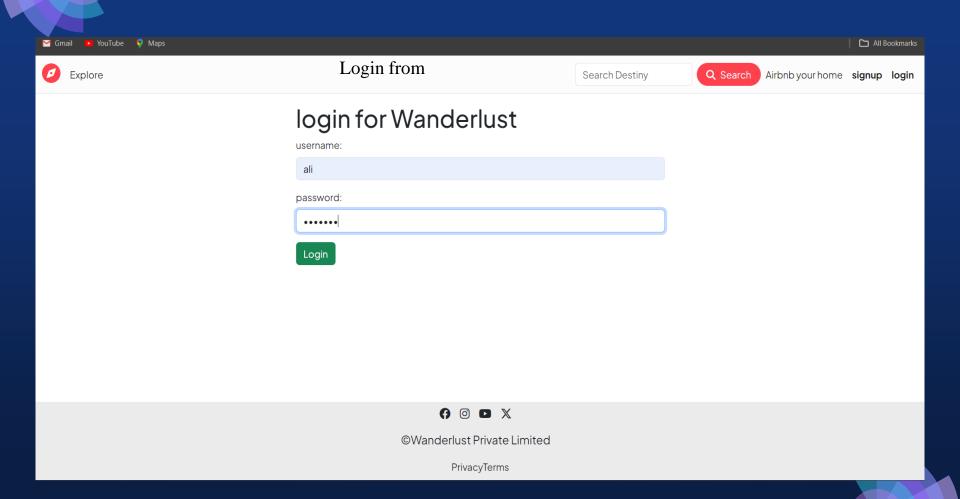
const reviews = await Review.find({});

| 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. |

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 |





Front End:

Explore

The Front-End snapshots



Search Destiny

Q Search Airbnb your home Profile Log out























Kanakapura cottage Category: Cottage ₹15000/night +18% GST



Kanakapura cottage Category: Cottage ₹13000/night +18% GST

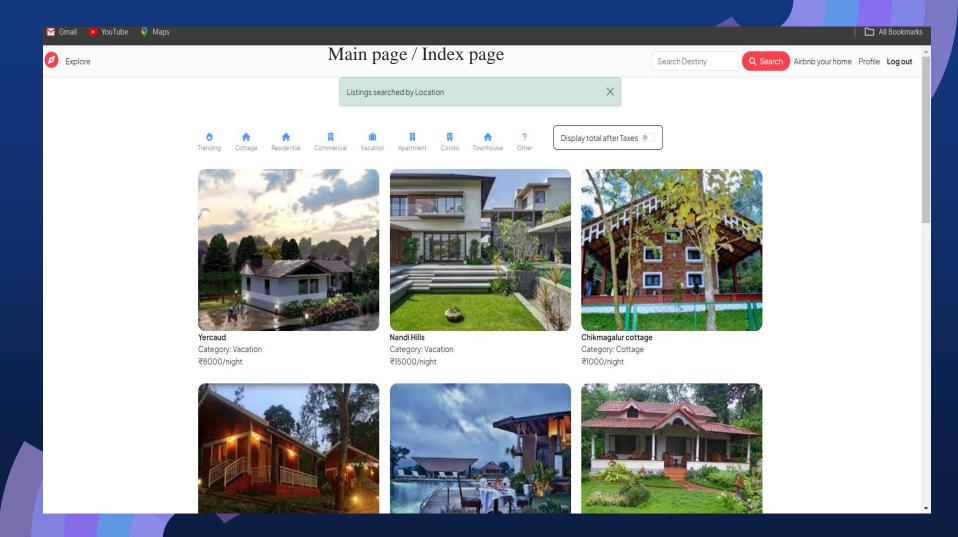


Coorg (Kodagu) cottage Category: Cottage ₹15000/night +18% GST









Explore

Show Page Details of listing

Search Destiny



Airbnb your home Profile Logout





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

| Leave a Review | Review From | |
|----------------|-------------|--|
| Rating | | |
| **** | | |
| | | |
| Comment | | |
| super good. | | |
| | | |
| Submit | | |
| All Reviews | | |



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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

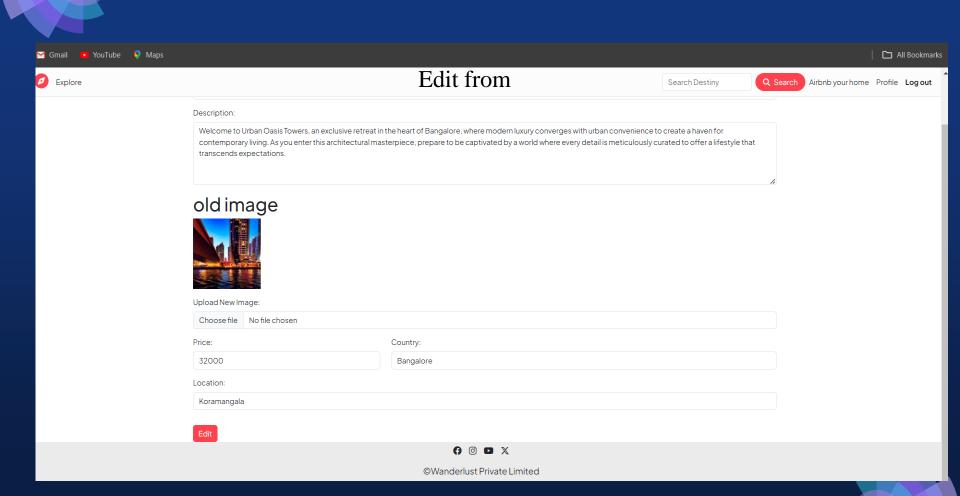


I highly recommend Rose Cottage to anyone looking for a peaceful and rejuvenating getaway in Bangalore. Whether you're a solo traveler, a couple seeking a romantic retreat, or a family looking for a cozy vacation home, Rose Cottage is the perfect choice.

Delete









Reviews

Search Destiny



Q Search Airbnb your home Profile Log out

All Reviews





super good.

Delete





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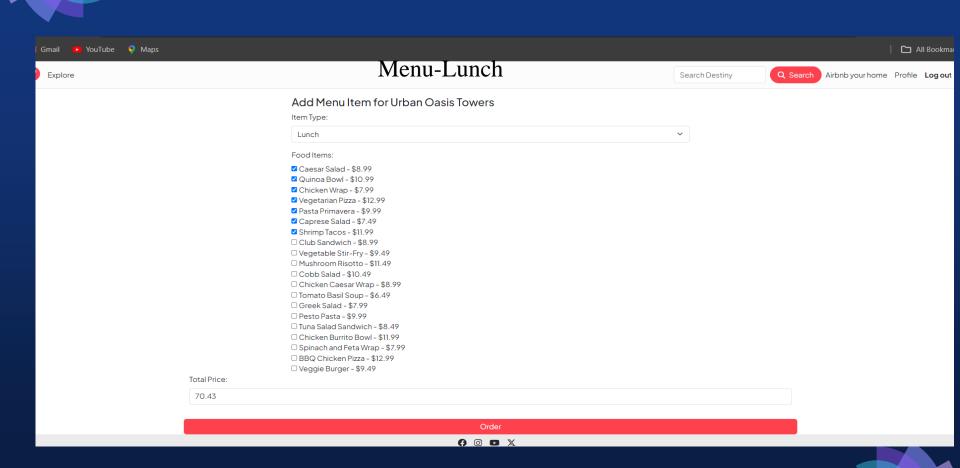
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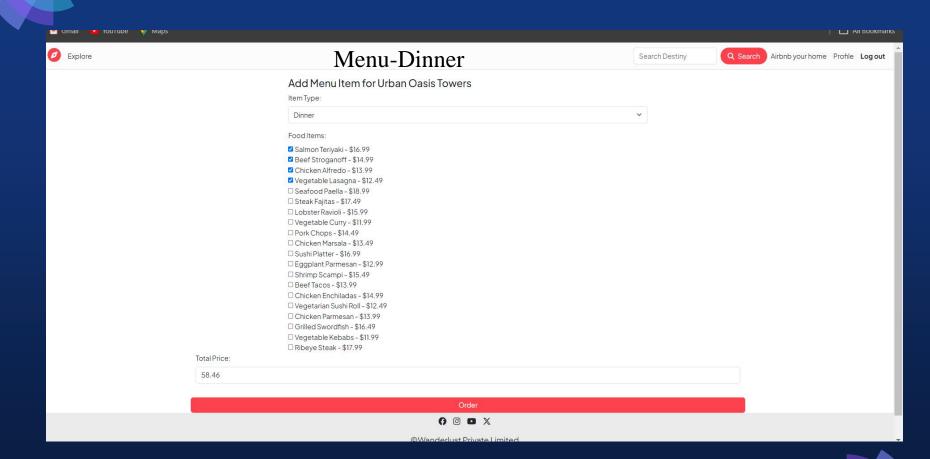
Delete

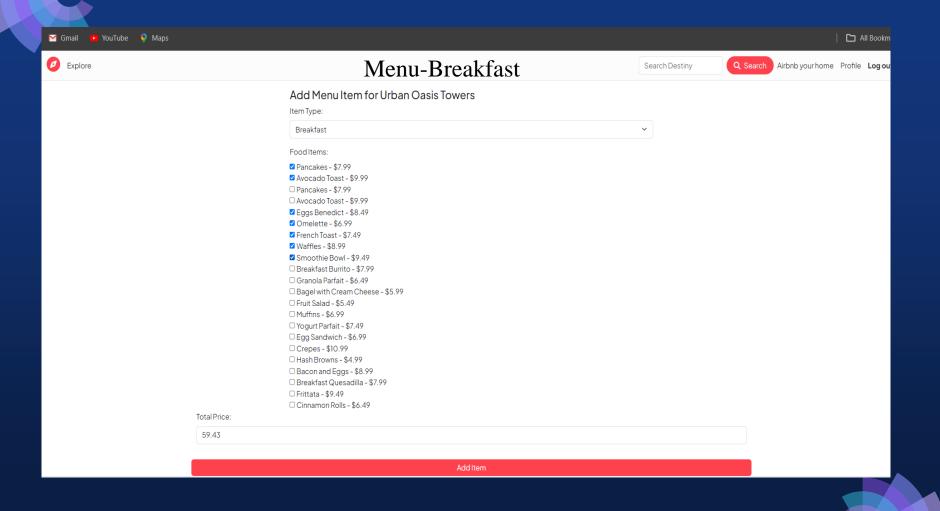












All Quires from All Modules

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.

