DBMS

Mini-project Report

"Tour Management System"

Submitted By: Group-7

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School of Computer Engineering and Technology

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Lastly, we would also like to thank our parents for their love and guidance without which, nothing can be accomplished.

Abstract Idea

A Tour Management System is a web-based application designed to streamline and automate various travel-related processes for a customized user experience. Using HTML, CSS, (alongside Bootstrap, jQuery), PHP, POD and MySQL, a Tour Management System can provide a comprehensive platform for travel agencies or companies to manage their operations efficiently.

This system would allow users to search for the desired destination (countries), skim through various available deals with different no. of days, hotel included, flight tickets, daily places(cities/ itinerary) and book a trip according to their convenience, providing them with real-time availability and pricing information. Users can access their travel details, view invoices, and make payments securely through the system.

Furthermore, this system also contains a user login/registration and admin login handle. It can integrate with external APIs for fetching data from third-party providers, ensuring access to the latest information.

With HTML and CSS, the system's user interface can be developed to offer an intuitive and visually appealing experience. PHP would handle the server-side scripting, enabling dynamic functionality and database interactions using MySQL for data storage and retrieval.

In summary, a Tour Management System using HTML, CSS, Bootstrap, PHP, and MySQL would provide a robust and user-friendly platform for efficient travel planning, booking, and management.

INDEX

INTRODUCTION

The travel industry is highly dynamic and demands efficient management of various travel-related processes. To address this need, a Tour Management System (TMS) powered by HTML, CSS, Bootstrap, PHP, and MySQL can revolutionize how travel agencies and companies operate. This report provides an overview of the benefits and functionalities of a TMS, highlighting its potential to streamline travel operations.

This mini project, developed as a part of a Database Management System(DBMS) course, aims to provide an efficient solution for organizing and tracking various aspects of tour management. The system is designed to cater to the needs of travel agencies,tour operators,or any entity involved in planning and executing tours.

KEY FEATURES:

1. **User Authentication and Authorization**: Secure login functionality for administrators, staff, and customers. Also, different levels of access control to ensure data security.

2. **Customer management**: Maintain customer profiles with details such as name, contact information, and booking history. Enable customers to register, log in, and view their booking status.

3. **Destination Management**: Store information about various tour destinations, including details on attractions, accommodations, and travel arrangements.

4. **Booking and Reservations**: Allow customers to browse available tour packages and make bookings. Provide a reservation system to manage seat availability and confirmations.

5. **Deals Section**: Country-based deals section enabling users to filter by price range, facilitating seamless searches for desired offers. Simplify browsing, select countries, set price filters, and discover exclusive deals effortlessly.

This Tour Management System mini project provides a comprehensive solution for managing the complexities of tour operations. By leveraging a robust database management system and web technologies, the system ensures efficiency, accuracy, and a seamless experience for both tour operators and customers. The project allows students to gain hands-on experience in designing and implementing a practical database system while addressing real-world challenges in the tour management domain.

PROBLEM STATEMENT

In the contemporary travel and tourism industry, the efficient management of tours and related activities poses a significant challenge. Tour operators and travel agencies often grapple with manual and error-prone processes, resulting in inefficiencies, customer dissatisfaction, and a lack of centralized information. To address these challenges, the need for an integrated Tour Management System is evident. This mini project aims to develop a Database Management System(DBMS) solution that streamlines and automates the tour management process, providing a centralized platform for efficient data management and user interaction.

System Flow Architecture with Database Design (ER diagram)

Entities:

1. Admin:
   Attributes:id(primary key),adminname, email, mypassword, created_at

2. Users:
   Attributes: id(primary key), email, username, mypassword, created_at

3. Countries:
   Attributes: id(primary key), name, image, continent, population, territory, description, created_at

4. Cities:
   Attributes: id(primary key), name, image, trip_days, price, country_id(foreign key references Countries), created_at

5. Bookings:
   Attributes: id(primary key), name, phone_number, num_of_guests, checkin_date, destination, status, city_id(foreign key references Cities), uder_id(foreign key references User), payment, created_at

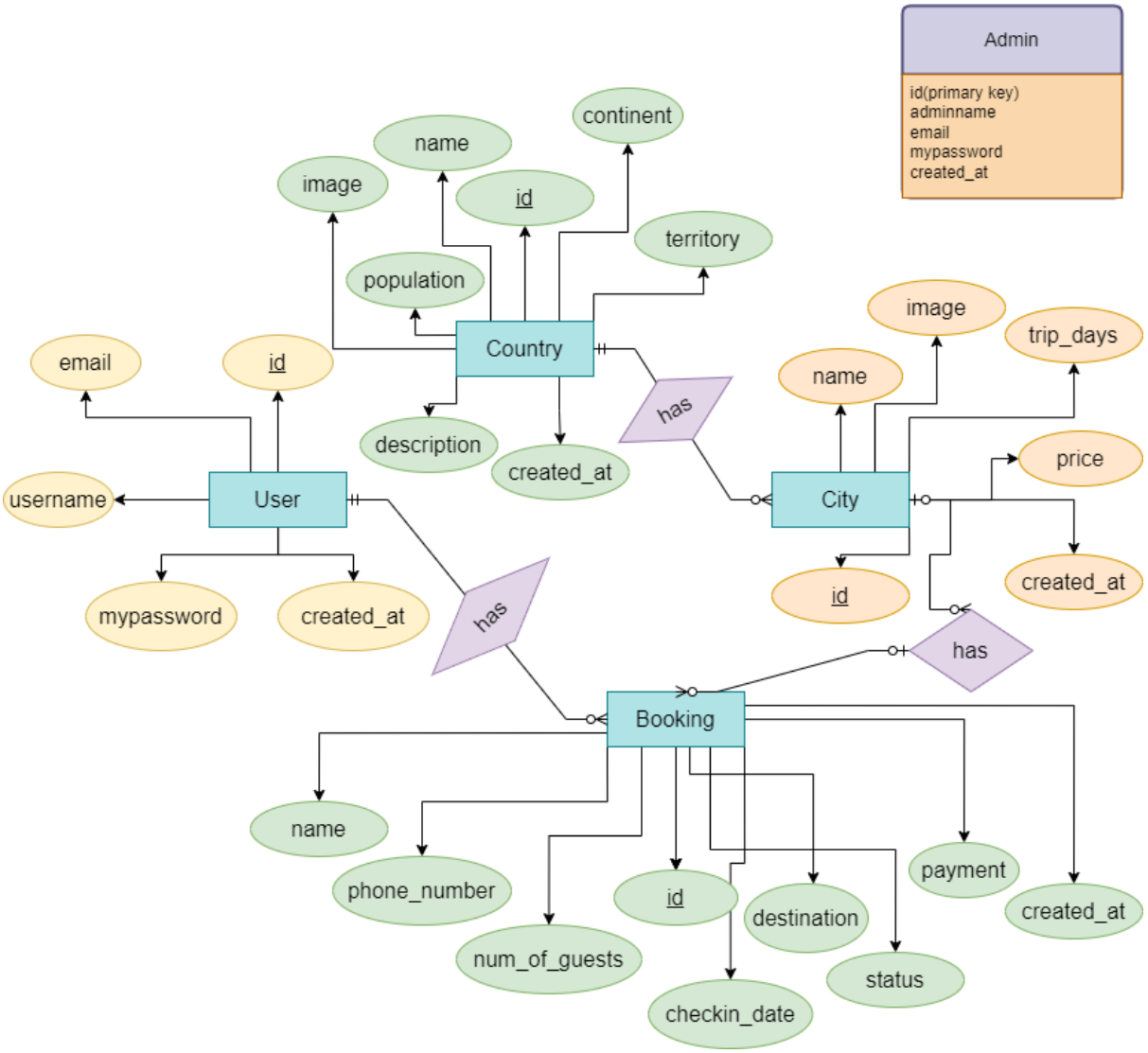
Relationships:

1. Countries-Cities (one to many)
   -A country has many cities that can be visited.
   -Foreign key: country_id in Cities entity

2. User-Booking(one to many)
   -A user can have multiple bookings
   -Foreign key: user_id in Bookings entity

3. Cities-Booking(one to many)
   -There can be multiple bookings for the same city.
   -Foreign key: city_id in Bookings entity

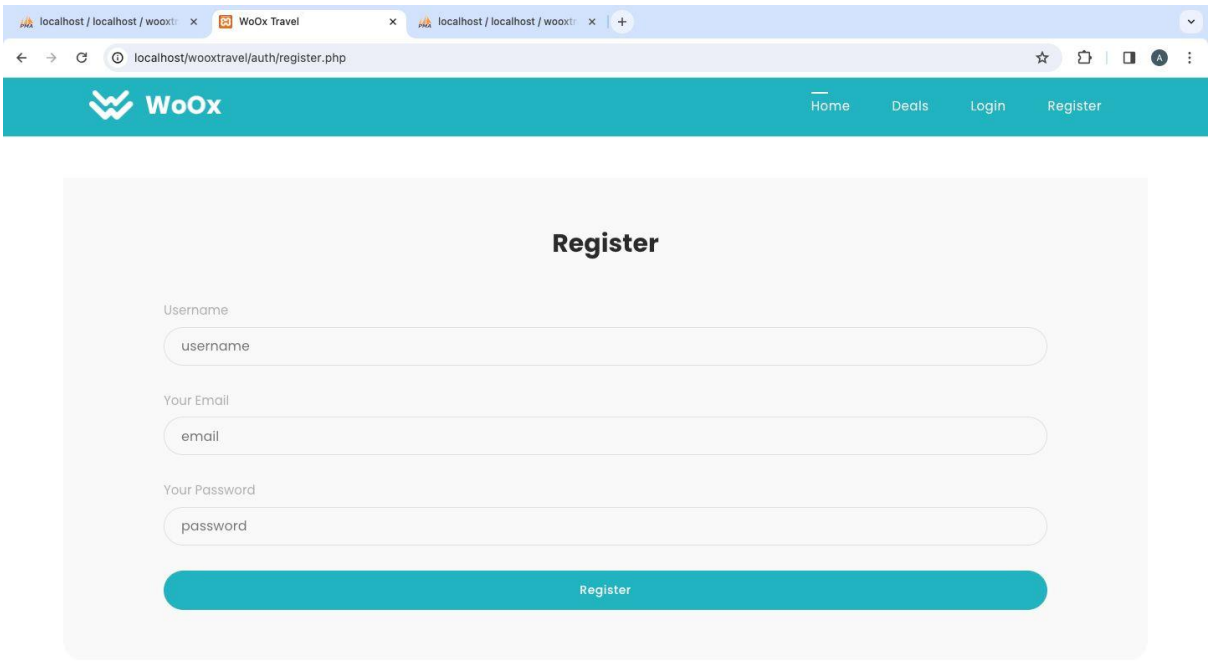
ER-Diagram



Link for ER-Diagram-
https://drive.google.com/file/d/1n5Sz_WtVBbS5idOCpMzWK77ozVRLaek1/view?usp=sharing

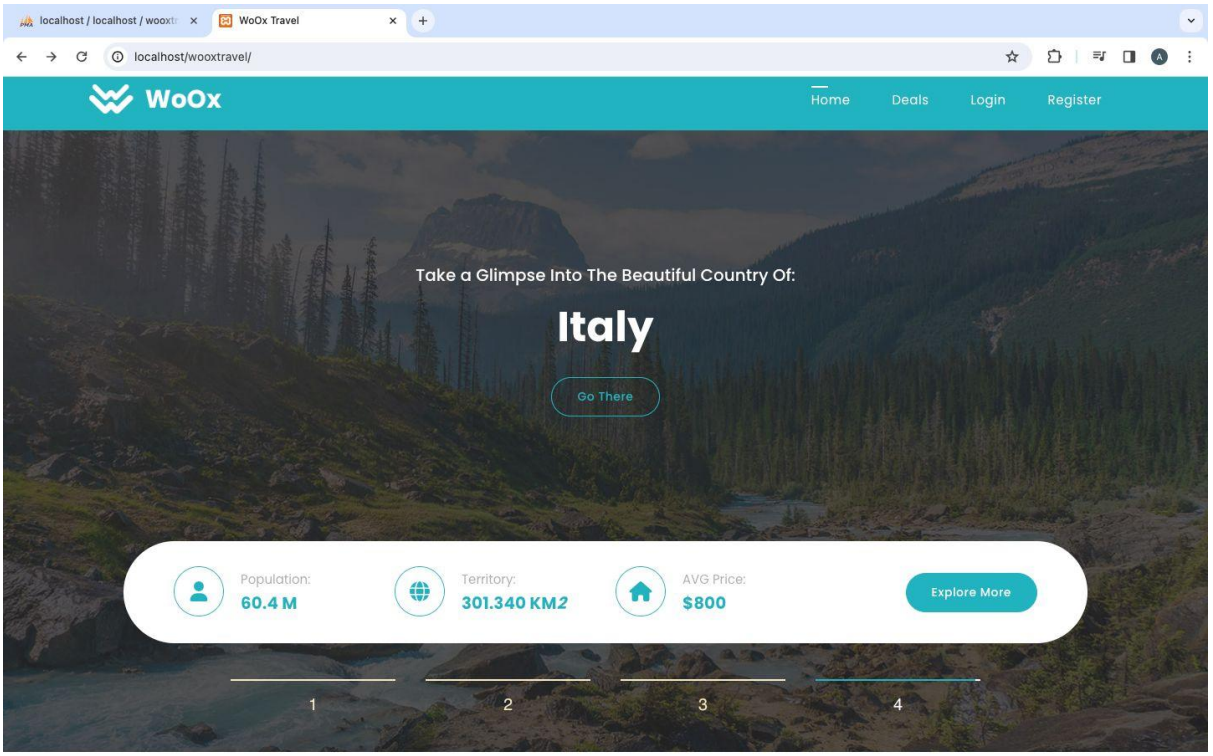
GUI (Screenshots) with Client side validations

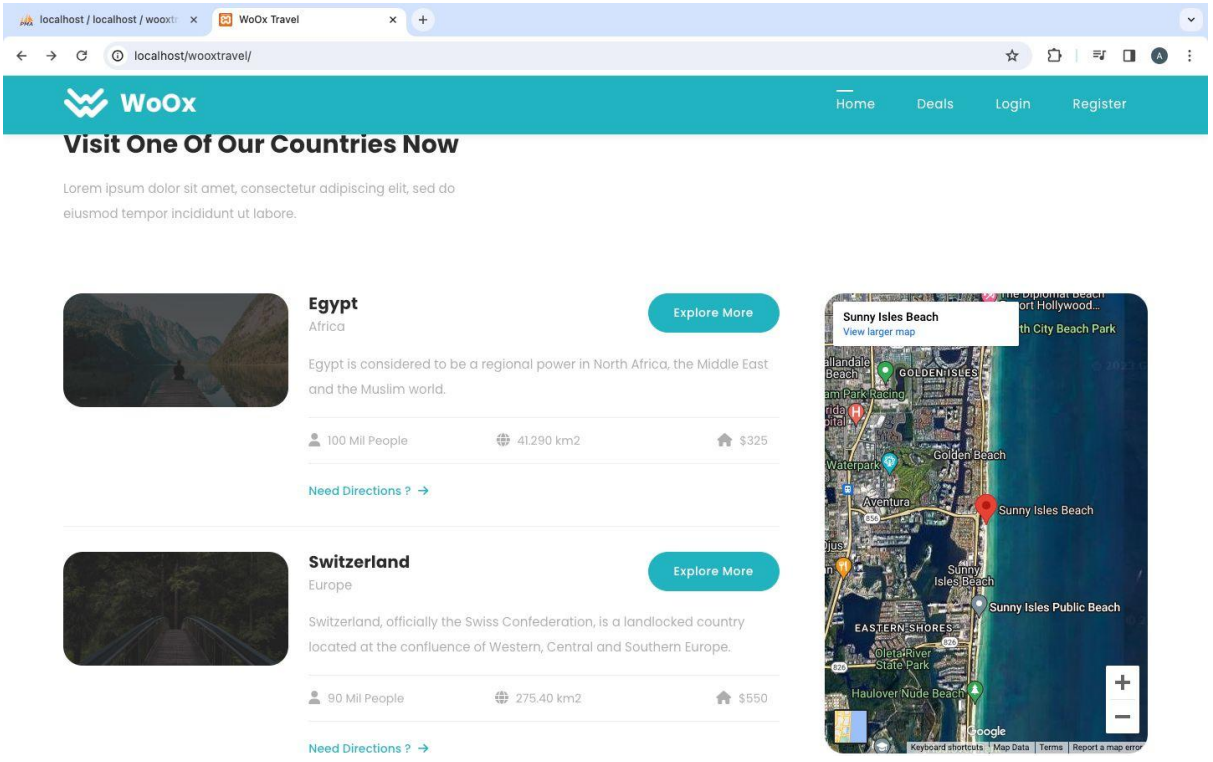
1-User Login/Registration Page



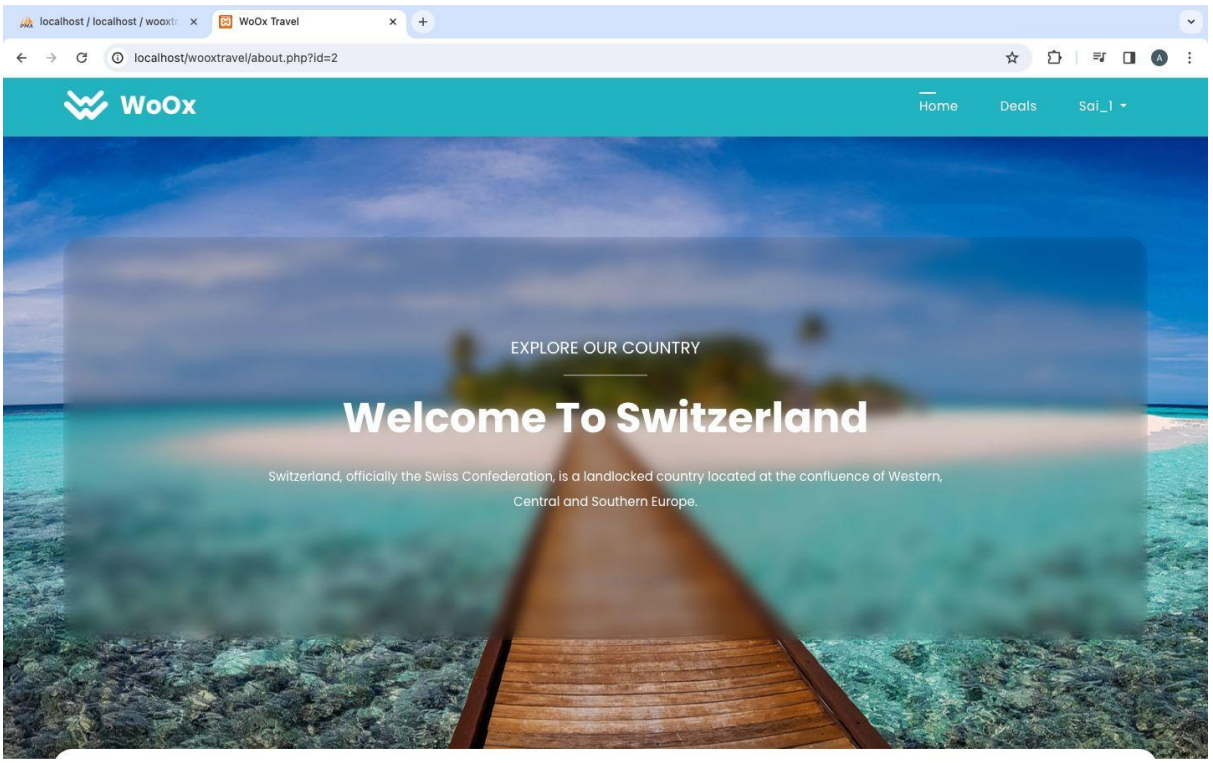
This page will load when the user who isn't registered would want to register.

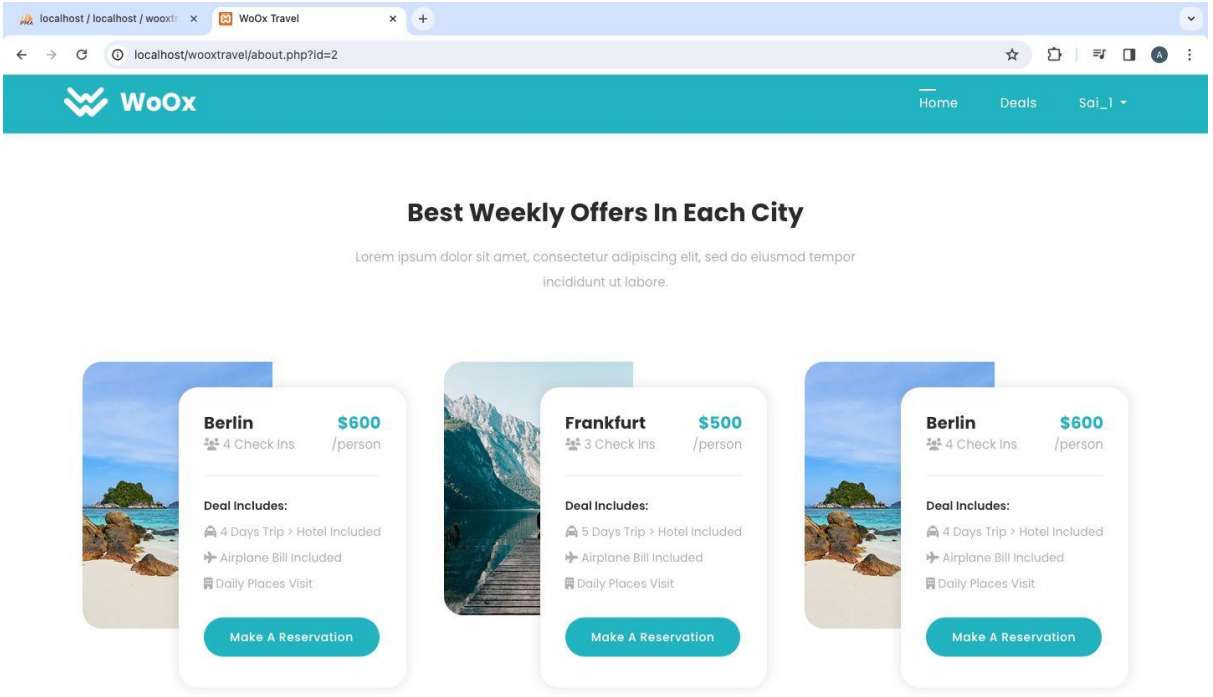
2-Home Page


localhost / localhost / wooxtr
WoOx Travel
localhost/wooxtravel/
WoOx
Home
Deals
Login
Register
Take a Glimpse Into The Beautiful Country Of:
Italy
Go There
Population:
60.4 M
Territory:
301.340 KM2
AVG Price:
$800
Explore More
1
2
3
4

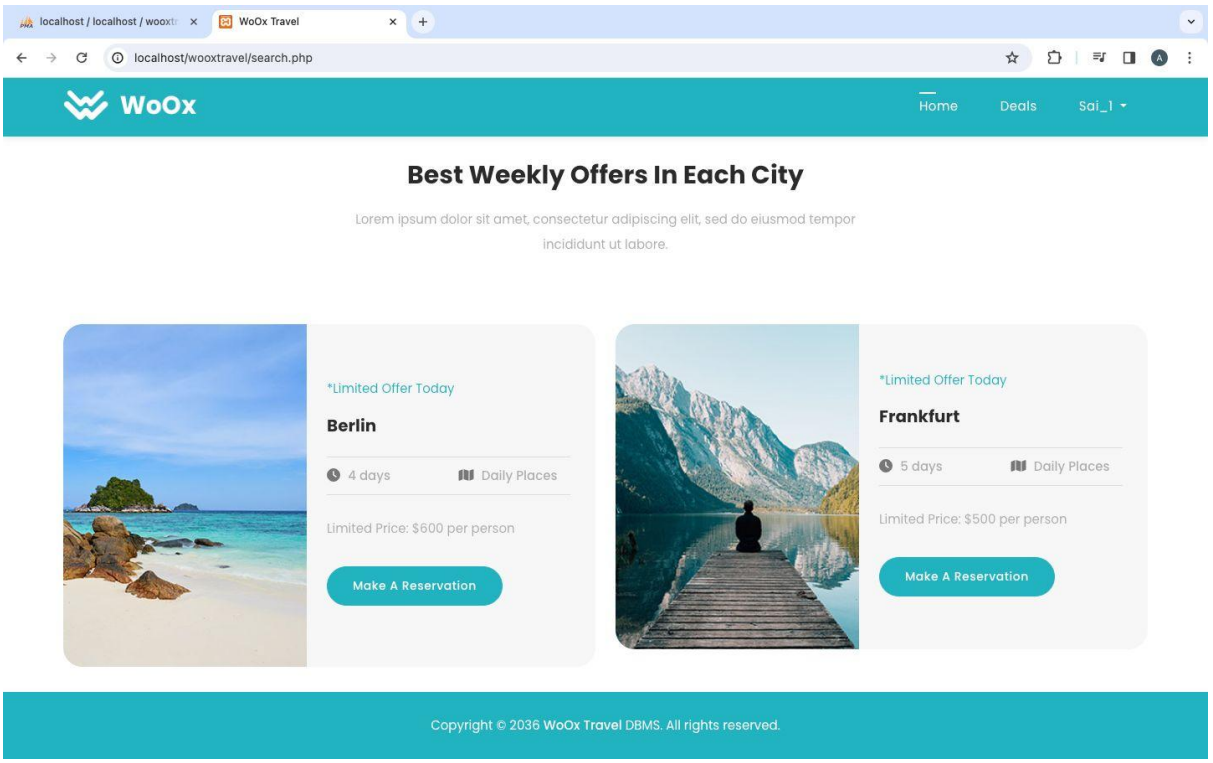

localhost / localhost / wooxtr
WoOx Travel
localhost/wooxtravel/
WoOx
Home
Deals
Login
Register
Visit One Of Our Countries Now
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do
eiusmod tempor incididunt ut labore.
Egypt
Africa
Explore More
Egypt is considered to be a regional power in North Africa, the Middle East and the Muslim world.
100 Mil People
41.290 km2
$325
Need Directions ? →
Switzerland
Europe
Explore More
Switzerland, officially the Swiss Confederation, is a landlocked country located at the confluence of Western, Central and Southern Europe.
90 Mil People
275.40 km2
$550
Need Directions ? →
Sunny Isles Beach
View larger map
GOLDEN ISLES
Golden Beach
Aventura
Sunny Isles Beach
Sunny Isles Public Beach
EASTERN SHORES
Haulover Nude Beach
Google

3-About Us Page

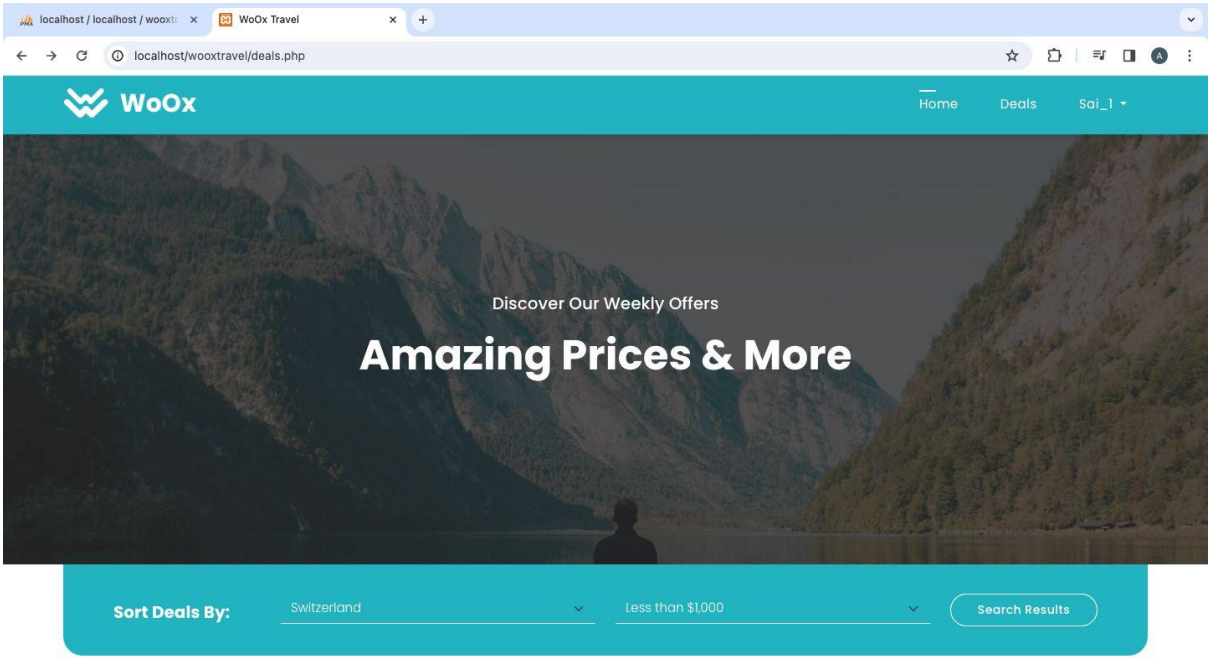




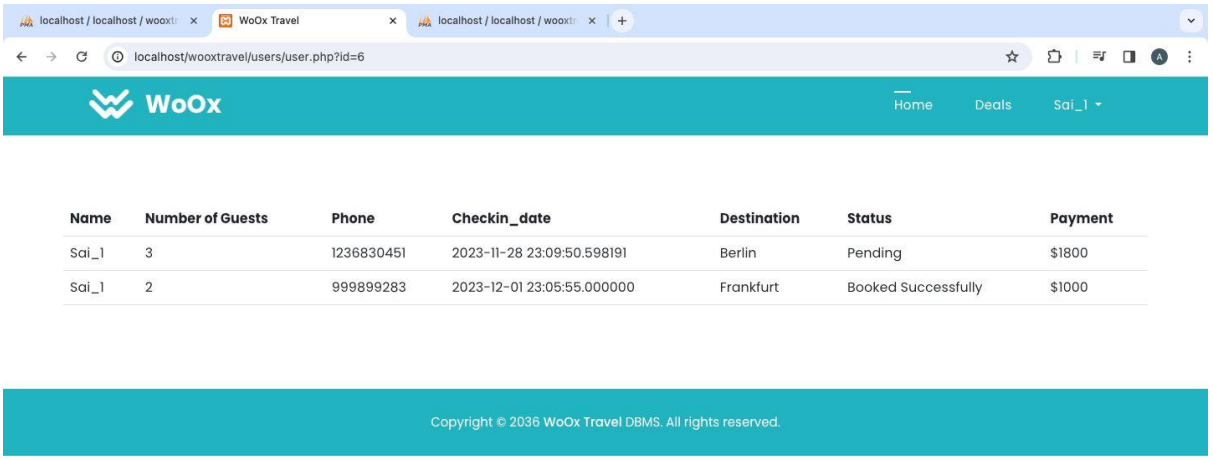
4-Result after search



5-'Search Deals' page

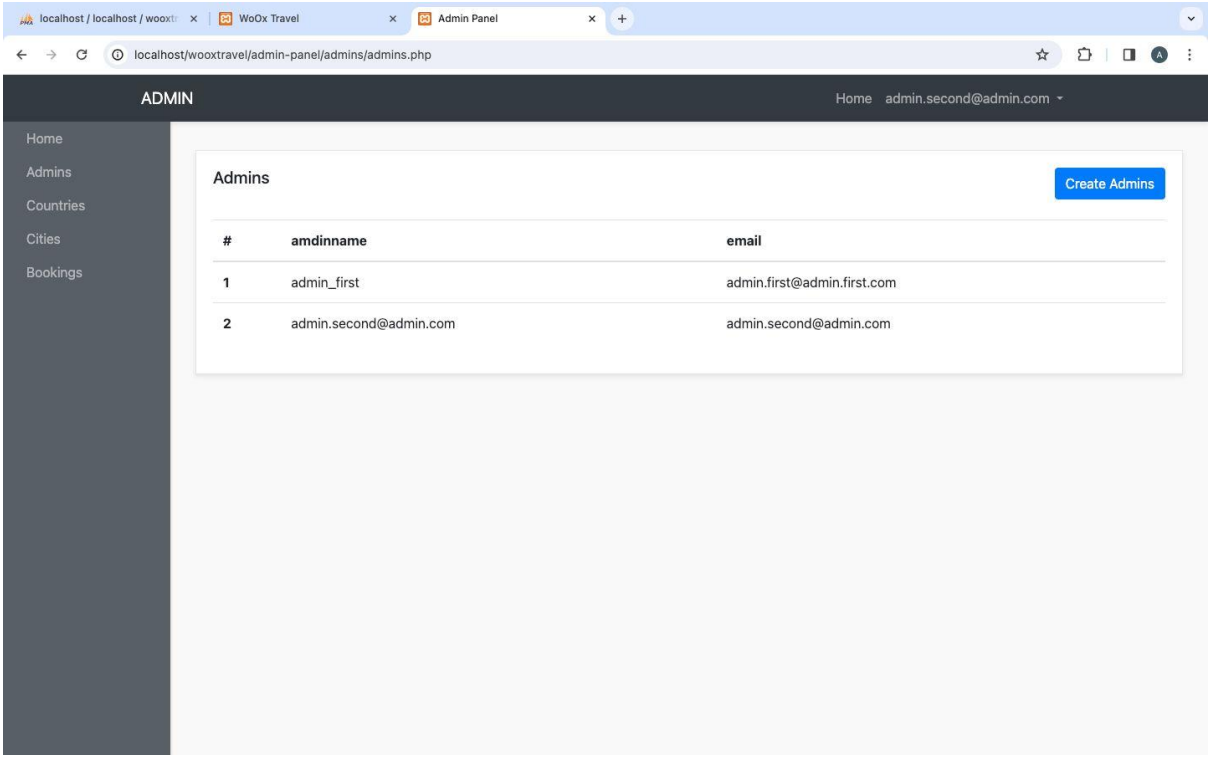


6-User's Booking status

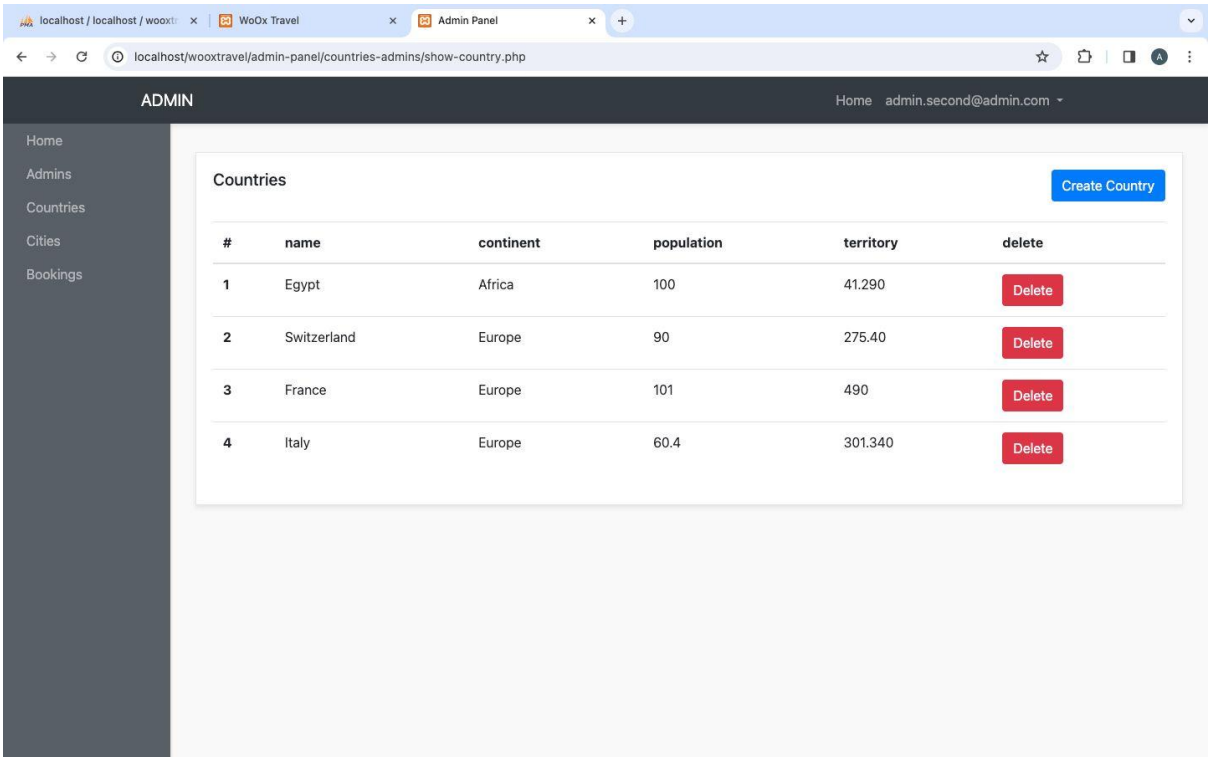


ADMIN SIDE-

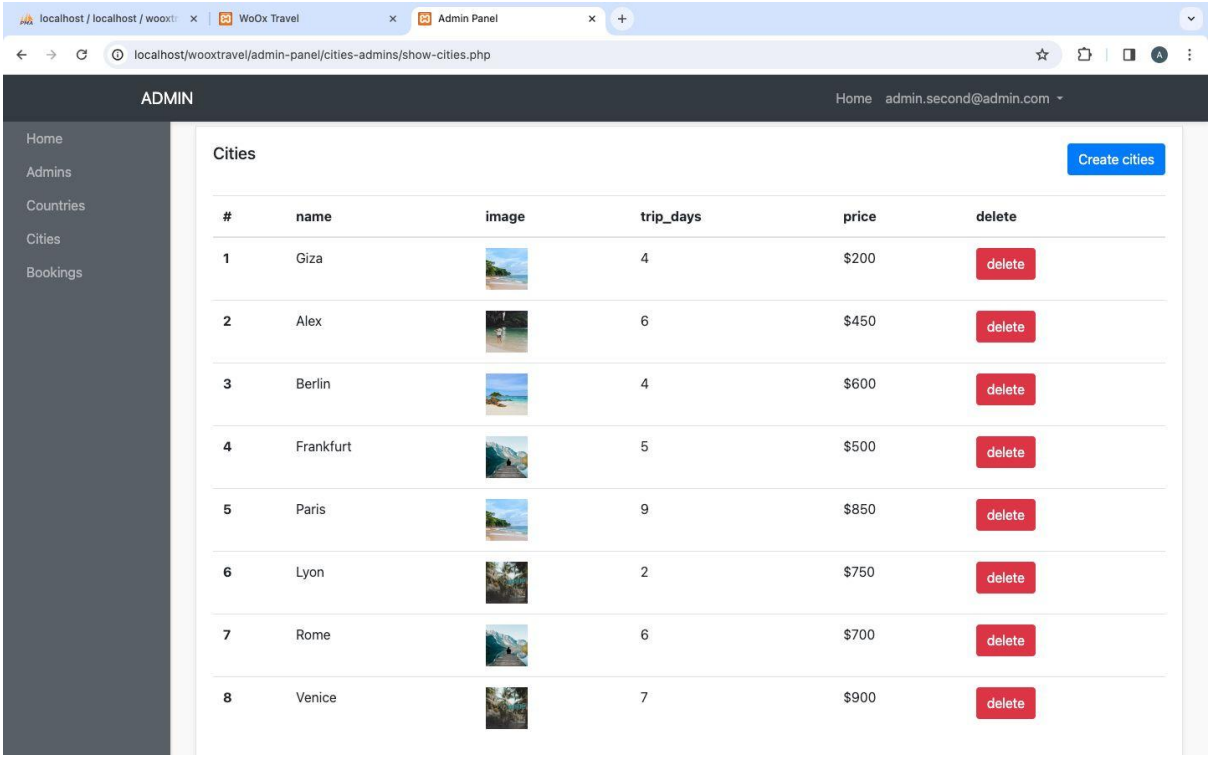
1-Admin Page



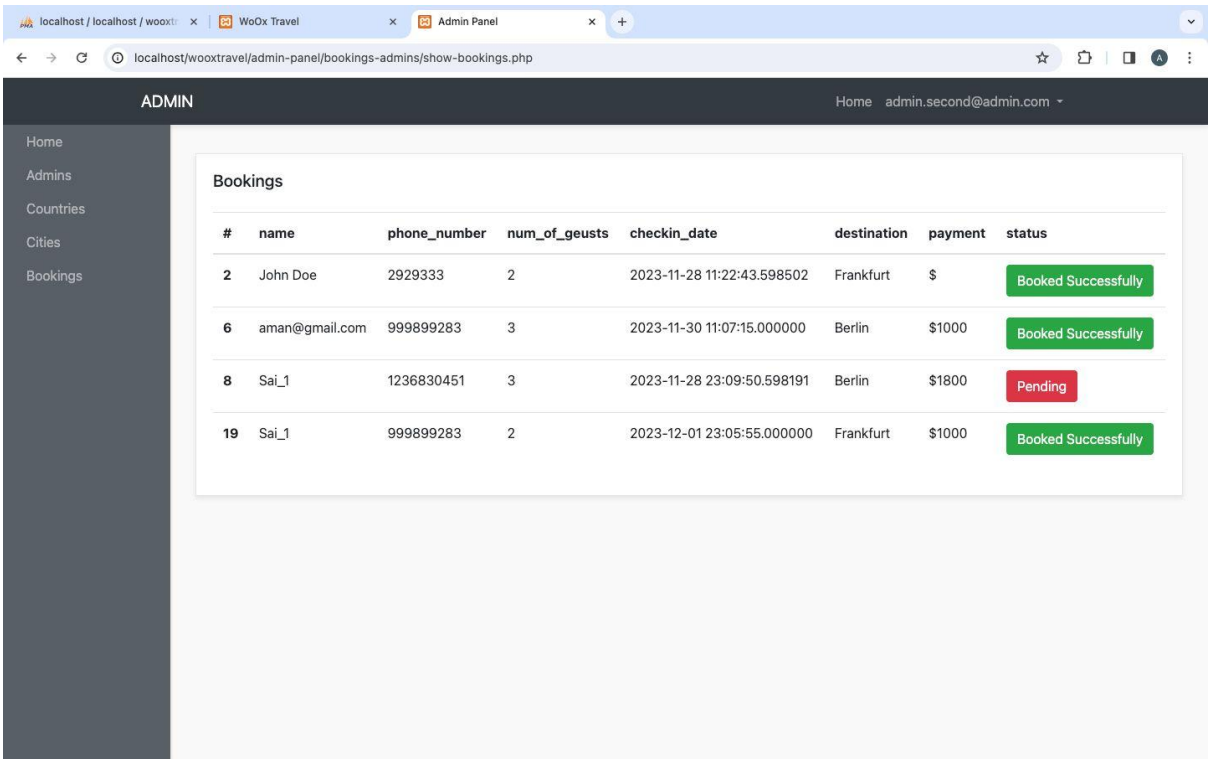
2-Counties Admin Page



3-Cities Admin Page

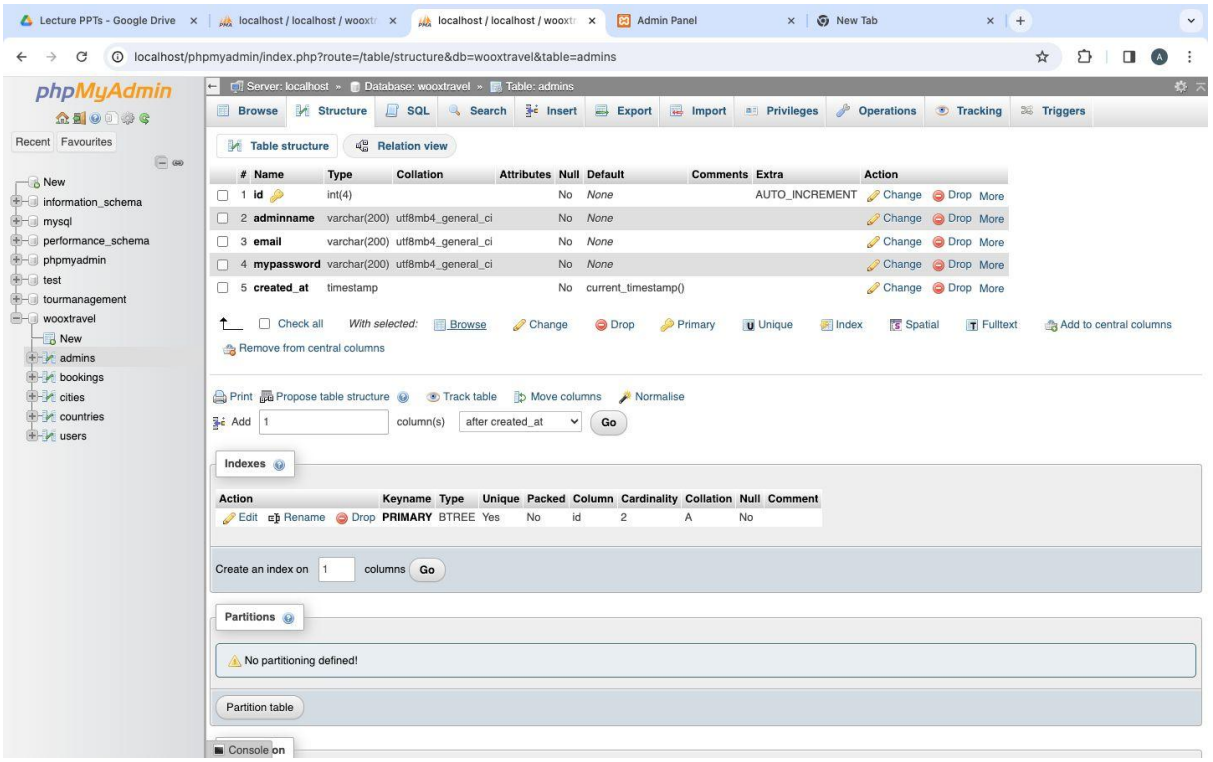


4-Bookings Admin Page

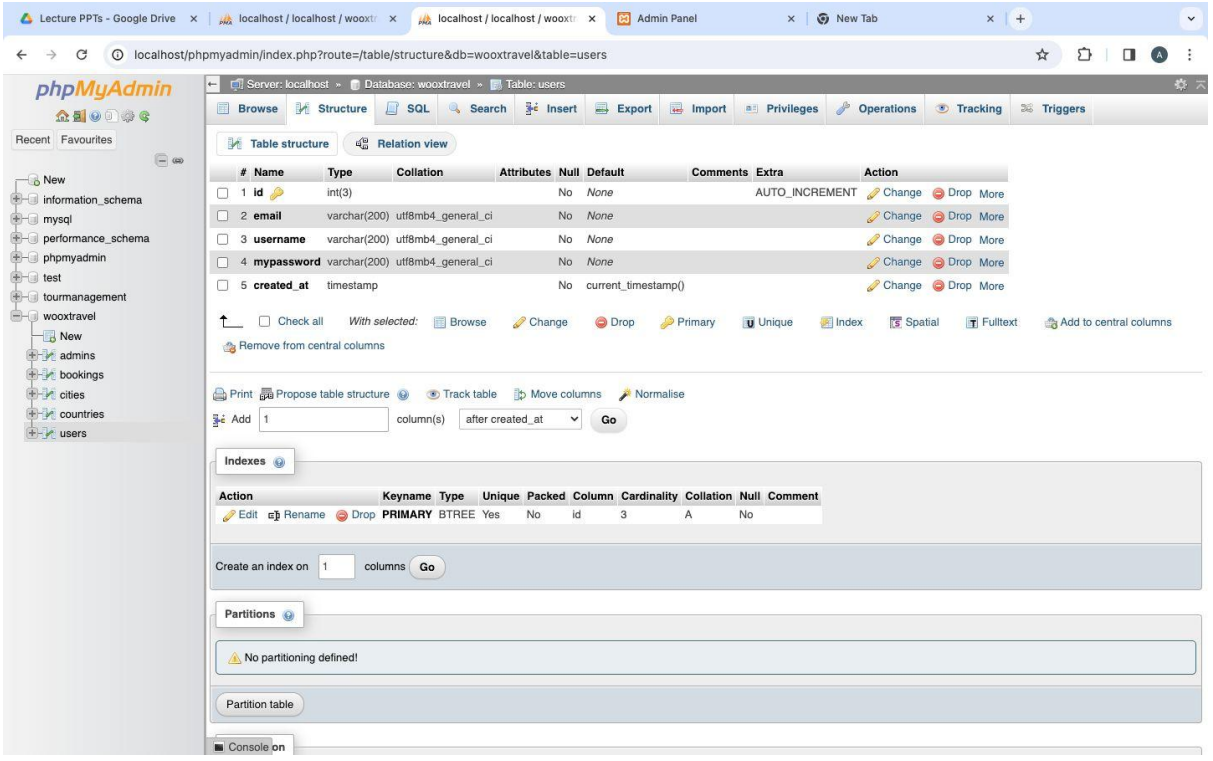


Server-side database handling details

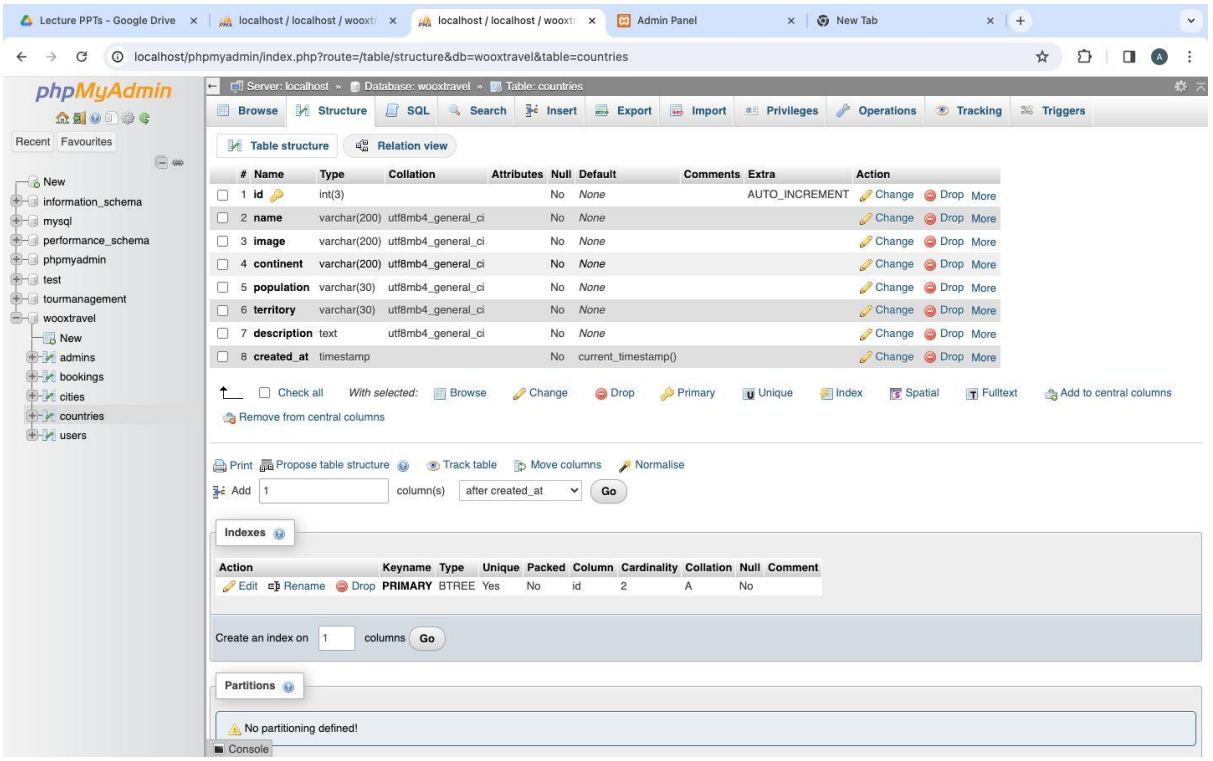
1-Admins



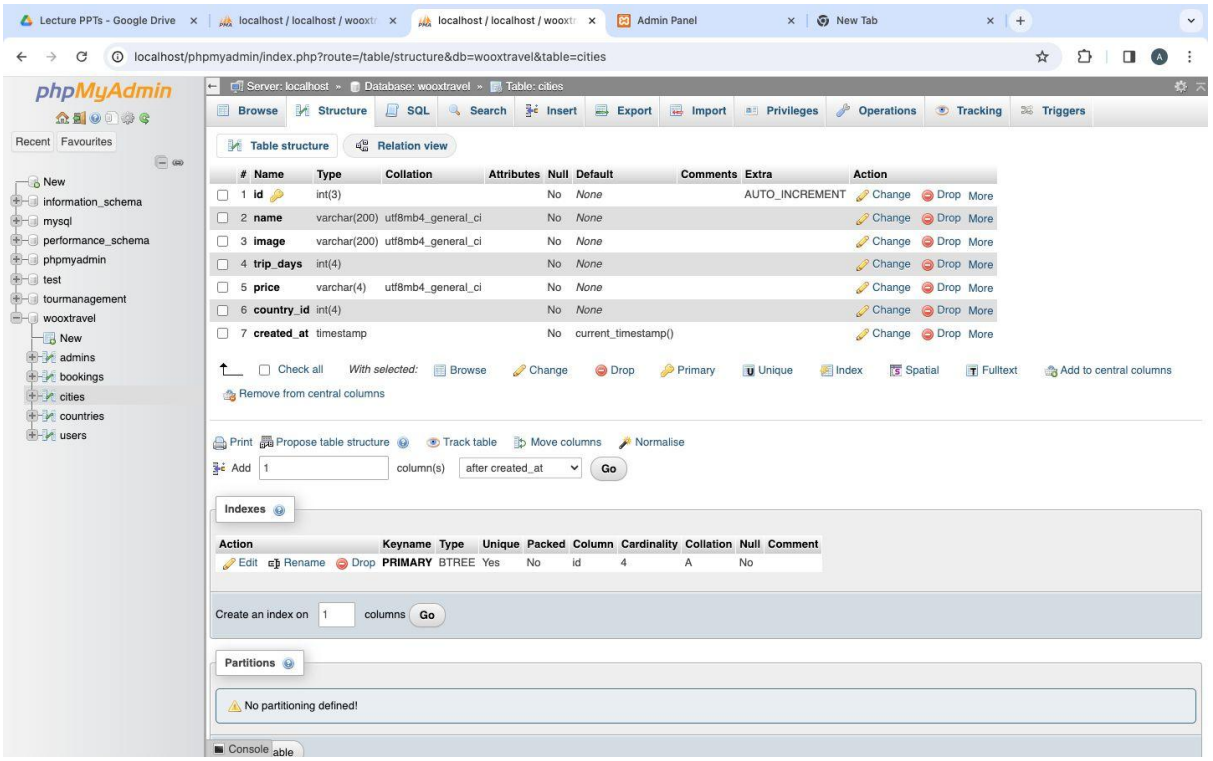
2-Users



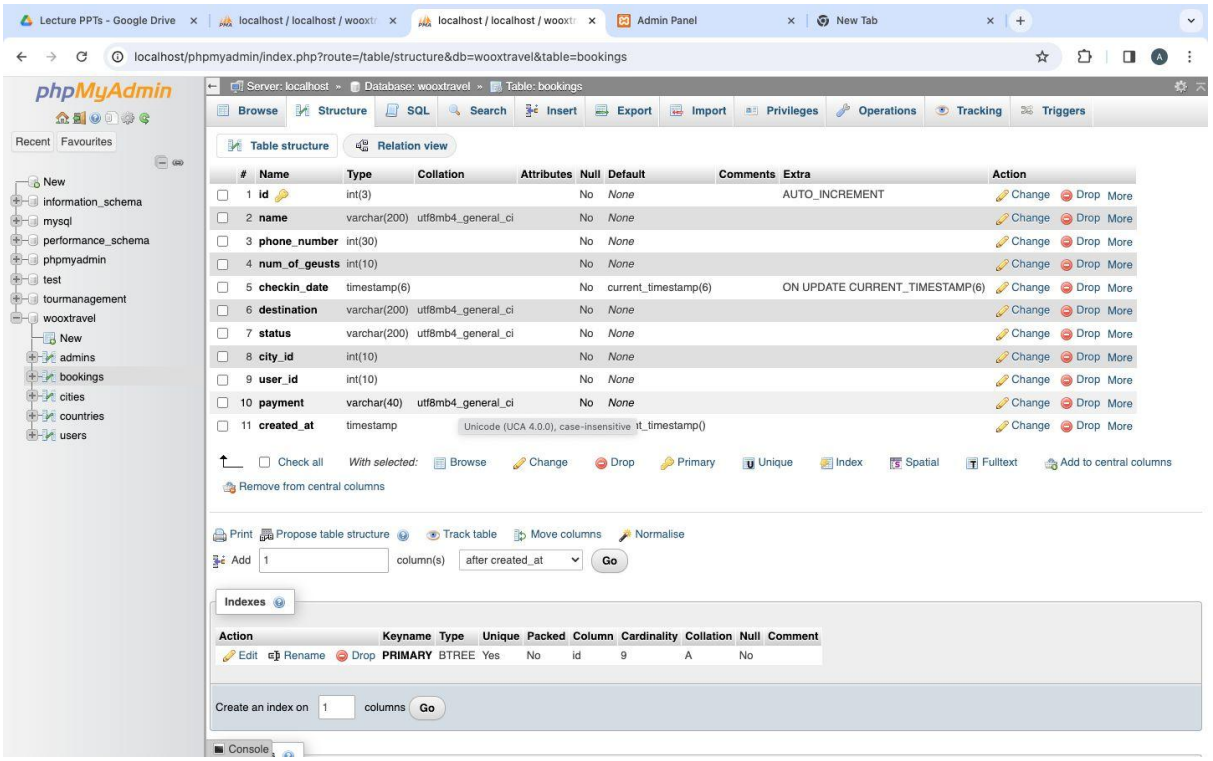
3-Countries



4-Cities



5-Bookings



1. Database Management System (DBMS): -
Choose a suitable database platform. In this case we have used MySql. - Install and configure the DBMS on your server to create and manage the database. 18

2. Database Design: -
Design the database schema to represent the entities, relationships, and attributes required for the project. - Identify primary keys, foreign keys, and appropriate data types for each attribute. - Normalize the database to eliminate redundancy and ensure data integrity.

3. Establish Database Connection: -
Use appropriate programming language (such as PHP) to establish a connection between the server-side code and the database. - Provide the necessary credentials (database host, username, password, database name) to establish the connection.

4. Execute SQL Queries: -
Use SQL (Structured Query Language) to write and execute queries for database operations such as data insertion, retrieval, updating, and deletion. - Sanitize user inputs to prevent SQL injection attacks by using prepared statements or parameterized queries.

5. Ticket Booking and Management: -
Implement database operations for ticket bookings, storing relevant details such as ticket type, departure date, arrival date, seat number, fare, and associated user details. - Retrieve and display booking details for users, manage cancellations or modifications by updating the corresponding database records.

6. Database Backup and Maintenance: -
Regularly backup the database to prevent data loss in case of server failures. - Implement scheduled tasks for database maintenance, including optimizing queries, indexing, and ensuring data consistency.

CODE SNIPPETS

1- To connect the database to website

```php
<?php


try {
    //host
    define("HOST", "localhost");

    //dbname
    define("DBNAME", "wooxtravel");

    //username
    define("USER", "root");

    //pass
    define("PASS", "");


    $conn = new PDO("mysql:host=".HOST.";dbname=".DBNAME."", USER, PASS);
    $conn->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);

} catch( PDOException $Exception ) {
    echo $Exception->getMessage();
}

```

2-Select Queries

```php
$id = $_GET['id'];

$country = $conn->query("SELECT * FROM countries WHERE id='$id'");
$country->execute();

$singleCountry = $country->fetch(PDO::FETCH_OBJ);

//images for the cities
$citiesImages = $conn->query("SELECT * FROM cities WHERE country_id='$id'");
$citiesImages->execute();

$singleImage = $citiesImages->fetchAll(PDO::FETCH_OBJ);
```

3-Join Queries

```php
//cities with bookings number

$cities = $conn->query("SELECT cities.id AS id, cities.name
AS name, cities.image AS image, cities.trip_days AS trip_days, cities.price AS price,
  COUNT(bookings.city_id) AS count_bookings FROM cities LEFT JOIN
bookings ON cities.id = bookings.city_id WHERE cities.country_id = '$id' GROUP BY(bookings.city_id)");

$cities->execute();

$allCities = $cities->fetchAll(PDO::FETCH_OBJ);

//cities of every country

$cities_country = $conn->query("SELECT COUNT(country_id) AS num_city FROM cities
WHERE country_id = '$id'");
$cities_country->execute();

$num_cities = $cities_country->fetch(PDO::FETCH_OBJ);

//number of bookings for every country

$num_country = $conn->query("SELECT COUNT(bookings.city_id) AS count_bookings
FROM cities JOIN bookings
ON cities.id = bookings.city_id WHERE cities.country_id = '$id'");
$num_country->execute();

$num_bookings = $num_country->fetch(PDO::FETCH_OBJ);
```

4-Code to search/filter the Deals

```php
$country_id = $_POST['country_id'];
$price = $_POST['price'];


$searchs = $conn->query("SELECT * FROM cities WHERE country_id = $country_id
AND price < $price");
$searchs->execute();

$allSearchs = $searchs->fetchAll(PDO::FETCH_OBJ);
```

5-Insertion of Bookings

```php
$name = $_POST['name'];
$phone_number = $_POST['phone_number'];
$num_of_geusts = $_POST['num_of_geusts'];
$checkin_date = $_POST['checkin_date'];
$destination = $_POST['destination'];
$status = "Pending";
$city_id = $id;
$user_id = $_SESSION['user_id'];

$payment = $num_of_geusts * $getCity->price;

$_SESSION['payment'] = $payment;

if(date("Y-m-d") < $checkin_date) {
  $insert = $conn->prepare("INSERT INTO bookings (name, phone_number, num_of_geusts,
  checkin_date, destination, status, city_id, user_id, payment)
  VALUES (:name, :phone_number, :num_of_geusts, :checkin_date, :destination, :status,
  :city_id, :user_id, :payment)");

  $insert->execute([
    ":name" => $name,
    ":phone_number" => $phone_number,
    ":num_of_geusts" => $num_of_geusts,
    ":checkin_date" => $checkin_date,
    ":destination" => $destination,
    ":status" => $status,
    ":city_id" => $city_id,
    ":user_id" => $user_id,
    ":payment" => $payment,
  ]);
```

6-Booking Status Updation

```php
if(isset($_GET['id']) AND isset($_GET['status'])) {

    $id = $_GET['id'];
    $status = $_GET['status'];

    if($status == "Pending") {
        $update = $conn->prepare("UPDATE bookings SET status='Booked Successfully' WHERE
        id='$id'");

        $update->execute();

        header("location: show-bookings.php");

    } else {
        $update = $conn->prepare("UPDATE bookings SET status='Pending' WHERE
        id='$id'");

        $update->execute();
```

7-To delete city records(by Admin)

```php
if(!isset($_SESSION["adminname"])) {
  header("location: ".ADMINURL."");
}

if(isset($_GET['id'])) {

  $id = $_GET['id'];

  $image_delete = $conn->query("SELECT * FROM cities WHERE id='$id'");
  $image_delete->execute();

  $getImage = $image_delete->fetch(PDO::FETCH_OBJ);

  unlink("images_cities/" . $getImage->image);


  //deleteCitiesRecord

  $deleteRecord = $conn->query("DELETE FROM cities WHERE id='$id'");
  $deleteRecord->execute();

  header("location: show-cities.php");

}
```

Conclusion

A Tour Management System (TMS) is a web-based application that automates travel-related processes. It can be used by travel agencies and companies to manage their operations.

A TMS can help with:

- Booking trips
- Managing upcoming trips
- Tracking and reporting on previous trips
- Automating corporate travel policies
- Consolidating travel invoices and vendors
- Handling all aspects of travel, such as scheduling and excursions
- Linking consumers and agents directly
- Providing a feedback method for tourists
- Managing and regulating the collection of tourists' information

By leveraging HTML, CSS, PHP, and MySQL, the project enables seamless integration of the front-end interface, server-side processing, and database management. This ensures the reliability, scalability, and security of the system. Overall, the tour management system significantly improves the efficiency and convenience of tour bookings, enhances user experience, and simplifies the administrative tasks for travel agencies. It promotes a more organized and streamlined approach to travel management, benefiting both travelers and service providers alike.

Appendix

- Tools used:

  For FrontEnd - HTML & CSS (BootStrap & jQuery)
  For Backend - PHP, MySQL & PDO
  For connecting database with the website- phpMyAdmin
  For connecting both - PHP (PDO)
  Platform - VS Code
  For Entity Relationship Diagram - Draw.io

- References

  https://www.w3schools.com/html/html_css.asp

  https://developer.mozilla.org/en-US/

  https://www.w3schools.com/php/