SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE

A

MINI PROJECT REPORT

ON

BIKE MANAGEMENT SYSTEM

SUBMITTED TO THE SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE

IN THE FULFILLMENT OF THE REQUIREMENT

OF

Database Management System Lab

Third Year Computer Engineering

BY

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NARHE, PUNE – 411041

2024-2025

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CERTIFICATE

This is to certify that,

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studying in TE Computer Engineering Course SEM-V has successfully completed their DBMS Lab Mini-Project work titled BIKE MANAGEMENT SYSTEM at Sinhgad Instituteof Technology and Science, Narhe in the fulfillment of the Bachelor's Degree in Engineering of Savitribai Phule Pune University, during the academic year 2024-2025.

Ms. S. S. Bhosale	Dr. G. S. Navale	Dr. S. D. Markande
Guide	**Head of Department**	**Principal**

SINHGAD INSTITUTE OF TECHNOLOGY AND SCIENCE, NARHE, PUNE– 411041

Place : Pune

Date :

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Name of students	Signature
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Belsare Gayatri	
Bhore Tanaya	

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1. INTRODUCTION

In today's digital era, providing an efficient and engaging platform for customers is crucial to business success, particularly for industries like vehicle sales. The "Bike Management System" is a comprehensive web-based solution designed to streamline the entire bike purchasing and booking process. This system is built with a focus on enhancing the customer experience by offering an intuitive, user-friendly interface for exploring and purchasing bikes.

At its core, the platform allows customers to sign up, create an account, and log in to access a personalized profile. Once logged in, users can view detailed listings of available bikes, complete with high-quality images, full specifications, and transparent pricing information. This approach provides customers with all the essential details they need to make informed decisions about their purchases or bookings.

One of the key features of the system is its ability to handle a range of customer needs, from managing user profiles to offering personalized recommendations based on browsing history and preferences. The system also supports the management of booking requests, helping customers reserve bikes for test rides or future purchases. Additionally, the inclusion of advanced search and filtering options allows users to quickly find bikes that match their specific requirements, such as price range, engine capacity, or brand.

Behind the scenes, the "Bike Management System" relies on a robust, scalable database that supports high-performance operations, ensuring that the platform can handle multiple users and large inventories without slowdowns. To enhance the user experience, the system includes features like secure login, profile management, and notifications for special offers or promotions. Businesses benefit from automated stock tracking and real-time inventory updates, minimizing the chances of overselling or stock depletion.

Problem Statement:

Bike retailers, especially small and medium-sized businesses, face challenges in managing customer interactions, bookings, and sales efficiently due to limited resources and the absence of an integrated online system. Relying on manual processes for showcasing bike inventories, managing profiles, and handling purchases often leads to inefficiencies, booking errors, and delayed responses, resulting in lost sales and poor customer experiences. The lack of automation also limits real-time updates on bike specifications, availability, and pricing, making it difficult for businesses to offer personalized services. This can diminish customer satisfaction and reduce competitiveness in the market. Therefore, there is a need for a lightweight, user-friendly bike management system that automates these processes, streamlines operations, and improves customer engagement, ultimately boosting sales and operational efficiency.

Scope:

The scope of the Bike Management System is to provide a streamlined, cost-effective solution for small and medium-sized bike retailers to manage customer interactions, bookings, and bike sales efficiently. The platform will allow customers to create accounts, log in, and access detailed bike specifications, images, and pricing, enabling them to make informed purchasing or booking decisions. Key features include real-time bike availability, easy-to-navigate user profiles, secure login, and automated notifications for bookings and special offers. A lightweight, scalable database will be used to store customer data and bike details, ensuring quick access to information and smooth operations even as the business grows. Additionally, the system will provide businesses with analytical insights to help optimize sales strategies and customer engagement, reducing errors and improving customer satisfaction. The user-friendly interface will require minimal training, making it easy for business owners to adopt and use effectively.

2. RELATIONAL DATABASE DESIGN

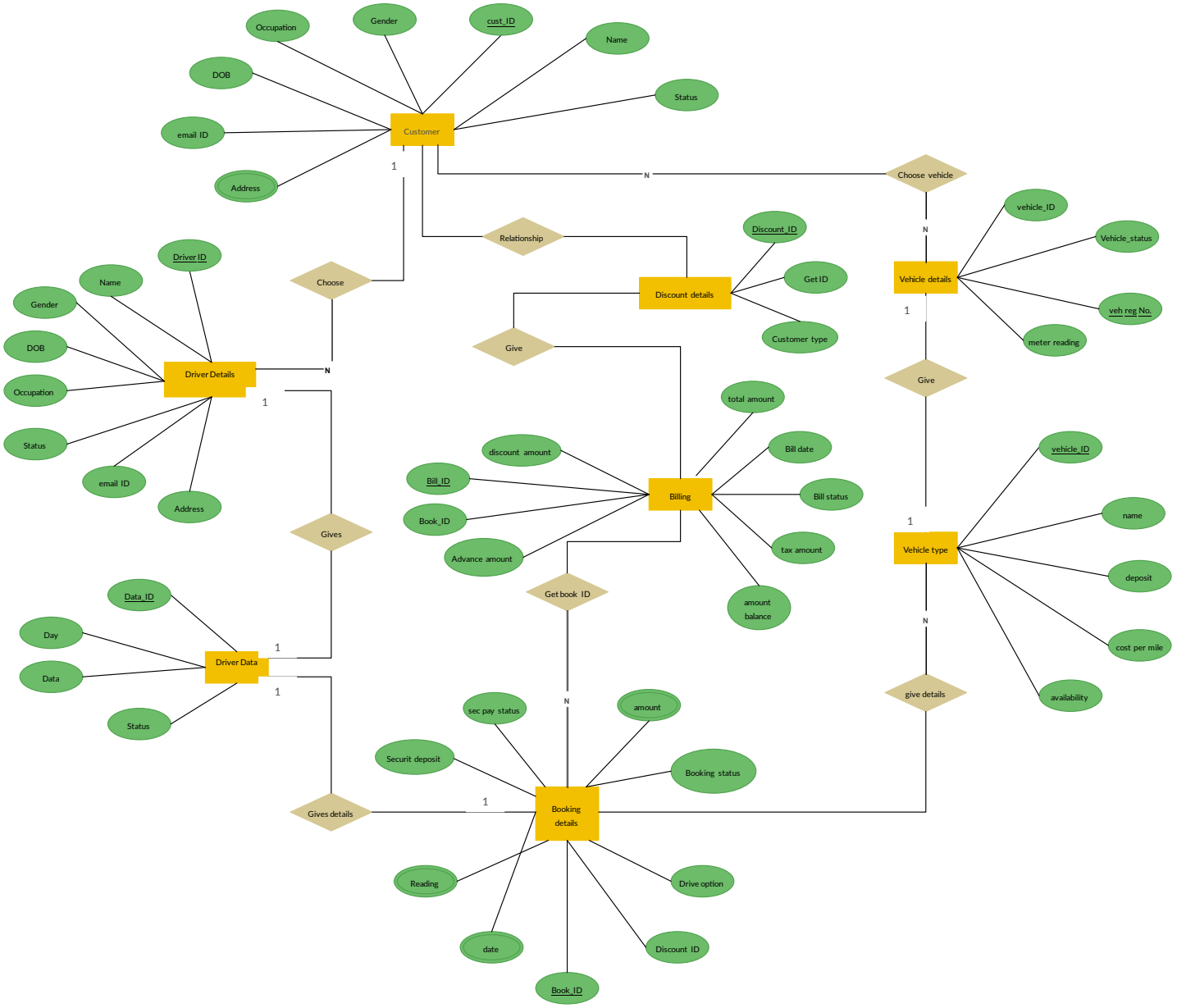

Fig 2.1: ER Diagram

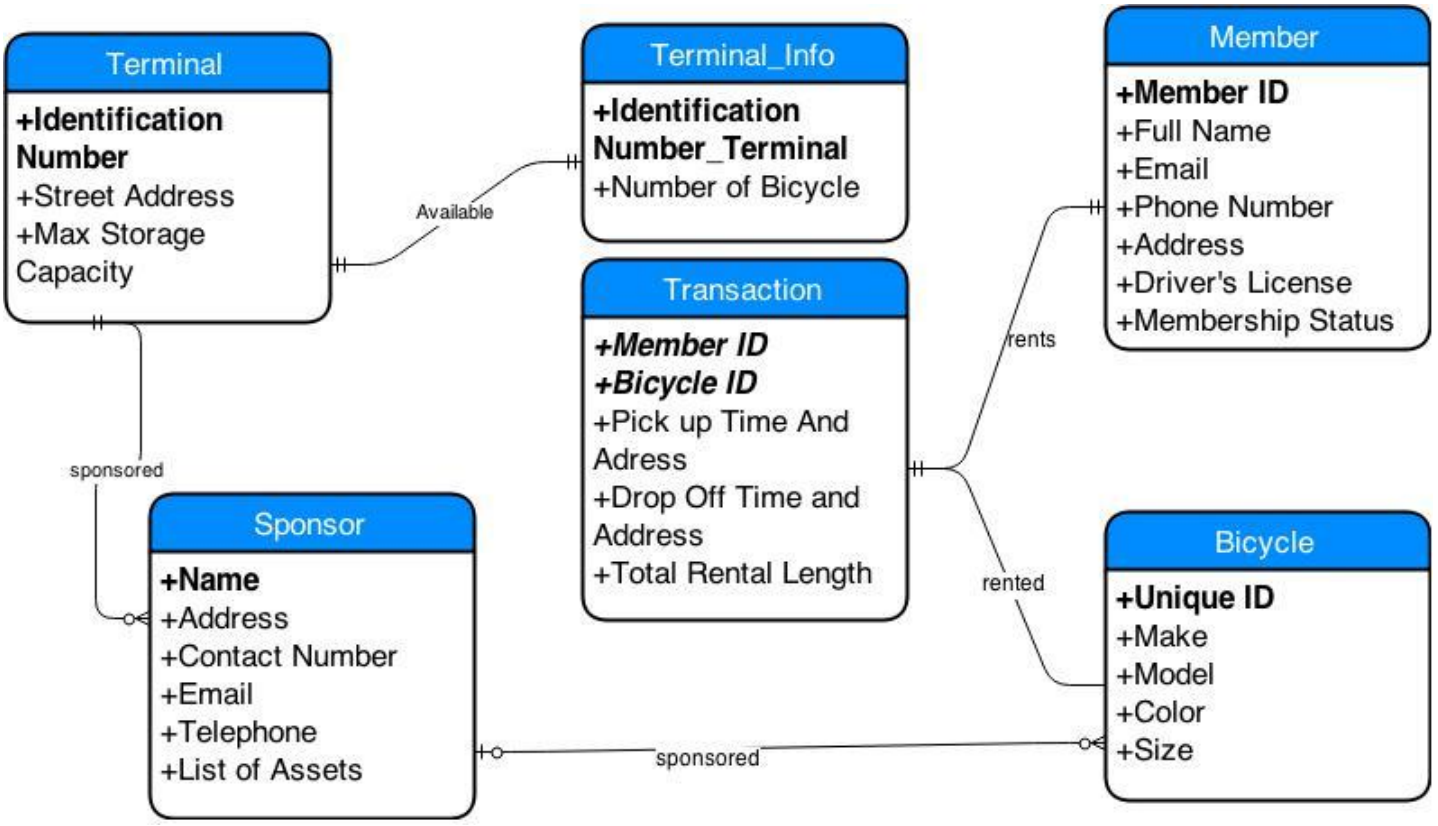

Fig 2.2: Database Diagram

3.SOFTWARE REQUIREMENTS

Software Requirements:

1. **FrontEnd**:
    - HTML- For basic structure of our project.
    - CSS- To style our project.
    - JavaScript- To make our project interactive and user friendly.

2. **Backend Connectivity:**
    - PHP 8.8

3. **Backend Database:** MySQL- It is uses to store, manage, and retrieve data efficiently.

Hardware Requirements:

1. **Operating System:** Windows 10 or above

2. **Environment:** VS Code

4.GUI WITH SOURCE CODE

Frontend:

```
<!doctype html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">


    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.5.3/dist/css/bootstrap.min.css"
integrity="sha384-TX8t27EcRE3e/ihU7zmQxVncDAy5uIKz4rEkgIXeMed4M0jlfIDPvg6uqKI2xXr2"
crossorigin="anonymous">
    <link rel="preconnect" href="https://fonts.gstatic.com">
    <link href="https://fonts.googleapis.com/css2?family=Poppins:ital,wght@1,500&display=swap" rel="stylesheet">
    <title>Welcome</title>
    <style>
    #carouselExampleIndicators{
      background-attachment:fixed;
      background-size:100% 100%;
    }
    .carousel-inner {
        height:668px;
    }
         color:black;
   }
   .carousel-caption {
    top: 0;
    bottom: auto;
}
```

```
<div id="carouselExampleCaptions" class="carousel slide carousel-fade" data-ride="carousel">
 <ol class="carousel-indicators">
  <li data-target="#carouselExampleCaptions" data-slide-to="0" class="active"></li>
  <li data-target="#carouselExampleCaptions" data-slide-to="1"></li>
  <li data-target="#carouselExampleCaptions" data-slide-to="2"></li>
 </ol>
 <div class="carousel-inner">
  <div class="carousel-item active">
   <img src="4.jpg" class="d-block w-100" alt="...">
   <div class="carousel-caption d-none d-md-block">
    <h1>Welcome</h1>

    <p>Please <strong>Login</strong> or <strong>Signup</strong> to continue.</p>
   </div>
  </div>
</body>
</html>
```

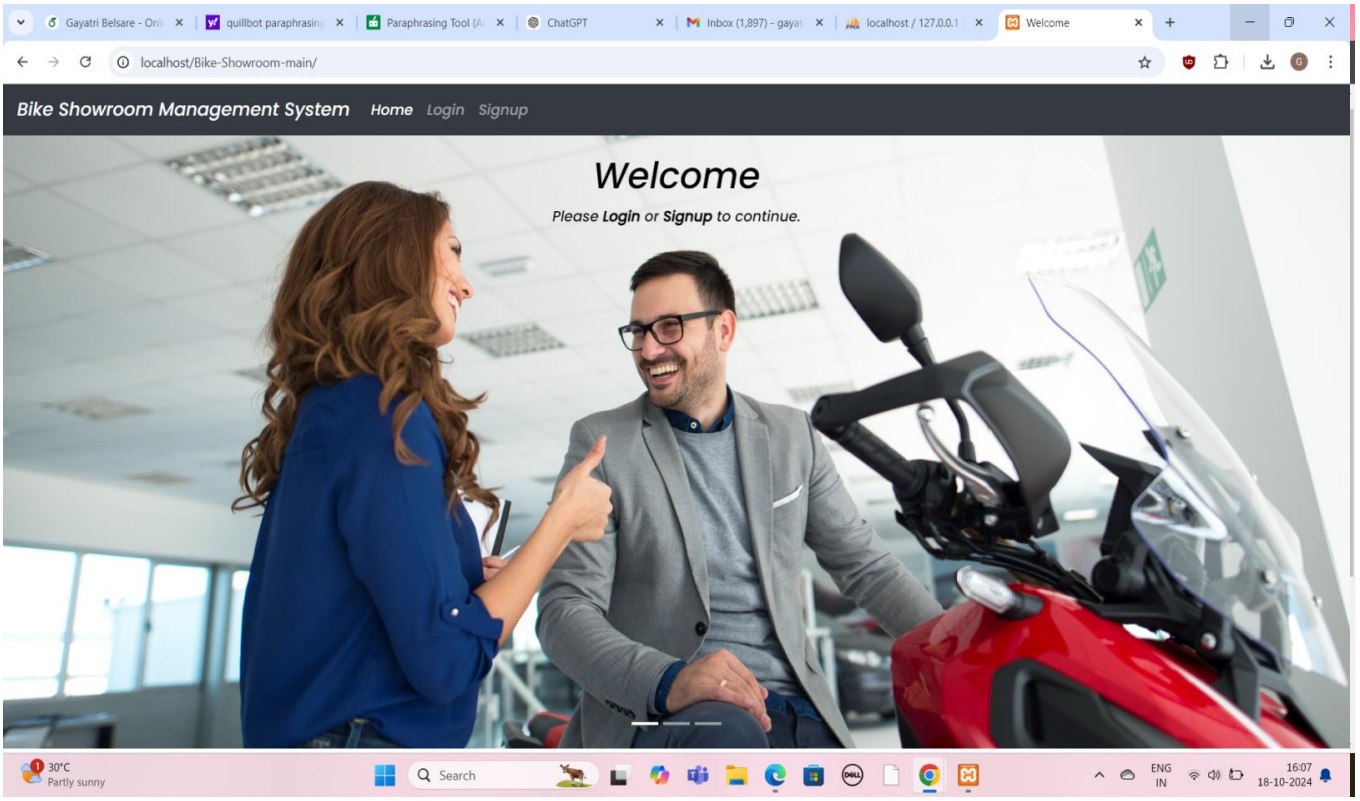

Fig 4.1: Frontend of Bike Management System

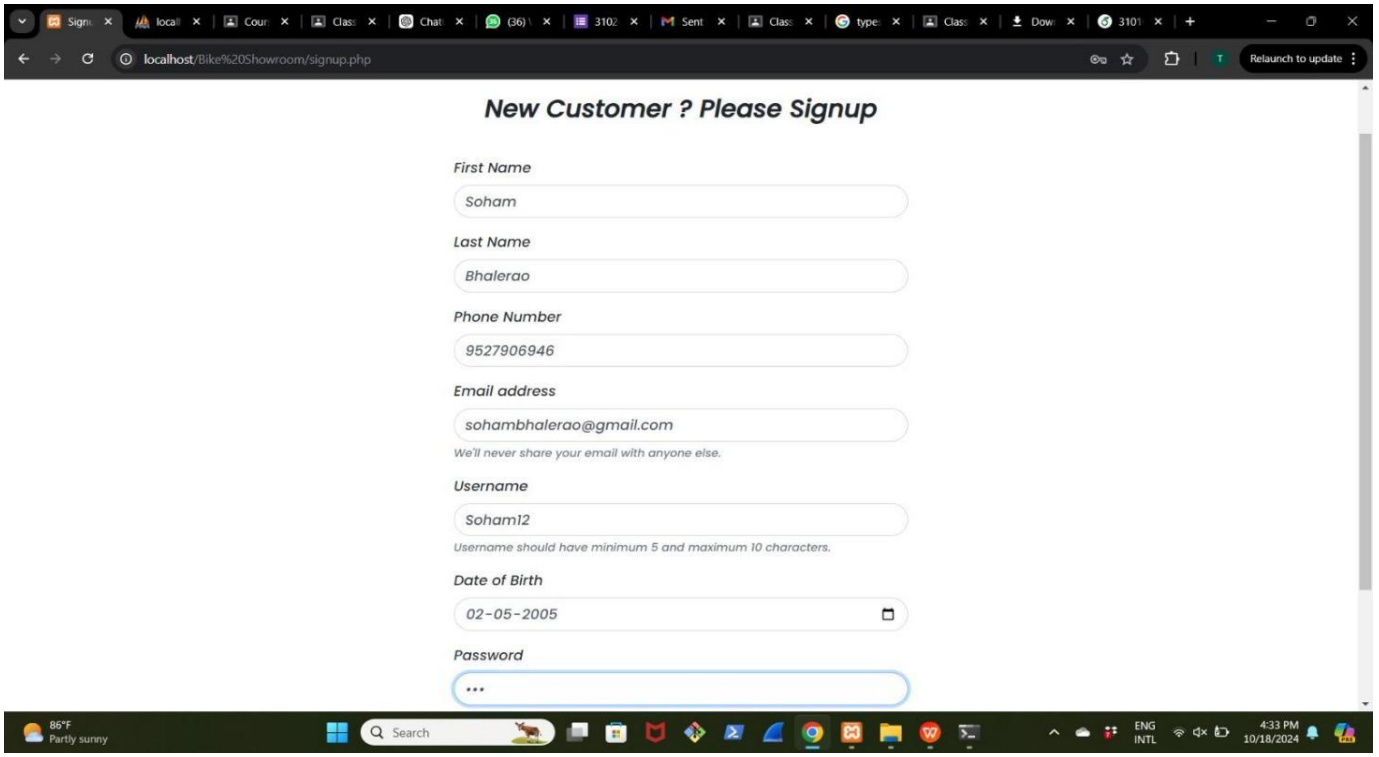

Fig 4.2: Login Page

Connectivity:

Manage.py

```
#!/usr/bin/env php
<?php
session_start();
?>
<?php
 $showAlert = false;
 $showError = false;
 include 'partials/_dbconnect.php';

<?php
session_start();
include 'partials/_dbconnect.php';
if(!isset($_SESSION['loggedin']) ||
$_SESSION['loggedin']!=true){
    header("location: login.php");
    exit;
}

if($_SESSION['username']!='admin'){
  header("location: login.php");
    exit;
}
```

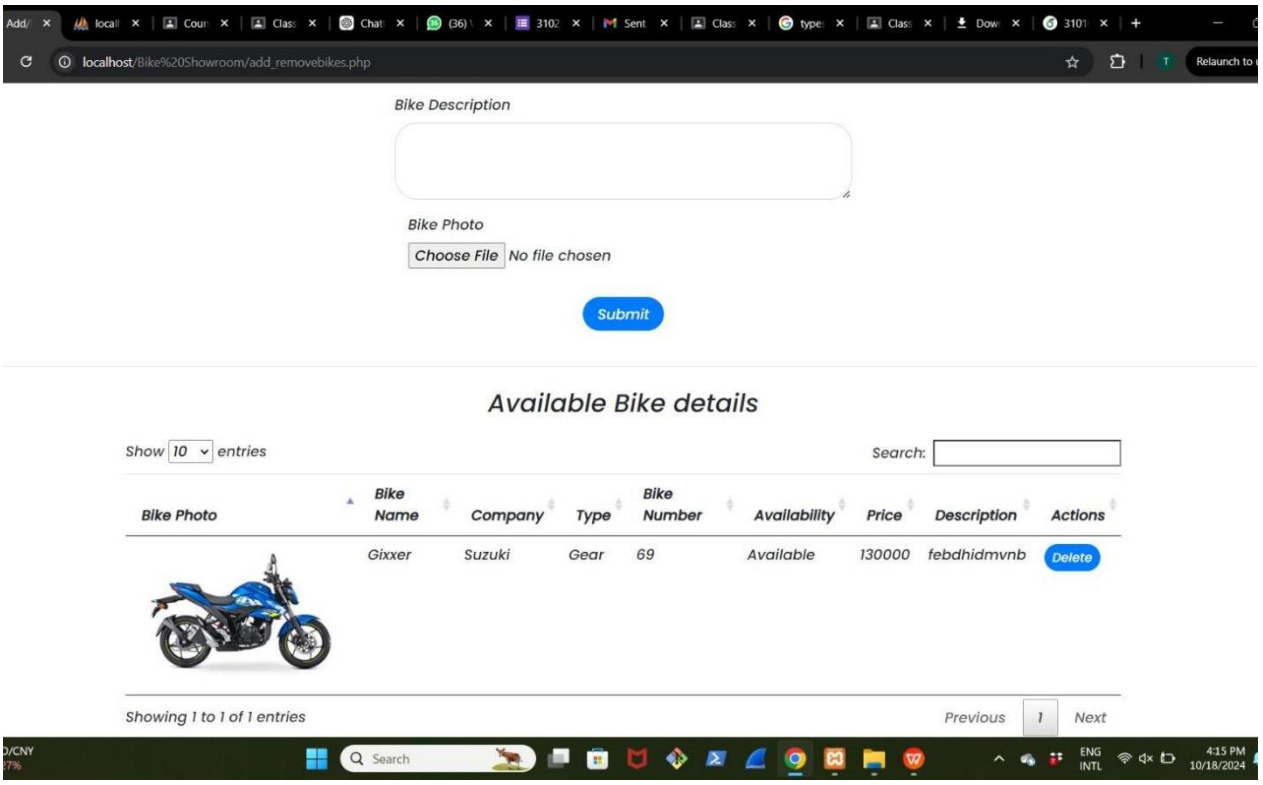

Fig 4.3: Bike Inventory List

Backend:

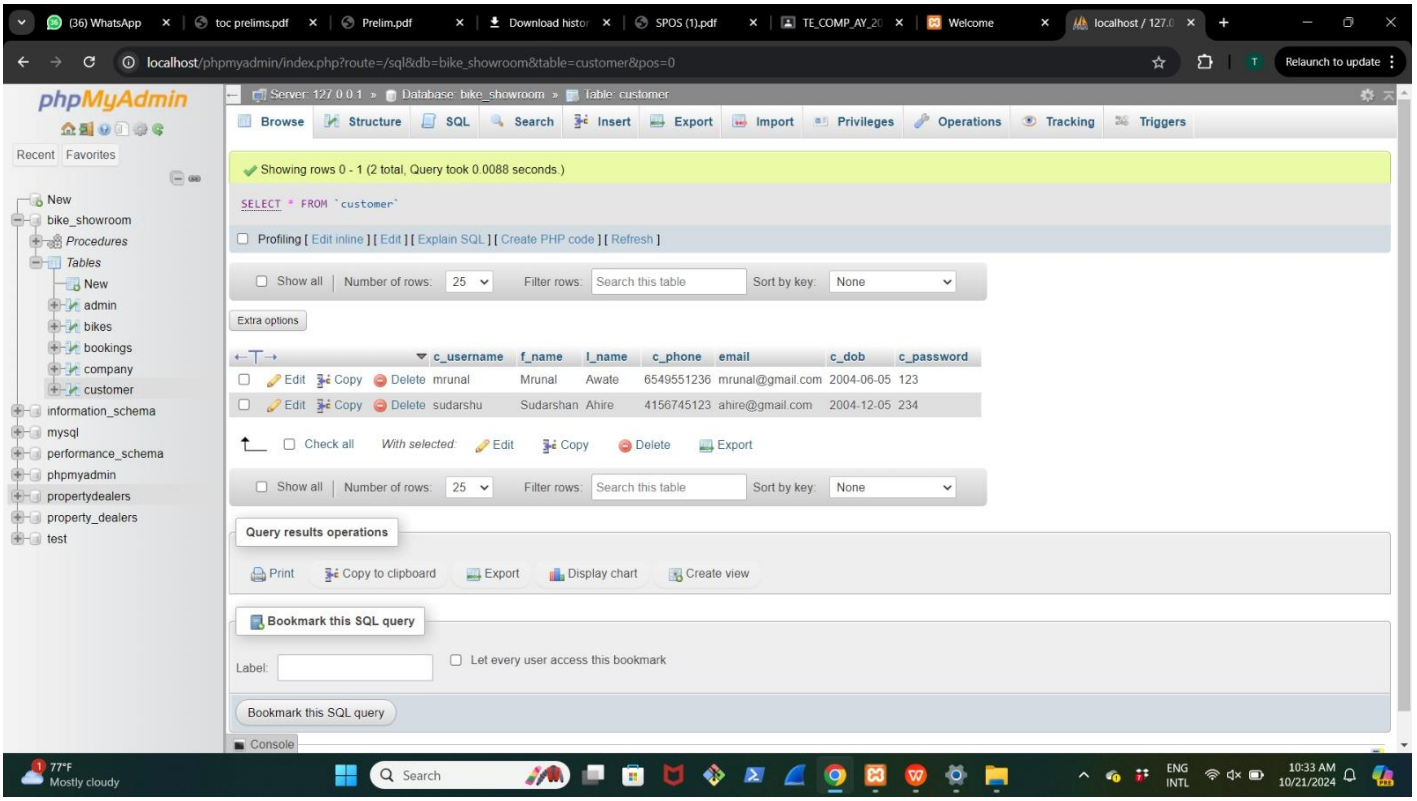

Fig 4.4:Customer List Database

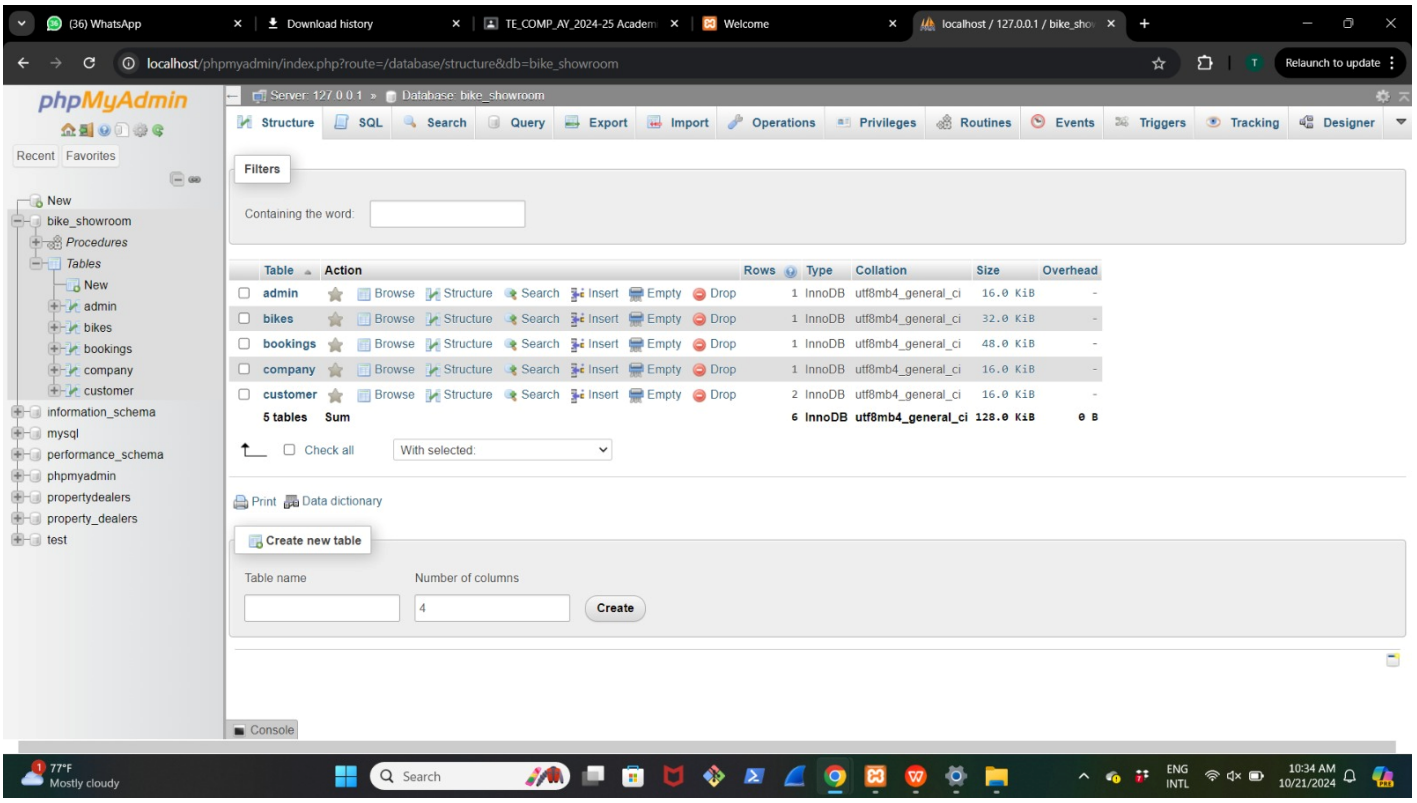

Fig 4.5: Mysql Database

5.TEST CASES

- Ensure that valid users can successfully log in to the system and unauthorized users are denied access.

Test Case 1.1: Valid Login

- Input: Provide a valid username and password.
- Expected Output: The user is successfully redirected to their dashboard.
- Result: The system grants access to the user and loads their personalized profile page.

Test Case 1.2: Invalid Login

- Input: Provide an invalid username or incorrect password.
- Expected Output: The system displays an error message like "Invalid Username or Password."
- Result: Access is denied, and the user remains on the login page.

Test Case 1.3: Session Timeout

- Input: User leaves the session idle for an extended period.
- Expected Output: The session automatically logs out after a timeout, requiring the user to log in again.

Result: User is redirected to the login page after the session expires.

6. CONCLUSION

The Bike Management System provides a practical, cost-effective solution for small to medium-sized bike retailers, addressing the challenges of inventory management and customer engagement in the digital age. By automating key processes such as stock tracking, booking management, and customer profile handling, the system significantly reduces manual errors and improves operational efficiency.

The user-friendly interface, coupled with advanced search and filtering options, enhances the customer experience, making it easier for users to find and purchase their desired bikes. This improved engagement is likely to lead to increased customer satisfaction and loyalty.

For businesses, the system offers valuable insights through its analytical capabilities, enabling data-driven decision-making in areas such as inventory management and sales strategies. The scalable nature of the platform ensures that it can grow alongside the business, adapting to increasing demands without significant overhauls.

In conclusion, the Bike Management System represents a significant step forward in digitalizing bike retail operations. By streamlining processes, improving customer interactions, and providing robust management tools.

7. REFERENCES

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