VIT®
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

VELLORE INSTITUTE OF TECHNOLOGY, VELLORE

BICYCLE RENTALS IN VIT

Done by

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For the course
Course Code : CSE3002
Course Name : Internet and Web Programming

FALL SEMESTER 2022-23

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ABSTRACT

As we all know that many universities are spread across by large area. There will be many academic blocks and hostel blocks for students inside the campus. These blocks may be very far from each other. In most of the universities there will be no proper transportation facilities for students to travel from one place to other within the campus. Some students have to travel between different academic blocks within short intervals of time to attend classes. Some universities provide shuttle services with some basic fare. But, these services are not the best solution to solve this problem. Because these services may or may not be available when they are needed .Most of the universities allow students to use bicycles inside the campus. But all students cannot afford to buy and maintain bicycles. Using bicycle to travel inside the campus helps students to save their time. Though walking is a very good habit and exercise, but it consumes a lot of time. Bicycling consumes less time and helps a person to be healthy and improve fitness compared to walking. So, the people who doesn't have a bicycle or cannot afford to buy a bicycle can make use of this bicycle rental system. They can rent a bicycle whenever they need and can pay the amount according to the time they used the bicycle. Also, People who have a bicycle can also earn some money using this system. They can give their bicycle when they are not using it to other students through this system and they can earn some money. This type of system will be very helpful for the students.

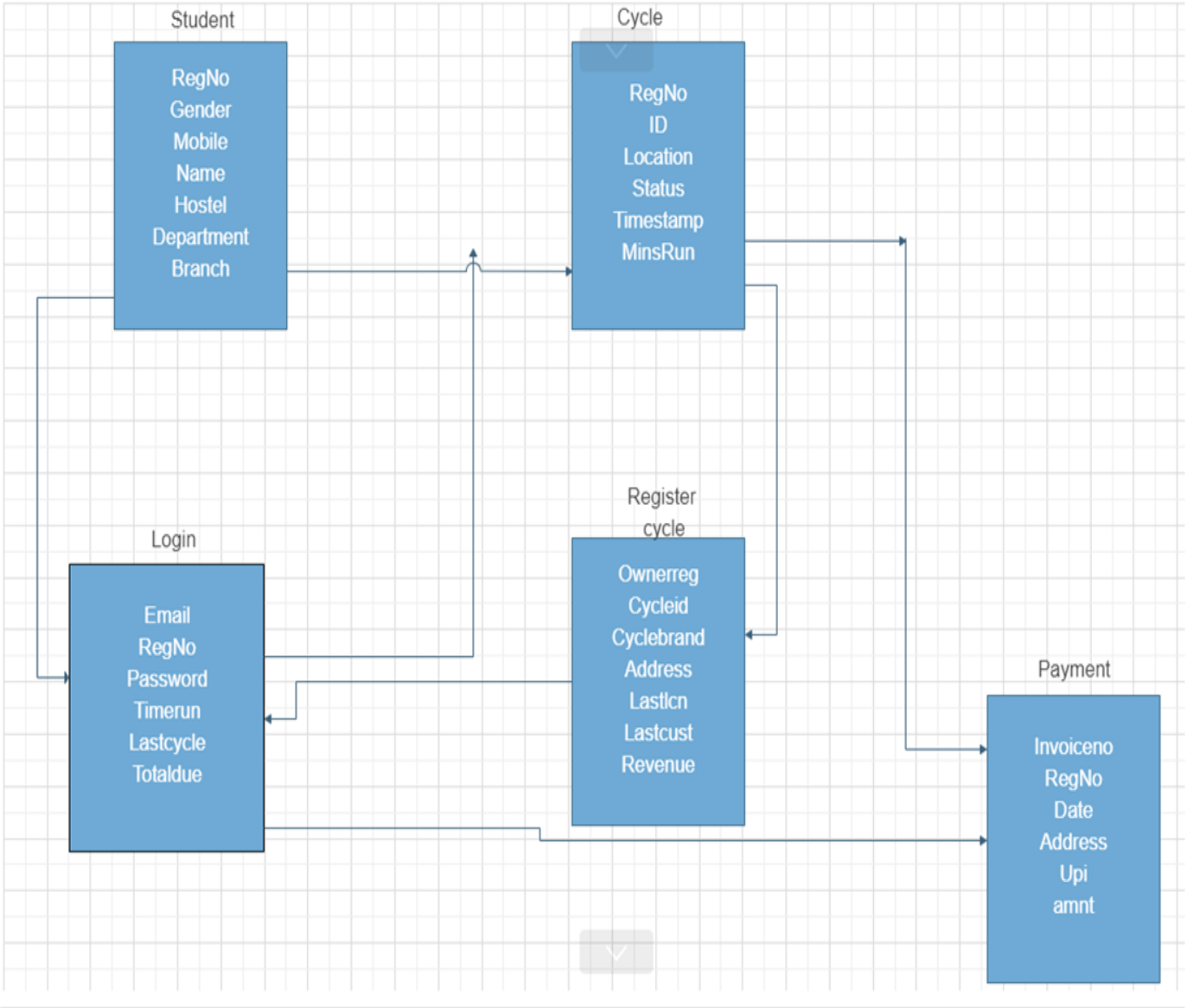
INTRODUCTION

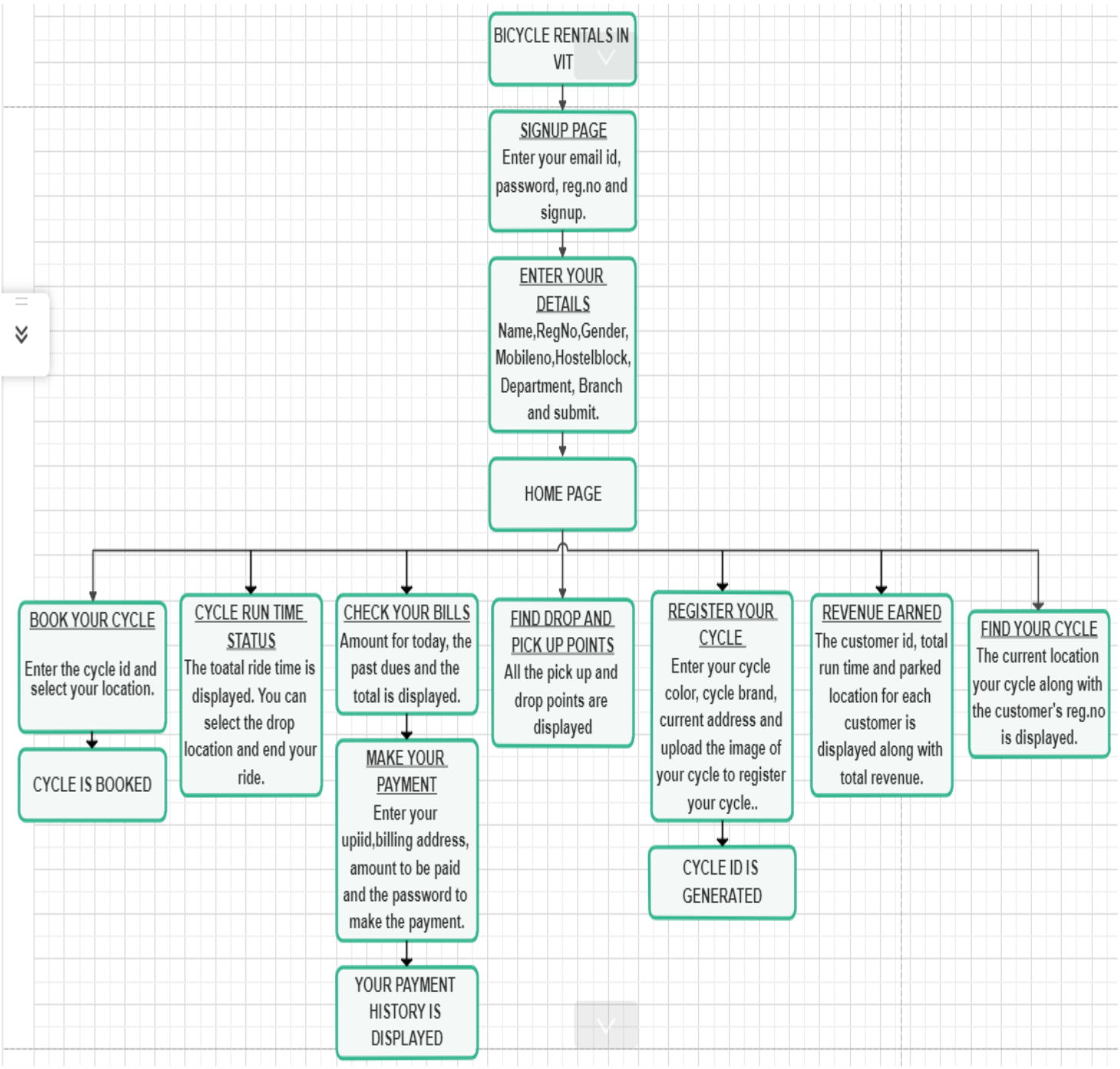
This system is named as Bicycle Rental System. It is designed to help the students to take bicycles for rent. In this system, bicycle owners who want to give their bicycles for rent can register themselves and add their bicycle details. The customers can register themselves as renters, they search for the bicycle that they want to rent and take that bicycle for rent. Details of both the customers and the sellers will be taken and validated to avoid mistakes. Bicycle parked location is required because customer can take the bicycle only by going to that location.

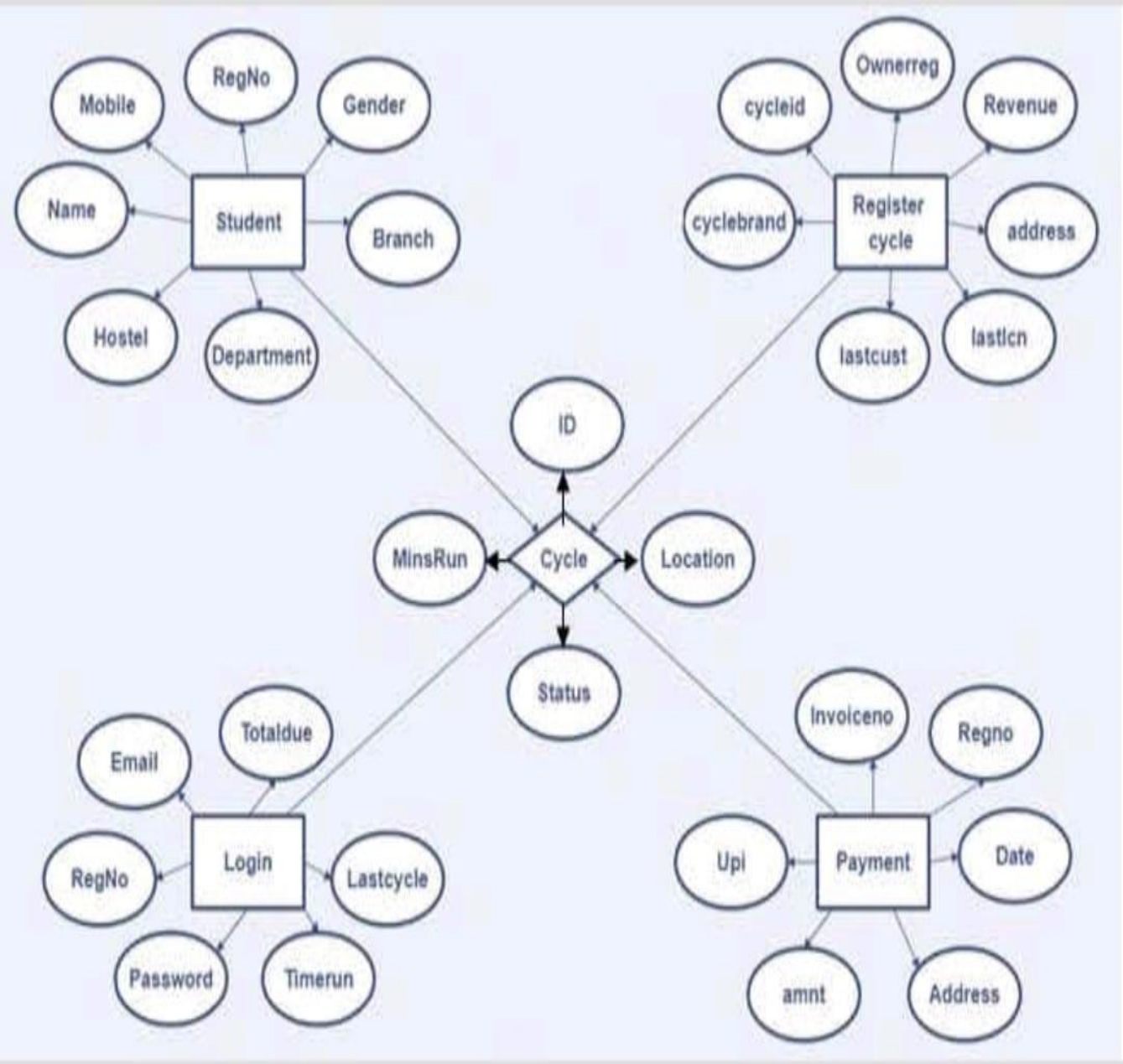
This system allow customers to choose a bicycle according to their need and take that bicycle on rent. Sellers will be able to earn money by giving their bicycle on rent. When the customer take a bicycle on rent, the time that they use bicycle will be recorded. After the usage of that rented bicycle, customer will park the bicycle at some location and enters that location. After the completion of ride, the amount will be calculated according to the time that they used the bicycle.

This project can be implemented in many large universities. Here, we have considered implementing this project for Vellore Institute of Technology. There are many academic blocks and hostel blocks in Vellore Institute of Technology. So, students can make use of this system and travel, explore the campus. This system helps the students to decrease stress levels, strengthen bones, increase fitness, muscle strength and flexibility.

ARCHITECTURE DIAGRAM




BICYCLE RENTALS IN VIT
SIGNUP PAGE
Enter your email id, password, reg.no and signup.
ENTER YOUR DETAILS
Name,RegNo,Gender, Mobileno,Hostelblock, Department, Branch and submit.
HOME PAGE
BOOK YOUR CYCLE
Enter the cycle id and select your location.
CYCLE IS BOOKED
CYCLE RUN TIME STATUS
The toatal ride time is displayed. You can select the drop location and end your ride.
CHECK YOUR BILLS
Amount for today, the past dues and the total is displayed.
MAKE YOUR PAYMENT
Enter your upiid,billing address, amount to be paid and the password to make the payment.
YOUR PAYMENT HISTORY IS DISPLAYED
FIND DROP AND PICK UP POINTS
All the pick up and drop points are displayed
REGISTER YOUR CYCLE
Enter your cycle color, cycle brand, current address and upload the image of your cycle to register your cycle..
CYCLE ID IS GENERATED
REVENUE EARNED
The customer id, total run time and parked location for each customer is displayed along with total revenue.
FIND YOUR CYCLE
The current location your cycle along with the customer's reg.no is displayed.

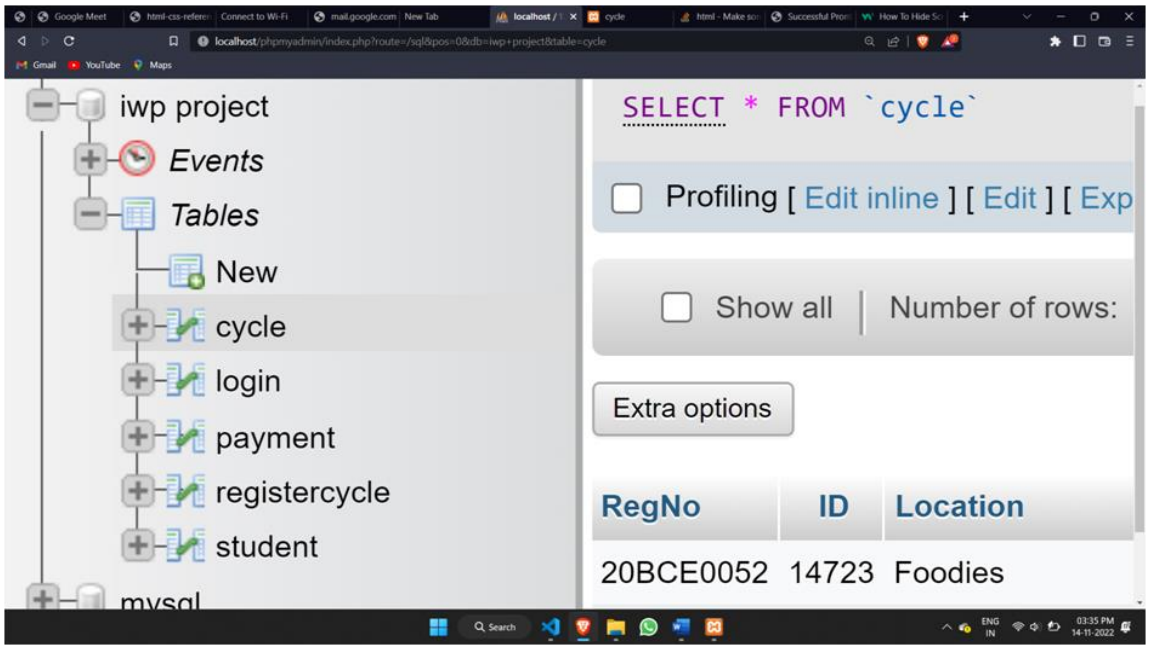

Mobile
RegNo
Gender
Name
Student
Branch
Hostel
Department
Ownerreg
cycleid
Revenue
cyclebrand
Register cycle
address
lastcust
lastlcn
ID
MinsRun
Cycle
Location
Status
Totaldue
Email
RegNo
Login
Lastcycle
Password
Timerun
Invoiceno
Regno
Upi
Payment
Date
amnt
Address

DATABASE DESIGN

We have designed five databases for this web application.

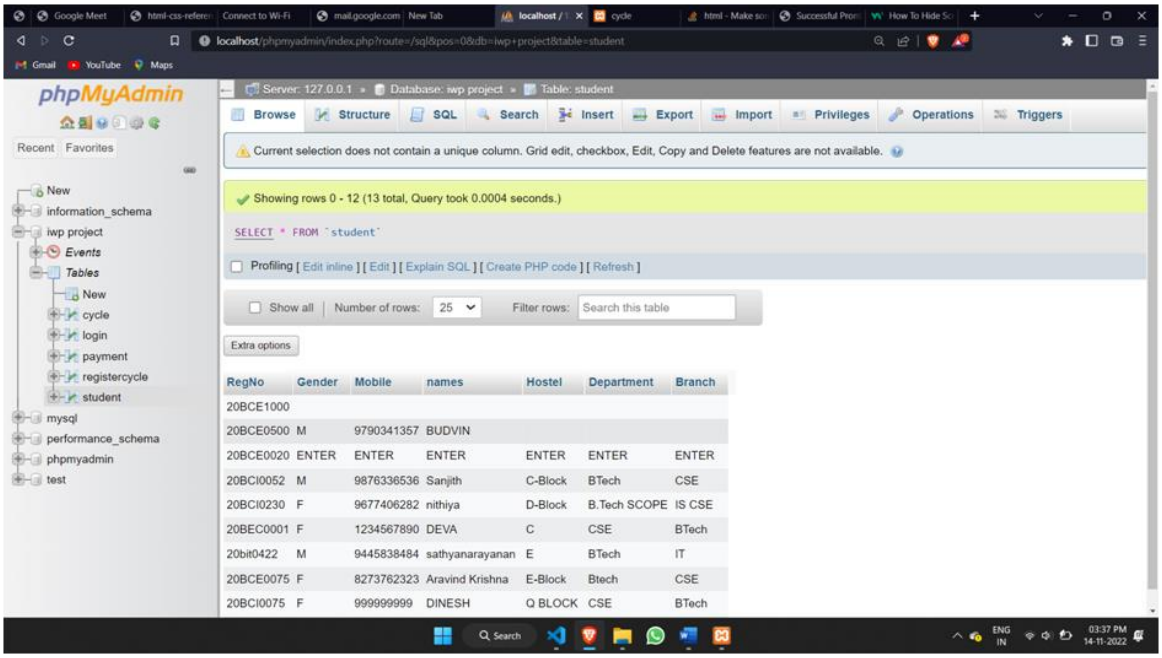
- Student
- Login
- Registercycle
- Cycle
- Payment

Screenshots of the databases used :



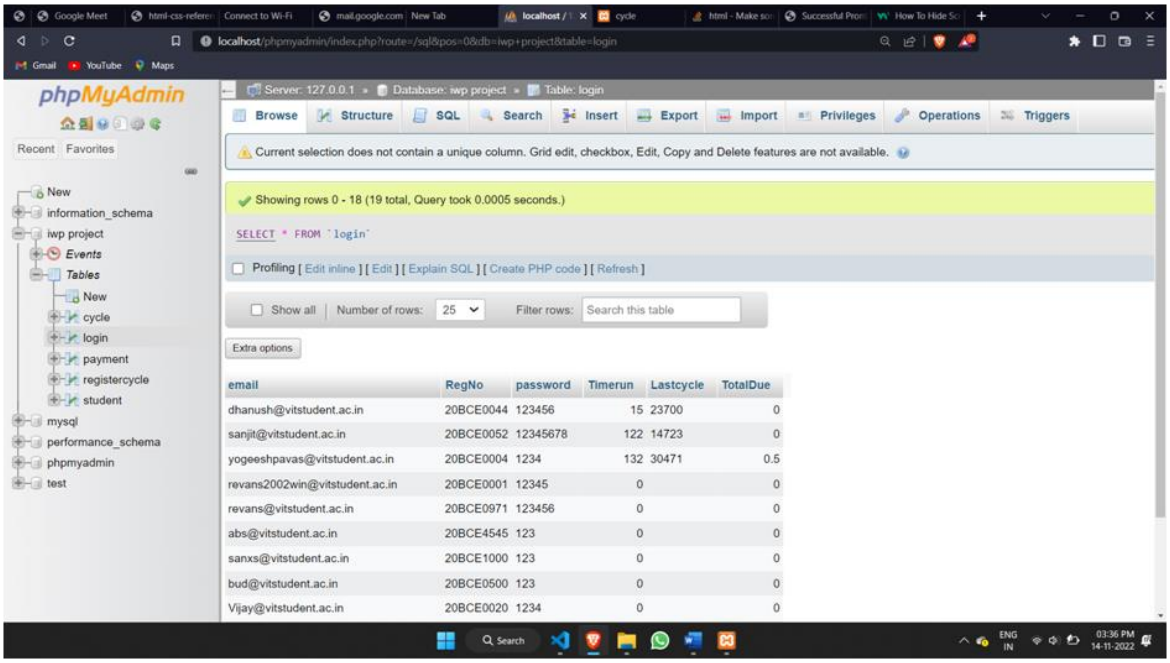
Student Database :

It stores all the student data. It records registration number, gender, mobile number, name, hostel block, department and branch of the student.



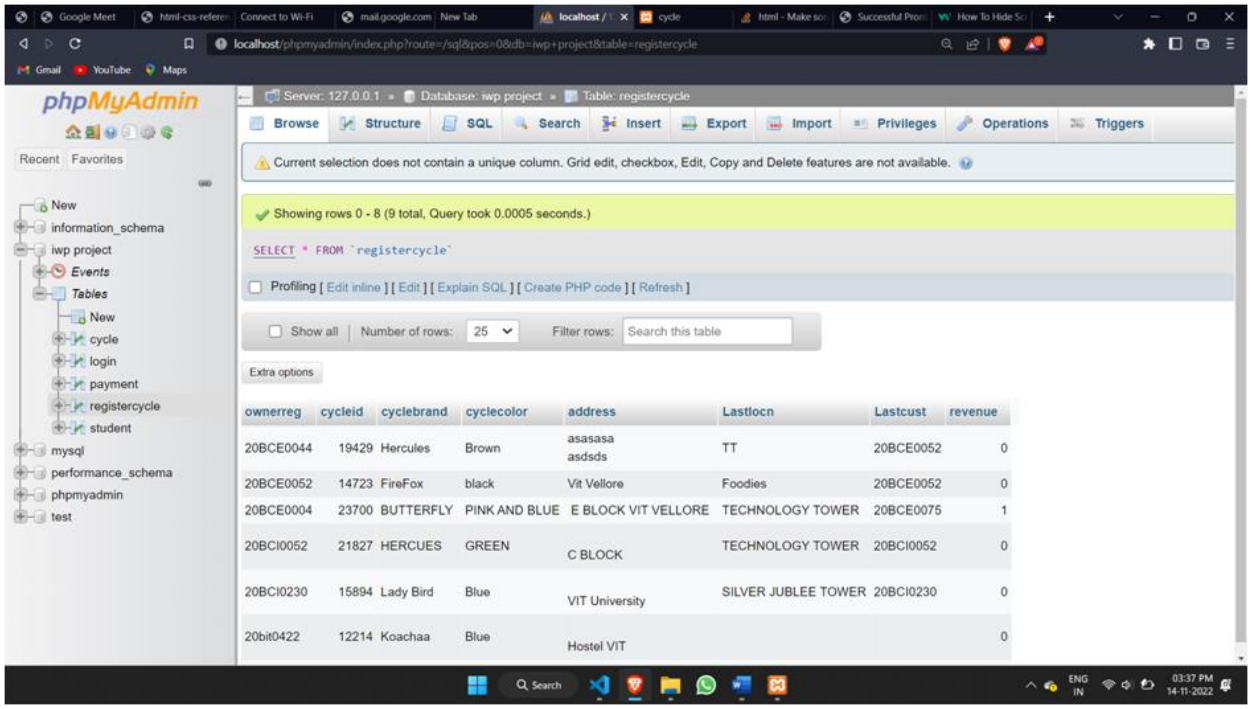
Login Database :

This database stores the details that helps user to login. The data present in the database helps us to validate the user. Email, registration number, password, timerun, last bicycle used and total due left are stored in this database.



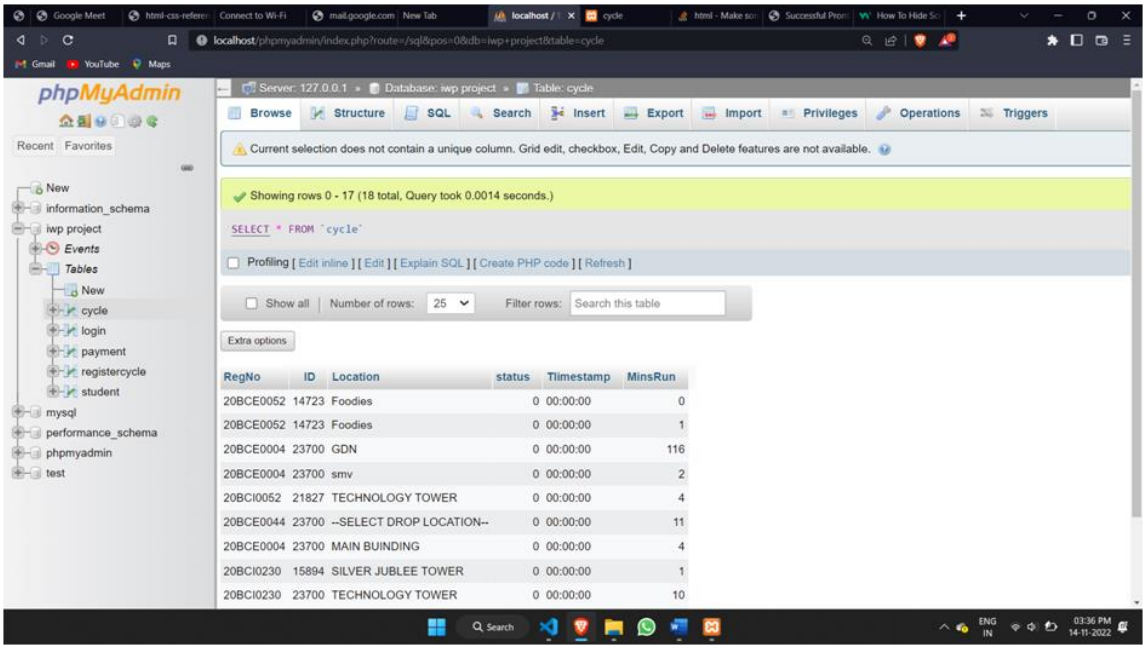
Registercycle Database :

This database store the data related to the cycle specifications. Cycle owner's registration number, cycle id, cycle brand, address, last location where cycle was parked, registration number of the last customer who used that cycle and the revenue generated on that bicycle are stored.



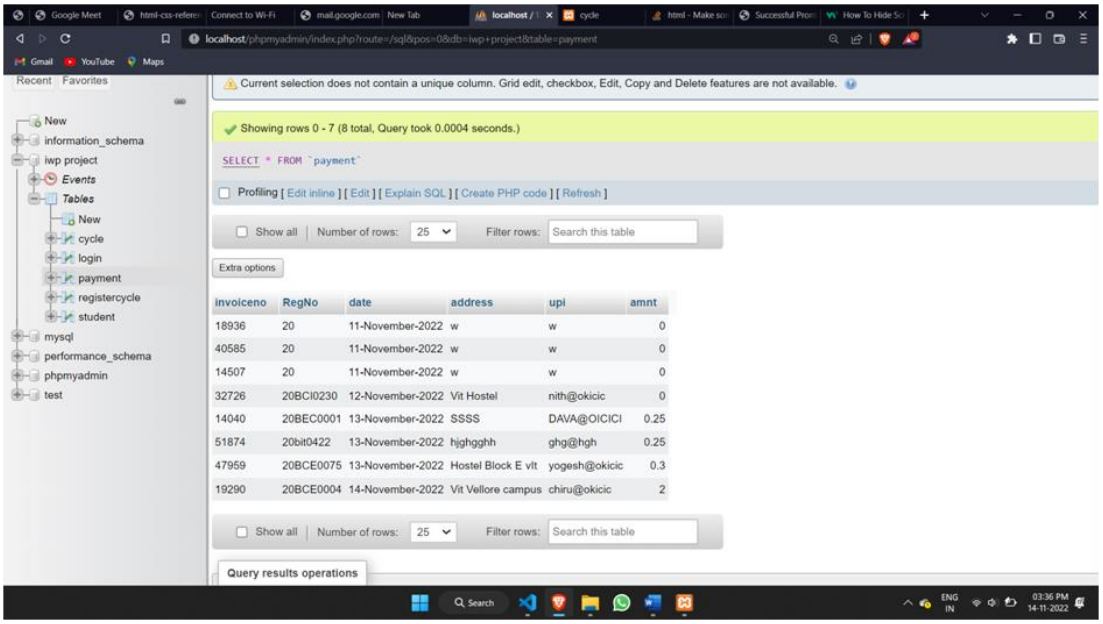
Cycle Database :

This database is created to maintain records related to the usage of each bicycle. For each bicycle, registration numbers of the customers who used that cycle, location at which they parked the cycle, status of the cycle, time and number of minutes that cycle booked are stored in this database.



Payment Database :

To store the information related to payments, we have designed this database. This database stores the invoice number, registration number of the customer , date of payment, address of the customer, upi id and the amount that customer had paid.



MODULE DESCRIPTION

Book a Cycle Module:

The module contains a text field to accept CycleId and a drop down box to select the desired location from the user . When the Submit button is clicked the Column Status of Table Cycle is checked if 0 or 1 if it is 1 then it is booked by some other person and he haven't ended his ride, the user will be alerted with a message "Oops Cycle is booked by other select some other cycle " . If the status is 0 then update the status column of table cycle so that no other can book the same cycle if the user haven't end the ride. The asia pacific Kolkata time is fetched using Date() function in php and stored in Cycle Table so that the total time of run can be calculated with the stored time on end of ride. Then the user is notified with an alert box "Successfully Booked" and redirected to timer page. The cycle_id will be stored in session and passed to next page.

Timer Module:

The timer module contains a display clock that display time run by the cycle till that time the user visit the page, the time is fetched by calculating the present time using the PHP inbuilt function and subtracting that from the time stored in the time column in cycle table .The user will be asked for Parked location and as soon as he click submit button the time of his ride will be calculated and it will be converted to minutes and will be updated into the login table and equivalent cost of his ride will be calculated and added to the table column total due. Then the cycle status will be changed to 0 so that the other users can book and use the cycle .A new row is inserted into cycle table with User registration number fetched from the user and the following cycle id with time run so that this can be used in calculating and displaying the bills. Now the user is redirected to Bills page.

Check Bills Module:

Here the past records of all the rides a user have done is been fetched from the cycle table by matching the registration number column of the table cycle with the registration number of the logged in user stored in session . The fetched results are listed in the form of a table and the total cost of all the fetched rides are calculated and displayed using JS

into the desired div element . The page also contains a paynow button that redirects the user to the payment page.

Payment Module:

This module will fetch the total amount the user need to pay from the total due column in the table login and display into our html element. This page contains a form that accepts the name of user, Upi Id of the user , Amount he wish to pay and password .As soon as he click the submit button check is the entered amount by him is less than his due by fetching the due amount from the login table if the amount is less than his due the user is alerted with "You are making a invalid Payment" else the login table is updated using the update query with a new amount after deducting the amount paid by him in the total due column of table login. The table payment is inserted with a new row containing (upi id ,date ,amount paid).Then he is alerted with a alert box message of "Payment Successful ".Then our module has a show history tab on clicking it our system id redirected to a new page called Payment history where the user can check their payment history.

Register a Cycle Module:

Here the user is asked to enter their cycle details such as Cycle Brand , Cycle Color , their address and image file of their cycle. Then their registration that is stored in sessions is being fetched and compared in register cycle table , if the reg number already exist he is alerted that you already have a cycle else his cycle will be registered and an random generated cycle id is displayed to him.

Revenue Earned :

Here we will be fetching the record of cycle time used by an user and the respective revenue earned for each ride is calculated. The records are stored in cycle table and fetched. The total revenue he earned is also calculated and stored and displayed.

Find Your Cycle:

This module displays the cycle Id , the last customer's regno who used his cycle and the location where the customer parked the cycle .

SAMPLE CODE

Login module:

```
<h2>LOGIN</h2><br>
      <form method="POST">
         <label for="E-mail">REG-NO:</label><br>
         <input type="text" id= "E-mail"placeholder="Enter your REG-No"  title = "You
should enter REG-NO Given by VIT" required name="regno">
         <br>
         <br>
         <label for="pass">Password:</label><br>
         <input type="Password" id="pass" placeholder="****" name="password">
         <br>
         <br>
         <button type="submit" class="login" name="btnsub">LOGIN</button>
         <br>
         <br>
         <br>
         <a href="#">Forget Password?</a><br>
         <br>
         <a href="signup.php">Don't have an account- Register</a>
      </form>
   </div>
   <?php
       $con=mysqli_connect('localhost','root','','iwp project');
      if(isset($_POST['btnsub']))
      {
        $reg = $_POST['regno'];
        $password = $_POST['password'];
        $query="select RegNo,password from login where RegNo='$reg' and
        password='$password';";
        $result=mysqli_query($con,$query);
        $count=mysqli_num_rows($result);
        if($count==1)
        {
          $_SESSION['RegNo']=$reg;
          echo "<script> window.location.assign('Mainpage.php')</script>";
        }
        else{
```

```
            echo "<script> alert('Password or RegNo is incorrect. Re-enter Password or
        Click forgot password option')</script>";
          }
        }
      ?>
```

SignUp Module:

```
<?php
        $con=mysqli_connect('localhost','root','','iwp project');

       if(isset($_POST['btnsub']))
       {
        $reg = $_POST['RegNo'];
        $query1="select * from login where RegNo='$reg' ;";
        $result1=mysqli_query($con,$query1);
        $count=mysqli_num_rows($result1);
        if($count>0)
        {
           echo "<script> alert('REGNO already exists')</script>";
           echo "<script> window.location.assign('Login.php')</script>";
        }
        else{
        $password = $_POST['password'];
        $password1= $_POST['password2'];
        $email = $_POST['email'];
        $reg = $_POST['RegNo'];
        if($password==$password1)
        {

        $query = "insert into login (email,password,RegNo) values('$email','$password','$reg') ";

        $result = mysqli_query($con,$query);
        $query2 = "insert into student (RegNo) values('$reg');";
        $result2 = mysqli_query($con,$query2);
        if($result2)
        {
           $_SESSION['RegNo']=$reg;
           echo "<script> window.location.assign('Profile.php')</script>";
        }
```

```
        else{
            echo "False entry";
        }
        }
        else{
            echo "Password Doesn't match ";
        }
    }
}


 ?>
```

Book a Cycle:

```
<?php
    $server = "localhost";
    $username = "root";

    $conn = new mysqli($server,$username,'','iwp project');
    if ($conn->connect_error) {
      die("Connection failed: " . $conn->connect_error);
    }

    if (isset($_POST['submit'])) {
      $cycleid = $_POST['id'];
      $reg = $_SESSION['RegNo'];
      $locn = $_POST['locn'];
      $query1 = "select* from cycle where ID='$cycleid'";
      $result1 = mysqli_query($conn, $query1);
      $count=mysqli_num_rows($result1);
      date_default_timezone_set("Asia/Calcutta");
      $time = date('h:i:s');
      $queryof = "select* from registercycle where cycleid='$cycleid'";
      $resultof = mysqli_query($conn, $queryof);
      $countof=mysqli_num_rows($resultof);
      if($countof<1){
        echo "<script> alert('You Have Entered a wrong Cycle_ID!!!')</script>";
      }
      else{
```

```
        if($count>0)
        {
          $val = 0;

          while($row = $result1->fetch_assoc()){
         $val = $row['status'];
         }
          if($val ==0){

          $_SESSION['cycle_id']=$cycleid;
          echo "<script> alert('Cycle Booked successfully!!!!')</script>";
          echo "<script> window.location.assign('timer1.php')</script>";
          $query = "insert into cycle (RegNo,ID,Location,status,TIimestamp)
values('$reg','$cycleid','$locn',1,'$time')";
          $result = mysqli_query($conn, $query);
          echo "<script> alert('Cycle Booked successfully!!!!')</script>";
          }
          else{
          echo "<script> alert('OOPS This is cycle is not available! Select another cycle')</script>";
          }
         }
        else
        {
         $query = "insert into cycle (RegNo,ID,Location,status,TIimestamp)
values('$reg','$cycleid','$locn',1,'$time')";
         $result = mysqli_query($conn, $query);

          if ($result) {
            echo "<script> alert('Cycle Booked successfully!!!!')</script>";
            $_SESSION['cycle_id']=$cycleid;
            echo "<script> window.location.assign('timer1.php')</script>";
           }
           else {
            echo "Error updating record: " . $conn->error;
           }

          }
        }
      }
    ?>
```

Timer :

```
<?php


 $server = "localhost";
 $username = "root";
 $reg = $_SESSION['RegNo'];
 $conn = new mysqli($server,$username);
 if ($conn->connect_error) {
   die("Connection failed: " . $conn->connect_error);
 }
 $query1 = "select * from cycle where RegNo='$reg' AND status=1";
 $db = mysqli_select_db( $conn, 'iwp project' );
 $result= mysqli_query($conn, $query1);
 $cycleid;
 $datetime1;
 while($row = $result->fetch_assoc()){
   $datetime1 = $row['TIimestamp'];
   $cycleid = $row['ID'];
 }
 $count=mysqli_num_rows($result);
 $mins=0;
 if($count>0){
   date_default_timezone_set("Asia/Calcutta");
 $datetime1 = strtotime($datetime1);
 $h1 = (float)(date('h',$datetime1));
 $m1 = (float)(date('i',$datetime1));
 $s1 = (float)(date('s',$datetime1));
 $h2 = (float)(date('h'));
 $m2 = (float)(date('i'));
 $s2 = (float)(date('s'));
 $h = ($h2 - $h1);
 $m = ($m2 - $m1);
 $s = ($s2 - $s1);
 if($m<0){
   $m = 60+$m;
   $h -=1;
 }
 if($s<0){
```

```
      $s +=60;
      $m -=1;
    }


    $mins += ($h*60 + $m);
    $h = (string)$h;
    $m = (string)$m;
    $s = (string)$s;

    $res = $h.":".$m.":".$s;
    echo "<script>document.getElementById('time').innerHTML= '$res'  </script>";

    }

    if(isset($_POST['btn'])){
      $locn = $_POST['pk'];
      $que = "UPDATE cycle set status = 0, TIimestamp = default,Location='$locn',MinsRun='$mins'  WHERE RegNo ='$reg' and status=1 ";
      mysqli_query($conn, $que);
      $query1 = "select Timerun from login where RegNo ='$reg' ";
      $result= mysqli_query($conn, $query1);
      $pasttime;
      $pastdue;
    while($row = $result->fetch_assoc()){
      $pasttime = $row['Timerun'];
      $pastdue = $row['TotalDue'];
    }
    $cost = 0.25;
    $pasttime += $mins;
    $pastdue += ($mins*$cost);
    $que1 = "select * from registercycle where cycleid ='$cycleid' ";
    $res1 = mysqli_query($conn, $que1);
    while($row = $res1->fetch_assoc()){
      $reven = $row['revenue'];

    }
    $reven += ($mins*$cost);
    $que = "UPDATE login set   Timerun = '$pasttime',TotalDue      = '$pastdue',Lastcycle='$cycleid' WHERE RegNo ='$reg'  ";
```

```
    mysqli_query($conn, $que);
    $que = "UPDATE registercycle set   Lastlocn = '$locn'    ,Lastcust='$reg',revenue='$reven'
  WHERE cycleid ='$cycleid'  ";
    mysqli_query($conn, $que);
    echo "<script> window.location.assign('CheckBills.php')</script>";

    }

   ?>
```

Payment :

```
<?php
    $reg=$_SESSION['RegNo'];
    $con=mysqli_connect('localhost','root','','iwp project');
    $query1 = "select * from login where RegNo='$reg'";
    $result1 = mysqli_query($con, $query1);
    while ($row = $result1->fetch_assoc()) {
      $totcost = $row['TotalDue'];
      $pass1=$row['password'];

    }
    date_default_timezone_set("Asia/Calcutta");
    $date=  date('j\-F\-Y');
    $disp=(string)$totcost;
    $disp = "₹".$disp;
    echo "<script>document.getElementById('payAmt').textContent ='$disp';</script>";
    if(isset($_POST['subpay'])){
      $upi = $_POST['upi'];
      $address = $_POST['address'];
      $amnt = $_POST['amt'];
      $pass = $_POST['pass'];
      $invoice = rand(11111,55555);
      if($amnt <=0 or ($totcost -$amnt)<0){
        echo "<script> alert('You Are making an invalid Payment')</script>";

      }
      else{
      if($pass1 ==$pass){
```

```
    $query = "insert into payment (invoiceno,RegNo,date,address,upi,amnt)
values('$invoice','$reg','$date','$address','$upi','$amnt')";
    $result = mysqli_query($con,$query);

    $up = $totcost- $amnt;
    $query2 = "update login set TotalDue='$up' where RegNo='$reg'";
    $result2 = mysqli_query($con, $query2);
    if($result)
    {
     echo "<script> alert('Payment Successfully')</script>";
     echo("<meta http-equiv='refresh' content='1'>");
    }
   }
   else{
    echo "<script> alert('Password Entered Incorrect')</script>";
   }
   }

  }
   ?>
```

Revenue Module:

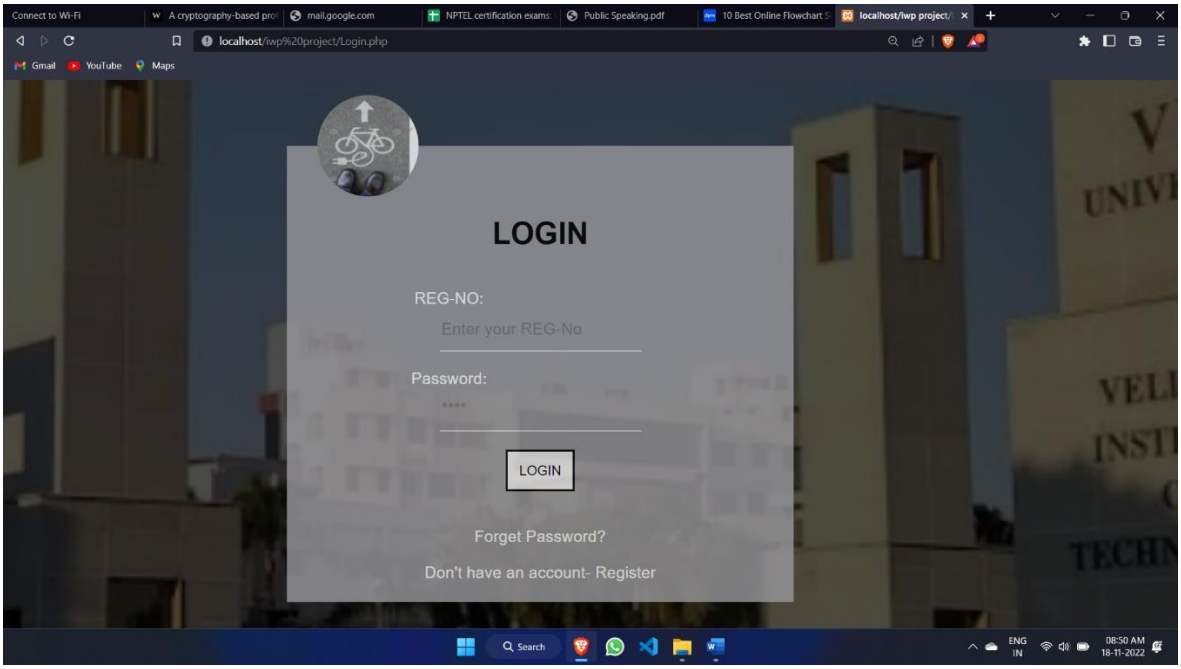
```
<div class="container">

    <h1 align="center" style="margin-bottom:60px;"> HISTORY OF CYCLE RUN </h1>

    <table border="2px" align="center" >
    <?php
            $server = "localhost";
            $username = "root";
            $reg = $_SESSION['RegNo'] ;
            $conn = new mysqli($server,$username,'','iwp project');
            if ($conn->connect_error) {
              die("Connection failed: " . $conn->connect_error);
            }
            $reg = $_SESSION['RegNo'];
            $query1 = "select * from registercycle where ownerreg='$reg'";
    $result1 = mysqli_query($conn, $query1);
    while($row = $result1->fetch_assoc()){
```

```
    $cycleid = $row['cycleid'];
}

        $cnt =1;
        echo "
<tr>
<th>
    SNO
</th>
<th>
    CUSTOMER ID
</th>

<th>
    TOTAL RUN TIME
</th>
<th>
    TOTAL REVENUE EARNED
</th>
<th>
    PARKED LOCATION
</th>
</tr>
                ";
        $cost=0;

$query1 = "select * from cycle where ID='$cycleid' and status=0";
$result1 = mysqli_query($conn, $query1);
$tot = 0 ;
        while($row = $result1->fetch_assoc()){
                $regnos = $row['RegNo'];
                $run = $row['MinsRun'];
                $reven = ($run * 0.25)* 0.5;
    $tot = (float)$tot + (float)$reven;
                $locn = $row['Location'];

                echo "
                <tr class='n'>
                        <td>".$cnt."</td>
                        <td>".$regnos."</td>
```

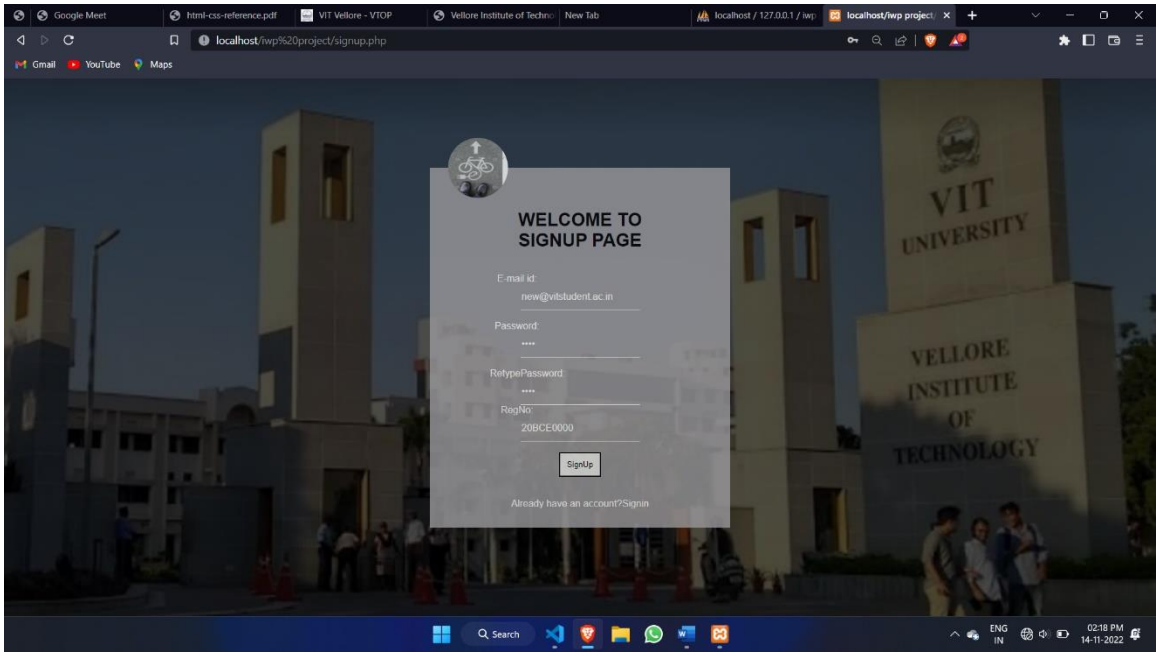
```
                    <td>".$run."</td>
                    <td>".$reven."</td>
                    <td>".$locn."</td>

                </tr>
                ";
                $cnt++;


            }
    $tot = "₹ ".$tot;

            ?>


    </table>

</div>
    <div align="center" style="margin-top:100px;">
        <h1>Total Revenue</h1>
<p class="n1" id="tot"> n1</p>
</div>
<div align="center" style="margin-top:100px;">
<a href="Mainpage.php">
<p class="n2"> Go Back</p>
</a>
</div>
</div>
<?php
    echo "<script>document.getElementById('tot').innerHTML='$tot'</script>";
?>
```

SCREENSHOTS

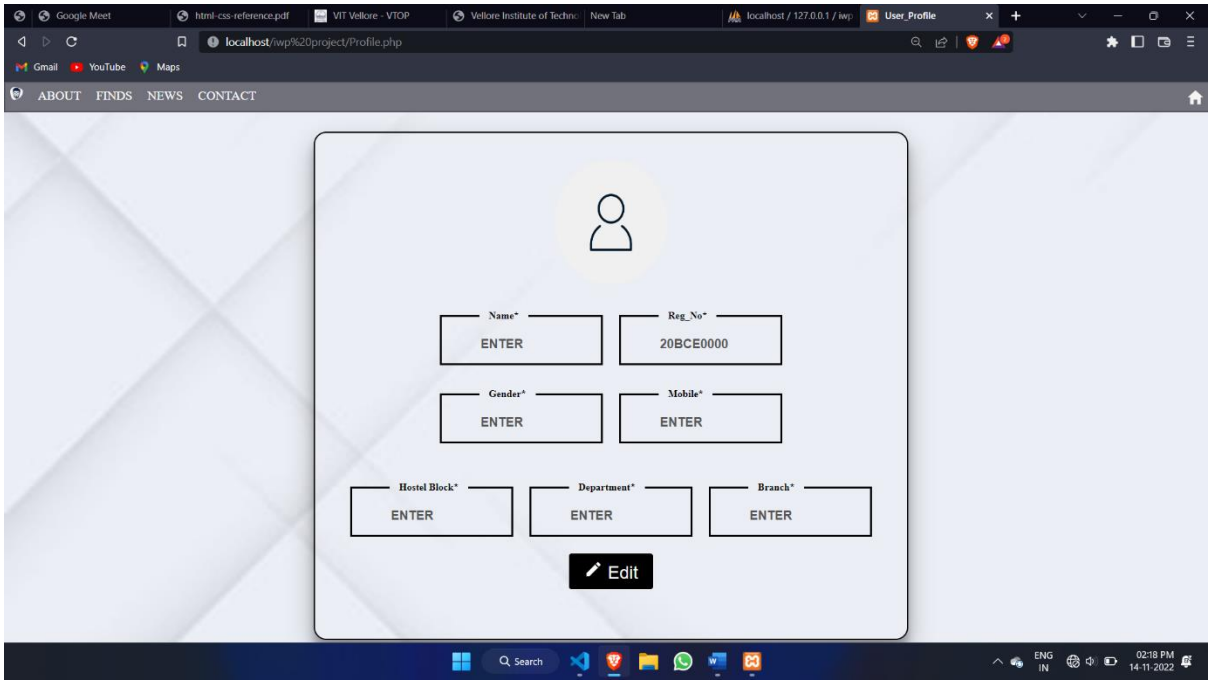
Login :



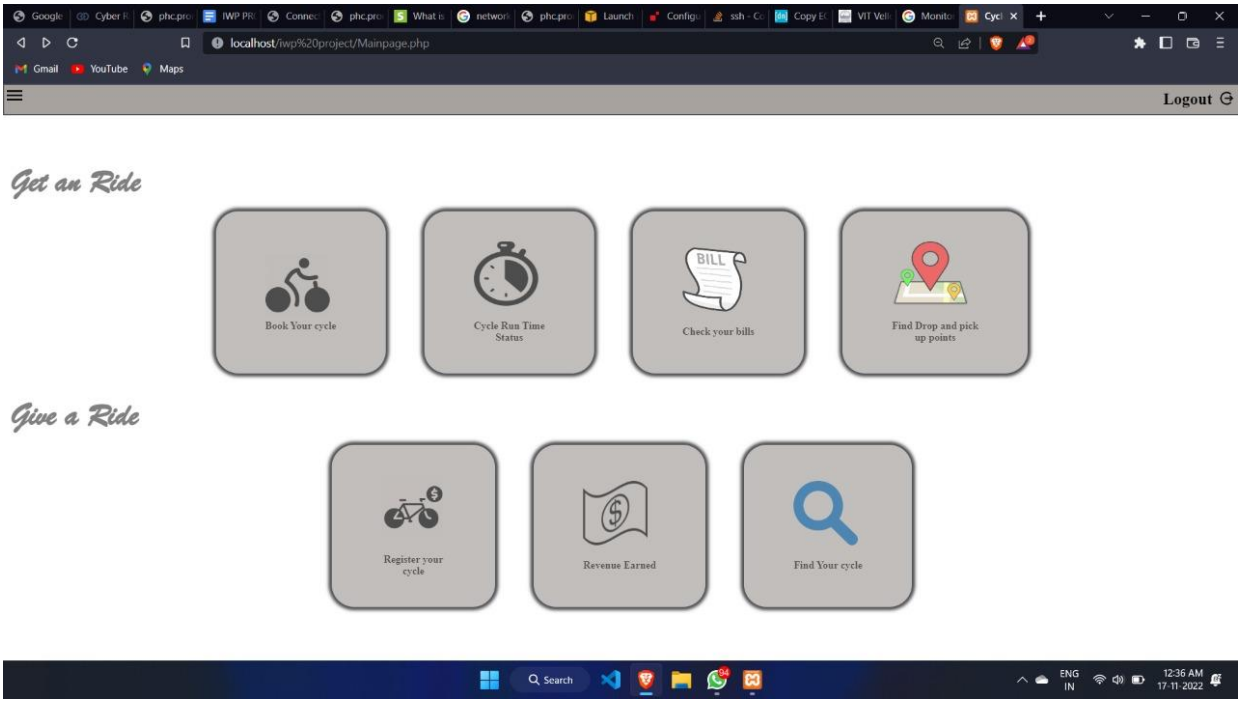
SignUp :



Profile:



Home page :



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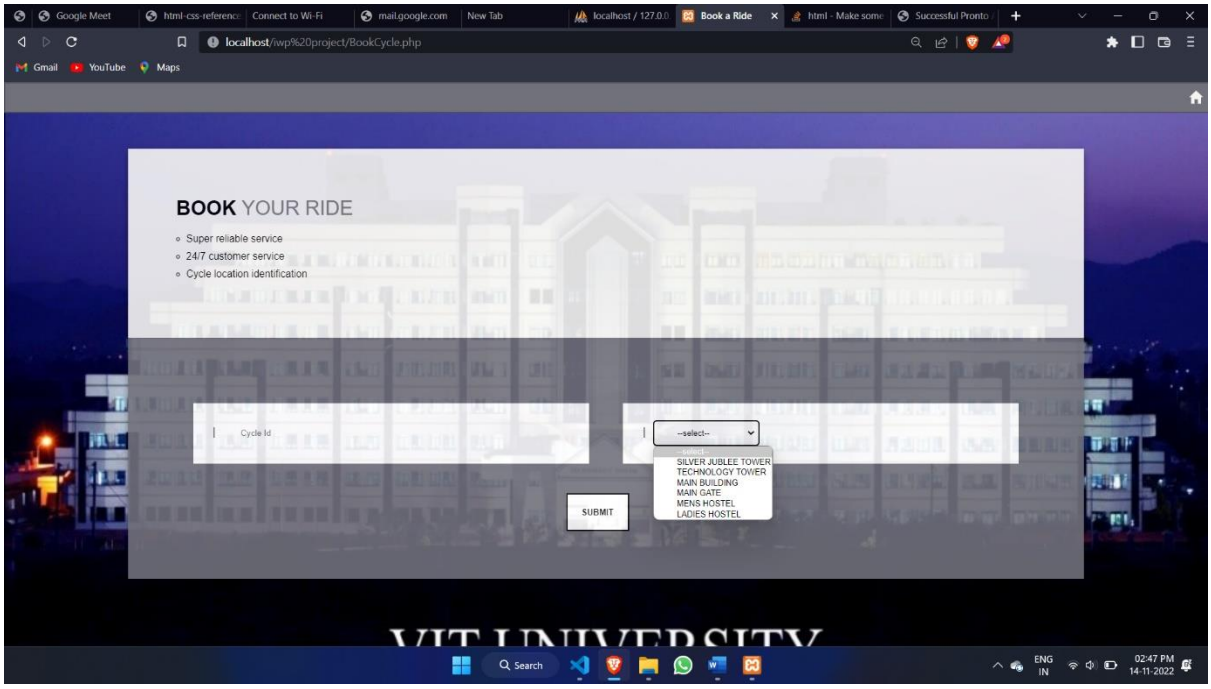

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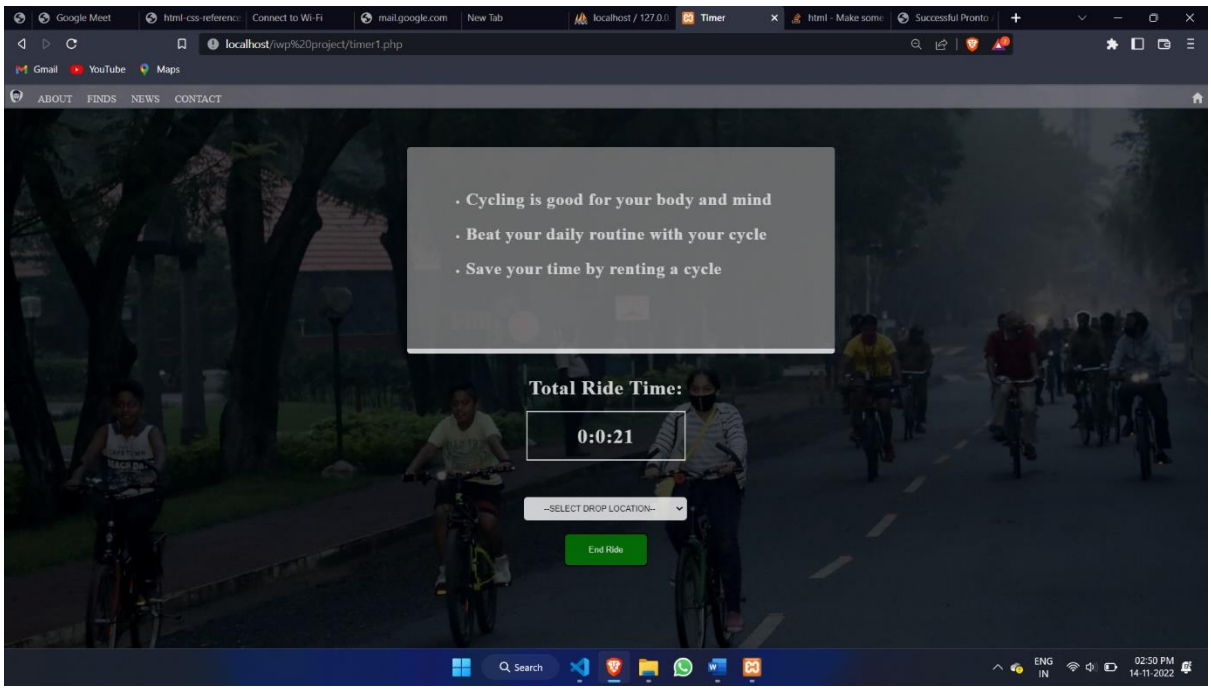

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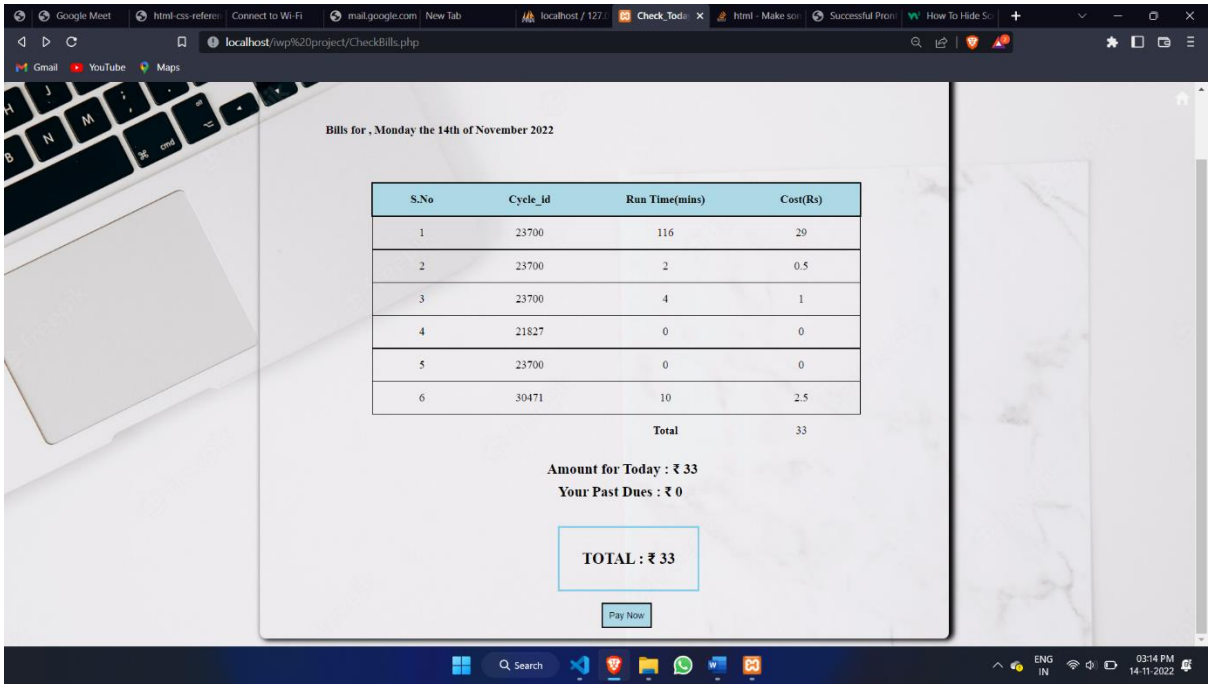

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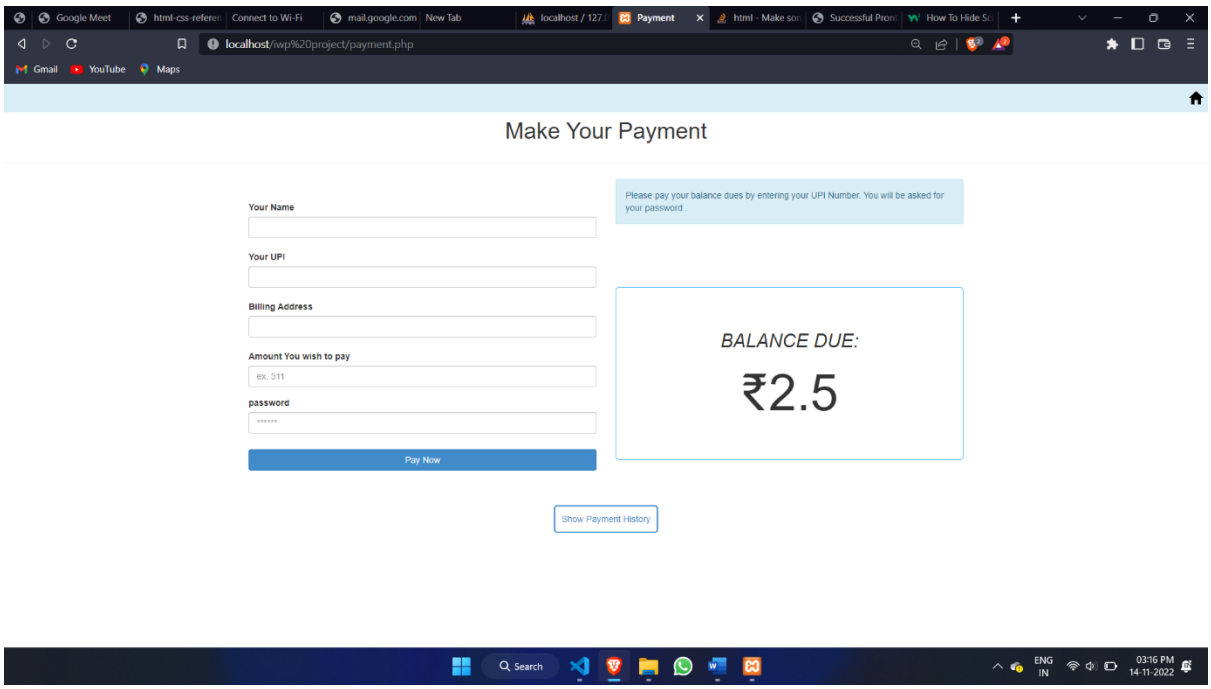

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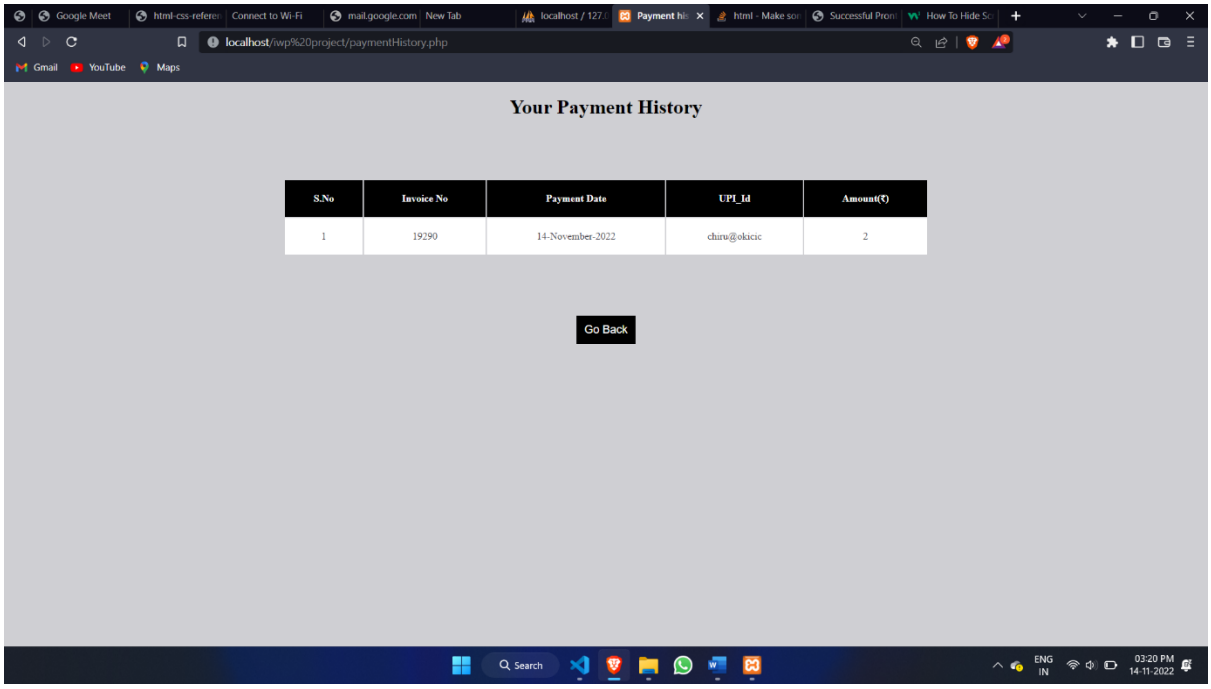

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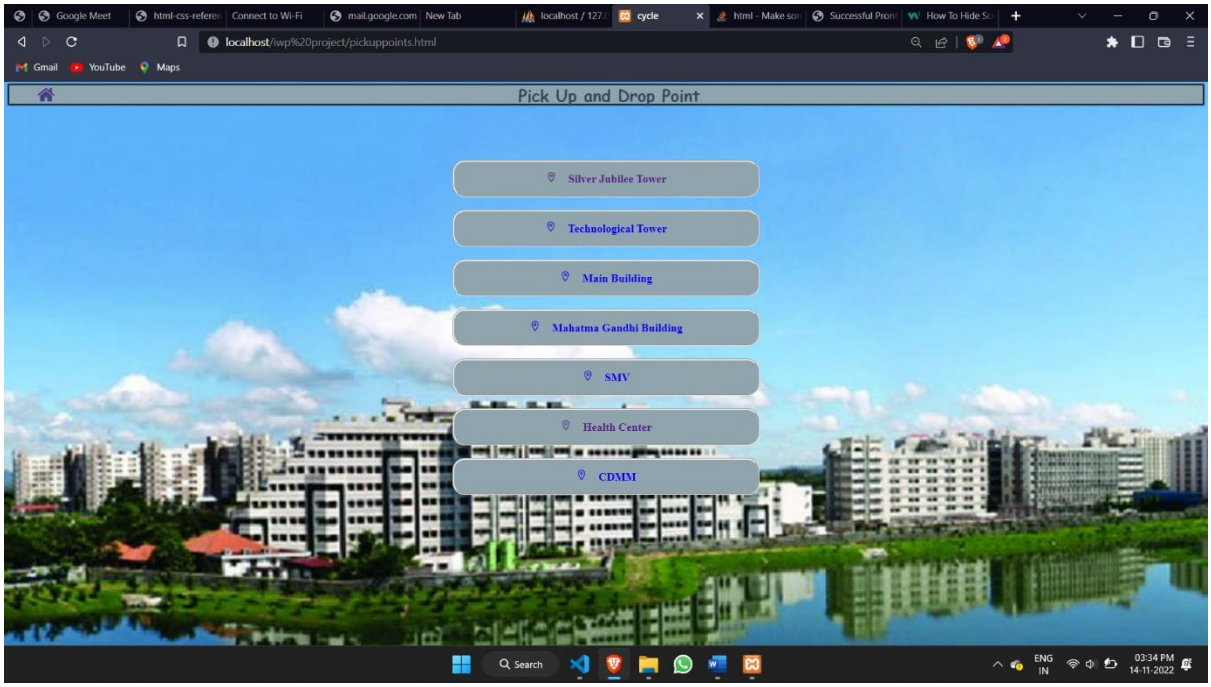

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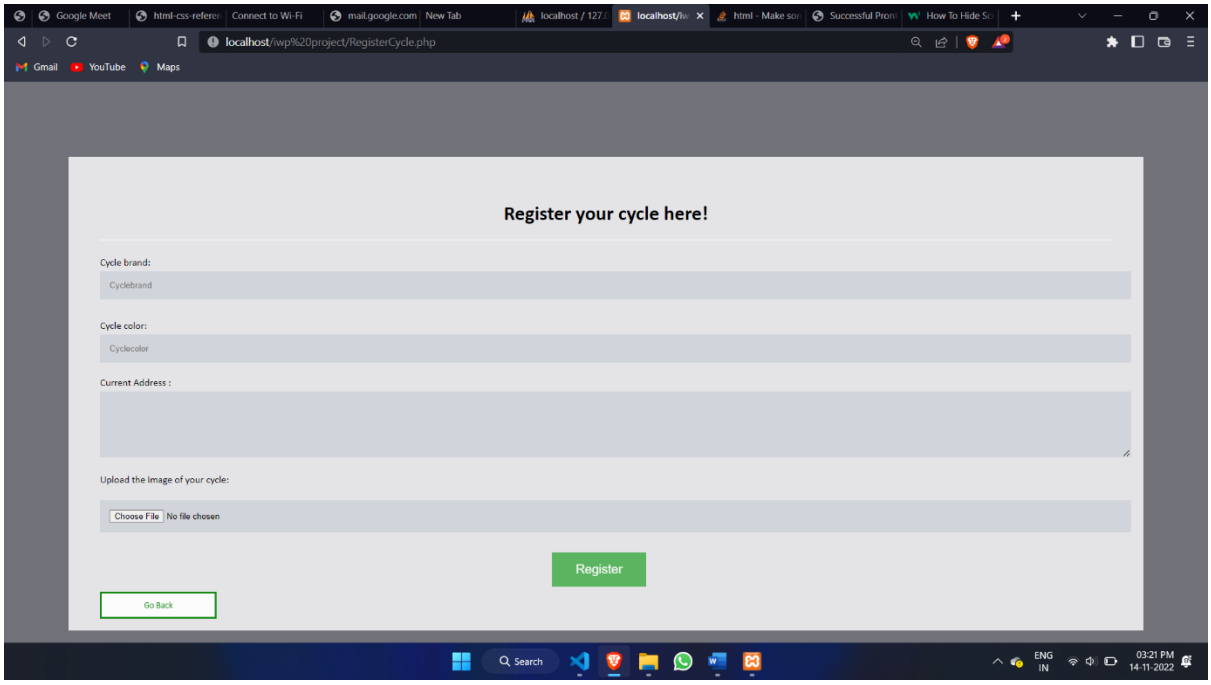

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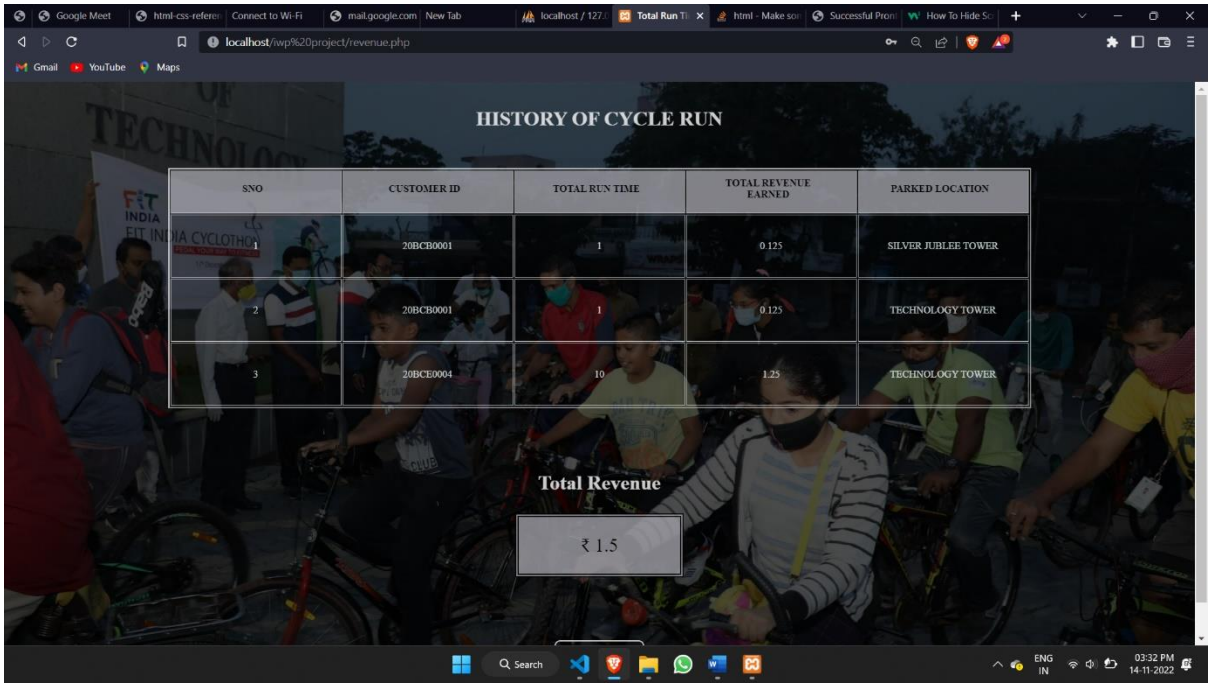
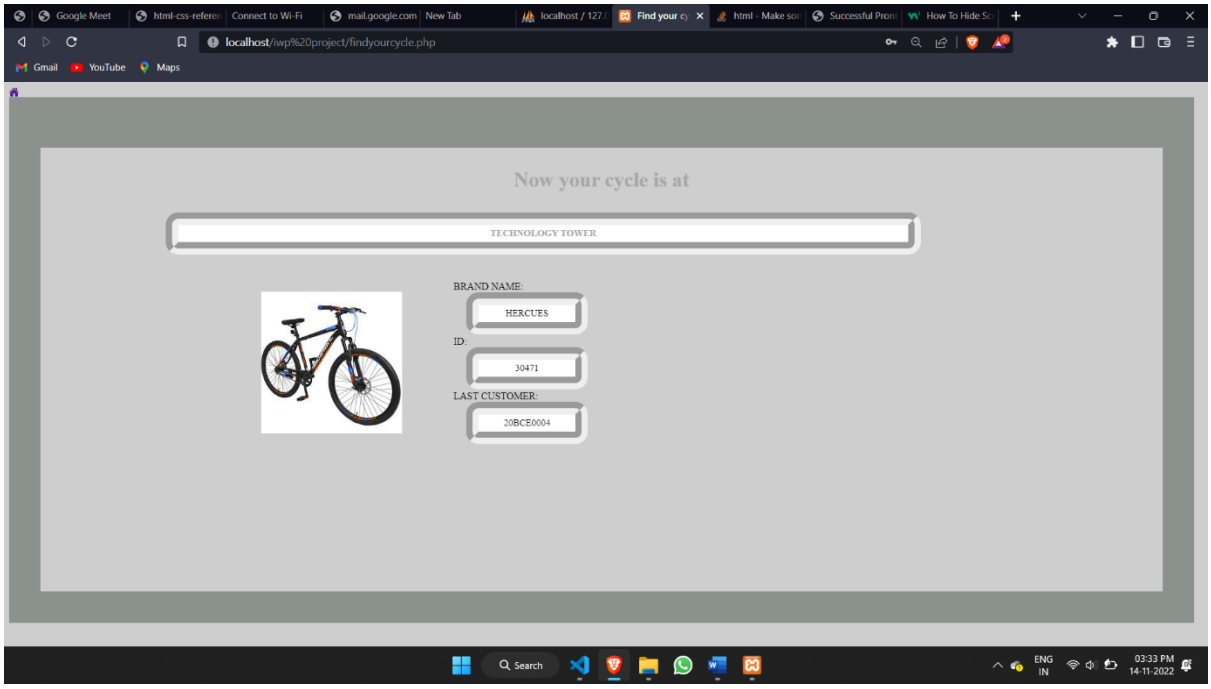


Find Cycle: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New Tab
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CONCLUSION

The purpose of this project is to develop a web application for renting bicycles in an university. It helps students to travel or explore the campus easily with in less time. It also makes students healthy and fit. We have designed all the parts that are required for an web application. We have developed this system with much care and free from errors and at the same time efficient and less time consuming.

This project helped us in gaining practical knowledge on several topics like web page designing using html and css, creating functions using javascript, creating databases and managing them using php and mysql. Also, this project helped us understanding about the development phases of a project. We learned a how to test different features of a project. This project gave us a great satisfaction in having designed an application which helps students a lot and can be implemented in an university.

There is a lot of scope for further development in this project. A number of features can be added to this system to improve the performance and security and make it more user friendly. Sending an OTP to email or mobile number of customer or an owner when they try to login to the application helps us to verify them.