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CSE2004 -DATABASE MANAGEMENT SYSTEM

Parking MANAGEMENT SYSTEM

PROJECT REPORT

SUBMITTED BY :

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Github link:

https://github.com/7abhisheknn/Parking_Management_System

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CHAPTER # 1

Introduction

Contents:

ABSTRACT

This project is a completely online solution for parking problems.

It consists of a large database of parking places and user can search by free, paid, timings , area and much more. The parking admin can manage and control all the parking sites by website. Billing is shown to user and mailed and both user and admin can see previous parking bills in their respective dashboards

Introduction to the System:

The Parking Management System has been designed to override the problem of existing manual system. This web application is supported to eliminate and in some case reduce the hardship faced by manual system. The application is designed to reduce much possible errors while entering the data. Its also provide message while entering invalid data. No formal knowledge is required for the user to operate this system. Overall we said that Parking Management System is user friendly.

In Parking Management System we use PHP , HTML and MySQL Database. This project customer’s parking and admin’s places. Parking Management System has 4 module i.e. admin, customer, billing and places.

Problem Definition:

During urgent times not finding a suitable parking place is indeed a critical issue.In cities especially during peak hours vehicle count dramatically increases and finding a parking space becomes a tedious task.

Maintaining expensive parking tags and cards that are application specific and no one tag fits all is difficult in this digital age.

The old parking paradigm doesn't work for the environment, as hidden subsidies encourage over reliance on private car use a major, growing contributor to global warming and air pollution.

Objective:

This software project is a parking management software system with all the basic as well as some innovative features for managing and parking.
This innovative parking management system provides a completely online maintenance for admins and parking and managing for customers

Need of the System:

The available and reserved parking slot information to be displayed to the user is stored in the database which can be updated by the admin of the respective parking slot in realtime .

Admin and user login information is stored in a database as well.

CHAPTER # 2

Hardware and Software Requirements

Contents:

Introduction:

In this chapter I mentioned the software and hardware requirements, which are necessary for successfully running this system. The major element in building systems is selecting compatible hardware and software. The system analyst has to determine what software package is best for the **"Parking Management System"** and, where software is not an issue, the kind of hardware and peripherals needed for the final conversion.

System Environment:

After analysis, some resources are required to convert the abstract system into the real one.
The hardware and software selection begins with requirement analysis, followed by a request for proposal and vendor evaluation.

Software and real system are identified. According to the provided functional specification all the technologies and its capacities are identified. Basic functions and procedures and methodologies are prepared to implement. Some of the Basic requirements such as hardware and software are described as follows: -

Requirements:

- Microsoft Windows 7/8/10 or Linux or Mac.
- XAMPP (MySQL, Apache, PHP).
- Visual Studio Code or any other text editor.
- Chrome or any other browser.

Server end :

Software:

database : mysql

server : xampp localhost

backend language : php

Hardware:

Minimum cpu: Intel I3

Minimum storage: 5GB

Minimum RAM: 1GB

Minimum Internet Speed: 5mb/s

User end: (frontend : website)

Software:

Any web-browser

frontend language : html , css , javascript

Hardware:

Minimum cpu: Intel Pentium

Minimum storage: 2GB

Minimum RAM: 0.5GB

Minimum Internet Speed: 0.5mb/s

CHAPTER # 3

System Analysis

Contents:

Purpose:

The main objective of the Parking Management System project is to manage the details of Admin, Customer, Billing and Places. This Parking Management System will definitely reduce the time, energy and money wasted in manually searching the details of the currently parked and reserved customers. With the help of this software, all the places and cusromers can be properly channelized.

Project Scope:

The project has a wide scope, as it is not intended to a particular organization. This project is going to develop generic software, which can be applied by any parking places. More over it provides facility to its users. Also the software is going to provide a huge data of parking places and previously parked bills.

Proposed System:

The proposed Parking Management System is to have everything completely automated and computerized. The software is very easy to use and manage even for a non technical person. The redundancy and ambiguity will be removed by assigning every entitiy a primary key.

System Overview:

Parking Management System has four interconnected modules i.e. admin, customer, billing and places.

Admin Module

Admin require admin email and password for login into admin module .

If admin enters a wrong email or wrong password warning is show to admin

Or if new company enters they can create a admin account.

1. **Home**: This a single paged website so admin can see all the details at one time
2. **Create new parking place :** In this section, admin can create a new parking place for his company.
3. **Controling parked customers :** In this section, admin can remove parked customers due to some emergency
4. **Bills** : In this section, admin can see all previous parking bills.
5. **logout** : Admin can move out of the page .
6. **Edit** : Admin can change the email, password and company deatils.

User Module

1. **Home:** This a single paged website so admin can see all the details at one time
2. **Confirm Parking:** In this section, Customer can confirm or cancel where they need to park
3. **Current Places:** In this section, Customer can see current parking places of all his vehicles. And can unpark vehicles.
4. **Bills** : In this section, Customer can see all previous parking bills.
5. **Edit** : Customer can change the email, password, personal deatils and vehicles.

Places : Anyone on the internet can visit our website see parking places data or use the data for developing their own ideas.

About Us: This will redirect to github page of our project, where they can see our code or contribute to our project

CHAPTER # 4

Implementation issues

PHP

PHP can be defined as a programming language for Database access from the web's browser. In other words, it is an HTML-embedded scripting language. It focuses on the logic of how a page responds to user input and not how the page looks that i.e. not the primary appearance of the page.
PHP runs on the server side, which means that the web server that sends an HTML file to a user's browser, will carry out the instructions found in the embedded PHP code first, and then send the output of the PHP code along with the HTML code. The result is a webpage with dynamic content.

Brief History on PHP:

PHP is a language for creating website that can be more or less interactive. It was created in 1994 by Rasmus Lerdorf who was a software engineer and who was part of the Apache Team. In the same year, he created a package, added some database support and called it PHP/FI (Form Interpretation).
In 1995, it was called the Personal Home Page Tool then was released as version2 with a name called PHP/FI (a form interpreter responsible for analyzing queries). In mid of 1997, more than 50,000 websites began using PHP and in October, 1998, there was an increase in the number of websites using PHP which was about 100,000.
In 2000, there was a release of PHP 4.0.2. And currently over 1,000,000 sites in the whole world are using PHP.

HTML

HTML (Hypertext Markup Language) is the set of markup symbols or codes inserted in a file intended for display on a World Wide Web browser page. The markup tells the Web browser how to display a Web page's words and images for the user. Each individual markup code is referred to as an element (but many people also refer to it as a tag). Some elements come in pairs that indicate when some display effect is to begin and when it is to end.

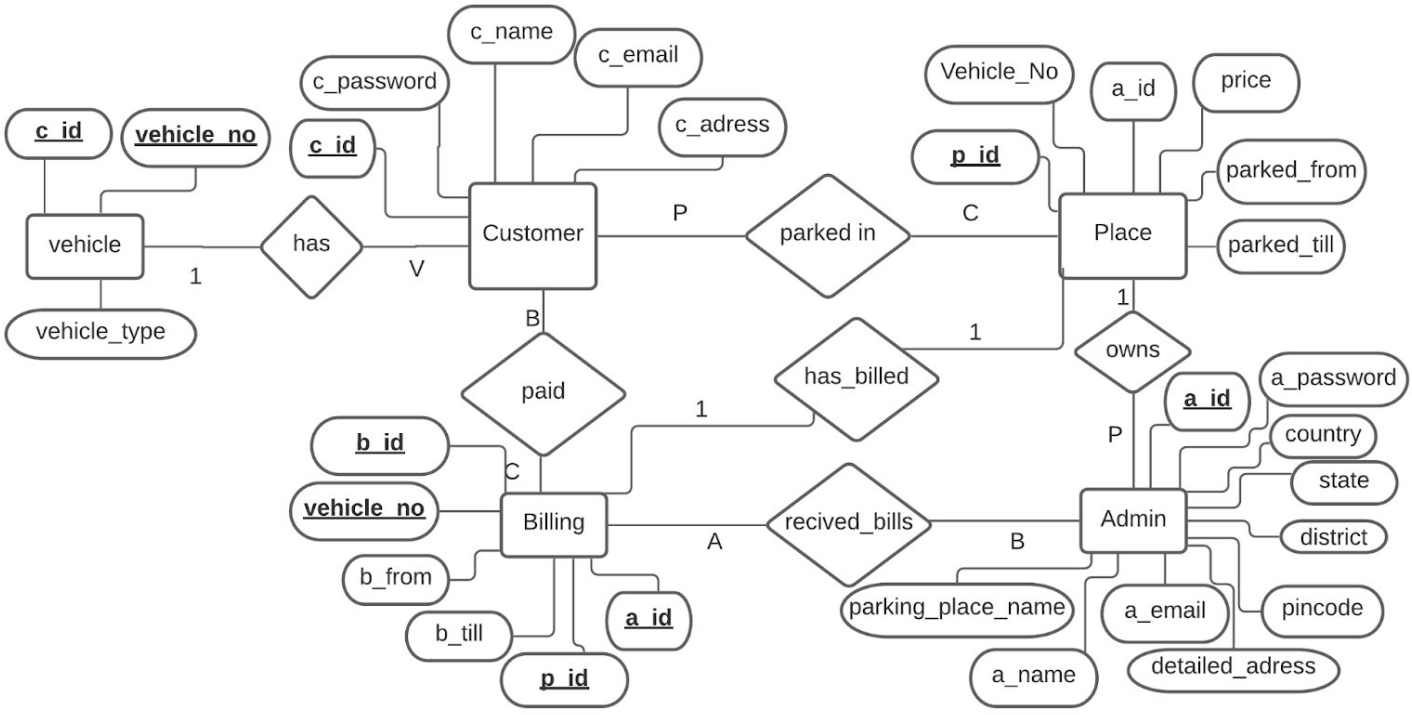
CHAPTER # 5

System Design

Contents:

- ER diagram
- ER to Relational Mapping

ER Diagram -:



ER to Relational Mapping -:

1	a_id
2	a_email
3	a_password
4	a_name
5	a_company_name
6	a_country
7	a_state
8	a_district
9	a_address
10	a_pincode

#	Name
1	c_id
2	c_email
3	c_password
4	c_name
5	c_address

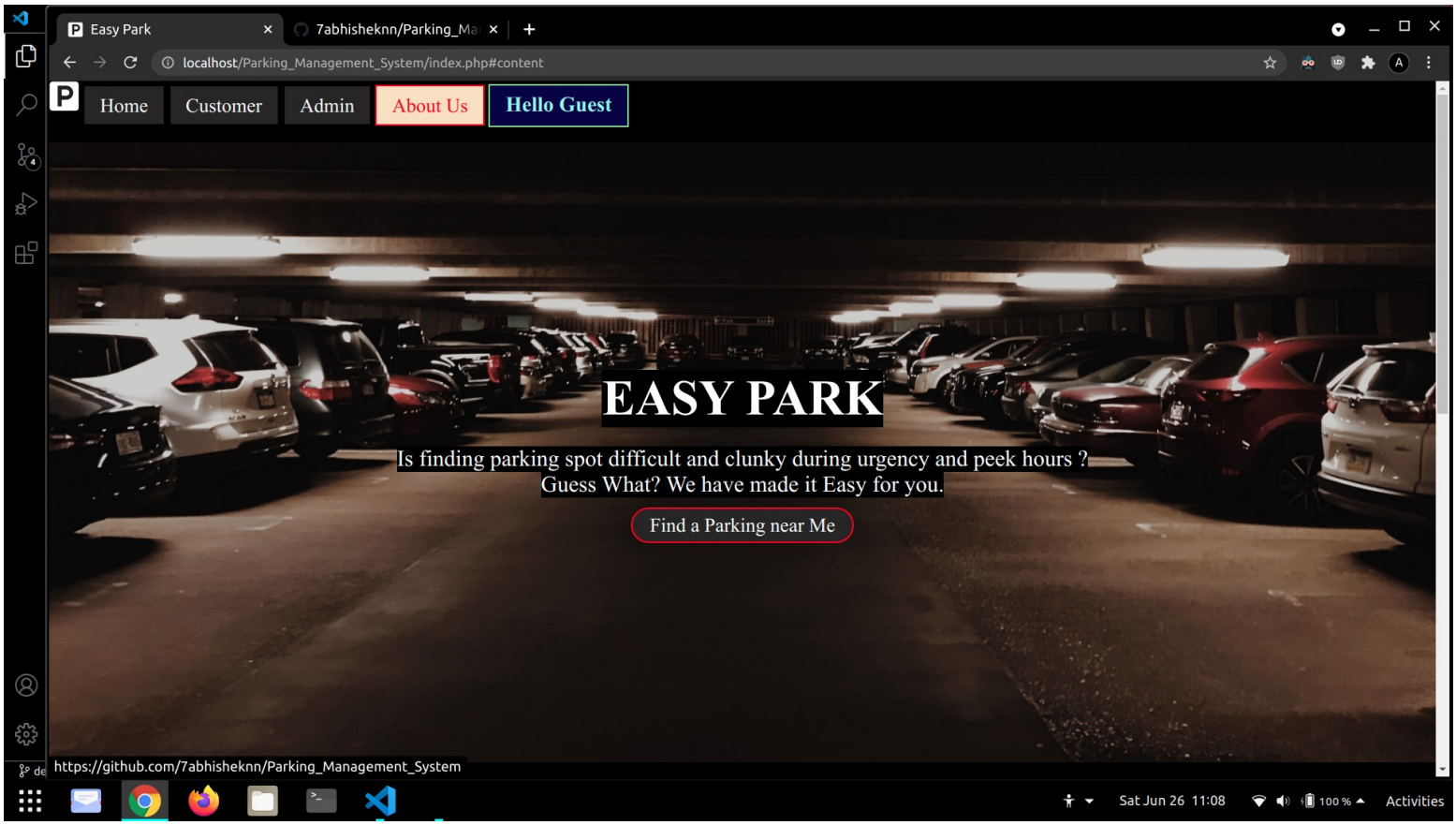
1	v_no
2	c_id
3	v_type

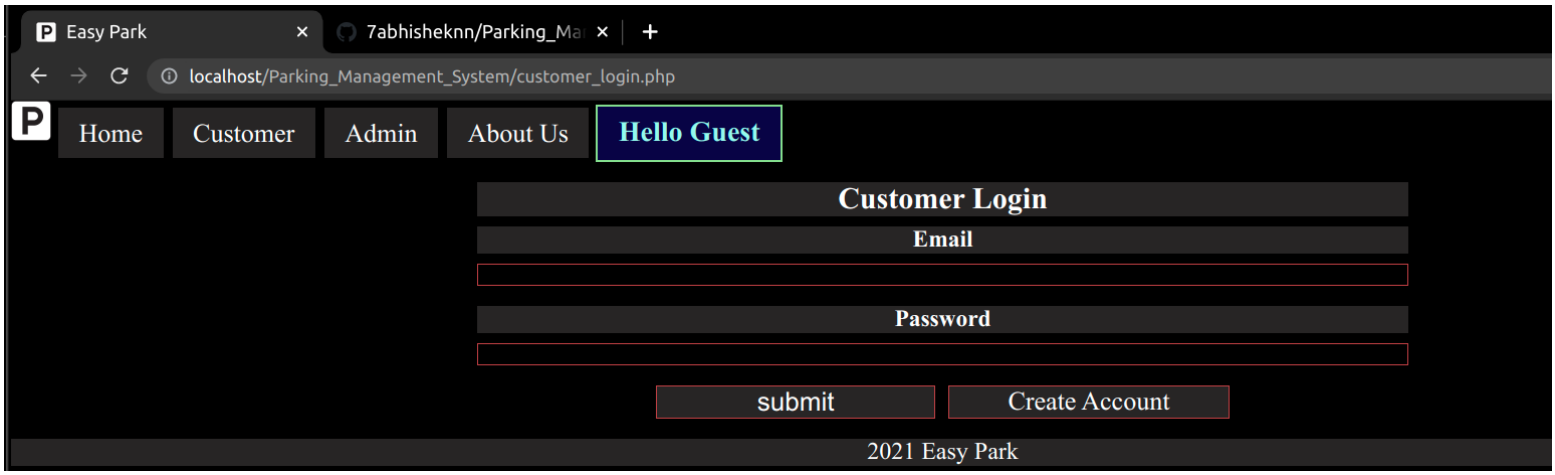
1	p_id
2	a_id
3	p_price
4	p_from
5	p_till
6	v_no

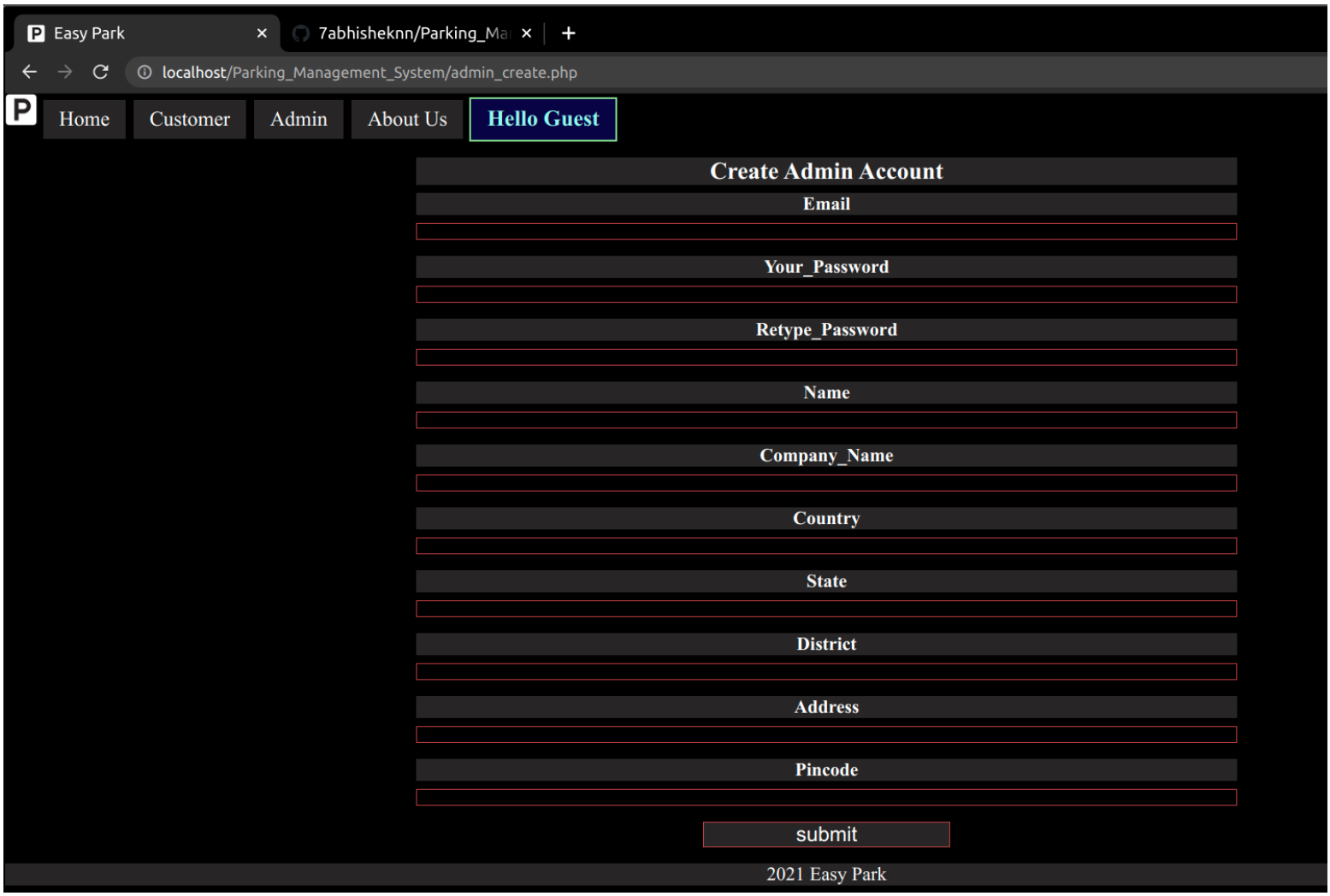
1	b_id
2	p_id
3	a_id
4	v_no

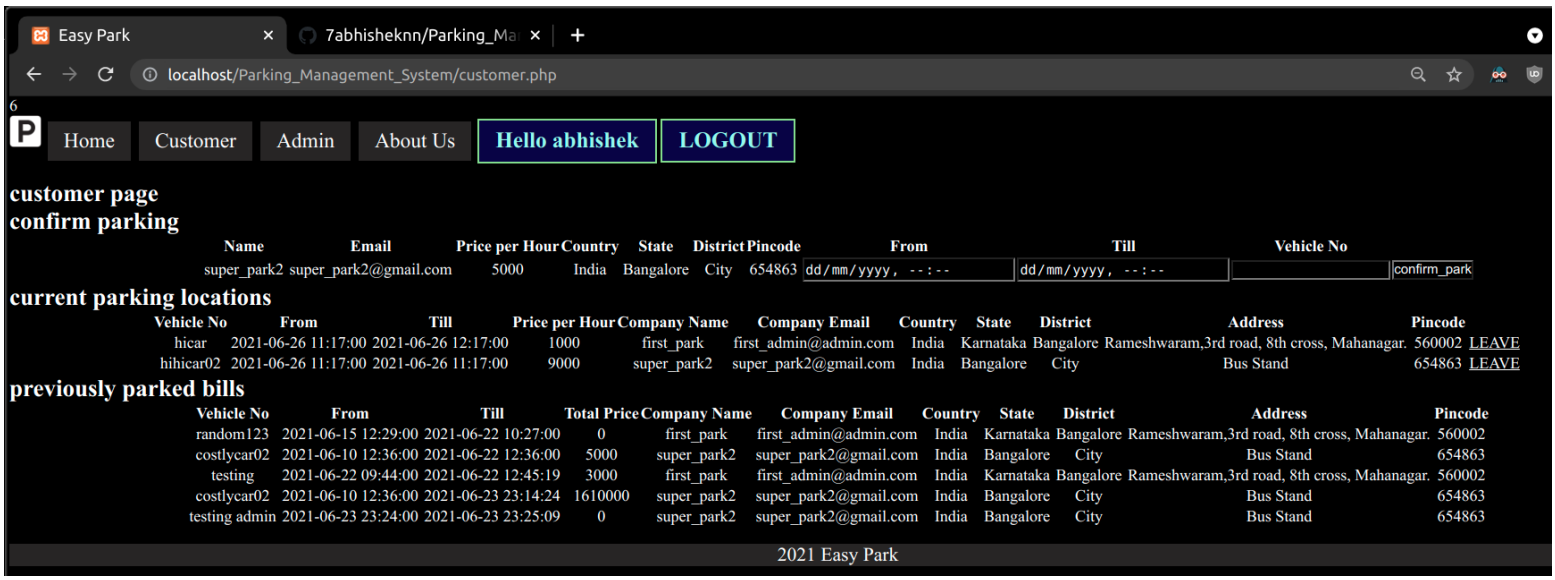
CHAPTER # 6

Output screens






Easy Park
7abhisheknn/Parking_Ma
localhost/Parking_Management_System/admin_create.php
Home
Customer
Admin
About Us
Hello Guest
Create Admin Account
Email
Your_Password
Retype_Password
Name
Company_Name
Country
State
District
Address
Pincode
submit
2021 Easy Park


Easy Park
7abhisheknn/Parking_Ma
localhost/Parking_Management_System/customer.php
Home
Customer
Admin
About Us
Hello abhishek
LOGOUT
customer page
confirm parking
Name Email Price per Hour Country State District Pincode From Till Vehicle No
super_park2 super_park2@gmail.com 5000 India Bangalore City 654863 dd/mm/yyyy, --:-- dd/mm/yyyy, --:-- confirm_park
current parking locations
Vehicle No From Till Price per Hour Company Name Company Email Country State District Address Pincode
hicar 2021-06-26 11:17:00 2021-06-26 12:17:00 1000 first_park first_admin@admin.com India Karnataka Bangalore Rameshwaram,3rd road, 8th cross, Mahanagar. 560002 LEAVE
hihicar02 2021-06-26 11:17:00 2021-06-26 11:17:00 9000 super_park2 super_park2@gmail.com India Bangalore City Bus Stand 654863 LEAVE
previously parked bills
Vehicle No From Till Total Price Company Name Company Email Country State District Address Pincode
random123 2021-06-15 12:29:00 2021-06-22 10:27:00 0 first_park first_admin@admin.com India Karnataka Bangalore Rameshwaram,3rd road, 8th cross, Mahanagar. 560002
costlycar02 2021-06-10 12:36:00 2021-06-22 12:36:00 5000 super_park2 super_park2@gmail.com India Bangalore City Bus Stand 654863
testing 2021-06-22 09:44:00 2021-06-22 12:45:19 3000 first_park first_admin@admin.com India Karnataka Bangalore Rameshwaram,3rd road, 8th cross, Mahanagar. 560002
costlycar02 2021-06-10 12:36:00 2021-06-23 23:14:24 1610000 super_park2 super_park2@gmail.com India Bangalore City Bus Stand 654863
testing admin 2021-06-23 23:24:00 2021-06-23 23:25:09 0 super_park2 super_park2@gmail.com India Bangalore City Bus Stand 654863
2021 Easy Park

CHAPTER # 7

Coding

Back end -:

```
-- phpMyAdmin SQL Dump
-- version 5.1.0
-- https://www.phpmyadmin.net/
--
-- Host: localhost
-- Generation Time: Jun 26, 2021 at 08:05 AM
-- Server version: 10.4.18-MariaDB
-- PHP Version: 8.0.5

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
START TRANSACTION;
SET time_zone = "+00:00";


/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;

--
-- Database: `pms`
--
```

```
CREATE DATABASE IF NOT EXISTS `pms` DEFAULT CHARACTER SET latin1
COLLATE latin1_swedish_ci;
USE `pms`;

-- --------------------------------------------------------

--
-- Table structure for table `admin`
--

CREATE TABLE `admin` (
  `a_id` int(15) NOT NULL,
  `a_email` varchar(255) NOT NULL,
  `a_password` varchar(255) NOT NULL,
  `a_name` varchar(255) NOT NULL,
  `a_company_name` varchar(255) NOT NULL,
  `a_country` varchar(255) NOT NULL,
  `a_state` varchar(255) NOT NULL,
  `a_district` varchar(255) NOT NULL,
  `a_address` varchar(255) NOT NULL,
  `a_pincode` varchar(255) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `admin`
--
-- Table structure for table `bill`
--

CREATE TABLE `bill` (
  `b_id` int(15) NOT NULL,
  `p_id` int(15) NOT NULL,
  `a_id` int(15) NOT NULL,
  `v_no` varchar(255) NOT NULL,
  `b_price` int(255) NOT NULL,
  `b_from` datetime NOT NULL,
  `b_till` datetime NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
--
-- Table structure for table `customer`
--

CREATE TABLE `customer` (
  `c_id` int(15) NOT NULL,
  `c_email` varchar(255) NOT NULL,
  `c_password` varchar(255) NOT NULL,
  `c_name` varchar(255) NOT NULL,
  `c_address` varchar(255) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
-- Table structure for table `place`
--

CREATE TABLE `place` (
  `p_id` int(15) NOT NULL,
  `a_id` int(15) NOT NULL,
  `p_price` int(15) NOT NULL DEFAULT 0,
  `p_from` datetime DEFAULT NULL,
  `p_till` datetime DEFAULT NULL,
  `v_no` varchar(255) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
--
-- Table structure for table `vehicle`
--

CREATE TABLE `vehicle` (
  `v_no` varchar(255) NOT NULL,
  `c_id` int(15) NOT NULL,
  `v_type` varchar(255) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
```

Php and Mysql connection-:

configuration > database_config.php

```php
<?php
$conn = mysqli_connect('localhost','your_username','your_password','pms');
if (!$conn){
    echo 'Connection error'.mysqli_connect_error();
}
?>
```

Sample SQL queries to access data from database -:

```php
<?php
include('configuration/database_config.php');
$sql='SELECT p.p_id, p.a_id, p.p_price, p.p_from, p.p_till, p.v_no, a.a_email, a.
a_name, a.a_company_name, a.a_country, a.a_state, a.a_district, a.a_address, a.
a_pincode FROM place as p, admin as a WHERE p.a_id=a.a_id';
$result=mysqli_query($conn,$sql);
$places=mysqli_fetch_all($result,MYSQLI_ASSOC);
mysqli_free_result($result);
mysqli_close($conn);
?>
```

```php
$password=$_POST['password'];
$email = mysqli_real_escape_string($conn, $_POST['email']);
$sql="SELECT a_password FROM `admin` WHERE a_email='$email'";
$result=mysqli_query($conn, $sql);
$a_password=mysqli_fetch_assoc($result);
if ($password==$a_password['a_password']){
    header('Location: admin.php');
}
else{
    $error['password']='wrong password';
}
```

CHAPTER # 8
Advantages & Limitations

Advantages of “Parking Management System”:

“Parking Management System” provides various features, which complement the information system and increase the productivity of the system. These features make the system easily usable and convenient. Some of the important features included are listed as follows:

- Intelligent User Forms Design
  - Data access and manipulation through same forms
  - Access to most required information
- Data Security
- Restrictive data access, as per login assigned only.
- Organized and structured storage of facts.
- Strategic Planning made easy.
- No decay of old Records.
- It’s open source any one can contribute.

Limitations of “Parking Management System”:

Besides the above achievements and the successful completion of the project, we still feel the project has some limitations, listed as below:

- Since it is an online project, customers need internet connection to buy products.
- People who are not familiar with computers can’t use this software.

CHAPTER # 8
Future Scope

FUTURE SCOPE

This web application involves almost all the basic features of the online parking management. The future implementation will be online help for the customers and chatting A I and directy with Admins and with google maps API.

CONCLUSION

This Application provides a computerized and automated version of Parking Management System which will benefit the Parking companies and their users.

The following conclusions can be deduced from the development of the project

- Automation of the entire system improves the productivity.
- It provides a friendly graphical user interface which proves to be better when compared to the existing system..
- It effectively overcomes the delay in communications.
- Updating of information becomes so easier.
- System security, data security and reliability are the striking features. The System has adequate scope for modification in future if it is necessary.
- Open Source Project

References

FOR XAMPP INSTALLATION

- https://www.apachefriends.org/download.html

FOR TEXT EDITOR

https://code.visualstudio.com/download

FOR OTHER USEFUL REFERENCES

- http://www.w3schools.com/default.asp
- http://en.wikipedia.org/