A project Report On

Online Car Rental System

Under the guidance of

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Candidate's Declaration

I hereby declare that the work, which is being presented in the Project Report, entitled **"Online Car Rental With PHP"** and submitted to the Department of **Computer Science and Gandhi Institute Of Engineering And Technology University**, is a record of my own investigations carried under the Guidance of **Mr. Abhishek Kundu**.

(Name and Signature of Candidate)

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Counter Signed by :Debasish Sahoo

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ABSTRACT

Nowadays, there are online car reservations which give much benefit to user. A rental service is a service in which customers arrive to request the hire of a rental unit. It is more convenient than carrying the cost of owning and maintaing the unit.

A car rental is a company that rents automobiles for short period of time for a fee whether in a few hours or a few days or week. It is an extended form of a rental shop, often organized with numerous local branches and primarily located near airports or busy city areas and often complemented by a website allowing online reservations.

Car rental agencies primarily serve people who have a car that is temporarily out of reach or out of service, for example travellers who are out of town or owners of damaged vehicles who are awaiting repair or insurance compensation. Because the variety of sizes of their vehicles, car rental agencies may also serve the self-moving industry needs, by renting vans or trucks, and in certain markets other types of vehicles such as motorcycles or scooters may also be offered.

In short, it is a system design specially for large, premium and small car rental business. The car rental system provides complete functionality of listing and booking car.

CONTENT

INTRODUCTION TO ONLINE CAR RENTAL SYSTEM

1.1Introduction

This project is designed so as to be used by Car Rental Company specializing in renting cars to customers. It is an online system through which customers can view available cars, register, view profile and book car.

1.2 Reason for the Project

The advancement in Information Technology and internet penetration has greatly enhanced various business processes and communication between companies (services provider) and their customers of which car rental industry is not left out. This E-Car Rental System is developed to provide the following services:

- Enhance Business Processes: To be able to use internet technology to project the rental company to the global world instead of limiting their services to their local domain alone, thus increase their return on investment (ROI).
- Online Vehicle Reservation: A tools through which customers can reserve available cars online prior to their expected pick-up date or time.
- Customer's registration: A registration portal to hold customer's details, monitor their transaction and used same to offer better and improve services to them.
- Group bookings: Allows the customer to book space for a group in the case of weddings or corporate meetings (Event management).

1.3 Problem Statement

A car rental is a vehicle that can be used temporarily for a fee during a specified period. Getting a rental car helps people get around despite the fact they do not have access to their own personal vehicle or don't own a vehicle at all. The individual who needs a car must contact a rental car company and contract out for a vehicle. This system increases customer retention and simplify vehicle and staff management.

1.4 Aims & Objectives

- To produce a web-based system that allow customer to register and reserve car online and for the company to effectively manage their car rental business.
- To ease customer's task whenever they need to rent a car.

1.5 Scope

This project traverses a lot of areas ranging from business concept to computing field, and required to perform several researches to be able to achieve the project objectives. The area covers include:

- Car rental industry: This includes study on how the car rental business is being done, process involved and opportunity that exist for improvement.
- PHP Technology used for the development of the application.

- General customers as well as the company's staff will be able to use the system effectively.
- Web-platform means that the system will be available for access 24/7 except when there is a temporary server issue which is expected to be minimal.

CAR RENTAL SERVICES

2.1 How Car Rental Services Work

A car rental is a vehicle that can be used temporarily for a period of time with a fee. Renting a car assists people to get around even when they do not have access to their own personal vehicle or don't own a vehicle at all. The individual who want to rent a car must first contact the car rental company for the desire vehicle. This can be done online. At this point, this person has to supply some information such as; dates of rental, and type of car. After these details are worked out, the individual renting the car must present a valid Identification Card.

Most companies throughout the industry make a profit based of the type of cars that are rented. The rental cars are categorized into economy, compact, compact premium, premium and luxury. And customers are free to choose any car of their choice based on their purse and availability of such car at the time of reservation.

2.2 Benefits of Online Car Rental Services

- This online car rental solution is fully functional and flexible.
- It is very easy to use.
- This online car rental system helps in back office administration by streamlining and standardizing the procedures.
- It saves a lot of time, money and labour.
- Eco-friendly: The monitoring of the vehicle activity and the overall business becomes easy and includes the least of paper work.
- The software acts as an office that is open 24/7.
- It increases the efficiency of the management at offering quality services to the customers.
- It provides custom features development and support with the software.

2.3 Users and Characteristics:

2.3.1 Admin:

- Admin can login to the system.
- Verify the car information database.
- Generate price strategy.

- Handle the payment system.
- Finalize the order.
- Cancel the order.

2.3.2 Employee:

- It updates the database.
- Give information to the customer about the car.
- Provides the alternatives.
- Maintain contacts.

2.3.3 Maintenance Manager:

- It checks for the maintenance.
- Give to the maintenance.
- Give information to the admin.
- Update the database.

2.3.4 Customer:

- Customer can login to the system.
- Visit the website.
- Place the order.
- Cancel the order

2.4 Design and Implementation Constraints

- The application will use php, Ajax, JavaScript, jQuery and css as main web technologies.

- HTTP and FTP protocols are used as communication protocols. FTP is used to upload the web application in live domain and the client can access it via HTTP protocol.

- Several types of validations make this web application a secured one and SQL Injections can also be prevented.

- Since Car Rental system is a web-based application, internet connection must be established.

- The Car Rental System will be used on PCs and will function via internet or intranet in any web browser.

2.5 User Documentation:

There will be no user manuals, online helps or tutorials as it is made as simple as web beginners can also use it easily with best web GUI functionality.

2.6 Assumptions and Dependencies:

2.6.1 Regularity Policies:

Each center user has account created and authenticated by admin. This Website can be accessible within company's intranet and other user can see the all details about the franchisee. Each user has to first login itself to present him/her after entry in franchisee. This will be done automatically.no user can share their username and password to each other.

2.6.2 Hardware Limitations:

There is no limitation in the operating system in which Car Rental System will work. However, the Car Rental System and the database will work on a server that needs to be always online. Users can access the system with any internet browser.

FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS

3.1 Functional Requirements

Requirement analysis is a software engineering technique that is composed of the various tasks that determine the needs or conditions that are to be met for a new or altered product, taking into consideration the possible conflicting requirements of the various users.

Functional requirements are those requirements that are used to illustrate the internal working nature of the system, the description of the system, and explanation of each subsystem. It consists of what task the system should perform, the processes involved, which data should the system holds and the interfaces with the user. The functional requirements identified are:

a. Customer's registration: The system should allow new users to register online and generate membership card.
b. Online reservation of cars: Customers should be able to use the system to make booking and online reservation.
c. Automatic update to database once reservation is made or new customer registered: Whenever there's new reservation or new registration, the system should be able update the database without any additional efforts from the admin.
d. Feedbacks to customers: It should provide means for customers to leave feedback.

3.2 Non-Functional Requirements

It describes aspects of the system that are concerned with how the system provides the functional requirements. They are:

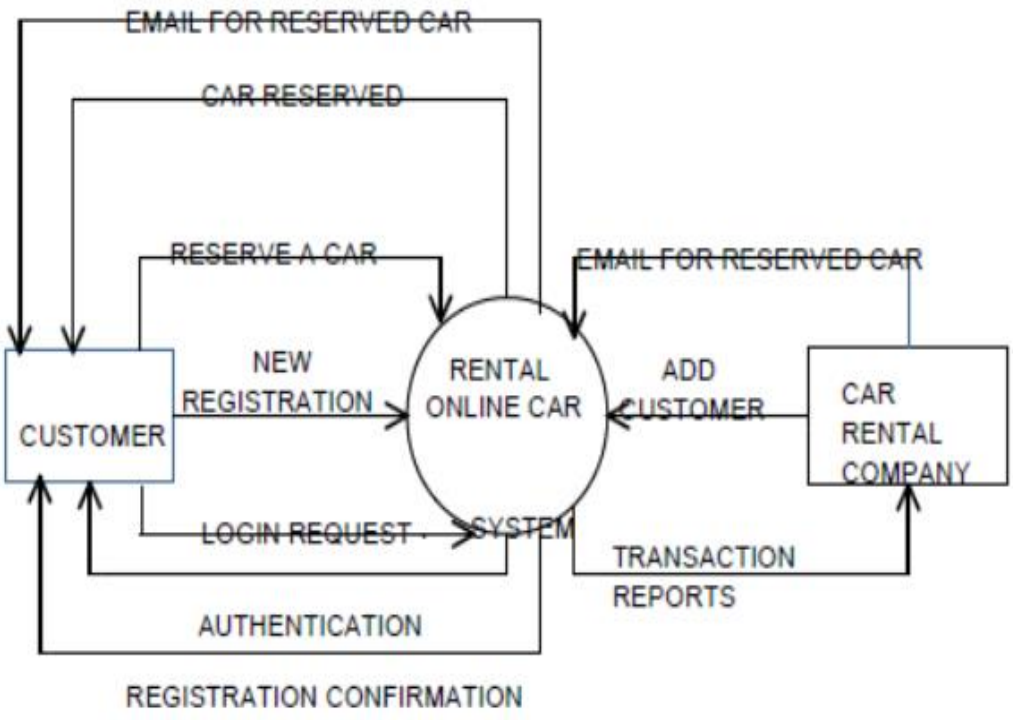
a. Security**:** The subsystem should provide a high level of security and integrity of the data held by the system, only authorized personnel of the company can gain access to the company's secured page on the system; and only users with valid password and username can login to view user's page.
b. Performance and Response time: The system should have high performance rate when executing user's input and should be able to provide feedback or response within a short time, span usually 50 seconds for highly complicated task and 20 to 25 seconds for less complicated task.
c. Error handling: Error should be considerably minimized and an appropriate error message that guides the user to recover from an error should be provided. Validation of user's input is highly essential. Also the standard time taken to recover from an error should be 15 to 20 seconds.
d. Availability: This system should always be available for access at 24 hours, 7 days a week. Also in the occurrence of any major system malfunctioning, the system should be available in 1 to 2 working days, so that the business process is not severely affected.

e. Ease of use: Considered the level of knowledge possessed by the users of this system, a simple but quality user interface should be developed to make it easy to understand and required less training.

DATA FLOW DIAGRAMS

4.Data Flow Diagram (DFD)

A Data Flow Diagram (DFD) is a graphical representation that depicts the information flow and the transforms that are applied as data moves from input to output.



In this diagram, Customer and Car Rental Company are the two entity sets.

Functions of Customer:

- New Registration
- Login Request
- Registration Confirmation by the System
- Reserve Car
- Car Issued by the System
- Email received for Reserved Car

Functions of Car Rental Company:

- Add Customer
- Send E-Mails for Reserved Car
- View Transaction reports

INTRODUCTION OF TECHNOLOGIES USED IN PROJECT

5.1 About PHP

PHP: Hypertext Pre-processor is a widely used, general-purpose scripting language that was originally designed for web development to produce dynamic web pages. For this purpose, PHP code is embedded into the HTML source document and interpreted by a web server with a PHP processor module, which generates the web page document.

As a general-purpose programming language, PHP code is processed by an interpreter application in command-line mode performing desired operating system operations and producing program output on its standard output channel. It may also function as a graphical application. PHP is available as a processor for most modern web servers and as standalone interpreter on most operating systems and computing platforms.

PHP was originally created by Rasmus Lerdorf in 1995 and has been in continuous development ever since. The main implementation of PHP is now produced by the PHP Group and serves as the *de facto* standard for PHP as there is no formal specification. PHP is free software released under the PHP License.

PHP is a general-purpose scripting language that is especially suited to server-side web development where PHP generally runs on a web server. Any PHP code in a requested file is executed by the PHP runtime, usually to create dynamic web page content. It can also be used for command-line scripting and client-side GUI applications. PHP can be deployed on most web servers, many operating systems and platforms, and can be used with many relational database management systems. It is available free of charge, and the PHP Group provides the complete source code for users to build, customize and extend for their own use.

Originally designed to create dynamic web pages, PHP now focuses mainly on serverside scripting, and it is similar to other server-side scripting languages that provide dynamic content from a web server to a client, such as Microsoft's Active Server Pages, Sun Microsystems' Java Server Pages, and mod_perl. PHP has also attracted the development of many frameworks that provide building blocks and a design structure to promote rapid application development (RAD). Some of these include CakePHP, Symfony, CodeIgniter and Zend Framework, offering features similar to another web application frameworks.

5.2 PHP Syntax:

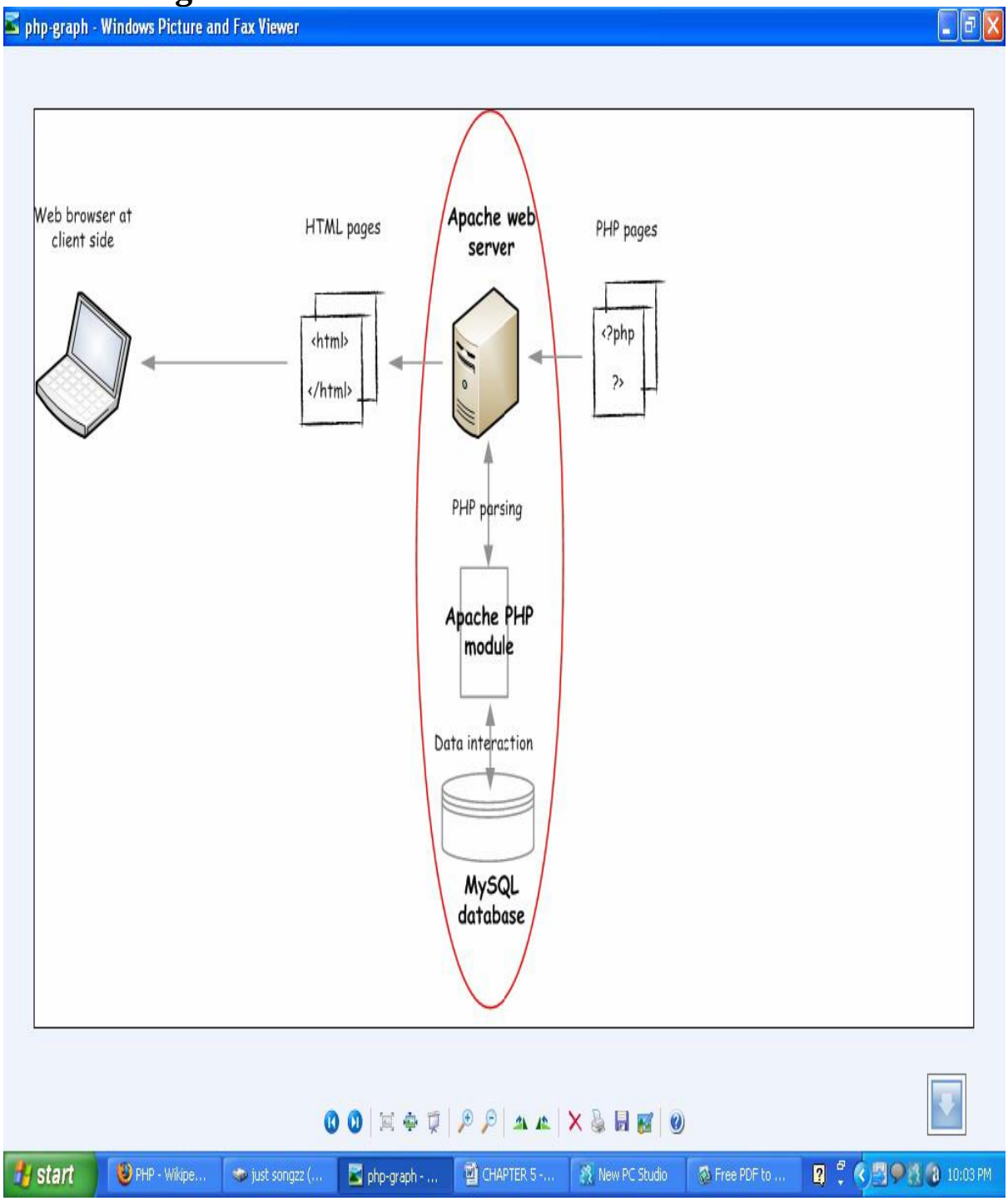
HTML and PHP code is written on the same page, and to distinguish PHP code from
HTML, the PHP code is enclosed within <? php?> Tags.

For example:

```
<html>

<head><title>php basics</title></head>

<body>

<h2>HELLO</h1>

<?php

echo "hello";

?>

</body>

</html>
```

In the above example PHP code is embedded within HTML. In this way PHP and HTML coding is combined on the same page.
Since PHP is a server-side scripting language, the PHP coding cannot be seen by the end user through view source option, due to this feature PHP is very secure.
PHP is a parsed language; therefore, PHP environment is necessary at the server for running PHP scripts.

5.3 Working of PHP:



Working of PHP

When a client requests web page containing PHP code from the server, then the requested PHP pages are parsed under PHP environment and interaction with database is made if required.

After server side processing, the resulting HTML pages are passed to client and displayed on the browser.
In this way the working of php is complete.

5.4 Connecting PHP Application to MySQL Database

1) Make a connection variable to the database:

```
$con= mysql_connect ("localhost","servername","password");
```

Here $con is a connection variable to database.

2) Select a database over that connection variable:

```
$db=mysql_select_db("databasename",$con);
```

3) Prepare a sql query to execute:

```
$qry= Select * from abc;
```

4) Run the sql query:

```
$result=mysql_query($qry);
```

5) Iterate over the result:

```
while($row = mysql_fetch_array($result))
{
        //some logic
}
```

5.5 Introduction to MySQL:

MySQL is a relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases. MySQL is officially pronounced ("My S-Q-L"), but is often pronounced ("My Sequel"). It is named for original developer Michael Widenius's daughter My.

The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL is owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Sun Microsystems, a subsidiary of Oracle Corporation.

MySQL code uses C and C++. The SQL parser uses yacc and a home-brewed lexer, sql_lex.cc.

MySQL works on many different system platforms, including AIX, BSDi, FreeBSD, HPUX, i5/OS, Linux, Mac OS X, NetBSD, Novell NetWare, OpenBSD, OpenSolaris, eComStation, OS/2 Warp, QNX, IRIX, Solaris, Symbian, SunOS, SCO OpenServer, SCO UnixWare, Sanos, Tru64 and Microsoft Windows. A port of MySQL to OpenVMS also exists.

All major programming languages with language-specific APIs include Libraries for accessing MySQL database. In addition, an ODBC interface called MyODBC allows additional programming languages that support the ODBC interface to communicate with a MySQL database, such as ASP or ColdFusion. The HTSQL - URL based query method also ships with MySQL adapter allowing direct interaction with MySQL database from any web client via structured URLs. The MySQL server and official libraries are mostly implemented in ANSI C/ANSI C++.

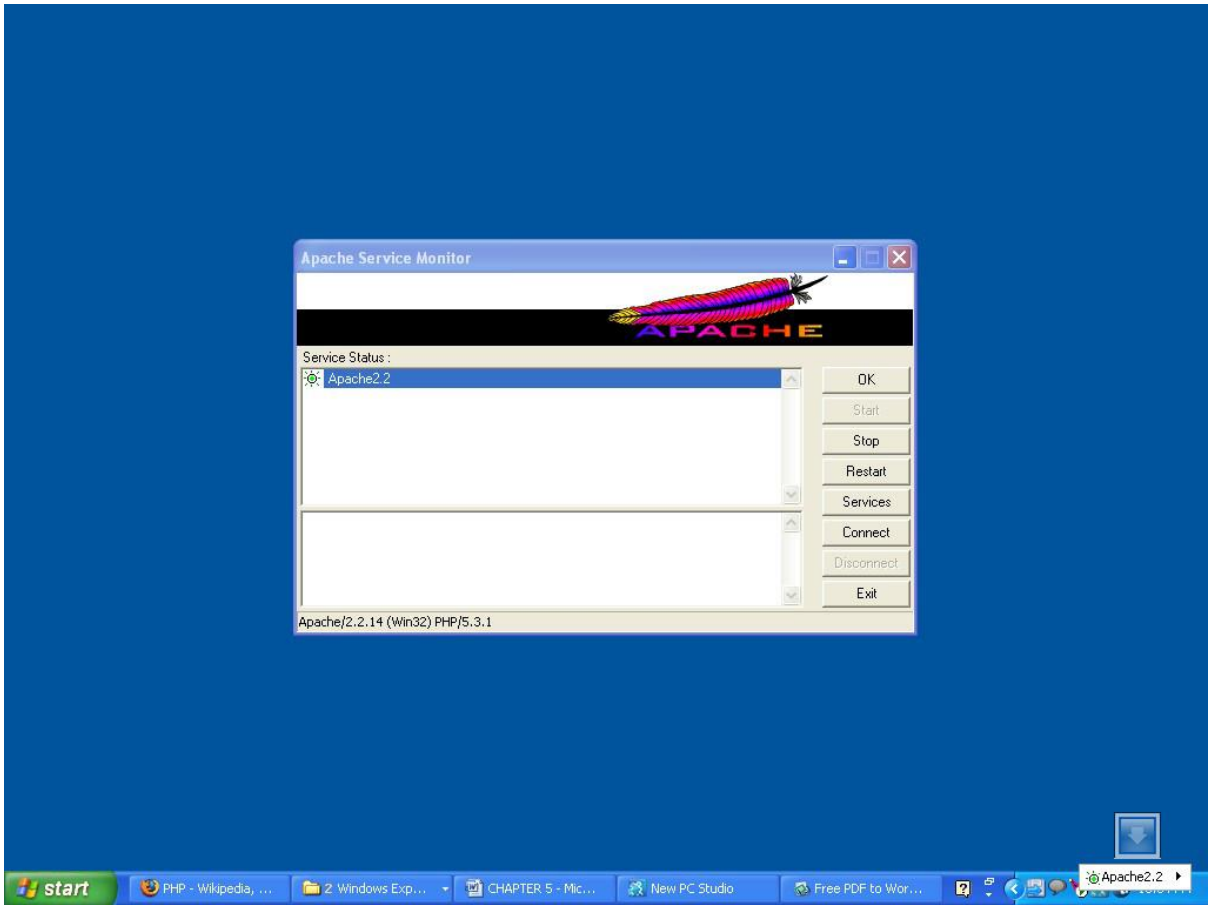
5.6 Introduction to APACHE SERVER:

In this project apache server is used to parse and execute PHP pages, before deploying websites on the server, the website should be tested at the developer side to get a feel of how the website will work on actual server.

Therefore apache server is like a local server on the developer side, apache server should be informed about the environment on which it should work.

In our project apache server is configured to work with PHP, in this way all the PHP pages are parsed and executed by the server.

When apache is installed on the system, then its services is controlled by apache service monitor.



APACHE Service Monitor

5.7 CSS:

Cascading Style Sheets (**CSS**) is a style sheet language used for describing the presentation of a document written in a markup language. Although most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document, including plain XML, SVG and XUL, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging webpages, user interfaces for web applications, and user interfaces for many mobile applications.

Types of CSS:

⁃ Inline CSS:

In this CSS is applied in between the tags

Eg: <tag style=" styling">Hello World</tag>

⁃ Internal CSS:

In this Thecss code is defined inside the style tag in the head section of the HTML page.

General Syntax:

```
<html>
<head>
    <style>
    <! -- CSS STYLING -- >
     </style>
</head>
</html>
```

External CSS :

In this the CSS code is written on another page and is linked to the HTML page. It is advantageous to use this type of styling as we can use the same file to style various HTML pages.

External CSS uses the extension .css and is applied using the following syntax

```
<html>
    <head>
        <link relation=" stylesheet" type="css" href="URL to the page">
    </head>
</html>
```

All the CSS style types are important but can be used in different situations.

- Inline CSS is used when only small changes are to be done to the HTML tag and the changes are to be reflected only to that specific tag

 Internal CSS is used when the individual HTML pages have to be designed differently. This also slows the page load system if the internal styling is long.

 External CSS files are maintained to design multiple pages and use common styles over various pages. It is useful as it helps in managing the resources in an easy manner.

Both HTML and CSS are used to create a UI but CSS behaves like a makeup on the face of an actress which makes her look even more beautiful than she is in reality

SOFTWARE REQUIREMENT SPECIFICATION

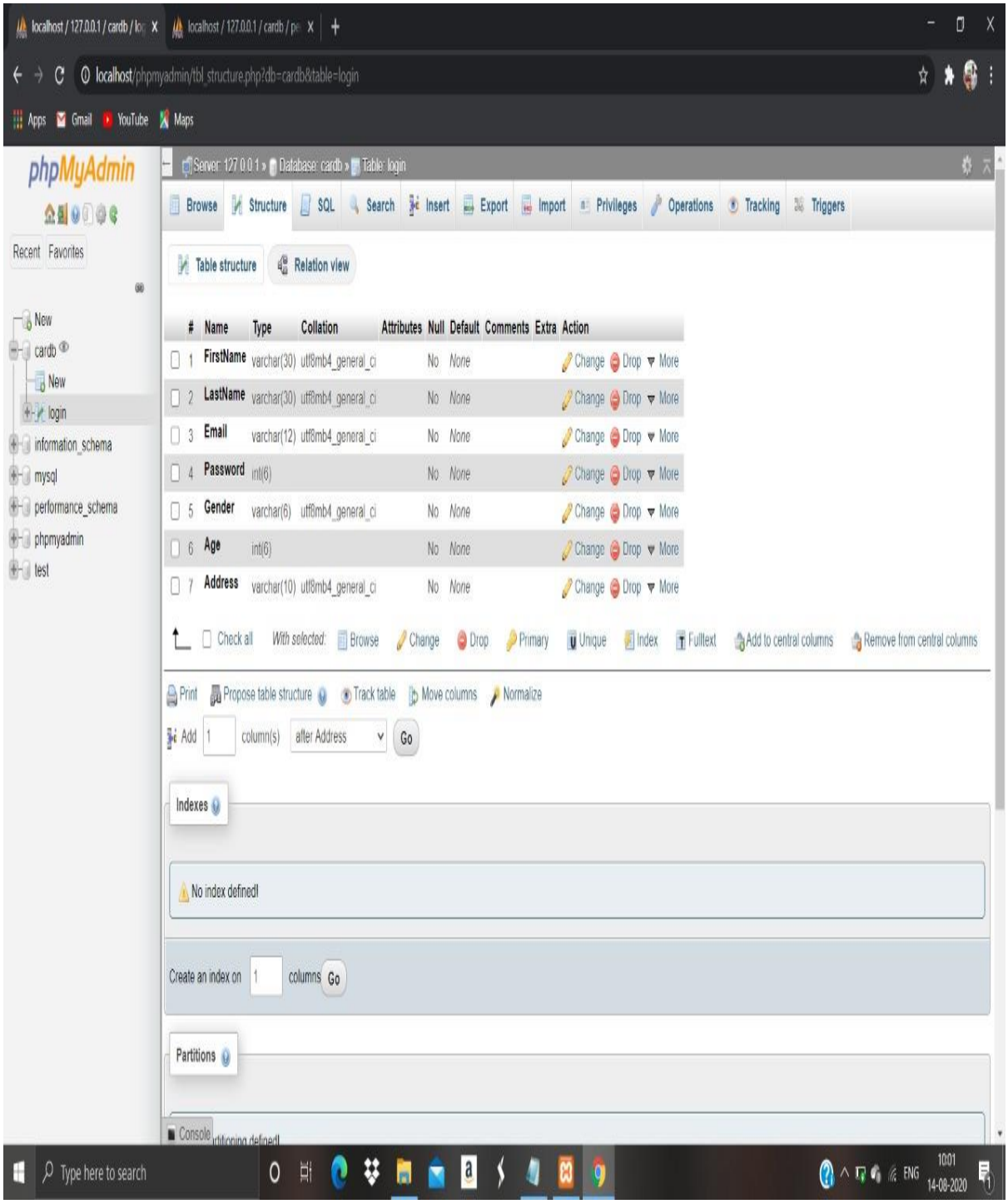
6.1 Hardware Requirements:

The selection of hardware is very important in the existence and proper working of any software. When selecting hardware, the size and requirements are also important.

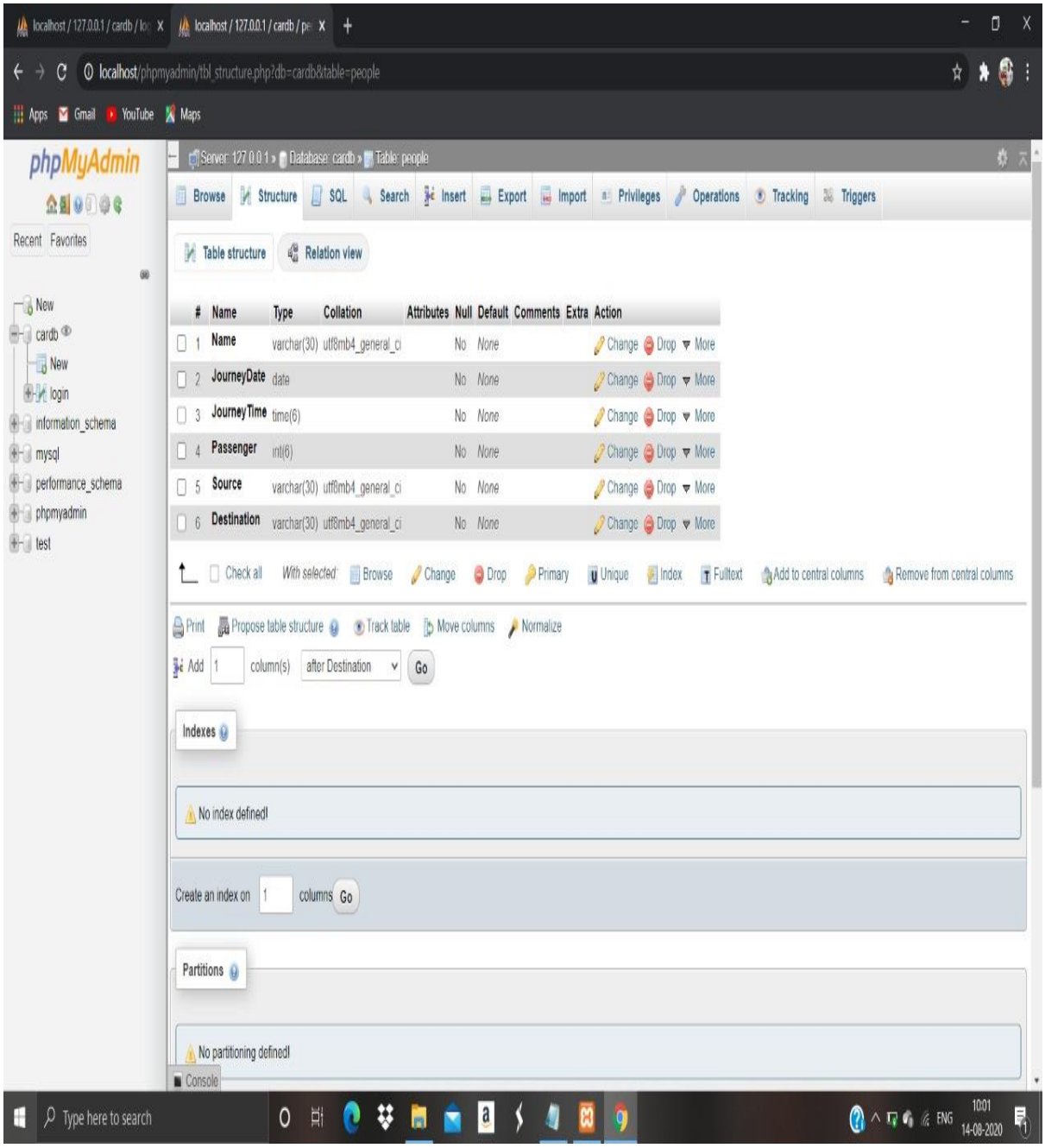
Processor	Intel CORE i3 or above
RAM	**4.0 GB or above**
Hard Disk Drive	**500 GB or above**

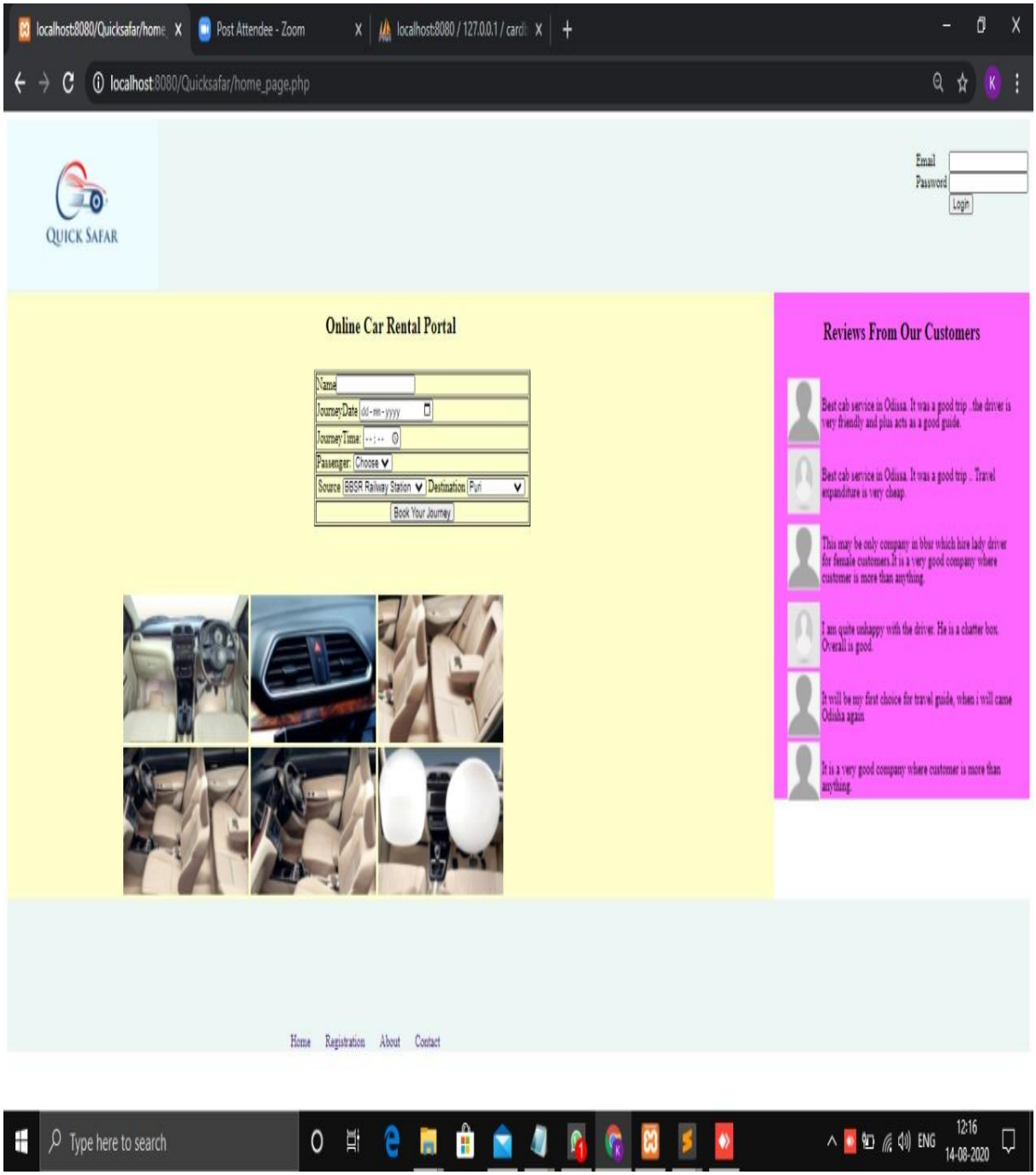
6.2 Software Requirements:

Number	**Description**
1	Windows 7,8,10
2	HTML/CSS/.
3	Apache server/ XAMPSERVER PHP 5.5.38
4	MySQL
5	Apache version: Apache/2.4.23 (Win32) OpenSSL/1.0.2h PHP/5.5.38

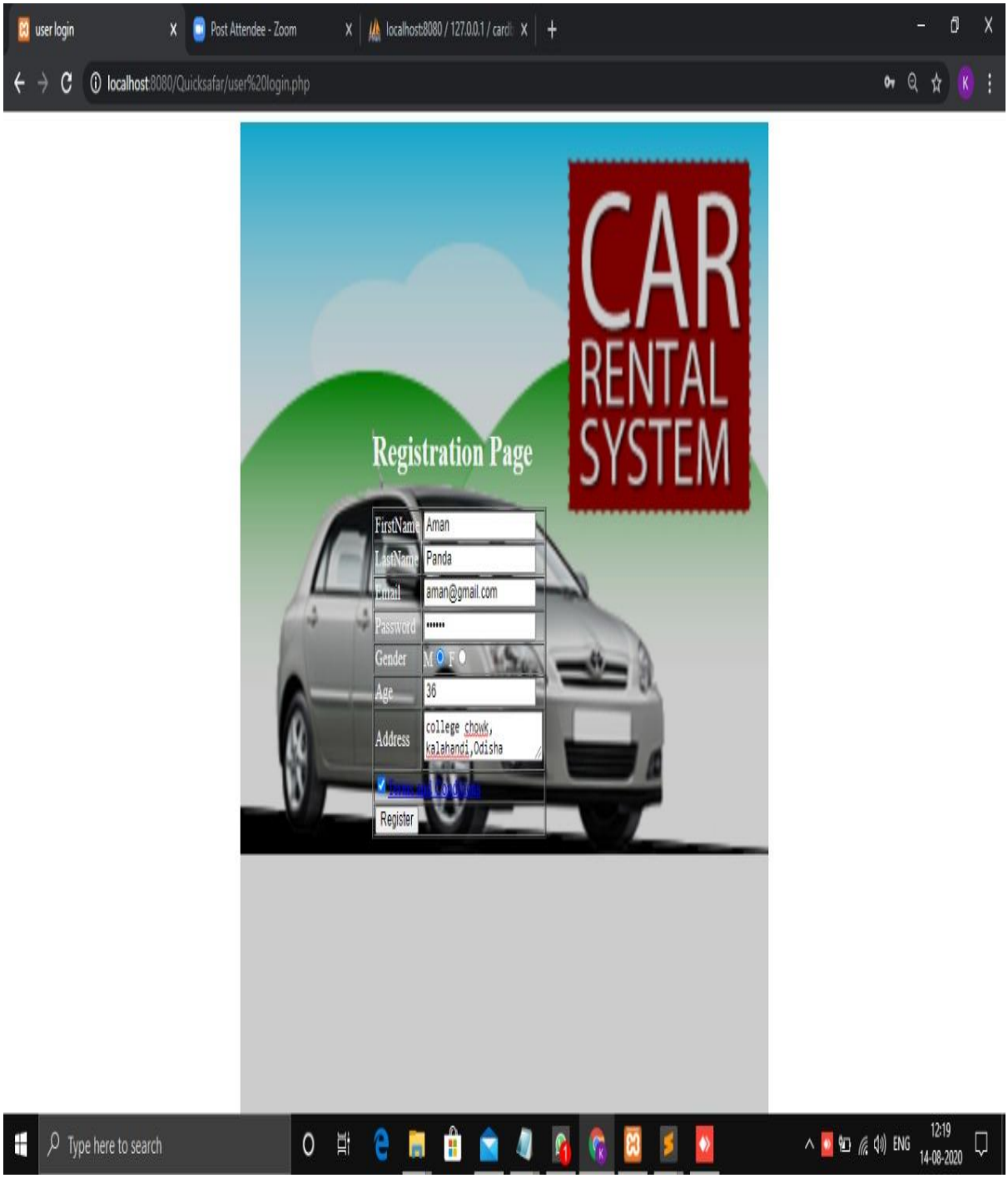


Here car rental data base is created.

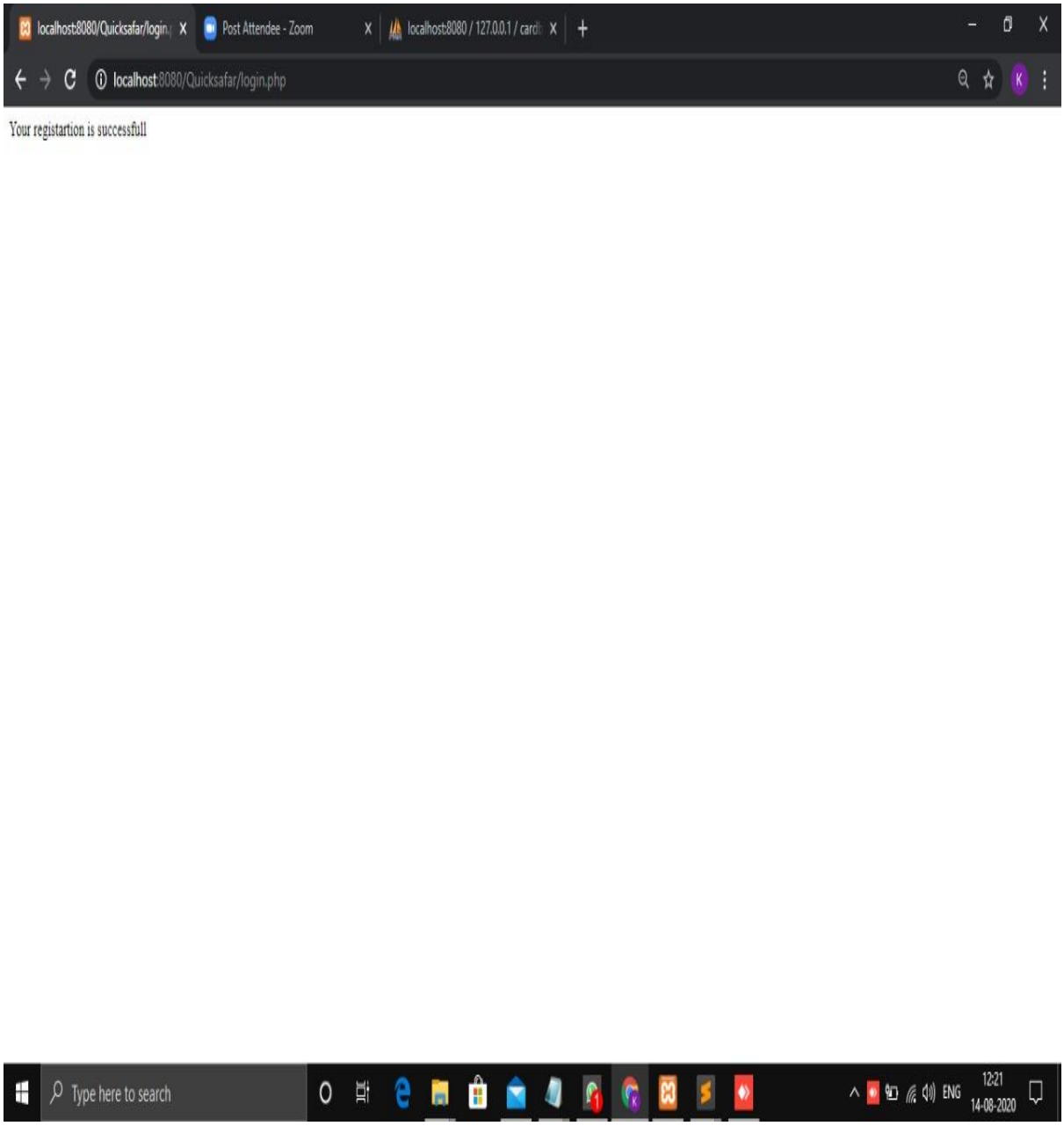

localhost / 127.0.0.1 / cardb / people
localhost/phpmyadmin/tbl_structure.php?db=cardb&table=people
Apps Gmail YouTube Maps
phpMyAdmin
Recent Favorites
New
cardb
New
login
information_schema
mysql
performance_schema
phpmyadmin
test
Server: 127.0.0.1 » Database: cardb » Table: people
Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers
Table structure Relation view
Name Type Collation Attributes Null Default Comments Extra Action
1 Name varchar(30) utf8mb4_general_ci No None Change Drop More
2 JourneyDate date No None Change Drop More
3 JourneyTime time(6) No None Change Drop More
4 Passenger int(6) No None Change Drop More
5 Source varchar(30) utf8mb4_general_ci No None Change Drop More
6 Destination varchar(30) utf8mb4_general_ci No None Change Drop More
Check all With selected: Browse Change Drop Primary Unique Index Fulltext Add to central columns Remove from central columns
Print Propose table structure Track table Move columns Normalize
Add 1 column(s) after Destination Go
Indexes
No index defined!
Create an index on 1 columns Go
Partitions
No partitioning defined!
Console
Type here to search
ENG 1001 14-08-2020



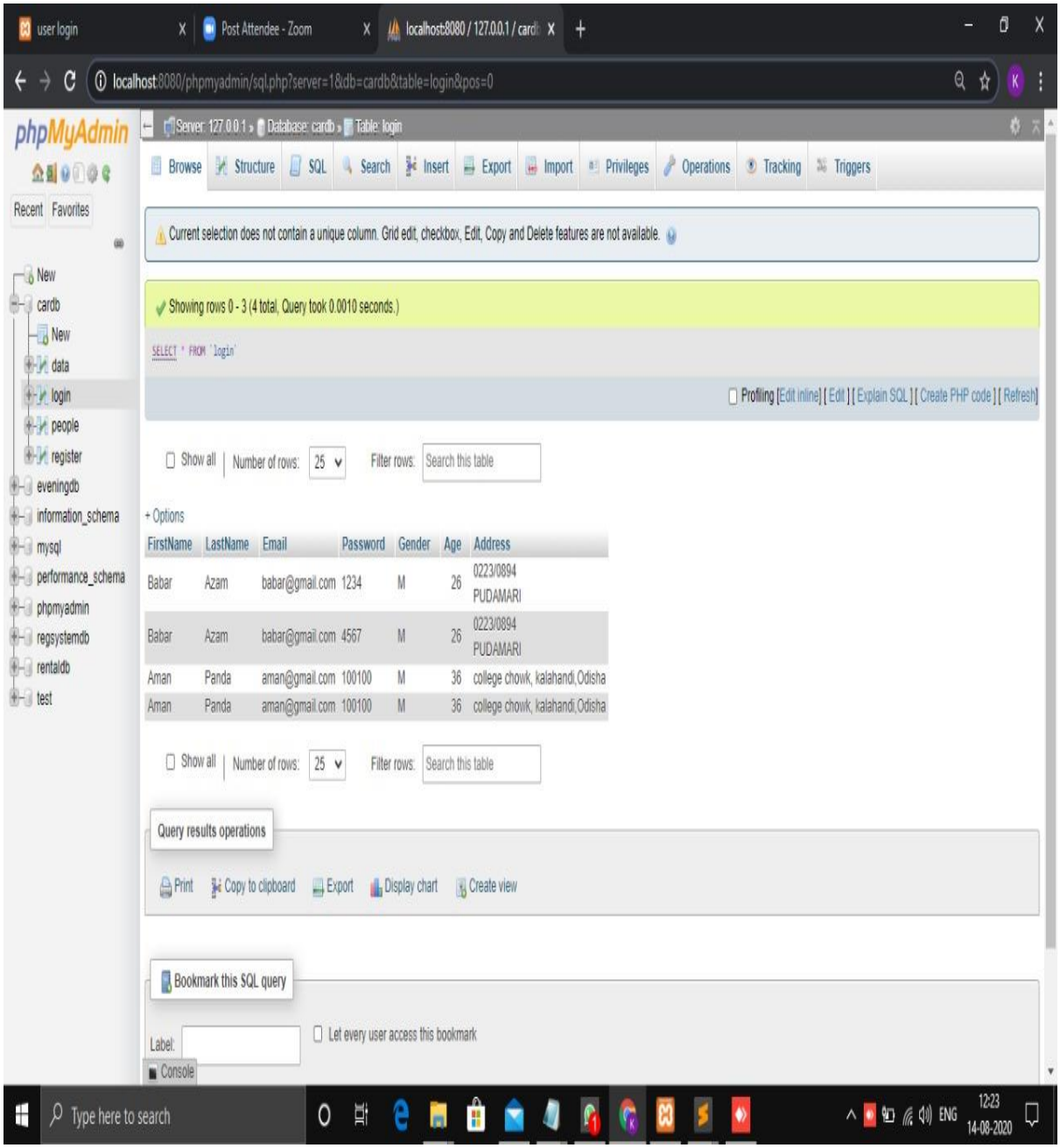
This is home page of car rental.



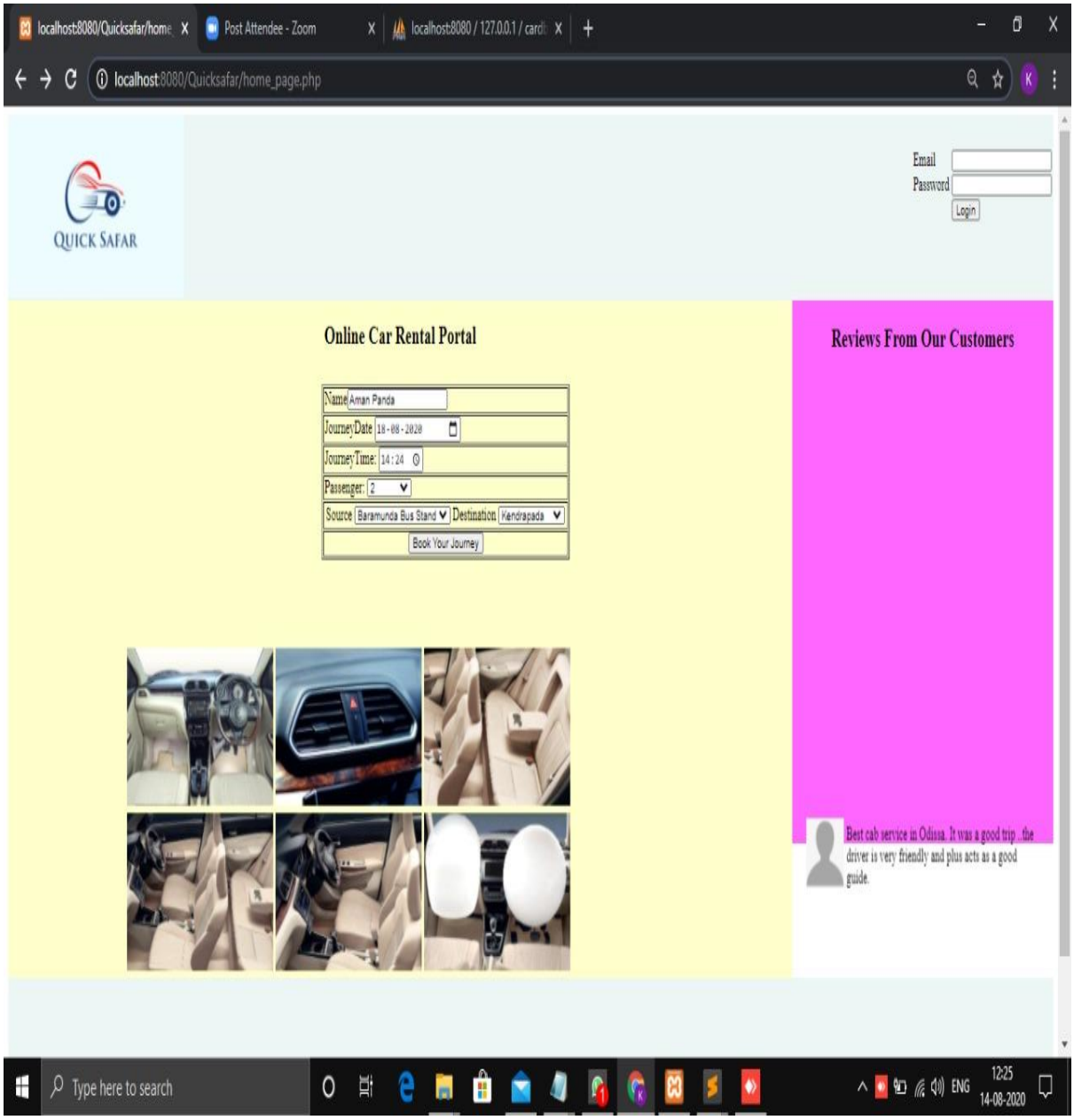
This is the registration page.



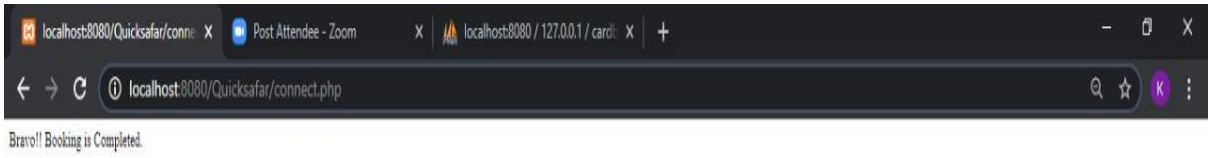
Here, registration is successfully completed.



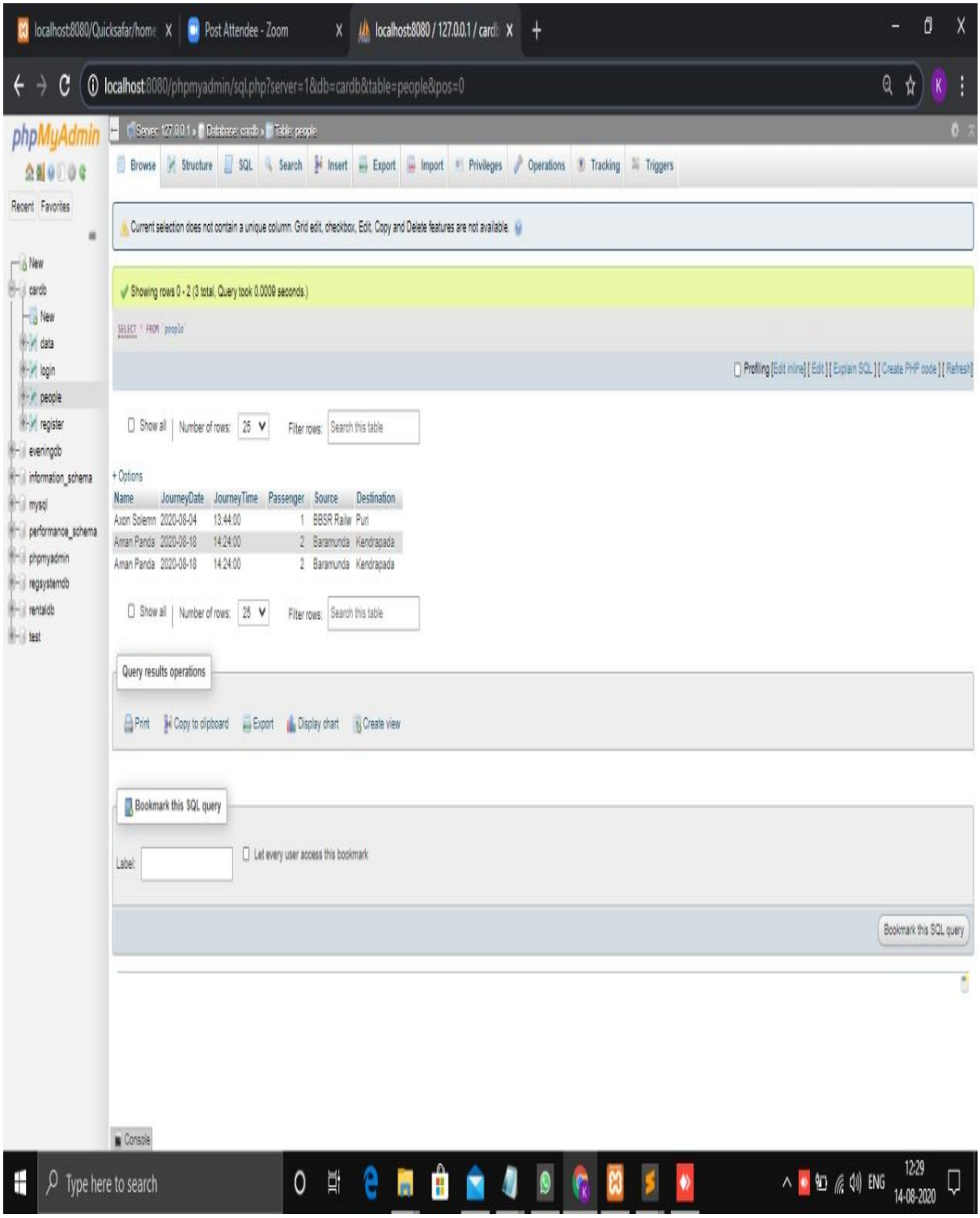
These are the information of all passengers.



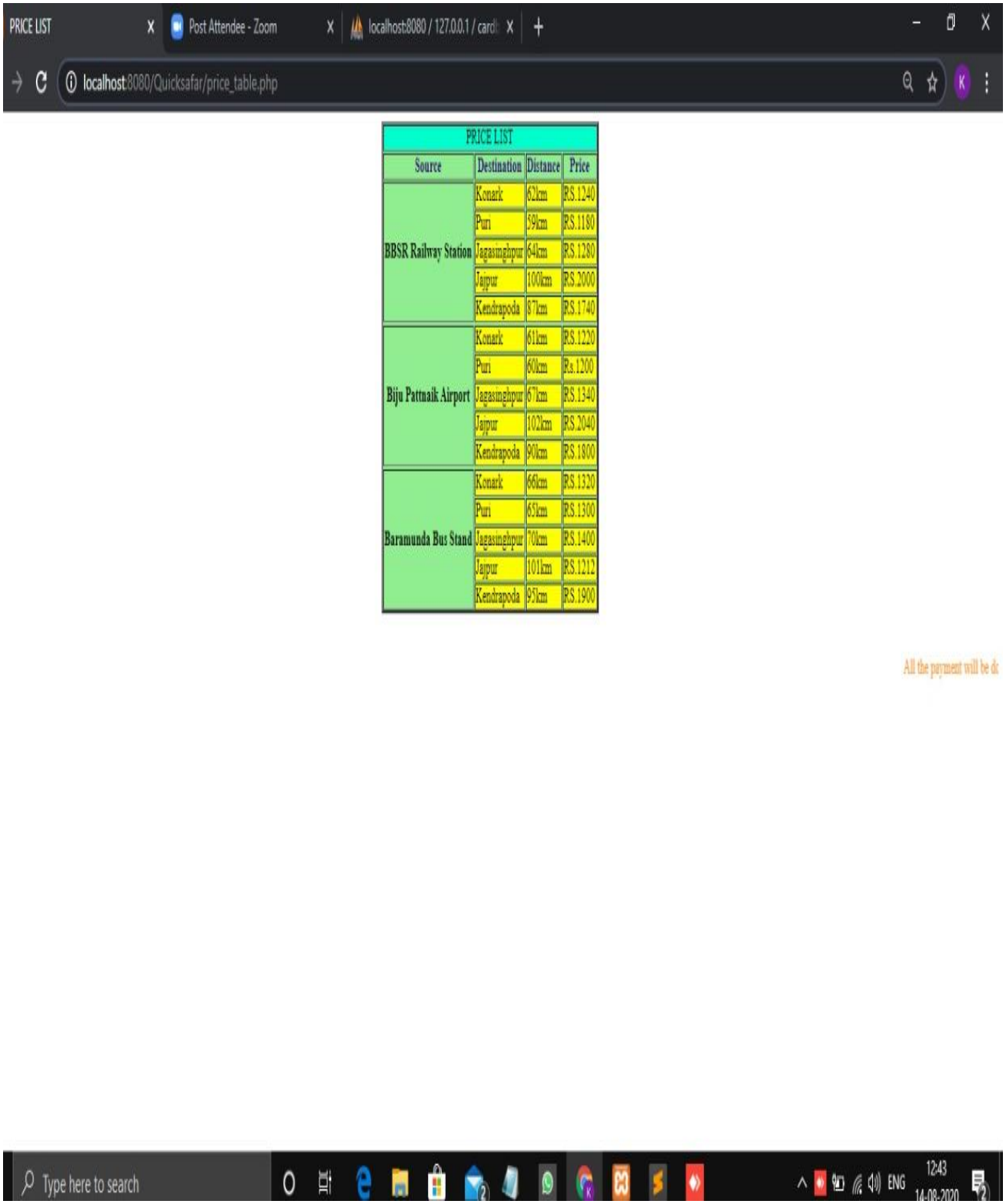
Here, a person booking a car.



Here, booking is successfully completed of a person.



Here, it is all information about the all booking of cars.


PRICE LIST
Post Attendee - Zoom
localhost:8080 / 127.0.0.1 / cardi
localhost:8080/Quicksafar/price_table.php
PRICE LIST
Source
Destination
Distance
Price
BBSR Railway Station
Konark
62km
RS.1240
Puri
59km
RS.1180
Jagasinghpur
64km
RS.1280
Jajpur
100km
RS.2000
Kendrapoda
87km
RS.1740
Biju Pattnaik Airport
Konark
61km
RS.1220
Puri
60km
Rs.1200
Jagasinghpur
67km
RS.1340
Jajpur
102km
RS.2040
Kendrapoda
90km
RS.1800
Baramunda Bus Stand
Konark
66km
RS.1320
Puri
65km
RS.1300
Jagasinghpur
70km
RS.1400
Jajpur
101km
RS.1212
Kendrapoda
95km
RS.1900
All the payment will be dc
Type here to search
ENG
12:43
14-08-2020

Price list

Conclusion:

Car rental business has emerged with a new goodies compared to the past experience where every activity concerning car rental business is limited to a physical location only. Even though the physical location has not been totally eradicated; the nature of functions and how these functions are achieved has been reshaped by the power of internet.

Nowadays, customers can reserve cars online, rent car online, and have the car brought to their door step once the customer is a registered member or go to the office to pick the car.

The web-based car rental system has offered an advantage to both customers as well as Car Rental Company to efficiently and effectively manage the business and satisfies customers' need at the click of a button