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Database Management System
Mini-Project Report
On

"RESTAURANT MANAGEMENT SYSTEM"

Submitted in partial fulfillment of requirements for the award of
BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE AND ENGINEERING
Submitted By

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DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING

CERTIFICATE

This is to certify that the project work titled **Restaurant Management System** is a Bonafide work satisfactorily completed by **Mr.Kartik S Gudageri(2BU19CS013) and Ms.Ritu Sansuddi(2BU19CS030)**, in partial fulfilment for the award of Bachelor of Engineering in Computer Science and Engineering under Visvesvaraya Technological University, Belagavi, for the year 2021-2022. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the said degree.

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ABSTRACT

The restaurant management software is a capstone project that aims towards developing an all-in-one application that addresses the various problems and challenges faced by high-end restaurant owners today . In order to achieve this goal, this project addresses various aspects of the modern business . It allows its users to access a variety of functionalities that are essential to the culinary business . Given that this project encapsulates more than one interface, it is by nature rich when it comes to the number of functionalities that are offered and these vary depending on the user's role. For example, it allows the waiter to take user orders through a straightforward, user-friendly, and smooth interface . All in all, this projects main aim is to reduce the time overhead in high end management restaurants by providing an alternative to the traditional management system based on physical record keeping and paper work.

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Chapter 1

INTRODUCTION

1.1 Introduction to Restaurant Management system

Online Restaurant Management System is the process of ordering food from a website .The product can be either ready-to-eat food. The aim of developing Online Restaurant Management project is to replace the traditional way of taking orders with computerized system. Another important reason for developing this project is to prepare order summary reports quickly and in correct format at any point of time when required .

Online Restaurant Management has a very lot of scope. This PHP project can be used by any restaurants or fast foods for customers for keeping their order records. This project is easy, fast and accurate. It requires less disk space. Online Restaurant Management uses MYSQL Server as backend so there is not any chance of data loss or data security. A customer can choose to have the food delivered or for pick-up. The process consists of a customer choosing the restaurant of their choice, scanning the menu items, choosing an item, and finally choosing for pick-up or delivery. Payment is then administered by paying with a credit card or debit card through the app or website or in cash at the restaurant when going to pickup. The website and app inform the customer of the food quality, duration of food preparation, and when the food is ready for pick-up or the amount of time it will take for delivery

Needs of Online Restaurant Management System

Helps customer to order their food at any time. The customers will be able to order their favorite dishes at any point of time, and as we have pointed out earlier, that time is a minimal option, and restaurants must have a specified system through which they can serve a huge number of customers while making their work smoother. Ordering.co is one of the best platforms which provides all of these platforms along with numerous innovative features which has turned countless small and large businesses into an inspiring leader in the online marketplace.

1.2 About DBMS:

A database management system (DBMS) refers to the technology for creating and managing databases. DBMS is a software tool to organize (create, retrieve, update and manage) data in a database.

Databases (or DBs) have played a very important part in the recent evolution of computers. The first computer programs were developed in the early 1950s, and focused almost completely on coding languages and algorithms. At the time, computers were basically giant

calculators and data (names, phone numbers) was considered the leftovers of processing information. Computers were just starting to become commercially available, and when business people started using them for real-world purposes, this leftover data suddenly became important. IBM had invested heavily in the IMS model, and wasn't terribly interested in Codd's ideas. Fortunately, some people who didn't work for IBM "were" interested. In 1973, Michael Stonebreaker and Eugene Wong (both then at UC Berkeley) made the decision to research relational database systems.

The project was called INGRES (*Interactive Graphics and Retrieval System*), and successfully demonstrated a relational model could be efficient and practical. INGRES worked with a query language known as QUEL, in turn, pressuring IBM to develop SQL in 1974, which was more advanced (SQL became ANSI and OSI standards in 1986 1nd 1987). SQL quickly replaced QUEL as the more functional query language.

A Document Store (often called a document-oriented database), manages, stores, and retrieves semi-structured data (also known as document-oriented information). Documents can be described as independent units that improve performance and make it easier to spread data across a number of servers. Document Stores typically come with a powerful query engine and indexing controls that make queries fast and easy. Examples of Document Stores are: Mongo DB, and Amazon Dynamo DB

Document-oriented databases store all information for a given "object" within the database, and each object in storage can be quite different from the others. This makes it easier for mapping objects to the database and makes document storage for web programming

applications very attractive. (An "object" is a set of relationships. An article object could be related to a tag [an object], a category [another object], or a comment [another object].)

Formally, a "database" refers to a set of related data and the way it is organized. Access to this data is usually provided by a "database management system" (DBMS) consisting of an integrated set of computer software that allows users to interact with one or more databases and provides access to all of the data contained in the database (although restrictions may exist that limit access to particular data). The DBMS provides various functions that allow entry, storage and retrieval of large quantities of information and provides ways to manage how that information is organized.

Because of the close relationship between them, the term "database" is often used casually to refer to both a database and the DBMS used to manipulate it.

Outside the world of professional information technology, the term *database* is often used to refer to any collection of related data (such as a spreadsheet or a card index) as however size and usage requirements typically necessitate use of a database management system.

SQL:

Structure Query Language (SQL) is a database query language used for storing and managing data in Relational DBMS. SQL was the first commercial language introduced for E.F Codd's **Relational** model of database. Today almost all RDBMS(MySQL, Oracle, Informix, Sybase, MS Access) use **SQL** as the standard database query language. SQL is used to perform all types of data operations in RDBMS.

SQL Command:

SQL defines following ways to manipulate data stored in an RDBMS.

DDL: Data Definition Language

This includes changes to the structure of the table like creation of table, altering table, deleting a table etc.
All DDL commands are auto-committed. That means it saves all the changes permanently in the database.

Command	Description
Create	to create new table or database
Alter	for alteration
Truncate	delete data from table
Drop	to drop a table

Rename	to rename a table

DML: Data Manipulation Language:

DML commands are used for manipulating the data stored in the table and not the table itself. DML commands are not auto-committed. It means changes are not permanent to database, they can be rolled back.

Command	Description
Insert	to insert a new row
Update	to update existing row
Delete	to delete a row
Merge	merging two rows or two tables

TCL: Transaction Control Language:

These commands are to keep a check on other commands and their affect on the database. These commands can annul changes made by other commands by rolling the data back to its original state. It can also make any temporary change permanent.

Command	Description
Commit	to permanently save
Rollback	to undo change
Save point	to save temporarily

Data Control Language:

Data control language are the commands to grant and take back authority from any database user.

Command	Description
Grant	grant permission of right
Revoke	take back permission.

DQL: Data Query Language:

Data query language is used to fetch data from tables based on conditions that we can easily apply.

Command	Description
Select	retrieve records from one or more table

Chapter 2

METHODOLOGY

2.1 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 server-side 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, SunMicrosystems' 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, Code Igniter and Zend Framework, offering features similar to other web application frameworks.

2.2 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.

2.3 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.

2.4 Connecting PHP Application to MySQL Database

Make a connection variable to the database: $con= mysql_connect ("localhost","servername","password"); Here $con is a connection variable to database. Select database over that connection variable

$db=mysql_select_db("databasename", $con); Prepare a sql query to execute: $qry= Select * from abc; Run the sql query: $result=mysql_query($qry); Iterate over the result: while($row = mysql_fetch_array($result))

```
{
        //some logic
}
```

2.5 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 monito

Xampp

XAMPP is a free and open source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. XAMPP stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes. Everything needed to set up a web server – server application (Apache), database (MariaDB), and scripting language (PHP) –is included in an extractable file. XAMPP is also cross-platform, which means it works equally well on Linux, Mac and Windows. Since most actual web server deployments use the

same components as XAMPP, it makes transitioning from a local test server to a live server extremely easy as well.

Java Script

JavaScript often abbreviated as JS, is a high-level, interpreted programming language. It is a language which is also characterized as dynamic, weakly typed, prototype-based and multi-paradigm. Alongside HTML and CSS, JavaScript is one of the three core technologies of the World Wide Web. JavaScript enables interactive web pages and thus is an essential part of web applications.

Css

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate css file, and reduce complexity and repetition in the structural content.

HTML

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web

Chapter 3

SYSTEM DESIGN

3.1 ER Diagram

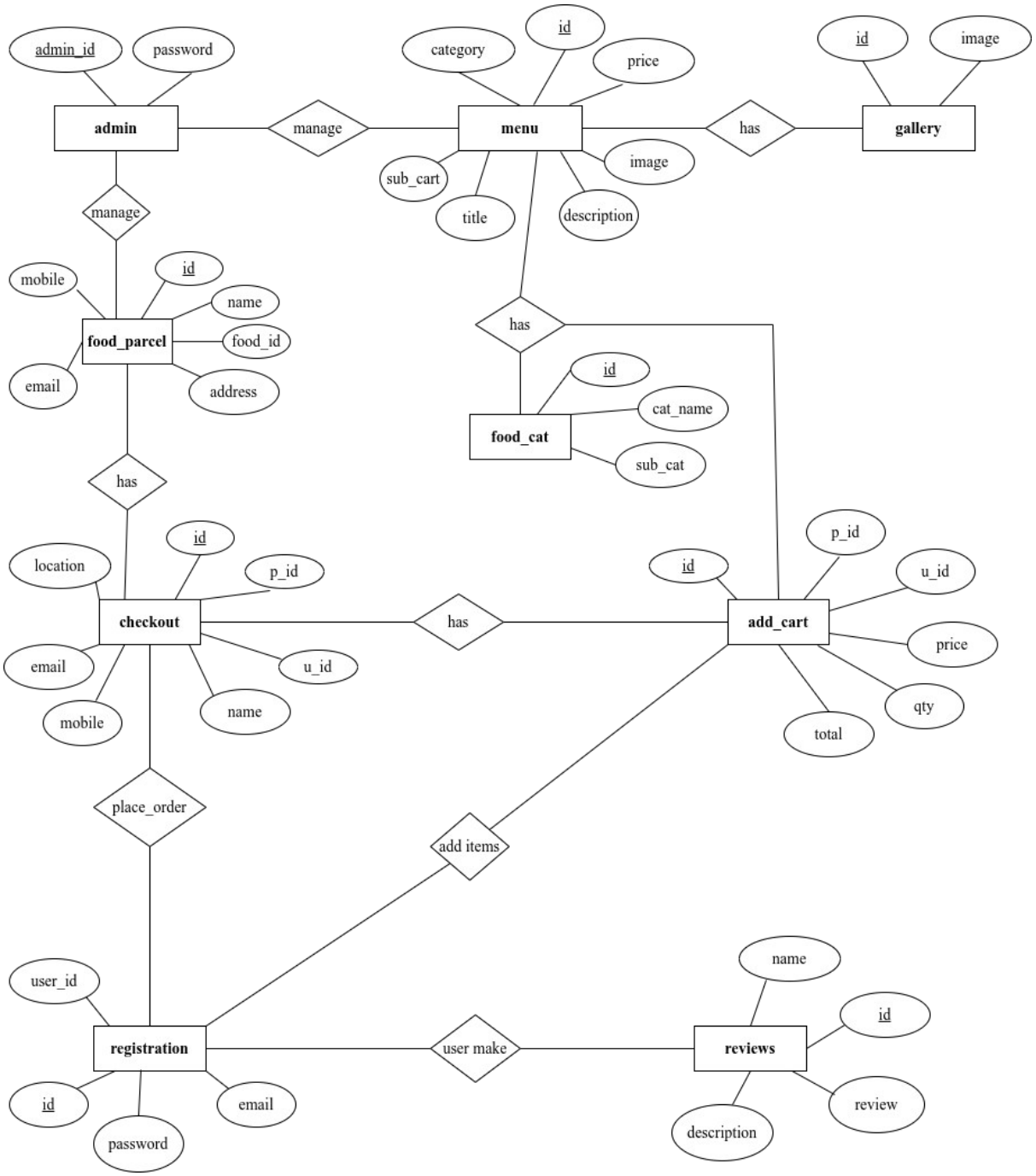

Figure 1: Entity Relationship Diagram . This shows the relationship between the Entities and attributes stored in database. In other words , ER diagram help us to explain the logical structure of databases

3.2 Schema Diagram:

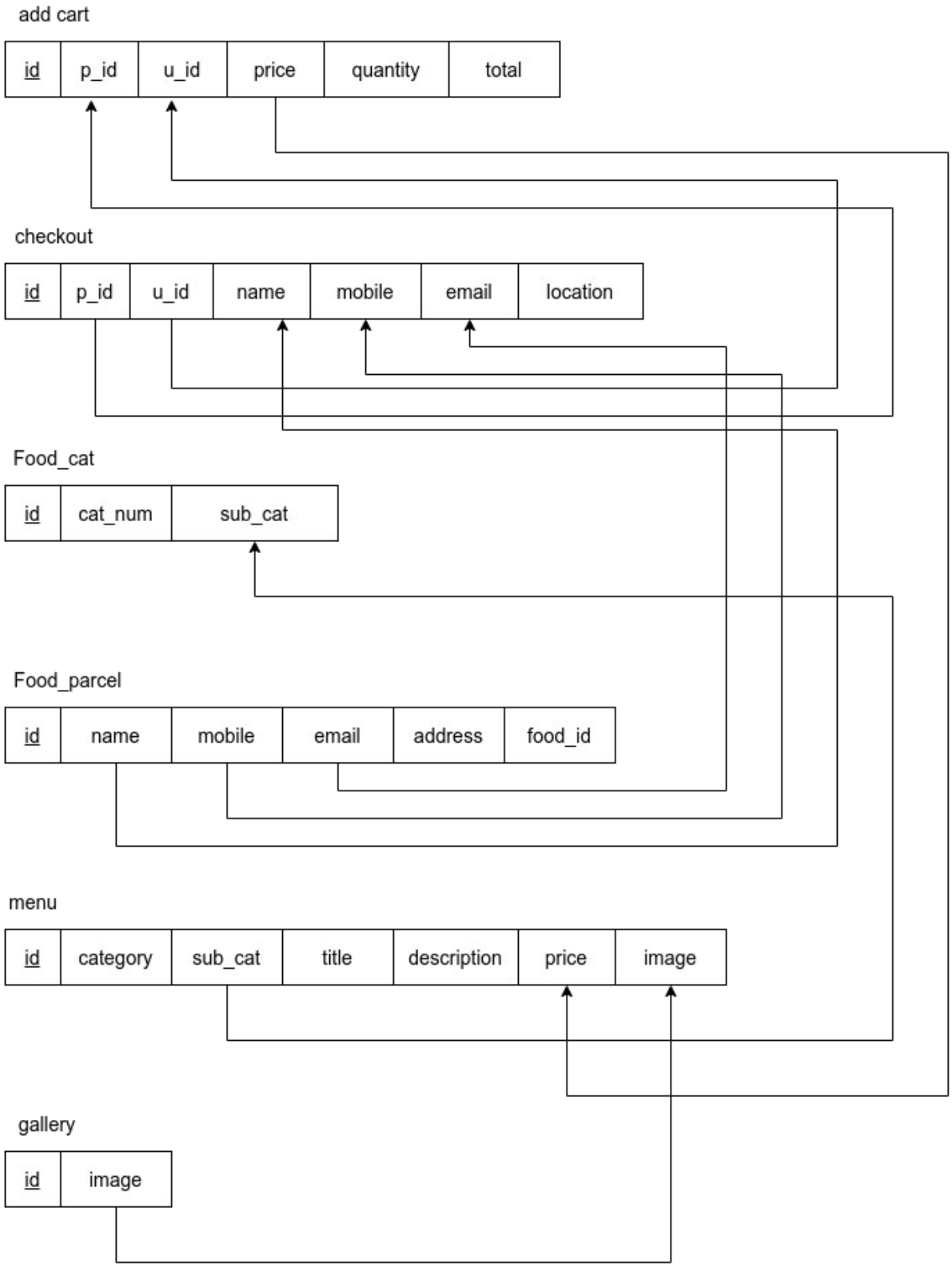

Figure 2: Schema diagram which contains entities and the attributes that will define hat schema. A schema diagram only shows us the database design

Chapter 4

SYSTEM REQUIREMENTS

4.1 Hardware Requirement:

- Speed - 1.1 GHz
- RAM - 1GB
- Hard Disk - 20 GB
- Key Board - Standard Keyboard
- Mouse - PS/2 Mouse
- Monitor - Plug and play monitor

4.2 Software Requirements :

- OPERATING SYSTEM : Windows 7/ XP/10.
- WEB SERVER : Wamp2.2e, Apache, XAMPP Control Panel.
- FRONT END : Html, Css ,Notepad++, java script.
- SERVER SIDE SCRIPT : Php.
- DATABASE : My SQL.

Chapter 5

IMPLEMENTATION

5.1 Some basic code of Database

Project Name : Employee Leave Management System (ELMS)

Language Used : PHP

Database : MySQL

User Interface Design : HTML,JAVASCRIPT

Web Browser : Mozilla, Google Chrome, OPERA, Microsoft edge(anyone)

Software : XAMPP / Wamp

5.2 How to run the Restaurant Management System

1. Extract the file and copy xampp in htdocs folder

2.Paste inside root directory(for xamppxampp/htdocs, for wamp wamp/www, for lamp var/www/html)

3. Open PHPMyAdmin (http://localhost/phpmyadmin)

4. Create a database with name ‘maher’

5. Import maher.sql file(given inside the zip package in SQL file folder)

6.Run the script http://localhost/maher/

Credential for admin panel:

Username: admin

Password: admin

Chapter 6

RESULTS

6.1 Screenshots of project

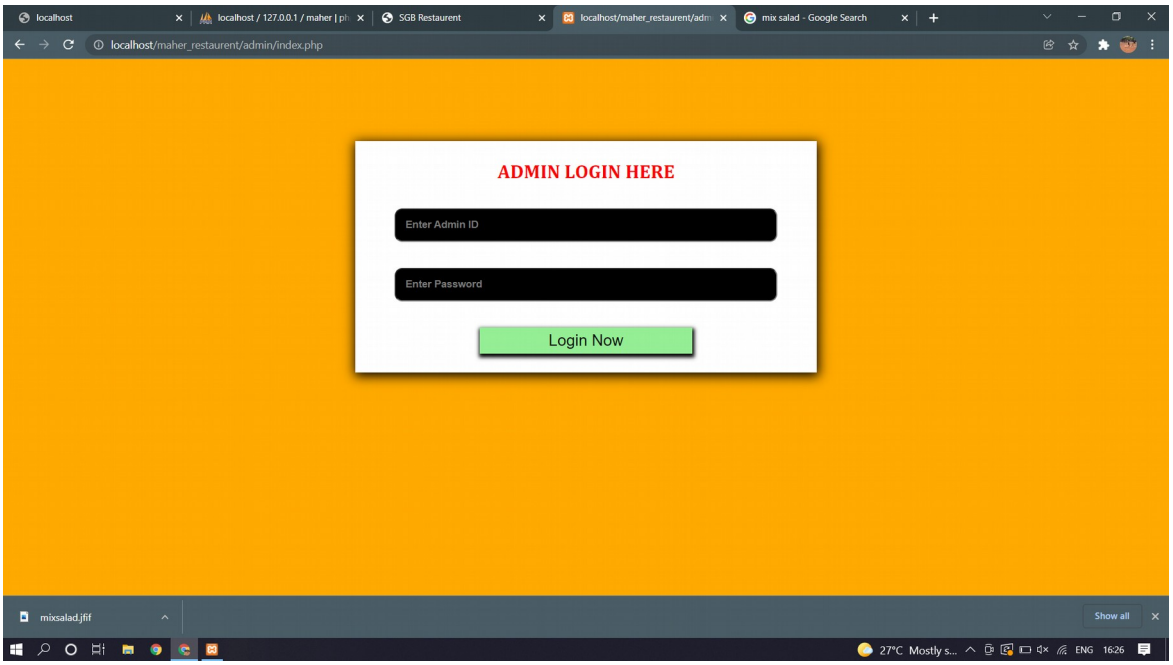

Figure 1: The main Admin login page

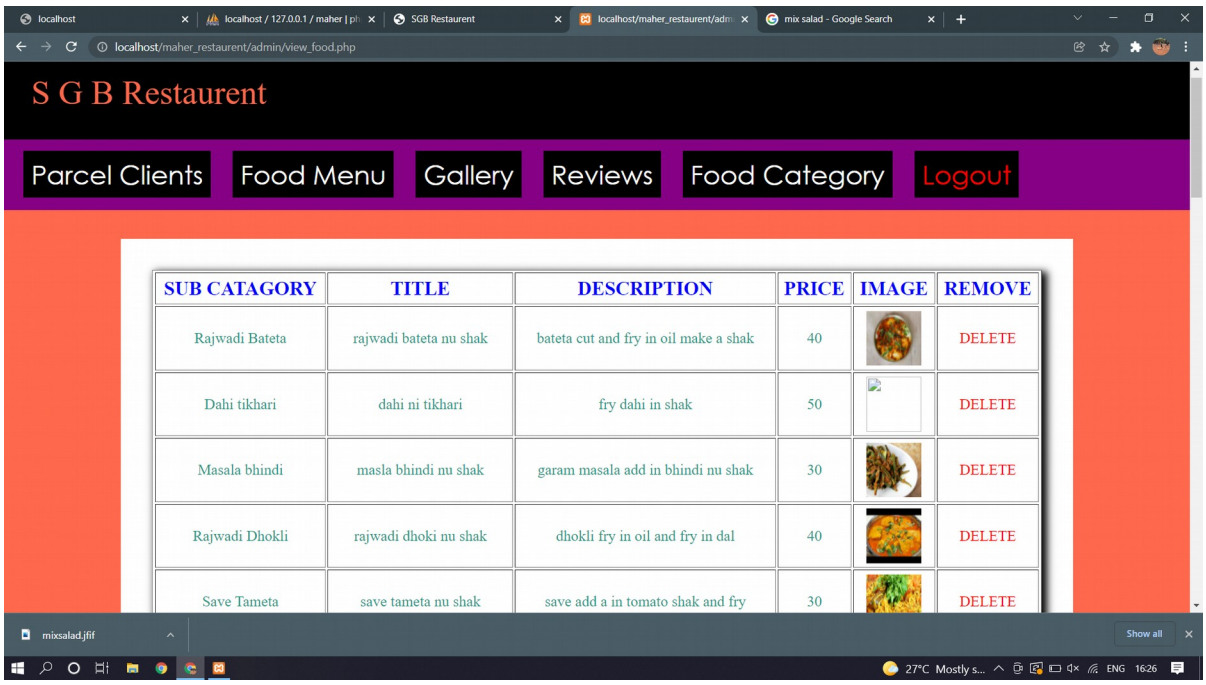

Figure 2: Admin food category page

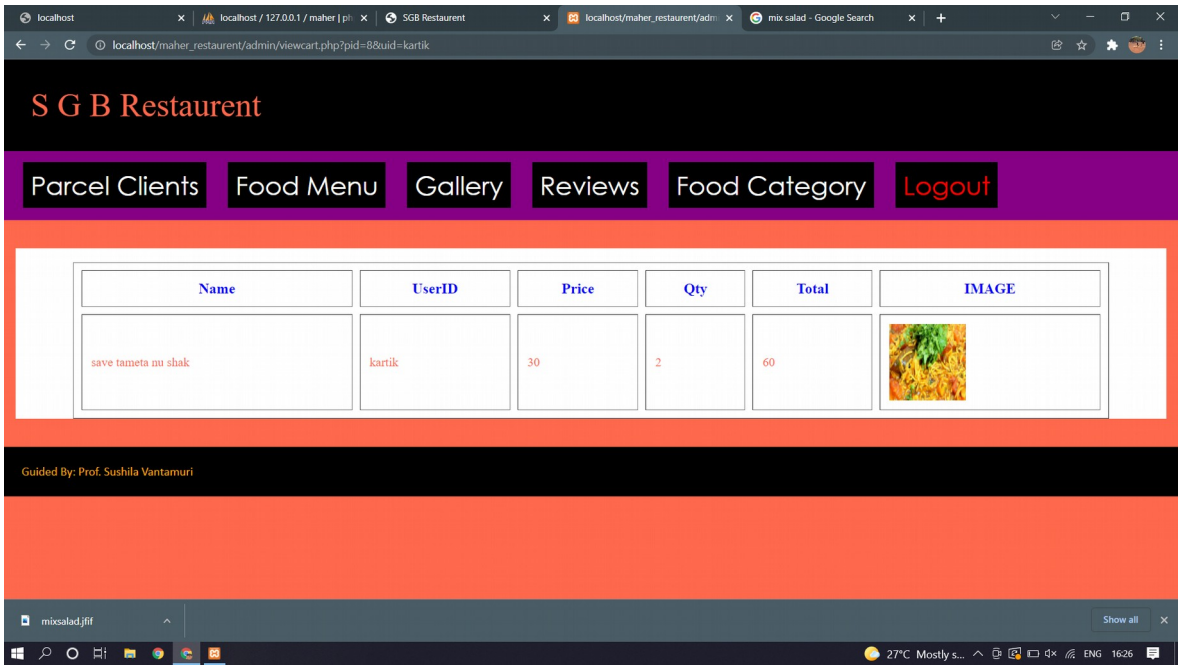

Figure 3: Admin Parcel clients page

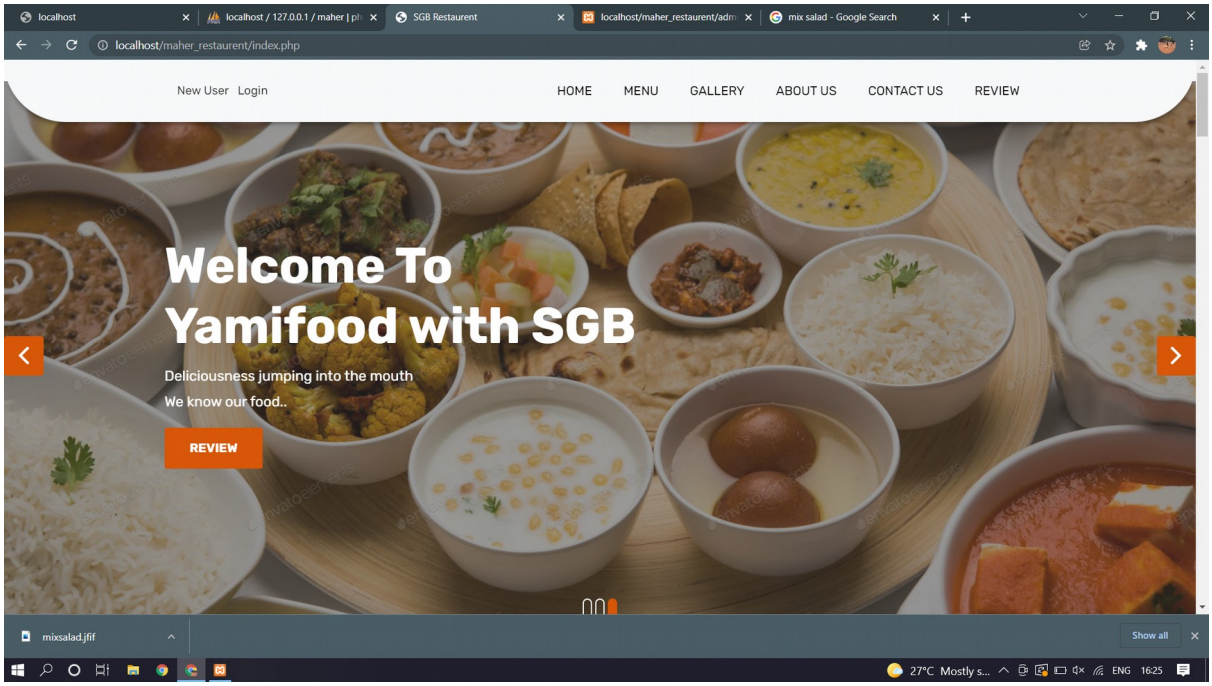

Figure 4: User review page

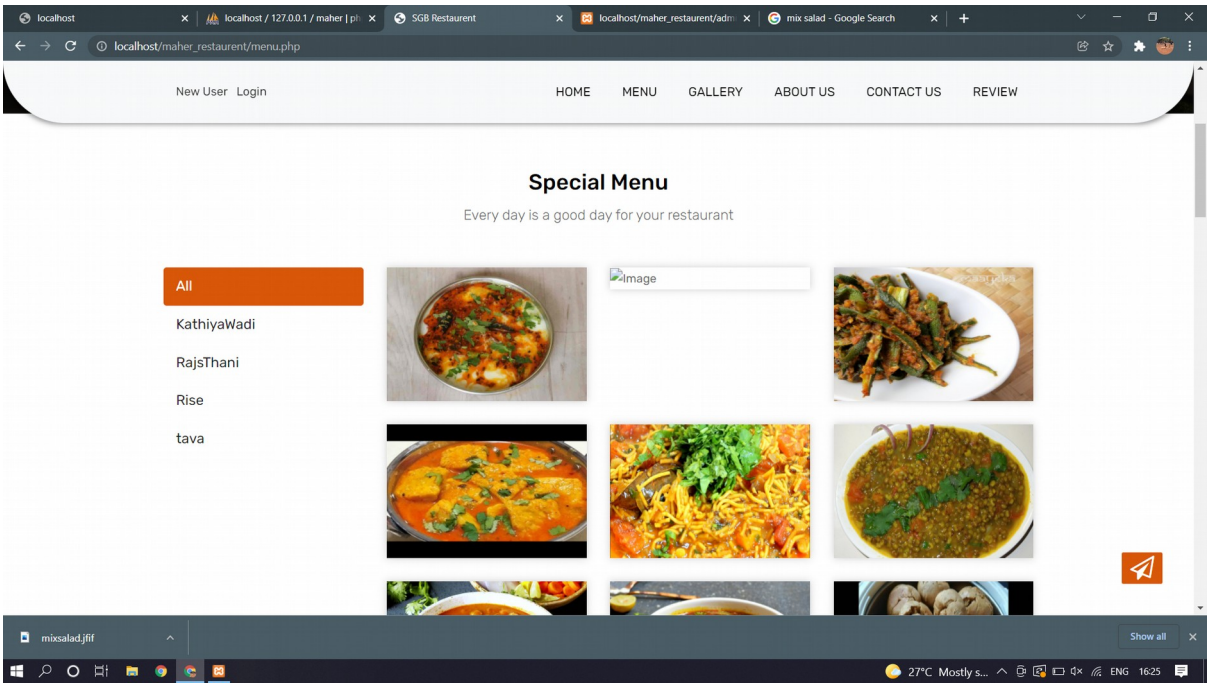

Figure 5: User Home page

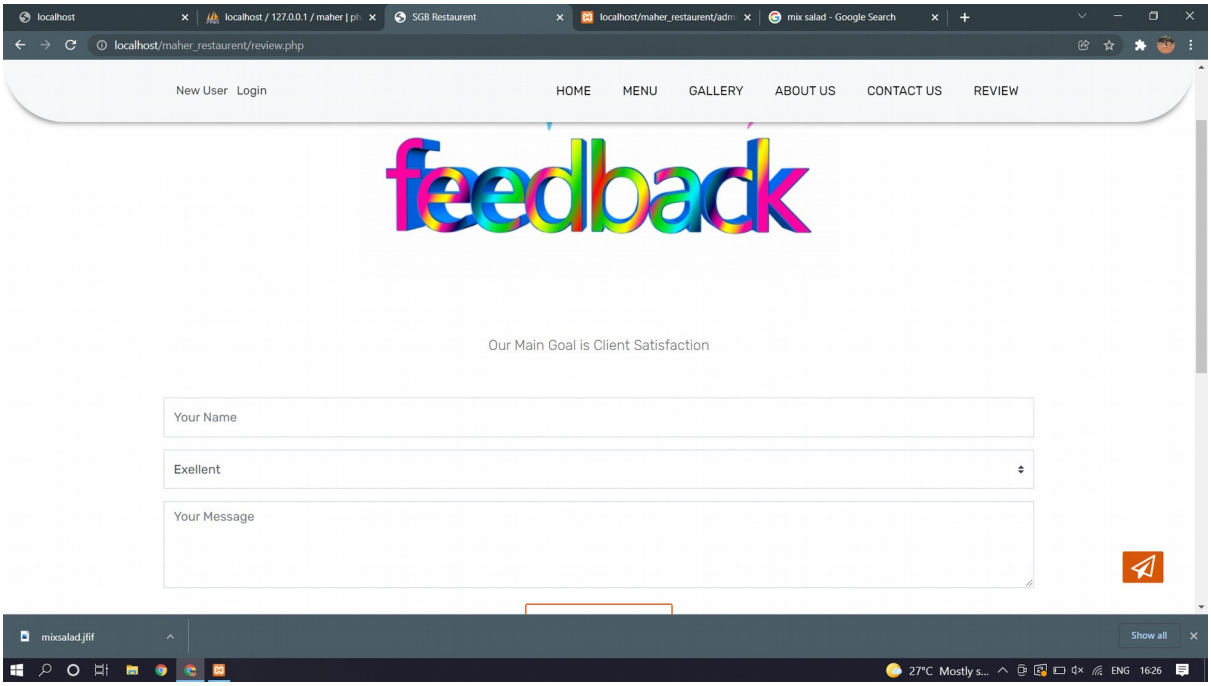

Figure 6: User food category page

Chapter 7

CONCLUSION

The Restaurant Management System is used to develop the restaurant's business to provide orders. It facilitates us to deal with the customer and reduces the work effort and less time in use. There are no delays for the customer. There is a main screen containing a table of foods that allows the customer to choose the food and show him the final cost of the order and connect with the main program, Making it easy for the customer to see the types of foods and integrates with all kinds of images for the food. This program can be installed to add new users and personal profile to you working in the restaurant and dealing with them easily in the absence of salaries

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