VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A

REPORT ON DBMS MINI PROJECT (21CSL55)

"Laptop sales management system"

Submitted in partial fulfillment for the award of 5th Semester of,

BACHELOR OF ENGINEERING

IN

ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

By

Bhavana S Kulkarni **USN:2BU21AD004**

Namita M Mutnal **USN:2BU21AD031**

Under the Guidance of

Mrs Vidya Shahapurkar

2023 – 2024

DEPARTMENT OF ARTIFIAL INTELLIGENCE AND DATA SCIENCE

S.S EDUCATION TRUST

S. G. BALEKUNDRI INSTITUTE OF TECHNOLOGY

S. S. Education Trust's

S.G Balekundri Institute of Technology

Shivabasava Nagar Belagavi, Karnataka, India – 590010

S. G. BALEKUNDRI INSTITUTE OF TECHNOLOGY

Shivabasavanagar, Belagavi-10, Karnataka.

2023 – 2024

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

CERTIFICATE

This is to certify that the DBMS mini project entitled **"Laptop sales management system"** has been successfully completed by

Bhavana S Kulkarni	**USN:2BU21AD004**
Namita M Mutnal	**USN:2BU21AD031**

the bonafide students of **DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE, S. G. BALEKUNDRI INSTITUTE OF TECHNOLOGY** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2023–2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini Project Work (21CSL55) has been approved as it satisfies the academic requirements in respect of DBMS mini project work prescribed for the 5th semester of Bachelor of Engineering Degree.

Prof.Vidya Shahapurkar	**Dr. Satish Bhojannawar**	**Dr.B. R. Patagundi**
Project Guide	**Head of the Department**	**Principal**

TABLE OF CONTENTS

ACKNOWLEDGEMENT

The satisfaction and euphoria that accompany a successful completion of any task would be incomplete without the mention of people who made it possible, success is the epitome of hard work and perseverance, but steadfast of all is encouraging guidance.

So, with gratitude we acknowledge all those whose guidance and encouragement served as beacon of light and crowned the effort with success.

We thank our project guide **Prof. Vidya Shahapurkar**, Professor in Department of Artificial Intelligence & Data Science, who has been our source of inspiration. She has been especially enthusiastic in giving her valuable guidance and critical reviews.

We sincerely thank, **Dr. Sathish Bhojannawar**, Professor and Head, Department of Artificial Intelligence & Data Science who has been the constant driving force behind the completion of the project.

We thank Principal **Dr. B. R. Patagundi,** for his constant help and support throughout.

We are also indebted to **Management of S. G. Balekundri Institute of Technology, Belagavi** for providing an environment which helped us in completing the project.

Also, we thank all the teaching and non-teaching staff of Department of Artificial intelligence & Data Science & Engineering for the help rendered.

Finally, we would like to thank my parents and friends whose encouragement and support was invaluable.

Bhavana S Kulkarni **USN:2BU21AD004**

Namita M Mutnal **USN:2BU21AD031**

ABSTRACT

The purpose of Laptop Sales and Service is to automate the existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

Laptop Sales and Service, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information.

Basically, the project describes how to manage for good performance and better services for the clients this is an application which maintains an order in which a laptop has to be issued to an client along with the information of the user who owns a laptop. The hardware and software issues or any other requirements has to be raised in the form of a ticket which has to be handled. As a client one can choose the brand for their laptop, if the requested laptop is not available then the status for their request should be open and whenever a user submits laptop of that brand then the laptop is assigned to the user and the status of request is changed to closed.

It will provide an easy and attractive interface so that the user can easily manage and utilize the application. Various other approaches were considered for this application. This application is designed in a way that it will only require a minimum amount of information from the user. The goal was to look for the minimum amount of information that will meet needed requirements.

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

The "Laptop Sales and Service" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and, in some cases, reduce the hardships faced by this existing system. Moreover, this system is designed for the particular need of the company to carry out operations in a smooth and effective manner. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus, by this all it proves it is user-friendly.

In Laptop Sales Management System, it stores records of suppliers, hardware, software, sale, purchase and customer's records are maintained and manipulated. It can assist the staff to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources. This application is functional for either the admin or the employees, if any third person tries to operate it then a particular error message will be displayed. It also provides the part for stock inventory. This part will display the total of computer/laptop stock that is available in the company and every time a product is being purchased, the stock will be automatically reduced. With this system, all the data are stored in one place and users fasting to getting the information.

1.1 Problem statement

Addressing the problem of efficiently managing Laptop sales, stocks, orders, Payment receipt, brands and customer database information digitally other than the existing manual system Which requires more human capacity for preparing bill, maintain purchasing and stock in store. The system should ensure error free, secure, reliable and fast management Additionally it should maintain records of suppliers, hardware, software, sale, purchase that are maintained and manipulated. Every new client is registered by admin by entering the user information into the database. Same is the case for laptops, every laptop is also being registered by the admin along with its details like brand name, Price etc into the database.

1.2 Objectives

The main objective of the Project on Laptop Sales and Service is to manage the details of Laptop, Service, Sales, Technicians. This project deals with the management and transaction criteria of the Laptop Sales - Management System. The project is totally built at administrative end and thus only the administrator is guaranteed the access.

The main objectives behind the development of this project are as follows:

- To assist the staff in capturing the effort spent on their respective working areas
- To utilize resource of the institution in an efficient manner by increasing their productivity through automation.
- To keep and manipulate suppliers information.
- To keep and manipulate hardware details.
- To provide facility to sale at shop and prepare customer bill
- To make enquiry of a particular sale
- To maintain the purchase and stock at shop

1.3 Database

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.

Database software makes data management simpler by enabling users to store data in a structured form and then access it. It typically has a graphical interface to help create and manage the data and, in some cases, users can construct their own databases by using database software

Databases were first created in the 1960s. These early databases were network models where each record is related to many primary and secondary records. Hierarchical databases were also among the early models. They have tree schemas with a root directory of records linked to several subdirectories. Computers were just starting to become commercially available, and 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 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 (SOL became ANSI and OSI standards in 1986 lhd 1987).SQL quickly replaced QUEL as the more functional query

language. Relational databases were developed in the 1970s. Object-oriented databases came next in the 1980s. Today, we use Structured Query Language (SQL), NoSQL and cloud databases. E.F. Codd created the relational database while at IBM. It became the standard for database systems because of its logical schema, or the way it is organized. The use of a logical schema separates the relational database from physical storage. The relational database, combined with the growth of the internet beginning in the mid-1990s, led to a proliferation of databases. Many business and consumer applications rely on databases.

1.4 SQL

SQL is a standard database language used to access and manipulate data in databases. SQL stands for Structured Query Language. SQL was developed by IBM Computer Scientists in the 1970s. By executing queries SQL can create, update, delete, and retrieve data in databases like MySQL, Oracle, PostgreSQL, etc. Overall SQL is a query language that communicates with databases. 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 RDBMSs.

Key features of MySQL

MySQL is used to store data in tables that map to objects. Each table has a schema defining what columns each row of the table will have. Developers can reliably store and retrieve many data types, including text, numbers, dates, times, and even JSON.

MySQL’s performance is highly scalable to support even the largest applications. This can be done through optimization methods like indexing tables, upgrading hardware, and horizontal sharding

Interacting with a MySQL database is done with SQL (Structured Query Language). SQL is not a fully-fledged programming language. But as a querying language, it offers a straightforward syntax to manage your database through:

• Creating, updating, and deleting tables.

• Indexing tables.

• Retrieving, inserting, updating, and deleting data in tables.

• Joining data across multiple tables.

• Running mathematical functions on queried data.

• Partitioning-data.

MySQL's performance is highly scalable to support even the largest applications. This can be done through optimization methods like indexing tables, upgrading hardware, and horizontal sharding

Uses of SQL

1. **Data definition:** It is used to define the structure and organization of the stored data and the relationships among the stored data items.
2. **Data retrieval:** SQL can also be used for data retrieval.
3. **Data manipulation:** If the user wants to add new data, remove data, or modifying in existing data then SQL provides this facility also.
4. **Access control:** SQL can be used to restrict a user's ability to retrieve, add, and modify data, protecting stored data against unauthorized access.
5. **Data sharing:** SQL is used to coordinate data sharing by concurrent users, ensuring that changes made by one user do not inadvertently wipe out changes made at nearly the same time by another user.

   SQL also differs from other computer languages because it describes what the user wants the computer to do rather than how the computer should do it. (In more technical terms, SQL is a declarative or descriptive language rather than a procedural one.) SQL contains no IF statement for testing conditions, and no GOTO, DO, or FOR statements for program

flow control. Rather, SQL statements describe how a collection of data is to be organized, or what data is to be retrieved or added to the database. The sequence of steps to do those tasks is left for the DBMS to determine.

SQL Commands

SQL commands are instructions. It is used to communicate with the database. It is also used to perform specific tasks, functions, and queries of data. SQL can perform various tasks like create a table, add data to tables, drop the table, modify the table, set permission for users.

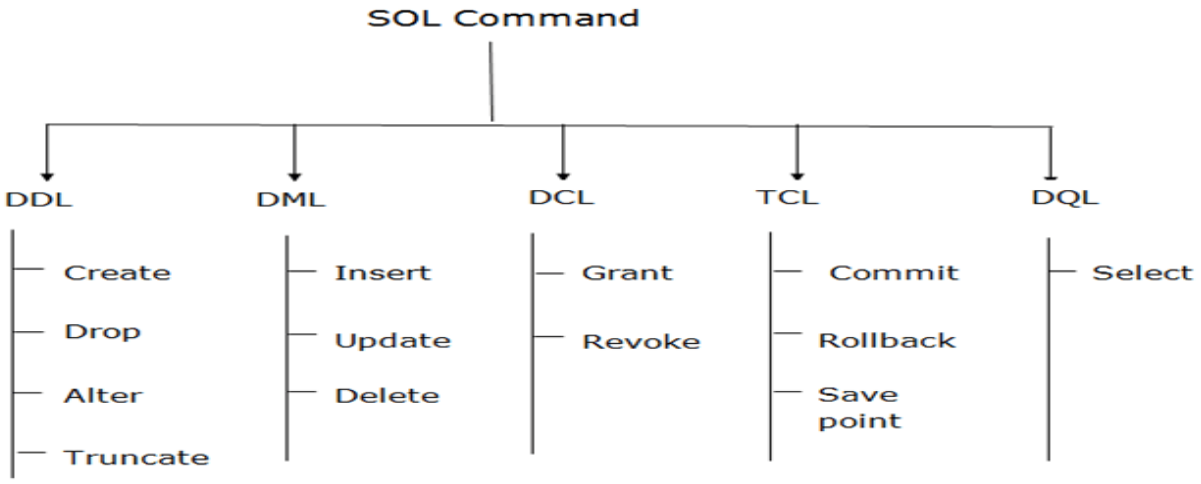

Fig.1.4: SQL commands

1.4.1 Data Definition Language (DDL) Commands

DDL, which stands for Data Definition Language, is a subset of SQL (Structured Query Language) commands used to define and modify the database structure. These commands are used to create, alter, and delete database objects like tables, indexes, and schemas. The primary DDL commands in SQL include:

1. **CREATE**: This command is used to create a new database object. For example, creating a new table, a view, or a database.
   - Syntax for creating a table: CREATE TABLE table_name (column1 datatype, column2 datatype, ...);

2. **ALTER**: This command is used to modify an existing database object, such as adding, deleting, or modifying columns in an existing table.
   - Syntax for adding a column in a table: ALTER TABLE table_name ADD column_name datatype;
   - Syntax for modifying a column in a table: ALTER TABLE table_name MODIFY COLUMN column_name datatype;

3. **DROP**: This command is used to delete an existing database object like a table, a view, or other objects.
   - Syntax for dropping a table: DROP TABLE table_name;
4. **TRUNCATE**: This command is used to delete all data from a table, but the structure of the table remains. It's a fast way to clear large data from a table.
   - Syntax: TRUNCATE TABLE table_name;

5. **COMMENT**: Used to add comments to the data dictionary.
   - Syntax: COMMENT ON TABLE table_name IS 'This is a comment.;

6. **RENAME**: Used to rename an existing database object.
   - Syntax: RENAME TABLE old_table_name TO new_table_name;

1.4.2 Data Manipulation Language (DML) Commands

Data Manipulation Language (DML) is a subset of SQL commands used for adding (inserting), deleting, and modifying (updating) data in a database. DML commands are crucial for managing the data within the tables of a database. The primary DML commands in SQL include:

1. **INSERT**: This command is used to add new rows (records) to a table.
   - Syntax: INSERT INTO table_name (column1, column2, column3, ...) VALUES (value1, value2, value3, ...);

2. **UPDATE**: This command is used to modify the existing records in a table.
    - Syntax: UPDATE table_name SET column1 = value1, column2 = value2, ... WHERE condition;
    - The WHERE clause specifies which records should be updated. Without it, all records in the table will be updated.

3. **DELETE**: This command is used to remove one or more rows from a table.
    - Syntax: DELETE FROM table_name WHERE condition;
    - Like with UPDATE, the WHERE clause specifies which rows should be deleted. Omitting the WHERE clause will result in all rows being deleted.

4. **SELECT**: Although often categorized separately, the SELECT command is sometimes considered part of DML as it is used to retrieve data from the database.
    - Syntax: SELECT column1, column2, ... FROM table_name WHERE condition;
    - The SELECT statement is used to query and extract data from a table, which can then be used for various purposes.[1]

1.4.3 Data Control Language

DCL commands are used to grant and take back authority from any database user.

1. **GRANT:** It is used to give user access privileges to a database.

- Syntax:
  GRANT SELECT, UPDATE ON MY_TABLE TO SOME_USER, ANOTHER_USER;

2. **REVOKE:** It is used to take back permissions from the user.

- Syntax: REVOKE SELECT, UPDATE ON MY_TABLE FROM USER1, USER2;

1.4.1.4 Transaction Control Language

commands can only use with DML commands like INSERT, DELETE and UPDATE only. These operations are automatically committed in the database that's why they cannot be used while creating tables or dropping them.

1. **COMMIT:** Commit command is used to save all the transactions to the database.

- Syntax: COMMIT;

2. **ROLLBACK:** it is used to undo transactions that have not already been saved to the database.

- Syntax: ROLLBACK;

3. **SAVE POINT:** It is used to roll the transaction back to a certain point without rolling back the entire transaction.

- Syntax: SAVEPOINT SAVEPOINT_NAME;

1.4.1.5 Data Query Language

DQL is used to fetch the data from the database.

SELECT: This is the same as the projection operation of relational algebra. It is used to select the attribute based on the condition described by WHERE clause.

Syntax: SELECT expressions
FROM TABLES
WHERE conditions;

CHAPTER 2

METHODOLOGIES

2.1 About PHP

PHP: Hypertext pre-processor 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.

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.

The PHP script is executed on the server and the HTML result is sent to the browser. It can normally have HTML and PHP tags. PHP or Hypertext Preprocessor is a widely used open-source general-purpose scripting language and can be embedded with HTML. PHP files are saved with the ".php" extension. PHP scripts can be written anywhere in the document within PHP tags along with normal HTML.

Characteristics of PHP

- PHP code is executed in the server.
- It can be integrated with many databases such as Oracle, Microsoft SQL Server, MySQL, PostgreSQL, Sybase, and Informix.
- It is powerful to hold a content management system like WordPress and can be used to control user access.

- It supports main protocols like HTTP Basic, HTTP Digest, IMAP, FTP, and others.
- Websites like www.facebook.com and www.yahoo.com are also built on PHP.
- One of the main reasons behind this is that PHP can be easily embedded in HTML files and HTML codes can also be written in a PHP file.
- The thing that differentiates PHP from the client-side language like HTML is, that PHP codes are executed on the server whereas HTML codes are directly rendered on the browser. PHP codes are first executed on the server and then the result is returned to the browser.
- The only information that the client or browser knows is the result returned after executing the PHP script on the server and not the actual PHP codes present in the PHP file. Also, PHP files can support other client-side scripting languages like CSS and JavaScript.

Origin and History

- PHP was created by Rasmus Lerdorf in 1994 and initially stood for "Personal Home Page." Over the years, it evolved into "PHP: Hypertext Preprocessor."
- PHP is open-source and has a large community of developers contributing to its development.

Purpose of using PHP

- PHP is primarily used for server-side web development. It enables the creation of dynamic web pages by embedding PHP code within HTML.

PHP can perform various tasks, including handling form data, generating dynamic page content, managing databases, and interacting with servers.[4

2.2 Java Script

The combination of PHP and JavaScript presents developers with a powerful toolkit for creating dynamic, interactive, and scalable web applications. By leveraging the strengths of each language, developers can harness PHP's robust server-side capabilities and JavaScript's front-end interactivity

The **JS library and framework** make the life of a programmer easier. Libraries have many built-in functions and methods that provides more functionalities to the web page easily. These tools help in saving time and making code more readable.

JavaScript's dynamic capabilities include runtime object construction, variable parameter lists, function variables, dynamic script creation (via eval), object introspection (via for...in and Object utilities), and source-code recovery (JavaScript functions store their source text and can be retrieved through toString()).

JavaScript is the client -side scripting language and PHP is the server-side scripting language. JavaScript is used as client side to check and verify client details and PHP is server side used to interact with database. In PHP, HTML is used as a string in the code. In order to render it to the browser, we produce JavaScript code as a string in the PHP code

To establish seamless communication between PHP and JavaScript, JSON (JavaScript Object Notation) serves as the lingua franca. PHP's native functions such as json encode() and json_decode() facilitate data exchange between the server and the client. Additionally, defining well-structured API endpoints in PHP allows JavaScript to consume and manipulate data effectively.

2.3 XAMPP

XAMPP is a free and open-source cross-platform web server solution stack, designed to facilitate web development and testing on a local machine. The name "XAMPP" is an acronym, with each letter representing one of its core components.

1. **X - Cross-platform:** XAMPP is designed to be compatible with multiple operating systems, including Windows, Linux, and macOS. This cross-platform nature makes it a versatile solution for developers working on different environments.
2. **A - Apache:** Apache is a widely used open-source web server software that plays a central role in the XAMPP stack. It provides a robust and customizable platform for hosting websites and web applications. Apache supports various features such as virtual hosting, URL redirection, and SSL/TLS encryption.
3. **M - MySQL:** MySQL is a popular open-source relational database management system (RDBMS). In the context of XAMPP, MySQL serves as the database server, allowing developers to create and manage databases for their web applications.

4. **P - PHP:** PHP is a server-side scripting language that is embedded in HTML. It enables developers to create dynamic web pages by executing code on the server before sending the HTML to the client's browser. XAMPP includes PHP, allowing developers to build dynamic and interactive web applications.
5. **P - Perl:** Originally, the second "P" in XAMPP stood for Perl, another scripting language. However, in recent versions, Perl has been replaced by PHP, and the "P" is often interpreted as representing both PHP and Perl interchangeably.

XAMPP consists of several components

1. **Cross Platform:** This is not component but we can say this is the feature of the XAMPP. Which tells us that XAMPP is not platform dependent, we can use XAMPP on any system like Windows, Linux or macOs.
2. **Apache HTTP Server:** As we know Apache is a famous HTTP cross platform server. It is used to deliver web content worldwide. It processes the requests and serves web content via HTTP.
3. **Maria DB Database:** Originally, MySql was the part of XAMPP but after version 5.5.30, Maria DB took its place. Maria DB is relation database only developed by Mysql. We can do all the CRUD operations same as we do with MySql.
4. **PHP:** It is the backend scripting language, which is used to develop dynamic websites. We develop websites using PHP and we deploy it in XAMPP server. Apache from XAMPP processes the php requests interpreted by XAMPP interpreter.
5. **Perl:** Perl is combination of two high-level dynamic language. Like PHP, Perl is also used to develop dynamic websites. Perl is written in C.
6. **phpMyAdmin:** This is a dashboard to perform the operations of Maria DB. phpMyAdmin provides GUI to handle the data. We can create the Table or Databases using GUI as well as queries. Also we can do the CRUD operation using this GUI as well as quaries.
7. **XAMPP control panel:** XAMPP control panel provides us the option to operate the different-different components of XAMPP.
8. **Filezilla:** Filezilla is a File Transfer Protocol Server, which let us to handle operaion performed on the file.

Key features and benefits of XAMPP include:

- **Ease of Installation:** XAMPP is designed to be easy to install and configure. It provides a straightforward setup process, allowing developers to have a functional local server environment quickly.
- **Comprehensive Stack:** By bundling Apache, MySQL, and PHP (or Perl), XAMPP creates a comprehensive development environment that covers both the web server and database components.
- **Portability:** Since XAMPP is cross-platform, developers can easily move their web development projects between different operating systems without significant modifications.
- **Integration:** XAMPP components are configured to work seamlessly together, ensuring that Apache, MySQL, and PHP (or Perl) interact effectively, providing a cohesive development experience.

The XAMPP Control Panel

Controls for the individual components of your test server can be reached through the XAMPP Control Panel. **The clear user interface** logs all actions and allows you to start or stop individual modules with a single. The XAMPP Control Panel also offers you various other buttons, including:

- **Config:** allows you to configure the XAMPP as well as the individual components
- Netstat**:** shows all running processes on the local computer
- **Shell:** opens a UNIX shell
- **Explorer:** opens the XAMPP folder in Windows Explorer
- **Services:** shows all services currently running in the background
- **Help:** offers links to user forums
- **Quit:** closes the XAMPP Control Panel

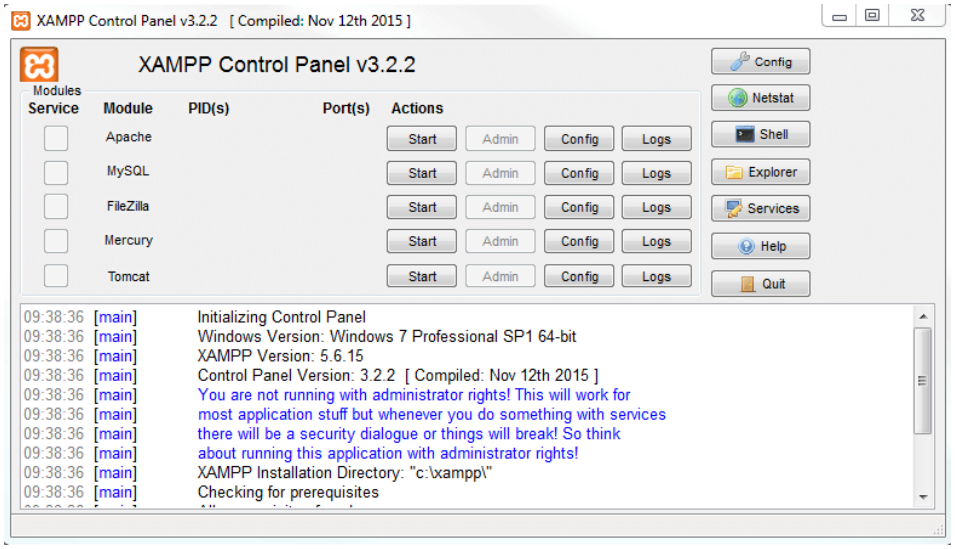

Fig 2.3.1: XAMPP Control Panel

In the Control Panel, you can start and stop individual modules

Starting modules

Individual modules can be started or stopped on the XAMPP Control Panel through the corresponding buttons under ‘Actions’. You can see which modules have been started because their names are highlighted green under the ‘Module’ title.

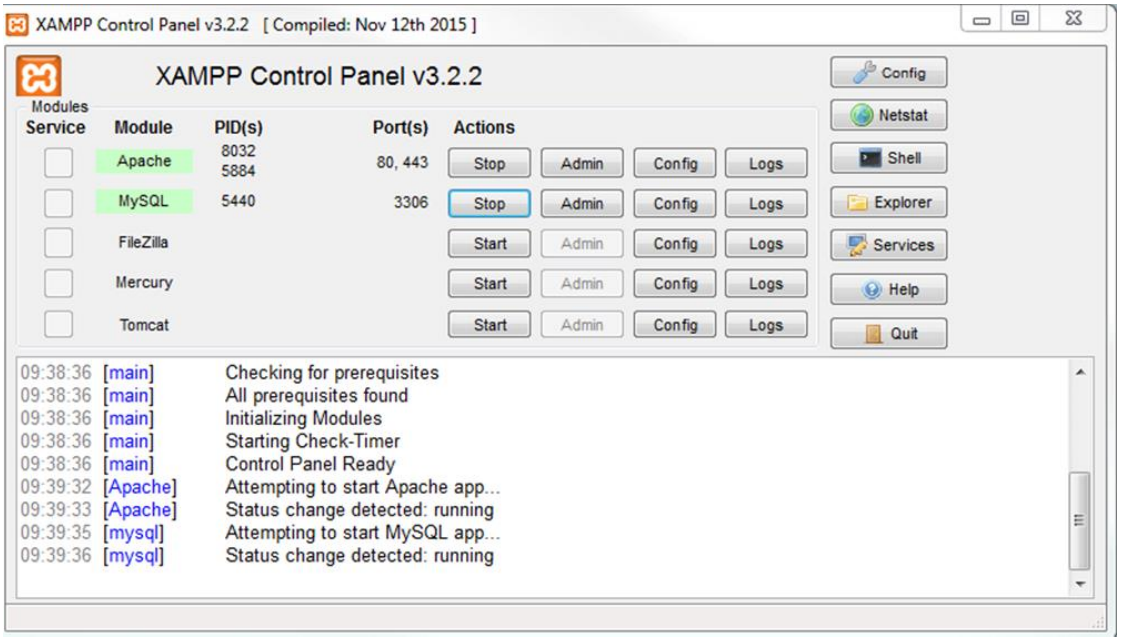

Fig 2.3.2: Active module of Control Panel

An active module is marked in green in the Control Panel.

2.4About backend connection

the backend connection of Laptop sales Management System involves establishing a robust link between the frontend user interface and the database. This connection facilitates seamless data interaction, manipulation, and retrieval, ensuring the efficient functioning of the system. In the case of this application, the backend connection is established using PHP, a server-side scripting language known for its versatility and compatibility with various database management systems.

PHP scripts are employed to handle user requests, process data, and execute SQL queries to interact with the MySQL database. This backend connection ensures that data entered through the frontend interface is securely stored, updated, and retrieved as needed, providing a seamless user experience.

2.5 Introduction to server

The server plays a pivotal role in the operation of Laptop sales Management System, serving as the platform where the system is hosted and accessed by users. The server provides the necessary infrastructure and resources to run the computer sales Management System software, ensuring its availability and accessibility to authorized users.

In the case of this application, the server environment is established using XAMPP, a free and open-source cross-platform web server solution stack. XAMPP includes Apache as the web server, MySQL as the database management system, and PHP as the server-side scripting language.

The server not only hosts Laptop sales Management System software but also ensures its reliability, scalability, and security. It is configured to handle user requests, process data, and execute scripts, enabling seamless communication between the frontend interface, backend system, and database.

Before you start building a PHP connection to a MySQL database, you need to know what PHPMyAdmin is. It’s a control panel from which you can manage the database you’ve created. Open your browser, go to localhost/PHPMyAdmin, or click Admin in XAMPP UI it goes to the homepage of PHPMyAdmin then Create Database Connection File in PHP. We need a separate file for the database connection because it allows us to reuse the same connection code across multiple files .and then import into XAMPP server and check for Confirmation Message.

Types of Servers:

1. **Web Servers:** Serve web pages and content to users' browsers. Examples include Apache HTTP Server and Nginx.
2. **File Servers:** Provide centralized file storage and access for users in a network. Common protocols include FTP and SMB (Server Message Block).
3. **Database Servers:** Manage and store databases, handling queries and data retrieval. MySQL, Oracle Database, and Microsoft SQL Server are examples.
4. **Application Servers:** Run and manage applications, often in a web-based environment. Examples include Java EE servers (like Apache Tomcat) and Microsoft IIS.
5. **Mail Servers:** Handle email communication, including sending, receiving, and storing emails. Examples include Microsoft Exchange and Postfix.
6. **Print Servers:** Manage and control print jobs in a network, allowing users to print documents remotely.
7. **Game Servers:** Host multiplayer online games, managing player interactions and game data.

Understanding the role and types of servers is fundamental for anyone involved in IT infrastructure, as they form the backbone of modern computing environments, supporting a wide range of applications and services.

CHAPTER 3

SYSTEM REQUIREMENTS AND SPECIFICATION

3.1 Software Requirements

Operating system	-	Windows 11
Web Server	-	Xampp
Database	-	MySQL
Language Used	-	PHP
User Interface Design	-	HTML, CSS, JavaScript
Web Browser	-	Google Chrome or any other browser

3.2 Hardware Description

Description		Specifications
Speed	-	1.1 GHz
Hard Disk	-	100 GB
RAM	-	2 GB
Keyboard	-	Standard keyboard
Mouse	-	Optional
Processor	-	Any i5 processor or above

CHAPTER4

SYSTEM DESIGN

4.1 ER Diagram

The Entity-Relationship (ER) diagram provides a visual representation of the data model and relationships within the Laptop sales management system application. It outlines the entities such as (admin, clients, product, order) and their attributes, as well as the relationships between these entities.

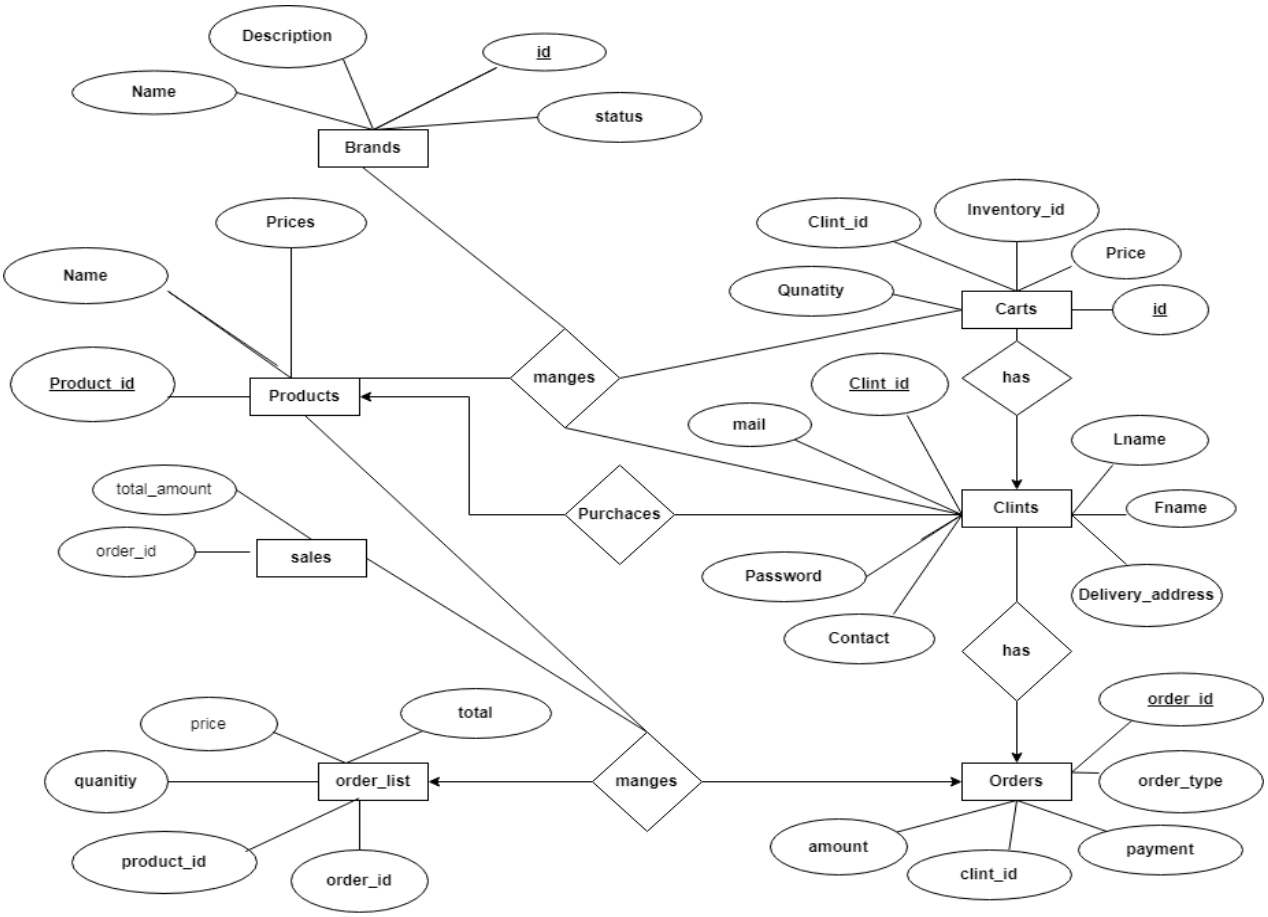

Fig. 4.1 ER Diagram

4.2 Schema Diagram

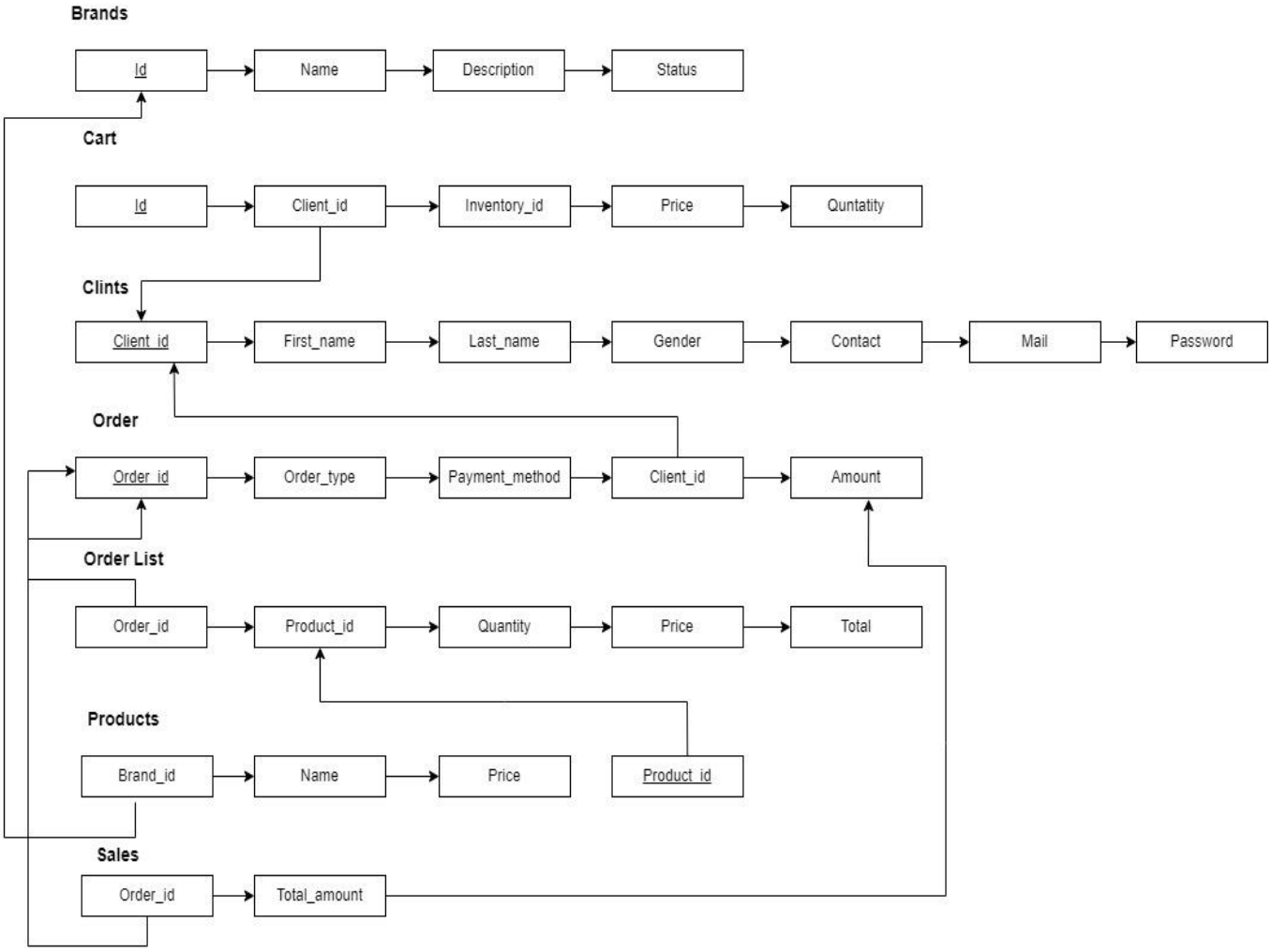

Fig. 4.2 Schema Diagram

CHAPTER 5

IMPLEMENTATION

The implementation phase involves translating the design specifications of the laptop sales management System application into a functional software solution. This phase includes coding, testing, debugging, and deployment of the system according to the defined requirements and design.

using the specified technologies and frameworks, ensuring compatibility, scalability, and reliability. The database schema is implemented in MySQL, and the backend functionality is coded in PHP. The frontend user interface is built using HTML and CSS, with dynamic elements powered by JavaScript or other client-side scripting languages.

After the initial development, rigorous testing is conducted to identify and address any bugs, errors, or inconsistencies within the system. User acceptance testing (UAT) may also be performed to validate that the system meets the needs and expectations of its intended users.

Once testing is complete and any issues are resolved, the application system is deployed to a production environment, making it accessible to users for real-world operation. Continuous monitoring and maintenance ensure the ongoing functionality, performance, and security of the system post-implementation

How to Run:

Download and install any local web server such as XAMPP.

Open your XAMPP Control Panel and start Apache and MySQL.

Place source code folder and paste it into the XAMPP's "htdocs" directory.

Create a new database with database name.

Import the SQL file located inside the database folder.

Then browse i.e. http://localhost/php-ocls/ and http://localhost/php-ocls/admin for the management site.

CHAPTER 6

RESULTS(SNAPSHOTS)

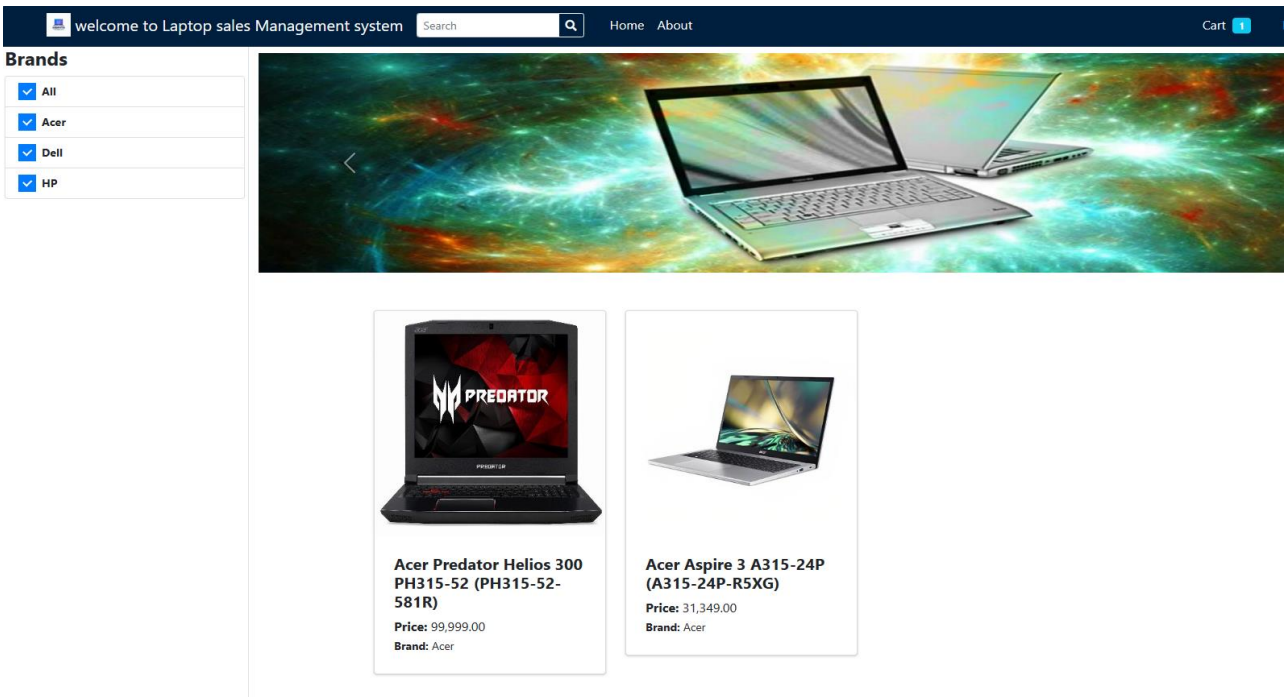

Fig.6.1: Home page

This is the first interface the user encounter this is Home page, here user can view the different Brands that are available and check out Laptop and their features that are displayed, there is also a search bar with which user can search laptop by their brand name.

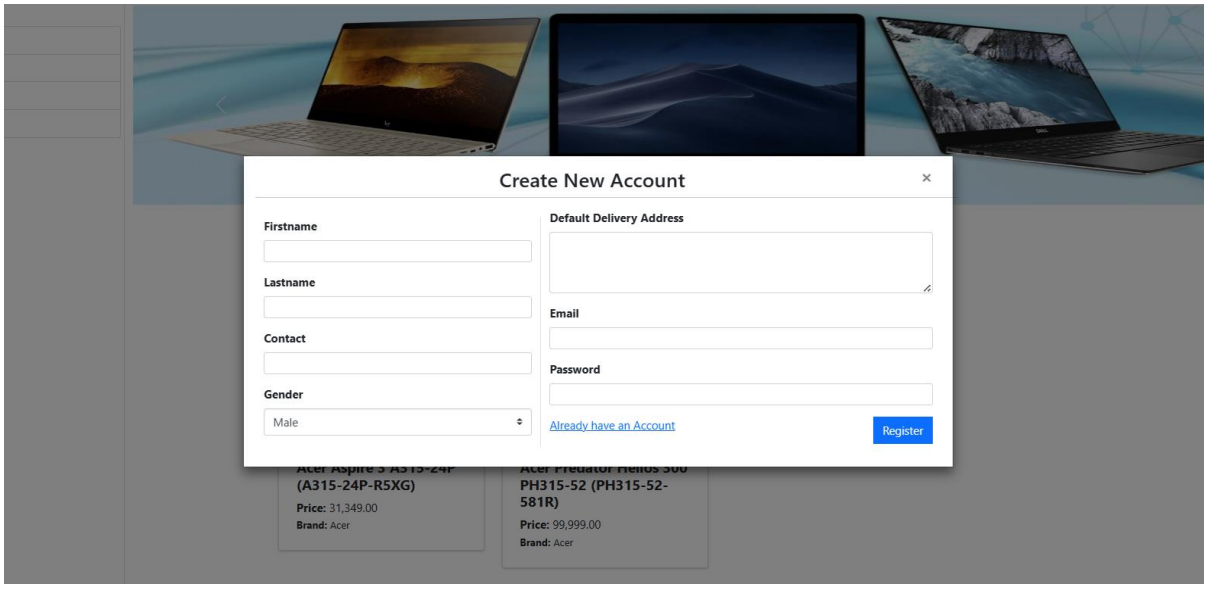

Fig.6.2: New user account

If the user is new, he has to create an account to purchase a laptop by filling the details displayed in snapshot,If an account already exits then he has to login using email and password.

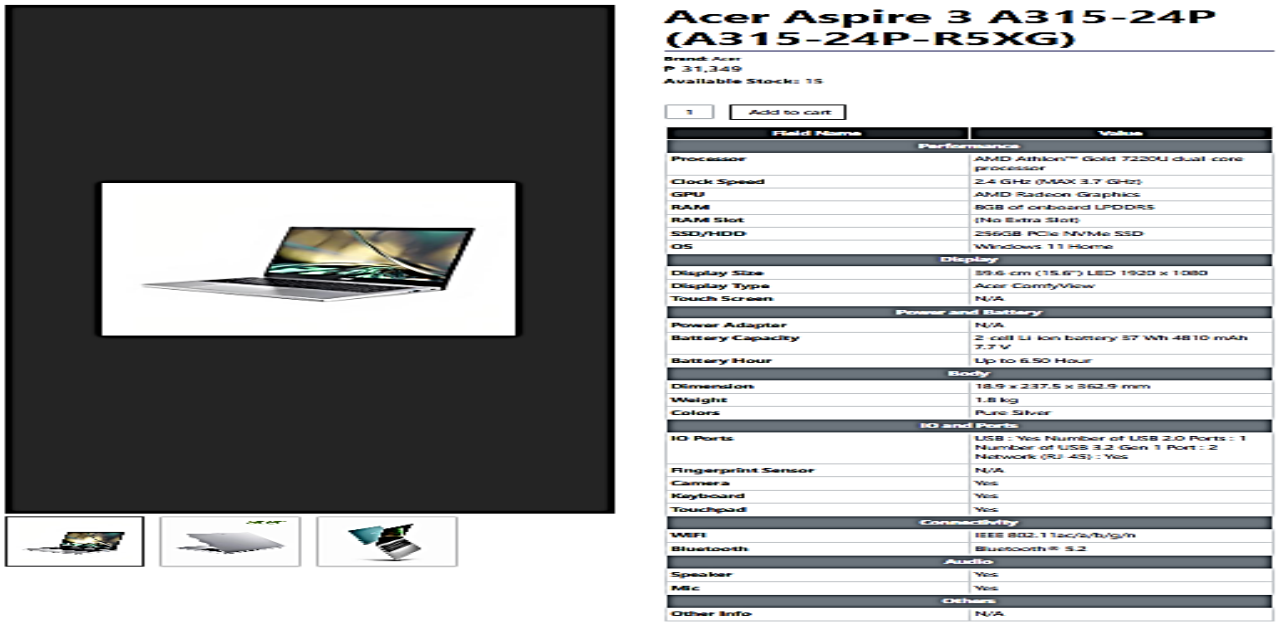

Fig.6.3: Laptop model

User can click on any laptop model of desired brand and check out all the features that are mentioned and decide to place a order or not.

Fig.6.4: Laptop view

User can also view the laptop in different angles to know how it is designed, the no. of ports available, etc.

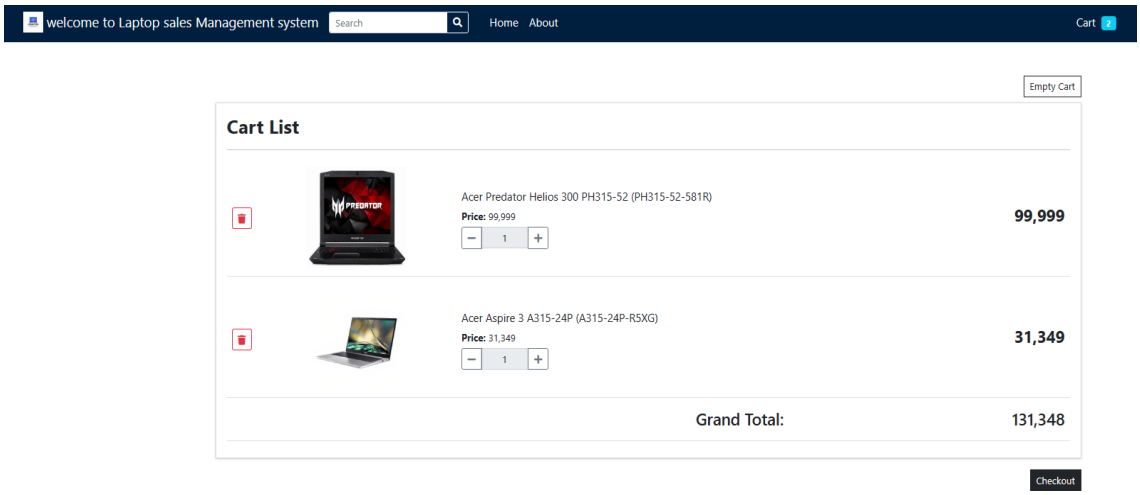

Fig.6.5: Cart

If the client likes the laptop and it satisfies their expectations and he decides to buy one, he can add the item to the cart and decide the quantity number.

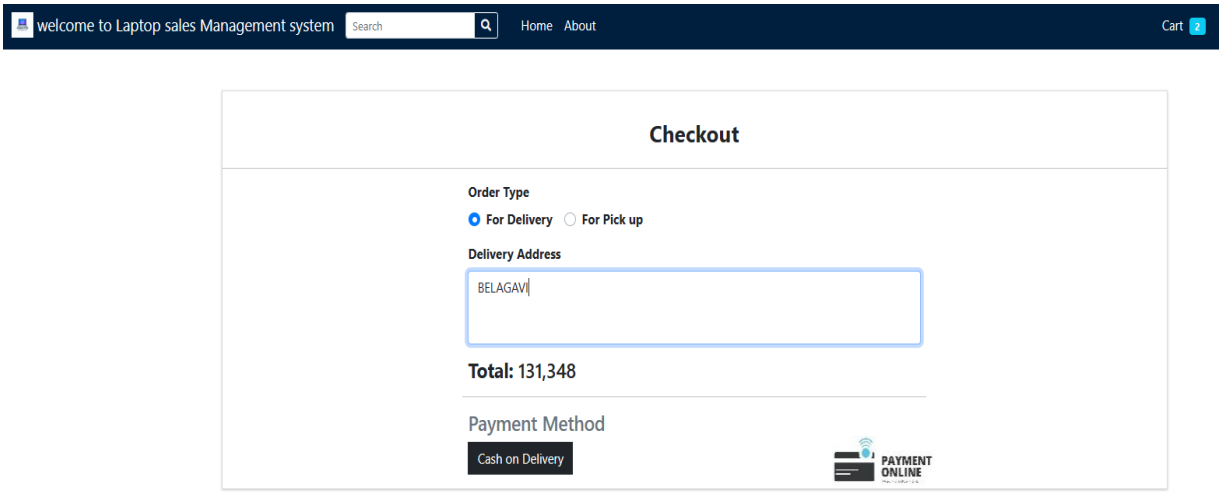

Fig.6.6: Delivery and Payment mode

The user can put the location where the laptop has to be delivered or for pickup and choose a payment method.

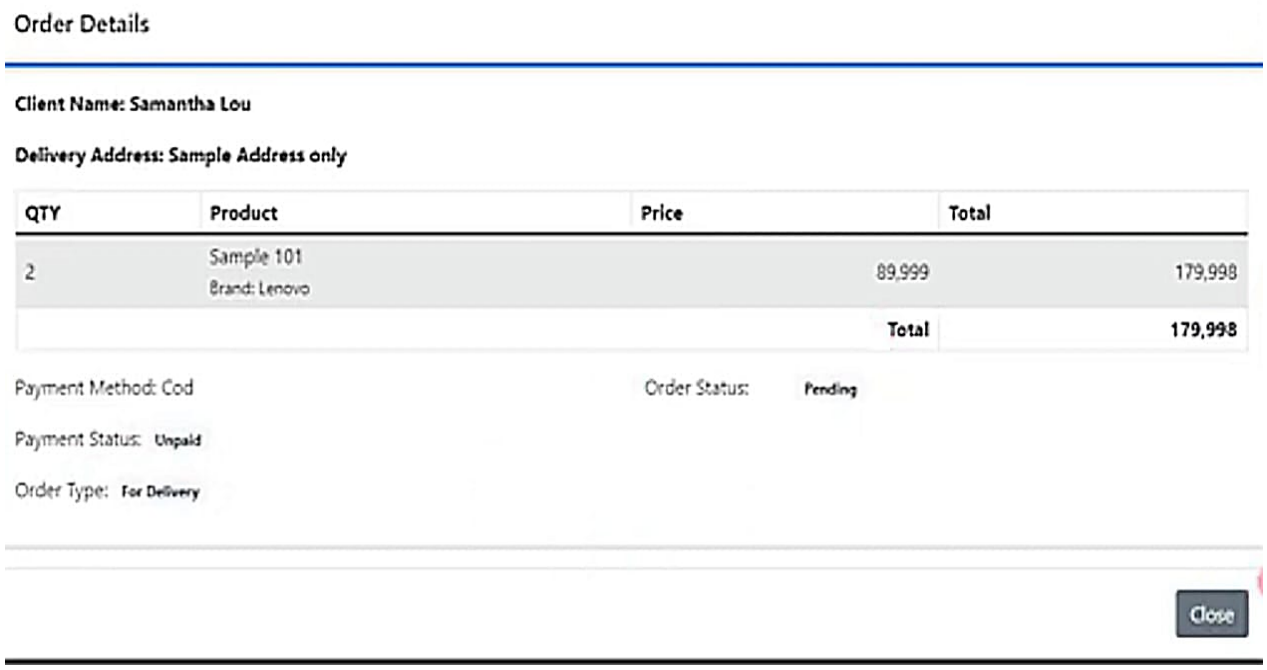

Fig.6.7: Order Details

Order Details contains complete details of the purchase of the laptop, order mode and payment method, delivery address of the client etc.

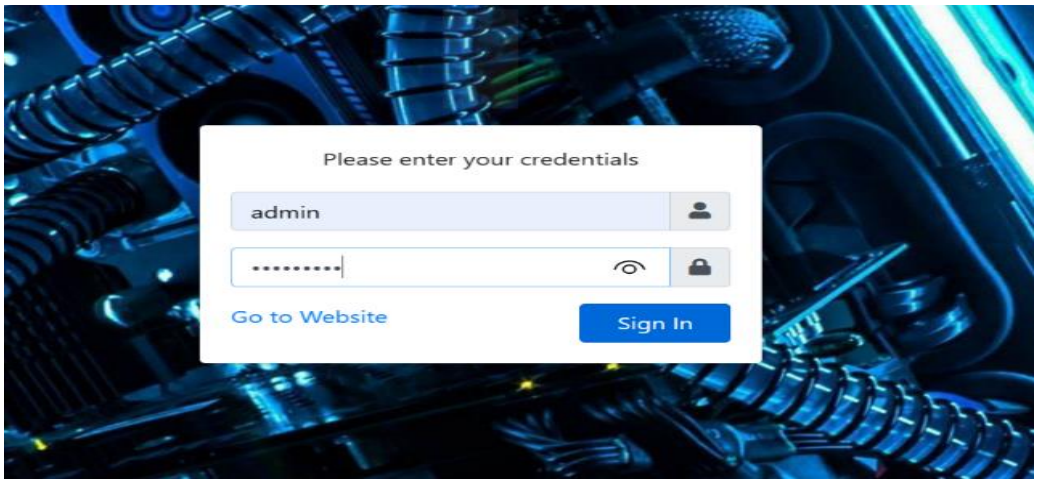

Fig.6.8: Admin login page

Here only admin can login with the correct credentials and no third person can login as it is secured by strong password.

Fig.6.9: Admin Dashboard

This is the dash board of the admin page where he can see total stocks, pending orders, total sales today. And this also contains a navigation bar.

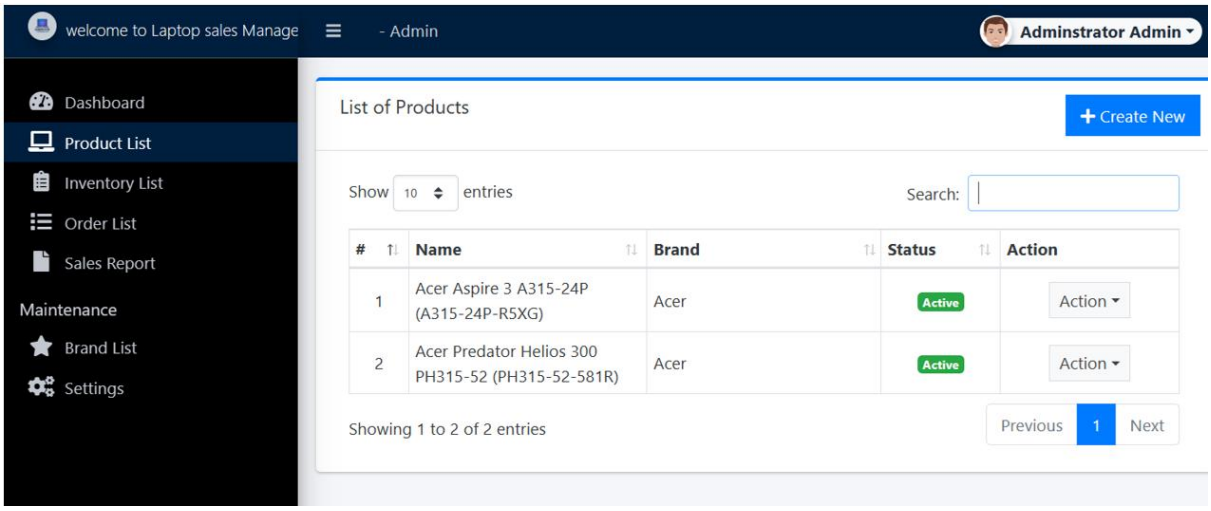

Fig.6.10: Product list

It contains the list of products that are available in the stock with their name and the brand. It has a button named create new where the admin can add new products in to the stock.

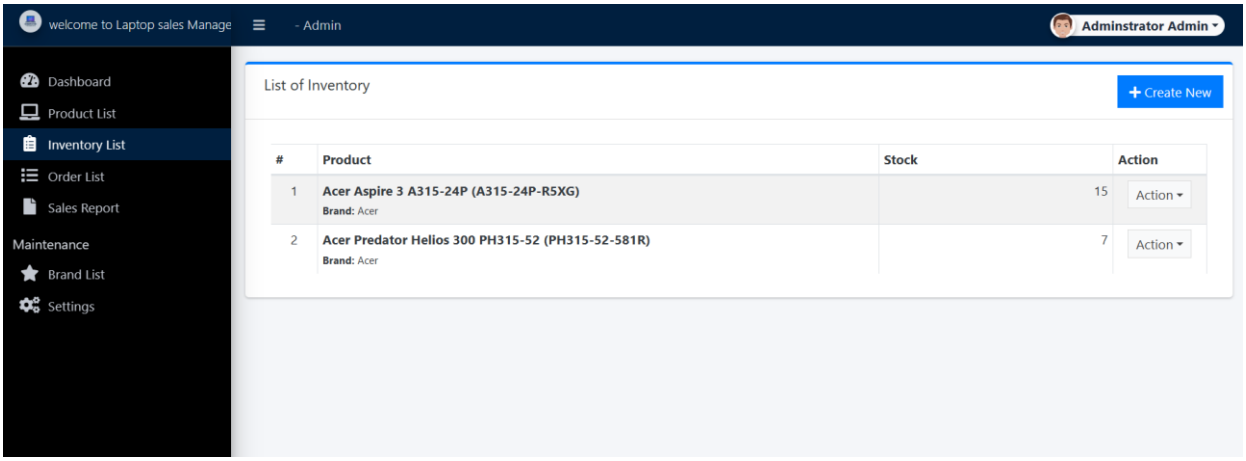

Fig.6.11: Inventory list

It contains the list of inventories that are present with their stock details. With create new option admin can create new inventory and add to the list.

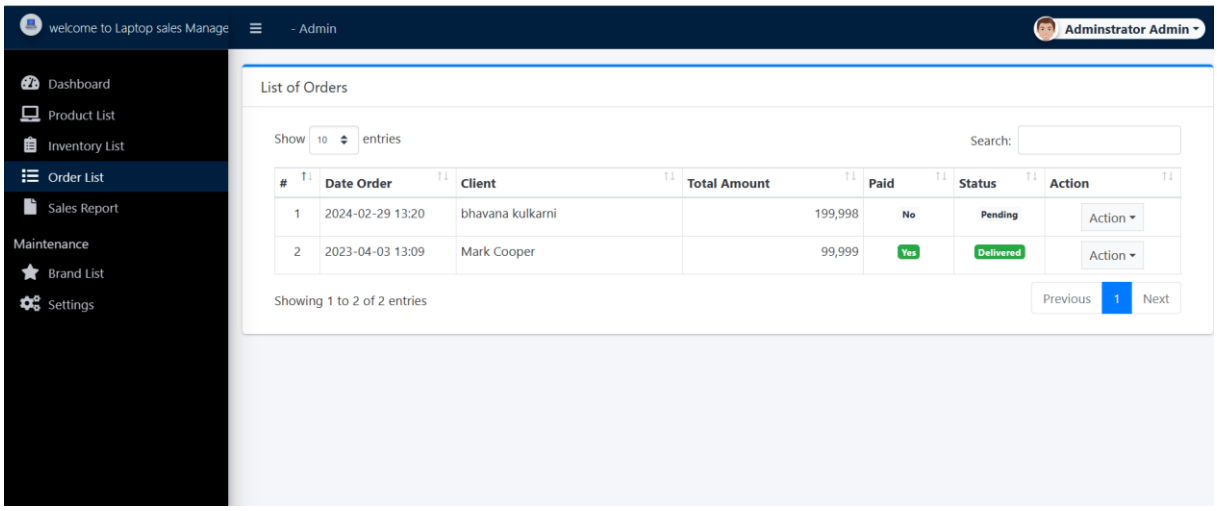

Fig.6.12: order list

Admin can view the list of order with details such as order date, client name, payment etc.

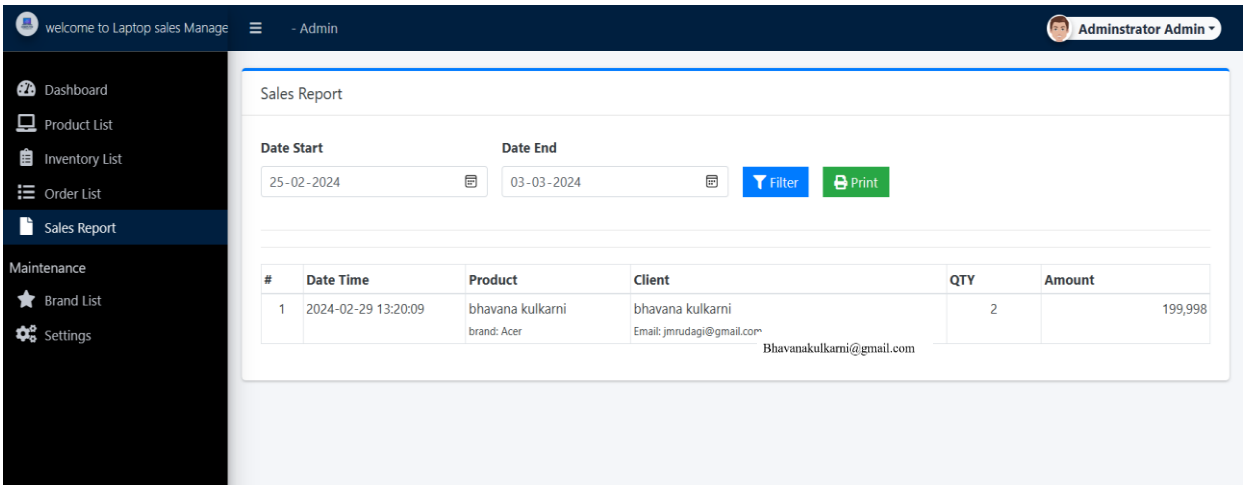

Fig.6.13: Sales Report

Admin can view sales report that contains date, product name, client name, quantity and total amount etc.

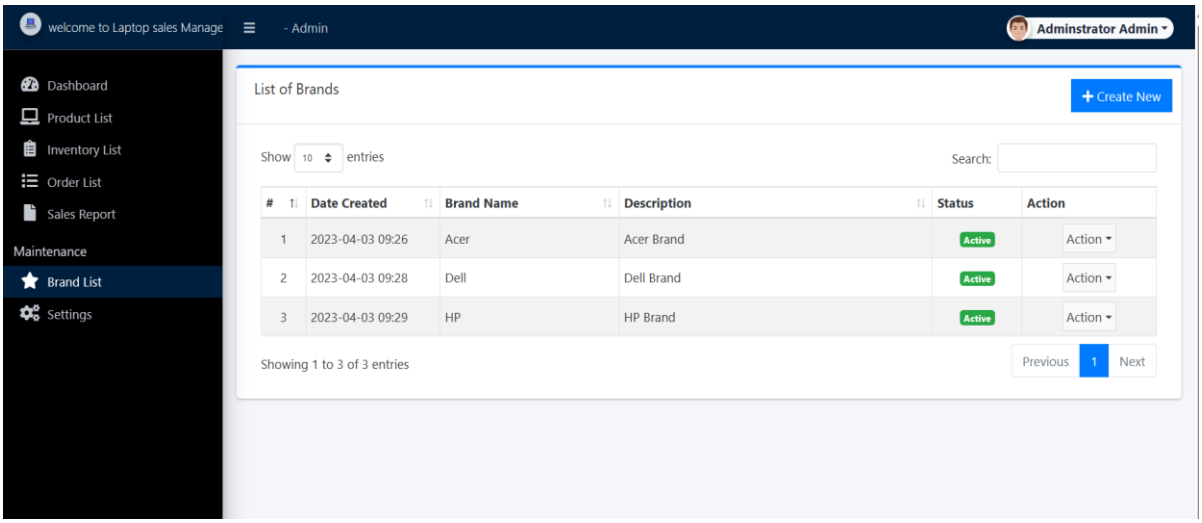

Fig.6.14: brands list

The admin can manage the list of brands that are available and can add a particular brand into the list or remove any particular brand when they are out of stock.

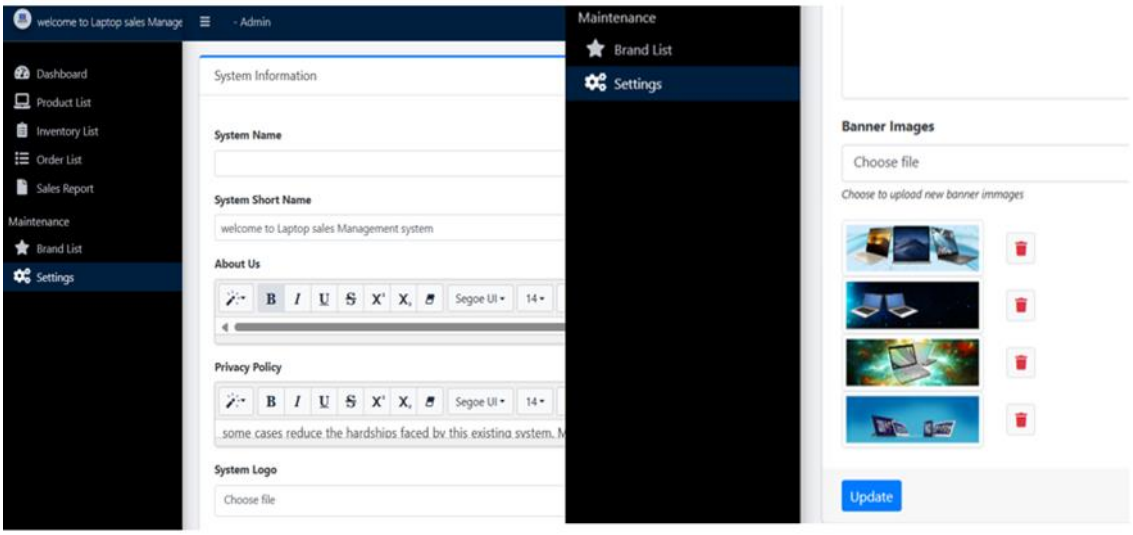

Fig.6.15: Settings

The setting option is availablein admin mode using which admin can modify/update the banner images of the home page, system name, about, system logo, privacy policies etc

CHAPTER 7

CONCLUSION

In the end We wish to say that computers should be put to such use where not only their capabilities are fully exploited but, what is more important, serve the society by raising the standard of living of people, thereby making the world better place to live and work in.The project entitled laptop sales management system is done in an efficient manner. it is an effective, time saving and easy way to assign, submit, record issues relating to a laptop on a fully operational online platform thus reducing paper work and managing data easily. All the operations are done efficiently. The work for the admin is to register new employees by entering their personal info and similarly registering new laptop details . The employees can raise a request to get a laptop of their preferred brand and submit it after the completion of their work, they can raise a ticket in case of some software/hardware requirements

CHAPTER 8

REFERENCES

[1] https://codetej.in/1-introduction-to-xampp-local-server/
[2] https://www.geeksforgeeks.org/what-is-sql/
[3] https://www.tutorialspoint.com/mysql/mysql-introduction.htm
[4] https://planetscale.com/learn/articles/what-is-mysql
[5] https://en.wikipedia.org/wiki/XAMPP