A WEB TECHNOLOGY

CIA REPORT

On

"Hotel ManagementSystem"

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In the academic year 2022-23

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Successfully completed their Project Report on

HOTEL MANAGEMENT SYSTEM

Towards the partial fulfilment of

Bachelor's Degree in Computer Engineering

During the academic year 2022-23

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DHAMNE PARESH SUNIL (35)
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COTENTS

ABSTRACT

The Project HOTEL MANAGEMENT SYSTEM is a web based application that allows the hotel manager to handle all hotel activities online. In the 21st century the use of the internet, computers and other electronic devices have made handling different jobs and aspects of management very easy. This project is the design and implementation of an electronic hotel management system that provides proper management of data and transactions in a centralized and organized manner and also provides a user friendly interface with which the user can interact easily with the just little or elementary knowledge of operating computers.

The system aims at the maintenance and management of the different Hotels that are available in the different parts of the world. It mainly takes care of the Hotel management at the core area of the database. The system provides the information regarding the different Hotels that are available and their status specific to availability. The guests can visit the site and register themselves with the required information that is expected by the system. Each registered guest can raise a request for the unit bookings. The Guests are scheduled with the information of the availability of the units for they have requested the time. Other hotel services can also be viewed by the customers and can book them too. The system is hence useful for both customers and managers to portably manage the hotel activities.

CHAPTER 1:-

INTRODUCTION

HOTEL MANAGEMENT SYSTEM:-

Hotel Management System is a system that provides us to reserving rooms, checking whether the rooms are vacant are or not etc by using online browsing. This system is very useful to all especially for business people. For Business people they don't have sufficient time for these then they can use these type of online Hotel Management Systems. By this project we will reduce the faults in bills of their expenditure and decrease time of delay to give the bills to the customers. We can also save the bills of the customer. By this project we can also include all the taxes on the bills according to their expenditures. It has a scope to reduce the errors in making the bills. Computerized bill can be printed within fraction of seconds. Online ordering of Booking is possible by using this software. This Project is based on PHP. The bill of this online booking is based on the type of room they can select is displayed.

Hotel Management System is a hotel reservation site script where site users will be able to search rooms availability with an online booking reservations system. Site users can also browse hotels, view room inventory, check availability, and book reservations in real-time. Site users enter check in date and check out date then search for availability and rates. After choosing the right room in the wanted hotel – all booking and reservation process is done on the site and an SMS is sent to confirm the booking. Hotel Management System operates a global online hotel reservation system for business and leisure travelers. To compete with the international e-marketplace, a great deal of attention should pay towards the optimization of user requirements to generate recommended hotel alternatives.

SYSTEM PANEL DESCRIPTION:-

1. **Administrator**
   PanelAccount
   Manager

2. **Administrator** – Administrator can add / edit and manage administrator accounts.

3. **Hotels Manager**

- **Hotels** – Administrator can manage hotels that will appear on the sitewith the hotel name, description, facilities, phone and fax

- **Room Types** – Administrator can define the type of rooms in the hotels, rooms prices and upload an image for each room.

- **Hotel Rooms** – For each Hotel the administrator can define therooms available, rooms number, max occupants and remarks on the specific room.

- **Bookings** – All booking and reservations maid on the site are displayed with all booking details: arrival date, departure date, hotel name, room type,

number of passengers, price.

- **Available rooms** – Administrator can also search for room availability from the administrators panel and does not have to go on the site Reports. **Booking Statistics** – Administrator can view statistics of booking onbar charts that show the difference in bookings according to months.

- **Site Settings** – Here the administrator can define if to use paypal on the site and if yes then what will be the pay-pal email address used, the administrator can also define the administrator email address where all reservation emails will be sent to.

TECHNOLOGIES: -

We are going to build our website by using HTML, CSS, python, JAVASCRIPT and SQLite. The main program which we are going to build is based on python script. Which will operate on file system. HTML & CSS will be used to develop the design of our website or web page.

For connecting our frontend page and our backend programs we are going to use Django as a frame work. The use of SQLite is to store the website name, Blocked date and time.

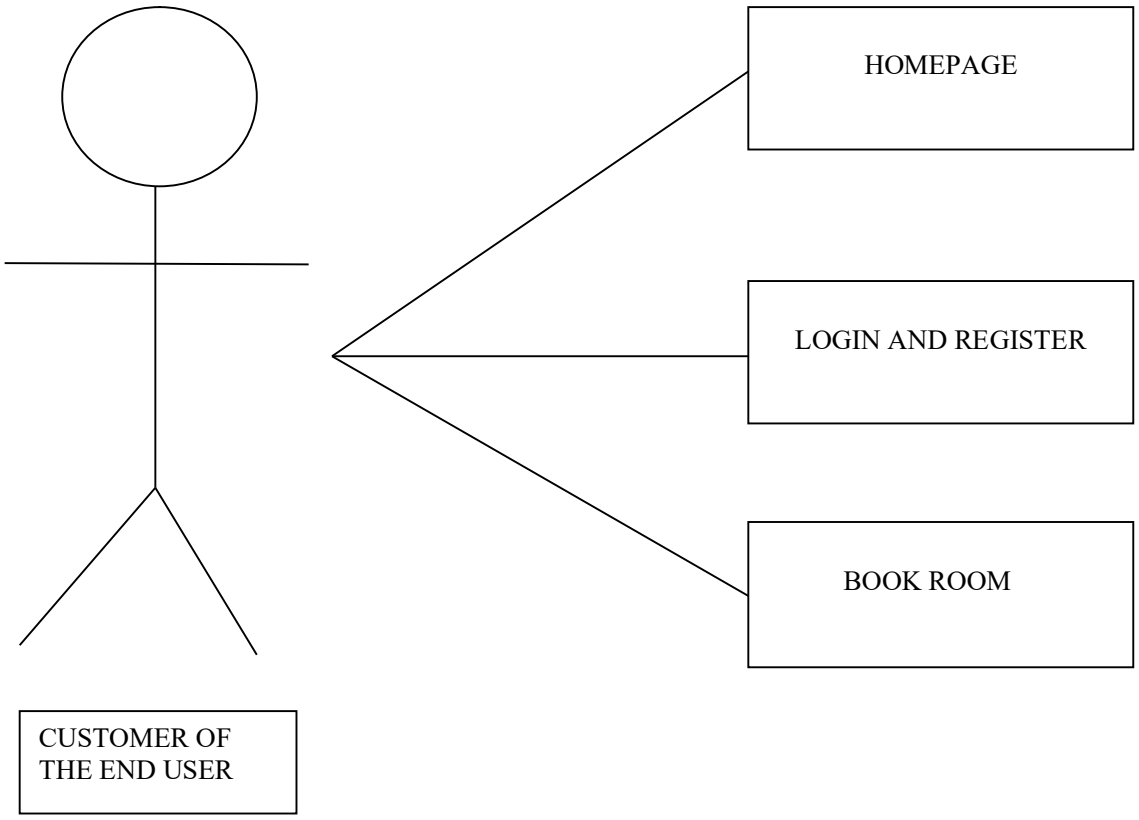
- **HTML: -** HTML is known as hypertext markup language. We will use HTML to design the structure of our website as you know we can use multiple tags like headings, text, tables, lists, photos, etc.

- **CSS: -** CSS is known as Cascading Style Sheets. We will use to style and design layout of our site. Such as to alter the font, colour, size, and spacing of your content, split it into multiple columns, or add animations and other decorative features.

- **JAVASCRIPT:-** JavaScript is a programming language commonly used in web development. JavaScript is a client-side scripting language, which means the source code is processed by the client's web browser rather than on the web server.

- **SQL:**- SQL is stands for structured Query Language. We are creating our database by using SQL.

- **MONGODB:**- MongoDB is a cross-platform and open-source document-oriented database, a kind of NoSQL database. As A NoSQL database, MongoDB shuns the relational database's table-based structure to adapt JSON-like documents that have dynamic schemas which it calls BSON.



CHAPTER 2:-

SCOPE AND OBJECTIVES

2.1. SCOPE:-

This Document plays a vital role in the development life cycle (SDLC) As it describes the complete requirement of the system. It is meant for use by the developers and will be the Page | 8 of 26 basic during testing phase. Any changes made to the requirements in the future will have to go through formal change approval process.

2.1.1. Existing System with Limitations:

In this step, we provide a detailed description about the existing system and the problems faced in the existing system. This stage there is no existing system previously; we are developing a new system. Till now no system is available with this type of features and facilities. This system is developed for the all types of users with highly flexible and configurable product is envisaged to ensure global marketing.

The goals are achieved based on ability of the computer to store large amounts of data which is very useful to store information regarding the transactions of Sacoba Hotel. The study is limited to the following:

RECEPTION MODULE: The Reception module covers all the customer allocation and booking with the sub-fields (Customer Details, Room Allocation, and Cashier Posting).

ACCOMODATION MODULE: The Accommodation covers all Room Maintenance, Housekeeping Schedules and room inventory.

FINANCE & ACCOUNT: Covers the staff payroll, assets register, accounts receivable and accounts payable.

CATERING MODULE: Covers the food ordering maintenance and bar transactions. **ADMINISTRATION & GENERAL SERVICES:** Covers Personnel staff record keeping and the stores with inventory.

2.2. OBJECTIVES:-

1. To enable online booking via the internet.
2. To enable automated data entry methods.
3. Ensure efficient and reliable communication within the hotel.
4. Avoid data entry errors by use of input masks.
5. Enable easy authorized modification of data.
6. Enforce security measures to avoid unauthorized access to guest records.
7. Enable fast and easy retrieval of guest records and data for fast reference activities.
8. To help the user to manage the hotel effectively and efficiently.
9. To provide the information to user, best facilities about hotel through this website.
10. To give the best way to user for finding rooms in hotel which they wants.
11. To give the access to user which facilities they want to use in hotels.
12. To generalize and simplify the monthly or day to day activity of hotel like check in, check out, etc.
13. To give access to hotel manager to store record of users.

CHAPTER 4:-

SYSTEM ARCHITECTURE

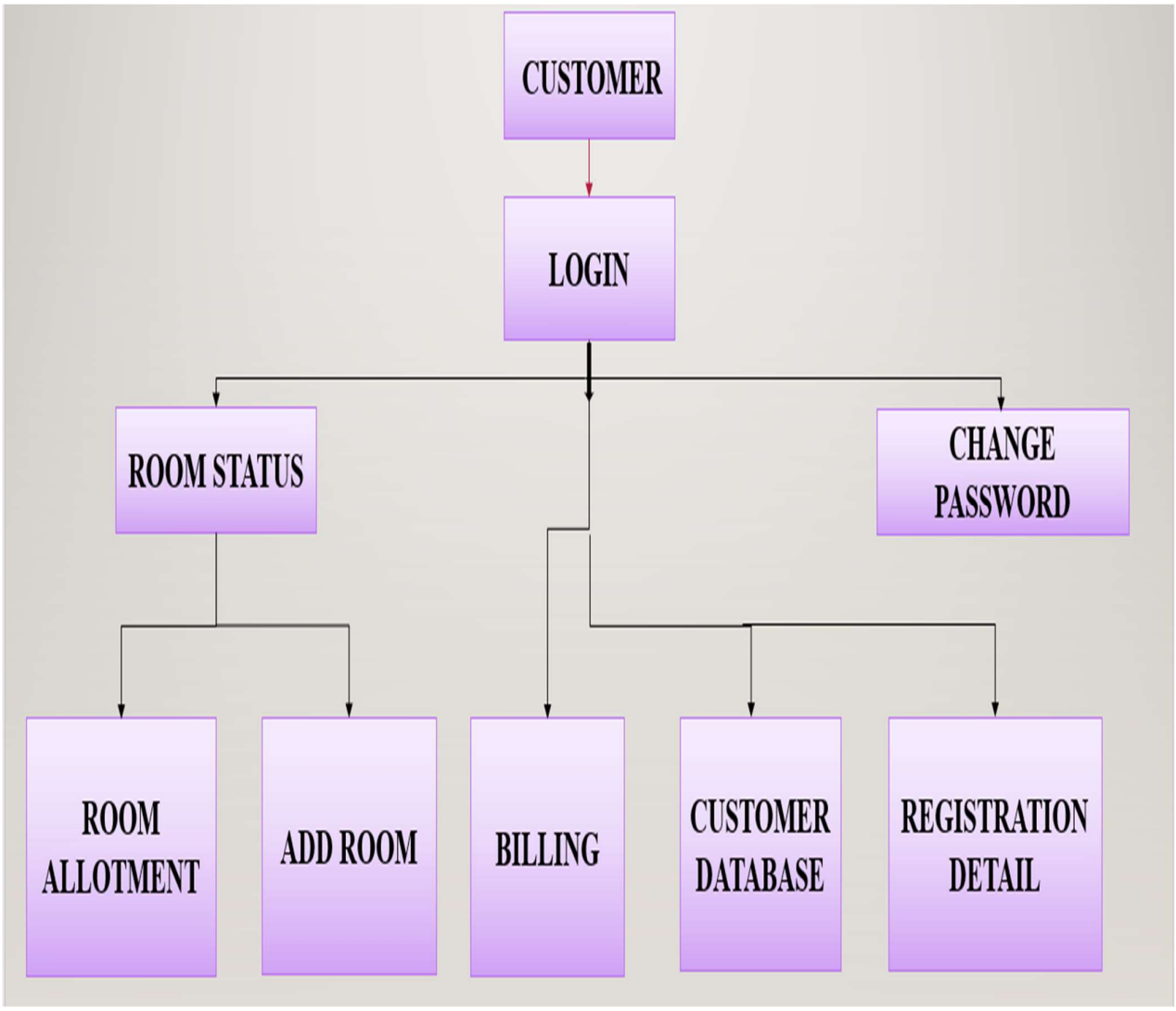


Fig.4.1. System Architecture

FUNCTION DETAILS:

The basic objective of HOTEL MANAGEMENT SYSTEM is to generalize and simplify the monthly or day to day activities of Hotel like Room activities,Check in of New Customer, Check out of customer, Assigning a room according to customer requirement, and finally compute the bill etc. which has to be performed repeatedly on regular basis. To provide efficient, fast, reliable and user-friendly system is the basic motto behind this exercise.Let us now discuss how different functions handle the structure and data
files:

1. **Password** In this module, this website is for multiple users. If a User enters a password and the software checks its validity. If the passwordis valid then option is given to change the password, otherwise "Invalid User/Password" message is displayed. There is an option for password recovery, log out, login, new users sign in. The Administrator can also update changes in the site after login.

2. **Creating new Entity (Hotel, Room, Customers,Members etc.)** This issued to add a new employee details, delete entity details and view the details. In that screen, the automatic item is created. In this function, whenever a new entity is required to be added the corresponding forms are opened and the database is manipulated to check whether the data is already existing or not. If it already exists, then it prompts

that "Entry already existing" and if not than the data is entered with the various validation checks.

3. **Function NEW_ROOM()** This is the function used to open a new room for a customer so that he/she can assign a separate room . In that screen, the automatic room number is created.

4. **Function CHECKOUT_CUSTOMER()** This function is used to check out the customer details from database. When the user inputs his room number, the same room number will be checked in the database, if the room number is matched in the database, then the customer will be checkout from the database and transferred the record of the check out to another table of database so that the Hotel Management has the record of customers who have check-out to fulfill his legal liabilities.

5. **Function GENERATE_BILL()** When any customer check-out, his/her bill is generated automatically by calculated check-out date minus check-in date and getting multiplied it by daily room

charge plus other charges and the bill has to be saved in the table in the database.

6. **Function DISPLAY_RECORD()** This function is used to display all the transaction including the customer name, address, phone, bed number, and doctor assigned to him/her in the screen. This is a global report to display all the transaction records in the screen.

7. **Validation of Data Entered by the User & Error Handling** In this function, the validity of data entered by the user during the various business processes is checked through various validation checks. For example, there should not be any characters entered in the numeric fields, likewise if there is any error occurs than it should handle that particular error and give the required messages.

8:Function CHECKOUT_CUSTOMER() This function is used to check out the customer details from database. When the user inputs his room number, the same room number will be checked in the database, if the room number is matched in the database, then the customer will be checkout from the database and transferred the record of the checkout to another table of database so that the Hotel Management has the record of customers who have check-out to fulfill his legal liabilities.

9:Function GENERATE_BILL() When any customer check-out, his/her bill is generated automatically by calculated check-out date minus check-in date and getting multiplied it by daily room charge plus other charges and the bill has to be saved in the table in the database.

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12: Searching In this function, room, customer well as members can search details from the database according to their authentications.

13: Report Generation In this function reports are generated forthe following entities:

- Customer Details.

- Requirements of the Customers
- Rooms Details
- Bill Details
- Checking Reports
- Booking Details
- Online Bookings
- Checkout Details
- Membership Details

CHAPTER 5:-

METHODOLOGY

- **BENEFITS OF ONLINE SYSTEM**

  - Time saving.
  - Less paper works.
  - Cost efficient.
  - More comfortable environment.
  - Convenience and flexibility.

- **SOFTWARE REQURIMENTS AND TECHNOLOGY USED:**

  - Html
  - CSS
  - JAVA SCRIPT
  - DATABASE(MySQL)
  - SERVER(APACHE)
  - PROGRAMMING LANGUAGE(PHP)
  - jQuery
  - MySQL
  - Xampp

- **Html:**

The Hypertext Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes, and other items. HTML elements are delineated by *tags*, written using angle brackets. Tags such as `<imp />` and `<input />` directly introduce content into the page. Other tags such as `<p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags but use them to interpret the content of the page.

- **CSS:**

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML or XML (including XML dialects such as SVG, MathML or XHTML). CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS is designed to enable the separation of content and presentation, including layout, colours, 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, which reduces complexity and repetition in the structural content; and enable the .CSS file to be cached to improve the page load speed between the pages that share the file and its formatting.

Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by

voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.

- **JavaScript:**

JavaScript often abbreviated as JS, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. As of 2022, 98% of websites use JavaScript on the client side for webpage behaviour, often incorporating third-party libraries. All major web browsers have a dedicated JavaScript engine to execute the code on users' devices.

JavaScript is a high-level, often just-in-time compiled language that conforms to the ECMAScript standard. It has dynamic typing, prototype-based object-orientation, and first-class functions. It is multi-paradigm, supporting event-driven, functional, and imperative programming styles. It has application programming interfaces (APIs) for working with text, dates, regular expressions, standard data structures, and the Document Object Model (DOM).

The ECMAScript standard does not include any input/output (I/O), such as networking, storage, or graphics facilities. In practice, the web browser or other runtime system provides JavaScript APIs for I/O.

- **PHP:**

PHP is a general-purpose scripting language geared toward web development It was originally created by Danish-Canadian programmer Rasmus Leadoff in 1993 and released in 1995. The PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page, but it now stands for the recursive initialism PHP: Hypertext Pre-processor.

PHP code is usually processed on a web server by a PHP interpreter implemented as a module, a daemon or as a Common Gateway Interface (CGI) executable. On a web server, the result of the interpreted and executed PHP code – which may be any type of data, such as generated HTML or binary image data – would form the whole or part of an HTTP response. Various web template systems, web content management systems, and web frameworks exist which can be employed to orchestrate or facilitate the generation of that response. Additionally, PHP can be used for many programming tasks outside the web context, such as

standalone graphical applications and robotic drone control. PHP code can also be directly executed from the command line.

- **MySQL:**

MySQL tutorial provides basic and advanced concepts of MySQL. Our MySQL tutorial is designed for beginners and professionals.

MySQL is a relational database management system based on the Structured Query Language, which is the popular language for accessing and managing the records in the database. MySQL is open-source and free software under the GNU license. It is supported by Oracle Company.

Our MySQL tutorial includes all topics of MySQL database that provides for how to manage database and to manipulate data with the help of various SQL queries. These queries are: insert records, update records, delete records, select records, create tables, drop tables, etc. There are also given MySQL interview questions to help you better understand the MySQL database.

- **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. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

XAMPP's ease of deployment means a WAMP or LAMP stack can be installed quickly and simply on an operating system by a developer, with the advantage that common add-in applications such as WordPress and Joomla! can also be installed with similar ease using Bitnami.

CHAPTER 6:-

RESULT ANALYSIS

TESTING:-

Testing is the process of detecting errors. Testing performs a very critical role for quality assurance and for ensuring the reliability of software. The results of testing are used later during maintenance also.

Psychology of Testing: The aim of testing is often to demonstrate that a program works by showing that it has no errors. The basic purpose of testing phase is to detect the errors that may be present in the program. Hence one should not start testing with the intent of showing that a program works, but the intent should be to show that a program does not work. Testing is the process of executing a program with the intent of finding errors.

Testing Objectives:

The main objective of testing is to uncover a host of errors, systematically and with minimum effort and time. Stating formally, we can say

- Testing is a process of executing a program with the intent of finding an error.
- A successful test is one that uncovers an as yet undiscovered error.
- A good test case is one that has a high probability of finding error, if it exists.
- The tests are inadequate to detect possibly present errors.
- The software confirms to the quality and reliable standards.

Installation and project description

The database as it is developed by MYSQL. Using html, CSS, jQuery, JavaScript and other web development technologies,

The project can be described by the screenshots in the project as follows. The following screenshots appear when the user searches and login to the browser:

- **The Home Page:-**

The Home page of the Hotel management Information system basically consists of five modules which include; the front desk/reception module, Accommodation /Room Allocation module, Reservation Module, Finance and account module and Administration and General Services. It also includes the “Log out” option and an I-frame which posts back all clicked options. People will see the above interface as soon as they visit the site.

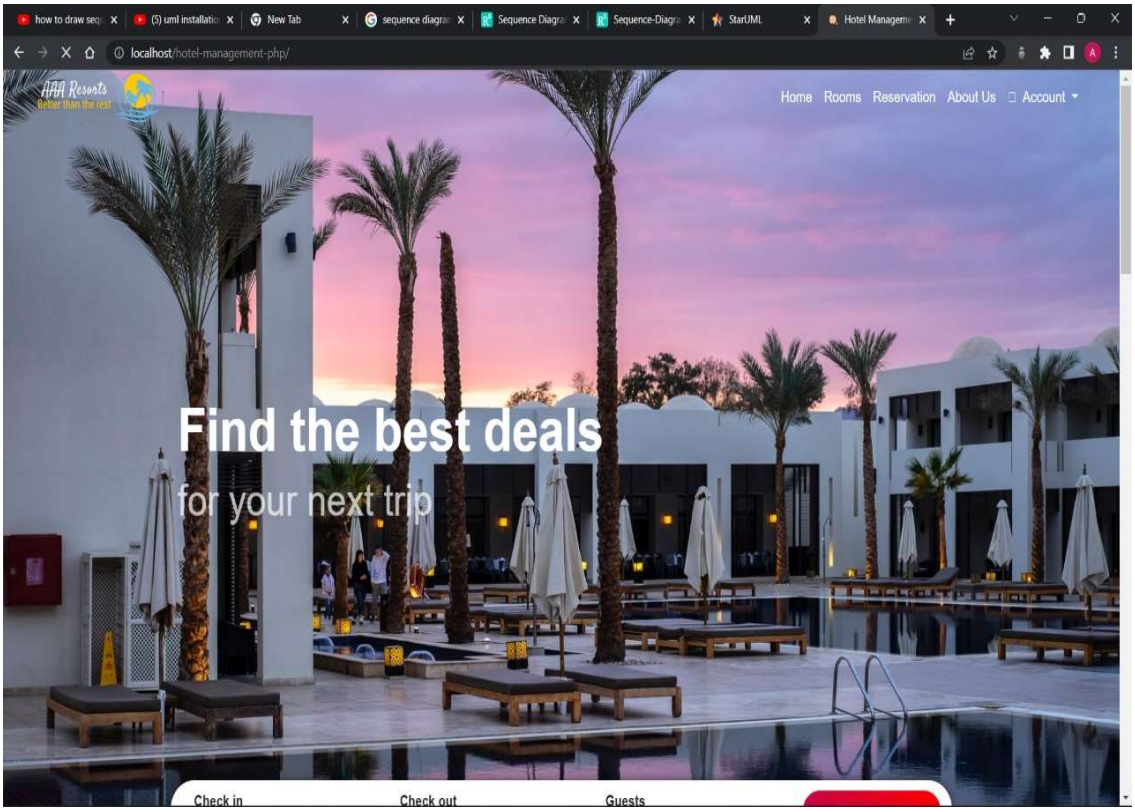


Fig 6.1.1:- This is the home page for our website.

- By scrolling down user will see the above interface.

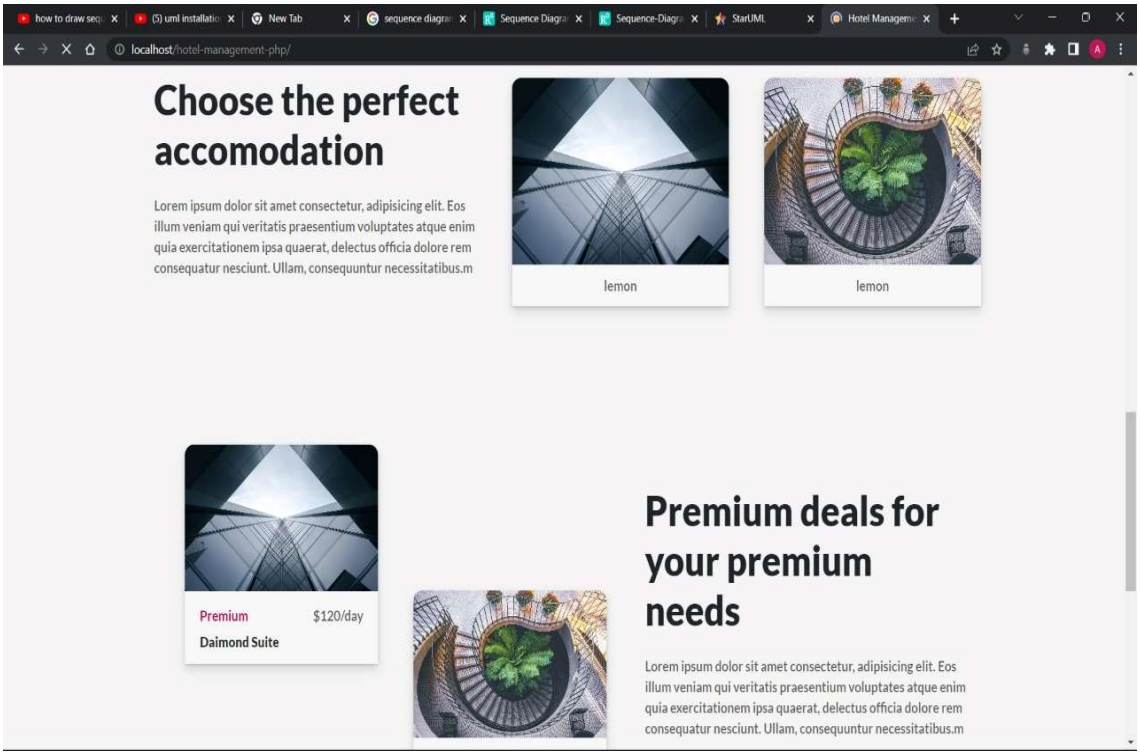


Fig 6.1.2:- This is the home page for our website.

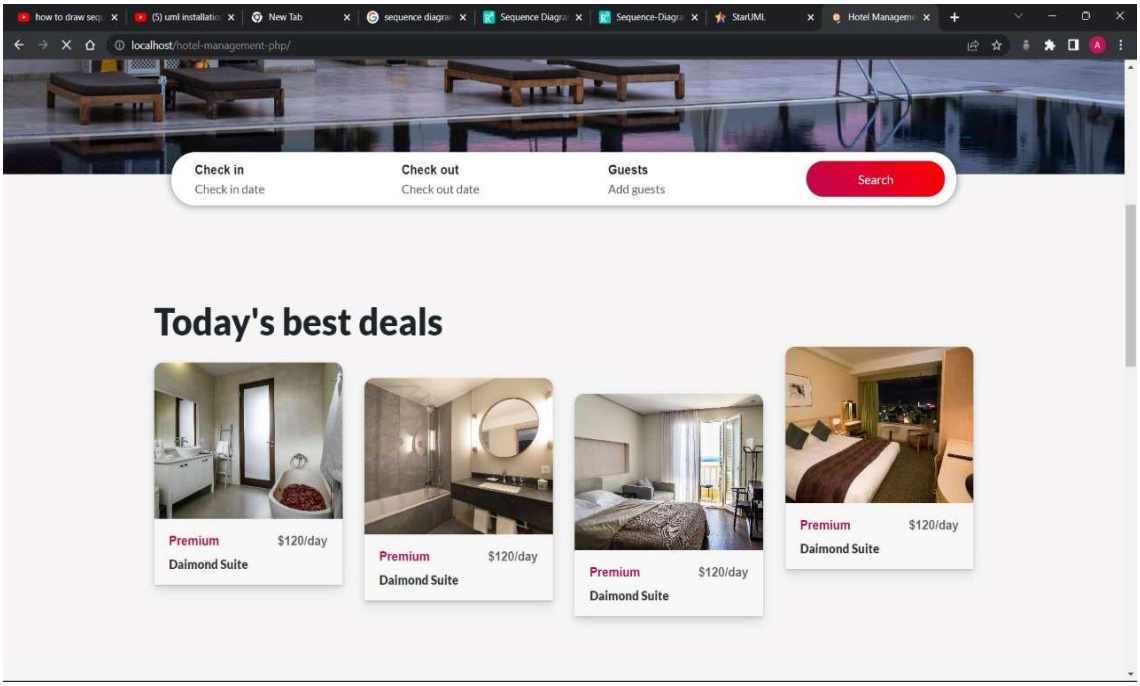


Fig 6.1.3: - This is the feature of website showing best deals available in hotel.

- **Room Database:-**

This page will be showing the collection of rooms in the system. What type of room are available in the system like Diamond, Silver, Gold and premium. In diagram , there are collection of rooms are available in system. In diagram, there are various entities are there like room_id, room_no, room_features and price of the room.

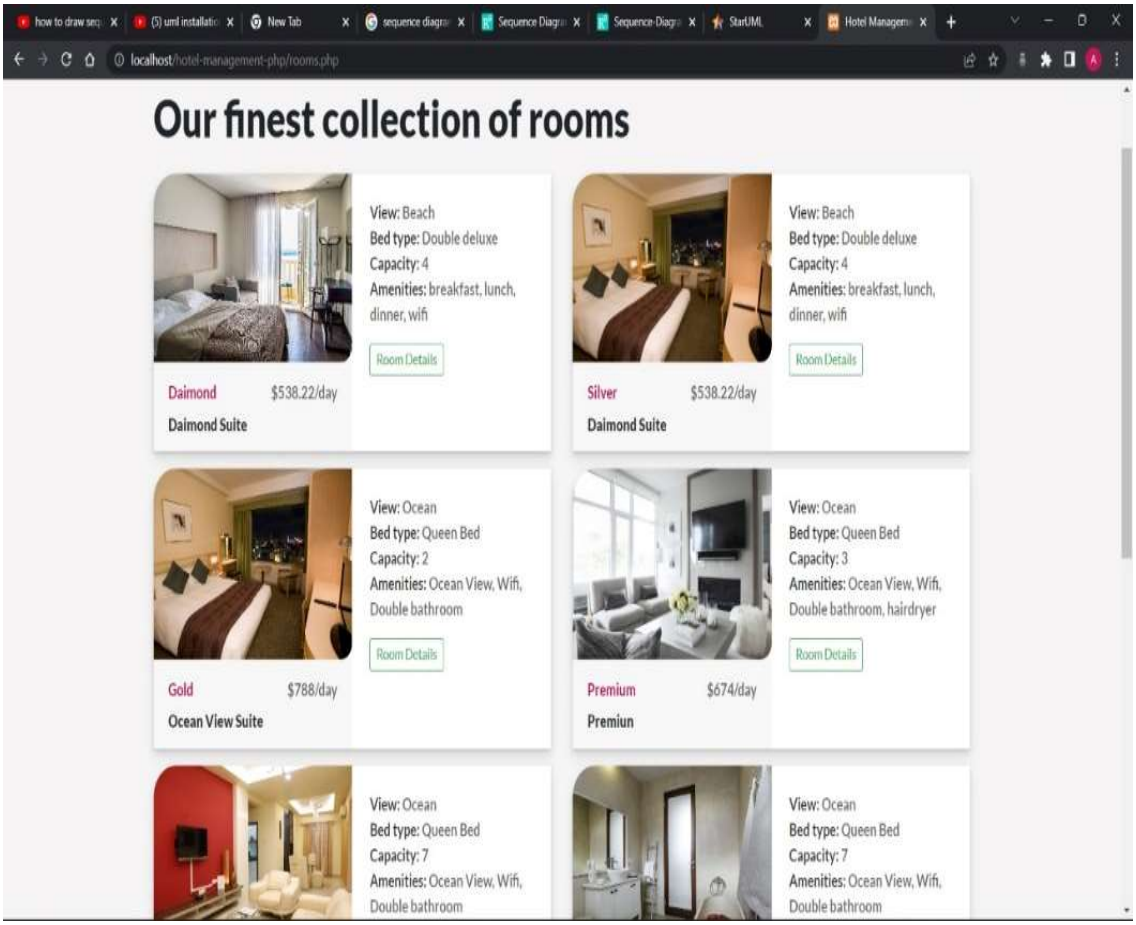


Fig 6.2.1: - Collection of rooms available in hotel

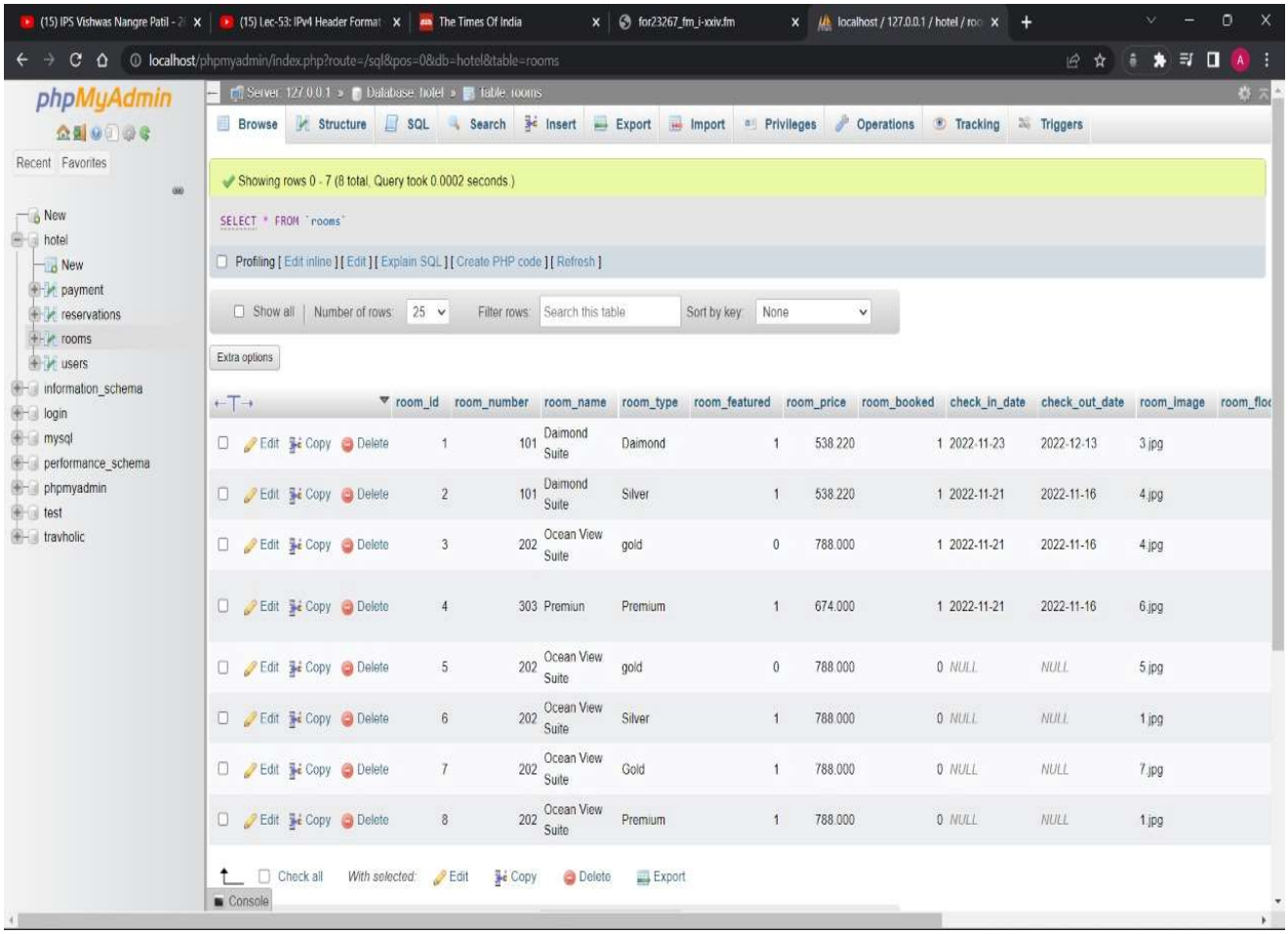


Fig 6.2.2: - Room Database

- **CUSTOMER DATABASE:-**

Customer database will be show the all information about customer like customer_id, customer_name , Customer_email, Customer_dob, login verified or not, Customer_phone etc. Figure shows the detail database of the Customer.

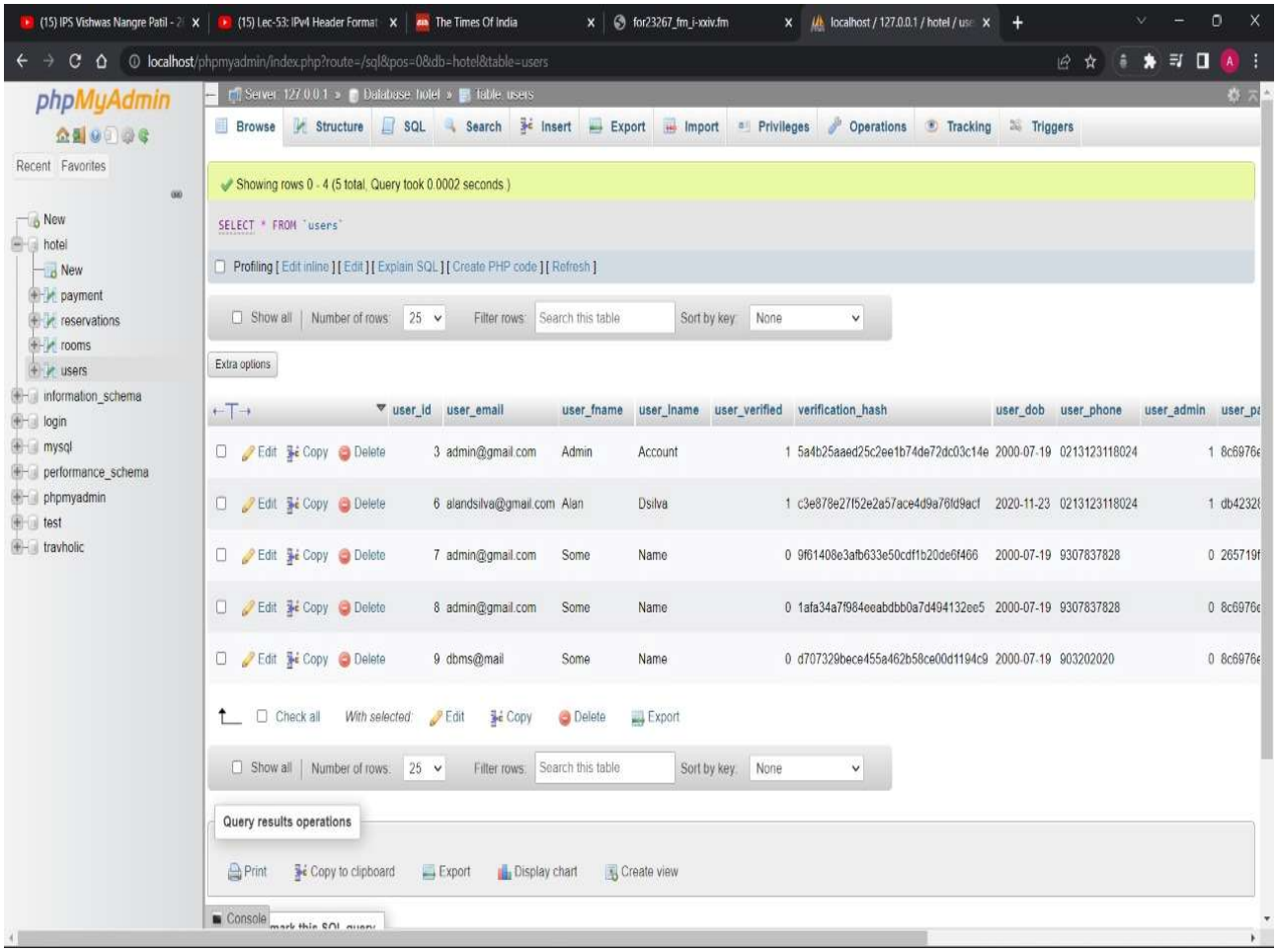


Fig 6.3.1. Customer Database

- **PAYMENT DATABASE :-**

It will be show the payment_history of the customer including customer_id, payment_id, reservation_id and many more information. Figure shows the process of the completing reservation by completing payment and it will be show like this. Figure is showing database about payment history. And after completing payment system will be generate bill receipt. And at last figure is showing reservation database.

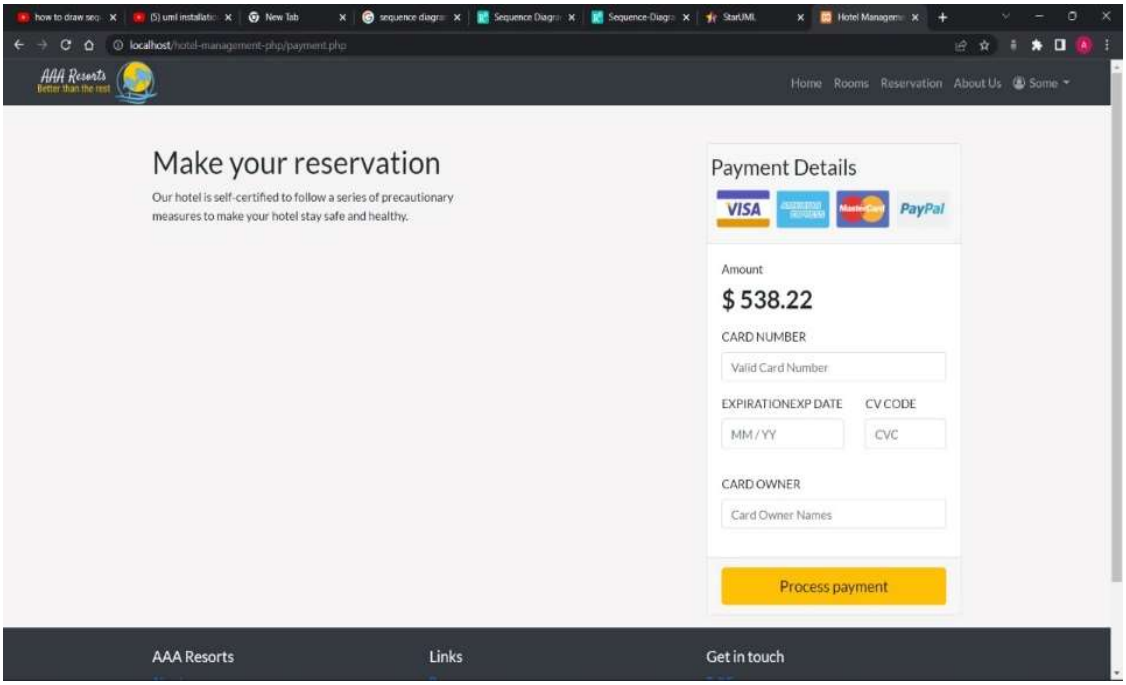


Fig 6.4.1:- Payment gateway while making reservation

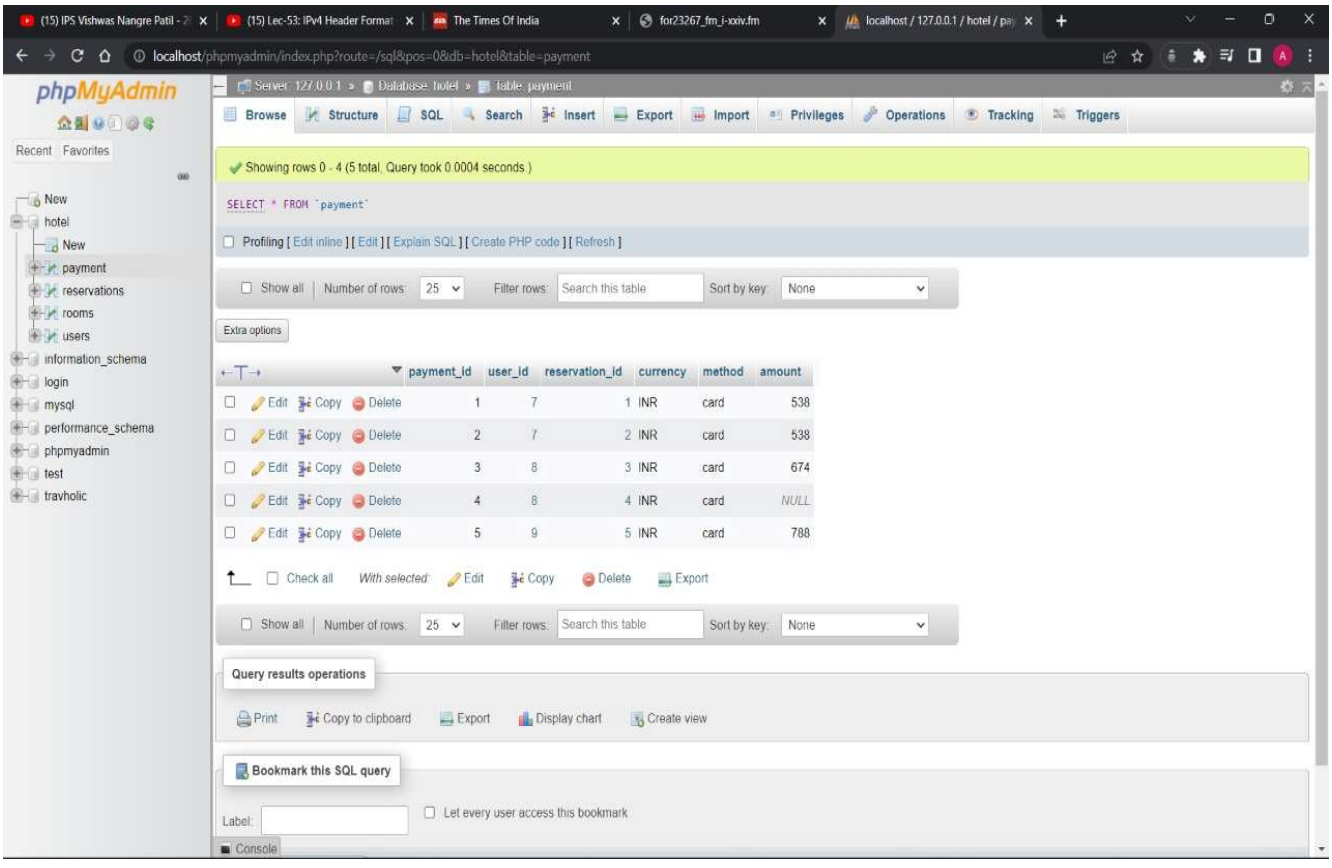
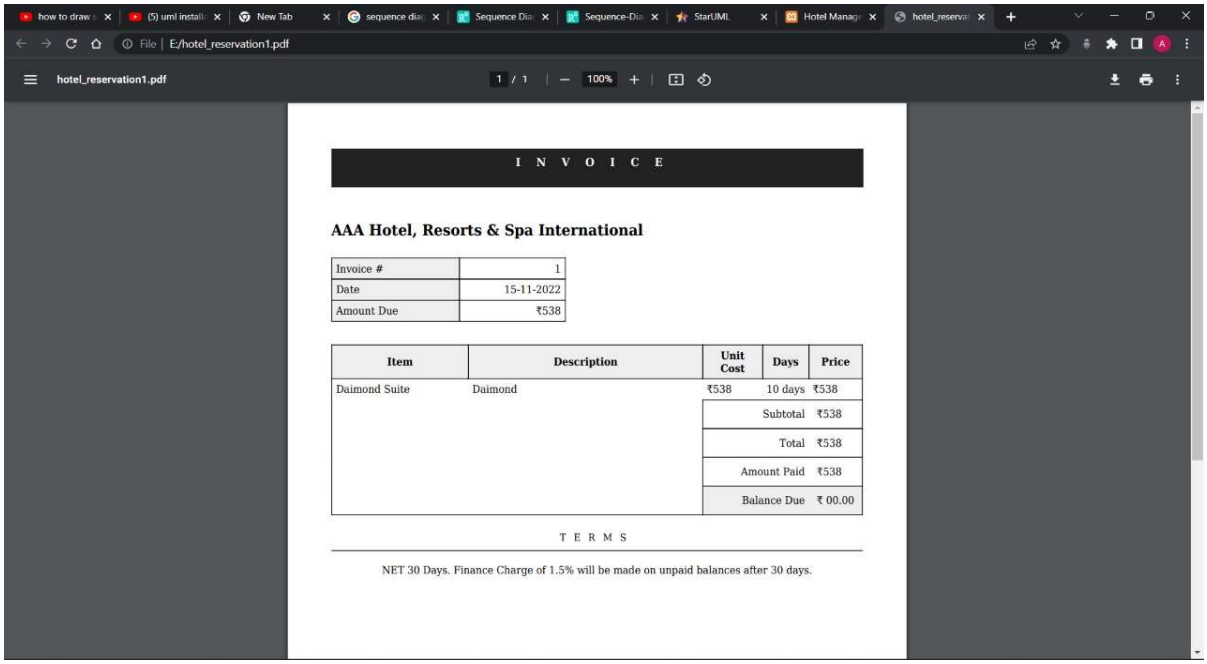


Fig 6.4.2.Payment Database



I N V O I C E

AAA Hotel, Resorts & Spa International

Invoice #	1
Date	15-11-2022
Amount Due	₹538

Item	Description	Unit Cost	Days	Price
Daimond Suite	Daimond	₹538	10 days	₹538
			Subtotal	₹538
			Total	₹538
			Amount Paid	₹538
			Balance Due	₹ 00.00

T E R M S

NET 30 Days. Finance Charge of 1.5% will be made on unpaid balances after 30 days.

Fig 6.4.3: - Bill Receipt generated in pdf form

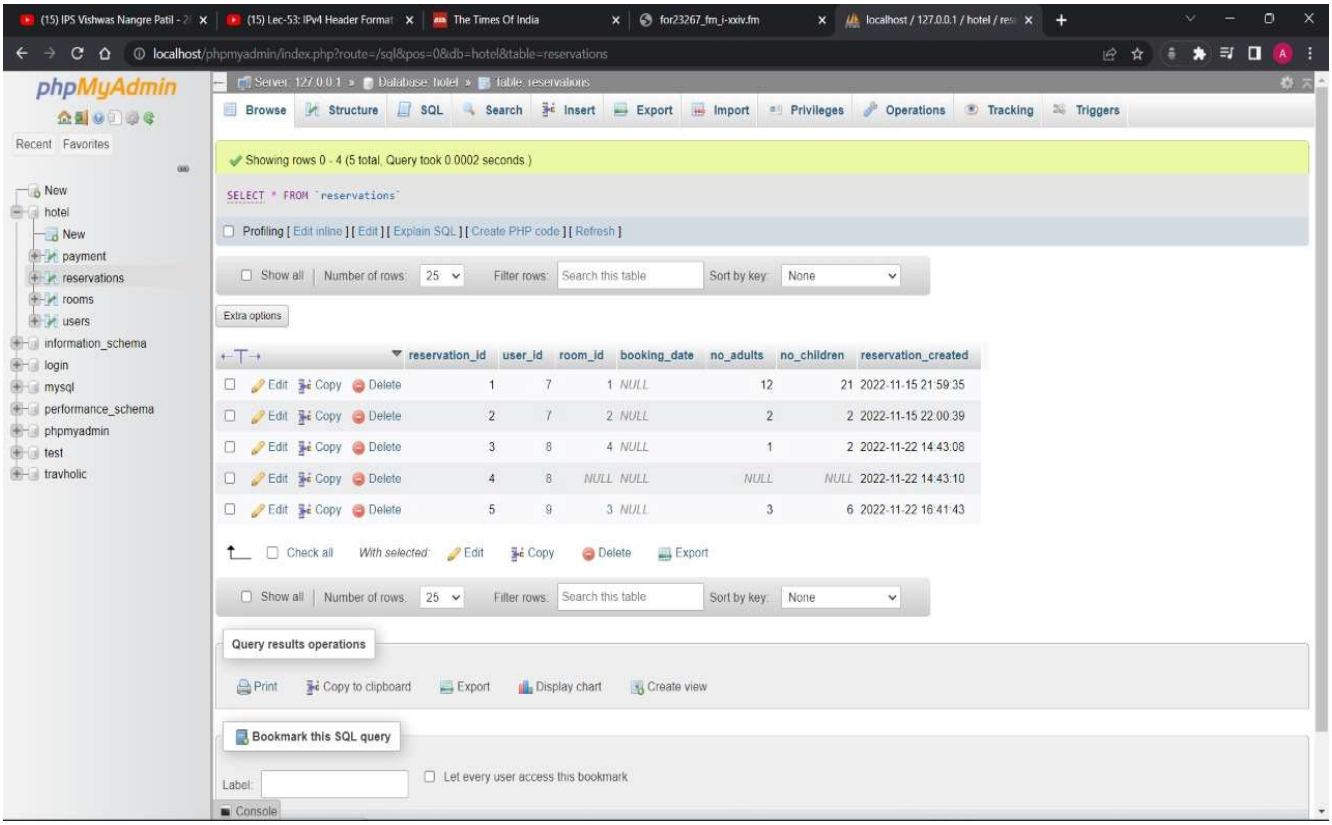


Fig 6.4.4: - Reservation Database

- **TEST CASES:-**

Test cases	Expected output	Actual output	Result
User login or signup	User should be able to create account or login to account	User can create account or login to account	Pass
Show availability of rooms and best deals	The site should show the available rooms and best deals	The site shows the available rooms and best deals	Pass
Payment options	User should be able to book a room for himself	User is be able to book a room for himself	Pass
Generation of bill	A bill should be generated by site after payment	A bill is generated by site after payment	Pass

CHAPTER 7

CONCLUSION AND REFERENCES

- **CONCLUSION**

HOTEL MANAGENMENT SYSTEM is a Web-portal Development Company specializing in providing custom solutions for small businesses. We strive to build solutions to your specific needs to get the job done right the first time. We pay special attention to the ease of use and utilize the latest in technology.

This system is developed for the exclusively for the people . It provides facilities to the user with user friendly modules with sub modules. This system is developed in understandable approach which can be easier to the layman of the computers. This system is developed totally GUI based and with smart links.

This project is designed to meet the requirements of Online Hotel Management. It has been developed in JSP, Servlets keeping in mind the specifications of the system. For designing the system we have used simple data flow diagrams. Overall the project teaches us the essential skills like: Using system analysis and design techniques like data flow diagram in designing the system. Understanding the database handling and query processing.

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