PROFORMA FOR THE APPROVAL PROJECT PROPOSAL

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PRN No.: ..... Roll No.: _____

1. Name of the Student

_____

2. Title of the Project

_____

3. Name of the Guide

_____

4. Teaching experience of the Guide _____

5. Is this your first submission? Yes ☐ No ☐

Signature of the Student Signature of the Guide

Date: ..... Date: .....

Signature of the Coordinator

Date: .....

CERTIFICATE

This is to certify that the project entitled, "_____ ",
is bonafied work of _____

bearing Seat.No: (_____) submitted in partial fulfilment of the requirements

for the award of degree of BACHELOR OF SCIENCE in INFORMATION TECHNOLOGY from University of Mumbai.

Internal Guide **Coordinator**

External Examiner

Date: **College Seal**

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Abstract

The rapid development of online gaming has emphasized the necessity of effective game booking systems for improving user experience and simplifying the operations. The abstract provides a brief account of the game booking system developed to overcome the difficulty in coordinating the schedules of the online games. The developed system incorporates the main features of real-time booking, automatic scheduling, and user management to ensure smooth interactions among the players and game providers. By using cloud-based technologies, the system enables scalability and reliability, accommodating a large number of concurrent users without any performance issues.

The main functions include easy-to-use interfaces for booking games, reminders of upcoming sessions, and a robust backend for tracking and managing reservations. The system also supports various payment methods and analytics tools that enable the providers to monitor usage patterns and improve their offers. Security measures are implemented to protect user data and transactions, which in turn creates a secure and trustworthy environment.

It aims at effectively improving the gaming experience by reducing administrative tasks, resolving booking conflicts, and providing a user-friendly platform for both players and providers. The design of the system, for example, is highlighted by efficiency and adaptability as the online gaming field is constantly changing.

Chapter 1:

Introduction

1.1 Background

In the rapidly evolving world of digital entertainment, gaming cafes have transformed significantly from their traditional arcade origins. Today's gaming cafes, equipped with advanced gaming consoles and high-performance PCs, cater to a growing audience of gamers seeking both social interaction and immersive experiences. These venues have become central hubs for gaming enthusiasts, offering not only a variety of games but also a space where players can engage in competitive or casual play.

Historically, managing customer flow and ensuring equitable access to gaming equipment was a challenge for these venues. Patrons often faced long wait times, which could lead to dissatisfaction and reduced customer loyalty. As gaming cafes expanded their offerings to include popular platforms like Xbox, gaming PCs, and PS5, the need for a more efficient and user-friendly system became evident. The introduction of digital solutions aimed to address these inefficiencies, leading to the development of the "Gaming Cafe" application.

The "Gaming Cafe" application represents a significant advancement in how gaming cafes manage bookings and customer interactions. By providing a streamlined online booking system, the application addresses common issues such as wait times and resource allocation. It allows users to reserve gaming slots and equipment in advance, ensuring a smoother and more enjoyable experience for gamers while improving operational efficiency for the gaming cafe.

1.2 Objectives

The primary objectives of the "Gaming Cafe" application center around improving the efficiency and overall experience within gaming cafes. By addressing common challenges faced by both customers and operators, the application aims to streamline operations, maximize resource utilization, and enhance customer satisfaction. Below are the key objectives:

1. **Reduce Customer Wait Times**:
    - One of the core goals is to minimize the time customers spend waiting for gaming stations. By offering an online reservation system, the application allows users to book their preferred gaming slots and equipment in advance. This feature alleviates the need for in-person waiting and gives customers the ability to plan their gaming sessions at their convenience.
2. **Optimize Resource Management**:
    - The application is designed to ensure efficient use of gaming stations, including Xbox consoles, gaming PCs, and PlayStation units. With real-time updates on station availability, gaming cafes can avoid overbooking or underutilization of resources. This optimized management not only enhances the gaming cafe's operational efficiency but also allows for better scheduling during peak hours.
3. **Enhance Customer Satisfaction**:
    - By providing a smooth and convenient booking experience, the "Gaming Cafe" application enhances customer satisfaction. Features like immediate reservation confirmations, payment options, and the ability to modify or cancel bookings contribute to a positive user experience. Customers enjoy a hassle-free process and can focus on the gaming experience without concerns about booking logistics.
4. **Improve Revenue and Utilization Rates**:
    - The application contributes to increased revenue potential for gaming cafes by maximizing station usage and enabling advanced bookings. By offering insights into customer booking patterns and peak times, cafe operators can make data-driven decisions regarding staffing, promotions, and pricing strategies to maximize profit.
5. **Facilitate Data Collection and Analysis**:

- A valuable feature of the application is its ability to collect data on customer preferences, usage patterns, and peak times. This information provides cafe operators with insights that can guide business decisions. The data can be used to assess which games are most popular, determine the busiest times, and identify areas for improvement in customer service and resource management.

6. **Increase Customer Retention and Loyalty**:
    - The "Gaming Cafe" application helps build customer loyalty by addressing common frustrations and providing a tailored, user-friendly experience. By offering features like account management, personalized notifications, and promotional offers, the application encourages customers to return and engage with the gaming cafe regularly.

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1.3 Purpose, Scope, and Applicability

The "Gaming Cafe" application has been developed to address the unique needs of modern gaming cafes and their customers by creating a streamlined, efficient, and convenient system for booking and managing gaming resources. This chapter will cover the purpose, scope, and applicability of the application, outlining its intended functionality and potential use cases.

1.3.1 Purpose

The primary purpose of the "Gaming Cafe" application is to simplify the booking and management process for gaming cafes, which typically offer Xbox consoles, high-performance gaming PCs, and PlayStation stations. By providing a digital platform, the application makes it easier for customers to reserve their preferred gaming equipment and time slots in advance. This, in turn, reduces wait times, minimizes overbooking, and ensures an efficient allocation of resources. The application is designed to:

- Improve the overall customer experience by enabling a hassle-free booking system.
- Reduce in-person wait times and improve customer satisfaction.
- Support gaming cafe operators in managing their resources effectively, optimizing peak hours, and enhancing operational efficiency.

1.3.2 Scope

The scope of the "Gaming Cafe" application includes a variety of features and functionalities, which cater to both the customers and the gaming cafe staff. It provides:

- **Real-Time Slot Availability**: Users can view available gaming slots in real time, enabling them to book their preferred gaming stations at convenient times.
- **Booking Management**: Customers can make, modify, and cancel reservations through the application, with immediate updates and confirmations provided.
- **Integrated Payment System**: The application offers various payment options, allowing customers to pay for their reservations online. This feature includes transaction history and receipt generation.
- **User Accounts and Profile Management**: Users can create accounts, manage their profiles, view past bookings, and receive personalized notifications and promotions.

- **Administrative Functions for Cafe Operators**: The application includes a back-end module that allows gaming cafe staff to manage slots, monitor bookings, analyze customer data, and generate reports on usage patterns and revenue.
- **Notification System**: Automated alerts and reminders for bookings, upcoming sessions, and promotions are sent to users, keeping them informed and engaged.

1.3.3 Applicability

The "Gaming Cafe" application is versatile and can be used across a wide range of gaming cafes, from small local businesses to larger entertainment centers. The application is applicable to:

- **Local Gaming Cafes**: Small, independent gaming cafes can use this application to modernize their booking processes, improve customer satisfaction, and optimize their gaming resources.
- **Chain Gaming Cafes and Entertainment Centers**: For larger operations, the application provides scalability and the capability to handle multiple locations, manage staff, and track revenue across different branches.
- **Hybrid Entertainment Venues**: Establishments that offer gaming as part of a broader entertainment experience (such as arcades, bowling alleys, and cafes with gaming lounges) can benefit from the application's flexibility, as it can handle complex booking scenarios and diverse customer needs.
- **Pop-Up Gaming Events or Tournaments**: The application can also be utilized for temporary gaming setups or events, allowing organizers to manage participants, track gaming sessions, and handle bookings for tournaments or special events.

1.4 Achievements

The implementation of the "Gaming Cafe" application has led to several notable achievements. One of the most significant outcomes has been the reduction in customer wait times. By allowing users to book their gaming sessions in advance, the application has streamlined the flow of customers and minimized the time spent waiting for available equipment. This improvement has contributed to higher levels of customer satisfaction and a more organized gaming environment.

Another key achievement is the enhanced resource management provided by the application. By offering real-time updates on the availability of Xbox, gaming PCs, and PS5 stations, the application has helped gaming cafes optimize the use of their equipment. This has led to increased utilization rates and better planning for peak periods, resulting in higher revenue and more efficient operations.

Additionally, the application has delivered valuable insights into customer preferences and peak usage times. This data has enabled gaming cafes to make informed decisions about staffing, marketing, and resource allocation. The positive feedback from users highlights the application's success in improving the overall gaming experience and operational efficiency for gaming cafes.

1.5 Organisation of Report

The report is systematically structured to provide a comprehensive analysis of the "Gaming Cafe" application and its impact on the operations of gaming cafes. It is organized into several chapters, each focusing on specific aspects of the application:

- **Chapter 1: Introduction**
  This chapter presents the background of the gaming cafe industry, outlining the evolution from traditional arcade settings to modern gaming cafes. It also details the objectives, purpose, scope, and applicability of the "Gaming Cafe" application, along with its significant achievements and contributions to operational efficiency.

- **Chapter 2: Survey of Technologies**
  This chapter discusses the technologies and tools employed in the development of the application, including front-end and back-end technologies, database management, software requirements, and hardware specifications. It highlights how these technologies work together to provide a seamless user experience.

- **Chapter 3: Requirements and Analysis**
  In this chapter, the specific requirements for the application are outlined, including problem definition, requirements specification, planning and scheduling, and software and hardware requirements. Preliminary product descriptions and conceptual models are also included to provide a clear understanding of the application’s intended functionality.

- **Chapter 4: System Design**
  This chapter details the design of the application, covering basic modules such as user management, game slot booking, and payment processing. It also discusses data design, including schema design, data integrity, and constraints. Additionally, procedural design elements such as logic diagrams, data structures, algorithms, user interface design, security issues, and test case design are explored.

- **Chapter 5: User Feedback and Future Enhancements**
  This chapter presents an analysis of user feedback collected post-implementation, highlighting the operational impacts of the application. It also provides recommendations for future enhancements to further improve the user experience and operational efficiency of gaming cafes.

Chapter 2:

SURVEY OF TECHNOLOGIES

In building the "Gaming Cafe" application, the following technologies and tools are employed to ensure smooth functionality, efficiency, and a good user experience. These technologies are grouped into front-end, back-end, database, software, and hardware requirements.

1. Front-End Technologies

The front-end is responsible for the user interface and how the users interact with the system. It ensures that the application is visually appealing and responsive across various devices.

HTML (Hypertext Markup Language):

Purpose: HTML is the foundational language for creating web pages. It defines the structure and layout of a website by using tags that tell the browser how to display content.

- **Structure**: HTML uses a tag-based syntax, where tags define elements on a web page. Tags are enclosed in angle brackets, like <html>, <body>, <h1>, and <p>.
    - **Headings**: Tags like <h1>, <h2>, etc., define headings, which organize content hierarchically.
    - **Paragraphs**: The <p> tag creates paragraphs, which are essential for organizing text content.
    - **Lists**: Ordered <ol> and unordered <ul> lists structure information in a bulleted or numbered format.

    - **Links**: The <a> tag creates hyperlinks, allowing users to navigate to different web pages.
    - **Images**: The <img> tag displays images on the page by referencing image files.
    - **Forms**: HTML forms (<form>, <input>, <textarea>, etc.) gather user input for submission, such as login credentials or booking information.
- **Attributes**: Tags often include attributes that provide additional information or specify settings. For example, the <a href="URL"> tag uses the href attribute to define the link destination, and the <img src="image.jpg" alt="description"> tag uses src to specify the image source.
- **Structure and Layout**: HTML tags are nested within the <html>, <head>, and <body> tags. The <head> section contains metadata and links to external resources, while the <body> contains all visible elements.

CSS (Cascading Style Sheets):

Purpose: CSS is used for styling HTML elements to create visually appealing web pages. It controls the layout, colors, fonts, and overall design, ensuring a consistent and attractive user experience.

- **Selectors**: CSS uses selectors to target HTML elements that need styling. Common selectors include:
    - **Element Selectors**: Apply to all instances of a particular HTML tag, like h1, p, or div.
    - **Class Selectors**: Target elements with a specific class attribute, prefixed with a dot (.). For example, button applies styles to all elements with the class="button" attribute.
    - **ID Selectors**: Target elements with a unique ID attribute, prefixed with a hashtag (#). For example, #header applies styles to an element with id="header".
- **Properties and Values**: CSS uses property-value pairs to define styles. Each property specifies a style aspect, and the value assigns the style.
    - **Colors**: Properties like color and background-color specify text and background colors.
    - **Font**: Properties like font-size, font-family, and font-weight control the appearance of text.
    - **Layout**: Properties such as margin, padding, width, height, display, and position determine element spacing, positioning, and layout on the page.
    - **Box Model**: CSS operates on the box model, where each element is treated as a rectangular box with content, padding, border, and margin.
- **Responsive Design**: CSS media queries adapt the layout for different screen sizes, ensuring the website is user-friendly on various devices, such as mobile phones and desktops

JavaScript:

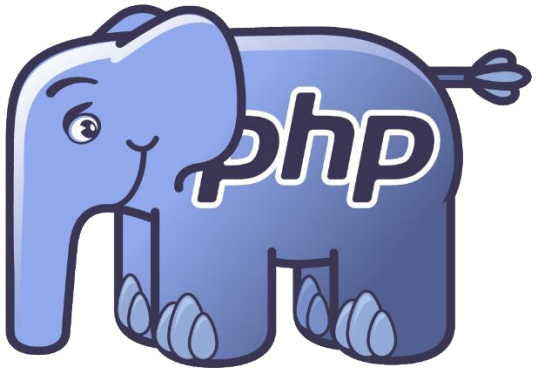
Purpose: JavaScript is a versatile programming language that enables interactivity and dynamic content on websites. It operates on the client side, meaning it runs in the user's browser, and is essential for enhancing the user experience.

- **DOM Manipulation:** JavaScript can manipulate the Document Object Model (DOM), the hierarchical structure representing HTML elements. This allows JavaScript to dynamically change content, such as:
    - **Updating Content:** Changing text or image content based on user actions.
    - **Adding/Removing Elements:** Creating or deleting HTML elements on the fly.
    - **Event Handling:** Responding to user actions, such as clicks, hovers, or form submissions.
- **Variables and Data Types:** JavaScript stores data using variables and supports various data types, including numbers, strings, arrays, and objects.
- **Functions**: Functions are reusable blocks of code that execute specific tasks. They enable efficient and modular programming by allowing complex logic to be encapsulated and reused**.**
- **Asynchronous Programming:** JavaScript supports asynchronous operations, such as fetch and XMLHttpRequest, which allow data to be retrieved from a server without reloading the entire page. This is useful for real-time updates.

2. Back-End Technologies:

The back end is the backbone of the application, responsible for business logic, server-side operations, and database management.

PHP (Hypertext Preprocessor)



Purpose: PHP is a server-side scripting language used to create dynamic web applications. It processes user input, manages server-side tasks, and interacts with databases.

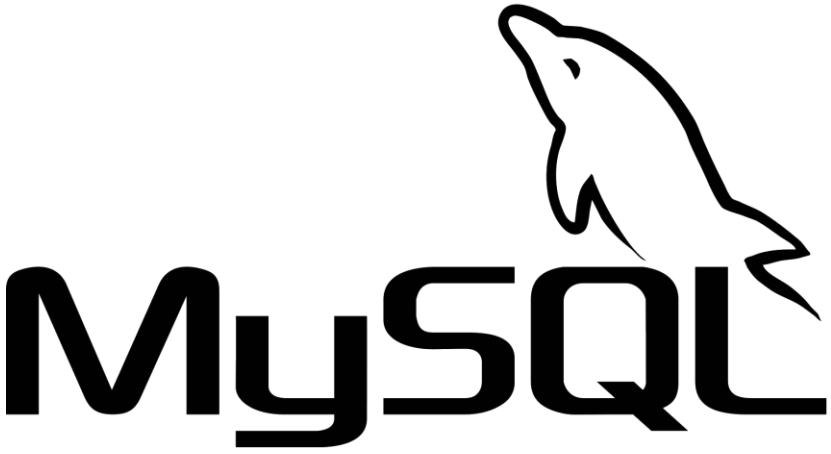
- **Embedding in HTML**: PHP code is embedded within HTML files using <?php ... ?> tags. When the server processes the page, it executes PHP code before sending the HTML output to the client.
- **Data Processing**: PHP handles user inputs (like form data), processes it, and performs actions such as:
    - **User Authentication**: Verifying user credentials during login.
    - **Data Validation**: Ensuring that data meets certain criteria before storing it in a database.
- **Database Interaction**: PHP interacts with databases using functions like mysqli or PDO, allowing it to execute SQL queries for tasks such as retrieving data or updating records.
- **API**:

  APIs are crucial for communication between different components of the application. They facilitate data exchanges such as sending user booking details from the front-end to the server and fetching game availability information from the database.

3. Database:

The database stores and manages all data, including users, bookings, gaming stations, and payments.

SQL (Structured Query Language)



Purpose: SQL is a language designed for managing and querying relational databases. It allows you to store, retrieve, and manipulate data in a structured way.

- CRUD Operations: SQL performs basic operations on data, such as:
    - Create: INSERT INTO adds new data to a table.
    - Read: SELECT retrieves specific data from the database.
    - Update: UPDATE modifies existing data in a table.
    - Delete: DELETE FROM removes data from a table.
- Data Filtering and Sorting: SQL can filter and sort results using keywords like WHERE, ORDER BY, and LIMIT, enabling users to retrieve data that meets certain criteria or is displayed in a specific order.
- Joins: SQL uses JOIN statements to retrieve related data from multiple tables based on common fields.

4. Software Requirements:

These tools are essential for the development, testing, and running of the "Gaming Cafe" application.

- **Operating System: Windows 10 Home Single Language**:
    - The development environment runs on Windows 10, which provides stability, compatibility, and support for various development tools and software.
- **Visual Studio Code**:
    - This code editor is equipped with features like syntax highlighting, code completion, and debugging tools, supporting development in HTML, CSS, JavaScript, and PHP.
    - It offers extensive extensions for version control, database management, and integration with other development tools, making it versatile and efficient for this project.
- **XAMPP**:
    - XAMPP is an all-in-one solution that includes Apache, MySQL, and PHP. It enables local development by:
        - **Apache**: Acts as the local web server, allowing the application to run in a simulated environment.
        - **MySQL**: Manages the SQL database for storing and retrieving user, booking, and game slot information.
        - **PHP**: Supports server-side scripting, allowing the back-end functions to execute.
    - XAMPP provides a convenient setup for development, testing, and debugging before deploying the application to a production server.

5. Hardware Requirements:

The hardware specifications ensure that the development environment can handle the application's needs, allowing for efficient coding and testing.

- Device Name: DESKTOP-7NCK296:
    - The primary development machine is a desktop computer with sufficient resources to manage the demands of the application.
- Processor: 11th Gen Intel(R) Core(TM) i5-1155G7 @ 2.50GHz:
    - This processor provides enough power for multitasking, enabling smooth operation of development tools, virtual environments, and local servers like XAMPP.
- RAM: 8 GB:
    - With 8 GB of RAM, the system can efficiently handle running the code editor, database server, and web server simultaneously, reducing lag and performance bottlenecks.
- System Type: 64-bit Operating System, x64-based Processor:
    - The 64-bit architecture ensures compatibility with modern software tools, enabling efficient application development and faster processing times.

CHAPTER 3:
REQUIREMENTS AND ANALYSIS

3.1 Problem Definition

The "Gaming Cafe" application is designed to address specific challenges faced by gaming cafes, primarily around managing bookings, optimizing resource usage, and enhancing customer experience. As gaming cafes continue to grow in popularity, these establishments often encounter operational issues that can hinder both customer satisfaction and overall efficiency.

Key Challenges Facing Gaming Cafes

1. **Long Wait Times for Customers**
    - Gaming cafes typically offer a limited number of gaming stations, such as Xbox consoles, gaming PCs, and PlayStation units. During peak hours or weekends, these resources can become fully booked, leading to long wait times for customers.
    - Waiting for a gaming station not only affects customer satisfaction but also potentially reduces the cafe's revenue, as customers may decide to leave rather than wait.
2. **Inefficient Resource Management**
    - Gaming cafes need to effectively allocate and manage their resources to maximize usage. Without a system to monitor the availability of gaming stations in real-time, cafes often face issues such as underutilization or overbooking.
    - Additionally, many cafes lack data on equipment usage, which makes it difficult to plan for peak times, staff schedules, and maintenance needs.
3. **Limited Flexibility for Customers**
    - Traditional booking methods for gaming cafes are often limited to walk-ins or phone reservations. This restricts customers' ability to plan their visits and increases the chance of encountering unavailable stations when they arrive.
    - The lack of an online reservation system means that customers have little control over their bookings. They cannot easily check available time slots or make changes to their reservations, which reduces flexibility and convenience.
4. **Lack of Seamless Payment Options**
    - In many gaming cafes, customers pay for their sessions upon arrival or after their gaming time, often with limited payment options. This setup can lead to

payment delays, especially during peak times, causing congestion at the counter.

- Without an integrated online payment system, cafes may also miss out on capturing advance payments, which can help secure bookings and reduce the chance of no-shows.

5. **Limited Insights into Customer Preferences and Usage Patterns**
    - Understanding customer preferences and usage patterns is crucial for any business. Gaming cafes often lack the tools to collect and analyze this data, which can hinder their ability to make informed decisions on pricing, staffing, promotions, and equipment upgrades.
    - By not having a system in place to track booking trends and peak times, cafes may struggle to tailor their services to meet customer demand and optimize their offerings.

Problem Statement

To address these challenges, the "Gaming Cafe" application seeks to create a solution that enables gaming cafes to manage bookings and resources more effectively while improving the overall customer experience. The application aims to provide a digital platform where customers can view real-time availability, reserve gaming stations, and pay for bookings online. Additionally, it will offer features to help cafe operators gain insights into customer behavior and make data-driven business decisions.

3.2 Requirements Specification

To address the challenges outlined in the problem definition, the "Gaming Cafe" application must meet the following functional and non-functional requirements:

Functional Requirements:

1. **User Registration and Login**: Users should be able to create accounts, log in, and manage their profiles.
2. **Game Slot Booking**: The system should allow users to view available slots and book time for specific gaming platforms (Xbox, gaming PCs, PS5).
3. **Slot Management**: Admins should be able to manage available slots, update schedules, and prevent overbooking.
4. **Real-Time Availability**: Users should have access to real-time updates on the availability of gaming stations and games.
5. **Payment Integration**: The system should support multiple payment methods, allowing users to complete payments online for their bookings.
6. **Booking Management**: Users should be able to view, modify, or cancel their bookings if necessary.
7. **Notifications**: Users should receive notifications about booking confirmations, cancellations, and special promotions.

Non-Functional Requirements:

1. **Usability**: The application should have a simple and intuitive interface to ensure ease of use for both customers and staff.
2. **Scalability**: The system should be able to handle a large number of users and bookings simultaneously, especially during peak hours.
3. **Security**: The system must protect sensitive user data, including passwords and payment information, using encryption and secure protocols.
4. **Performance**: The system should load and process bookings efficiently, minimizing latency and delays in booking.
5. **Compatibility:** The application should be compatible with multiple platforms, including desktop browsers and mobile devices.

3.3 Planning and Scheduling

To ensure the successful development and implementation of the "Gaming Cafe" application, a clear project timeline and resource allocation are necessary. This section details the phases of the project and the estimated timelines for each phase:

Project Phases:

1. **Requirement Gathering:**
    - Meet with stakeholders to define requirements.
    - Identify the key features and functionality of the application.
2. **Design Phase:**
    - Create wireframes and mockups for the user interface.
    - Develop the system architecture and database design.
3. **Development Phase:**
    - Build front-end and back-end components.
    - Set up the database and integrate the real-time booking system.
    - Implement payment gateways and user account management.
4. **Testing Phase:**
    - Conduct unit testing for individual modules.
    - Perform system integration testing and usability testing.
    - Address any bugs and performance issues.
5. **Deployment**:
    - Deploy the system to a live environment.
    - Conduct final user acceptance testing.
    - Provide training to staff on using the system.
6. **Post-Deployment Support:**
    - Monitor the application for performance issues.
    - Roll out updates and improvements based on user feedback.

3.4 Software and Hardware Requirements

The "Gaming Cafe" application requires specific software and hardware resources to ensure smooth operation, performance, and reliability. This chapter outlines the necessary technology stack and system requirements for both development and deployment of the application. These requirements are categorized into software and hardware specifications, covering the essential tools and configurations needed for front-end, back-end, and database management.

Software Requirements

1. **Front-End Technologies**
    - **HTML**: Used for creating the basic structure and layout of the user interface.
    - **CSS**: Used for styling and designing the application's appearance, making it visually appealing and user-friendly.
    - **JavaScript**: Employed for adding interactivity and dynamic features to the front-end, enhancing the user experience.
2. **Back-End Technologies**
    - **PHP**: Serves as the primary back-end programming language, responsible for handling server-side logic, user authentication, and database interaction.
3. **Database Management System**
    - **SQL**: Used as the database language for storing, retrieving, and managing data within the application. SQL databases are reliable for handling structured data, such as user profiles, bookings, and payment information.
4. **Development Environment**
    - **Operating System**: Windows 10 Home Single Language is recommended for development, providing a stable and user-friendly environment compatible with the required software tools.
    - **Visual Studio Code**: This versatile and extensible code editor will be used for writing and debugging the application’s code.
    - **XAMPP**: XAMPP serves as a local server environment, combining Apache server, MySQL database, and PHP. It facilitates the local development and testing of the application before deployment.
5. **API Integration**

- **API**: API integration will be utilized for any additional functionalities, such as payment processing, notifications, or third-party services that may be required for enhancing the application's capabilities.

Hardware Requirements

1. **Device Specifications**
   - **Device Name**: DESKTOP-7NCK296 (or equivalent desktop/laptop configuration).
2. **Processor**
   - **Name**: 11th Gen Intel(R) Core(TM) i5-1155G7 @ 2.50GHz
   - **Performance**: The processor should support at least 2.50 GHz to handle development tasks, server requests, and database transactions effectively. An Intel i5 or equivalent is recommended for optimal performance.
3. **Memory (RAM)**
   - **8.00 GB RAM**: Sufficient memory to run the development environment, including Visual Studio Code, XAMPP, and any browser-based testing. This specification also ensures that the system can handle moderate levels of concurrent user interactions in a deployed environment.
4. **System Type**
   - **64-bit Operating System, x64-based Processor**: A 64-bit system is required to leverage enhanced processing power, memory management, and compatibility with software development tools

3.5 Preliminary Product Description

The "Gaming Cafe" application is a digital platform designed to streamline the reservation and management processes in gaming cafes. Its main purpose is to improve the customer experience by offering a convenient and efficient way for users to book gaming stations, manage their reservations, and make payments online. This section provides an overview of the application's core features and functionalities, highlighting how each component addresses the needs of both customers and gaming cafe operators.

Key Features of the "Gaming Cafe" Application

1. **User Account Management**
    - **Registration and Login**: Users can create accounts to access the application's features. Once registered, users can log in to view available slots, make reservations, and manage their profiles.
    - **Profile Management**: Users can update their personal details, change passwords, and manage payment methods within their account settings.
2. **Game Slot Booking**
    - **Real-Time Slot Availability**: The application displays up-to-date information on the availability of gaming stations, including Xbox consoles, gaming PCs, and PlayStation units. Users can easily check which slots are open for booking.
    - **Slot Reservation**: Users can book available time slots for their preferred gaming stations. The system allows users to select the gaming station and the duration of their session.
    - **Booking Management**: Users can view their current and past bookings, modify upcoming reservations, or cancel bookings if necessary.
3. **Game Management**
    - **Game Catalog**: The application provides a list of available games, complete with descriptions, genres, and ratings. This helps users select games that match their interests and enhances the overall gaming experience.
    - **Game Availability Tracking**: The system keeps track of which games are installed and available on each gaming station. This feature helps users and cafe operators manage gaming options and ensures that popular games are accessible.
4. **Payment and Billing**

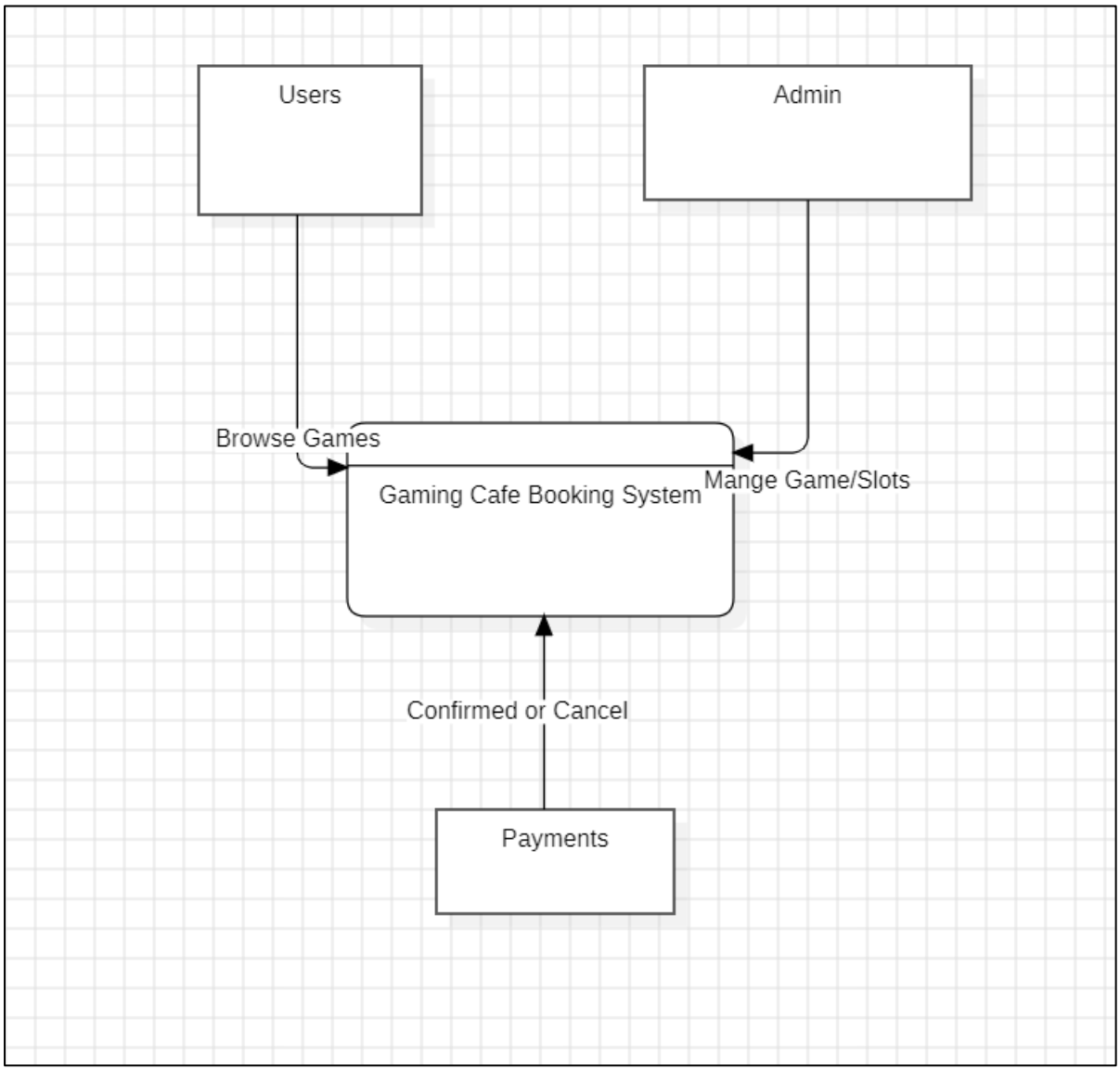
- **Integrated Payment System**: Users can pay for their bookings online using a range of payment methods, such as credit cards or digital wallets. The application handles payment processing securely and efficiently.
- **Payment History**: Users can access their payment history through their profiles, allowing them to track past transactions and keep records of their spending.

5. **Notification System**
    - **Booking Alerts**: The application sends reminders to users about upcoming reservations, reducing the likelihood of missed bookings.
    - **Promotional Notifications**: Users can opt-in to receive notifications about special offers, events, or promotions held by the gaming cafe.
6. **Admin Panel for Cafe Operators**
    - **User Management**: Admins have control over user accounts, with the ability to manage registrations, reset passwords, and monitor activity.
    - **Slot and Resource Management**: The admin panel allows operators to configure slot availability, adjust time slots, and manage gaming station schedules.
    - **Analytics and Reporting**: The application generates reports on usage patterns, peak times, and customer preferences. This data helps cafe operators make informed decisions on staffing, marketing, and equipment upgrades.

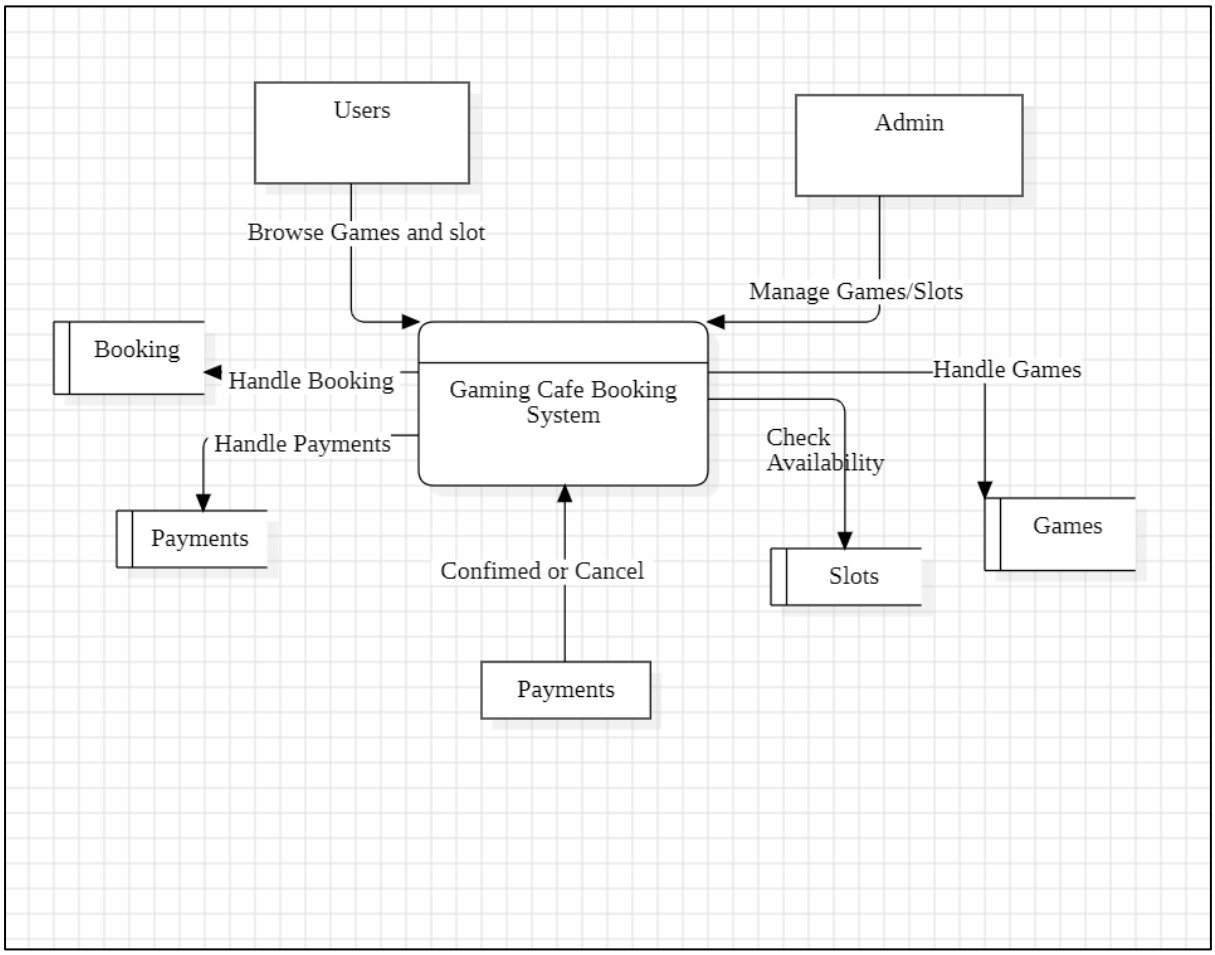
3.6 Conceptual Models

Conceptual models represent the overall structure and relationships between key components of the "Gaming Cafe" application. These models guide the design of the system and help visualize how different parts of the application interact.

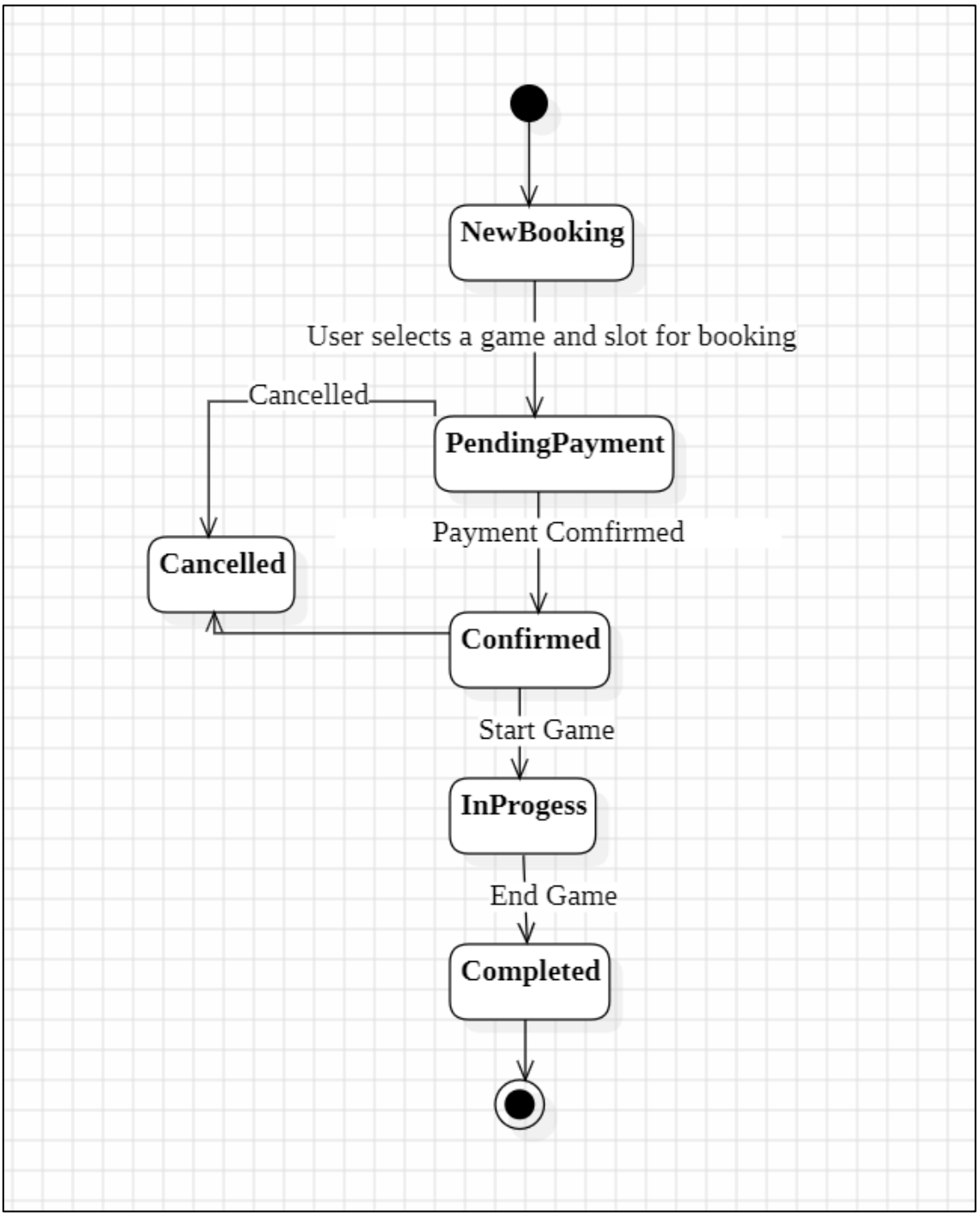
3.6.1 Zero-Level DFD Diagram:



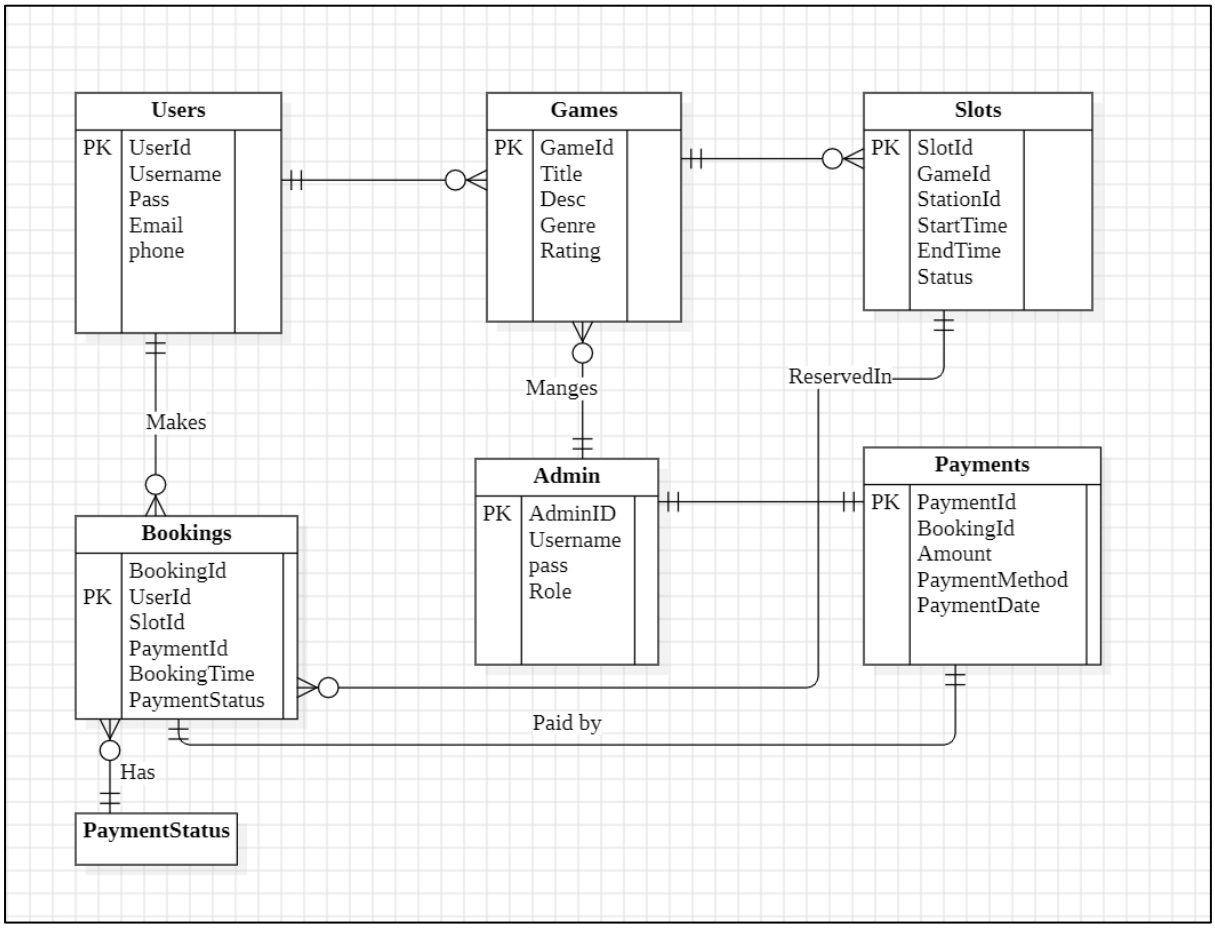
3.6.2 First-Level DFD Diagram:



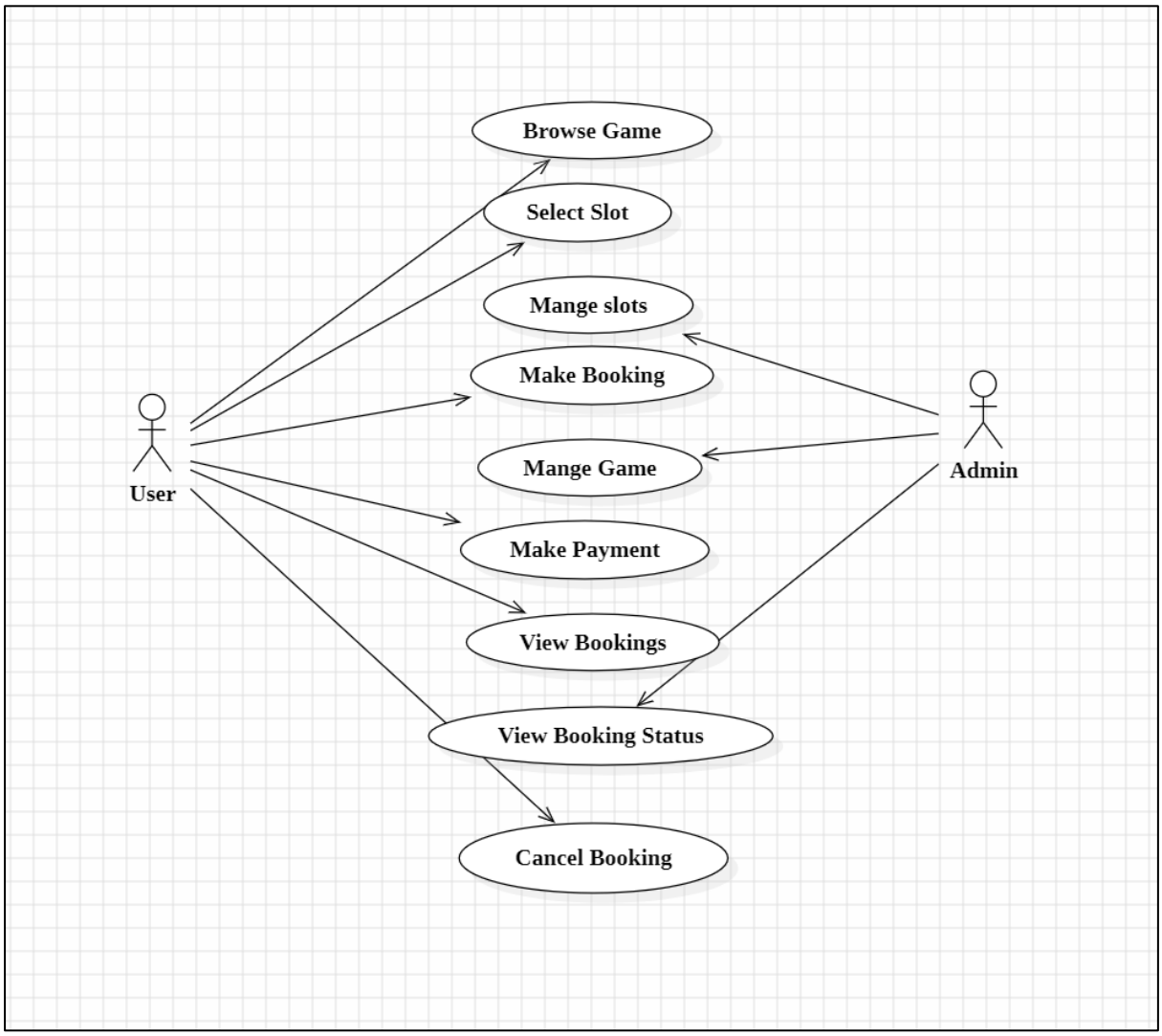
3.6.3 State Chart Diagram:



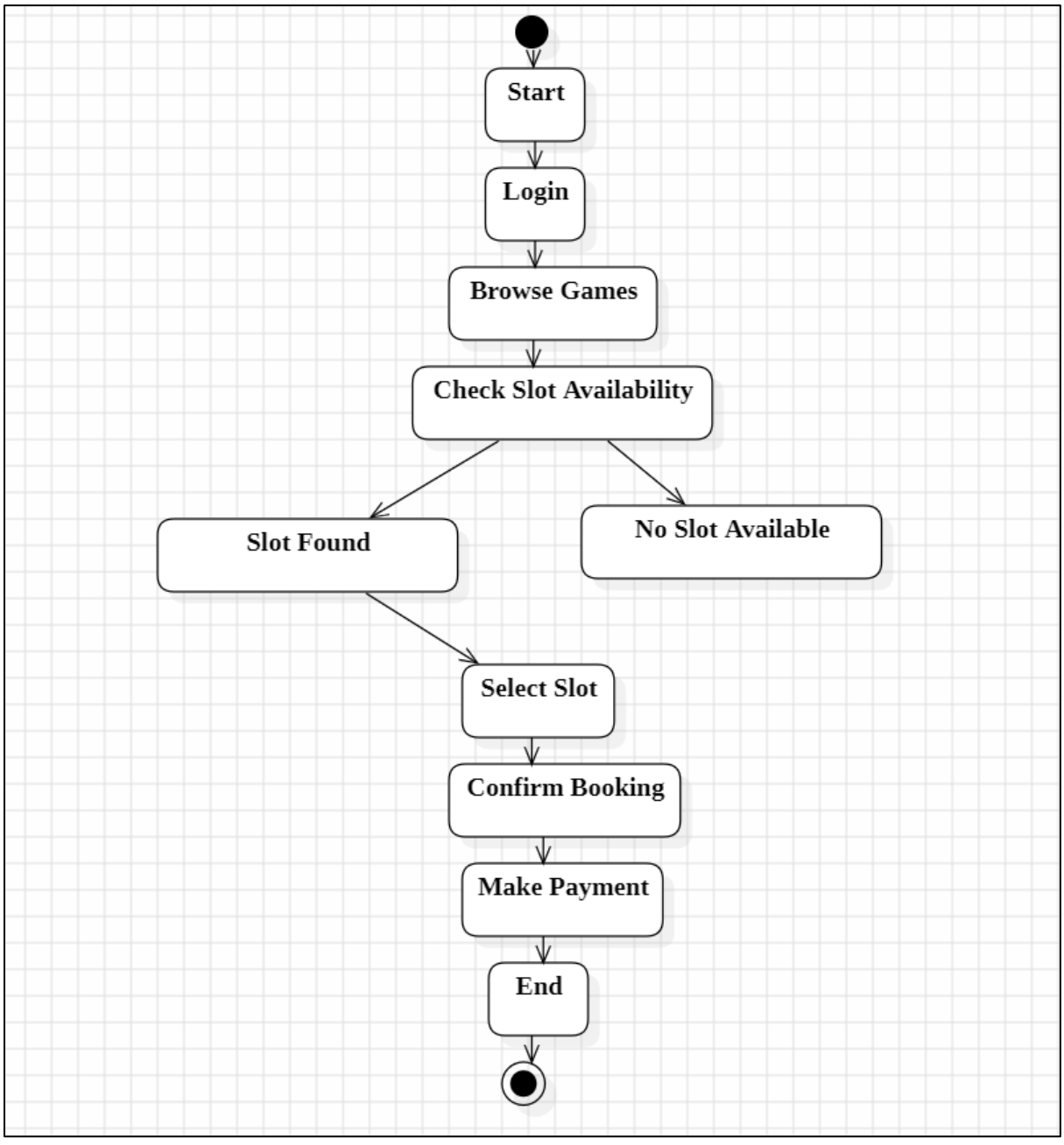
3.6.4 ER Diagram:



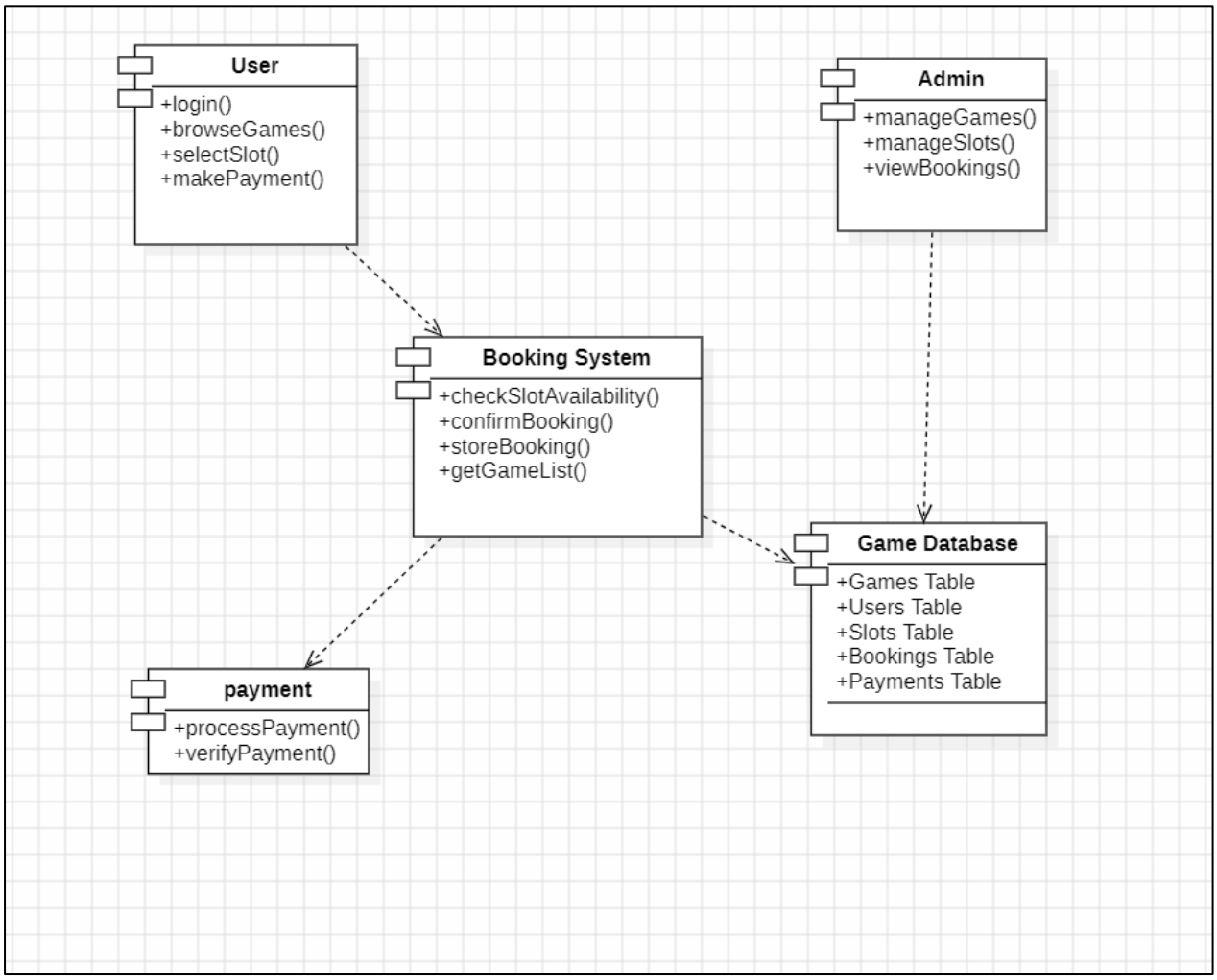
3.6.5 Use Case Diagram



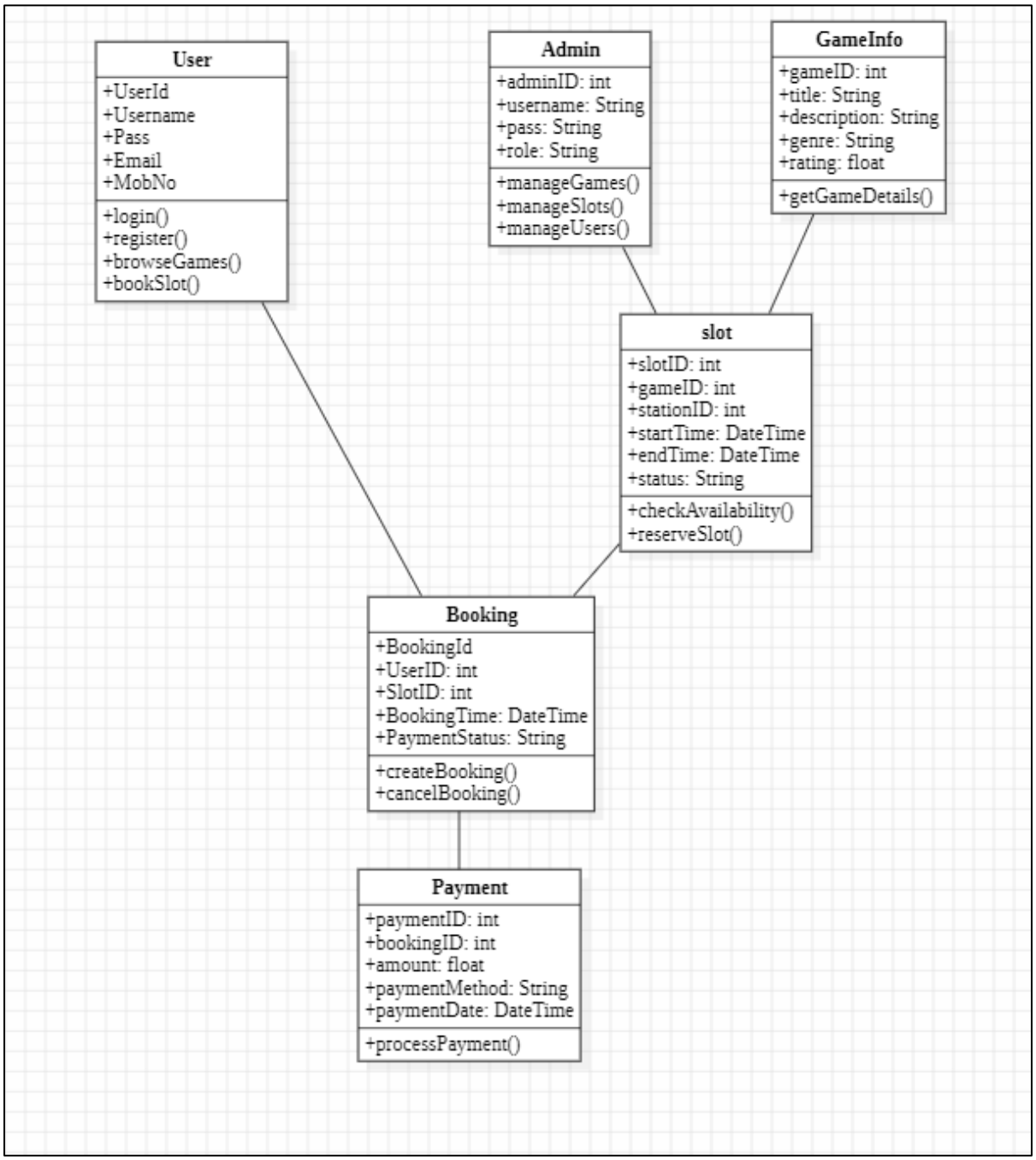
3.6.6 Activity Diagram



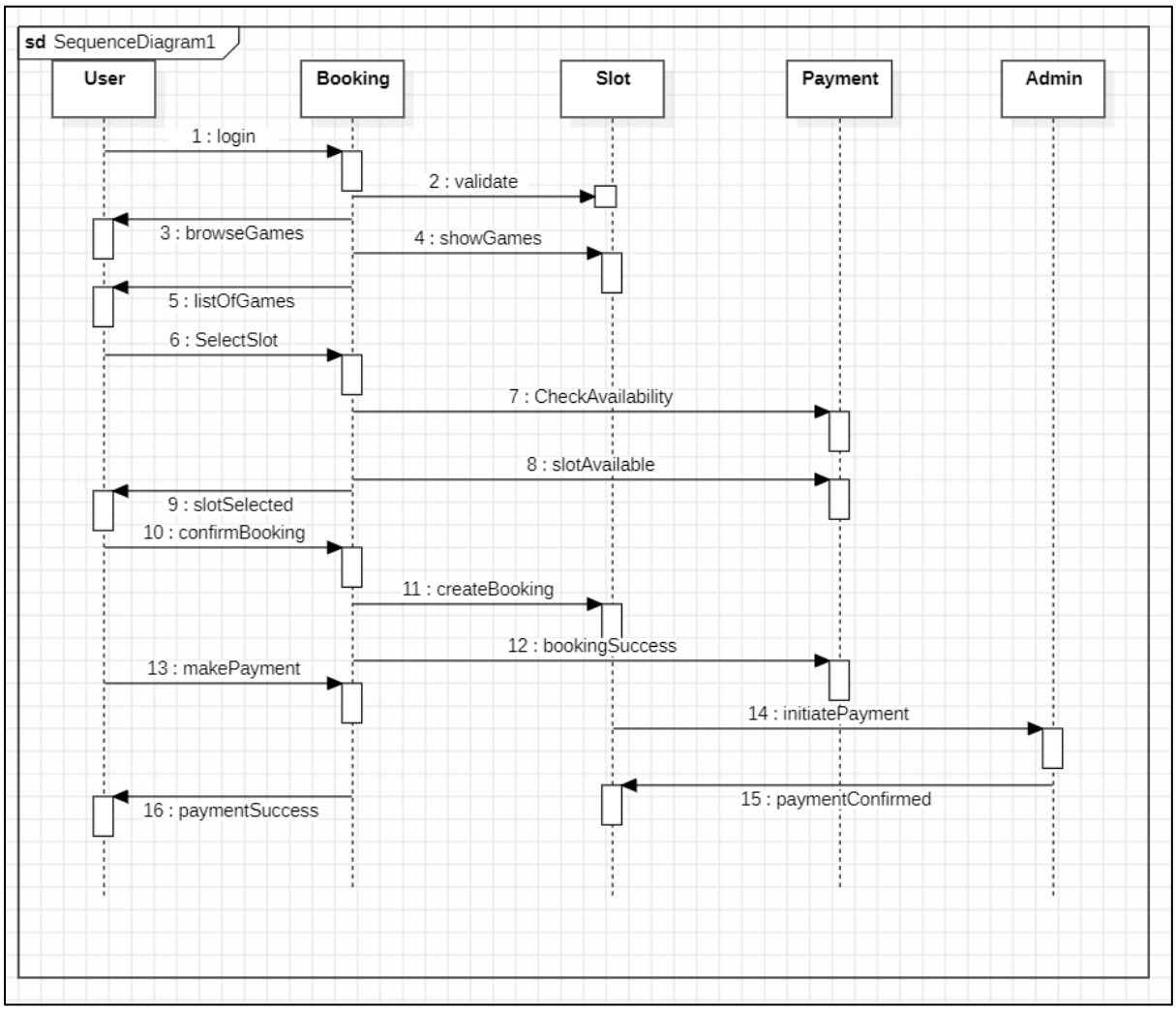
3.6.7 Component Diagram



3.6.8 Class Diagram



3.6.9 Sequence Diagram



CHAPTER 4:
SYSTEM DESIGN

4.1 Basic Modules

1. **User Management Module**
    - **User Registration and Login:** Handles user sign-up, login, and authentication processes.
    - **Profile Management:** Allows users to manage their profiles, including updating personal information and changing passwords.
2. **Game Slot Booking Module**
    - **Slot Reservation:** Enables users to view available time slots and book gaming stations.
    - **Booking Management:** Users can view, modify, or cancel their bookings.
3. **Game Management Module**
    - **Game Catalog:** Provides information about available games, including genres, descriptions, and ratings.
    - **Game Availability:** Tracks which games are currently available on which gaming stations.
4. **Payment Module**
    - **Billing and Payments:** Manages transactions, including booking fees and any additional charges.
    - **Payment History:** Allows users to view their payment history and manage their payment methods.
5. **Admin Management Module**
    - **User Management:** Admins can manage user accounts, including creating, updating, and deleting users.
    - **Slot Management:** Admins can manage slot availability and schedules.
    - **Reporting and Analytics:** Provides insights into bookings, user activity, and revenue.
6. **Notification Module**
    - **Alerts and Reminders:** Sends notifications to users about their bookings, upcoming sessions, and any changes.
    - **Promotional Notifications:** Notifies users about special offers and events.

4.2 Data Design

Table Name: Users Table

Filed Name	**Data Type**	**Constraints**
UserID	INT	PRIMARY KEY
Username	VARCHAR (50)	UNIQUE, NOT NULL
Pass	VARCHAR (255)	NOT NULL
Email	VARCHAR (100)	UNIQUE, NOT NULL
Phone	VARCHAR (15)	-
Role	VARCHAR (20)	NOT NULL

Table Name: Games Table

Filed Name	**Data Type**	**Constraints**
GameID	INT	PRIMARY KEY
Title	VARCHAR (100)	NOT NULL
Description	TEXT	-
Genre	VARCHAR (50)	-
Rating	DECIMAL (2,1)	-

Table Name: Slot Table

Filed Name	**Data Type**	**Constraints**
UserID	INT	PRIMARY KEY
GameID	INT	FOREIGN KEY
StationID	INT	-
StartTime	DATETIME	NOT NULL
EndTime	DATETIME	NOT NULL
Status	VARCHAR (20)	NOT NULL

Table Name: Bookings Table

Filed Name	Data Type	Constraints
UserID	INT	PRIMARY KEY
UserID	INT	FOREIGN KEY
SlotID	INT	FOREIGN KEY
BookingTime	DATETIME	DEFAULT NOW()
PaymentStatus	VARCHAR (15)	-

Table Name: Payments Table

Filed Name	Data Type	Constraints
PaymentID	INT	PRIMARY KEY
BookingID	VARCHAR (50)	FOREIGN KEY
Amount	VARCHAR (255)	NOT NULL
PaymentMethod	VARCHAR (100)	NOT NULL
PaymentDate	VARCHAR (15)	NOT NULL

Table Name: Admin Table

Filed Name	Data Type	Constraints
AdminID	INT	PRIMARY KEY
Username	VARCHAR (50)	UNIQUE, NOT NULL
Pass	VARCHAR (255)	NOT NULL
Role	VARCHAR (20)	NOT NULL

4.2.1 Schema Design

The schema design defines the structure of the database used for the game slot booking system. Key tables and their relationships include:

1. **Users Table**
    - **UserID** (Primary Key): Unique identifier for each user.
    - **Username:** User's login name.
    - **Pass:** Encrypted user password.
    - **Email:** User's email address.
    - **Phone:** Contact number.
    - **Role:** User role (e.g., customer, admin).
2. **Games Table**
    - **GameID** (Primary Key): Unique identifier for each game.
    - **Title:** Name of the game.
    - **Description:** Brief description of the game.
    - **Genre:** Genre of the game.
    - **Rating:** User rating of the game.
3. **Slots Table**
    - **SlotID** (Primary Key): Unique identifier for each slot.
    - **GameID** (Foreign Key): References the game being played.
    - **StationID** (Foreign Key): References the gaming station.
    - **StartTime:** Start time of the slot.
    - **EndTime:** End time of the slot.
    - **Status:** Status of the slot (e.g., available, booked).
4. **Bookings Table**
    - **BookingID** (Primary Key): Unique identifier for each booking.
    - **UserID** (Foreign Key): References the user who made the booking.
    - **SlotID** (Foreign Key): References the booked slot.
    - **BookingTime:** Time when the booking was made.
    - **PaymentStatus:** Status of the payment (e.g., paid, pending).
5. **Payments Table**
    - **PaymentID** (Primary Key): Unique identifier for each payment.
    - **BookingID** (Foreign Key): References the associated booking.
    - **Amount:** Total amount of the payment.

- **PaymentMethod:** Method used for the payment (e.g., credit card, cash).
- **PaymentDate:** Date and time of the payment.

6. **Admin Table**
   - **AdminID** (Primary Key): Unique identifier for each admin.
   - **Username:** Admin login name.
   - **Pass:** Encrypted admin password.
   - **Role:** Admin's role (e.g., manager, staff).

4.2.2 Data Integrity and Constraints

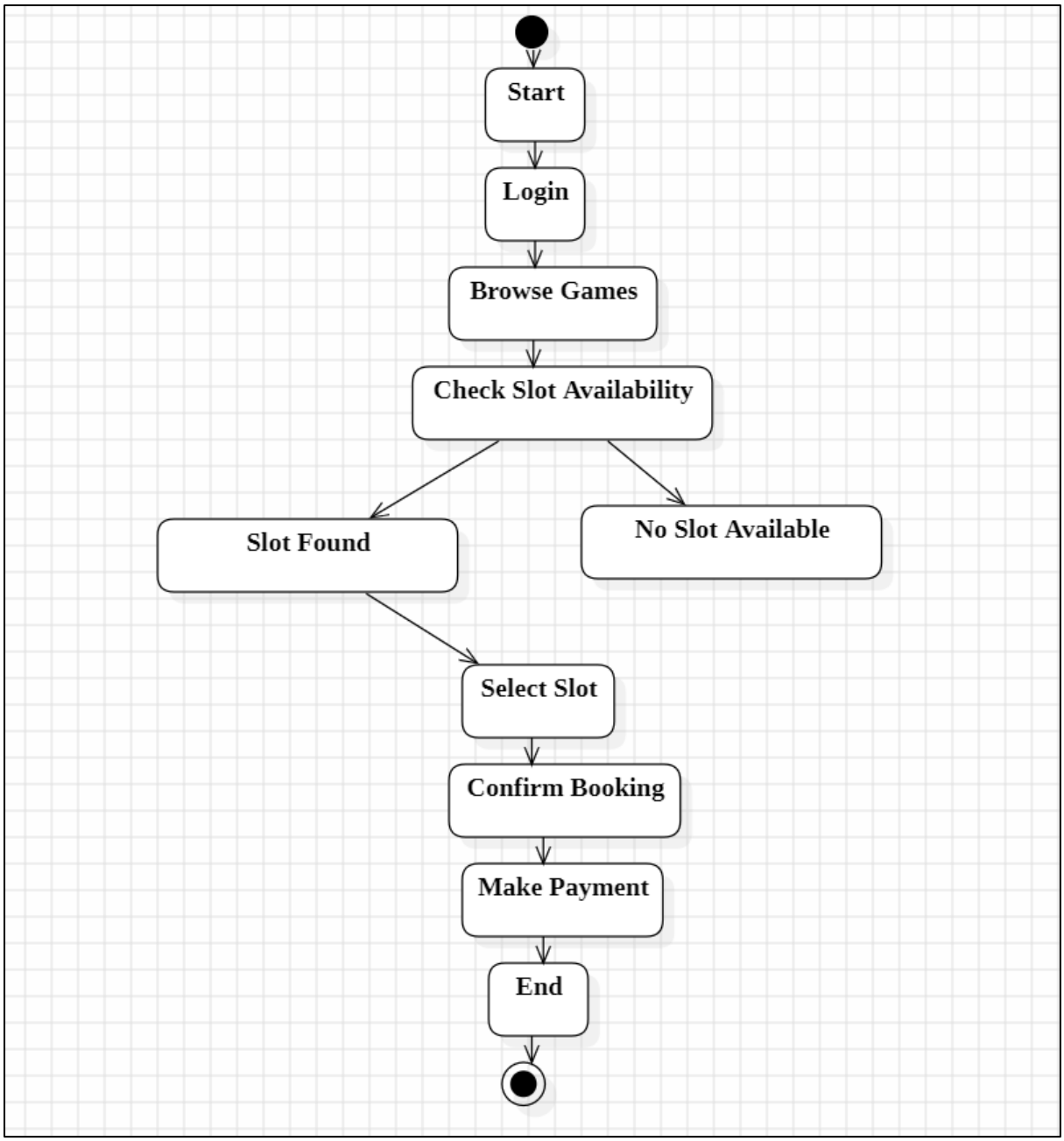
1. **Primary Key Constraints**
   - Ensure that each table has a unique identifier for its rows (e.g., UserID, GameID, SlotID, BookingID).
2. **Foreign Key Constraints**
   - Maintain referential integrity between related tables (e.g., SlotID in the Bookings table should reference a valid SlotID in the Slots table).
3. **Unique Constraints**
   - Ensure that certain fields have unique values where required (e.g., Username and Email in the Users table).
4. **Check Constraints**
   - Enforce data validity (e.g., StartTime should be earlier than EndTime in the Slots table, PaymentStatus should be one of the predefined values).
5. **Not Null Constraints**
   - Ensure that essential fields cannot be left empty (e.g., Username, Email, and Pass in the Users table).
6. **Default Values**
   - Provide default values for fields where applicable (e.g., default Status of a slot could be 'available').

4.3 Procedural Design

Procedural design outlines the step-by-step processes involved in the operation of the "Gaming Cafe" application. It defines how different components interact and function together to meet the application's requirements. This section breaks down key processes and procedures that govern the application’s operations.

4.3.1 Logic Diagrams

Logic diagrams help visualize the flow of operations within the application, detailing how different modules interact to perform tasks.



4.3.2 Data Structures

The application uses well-defined data structures to manage the various entities involved, such as users, games, slots, bookings, and payments. These structures ensure the system is organized, efficient, and scalable.

Key Data Structures:

- **User Data Structure:** Manages user-related information like UserID, Username, Pass, Email, and Role.
- **Game Data Structure:** Stores game details such as GameID, Title, Description, Genre, and Rating.
- **Slot Data Structure:** Represents the available gaming slots with attributes like SlotID, GameID, StationID, StartTime, EndTime, and Status.
- **Booking Data Structure**: Tracks user reservations with attributes like BookingID, UserID, SlotID, BookingTime, and PaymentStatus.
- **Payment Data Structure:** Manages transactions and includes PaymentID, BookingID, Amount, PaymentMethod, and PaymentDate.

These data structures are interrelated and ensure that all relevant data is accessible and organized for efficient processing.

4.3.3 Algorithms Design

To manage the core operations of the "Gaming Cafe" application, several algorithms are designed to handle specific tasks. These algorithms automate processes like user authentication, booking management, and payment handling.

1. **User Authentication Algorithm:**
    - Handles user registration and login.
    - Checks whether the user exists and verifies the entered credentials.
    - Grants access based on user role (customer or admin).
2. **Slot Availability Algorithm:**
    - Retrieves available gaming slots from the database.
    - Filters slots based on date, time, and platform.
    - Displays available options to the user for booking.
3. **Slot Booking Algorithm:**
    - Verifies the availability of the selected slot.

- Confirms the reservation by updating the slot status to "booked."
- Manages booking conflicts and suggests alternative slots if necessary.

4. **Payment Processing Algorithm:**
   - Validates payment details provided by the user.
   - Processes the payment using integrated payment gateways.
   - Updates the booking status to "paid" upon successful payment.
5. **Booking Management Algorithm:**
   - Allows users to view, modify, or cancel their bookings.
   - Updates the system based on user input (e.g., changing time slots or cancelling reservations).
   - Ensures data integrity by validating changes to bookings.
6. **Admin Management Algorithm:**
   - Enables admins to manage user accounts, slots, and bookings.
   - Provides administrative privileges to modify schedules, view reports, and generate analytics.
   - Ensures that only authorized personnel can perform system-critical actions.

4.4 User Interface Design

The user interface (UI) design focuses on ensuring a seamless and intuitive experience for users. The following key UI components are included in the "Gaming Cafe" application:

- **Login and Registration Pages:**
  - Simple and clean forms to allow users to log in or register.
  - Clear input fields for username/email, password, and contact details.
  - Error messages for invalid login attempts or missing information.
- **Slot Booking Page:**
  - A calendar view or dropdown list for users to select available time slots.
  - Easy navigation between different gaming stations and platforms (Xbox, PS5, PCs).
  - Confirmation messages once a booking is successful.
- **Payment Page:**
  - Secure payment options with clear input fields for card details or other payment methods.
  - A summary of the booking details and the total cost before confirming payment.
- **Admin Dashboard:**
  - Admins can view system statistics, manage users, bookings, and generate reports.
  - Graphical representation of slot bookings, revenue, and user activity.

4.5 Security Issues

Security is a critical aspect of the application, particularly when dealing with user data and financial transactions. The "Gaming Cafe" application addresses the following security issues:

- **User Authentication:**
  - Implement strong password policies (minimum length, complexity).
  - Use salted and hashed passwords with algorithms like bcrypt.
  - Multi-factor authentication for added security.
- **Data Protection:**
  - Encrypt sensitive data such as payment information and user passwords.
  - Use HTTPS to ensure secure communication between users and the server.
- **Access Control:**
  - Role-based access control (RBAC) to limit user privileges (e.g., admin vs. regular user).
  - Ensure that only authorized users can access the admin dashboard and sensitive data.
- **SQL Injection Prevention:**
  - Use prepared statements or parameterized queries to avoid SQL injection attacks.
  - Sanitize all user inputs

4.6 Test Cases Design

Testing ensures that the "Gaming Cafe" application works as expected and is free from bugs. Some of the core test cases include:

- **Login and Registration Test:**
  - **Test Case:** Check if users can register and log in successfully with valid credentials.
  - **Expected Result:** Users should be able to log in; incorrect credentials should produce an error.
- **Slot Booking Test:**
  - **Test Case:** Test if a user can successfully book a slot.
  - **Expected Result:** Slot should be marked as booked and no other users can book the same slot.
- **Payment Test:**
  - **Test Case:** Verify if payments are processed correctly.
  - **Expected Result:** Successful payments should mark bookings as "paid" and generate a receipt.
- **Admin Management Test:**
  - **Test Case:** Check if admins can manage user accounts and bookings.
  - **Expected Result:** Admins should be able to view, modify, and delete users and bookings.

Chapter 5

Implementation and Testing

5.1 CODE (PLACE CORE SEGMENTS)

The implementation phase of the project involves coding the core functionalities of the Gaming Café Management System. The project is developed using plain PHP and MySQL, ensuring efficient management of users, computers, games, packages, and reservations.
Key components of the coding phase include:

- **User Authentication:** The login.php and register.php files handle user authentication, ensuring secure access to the system.
- **Database Connectivity:** The connect.php file establishes a connection with the MySQL database, allowing CRUD operations across various tables.
- **Admin Management:** The admin.php script provides functionalities for managing users, games, and computers.
- **CRUD Operations:** Individual CRUD scripts (computers_crud.php, games_crud.php, reservations_crud.php) allow administrators to add, update, delete, and view records efficiently.
- **Reservation Handling:** The reservations table ensures proper tracking of user reservations and their membership tiers.
- **Validation and Security:** Form validation, input sanitization, and SQL injection prevention techniques are implemented to secure the system.

5.2 TESTING APPROACH

The project undergoes rigorous testing to ensure functionality, security, and efficiency. The two primary testing approaches used are **Unit Testing** and **Integration Testing**.

5.2.1 UNIT TESTING

Unit testing involves testing individual components of the system separately to verify their correctness. Each function or module is tested in isolation.

- **Testing Methodology:**
  - PHPUnit is used for testing PHP functions.
  - Manual test cases are written for database queries and form submissions.
  - Edge cases, such as invalid user inputs and SQL injection attempts, are tested.
- **Application in the Project:**
  - User authentication functions (login.php, register.php) are tested with valid and invalid inputs.
  - CRUD operations for games, computers, and reservations are tested for data integrity.

- Session management and access control are verified to prevent unauthorized access.

Sample Unit Test Case:

Test Case ID	Description	Expected Result	Status
UT-001	Validate user login with correct credentials	Redirect to dashboard	Pass
UT-002	Validate user login with incorrect password	Show error message	Pass
UT-003	Add a new game entry	Game is added to the database	Pass
UT-004	Attempt SQL injection in login form	Prevent login, show error	Pass

5.2.2 INTEGRATION TESTING

Integration testing ensures that different modules of the system work together as expected.

- **Testing Methodology:**
  - End-to-end tests are performed to ensure seamless interactions between the frontend and backend.
  - Database integration is tested to verify data consistency across tables.
  - User session flow is tested to check login, role-based access, and logout functionalities.
- **Application in the Project:**
  - Test how the user authentication system interacts with the users table.
  - Verify reservation creation and ensure data updates across users, computers, and packages tables.
  - Ensure image uploads for games work correctly, storing files in the designated folder and saving paths in the database.

Sample Integration Test Plan:

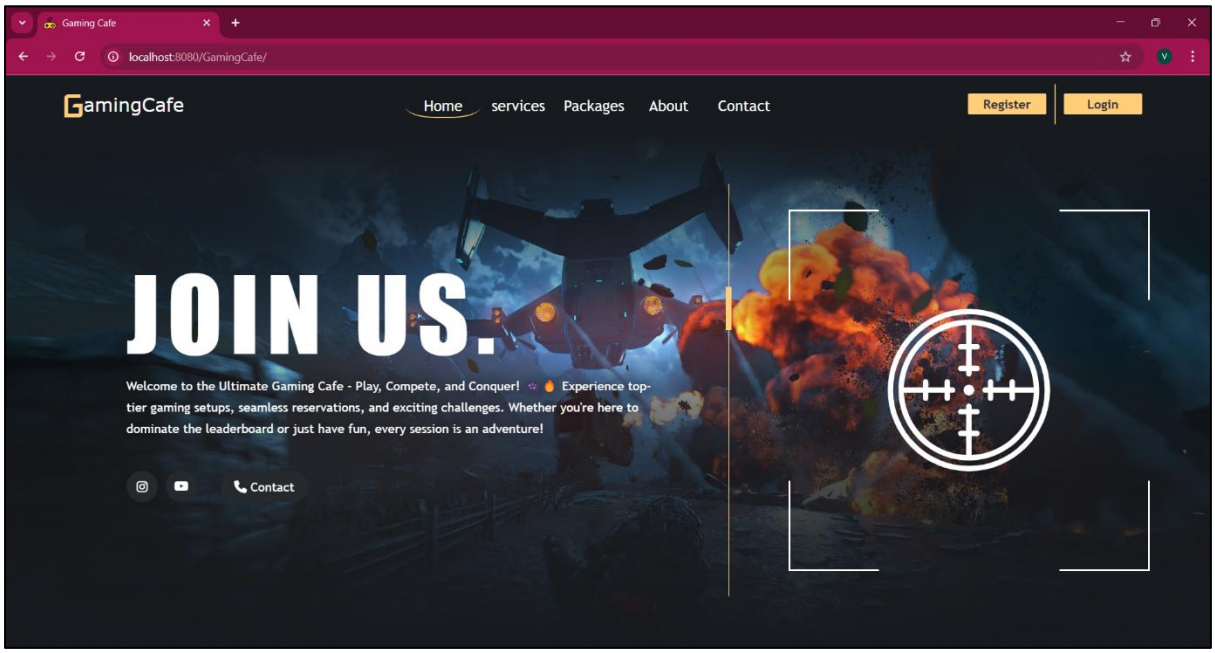
Test Case ID	Modules Involved	Description	Expected Result	Status
IT-001	User Authentication, Dashboard	User logs in and is redirected correctly	Dashboard is displayed	Pass
IT-002	Games CRUD, Database	Admin adds a game, and it appears on the games list	Game entry is displayed	Pass
IT-003	Reservation System, Users, Computers	User makes a reservation, and it updates related tables	Reservation is stored correctly	Pass
IT-004	Image Upload, Games	Upload a game image and check if it displays	Image appears on game details page	Pass

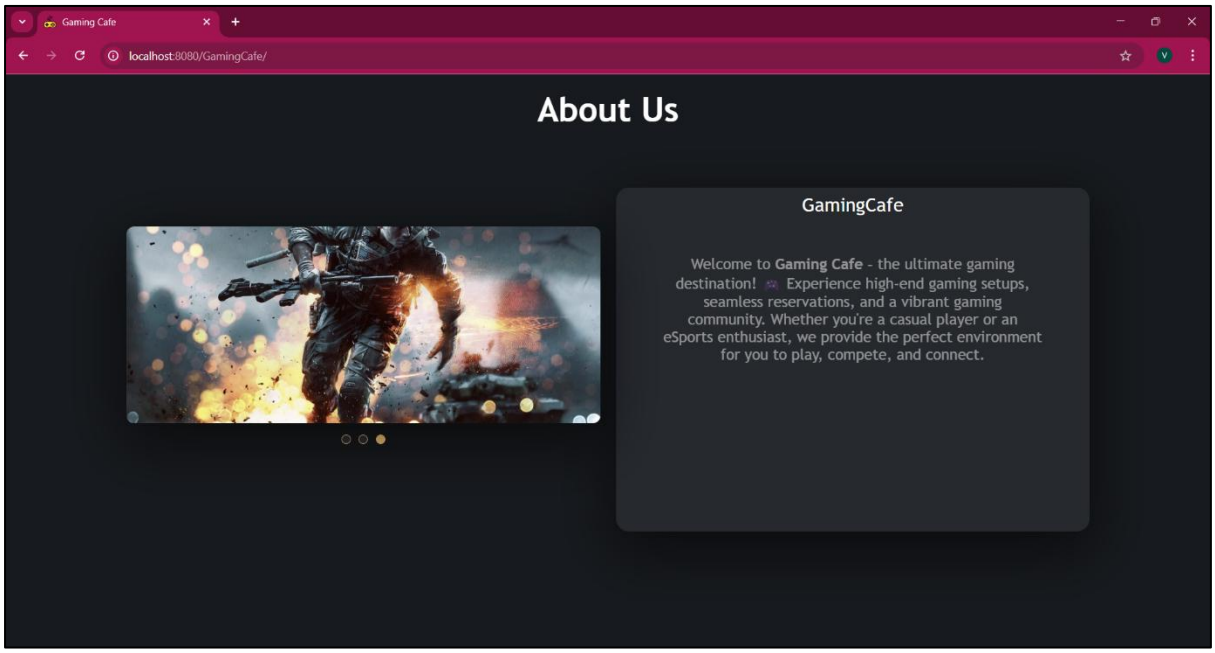
This structured testing approach ensures the reliability and stability of the Gaming Café Management System before deployment.

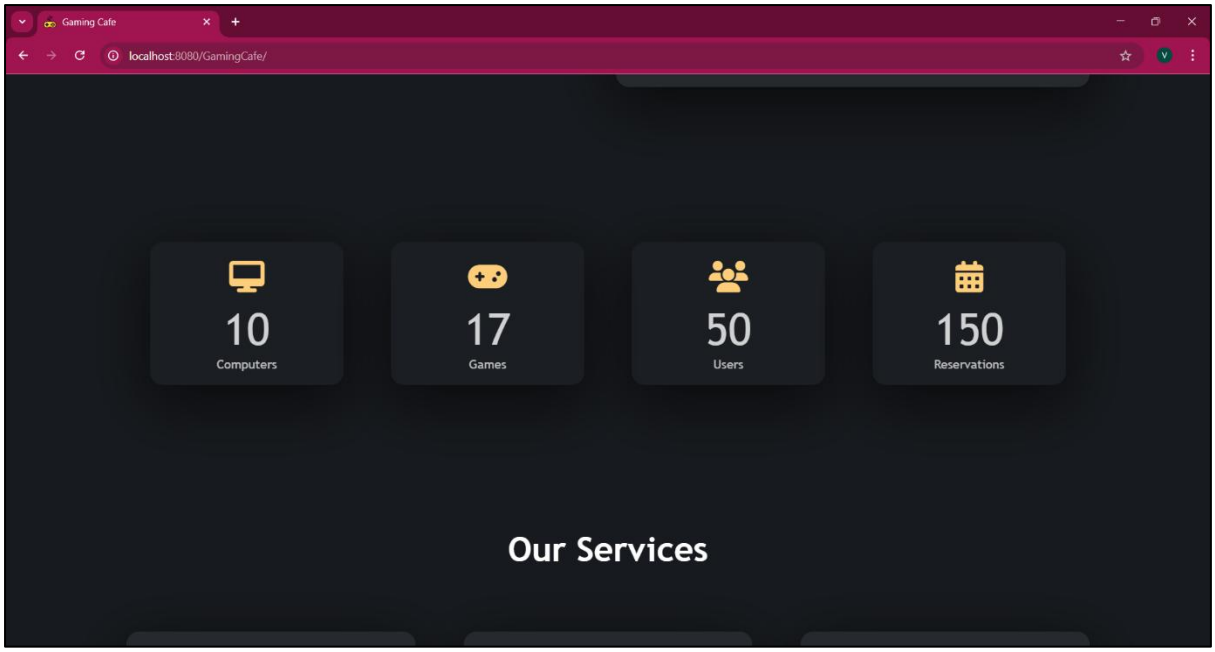
Chapter 6

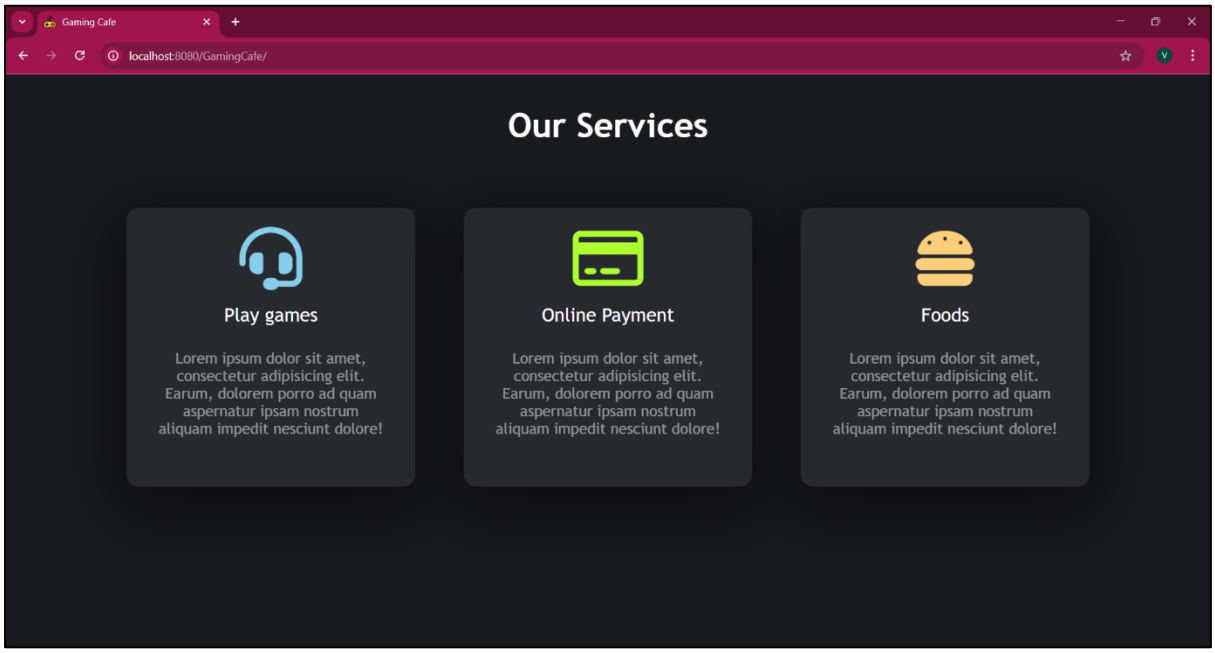
Results and Discussions

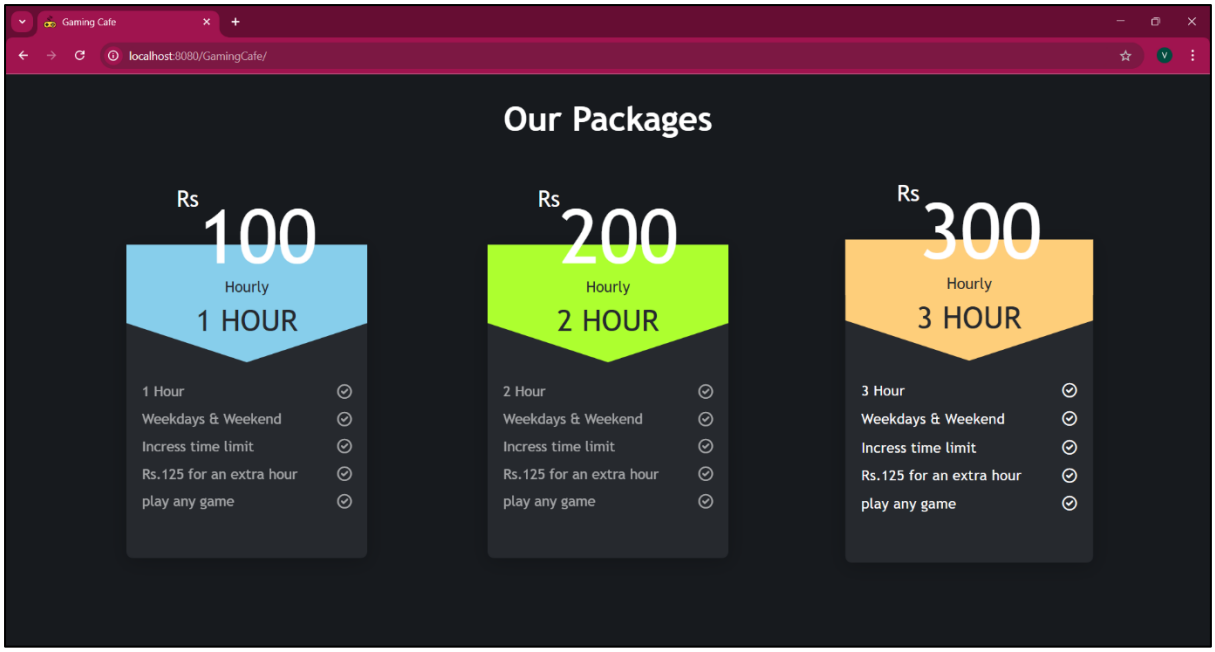
Home Page:

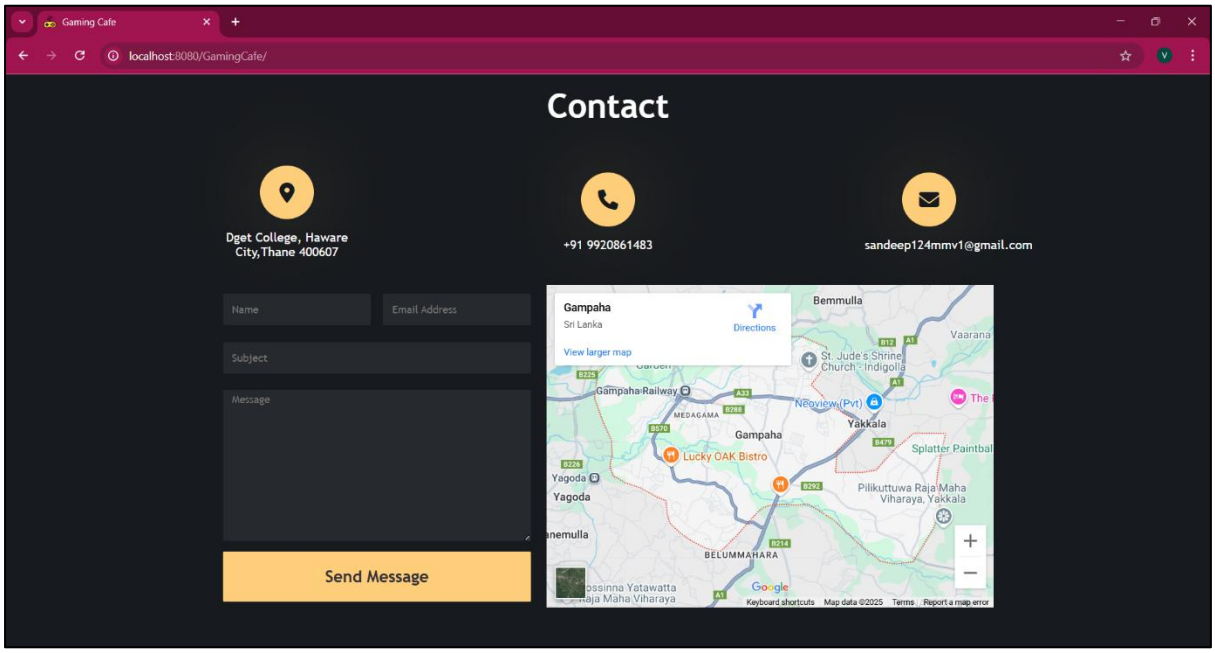

Gaming Cafe
localhost:8080/GamingCafe/
GamingCafe
Home
services
Packages
About
Contact
Register
Login
JOIN US.
Welcome to the Ultimate Gaming Cafe - Play, Compete, and Conquer! Experience top-tier gaming setups, seamless reservations, and exciting challenges. Whether you're here to dominate the leaderboard or just have fun, every session is an adventure!
Contact

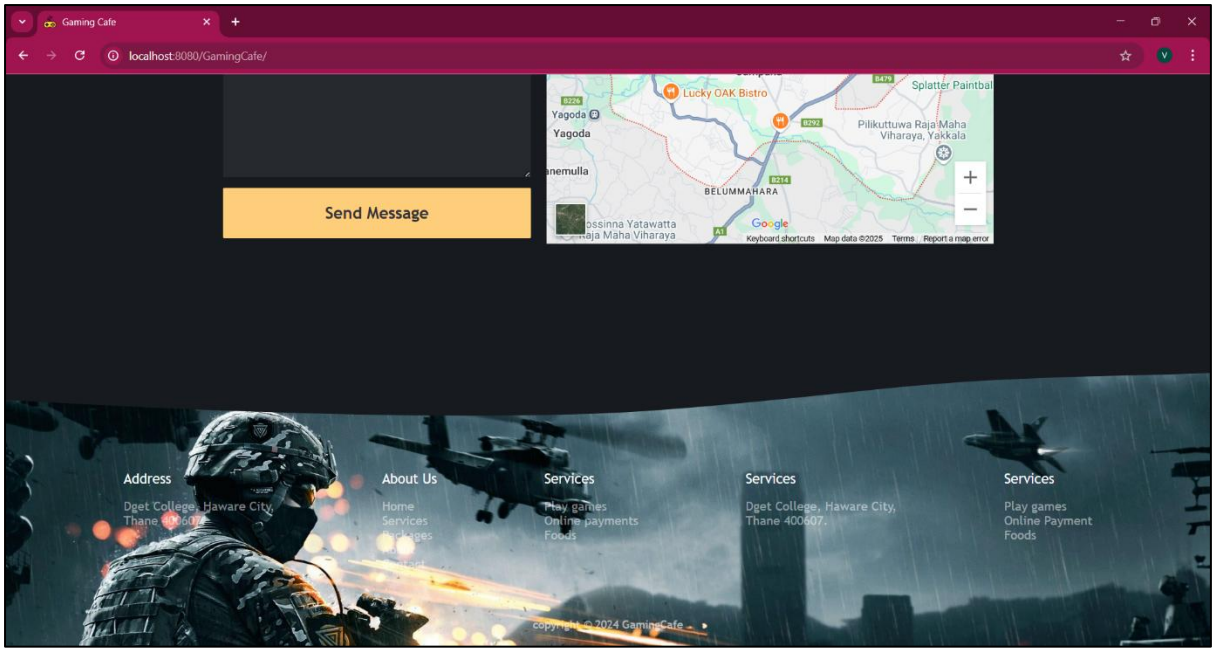

Gaming Cafe
localhost:8080/GamingCafe/
About Us
GamingCafe
Welcome to Gaming Cafe - the ultimate gaming destination! Experience high-end gaming setups, seamless reservations, and a vibrant gaming community. Whether you're a casual player or an eSports enthusiast, we provide the perfect environment for you to play, compete, and connect.


Gaming Cafe
localhost:8080/GamingCafe/
10
Computers
17
Games
50
Users
150
Reservations
Our Services

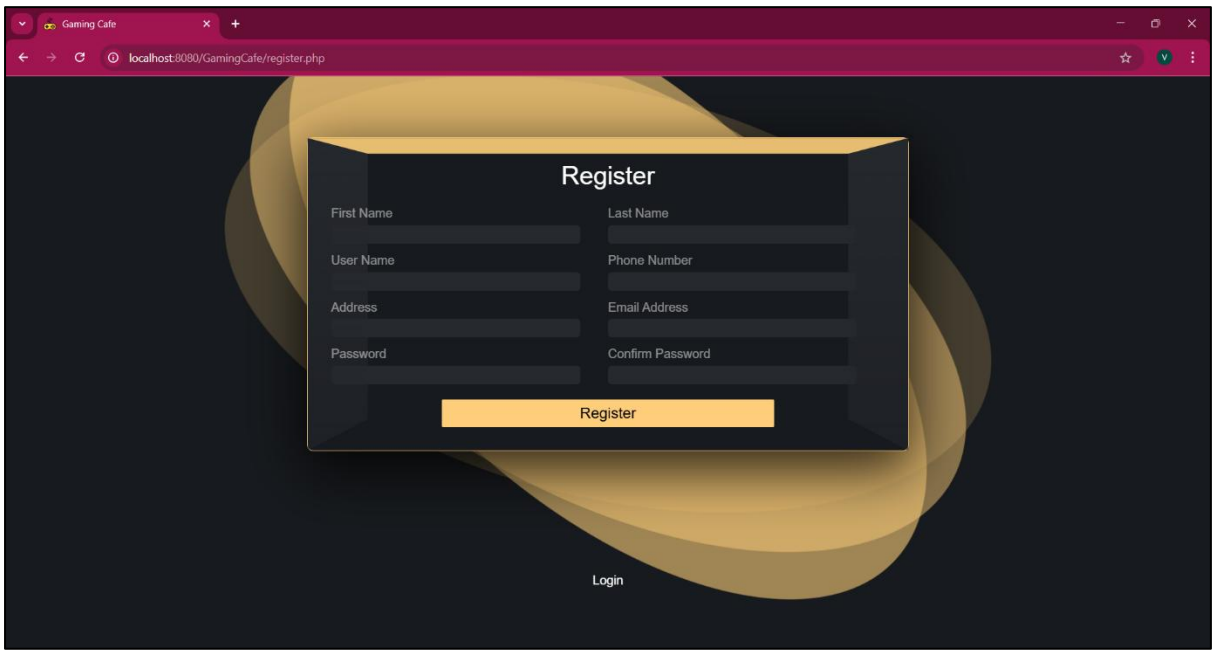

Gaming Cafe
localhost:8080/GamingCafe/
Our Services
Play games
Lorem ipsum dolor sit amet, consectetur adipisicing elit. Earum, dolorem porro ad quam aspernatur ipsam nostrum aliquam impedit nesciunt dolore!
Online Payment
Lorem ipsum dolor sit amet, consectetur adipisicing elit. Earum, dolorem porro ad quam aspernatur ipsam nostrum aliquam impedit nesciunt dolore!
Foods
Lorem ipsum dolor sit amet, consectetur adipisicing elit. Earum, dolorem porro ad quam aspernatur ipsam nostrum aliquam impedit nesciunt dolore!


Gaming Cafe
localhost:8080/GamingCafe/
Our Packages
Rs 100
Hourly
1 HOUR
1 Hour
Weekdays & Weekend
Incress time limit
Rs.125 for an extra hour
play any game
Rs 200
Hourly
2 HOUR
2 Hour
Weekdays & Weekend
Incress time limit
Rs.125 for an extra hour
play any game
Rs 300
Hourly
3 HOUR
3 Hour
Weekdays & Weekend
Incress time limit
Rs.125 for an extra hour
play any game

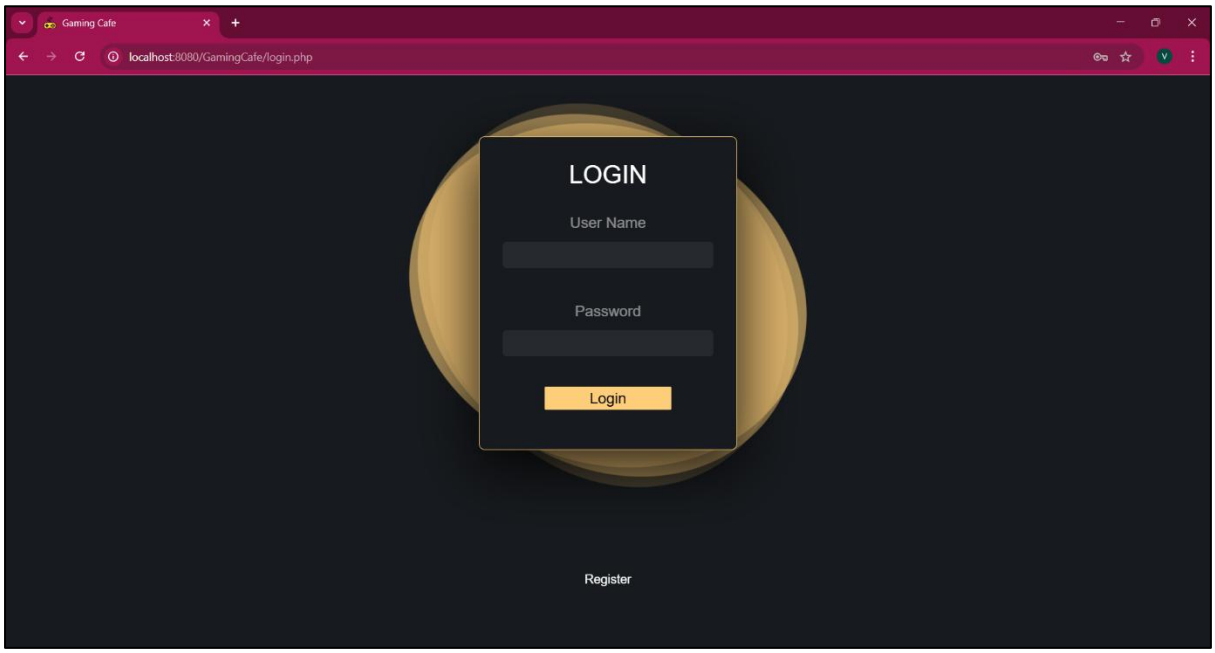

Gaming Cafe
localhost:8080/GamingCafe/
Contact
Dget College, Haware City,Thane 400607
+91 9920861483
sandeep124mmv1@gmail.com
Name
Email Address
Subject
Message
Send Message
Gampaha
Sri Lanka
Directions
View larger map
Bemmulla
Vaarana
St. Jude's Shrine Church - Indigolla
Gampaha Railway
MEDAGAMA
Gampaha
Yakkala
Lucky OAK Bistro
Splatter Paintball
Yagoda
Pilikuttuwa Raja Maha Viharaya, Yakkala
BELUMMAHARA
Google
Keyboard shortcuts
Map data ©2025
Terms
Report a map error



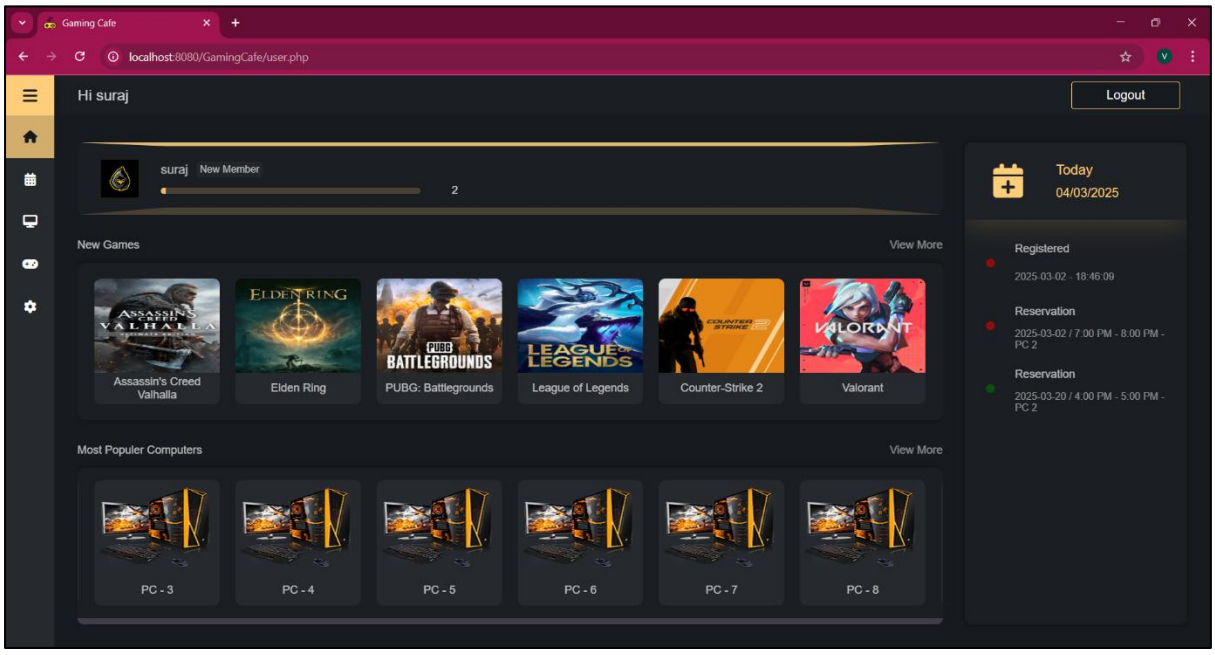
Registration Page:

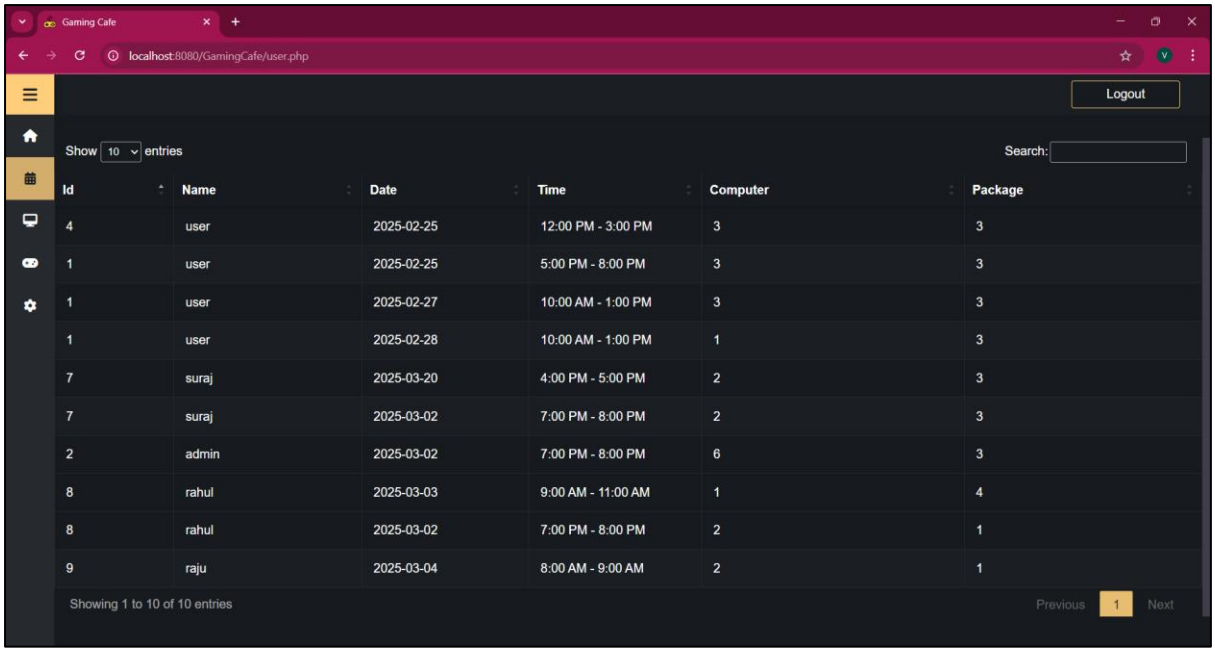


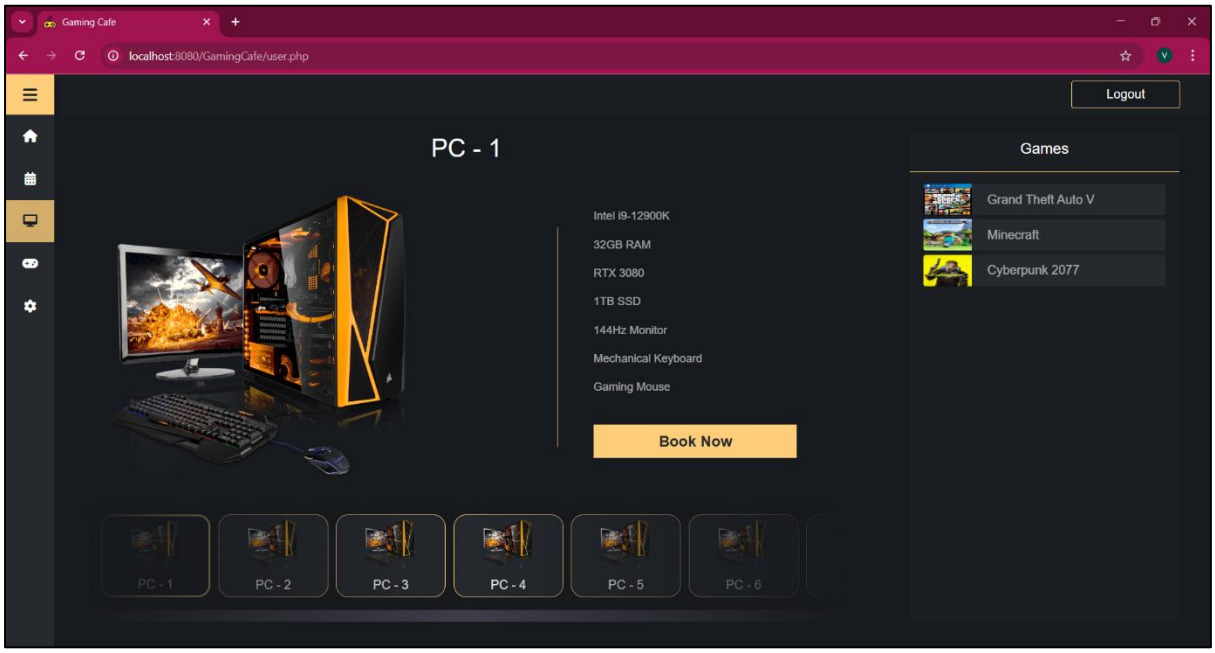
Login Page:

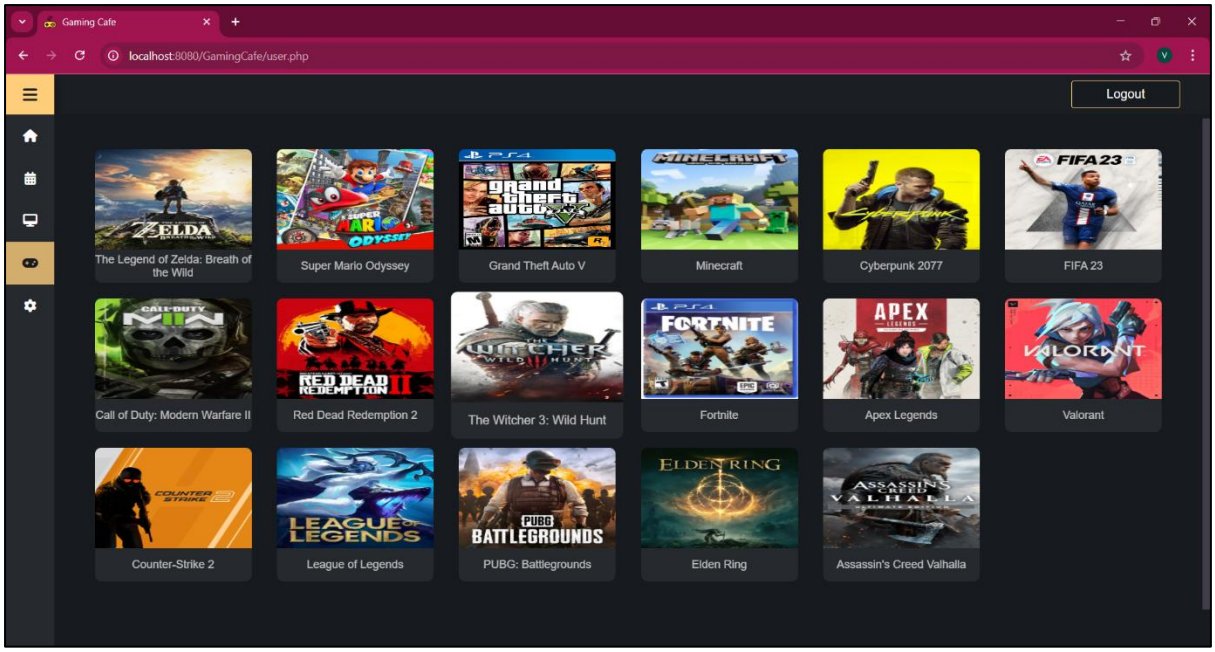


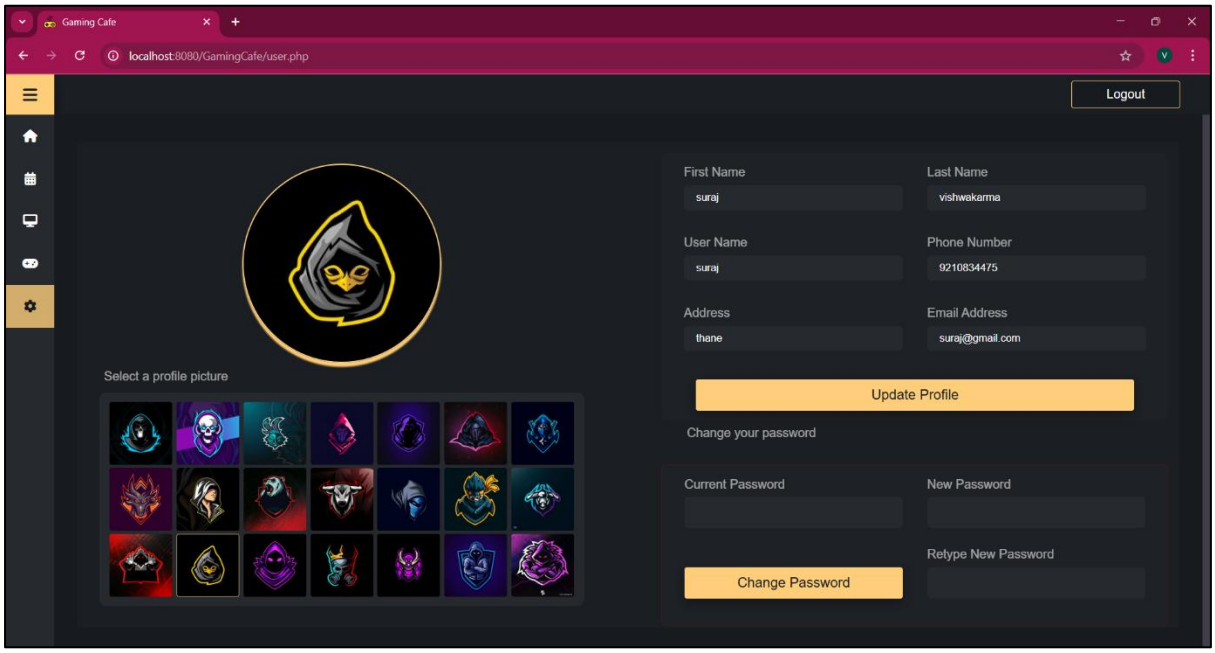
User Page:



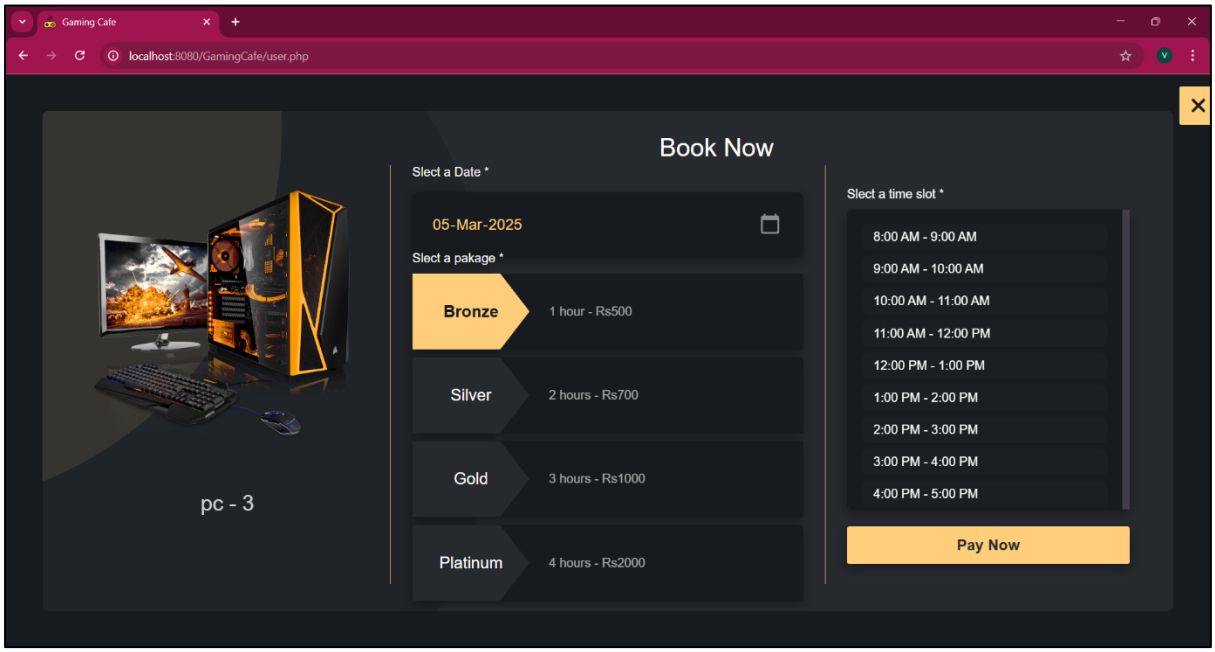

Gaming Cafe
localhost:8080/GamingCafe/user.php
Logout
Show 10 entries
Search:
Id
Name
Date
Time
Computer
Package
4 user 2025-02-25 12:00 PM - 3:00 PM 3 3
1 user 2025-02-25 5:00 PM - 8:00 PM 3 3
1 user 2025-02-27 10:00 AM - 1:00 PM 3 3
1 user 2025-02-28 10:00 AM - 1:00 PM 1 3
7 suraj 2025-03-20 4:00 PM - 5:00 PM 2 3
7 suraj 2025-03-02 7:00 PM - 8:00 PM 2 3
2 admin 2025-03-02 7:00 PM - 8:00 PM 6 3
8 rahul 2025-03-03 9:00 AM - 11:00 AM 1 4
8 rahul 2025-03-02 7:00 PM - 8:00 PM 2 1
9 raju 2025-03-04 8:00 AM - 9:00 AM 2 1
Showing 1 to 10 of 10 entries
Previous
1
Next


Gaming Cafe
localhost:8080/GamingCafe/user.php
Logout
PC - 1
Intel i9-12900K
32GB RAM
RTX 3080
1TB SSD
144Hz Monitor
Mechanical Keyboard
Gaming Mouse
Book Now
Games
Grand Theft Auto V
Minecraft
Cyberpunk 2077
PC - 1
PC - 2
PC - 3
PC - 4
PC - 5
PC - 6

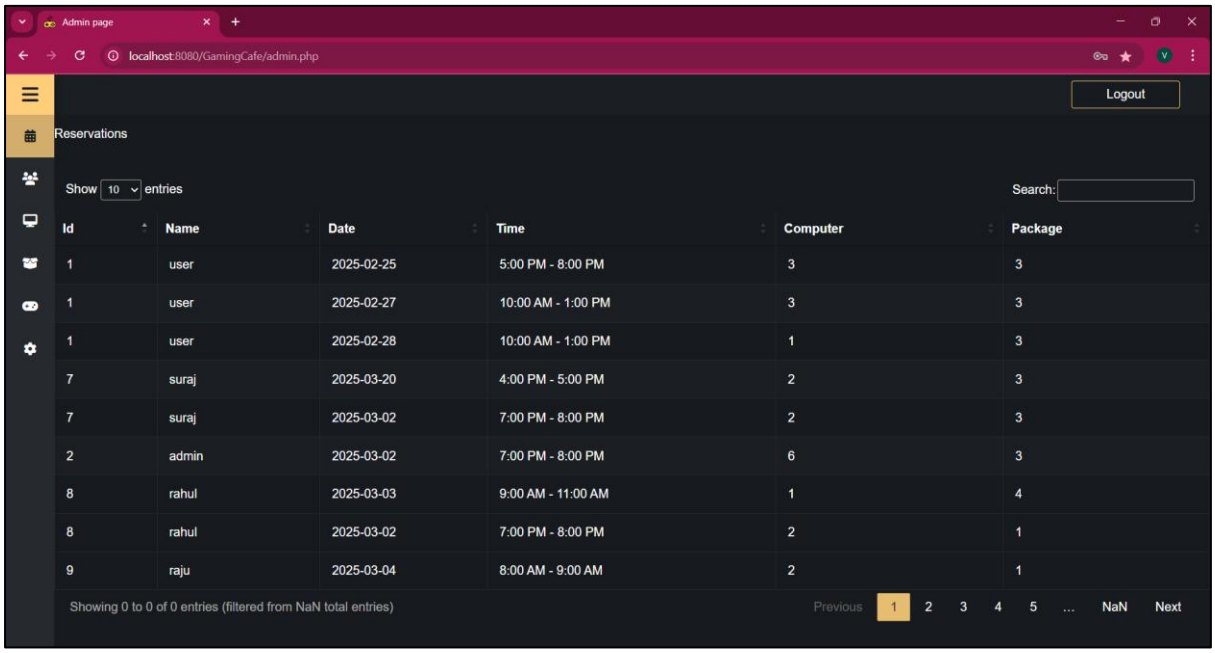

Gaming Cafe
localhost:8080/GamingCafe/user.php
Logout
The Legend of Zelda: Breath of the Wild
Super Mario Odyssey
Grand Theft Auto V
Minecraft
Cyberpunk 2077
FIFA 23
Call of Duty: Modern Warfare II
Red Dead Redemption 2
The Witcher 3: Wild Hunt
Fortnite
Apex Legends
Valorant
Counter-Strike 2
League of Legends
PUBG: Battlegrounds
Elden Ring
Assassin's Creed Valhalla

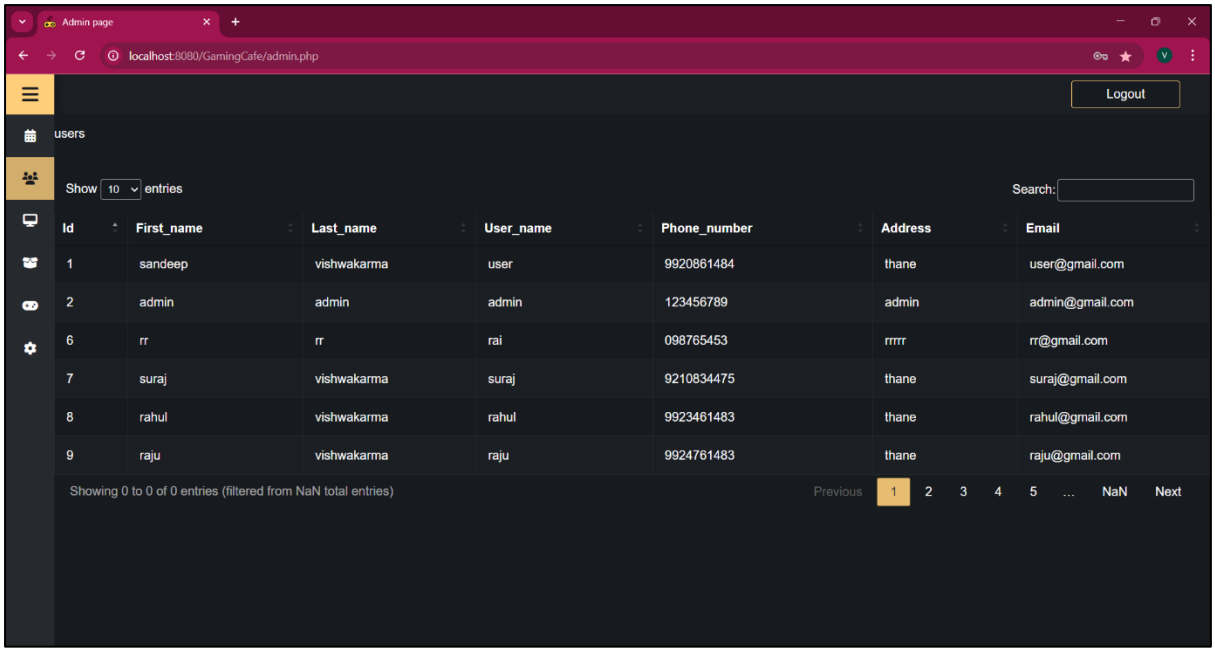

Gaming Cafe
localhost:8080/GamingCafe/user.php
Logout
Select a profile picture
First Name
suraj
Last Name
vishwakarma
User Name
suraj
Phone Number
9210834475
Address
thane
Email Address
suraj@gmail.com
Update Profile
Change your password
Current Password
New Password
Retype New Password
Change Password

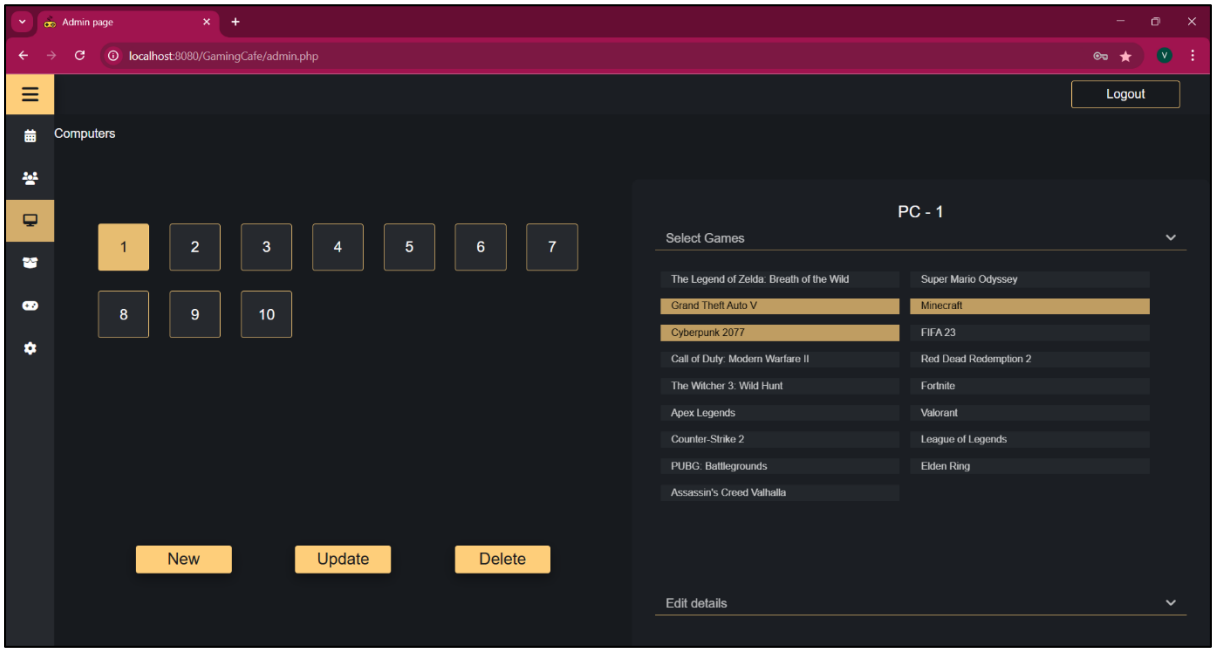
Booking Page:

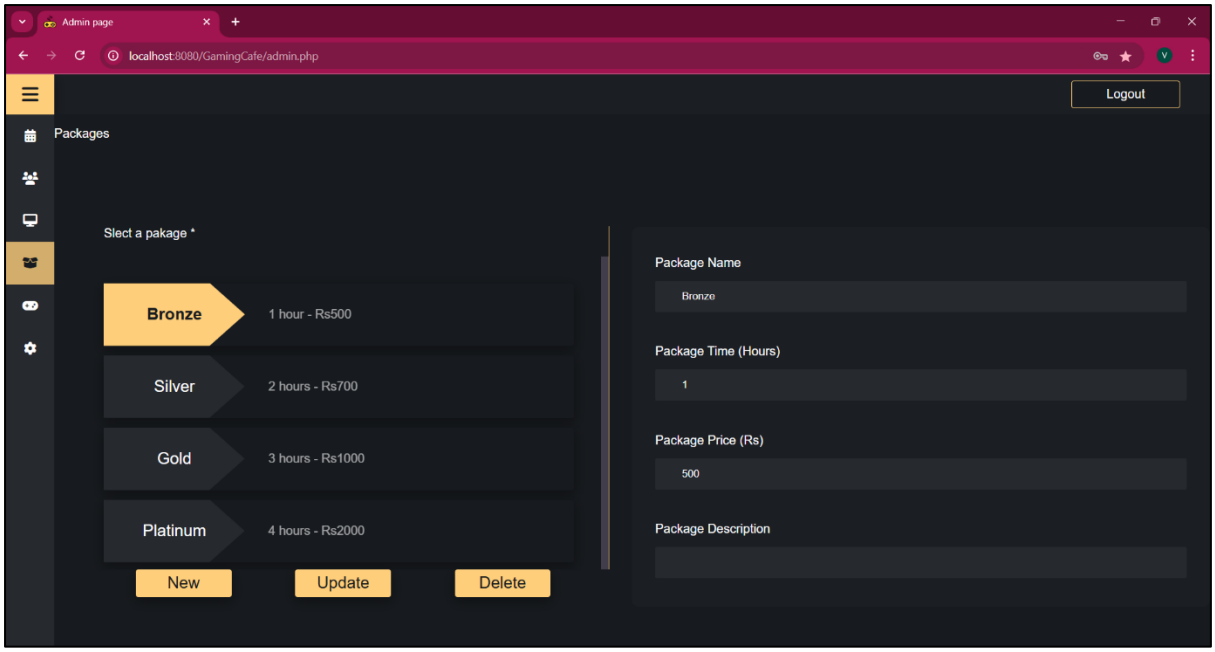


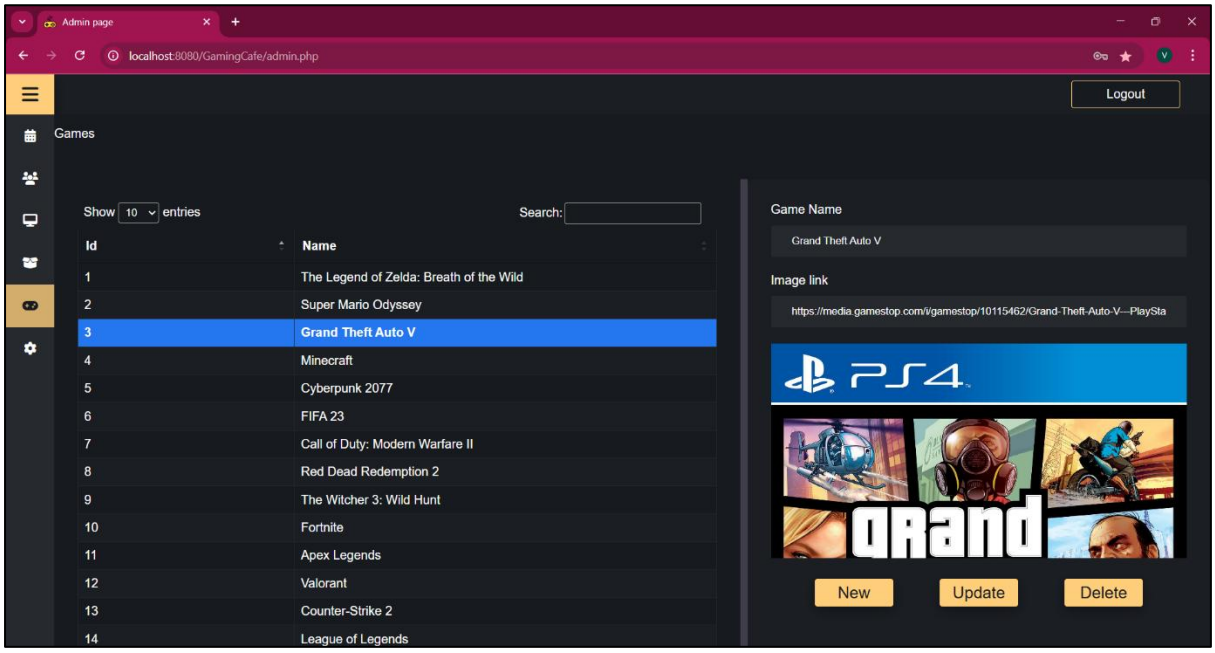
Admin Page:

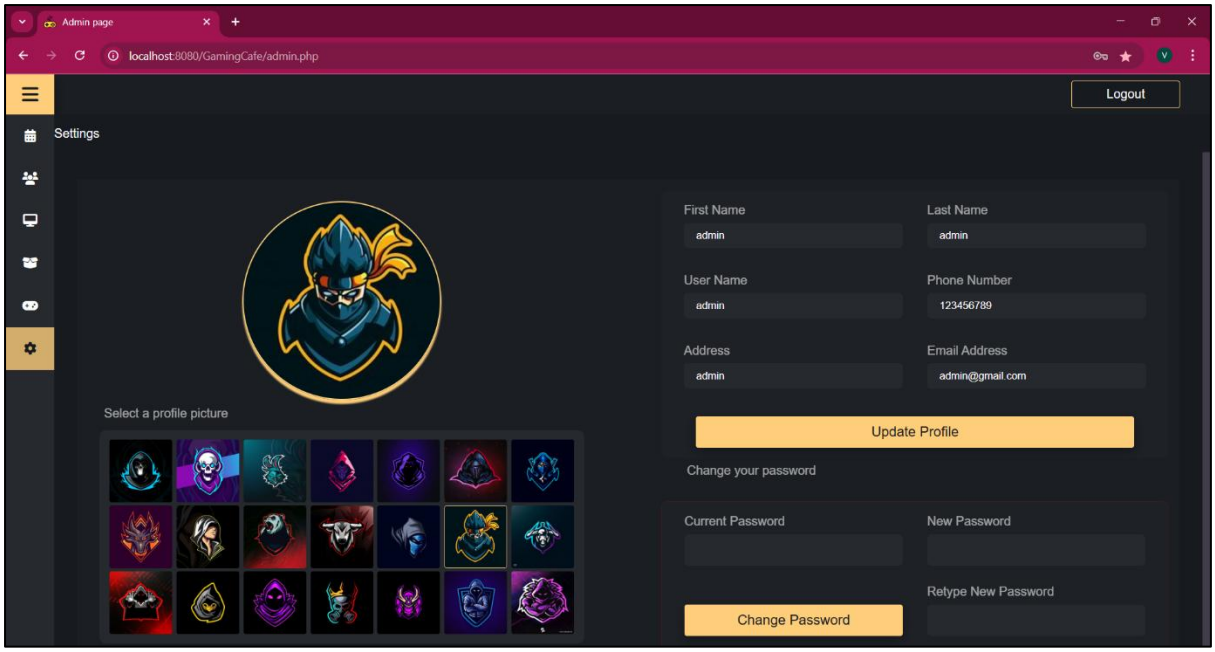



Admin page
localhost:8080/GamingCafe/admin.php
Logout
users
Show 10 entries
Search:
Id
First_name
Last_name
User_name
Phone_number
Address
Email
1 sandeep vishwakarma user 9920861484 thane user@gmail.com
2 admin admin admin 123456789 admin admin@gmail.com
6 rr rr rai 098765453 rrrrr rr@gmail.com
7 suraj vishwakarma suraj 9210834475 thane suraj@gmail.com
8 rahul vishwakarma rahul 9923461483 thane rahul@gmail.com
9 raju vishwakarma raju 9924761483 thane raju@gmail.com
Showing 0 to 0 of 0 entries (filtered from NaN total entries)
Previous 1 2 3 4 5 ... NaN Next


Admin page
localhost:8080/GamingCafe/admin.php
Logout
Computers
1 2 3 4 5 6 7
8 9 10
New
Update
Delete
PC - 1
Select Games
The Legend of Zelda: Breath of the Wild
Super Mario Odyssey
Grand Theft Auto V
Minecraft
Cyberpunk 2077
FIFA 23
Call of Duty: Modern Warfare II
Red Dead Redemption 2
The Witcher 3: Wild Hunt
Fortnite
Apex Legends
Valorant
Counter-Strike 2
League of Legends
PUBG: Battlegrounds
Elden Ring
Assassin's Creed Valhalla
Edit details


Admin page
localhost:8080/GamingCafe/admin.php
Logout
Packages
Slect a pakage *
Bronze
1 hour - Rs500
Silver
2 hours - Rs700
Gold
3 hours - Rs1000
Platinum
4 hours - Rs2000
New
Update
Delete
Package Name
Bronze
Package Time (Hours)
1
Package Price (Rs)
500
Package Description


Admin page
localhost:8080/GamingCafe/admin.php
Logout
Games
Show 10 entries
Search:
Id
Name
1 The Legend of Zelda: Breath of the Wild
2 Super Mario Odyssey
3 Grand Theft Auto V
4 Minecraft
5 Cyberpunk 2077
6 FIFA 23
7 Call of Duty: Modern Warfare II
8 Red Dead Redemption 2
9 The Witcher 3: Wild Hunt
10 Fortnite
11 Apex Legends
12 Valorant
13 Counter-Strike 2
14 League of Legends
Game Name
Grand Theft Auto V
Image link
https://media.gamestop.com/i/gamestop/10115462/Grand-Theft-Auto-V---PlaySta
PS4
New
Update
Delete


Admin page
localhost:8080/GamingCafe/admin.php
Logout
Settings
First Name
admin
Last Name
admin
User Name
admin
Phone Number
123456789
Address
admin
Email Address
admin@gmail.com
Update Profile
Select a profile picture
Change your password
Current Password
New Password
Retype New Password
Change Password

Chapter 7
Conclusion and Future Work

Conclusion:

The Gaming Cafe Management System successfully streamlines the operations of a gaming cafe, enabling efficient reservation management, user registration, game tracking, and package selection. The system provides an intuitive interface for both customers and administrators, ensuring seamless interactions with features such as real-time reservation updates, user authentication, and a gamified reward system. Additionally, integrating a payment gateway enhances user convenience by allowing online transactions.
By implementing a role-based access system, the project ensures that administrators and users have tailored functionalities. The DataTables integration optimizes data visualization, while AJAX-based updates improve responsiveness. The system successfully meets its objectives by providing a secure, scalable, and user-friendly environment for managing a gaming cafe efficiently.

Limitations:

Despite its capabilities, the system has some limitations:

- Limited Payment Integration: Currently, the payment system is static and does not integrate with real-world gateways like PayPal or Stripe.
- Lack of AI-based Recommendations: The system does not provide personalized recommendations based on user activity.
- Single Location Management: The system is designed for a single gaming cafe and lacks multi-branch support.
- Basic UI/UX: While functional, the interface could be improved with better UI elements for a smoother user experience.
- Manual Data Entry: Certain functionalities require manual data entry, which can be automated for efficiency.

Future Scope:

Future enhancements can significantly improve the system's usability and scalability:

- Payment Gateway Integration: Implementing PayPal, Stripe, or Razorpay for real-time payments.
- Multi-Branch Support: Expanding the system to handle multiple gaming cafes under one admin panel.
- AI-Based User Recommendations: Introducing a recommendation engine to suggest games and packages based on user preferences.

- Mobile App Development: Developing an Android and iOS version for better accessibility.
- Automated Notifications: Integrating email or SMS notifications for reservation reminders and promotions.
- Real-Time Game Availability: Implementing a system to show available PCs and games in real-time.

By incorporating these improvements, the system can evolve into a comprehensive gaming cafe management solution, offering an even better user experience and operational efficiency.

References

Content

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