An Internship Report

on

Gamezone Revolutionizing Game Management

BY

SHWET BHOLE

OM MAMIDWAR

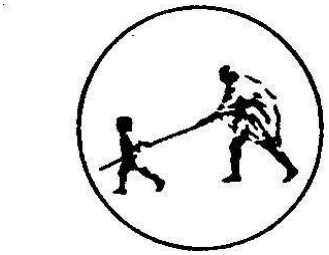
QUAZI SAIF

Under the Guidance

Of

Dr. B. S. Kapre

(Department Of Computer Science and Engineering)



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Mahatma Gandhi Mission's College of Engineering, Nanded (M.S.)

Academic Year 2024-25

Gamezone Revolutionizing Game Management

Submitted to

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

for fulfilment of the requirement for the degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE & ENGINEERING

By

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

MAHATMA GANDHI MISSION'S COLLEGE OF ENGINEERING NANDED.

Academic Year 2024-25

Certificate

This is to certify that the internship entitled

"Gamezone Revolutionizing Game Management"

being submitted by ***MR. Shwet Bhole, MR. Quazi Saif and MR. Om Mamidwar*** *to the Dr. Babasaheb Ambedkar Technological University, Lonere , for the award of the degree of Bachelor of Technology in Computer Science and Engineering, is a record of bonafide work carried out by them under my supervision and guidance. The matter contained in this report has not been submitted to any other university or institute for the award of any degree.*

Dr. B. S. Kapre

Guide

Dr. A. M. Rajurkar

H.O.D

Computer Science & Engineering

Dr. G. S. Lathkar

Director

MGM's College of Engg. Nanded

INTERNSHIP OFFER LETTER

PreDrag SYSTEM Digitally Yours.

10 March 2025

Internship Offer Letter

To,
Shwet Maroti Bhole

Dear Shwet ,

We are delighted to extend an offer to you for the position of Web Developer at PreDrag System LLP. We were impressed with your skills and enthusiasm during the interview process, and we believe that your contributions will add significant value to our team.

We are pleased to inform you that this internship comes with a compensation package. During the period of your Internship, You will get a stipend of Rs. 5,000/- per month. You will be paid for your valuable contributions to the team. Additionally, students participating in our internship program may be eligible for certain benefits.

Your primary responsibilities will encompass research and development, as well as design. and development for projects. Your internship is scheduled to commence on 15 March 2025, and will run through 15 July 2025. During this period, you are expected to work approximately 40 hours per week.

We warmly welcome you to the PreDrag System LLP team and anticipate a fruitful and rewarding collaboration. If you have any questions or require further clarification, please feel free to reach out. Best regards,

Ms.Chamnar G.V.
HR Head

+91 7796773232
info@predragsystem.in
49, Tanaya Heights, Shivne, Pune 411023
www.predragsystem.in

PreDrag SYSTEM Digitally Yours.

10 March 2025

Internship Offer Letter

To,
Quazi Mohammed Saifuddin

Dear Saifuddin ,

We are delighted to extend an offer to you for the position of Fullstack Web Developer at PreDrag System LLP. We were impressed with your skills and enthusiasm during the interview process, and we believe that your contributions will add significant value to our team.
We are pleased to inform you that this internship comes with a compensation package. During the period of your Internship, You will get a stipend of Rs. 5,000/- per month. You will be paid for your valuable contributions to the team. Additionally, students participating in our internship program may be eligible for certain benefits.

Your primary responsibilities will encompass research and development, as well as design. and development for projects. Your internship is scheduled to commence on 20 March 2025, and will run through 20 July 2025. During this period, you are expected to work approximately 40 hours per week.

We warmly welcome you to the PreDrag System LLP team and anticipate a fruitful and rewarding collaboration. If you have any questions or require further clarification, please feel free to reach out. Best regards,

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HR Head

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www.predragsystem.in

PreDrag SYSTEM Digitally Yours.

10 March 2025

Internship Offer Letter

To,
Om Sanjay Mamidwar

Dear Om ,

We are delighted to extend an offer to you for the position of Web Developer at PreDrag System LLP. We were impressed with your skills and enthusiasm during the interview process, and we believe that your contributions will add significant value to our team.

We are pleased to inform you that this internship comes with a compensation package. During the period of your Internship, You will get a stipend of Rs. 5,000/- per month. You will be paid for your valuable contributions to the team. Additionally, students participating in our internship program may be eligible for certain benefits.

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PreDrag System LLP
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Date : 25-06-2025

PROVISIONAL INTERNSHIP CERTIFICATE

This is to certify that **Shwet maroti bhole**, a student of **MGM's College Of Engineering, Nanded**, was engaged as an **Intern** at **PreDrag System** from **15-03-2025** to **15-07-2025** under our **IT Department GameZone Tracker Project.**

During this period, the student was designated as a **Web Developer Intern** and was provided with exposure to the following areas:

- Web Development (HTML, CSS, PHP, JavaScript,MySQL etc.)
- Live Project Training under the guidance of experienced professionals
- Use of project management and version control tools.
- Hands-on learning in a collaborative software development environment

Although the internship tenure was **not fully completed**, the student actively participated in the assigned responsibilities during their time with us and demonstrated a willingness to learn and contribute.

For **PreDrag System**,

Authorized Signatory
Gaytri V. Chamanwar
HR Head
Email: hr@predragsystem.in
Phone: 7796773232

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Date : 20-07-2025

PROVISIONAL INTERNSHIP CERTIFICATE

This is to certify that **Quazi Mohammed Saifuddin,** , a student of **MGM's College Of Engineering, Nanded**, was engaged as an **Intern** at **PreDrag System LLP** from **20-03-2025** to **20-07-2025** under our **Gamezone - Revolutionizing Game Management System Project.**

During this period, the student was designated as a **Web Developer Intern** and was provided with exposure to the following areas:

- Web Development (HTML, CSS, PHP, JavaScript, MySQL etc.)
- Live Project Training under the guidance of experienced professionals
- Use of project management and version control tools.
- Hands-on learning in a collaborative software development environment

Although the internship tenure was **not fully completed**, the student actively participated in the assigned responsibilities during their time with us and demonstrated a willingness to learn and contribute.

For **PreDrag System**,

Authorized Signatory
Gaytri V. Chamanwar
HR Head
Email: hr@predragsystem.in
Phone: 7796773232

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Date : 25-06-2025

PROVISIONAL INTERNSHIP CERTIFICATE

This is to certify that **Om Sanjay Mamidwar**, a student of **MGM's College Of Engineering, Nanded**, was engaged as an **Intern** at **PreDrag System LLP** from **15-03-2025** to **15-07-2025** under our **Gamezone - Revolutionizing Game Management System Project.**

During this period, the student was designated as a **Web Developer Intern** and was provided with exposure to the following areas:

- Web Development (HTML, CSS, PHP, JavaScript, MySQL etc.)
- Live Project Training under the guidance of experienced professionals
- Use of project management and version control tools.
- Hands-on learning in a collaborative software development environment

Although the internship tenure was **not fully completed**, the student actively participated in the assigned responsibilities during their time with us and demonstrated a willingness to learn and contribute.

For **PreDrag System**,

Authorized Signatory
Gaytri V. Chamanwar
HR Head
Email: hr@predragsystem.in
Phone: 7796773232

ACKNOWLEDGEMENT

We would like to express our deepest gratitude to our project guide, **Dr. B. S. Kapre**, for her invaluable support, guidance, and encouragement throughout this project. Her profound knowledge and expertise have been instrumental in the successful completion of this work. Her patience and willingness to assist me at every step have greatly enriched our learning experience. Her constructive feedback and insightful suggestions have not only helped me overcome challenges but also motivated me to strive for excellence.

We gladly take this opportunity to thank **Dr. A. M. Rajurkar** (Head of Computer Science & Engineering, MGM's College of Engineering, Nanded). We are heartily thankful to **Dr. G. S. Lathkar** (Director, MGM's College of Engineering, Nanded) for providing facilities during the progress of the project and also for her kind help, guidance and inspiration. Last but not least, we are also thankful to all those who helped, directly or indirectly, to complete this Internship it successfully.

With Deep Reverence,

SHWET BHOLE (01)
OM MAMIDWAR (08)
QUAZI SAIF (09)

ABSTRACT

The gaming industry is rapidly evolving, demanding seamless financial transactions and efficient management systems. Gamezone - Revolutionizing Game Management, developed under Predrag System LLP, aims to transform traditional game center operations through an integrated digital wallet system. This innovative platform optimizes user payments, transaction tracking, and financial reporting, ensuring a streamlined gaming experience.

The core of Gamezone is its automated wallet system, allowing users to digitally manage their balances, with real-time deductions based on game duration. The implementation of secure APIs, advanced financial tracking, and an interactive UI/UX framework ensures efficiency, transparency, and ease of use for both players and administrators. With recharge requests, balance verification, and transaction history access, users gain complete control over their expenditures, eliminating manual cash handling.

Designed using modern UI/UX principles and scalable backend technologies, Gamezone provides administrators with powerful financial dashboards, offering detailed transaction logs, export functionalities, and staff management tools. By enhancing security protocols and automating financial workflows, the project establishes a robust, data-driven approach to game center operations.

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chapter 1

INTRODUCTION

We Shwet Bhole, Om Mamidwar and Quazi Saif students of B.Tech. CSE – B joined PreDrag System LLP as Software Developer Interns in March 2025. Our internship continued for a period of four months, concluding in July 2025. The internship followed a hybrid working model, combining both in-office and remote work. We worked from Monday to Friday, actively engaging in collaborative project development, team discussions, and code reviews under the mentorship of experienced professionals from the company.

1.1 Company's Profile

Predrag System Pvt. Ltd., located in Pune, Maharashtra, is a leading software development firm that has carved a niche for itself in the field of customized software solutions, particularly for the banking and finance sectors. The company's vision is to enable seamless automation of financial services through innovative technology solutions that transform conventional manual processes into efficient digital workflows. With a workforce comprising skilled software engineers, designers, and project managers, Predrag System focuses on delivering high-quality products that address client-specific needs while adhering to industry standards. The company's core values include integrity, customer-centricity, innovation, and continuous improvement, which are reflected in every product and service it offers. Over the years, Predrag System has successfully developed and deployed numerous software applications that have helped businesses enhance their operational efficiency and achieve measurable business outcomes.

Their expertise spans across various technologies, including web development, mobile applications, cloud computing, and enterprise resource planning (ERP) systems. Their clientele includes banks, NBFCs (Non-Banking Financial Companies), microfinance institutions, and gold loan agencies that require reliable, scalable, and secure digital platforms for loan management and other financial operations.

1.2 Job Description

As part of my final year internship at Predrag System, I was designated as a Software Developer Intern. My role primarily revolved around the end-to-end development of the Gold Loan Management System project, which involved active participation in all stages of the software development life cycle (SDLC). During the internship, I was engaged in various tasks starting from requirement gathering and analysis to system design, coding, testing, and deployment. I collaborated closely with the project manager, senior developers, and the quality assurance (QA) team to ensure that the system met all functional and non-functional requirements as specified by the client.

My key responsibilities included developing the front-end user interface using modern web technologies, implementing server-side logic to handle business operations, designing and managing the backend database, and integrating APIs for data exchange between system modules. In addition to technical tasks, I was also involved in preparing documentation such as requirement specifications, design documents, test cases, and user manuals. These activities not only enhanced my technical skills but also improved my understanding of real-world software project execution, team collaboration, and communication with stakeholders.

1.2.1 Code Review and Continuous Integration with GitHub Actions

To maintain high standards of code quality, robustness, and maintainability, our team adopted best practices in version control and continuous integration using GitHub and GitHub Actions. All code written by developers, including myself, was regularly pushed to a shared GitHub repository. Each new feature or bug fix was committed to a separate branch and subsequently merged into the main branch only after a thorough peer review. During code reviews, senior developers provided constructive feedback on aspects such as code readability, efficiency, adherence to coding standards, and potential security vulnerabilities. Additionally, GitHub Actions were configured to automate tasks such as code linting, unit testing, and build generation whenever changes were pushed to the repository.

This automation ensured that the codebase remained clean, functional, and deployable at all times. Continuous integration facilitated early detection of issues, reducing the likelihood of critical bugs being introduced into the production environment. The use of GitHub Actions also allowed for seamless deployment to the staging server, where the application was tested by the QA team before being released to the client. These

practices fostered a culture of accountability, collaboration, and continuous improvement within the development team.

1.3 Project Overview

In today's fast-paced digital world, gaming centers face increasing demands for automation, efficiency, and enhanced user experience. Traditional methods of managing game credits, tracking user activity, and handling payments are often manual, time-consuming, and prone to errors. To address these challenges, Gamezone: Revolutionizing Game Management introduces a smart and scalable solution that leverages digital technologies to streamline operations and improve the overall gaming experience. With features such as a user-friendly digital wallet system, real-time transaction tracking, and automated deductions, Gamezone offers a seamless platform for both users and administrators .Gamezone is not just a wallet-based system; it is a complete management solution designed to handle user logins, balance checks, staff administration, and financial reporting. The platform is built with a focus on usability, data accuracy, and operational control. By integrating backend automation with an intuitive frontend interface, Gamezone reduces manual workload, minimizes errors, and increases customer satisfaction. This report outlines the entire development process—from system planning and UI design to backend logic and feature implementation highlighting how Gamezone sets a new standard for modern game center management. The Gamezone project represents a significant step toward revolutionizing the management of gaming centers by introducing a comprehensive, wallet based digital payment system. Designed with a focus on automation, efficiency, and user experience, this project eliminates the need for manual cash transactions—one of the most pressing pain points in traditional gaming center operations. By integrating real time wallet deduction mechanisms and secure user authentication, Gamezone aims to deliver a seamless and modernized gaming environment that caters to both end users and administrators.

Digital transformation is no longer a luxury in the gaming industry—it is a necessity. Most gaming centers continue to operate with outdated systems that depend heavily on manual processes for managing user sessions, payments, and tracking. These traditional models are prone to human error, security risks, and inefficiencies. Gamezone addresses these challenges head on by offering a centralized system that automates every financial interaction within the center. From logging in to playing games and deducting fees to generating transaction histories and reports, the entire ecosystem is controlled.

Project Goals:

- Enhance User Experience :

The Gamezone platform eliminates the need for cash transactions or lengthy manual input processes by providing each user with a digital wallet. This ensures that players can start and end their sessions with minimal waiting time, thereby improving customer satisfaction and flow management.

- Automate Transactions :

By incorporating real time balance deduction linked directly to gameplay, the system ensures that transactions are accurate and immediate. This reduces the risk of errors caused by manual entries and helps maintain transparent financial records.

- Increase Security :

Security is a top priority. The project includes encrypted user authentication methods and secure payment gateways that safeguard both personal data and financial transactions, reducing the risk of fraud or data breaches.

- Optimize Admin Management :

Gamezone equips administrators with powerful tools such as detailed financial reporting, user tracking, and transaction history dashboards. These features not only simplify oversight but also empower decision making based on actionable.

- Industry Challenges Addressed :

Traditional gaming centers face several limitations due to their reliance on manual systems. These include time consuming payment processes, error prone bookkeeping, difficulty in tracking user behavior, and vulnerability to security threats.

Moreover, managing a high volume of customers efficiently becomes increasingly difficult without a robust, automated infrastructure. Gamezone addresses these challenges by introducing digital wallets that are automatically updated based on gameplay. When a user logs in, their balance is verified, and the system begins tracking time spent and deducting charges accordingly. This results in smoother operations, fewer delays, and a higher level of control for both users and staff. Additionally, with centralized transaction records and real time monitoring, administrators gain deep visibility into all financial activities within the center, ensuring full transparency and accountability. From logging in to playing games and deducting fees to generating.

In conclusion, the Gamezone project is not just a technological upgrade; it is a holistic solution designed to modernize how gaming centers operate. By addressing core issues in payment processing, user experience, and operational control, it sets a new benchmark for efficiency and security in the gaming industry.

Below are the key areas where this system brings significant value:

1. Efficient Financial Management:

In traditional game centers, managing user payments, recharges, and deductions often requires significant manual involvement. This approach not only increases the workload on staff but also introduces opportunities for human error, disputes, and delays. Gamezone solves this by integrating an automated digital wallet system that handles user transactions without manual intervention. Users can recharge their wallets, and game usage automatically reduces their balance based on the system's internal logic.

This streamlining significantly cuts down the need for administrative oversight in daily payment tasks, reduces financial mismatches, and ensures a smooth transaction flow. Overall, it promotes operational efficiency, reduces errors, and creates a faster service.

2. Enhanced User Experience:

User satisfaction is key to any gaming center's long term success. Traditional systems often lack real time access to wallet balances or transaction summaries, forcing users to rely on staff to check or update information. Gamezone eliminates this inconvenience by giving users direct access to their wallet, recharge history, and remaining balance right on their personal dashboard. The interface is designed with a game themed aesthetic that enhances engagement and familiarity.

With features like instant login verification and balance display, users feel more in control and confident in using the system. This level of transparency and ease improves overall customer experience and encourages repeat visits.

3. Scalability and Modernization:

As gaming centers expand, they require systems that can grow with them in terms of users, transactions, and complexity. Many existing systems are too rigid or outdated to support this growth. Gamezone is built with scalability in mind, allowing it to handle multiple users, staff roles, and game zones without performance issues.

The system architecture supports branching, meaning that it can be rolled out across various locations with minimal changes. Its use of modern web technologies also ensures

compatibility with current devices and browsers. This modernization reduces technical debt, futureproofs the business, and enables continuous feature expansion based on need.

4. Staff Management Automation:

Staff play a crucial role in managing theon ground operations of any game zone. However, keeping track of employee roles, login credentials, tasks, and contact information manually can be difficult, especially in larger setups. Gamezone solves this by including a dedicated Staff Management Module. Here, administrators can create, update, or delete staff accounts, assign responsibilities, and review user logs.

The module supports features like search, pagination, and record exports for easy access. With this system, admins no longer need to rely on spreadsheets or handwritten registers. Staff onboarding, tracking, and updates become quick, centralized, and secure, ultimately boosting workforce efficiency.

5. Real time Wallet Syncing:

In any transactional environment, real time data syncing is essential to ensure accuracy and prevent discrepancies. Gamezone introduces real time wallet synchronization at the login stage. As soon as a user logs in, the system checks their wallet status and updates the interface to reflect the exact balance.

This eliminates confusion around remaining credits, reduces disputes, and ensures users don't start a game session without sufficient balance. Additionally, real time syncing allows the admin panel to monitor user activity live, offering an extra layer of control. This kind of instant validation not only improves system performance but also enhances data integrity and user trust.

6. Improved Transparency and Accountability:

Gaming centers often struggle with maintaining an accurate and traceable record of financial transactions. Missing receipts, manual logging errors, or disputes over balances are common issues that affect both customers and owners.

Gamezone tackles this by logging every transaction in a centralized database whether it's a wallet recharge, a game usage deduction, or a withdrawal. These logs are automatically categorized and stored with accurate timestamps and user data, allowing admins to review, audit, and export them in various formats like CSV or Excel. This transparency builds trust among users, ensures legal and business accountability, and simplifies reporting during financial reviews.

1.4 Key Objectives

The Gamezone: Revolutionizing Game Management system project was developed with a mission to modernize game center operations through the power of automation, smart interfaces, and digital wallets. Its core objectives focus on streamlining user experiences, reducing administrative workload, and offering secure, scalable solutions for gaming businesses. Each objective below supports a key area of functionality and long-term value.

1.4.1 To Automate User Wallet Transactions

One of the primary goals of the Gamezone system is to automate how payments and deductions are managed through a digital wallet system. In traditional gaming centers, users often need to pay upfront or buy physical tokens, and tracking usage is handled manually by staff, which is inefficient and prone to errors. Gamezone changes this by assigning each user a digital wallet that gets debited automatically based on the games they play. There's no need for human monitoring or approvals the balance updates in real time .This automation not only reduces the possibility of mistakes or fraud but also allows users to enjoy a seamless experience without interruptions. The ease of recharge, usage, and tracking encourages better engagement, while the backend logic ensures fairness and accuracy throughout each transaction.

1.4.2 To Centralize Administrative Control

Gamezone aims to empower administrators with full control over all operations through a centralized admin panel. Traditionally, game centers manage users, payments, staff, and reporting using disconnected tools or manual methods. This fragmentation leads to inefficiency, duplication of effort, and loss of important data. With Gamezone, all admin functions from managing user accounts, handling recharge requests, and monitoring staff, to exporting financial reports are consolidated into a single secure dashboard. This centralized approach improves visibility, enhances productivity, and ensures faster issue resolution.

Admins can make quick decisions backed by live data, and monitor every activity within the system, minimizing the chance of unauthorized actions or discrepancies. Centralized control also supports future expansion by making it easy to manage multiplication game centers under and offering secure, scalable solutions for gaming businesses. Each objective below supports a key area of functionality and long-term.

1.4.3 To Enhance the Overall User Experience

User experience is a critical aspect of any software platform, and Gamezone is designed to make gaming center interactions as smooth and enjoyable as possible. Traditional systems often force users to wait in queues for recharges or manually ask staff to check their balances, leading to frustration and inefficiency. Gamezone provides a personalized user dashboard that displays the user's wallet balance, transaction history, and recharge options all in a visually appealing, game themed interface. The system's responsive design ensures compatibility with various devices, making it accessible and functional whether on a desktop or mobile screen. By providing autonomy and real time updates, users can better, which is inefficient and prone to errors. Gamezone changes this by assigning each user a digital wallet that gets debited automatically based on the games they play. There's no need for human monitoring or approvals the balance updates in real time .This automation not only reduces the possibility of mistakes manage their time and money, which improves satisfaction and builds loyalty. The entire system is designed to feel fast, interactive, and easy to use, reflecting the modern expectations of today's digital first customers.

1.4.4 To Support Scalable and Secure Growth

Game centers vary in size from small arcadestyle setups to large multilocation entertainment hubs. A critical objective of Gamezone is to support scalable operations that can grow without requiring a complete redesign. The platform is built using modern technologies and modular architecture, allowing it to handle increased traffic, more users, and expanding datasets efficiently. User satisfaction is key to any gaming center's long term success. Traditional systems often lack real time access to wallet balances or transaction summaries, forcing users to rely on staff to check or update information. Gamezone eliminates this inconvenience by giving users direct access to their wallet. At the same time, Gamezone prioritizes security by implementing features such as secure authentication, wallet checks at login, and restricted admin permissions. This dual focus ensures that as the business grows, the system remains both stable and secure. It can adapt to additional locations, staff, and operational complexity while maintaining performance. From assigning roles to managing shifts and controlling access levels, the frontend implementation of this module focuses on usability.

1.4.5 To Simplify Staff and Operational Management

Managing employees in a game zone setting can be challenging, especially when handling schedules, permissions, or contact tracking manually. Gamezone includes a dedicated Staff Management Panel where admins can add, edit, or remove staff members, assign them specific roles, and define access levels. Each staff member's information such as name, contact details, and responsibilities is stored securely and can be searched or sorted. This system reduces the need for external HR tools or paperwork and ensures better internal coordination. Additionally, staff actions can be monitored, improving accountability. This objective is particularly valuable for businesses planning to expand or run multiple shifts, as it simplifies team management while keeping sensitive data secure and organized. User satisfaction is key to any gaming center's long term success. Traditional systems often lack real time access to wallet balances or transaction summaries, forcing users to rely on staff to check or update information. Gamezone eliminates this inconvenience by giving users direct access to their wallet.

chapter 2

GAMEZONE MANAGEMENT

Gamezone, the revolutionizing game management followed a systematic, phased methodology to ensure the solution met real world gaming center requirements effectively. The project life cycle was divided into three major stages: Requirement Analysis, UI/UX Design & Frontend Development, and Backend Integration & Testing. Each stage was carefully executed with feedback loops, ensuring that the final product was both functional and user friendly. The Gamezone project incorporates a wide range of functionalities and features, each specifically designed to enhance the management, monitoring, and overall experience within a gaming center. By shifting to a digital wallet and admin-controlled infrastructure, Gamezone introduces a streamlined system that simplifies operations for both users and administrators. The platform is robust, userfriendly, and secure—making it highly suitable for modern gaming environments. One of the central features of the Gamezone project is its digital wallet integration. Each user is assigned a unique wallet that contains their current balance. Upon login, the system automatically checks the wallet and initiates balance deduction based on real time usage of gaming services. This removes the need for manual tracking or cashier involvement, thereby improving the user's autonomy and reducing the chance of errors.The wallet recharge feature allows users to top up their wallets through an administrator, while the automated deduction system tracks the time spent and deducts the appropriate charges accordingly.

The automation of this process ensures accurate, real time deductions that reflect the user's gameplay activity, and helps prevent disputes or inconsistencies in billing. The wallet recharge feature allows users to top up their wallets through an administrator, while the automated deduction system tracks the time spent and deducts the appropriate charges accordingly. The automation of this process ensures accurate, real time deductions that reflect the user's gameplay activity, and helps prevent disputes or inconsistencies in billing. Gamezone includes detailed transaction history management, enabling both users and admins to access a transparent log of all deposits, withdrawals, and balance changes. Each transaction is timestamped and categorized, making it easy to audit and trace specific activities. This is especially useful for managing multiple users and generating financial reports. Security plays a critical role in the system. Gamezone features a secure login system for both users and staff, with email password authentication and validation. Features

like “Remember Me” and error handling mechanisms enhance the user experience while ensuring data integrity and session safety. The functionalities and features integrated within Gamezone have been thoughtfully designed to cater to the demands of a busy, real world gaming environment. From digital wallet handling to administrative control, every aspect is built with efficiency, transparency, and user experience in mind.

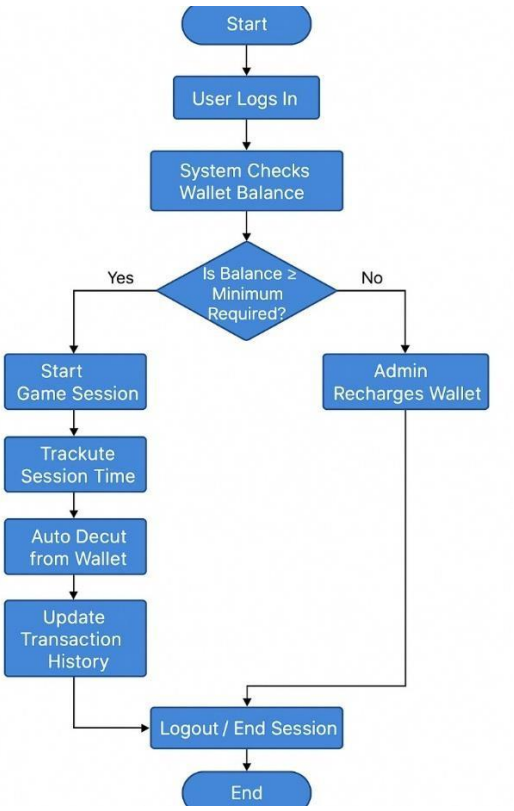

Fig. 2.1: User login & wallet verification

2.1 Wallet System

The wallet system is one of the most essential and innovative features of the Gamezone project. Each user is provided with a unique digital wallet that serves as their central point for managing financial transactions within the game center. This wallet replaces traditional cash or token-based systems, offering a seamless and efficient method of payment and session tracking. Upon registration, users are assigned a digital wallet that holds their monetary balance. This balance can be recharged by the admin, and it is used automatically whenever the user engages with a gaming system. The integration of this wallet with the Gamezone backend ensures that every session is tracked accurately, and the exact cost is

deducted in real time based on usage duration. This system not only minimizes human intervention but also enhances security and reduces the chances of errors or fraud. The wallet ensures that the entire gaming process from login to logout remains smooth, fast, and transparent. It also empowers users to keep track of their spending and available funds easily through their dashboard, improving overall satisfaction and user control. This foundational feature sets the tone for an efficient, tech driven environment within the gaming center.

2.2 Automated Deduction

The Automated Deduction feature is a core functionality of the Gamezone system, designed to enhance operational efficiency and eliminate manual errors in payment processing. This mechanism ensures that a user's wallet balance is automatically reduced based on the duration of their gameplay, without the need for human intervention or manual tracking.

As soon as a user logs into the system and starts a gaming session, a timer begins tracking the exact time spent. The system is configured with predefined rates either on a per minute or per hour basis depending on the type of game or gaming system in use. Once the session ends or the user logs out, the total cost is calculated instantly, and the corresponding amount is deducted from the user's wallet. This process ensures full transparency, real time accuracy, and a streamlined experience for both users and administrators.

It eliminates the potential for disputes over time played or charges incurred and ensures that the center maintains consistent revenue tracking. Additionally, it reduces the burden on staff, allowing them to focus more on customer service rather than time management and billing.

2.3 Login Based Wallet Verification

The Login Based Wallet Verification feature adds a critical layer of convenience and control to the Gamezone platform. As soon as a user logs into their account, the system performs an instant verification of their digital wallet. This process displays the user's current balance in real time , allowing them to view their available funds before beginning any gaming session. This immediate visibility helps users make informed decisions regarding how long they can play or whether they need to recharge their wallet. It prevents scenarios where users unknowingly begin a session without sufficient balance, which can

lead to session disruptions or negative user experiences. Instead, the system prompts necessary actions in advance, such as notifying users to add funds if the balance is too low. From a security standpoint, this feature also ensures that only authenticated users can access wallet data. Each login session is protected by secure credentials, maintaining data privacy and system integrity. The user interface is designed to be intuitive, providing a smooth login experience while clearly displaying the wallet summary. In essence, login-based wallet verification enhances transparency, improves financial awareness for users, and supports a seamless start to every gaming session within the Gamezone environment.

2.4 Transaction History Dashboard

The Transaction History Dashboard is a powerful administrative feature within the Gamezone system that provides detailed insights into all financial activities conducted on the platform. It enables administrators to monitor and manage the entire flow of monetary transactions, including both deposits and withdrawals, through a well-structured, real-time interface. Every financial movement whether it is a wallet top up by the admin or an automatic deduction after gameplay is recorded and displayed in the dashboard. Each entry is accompanied by essential details such as timestamp, transaction ID, user information, amount, and status, making it easy to trace and verify any transaction. These logs not only support daily operational monitoring but also aid in resolving any user disputes related to payment discrepancies.

Additionally, the dashboard includes export options, allowing reports to be saved in formats such as CSV, Excel, or PDF for external analysis or audit purposes. This enhances the center's ability to maintain transparent financial records and comply with bookkeeping standards.By offering a centralized view of all wallet activities, the transaction history dashboard ensures financial accountability, simplifies tracking, and supports strategic decision making. It is an essential tool for effective and professional game center management. The Search and Export Functions in the Gamezone system are designed to enhance data accessibility and improve overall administrative efficiency. These features are embedded within the transaction history and user management dashboards, allowing administrators to easily navigate through extensive datasets and extract relevant information for reporting and analysis. The search functionality enables admins to quickly locate specific entries such as user transactions, deposit logs, withdrawal records, or account details. Using keyword filters or specific parameters (like user ID, date, or amount), administrators can swiftly narrow down results, even within large datasets. This

significantly reduces the time spent on manual data retrieval and supports faster decision making. The export function further enhances usability by offering multiple output formats such as CSV, Excel, and Print ready versions. These options allow administrators to generate offline reports for financial auditing, managerial review, or official documentation. Exported files maintain the original data structure, ensuring clarity and consistency when shared with stakeholders or reviewed later. Together, the search and export tools make the Gamezone platform not only userfriendly but also highly practical for professional level management. They support transparency, streamline administrative workflows, and ensure that critical financial data is always accessible and well-organized. The Staff Management Panel is a vital component of the Gamezone administrative system, providing centralized control over all staff related information. This feature allows the administrator to efficiently manage staff profiles, ensuring smooth operation and accountability within the gaming center.

Each staff member's profile includes important details such as name, staff ID, contact number, email address, and gender. Through the panel, admins can add, edit, or delete staff records based on changes in personnel or organizational needs. The interface also supports search and pagination, which is especially useful when handling large teams, making it easy to locate and update specific staff profiles. This organized system ensures that all staff data is stored securely and remains accessible for administrative tasks or internal audits. By streamlining staff oversight, the panel enhances workforce coordination, improves recordkeeping accuracy, and contributes to the overall professionalism of the Gamezone environment.

The process begins with the Start phase, where the project is initiated and planned. Next comes Requirement Analysis, where the development team gathers and understands the client's needs, defining key features and goals. This is followed **by** Wireframe & UI/UX Design where the interface layout is designed using tools like Figma, focusing on user experience and visual structure. In the Frontend Development phase, developers build the client-side of the application using HTML, CSS, JavaScript, and Bootstrap to make it visually responsive and interactive as per in figure below.

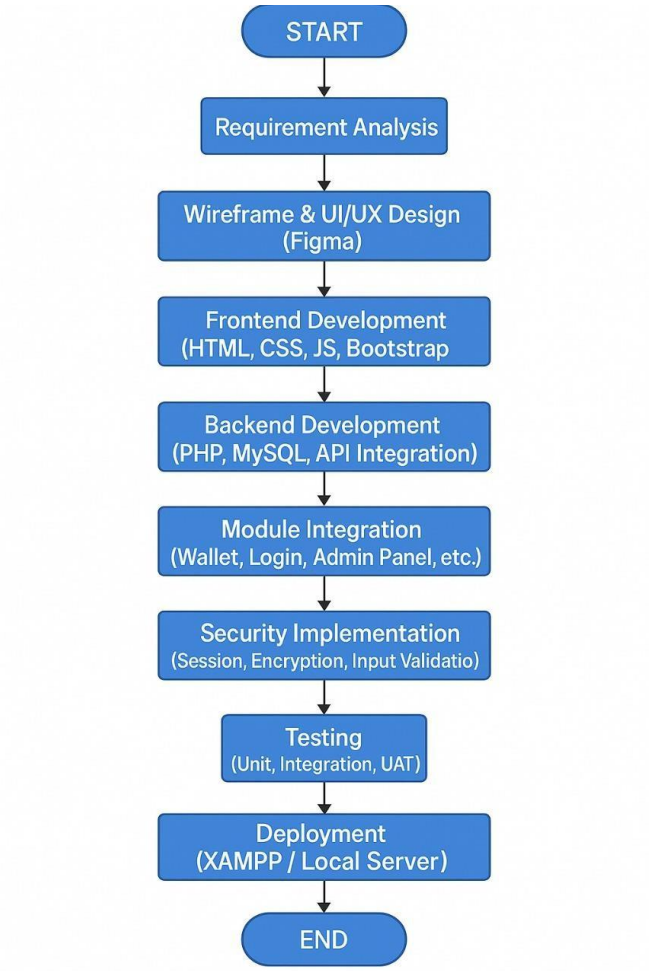

Fig. 2.2: Software development life cycle

After the modules are added to the system the Security Implementation phase ensures the application is safe by using session control, data encryption, and input validation to prevent attacks. The system then moves to the Testing stage, which includes unit testing, integration testing, and user acceptance testing (UAT) to check for bugs and verify functionality. Once testing is complete, the project is launched in the Deployment phase using XAMPP or a local server for final review and use. Finally, in the End phase, the project is completed, ready for client delivery or live deployment. Then, Backend Development involves creating the server-side logic using PHP, managing databases with MySQL, and integrating necessary APIs. Once the core system is built, Module Integration is done by adding essential components like login systems, wallets, and admin panels.

chapter 3

TECHNOLOGY STACK

The Gamezone project utilizes a combination of frontend and backend technologies that work cohesively to deliver a smooth, secure, and responsive gaming management experience. On the frontend, HTML, CSS, and JavaScript were primarily used to design and develop an intuitive and interactive user interface. HTML forms the backbone of the web pages, structuring all visible content such as login screens, dashboards, and wallet summaries. CSS is employed to enhance the visual appeal and ensure that the interface reflects a modern, game themed design, while also supporting responsiveness across different devices using media queries. JavaScript plays a crucial role in making the application dynamic handling real time updates, form validation, and user interactions like balance displays and navigation flows. These technologies together ensure that both users and administrators have a seamless and engaging experience while interacting with the system. On the backend, PHP and MySQL form the core of the system's logic and data management. PHP is responsible for processing user logins, executing wallet operations like deductions and recharges, handling admin tasks, and interacting with the database securely through API endpoints. It facilitates session management and ensures that sensitive operations are executed only with proper validation. MySQL, as the database management system, stores and manages all essential data including user profiles, wallet transactions, game system listings, and admin records. SQL queries are optimized to allow quick and accurate data retrieval, enabling real time updates for wallets and transaction logs. The backend was designed with a strong emphasis on data security, performance, and scalability, allowing the system to handle large volumes of transactions efficiently.

Additionally, tools like XAMPP were used to simulate a server environment during development, integrating Apache, PHP, and MySQL for local testing. Visual Studio Code served as the main code editor, offering syntax highlighting, version control integration, and powerful extensions for productivity. Optionally, Bootstrap was utilized for faster frontend component development, allowing responsive design with minimal manual CSS coding. The combination of these technologies allowed the development team to build a robust and userfriendly platform that not only meets the technical requirements but also enhances the overall user experience through real time responsiveness and aesthetic design

3.1 Frontend

The frontend of the Gamezone project is a crucial component that defines how users interact with the platform. A visually engaging, responsive, and intuitive interface is key to the success of any digital product, and Gamezone is no exception. For this purpose, modern frontend technologies such as HTML, CSS, and JavaScript were employed, supported by robust frameworks like React.js or Vue.js to build scalable and interactive user interfaces. These technologies collectively ensured that the platform delivered a seamless and responsive experience to users across various devices.

3.1.1 HTML (HyperText Markup Language)

HTML serves as the structural foundation of the Gamezone interface. It provides the basic layout and content structure of the application. From login pages to dashboard layouts, tables, forms, buttons, and modal popups all visual elements are built using HTML5. The semantic features of HTML5 allow for cleaner code, better accessibility, and improved SEO. HTML tags like <header>, <nav>, <section>, and <footer> were used to organize the web pages in a logical format. This structured approach ensures maintainability and ease of future updates. The usage of HTML was also instrumental in integrating media content, user profiles, and data tables for displaying transaction records and wallet information.

3.1.2 CSS (Cascading Style Sheets)

While HTML provides the structure, CSS brings life and design to the application. Using CSS3, the development team styled the user interface with a game themed aesthetic, including color schemes, hover animations, button effects, and layout responsiveness. Media queries were used to ensure that the application adapted well to various screen sizes from desktop monitors to mobile phones. Advanced CSS features like Flexbox and Grid were utilized to build responsive layouts, while transitions and keyframe animations helped improve user interaction. Custom fonts and background graphics aligned with the gaming theme gave the platform a modern and immersive feel. The styling was modular, making it easier to apply consistent themes across different sections such as the dashboard.

3.1.3 JavaScript

JavaScript added the necessary dynamic behavior to the application. It was used to manage user inputs, validate forms, control session timers, display real time wallet balances, and handle asynchronous actions such as API calls. For instance, when a user initiated a recharge or logged in, JavaScript handled the data transmission to the backend and updated the interface based on the server response. DOM manipulation allowed the interface to change instantly without requiring page reloads, improving the overall user experience. JavaScript also supported interactive features such as modals, tooltips, error alerts, and loading animations, all of which enhanced the usability of the platform.

3.1.4 React.js / Vue.js (Frontend Frameworks)

To further streamline the development process and improve performance, modern JavaScript frameworks like React.js or Vue.js were considered. These component-based libraries allow developers to break down the interface into reusable blocks such as headers, buttons, wallet cards, and tables. Using state management, components can dynamically update in response to user actions. For example, when a user's wallet balance changes, the respective component updates instantly without rerendering the entire page.

React's virtual DOM and Vue's reactive databinding offer significant performance benefits and make code maintenance easier. Their ecosystem also provides support for routing, form handling, and integration with backend APIs. This made it simpler to build interactive dashboards, admin panels, and responsive navigation systems. Component-based architecture also promotes scalability allowing new features or views to be added without rewriting existing code.

3.2 Backend

The backend of the Gamezone: Revolutionizing Game Management platform is the powerhouse that ensures all operations—from user authentication to wallet transactions—are executed securely and efficiently. To manage these critical functionalities, the backend was built using two robust technologies: PHP as the serverside scripting language and MySQL as the relational database management system. Together, these tools provide a stable and scalable environment for handling complex logic, real time transaction updates.

3.2.1 PHP – Server Side Scripting

PHP (Hypertext Preprocessor) is a widelyused, opensource scripting language that is particularly wellsuited for web development. It was chosen for this project due to its seamless integration with MySQL, simplicity, and effectiveness in handling dynamic web applications. In the Gamezone system, PHP performs essential backend operations including user login and session management, wallet recharges and deductions, data validation, and admin panel functionalities. When a user logs in, PHP scripts validate their credentials against the database and initiate secure sessions. These sessions maintain the user's identity throughout their interaction with the system. More importantly, PHP powers the transaction logic—each time a user plays a game, the balance is automatically deducted from their wallet using secure logic scripts. Similarly, recharges are added instantly and verified through backend validations.

PHP also handles rolebased access control for different user types, ensuring that administrative functionalities such as managing staff, viewing financial reports, and modifying system settings are only accessible to authorized users. Every transaction, whether a deposit or withdrawal, is processed and logged in real time using PHP scripts that ensure atomicity—so that no partial or duplicate transactions occur. Additionally, PHP is used to serve RESTful APIs for frontend communication. These APIs allow the clientside (JavaScript or frontend frameworks) to retrieve user data, wallet balances, transaction logs, and system stats dynamically. All API endpoints are secured with tokenbased authentication to prevent unauthorized access and ensure data privacy.

3.2.2 MySQL – Database Management System

MySQL is a robust relational database system used to manage the structured data of Gamezone. All user details, wallet balances, transaction logs, staff information, membership types, and system configurations are stored and retrieved using MySQL. The database schema is designed with normalization techniques to eliminate redundancy and ensure data consistency. A dedicated “transactions” table tracks all deposit and withdrawal operations. Each transaction entry includes a timestamp, transaction ID, amount, user ID, type (deposit or withdrawal), and current balance. This not only allows administrators to monitor individual user activity but also provides insights into spending patterns and system usage. SQL queries are optimized to ensure quick and efficient data access, even when handling thousands of records. Furthermore, the database integrates with the admin panel, enabling administrative users to view, filter, and export transaction records in

various formats such as CSV, Excel, or PDF. This functionality, powered by PHP and MySQL, provides real time and simplifies financial reporting. The Gamezone platform uses MySQL as its backend database to store and manage all persistent data. MySQL is a highperformance, opensource relational database system that supports complex queries, indexing, and transaction support—making it ideal for applications with high read/write operations like Gamezone.

All user profiles, wallet balances, transaction records, login timestamps, staff information, and system settings are stored in MySQL tables. The schema was carefully normalized to reduce data redundancy and improve performance. Foreign key relationships ensure referential integrity between different entities such as users and their corresponding transaction histories.

3.2.3 Transaction Integrity And Real Time Operations

A major focus during development was maintaining transaction integrity. PHP and MySQL were configured to use ACID (Atomicity, Consistency, Isolation, Durability) principles, ensuring that every wallet operation is either fully completed or not executed at all. For example, if a deduction is initiated during a gameplay session and there is a sudden system failure, rollback mechanisms prevent partial transactions from being saved, preserving data accuracy.

Additionally, PHP's asynchronous capabilities were used to simulate real time feedback. When a user recharges their wallet or finishes a game session, changes in the wallet are reflected instantly in the frontend dashboard through AJAX calls, which communicate securely with PHP scripts.

3.2.4 Security And Testing

Security in the backend is reinforced through practices such as input sanitization, prepared statements to prevent SQL injection, session timeouts, and rolebased access filters. During development, each backend module underwent rigorous testing—unit tests for individual PHP functions, integration testing for API endpoints, and stress testing for transaction loads. Edge cases like insufficient balance, session expiration, and duplicate entries were handled to ensure the system operates flawlessly under all scenarios. . A dedicated “transactions” table tracks all deposit and withdrawal operations. Each transaction entry includes a timestamp, transaction ID, amount, user ID, type (deposit or withdrawal), and current balance

3.3 Design: Figma for UI/UX Prototyping

A successful software project relies heavily not only on functionality but also on user experience (UX) and user interface (UI) design. For the Gamezone: Revolutionizing Game Management system, a major emphasis was placed on crafting a modern, engaging, and highly usable interface that appeals to gamers while also being practical for administrative users. To achieve this, the design team used Figma, a cloudbased UI/UX design tool widely adopted in modern web and software development projects.

Figma was chosen for its collaborative features, intuitive interface, and powerful prototyping tools. It allowed the team to design wireframes, mockups, and highfidelity prototypes that served as a blueprint for the development process. The platform's real time collaboration features made it easier for developers, designers, and stakeholders to review, comment on, and refine design elements simultaneously, resulting in faster decisionmaking and a smoother transition from design to code. The first step in the design process was wireframing. Using Figma, lowfidelity wireframes were created to establish the basic layout structure of the application. This included screens such as the user login page, dashboard, wallet overview, admin panel, and transaction history tables. These wireframes provided a visual map of how content and features would be arranged on each screen, helping to define the user journey and ensure logical navigation flow. These preliminary wireframes were also instrumental in stakeholder discussions. By visualizing the page layouts early, the team received feedback and made changes before investing development resources. This minimized redesign efforts during later stages and ensured that the final product aligned with the project's objectives.

3.3.1 UI Design: Visual Elements and Branding

After wireframing, the next stage involved building highfidelity mockups with a gamecentric design approach. The visual design aimed to capture the essence of a gaming environment while maintaining professionalism and clarity. Figma allowed designers to create reusable design components like buttons, cards, input fields, modals, and icons. These components were styled using a unified design system including color palettes, font styles, and spacing rules to ensure consistency across the application. Interactive elements, such as the wallet balance display, real time, timers, and recharge modals, were carefully designed for clarity and ease of use. Figma's pixelprecise tools helped the team refine every

detail from hover states and shadows to icon placements making sure the UI was the dedicated “transactions” table tracks all deposit and withdrawal operations. Each transaction entry includes a timestamp, transaction ID, amount, user ID, type (deposit or withdrawal), and current balance both visually appealing and functionally sound.

3.3.2 UX Prototyping and User Flow Testing

One of Figma’s most powerful features is its prototyping capability, which was extensively used to simulate user flows and interaction patterns. Clickable prototypes were created for all key user journeys, such as logging in, checking wallet balance, submitting a recharge request, and accessing admin features. These prototypes allowed the team to test usability and identify friction points early on. Stakeholders and testers could interact with the design just like they would with the real application. This helped validate the navigation structure, visual hierarchy, and user intuitiveness. Feedback collected from this testing was incorporated into the design before development began, saving time and improving overall satisfaction.

3.3.3 Developer Handoff and Collaboration

Figma also streamlines developer handoff, providing codeready specifications such as CSS properties, dimensions, color codes, and font sizes. Developers could inspect each design element and access its attributes directly within the Figma interface. This eliminated ambiguity and reduced dependency on static documentation. The collaborative workflow in Figma kept everyone on the same page whether it was adjusting button size based on feedback or changing the position of navigation elements. This livesync approach ensured continuity from design to implementation, resulting in a userfriendly and polished interface.

3.4 Security: Secure Authentication Protocols and Encrypted Databases

Security is a fundamental pillar of any digital platform, especially when handling sensitive data such as user credentials, wallet balances, transaction histories, and administrative controls. In the development of the Gamezone: Revolutionizing Game Management system, the first step in the design process was wire framing. Using Figma, low fidelity wireframes were created to establish the basic layout structure of the application. This included screens such as the user login page, dashboard, wallet overview, admin panel, and transaction history tables. These wireframes provided a visual map of how content and

features would be arranged on each screen, helping to define the user journey and ensure logical navigation flow a strong emphasis was placed on implementing secure authentication protocols and encrypted database practices to safeguard user data, maintain data integrity, and prevent unauthorized access. The system also uses audit logs to monitor and record sensitive actions performed by users and administrators, such as login attempts, data modifications, and configuration changes. A major focus during development was maintaining transaction integrity. PHP and MySQL were configured to use ACID (Atomicity, Consistency, Isolation, Durability) principles, ensuring that every wallet operation is either fully completed or not executed at all. For example, if a deduction is initiated during a gameplay session and there is a sudden system failure, rollback mechanisms prevent partial transactions from being saved, preserving data accuracy. These logs are stored securely and reviewed periodically to detect suspicious activity, ensuring transparency and accountability.

3.4.1 Secure Authentication Protocols

The first line of defense in Gamezone is the implementation of secure user authentication mechanisms. Each user, whether a customer or an administrator, is required to log in using a verified email and password combination. To prevent credential compromise and bruteforce attacks, passwords are never stored in plain text. Instead, they are hashed using strong oneway hashing algorithms such as bcrypt, which ensures that even if a breach occurs, the actual passwords cannot be . A dedicated “transactions” table tracks all deposit and withdrawal operations. Each transaction entry includes a timestamp, transaction ID, amount, user ID, type (deposit or withdrawal), and current balance easily retrieved or reversed. Login sessions are managed using session tokens and cookies with secure attributes (e.g., HttpOnly, Secure, SameSite). These settings help prevent session hijacking, crosssite scripting (XSS), and crosssite request forgery (CSRF) attacks. Users who choose to stay logged in can do so through persistent cookies, which are encrypted and expire after a defined period for added safety.

For additional protection, input fields on login and registration forms are validated both on the frontend and backend. This duallayer validation ensures that no malicious data reaches the server, reducing the risk of injectionbased attacks. Furthermore, error messages are carefully crafted to avoid revealing sensitive details that could aid attackers during login attempts. Administrative access is separated using rolebased access control (RBAC). Only authorized administrators can access restricted modules such as user management, staff

configuration, and financial reports. This prevents ordinary users from attempting to manipulate backend data or access sensitive system settings.

3.4.2 Encrypted Databases and Data Security

While securing the login process is essential, protecting the data stored in the backend is equally critical. The Gamezone application uses a MySQL database to store information such as user profiles, wallet balances, transaction logs, and system records. To protect this data, encryption is applied at both the application and database levels. Sensitive fields such as user passwords, national IDs (if applicable), and financial transaction details are either hashed (in the case of passwords) or encrypted using algorithms like AES (Advanced Encryption Standard) before being stored in the database. . A dedicated "transactions" table tracks all deposit and withdrawal operations. Each transaction entry includes a timestamp, transaction ID, amount, user ID, type (deposit or withdrawal), and current balance This ensures that even if unauthorized access to the database occurs, the data remains unreadable without the decryption keys. Database communication is also secured through SSL/TLS encryption, which prevents data interception during transmission between the server and the client. In development and production environments, firewalls and IP whitelisting are used to restrict database access only to known and trusted systems. This layer of control minimizes exposure to external threats. The system also uses audit logs to monitor and record sensitive actions performed by users and administrators, such as login attempts, data modifications, and configuration changes. These logs are stored securely and reviewed periodically to detect suspicious activity, ensuring transparency and accountability.

3.4.3 Best Practices and Testing

The development team followed industrystandard OWASP (Open Web Application Security Project) guidelines to identify and mitigate common vulnerabilities. Security testing was conducted during each phase of development, including penetration testing, vulnerability scans, and manual inspection of API endpoints. Additionally, rate limiting was applied to login attempts to prevent bruteforce attacks. Error handling was standardized to avoid leaking technical details that could help attackers understand system behavior.Database design played a central role during implementation. A normalized relational database schema was created using MySQL. Tables such as users, games, bookings, wallets, and transactions were carefully structured with relationships established using primary and foreign keys. Data integrity, security,Stakeholders and testers could

interact with the design just like they would with the real application. This helped validate the navigation structure, visual hierarchy, and user intuitiveness. Feedback collected from this testing was incorporated into the design before development began, saving time and improving overall satisfaction.and optimization were key concerns, so we included indexing on frequently accessed fields and enforced validation rules during insertion and updating of records. Logs and backups were also encrypted and stored securely to ensure data recovery in case of an unexpected failure or cyberattack. Figma also streamlines developer handoff, providing code ready specifications such as CSS properties, dimensions, color codes, and font sizes. Developers could inspect each design element and access its attributes directly within the Figma interface. This eliminated ambiguity and reduced dependency on static documentation. The collaborative workflow in Figma kept everyone on the same page whether it was adjusting button size based on feedback or changing the position of navigation elements. This live sync approach ensured continuity from design to implementation, resulting in a user friendly and polished interface.

chapter 4

RESULTS

Gamezone was conceptualized to modernize and automate the processes involved in managing gaming centers. Traditional gaming centers often face several operational challenges, such as manual game slot bookings, lack of centralized player data, inefficient staff allocation, and absence of real time tracking and digital payment options. The objective of Gamezone was to address these issues by offering a unified platform where users could book game slots, recharge their wallets, and view their play history, while administrators could manage games, staff, and resources efficiently. The implementation phase was where these objectives were translated into real, working solutions. This chapter elaborates on how the vision for Gamezone was brought to life through systematic coding, modular integration, and rigorous testing. Before beginning the coding process, a clear and comprehensive implementation strategy was created. This strategy defined the flow of development, the selection of appropriate technologies, and the responsibilities of each development team member. Tasks were divided into milestones based on modules like user login, game listing, booking system, digital wallet, and staff management.

Implementation is not merely writing code it also involves setting up the development environment, selecting a suitable technology stack, ensuring security measures, managing databases, and testing each component to ensure it works as expected. In the Gamezone project, we prioritized scalability, performance, and security. The system was developed to be modular so that new features could be added in the future without disrupting the existing system. Moreover, great emphasis was placed on user experience. The interface was designed to be intuitive, so users, even those with minimal technical knowledge.The first part of implementation focused on setting up the development environment. We used XAMPP, a free and opensource crossplatform web server solution stack package that includes Apache, MySQL, PHP, and Perl. This allowed us to test the application locally during development and ensure it could later be scaled for cloud or remote hosting. XAMPP provided a stable environment to run PHP scripts and manage our MySQL database.Choosing the right technologies was critical to the success of this project. For frontend development, we used HTML5, CSS3, Bootstrap, and JavaScript to design responsive, clean, and userfriendly interfaces. These technologies ensured compatibility across devices including desktops, tablets, and smartphones. For the backend, we selected

PHP due to its simplicity, wide community support, and seamless integration with MySQL. PHP was used to handle serverside logic, manage sessions, perform validations, and communicate with the database securely. Database design played a central role during implementation. A normalized relational database schema was created using MySQL. Tables such as users, games, bookings, wallets, and transactions were carefully structured with relationships established using primary and foreign keys. Data integrity, security, and optimization were key concerns, so we included indexing on frequently accessed fields and enforced validation rules during insertion and updating of records. This helped avoid common issues like duplicate entries, orphan records, and data inconsistency. A modular implementation approach was adopted to keep the system manageable and easier to test. Each module was developed as an independent component. These included:

Each module was first designed on paper or using wireframing tools, then developed using PHP and JavaScript, and finally connected to the MySQL database. We followed a bottomup development style, beginning with the essential modules such as user login and gradually progressing to more complex features like booking and wallet integration. Security was a key concern during implementation. Passwords were hashed using builtin PHP functions before being stored in the database. Session management ensured that unauthorized users could not access restricted pages. All form inputs were sanitized to prevent SQL injection and crosssite scripting (XSS) attacks. Error handling was built into the system to catch and log unexpected behaviors, allowing us to debug and improve reliability. Testing was done in parallel with development to ensure that each module performed as intended before integration. We adopted unit testing, where each function or feature was tested in isolation using sample data. Once all modules passed unit testing, integration testing was performed to verify that they worked together seamlessly. Finally, user acceptance testing (UAT) was conducted by allowing real users to interact with the system and provide feedback. This helped us identify usability issues that might not be evident during technical testing.

One of the important highlights of implementation was the Digital Wallet System. Users could load funds into their wallet and use this balance to book game sessions. This involved complex logic, including transaction recording, real time balance updates, and validation checks to ensure users couldn’t make bookings without sufficient funds. The wallet module was tested thoroughly to avoid any financial inconsistencies or data loss. Another critical aspect was the Game Slot Booking System, where users could book specific game slots based on real time availability. A logicbased timing system was used

to automatically track session start and end times, calculate fees, and update availability. This system required real time validation and conflict checking to prevent double bookings or invalid entries. The Staff Management Panel allowed administrators to assign duties, track attendance, and monitor staff performance. A dashboard interface was created where tasks could be marked as completed or pending, and feedback could be recorded. The final stage of implementation involved deploying the system on a local server using XAMPP. This allowed the project team to perform final checks in an environment similar to a real-world setup. It also enabled demonstrations to faculty or stakeholders without relying on an active internet connection. Backups of the database and source code were created to prevent data loss and facilitate future development.

In conclusion, the implementation phase of the Gamezone project was both challenging and rewarding. It required precise execution of planned tasks, careful selection of technologies, structured development practices, and continuous testing. Each challenge encountered during development contributed to improving the system's reliability, efficiency, and user experience. The success of this phase validated the initial design and served as a stepping stone towards the final deployment of a fully operational Game Management System. The implementation not only brought the ideas and designs to life but also provided valuable learning and handson experience in real world software development practices. While securing the login process is essential, protecting the data stored in the backend is equally critical. The Gamezone application uses a MySQL database to store information such as user profiles, wallet balances, transaction logs, and system records. To protect this data, encryption is applied at both the application and database levels. Sensitive fields such as user passwords, national IDs (if applicable), and financial transaction details are either hashed (in the case of passwords) or encrypted using algorithms like AES (Advanced Encryption Standard) before being stored in the database. . A dedicated "transactions" table tracks all deposit and withdrawal operations. Each transaction entry includes a timestamp, transaction ID, amount, user ID, type (deposit or withdrawal), and current balance This ensures that even if unauthorized access to the database occurs, the data remains unreadable without the decryption keys. Database communication is also secured through SSL/TLS encryption, which prevents data interception during transmission between the server and the client. In development and production environments

4.1 Scope and Goals of Implementation

The implementation phase of the **Gamezone Revolutionizing Game Management** project holds significant importance in achieving the broader objective of digitalizing and automating gaming center operations. This section outlines the **scope** and **goals** of the implementation process, emphasizing how it transforms conceptual plans into a real world solution. , the implementation phase of the Gamezone project was both challenging and rewarding. It required precise execution of planned tasks, careful selection of technologies, structured development practices, and continuous testing. Each challenge encountered during development contributed to improving the system's reliability, efficiency, and user experience. The success of this phase validated the initial design and served as a stepping stone towards the final deployment of a fully operational Game Management System.

4.1.1 Scope of Implementation

The scope of implementation defines the boundaries within which the Gamezone system operates and what it is intended to accomplish. Gamezone is designed to serve as a comprehensive game management platform for gaming centers, integrating all administrative, financial, and operational tasks into a single webbased application. The system primarily targets gaming center owners, administrators, staff, and players who regularly visit or manage such centers.

The system's functionality covers multiple key areas:

- **Admin Dashboard**: Centralized access to all critical system features including user statistics, financial transactions, and system usage data.
- **User Management**: Creation and monitoring of user accounts categorized by roles—such as Admin, Regular User, and Premium User.
- **System Management**: Ability to add, remove, and manage available gaming systems like PCs, PlayStations, or VR setups.
- **Fund Management**: Features like fund transfer between wallets, deposit reporting, and monitoring of all transactions—especially under withdrawal categories.
- **Transaction History**: Secure logging and display of every financial activity conducted on the platform.
- **Staff Management**: Create staff accounts, assign tasks, and manage shift schedules.
- **Settings and Customization**: Control over systemwide settings, access permissions, and operational parameters.

The scope also includes security features such as password hashing, session control, and input validation to prevent unauthorized access and malicious activity. It ensures the application is userfriendly, scalable, and adaptable to various sizes of gaming centers.

4.1.2 Goals of Implementation

The primary goal of the implementation phase is to bring the Gamezone system from design to reality. It aims to develop a reliable, secure, and fully functional platform that addresses the real-world needs of game center management.

Specific goals include:

1. **Automation of Operations**: Reduce manual processes such as bookings, fund tracking, and staff coordination through an automated and streamlined system.
2. **Improved Efficiency**: Enable quick decisionmaking and reduce administrative workload by presenting key data on a central dashboard.
3. **User Empowerment**: Give users the ability to manage their accounts, wallets, and bookings independently, enhancing satisfaction and convenience.
4. **Real time Monitoring**: Provide administrators with real time access to transactions, bookings, and system status to make timely and informed decisions.
5. **Security and Accuracy**: Ensure data integrity and secure financial operations through welltested backend logic and encrypted storage mechanisms.
6. **Scalability**: Build the system in a modular and flexible way to allow future feature enhancements, such as online game booking or cloud deployment.

4.1.3 Frontend & Backend Implementation

The frontend implementation of the Gamezone – Revolutionizing Game Management project plays a central role in defining how users interact with the platform. It focuses on creating an intuitive, visually appealing, and responsive user interface that enables both administrators and users to navigate the system efficiently. The frontend serves as the visual layer that communicates directly with the user, ensuring smooth interaction with the system's various features such as account management, bookings, transaction history, and administrative controls.

Technologies Used

The following technologies were used in the development of the frontend:

- HTML5 : Used to structure the content and layout of each webpage.
- CSS3 : Employed for designing, styling, and ensuring the visual appeal of the interface.
- JavaScript : Added interactivity, form validation, and dynamic content updates.
- Bootstrap 5: Utilized for responsive design, consistent layout, and prebuilt UI components like buttons, cards, modals, and navigation bars.

4.2 Key Frontend Modules and Pages

4.2.1 Login & Registration Page

The Login and the Registration Page serves as the primary access point to the Gamezone – Revolutionizing Game Management system. It is one of the most critical components of the application, as it ensures secure access while providing a smooth and userfriendly experience. The frontend implementation of this module was carefully designed to balance aesthetics, usability, and security.

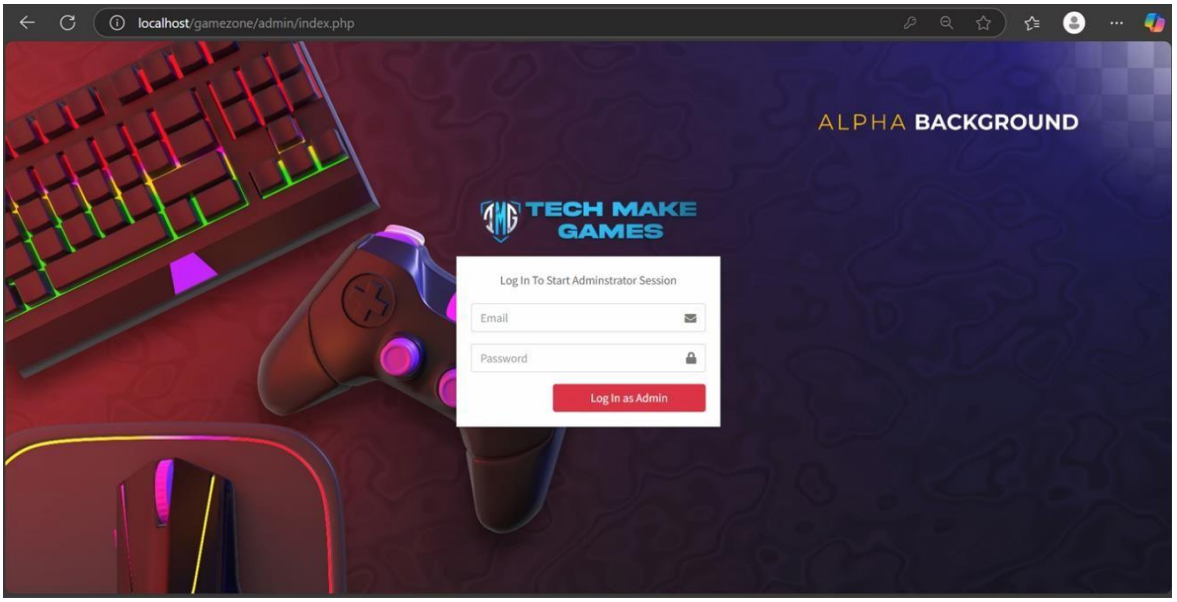

Fig. 4.1: Login Page

4.2.2 User Interface Design

The login and registration forms were designed using **HTML5**, **CSS3**, and **Bootstrap 5**, with a clean and modern layout. Both pages use a centered card layout with prominent fields and clearly labeled input boxes. Bootstrap's grid and form components were utilized to maintain

alignment and responsiveness across devices, including desktops, tablets, and smartphones. Icons and input placeholders provide visual cues to guide users through the form fields, such as username, email, password, and account type (admin or staff). Colorcoded alerts and notifications inform users of successful logins, incorrect inputs, or failed authentication attempts.

4.2.3 JavaScript Validation and Interactivity

Client-side validation was implemented using **JavaScript** to check input data before submission. This includes:

- Verifying that all required fields are filled
- Checking that the email format is valid
- Ensuring passwords meet minimum strength requirements (e.g., 8+ characters, including a number or symbol)
- Matching password and confirm password fields during registration

Real time error messages appear below the input fields to provide immediate feedback. This enhances the user experience by allowing users to correct mistakes instantly, rather than after form submission.

Password fields also include a toggle for visibility, allowing users to view or hide their password input for accuracy. JavaScript event listeners were used to trigger these validations and interactions dynamically.

4.2.4 Role Based Access

A key feature of the login page is **rolebased authentication**. Users are required to choose their role (Admin or Staff) when logging in. Depending on their role, they are redirected to the appropriate dashboard after successful authentication:

- **Admin Users** are directed to a fullfeatured dashboard where they can manage users, systems, wallets, transactions, and staff.
- **Staff Users** are redirected to a more limited dashboard that allows access only to the tools required for their responsibilities.

This rolebased system improves security and usability by restricting access to sensitive features and providing a customized experience for each user type.

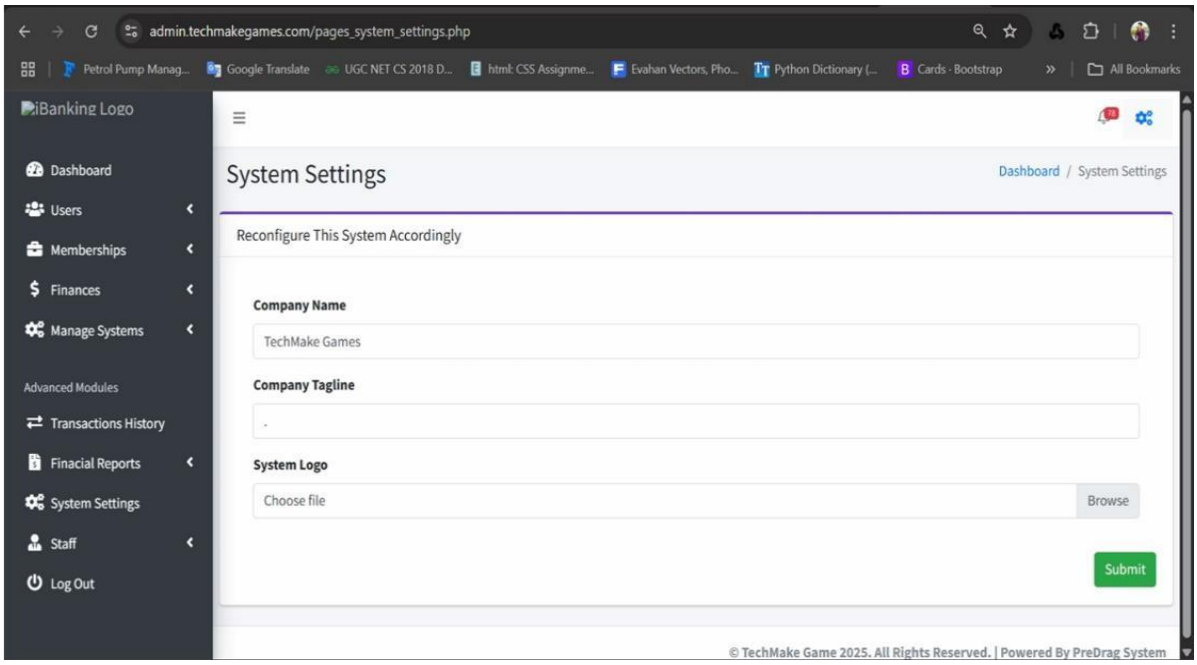

Fig. 4.2: System Settings

4.3 Security Considerations

Though the frontend cannot fully secure user credentials, it was designed to work alongside secure backend practices. Input fields are sanitized to prevent injection attempts. Passwords are not stored or processed on the frontend, and all login data is securely submitted via POST requests to the backend, where serverside hashing and validation occur.

4.3.1 Admin Dashboard

The Admin Dashboard is the central hub of the Gamezone Revolutionizing Game Management system. It was designed with a focus on functionality, real time information display, and ease of navigation. Serving as the most featurerich interface in the application, the dashboard allows administrators to manage every aspect of the gaming center efficiently, from system settings and users to transactions and staff.

4.3.2 User Interface Design

The Admin Dashboard was developed using a combination of HTML5, CSS3, Bootstrap 5, and JavaScript to ensure a modern, clean, and responsive design. The layout is structured using Bootstrap's grid system, making it compatible with various screen sizes from desktops to tablets.

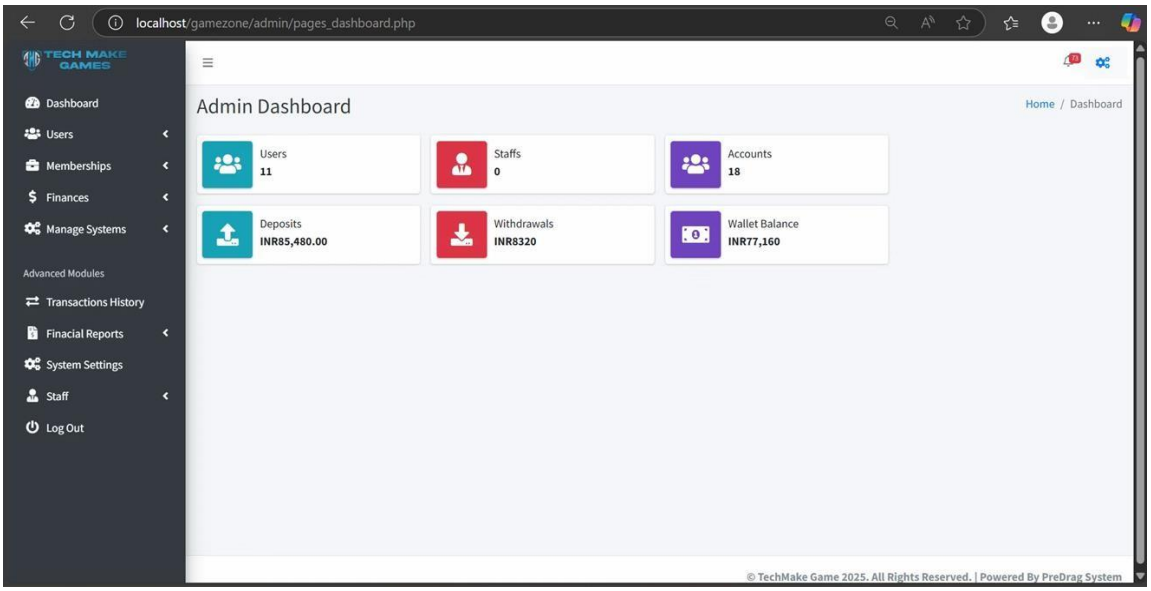

Fig. 4.3: Admin Dashboard

The interface opens with a header and side navigation bar, giving admins quick access to key modules such as:

- Dashboard (home)
- Users
- Gaming Systems
- Staff Management
- Fund Transfers
- Transactions
- Reports
- Settings

The sidebar remains collapsible for space efficiency, and icons were used alongside labels to improve visual clarity.

4.3.3 Overview Cards

At the top of the dashboard, summary cards (also called widgets) display real time statistics:

- Total Users
- Number of Systems
- Total Funds Available
- Today's Transactions

These cards are colorcoded and dynamically updated, providing admins with a quick snapshot of current operations. JavaScript was used to fetch data and update these figures.

4.3.4 Interactive Charts and Tables

Below the summary cards, interactive charts created using Chart.js (or a similar library) visualize key metrics such as:

- User growth trends
- Transaction volume by day
- System usage patterns

Beside the charts, data tables list recent transactions, deposits, and system bookings. Tables are sortable and searchable using DataTables.js, enhancing admin control and visibility over platform activity. Filters by date, user, or status help narrow down large data.

4.3.5 Modal Forms for Admin Actions

Rather than navigating away to new pages, most admin actions (like adding a system, transferring funds, or creating staff accounts) are handled using modal forms. These popup windows are triggered by buttons and allow admins to:

1. Enter system details (type, name, charges)
2. Select users for wallet transfers
3. Fill out new staff registration forms

These modal forms are built using Bootstrap modals and validate input using JavaScript. Upon successful submission, the forms provide feedback through alerts or notification badges. Responsiveness and Usability , the implementation phase of the Gamezone project was both challenging and rewarding. It required precise execution of planned tasks, careful selection of technologies, structured development practices, and continuous testing. Each challenge encountered during development contributed to improving the system's reliability, efficiency, and user experience. The success of this phase validated the initial design and served as a stepping stone towards the final deployment of a fully operational Game Management System. All elements of the Admin Dashboard are responsive—they adapt smoothly across screen sizes. Dropdown menus, tooltips, buttons, and alerts were used for clarity and guidance. Admins can manage complex tasks with minimal effort, as the frontend prioritizes workflow simplicity and visual organization.

4.4 Game System Management

The Game System Management module is one of the core components of the Gamezone platform's frontend. It allows administrators to manage the list of gaming systems available in the center—such as PlayStations, highend PCs, Xbox consoles, and VR setups directly from the Admin Dashboard. The frontend design and functionality were carefully structured to offer clear navigation, intuitive controls, and dynamic interaction, all while ensuring efficient system updates and status monitoring.

4.4.1 User Interface Design

The page layout follows a clean, tabledriven format built using HTML5, CSS3, Bootstrap 5, and JavaScript. At the top of the page, the implementation phase of the Gamezone project was both challenging and rewarding. It required precise execution of planned tasks, careful selection of technologies, structured development practices, and continuous testing. Each challenge encountered during development contributed to improving the system's reliability, efficiency, and user experience. The success of this phase validated the initial design and served as a stepping stone towards the final deployment of a fully operational Game Management System. a header titled "Manage Game Systems" is followed by a quick action button labeled "Add New System", which triggers a modal form for adding system details. The overall page structure is responsive, ensuring the module works well across all devices, including mobile phones and tablets.

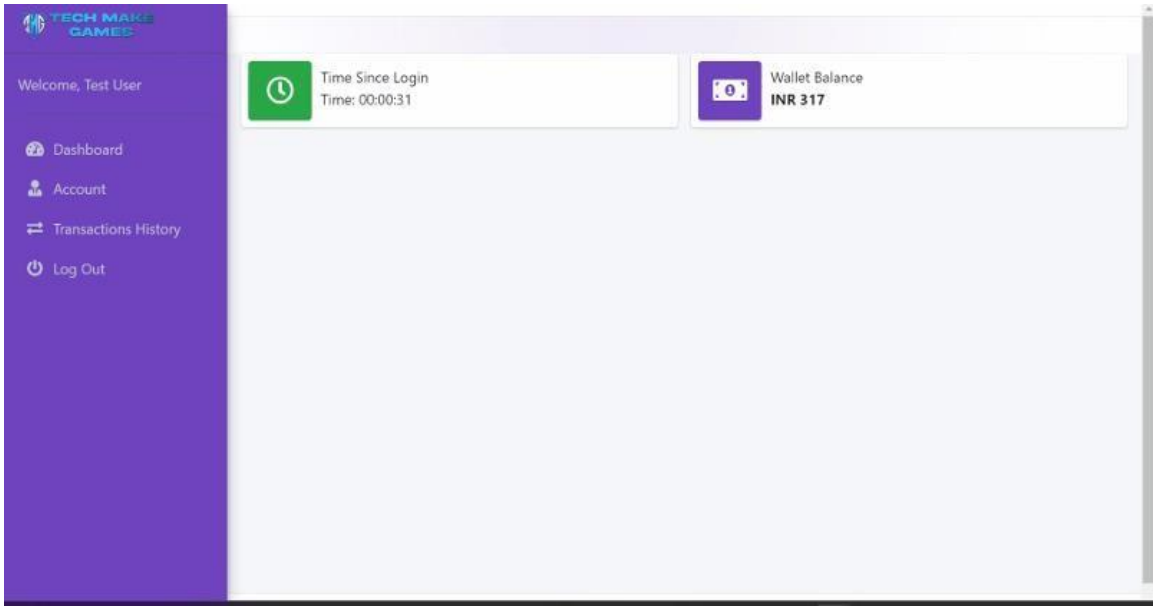

Fig. 4.4: User Interface

4.4.2 Dynamic System Table

The centerpiece of this module is a dynamic table that displays all the existing systems stored in the database. Each row in the table represents a single gaming system, with columns for:

- System ID
- System Name (e.g., “PS5 Console #1”)
- Type (e.g., VR, Console, PC)
- Usage Rate (per hour)
- Status (Active/Inactive)
- Action Buttons (Edit / Delete)
- Performance

The table was developed using Bootstrap tables and enhanced with JavaScript functions and DataTables.js to allow sorting, searching, and pagination. This makes it easy for admins to find specific systems even when the list grows long.

Add/Edit System via Modal Forms.When an administrator At the top of the page, the implementation phase of the Gamezone project was both challenging and rewarding clicks on “Add New System,” a Bootstrap modal appears with a form containing fields such as:

- System Name
- Category/Type
- Hourly Charges
- Status Selector (Active/Inactive)

Validation is done using JavaScript, ensuring that no field is left empty and that the charges are numeric. A similar modal is used for editing an existing system’s details—prefilled with the selected system’s data. Beside the charts, data tables list recent transactions, deposits, and system bookings. Tables are sortable and searchable using DataTables.js, enhancing admin control and visibility over platform activity. Filters by date, user, or status help narrow down large data sets.

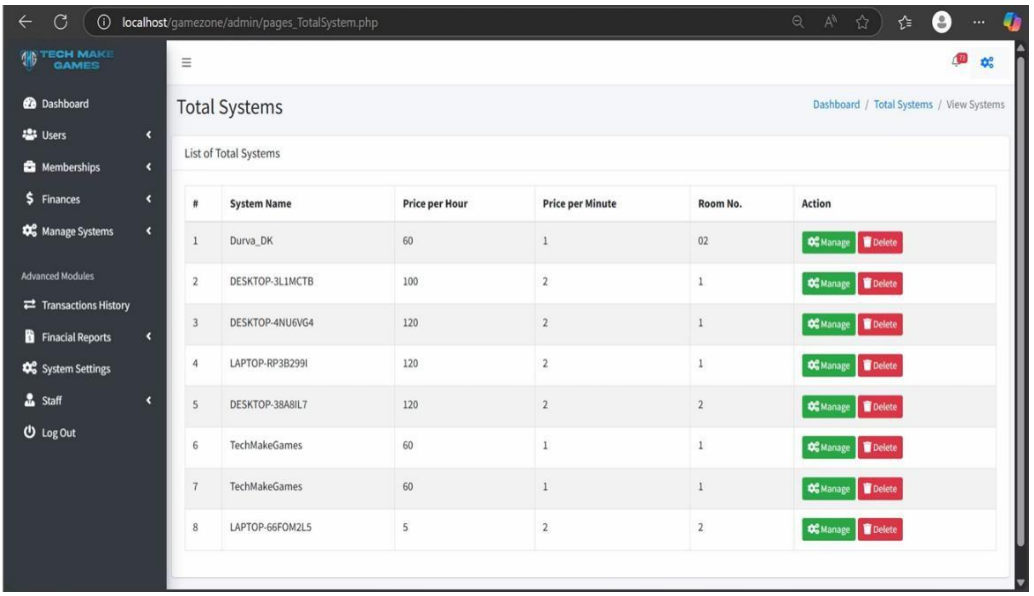

Fig. 4.5: Total System

Upon submitting the form, a confirmation alert is shown using Bootstrap alert boxes or custom JavaScript alerts. This improves user feedback and ensures the admin knows the action was successful.

4.4.3 Toggle System Status

Each system's availability can be updated using a status dropdown or toggle switch (e.g., Active/Inactive). Changing the status immediately reflects on the table without needing a page refresh, using AJAXbased JavaScript logic to improve interactivity. User Feedback and Notifications Every action, such as adding a system, editing information, or deleting a record, provides real time feedback through notification banners or alert modals. These messages inform the user whether the operation was successful or if there was an modal forms are built using Bootstrap modals and validate input using JavaScript. Upon successful submission, The interface was designed using HTML5, CSS3, Bootstrap , and JavaScript, providing a clean and intuitive user experience error.

4.5 Fund Transfer and History

The Fund Transfer and Transaction History module plays a vital role in the Gamezone – Revolutionizing Game Management platform, offering administrators complete control over financial transactions within the system. The frontend implementation of this module was designed with a strong focus on clarity, security, and usability to make fund management simple, transparent, and efficient.

4.5.1 Fund Transfer Interface

The Fund Transfer feature allows the admin to add or deduct funds from a user's wallet. The interface was designed using HTML5, CSS3, Bootstrap 5, and JavaScript, providing a clean and intuitive user experience. It is accessible via the Admin Dashboard, where a button labeled "Transfer Funds" opens a modal form.

The modal includes the following input fields:

- User ID or Name (with autosuggest feature)
- Transfer Type (Add Funds or Deduct Funds)
- Amount to be Transferred
- Notes or Description (optional)

JavaScript validation is used to ensure that the transfer amount is a valid number and not left blank. Once submitted, the form is processed via backend integration, and feedback is provided immediately on the same page using colored alert messages.

A confirmation prompt is also shown before any transaction is processed, reducing accidental fund transfers.

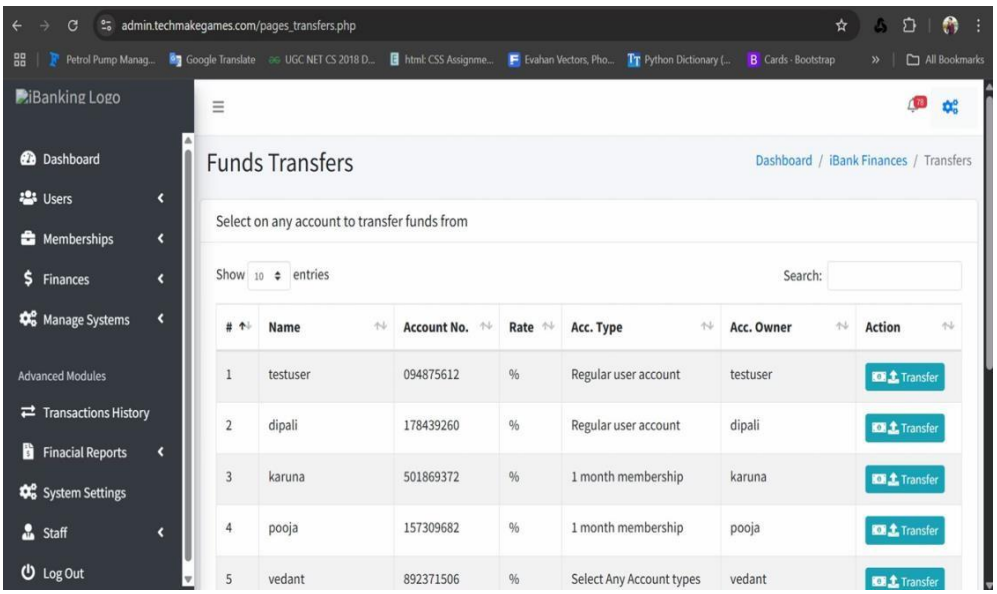

Fig. 4.6: Fund Transfer Interface

4.5.2 Transaction History Table

The Transaction History section displays a detailed, real time log of all financial transactions performed in the system. The table includes the following columns:

- Transaction ID
- User Name
- Amount
- Type (Deposit, Withdrawal, Internal Transfer)
- Status (Success / Failed)
- Date & Time

The table is created using DataTables**.js**, which offers powerful features like pagination, live search, column sorting, and filtering by type or status. This helps admins quickly locate specific transactions or view patterns in user activity.

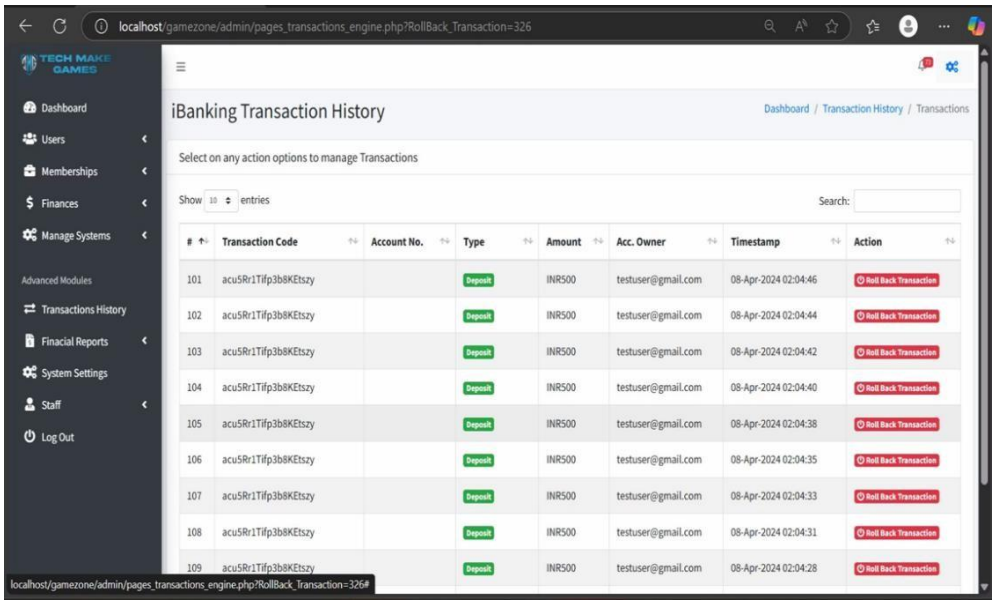

Fig. 4.7: Transaction History Table

Visual Indicators

To enhance the clarity of data, visual cues were incorporated:

- Green badges indicate successful transactions
- Red badges denote failed or reversed transactions
- Orange/yellow tags are used for pending or underreview transactions

These tags allow admins to instantly recognize transaction status without having to open individual records.

Filtering and Export Features

For ease of reporting, the frontend supports filtering by:

- Date range
- User name or ID
- Transaction type
- Status

Plans for exporting data to Excel **or** PDF are included for future versions, enabling financial reporting and backup.

Responsive Design and Accessibility

The module is fully responsive and adapts across different screen sizes. All buttons and inputs are clearly labeled, and table layouts adjust based on device width. This ensures that the admin can view or process transactions even on tablets or mobile devices.

4.6 Reporting & Deposits

The Reporting & Deposits module is a critical component of the Gamezone – Revolutionizing Game Management system. It provides the administrator with an organized and interactive interface to monitor all user deposits and generate detailed reports. The frontend implementation of this module was designed to offer high usability, real time feedback, and seamless user interaction, all while presenting large volumes of financial data in a manageable format.

4.6.1 User Deposit Submission Interface

Users can submit deposit requests directly through a simplified and responsive form. Built using HTML5, CSS3, and Bootstrap 5, the deposit form collects essential data such as:

- Deposit Amount
- Payment Method (e.g., UPI, Card, Net Banking)
- Reference Number
- Screenshot or proof of payment (optional file upload)
- Notes (optional)

Client side validation is applied using JavaScript to ensure all required fields are filled correctly before submission. For example, the reference number must be alphanumeric, and the deposit amount must be a valid number greater than zero. When a user submits the form, a success message or error alert appears dynamically without reloading the page thanks to JavaScript and AJAX integration. This enhances the overall user experience and speeds up interactions.

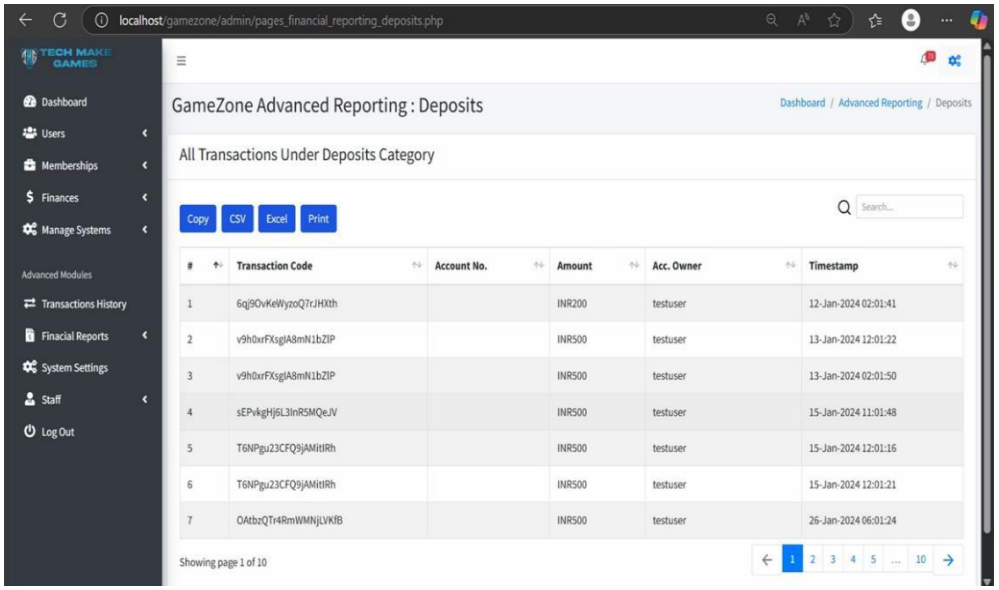

Fig. 4.8: Deposits

4.6.2 Admin Reporting Panel

For administrators, the reporting panel provides advanced tools to track, verify, and export deposit data submitted by users. The frontend includes:

- A date picker filter to view deposits within a specific range
- Dropdown filters to sort by user name, payment type, or status
- Search bar to quickly locate transactions

All submitted deposits are displayed in a responsive data table, with columns such as:

- User Name
- Deposit Amount
- Reference Number
- Payment Mode
- Status (Pending, Approved, Rejected)

Each row includes action buttons like "Approve", "Reject", or "Request More Info", which trigger confirmation modals. These modals allow the admin to quickly respond to deposit submissions without leaving the page.

4.6.3 Expandable Details and Visual Feedback

Each deposit entry includes a collapsible panel or “accordion” section that can be expanded to reveal:

- Screenshot or file uploaded by the user
- Full transaction notes
- Admin’s previous comments (if any)

Colorcoded badges and status indicators visually represent the state of each deposit:

- Green = Approved
- Red = Rejected
- Yellow = Pending

This makes it easy for the admin to scan and manage multiple deposits at a glance. Export and Reporting A key planned enhancement is the Export to Excel or PDF feature. This will allow admins to generate downloadable reports for accounting and auditing purposes. The frontend layout is being prepared to support this feature by organizing data in a structured, tabular format. Beside the charts, data tables list recent transactions, deposits, and system bookings From assigning roles to managing shifts and controlling access levels, the frontend implementation of this module focuses on usability . Tables are sortable and searchable using DataTables.js, enhancing admin control and visibility over platform activity. Filters by date, user, or status help narrow down large data sets.

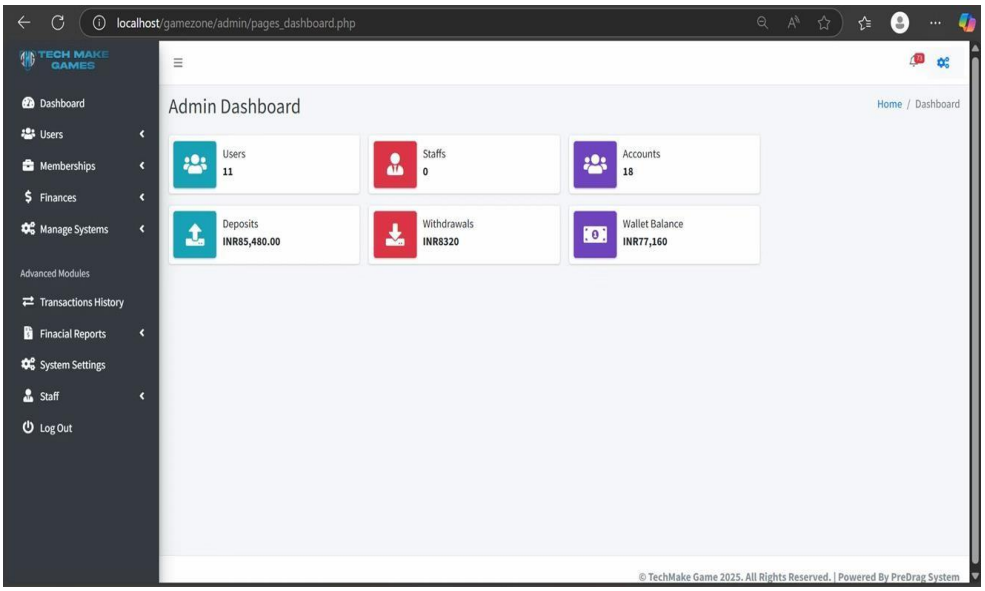

Fig. 4.9: Admin Dashboard

4.7 Staff Management

The **Staff Management** module in the **Gamezone – Revolutionizing Game Management** system is designed to give administrators full control over the creation, monitoring, and management of staff accounts. From assigning roles to managing shifts and controlling access levels, the frontend implementation of this module focuses on usability, responsiveness, and task efficiency.

4.7.1 Purpose and Accessibility

Accessible only to admin users through the main dashboard, the **Staff Management section** offers a streamlined interface where administrators can:

- Create new staff accounts
- View active/inactive staff
- Edit staff details
- Assign roles or permissions
- Monitor staff activities

This ensures the platform supports operational delegation while still allowing the administrator to maintain centralized control.

4.7.2 Design and Layout

The staff interface was built using **HTML5**, **CSS3**, **Bootstrap 5**, and **JavaScript** to deliver a clean and modern design.

The layout consists of two key parts:

1. A summary section displaying the total number of staff accounts, active staff, and pending tasks.
2. A detailed data table listing all staff members, including:
   - Staff ID
   - Full Name
   - Username or Email
   - Role (e.g., General Staff, Supervisor)
   - Status (Active/Inactive)
   - Action Buttons (Edit/Delete)

Bootstrap cards and table components ensure the data remains neatly organized and easily readable across all screen sizes, including mobile and tablet devices.

4.7.3 Add & Edit Staff Accounts

Admins can add new staff using a **modal form** triggered by an "Add Staff" button. This modal includes fields like:

- Full Name
- Email Address
- Phone Number
- Temporary Password
- Role Selector

All form fields are validated using **JavaScript** to ensure data is properly entered. For instance, the email field must follow a proper format, and passwords must meet minimum complexity standards. Real time error messages are displayed next to each input for guidance.

Editing an existing staff member opens a similar modal form prefilled with their current information. Changes such as updating roles, resetting passwords, or deactivating accounts can be done directly from the frontend.

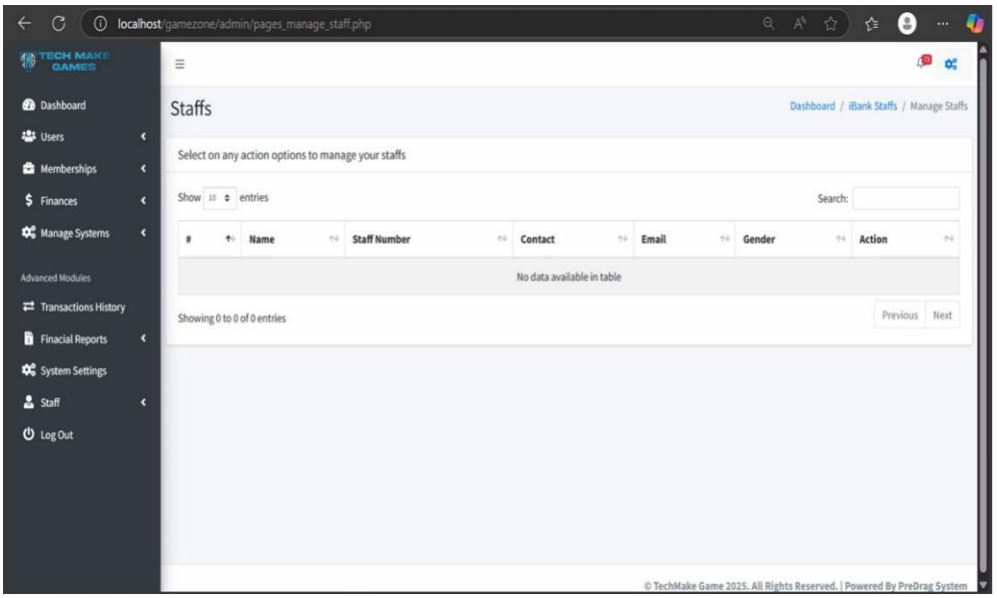

Fig. 4.10: Staff

4.7.4 Status Control and Interactivity

Each staff entry includes a **status toggle** that allows the admin to activate or deactivate staff accounts instantly. A confirmation alert is shown before changes are applied to prevent mistakes. This functionality is especially useful for managing seasonal or parttime staff. Additional **filter options** allow the admin to sort staff based on activity level, name, or role, while a search bar enables quick lookups in large staff lists.

4.7.5 Responsive and Secure Interface

The module is designed to be fully **responsive**, allowing admins to manage staff from laptops, desktops, or mobile devices. Sensitive data like passwords are not displayed or stored on the frontend. All form submissions use **POST requests** for security, and rolebased restrictions ensure only admins can access or modify staff data.

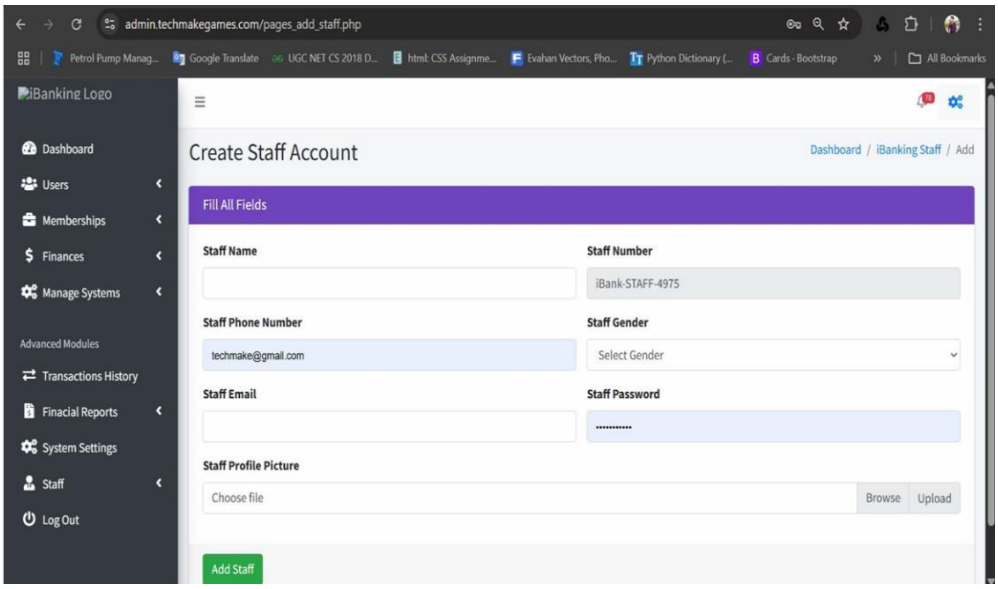

Fig. 4.11: Create staff account

The System Settings module allows administrators to control key configurations of the Gamezone platform through a simple, customization, and smooth platform operation.

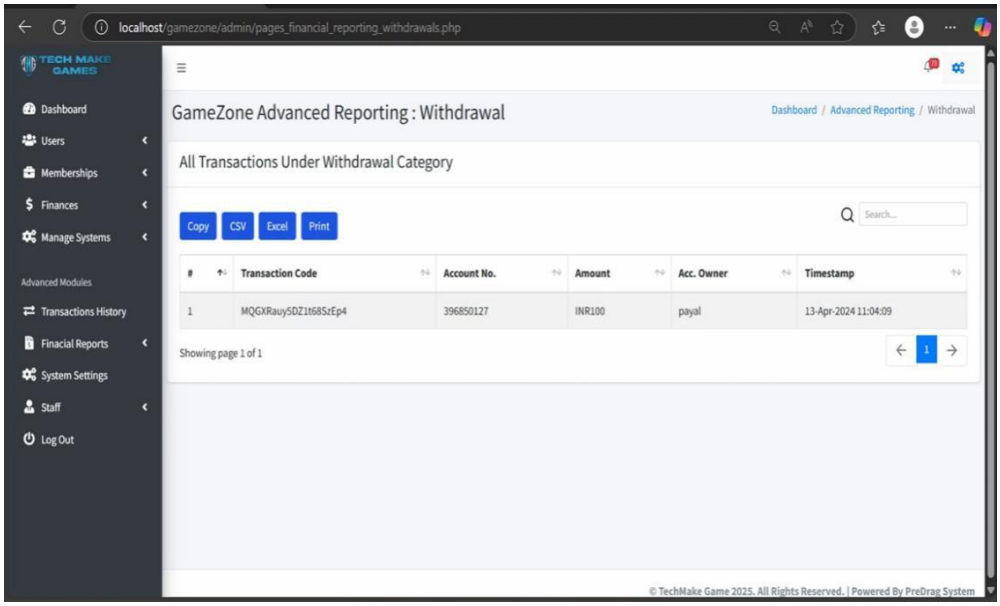

Fig. 4.12: Withdrawal

CONCLUSION

Gamezone: Revolutionizing Game Management offers a modern solution to the traditional challenges faced by gaming centers. By introducing a digital wallet system, it removes the need for manual payment tracking and outdated systems. Users can easily recharge their wallets, view transaction history, and enjoy uninterrupted gameplay through automatic deductions—all within a clean, responsive interface. For players, the platform provides a clear dashboard displaying wallet balances and past transactions, making the experience seamless and efficient. The system ensures wallet balance verification upon login, encouraging fair use and responsible gaming habits.

For administrators, Gamezone includes powerful backend features such as deposit and withdrawal tracking, categorized financial reports, and a transaction history module that works like an internal bank. These records can be exported in Excel, CSV, or print formats for financial analysis and auditing. The staff management panel adds another layer of control, allowing admins to manage employee details with features like edit, delete, search, and pagination for large datasets. Designed with scalability in mind, Gamezone supports future integrations like loyalty points, leaderboards, and third-party payment systems. More than just a wallet tool, Gamezone is a comprehensive game center management platform that enhances operational efficiency, simplifies financial tracking, and improves overall customer satisfaction.

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