



e-ISSN:2582-7219



INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH IN SCIENCE, ENGINEERING AND TECHNOLOGY

Volume 6, Issue 6, June 2023



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.54



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Exploring Coin-Based Payment Systems and Member Management in Restaurant Management: A Web Application Perspective

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ABSTRACT: This journal article investigates the creation of a web application for managing restaurants that has the distinctive capability of utilizing a coin-based payment system. While offering a seamless and pleasant experience for both restaurant partners and members, the application seeks to simplify and improve the operational efficiency of eateries. Users of the web application can conduct transactions using virtual currencies created especially for the restaurant thanks to the system's coin-based payment integration. This payment technique lessens the need for conventional payment methods by ensuring speedy and safe transactions within the application. The web application also includes a membership program via which people can join as partners in the restaurant. Two of the group's ten members are appointed as managers, in charge of supervising the operations, with the other eight members participating on a regular basis.

KEYWORDS: Web-based reservation system, Restaurant booking, Customer profile, Check-in/check-out-process, Walk-in-guests, Guest preferences, Search and filtering options.

I. INTRODUCTION

The restaurant industry is constantly evolving, and technology plays a crucial role in enhancing operations and improving customer experiences. This article introduces a state-of-the-art web application developed for restaurant management, incorporating a coin-based payment system and a unique partnership model. By harnessing the potential of cryptocurrency and fostering a cooperative work environment, this web application aims to revolutionize the way restaurants handle financial transactions and manage their internal team dynamics. Traditional payment methods in restaurants often involve cash, credit cards, or mobile payment systems. However, the emergence of cryptocurrencies has opened up new possibilities for secure and efficient transactions. This web application capitalizes on this digital revolution by offering a coin-based payment system. Customers can now settle their bills using various digital coins, providing them with greater convenience, privacy, and security.

Furthermore, the web application incorporates a partnership model within the restaurant's organizational structure. Ten members are part of this partnership, with two members acting as managers responsible for overseeing day-to-day operations, decision-making, and strategic planning. The remaining members are integral contributors, responsible for various roles within the restaurant, such as customer service, culinary expertise, and administrative tasks. This unique approach encourages collaboration, shared responsibilities, and a sense of ownership among the team, ultimately leading to a more motivated and efficient workforce. The goal of this web application is to streamline restaurant management processes, optimize financial transactions, and create a cooperative work environment that enhances both employee satisfaction and customer experiences. By combining the benefits of cryptocurrency-based payments with a partnership model, this application strives to set new standards for efficiency, security, and innovation within the restaurant industry.

II. OBJECTIVES

Streamline Payment Processes: The primary objective is to simplify and optimize payment processes by introducing a coin-based payment system. The web application aims to provide customers with a seamless and secure method of settling their bills using digital coins, reducing transactional complexities and enhancing the overall payment experience.



Enhance Operational Efficiency: By implementing a partnership model within the restaurant's organizational structure, the web application aims to improve operational efficiency. The application facilitates effective collaboration and coordination among team members, leading to smoother workflows, streamlined communication, and increased productivity.

Foster Customer Satisfaction: The web application seeks to enhance customer satisfaction by offering a convenient and innovative payment option. The integration of a coin-based payment system allows customers to make transactions quickly and securely, providing them with a modern and efficient dining experience.

Optimize Financial Management: The application's objectives include optimizing financial management within the restaurant. By leveraging the coin-based payment system, the application ensures accurate and efficient tracking of revenue, simplifies financial reporting, and minimizes the risks associated with traditional payment methods.

IMPLEMENTATION

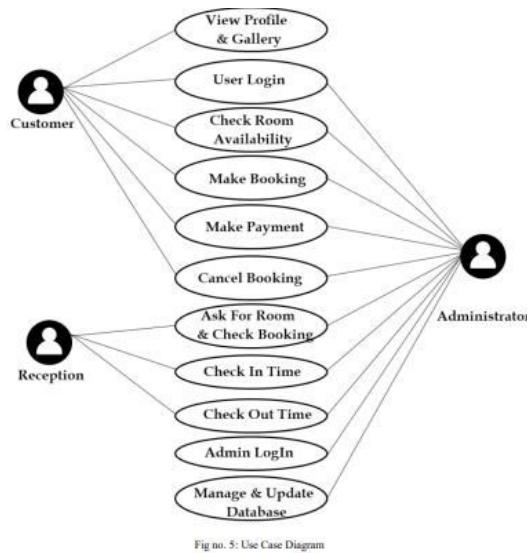


Figure 1: Use case diagram

III. RESULTS AND DISUSSION

1. Login

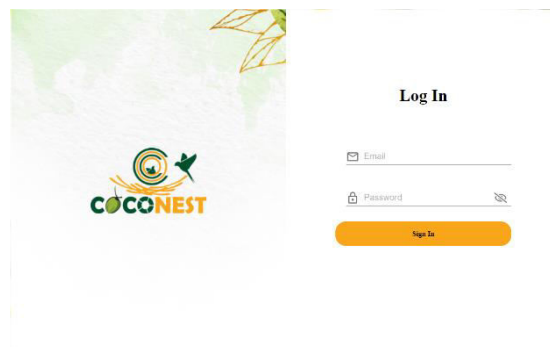


Fig I : Login Page



Module Description :

- ✓ Admin
- ✓ Manager
- ✓ Member

Email Input Field: The login form includes an input field where users can enter their registered email address. The field may include validation to ensure a properly formatted email address is entered.

Password Input Field: The login form includes a password input field where users can enter their account password. The password field is typically masked to ensure security and may include additional features like a "Show Password" option to allow users to view the entered password.

This is the online cab booking service provided to customers. This Paper intends to introduce more user friendly in the various activities such as record updating, maintenance, and searching.









Member Name	Phone Number	Role	Status	Available Balance	Action
Admin	9876654321	Admin	ACTIVE	-7500	   
member name	9862178122	Member	ACTIVE	-1000	   

Fig II : Admin – User’s List

User Details View: Clicking on a user's name or a dedicated "View" button in the user list opens a detailed view of the user's profile. This view presents comprehensive information about the user, including their personal details, contact information, activity history, and any other relevant data associated with their account.

User List: The admin is presented with a user list interface that displays a table or a list of registered users within the restaurant management system. This list typically includes columns with user information such as Member name, Phone number, role, Status, Available Balance and Action.

Delete User: The admin can perform a delete action on a user by selecting the corresponding option, typically represented by a delete button or an icon.

Edit User Details: The admin has the ability to edit user details by selecting the edit option for a particular user.



Super Admin Transaction ₹ -7500 ⓘ ↗

Filter

Transaction Date	Transaction Type	Expense Category	Points	Action
06-06-2023	Added Points	Room	4000	👁
01-06-2023	Added Points	Room	2000	👁
30-05-2023	Deducted Points	NA	-500	👁
29-05-2023	Added Points	Room	2000	👁
05-05-2023	Added Points	Room	2000	👁
03-05-2023	Added Points	Room	2000	👁
27-04-2023	Added Points	Room	2000	👁
10-04-2023	Deducted Points	NA	-500	👁
15-03-2023	Deducted Points	NA	0	👁

Fig III: Transaction Details

Transactions Once the user is selected, you can click on the "Transaction" button or a similar action associated with viewing transaction details. This button is typically represented by a label such as "View Transactions," "Transaction History," or a related icon.



Configuration ₹ -7500 ⓘ ↗

Expense Category

Member Room Rent Points Per Day	<input type="text" value="1000"/>	Non Member Room Rent Points Per Day	<input type="text" value="2000"/>
Member Special Day Booking Points Per Day	<input type="text" value="4000"/>	Non-Member Special Day Booking Points Per Day	<input type="text" value="999"/>
Booking Cancellation Cut Off Time (In days)	<input type="text" value="24"/>	Dispute Cut Off Time (In days)	<input type="text" value="24"/>
Booking Cancellation Penalty Points	<input type="text" value="500"/>	Special Day Entry Points Per Guest	<input type="text" value="100"/>
Total Number of Available Rooms	<input type="text" value="4"/>		

Back Save

Fig IV: Configuration

Member Room Rent Points Per Day: The points allocated for room rent per day for members is set at 1000. This value determines the number of points deducted from a member's account for each day of room rental.

Non-Member Room Rent Points Per Day: Non-members are required to pay a higher rate, and the points allocated for room rent per day for non-members is set at 2000. This value indicates the number of points deducted for each day of room rental for non-members.

Member Special Day Booking Points Per Day: On special days, such as holidays or events, members can book rooms at a discounted rate. The points allocated for room booking per day for members on special days are set at 4000. This



value represents the number of points deducted from a member's account for each day of room booking on special occasions.

Non-Member Special Day Booking Points Per Day: Non-members can also make room bookings on special days, but they are charged a higher rate. The points allocated for room booking per day for non-members on special days are set at 999. This value indicates the number of points deducted from a non-member's account for each day of room booking on special occasions.

Booking Cancellation Cut Off Time (In days): The cut-off time for booking cancellations is set at 24 days. This means that users can cancel their room bookings without penalty if the cancellation is made at least 24 days before the scheduled booking date.

Dispute Cut Off Time (In days): The cut-off time for raising disputes related to room bookings is also set at 24 days. If a user has any issues or disputes regarding their room booking, they must notify the management within 24 days of the booking date to initiate resolution processes.

Booking Cancellation Penalty Points: In case of cancellations made after the cut-off time, a penalty in the form of points deduction is applied. The penalty for booking cancellations is set at 500 points. This value represents the number of points deducted from a user's account for cancellations made after the specified cut-off time.

Special Day Entry Points Per Guest: On special days, additional points are awarded to guests. The entry points per guest on special days are set at 100 points. This value indicates the number of points awarded to each guest attending the restaurant on special occasions.

Total Number of Available Rooms: The web application manages a total of 4 available rooms for booking. This information is crucial for ensuring accurate room availability and preventing overbooking.

Booked date	Guest name	Type	Check in	Check out	Number of rooms	Payment type	Status	Action
15-03-2023	Priya	Room Booking	28-06-2023	29-06-2023	4	Direct Payment	CANCELLED	👁
01-06-2023	Dhanam	Room Booking	03-06-2023	04-06-2023	1	Points	CONFIRMED	👁
29-05-2023	Prabu	Room Booking	30-05-2023	31-05-2023	2	Points	CONFIRMED	👁

Fig V: Room Booking List

IV. FUTURE ENHANCEMENT

- **Mobile Wallet Integration:** Enhancing the coin-based payment system by integrating with popular mobile wallet platforms can provide customers with even more convenience and flexibility in making payments. Supporting widely used mobile wallets can attract tech-savvy customers who prefer mobile-based payment options.
- **Integration of AI Chatbots:** Implementing AI-powered chatbots within the web application can provide instant customer support and assist with queries related to reservations, menu items, and payment methods. Chatbots can enhance customer service by offering quick responses and freeing up staff to focus on other critical tasks.



- **Loyalty and Rewards Program:** Implementing a loyalty and rewards program within the web application can incentivize customer loyalty and drive repeat visits. By offering exclusive discounts, personalized offers, and redeemable points based on their coin-based payments, customers will be motivated to choose the restaurant over competitors.

V. CONCLUSION

In conclusion, the web application for restaurant management with a coin-based payment system and a partnership model presents a promising pathway towards a more modern, efficient, and customer-centric restaurant industry. By embracing technology and fostering collaboration, this application holds the potential to transform the way restaurants operate, enhance financial transactions, and elevate overall customer experiences.

REFERENCES

- [1] B.S. Afriyie, Concise ICT Fundamentals Volume One, Trafford Publishing, 2012.
- [2] T. Berners-Lee, Web Design Issues, 1998, <http://www.w3.org/DesignIssues/RDFnot.html>. [3] H. Bidgoli, Essentials of Software Engineering 2011.
- [4] V. DeBolt, Mastering Integrating Html and CSS, ISBN: 978-0-470-09754-0, 2007
- [5] P. Ghosh, SQL Popcorn, Eastern Economy ed, New Delhi : PHI Learning, 2010.
- [6] R. Malloy, Internet and Personal Computing Abstracts: IPCA, Volume 22 Issues, Information Today, Incorporated, 2001, 2001.
- [7] D.S. McFarland, Dreamweaver CS4: The Missing Manual. O'Reilly Media Inc, 2008.
- [8] J. Pan, S. Chen, and N. Nguyen, Intelligent Information and Database Systems: 4th Asian Conference, ACIIDS, Proceedings Part 2, Kaohsiung, Taiwan, 2012. [9] N. Sfetcu, Web Design & Development, 2014.
- [10] M. Taylor, A General Understanding of Microsoft Excel, Visual Studio and Webmatrix2, Mark Taylor and Paragon Publishing, Rothersthorpe, 2013. [11]<http://533507.weebly.com/notepad.html>, Accessed on 15/11/14.
- [12]<https://adroitcare.wordpress.com/tag/microsoftwindows-operating-system/>, Accessed on 15/11/14.
- [13]<http://lamp.cse.fau.edu/~knagarsh/html.html>, Accessed on 15/11/2014.
- [14]http://www.w3schools.com/html/html_intro.asp, Accessed on 15/11/14. [15]<http://www.mindspeakit.com/web-development2/products/hotel-management-system/>, Accessed on 15/11/14.
- [16]<https://lib.fsu.edu/adobe-dreamweaver>, Accessed on 15/11/14. [17]http://techstream.org/DIY/wamp_server_config, Accessed on 15/11/14. [18]<http://www.marolinedesign.com/tutorialtopics/wamp/>, Accessed on 15/11/14.
- [19]<http://www.shangri-la.com/singapore/shangrila>, Accessed on 15/12/12. [20]<http://www.swissgarden.net/>, Accessed on 15/12/12. [21]<http://www.hansbotelghana.com/>, Accessed on 15/11/12.; [22]www.hansonichotel.com, Accessed on 15/12/12. [23]www.hotelbookers.com, Accessed on 15/12/12.



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