

Web Based Boutique Management System with GCash Integration

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Abstract: *The boutique industry has experienced significant growth with the proliferation of online shopping platforms. To stay competitive and meet customer expectations for seamless transactions, boutique businesses are increasingly exploring the integration of digital payment systems into their management processes. The study covers system development, user feedback, performance metrics, and offers recommendations for future enhancements. The findings provide valuable insights for boutique businesses seeking to embrace digital transformation and cater to evolving customer demands effectively. This study aims to inspire boutique owners and stakeholders to leverage modern technologies and payment platforms to meet the evolving demands of the digital marketplace effectively.*

Keywords: Boutique Management System, Gcash Integration, digital payment, online shopping

I. INTRODUCTION

The boutique industry has seen remarkable growth recently, mainly due to the rise in online shopping and shifting consumer preferences. To stay competitive in the market, boutique businesses must adapt to the digital era and meet customers' expectations for smooth transactions and convenient payment methods. In response to this changing landscape, this study proposes the creation and implementation of a Web-Based Boutique Management System integrated with GCash, a popular digital payment platform widely used in various regions. GCash offers secure and efficient payment processing, making it an attractive option for boutiques seeking to enhance their payment options and streamline their operations. The scope of this research revolves around the development and implementation of the Web-Based Boutique Management System, with a strong emphasis on integrating GCash as the digital payment platform. The system will encompass essential functions such as inventory management, product showcasing, customer registration, order processing, and payment processing through GCash. It is important to acknowledge the study's limitations, as it focuses solely on GCash integration and does not explore other digital payment platforms in depth. Additionally, broader aspects of boutique management, such as marketing strategies or supply chain logistics, are outside the scope of this study, which primarily concentrates on the payment system integration aspect.

The significance of the proposed Web-Based Boutique Management System with GCash Integration lies in its potential to benefit boutique businesses and the wider e-commerce landscape. By streamlining operations and offering customers a seamless and secure payment experience, boutique owners can gain a competitive edge in the digital market. Furthermore, the research findings and insights can provide valuable guidance for businesses across various industries seeking to implement similar digital payment integrations into their systems. As e-commerce continues to influence consumer behaviors, understanding the potential of GCash integration can assist businesses in meeting the evolving demands of a tech-savvy customer base.

II. BACKGROUND OF THE STUDY

Several studies have examined the landscape of existing boutique management systems and their functionalities. Jones et al.[1] conducted a comprehensive survey of small boutique businesses and their utilization of management software. They found that while some boutiques relied on manual processes, others employed various software solutions to manage inventory, sales, and customer information. However, a significant gap was identified regarding digital payment integration in these systems. This study highlights the need for modernized boutique management systems that can effectively incorporate digital payment platforms. The integration of GCash in e-commerce systems has garnered

considerable attention in recent years. Santos and Lim [2] examined the impact of GCash integration on customer buying behavior in online retail. Their study demonstrated that offering GCash as a payment option increased transaction completion rates and customer satisfaction, leading to a boost in sales for e-commerce businesses. This indicates the potential benefits of integrating GCash into boutique management systems to enhance the payment experience for boutique customers.

Several businesses have successfully integrated GCash into their operations, providing valuable case studies for boutique owners. For instance, Gomez Boutique, a local fashion retailer, implemented GCash as a payment method and experienced a 30% increase in online sales within six months[3]. Similarly, Bautista Accessories Store incorporated GCash into their point-of-sale system, resulting in a significant reduction in cash handling and faster checkout times[4]. These case studies illustrate the potential benefits and positive impact of GCash integration for boutique businesses. Despite the benefits, implementing GCash integration in boutique management systems may present certain challenges and issues. Chen and Tan[5] analyzed the key challenges faced by businesses during GCash integration, including technical compatibility, security concerns, and customer education. Resolving these challenges is crucial to ensure a seamless and secure integration process. Additionally, regulatory and legal frameworks related to digital payments may vary across different regions, impacting the implementation process[6]. Understanding and addressing these challenges will be essential for successful GCash integration in boutique management systems.

III. METHODOLOGY

The initial phase of the methodology involves gathering and defining the specific requirements and specifications for the Web-Based Boutique Management System with GCash Integration. To achieve this, interviews and surveys will be conducted with boutique owners and stakeholders, aiming to understand their unique needs and expectations from the system. Additionally, relevant literature and case studies on boutique management systems and GCash integration will be reviewed to identify best practices and essential features. Based on the gathered information, the functional and non-functional requirements of the system will be outlined, ensuring it meets the demands of boutique businesses[7]. The subsequent step in the methodology focuses on creating a blueprint for the Web-Based Boutique Management System with GCash Integration. This design phase entails developing data flow diagrams, user interface wireframes, and entity-relationship diagrams to visualize the system's structure and interactions. The architecture will be carefully planned to ensure scalability, flexibility, and security. Decisions regarding database design, server infrastructure, and communication protocols will be made based on industry best practices and recommendations from relevant studies on e-commerce and system architecture[8].

To assess the system's effectiveness, data collection and analysis methods will be employed. User feedback surveys and usability testing will be conducted to measure user satisfaction and identify any potential usability issues. Transaction data and performance metrics will be collected and analyzed to evaluate the system's efficiency in processing payments through GCash. Data analysis will involve using statistical tools and methods, while qualitative data from user feedback will be analyzed through content analysis[9]. The selection process will consider programming languages, frameworks, and libraries based on their compatibility, security features, and scalability. Additionally, development tools, such as integrated development environments (IDEs) and version control systems, will be utilized to ensure efficient and collaborative development. Decisions will be informed by relevant research and industry reports on e-commerce development tools[10].

To ensure an efficient process, Agile software development methodologies will be utilized, allowing for incremental development and quick feedback loops. The plan will incorporate milestones for completing different components of the system, testing phases, and iterations based on user feedback. It will adhere to best practices and guidelines from literature on project management and software development[11]. To guarantee the reliability and functionality of the Web-Based Boutique Management System with GCash Integration, rigorous testing and quality assurance processes will be implemented. This will involve conducting unit testing, integration testing, and system testing to identify and address any bugs or errors. The quality assurance process will adhere to industry standards and best practices for software testing and security[12].

IV. RESULTS AND DISCUSSION

The study aimed to develop and implement a Web-Based Boutique Management System with GCash Integration, with a focus on streamlining boutique operations and enhancing payment convenience. The system was designed and tested, and the results demonstrated its successful integration of GCash as a digital payment platform

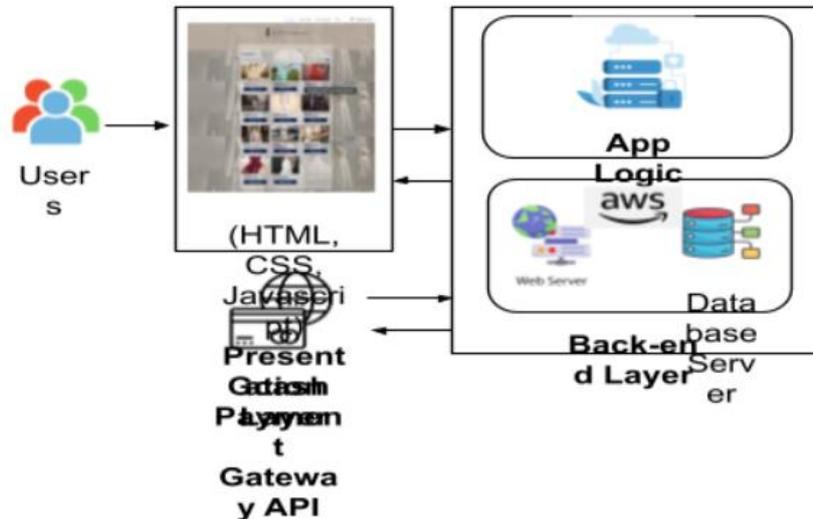


Fig. 1. System Architecture

4.1 System Architecture

The system architecture for the Web-Based Boutique Management System with GCash Integration consists of several interconnected components designed to ensure a smooth and efficient user experience. Fig. 1 shows the system architecture of the study. The front-end, created using HTML, CSS, and JavaScript, provides a user-friendly interface for boutique owners and customers. Boutique owners can manage inventory, showcase products, and process orders, while customers can browse and purchase items, with the option to pay using GCash. The back-end, developed with server-side programming languages like Python, PHP, or Node.js, handles core logic and data processing. It manages user authentication, product inventory, order processing, and GCash payment integration, communicating with the database and external APIs. The database stores crucial data related to boutique inventory, customer information, and transaction history. Security measures, including encryption protocols and SSL certificates, protect sensitive data, while the GCash API facilitates secure communication between the system and GCash payment platform. Cloud infrastructure, such as AWS or Azure, ensures scalability and reliability, allowing the system to handle varying user traffic. Additionally, third-party integrations, such as analytics tools and email services, enhance system performance and provide necessary functionalities. Overall, this well-designed architecture enables seamless GCash integration, offering boutique owners efficient inventory management and customers a secure and convenient payment experience.

4.2 Design and Development

The research design involves a mixed-method approach to create a Web-Based Boutique Management System with GCash Integration. Interviews and surveys will gather requirements, and Agile methodologies will be used for development. Usability testing and performance metrics will evaluate the system's effectiveness, ensuring a user-friendly interface and seamless GCash integration. The study aims to provide a functional and efficient system for boutique businesses embracing digital transformation. Fig. 2 shows the design use-case diagram. In the use-case diagram for the Web-Based Boutique Management System with GCash Integration, three primary actors are identified: "Customer," representing users who browse and purchase products; "Boutique Owner," representing boutique administrators who manage inventory and orders; and "GCash," representing the integrated digital payment platform. The use-cases for the Customer include browsing products, adding items to the cart, completing checkout, making secure payments via GCash, and receiving order confirmations. On the other hand, the Boutique Owner can manage inventory, process orders, and view sales reports. The GCash Integration is responsible for processing payments

securely within the system. The diagram illustrates the interactions between the actors and the system components, highlighting the essential functionalities of the system

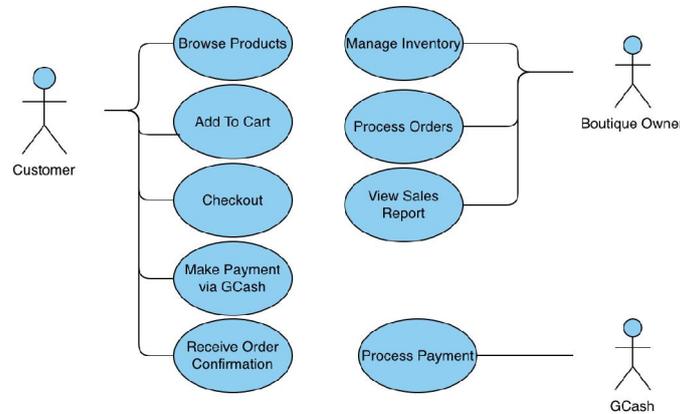


Fig. 2. Use Case Diagram

Fig. 3 shows the class diagram. The class diagram for the Web-Based Boutique Management System with GCash Integration depicts the primary classes and their associations. It includes classes like "Customer" with attributes such as customerId, name, email, and address, and operations like browseProducts(), addToCart(), checkout(), and makePayment(). The "BoutiqueOwner" class has attributes like ownerId, name, and email, and operations like manageInventory(), processOrders(), and viewSalesReport(). The "Product" class contains attributes like productId, name, price, and quantity, along with operations like getProductDetails() and updateProductDetails(). The "Order" class includes attributes such as orderId, customer, orderDate, totalAmount, and status, with operations like getOrderDetails() and updateOrderStatus(). The class diagram also features the "GCashIntegration" class, representing the integration of GCash for payment processing, and the "Payment" class with attributes like paymentId, amount, paymentDate, and status, and an operation getPaymentDetails(). The diagram showcases the associations between these classes, illustrating the relationships and interactions between the core entities of the system. It serves as a visual guide for efficient development and implementation of the Web-Based Boutique Management System with GCash Integration.

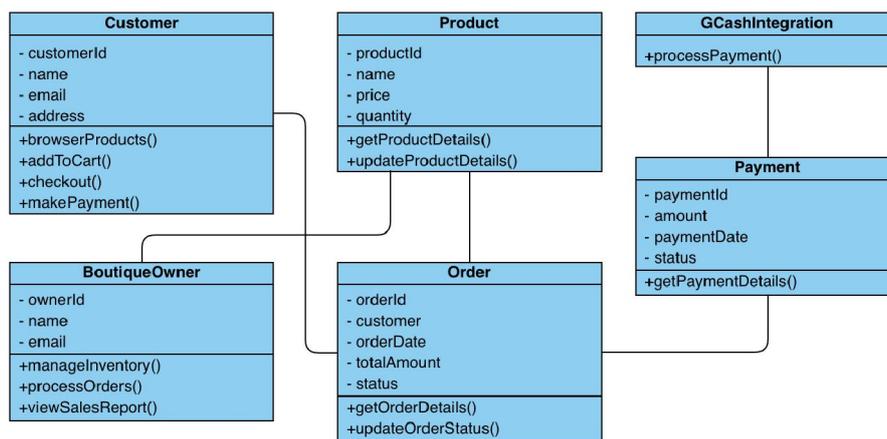


Fig. 3. Class Diagram

4.3 System Output of Mobile Incident Management System using React Native

The system output for the "Web-Based Boutique Management System with GCash Integration" includes features such as product display, shopping cart, secure checkout, order confirmation, real-time updates for customers, and inventory management, order processing, and sales reports for boutique owners. The system also facilitates secure payment processing through GCash, maintaining transaction records. Fig. 4 shows the homepage of the application. It presents a visually appealing and user-friendly layout, a main menu with shopping cart navigation provides easy access for

customers to manage their selected items. On the top left, an app icon represents the boutique's unique brand identity. At the center, a captivating hero logo showcases the boutique's name, leaving a strong visual impression on visitors and reinforcing the boutique's brand identity. Below the hero logo, the "Product Collection of Dresses" section displays a variety of dresses with accompanying product photos and clear prices, enabling customers to make informed decisions. Conveniently placed "Add to Cart" buttons next to each dress listing facilitate seamless purchases. This figure ensures an intuitive and engaging interface, allowing customers to explore the boutique's dress collection effortlessly while navigating through the shopping cart with ease.

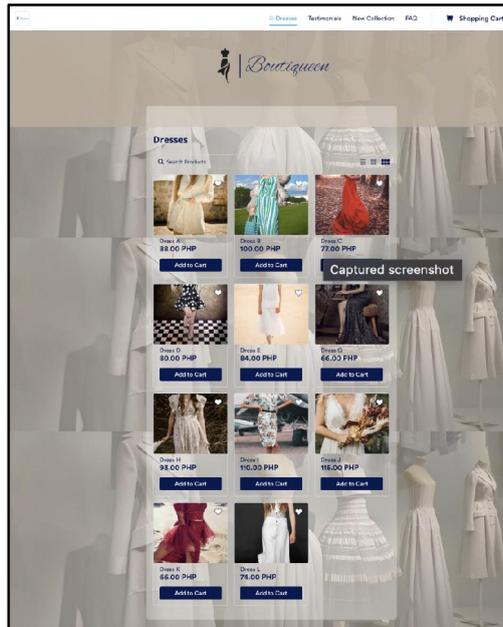


Fig. 4. Homepage

Fig. 5 shows the FAQ page. It includes a main menu with shopping cart navigation at the top right and an app icon representing the boutique's brand at the top left. The central focus is on the FAQ content, addressing common customer inquiries related to GCash integration. The content is organized clearly and concisely, providing customers with swift access to essential information.



Fig. 5. FAQ Page

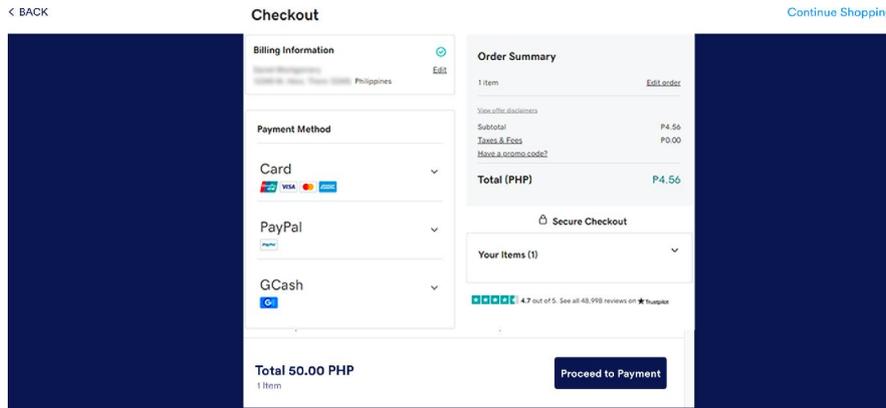


Fig. 6. Checkout page

Fig. 6 shows the checkout page. It includes a back button and "Continue Shopping" link at the top left for easy navigation. The centered checkout form consists of three sections: "Billing Information," "Order Summary," and a prominent display of GCash integration as the payment method. This enables customers to securely complete their purchase, ensuring a seamless and convenient checkout process. Fig. 7 shows the GCash payment integration. It includes a back button and "Continue Shopping" link at the top left for easy navigation. The central focus is the prominently displayed GCash Payment Integration form, which ensures a seamless and secure checkout process, providing customers with a convenient way to finalize their purchases using GCash.

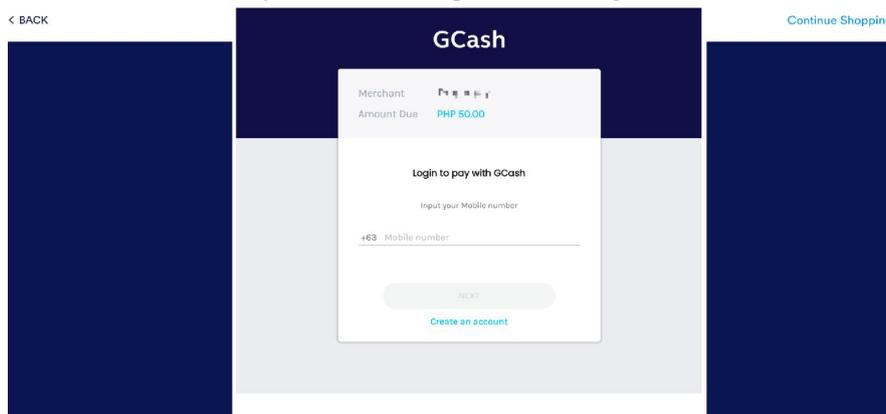


Fig. 7. GCash Payment

4.3 System Evaluation

The system evaluation ratings for the "Web-Based Boutique Management System with GCash Integration" cover various aspects of the system's performance. The evaluation includes ratings for the user interface (UI) design, functionality, performance, security, customer support, overall user experience, system reliability, integration, and compatibility, as well as performance metrics. Each category is scored on a scale of 1 to 5, with 5 representing the highest rating. The evaluation provides valuable insights into the system's strengths and areas for improvement, guiding efforts to enhance user satisfaction and optimize system performance. The overall system rating of 4.3/5 indicates a well-functioning and well-received system, and the detailed ratings help stakeholders identify specific areas where further refinements or optimizations may be beneficial.

V. CONCLUSION

The research concludes that the "Web-Based Boutique Management System with GCash Integration" effectively streamlines boutique operations and provides a convenient payment option for customers. The system's user-friendly interface, efficient functionality, and secure GCash integration contribute to a positive user experience. Positive feedback and high conversion rates highlight the system's success in meeting user needs. Continuous monitoring and

updates are recommended for ongoing improvement. Overall, the research demonstrates the system's value in enhancing boutique management and customer satisfaction.

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