

The Design of Baby Equipment Rental Website Using Laravel Framework at Rafana Rent Store

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ABSTRACT

Technological developments have encouraged various business sectors to adapt to digitalization, including the baby equipment rental sector. This study aims to design and build a web-based baby equipment rental information system using the Laravel Framework at the Rafana Rent Store in Palopo City. The method used is a qualitative descriptive approach using a prototype development model. Data was obtained through interviews, observations, and documentation of the rental process carried out manually. The results of this study indicate that the system created can overcome various problems in the manual rental process, such as delays in service, recording, which is still done manually in notebooks, and lack of efficiency in payment confirmation. This system provides main features such as online ordering, uploading proof of payment, and managing stock of goods. Through the trials, the system was considered to facilitate customers in carrying out the rental process, which can be done anytime and anywhere, and help shop owners manage transaction data more accurately and provide efficient service to customers. Implementing this system is expected to improve the quality of service and speed up and simplify the rental process. The Rafana Rent Store can manage its business more professionally and be ready to face the digitalization era. This system can also be an example of the application of information technology in micro businesses.

INTRODUCTION

The development of information and communication technology in the digital era has significantly influenced almost all aspects of human life, including the business world. (Agung Noviantoro 2022). Through the Internet, individuals can connect and access information quickly and easily from various parts of the world using computers and mobile devices. (Fricticarani et al. 2023). This opens up enormous opportunities for business actors to transform digitally and utilize technology to increase efficiency and service quality.

Currently, many business people are switching to digital systems by utilizing the Internet as a promotional and transaction medium. This transformation is considered capable of providing competitive advantages, including in the rental sector (Mochamad Rifky Dwi Fani 2022). Digital rental information systems have been proven to help companies simplify business processes, increase productivity, and provide more responsive services to customers (Awliya and Juvotek, 2024).

Renting is a form of agreement to use an item for a specific period in return for a certain fee. (Siswidiyanto et al. 2020). One much-needed example is the rental of baby equipment, considering the price of these items is relatively high, and they are only used for a short time. In addition to economic reasons, safety factors and health standards are also considerations when choosing baby equipment (Octavianti, 2020). Therefore, renting is the right solution for parents to meet these needs.

Rafana Rent Shop, located in Palopo, provides rental services for baby equipment such as strollers, baby walkers, and baby boxes. Baby equipment rental services are growing because the number of customers is increasing daily. Every parent wants to always provide the best for their children, especially for babies or newborns. (Hamdani and Rahmadani 2017). Currently, the rental process in this store is still done manually, from checking the availability of goods and ordering via WhatsApp to recording transactions and verifying payments. This process is time-consuming, error-prone, and inefficient, especially when customer volume increases.

Therefore, a web-based system is needed to automate the entire rental process. This study aims to design and build a baby equipment rental website at the Rafana Rent store using the Laravel Framework. In designing a web-based information system, the user interface (UI) is important for its comfort and ease of use. The UI design on the website must be user-oriented so that the system display is informative, intuitive, and easily accessible. (Zen, Namira, and Rahayu 2022). This system is expected to make it easier for customers to rent online, display stock, and help shop owners manage transactions and inventory more accurately and efficiently.



LITERATURE REVIEW

Laravel is one of the open-source PHP frameworks that is widely used in web application development. This framework adopts the Model-View-Controller (MVC) architecture, which systematically helps developers separate business logic, display, and data management. Laravel is known for its elegant syntax and built-in features such as routing, authentication, blade templating engine, and database management system through Eloquent ORM. According to (Riza et al. 2024), Laravel makes the application development process easier because of its complete ecosystem and comprehensive documentation, which can speed up the application creation process and reduce the possibility of errors.

In developing a rental system, Laravel is often chosen because it supports dynamic data processing, transaction security, and integration into various APIs and third-party services. Research by Rendy Juliyanto1 (2023) shows that implementing Laravel in a room rental system can improve operational efficiency and speed up development time. This framework also has a large user community that supports open learning and technical problem-solving.

In addition to using Frameworks, designing information systems requires appropriate visualization methods so that developers and users can understand the design well. Unified Modeling Language (UML), such as use case diagrams, is handy for describing system requirements. (Palis, Siswanto, and Alexander 2024) used UML to visualize a car rental system and stated that this method helps map the business process flow and user interaction scenarios with the system in a more structured way. In addition, research by (Chandra et al., 2021) also shows that using the CodeIgniter Framework, a PHP Framework based on MVC (Model, View, Controller), can make it easier for developers to build web applications.

A review of the rental aspect is also important. (Octavianti 2020) mentioned that baby equipment rental is a practical and economical solution for families who do not want to buy expensive equipment for a short time. Therefore, a web-based rental system can provide significant benefits by providing easily accessible information about the availability of goods, prices, and ordering procedures.

Regarding system security and efficiency, Noviana (2022) states that modern frameworks such as Laravel have the advantage of protecting against common attacks such as SQL injection and cross-site scripting (XSS) while providing features that facilitate long-term maintenance and development.

Thus, it can be concluded that the combination of the Laravel Framework and a UML-based system design approach is very suitable for building an efficient, secure, and user-friendly online rental system. This is relevant to the digitalization needs of rental services such as the Rafana Rent store.

METHOD

This study uses a prototype development method suitable for designing a system by creating an initial version (prototype) of the application interface and its primary functions. This method allows users to provide direct feedback so that the system can be revised before the system is completed. The application of this method follows the opinion of (Meisak et al., 2022), which explains that the prototype method is effective for use in developing information systems because it allows the design process to be carried out in stages, with continuous user feedback to achieve optimal results and under operational needs.

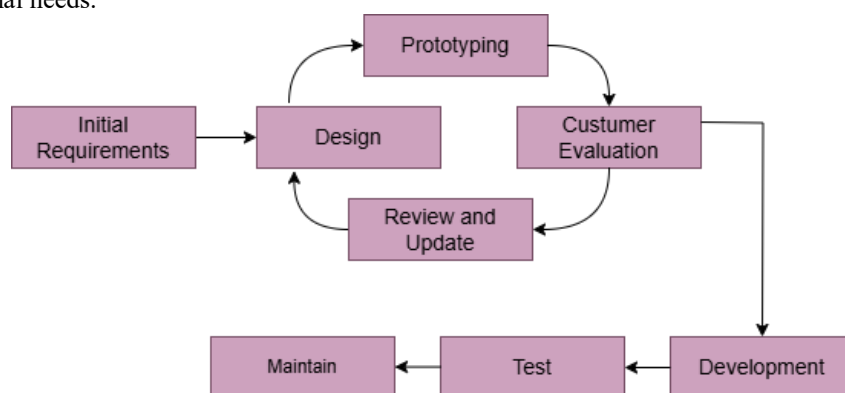


Figure 1. Prototype Model

The approach used in this study is descriptive qualitative, aimed at understanding the real conditions in the field related to the manual baby equipment rental process at the Rafana Rent Palopo Store and designing a web-based system solution using the Laravel Framework. This approach follows the opinion of Magister et al. (2023), which states that qualitative methods are used to understand meaning, describe reality, and examine the subject's experiences contextually and naturally.

The stages of research carried out are as follows:

1. Literature study: Researchers studied previous theories and research related to website design, utilization of the Laravel Framework, and online rental systems.

2. Data collection: Data was collected through interviews with shop owners and several customers and direct observation of the ongoing manual rental process.
3. Data analysis: Interview and observation data are categorized based on relevant themes such as system feature needs, constraints in the manual rental process, and user convenience in the rental process. Furthermore, the data is interpreted to design a system that is right on target.
4. System design: The researcher designed a website-based rental system, including database schema, user interface, and business process flow.
5. Prototype implementation: The website prototype was developed using the Laravel Framework, which includes key features such as product search, online ordering, inventory management, and payment confirmation.
6. Trial and evaluation: The store owner and users tested the prototype to assess the system's functionality and ease of use.
7. System testing: Testers conduct testing to ensure all features are running correctly, identify bugs, and fix errors found during the testing process.

RESULT

The results of this study indicate that implementing a web-based baby equipment rental information system at the Rafana Rent Store can overcome a number of problems faced in the manual rental process. The rental process was previously carried out manually, such as recording using a notebook, and the ordering process is done by coming directly to the store or via WhatsApp. This can be simplified and automated through a system built with the Laravel Framework.

This website is equipped with several prominent features, including:

1. Login Page

The Rafana Rent website login page is differentiated based on user role. The shop owner accesses the system through the address <https://rafanarentpalopo.store/login/>, while customers access via <https://rafanarentpalopo.store/>. After logging in, the shop owner is immediately directed to the admin dashboard. The shop owner can manage item data, monitor transactions, and organize customer information efficiently. Meanwhile, after the customer successfully logs in, the customer is directed to the main page containing the product catalog, ordering features, uploading proof of payment, and rental notifications. This separation aims to maintain security and ensure users only access according to their role.

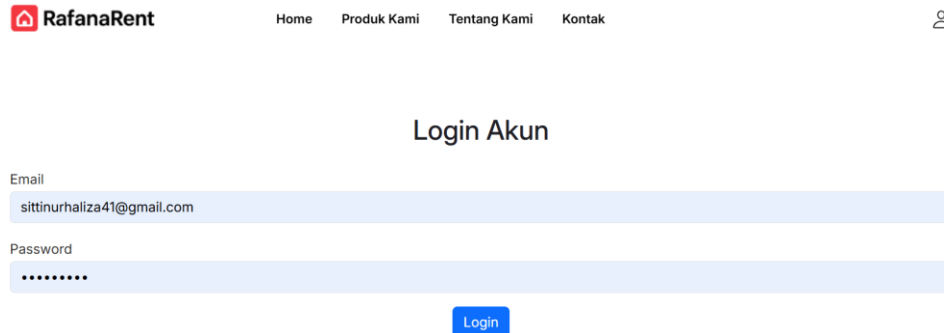


Figure 2. Customer Login Page View

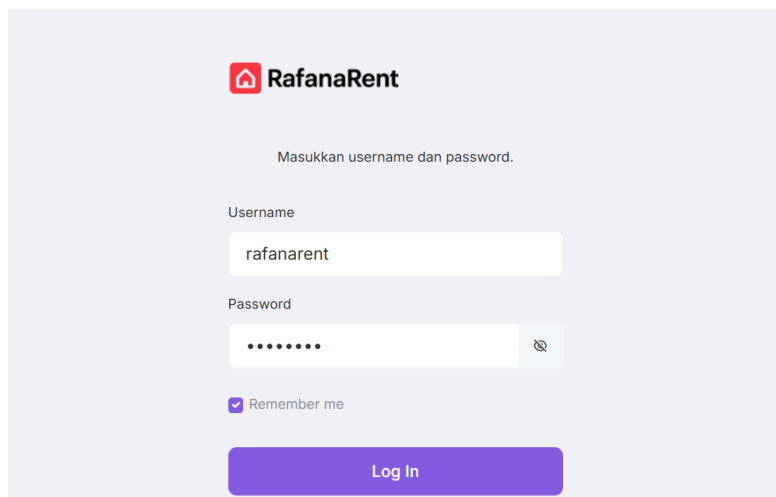


Figure 3. Store Owner Login Page View

2. Admin Dashboard

The admin dashboard is the control center for the baby equipment rental system at the Rafana Rent store. Store owners can manage item data, monitor transactions, and organize customer information efficiently through it. The structured display makes monitoring and organizing the rental process easier for admins.

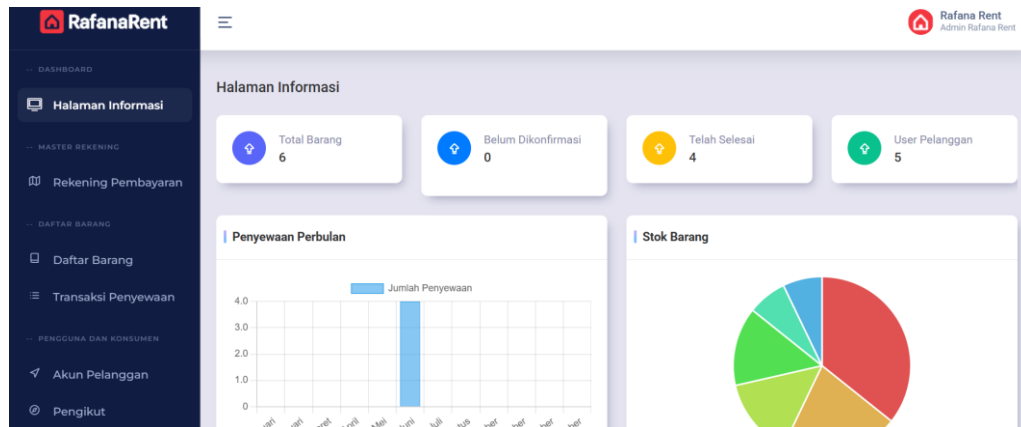


Figure 4. Admin Dashboard

3. Catalog Viewing and Ordering

The product catalog page is the display accessed by customers. The website displays various baby equipment products available for rent, a description of the item's name and price, and a rental button that makes ordering easier. Customers can choose the items they want to rent according to their needs, continue the rental process, and upload proof of payment. This makes the rental process more practical, fast, and error-free.

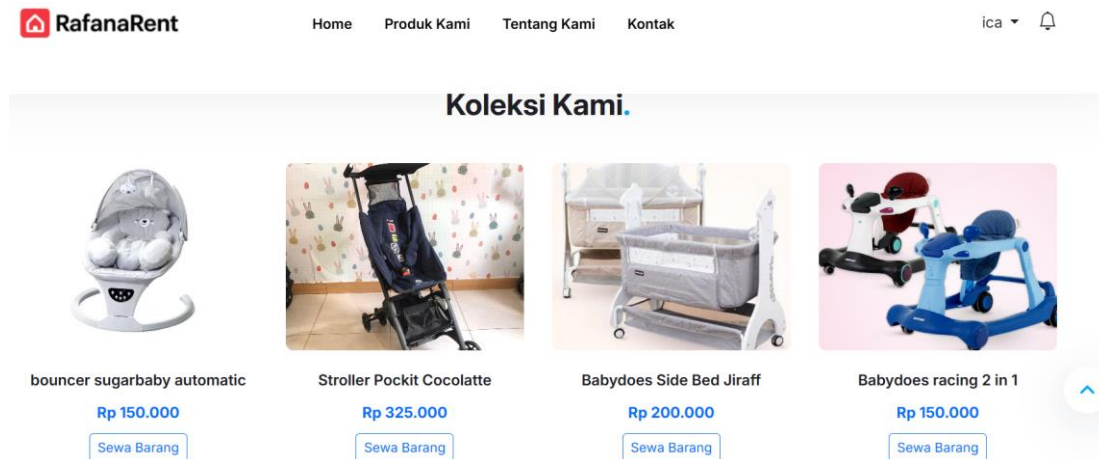


Figure 5. Catalog View and Ordering

4. System Testing

The Rafana Rent Baby Equipment rental website has been tested directly by the shop owner and several customers. The trial results show that the system can simplify the ordering process without having to come to the shop, speed up transaction verification and recording, and increase the authenticity of tenant data.

DISCUSSION

This study shows that implementing a web-based baby equipment rental information system at the Rafana Rent Store can provide solutions to the obstacles experienced in the manual rental process. This system not only simplifies the transaction flow but also improves data accuracy, information transparency, and efficiency of time and operational costs of the rental process.

Technically, the system has successfully automated the ordering process, payment verification, and inventory management. Features such as uploading proof of payment and displaying the item catalog are very helpful in improving the user experience and speeding up the rental process. In addition, the Transaction History feature allows business owners to track rentals and avoid errors during the recording process easily.

Compared to the manual rental system, the advantages of online rental lie in the speed of the baby equipment

rental process, accuracy in recording, and reduction of admin errors. In addition, this system can also be further developed in the future, such as an automatic payment system or financial reports.

Thus, this system provides short-term operational benefits and paves the way for small businesses such as Rafana Rent Store to transform digitally and compete in the increasingly competitive digitalization era.

CONCLUSION

Implementing a web-based baby equipment rental system at the Rafana Rent Store positively impacts business processes that were previously still done manually. This system can improve operational efficiency, speed up the transaction process, and also improve the accuracy of inventory recording.

Features such as product catalogs, online ordering, uploading proof of payment, and transaction history provide convenience for both users and shop owners. With this system, rentals become more transparent and well-organized and can be accessed anytime and anywhere by users.

Through initial testing, this system is considered feasible to implement and can be further developed. This not only answers the store's internal needs but also supports digital transformation for small businesses in the ever-growing digital era.

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