Designing a Website-Based Bus Ticketing System for Ria Sari Bus Agents

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Abstract— Ria Sari Bus Ticket Agent is a night ticket agent that serves the various regions in Indonesia. Currently, the agent still uses a manual system to record bus ticket sales. Agents still write prospective passenger data and calculate agent commissions manually. In addition, sometimes agents forget about passenger orders that have been booked long ago. This usually happens during the Eid season and long vacations. This bus agent also does not have a recap of sales reports every month, so it does not know the commission earned each month. This study has a solution in a website-based ticket sales information system developed using Laravel, PHP, XAMPP, and MySQL. The purpose of the study is to design and develop a website-based bus ticketing system for Ria Sari Bus Ticket Agent. The testing of the system is conducted by interviews with the owner and users of the system. The result shows all features and menus available in this system are working properly and in accordance with the access rights of each user. The owner and users are satisfied and perceived helpful in using the system.

Keywords— bus ticketing, laravel, XAMPP, MySQL

I. INTRODUCTION

In this modern era, it is very necessary to develop information technology very quickly so that we can get accurate and precise information. Currently, Ria Sari bus agent still uses a manual system to record bus ticket sales. Agents still write down prospective passenger data and calculate agent commissions manually. In addition, sometimes agents forget about passenger orders that have been booked long ago. This usually happens during the Eid season and long vacations. This bus agent also does not have a recap of sales reports every month, so it does not know the commission earned each month.

The purpose of the study is to design and develop a website-based bus ticketing system for Ria Sari Bus Ticket Agent. This system will later implement an accounting system, namely in the sales report section, which can be seen daily or monthly. An information system is a framework within an organizational entity that combines the needs of managing daily transactions, supporting company operations, having managerial elements, and supporting the strategic activities of an organization by providing the necessary reports[1].

In addition, in this system, agents will be able to see daily passenger manifests to prevent passengers from being missed. This system will also calculate the agent's commission, which will be directly deducted from the payment that will be made to the company. Ria Sari Bus Agent is a service company. According to Kotler [2], the service is any action or activity that can be offered by one party to another, is basically intangible and does not result in any transfer of ownership. The production of services is related to physical products or not.
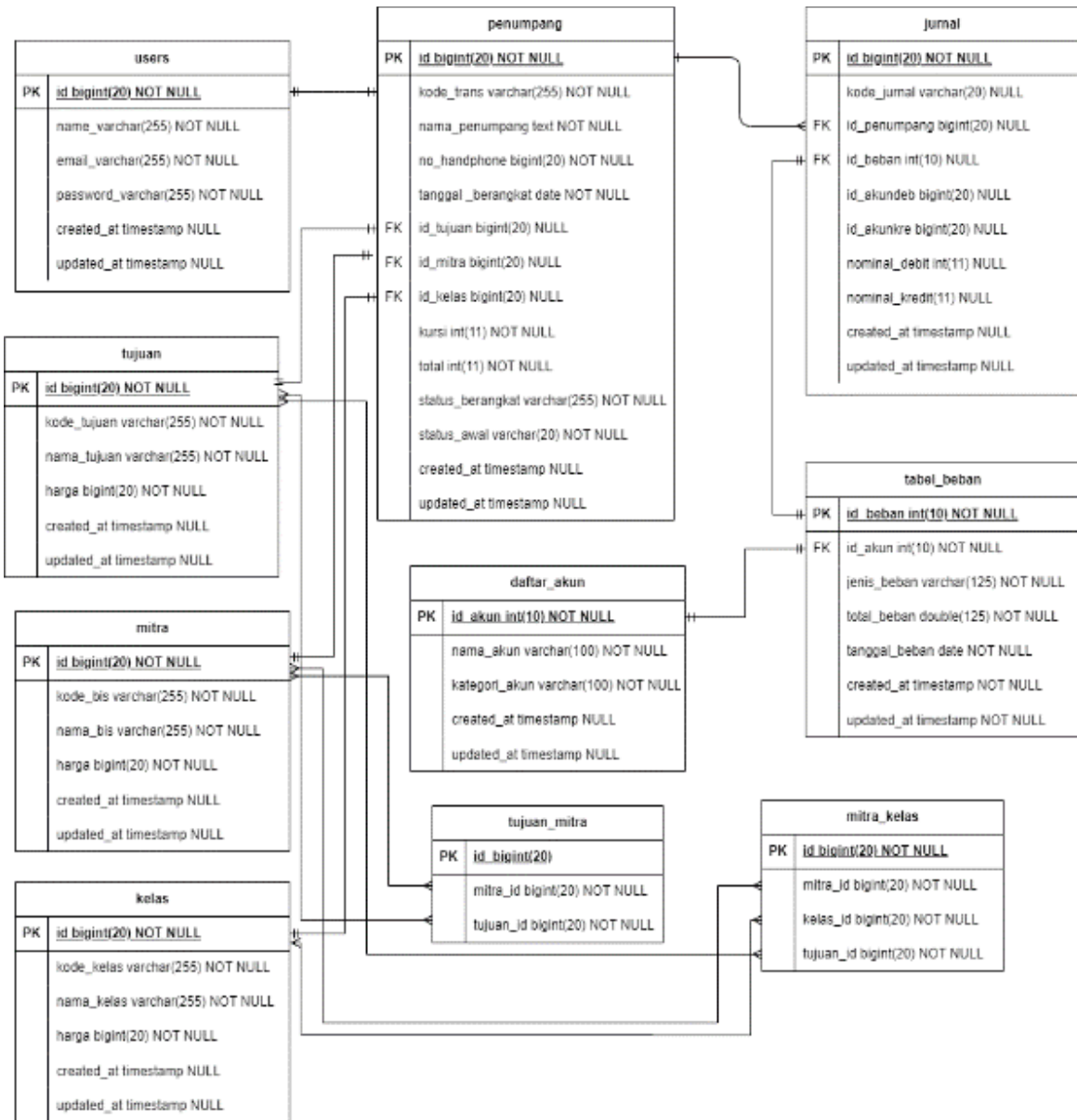
II. RESULT AND DISCUSSION

The system development method used by the author in analyzing data in the System Development Life Cycle method research is the waterfall method and uses the Laravel framework.

Entity Relationship Diagram

Entity Relationship Diagram is a description of a data model that describes all relationships, entities, and boundaries to complete a system development [3]. Figure 1 is the ERD used in the system to be created.

Use Case Diagram

Use Case Diagram is an interaction between one or more actors and the system to be created [4]. Figure 2 is the use case diagram used in this system. Where the owner has the most functions compared to the admin. Where the admin cannot access the balance sheet and income statement sections. While the owner can access all functions contained in this system.
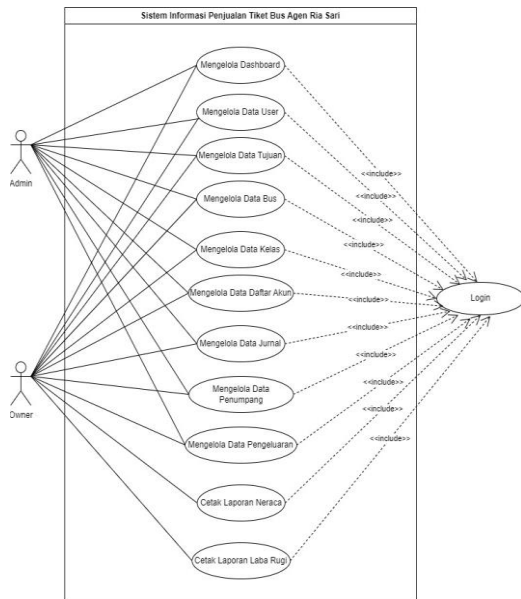
Figure 2 Use Case Diagram

Website Display

This system uses the Laravel framework, XAMPP and MySQL for database storage. Laravel is the most widely used framework by people around the world. Laravel focuses on clarity and simplicity, both in terms of writing and appearance and produces the functionality of a website application that works as it should [5]. While XAMPP is one of the installation packages including the Apache component as a web server in charge of storing the files needed by the website, and PhpMyAdmin as an application for designing MySQL databases [6]. MySQL is a server that can manage database services. For the purposes of creating and managing databases, we can learn SQL queries, which is a specialized programming language. The use of the database itself is necessary when you want to store user data through HTML forms, which will then be processed using PHP and stored in the MySQL database[7].
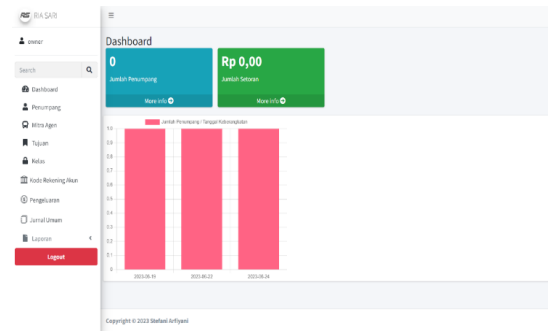
1. Dashboard

Figure 3 Dashboard Page

Figure 3 is the dashboard page of this system. On this page, there is a diagram that displays the number of passengers scheduled to depart each day. This diagram provides a data visualization that helps understand and monitor the trend of the number of passengers in the system. There are also important features used to manage and monitor passenger activity and deposits in the system.

2. Destination Master Data

Figure 4 Destination Master Data Page

Figure 4 is the Destination Master Data Page. In this Destination Data Master, there are four functions that run on the system. The first is the index function. This function is used to display the destination data list page. This function allows users to view and explore destination data in the system. The second function is the destination insert function. This function is used to add destination data to the system. The third function is the edit destination function. This function is used to change existing destination data. The last function is the

delete function. This function aims to delete the destination data that you want to delete.

3. Bus Master Data

Figure 5 Bus Master Data Page

Figure 5 is the bus master data page. In this bus data master, there are four functions that run on the system. The first is the index function. This function is used to display the bus data list page. This function allows users to view and explore bus data in the system. The second function is the bus insert function. This function is used to add bus data to the system. The third function is the "edit bus" function. This function is used to change existing bus data. The last function is the delete function. This function aims to delete bus data that you want to delete.

4. Class Master Data

Figure 6 Class Master Data Page

Figure 6 is the class master data page. In this class data master, there are four functions that run on the system. The first is the index function. This function is used to display the class data list page. This function allows users to view and explore class data in the system. The second function is the class insert function. This

function is used to add class data to the system. The third function is the edit class function. This function is used to change existing class data. The last function is the delete function. This function aims to delete class data that you want to delete.

5. Account List Master Data

Figure 7 is the Account List Master Data Page. In this account list master data, there are four functions that run on the system. The first is the index function. This function is used to display the account list data page. This function allows users to view and explore account name data in the system. The second function is the account name insert function. This function is used to add account names to the system. The third function is the edit account name function. This function is used to change the name of an existing account. The last function is the delete function. This function aims to delete the account name data that you want to delete.

Figure 7 Account List Master Data Page

6. Journal Master Data

Figure 8 is the master data journal page. The journal data page has an index function. The purpose of this function is to display journal data based on the journal creation date, which is the same as the date when the system is opened. In its implementation, this function uses the Carbon package, which is one of the features available in Laravel.

Figure 8 Journal Master Data

7. Passenger Master Data

Figure 9 is the Passenger Data Master page, which has five different functions. The first function is index. This function has the purpose of displaying a page that displays passenger data. Through this function, users can view and explore passenger information available in the system.

The second function is the passenger data insert function. This function aims to add passenger data, as shown in Figure 10. On this insert page, the system has two departure statuses, and each of these will later affect the accounting journaling.

Figure 9 Passanger Master Data Page

Figure 10 Insert Passanger Data

a. Status Not Departed

Figure 11 Status Not Departed

It can be seen in Figure 11 that in the passenger data with the name Adimas, there is a button to update the status. This button has a function to change the status to "Already Departed" after the passenger departs. In the action column, there are three buttons: view, edit, and delete. However, when the status changes to "Already Departed," the action button only allows access to view and delete the data. When a status change occurs, there is also a change in the journal in this system.

b. Status Already Departed

When an admin or owner enters passenger information that departs immediately and clicks the add button, the system will return to the passenger index page where the departure status for passengers on behalf of Ari is "Already Departed," as shown in Figure 12. Unlike the previous status, this one has view, edit, and delete action buttons.

Another 3 functions are the view function. This function is used to view existing passenger data. Then there is the edit function. This function is used to edit existing passenger data. The last is the delete function. This function is used to delete passenger data.

Figure 12 Status Already Departed

8. Expense Master Data

Figure 13 Expense Master Data Page

Figure 13 is the expense data master page. This page has five different functions. The first is the index function, which on this page is used to view all expense data issued by the agent. The second is the insert function. This function is used to add expense data. The third is the view function. This function is used to view existing expense data. The fourth function is the edit function. This function is used to change expense data. The last function is the delete function. This function is used to delete existing expense data.

9. Report Master Data

In this report's master data, both the balance sheet and income statement, users are required to enter the starting date and ending date of the desired report period. Figure 14 is an example of an income statement in this system.

Figure 14 Profit and loss statement example

III. INTERVIEW RESULT

Interviews are used as a data collection technique to find problems that must be researched and if the researcher wants to know things from respondents that are more in-depth [8]. Through these interviews, the test will gain valuable insights into user experience, satisfaction, as well as possible or desired improvements.

Based on the results of the interviews above, it can be concluded that with this sales recording system, it can help agent owners see the number of passengers, the number of deposits that must be deposited on that day, the financial reports (balance sheet and income statement), and the commission income available at this bus agency. This system has also been tested by users, and they are quite satisfied with it. Overall, this system can run well and in accordance with user requests. There is no additional cost with this system because the agent owner already had a computer device and an internet network long before the existence of this system. For the maintenance of the device itself, the agent owner has no difficulty.

IV. CONCLUSION

The conclusions that can be concluded from the research "DESIGNING A WEBSITE-BASED BUS TICKET SALES INFORMATION SYSTEM FOR RIA SARI BUS AGENTS" are as follows:

1. The Ria Sari Bus Agency ticketing system can replace the entire recording process previously implemented in the bus agency. This system provides various features that can be used by two types of users, namely admins and agent owners. Features that can be accessed by the admin include managing partner data, class data, destination data, passenger data, expense data, and journal data. Meanwhile, agent owners have access to all the features available to admins, plus the ability to manage balance sheets and income statement reports. With this feature, agent owners can monitor and analyze the financial health of bus agents in more detail.

2. Based on the results of system testing conducted by users, it shows that all features and menus available in this system function properly and in accordance with the access rights of each user. In addition, this system is also proven to have a fast performance in accessing data, so users can easily operate and use the system efficiently.

3. Based on the results of interviews, users expressed satisfaction and were helped by the presence of this system. They can manage passenger data more efficiently, so there are no more cases of passenger data being missed or left behind. Agent owners can easily see the number of passengers and deposits recorded in a certain period. In addition, agent owners can view financial reports so that the financial performance of the business is monitored and decision-making related to financial aspects can be done better and in a timely manner.

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