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Information System

Design of Online Ticket Information System for Ara Garden Tourism in Bahtera Makmur Village

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A B S T R A C T

Has several interesting tours, one of which is Ara Garden Tourism, a place in the form of an artificial tourist park located in Bagan Batu, Riau, Bagan Sinembah District, Rokan Hilir Regency. However, ticket purchases can only be made by buying directly on the spot when entering the tourist spot. This can make it difficult to order tickets because of the large number of visitors. So here the e-ticket application design will be made using the RAD method to analyze and design applications for online ticket booking at Ara Garden Tourism. In this design using dart and fluter programming languages as application development, using VCS (Microsoft Visual Studio Code) as a code editor in creating the application. Therefore I use a database that functions to store and manage data through SQL commands or queries, applications that have more complex data processing are postgreSQL. The Ara Garden tourist ticket application has been created and the prototype of the application was tested by sending a questionnaire to 20 respondents with an average score of 4.021 and most of the responses from potential users said that the ticket prototype was easy to understand and use. So here we will try to create an e-ticket application design. E-tickets can make it easier for buyers or visitors to get them because they don't need to come directly to the tourist attraction.

INTRODUCTION

A tourist destination is a place that has tourist attractions that can be enjoyed by people who visit there, either alone or with friends and family. Currently, there are many tourist attractions in various places and even countries. One of them is tourism in Bagan Batu, which is located in Rokan Hilir district, Riau. Tourism potential is a resource owned by various places, which can be utilized to make money. There are many interesting places in Bagan Batu, one of which is Ara Garden, an artificial tourist park with entertainment such as a Swimming Pool, Villa, and Camping Area. This is a great place for a vacation with family and friends [1,2,3].

However, tickets can only be purchased directly at the location when entering the tourist attraction. Due to the large number of visitors, ticket reservations can be a problem. With the increasingly widespread internet network today, human activities have become easier, especially in terms of booking and purchasing tourist tickets. Ticket purchases have changed from buying tickets physically to buying tickets online, which allows internet use anytime and anywhere quickly, effectively, and efficiently. Here I will design an application system that is useful for purchasing tourist tickets online. Using the dart and fluter programming languages as application development, using VCS (Microsoft Visual Studio Code) as a code editor in creating applications. Therefore, I use a database that functions to store and manage data through SQL commands or queries, applications that have more complex data processing are postgreSQL.
This study aims to:

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1. Improve Accessibility: Provide easy and fast access for visitors to purchase tickets online, without having to come directly to the location.
2. Improve Operational Efficiency: Reduce the burden of manual administration for tourism managers in terms of recording and managing visitor data and ticket transactions.
3. Simplify Data Management: Provide a system that can manage visitor data, transactions, and other information in an organized and centralized manner.
4. Improve Promotion: With an online system, information about Ara Garden can be more easily disseminated to prospective visitors through a digital platform, increasing the number of visitors.
5. Improve Visitor Experience: Provide convenience and ease for visitors in planning a visit to Ara Garden with a practical and efficient ticket system.

Overall, this study aims to support more modern and efficient tourism management through the use of information technology, especially in the ticket purchasing process and visitor data management. Based on these conditions, the author designs an application that facilitates the sale of tourist tickets, which can facilitate managers in the process of selling or ordering tourist tickets online.

METHOD

Postgre SQL

PostgreSQL database is one of the alternative solutions for database users that supports many platforms and is free of license. PostgreSQL is included as a reliable database server with various supporting features, making this database ideal as a storage medium for information system applications. PostgreSQL was developed by the University of California at Berkeley Computer Science Department. With its open source nature, this database can also be developed according to needs.

As an ORDBMS (Object Relational Database Management System) that currently exists, PostgreSQL has various capabilities that are owned by other general commercial databases, such as support for SQL commands, where by using SQL commands it allows database administrators to interact more easily with the PostgreSQL database, both in data manipulation such as: insert, update, or delete. With the ability to vary the select command with various clauses available, the select command in this database is much more flexible in terms of querying data from existing tables. Furthermore, with the ability in terms of user management that can access the database, the level of data security becomes more guaranteed, because with this ability the database administrator can manage users according to their rights and authorities in accessing the database, even these settings are also possible to access certain columns in a table. With the ability to create functions, stored procedures and triggers that make the performance of the application created more optimal in terms of its performance speed, because not all processes of existing business rules must be processed on the client computer, but can be processed on the server computer where the database is located. That way, the application running on the client computer is truly a thin client application. Then, with the development of various programming languages today, the advantages of the PostgreSQL database can support it as a storage medium in many existing programming languages, both desktop-based programming, such as: Java, Gambas, etc. or web-based programming, such as: Phyton, PHP, Java Server Pages, Perl, etc. [4,5,6].

Data Collection Techniques

The techniques used in this study are Observation, Interviews, and Literature Study.

1. Observation
   During the data collection process, the research object is seen or reviewed directly, namely by conducting direct observations at tourist attractions.
   The purpose of this observation is to observe the process of ordering entrance tickets to tourist attractions directly so that the author can find weaknesses in the process and improve them by designing online tourist ticket reservations.
2. Interviews
   An interview is a question and answer process between two parties, namely the interviewer and the resource person to obtain data, information or opinions about something [7,8,9].

During the data collection process, interviews were conducted directly with the owner of the tourist attraction and the ticket counter guard. The results of the interview showed that the long queues at the entrance were caused by the lack of a ticket ordering system, which made officers overwhelmed to provide tickets manually.

3. Literature Study
   Literature study in data collection is carried out by looking for references from journals, books, and other related research that are relevant to the research or topic that is the object of this research, so that it can help in the process of collecting information in this study.

Data Analysis Techniques

Data analysis techniques are the process of collecting data systematically to make it easier for researchers to draw conclusions. The steps of data analysis used in this study are as follows:

1. Data Reduction.
   Reducing data means summarizing the main points. Focusing on important things and discarding unnecessary ones. So the data that has been reduced will provide a clear picture and make data collection easier.
2. Formulating the Problem.
   Formulating the problem means formulating the things that are the research problems that you want to answer through this analysis.

RESULTS AND DISCUSSION

In this section will be shown the results of the design of the system that has been built, namely the Online Ticket System Application at Ara Garden Tourism. The implementation of the Information System used in making this online ticket system is designed based on Android. The results that will be displayed are the results of the interface display of the system that has been built and the results of the system testing that has been carried out.

Interface Display Results

The interface display results are the stage where the system or application is ready to be operated in the actual conditions according to the results of the analysis and design carried out, so that it will be known whether the system or application that is built can produce a goal that is achieved, and the Ara Garden Online Ticket System application is equipped with a display that aims to facilitate its use. The function of the interface is to provide input and display output from the application. The following are the results of the interface display or interface of the decision support system that has been built:

1. User Account Registration Form Display
   The following is the display result of the user account registration form interface which functions to create a username, email and password so that it can be used to log in to the Ara Garden online ticket system.

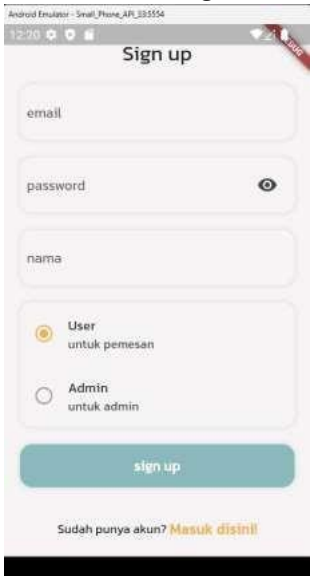

Figure 1. User Account Registration Form View

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2. User Login Form Display
   The following is the display result of the login form interface which functions to validate the user's username and password before entering the main menu of the Ara Garden online tourist ticket system.

Figure 2. User Login Form View

3. User Dashboard View
   The user dashboard menu is a page that can only be accessed by users who have successfully registered an account and successfully logged in. The following is a display of the interface of the Ara Garden online ticket system dashboard.

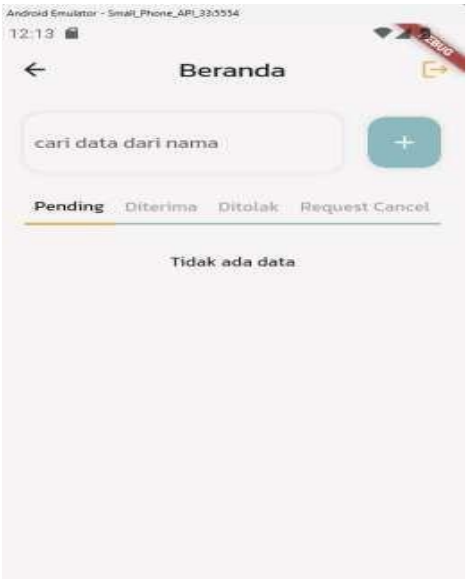

Figure 3. User Dashboard View

4. Order Form Display
   The following is the interface display of the order form for the Ara Garden online tourist ticket system which contains, Name of the Orderer, Mobile Number, Account Name, Account Number, Choice of Ride, Selection of Admin Account, Upload Proof of Payment.

Figure 4. Create Order Form View

5. Order View Received by Admin
   The following is a user view that displays orders received by the admin which contains information about the order status.

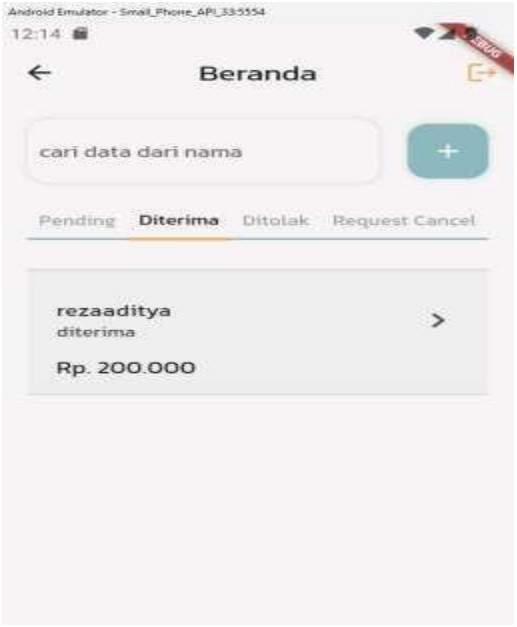

Figure 5. Order View Received by Admin

6. Order View Rejected by Admin
   The following is a user view that displays orders accepted by the admin which contains information about the order status.

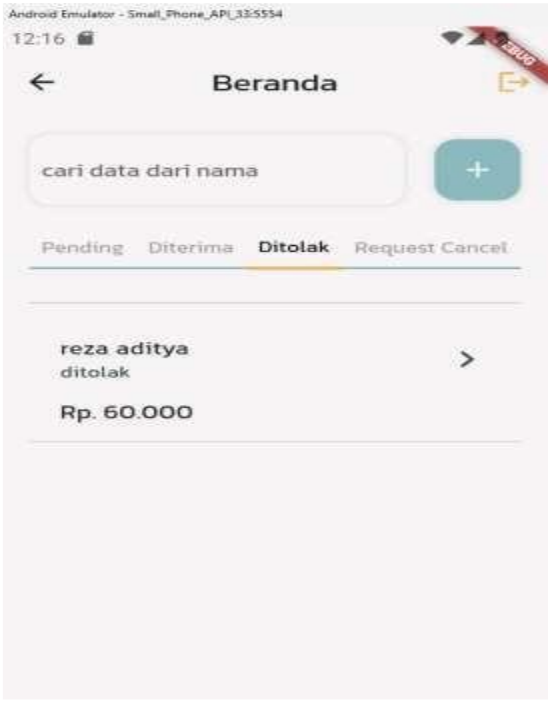

Figure 6. Order View Rejected by Admin

7. Admin Registration View
   The following is the display result of the interface of the Admin Account Registration form which functions to carry out the process of creating a username, email and password so that it can be used to carry out the login process to enter the Ara Garden online tourist ticket system.

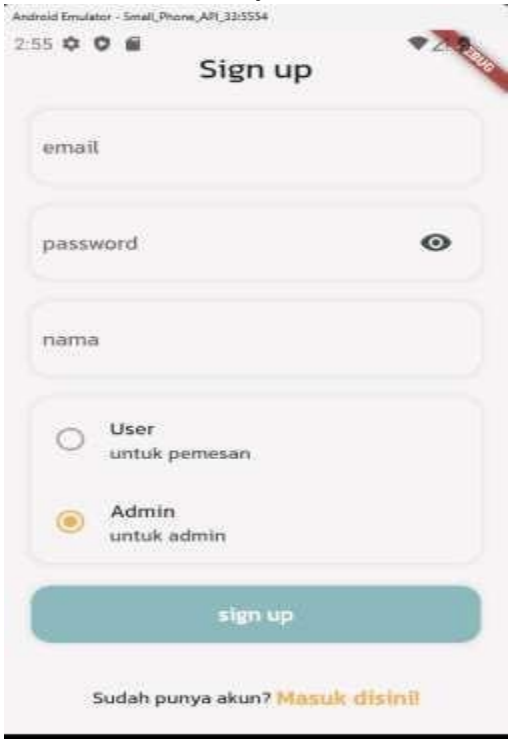

Figure 7. Admin Registration View

8. Admin Dashboard View
   The following is a display of the Admin Dashboard interface for the Ara Garden online ticket system.

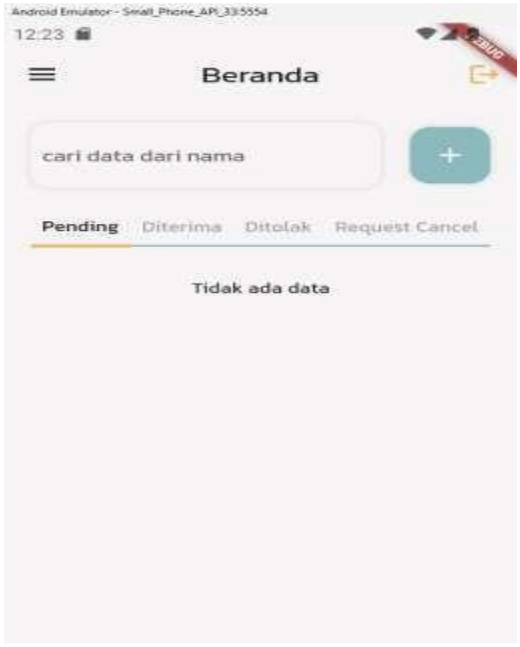

Figure 8. Admin Dashboard View

9. Order Data Display

The following is a display of the Order Data interface for the Ara Garden online ticket system located on the admin dashboard.

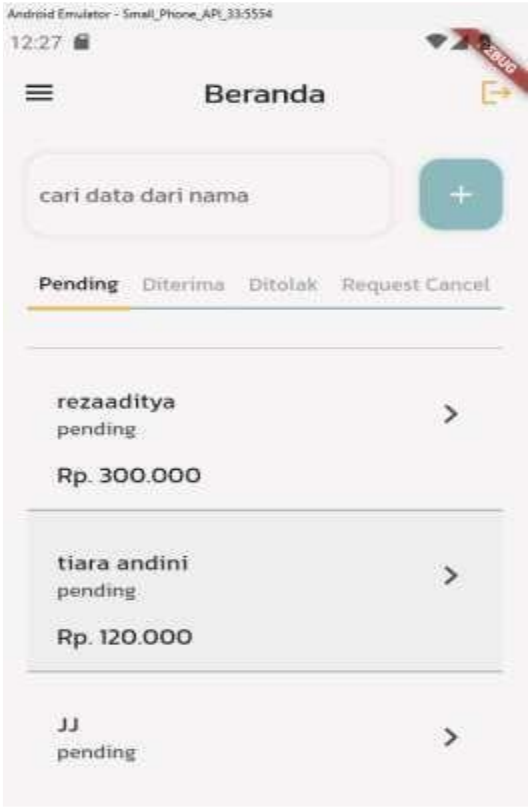

Figure 9. Order Data Display

10. Account Data Display

The following is a display of the Account Data interface for the Ara Garden online tourist ticket system that can be added by the admin.

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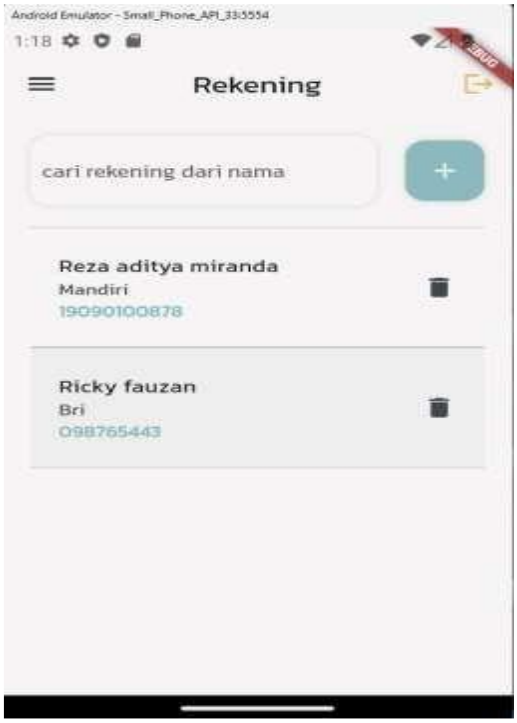

Figure 10. Account Data Display

11. Tourist List View
    The following is an interface view of the tourist attraction list data that can be added or reduced according to the available tourist attractions.

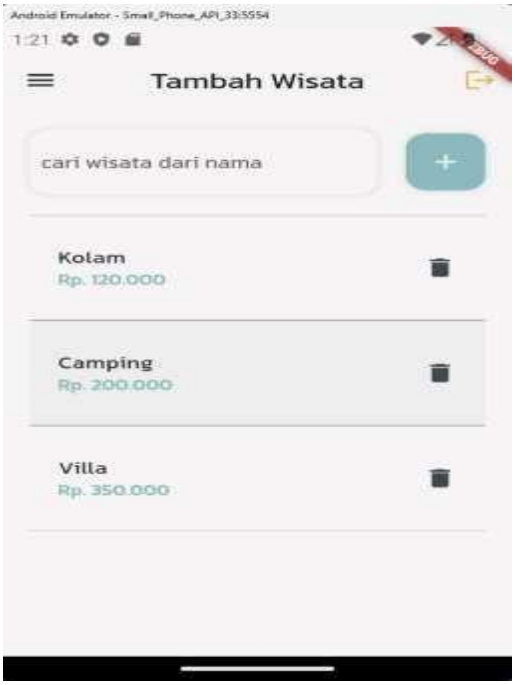

Figure 11. Tourist List View

12. User Ticket Print View
    The following is a display of the Print Ticket interface for the Ara Garden online ticket system.

Figure 12. User Ticket Print View

13. Order Cancellation Display

The following is a display of the Ara Garden online ticket system order cancellation interface.

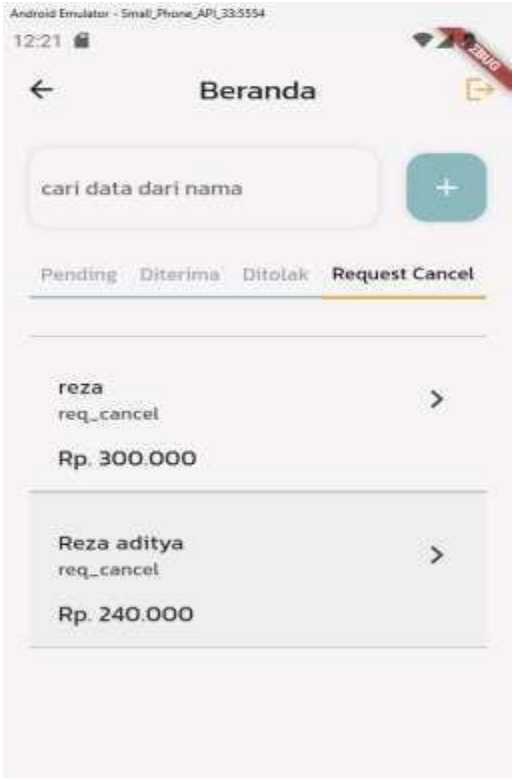

Figure 13. Order Cancellation Display

Application Testing Results

This test is intended to determine whether the Ara Garden online ticket application is running properly or whether there are still things that need to be fixed. The application testing scenario is as follows.

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App Testing Scenario

Here is a comprehensive testing scenario for a tour ticket purchase Android app. This scenario covers various aspects to ensure the app runs smoothly and provides a satisfying user experience.

1. Register with email
   Steps: Open the application, Register here, Enter email, Password, Username, Click sign up.
   Expected results: The user is registered and directed to the main page.
2. Login with email
   Steps: Open the application, select login, enter email and password, click - sign in.
   Expected results: The user successfully logs in and is directed to the dashboard page.
3. Ordering by the user
   Steps: Click the plus sign, enter the order information, the orderer's name, cellphone number, account name, account number, bank name, select tour, determine the number of visitors, select the destination account for the transfer, upload proof of payment, create an order.
   Expected results: The order has been successfully entered, waiting for the order to be processed by the admin.
4. Ordering Accepted/Rejected by the admin
   Steps: Open the application, select login, enter email and password, click - sign in, click order, click order data, click accepted/rejected.
   Expected result: Order information will be entered into the user account.
5. Order process
   Steps: Open the application by admin, select login, enter email and password, click -sign in, click order, click order data, click accepted/rejected.
   Expected results: Order information enters the user account after being processed by the admin.

CONCLUSION

Based on the research and observations that have been carried out, and from the description of the overall discussion, it can be concluded that the web-based ticket management application can function to manage ticket sales entered by the manager in the transaction menu which can then be printed as a report in the ticket recap menu and also include the following: Ease of Access: Online tickets allow visitors to easily access tourist attractions without having to queue at physical locations. This can save time and reduce crowds at tourist locations. Time Flexibility: With online tickets, visitors can often choose their own visiting time, which can enhance their travel experience. Price Transparency: Online tickets often clearly list prices, including available discounts or promotions. This helps visitors to better plan their travel budget. Reducing Physical Contact: Online tickets can also help reduce physical contact between ticket officers and visitors, which can be relevant in a pandemic or health emergency. Tracking and Verification: Tourist attraction managers can more easily track the number of visitors and verify tickets electronically, which can improve the security and management of tourist attractions. Technological Advances: The use of online tickets also reflects technological advances in the tourism industry, which opens up opportunities for other innovations, such as digital tour guides, tour guide applications, and so on. Potential Fraud: However, it is important to remember that there is a risk of fraud in purchasing tickets online. Visitors should be careful and ensure that they purchase tickets from trusted and official sources.

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