

Designing a Web-Based Tourism Package Application as a Promotional Tool for Tourism in Nusa Village

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ABSTRACT

The tourism industry which is experiencing significant growth offers great potential to stimulate the economy of a region. This research aims to design and develop a web-based tour package application as a tourism promotion tool. This application uses the PHP programming language, uses the Laravel framework, and is integrated with the MySQL database. This application is designed to make it easier for users to find tour packages that suit their needs. Tourists can use this system to find out more detailed information regarding the list of available tour packages and make tour package orders. The stages in developing this application include stages such as needs analysis, interface design, system development using the PHP programming language with the Laravel framework, integration with the MySQL database, testing, and implementation.

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I. Introduction

In the era of digital advancements and heightened connectivity, the tourism industry has witnessed a transformative shift towards online platforms. This paradigm shift emphasizes the need for innovative and engaging tools to promote tourist destinations effectively. With internet access, information about tourism can be easily communicated to tourists [1]. The platform that relies heavily on internet access is a web-based application. Web became the leading source of information particularly important in times of increased number of competitors in tourism market [2]. Desa Nusa is one of the villages in Aceh that is actively developing community-based tourism. The local potential is continually crafted into various tourist attractions, with the primary goal of improving the community's economy and maintaining environmental sustainability. Enjoying the village atmosphere, interacting with residents by staying in four to five homestays, which are local houses developed as part of the tourism accommodation following local wisdom principles. There are various alternatives available to promote available tourism, such as through social media or utilizing a website with a blog. However, using a website, like a blog service, is still considered less effective because blogs are not interactive. The content displayed on the blog typically only consists of descriptions of tourist destinations and personal contact information for booking purposes [3].

Based on these problems, it is necessary to design a web-based application that can be used as a more effective and efficient tourism promotion media. The leveraging cutting-edge technology, this application seeks to bridge the gap between traditional promotional methods and modern digital trends, providing tourists with a seamless and immersive experience. The application is designed to seamlessly integrate with the Laravel framework, one of the popular and powerful PHP frameworks, used to speed up the system development process [4], and a MySQL database, ensuring a scalable and efficient platform for showcasing the unique offerings of Nusa Village.



II. Method

The workflow design of this system is depicted using a Data Flow Diagram (DFD), which is employed to illustrate an existing system or a newly developed system logically, without considering the physical environment where data flows [5]. In this design, an Entity Relationship Diagram (ERD) is also utilized to represent data in the form of entities, attributes, and relationships between entities [6].

A. Data Flow Diagram Level 0

In designing of a system by using DFD, Context Diagram or sometimes also referred to as DFD Level 0 is the highest level of data flow diagram (DFD) which describes all input into the system or output from the system which provides an overview of the entire system [7]. DFD Level 0 provides a broad perspective of the system's functionalities without delving into the details of each process. The actors involved are the society and village operators as admins as shown in the Use Case Diagram below:



Fig 1. DFD Level 0

Description of DFD Level 0:

- There are two entities in the above Level 0 data flow diagram, namely, admin and user.
- Admin can input tour data into the system, obtain booking data, and payment data.
- Users can view available tour data in the system, make bookings, payments, and obtain booking and payment information

Each user who will use the system must be registered firstly by fulfill their important identity such as name, address, phone number, email, username and password. After that, users can use the features available from the system

B. Data Flow Diagram Level 1

In data flow diagrams level 1, the context diagram is decomposed into several processes. Thus, level 1 DFDs provide a more detailed data flow than previously defined context diagrams. Each process is overviewed and will be drawn in more detail and it is called DFD level 1. Each process at level 1 will be drawn in more detail and is called DFD level 2. And so on until each process cannot be drawn in more detail [8].

The following figure describe DFD Level 1 about admin data management which contain contains seven processes and seven data stores. It means each process contain each data store which it will be a database.

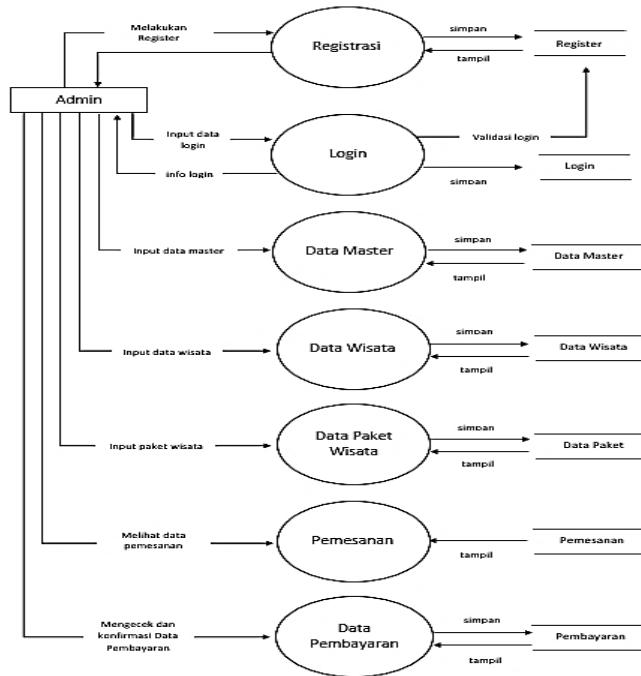


Fig 2. DFD Level 1 Admin Data Management

Description of DFD Level 1 Admin Data Management:

- There are seven processes and seven data stores.
- The first process is that the admin registers then login. When logging in it will be validated in the data store register.
- Admin inputs master data, tour data and tour package data which is then stored in the respective data stores.
- The admin checks the order and payment data previously entered by the user. After checking the payment data, the admin provides payment confirmation.

The following figure describe DFD level 1 about bookings for travelers.

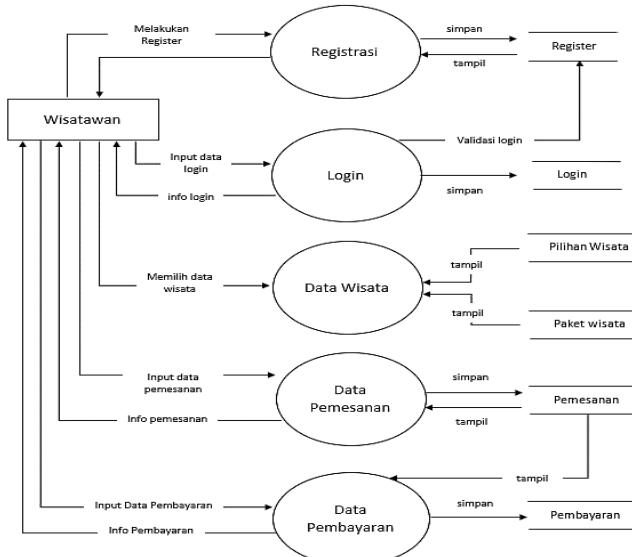


Fig 3. DFD Level 1 Booking for Traveler

C. Entity Relationship Diagram

There are seven entities consisting of two entities that act as users of the tourism application, namely tourists and the admin who manages the website. Meanwhile, other entities are features of the tour packages offered. The diagram below shows the ERD about Web-Based Tourism Package Application.

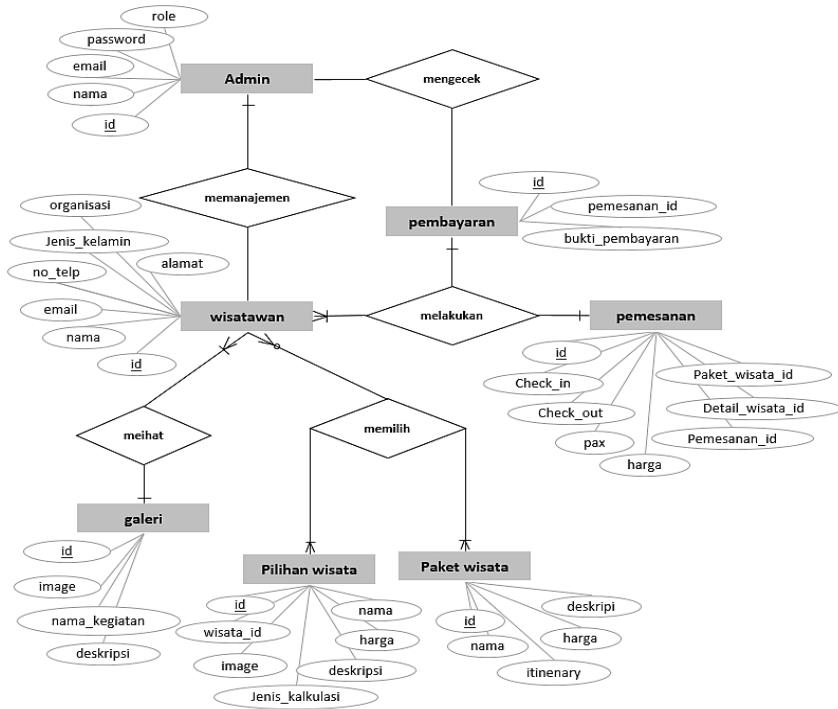


Fig 4. Entity Relationship Diagram

D. Logical Record Structured (LRS)

Logical Record Structured (LRS) describes the records from the tables formed from the results of the entity sets created in the Entity Relation Diagram [9]. Relation each table is shown by logical record structured below.

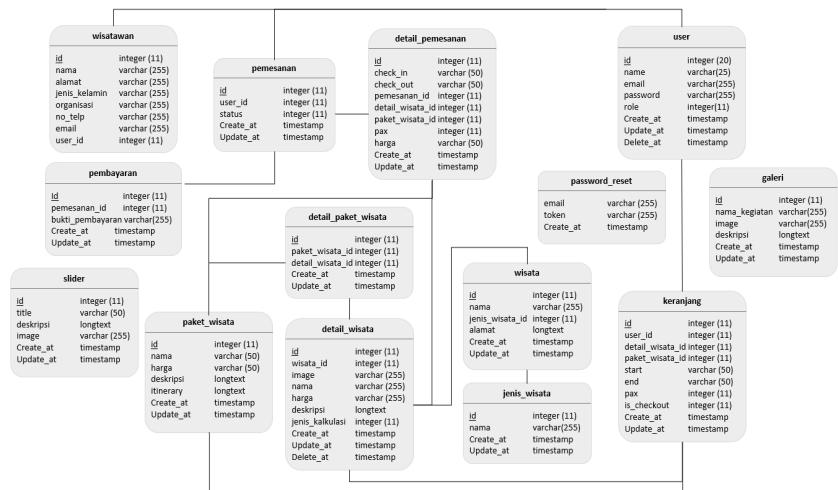


Fig 5. Logical Record Structured

III. Results and Discussion

The result of designing the application by integrating all the requirements and databases using the Laravel framework and Bootstrap library in creating the interface is divided into two main groups. These are the web pages that can be accessed by tourists and the web pages that can only be accessed by the system administrator. The web pages that only appear on the tourist side are called the front-end part, while on the admin side, it is the back-end. The front-end part of a website describes how the user interacts with it. Meanwhile back end is cannot be accessed by end user, it only be accessed administrator or user created with privilege access [10].

A. Front-end Displays

Tourists can view information in the form of tour package displays, tourism options, and activity galleries along with their descriptions. This display is found the first time they visit the website. Tourists can find detailed information about the offered tour packages, as shown in the following figure.

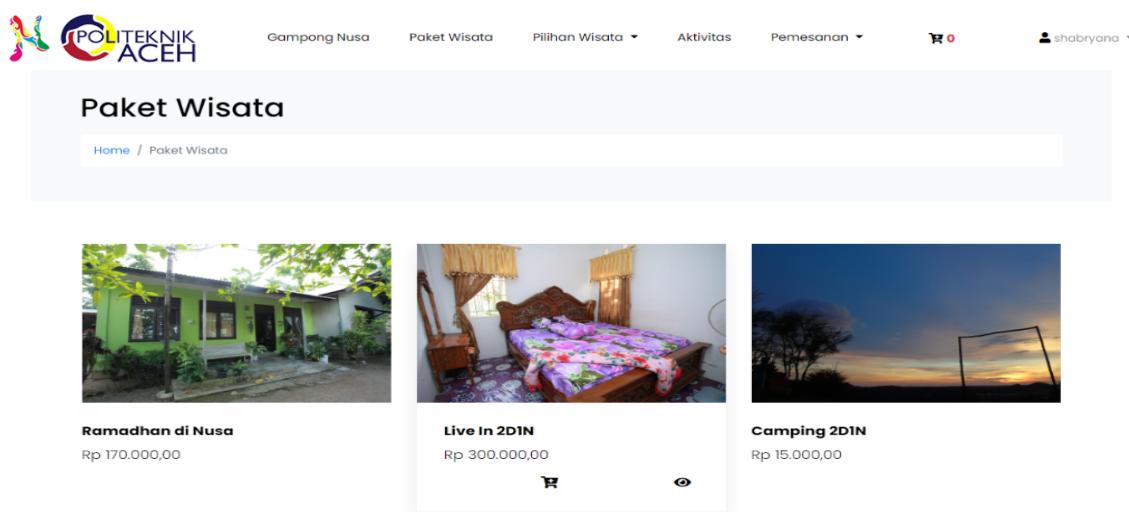


Fig 6. Tour Packages Page

On the tour package menu there are several tour package options on offer, including the Ramadhan package in Nusa, the Live in 2DIN package, the Camping package and other tour packages. On each tour package there is a button to view details and add to basket. The figure.7 is register and login form for tourist.

Fig 7. Register and Login Form

Before choosing a tour package, tourists first carry out the registration process by filling in their personal data to create an account, after filling in the data then pressing the captcha button followed by submit to save the registration data. Registered tourists can carry out the transaction process to select the tour packages offered. The selected tour package will be processed on the basket page

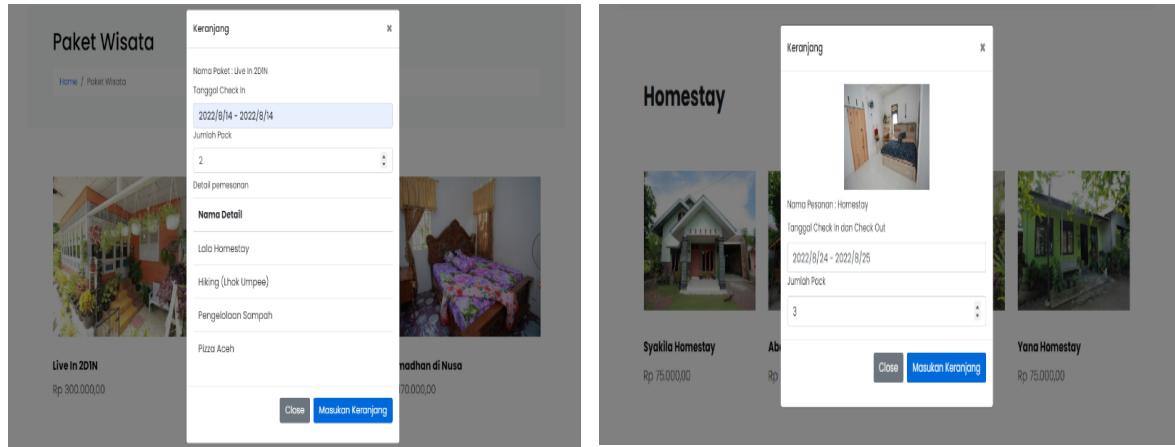


Fig 8. Tour Package Basket Form and Tour Choice Basket Page

When adding a tour package option to the basket, an input form appears, the user inputs the date and number of pax then presses the enter basket button. Tourists can review the type of tour package order selected as shown in the following image.

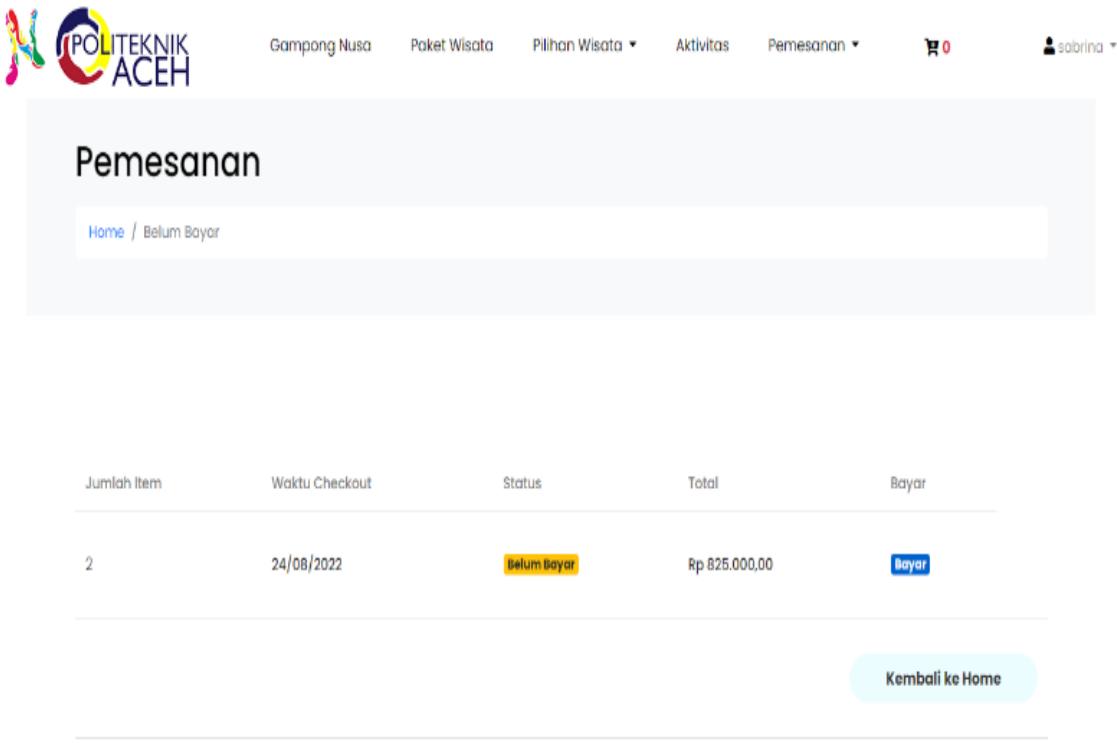


Fig 9. Tour Package Order Status Unpaid Page

According to Figure.9, it indicated that status of order a package tour is unpaid. To make a payment, the user can press the pay button in the pay column.

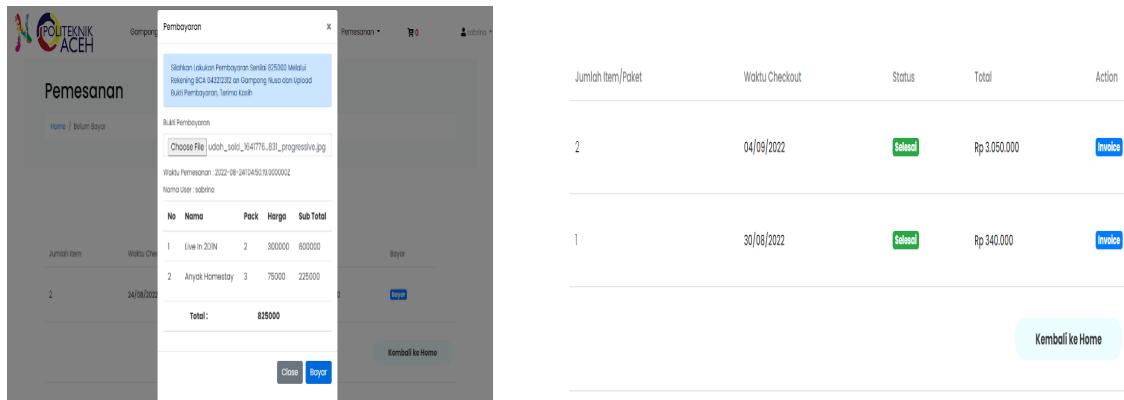


Fig 10. Payment Form and Tour Package Order Status Paid Page

After pressing the pay button, a payment input form appears. User uploads proof of payment then presses the pay button. After the user uploads proof of payment, the payment status appears (Waiting for Confirmation). Admin will check the payment and confirm the payment. After the admin confirms the payment, the status page for the tour package order changes to paid status.

B. Back-end Displays

In the tourism website management side, which can only be accessed by administrators, after the admin logs in, a dashboard page will appear. In the sidebar there are several menus, namely master data, tours, reservations and payments. There is also information on tour options with the highest sales, booking notifications, number of bookings and payment amounts.

Pilihan Wisata Terlaris	
#	Nama Wisata
1	Rapai Geleng
2	Pizza Aceh
3	Anyak Homestay

Pembayaran Menunggu	
#	User
1	sabrina
2	Nurul Zaharah

Fig 11. Dashboard page

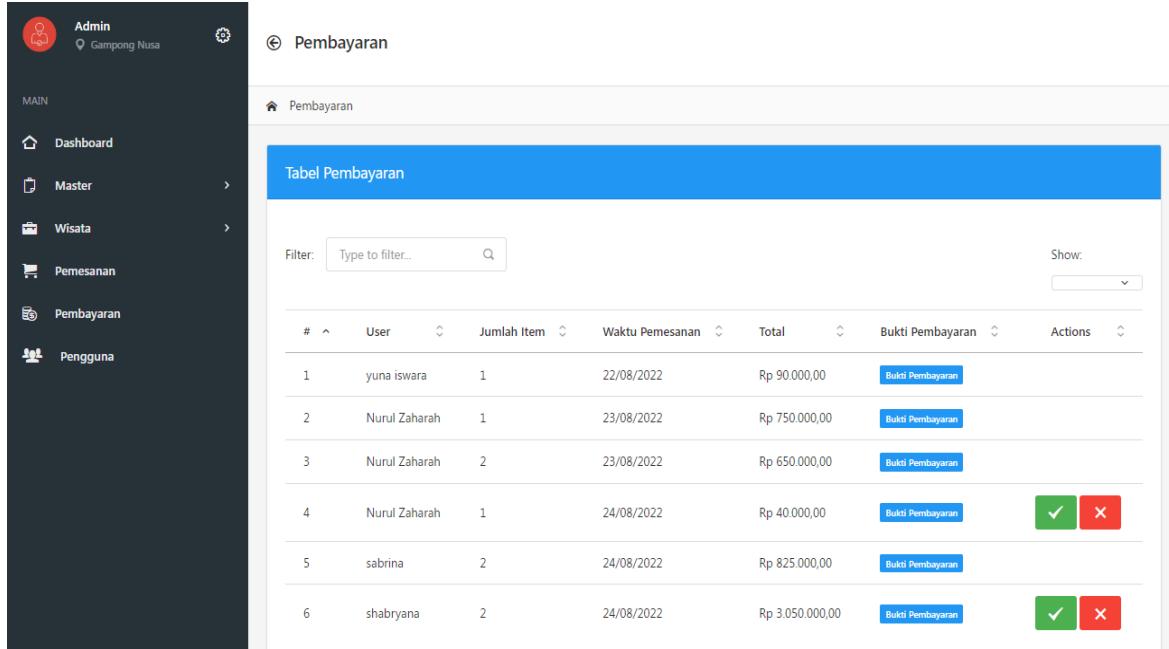
On the tour menu there is a tour package page. This page contains a tour package table for which data has previously been entered, then at the bottom of the table there is a tour package form for adding new data. To provide more complete information, it is necessary to input complete information on the tour package detail page

Fig 12. Tour package detail page

On the booking page the admin can see tour package orders. There is information on the name of the tourist who booked along with the total price, booking date and booking status. To view order details, you can press/click the eye icon at the bottom

Fig 13. Booking page

On the payment menu there is information about tourists who have made payments for previously ordered tour packages.



#	User	Jumlah Item	Waktu Pemesanan	Total	Bukti Pembayaran	Actions
1	yuna iswara	1	22/08/2022	Rp 90.000,00	Bukti Pembayaran	
2	Nurul Zaharah	1	23/08/2022	Rp 750.000,00	Bukti Pembayaran	
3	Nurul Zaharah	2	23/08/2022	Rp 650.000,00	Bukti Pembayaran	
4	Nurul Zaharah	1	24/08/2022	Rp 40.000,00	Bukti Pembayaran	✓ ✗
5	sabrina	2	24/08/2022	Rp 825.000,00	Bukti Pembayaran	
6	shabryana	2	24/08/2022	Rp 3.050.000,00	Bukti Pembayaran	✓ ✗

Fig 14. Payment page

For tourists who have made payments, the admin changes the status from unpaid to paid by first validating the proof of payment uploaded by the tourist. So, on the tourist side, the status changes to paid.

IV. Conclusion

Based on the tour package booking system that has been created, the following conclusions can be drawn:

1. This tourism system application can help tourists order tour packages effectively and efficiently.
2. This application can process tour package orders, payments and manage tourism data on the administrator side.
3. Admin can see order data in more detail and practically.
4. Tourists can now obtain tour package information available on a web-based application

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