Development of Integrated Tourism Information System PT. Yoy Manajemen Internasional

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Abstract: PT. Yoy Manajemen Internasional is engaged in the tourism services sector. This company is a sharia-based hotel development and management company that was newly formed in October 2020. The hotel and tourism business network initially used a manual system. The tourism information system connects various entities at once, namely: hotel managers, tourist attraction operators, car rentals, restaurants, micro-enterprises supporting the tourism sector and tourists. Tourists can come from domestic or from abroad. The purpose of this research is to develop a tourism information system specifically for the sharia-based hotel industry that integrates all partners from PT Yoy Manajemen Internasional. This information system connects two interests, namely PMS (Property Management System) for the hospitality industry and YPA (YoY Personal Assistant) for mobile applications used by tourists. The system development method by applying the SDLC (System Development Life Cycle) method, consists of: planning, analysis, design, implementation, testing and training. Development of information systems with a management-to-consumer (top-down) and management-to-consumer (bottom-up) approach so that the development of information systems is expected to be more optimal. Testing this application was carried out through usability testing on both companies and SMEs assisted by PT. Yoy Management with a total of 50 respondents and 20 students of the Informatics study program. Usability testing using User-Interface and User-Experience users.

Keywords: hospitality industry, information system, sharia, PMS, YPA

INTRODUCTION

Well-managed tourism is a large source of Regional Original Income and is a driving force for the people's economy. Tourism will not be explored until whenever it will even get bigger and provide benefits for all people involved in the world of tourism. Tourism creates a multiplier effect for all economic activities in society. For example: tourism requires accommodation, restaurants, bars, and other supporting facilities. One hotel that is established will absorb a lot of workers. Besides that, hotels also need various suppliers to supply hotel needs. And so on, the economic chain arising from tourism activities as a result of the multiplier effect.

Information Technology is a technology used to process data to produce quality, accurate, and fast information. Modern tourism really needs technology for marketing, documentation and data collection which is very important to support tourism development. Currently, the development of the hospitality industry is expanding in Indonesia. Changes in hotel management are also increasingly prevalent. In changing hotel management, various solutions and innovations need to be made in order to increase revenue and profits for the hospitality business. PT. YoY International Management is engaged in tourism services which was established in October 2020. This company is a sharia-based hotel development and management company that provides consultation and solutions to hotel owners and investors in the management of hotel units, in order to achieve maximum results by optimizing overall financial and business value. Management of PT. YoY has expertise and experience in the hospitality industry, they offer strategic direction and business development services in the hospitality industry sector. PT. YoY designs hotel management solutions that aim to maximize profits by increasing revenue and cost efficiency. They stood at the time of the Covid-19 pandemic that hit almost all business sectors, especially the hospitality tourism industry. Seeing these conditions, YoY is here to take a role

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in the recovery period of the hospitality industry sector by using sharia concepts (trust, transparency, and accountability) in its management. YoY is a brand affiliated with PT Yoy Manajemen Internasional. YoY provides innovation in the tourism sector to manage sharia-based hotels in support of the Halal Tourism Trend. The problem faced today is that PT Yoy Manajemen Internasional does not yet have a tourism information system that connects 3 parties, namely: hotels/YoY partners, business managers supporting the tourism sector, and tourist. The main problem faced by PT Yoy Manajemen Internasional is the absence of a Tourism Information System that integrates the application of PMS (Property Management System) for tourism support businesses and YPA (YoY Personal Assistant) for tourist guidance. Therefore, a system will be built that integrates PMS (Property Management System) and YPA (YoY Personal Assistant). It is hoped that with an integrated tourism information system, business processes can be monitored and controlled easily.

LITERATURE REVIEW

There are several similar studies that are used as references in this writing, including the first study (Nanang, 2020) regarding Android Applications Using Location Based Service (LBS) for Navigation of Tourist Destinations in Garut Regency which was developed using the SDLC study methodology that utilizes GPS. to find out the natural tourist points of Garut district. The second study (Musdar & Arfandy, 2020) regarding the Android-based South Sulawesi Tourism Information System is able to present tourism information such as culinary tourism destinations, events, and photos of tourism objects. The third study (Hamidah, Rizan & Wahyuningsih, 2019) is regarding the Mobile-Based Hotel Reservation Application to make it easier for the public to make online hotel reservations. The fourth study (Suparta, 2013) concerning an Integrated System for Mobile-Based Tourism Guide as a Supporting Capacity for Tourism Improvement can carry out the functionality needed to search for detailed information on tourism areas in Buleleng Regency, along with nearby public facilities using the SDLC methodology. The fifth study (Kusuma, 2015) regarding Hotel Information System Applications based on Android and which is integrated with the web makes it easier to manage data and support hotel management decisions. The sixth study (Arribe, 2018) is regarding Smart Tourism Applications that can help tourists go to tourist attractions with google maps and assist local governments in introducing tourist attractions in Kampar Regency to the wider community. The seventh study (Ronny, 2017) regarding Android-Based Tourism Information Systems was developed with the SDLC (Software Development Life Cycle) Methodology which has the function of fully informing tourism objects around the city of Banjarmasin. The eighth study (Jauhari, 2020) is about a mobile-based smart travel guide application to help tourists visit the Madura area. The ninth study (Nugraha, 2017) is about the smart tourist guide application that is used to assist tourists in monetizing tourist location information in the city of Surakarta.

METHOD

In the development of an integrated information system PMS (Property Management System) and YPA (YoY Personal Assistant) using the SDLC (System Development Life Cycle) Methodology, which consists of (Reymond McLeod, 2010) : planning, analysis, design, development, testing, implementation, and maintenance. At the planning stage, it consists of activities related to the process of estimating the physical requirements and resources needed to support the system development process. Activities carried out include defining the problem, confirming project feasibility, making a project schedule, determining the staff involved in the project, starting the project development process. In the analysis stage, there are several activities, including defining system requirements, determining system requirements priorities, reviewing recommendations to management. At the design stage, the activities carried out include the following (Fiade, 2010): Creating Architecture Design, Creating Database Design, Designing User Interfaces, Designing Data Flows (Data Flowcharts), Creating Process Diagrams (Process Diagrams). The Development Phase is the stage of converting the logic flow into source code, making algorithms, and making the actual system. In the process of this stage, software components are built based on the requirements that have been defined in the previous stage. At the testing stage, the system that has been built is tested using black box testing. The Black box Testing method is a software testing method that focuses on the functionality side, a software testing method that focuses on the functionality side, especially on application input and output (whether it is in accordance with what is expected or not) especially on application input and output (whether it is in accordance with what is expected or not). is in accordance with what is expected or not). The tester can define a set of input conditions and perform tests on the program's functional specifications. The activities carried out in this stage include: Creating test scenarios and testing the system. After the software has been developed and tested, the next stage is implementation. In this stage, the implementation of software including software installation is carried out. At this stage there are the following activities: Implementing a new system, ensuring that the system can run optimally and training users. The maintenance stage is the final stage of the system development process. In this stage there are several main

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activities, including: maintaining the system, improving the system, and supporting users in operating the software.

RESULT

PT YOY is a newly developed company engaged in hospitality and tourism services. In developing and expanding their business, PT YOY will apply Information Technology support by developing a tourism information system. With this system, it is easier for PT YOY to connect all entities involved in their business. By connecting their business entities, it is easy for businesses to develop well. The tourism information system that will be developed is in the form of a web-based and android-based application, where the application connects three business entities, namely: YoY management, hotel managers/YoY partners/tourism entrepreneurs, and tourists. In this section, we will discuss the Analysis of PT YOY's Tourism Information System Needs. Tourism Information System Requirements consist of Functional Requirements and Non-Functional Requirements (George, 2008). In Table 1 below are the functional requirements of the Tourism Information System:

Table 1. Functional Requirement

No.	Functional Requirement	Entity
1.	The system can manage profile data	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
2.	The system can manage partner data	YOY Admin
3.	The system can perform user registration	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
4.	The system can manage collaboration with partners	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur
5.	The system can display the products, services and services offered	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
6.	The system can display order/purchase transactions for products and services	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
7.	The system can make the products and services offered	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
8.	The system can make promotions and advertisements	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur
9.	The system can manage transactions with customers	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur
10.	The system can communicate with customers	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
11.	The system can manage the reservation process for hotel facilities, restaurants and other services	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur
12.	The system can display the types of YOY business partners, hotels, restaurants, tourism facilities and places	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
13.	The system has a search facility for all data by category, name, time	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
14.	The system can provide recommended products and services	Tourist
15.	The system can make orders and reservations	Tourist
16.	The system can update payments	Tourist
17.	The system can display transaction history	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist

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18.	The system can input reviews / feedback	Tourist
19.	The system can display reviews / feedback	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
20.	The system can upload and download files	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist
21.	The system can provide notifications via email	YOY Admin, YOY Partner/Hotel/Tourist Entrepreneur, Tourist

To design a tourism information system, Flowchart diagrams, Use Case diagrams, and Database Design diagrams are made. Flow chart diagrams are made to describe the process flow including the login process, the registration process, the ordering process and the payment process.

The user enters the email and password to authenticate, if the email and password data are valid the user will enter the main page, whereas if the data is invalid, the application will give a warning and ask the user to enter the email and password correctly.

The user enters personal information, the validation process will be carried out if the email has been registered before, if the email has not been registered, the user needs to verify the email via the link sent to the email, after the email is verified, the user can login. The customer enters the application, then selects the Hotel menu, sees the available hotel details, makes a hotel reservation, then inputs the reservation data on the booking form, at this stage there are several conditions that occur, first when the room condition is full, the reservation will be rejected and given warning that rooms are not available. However, if the room is available then the booking is successful. The user opens the application and then sees the details of the transaction bill, the user makes a payment and uploads the proof of payment. If the upload process is successful, the payment update is successful, but if it fails, a warning will appear that the payment update failed. After successfully updating the payment, the status of the payment will be Paid.

Use Case diagrams are made to describe the interrelated interactions between actors and systems. In the Use Case Diagram there are two main functions of its use, including the following: The first function is to be able to introduce the initial phase of each process activity in the system being developed. This can make it easier to determine the needs according to the software and users. Second, use cases are able to describe the sequence of business processes more clearly and transparently to prevent errors in the system to be built. In Figure 5 is a Use Case Diagram of a Tourism Information System:
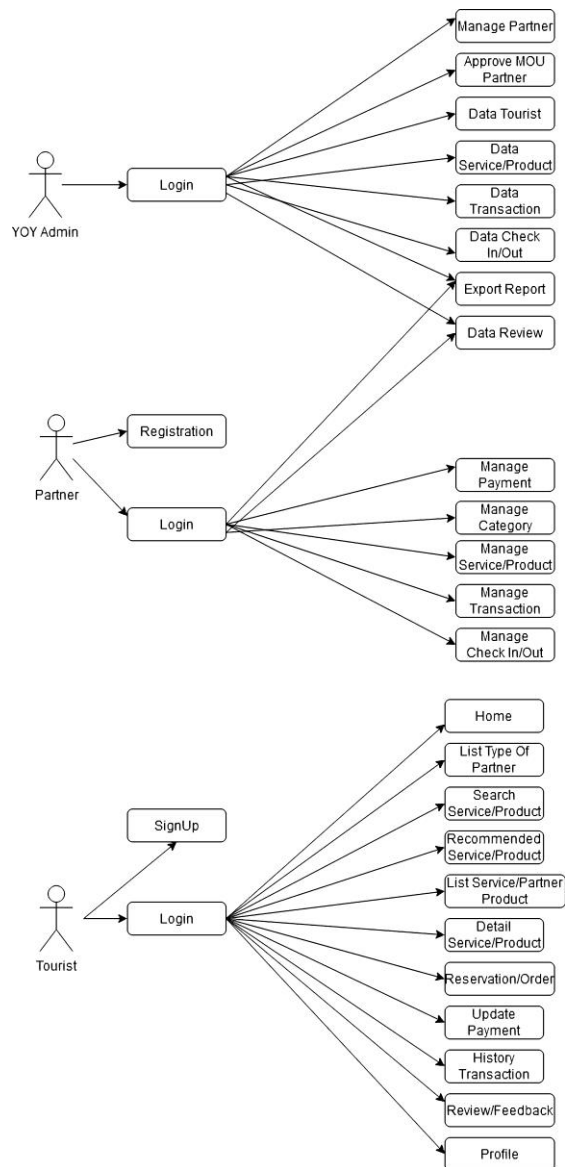
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Fig. 1 Use Case Diagram

In the use case diagram, there are 3 actors, namely YOY Admin, partner (YOY Partner/Hotel Manager/Tourism Entrepreneur) and Tourist (Tourist). For each actor, before entering the system, they must first log in. For partner actors (YOY Partners/Hotel Managers/Tourism Entrepreneurs) and Tourists (Tourists) before logging in, they must register a user to the system.

Below is a Database Design Diagram of a Tourism Information System:

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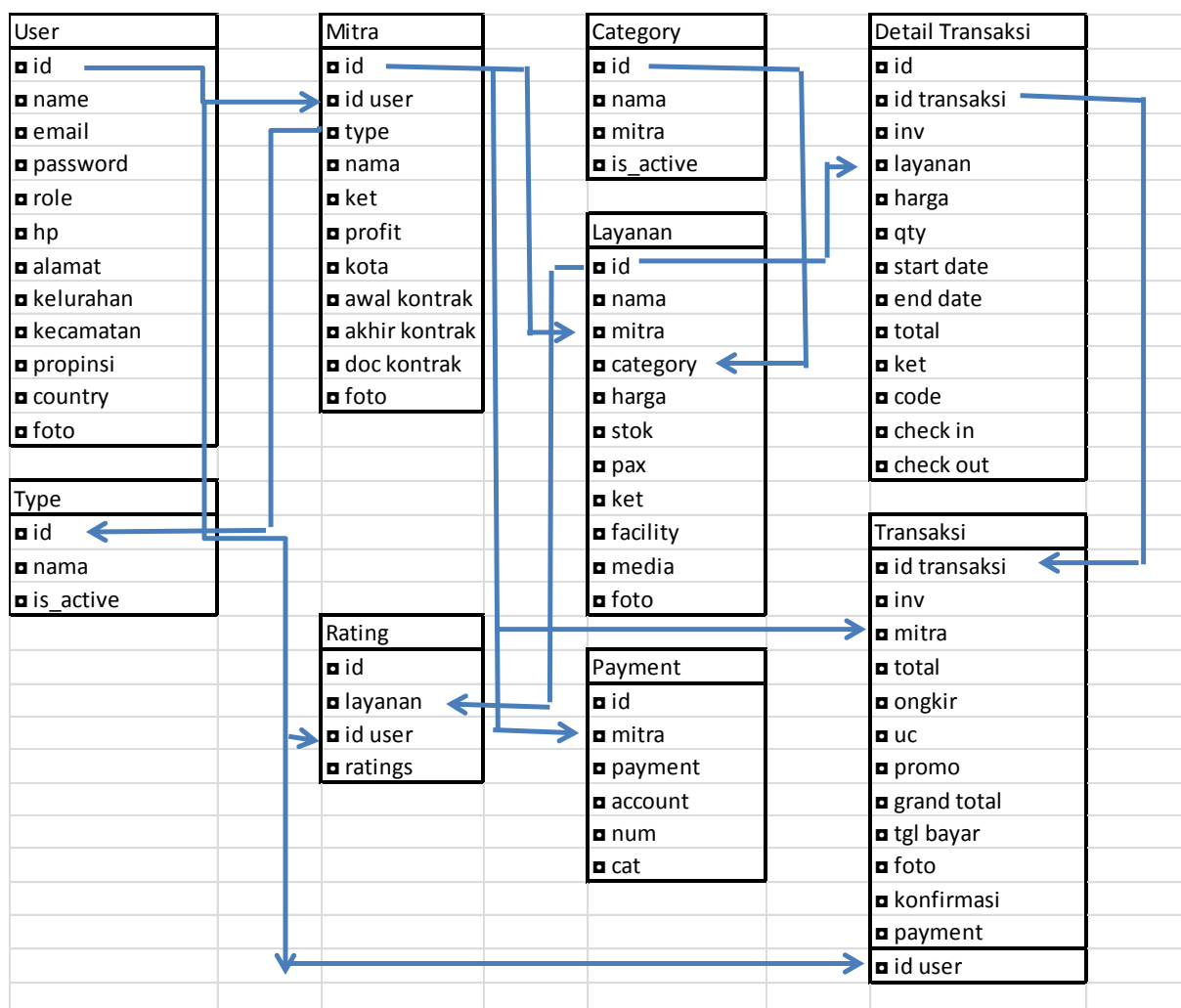
Fig. 2 Database Diagram

Tourism Information System Application consisting of Web-based PMS (Property Management System) application and Android-based YPA (YoY Personal Assistant) application, built using the PHP programming language using the Laravel framework and Dart programming using the flutter framework. Tourism Information System Database using MySQL DBMS. The Web-based PMS (Property Management System) application is run using web browser while the Android-based YPA (YoY Personal Assistant) application uses the Mobile Application on mobile devices using the Android Operating System.

Below is a program display from the PMS (Property Management System) Tourism Information System Application for YOY Partner Users:
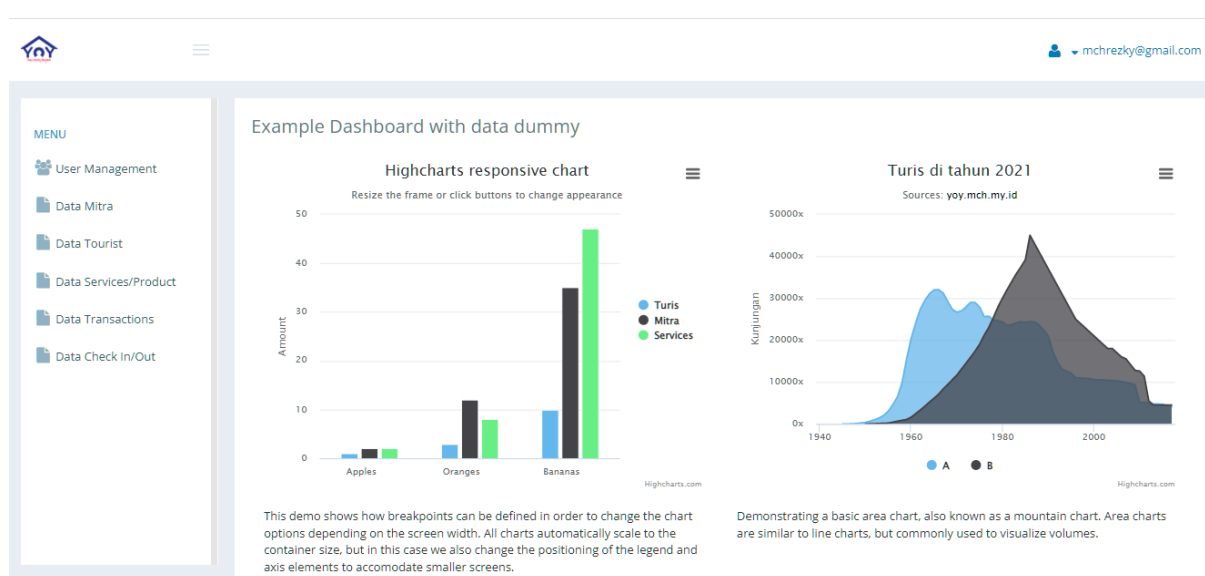
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Fig. 3 Partner Main Page

After successfully logging in, the user will enter the main display page of the PMS (Property Management System) application, in which there are several menus, namely the Management Partner Menu, Info Menu, Category Menu, Service Menu, Transaction Menu, Notification Menu and Profile Menu.
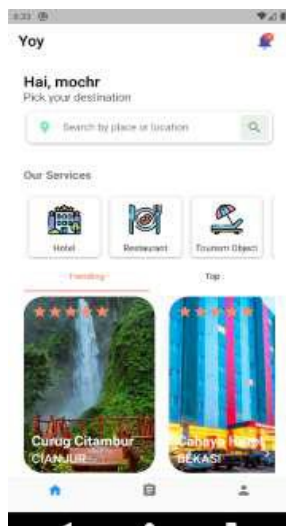

Fig. 4 Tourist Main Page

On this page there are several main service and product menus such as our service hotels, restaurants and others, and trending menus and top place or service menus.

DISCUSSION

Usability testing is carried out to find out user responses when using the Tourism Information System, both the PMS application and the YPA application. System testing is given to business managers (tourist attraction, restaurant, Car rental, MSME, hotel, students and the general public. Questionnaires is given to users to find out responses to Tourism Information Systems both PMS applications and YPA applications. In the table is a list of respondents who tested the application, namely:

Table 2. List of Respondents

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No.	Respondents	Percentage
1.	Tourist Attraction	9.0 %
2.	Restaurant	15.7 %
3.	Car Rental	13.4 %
4.	MSME	15.5 %
5.	Hotels	16.7 %
6.	Tourist	7.7 %
7.	General Public /student	20.2 %

The results of the recapitulation of responses to the questionnaire are presented in the table below:

Table 3. List of responses

No.	Question	Very Agree	Agree	Not Agree	Very Not Agree
1.	Products and Services can be displayed properly in the application	65.2 %	30.4 %	4.4 %	0 %
2.	the application interface on the web and on android is good	47.8 %	47.8 %	4.4 %	0 %
3.	Payments and uploading proof of payment are carried out easily	43.5 %	52.2 %	4.3 %	0 %
4.	Reservations and payments for products and services are going well	61.8 %	35.0 %	3.2 %	0 %
5.	Selling products and services to tourists is very helpful	66.3 %	29.5 %	4.2 %	0 %
6.	Business reservation and payment management in PMS web application is good	65.7 %	30.5 %	3.8 %	0 %
7.	PMS and YPA applications are running well	79.8 %	17.3 %	2.9 %	0 %

CONCLUSION

The development of an Integrated Tourism Information and Decision Support System with a Sharia-Based Hospitality System consists of two applications, namely the PMS application used by YOY Admins and YOY Partners and the YPA Application used by Tourists. Web-based PMS application and Android-based YPA application. With the two applications, it can connect various business entities of PT YOY such as hotel managers, tourist attraction managers, car rentals, restaurants, micro businesses supporting the tourism sector and tourists, making it easier for PT YOY to develop its business.

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