Development of Front End on Tour and Travel Applications Using Python and Django Framework in PT. Industri Telekomunikasi Indonesia

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Abstract

The purpose of the study was to develop a website-based tour and travel application on the frontend and to make ticket reservation facilities. The research method uses a qualitative approach with data collection techniques using observation and literature study. While the system development method used is the Rational Unified Process (RUP) method. The results of the research, the development of website-based tour and travel applications on the frontend can be made with the programming language Python and Django framework and coupled with the bootstrap feature can make the frontend display on the tour and travel application more attractive. Creating a tour and travel application is expected to meet the needs of companies to improve performance in the business of PT INTI, especially in the field of information technology in the field of tour and travel services to facilitate customers to obtain information about tourist attractions, tour packages, and ticket reservations provided at tour and travel website.

Keywords: Django Framework, Tour and Travel, Python Language, Rational Unified Process

I. INTRODUCTION

Information technology is currently developing very rapidly so that it has an impact on increasing the effectiveness and efficiency to do every job[1]. Especially in the 21st century, almost all life activities are supported by increasingly sophisticated technology. The sophistication of technology and information has become a necessity even needs that are general, especially for the government or the private sector and companies. One of them in the form of a computer that is an electronic media that plays a very important role in the development of technology that is happening today.

The use of computers has been widely used as a means to process data and the most effective communication tool at the moment because it can simplify and speed up the completion of work, especially when computers are connected to the internet. Since the advent of internet technology, the process of sending, delivering and receiving the information has become more effective. The internet has developed into a medium that is a liaison between individuals without being limited by space and time. One of the uses of the internet is in the form of websites, according to Gregory (2000) websites are collections of web pages that are

interconnected, and the files are interrelated. The web consists of pages or pages, and a collection of pages is called a homepage.

Competition in the business world is so tight, so companies must be able to develop good strategies to win the competition, one of which is through promotion strategies. Currently, many people who use the website as a promotional media in order to introduce their products to the wider community. The choice of website media as a promotional tool aims to facilitate the publication of products without having to visit various regions. So with the website allows the promotion will be easier, indirectly able to increase profits for the company because the products or services offered can be known in various communities.

One of the companies engaged in services is the tour and travel business, in Indonesia is developing with many providers of travel services and flight tickets. Over time, if initially many service providers developed in the market in general, now tour and travel service providers have begun to penetrate the online world and the factors that support the development of the tour and travel business in Indonesia are nothing but cheaper travel costs and increased per capita income in Indonesia. Not only these reasons, the investment of a franchise business that is not too big also encourages many people to take the franchise in the tour and travel business.

PT Industri Telekomunikasi Indonesia (PT INTI) is a State-Owned Enterprise engaged in telecommunications, in addition to being engaged in telecommunications, PT INTI also enters the business of engineering solutions and system integrators. PT INTI has a branch of the business development division named RICE (Regional Information Center of Excellence) is a concept of development and operation of information technology support centres in several potential areas (regional) that have experts or experts and ready-to-use support facilities that can be used as a regional incubator in the field of information technology. RICE was established as a business incubator to accelerate the growth of software development and information technology service providers (Software House) through technical assistance, managerial assistance, infrastructure, and training, so that the services produced can be marketed both to the domestic and global markets.

Lack of website-based tour and travel service providers, then made a tour and travel website application as a media to support business activities in the provision of tour and travel services at PT INTI. However, there are problems in the existing facilities on the website, including there is no ticket reservation provided on the website. It is expected to meet the needs of companies to improve performance in the business of PT INTI, especially in the field of tour and travel services to facilitate customers to obtain information about tourist attractions, tour packages, and ticket reservations provided on the tour and travel website.

Associated with some understanding of website-based tour and travel applications at PT Industri Telekomunikasi Indonesia, this research was conducted to develop website-based tour and travel applications on the frontend and make ticket reservation facilities.

II. LITERATURE REVIEW

According to Gobel (2016), the front end is the task of the developer who usually makes an outside appearance/layout on the website. Programming language or that must be mastered by the front end, namely HTML, CSS, Javascript, Jquery, and so forth. It's simpler to know the front end, which is whatever form or appearance of the website we see in the browser[2].

Application means application, application, use, conditions. When interpreted as a term, an application is a program that is ready to use that is made to carry out a function for the application service user as well as other application users that can be used by a target to be addressed.

According to Safaat (2012), Application software is a subclass of computer software that utilizes the ability of the computer directly to perform a task desired by the user. Usually compared to system software that integrates a variety of computer capabilities, but does not directly apply that ability to do a task that benefits the user. The main examples of application software are word processors, worksheets, and media players[3].

Some applications that are joined together into a package are sometimes referred to as a package or application suite. An example is Microsoft Office and Open Office.org, which combines a word processing application, a worksheet, and several other applications. Applications in a package usually have a user

interface that has something in common, making it easier for users to learn and use each application. Oftentimes, these applications have the ability to interact with each other so that it benefits the user. For example, a worksheet can be embedded in a word processing document even if it is made in a separate worksheet application.

Website is a Uniform Resource Locator (URL) that functions as a repository of data and information based on certain topics. Web Page (web page) is a special page from a particular website that is stored in the form of files. The Home Page is a basic tool to introduce briefly what the contents of the website are. Along with the rapid development of information technology, the website is also experiencing significant developments. In grouping web types, more directed to the function, nature or style, and the programming language used. The website has several types based on its nature or style, namely 1) Dynamic Website is a website that provides content that is always changing at any time. The programming languages commonly used are PHP, ASP, .NET, and utilizing a MySQL database. 2) A static website is a website whose content is very rarely to be changed. The programming language commonly used is HTML and has not used or utilized a database[4].

A. Tour and Travel

According to the World Association of Travel Agents (WATA), a Tour is a travelling tour that takes more than three days, which is held by a Travel Bureau in a city or region of which the event is to review several places/cities, both within and outside the country. Understanding the world tour is much more often used than the words trip, sightseeing, or excursion, but vice versa. However, the understanding of the word trip can be equated with the word excursion closer (city limits or certain areas no more than 24 hours), while the trip is relatively further.

A travel bureau is a commercial business activity that aims to regulate and provide services for a person, a group of people, to travel for the purpose of travelling, this business entity organises travel activities that act as intermediaries in selling or managing services for travel tours. Both domestically and abroad.

According to Yoeti (2003), states that a travel agency is a company that earns revenue and profits by offering and selling products and services that it provides to its customers[5]. Foster (2000) explains a travel agency is a company that sells travel plans directly to the public and more specifically sells air, land, sea transportation; lodging accommodations; tourist cruise; package tours; travel insurance; and other products[6]. Business travel is a form of business that provides travel services, both domestically and abroad[7]. Business travel tours can provide tourism facilities and all things related to the field of tourism[7]. This tourism business can take the form of a business entity, either a limited liability company, limited partnership company, firm, cooperative, foundation, or individual business form[8].

III. RESEARCH METHOD

The study was conducted with a qualitative approach to data collection techniques using observation and literature study. Observation is a way of collecting data by making direct observations at PT INTI companies and knowing the process that is the object of the problem. A literature study is done by taking references, either books or online references related to the field of research. Then the data is compared with the real situation in the field to show the level of validity and reliability of the study.
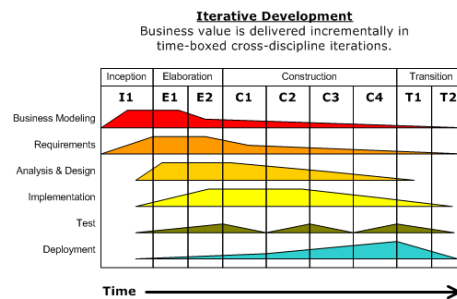

Fig. 1. Rational unified Process phases and disciplines[9]

The system development method used in this study is the Rational Unified Process (RUP) method. RUP is an interactive system development stage, specifically for object-oriented programming[10]. The explanation of the four stages of work of the RUP is as follows[11]:

1) Inception phase

   This stage models the business processes needed and defines the needs of the system to be made, several data collection techniques such as observation, interviews, and literature.

2) Elaboration Phase

3) This stage carries out problem analysis, needs analysis, feasibility analysis and technical analysis. Creating a system logic flowchart poured in activity diagrams, class diagrams, sequence diagrams, data design and design interfaces for the manufacture of the system. Then do the specification analysis of the hardware and software used on this system.

4) Construction Phase

   This stage checks the stages of inception and elaboration, which aim to find out whether the analysis and design of the design are in accordance with the needs to be achieved. In this system using the python language for the programming language used, the Django framework for the framework, the coding program uses pycharm, and the database used is MySQL which can hold all the data inputted through the user interface.

5) Transition Phase

   This stage performs the deployment process, which is the system installation activity that has been made to the agency.

IV. RESULTS AND DISCUSSION

Requirements Analysis contains the processes that will be carried out by the system. The functional requirements of the system include:

1) The system must be able to record tour bookings and ticket bookings made by the user
2) The system must be able to change, delete and display data changes in the frontend by the admin in the backend.
3) The system must be able to change the admin password that is done on the backend.
4) The system must be able to add a new admin that is done in the backend.

TABLE I
ACTOR IN THE SYSTEM

No	Actor	Description
1	Admin	Admin is a person who has access rights to provide destination data input on tour and travel websites.
2	User	The user is the person who has the right to choose a destination package, view the gallery and see the contacts provided on the tour and travel website.

A. Activity Diagram Design

Activity diagram is a diagram that illustrates the workflow (work flow) or activity of a system or business process.
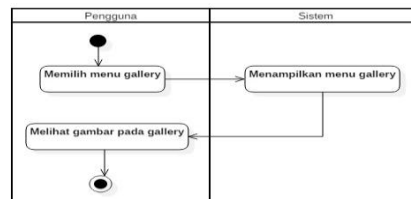

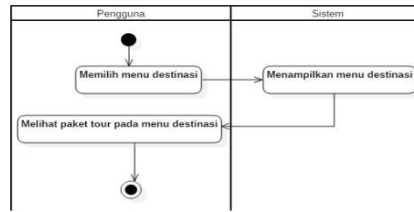Fig. 2. Activity Diagram for the Gallery
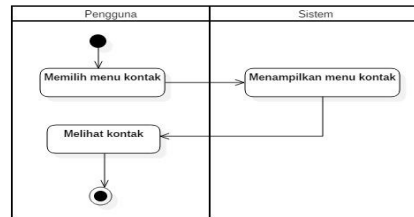
Fig. 3. Activity Diagram for Destinations

Fig. 4. Activity Diagram for Contacts

B.   Sequence Diagram Design

Sequence diagrams are diagrams that illustrate the behavior of objects at usecase by describing the life time of objects and messages sent or received between objects. Sequence diagrams consist of vertical dimensions (time) and horizontal dimensions (related objects).
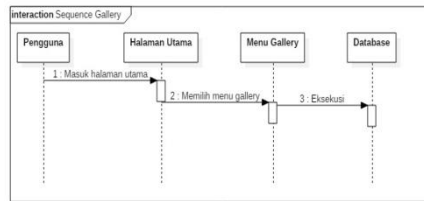

Fig. 5. Sequence Diagram for Gallery

C.   Interface Design

Figure 6 displays the interface design on the gallery page, wherein the design there is a logo, navbar, main bar and footer. For logos embedded with a logo that represents Brand Tour and Travel, the navbar contains the menus to be provided, namely home, destination, contact, and the main bar contains the gallery that will be displayed or displayed on the website, the footer will re-display the menu and some information available.
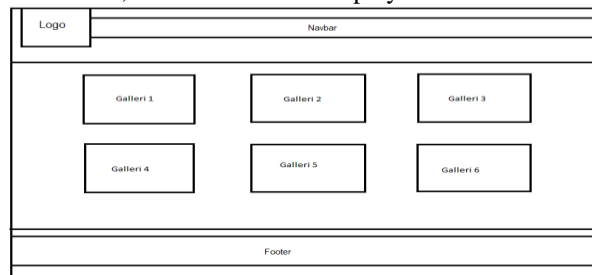

Fig. 6. Interface Design Gallery Page

Figure 7 displays the design on the destination page, where in the design there are logos, navbar, main bar, footer, sidebar. For logos embedded with a logo that represents the Batch Tour and Travel, the navbar contains menus to be provided namely home, destination, contact, the main bar containing the sidebar destination contains the most popular images that provide a variety of choices or recommendations for the

most popular destinations in Indonesia based on the most visitor ratings, the footer will display the menu and some information.
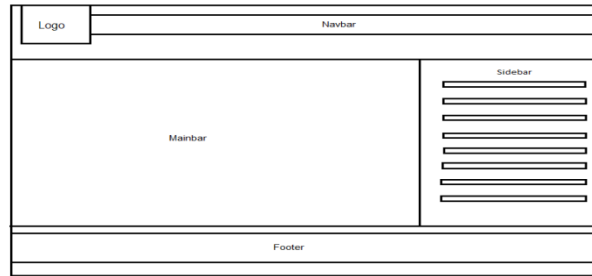

Fig. 7. Destination Page Interface Design

Figure 8 displays the design on the contact page, wherein the design there is a logo, navbar, main bar and footer. For logos embedded with a logo that represents the Batch Tour and Travel, the navbar contains menus to be provided namely home, destination, contact, the main bar contains contact menus that provide address information, telephone numbers, which conflict with the office or company that has been provided, the footer will re-display the menu and some information.
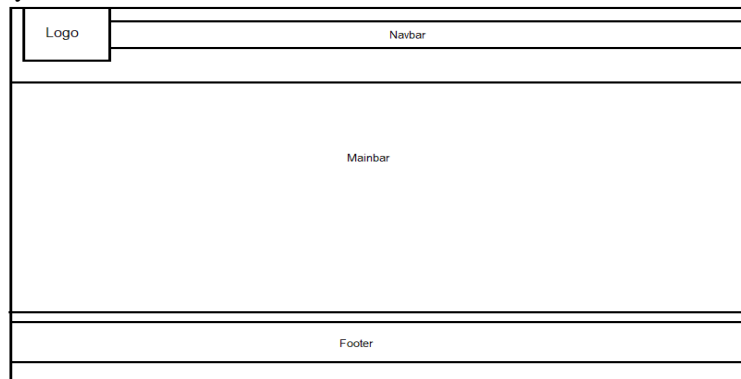

Fig. 8. Contact Page Interface Design

D. Gallery Page Implementation

The gallery page is a menu that provides several kinds of images of the destinations that have been provided so that visitors can see the images in the gallery shown in Figure 9 below.
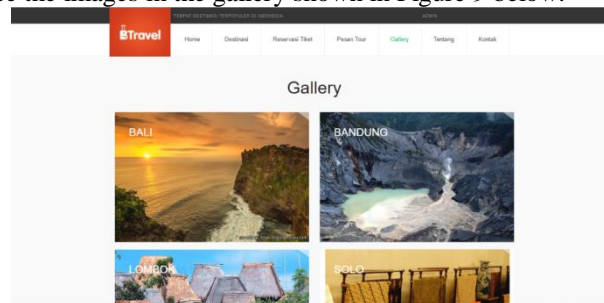

Fig. 9. Gallery Page Layout

E. Destination Page Implementation

The destination page is an interface that provides a variety of choices or recommendations for the most popular destinations in Indonesia based on the most visitor ratings. On the Destination menu, there are several menu features for the user namely, 1) Domestic Tour Packages and 2) Selection of Tour Packages that have been provided, can be seen in Figure 10 below.

Fig. 10. Destination Page Layout

1) Domestic Tour Packages

Domestic Tour Package is a menu that provides several recommendations Tourist attractions that can be chosen by the user, the recommended places namely, Bandung, Yogyakarta, Bali, Lombok, and Medan that have been provided, can be seen in Figure 11 below.

Fig. 11. Domestic Tour Package Destination Layout

2) Choose Package

Select Package is a tour and travel destination specification menu provided for the user, so the user only chooses the package that has been provided. In the Select Package menu there is an Itinerary package provided, can be seen in Figure 12 below.
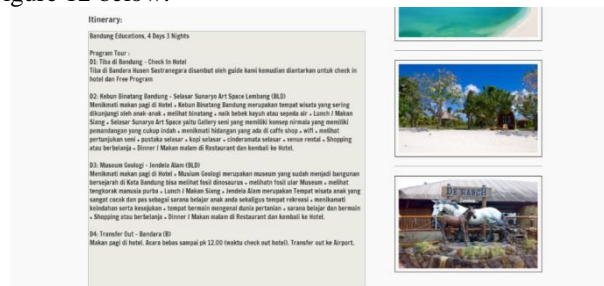

Fig. 12. Package Preferred Destination Layout

F. Contact Page Implementation

Contact page is a menu that provides address information, telephone number, related to the office or company that has been provided in Figure 13 below.
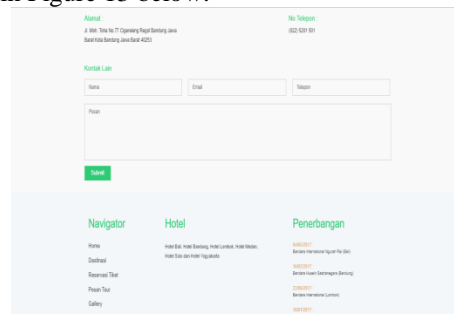

Fig. 13. Contact Page Layout

V. Conclusion

Based on the analysis and discussion of front end development in the tour and travel applications using the Python language and Django framework at PT INTI, a number of conclusions can be drawn as follows:

1) Development of Tour and travel applications based on the website on the frontend can be made with the Python programming language and Django framework and coupled with the bootstrap feature can make the frontend display on the tour and travel applications more attractive.

2) Tour and Travel Applications have been successfully developed which are expected to meet the needs of companies to improve performance in the business of PT INTI, especially in the field of information technology in the field of tour and travel services to facilitate customers to obtain information about tourist attractions, tour packages and ticket reservations provided on the tour and travel website.

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