

Web-Based Information and Reservation Media for VW Safari Borobudur

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Abstract—Borobudur is one of the most popular tourist objects in Indonesia. Borobudur is located in Magelang Regency. Borobudur District is a center for tourism and MSME development that is able to attract the attention of both local and foreign tourists. VW Safari Magelang is one of the experienced tour guide service providers offering a complete tour package, including lodging information, Borobudur special food and other facilities around Borobudur tourist attractions. The lack of information media owned resulted in the VW Safari Borobudur being less well known. This research produces information media and website-based reservations to increase tourists' knowledge and interest in VW Safari Borobudur. In designing information media using UML with system development using the waterfall process model. To build information and reservation media, PHP and MySQL programming languages are used and the Codeigniter framework is used

Keywords: Borobudur, Tourism, Information and Reservation Media, Web-Based, UML, Codeigniter

I. INTRODUCTION

Borobudur is one of the most popular tourist attractions in Indonesia [1], [2]. Borobudur is located in Magelang Regency, precisely in Borobudur District [2]. Apart from the Borobudur Temple, there are also many tourist destinations in the Borobudur District, such as educational tours, religious tours, craft tours and tours with other local wisdom [3], [4]. As well as the Borobudur District also has more than 50 UMKM with local wisdom [2], [5]. This has made Borobudur District a center for tourism and UMKM development that is able to attract the attention of both local and foreign tourists. However, information related to tourist destinations and UMKM has not been optimally distributed[5]. Lack of information is an opportunity for the local community to open a travel agency service to visit tourist destinations and UMKM [4].

VW Safari Magelang as one of the experienced tour guide service providers offers a complete tour package, including lodging information, Borobudur special food and other facilities. As well as VW Safari Borobudur being a tour guide agency that offers visits to various destinations in Borobudur using VW cars.

With this opportunity, VW Borobudur does not yet have information and reservation media to increase promotion and interest in potential customers. Media is one component of

communication, namely as a messenger from the communicator to the communicant[6], [7]. Information is data that has been processed into another form that is more useful, namely knowledge or information intended for recipients in making decisions, either now or in the future.[8], [9]. While the reservation is the preparation or provision of goods or services in accordance with the order [10], [11]. So, media information and reservations can be interpreted as a tool to provide knowledge and orders to prospective customers [12], [13]. The media used is website-based, so that it can be accessed by potential customers in general and is multiplatform [7], [14]. The website itself is a series of web pages containing information that are connected to each other and accessed via the internet [15], [16].

II. RESEARCH METHODS

2.1 System Analysis and Design Methods

In this study, the research method used is Software Engineering with the waterfall process model. Software engineering is a structured approach to software development aimed at facilitating the production of high quality software in a cost effective way [17]. The Waterfall method is a plan-based process in principle where in this method you have to plan and schedule all process activities before starting to work on them. [17].

The stages of the Waterfall process model are as follows:

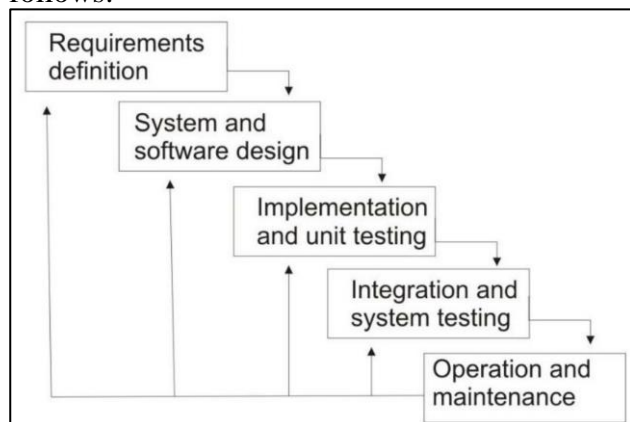


Figure 1. The Process Models of Waterfall

Furthermore, the analysis and design of the system in this study refers to the waterfall development method as follows:

a. Requirement definition

At this stage an analysis of system requirements and data collection was carried out by means of observation, interviews and literature study at the VW Safari Borobudur. At this stage it produces a user requirement document as data related to the user's wishes in making the system. The resulting data becomes a reference for researchers in designing the system being built.

b. System and Software Design

The system and software design process of requirements translates into a predictable software design before coding. This process focuses on data structures, software architecture, user interface representations and procedural (algorithmic) details. This stage produces a document called software requirements. This document will later be used to carry out system creation activities. In this study the system design was modeled using class diagrams, use case diagrams, Entity Relationship Diagrams (ERD), table relations, and interface design mockups as the user interface design of the system to be built.

c. Implementation and Unit Testing

Implementation and Unit Testing is the stage where the entire design is converted into program codes. The program code produced is still in the form of modules which will then be integrated into a complete system to ensure that the software

requirements have been met. In this study, programming was carried out using the PHP programming language and MySQL as database management and system testing was carried out using black box testing.

d. Integration and System Testing

At this stage, each program unit is integrated with each other and tested as a complete system to ensure the system meets the existing requirements by testing using black box testing as system testing. After that the system will be sent to the system user.

e. Operation and Maintenance

Is the last stage in the Waterfall model. The finished software is run and carried out maintenance. Maintenance is included in adjustments or changes due to adaptation to needs. At this stage the designed and built system is run on the VW Safari Borobudur by carrying out system maintenance, namely if there are deficiencies in the system.

2.2 Method of collecting data

In collecting data, this study uses several methods as follows:

a. Observation

In this case the researcher made direct observations related to the activity process at the VW Safari Borobudur to find out the current running system, what deficiencies and constraints exist at this time, in order to obtain data directly on the object under study as material for conducting research.

b. Interview

In collecting data, researchers orally and directly to the source of the data, either through offline or online meetings with the person in charge or owner of VW Safari Borobudur.

c. Literature Review

In this study, data collection was also carried out by searching for and studying theories from books to support the preparation of reports related to research. Researchers collect data by reading and studying reference books from other book sources related to research.

2.3 Methods of Implementing SEO and Web Security

Search Engine Optimization (SEO) is a process for optimizing the appearance of a website in search engine search results [18]. If the SEO on the website is not optimized properly, then search engines like Google more difficult for indexing pages of website [19]. Web Security is a security system for websites with the aim of preventing attacks on websites [20].

III. RESULT AND ANALYSIS

The results of the discussion from this study are the use of a system development method that describes how the stages are carried out so that they can help solve existing problems. The system development used is the Software Engineering method and the model used is the Waterfall model.

To create an application design that describes the process that occurs is to use the UML (Unified Modeling Language) model to describe the activity of a system. Design itself is a process of developing new specifications based on recommendations from system analysis results [21]. While UML (Unified Modeling Language) is a standard language that is widely used in the industrial world to define requirements, make analysis and design, and describe architecture in object-oriented programming. [22]. Furthermore, the use case or use case diagram is a model for the activity (behavior) of the information system to be created [23]. The following use case diagram of the system being built is shown in Figure 1.

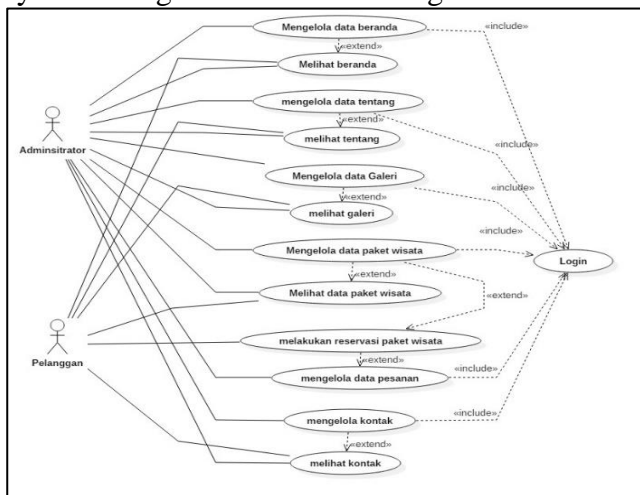


Figure 2. Use Case Media Information and Reservation Diagram

Furthermore, this research produces information media and website-based reservations for customers or prospective customers from VW Savari Borobudur. The implementation of the system built is as follows.

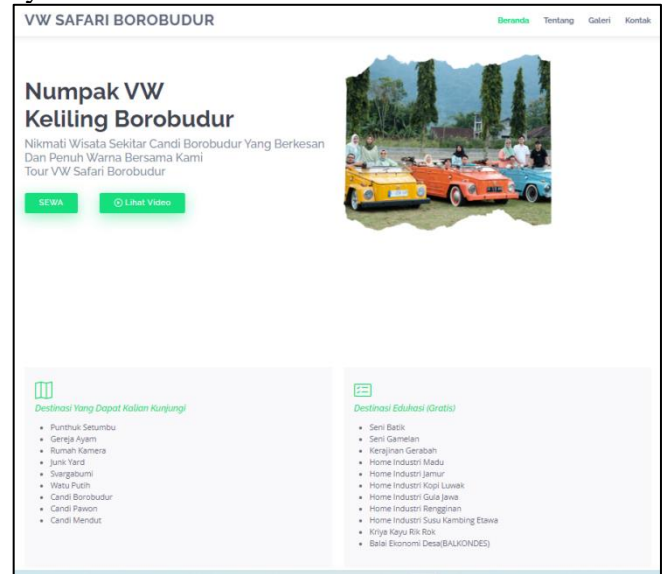


Figure 3. The Home Pages of VW Safari Web



Figure 4. The About Pages of VW Safari Web

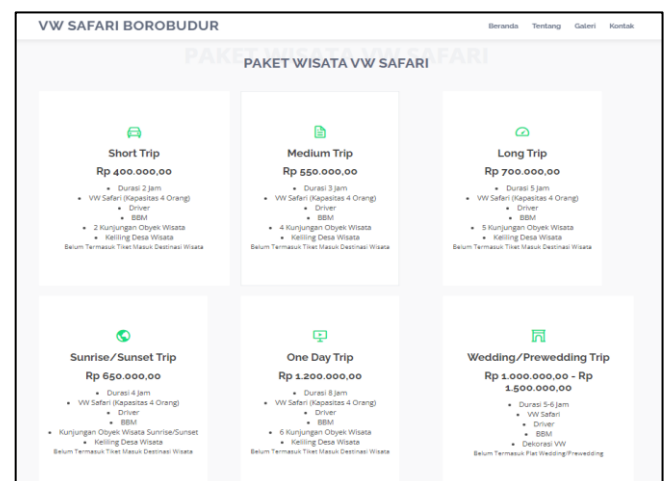


Figure 5. The Destination Package Serve Pages of VW Safari Web



Figure 6. The Works Pages of VW Safari Web

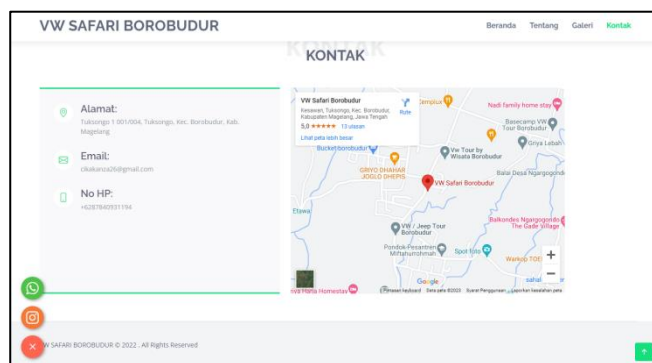


Figure 7. The Contacts Pages of VW Safari Web

In the resulting information and reservation media, Search Engine Optimization (SEO) techniques are applied. If SEO on the website is not properly optimized, then search engines will have difficulty indexing the website pages that are made. With good optimization, the content of information media will be more easily recognized by Google's bot crawler. Some of the SEO optimizations applied to information media in this study are using neat URLs, managing page titles, using meta keywords and meta descriptions and structured HTML tags.

Apart from using SEO optimization, this research also applies web security to maintain the

security of the website. The web security that is implemented includes preventing backdoor uploads, preventing vulnerabilities and using password encryption.

IV. CONCLUSION

In this study, it produces website-based information and reservation media on the website-based VW Safari Borobudur by discussing PHP and MySQL programming. The system design uses UML with the development of the waterfall process model.

In the resulting information and reservation media, Search Engine Optimization (SEO) optimization and Web Security are applied. SEO optimization is carried out using tidy URLs, page title management, using meta keywords and meta descriptions as well as structured HTML tags. While the web security that is implemented is aimed at preventing backdoor uploads, preventing vulnerabilities and using password encryption.

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