The Village Security Information System (Siskamling) to Support Digital Village Development

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A B S T R A C T

The process of disseminating information on environmental security or patrol schedules, information about events in the village community as well as information on important situations occurring in Klambir Lima Kebun village, the delivery process of which is carried out by attaching the patrol schedule to security posts or village offices, information dissemination is sometimes still word of mouth. word of mouth and the public often miss the latest environmental information. The conventional method would be better if it was proposed to design an information system that could be used as a place for information related to environmental safety that can be accessed anytime and anywhere by the community. The web-based environmental security information system (SISKAMLING) in its design uses UML (Unifield Modeling Language) which describes a responsive system that will greatly support the process of accessing information about environmental security in the village of Klambir Lima Kebun. The web is a means of sharing information digitally. The web is one of the media that really supports human life, especially in today's internet era.

Keywords:

Kelambir Lima Kebun Village, Digital Village, Siskamling, UML,Web

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1. INTRODUCTION

The development of information technology is currently very influential in the dissemination of information within an agency and community environment. Through the use of information technology also provides convenience in accessing a developing information. At present, in Klambir Lima Kebun Village, in terms of the use of information technology, it has begun to be widely implemented, such as in the administrative service process at the village office and the community service process for administrative purposes. However, there are a number of activities that are still carried out conventionally, such as information on environmental security or patrol schedules, information on events in the village community and information on important situations occurring in the village, the delivery process of which is carried out by attaching the patrol schedule to the security post or village office. the dissemination of information is sometimes still word of mouth and the community often misses the latest environmental information.

Information is data obtained from the field to be processed and used as decision making [1]. With the information dissemination process carried out in the conventional way, it would be nice to propose to design an information system that can be used as a forum for information related to environmental security that can be accessed anytime and anywhere by the public. Information systems are ways that are organized to collect, enter, process, and store data, as well as to store, manage, control, and report information in such a way that an organization can achieve its stated goals [2]. A responsive web-based information system will greatly support the process of accessing information regarding the environmental security of Klambir Lima Kebun village.

The web is a means of sharing information digitally. The web is one of the media that really supports human life, especially in today's internet era [3]. With the existence of a web-based information system, the community will be facilitated in disseminating information and accessing the latest information that can be done anywhere and anytime and the process of managing information sources becomes accurate which can be managed by trusted community representatives. With the existence of an environmental security information system, it will make it easier for the public to access information and disseminate information that can be seen by the surrounding community.

2. RESEARCH METHOD

2.1. Research Stages

Berikut ini merupakan tahapan-tahapan dalam penelitian sehingga dapat membangun Sistem Informasi Siskamling pada Desa Klambir Lima Kebun, dapat dilihat pada gambar berikut:

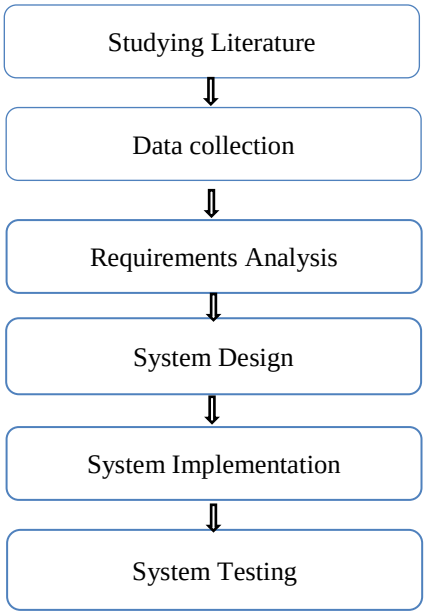

Figure 1. Research Stages

The stages of research to be carried out in this study are as follows :

1. Studying Literature
   In this study studied literature related to the problem. Then the literature studied is selected to determine which literature will be used in research. Literature sources are obtained from libraries, journals, articles that discuss mobile learning, UML (Unified Modeling Language) is flexibility and can describe software systems in more detail and detail [4]. and other concepts that support the completion of the system to be built including references regarding the information system of security and security forces and other supports. On studying the literature contains theoretical theories related to research problems, which collect data by studying books, documents, notes and reports related to problem solving [5].
2. Data Collection
   In conducting this research, data and information collection at this stage was carried out to find out about the system under study. From the data and information collected, data will be obtained to support research and data collection is carried out to determine the needs of the user. Needs Analysis. Analysis can be defined as the decomposition of a complete information system into its component parts. This needs analysis aims to find out what is needed in the design of the system being built and to know the supporting needs of the system design. data collection methods by collecting data in the library, reading, taking notes, and processing research materials [6].
3. System Design
   System design activities are carried out as the beginning of system design that will be built as needed. At this stage, the system will be modeled using UML (Unified Modeling Language) modeling. And at this stage the interface design of the system to be made is carried out. Design is an activity of making a technical design based on the evaluation that has been carried out in the analysis activity [7] .
4. System Implementation
   System implementation is carried out according to the design and design of the application interface to be built. At this stage coding or programming is carried out so that the designed system can be used by users, especially the Klambir Lima Kebun village community.
5. System Testing
   System testing is carried out to determine the feasibility test of the system that has been built as expected and by conducting the test it can find out the weaknesses and strengths of the designed system so that improvements can be made at a later stage. The system testing method used is the blackbox test method, namely testing every function of the menus on the system [8].

2.2. Data Collection Method

One important factor in the development of information systems is how system developers understand existing systems and their problems. Data analysis is a skill that must be owned by a data practitioner. In carrying out the data analysis process, critical thinking and good problem solving skills are needed [9]. Therefore it is necessary to collect

data with the right technique in order to obtain a clear and complete description of the system to be developed [10]. Some of the techniques used in this study are as follows.

1. Observation Techniques
   In an effort to collect data and understand the running system, observation techniques are the main techniques that are usually used and are most often used. This technique produces data with a very good level of reliability and accuracy. The observation technique is carried out by direct observation of the object under study so that it can be seen and understood how the system works. In this case the author made observations on the Klambir Lima Kebun village community.
2. Interview Techniques
   The interview technique is a data collection technique by asking questions or direct debriefing with sources related to the issues discussed. In this case the debriefing is carried out according to the needs of the research.
3. Literature Review
   Literature review is a data collection technique by reading, quoting and collecting theories from books, the internet and studying reference documents and other records that support the research process.

2.3. Waterfall Models

In building the system as a whole, several stages/steps need to be carried out. The software development method is also known as the Software Development Life Cycle (SDLC) which stands for Systems development life cycle or in Indonesian it is called the systems development life cycle. SDLC is used to build an information system so that it can run as expected [11]. One part of it is the Waterfall Method which is the oldest software development method because of its natural nature. The Waterfall method is the earliest SDLC approach used for software development. The sequence in the Waterfall Method is serial, starting from the process of planning, analysis, design, and implementation of the system.

This method is carried out with a systematic approach, starting from the system requirements stage and then moving on to the analysis, design, coding, testing/verification, and maintenance stages. Step by step that must be completed one by one (cannot jump to the next stage) and run sequentially, therefore it is called a waterfall (Waterfall). The waterfall method is one of the SDLC models that is often used in the development of information systems or software. The waterfall model uses a systematic and sequential approach. The stages of the waterfall model include requirements, design, implementation, verification, and maintenance. The advantage of using the waterfall method in developing information systems is that the quality of the resulting system will be good because the implementation is carried out in stages, while the drawback is that the system development process takes a long time so the costs required are also expensive. The waterfall method is suitable for projects that create new systems and also develop large-scale systems or software [12].

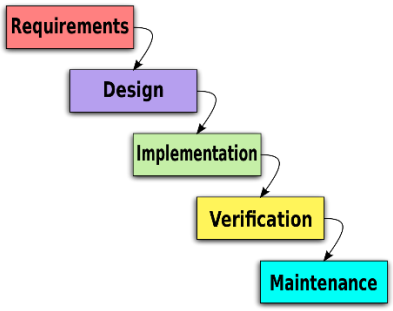

Figure 2. Waterfall Model

Stages in Doing Waterfall Method

1. Requirement Analysist
   Before carrying out software development, a developer must know and understand how the information needs of users of a software. This information collection method can be obtained in various ways including discussions, observations, surveys, interviews, and so on. The information obtained is then processed and analyzed in order to obtain complete data or information regarding the specification of user requirements for the software to be developed.
2. Desig**n**
   Information regarding the requirements specifications from the Requirements Analysis stage is then analyzed at this stage to then be implemented in the development design. Design planning is done with the aim of helping to provide a complete picture of what must be done. This stage will also help developers to prepare hardware requirements in making the overall software system architecture.
3. Implementation
   The implementation and unit testing stages are the programming stages. Making the software is divided into small modules which will later be combined in the next stage. In addition, in this phase testing and checking of the functionality of the modules that have been made, whether they meet the desired criteria or not.

4. Integration
   After all the units or modules that have been developed and tested in the next implementation stage are integrated into the overall system. After the integration process is complete, further examination and testing of the system as a whole is carried out to identify possible system failures and errors.
5. Maintenance
   In the final stage of the Waterfall Method, the finished software is operated by the user and carried out maintenance. Maintenance allows developers to make improvements to errors that were not detected in the previous stages. Maintenance includes error correction, system unit implementation, and system upgrades and adjustments as needed.

3. RESULTS AND DISCUSSION

The results of the design of the Siskamling information system to create a Digital Village in Klambir Lima Kebun Village will provide an overview of needs and services that are described through UML (unifield modelling language) so as to provide descriptions of access rights to the system being built so that users can implement and utilize the system. Siskamling information in its needs.

3.1. Hardware and Software Specification

1. *Hardware Specification*
   The minimum hardware specifications needed to run the Sskamling information system are as follows :
   a. *Processor*, AMD A4-9125 RADEON R3, 4 *COMPUTE CORES* 2C+2G (2 CPUs), ~2.3GHz
   b. Memori, 4096MB RAM
   c. *Harddisk*, 500 GB
   d. Monitor, *Display resolution* (LCD): 1366 × 768 pixels HD/1920 × 1080 pixels FHD
   e. *Keyboard & Mouse*
2. *Software Specification*
   The minimum specification requirements for the software needed to run the Siskamling information system are as follows :
   a. Sistem Operasi, Windows 10
   b. Xampp ver. 3.3.0
   c. PHP ver. 8.0.8
   d. MySQL ver. 8.0.8
   e. Bootstrap ver. 4.1.3
   f. CSS
   g. Javascript
   h. Browser, Mozilla Firefox ver. 93.0

3.2. Use Case Siskamling Information System Diagram

The design of the Use Case Diagram for users of the Karang Taruna Binjai Barat information system can be seen in the following figure:

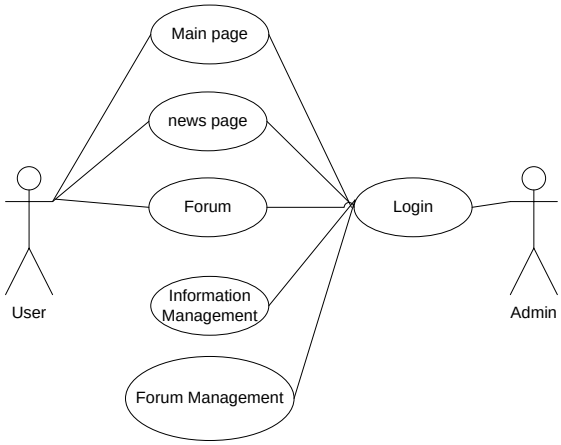

Figure 3. *Use Case Diagram* Design

Figure 3 above shows the flow of services that can be accessed by users and admins. Users can access the information system main page, access the latest information and can communicate with the community through forum services. While the admin has access to manage the entire system and ensure that the information system can meet the availability of information and services needed by its users.

3.3. Siskamling Main Home Design

The following design view will display services that can be accessed by users and admins. Users can access the main page of the information system, access the latest information and can communicate with the community through forum services. While the admin has access to manage the entire system and ensure that the information system can meet the availability of information and services needed by its users.

Figure 4. Main page display design

4. CONCLUSION

With the existence of a web-based siskamling information system, the community will be facilitated in disseminating information about environmental safety and information about what is currently happening accurately and accessing the latest information that can be done anywhere and anytime and the process of managing information sources becomes accurate which can be managed by representatives trustworthy society.

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