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Web-Based Environmental Learning Information System in SMA Angkasa Lanud Husein Sastranegara Bandung

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The Purpose of this research is to build an information system application to help teachers and students in high school in learning environmental education. Angkasa Lanud Husein Sastranegara Bandung Senior High School is an adiwiyata green school project, they also have an environmental friendly institution curriculum that is environmental education. The method used for this research is descriptive method. His method is carried out by examining an existing event and analyzed by interview and observation data collection technique. The result of this research is an application of environmental learning information systems that can help the learning process of students and teachers to achieve the appropriate target material and interactive learning so that students can easily understand the contents of the material provided.

Keywords: Environmental, Learning, Application.

1. INTRODUCTION

Senior High School Angkasa Lanud Husein Sastranegara Bandung is a private school under the education department of the city of Bandung which seeks to increase the quantity of learners and the quality of education. In the educational curriculum, because SMA Angkasa always follow the race Adiwiyata routine then this school has a content subject Sustainable Space agency, the Environmental Education.

Environmental learning or education is an educational program to foster children or students so that they have rational understanding, awareness, attitudes, and behavior and are responsible for the mutual influence between residents and the environment in various aspects of human life [1, 2].

However, there are some problems that occur such as the difficulty of students to get the material when the teacher is unable to attend, the presentation of the theory that less interactive so that students do not understand because only read only from books, the delivery time science theory and assignments by teachers is limited because it must be followed by action PLH outside the classroom so that the target is not achieved the delivery of content and the lack of a place for discussion between teachers and students outside of school hours. Thus the need for facilities that help to address the above issues and to improve the learning process.

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In the Information System, all data will be processed and presented correctly according to user needs so that the information needed will be conveyed properly. This Environmental Learning Information System can be used by students and teachers in the learning process to be more optimal and to improve the quality of learning [3, 4].

2. LITERATURE REVIEW

2.1. System

The system is a combination of elements that are related and have a specific purpose [5]. From this understanding, it can be obtained that the understanding of the system is a number of components or elements that are interconnected and synergize to achieve certain goals or the same goal so that it can be processed into an information.

2.2. Information Systems

Information system is a collection of organizational procedures that when done will provide information with a clear, concise and simple systematic and easy to understand for decision making or to control the organization [6].

2.3. Environmental Learning

Environmental learning or education is an educational program to foster children or students so that they have rational understanding, awareness, attitudes, and behaviors that are responsible for the mutual influence between residents and the environment in various aspects of human life [7, 8].

Fig. 1. Proposed use case diagram [13].

2.4. PHP

PHP (Hypertext Preprocessor), a server-side programming language that allows programmers to insert commands for web server software (Apache, IIS, or whatever) to be executed before the command is sent by the page to the browser that requests it [9].

2.5. MySQL

MySQL is a multithread, multi-user SQL or DBMS database management system software, with around 6 million installations worldwide [10].

Table I. Software implementation.

Software	Specification
Operating system	Windows, Linux, Mac OS
Hosting application	000webhost
Other applications	Google Chrome, Safari, Opera, Internet Explorer

Table II. Hardware implementation.

Hardware	Specification
Processor	Intel pentium IV
RAM	2 GB
Hard drive	10 GB/20 GB
Other devices	Mouse, Keyboard, Internet Network

Fig. 2. Theory page.

Fig. 3. Tasks page.

3. RESEARCH METHOD

Method. The system approach used by the authors in this study is to use the Object Oriented Programming method [8] which is object-oriented programming, where all data and functions are wrapped in classes or objects. Each object can receive messages, process data, send, store and manipulate data. Some objects interact by giving each other information. Each object must contain information about itself and can be linked to other objects.

Fig. 4. Questions page.

Fig. 5. Answer questions page.

Fig. 6. Discussion page.

System Development Method used by the author in designing this application is to use the Prototype Model. Prototype is one of the most widely used software development methods. With this prototyping method developers and customers can interact with each other during the process of making the system. The author uses the Prototype method because in this method the writer and user can interact with each other during the process of making the system to be created [11, 12].

4. RESULTS AND DISCUSSION

4.1. Proposed System Design

This modeling is used to describe the activity as well as the relations between the actors and use cases within the system is running. Here is the Use Case Diagram proposed Environmental Information System Learning at SMA Angkasa Bandung Husein Sastranegara.

System design is a new system development that is carried out to overcome the problems of the existing system. From this study the differences with the previous system are found in the data management process, with a computerized data management process. And the addition of several features that can be used to help convey or provide information about baby's growth to the parents of

the baby. Figure 1 shows the Use Case of the proposed system.

The following is a Class Diagram of a Web-Based Environmental Learning Information System Application at SMA Angkasa Laund Husein Sastranegara Bandung.

4.2. Software Implementation

Here are the software requirements of this application.

4.3. Hardware Implementation

Here are the hardware requirements of this application.

Figure 3 shows that teachers can create, modify and delete tasks that can later be downloaded by the students. In addition, students can also upload a task that will be collected.

Figure 4 shows that teachers can create, modify and delete tasks that will be done by the students.

On Answer Questions Page (Fig. 5), students answer questions from questions that have previously been made by the teacher, the final score results will be obtained after the student has completed work on the problems.

Figure 6 shows that students and teachers can exchange thoughts or ideas through the topics that were created by teachers and comments.

On this Chatbox (Fig. 7) students and teachers can interact directly in real-time.

CONCLUSION AND SUGGESTION

Based on the results and a description of the discussion above it can be concluded that the information system Learning Environment in Senior High School Husein Sastranegara is a solution offered to support and assist the learning process subjects the environment, and help teachers achieve the target material to be conveyed to students such as providing content and work in digital form so that students can access anywhere and anytime.

Development is not enough to be here, because the system needs continue to grow. To the authors try to convey

Fig. 7. Chatbox.

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suggestions that could be considered for future research, some of them:

1. Adding video upload feature for students to put into tasks.
2. Applications can be developed further into android and iOS mobile apps.
3. Can be redeveloped so that it can accommodate all of the subject matter in school.

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