



WEB-BASED INFORMATION SYSTEM AT SMK NEGERI 1 SUOH

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Abstract

The Web-Based Academic Information System at SMK Negeri 1 Suoh is a system that makes it easier for students and teachers to carry out Teaching and Learning Activities (KBM), in addition to being web-based, data information can be accessed at an unspecified time and place. In this system, the menu can only be accessed by certain users, namely students/teachers, and administrators. Based on the results of this research, a Web-Based Information System has been developed with a case study at SMKN 1 Suoh. Where in building this system used system development tools, namely Data Flow Diagrams (DFD), Context Diagrams, Entity Relationship Diagrams (ERD) and Flowcharts and using the programming language PHP and HTML and MySQL as the database.



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I. INTRODUCTION

Information is one of the keywords in this era. To obtain and produce information, computers and technology are one of the most appropriate tools [1]. The use of computers in the field of education includes computer-assisted learning media including *e-learning*, academic data processing aids, and information delivery media [2]. The demands for information and the use of computers are increasingly encouraging the formation of a computer network capable of serving various specific needs. With a computer network, information management can take place even better. The development of technology and the need for information has led to an increase in the complexity of information that must and can be processed, so that the need for the use of computer networks is increasingly needed. The use of this joint network grows to form a very large computer network that is spread all over the world. The development of the internet has also supported the use of computers in education. The internet can be accessed and used for various purposes, by anyone, anywhere, whenever it will be used. Various kinds of internet technologies can be used, one of which is the *World Wide Web* (or hereinafter simply referred to as "the web") which is capable of providing information in the form of text, images, sound, or moving images. With capabilities like this, the web has become very popular and its development is very rapid, but generally websites like this are still static and cannot manage data. To be able to manage data in the form of a database, it is necessary to develop a web-based information system.

II. RESEARCH METHODS

Web-based information system is a web-based application. This application also includes a database to manage certain data [7].

1) Time and Place of Research

The duration of the research implementation was for 1 month, namely in August 2018, it was carried out at SMKN 1 Suoh.

2) Data Collection Techniques

To obtain the necessary data to support the implementation of this research, several data collection techniques were used, including the following:

a) Observation

A data collection technique by means of direct observation of the object is in the field.

b) Documentation

The author observes documents related to information about majors.

c) Interview

Interviews were conducted at the research location with parties related to the research topic raised, namely the head of the department, the secretary of the department, administration and students.

3) Waterfall Method

The development method used for software development is the classical model or paradigm which is often called the waterfall [8][9]. This model is highly structured and linear in nature. This method requires a systematic and sequential approach in the software system. Development starts from the system level, analysis, design, implementation (programming), testing, operation, and maintenance (implementation). Thus, there are activities as follows.

a) Analysis

At this stage, the requirements for the elements at the software level are collected. This stage is also usually called a software requirement analysis. With this analysis, it is possible to determine the data or information domains, functions, processes, or procedures required along with their performance and interfaces [10][11]. The end result of this stage is the software requirements specification.

b) Design

At the design stage the requirements or software specifications, which are generated at the analysis stage are transformed into a software architecture that has characteristics that are easy to understand and not difficult to implement.

c) Programming (coding)

This stage is often referred to as the software implementation or coding stage.

d) Testing

After the software (its components with classes or modules) has been implemented, testing can begin immediately.

The output of this research is a web-based information system for the Information Systems department which will later be used by the academic community in the department.

III. RESULT

A. Results of System Design

System design is divided into several parts according to the stages applied to the design method, namely:

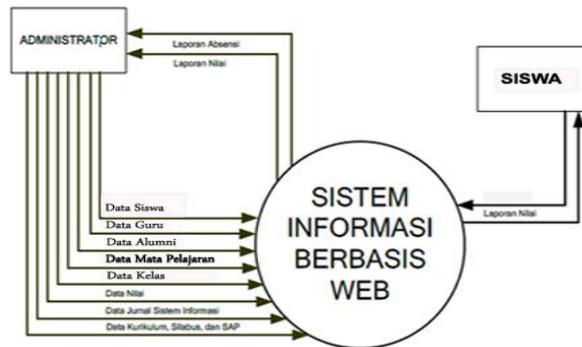


Figure 1. Web-Based Information System Context Diagram

The following is an explanation of the context diagram above:

- 1) Administrator, an administrator input data into the system as well update if new data is added. An admin has broad access rights, so he is also given grade data reports and student attendance data to be printed by the admin as manual archives.
 - 2) Student, a student is given access rights to), view reports on value data per semester or a collection of grades (transcripts)
2. Data Flow Diagrams Level 1

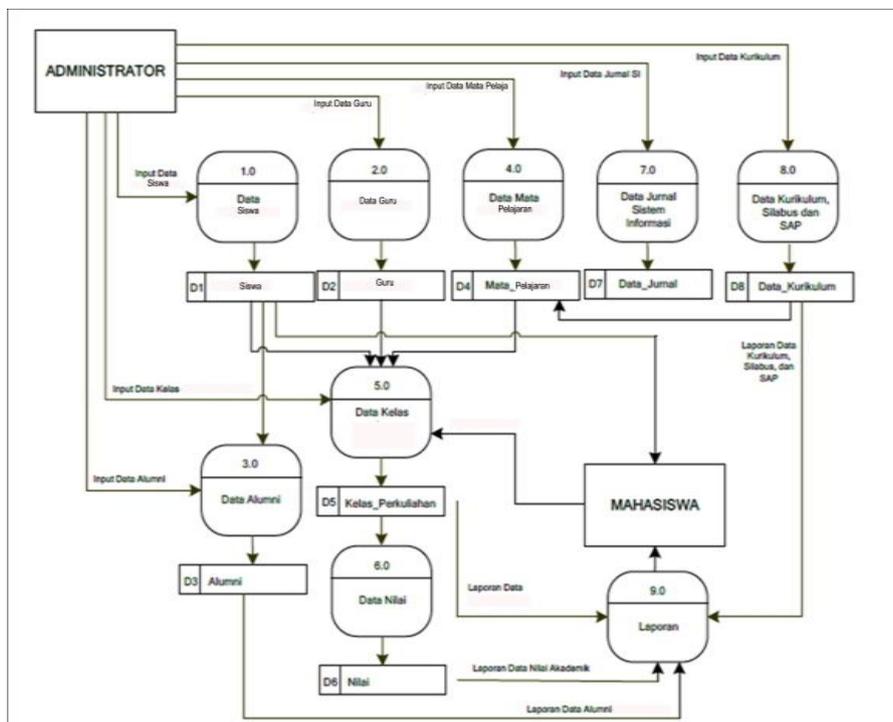


Figure 2. Data Flow Diagram Level 1 Web-Based Information System

Administrators play an important role in running this information system. An administrator is responsible for the nine processes of this information system. The following is an explanation of the processes that occur:

- a.) Process 1 (Student Data)
The administrator inputs student data, then saves it into the student table and updates if there are additional students in the new school year. This student data will continue to be processed into alumni data if the student completes his studies.
- b.) Process 2 (Teacher Data)
The administrator inputs teacher data which is then stored in the teacher table and updates the data when data changes occur.
- c.) Process 3 (Alumni Data)

The administrator processes student data, saves student data to become alumni when they have completed their studies.

d.) Process 4 (Subject Data)

The administrator processes course data input which will later be stored in the course table. The course data will be used in the process of inputting class data.

e.) Process 5 (Class Data)

This process is a process for inputting active class data in one semester which will be stored in the class table. This table functions as Class Class which can be selected by students in the Study Plan Card.

f.) Process 6 (Value Data)

The administrator processes the value data input from the subjects. This data will be stored in the value table.

g.) Process 7 (Information System Journal Data)

The administrator performs the Journal data input process which will later be stored in the Journal table.

h.) Process 8 (Curriculum Data, SAP, and Syllabus)

The administrator processes Curriculum, SAP, and Syllabus data input which will later be stored in the Curriculum table.

i.) Process 8 (Curriculum Data, SAP, and Syllabus)

The process in which reports are displayed in the form of information both for administrative purposes and information for students. regarding student lists, alumni list, teacher lists, class lists, semester grade lists, transcript grade lists, curriculum lists and journals. These data are taken from data that has been entered in the database in each table.

3. Flowcharts

1.) Administrator Flowcharts

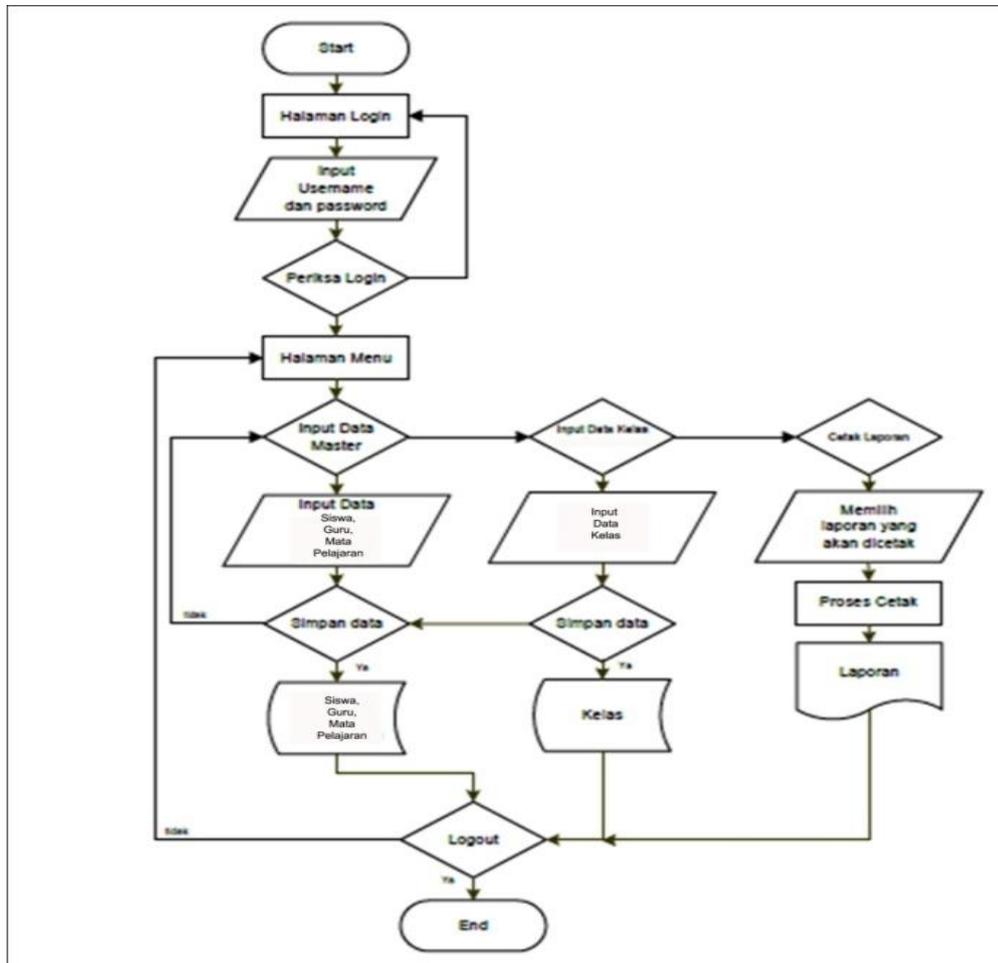


Figure 3. Administrator Flowchart

Administrators' *login* first to enter into the system. If the *user ID* and *password* match, the system will redirect to the administrator menu page. On the menu page there are several *links* that function to input teacher data, student data, subject data, class data, grades data, Journal data, as well as Curriculum, SAP, and Syllabus data. The data can then be displayed in printed form as a manual archive.

2.) Flowcharts Student

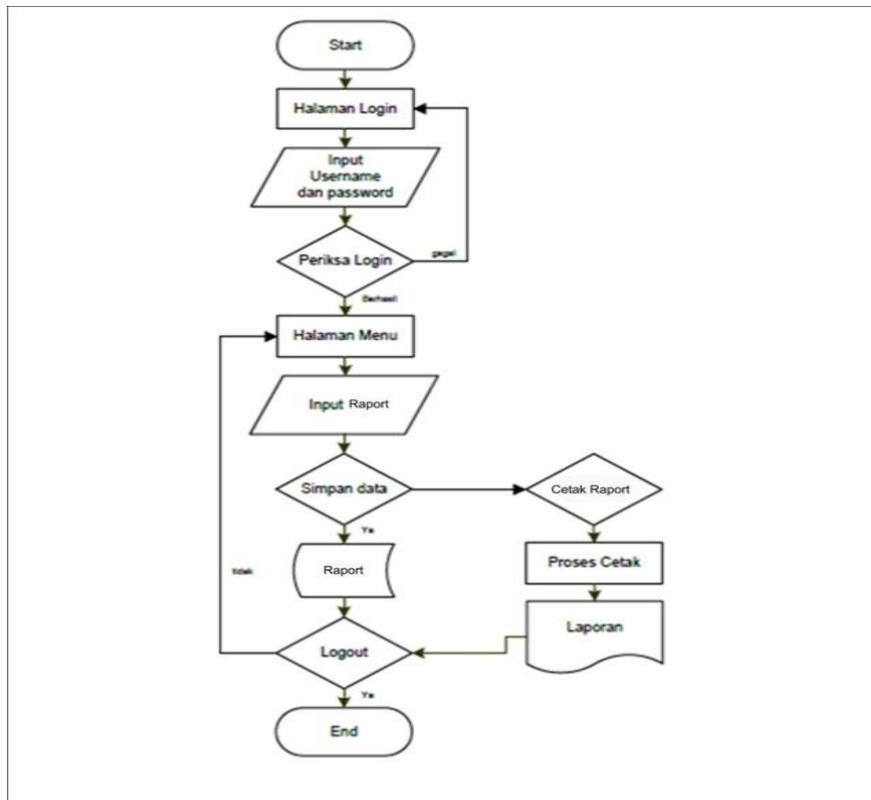


Figure 4. Student flowchart

Students must *log in via the login form* first. If the *password data* entered is in accordance with the database, then the menu page is opened. On that page there are several *links* that lead to the menu. After students finish students can *logout* to exit the page.

IV. CONCLUSION

From the results of the research, design and implementation that have been carried out, there are several conclusions that can be put forward as follows:

1. *web* -based information system is designed as a solution for SMKN 1 Suoh for managing the academic section in presenting grades reports and student activity quickly and precisely compared to manually so that performance in achieving work can be realized more optimally.
2. *web* -based information system is made *internal*, meaning that only certain users of this program have access rights to this system, namely administrators and administrators. student.
3. This system was created as a means of information in presenting grades report information in the current semester and as a repository for Journal, Curriculum, SAP and Syllabus archives.

REFERENCES

[1] Ardian, Niko, 2008, Website Development FKIP Unsri as Submission Media Information, PDK Unsri Final Project: No Published.

[2] Jauhari, Jaidan, 2008, Implementation of E-Learning in the development of a learning environment interactive in College, Reports Dikti Competitive Grant Research.

- [3] Surajino, SHR 2004, Based Learning Web: A Goal from a Cognitive aspect, Learning methods Workshop Papers Web-Based Department of Aeronautical Engineering ITB, Bandung 1 October 2004.
- [4] Oetomo, BSD 2002. E-Education: Concept, Technology and Internal Education Applications. Yogyakarta: Andi Offset. *System Journal Information (JSI)*, VOL. 3, NO. 2, October 2011, Page 359-370 ISSN Print: 2085-1588 ISS Online: 2355-4614 <http://ejournal.unsri.ac.id/index.php/jsi/index>
- [5] Tung, KY 2000. Education and Research in Internet: Strategies to Improve HR Quality with Global Research and Education Through Information Technology. Jakarta: Dynastyindo.
- [6] Pujadi, T.2008. Blog and Rss as Means Collaboration to Increase Equity Learning Access. Paper submitted on International CInference ICT Education UNY Yogyakarta.
- [7] Raharjo, Budi. 2002. Technology Implications Information and the Internet Against Education, Business and Government: Is Indonesia Ready? [Online] Available: www.budi.insan.co.id/articles/riau-it.doc
- [8] Pressman, RS 2002. Device Engineering Soft, Yogyakarta: Andi Offset
- [9] Mahyuzir, TD1998. Device Engineering Soft, Yogyakarta: Andi Offset
- [10] Indrajit, RE2001. System Management Information and Information Technology. Elex Media Komputendo: Jakarta