

Information Systems of New Student Admission

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Abstract: SMP N 1 Pugung, one of junior high school institutions used a manual system for the academic process. However, this method had not met the government's standard, thereby reducing the school performance in accreditation. This information system aimed to facilitate the administration of new student admission so it would ease the admission administrator at school. The benefits of this system are easiness in collecting data and accuracy in producing valid reports. The researcher used the SDLC (System Development Life Cycle) method. The researcher also used tools to design the system regarding Flowchart Data, Context Diagrams, and DFD (Data Flow Diagrams). The researcher suggests the institution should consider this system to facilitate them in collecting data of their new students.

Keywords: Information Systems of New Student Admission.

1. INTRODUCTION

1.1 Background

Nowadays, technology was developed rapidly. Most of human work has been replaced by machines or computers. Focusing on computer, this technology has entered all aspects of human life from offices, factories, shops, as well as educational environment.

In education itself, most of schools still use papers and Microsoft Excel to process students' data. One of them is SMPN 1 Pugung. Every year, this school accepts approximately 150 students. However, the school still uses traditional admission system which is analyzing each student's SKHU (Certificate of Examination Results), final school examination score, and national examination score to determine whether the students are accepted in SMP N 1 Pugung.

From the problems above, the researcher assure that SMP N 1 Pugung needs a tool to ease the data process of new student admission. Here, the researcher also suggests the committee to use this information system to ease them in processing the new students admission at SMP N 1 Pugung.

SMP N 1 Pugung is one of general schools in Tanggamus Regency. Therefore, the human resources of this school have to be great to meet the necessity of great education quality. To obtain a great quality of human resources, firstly, the new student admission system should have a certain criteria and a good preparation.

From those backgrounds, the researcher conducted a project entitled "A Web-Based Information System of New Student Admission at SMP N 1 Pugung".

1.2 Research Question

Based on the backgrounds above, the research question can be formulated as follow: How to create a Web-Based Information System of new student admission at SMP N 1 Pugung?

1.3 Research Objectives

- a. Creating a Web-Based New Student Admission Information System at SMP N 1 Pugung.
- b. Facilitating the school committee to manage the new students' data.
- c. Producing a new, valid, and accurate information system.
- d. Producing more accurate data or information to reduce the risk of data errors.

1.4 Research Benefits

The benefits of this research are:

1. Collecting the new students' data easier.
2. Facilitating the administrator of new students admission.

1.5 Data Collection Methods

1.5.1 Primary Data

Primary data is a kind of data that the researcher collected himself directly from the object, such as:

- a. Observation/survey is a method of collecting data by closely observing the research object.
- b. Interview is a method of collecting data by asking and answering question at the research site, as a source for designing and developing the information systems.

1.5.2 Secondary Data

Secondary data is information that the researcher collected online to get additional information and comparison for documentation to strengthen arguments and presentations.

2. LITERATURE REVIEW

2.1 Definition of System

According to Jogiyanto Hartono (2006:683), the system can be defined as a unit consisting of two or more components or sub-systems that interact to achieve a goal".

According to Jogiyanto Hartono (2008:34), in his book *Information Technology Systems*, systems can be defined as procedure approach and component approach. Using procedure approach, a system can be defined as a set of procedures that have specific goals. Meanwhile in component approach, a system can be defined as a set of components that are interconnected with each other to form a unity to achieve certain goals.

2.2 Definition of Information

According to Jogiyanto Hartono (2006:692), information can be defined as the result of processing data in a certain form for decision-making which is more meaningful for the recipient who experiences a real event.

According to Wing Wahyu Winarno (2004:1-6), information is data that has been processed so that it is useful for decision-making. Data is a representation of an object, for example a student number represents a student so the student number becomes data.

2.3 Definition of Information System

According to Jogiyanto Hartono (2006:697), information system can be defined as a system within an organization within combinations of people, facilities, technology, media, procedures, and controls which aims to obtain important communication lines, to process certain types of routine transactions, to give signals to management, to provide a basis for information for smart decisions, and to solve other important problems about internal and external events.

According to Iskandar (2010) in Nuzila Mahdiyani, et al. (2011) argues that information system is a combination of people, facilities, technology, media, procedures and controls that aims to get important communication channels, to process certain types of routine transactions, and to give signals to the manager.

2.4 Definition of Students

Students according to Prof. Dr. Shafique Ali Khan, understanding students are people who come to an institution to get or to learn several types of education.

Students are an input component in the education system which is then processed in the education process, so that they become qualified human beings in line with national education goals. As a component of education, students can be seen from some approaches including social approaches, psychological approaches, and educational approaches (pedagogical approaches).

2.5 Database

Nuzila Mahyadi, et al. (2012) states that database is a systematic collection of information in a deep storage computer so it can be checked using a computer program to obtain information from the database. In addition, to manage and to call database queries, the software used is called a database management system (DBMS).

In the journal of Bian Septian et al. (2011) he states that a database is a collection of related data that is arranged, organized, and stored systematically in a computerized storage medium referring to certain methods in such a way that they can be accessed quickly and easily by using a computer program to obtain data from the database.

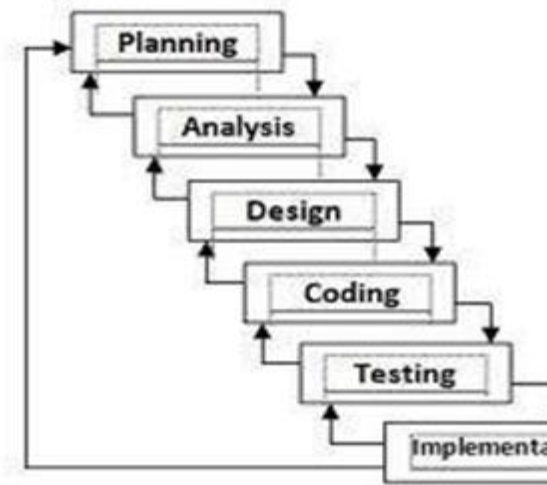
3. NEED ANALYSIS AND SYSTEM DESIGN

3.1 Software Specifications

This system is empowered by using kinds of software, as follows:

- a. Operating System: Windows XP 2
- b. Database: MySQL
- c. Programming Language: PHP
- d. PHP Editor: Macromedia Dreamweaver 8
- e. Web Browser: Mozilla Firefox

3.2 Research Methodology



The researcher used SDLC analysis method as the data analysis method, those are:

Planning System/Information Engineering

This is the largest system in a project. It started with determining various needs of all the elements needed by the system and allocating it into the software formation.

1. Analysis

The analysis stage is the stage of analyzing all of things needed in the implementation of constructing software projects.

2. Design

System design is the process of determining how the system works in terms of architecture design, interface design, database and file specifications, and program design. The results of this design process was the system specifications. The data was analyzed in a form that was easily understood by users.

3. Coding

Coding is the stage of translating data or solving problems that have been designed into a particular programming language.

4. Implementation

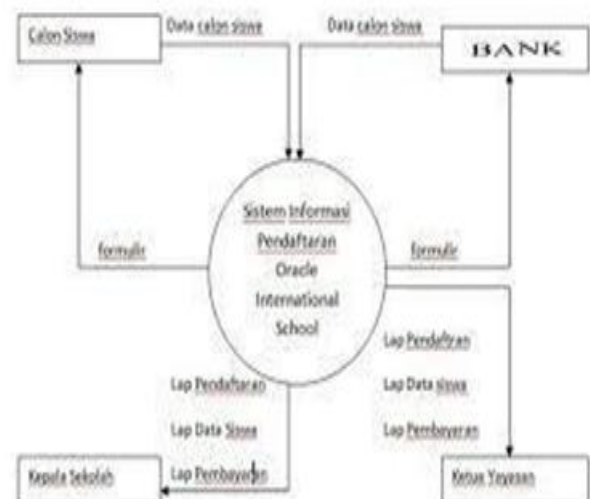
System implementation is the process of building and testing the system installation and a system support plan.

The main use of SDLC is to accommodate several needs. These needs are usually derived from the needs of the end user and also the provision of a number of repair problems associated with software development. All of these were summarized in SDLC process which can be in the form of adding new features (read: ability to use) either modularly (read: partial installation or software update and upgrade) or with a new installation process (read: complete software replacement or software replacement). From SDLC process, we can also estimate how long is the lifetime of a software which can be measured or adjusted to the support policy (read: software support) of the relevant software developer.

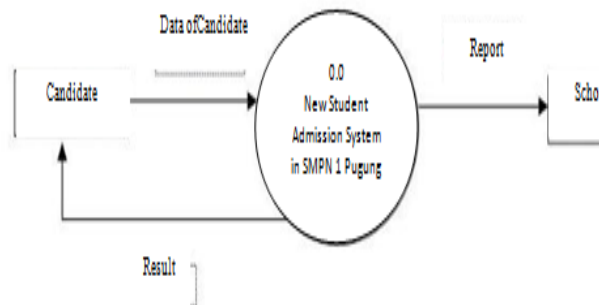
To produce good decisions in a decision support system, it needs to be supported by absolute information and facts, such as

3.3 System Design

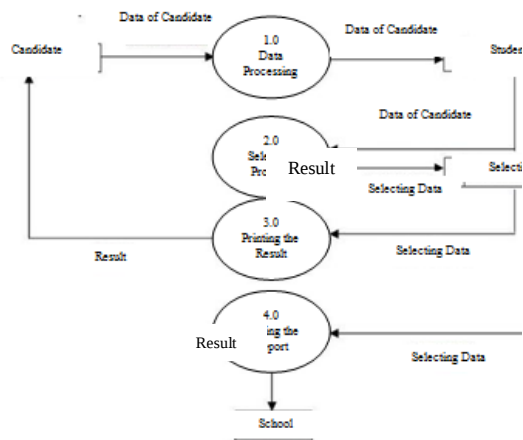
3.3.1 Data Flow Diagrams



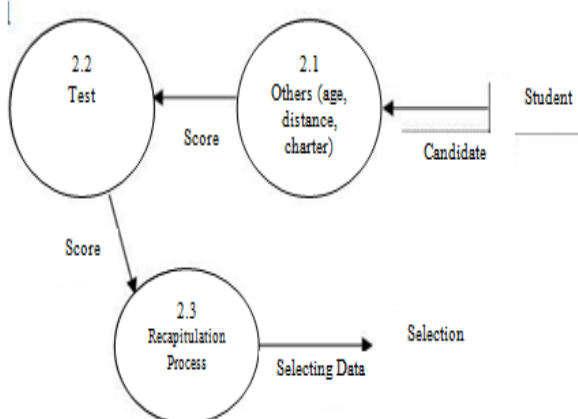
3.3.2 Diagram Context



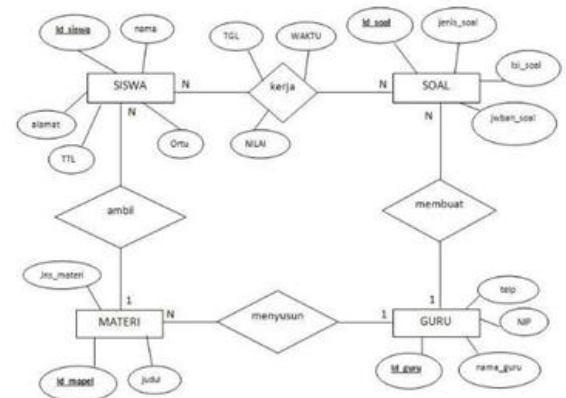
3.3.3 Diagram Level



3.3.4 Diagram Level 1



3.3.5 ERD (Entity Relationship Diagram)



3.4 DATABASE DESIGN

A. Students' Table

This table aims to collect students' data, students' IDs, students' addresses, place and date of birth, and students' parents. With the table design as follows:

Filed	Type	Description
<i>Id_Siswa</i>	Varchar(10)	Student's Identity
<i>Nama</i>	Varchar(30)	Student's Name
<i>Alamat</i>	Varchar(30)	Address
<i>TTL</i>	Varchar(15)	Place and Date of Birth
<i>Nm_Ortu</i>	Varchar(20)	Parents' Names

B. Teachers' Table

The Teachers' table functions to collect teachers' data, NIP, teachers' IDs, teachers' name and teachers' telephone number. With the table design as follows:

Filed	Type	Description
<i>Nip</i>	Int(16)	NIP
<i>Id_Guru</i>	Varchar(10)	Teacher's Identity
<i>Nama</i>	Varchar(28)	Teacher's Name
<i>Tlp</i>	Int(16)	Phone

C. Question Table

The question table aims to collect questions that will be tested on students who will register. This table contains the questions ID, the type of question,

questions, and the answer key. The design of the table is as follows:

Filed	Type	Description
<i>Id_Soal</i>	Varchar(10)	Question Id
<i>Jns_soal</i>	Varchar(15)	Type of Question
<i>Isi</i>	Varchar(100)	Content

D. Admission Table

The Admission Table works if the new students fill their name, UNAS number, school choices, UNAS score results, and the results of this system, which are accepted or rejected. With the table design as follows:

Filed	Type	Description
<i>Nounas</i>	Varchar(50)	UNAS/Registration Number
<i>Nama</i>	Varchar(100)	Student's Name
<i>Pilsekolah</i>	Varchar(100)	School Chosen
<i>Nilai</i>	Varchar(5)	UNAS Score
<i>Hasil</i>	Varchar(30)	Result of Selection

E. Material Table

The material table aims to collect learning materials that will be delivered at school. The design of the table is as follows:

Filed	Type	Description
<i>Id_soal</i>	Varchar(10)	Question Identity
<i>Jns_Soal</i>	Varchar(10)	Type of Question
<i>Judul</i>	Varchar(100)	Title of Question

3.5 Output Design

3.5.1 Students Data Input Design

Students' data form is used to input the data of new students after they fill the registration form. The design of students' input design is:

3.5.2 Registration Input Design

The registration input design is used to input the data of students who have registered. The registration input design is:

3.5.3 Output Design

The output design is used to display the results of the data process that has been made. The output design is as follows:

DATA SISWA BARU

NAMA	
ALAMAT	
TTL	
JENISKELAMIN	
NOTEST	
ASAL SEKOLAH	
HASIL TEST	
KETERANGAN	

4. CONCLUSION AND SUGGESTIONS

4.1 Conclusion

After conducting the analysis, design and testing, the following conclusions can be obtained:

1. The application can help the committee for conducting admission of new students at SMPN 1 Pugungand determining to accept the students.
2. The application can simplify the work and minimize the mistakes made by the committee for admission of new students of SMPN 1 pugung
3. The data management can produce sufficient new students' information to be further analyzed
4. The application can reduce the accumulation of new students' data documents at SMPN 1 Pugung

4.2 Suggestion

Based on the conclusions above, the things expected by the author are:

1. In making this information system application of new student admission, administrators can use Visual Basic software or Borland Delphi Program.
2. The system created by the writer has not online yet. Therefore, the researcher suggests the next researcherto create a new website-based student registration application and make it easier for new student admission.

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