

DESIGN OF ACCEPTANCE INFORMATION SYSTEM OF NEW STUDENTS OF NATIONAL FLIGHT VOCATIONAL HIGH SCHOOL

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ABSTRACT

Acceptance of New Students of Padang National Space Flight Vocational High School conveys information about the Padang National Space Flight Vocational High School to the public through the internet. Besides, prospective students who will enroll in the Padang National Space Flight Vocational High School can make it easier for them to register online. The purpose of this research is to develop a new student registration information system at the Padang National Space Flight Vocational High School quickly and efficiently in the management and selection of prospective students. The data collection methods used in this Final Task preparation are Observation, Library Studies, and Interviews. The program using PHP and MySQL.

Keywords: PHP, MySQL, System, SDLC

INTRODUCTION

Education is one of the efforts or activities that are done deliberately, regularly and in a planned manner with the aim of changing and developing behavior in accordance based on their desires. School as a place for student in learning and teaching. Learning is a formal institution intended for students in order to achieve educational goals. Through school, students can learn various things to develop the knowledge that has been previously received.

Education has a very important role in changing human behavior in everyday life, because the purpose of education is basically to lead students to changes and behavior so that students can be independent as individuals and social beings. In Constitution No. 20 of 2003 concerning the national education system chapter 1 article 1 states that: "Education is a conscious and planned effort to create an atmosphere of learning and the learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, morals, noble, as well as the skills needed by himself, society, the nation and the State "(Source: Presidential Decree No. 20 Year 2003 on the National Education System)

Senior High School is a form of secondary education unit that focuses on aspects of general science and prepares students for higher education. Meanwhile, Vocational High School is a form of secondary education unit that prepares students to work independently, to be able to work in the business world and industry according to their expertise program. Vocational High School contains a productive program that functions to equip students to have the ability or competence in a particular job or expertise that is relevant to the demands

and demands of the world of work. Competency-based productive program which emphasizes on the provision of competency mastery to students that covers aspects of knowledge, skills, and values completely and completely (Rina et al, 2020; Fajra et al, 2020; Masril et al, 2020; Azman et al, 2020; Agus et al, 2021; Zagoto; 2019).

The Padang National Angkasa Flight Vocational High School, one of the private schools under the West Sumatra Educational Authorities, has stepped forward in utilizing a technological advancement in the field of Information Systems. While, by increasing interest of prospective students who every year always experience and competition, students will be able to enroll every school they want to choose, there must be an admission process for new students, which is so far still uses a manual system by entering data of potential participants. The New students data will input into the book and then to the Microsoft Office program. In this case, the students who mostly come from outside the city of Padang will have difficulty registering because the school still requires prospective students to come and be present when registering at the Vocational High School. In addition, to determine the passing of the selection, it still uses a manual system through the school announcement board, this causes the committee for admitting new student candidates to be unable to manage the data properly.

Data processing is an activity of manipulating data into a more informative form or in the form of information which is the result of processing activities or events in a particular form of data. The data processing procedure consists of a number of basic processing operations starting with recording, duplicating, and then verifying. Data processing is the period or time used to describe changes in the form of data into formations that have uses (Ladjamudin, 2013; Dakhi, O et al, 2020; Febtriko, 2020). Data processing is a series of operations on information planned in order to achieve the desired goals or results (Jogianto H.M, 2002; Ferdiansyah, 2020). The system defined as a set of elements that are responsible for processing inputs, processing (process) so as to produce the output of a system that has certain characteristics or properties, namely having components, the boundaries of the environmental system outside the system, linking input, processing and objectives or goals.

A system is a collection / group of any sub-system / part / component, both physical and non-physical, which are interconnected with each other and work together harmoniously to achieve one particular goal (Azhar S, 2013; Dakhi, 2020). The definition of a system according to Romney and Steinbart (2015) A system is a series of two or more interconnected components that interact to achieve a goal. While the system according to Mulyadi (2016) The system is a network of procedures created according to an integrated pattern to carry out the company's main activities.

At the beginning of software development, programmers directly code the software without using procedures or stages of software development. Information system is a system that collects, processes, and analyzes data, and separates information for more specific purposes. Meanwhile, system design is designing or designing a good system. It contains operational steps in data processing and procedures to support system operation.

METHODS

This research method uses a system development life cycle (SDLC) development life cycle, this cycle has several stages. As the name implies, SDLC starts from one stage to the final stage and returns to the initial stage so that it forms a cycle or main steps which can be seen in Figure 1. The following:

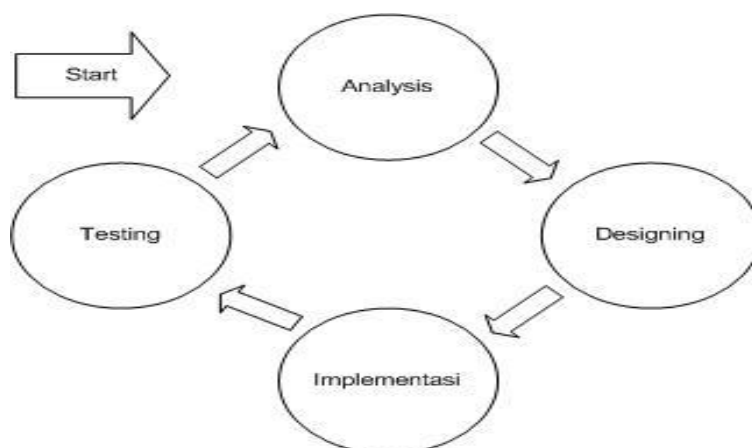


Figure 1. Systems Development of Life Cycle
Source : (Rosa A.S. dan M. Shalahudin, 2014; Dakhi, 2013).

SDLC or Software Development Life Cycle or often called as the System Development Life Cycle is the process of developing or changing a software system by using models and methodologies used to develop previous software systems, and making software requires a certain stage. must be passed in order to produce quality software (Dakhi, O., 2020).

System Designing

System design is planning or designing a good system. It contains of operational steps in data processing and procedures to support system operation. In designing the system, tools are needed, while the tools used are making suggestions for solving problems logically in accordance with the existing problems. In Addition, the tools used to help solve problems in making this system include UML 2. (Unified Modeling Language). Unified Modeling Language (UML) is a standard language that is widely used in the industrial world to define requirements, make analysts and designs, and describe architecture in object-oriented programming.

The following lists are several types of diagrams used in making UML diagrams: (1). Use Case Diagrams; (2). Class Diagram; (3). Activity Diagram; (4). Sequence Diagram; (5). Statechart Diagram; (6). Deployment Diagram; and (7). Component Diagram

System Analysis

Systems analysis can be defined as the decomposition of a complete information system into its component parts in order to identify and evaluate problems, opportunities, obstacles that occur and the expected needs so that improvements can be proposed. The running system analysis is a description of the observed system that is currently running, so that the advantages and disadvantages of the running system can be known. Analysis of the running system can also facilitate the design of a new system. This stage is very important because in this stage if there is an error it will cause an error at a later stage. So a high level of precision and accuracy is needed to get a good quality system work.

The current flow of Information Systems at the Padang National Aerospace Aviation Vocational School is as follows: (1). Prospective students come to school and meet the administration department to collect the registration form; (2). Prospective students fill out

the registration form that has been taken, after filling it, it is submitted to the administrator together with the conditions and pay the registration fee and form; (3). The registration form that has been filled in and the requirements received from prospective new students are checked for completeness after that the administration makes two copies of proof of registration; (4). One form is given to prospective new students and the other along with the registration forms and requirements processed by the administrator; (5). Administration input new student candidate data based on registration forms and requirements and conducts selection to get accepted, backup and rejected students; (6). From the selection results, the administration will print a report on the selection results in 3 copies and submit it to the principal for acc; (7). 2 copies returned to the administration and 1 more on file by the school principal; and (8). 1 copy is filed by the administration and 1 copy is given to prospective students.

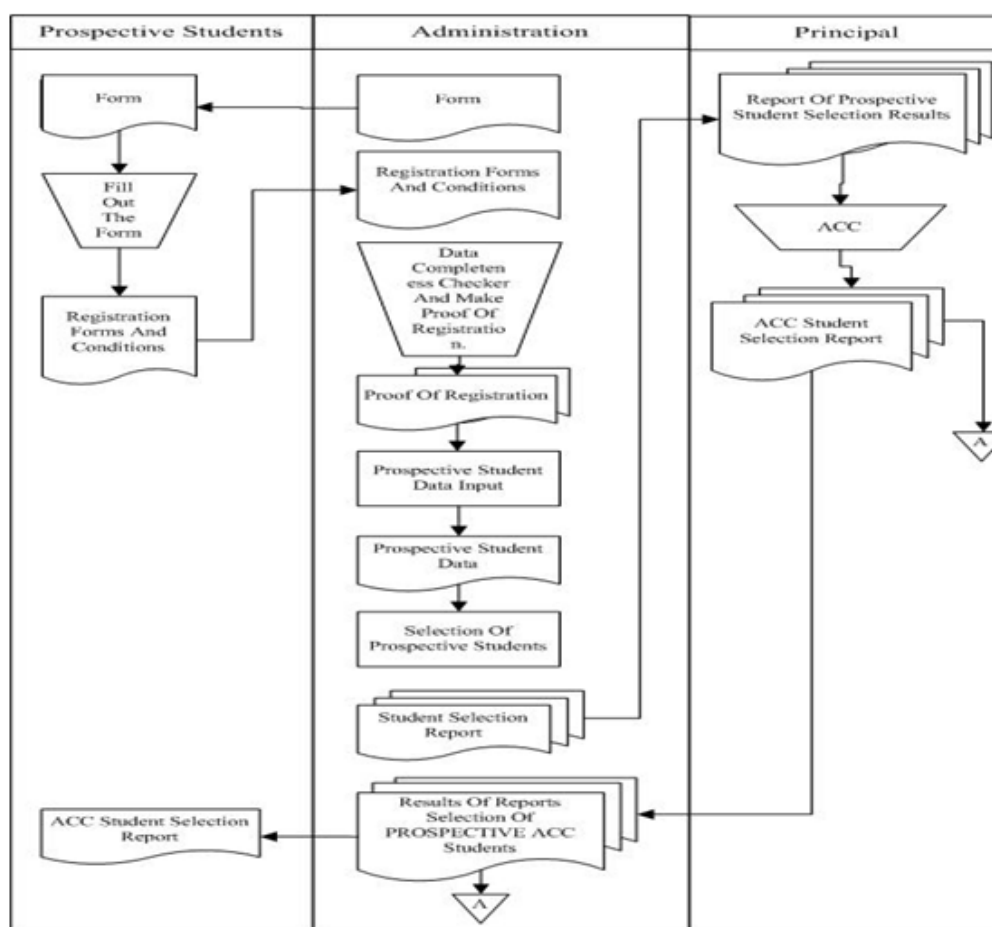


Figure 2. Current Flow Chartsof Information Systems

DISCUSSION

A. Application Design

In designing and modeling this application, several diagrams are used as follows:

1. Proposed Flow of Information Systems

The narrative that the researcher will propose is as follows:

- a). Prospective students see registration information through the website starting from the registration schedule, registration requirements to online registration procedures.
- b). Furthermore, prospective students register according to the order of the registration procedures that have been seen.
- c). First, prospective students pay registration fees and forms at the bank, the proof of payment is uploaded by selecting the payment registration menu on the website page after that waiting for payment verification by the administration.
- d). Administration verifies payments uploaded by prospective students on the registration menu.
- e). After being verified, prospective students can see the username and password by clicking the login menu, see the password, then the prospective students log in and fill in the complete data of the prospective students.
- f). After the data is filled in completely, prospective students wait for data verification by the administration. After being verified, prospective students will print proof of registration.
- g). Furthermore, the administration conducts a registration selection based on verified data of prospective students.
- h). Prospective students print a certificate of acceptance after the administration has selected prospective students.
- i). The administration then makes a report on the selection results in the form of students accepted, reserves and rejected then the principal logs in on the website and sees the results of the selection of prospective new students.
- j). After being approved by the principal, the administration uploads or displays the results of the selection of prospective students on the website then the prospective students print a certificate of acceptance on their respective accounts.

2. Use Case Diagram

Describing system behavior from the user's point of view is useful for helping to understand needs. Actors are people, processes, or other systems that activate the functions of the target system. The actors involved in the Registration of New Students of the Padang National Aerospace Vocational School can be seen in the following table:

Table 1. Actor Description Table

No.	Actor	Description
1.	Prospective Students	Prospective Students are important actors who input data and see the results of the selection which will later be managed and processed by the Administration in registering new students.
2.	Administration	Administration is an important actor who manages the entire form in the new student registration process
3.	The principal	The principal is the actor who sees the results of the new student registration process which is done by the Administration.

The use case diagram of the New Student Registration of the Padang National Flight Vocational School is presented in the form of an image.

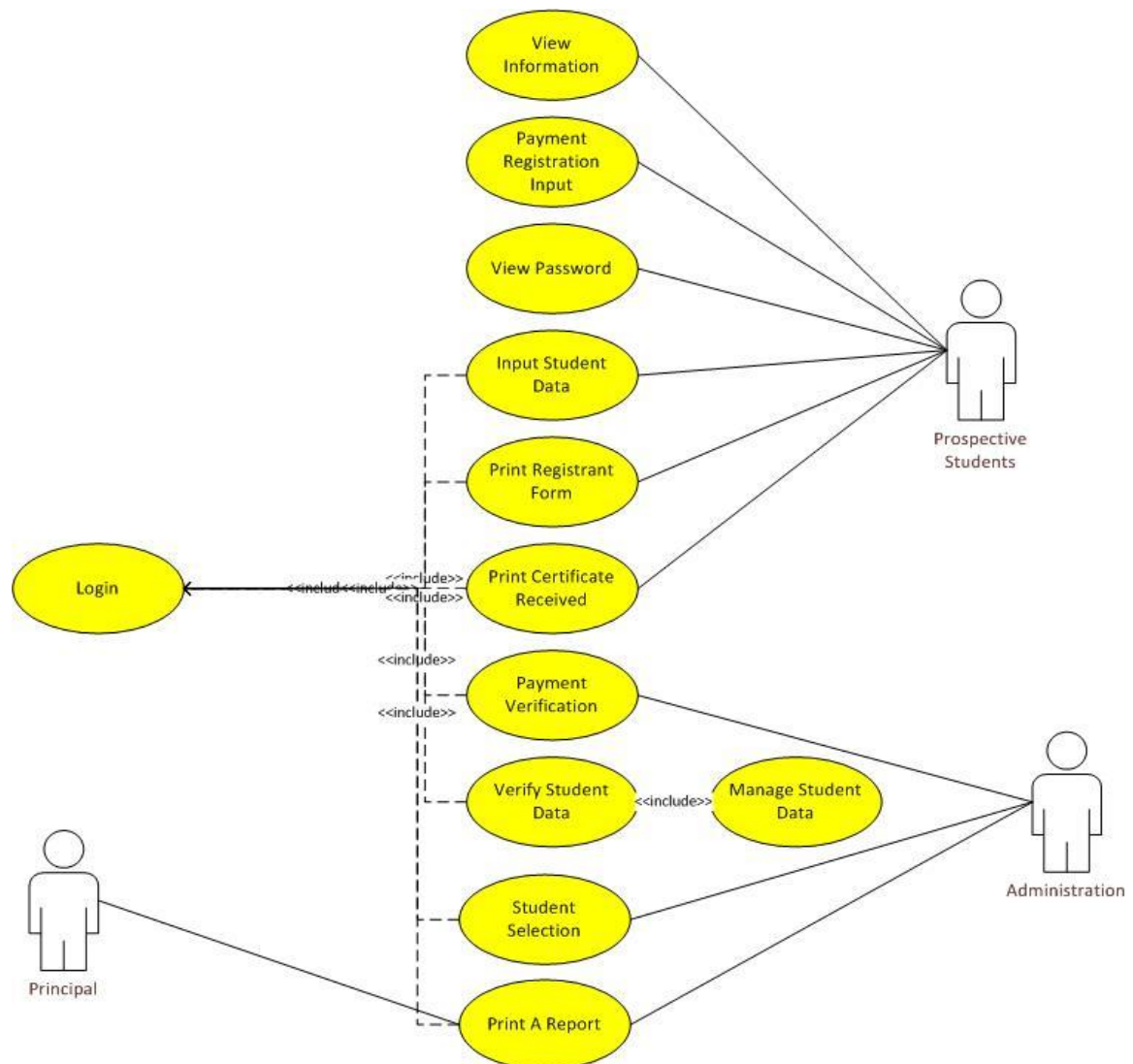


Figure 3 Use Case: New Student Registration

3. Sequence Diagram

Sequence diagram is a diagram that depicts the interactions between objects that indicating communication between these objects. Sequence diagrams describe the interactions between objects in and around the system (including users, displays, etc.) in the form of messages depicted against time. Sequence diagrams consist of vertical dimensions (time) and horizontal dimensions (related objects).

4. Class Diagram

Class is a specification that if instantiated will produce an object and is the core of object-oriented development and design. Class describes the state (attribute / property) of a system, as well as offering services to manipulate that state (method / function).

B. Design

1. Homepage of Input Design

ADMISSION OF NEW STUDENTS ONLINE	
LOGO	Welcome To The Online New Student Admission System Of Padang National Space Education Vocational High School
Home	HOME PAGE INFORMATION
Selection Results	
Registration	
Login	
Menu	

Figure 4. Homepage of Input Design

2. PSB Registration Input Design (Payment Confirmation)

ADMISSION OF NEW STUDENTS ONLINE													
LOGO	Payment Confirmation												
Home	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">NISN :</td> <td><input type="text"/></td> <td style="width: 50%;">No. Hp :</td> <td><input type="text"/></td> </tr> <tr> <td>Full name of prospective New Student Admissions :</td> <td><input type="text"/></td> <td>Upload proof of Payment :</td> <td><input type="button" value="Chose file"/></td> </tr> <tr> <td>School Origin :</td> <td><input type="text"/></td> <td colspan="2" style="text-align: right;"><input type="button" value="Send"/></td> </tr> </table>	NISN :	<input type="text"/>	No. Hp :	<input type="text"/>	Full name of prospective New Student Admissions :	<input type="text"/>	Upload proof of Payment :	<input type="button" value="Chose file"/>	School Origin :	<input type="text"/>	<input type="button" value="Send"/>	
NISN :		<input type="text"/>	No. Hp :	<input type="text"/>									
Full name of prospective New Student Admissions :		<input type="text"/>	Upload proof of Payment :	<input type="button" value="Chose file"/>									
School Origin :		<input type="text"/>	<input type="button" value="Send"/>										
Selection Results													
Registration													
Login													
Menu													

Figure 5. PSB Registration Input Design (Payment Confirmation)

3. Input Login Design of PSB Online (Participants PSB)

ADMISSION OF NEW STUDENTS ONLINE							
LOGO	New Student Admissions Login Online						
Home	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Username :</td> <td><input type="text"/></td> </tr> <tr> <td>Password :</td> <td><input type="text"/></td> </tr> <tr> <td colspan="2" style="text-align: center;"> <input type="button" value="Ok"/> <input type="button" value="Forgot password"/> </td> </tr> </table>	Username :	<input type="text"/>	Password :	<input type="text"/>	<input type="button" value="Ok"/> <input type="button" value="Forgot password"/>	
Username :		<input type="text"/>					
Password :		<input type="text"/>					
<input type="button" value="Ok"/> <input type="button" value="Forgot password"/>							
Selection Results							
Registration							
Login							
Menu							

Figure 6. Input Login Design of PSB Online

4. Design of Input Login Administrator of PSB Online

ADMISSION OF NEW STUDENTS ONLINE	
Login Administrator	
<input type="button" value="Login"/>	
Username	<input type="text"/>
Password	<input type="password"/>
<input type="button" value="Ok"/> <input type="button" value="Forgot password"/>	

Figure 7. Design of Input Login Administrator of PSB Online

5. Design of Input Password check

ADMISSION OF NEW STUDENTS ONLINE		
LOGO	Check Password	
Home	NISN	<input type="text"/>
Selection Results		
Registration	No.Hp	<input type="text"/>
Login		
Menu	<input type="button" value="Show"/>	

Figure 8. Design of Input password check

6. Input Design Registration Management

ADMISSION OF NEW STUDENTS ONLINE										
LOGO	New Student Admission Registration									
Home	No	No. Registration	NISN	Student Name	Origin	No. Hp	Date Of List	Status	Action	
Selection Results										
Registration									Reset	Delete
Login										
Menu										

Figure 9. Input Design Registration Management

7. PSB Participant Verification Input Design

ADMISSION OF NEW STUDENTS ONLINE	
LOGO	Verification Of New Student Admissions Participants
Home	No Registrant : <input type="text"/> Password : <input type="text"/>
Selection Results	List Date : <input type="text"/> Status : <input type="text"/>
Registration	Name Of Prospective Student : <input type="text"/>
Login	School Origin : <input type="text"/> Proof Of Payment : <input type="text"/> Photo
Menu	No.hp : <input type="text"/> <input type="button" value="Edit"/> <input type="button" value="Back"/>

Figure 10. 7. PSB Participant Verification Input Design

8. PSB Participant Data Input Design

ADMISSION OF NEW STUDENTS ONLINE																							
LOGO	New Student Admissions Participant Data																						
Home																							
Selection Results																							
Registration	<table border="1"> <thead> <tr> <th>No</th> <th>No Registration</th> <th>Student Name</th> <th>Gender</th> <th>Place Of Birth</th> <th>School Origin</th> <th>Address</th> <th>No. HP</th> <th>Pas Photo</th> <th>Status</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	No	No Registration	Student Name	Gender	Place Of Birth	School Origin	Address	No. HP	Pas Photo	Status	Action											
No	No Registration	Student Name	Gender	Place Of Birth	School Origin	Address	No. HP	Pas Photo	Status	Action													
Login																							
Menu																							

Figure 11. PSB Participant Data Input Design

9. Edit Student Input Design

ORIGIN	
ADMISSION OF NEW STUDENTS ONLINE	
LOGO	Edit Student Identity
Home	<input type="button" value="Student Data Documents"/>
Selection Results	<input type="button" value="Student Data Edit Element"/>
Registration	<input type="button" value="Student Grade Data"/>
Login	<input type="button" value="Edit Student Grade Data Element"/>
Menu	<input type="button" value="Parent And Guardian Data"/>
	<input type="button" value="Edit Guardian Parent Data Element"/>
Status Data : <input type="radio"/> It's Checked <input type="radio"/> Not Checked Yet	
<input type="button" value="Save"/> <input type="button" value="Back"/>	

Figure 12. Edit Student Input Design

10. PSB Input Selection Design

ADMISSION OF NEW STUDENTS ONLINE																
LOGO	New Student Admission Selection															
Home	Selection Based On Class Whimperking															
Selection Results	No	NISN	Name	School Origin	R1	R2	R3	R4	R5	IND	ING	MTK	IPA	Average	Status	Selection
Registration																
Login	Selection Based On National Examination Scores															
Menu	No	NISN	Name	School Origin	R1	R2	R3	R4	R5	IND	ING	MTK	IPA	Average	Status	Selection

Figure 13. PSB Input Selection Design

10. Wave Setting Input Design

ADMISSION OF NEW STUDENTS ONLINE							
LOGO	WAVE SETTINGS						
Home							
Selection Results	School Year	Wave	List Date	Announcement	Re-register	Status	Action
Registration							Reset Edit Remove
Login							
Menu							

Figure 14. Wave Setting Input Design

11. Announcement Management Input Design

ADMISSION OF NEW STUDENTS ONLINE	
LOGO	Update Announcement
Home	Current Status Of The Announcement : Turned On Current Status Of The Announcement <div style="text-align: center;"> Turn off </div>
Selection Results	
Registration	
Login	
Menu	

Figure 15. Announcement Management Input Design

12. User Management Input Design

ADMISSION OF NEW STUDENTS ONLINE						
LOGO	Update User					
Home						
Selection Results	No	Username	Full Name	Password	Level	Action
Registration						RESET EDIT REMOVE
Login						
Menu						

Figure 16. User Management Input Design

CONCLUSION

The design of a new admissions information system is one of the right solutions for the Padang Education authorities Office, at a time when the world of information is increasingly developing, especially information technology. Based on the results of the research that has been done, the researchers can draw the following conclusions: (1). With the new student registration information system, it is hoped that new prospective students will register faster; and (2). With the new student registration information system, the school can easily and quickly input and select prospective students as well as inform prospective students whether they are accepted or not without the need to wait a longer time.

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