

Design of an Online New Student Registration Application System at Paud Cahaya Ilmu Web-based

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Abstract

Information technology is any technology that assists humans in creating, modifying, storing, communicating, and disseminating information. In the world of education, we can use this technology to register new prospective students online. Currently, the government is implementing Large-Scale Social Restrictions, where currently everyone is required not to gather in crowds to prevent transmission of new T-shirts in the spread of the Covid-19 virus. In Early Childhood Education, Cahaya Ilmu, which is currently still used in admitting new students every time they enter a new academic year, where each prospective student's parents will register by visiting the Early childhood Education location. This research has a goal, namely, to create a new student registration system without face-to-face meetings, in making it the authors carried out observations, interviews, literature studies, analysis and design of web-based systems. So, we need an application that can make it easier for parents to register their children, provide information to parents / guardians about student admissions. The results obtained in this system are that it is easier and faster for institutions to find applicant data, and parents of prospective students do not need to meet face to face, thereby reducing the risk of spreading Covid-19.

Keywords: Registration Application, Early Childhood Education

1. Introduction

Information technology is any technology that helps humans create, change, store, communicate and / or disseminate information. Examples of information technology are computers, telephones, televisions, mobile phones, and other devices that are electronic devices. Information technology (IT) also develops in line with the development of human civilization. The development of information technology includes the development of IT infrastructure, such as hardware, software, data storage technology (storage), and communication technology.

On this occasion, the author felt interested in conducting research by choosing the title "**Design of an Online New Student Registration Application System at Web-Based Paud Cahaya Ilmu**" PAUD Cahaya Ilmu is a level of education before basic education which is a coaching effort aimed at early childhood before entering formal education. PAUD Cahaya Ilmu itself is under an auspices, namely Yayasan Cahaya Ilmu Bojong Gede (YCIB) which is precisely located at Jl. Anggur Blok DF.26 RT 005 / RW 008 Perum Gaperi, Bojong, Depok Baru, Kedung Waringin Village, Bojonggede District, Bogor Regency, West Java. The reason the author chose the title is based on the manual system that is currently still used in the admission of new students every time entering the new school year, where every parent of prospective students will register by visiting the PAUD location, this is considered inefficient especially now that many PAUD have used an online system to register. This is also expected to be an attraction for prospective students because they already use a modern registration system. In addition to these problems, the government is also currently implementing Large Scale Social Restrictions (PSBB), where at this time everyone is required not to crowd in order to prevent the transmission of new T-shirts in the spread of the COVID-19 virus. This is also expected to reduce social contact during the current pandemic. So that the realization of government programs to stay at home in carrying out daily activities, the registration of new students online can prevent crowds. The advantages of using an online registration system are expected to be more effective than conventional methods that existed before because registrants only need to access the website through a browser on their device either using a Smartphone or Personal Computer connected to the internet.

Thus, there will be no more crowds of registrants to minimize the transmission of new cases of COVID-19. The implementation of PSB (New Student Admission) will be more efficient, both in terms of time, transportation costs, and energy. Not to forget, with this system, participants and parents of participants do not

need to bother visiting the school to just see announcements or information related to the implementation of PSB (New Student Admission). Whenever and wherever they are, they can do it through any computer connected to the internet. Based on the description above, research on this is important so that it is expected to help teachers and parents in monitoring children's learning development. Design an internet-based student data information system that can be accessed by teachers and parents providing student data information.

2. Theoretical Foundation

Website

Website merupakan fasilitas internet yang menghubungkan dokumen dalam lingkup lokal maupun jarak jauh. Dokumen pada *website* disebut dengan *web page* dan link dalam *website* memungkinkan pengguna bisa berpindah dari satu *page* ke *page* lain (*hypertext*), baik diantara *page* yang disimpan dalam server yang sama PHP is often used by programmers to create dynamic websites because it is free and useful in designing web applications. (Supono & Putratama, 2016, p. 3) maupun server diseluruh dunia. *Pages* diakses dan dibaca melalui browser seperti *Netscape Navigator*, *Internet Explorer*, *Mozilla Firefox*, *Google Chrome* dan aplikasi browser lainnya. (Hakim & Musalini, 2004) .

Perancangan

System design is a stage of a process of defining the needs of the development cycle of a new system or system to be formed. (Sukisno & Wuni, 2017).

Hypertext Preprocessor (PHP)

PHP is often used by programmers to create dynamic websites because it is free and useful in designing web applications. (Supono & Putratama, 2016, p. 3).

JavaScript (JS)

JavaScript is a language in the form of a collection of scripts that serves to provide a more interactive-looking appearance on web documents". While according to (Sunyoto, 2007, p. 17).

Database

According to (Sukamto & Shalahuddin, 2013, p. 43), "a database system is a computerized system whose main purpose is to maintain processed data or information and make information available when needed".

Pengujian Whitebox

Whitebox testing is a problem test design method that uses the control structure of procedural design to create experimental problems. Whitebox testing is designed to find errors in functional requirements without neglecting the inner workings of a software (Hendri, 2017). To find out errors and complexity in the program code, Whitebox testing is needed (Fakhri M.A.F, 2018)

Pengujian Black Box

Software testing using the black box testing method is used to find errors in several categories, including incorrect or missing functions, errors in data structures or in accessing external databases, initialization and termination errors, and errors in interfaces (Agarwad, 2010).

Black box testing is a testing strategy that pays attention to software specifications and functionality factors, identifying only types of interface errors, function errors, errors in data modeling, and errors in access to external data sources (Rosa, 2013).

3. Design

Entity Relation Diagram (ERD)

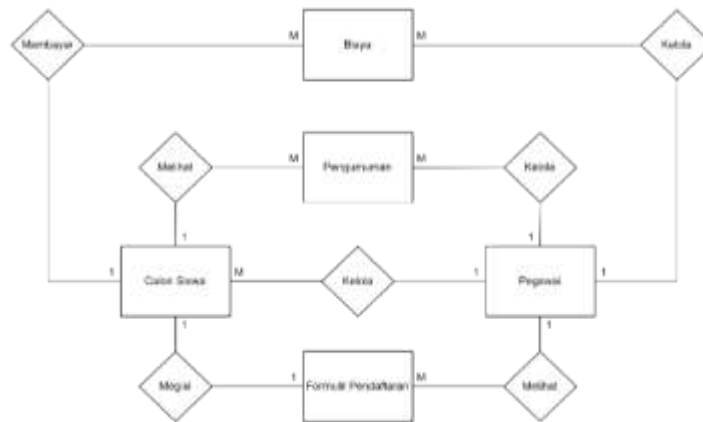


Figure 1 Entity Relation Diagram (ERD)

In the picture above is the ERD of the online registration system which has 6 tables: user, register, pay, announcement, contact and cost.

Class Diagram



Figure 2 Class Diagram

Use Case Diagram



Figure 3 Use Case Diagram

In the picture above is a use case of designing an online registration system application system. Where from the picture above there are 2 actors, namely officers / admins and registrants. Where the officer / admin who has full rights in input, edit and delete activities. Meanwhile, registrants can only see announcement data and input personal data.

Manage Enrollment Sequence Diagram

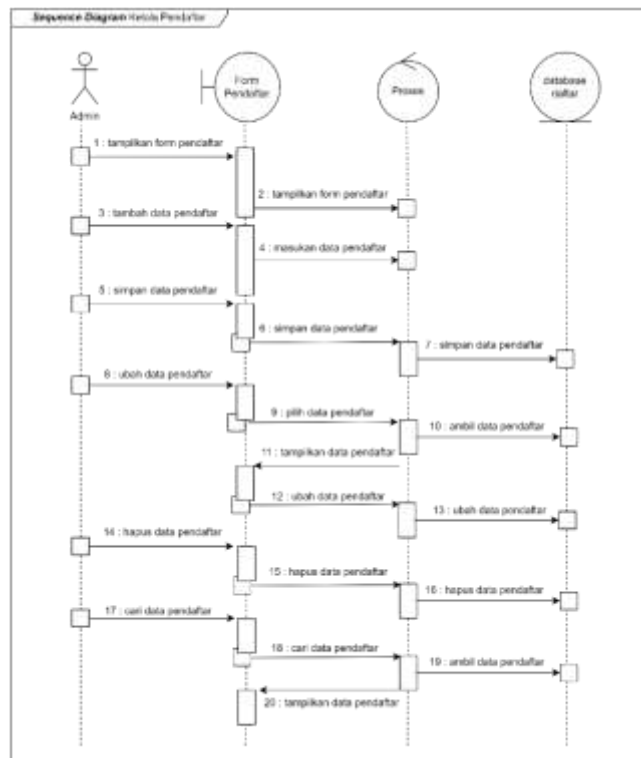


Figure 4 Sequence Diagram Manage Registrants

In this diagram, it is explained that admin actors in the registration form can do work such as adding registrant data, changing registrant data, deleting registrant data and searching registrant data.

Sequence Diagram Input Fromulir Registration

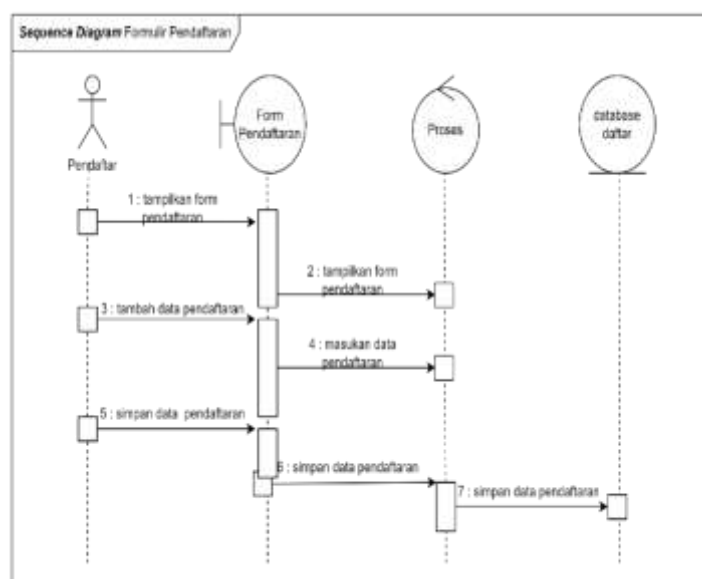


Figure 5 Sequence Diagram Input Form List

In this diagram, it is explained that the registrant actor in the Registration form can do work such as adding registration data.

Sequence Diagram Upload File

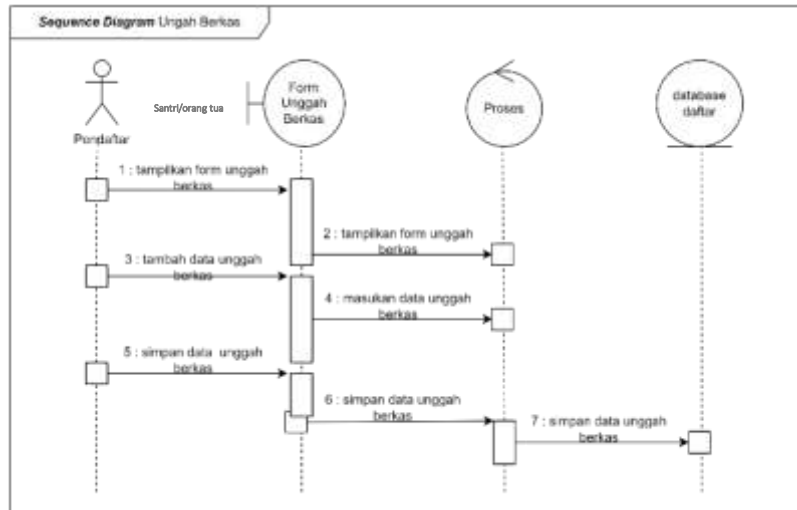


Figure 6 File Upload Sequence Diagram

In this diagram, it is explained that the registrant actor in the File Upload form can do work such as adding file upload data.

Activity Diagram Manage Payments

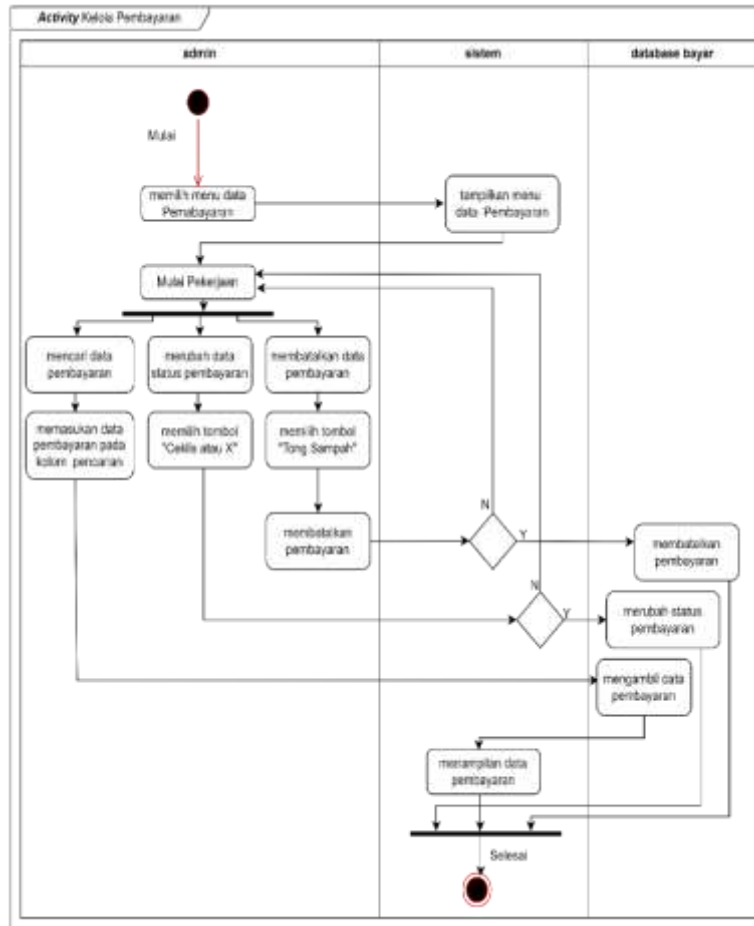


Figure 7 Activity Diagram Manage Pay

**4. Result
 Login Page**

The following is a display of the login page on the preschool registration application which will be filled in with the username and password owned by the registrant.



Figure 8 Login Page

Dashboard Page

This page consists of information about data that has not been completed by the Registrant such as registration formular, registration file and re-registration status, can be seen as shown below :



Figure 9 Dashboard Page

Manage Teacher Data Page

In this menu users will be presented in the form of teacher data details, including No, Name, NIK, Date of Birth, Gender, Address, Phone Number, and Photo, users can also use more specific teacher name search facilities and export facilities to Excel and PDF as shown below:



Figure 10 Teacher Data Menu

Export PDF

Users can export facilities to PDF, so that users are facilitated if they want to process their data into hardcopy, to be able to export data, users can select the "Download Registration Form" button, for export results can be seen as shown below :



Figure 11 Export to PDF

All Data Menu

In this menu, the user is presented with data on all registrants with details of no, Username, Password, Registrant Name, L/P, Phone No, Status, action, can be seen in the following picture In this menu, the user is presented with data on all registrants with details of no, Username, Password, Registrant Name, L/P, Phone No, Status, action, can be seen in the following picture:



Figure 12 The All Data Menu

Menu Semua Berkas

In this menu, the user is presented with file data for all registrants with details of no, Registrant Name, Family Card, Parent/Guardian ID Card, Deed and Photo Pass can be seen in the following picture :



Figure 13 The All Files menu

5. Conclusions

Based on the results of planning, making and testing applications that have been carried out, the Cahay Ilmu Early Childhood Education (PUD) Online Registration Application System has been successfully built. With this application :

- a. This system is built web-based using PHP programming language with waterfall method, so it can make it easier for parents of registrants to easily register their children.
- b. With this Web-Based Early Childhood Education (PUD) Online Registration Application System, parents do not need to meet face to face with the administrator, thereby reducing the risk of COVID-19 transmission.

6. Suggestions

Based on the results of analysis and design, the author realizes that this system still has many shortcomings and errors in its manufacture, to improve or improve the ability and function of this system some suggestions from researchers include :

- a. It is expected that this system will be developed in the form of other android or mobile-based applications.
- b. It is expected that the development of this application will add more interesting features such as a menu of students' daily activities.
- c. It is expected that the development of this application follows the development of running technology.

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