

The Design of a Public Relations Services Information System for Creative Media State Polytechnic Using the Agile Development Method

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Abstract—Vocational colleges play a crucial role in producing a work-ready human resource with skills that align with industry demands through practice-based learning and direct application. In this context, effective communication between vocational colleges and prospective students becomes a critical aspect. One form of this communication is introducing vocational education through promotional and outreach activities conducted by the Polimedia Public Relations (Humas) department. The "Polimedia Open House" and "Polimedia Goes to School" are two main programs organized by Humas Polimedia, aiming to introduce the campus to prospective students and provide an overview of the educational system and facilities available. This research aims to design and develop an information system for registering for Public Relations services, specifically the Polimedia Open House and Polimedia Goes to School events. The system was built using the Laravel framework, applying the Software Development Life Cycle (SDLC) method with an Agile Development Cycle approach for subsequent implementation by schools wishing to visit Polimedia. The system development was conducted iteratively through the stages of planning, requirements gathering, design, development and testing, implementation, and review. This web-based information system was created using the PHP programming language and a MySQL database. The system is equipped with registration features for the Polimedia Open House and Polimedia Goes to School activities, a gallery of event documentation, registration status tracking, and contact information. With this system, it is expected to simplify the management of event information for the Public Relations department and attract more schools to visit.

Keywords : Information System, Laravel, Agile Method, Public Relations, Vocational College.

I. INTRODUCTION

Vocational colleges serve as a solution for producing graduates with practical competencies who are ready for the workforce. Vocational education is a field that guides students to develop applied skills, adapt to specific professional fields, and create job opportunities [1]. With the rapid advancement of technology, the demand for a skilled workforce continues to increase, positioning vocational education as a vital bridge between the worlds of academia and industry.

As the number of vocational institutions grows, competition among them has become increasingly intense. This drives each institution to be more proactive in attracting prospective students. One such method involves introducing vocational education through promotional and outreach activities conducted by the college's Public Relations (PR) department. The "Polimedia Open House" and "Polimedia Goes to School" are two primary programs organized by the Public Relations department of the Creative Media State Polytechnic (Politeknik Negeri Media Kreatif),

designed to introduce the campus to prospective students and provide an overview of its educational system and available facilities.

Currently, the Creative Media State Polytechnic has a PR website; however, it lacks a dedicated system for managing the information and registration for its outreach services. Consequently, the registration and information dissemination for these two key events are still conducted manually. This often results in challenges such as receiving incomplete data from schools and difficulties in managing event information. Furthermore, many schools remain unaware of the "Polimedia Goes to School" and "Polimedia Open House" programs. As a result, these initiatives have not achieved optimal outreach, leading to a potential loss of prospective students due to these informational barriers.

In the context of daily practices, many creativity experts recommend implementing creative thinking strategies by starting work with an imaginative exploration of the ideas and concepts to be pursued that day [2]. Therefore, to optimally support the role of the PR department, a web-based

information system is required. An information system is defined as the use of computer technology within an organization to present information to users [3]. The objective of an information system is to produce information, which is data processed into a form that is useful for its users [4]. An information system is a system within an organization that combines people, facilities, technology, media, procedures, and controls aimed at establishing essential communication channels, processing specific routine transactions, signaling important internal and external events to management, and providing an informational basis for sound decision-making [5].

The purpose of this study is to design and develop a registration information system for the PR department's "Open House Polimedia" and "Polimedia Goes to School" services. This system will be built using the Laravel framework, applying the Software Development Life Cycle (SDLC) with an Agile Development Cycle approach, for subsequent implementation by schools wishing to visit Polimedia. Laravel is a framework for MVP-based website development written in PHP, designed to improve software quality by reducing initial development and maintenance costs, and to enhance the developer experience by providing syntax that is expressive, clear, and time-saving [6].

This information system will enable schools to access information, register for events, and receive automatic confirmations. It will also be equipped with a gallery containing event documentation and features for integration with the PR department's social media channels. Thus, this research is expected not only to provide a solution to internal challenges but also to strengthen Polimedia's image as an educational institution that is adaptive to technological advancements and committed to service quality.

II. RESEARCH METHODS

The methodology utilized in developing this system is the Agile Development method. The Agile method is a model within the System Development Life Cycle (SDLC). The SDLC is a software development methodology that provides a structured approach by breaking down the

development process into a series of systematic phases to achieve the desired objectives.

Agile Software Development Methods, or the Agile Methodology, encompass a collection of software development approaches based on iterative development, where requirements and solutions evolve through collaboration among self-organizing and cross-functional teams [7]. This approach allows the developed system to be more structured and flexible. The process is conducted iteratively through the phases of planning, requirements gathering, design, development and testing, implementation, and review.

An elaboration of each phase of the Agile method as applied in this research is detailed below:

a. Planning Phase

The planning phase is where the researchers determine the tools and technologies to be used for the system's creation, identify its core features, and establish the sprint timelines and objectives.

b. Requirements Gathering Phase

The requirements or needs analysis phase is the process of data collection to compile a list of necessary functionalities. The researchers gathered information from the Polimedia Public Relations department to obtain complete data for the development process. The goal is to ensure that the information system being built aligns with the planned concept.

c. Design Phase

The design phase is where the researchers create a design based on the previously obtained data, which includes the database structure, flowcharts, and wireframes. This phase is conducted iteratively and flexibly with the objective of providing a comprehensive overview of the interface's form and design to be developed.

d. Development & Testing Phase

In this phase, the researchers begin to build the system by writing code using a programming language and the Laravel framework. The system at this stage is still in a prototype form. Testing is also conducted at the end of each sprint after a prototype is created. The testing phase is carried out to see if the website is stable and functioning as intended, and it includes analyzing bugs,

making corrections, and implementing feature enhancements based on suggestions.

e. Implementation

After the system has been successfully built and tested, it is then deployed to a production server so it can be used. Subsequently, an evaluation is conducted based on user feedback.

f. Review

This phase involves a joint evaluation conducted with the Polimedia Public Relations (PR) department. This stage is undertaken to observe user responses while using the application. Additionally, an evaluation of the results from the system's development using the Laravel framework and the Agile method is also conducted in this phase.

2.1 Data Collection Methods

In developing this system, the researchers employed several data collection methods, including:

a. Interviews

Interviews are a research technique aimed at collecting qualitative data by posing questions directly to individuals or specific groups. The researchers conducted interviews with the Public Relations (PR) department to obtain the necessary information for the system's creation.

b. Literature Study

A literature study is a data collection technique that involves reviewing various scientific sources such as journals, books, or other forms of literature. The researchers reviewed various previous studies relevant to the development project to strengthen the theoretical and methodological foundation for the system's development.

c. Focus Group Discussion (FGD)

This method involves direct discussions with the Public Relations department to gather feedback on the proposed system design.

2.2 Data Analysis

In this stage, the researchers analyzed the data that had been obtained. The data was then processed using the Unified Modeling Language (UML) to visually depict the system design. UML provides a standard for creating a system's

blueprint, which can consist of business process concepts, the creation of classes that can be implemented in a specific programming language, database design, and other components required for system development [8].

a. Use Case Diagram

A use case diagram is used to illustrate the interaction between a user and the system. Figure 1 shows the actions that can be performed by the user (representing a school) and the admin within the system.

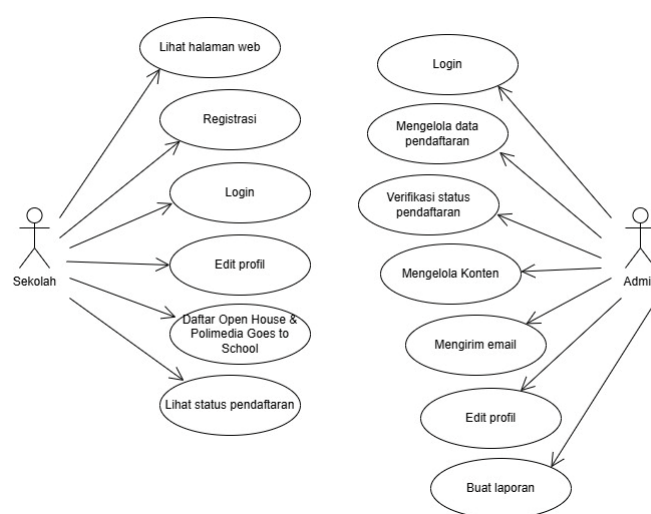


Figure 1. Use Case Diagram.

When a user (representing a school) wants to apply for an activity, they must first create an account through the registration process. Once the account is created and they have logged in, the school can submit an application, view the application status, edit their profile, and receive emails.

After an application has been submitted, the Admin (representing the Polimedia Public Relations department) can verify the application status, manage registration data, manage content, send emails, generate reports, and edit their profile within the system.

b. Flowchart Diagram

A flowchart is created to visually illustrate the system's workflow, making the application process for the Open House Polimedia and Polimedia Goes to School events easy to understand. Figures 2 and 3 show the application flow for these two events.

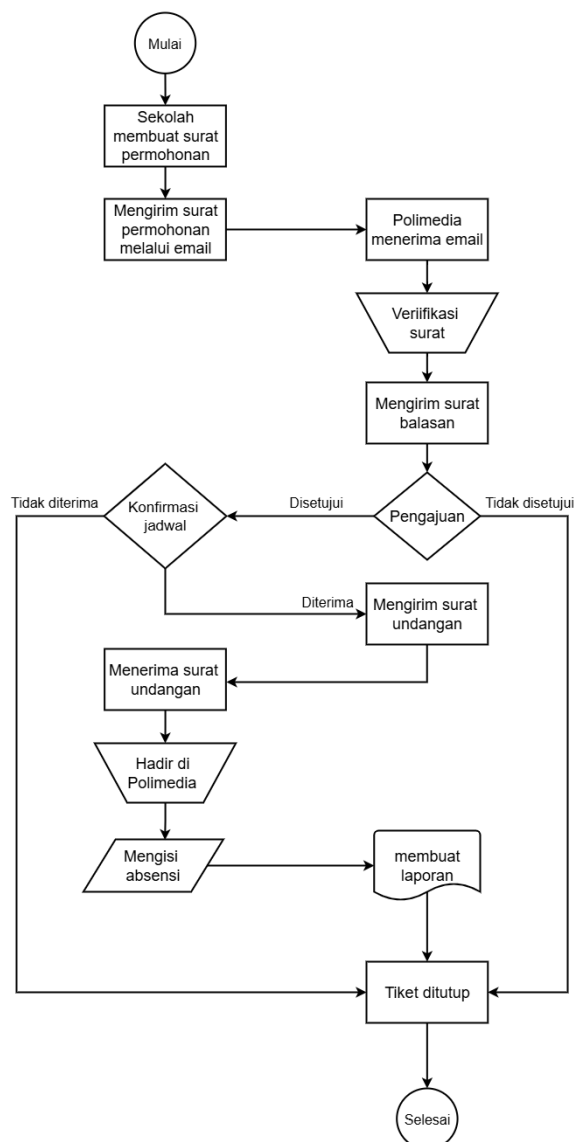


Figure 2. Polimedia Open House Registration Flowchart.

The application process for Open House Polimedia begins when a school sends an application letter via email to Polimedia. There is no specific format for the letter, as it is determined by each individual school. After the letter is sent, the Public Relations (PR) department verifies it upon receipt. The PR department will then send an email confirmation indicating whether the application has been approved or denied. An important consideration for the Open House application is that the event schedule is determined by the Polimedia PR department.

If the Open House application is approved, Polimedia sends a formal invitation letter to the school via email. If it is not approved, the application request is closed. Subsequently,

students, accompanied by a supervising teacher, can attend the event at Polimedia. The PR department will then request the students to sign in for attendance. After the event concludes, the PR department prepares an activity report for the Open House.

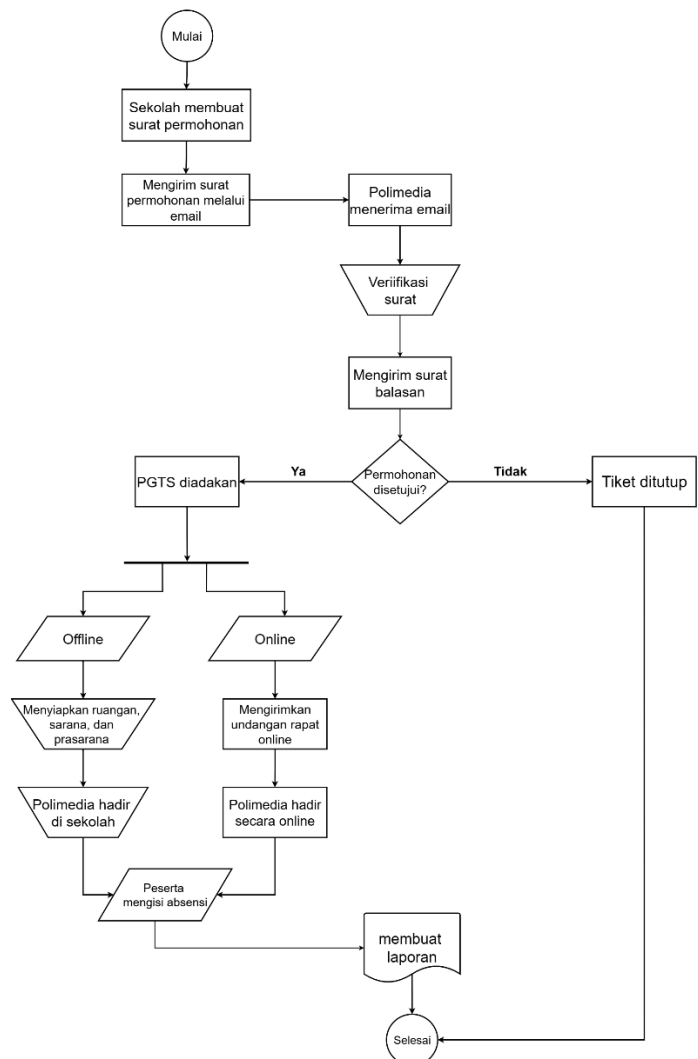


Figure 3. Polimedia Goes to School Registration Flowchart.

The application flow for Polimedia Goes to School is nearly identical to the process for the Open House. The only differences are that the Polimedia Goes to School event can be conducted online or offline, and the event schedule is determined by the school. If a school is hosting a specific event and wishes for Polimedia to attend, it can submit an application for this purpose.

c. Activity Diagram

An activity diagram is used to explain the flow of activities within the system to facilitate a better

understanding of the business process logic. Figure 4 illustrates the activity flow for a user (school) when registering in the system. Before registering, the user is required to prepare an application letter. This application letter will later be inputted into the registration form.

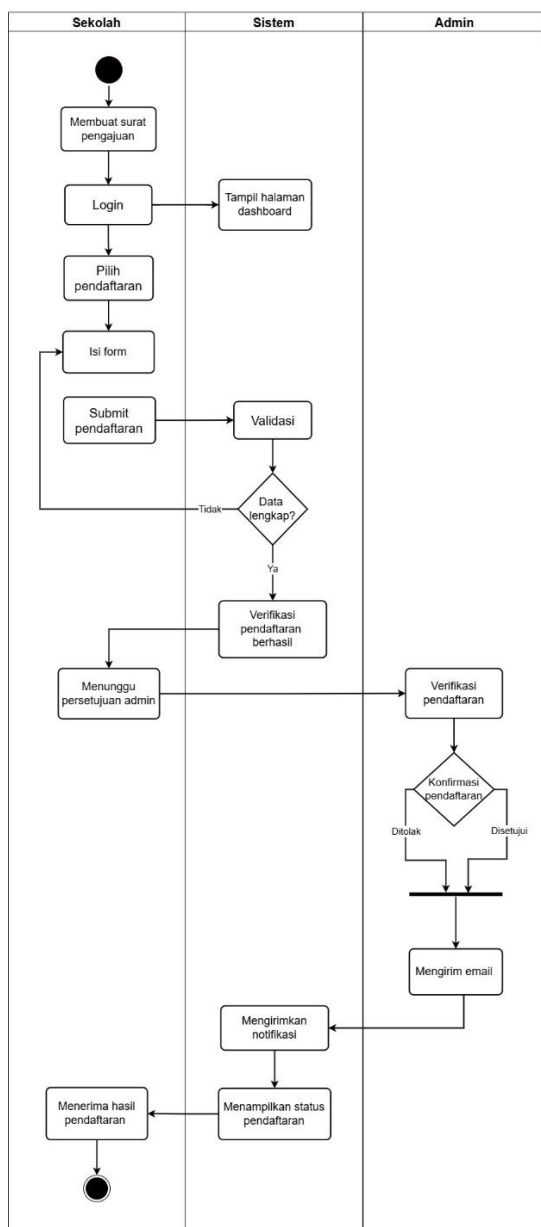


Figure 4. Registration Activity Diagram.

d. Entity Relationship Diagram (ERD)

An Entity Relationship Diagram (ERD) is a diagram used to model the data structure or the relationships between entities within a system.

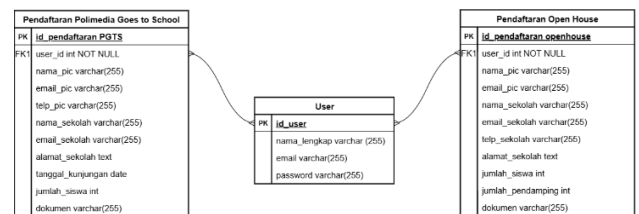


Figure 5. ERD (Entity Relationship Diagram).

Figure 5 shows the structure of and relationships between the tables within the developed database system.

III. RESULT AND ANALYSIS

The following is an elaboration of the design results for the public relations services system, for Polimedia Open House and Polimedia Goes to School, which was developed using the Laravel framework and the Agile Development method.

3.1 User Interface

Figure 6. Register Page View

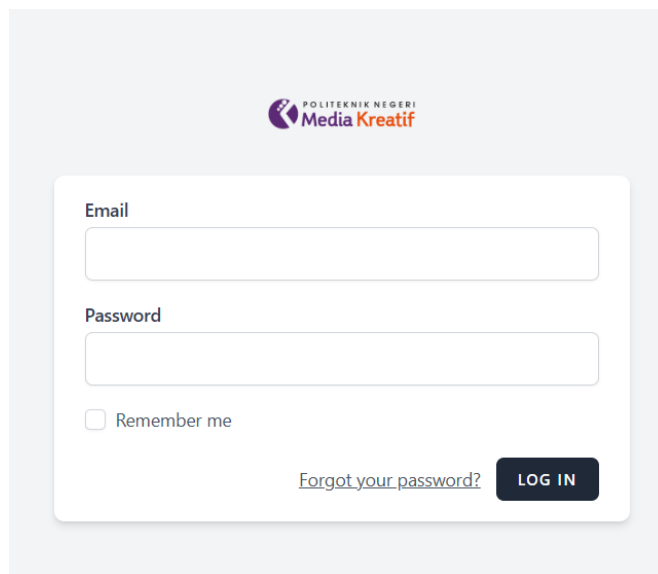


Figure 7. Login Page View

Figure 6 and 7 shows the register and login page for both admins and users. Schools wishing to register must first log in by entering their email and password.



Figure 8. Homepage View.

Figure 8 displays the initial view of the website, featuring the main headline, "Curious About Campus Life at Polimedia?" accompanied by a call-to-action (CTA) button. The navigation bar contains four menus: Home, Gallery, Contact, and Registration. If a user is not logged in, accessing any of these menus will redirect them to the login page, or to the registration page if they do not yet have an account.

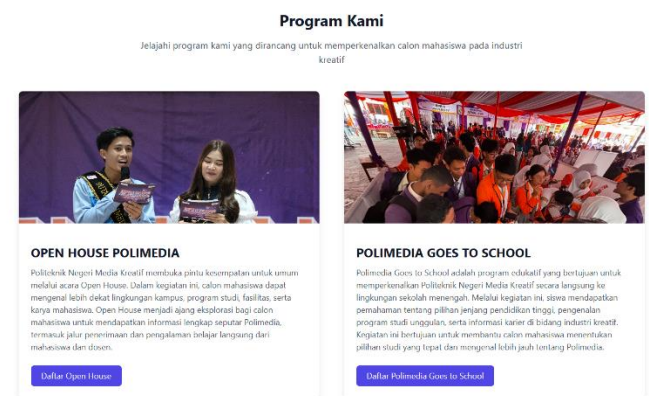


Figure 9. Public Relations Programs.

Figure 9 showcases the two main programs of the Polimedia Public Relations (PR) department: Open House Polimedia and Polimedia Goes to School. In the body section of the page, the respective goals and descriptions of these two programs are explained.

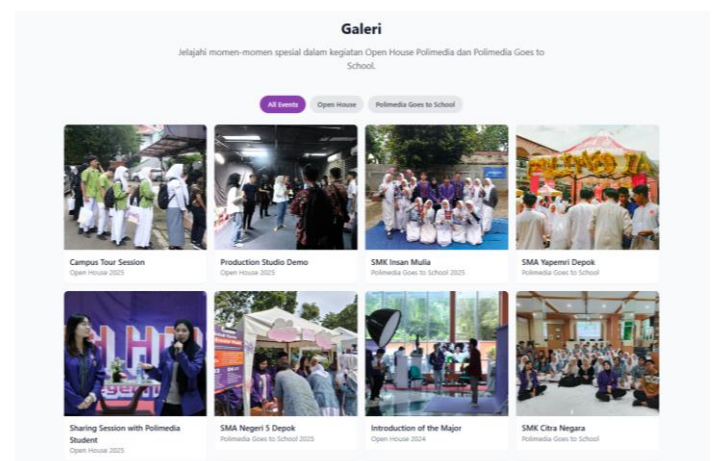


Figure 10. Gallery.

Figure 10 displays the gallery, which contains documentation from the Open House Polimedia and Polimedia Goes to School events.

Figure 11. Polimedia Open House Registration Form.

Figure 12. Polimedia Goes to School Registration Form

Figures 11 and 12 show the registration forms for Open House Polimedia and Polimedia Goes to School, as well as the successful registration notification. Both services use the same form, with a slight addition to the Polimedia Goes to School form: a field for the event date, which is determined by the registering school.

Figure 13. Registration History.

Figure 13 displays the registration status page. The status of each application is marked as 'pending', 'rejected', or 'accepted'. This page also shows the status history of all past applications. Schools are able to submit more than one application over time.

Figure 14. Contact

Figure 14 shows the view of the Contact menu page. A form is available for sending messages that connect directly to an email address. Alongside the form, a map displaying the location of the Polimedia Jakarta campus is also featured.

3.2 Admin Interface

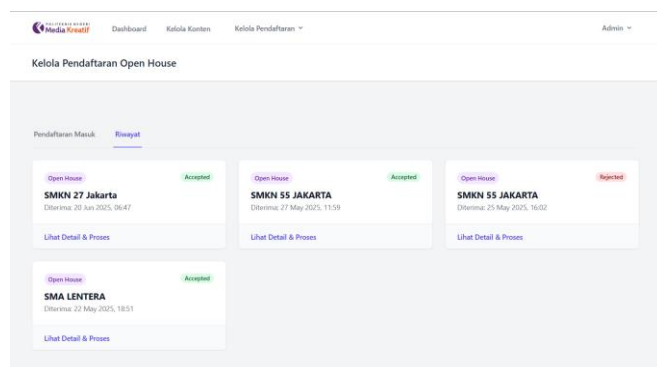


Figure 15. Dashboard admin.

The admin dashboard contains three menus: Manage Content, Manage Registrations, and Profile. On this page, the admin makes the decision to approve or reject an application, which can be based on several factors such as event capacity being full, among others. Incoming applications will have a 'pending' status; after the admin confirms the application, the status will change to either 'accepted' or 'rejected'. The admin can also decide whether to hold the event online or offline.

VI. CONCLUSION

Based on the results of the research on designing the Polimedia public relations service information system using the Agile Development method, the following conclusions can be drawn:

1. The implementation of this public relations service information system simplifies the application process for schools for the Open House Polimedia and Polimedia Goes to School events, and allows them to track the status of their submitted applications. Schools also receive application status notifications via email. Additionally, this system has assisted the Polimedia Public Relations (PR) department in managing and creating activity reports for these events.
2. The information system, developed using the Laravel framework through the Agile Development method approach, is more effective, efficient, and flexible to develop.

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