


Internship Information System at PT Biro Klasifikasi Indonesia Samarinda Branch

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Abstract— The rapid development of information technology has led almost all companies and certain sectors to desire that all processes in their offices become fast and practical, including the internship application and registration process. PT Biro Klasifikasi Indonesia, Samarinda Branch, is a company that utilizes information technology; however, there are still aspects of information technology use that are not yet effective and efficient. One such aspect is the student internship registration, which is still done by registering directly at the company. This process is quite time-consuming and has many weaknesses. These weaknesses include long processing times and inadequate accuracy, such as incomplete or lost documents upon receipt, which can disadvantage applicants. As a result, this registration system poses difficulties for prospective interns outside the area. Therefore, the purpose of designing and developing a web-based internship information system at PT Biro Klasifikasi Indonesia Samarinda Branch is to simplify the internship registration process and assist the admin in verifying registration status, managing certificate data, and making it easier for applicants to fill out the registration form, view registration results, and check registration status through the website. The system development method used in this research is the waterfall model. To implement this internship registration information system, supporting components must function properly. These components use the Laravel framework and MySQL database. The results of this research, based on black box testing and respondent questionnaires, indicate that all features of this web-based internship information system can be used effectively and function as intended, thereby helping users manage internship registration.

Keywords— Information System, Information Technology, Internship, Registration, Laravel, Website

I. INTRODUCTION

PT Biro Klasifikasi Indonesia (Persero) Main Branch Samarinda is located at Jalan MT. Haryono No. 199, Air Putih, Samarinda, East Kalimantan Province. PT. Biro Klasifikasi Indonesia is a National Classification Agency

company tasked with classifying Indonesian-flagged commercial vessels and foreign-flagged vessels that regularly operate in Indonesian waters. In its services, the company conducts research, publishes, and applies technical standards by performing activities related to design, construction, and maritime surveys concerning ships, including floating facilities (Hardian, 2019). Internships are a process of learning and working at an institution or company by applying the knowledge gained during studies (Vanesa & Tasrif, 2022). The goal is to develop and gain experience in the workforce under the guidance of the institution or company. Additionally, internships are often required for completing thesis projects, final assignments, and obtaining a diploma or bachelor's degree at various universities. (Tarigan & Gultom, 2021).

Activities in the current internship registration still have many weaknesses, in addition to requiring a long time, the accuracy is also less acceptable (Nugroho et al., 2023). Additionally, the registration system via email is also problematic because messages sent by prospective interns may not be fully read by the committee or the admin managing the email. (HD et al., 2023). An internship is a form of training that allows students to be able to learn while experiencing work experience in order to achieve compatibility between the knowledge that has been learned with the competencies needed in work (Krisnawati & Herlambang, 2023). The main purpose of the internship is as a bridge between the world of education and the world of work in the internship program, interns will learn a lot about the world of work and also add skills that are useful for the world of work (Anggraeni et al., 2017).

PT Biro Klasifikasi Indonesia Samarinda Branch is a company that leverages information technology to support daily work activities. Although management processes utilize information technology, some aspects of technology use are still not effective or efficient. One such aspect is the internship registration system for university students, which currently requires applicants to register in person at the company. The current process has several shortcomings, including long processing times and accuracy issues. Problems include incomplete

or lost documents upon receipt, which can disadvantage applicants.

This registration system creates difficulties for prospective apprentices who live outside the area. With the support of existing information technology, data processing that is less than optimal can be replaced with a computer information system. With a computer information system. This information system is also a system that provides information about internship programs to users online. This system has advantages in terms of the speed of presentation of information generated. Besides that, web-based then this system can be accessed at any time and place that is not determined. From the research entitled "Information System for Apprenticeship Registration at the Youth and Sports Office of North Sumatra Province," the system develops several features to simplify the apprenticeship registration process where the admin only manages and verifies apprentice data while registrants only fill out registration forms and view registration status (Samsudin et al., 2022). From this research there are still shortcomings or things that researchers cannot continue, therefore I made features that researchers cannot continue from the research Web-Based Internship Information System which the author made develop features to simplify the internship registration process, namely where the admin can manage company profiles, flow data, gallery data, and information data so that registrants can see about the company on the main page, approve registrant logins, verify registration status consisting of status accepted, not accepted, and conditionally accepted, manage certificate data. Registrants can see about the company on the main page, fill out the registration form, view registration results, view registration status, print an internship statement letter, and print certificates.

This web-based internship registration information system will make it easier for admins to process data on applicants who carry out internships and can make it easier for prospective applicants to apply for internships anywhere and anytime without having to visit the company concerned. Based on the background description, the problem can be formulated in this research, How to design a web-based internship registration information system at PT Biro Klasifikasi Indonesia Samarinda Branch will help users manage internship registrations. Considering the problems covered in the extensive research, the limitation of this study is the development of an internship registration information system using the PHP programming language with the Laravel framework. The internship registration information system will focus on features including verifying registration, managing certificate data, filling out registration forms for registrants, providing a registration results menu for applicants to view their registration status, and printing certificates. The purpose and expected outcome of this research is to design and develop a web-based internship information system at PT Biro Klasifikasi Indonesia Samarinda Branch. This system aims to help administrators manage internship applicant data effectively and efficiently and to

facilitate applicants in registering for internships online without needing to visit the company in person.

II. LITERATURE REVIEW

A. Study of Literature

Some of the literature as a guide and reference in this study:

Research conducted by (Lestari & Novita, 2019) entitled "Web-Based Internship Information System at the Central Java Provincial Health Office" uses the waterfall method and UML system design, specifically the use case diagram. The system aims to simplify the internship application process. Additionally, the created internship information system facilitates the HR staff in managing participant and applicant data, making it more effective and efficient by saving time, effort, and costs, ultimately benefiting all parties involved.

Research conducted by (Amelia & Irmanda, 2021) entitled Internship Information System at UPT Information and Communication Technology Veteran National Development University Jakarta using the waterfall method, UML system design, namely use cases, activity diagrams, and sequence diagrams. This system aims to facilitate internship registration, manage daily log data and attendance, and manage intern grades.

Research conducted by (Aprilia & Sri, 2023) entitled Web-Based Pertamina Hulu Rokan Zone 4 Internship Registration Information System using the waterfall method, UML system design, namely use case diagrams, activity diagrams, and class diagrams. The internship programs provide significant benefits so that what is managed is more effective and efficient.

Research conducted by (Rendragraha & Heriadi, 2023) entitled Information System for PKL PSDKU Student Registration in Website-Based Kediri City using the waterfall method, UML system design, namely use case diagrams. This system aims to provide convenience in managing PKL data for students and PKL managers PSDKU Polinema in the City of Kediri.

Research conducted by (Samsudin et al., 2022) entitled "Information System for Apprenticeship Registration at the Youth and Sports Office of North Sumatra Province," used the waterfall method, with a UML system design that included use case diagrams, activity diagrams, and sequence diagrams. The purpose of this research is to design a website application aimed at facilitating students in applying for internships and viewing necessary information. Students do not need to visit the office in person to check whether their registration has been accepted.

B. Information System

An information system is a unity of interacting elements that systematically work together to create and shape the flow of information, which supports decision-making and controls the operations of the company. (Vanessa & Tasrif, 2022).

An Information System is an organized combination of people, hardware, software, communication networks, and data resources that collects, processes, and disseminates information (Angraeni et al., 2022).

C. Internship Registration

Internship registration is an activity of registration and training at a company in the world of work it is related to basic academic abilities and talent interest in the world of work. The main purpose of an internship is as a bridge between the world of education and the world of work in the internship program, interns will learn a lot about the world of work and also add useful skills to the world of work (Vanessa & Tasrif, 2022).

D. Website

A website is a collection of documents in the form of web pages containing text in Hypertext Markup Language (HTML) format. The website is stored on a hosting server that can be accessed using a browser with an internet network via an internet address in the form of a Uniform Resource Locator (URL). The website is accessed using a browser via Hypertext Transfer Protocol (HTTP) or HTTP Secure (HTTPS). HTTP is an encrypted path that provides security and privacy for the content on the website. When a user accesses a web page through a browser, the browser will send an HTTP request that connects to the web server through an internet service provider (Widia & Asriningtias, 2021).

E. Laravel

Laravel is an open-source PHP framework that is equipped with a variety of syntaxes that make websites with Laravel much loved by various programmer communities on GitHub. This framework provides several types of PHP libraries and several other functions that can make it easier to write lines of code. Laravel is known for its simplicity and elegance because it is made for end-users. The framework is also famous for its complete and up-to-date documentation. Every time there is an update to the latest version, there is always an update to the documentation (Habibi et al., 2020).

F. Laragon

Laragon is an application that can turn a computer into a server or local or can be called a web stack system for web development. Laragon has several excellent features such as supporting SSL, allowing developers to easily change the version of the supporting program, manage databases, create application projects quickly, and a user-friendly display. Laragon provides many services, tools, and features ranging from Apache, MySQL, PHP server, Memcached, Redis, Composer, Xdebug, PHPMyAdmin, Cmdr, and Laravel (Hermanto et al., 2019).

G. Entity Relationship Diagram (ERD)

The initial database modeling most used is through Entity Relationship Diagram (ERD). ERD is developed based on set theory in the field of mathematics. ERD is used for modeling relational databases. Therefore, if the database storage uses an OODBMS (Object-Oriented

Database Management System), the database design does not need to use ERD (Rossa & Shalahuddin, 2018).

H. Data Flow Diagram (DFD)

Data Flow Diagram (DFD), in Indonesian known as Diagram Alir Data (DAD), is a graphical representation that illustrates the flow of information, and the transformation of information applied as data flows from inputs and outputs. DFD can be used to represent a system or software at various levels of abstraction. DFD can be divided into several more detailed levels to represent the flow of information or functions in more detail (Rossa & Shalahuddin, 2018).

III. RESEARCH METHOD

A. Research Procedure

The stages of the research procedure for a web-based internship information system using the SDLC (System Development Life Cycle) with the waterfall model start with requirements analysis, system design, implementation, testing, and maintenance in developing the research procedure. The stages of the waterfall model can be seen in Figure 1.

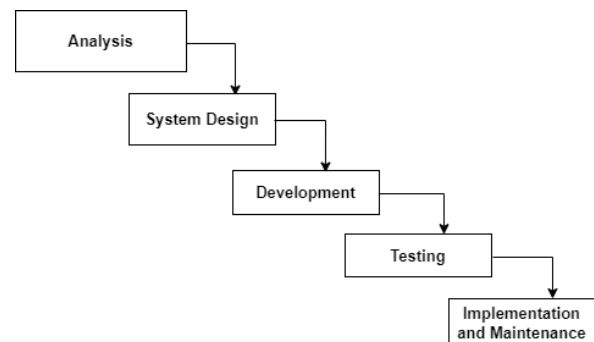


Figure 1. Stages the Waterfall Method

The following is an explanation of the research procedure stages as follows:

1. Analysis

This analysis is an intensive process of gathering requirements to specify the software needs so that the type of software required by the user can be understood. In this stage, several pieces of information are analyzed to obtain the data needed by the user, including direct observation, interviews, and literature review.

2. System Design

At this stage, the design for the display on the internship website is needed according to the previous planning.

3. Development

The next step is the stage of making an internship information system application using certain programming language codes. The application writing process refers to the documents previously made.

4. Testing

System testing is conducted by running the applications one by one after they have been developed to see if they are functioning properly and meeting the

intended objectives. This is done to minimize errors and ensure that the output produced is as expected. The testing method used is the black-box method, which involves observing the execution results through test data and examining the functionality of the software.

5. Implementation and maintenance

The final stage is the implementation of an internship information system that is ready for use and maintenance of the system so that it runs well.

B. Analysis System

System analysis is a technique or method for solving problems by describing the system into the components that make up it to find out how the performance of these components can interact with each other to achieve system goals.

1. Entity Relationship Diagram

Where the company profile, company gallery, flow, company information, and position entities in the ERD design above do not have a relationship with other tables because company profile data, galleries, flow, company

information, and positions are not associated or not included in existing data in other entities. The company profile, gallery, flow, and company profile entities are needed to store data for the company profile, while the position entity is needed to store data if at any time there is a change in position in the company for the signature of internship and certificate statements.

Where having registration is a relationship between the user entity and the registration entity which means that the user has a registration and is stored in the registration entity, the cardinality between the user entity and the registration entity is one to many because a user can be involved with a lot of registration data.

Where the certificate is a relationship between the user entity and the certificate entity which means that the user has a certificate and is stored in the certificate entity, the cardinality between the user entity and the certificate entity is one to many because a user can be involved with a lot of certificate data. More details can be seen in Figure 2.

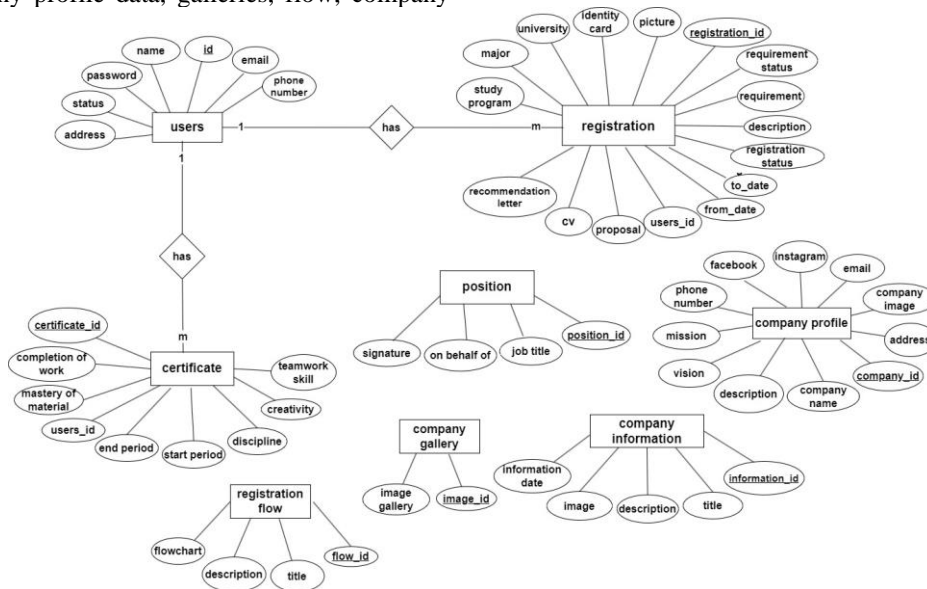


Figure 2. Entity Relationship Diagram

2. Level 0 Data Flow Diagram

The DFD Level 0 which has 2 entities, namely admin and registrant, shows that in the system design, each

entity can input data into the information system and will receive output from the processed information system. More details can be seen in Figure 3.

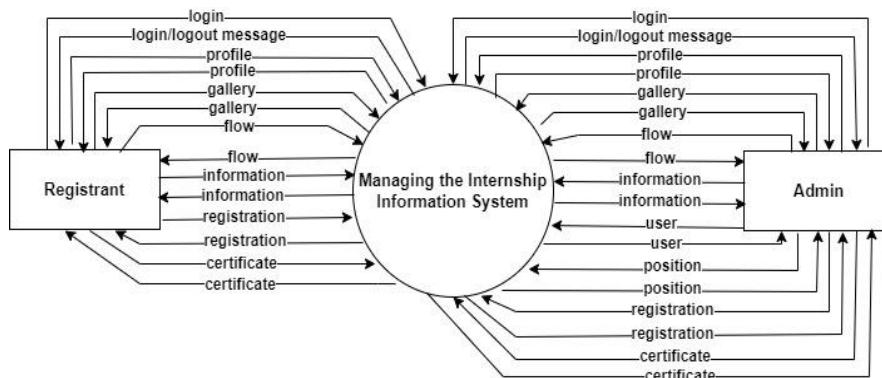


Figure 3. Level 0 Data Flow Diagram

3. Level 1 Data Flow Diagram

Data Flow Diagram Level 1 describes the process of managing an internship registration information system where there are several processes for admins, namely login, managing company profiles, managing gallery data, managing flow data, managing information, managing admin data, and registrant data, managing job data, managing registration data, and managing certificate

data, reports, logouts, checking login status. While registrants can enter data, and view data from the process. So from the level 1 Data Flow Diagram system design above in the process the entity has the right to manage the data from the process and the processed data will enter the database storage. More details can be seen in Figure 4.

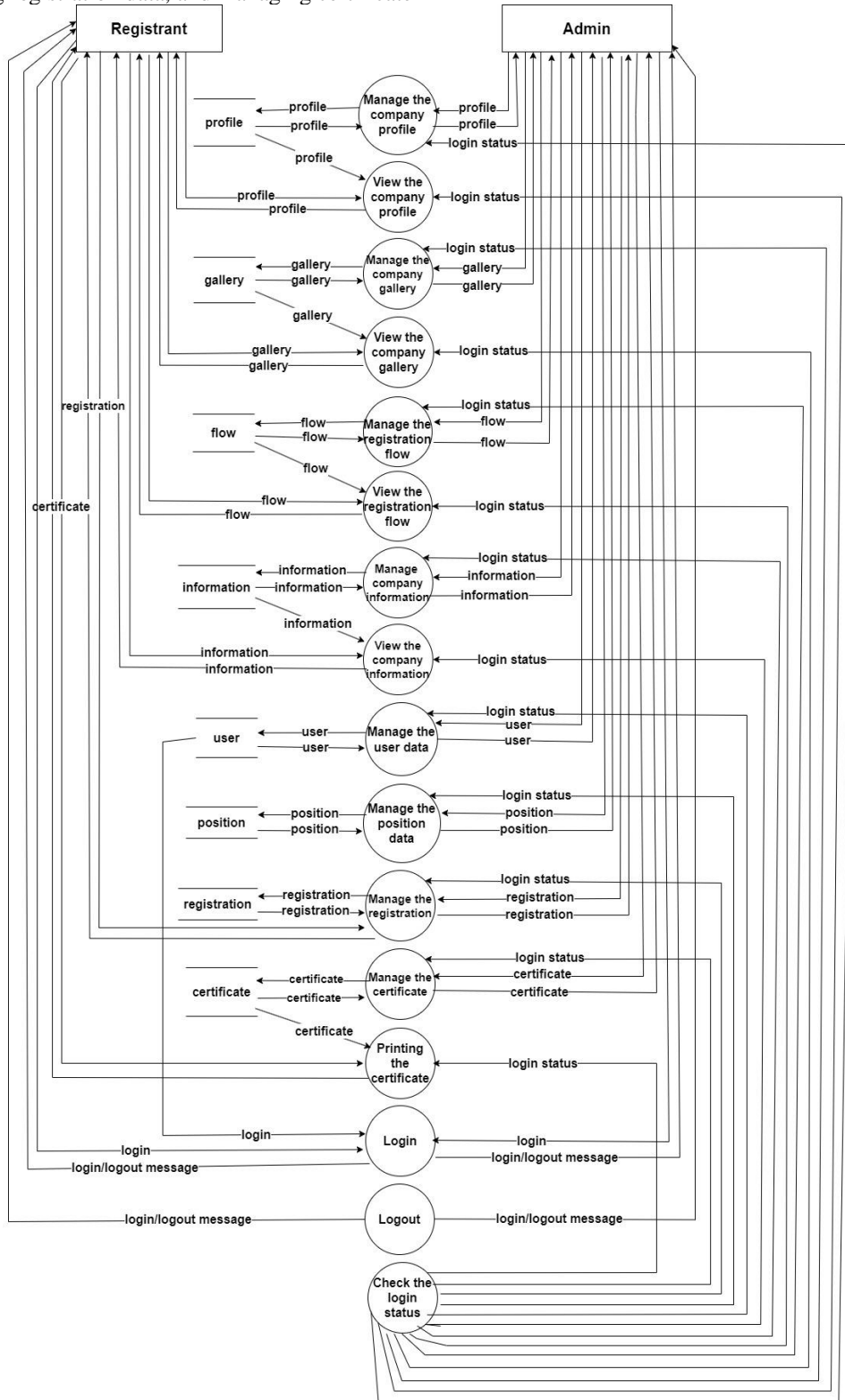


Figure 4. Level 1 Data Flow Diagram

IV. RESULTS AND DISCUSSION

A. Implementation

The results of the Web-Based Internship Information System at PT Biro Klasifikasi Indonesia Samarinda Branch, which can be accessed by admins and registrants are as follows:

1. Admin Menu Display

The following is an admin display of the results of the information system that has been created:

a. Admin Home Page

The home page is the main display for the admin to login, it can be seen in Figure 5.



Figure 5. Admin Home Page

b. Login Page

The login page has several input forms, where the admin must fill in the email and password first before accessing the application can be seen in Figure 6.

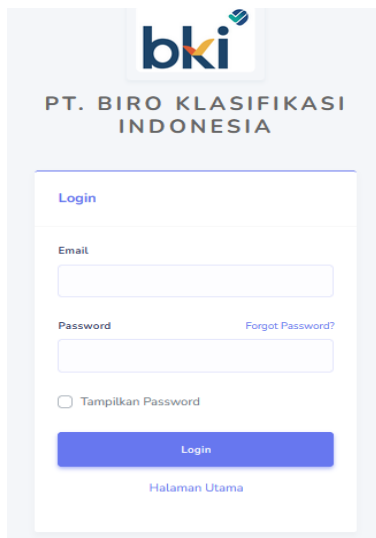


Figure 6. Login Page

c. Admin Dashboard Page

The dashboard page is a page for accessing menus that will be managed by the admin, as can be seen in Figure 7.

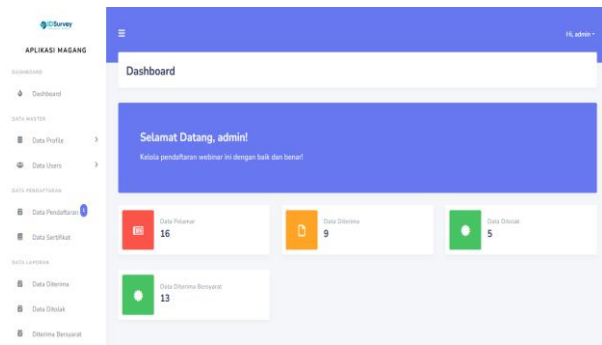


Figure 7. Admin Dashboard Page

d. Registrant Data Page

The registrant data menu page functions to display the names of registrants who have created accounts to apply for internships. The admin can approve the registrant accounts, allowing them to log in, which can be seen in Figure 8.

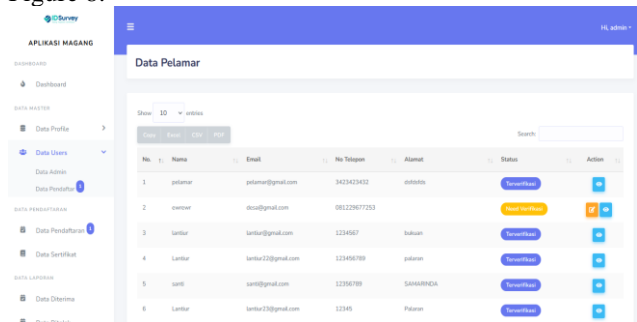


Figure 8. Registrant Data Page

e. Registration Data Page

The registration data page is a page to displays the names of registrants who apply for an internship on this menu the admin can verify the status of the registrant's internship application, which can be seen in Figure 9.

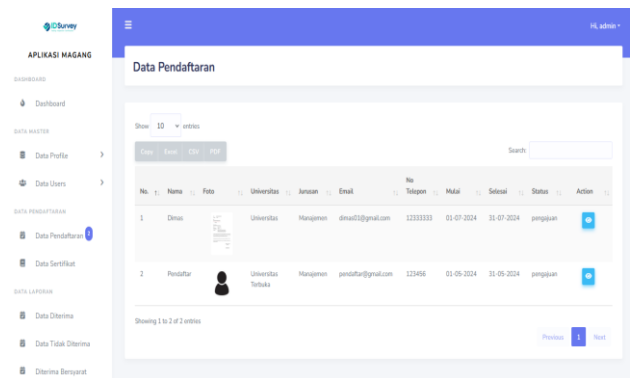


Figure 9. Registration Data Page

f. Certificate Data Page

The certificate data page is a page for the admin to view and input the value of registrants who have completed their internships, which can be seen in Figure 10.

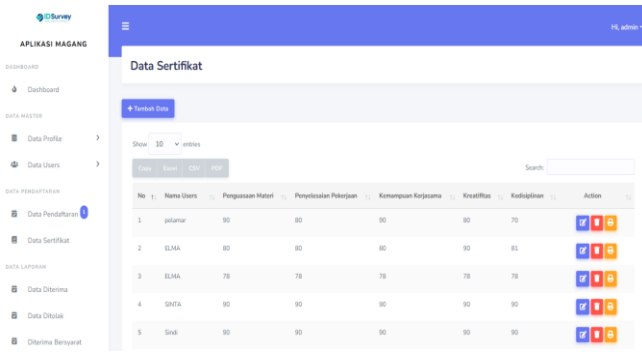


Figure 10. Certificate Data Page

g. Report Data Page

The report data page is a report for the admin that displays the names of applicants starting from accepted, rejected, and conditionally accepted applicants when the admin verifies the status of the registrant's submission, which can be seen in Figure 11.

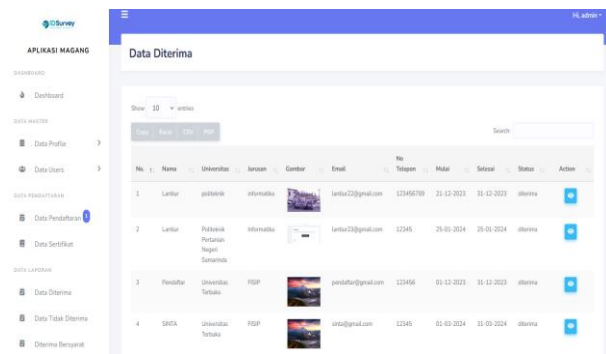


Figure 11. Report Data Page

2. Registrant Menu Display

The following is a registrant display of the results of the information system that has been created:

a. Registrant Home Page

The home page is the main view for registrants to log in and see about the company and apply for an internship, it can be seen in Figure 12.



Figure 12. Registrant Home Page

b. Login Page

The login page has several input forms, where the registrant must fill in the email and password first before filling in the registration form to register for an internship, as can be seen in Figure 13.

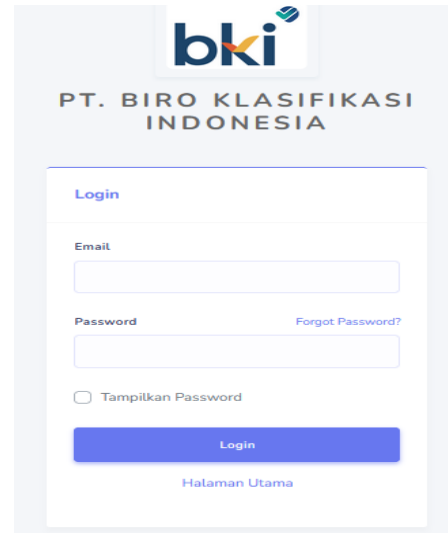


Figure 13. Login Page

c. Internship Registration form Page

The internship registration form page is a page containing data that must be filled in by the registrant to apply for an internship, which can be seen in Figure 14.

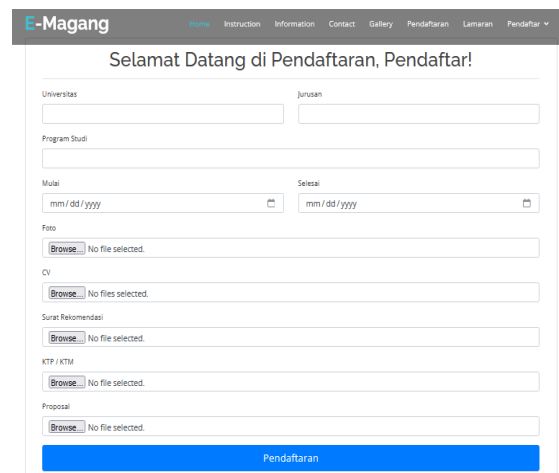


Figure 14. Internship Registration Form Page

d. Registration Result Page

The registration results page is a page where applicants can view the results and status of their internship registration as submitted by them. Applicants can also print a statement letter if they are accepted for the internship, which can be seen in Figure 15.

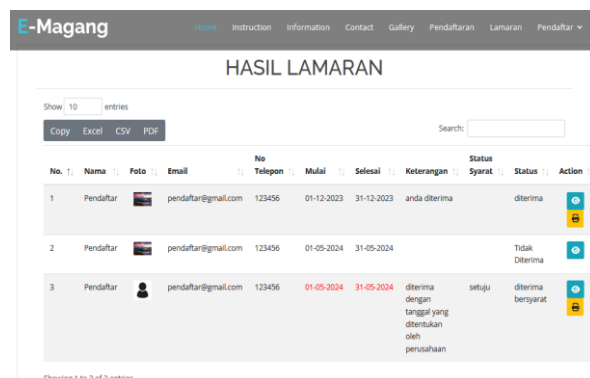


Figure 15. Registration Result Page

B. System Testing

Testing of this internship information system is done using a black box. Blackbox testing is used to test the running of the system, namely in the form of a login page, and the display of menus on the system that has been created. Tables 1 and 2 are the results of black box testing on the Web-Based Internship Information System at PT Biro Klasifikasi Indonesia Samarinda Branch

results in Table 1, the results show that every feature on the admin page, from the login page, and registration management, to certificate management, operates according to its function. Meanwhile, Table 2 shows that every feature on the registrant's page, from the login and registration pages to the certificate printing page, also functions as intended can be seen in Tables 1 and 2.

Table 1. Black Box Testing of Admin Page

Input	Actor Action	Output	Result
Click Login	Entering the correct email and password	Displaying the main page with menus accessible by the admin.	Succeed
	Entering an incorrect email or password	It does not display the main page and returns to the login page	Succeed
Click the Registration Data Menu	View data of registrants who have applied for internships, download applicant files, and verify the status of internship application	Display registration data for internship applications	Succeed
Click the Certificate Data Menu	Add, edit, delete, and print certificate data for applicants who have completed internships	Display the certificate data page	Succeed
Click the Report Data Menu	Search and view data of applicants who have been accepted, rejected, and conditionally accepted for internships	Display data on the name of the registrant for the admin to see who is accepted, rejected, and conditionally accepted.	Succeed
Click the Logout	Click the logout button	Exit the admin main page	Succeed

Table 2. Black Box Testing of Registrant Page

Input	Actor Action	Output	Result
Click the Registration Page	Entering the registration data provided after registration, waiting for admin approval to login	Displays the main page for applicants to log in once approved by the admin	Succeed
Click the Login Page	Entering the correct email and password	Displays the main page for applicants	Succeed
	Entering an incorrect email or password	It does not display the main page for applicants and returns to the login page	Succeed
Click the Registration Form menu page	Viewing registration status, printing internship statement letters and certificates	Display the registration data submitted by the registrant and the registration status.	Succeed
Click the Logout	Selecting the logout button	Exits from the system page.	Succeed

According to the system testing in Tables 1 and 2, it can be concluded that the results of the black box testing on the Web-Based Internship Registration Information System at PT Biro Klasifikasi Indonesia Samarinda Branch show that every menu in the system functions as intended in every action performed. This significantly helps admins and registrants manage the internship registration system more effectively and efficiently

V. CONCLUSION

After designing and building a web-based internship information system that has been carried out by researchers, it is concluded that the system has been successfully developed for PT. Biro Klasifikasi Indonesia

Samarinda Branch so that it helps users manage internship registration. After designing and building a web-based internship information system that has been carried out by researchers, it is concluded that the system has been successfully developed for PT. Biro Klasifikasi Indonesia Samarinda Branch so that it helps users manage internship registration. System testing was conducted using the black box method, which demonstrated the functionality of each user feature. On the admin page, the system can manage internship registrations starting from the login page, the page for managing internship registrations for registrants who have applied for internships, and the page for managing certificates for registrants. Meanwhile, on the registrants' page, users can manage the registration page to apply for

internships according to the results of the user needs analysis. The testing results showed that the features and system function properly. Additionally, system testing through questionnaires or respondents indicated that users accept the developed system, and therefore, this system will be used. The Web-Based Internship Information System at PT Biro Klasifikasi Indonesia Samarinda Branch has been implemented using the Laravel Framework and MySQL.

As for the suggestions that the author gives so that this web-based internship registration information system in the future is available Android-based applications and provides notification features via WhatsApp and hopefully the PT. Indonesian Classification Bureau Samarinda Branch can pay attention to the internship registration application that has been developed by the author so that managing internship registration can be done efficiently.

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