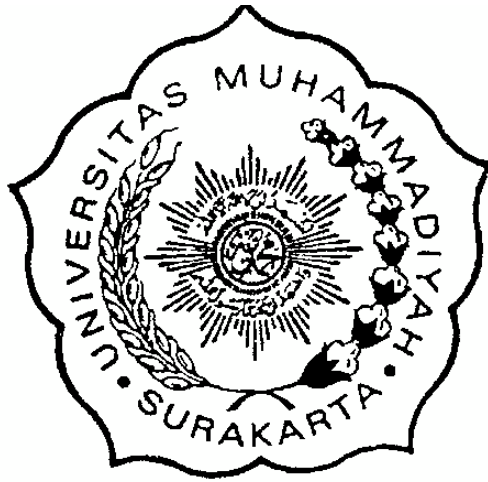


**DEVELOPMENT SYSTEM INFORMATION STUDENT PERMIT
AT PESMA KH MAS MANSYUR**



**Submitted as partial Fulfillment of the Requirements for Getting Bachelor Degree
of Informatics Departement Faculty of Communication and Informatics**

By:

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2023

APPROVAL PAGE

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SCIENTIFIC PUBLICATION

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VALIDATION PAGE

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MAS MANSYUR

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It has been defended in front of Examiner Board
Faculty of Commucinations and Informatics
Muhammadiyah University of Surakarta
Universitas Muhammadiyah Surakarta
On January, 14 2023
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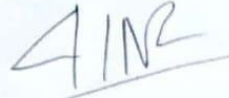
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DEVELOPMENT SYSTEM INFORMATION STUDENT PERMIT AT PESMA KH MAS MANSYUR

Abstrak

Pengembangan sistem informasi perijinan mahasiswa di PESMA KH MAS Mansyur adalah sebuah aplikasi yang dirancang untuk memudahkan petugas untuk memonitoring mahasiswa setiap malam. Mahasiswa yang memiliki kebutuhan aktivitas di luar Asrama melebihi pukul 22.00, diharuskan mengajukan perijinan di Kantor, awalnya pengajuan masih secara manual sehingga memakan waktu, dan orang tua mahasiswa sering bertanya keberaan dari anaknya kepada petugas karena anaknya susah dihubungi oleh orang tua. Tujuan dibuatnya aplikasi perijinan siswa ini untuk mempermudah petugas dalam melakukan pengawasan lebih efisien, cepat dan akurat. Metode yang digunakan dalam pembuatan aplikasi ini menggunakan metode observasi dan wawancara. Program ini dikembangkan dengan bantuan Tinydash untuk template, serta PHP dengan framework Laravel, serta MySQL sebagai pengolah database. Hasil yang diharapkan dari pembuatan aplikasi ini adalah agar pengawasan siswa tersimpan dengan baik sehingga dapat dengan cepat memperoleh data siswa yang melakukan kegiatan diluar pesma pada batas jam yang telah ditetapkan, serta petugas dengan mudah mendapatkan informasi mahasiswa ketika ada orang tua mahasiswa yang bertanya.

Kata kunci: Laravel, PHP, PESMA, Sistem Perijinan, Web

Abstract

The development of a student permit information system at PESMA KH MAS Mansyur is an application designed to make it easier for officers to monitor students every night. Students who need activities outside the hostel after 10:00 p.m. are required to apply for a permit at the office, initially submissions are still manual so it takes time, and student parents often ask the officers if their children are willing to contact them because it is difficult for their children to contact them. The purpose of making this student permit application is to make it easier for officers to carry out supervision more efficiently, quickly, and accurately. The method used in making this application uses observation and interview methods. This program was developed with the help of Tiny dash for templates, as well as PHP with the Laravel framework, and MySQL as a database processor. The expected result of making this application is that student supervision is stored correctly so that it can quickly obtain data on students who carry out activities outside at predetermined hours. Officers can easily get student information when parents ask questions.

Keywords: Laravel, PHP, PESMA, Permit System, Web

1. BACKGROUND

In the current era of globalization, the development of science and technology is growing rapidly every year to help humans in life, so that it can be used to help carry out activities, both solving problems and providing convenience in daily activities, to solving problems and providing convenience in daily activities, so it is hoped that information technology can help to simplify management, shorten the time and improve quality (Ahsan, 2018).

Information technology plays a very important role in achieving the goals desired by agencies, so that this information technology will help manage all information data in one system that will be processed automatically (Susanto & Nurgiyatna, 2018), an information system that is fast and accurate, so that it is expected to minimize the possibility of errors in data processing compared to having to process data manually (Irmawati et al., 2021), so that the development of information technology increasingly requires its use to produce the information needed.

The KH Mas Mansur International Student Islamic Boarding School (PESMA) located in the city of Surakarta is one of the institutions owned by the Muhammadiyah University of Surakarta (UMS). Previously, PESMA had also conducted research on night attendance information systems (Purwanda, 2019), but it is still not perfect and requires improvement in the system and there are system changes that apply in PESMA..

In previous studies where the admin was required to check student students manually one by one so that incidents like this would result in errors in searching for data manually, this would report and take a long time for the admin to input data (Islam et al., 2017). This also makes reporting longer.

Parents of students often question the whereabouts of their children who are in PESMA to officers because their children are difficult to contact by parents, and the officers did not know what activities were carried out by students outside the scope of PESMA so that this makes parents anxious about finding their children, this problem certainly occurs because of the lack of efficiency in checking student students. This problem, of course, occurs due to a lack of efficiency in checking students.

Based on the problems above, the researcher will update the information system where initially officers are required to do manual checks, the system will focus on students who have permits to carry out activities outside of PESMA at 10 pm, and add features for students who return to their homes, so Facilitate officers in terms of checking and reporting.

2. METODE

The method used in the development of this information system uses the SDLC (System Development Life Cycle) with a waterfall approach. (Milady, 2016) states that this model method is arranged in stages, each step of this model is carried out in stages like a flowing waterfall.(Gozali, 2020) said the waterfall method is described as consisting of a requirements analysis, design, implementation, integration, and maintenance as shown in Figure 1

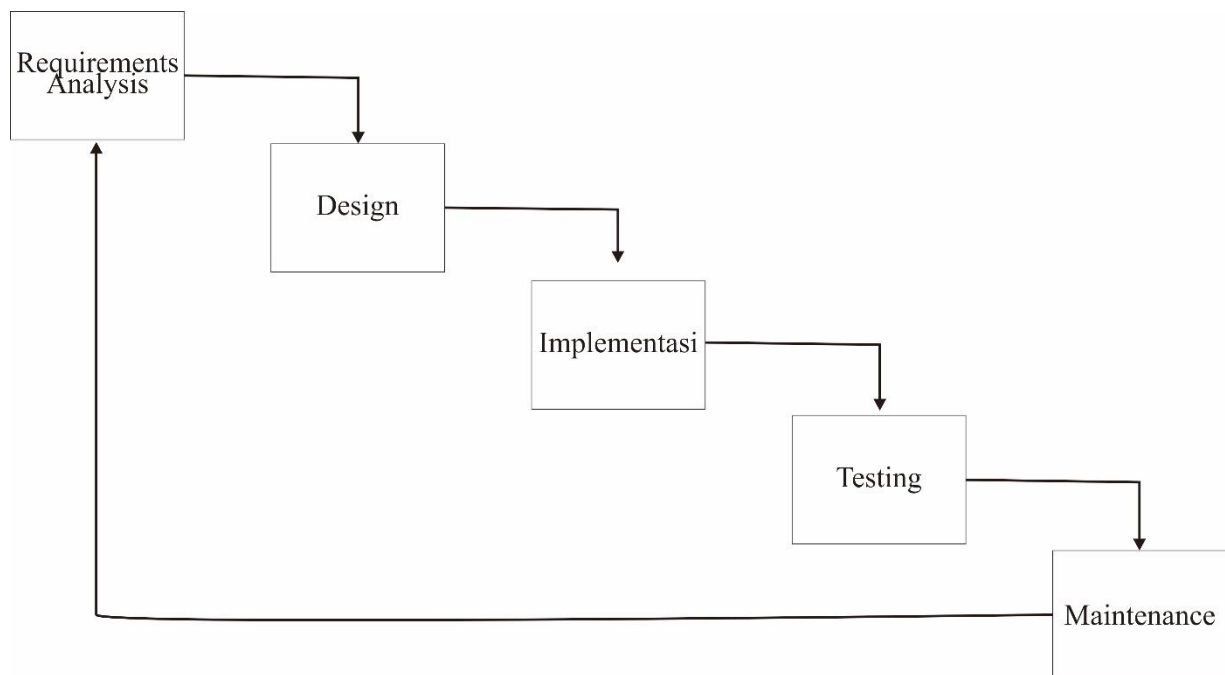


Figure 1. Metode waterfall

2.1 Requirements Analysis

At this stage, the collection of data needed for system development is carried out by interviewing the PESMA manager, at this stage, it is divided into two: analysis of functional requirements and analysis of non-functional requirements. applicable requirements of the system information permit, namely: a). super admin can add, and remove students. b) students can apply for permits c) security can approve or decline permits. The minimum non-functional requirements for accessing the information system permit are hardware requirements such as a computer/laptop with a Windows 10 operating system and an Intel Core i3 processor specification with 4GB of RAM. In addition to hardware requirements, the Xampp application is used as a web server with PHP 7.2, Apache, and MySQL, which are used to manage the database. As for the web browser used by Google Chrome, which is connected to the internet network

The website can be accessed easily via the internet, the author hosts it using the .me domain and the app-pesma server which can be accessed via the Google Chrome web browser.

2.2 Design

At this stage the design (design) by making use case diagrams, activity diagrams and databases.

2.2.1 Use Case Diagram

Use case diagrams are one of various types of UML (Unified Modeling Language) diagrams that describe the interaction relationships between system actors, each use case consists of one or more scenarios that explain how the system interacts with users or other systems to achieve certain goals (Fauziah et al., 2021).

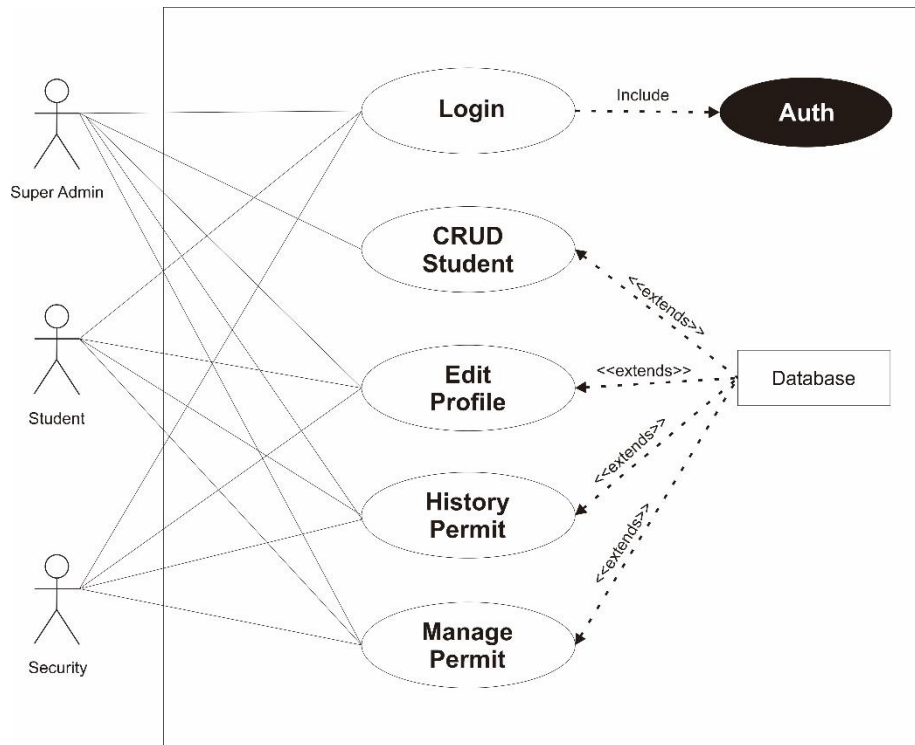


Figure 2. Use case

2.2.2 Activity Diagram

Activity diagrams are made to describe the workflow of the system to be created. The description is expected to be able to explain one activity to another. This application system has 3 actors, namely, super admin, security, and student as someone who has the right or who can directly operate the system, each of these actors has several different activities in the system. Figure 3 is a login activity diagram, where each stakeholder logs in by entering an id and password, if successful it will be forwarded into the system, and if it fails then it must repeat the login process.

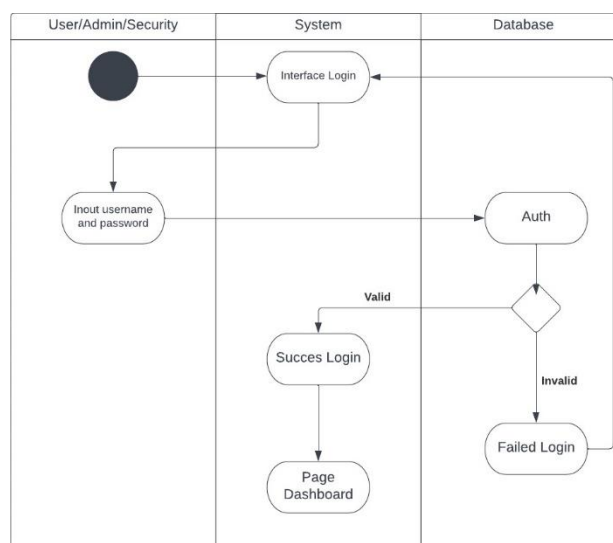


Figure 3. Activity diagram login

In Figure 4 are the stages of the student process of applying for a permit then waiting for the Super admin to validate the permit request.

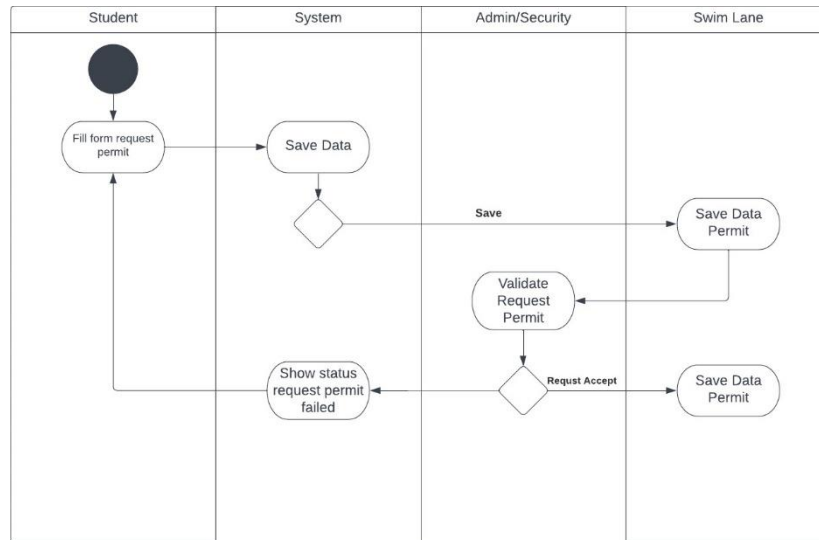


Figure 4. Activity request and validate permit

In Figure 5 are the stakeholder can edit profile

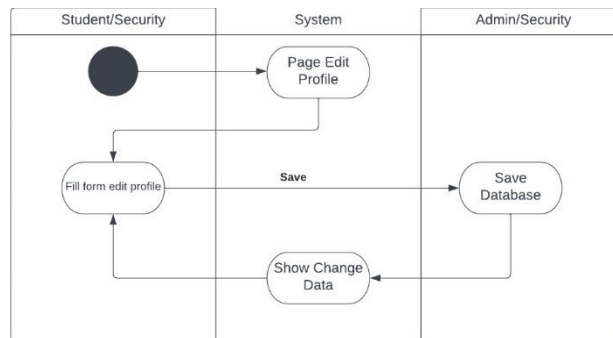


Figure 5. Activity Stakeholder edit profile

2.2.3 Entity Relationship Diagram (ERD)

Figure 6 which has various interconnected relationships from several entities and has various attributes in it. All of these entities have interrelated relationships between entities which will clearly describe the relationships that exist in the information system.

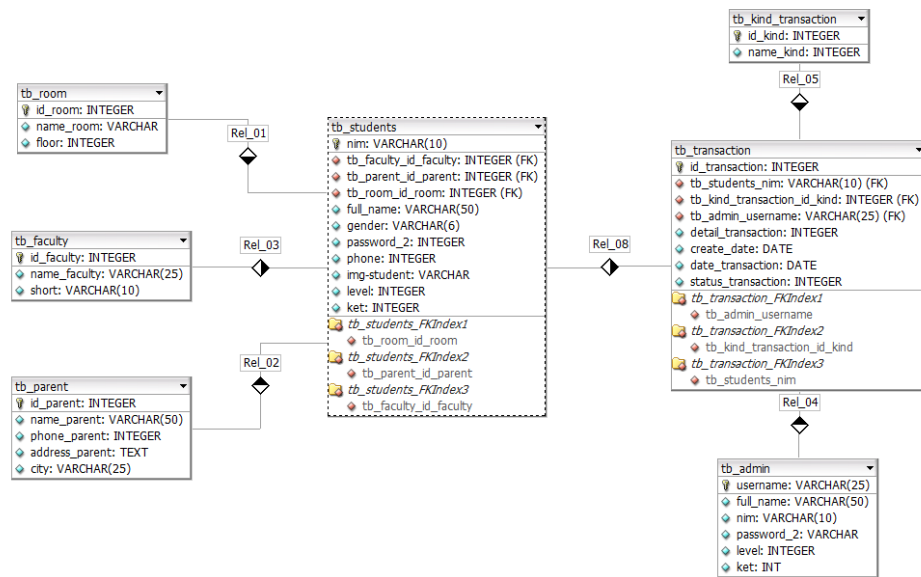


Figure 6. Entity relationship diagram (ERD)

2.3 Implementasi

At this stage the application will be made using the help of templates from Tinydash as an interface while the text editor uses Visual Studio Code. As well as using MySQL as a database to store the data, and using the PHP programming language with the Laravel framework.

2.4 Testing

The testing technique used in this research is black box testing. This test focuses on system functions, this technique is used to find out whether the software is functioning properly. Black box testing will be used to test the system, by checking whether all the features contained in the system are as expected.

2.5 Maintenance

Information systems that have undergone the previous stages are ready to be implemented in related agencies, namely PESMA, which will then be monitored if there is maintenance that needs to be repaired.

3. RESULT AND DISCUSSION

3.1 Result

This research result is application can record student data, monitoring and history permits student

3.1.1. Page Login

The login page is the opening page to enter the information system page where the user must enter a username and password. There are 3 types of users in this system, namely super admin, security, and students Figure 7.

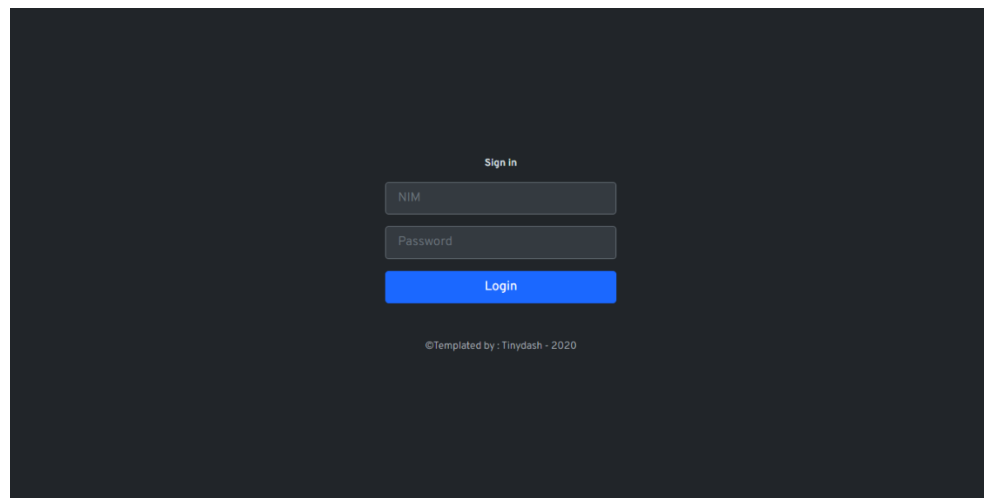


Figure 7. Page login

3.1.2. Page Student

Pages for managing student data profiles, applying for permits, and viewing history Figure 8.

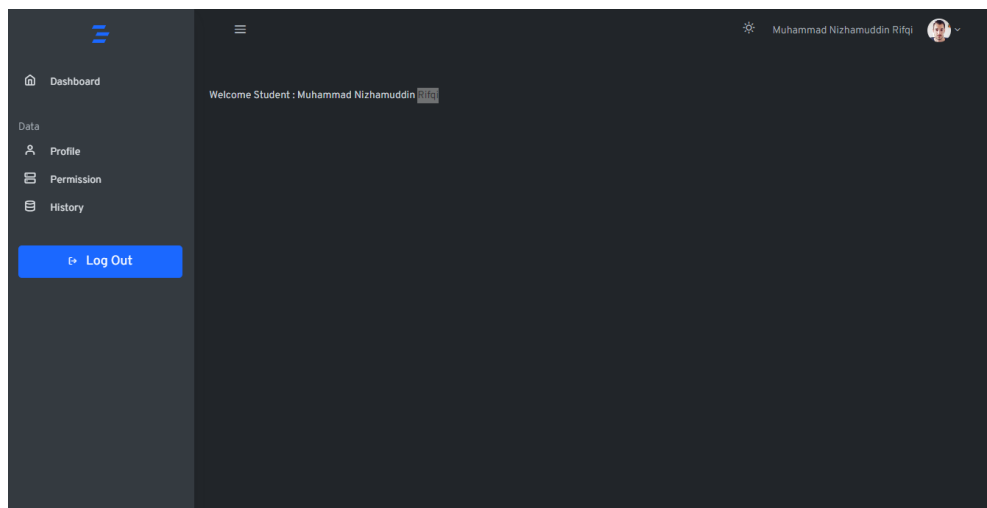


Figure 8. Page student

3.1.3. Page Super Admin

This page contains Super Admin personal data, and several main menus security data, manage student data, permit history data student , profile, and validation of permit requests. Super Admins can also edit and delete everything on the Super Admin page Figure 9.

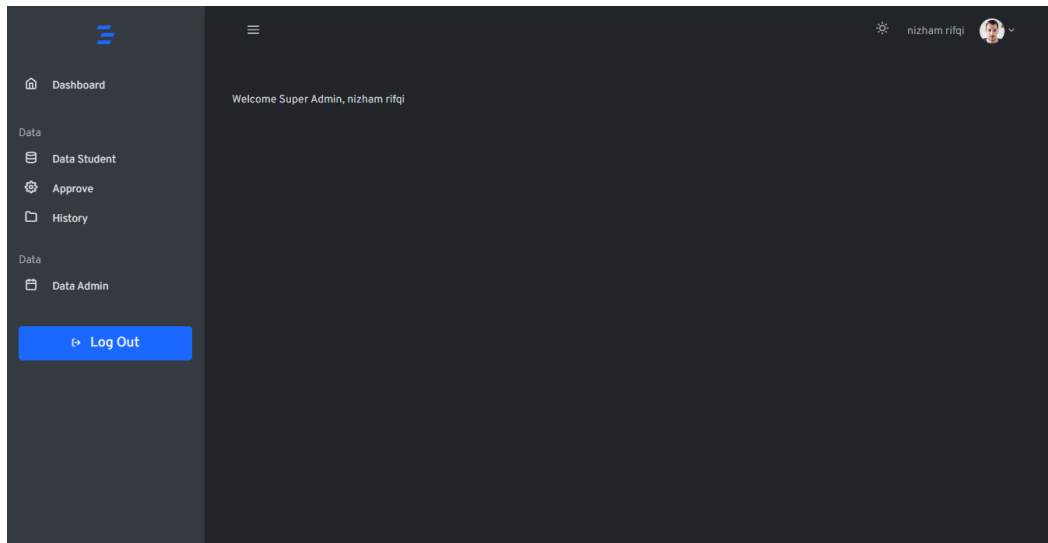


Figure 9. Page super admin

3.1.4. Page Security

This page only contains personal data from security, viewing history, validating permission requests from students and allowing students to re-enter Figure 10.

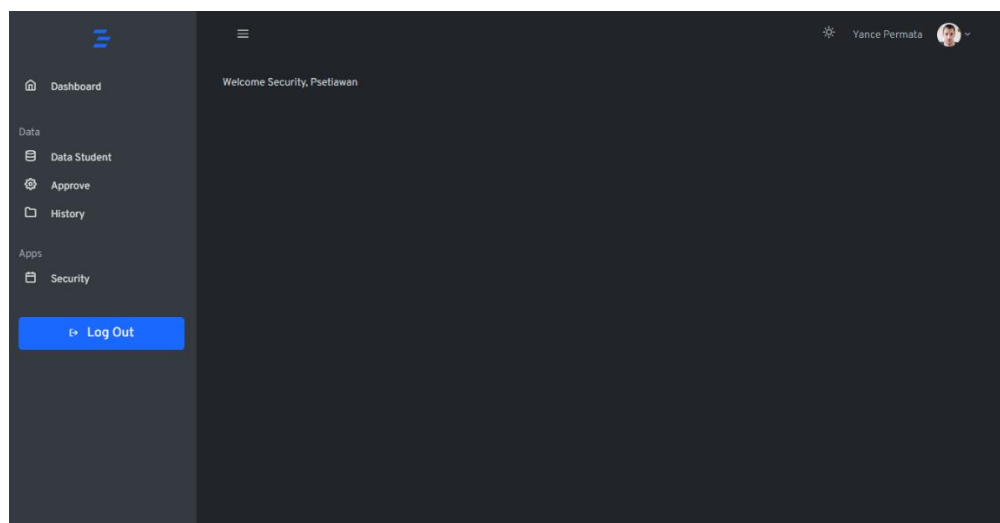


Figure 10. Page security

3.1.5. Page Make Request Permit

This page student make request permit figure 10.

Figure 10. Page reques permit

3.1.6. Page Validation Request Student

This page can only be accessed by the super admin, and security, which contains students who apply for permits along with their reasons Figure 11.

ID	NIM	Full Name	Room	Phone	Type	Detail	Status	Action
01	L200164004	Muhammad Nizhamddin Rifqi	C2-05	081327934811	Masuk	Habis Pulang Ngerjain Tugas		
02	A20020004	Nur Ghozali	C2-05	0813279342121	Pulang Kerumah	Habis Pulang Ngerjain Tugas		

Figure 11. Page validate request permit

3.1.7. Page Profile

Each stakeholder has profile data that can be seen, used to edit each stakeholder's personal data and can change passwords Figure 12.

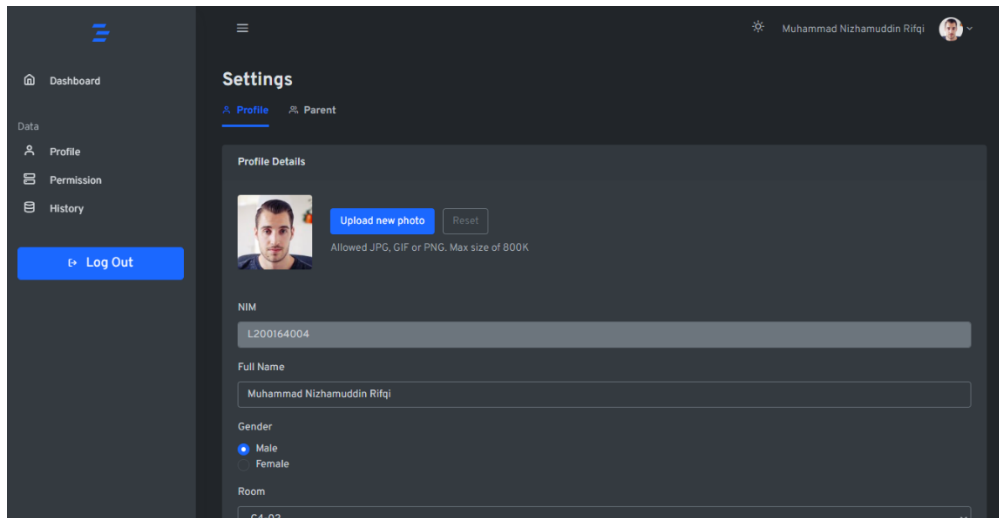


Figure 12. Page profile

3.1.8. Page History Permit

All permission history that students have done will be stored on this page, only super admins and security guards can access this page figure 13

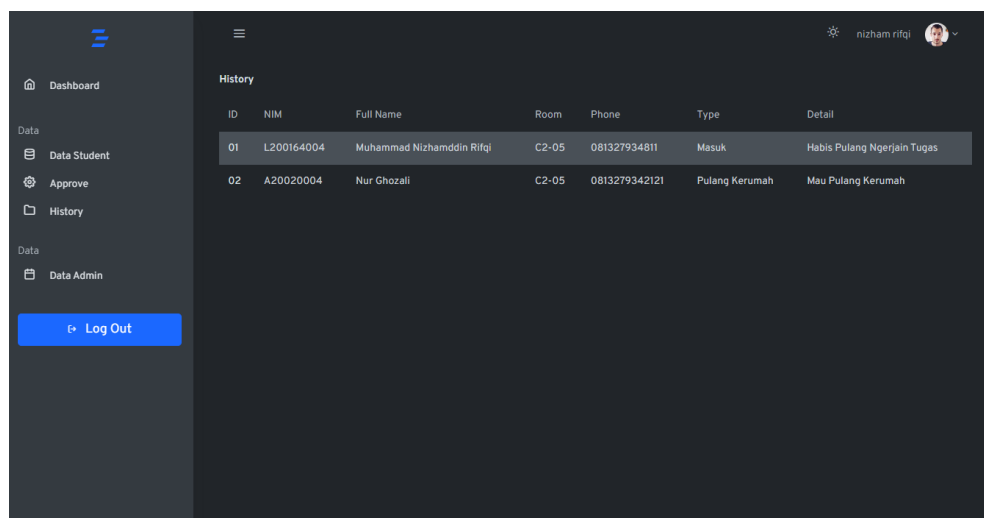


Figure 13. Page history

3.1.9. Page Accept Student

Students who wish to enter the PESMA area when exceeding the set time limit are required to seek approval from the security figure 14.

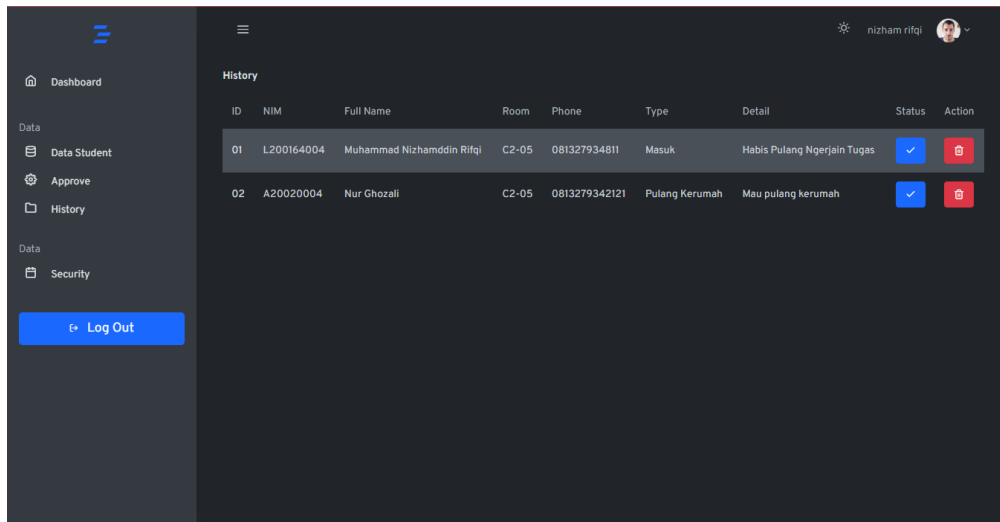


Figure 14. Page accept permit

3.2 Black Box

Testing the licensing information system at PESMA uses the black box method. This test is carried out repeatedly to ensure the application runs properly according to the design and desired functions. Blackbox testing includes the user interface and actions to create, read, update, and delete from the application to the database. The purpose of this test is to find weaknesses or bugs that may exist in the application that is made so that it can be handled and corrected immediately so that the quality of the application to be used is getting better.

Table 2. blackbox testing on Super Admin

NO	FUNCTION	TEST CASE	OUTPUT	STATUS
1	Login Test	Username and Password Correct	The System display Page Super Admin	Valid
2	Manage Student Data	CRUD on form user	Show result data student	Valid
3	Validate Permit Student	The super admin click button validate	The system will approve permit from student	Valid
4	View History Permit	The super admin click menu history	The system display data history permit	Valid
5	Edit Profile	The Super admin click menu edit profile	The system display change data super admin	Valid
6	Log out Test	The super admin click button log out	The super admin logs out from the system	Valid

Table 2. Blackbox testing on Security

NO	FUNCTION	TEST CASE	OUTPUT	STATUS
1	Login Test	Username and Password Correct	The System display Page Security	Valid
2	Validate Permit Student	The security click button validate	The system will approve permit from student	Valid
4	View History Permit	The security click menu history	The system display data history permit	Valid
5	Approve Permit Student	The security click menu approve	The system will accept data permit student	Valid
6	Edit Profile	The security click menu edit profile	The system will display change data security	Valid
7	Log out Test	The security click button log out	The super admin logs out from the system	Valid

Table 3. Blackbox testing on student

NO	FUNCTION	TEST CASE	OUTPUT	STATUS
1	Login Test	NIM and Password Correct	The System display Page Student	Valid
2	Edit data profile	The student click menu edit profile	The system will display change data student	Valid
3	Request Permit	The student fill form Permit	The system will record permit data	Valid
4	View History Permit	The student click menu history	The system display data history permit	Valid
5	Log out Test	The super admin click button log out	The super admin logs out from the system	Valid

4 CONCLUSION

Blackbox testing of the System Information Student Permit At Pema Mas Mansyur application has been carried out and the application can run properly, as it should, without any errors in all functions and features contained in the system. This development system information is deemed sufficient to help the super admin and security in monitoring the permits carried out by students.

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