Analysis and Design Of New Student Admission Systems On MTS AL MUHTADIIN

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Abstract

MTs Al-muhtadiin is the first private vocational school in the sub-district of Sukadiri, at the beginning of the opening of this school, it received quite a positive response with proven opening in 2017 around 62 students registered themselves as students at MTs Al-Muhtadiin. The new student registration system at MTs Al-Muhtadiin is already running effectively and efficiently. In analyzing the running system used the method of analysis and depiction of the system using UML (Unified Modeling Language) and in data collection used interview, observation and literature study methods. The results of the analysis of the system that runs in the admission of new students at MTs Al-Muhtadiin are still running manually with the help of Microsoft Excel in the process of making reports.

Keywords: Mts Al-Muhtadiin, System, Registration, Unified Modeling Language (UML).

1. Introduction

Technological developments are now starting to develop rapidly, demanding that almost all aspects of life must be able to adjust to the situation. The rapid development of technology in the field of information requires the existence of ease, speed, accuracy and also security in accessing and processing information. Along with this development, humans as the main subject in the field of information, both as givers and recipients, are indirectly required to fulfill all existing needs. Therefore very much needed a tool or method that can help humans in processing the information needed.

Basically, education is a secondary need, but in reality now education is a primary and even tertiary need. Therefore, the information obtained must be precise, accurate and reliable. Therefore, the information processor must be supported by a system called a computerized system. Indirectly with the use of a computerized system it will create new applications that can make performance even better without having to complicate the user.

MTS al-muhtadiin is the first private school in the sub-district of Sukadiri, at the beginning of the opening of this school, it received quite a positive response with proven opening in 2017 around 62 students registered themselves as students in the MTS AL-MUHTADIIN. However, due to the admission process of new students at this school that still uses the conventional system, so prospective students who come from out of town sometimes find it difficult to get information and do the registration process. This conventional system also results in the administration process of new student admissions tending to be slow, because the data of new students who have registered have not been integrated and are well managed. This system also still uses archives in physical form that are vulnerable to damage or even lost. So that the need for a concept and mechanism for

acceptance of new students by utilizing information technology is something that needs to be considered.

2. Research Method
2.1. Literature Review
The following is 7 (seven) scientific literature are used as references in this study:

1. The research concucted by MentariAdhani, Leon Andretti Abdillah and QorianiWidayati form the University Bina Darma in 2015, with the title "*ANALYSIS AND DESIGN OF ACCEPTANCE OF NEW STUDENT INFORMATION SYSTEM AND PAYMENT SPP USING ZACHMAN'S FRAMEWORK*". This study aims to produce an analysis and design of information systems that can process data at the time of admission of new students and payment paymentpayment data (SPP) at the Ethics Vocational School of Palembang using the Zachman Framework, and this design analysis can be used as a basis for developing information systems in schools especially New Student Admissions and SPP Payments so that development is carried out accordingly from the School [1].

2. The research concucted by Muhamad Muslihudin and AnggunLarasati from the STMIK Pringsewu Lampung in 2014, entitled "*DESIGN OF NEW STUDENT RECEPTION APPLICATION SYSTEM IN PRMEWEWU STMIK USING PHP AND MYSQL*". This research is expected to occur better service quality. For example in the registration of prospective new students who can register online without having to come directly to the secretariat room. By using this application system is expected to facilitate the archiving of files accurately and avoid redundancy. For example in online registration. New student data can be directly seen at the time of input, so that data redundancy does not occur in registration [2].

3. The research concucted by Saipul Anwar, Yasin Efendi, RustamYusendra and Andrew form the STT NIIT I-TECH in 2016, with the title "*DESIGN OF NEW STUDENT REGISTRATION INFORMATION SYSTEM AND FILLING AMIK WAHANA MANDIRI WEB-BASED STUDENT PLAN (KRS)*". This study aims to determine the information on data collection about prospective registrants and KRS takes a long time because they have to look for notes in the ledger with the built system that will be faster. and Limitations in data storage for new students and KRS, and Limitations in finding data on prospective students to register and students who will fill KRS will be faster[3].

4. The research concucted by Tintin Chandra from the STMIK IBBI Medan in 2015, entitled "*DESIGN OF NEW STUDENT REGISTRATION INFORMATION SYSTEM IN WEB-BASED COLLEGE X*". This research was conducted to facilitate prospective students and the public in obtaining university information, and student registration. and also for the development of the design of a new student registration information system at a web-based college can be maximized, it is recommended to be equipped with a security system, should be equipped with an online examination system, and payment of registration through e-Banking [4].

5. The research concucted by Antonius Nugroho and AriefHidayat from the STMIK ProVisi Semarang in 2015, with the title "*WEB-BASED STUDENT RECEPTION INFORMATION SYSTEM DESIGN (CASE STUDY IN SMA NUSAPUTERA SEMARANG)*". This research is to get a web-based admission information system a new tool in the admission of new students, and a web-based admission information system helps the administrative task in processing any data prospective students who enter. and also so that the web-based admission information system helps prospective students who wish to register online without having to come to school [5].

6. The research concucted by AdiSaputra, Mulyadi and Martono form the STIKOM DinamikaBangsa Jambi in 2014, entitled "*WEB-BASED STUDENT RECEPTION INFORMATION SYSTEM DESIGN IN SMK N 6 MUARO JAMBI*". This study

produces an analysis of the system that runs on the registration of new students at SMK Negeri 6 Muaro Jambi that the old system still has weaknesses including the old registration process and the recapitulation of new students manually calculated so that it takes a long time. and also to get a web-based new student admission information system that can simplify the registration process until re-registration[6].

7. The research concucted by Muhammad TaherJufri and KurniawanSaleppang from the University Yapis Papua in 2018, with the title "*NEW STUDENT REGISTRATION INFORMATION SYSTEM IN YAPIS PAPUA UNIVERSITY*". This research wants to produce e-learning, interaction between students and lecturers does not only occur limited to lecture hours or when face to face only, because students and lecturers can interact through forums at the Elearning Faculty of Engineering and Information Systems at Yapis Papua University. With e-learning students find it easier to get material, questions, information about lectures and grades. Lecturers become easier and faster to accept assignments collected by students. and also for staff to be easier in the process of distributing lecture information and news related to the faculty. In addition, staff also find it easier to manage and search student and lecturer data [7].

2.2. Method

The method used in the study uses data collection methods and design methods. In this case the object of research is the acceptance of new students.

1. Method of Collecting Data

    1.1. Observasi Research

    In this observation method, the authors analyze by observing the source of the problem then collecting data related to the design of a new student admission system in order to find solutions to these problems.

    1.2. Interview Research

    In this interview method, the writer collected data by asking questions related to the system making an application system for new student admissions to facilitate students and cashiers in inputting student data and registering, then concluding each answer by compiling solutions used as a solution. benchmark system concepts to be used.

    1.3. Library Research

    In this literature study method, the author conducts several literature studies on e-books or articles that can relate to existing problems in order to supplement the data obtained previously with a theory that has been developed by experts to support a method of observation and interviews that have previously been carried out.

2. Analysis Phase

    In this analysis phase a system needs analysis is done by analyzing the needs needed to build a new system. Described using UML, namely use case diagrams and activity diagrams.

3. The Design Stage

    In this design phase is done by making a database design and design at this stage using the software method that is Waterfall.

4. Implementation Stage

    At this stage all system designs created will be implemented into a web-based program that will be used by students and administrators. At this stage the system is designed using PHP as a programming language and for the database the researcher uses MySQL.

3. Findings

Madrasah Tsanawiyah AL-MUHTADIN was established in 2016 under the auspices of the AL-HUDA Islamic Boarding School Foundation. In 2000 the AL-HUDA Islamic Boarding School Foundation was built and had 300 students or students. Since the chaplain died in 2009, the students one by one left the AL-HUDA Islamic Boarding School Foundation until

there were no students or students left.Madrasah Tsanawiyah AL-MUHTADIN is inseparable with the name H. TB. EntusMuhtadin, because he was the head of the AL-MUHTADIN Madrasah Tsanawiyah foundation, and that's where he established a school in order to replenish the AL-HUDA Islamic Boarding School Foundation.

Madrasah Tsanawiyah AL-MUHTADIN is in a community that is predominantly Muslim, community sympathy is very high towards the existence of Madrasah Tsanawiyah AL-MUHTADIN so that all the activities of this educational institution receive serious attention and are fully supported by the surrounding community, this is evidenced by the many sons and daughters of the surrounding residents even from various regions that entered the Madrasah Tsanawiyah AL-MUHTADIN. Because it happens that this school is supported by boarding school facilities, so those from far away areas can settle in boarding school dormitories.Madrasah Tsanawiyah AL-MUHTADIN since its establishment until now continues to experience growth, which originally only had 2 classes now already has 3 classes and 1 teacher's room.

3.1. System Requirement Analysis Stage

To analyze the current system, this research uses the Unified Modeling Language (UML) program to be able to describe the processes and procedures that are currently running.
1. Use Case Diagram That Runs
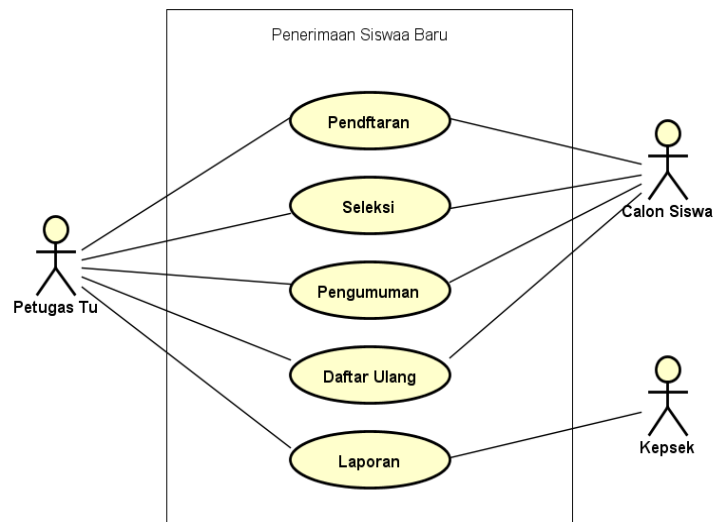
Picture 1. Use Case Diagram That Runs

2. Activity Diagram that Runs
    3.1.2.1.   Activity diagram Registration
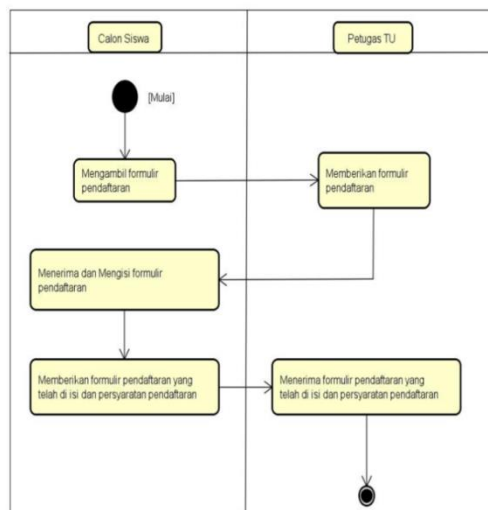
Picture 2. Activity diagram Registration

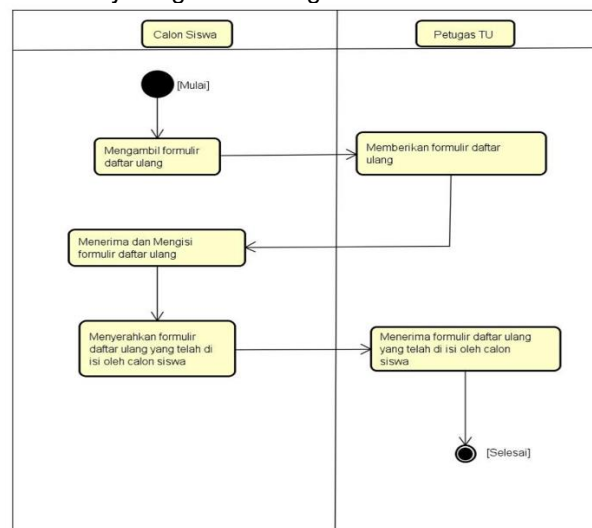### 3.1.2.2.   Activity Diagram Selection
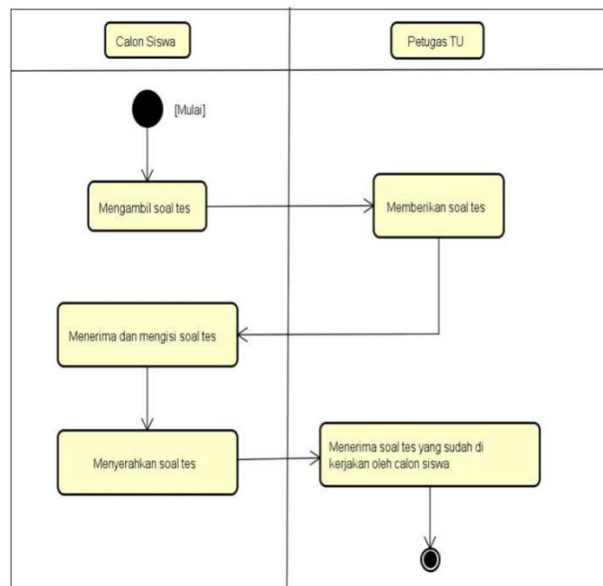
Picture 3. Activity Diagram Selection

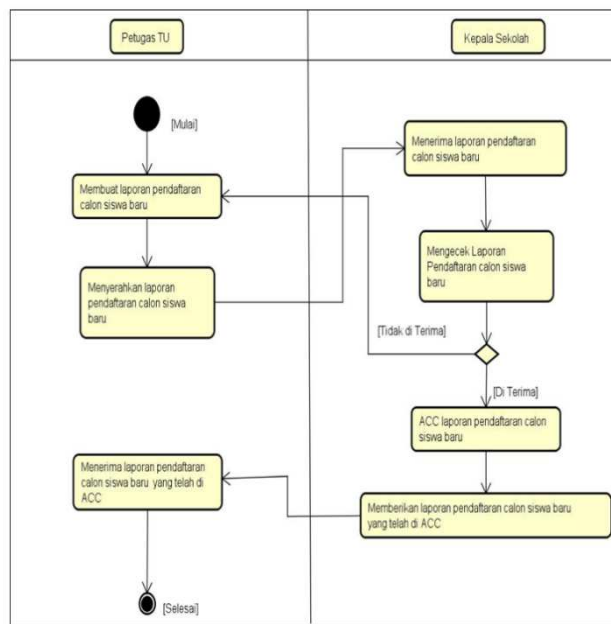### 3.1.2.3.   Announcement Activity Diagram
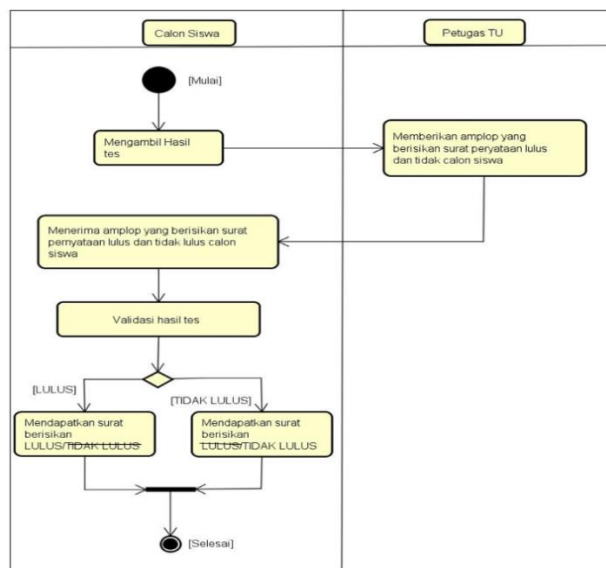
Picture 4. Announcement Activity Diagram

3.1.2.4.   Activity Diagram Re-register


Picture 5. Activity Diagram Re-register

3.1.2.5.   Activity Diagram Report

Picture 6. Activity Diagram Report

3.2. Software Planning Stage

In this software analysis stage, researchers use the waterfall method, which is a classic model that is systematic, sequential in building software. The name of this model is actually the "Linear Sequential Model". This model is also often called the "classic life cycle" or the waterfall method. This model can approach sequentially and systematically. It is called a waterfall because every step by stage must wait for the completion of the previous stage and must proceed sequentially.
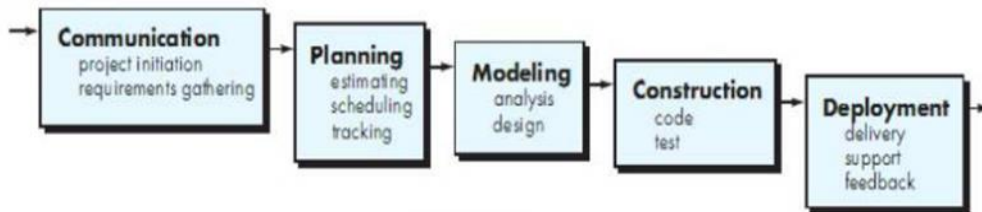
Picture 7. Waterfal

3.3. Implementation
  1.   Proposed System Design
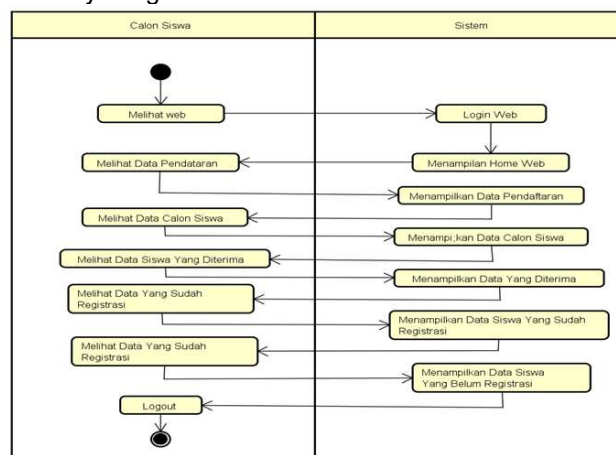   3.3.1.1. Use Case Acceptance of New Students
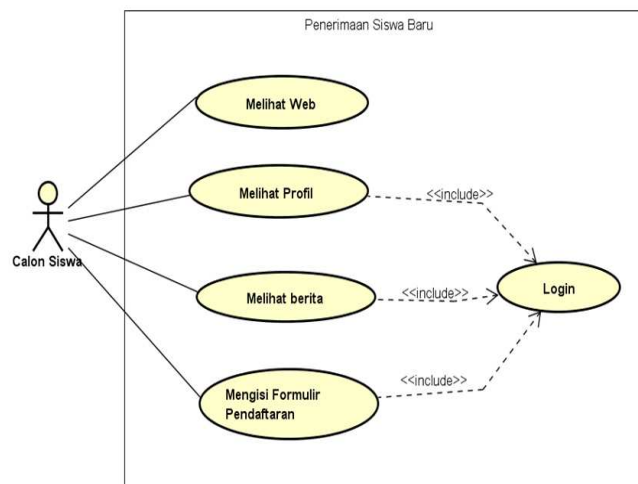
Picture 8. Use Case Acceptance of New Students

3.3.1.2. Use Case Admin
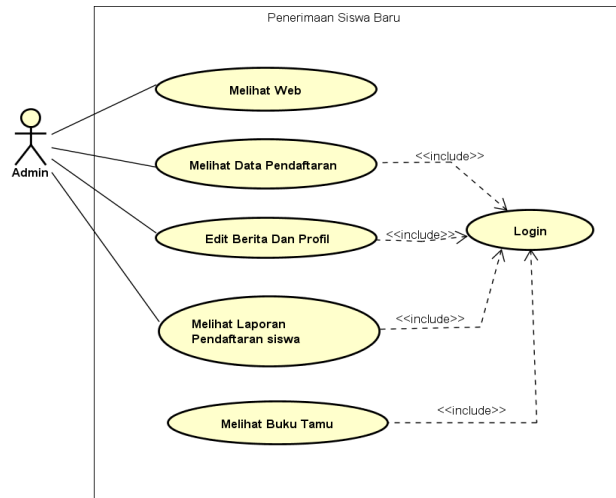
Picture 9. Use Case Admin

3.3.1.3. Student Activity Diagram
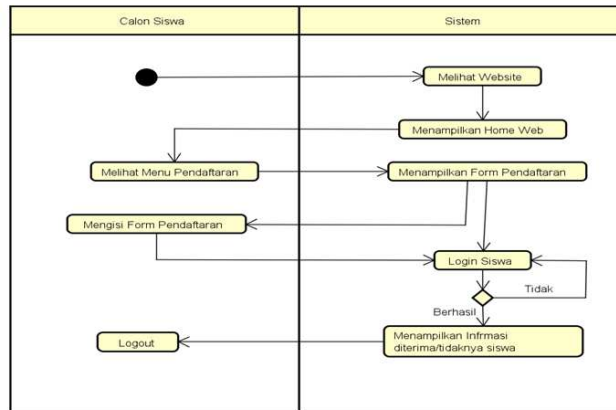
Picture 10. Student Activity Diagram

3.3.1.4. Admin Activity Diagram

Picture 11. Admin Activity Diagram

2.   Interface Design

At this implementation stage is the application of the new student registration system. The prototype was created using the Balsamiq Mockup application.
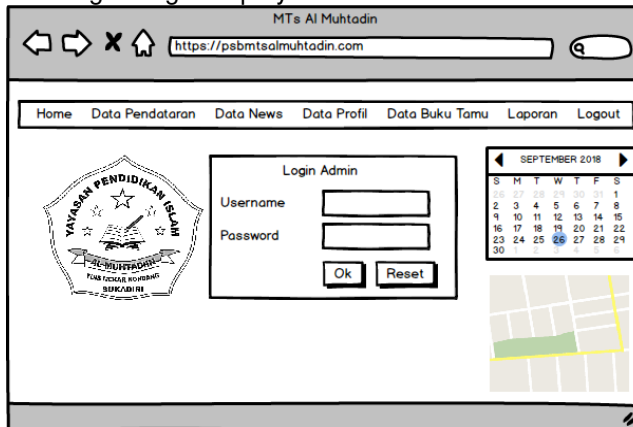
Prototype is the initial form as part of the model for demonstration purposes and as part of every process of making or developing a software.
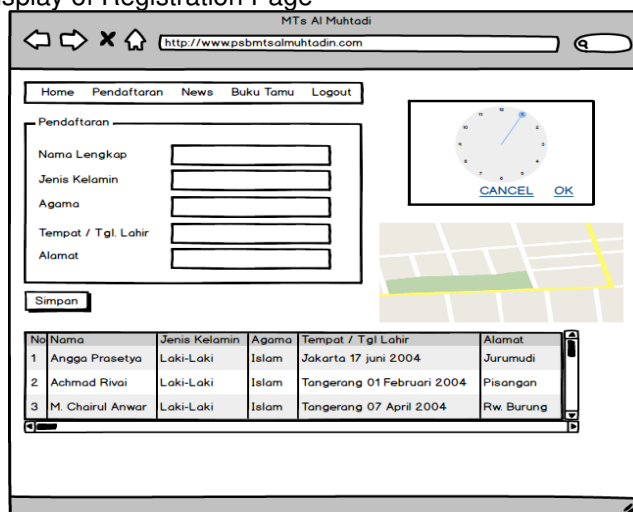
3.3.2.1. Display Student Login Page
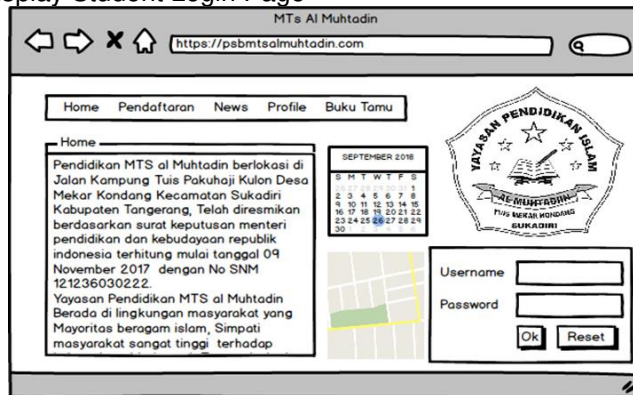
Picture 12. Display Student Login Page

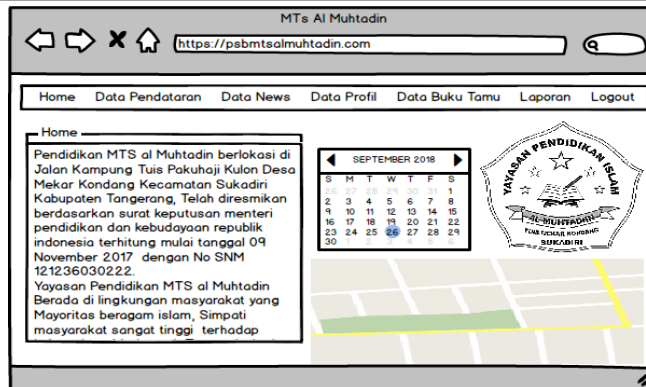### 3.3.2.2. Admin Login Page Display

Picture 13. Admin Login page Display
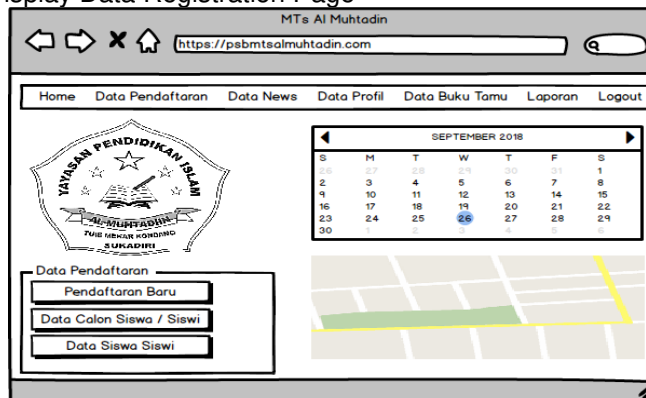
3.3.2.3. Display of Registration Page

Picture 14. Display of Registration Page
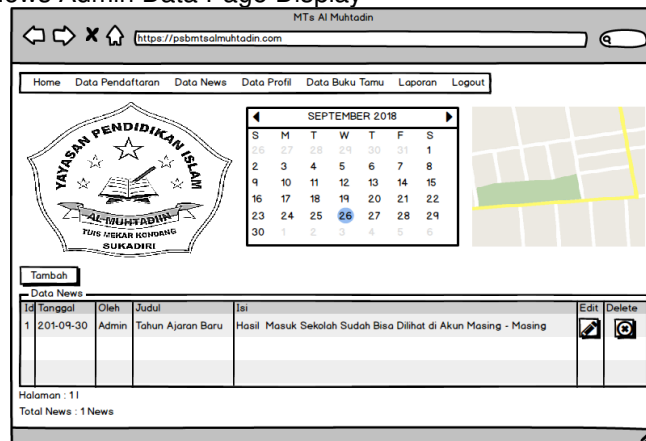
3.3.2.4. Display Home Admin Page

Picture 15. Display Home Admin Page

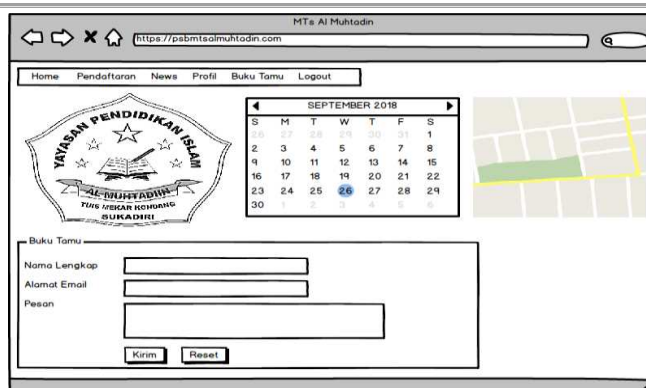### 3.3.2.5. Display Data Registration Page

Picture 16. Display Data Registration Page
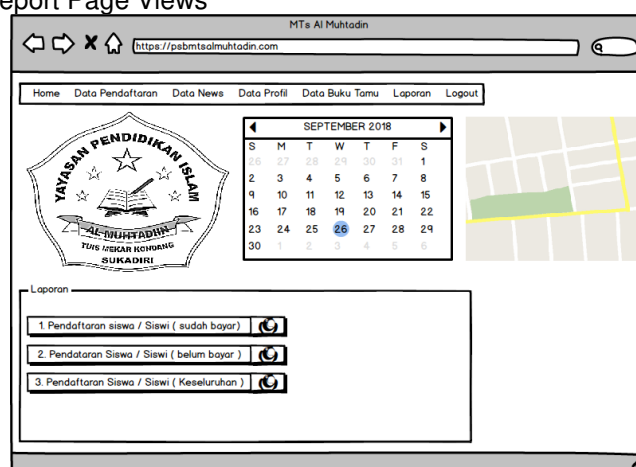
3.3.2.6. News Admin Data Page Display

Picture 17. News Admin Data Page Display

3.3.2.7. Guest Book Page Views

Picture 18. Guest Book Page Views

3.3.2.8. Report Page Views

Picture 19. Report Page Views

4. Conclusion

After the authors observe, study, and finally compile the title Analysis of New Student Admission Systems on the MTS AL-MUHTADIIN, the authors can draw conclusions including:

1. The system that runs on the AL-MUHTADIIN MTS is still running manually using Microsoft Excel.

2. The system used in MTS AL-MUHTADIIN has not been effective and efficient because it still requires a long time and a substantial cost.
3. During the process of the registration system for new students the registrant is still complicated in the registration process.

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