



Designing an Online To-Do-List System to Support Student Productivity in Managing Lecture Assignments and Islamic Boarding School Activities

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Abstract

This study on designing an online To-Do-List system intended to assist mahasiswa santri (Islamic boarding school students attending university) in increasing productivity in managing academic tasks and pesantren activities. Mahasiswa santri often struggle to balance academic responsibilities with demanding religious routines. To address this issue, the system is developed in the form of a web-based application that can be accessed flexibly. The main features provided include task recording, schedule reminders, and activity progress monitoring. The system design is developed using the prototype method, allowing users to provide direct feedback throughout the design process. The resulting interface and system flow align with user needs and show that the proposed system has the potential to help users manage their time more efficiently and foster discipline toward their daily schedules. Thus, this system can serve as a digital solution that supports the balance between academic and religious activities for mahasiswa santri.

Keyword: *To-Do-List System, Productivity, Mahasiswa Santri, Web-Based Application, Prototype Method*

1. Introduction

Pesantren (Islamic boarding schools) are traditional Islamic educational institutions focused on teaching, understanding, and deepening religious knowledge. The learning process prioritizes the instilling of religious moral values so they can be applied in daily life (Zulhimmah, 2013)[1]. Every individual who studies at a pesantren is called a santri (Islamic student). Students come from various age groups, as there is no age limit for studying at a pesantren, and there is no specific time limit for completing their education.[2] Therefore, even university students can be santri, thus giving rise to the term "student santri." Students santri have a dual role, having to simultaneously fulfill two major responsibilities: studying at university and participating in religious activities at the pesantren. Both require consistency and good time management to maintain balance. However, in reality, many students santri experience difficulties in managing their schedules between lectures and pesantren activities. Piling up assignments, busy schedules, and the lack of a structured reminder system often lead to some obligations being forgotten or not completed on time.

Time management issues in the modern era can be addressed by leveraging technological developments.[3] Web-based systems are an efficient solution because they are easily accessible through various devices. One appropriate application of technology for Islamic boarding school students is an online To-Do-List system. This system can be used to record, organize, and monitor various activities, both academic and Islamic boarding school activities, thereby helping users become more organized and disciplined in carrying out their routines.

More than just a reminder tool, an online To-Do-List system also functions as a means of productivity reflection. With features such as automatic reminders, task progress, and activity categories, Islamic boarding school students can evaluate their success in managing their time effectively. A system design tailored to the Islamic boarding school lifestyle is also expected to create a more balanced, efficient learning and worship atmosphere, while remaining grounded in Islamic boarding school values.

Therefore, this research focuses on designing a web-based online To-Do-List system that can help Islamic boarding school students increase their productivity in managing coursework and Islamic boarding school activities. This system was developed using a prototype approach, allowing users to provide direct feedback on the design. The design results are expected to produce a system that is easy to use, responsive to user needs, and serves as a digital tool that supports the balance between the academic and spiritual lives of Islamic boarding school students in the modern era.

2. Literature Review

2.1. Student Productivity and Time Management

According to Sedarmayanti, as quoted by Septiani and Triani (2002), productivity is not simply about producing a lot of work, but rather a way of thinking or mental attitude that encourages one to continuously improve oneself.[4] According to Sinungan (2009), productivity is the comparison between the results achieved and the resources used in a process.[5] Student productivity can be understood as a student's ability to use their time and resources effectively to achieve maximum learning outcomes. Meanwhile, time management is an essential skill that students must possess to achieve academic success. In college, students are required to juggle various activities simultaneously, such as attending classes, completing assignments, participating in organizations, and maintaining a social life. Without the ability to manage their time effectively, many students struggle to maintain discipline, especially in terms of attendance and completing assignments. Therefore, effective time management is a crucial factor in determining how optimally students can fulfill their academic responsibilities.[6]

2.2. Santri Students and Activity Management

Santri students are individuals who study at a university while also participating in Islamic boarding school life. This dual role places them with more responsibilities than the average student. [7] According to Yusnadi (2023), students living in an Islamic boarding school environment face unique challenges in balancing their time between academic obligations and busy religious activities, such as Islamic studies, attending religious studies, memorizing, and performing congregational prayers. In these circumstances, utilizing digital systems, such as web-based to-do-list applications, is an effective solution. These applications can help santri students organize their daily agendas more regularly, prioritize work, and even provide reminders to ensure they don't miss important activities, whether for lectures or Islamic boarding school activities. In other words, technology can support students to be more productive, remain disciplined, and be able to carry out dual roles without sacrificing any of the obligations.

2.3 Web-Based To-Do-List Information System

An information system is an integration of information technology and data management designed to support operational activities. This system focuses on the interaction between humans, algorithmic processes, data, and technology (Asmarajaya et al., 2021)[8]. The To-Do-List application functions as a simple tool for recording and organizing things that need to be done, both in the short and long term[9]. Meanwhile, a website itself is a collection of interconnected networked pages that can be accessed by users via the internet. Websites are not only useful for personal and business purposes but also have a social function that can be enjoyed by all groups. Websites can be a source of information, a communication medium, a space for publishing activities, and even a means of social campaigns.[10]

2.4. Prototype

The prototyping model is a technique for quickly gathering information about user needs. A prototype serves as a visualization of the software for user evaluation and helps refine development needs. A prototype is defined as a tool that provides an overview or idea of how a system will work before it is fully developed[11]. Through a prototype approach, the design of a to-do list system can be tailored to the real-life needs of Islamic boarding school students, who have unique activities, such as reminders for Islamic boarding school activity schedules, lecture agendas, and task prioritization.

2.5. Research Gap

Based on the results of a literature review, the design of a to-do list system has been widely discussed in various studies. However, most of this research has focused only on students in general or professional workers. Very few studies specifically address the use of to-do list systems for Islamic boarding school students, who have dual responsibilities—academic activities on campus and religious activities at Islamic boarding schools. Therefore, this research presents a new idea in the form of designing an online-based to-do list system tailored to the unique needs of Islamic boarding school students. This system is expected to help increase productivity while maintaining a balance between academic and spiritual obligations.

3. Research Methodology

3.1 Type of Research

This research uses library research and field research.

3.1.1 Library Research

According to Mendes, Wohlin, Felizardo, and Kalinowski (2020), library research is conducted by reviewing various literature and combining analyses of relevant topics. This literature search process can utilize various sources such as journals, books, dictionaries, documents, and magazines, without the need for direct field research.[12]

3.2.1. Field Research

Field research is a type of research conducted by directly visiting the location of the research subject. In this method, information is collected directly from respondents or other sources through various tools, including questionnaires, observations, interviews, and other data collection techniques. This approach provides researchers with the opportunity to gain a concrete understanding of the situation being studied.[13]

3.2 System Design Method

This research uses the prototype method as the system design method. This method was chosen because it allows researchers and potential users to interact from the early stages of system design. According to Pressman (2012), prototyping is not the final form of the system, but rather an initial model that will be continuously assessed, tested, and refined until it meets user needs. The prototyping method in this study consists of five key steps: requirements gathering, rapid planning, rapid model design, prototyping, and assessment and refinement based on user input. This process is repeated until the prototype is deemed to meet user needs [14].

4. Results and Discussion

4.1 Information System Design

Information system design is the stage of creating a new system that will improve an existing system. In this phase, system design is carried out using the Unified Modeling Language (UML) method, which includes the creation of use case diagrams, activity diagrams, sequence diagrams, and class diagrams to clearly demonstrate user interactions, process paths, and system structure.

a. Use Case Diagram

A use case diagram is a consistent representation that shows the relationships between various system functions (use cases) and the actors who interact with it [15]. In this use case diagram there are two actors, namely students Santri and ustadz/lecturers can manage assignments, schedules, and priorities, and receive information from lecturers/ustadz. Lecturers/ustadz play a role in providing information. All activities in the system begin with a login process and are supported by a notification feature as a reminder. The use case diagram for the student to-do list information system is as follows:

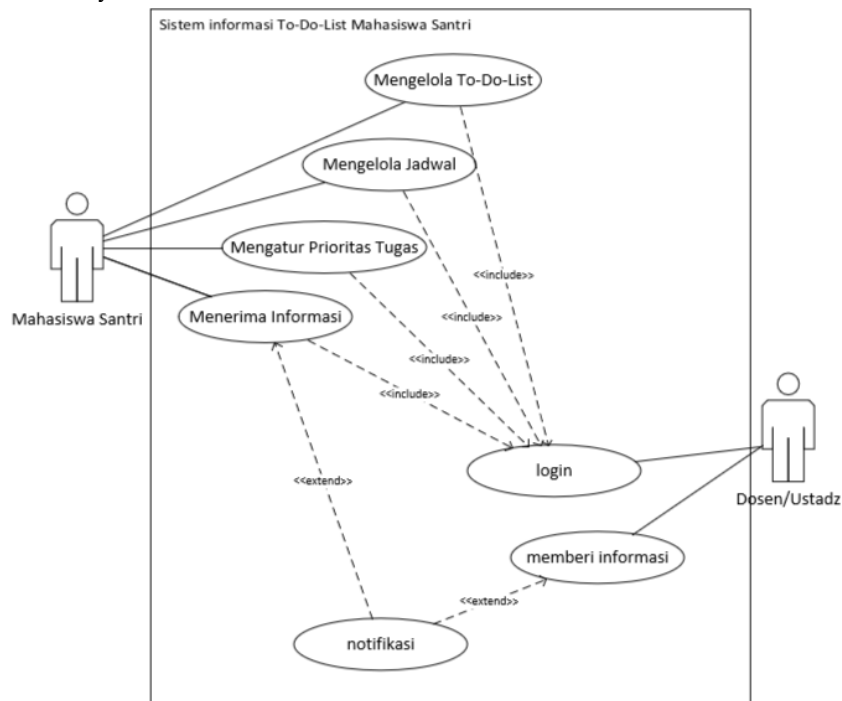


Fig. 1. Use Case Diagram of the Student To-Do-List Information System

b. Activity Diagram

An activity diagram is a type of diagram that displays workflows or processes, as well as activities that occur within a system. This diagram can also depict business processes or menu lists within a software application.[16]

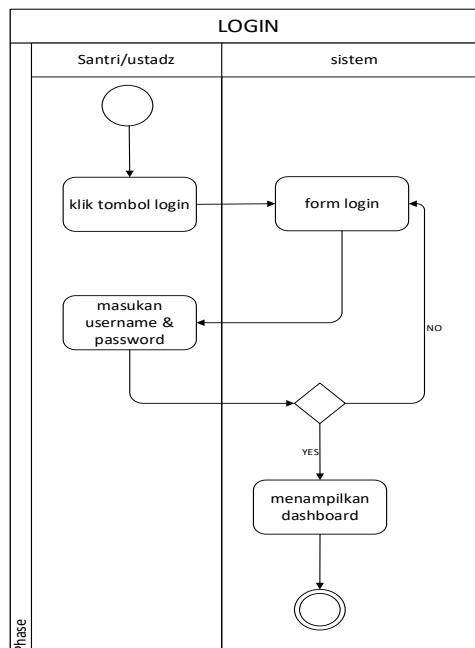


Fig. 2. Login Activity Diagram

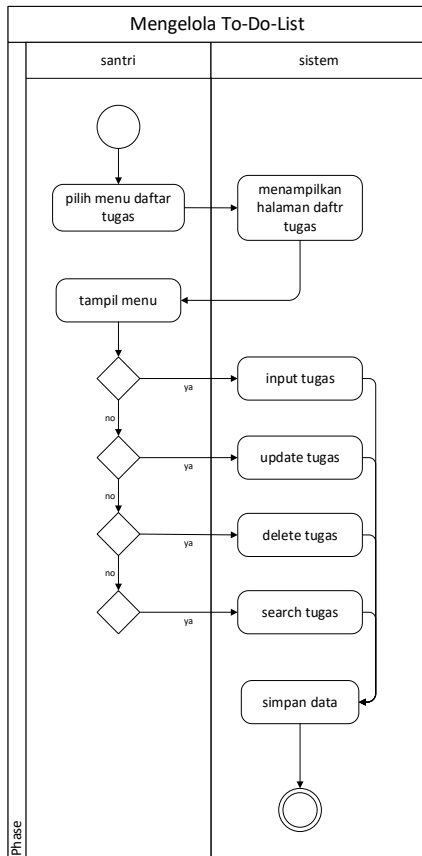


Fig. 3: Activity diagram for managing a task list

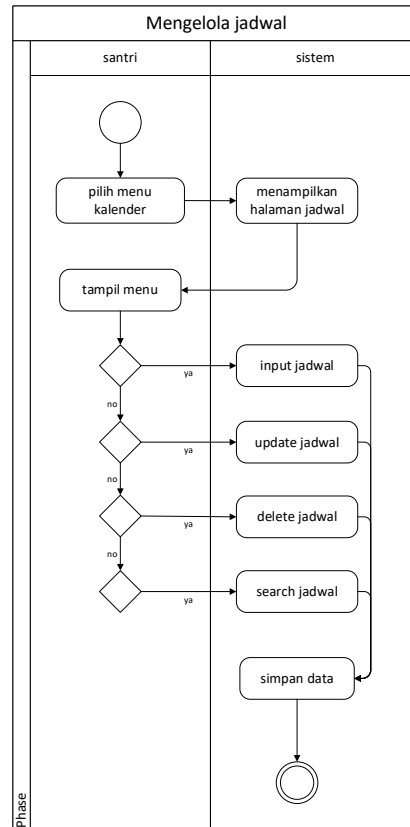


Fig. 4: Activity diagram for managing a schedule

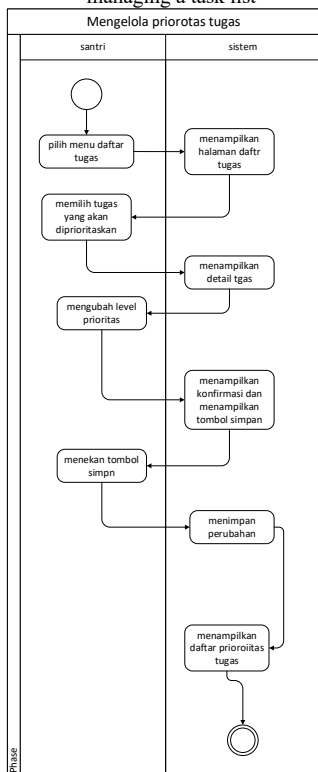


Fig. 5. Activity Diagram managing task priorities

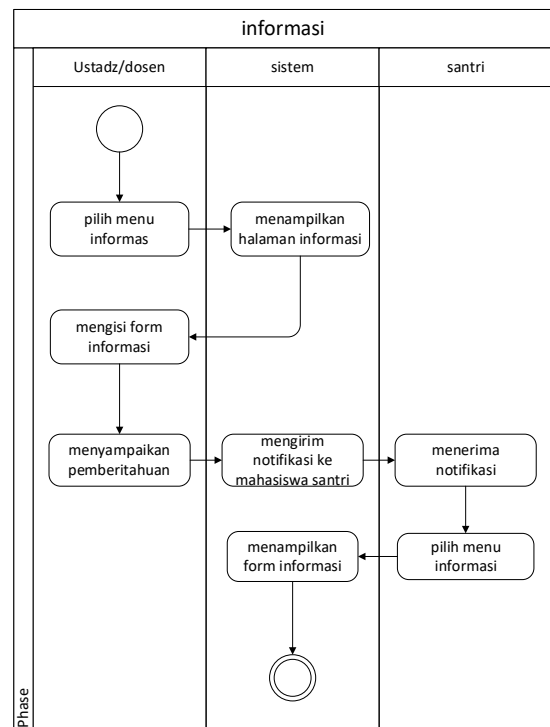


Fig. 6. Activity Diagram Information

c. Sequence Diagram

According to Pratama (2019), a sequence diagram, also known as a sequence diagram, is a diagram in UML that serves to illustrate dynamic interactions between various objects.[17]

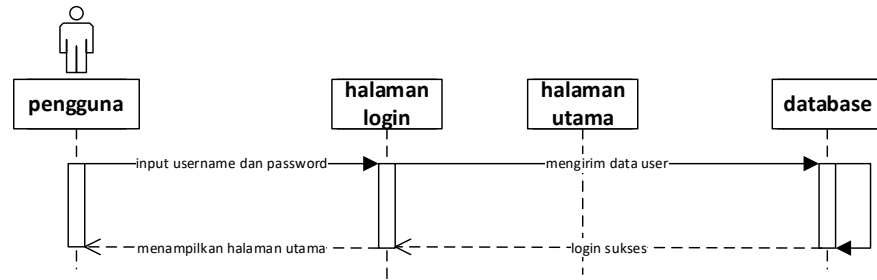


Fig. 7. Login Sequence Diagram

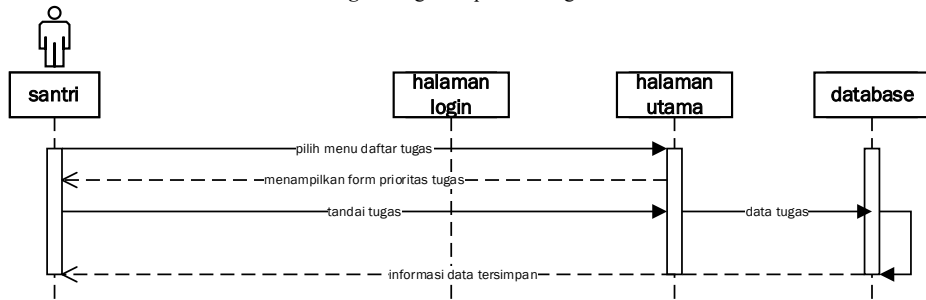


Fig. 8. Sequence Diagram Managing Task Priorities

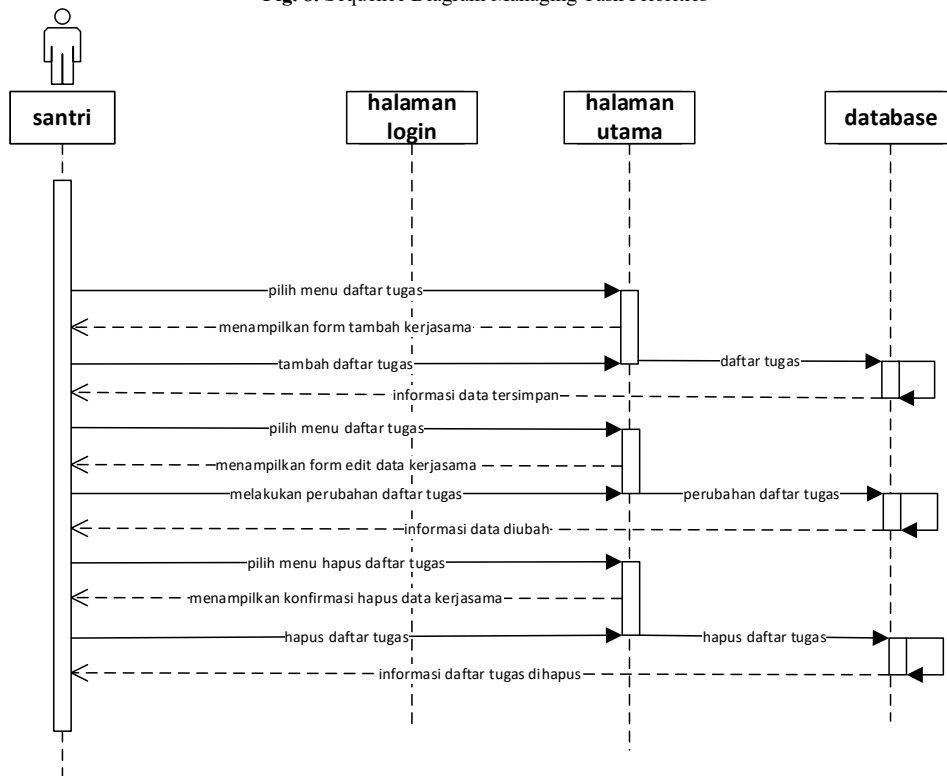


Fig. 9. Sequence Diagram Managing Task List

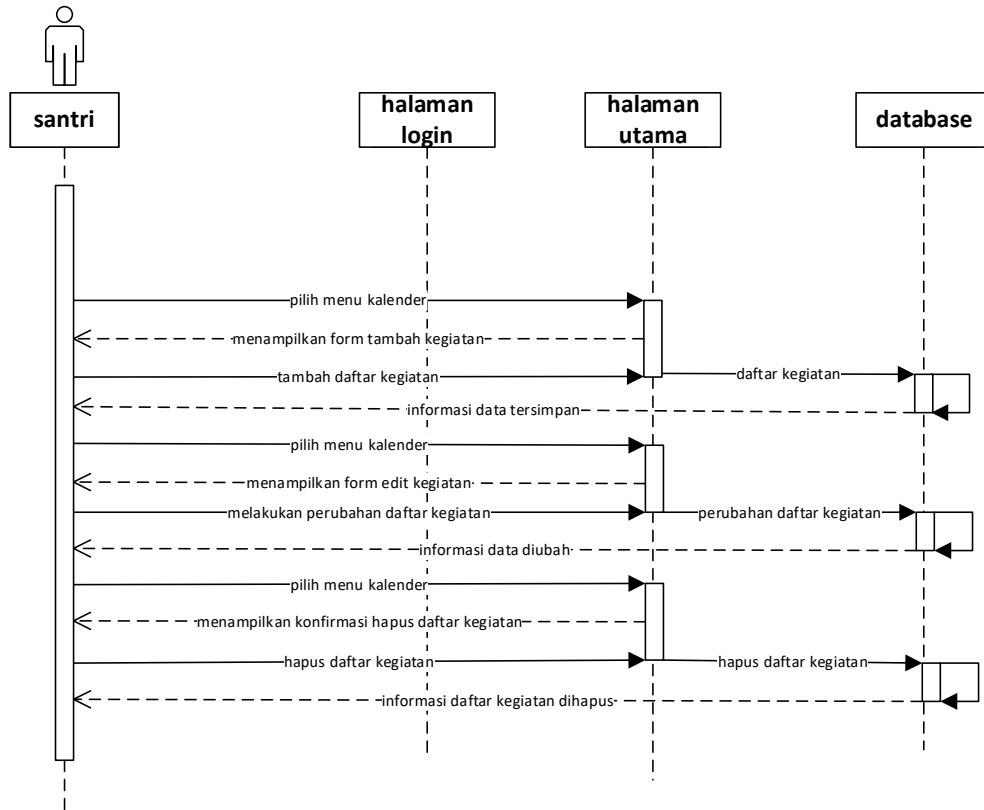


Fig. 10. Sequence Diagram for Managing Calendars

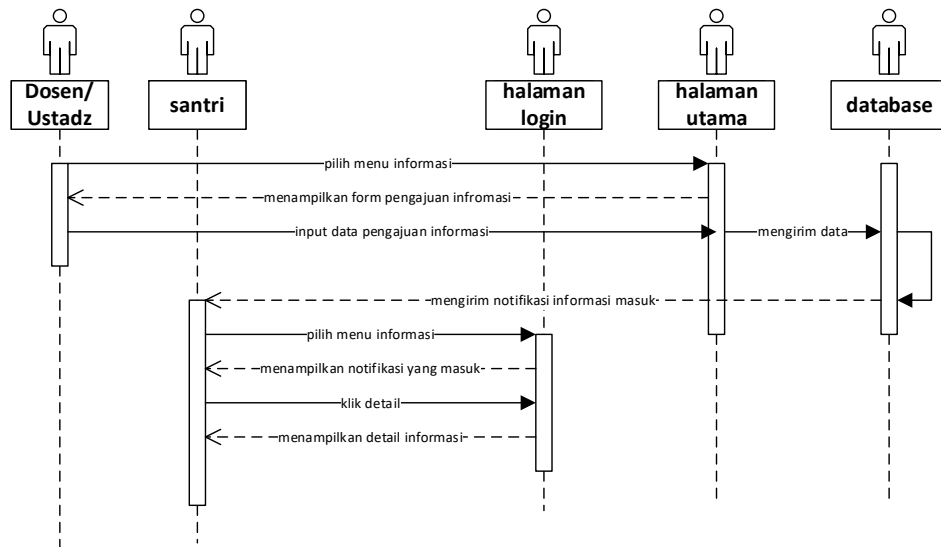


Fig. 11. Information Sequence Diagram

d. Class Diagram

According to Widodo (2015), a class diagram is a key component in object-based modeling, used to illustrate the class structure within a system. Furthermore, class diagrams also play a significant role in presenting an overall view of the system being developed.[18] The class diagram for the Student To-Do-List information system is as follows:

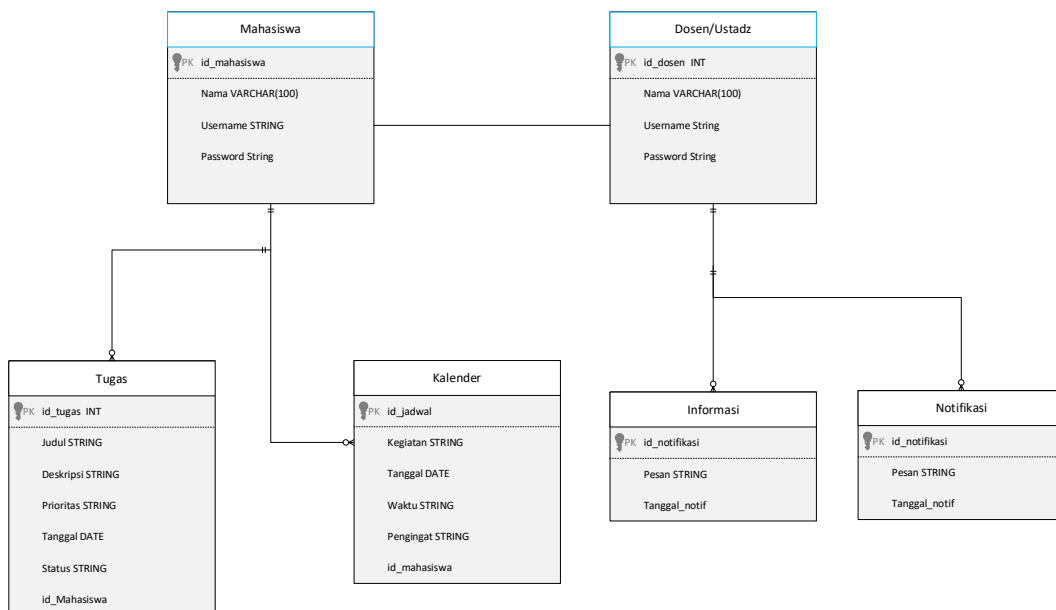


Fig. 12. class diagram

4.2 Interface Design

The interface design stage is the step to create an interaction medium that can effectively connect communication between the user and the computer (Pressman, 2010) [19]. The interface design for the To-Do-List information system for students and santri is as follows:

1. Login Page

The login page serves as the first step before users can access the system. Users must enter a username and password to ensure security. In addition, the login system also provides user role settings to clearly differentiate access rights between ustadz/lecturers and students.

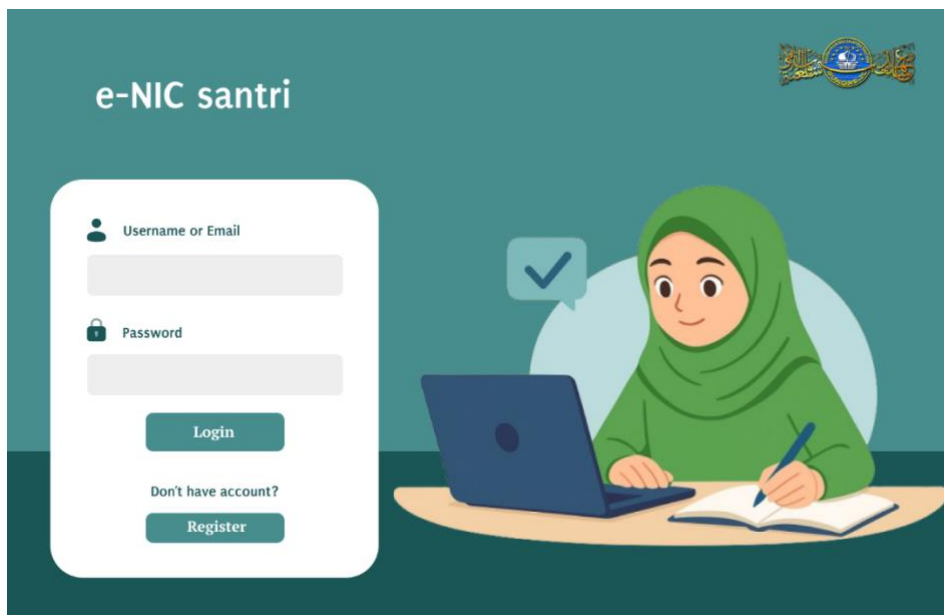


Fig. 13. Login Page

2. Dashboard Page

After successfully logging in, users are taken to the homepage. This login process also serves to assign access rights for each user. This page contains the task menu, calendar, and information.



Fig. 14. Dashboard Page

3. Task List Page

On the task page, students and santri can add various tasks to be completed, set priorities as reminders to complete certain tasks first, and edit or delete tasks as needed.

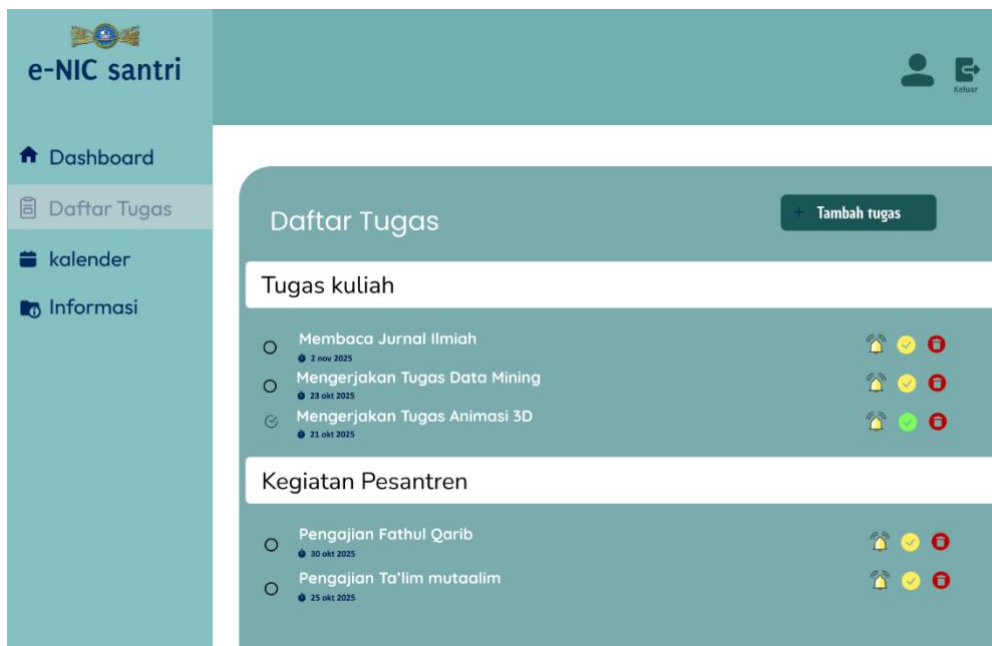


Fig. 15. Task List Page

4. Calendar Page

On the calendar menu, students and santri can organize their schedules and various activities to be more productive. Available features include adding, changing, and deleting schedules, as well as reminders, all of which support daily productivity.



Fig. 16. Calendar Page

5. Information Page

The information menu serves as a communication medium between students and ustadz (teacher). Through this menu, lecturers can convey various information, while students can easily receive and access it. A notification feature is also included to ensure that any new information is quickly communicated.

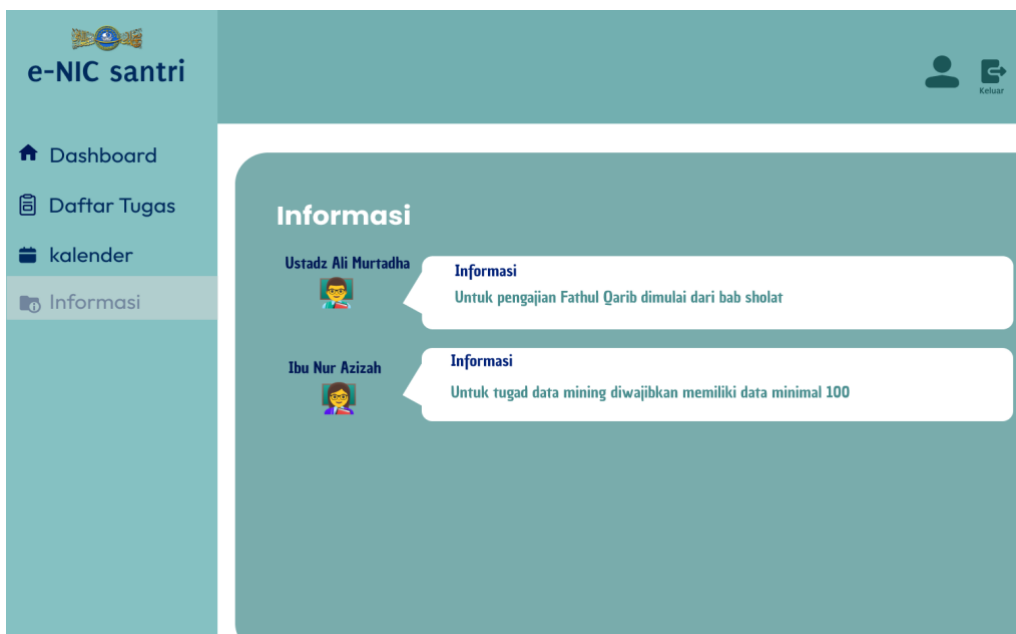


Fig. 17. Information Page

5. Conclusion and Suggestions

Based on the design results and discussion, it can be concluded that the developed web-based To-Do-List platform can function as a digital solution to assist students and students in managing their coursework and Islamic boarding school activities. This system offers features for recording assignments, remembering schedules, managing calendars, setting task priorities, and conveying information from ustadz (teacher). By using a prototype method, the system design can be tailored to user needs, resulting in a more understandable interface and a clear system flow. The implementation of this design demonstrates that the system has significant potential to increase productivity, support time management, and help Islamic boarding school students maintain a balance between academic and religious activities.

The recommendation for this research is that the To-Do-List system design that has been created The project can proceed to the implementation stage and direct testing with students to determine how well the design meets user needs in the field. Furthermore, further validation of the interface design and system flow is needed to ensure the development results are truly effective in supporting student time management and productivity. Furthermore, it is hoped that the user needs analysis will be expanded to make the developed system more comprehensive and ready for practical implementation. Furthermore, the system can be integrated with the campus academic system so that schedule and assignment information can be automatically synchronized.

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