



Internship Monitoring System at State Vocational High School 7 Kupang

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Abstract

The internship program at State Vocational High School 7 Kupang aims to provide students with work experience and industry-relevant skills. Challenges such as difficulties in monitoring students at distant locations, fraud in attendance reporting, and dishonesty in activity journals hinder its effectiveness. To address these issues, a web-based internship monitoring system was developed using the waterfall method. This system enables supervising teachers to monitor student activities, while students can take attendance and fill out activity journals online. It facilitates real-time monitoring, improves transparency, and ensures accurate reporting. The system also helps schools in placing students at internship locations, tracking their activities, and maintaining digital records of attendance and journals. Key features include monthly monitoring by teachers, presence validation, and activity journal verification by field supervisors and supervising teachers at the end of the internship. By implementing this system, schools can enhance internship supervision, minimize fraud, and improve the reliability of student reports.

Keywords: *Internship, Monitoring, Vocational, High School.*

1. Introduction

State Vocational High School prepare students with skills and knowledge according to their field of expertise to compete in the world of work. State Vocational High School 7 Kupang offers four expertise programs: Merchant Ship Nautical, Merchant Ship Engineering, Computer Network and Telecommunication Engineering, and Fishing Vessel Nautical. Each program is designed to meet the needs of industry, especially in the maritime and communication technology sectors. Through internship, students are provided with work experience and direct practice to develop competencies in the industrial world.

The internship program at State Vocational High School 7 Kupang lasted for 6 months, the implementation of internship faced a number of obstacles that affected the effectiveness of the program. One of the main obstacles was the distance of the internship location, so that the school had difficulty monitoring each student optimally. The process of direct visits to each student's internship location required a lot of time, money, and energy which made monitoring activities less efficient. In addition, there were problems in filling in student attendance and activity journals. Several students who were not present at the internship location still recorded their attendance with the status of being present, and the filling in of activity journals often did not match the reality in the field, especially by students who were not present at the internship location. This happened because attendance and activity journals still used physical books, which were easily manipulated. In fact, there were students who did not bring attendance books and activity journals to the internship location and instead filled in the data from home. This condition allows for fraud and dishonesty in reporting activities. In addition, recording activity journals that are still based on physical books results in a lack of accurate and reliable documentation support.

For the problems faced, a system is needed that can support the student monitoring process during the implementation of internship. This system adopts the concept of SiAmir which is implemented at STIKOM Uyelindo Kupang, where student attendance and activities are monitored every day through a digital system. This system is expected to be able to monitor student attendance and their daily activities more effectively. To improve compliance in filling in attendance and activity journals, this system is equipped with a scheduled filling time control mechanism. To prevent fraud, validation is needed from the agency where students carry out internship. With the implementation of this system, the monitoring process is expected to be more efficient, accurate, and transparent.

Previous studies have discussed the design of a web-based internship monitoring system to speed up and simplify real-time student monitoring [1]. One study developed a monitoring information system to overcome cheating in attendance and activity journals and improve monitoring by teachers [2]. There is also a study that designs a web-based information system to overcome the difficulty of monitoring internship students who require direct visits to the location [3]. In addition, another study built a web-based monitoring system to improve attendance accuracy and speed up the monitoring process with an attendance mechanism by supervisors at the internship location [4]. Another study designed a web-based and mobile information system to replace the conventional system, so that reporting of attendance and daily activities can be managed more efficiently [5].

Based on the problems that have been described, it is necessary to have a monitoring system for field work practices that can monitor student activities in real time. This system is built using the waterfall method, it is expected to help schools save costs and time in the process of monitoring and managing internship.

2. Research Method

The waterfall method is a systematic and sequential approach model for software development, starting with user requirement specifications, determining system architecture (design), developing and testing system functionality (implementation), verifying and testing the system (verification), and maintaining it [6]. This model is carried out step by step which must wait for the completion of the next stage and runs sequentially.

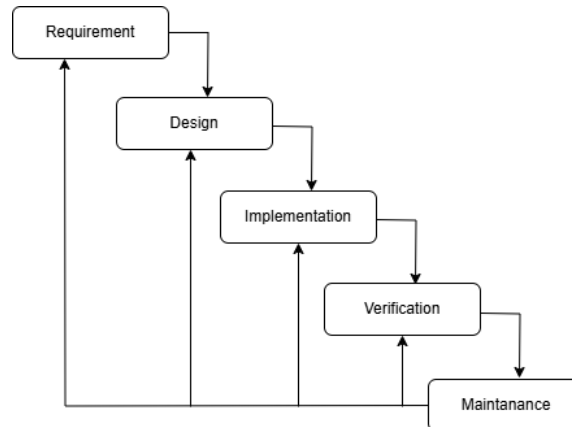


Fig. 1: Metode Waterfall

3. Result And Discussion

3.1. System Requirements Analysis

The system users are admins, students, department heads, supervising teachers, and field supervisors. All five have their respective roles in using the features on the system.

Analysis of feature needs on the system from the admin side is designed as follows:

- a. Admin management
- b. Student management
- c. Supervisor management
- d. Department management
- e. Agency management
- f. Placement management
- g. Field supervisor management

Analysis of feature requirements in the system from the student side is designed as follows:

- a. Manage profile
- b. Print internship participant card
- c. Attendance and logbook
- d. Print attendance and logbook

Analysis of feature requirements in the system from the department head's perspective is designed as follows: Placement

Analysis of the system's feature needs from the supervising teacher's side is designed as follows:

- a. Student guidance data
- b. Presence
- c. Student monitoring

Analysis of the system's feature needs from the field supervisor's side is designed as follows: Attendance and logbook validation

3.2. Design

The use case diagram model in the research conducted includes 5 actors with five use case diagrams, namely the admin use case diagram, student use case diagram, department head use case diagram, supervising teacher use case diagram, and field supervisor use case diagram.

a. Admin use case diagram

In the admin use case diagram, it is explained that the admin must first log in so that the admin can access the available features, including managing data, the admin can perform add, change, and delete actions. The admin can manage student data, supervising teacher data, department data, agency data, placement data, and field supervisor data where the admin can perform actions to add data, change data, and delete data.

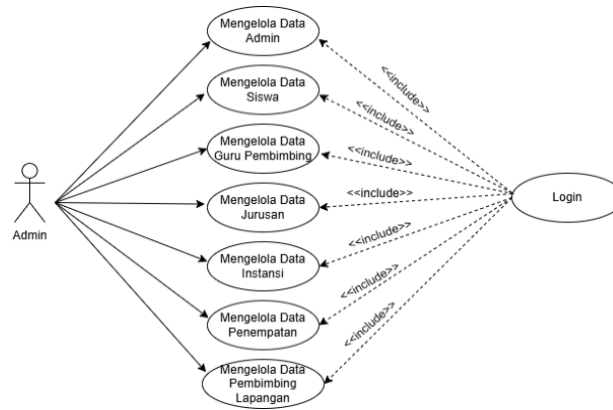


Fig. 2: Admin use case diagram

b. Student use case diagram

In the student use case diagram, it is explained that students must first log in to be able to access the available features, namely students can manage profiles by performing data change actions. Students can also print participant cards, fill in attendance and logbooks by performing add, change, and delete actions and students can print attendance and logbooks.



Fig. 3: Student use case diagram

c. Department heads use case diagram

In the use case diagram of the department head, it is explained that the department head must log in to access the available features. The department head can place internship students.

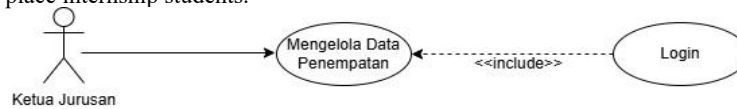


Fig. 4: Department heads use case diagram

d. Supervising teachers use case diagram

In the use case diagram of the supervising teacher, it is explained that the supervising teacher must first log in to be able to access the available features. The supervising teacher can see the data of the students he/she is supervising, and can monitor the students by performing data change actions.

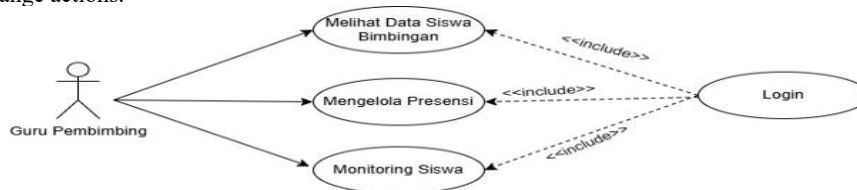


Fig. 5: Supervising teachers use case diagram

e. Field supervisors use case diagram

In the field supervisor use case diagram, it is explained that the field supervisor must first log in to be able to access the available features. The field supervisor can validate attendance and logbook.

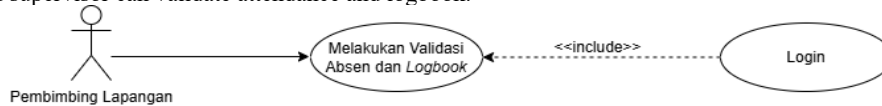


Fig. 6: Field supervisors use case diagram

Class diagram or class diagram is a static model that shows classes and relationships between classes that remain constant in a system over time. Class diagrams describe classes, which include behavior and status, with relationships between classes [7].

Figure 7 is a class diagram consisting of 10 classes consisting of admin, students, supervising teachers, departments, placements, agencies, field supervisors, attendance, logbooks, and monitoring.

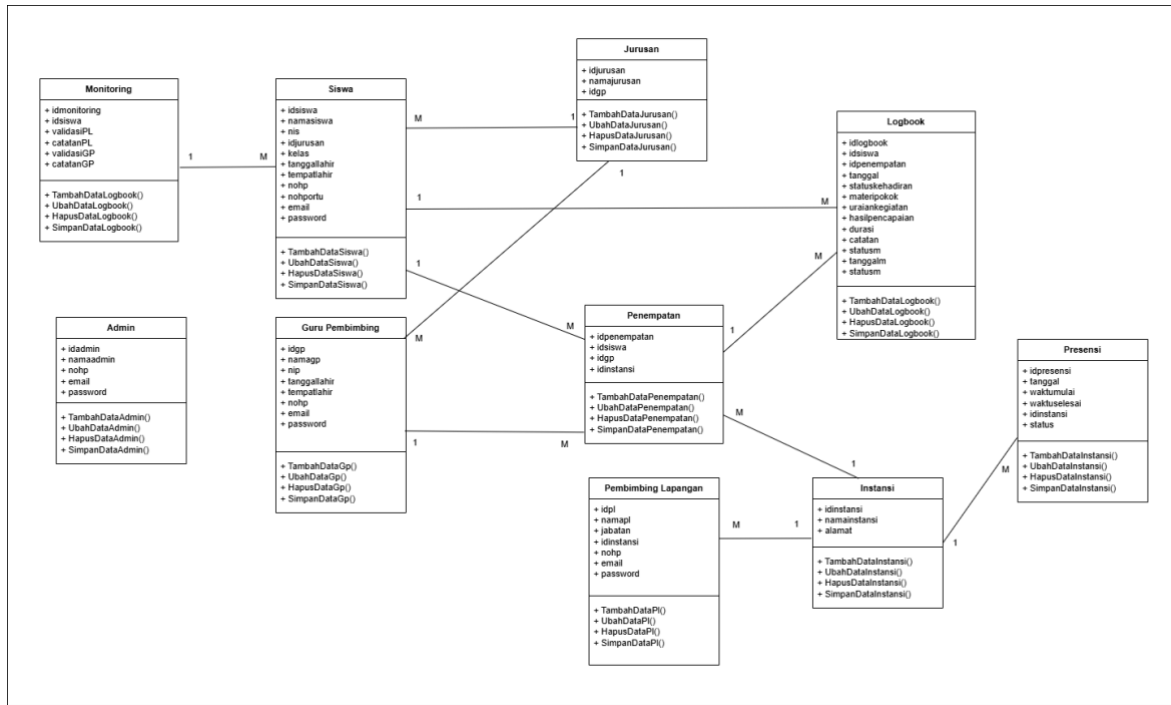


Fig. 7: Class diagram

3.3. System implementation

The system implementation displays the results of the design that has been implemented in a system. This website helps schools in monitoring their students who are doing internship.

a. Home page

The home page is the main page displayed on a website when a user browsers. The home page displays school information in the form of the school's vision, mission, and goals and displays several activities.

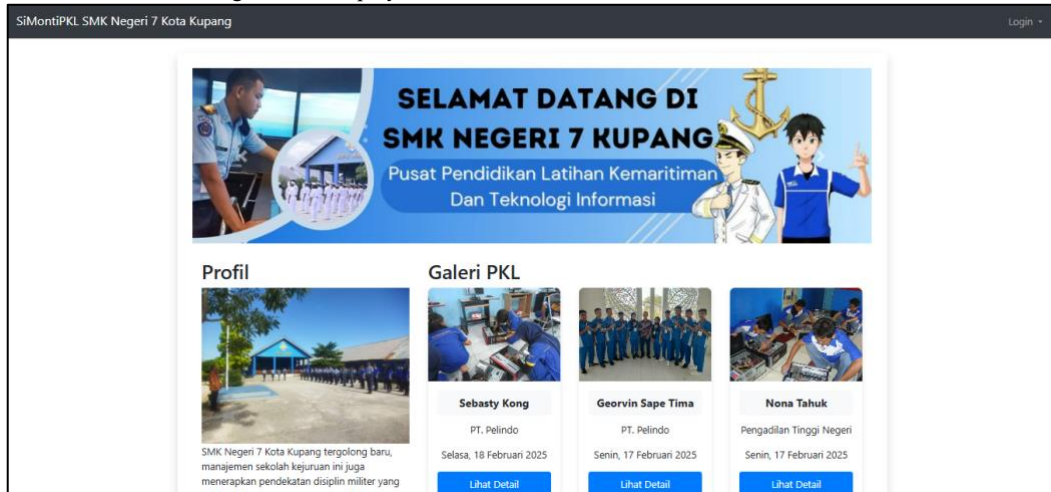


Fig. 8: Home page

b. Admin login form page

On the admin login page, the admin is asked to fill in the email and password. After the admin fills in the email and password then presses the login button. If the email and password entered then the admin is given access, but if the email and password entered are wrong then the admin is not given access. If the admin does not have an account then they must register an account.

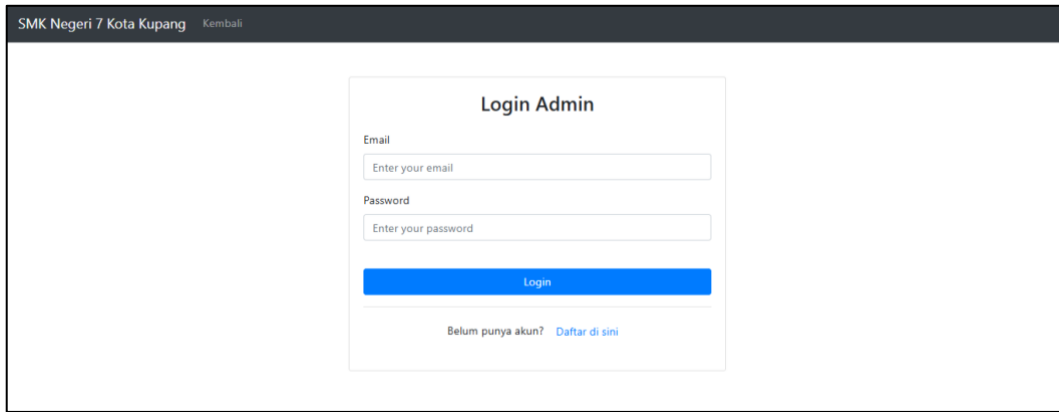


Fig. 9: Admin login form page

c. Student data page

On the student data page contains data for grade 12 students, namely starting from name, NIS, major, class, date of birth, address, telephone, parent's telephone, email, password, and student photo. On the student data page there is a search column used to search for data by entering search keywords. This student data is managed by the admin starting from adding data, changing data and deleting student data.

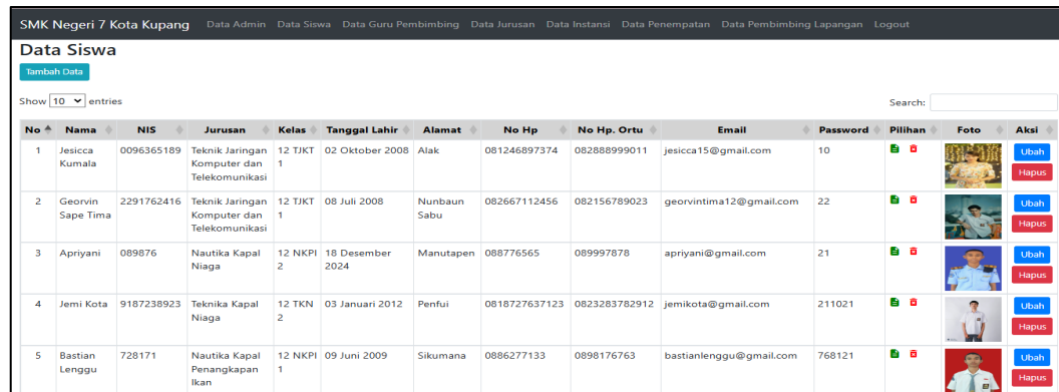


Fig. 10: Student data page

d. Attendance page and logbook (Students)

The attendance and logbook page is used by students to fill in attendance data and logbook notes during the internship. On this page, information about the internship location and the supervising teacher is displayed. There is a form to fill in the attendance and logbook, as well as a table that displays the results of filling in the form. In addition, there are two buttons to print the attendance and logbook. This page is also equipped with action buttons, namely Change and Delete, which allow students to edit or delete data that has been inputted. On this page there is also a button that students use to upload photos of activities at the internship location.

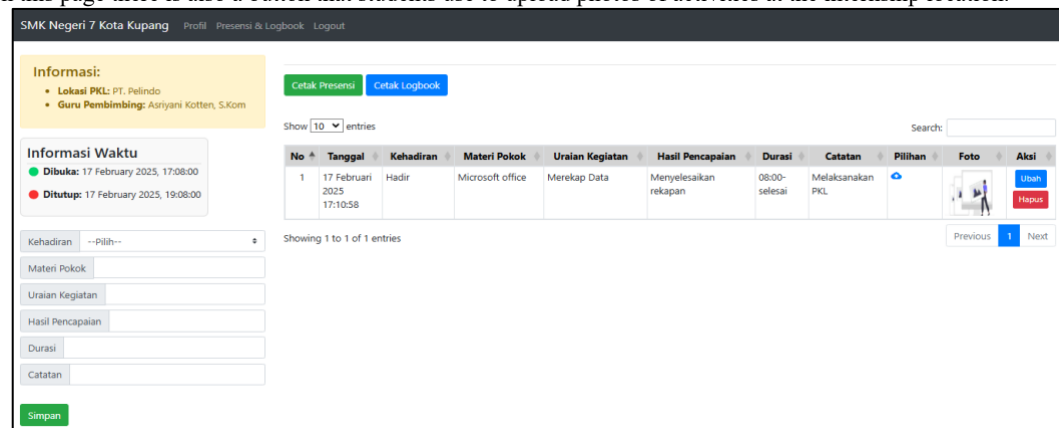


Fig. 11: Attendance page and logbook (Students)

e. Monitoring page (Supervising Teacher)

The monitoring page displays the name of the agency that is the location of the internship of the teacher's guidance students. There are two action buttons, namely the view attendance button and the internship monitoring button. Each of these buttons when clicked will be redirected to another page.

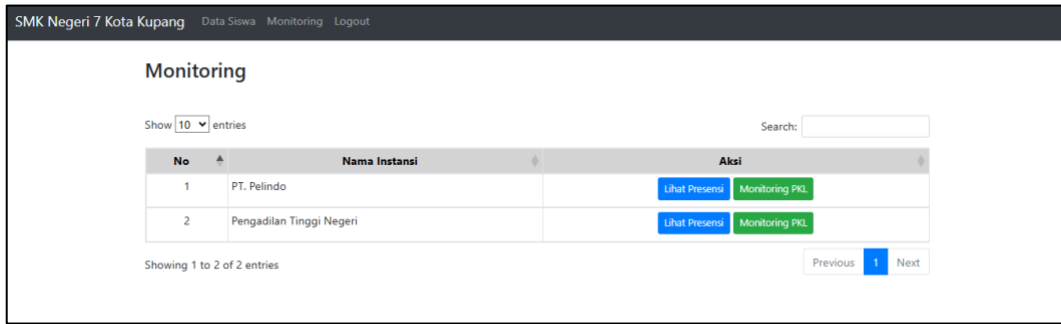


Fig. 12: Monitoring page (Supervising Teacher)

f. Attendance details page (Supervising Teacher)

This attendance page displays the date, attendance time, and attendance status. This page also has an open attendance button which when clicked will display the open attendance form. There are two action buttons, namely the change and delete buttons.

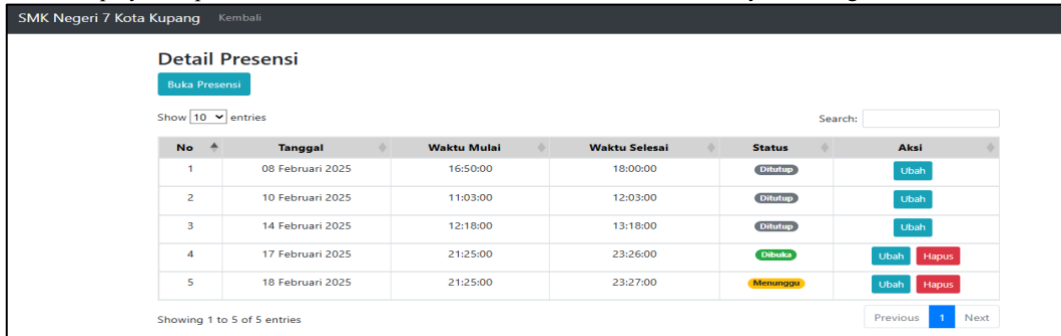


Fig. 13: Attendance details page (Supervising Teacher)

g. Attendance opening form

The attendance opening form displays a form that contains the date, start time, and end time. The supervising teacher must fill in this form so that students can fill in their attendance. The supervising teacher can open attendance for the next few days.

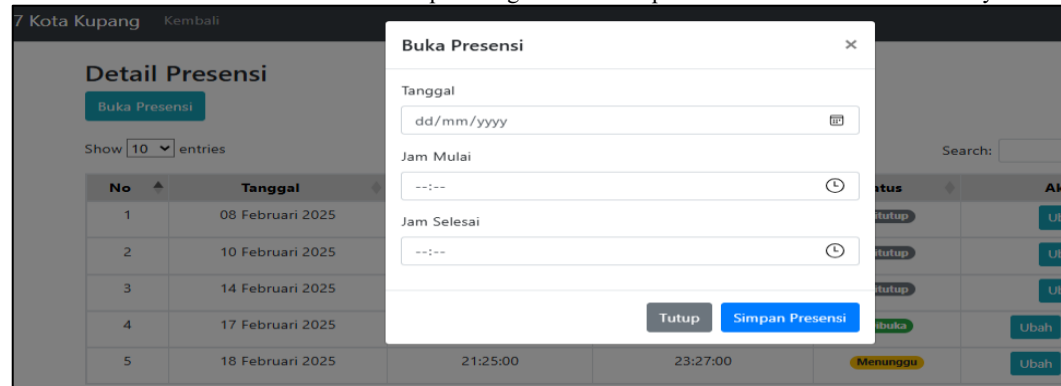


Fig. 14: Attendance opening form

h. Monitoring details page (Supervising Teacher)

The monitoring detail page displays students at the same institution. The monitoring detail page displays validation data from the field supervisor (Partner), field supervisor notes, Supervisor Teacher Validation, and Supervisor Teacher notes. The validation process is carried out when students have completed their internship. On the monitoring page there is also a detailed action button. The detail button will redirect the supervisor to the student's logbook detail page.

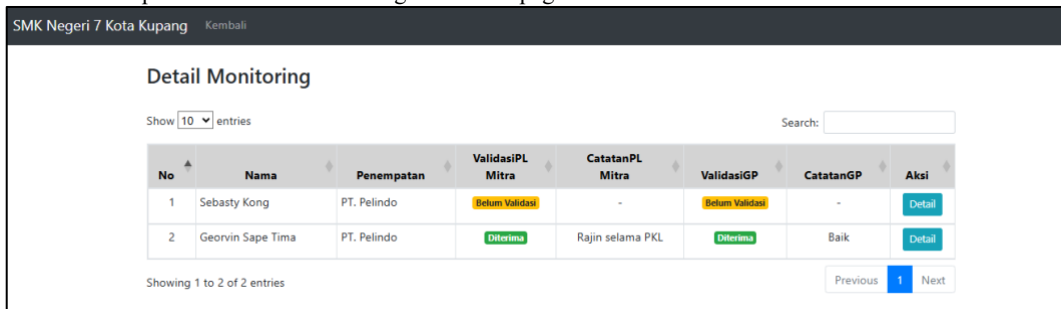


Fig. 15: Monitoring details page (Supervising Teacher)

i. Logbook detail page (Supervising Teacher)

This logbook detail page displays attendance data along with student logbooks during the internship. On the logbook detail page there are two buttons, namely the validation button and the monitoring button. The validation button can be validated if the field supervisor or partner has validated it. Validation here means validating the attendance and logbook of all students in carrying out internship. The monitoring button is done every month, the supervising teacher must monitor students every month.

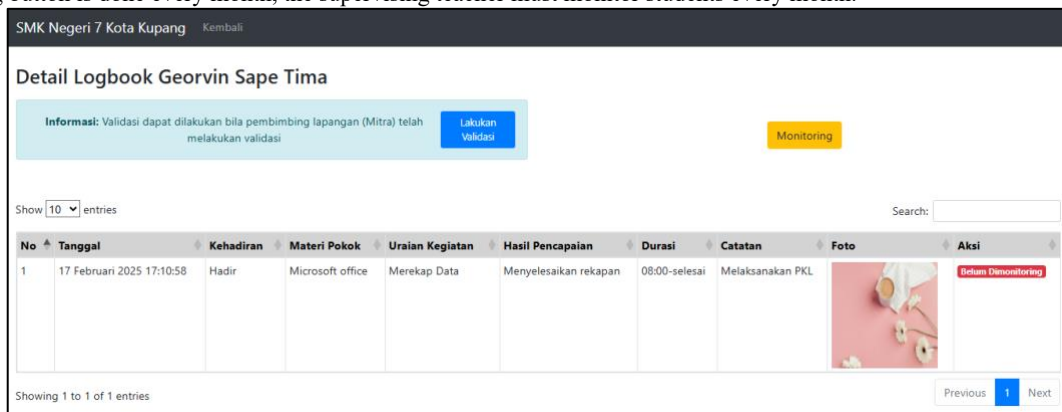


Fig. 16: Logbook detail page (Supervising Teacher)

j. Placement data page (Head of Department)

The placement data page displays student data, student internship agency or location, and supervising teacher. Placement data on the department head page displays student data in the department whose department head is logged in. The following image displays student data in the Computer Network Engineering and Telecommunications department. There is an Add button and two action buttons, namely change and delete.

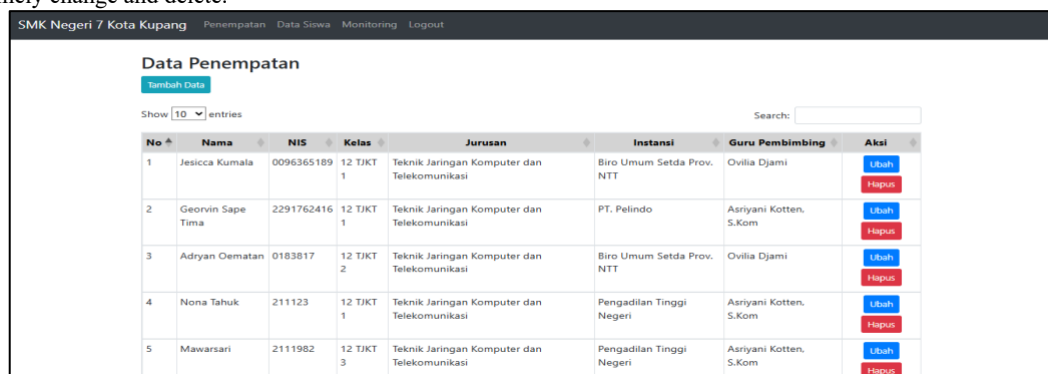


Fig. 17: Placement data page (Head of Department)

k. Attendance validation page and logbook (Field Supervisor)

This attendance and logbook validation page displays the names of students who are doing internship at the institution and this page also displays validation and notes. There are two buttons, namely details and the action button to change validation.

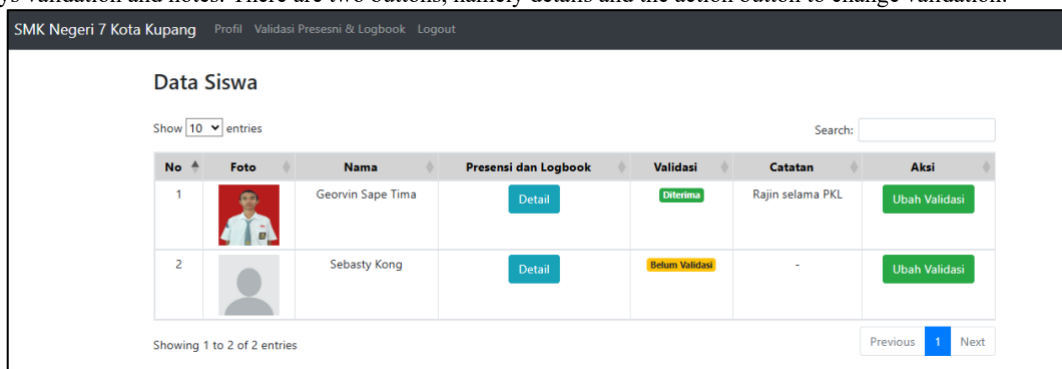


Fig. 18: Attendance validation page and logbook (Field Supervisor)

l. Logbook detail page (Field Supervisor)

This logbook detail page displays the attendance and logbook of internship students. On this page, the field supervisor has the right to change the attendance of internship students by selecting the attendance column. This page has a validation button, validation is carried out after the student has finished internship, and when you have filled in the validation on this page you cannot click the button again but if you want to change it, you can go to the front view to change the validation. In the following image, the validation button cannot be clicked because it has been validated.

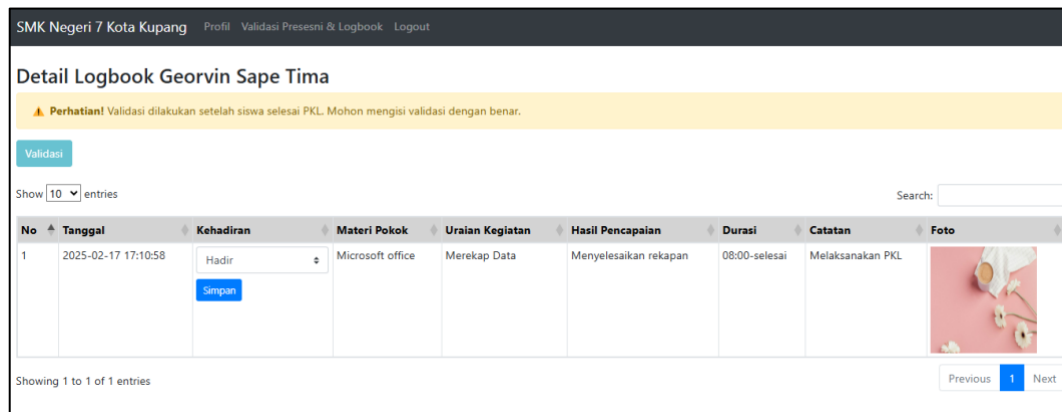


Fig. 19: Logbook detail page (Field Supervisor)

m. Validation data change form (Field Supervisor)

This validation data change form displays the data that has been filled in previously on the attendance and logbook detail pages. And in this form the field supervisor can change the validation data.

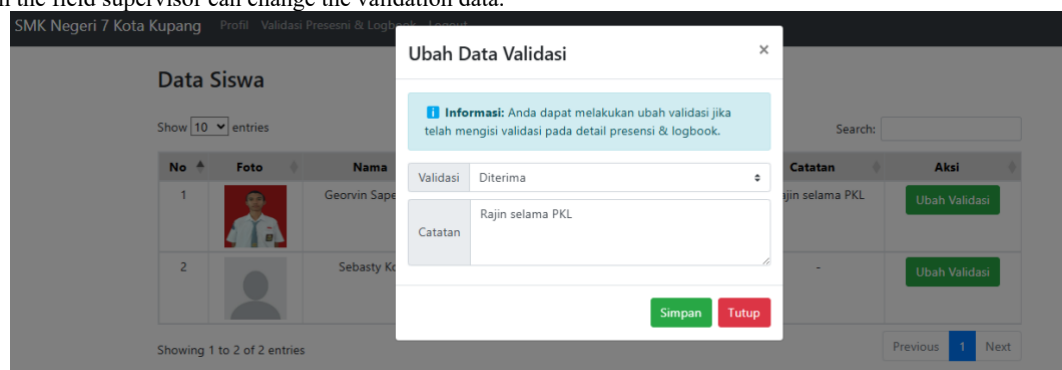


Fig. 20: Validation data change form (Field Supervisor)

4. Conclusion

The results of the study can be concluded that the SiMontiPKL website or internship monitoring system at SMK Negeri 7 Kupang makes it easier for the school to monitor students at the internship location every month online, students can do attendance and fill in logbooks online, and field supervisors and supervising teachers can validate student attendance and logbooks when students end their internships. This Monitoring System still has shortcomings, namely the navigation display needs to be optimized to be easier to understand and use by users and SiMontiPKL still needs to be developed further, including the addition of automatic notification features for attendance and logbooks, as well as an evaluation and assessment system so that supervising lecturers can provide direct feedback.

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