UTILIZATION OF GEOLOCATION FOR MONITORING DUAL SYSTEM EDUCATION

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Abstract
Implementing Dual System Education (DSE) for SMK Tut Wuri Handayani students for 3 months requires the guidance teacher to visit the industry where DSE is implemented. However, if teachers cannot attend because of other activities that cannot be postponed, then visits to the industry where DSE is carried out will be hampered. For this reason, an application or system is needed that can be used to solve the problem of industrial visits to the DSE place. The research that has been carried out produces an application or geolocation system to monitor the attendance and activities of students in places implementing DSE
Keywords: *Application; Geolocation; Dual-System; Education*

INTRODUCTION

The development of education delivery. It cannot be separated from human progress in thinking about education**.** SMK Tut Wuri Handayani Makassar is a vocational secondary education that applies Dual System Education (DSE) which is mandatory for grade 3 odd semester students. SPG is carried out for 3 months in the business or industrial world in Makassar City and outside Makassar City.

In its implementation, the supervisor will visit once a month to the place where students carry out DSE to monitor the activities carried out by students. Suppose the supervisor does not monitor students in DSE activities and only refers to the daily activity journal given to students. In that case, students will not be disciplined or serious about implementing DSE, so the school's goal of providing real-world work experience is not achieved properly. Monitoring students who carry out DSE at SMK Tut Wuri Handayani Makassar is still very lacking in knowing student attendance and student activities, what is done every day. Although the school has provided a journal of daily activities to fill out, these activities are not enough to ensure the authenticity of the activities carried out by students.

Based on this, a system was created, "Utilization of Geolocation for Monitoring Students who Carry out Dual Web-Based Mapping System Education", which can be used to monitor students in real-time without having to visit one by one where students carry out DSE. The formulation of the problem to be discussed is how to monitor the activities carried out by students at the DSE place, using Geolocation to see the location of students on the web map. The target of using this system is the DSE Committee, namely, Monitoring Teachers and Students of SMK Tut Wuri Handayani Makassar.

MATERIALS AND METHODS

The research method used is descriptive research, which describes precisely the characteristics of a particular individual, state, symptom or group, or to determine whether there is a relationship between a symptom and other symptoms in society. The data collection techniques that the author did were observation and literature study.

RESULTS AND DISCUSSIONS

Main Menu Implementation

Research carried out for 6 months resulted in a geolocation application to monitor the activities of students who carry out SPG in the industry. The application consists of several menus, including:

Main Menu

The main menu is the menu that first appears when the system is accessed, and this menu contains news information and articles about SMK Tut Wuri Handayani Makassar. DSE admin/staff can only process this information by displaying announcement information about DSE. It can be seen in Figure 1.
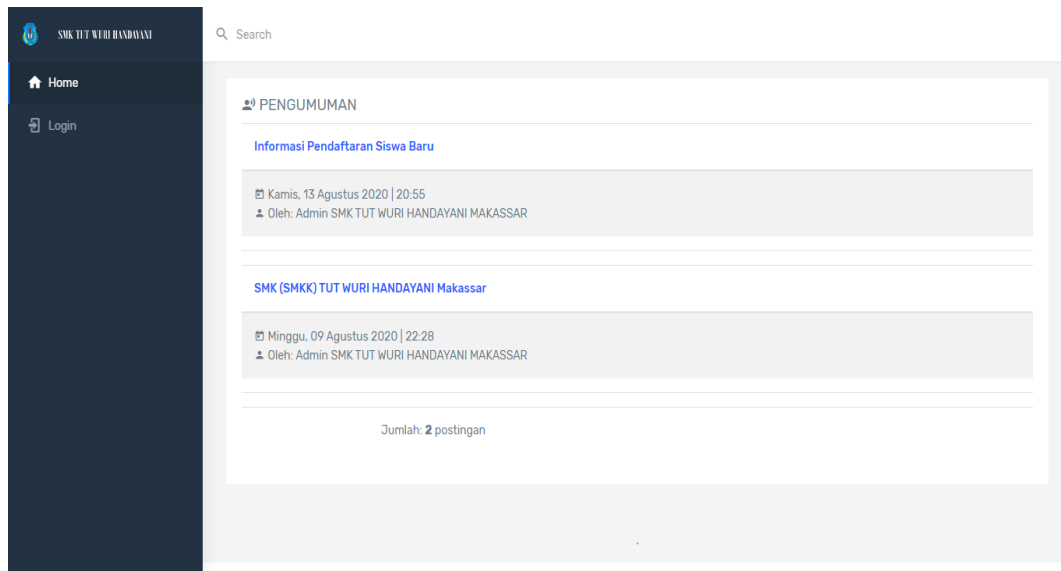

Figure 1. Implementation of Main Menu

Login Menu

The login menu is a menu that appears when accessing the system by pressing the login button, entering the username and password that corresponds to the account that has been registered, and selecting the access rights you want to log in, namely DSE admin/staff access rights, guidance teachers and student access rights as in figure 2.
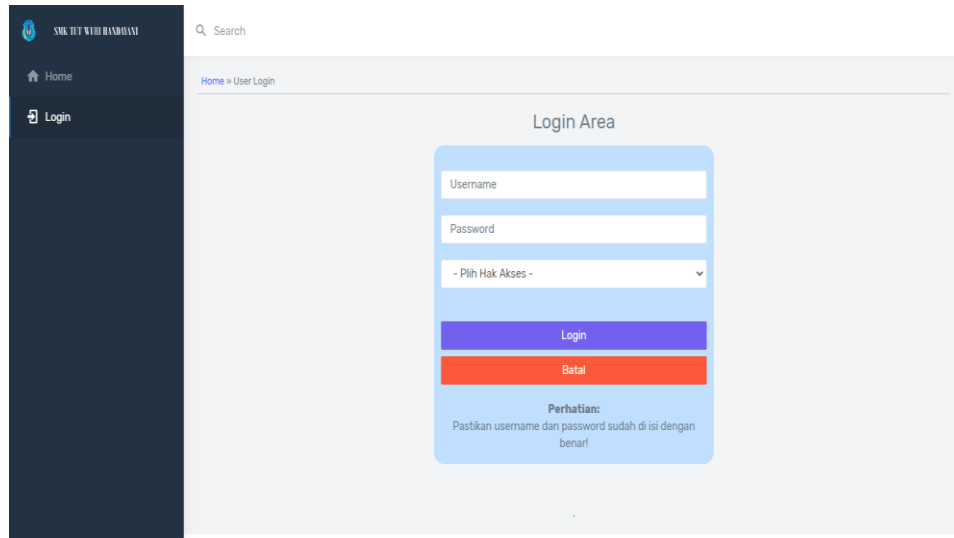
Figure 2. Login Menu

DSE Admin/Staff Menu

DSE staff menu to manage department data, class data, student data, teacher data, company data, tutor data, and determine placements and student guidance teachers and manage announcement information. The DSE Admin/Staff menu can be seen in Figure 3.
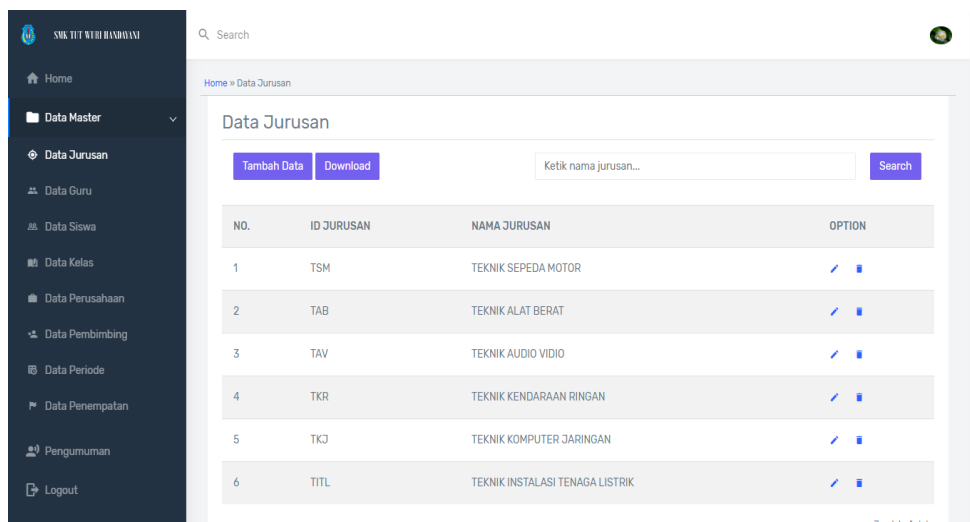

Figure 3. DSE staff menu

Manage Student Data Admin Menu

The admin menu to manage student data contains, among others: nis, student name, gender, class, major, place of birth, address, phone number, photo, email, username and password that students will use to be able to log in to this system, as shown in figure 4.
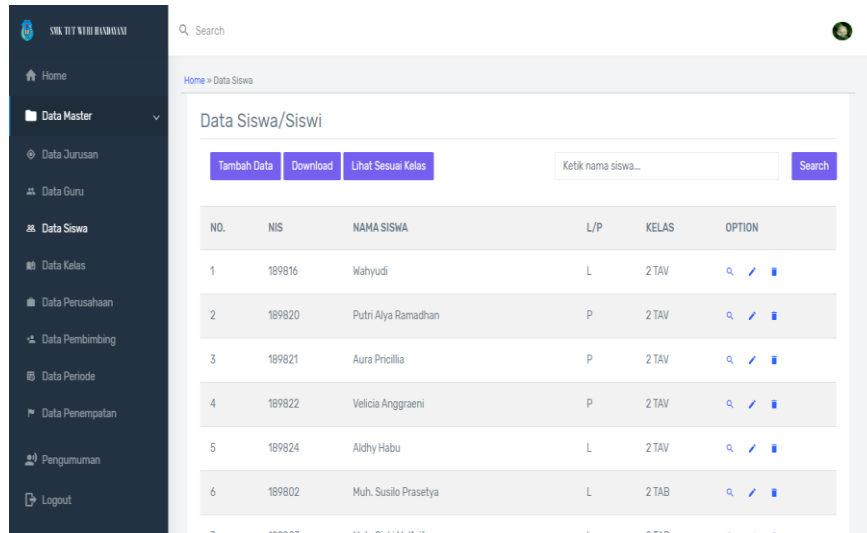
Figure 4. Menu to manage student data

Admin Menu Manage Teacher Data

The admin menu to manage teacher data consists of nip, teacher name, gender, date of birth, address, phone number, photo, email, username and password that the teacher will use to be able to log in to this system, as shown in figure 5.
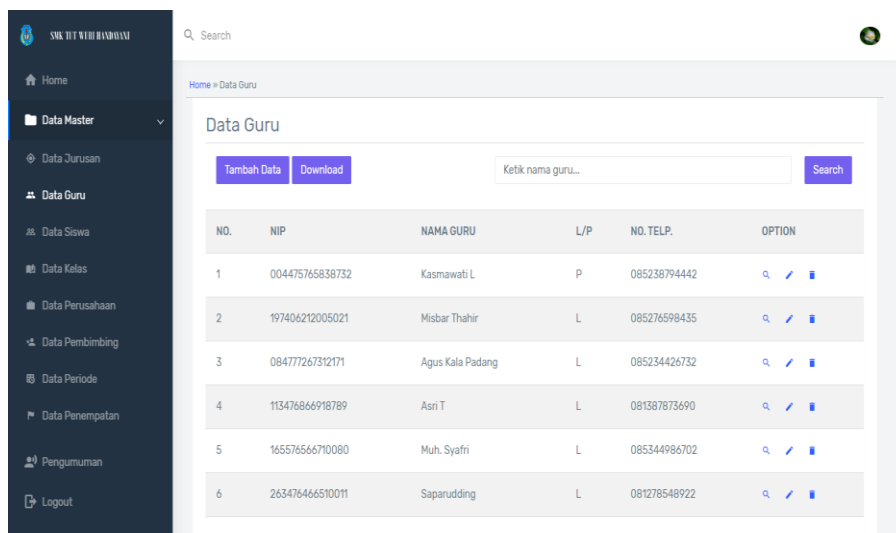

Figure 5. menu to manage teacher data

Admin Menu Manage Placement Data

Admin menu manages placement data to input data where students will be placed to carry out DSE, including nis, Supervisor ID: the teacher who will guide during DSE, company ID: where students are placed and period ID: in what period students are placed, as shown in figure 6.
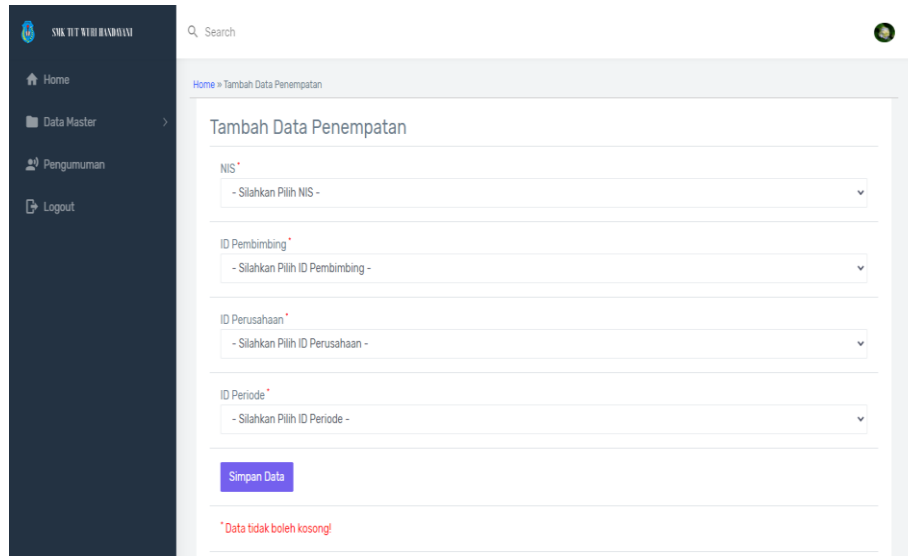
Figure 6. Manage placement data

Student Menu Implementation

Implementation of student menus to manage daily journals and chats and can see student data, company data, supervisor data and placement data previously inputted by DSE admins/staff, as shown in Figure 7.
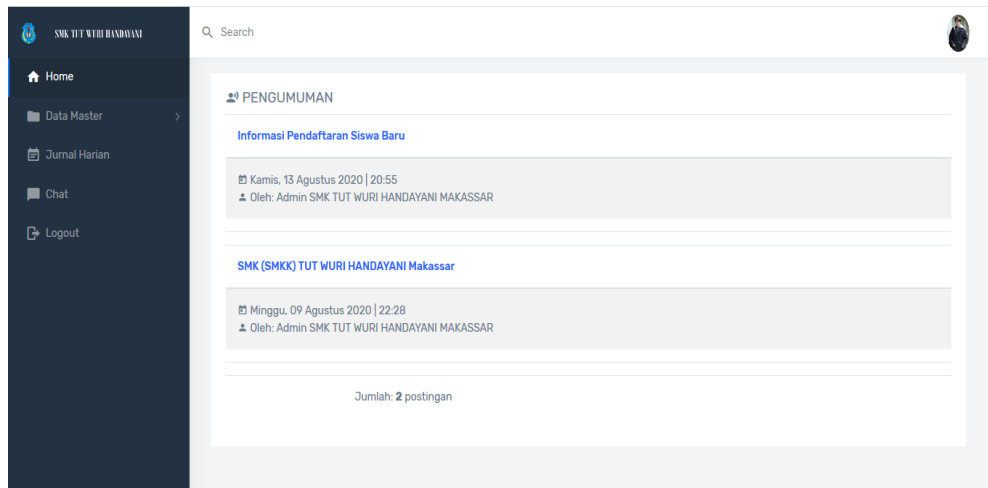

Figure 7. Student menus

Student Daily Journal Input Menu

Student daily journal input menu to manage daily journal data or activities carried out by students during DSE, including nis, date when carrying out activities, activity names, DSE location place names, maps to get student locations, activity descriptions and activity photos, as shown in figure 8.
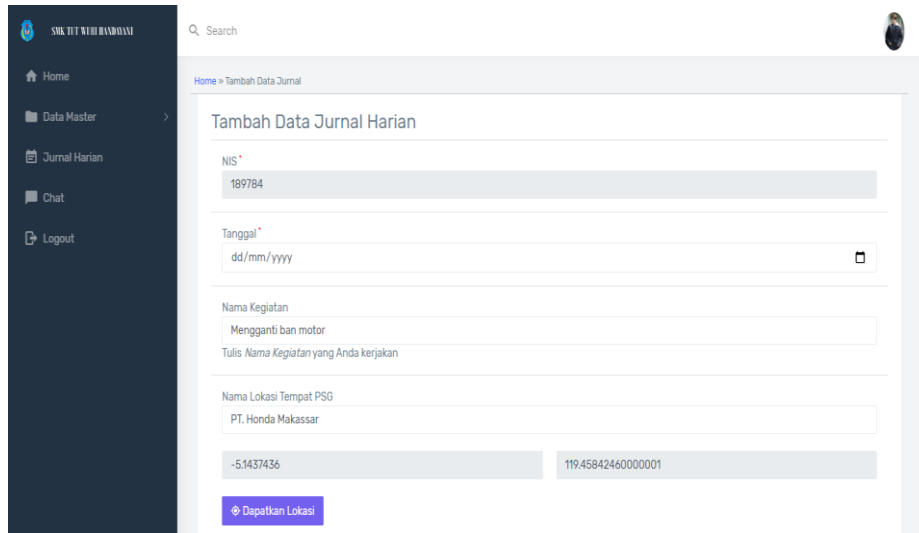
Figure 8. Student daily journal input

View the Location menu for student

This menu is used to see the location of the student, whether the student is in the location of the DSE place or not, as shown in Figure 9.
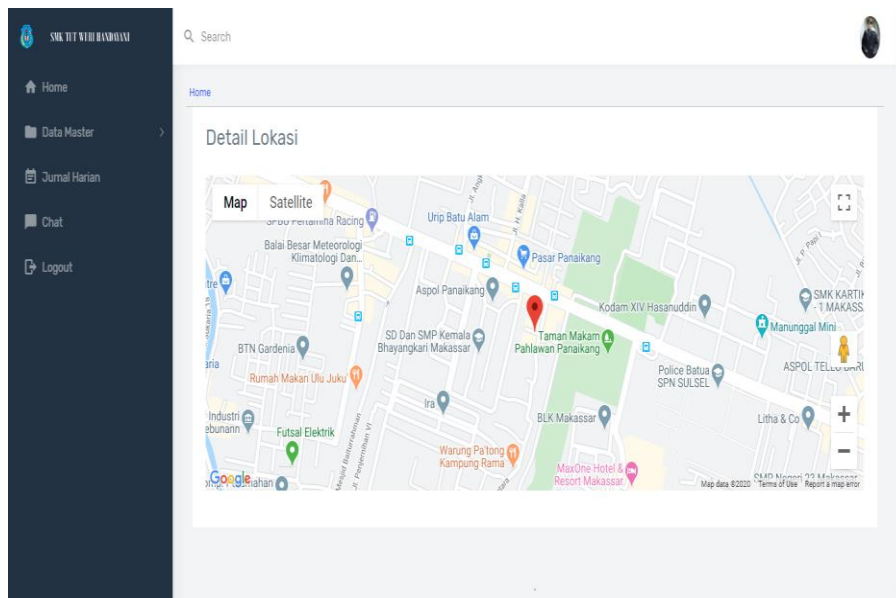

Figure 9. Location menu for students

Chat menu for students

This menu is on the student login that the student and the supervising teacher use to exchange information, as in Figure 10.
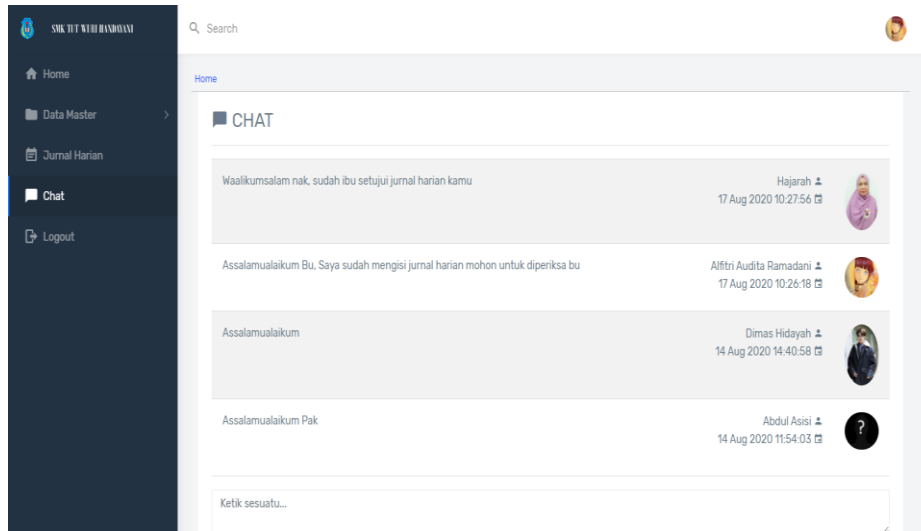
Figure 10. Menu Chat Untuk Siswa

Student Menu View Validated Activities

The student menu sees activities that their supervisor has validated if the supervisor has approved the student's daily journal report, the print symbol will change to blue, as shown in Figure 11.
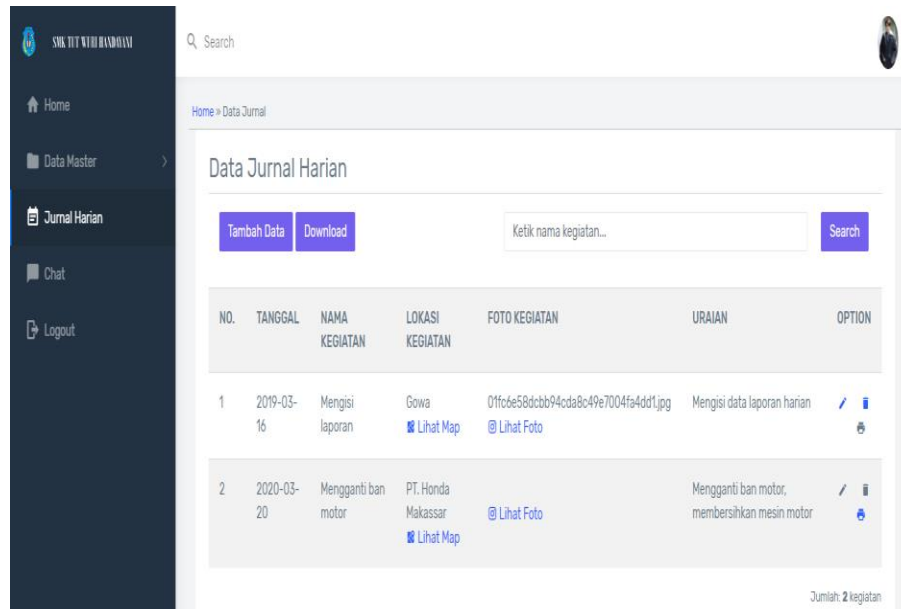

Figure 11. student menu sees activities

Print Student Activities Menu

The menu for printing student activities that have been validated or approved by the supervising teacher can be seen in Figure 12.
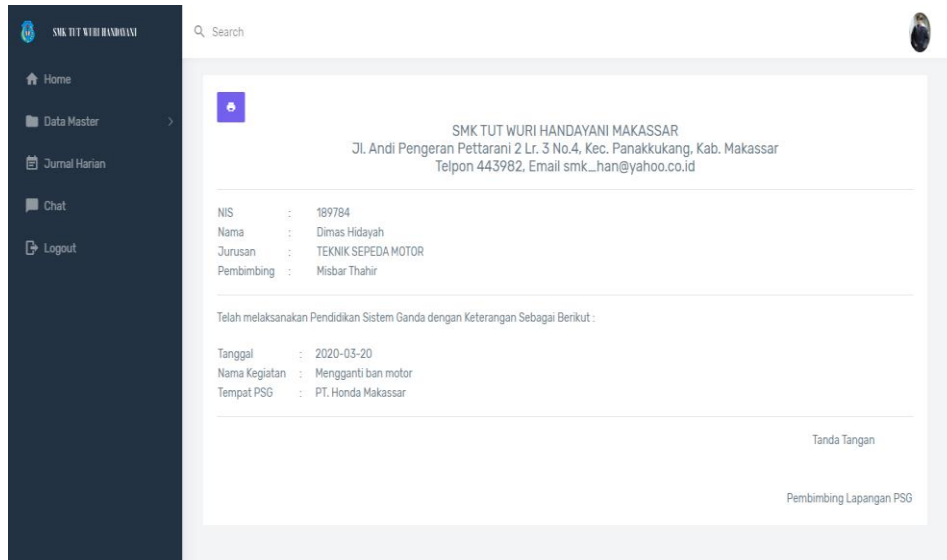
Figure 12. Printing student activities

Implementation of the Guidance Teacher Menu

The implementation of the supervisor menu is to chat with students, can only see student data placement data and see student locations and approve student activity journals so that students can print their daily journals, as shown in Figure 13.
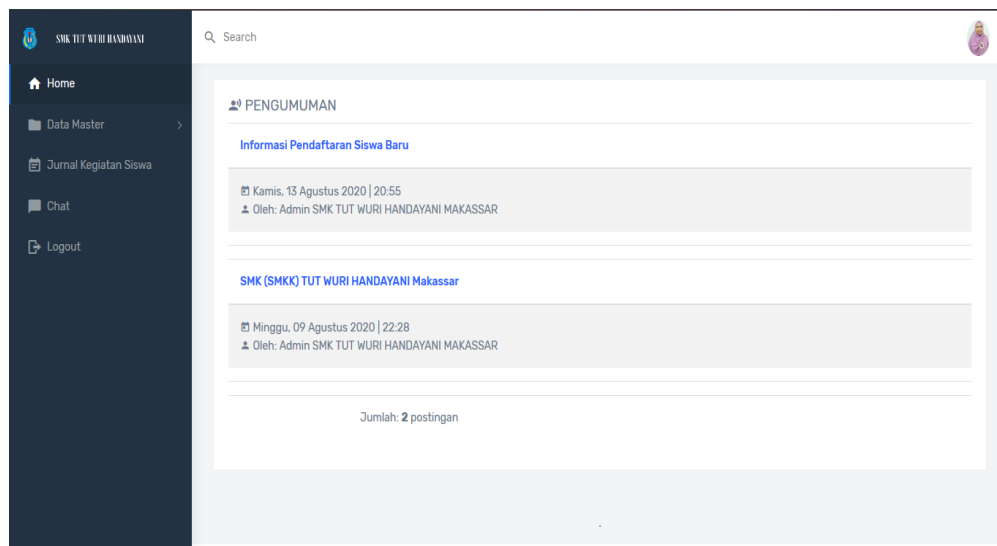

Figure 13. Supervisor menu

Student Activity Journal View Menu

The instructor uses this menu to view the activity journal, see the student's location and approve the student's daily journal, as in Figure 14.
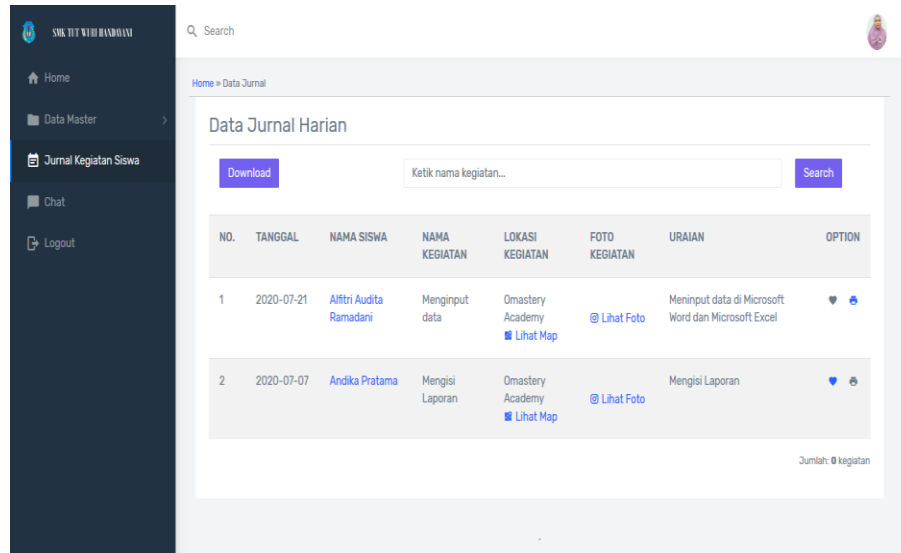
Figure 14. View the activity journal

Menu to see the student's location

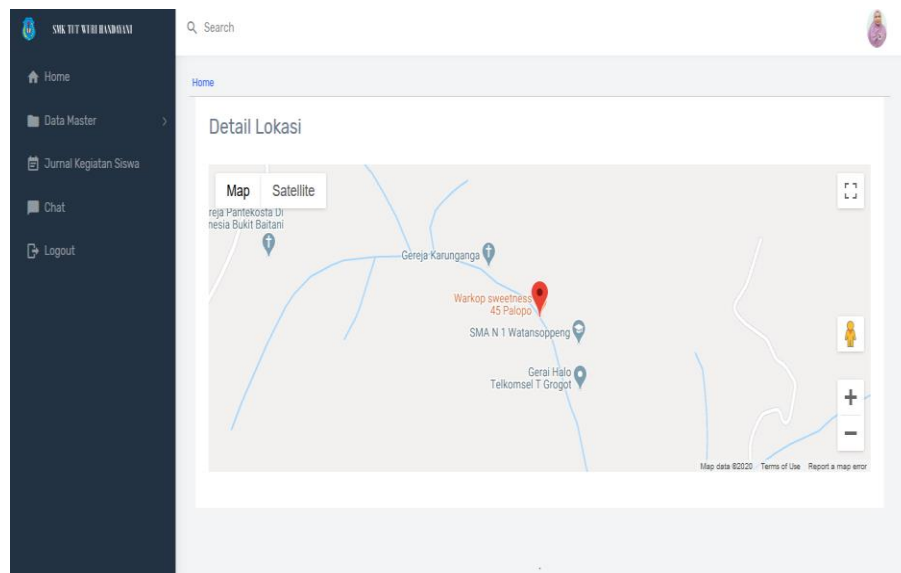The guidance teacher uses this menu to see the location of students doing DSE, as in Figure 15.

Figure 15. Fiture see the student's location

Student Activity Validation Menu

The supervising teacher uses this menu to approve the student's daily journal that has been inputted. If it has not been approved, the love icon will be blue, and if the supervisor has approved the daily journal, the printer icon will be blue, as in Figure 16.
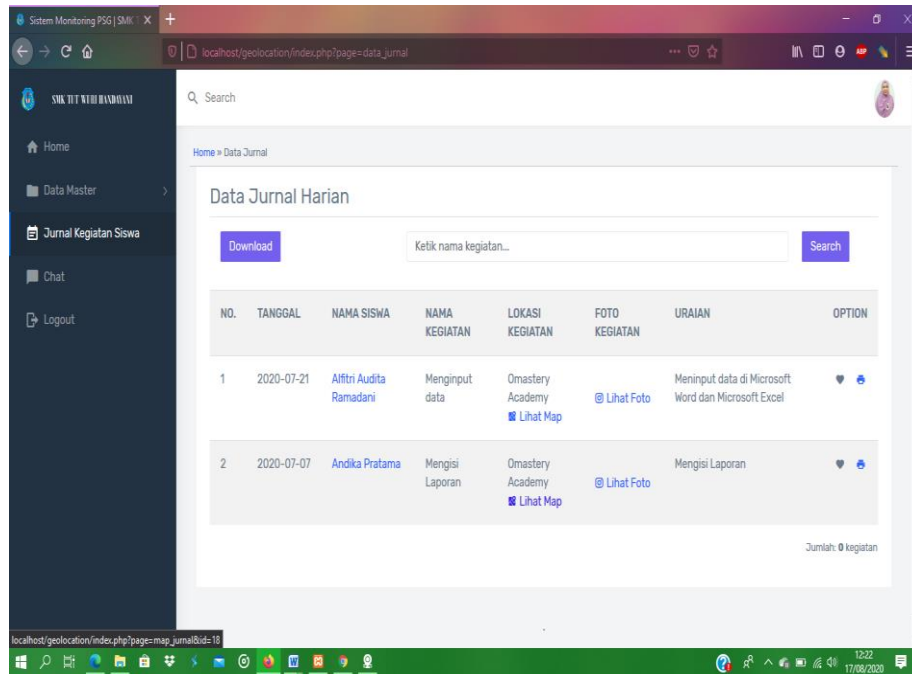
Figure 16. Activity Validation

Chat Menu For Teacher

This menu is on the student login used by students and guidance counselors to exchange information, as in Figure 17.
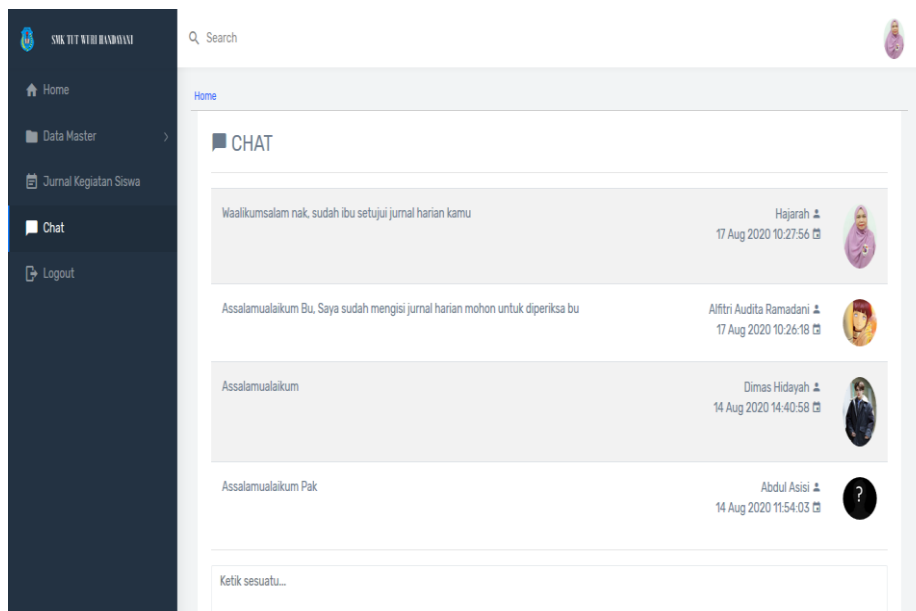

Figure 17. Fiture of Chat For the Teacher

CONCLUSIONS & RECOMMENDATIONS

The research concludes that a geolocation application has been built to monitor activities carried out by students at the DSE place and can monitor the location of students, thus saving costs and time because the monitoring process can be done without having to visit students one by one to the DSE place.

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