

SMART SCHOOL MANAGEMENT SYSTEM AS A STUDENT PRESENTION MONITORING IN THE KHADIJAH HIGH SCHOOL SURABAYA

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ABSTRACT

As a supporter of the Surabaya city government program, which will make the city of Surabaya a smart city in all aspects of the field, including in the field of education. The smart city program in Surabaya has been running in several aspects of the field, but there are still very few in the field of education, Khadijah High School is one of the schools that will implement all forms of information technology-based school management, which we can call a smart school management system. The system management method uses the RAD (Rapid Application Development) method. The expected results in making this system are, by monitoring the presence of students until end to end it can minimize student delinquency in learning.

Keywords: *Smart City, Smart School Management System, SMA Khadijah.*

1. INTRODUCTION

In the world of information technology, now we have entered the industry 4.0 generation where all data has been processed digitally, including data in the field of education and its management, because in the era of digitization and development of big data, information technology is needed in various aspects of the field, especially in education sector to help maximize performance and minimize all violations in the field of education, in this case a management information system is needed in the field of education which is commonly called a smart school management system, a management system that controls or monitors the presence of students at SMA Khadijah SBY. The management that will be reported in this system is in addition to presence, announcements, assessments, student questionnaires

1.2 Issue

Based on observations, the problems that occurred at Khadijah High School were related to school management, especially the presence of students.

1. There is no reports to parents regarding school attendance.
2. There is no information system to support the report which is reported directly to the student guardian regarding student attendance.
3. There is no online presence monitoring system in SMA Khadijah Surabaya

1.3 Research purpose

The aim is to design, build and analyze the attendance monitoring information system of students at Khadijah High School Surabaya, which is web-based, besides that the purpose of making this application is to monitor students in terms of presence in order to minimize some cases of student delinquency, such as, often late, or even skipping school frequently, with this end to end monitoring can overcome the above matters.

1.4 Scope of problem

The limitations of the problem in this study are as follows:

1. Information system is only applied to the environment of SMA Khadijah Surabaya.
2. The management information system manages student attendance, Announcement assessment, and student questionnaires needed each semester.
3. Web-based application and can be accessed via an Android smart phone
4. Using the PHP programming language with CodeIgniter Framework

2. REFERENCE

2.1 Management Information System

The system is a group that is structurally connected, working together to get the same goal, while information is real data that can be accounted for, which in this case can be used as input, while management or in English is management is a process. where a person can organize everything that is done by individuals or groups. So the overall understanding of an information management system is a group that is connected to having one purpose to process data, namely by managing the data according to needs, according to Ariawan, SE, MM [1] in the Management Information System book, 2010 says that "Information Systems are components that are interconnected and work together to collect, process, store, and distribute the information to support the decision-making process, coordination and control," while according to Mc. Keown in his book "Management Information System; Managing with Computers" states that an information system is a combination of computers and users that manages changes to data into information and stores that data and information.

2.2 Smart School

Smart school is an information system in the field of education that can be accessed via smart phone, making it easier for users to get information. In this study, the information that will be output is information on the presence of students who are reported end to end, meaning that the direct presence can be known by the parents in real time, because this system is integrated with finger print, it automatically allows students of SMA Khadijah Surabaya to use fingerprints. as a means of presence or proof of their presence, it will be immediately reported to the student guardian user in real time.

2.3 The method RAD (Rapid Application Development)

The RAD method is a combination method, from the previous method methods, one of which is the prototyping method combined with other methods, the RAD method starts with the system design needed by the user, besides that RAD emphasizes the development cycle in a short time (60 to 90 days) with a component-based construction approach .. for some of the advantages of the RAD method system is that it can follow the usual stages of development, but has the ability to reuse existing components.

3. RESEARCH METHOD

3.1 System overview

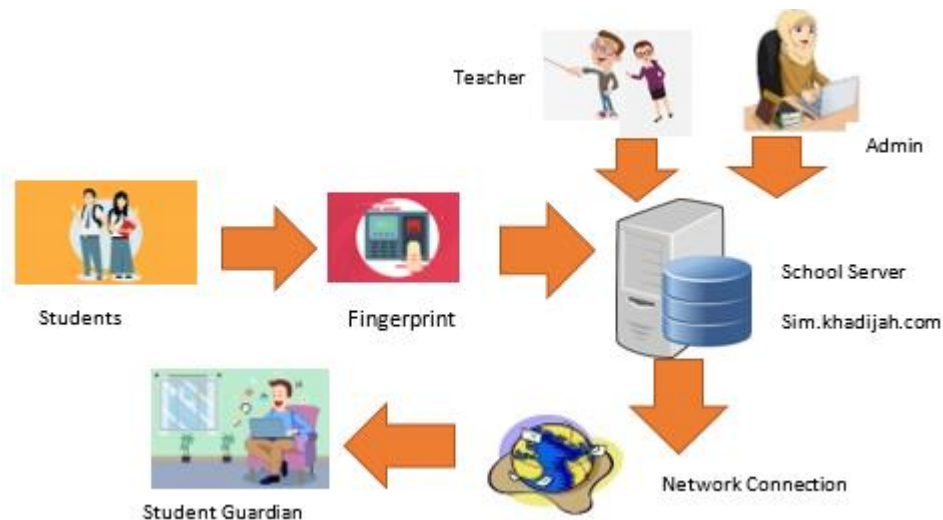


Figure 3.1 General System Architecture

The Smart School Management system application that was made is integrated with a fingerprint machine as a tool for the presence of students of SMA Khadijah Surabaya, this system works starting from students of SMA Khadijah Surabaya with fingerprint attendance which is then integrated with the school application with the address sim.smakhadijah .com and in real time parents / guardians will receive student attendance reports on the account of each student / parent's guardian, not just presence, information that can be obtained by parents / guardians, such as school announcements, children's achievements, assessments either daily or online report cards on the account of each student's guardian, so that parents / guardians can monitor each student's activity or their son's daughter in more detail, not only that information is obtained, school schedules are also informed every day , while for teacher user assessment information who will report in real time to the parents, for announcement information, school schedules will be reported by the admin user.

3.2 Flowchart System

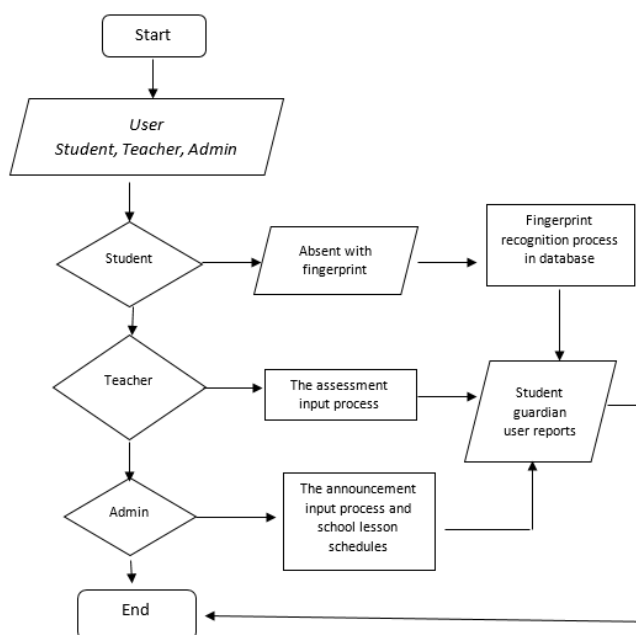


Figure 3.2 Flowchart

3.3 Method Rad (Rapid Application Development)

Rapid Application Development (RAD) is a linear sequential software development process model that emphasizes a very short development cycle. The RAD model is a "high speed" adaptation of the linear sequential model where rapid development is achieved using a component-based construction approach. The traditional and rad software development process is presented in Figure 3.3 [2] Falah Abdussalam.



Figure 3.4 RAD Traditional Method Development Process

4. RESULT AND DISCUSSION

4.1 Discussion with the RAD Method

In the discussion of the Smart School Management System Information System using the RAD method, by determining requirement planning, this application is called a real-time monitoring system for the presence of students who are reported to the accounts of parents of students of SMA Khadjah Surabaya, which are reported every time. days, not only presence will be reported, student assessments, lesson schedules, and also some important announcements aimed at parents, and from the results of the planning requirements that the Smart School Management System application must be able to display :

1. Student Presence history right at the time the student did the presence with the fingerprint.
2. Displays an assessment report whether daily, weekly or monthly, even semester report cards can also be reported in this system.
3. Giving announcement information related to each student.
4. The next stage is a design workshop, this stage will display the required interface through a web-based internet connection and can be accessed via the smart phone of each user parent.

Several stages of the user interface, namely:

1. Layout: The user interface used must be consistent in every layout
2. Context Awareness The user knows the access rights of each given, in this case the parent user, teacher and admin.
3. Aesthetics, the user interface must be user friendly which is easy to operate by the general public.
4. User Experience is easily accessible by anyone.
5. Consistency in creating interfaces so as not to confuse users
6. Minimal User Effort interface should be designed as simple as possible so that it can be used easily.

4.2 Result

Some views of the system, according to the user:

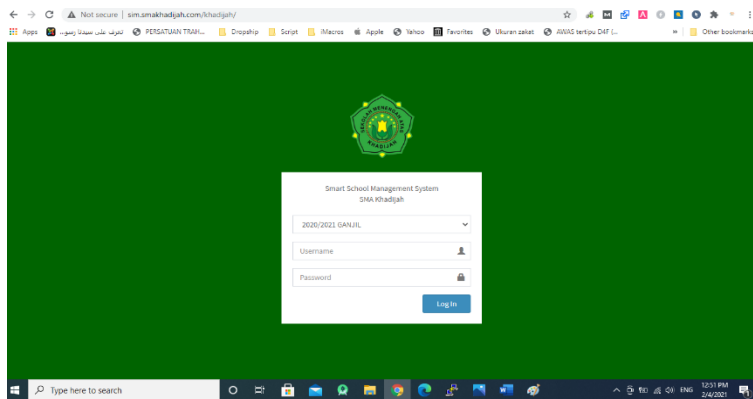


Figure 4.1 Main page system via web

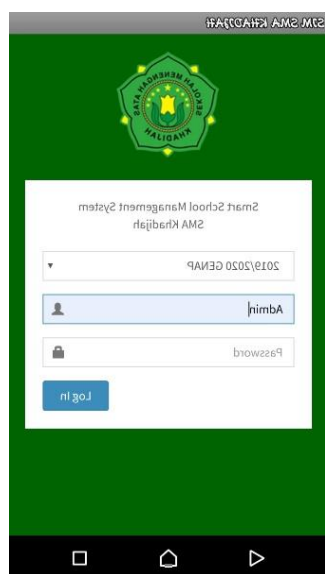


Figure 4.2 Main page system via android

4.1 User Admin

this study focuses in user admin on managing matters related to the presence of students, teacher assignments and announcements for student guardians. In addition, the admin user will also manage accounts, both parent / guardian accounts and teacher accounts, each of which has a different task. The following is the interface for the admin account on the smart school management system of the Khadijah High School Surabaya.

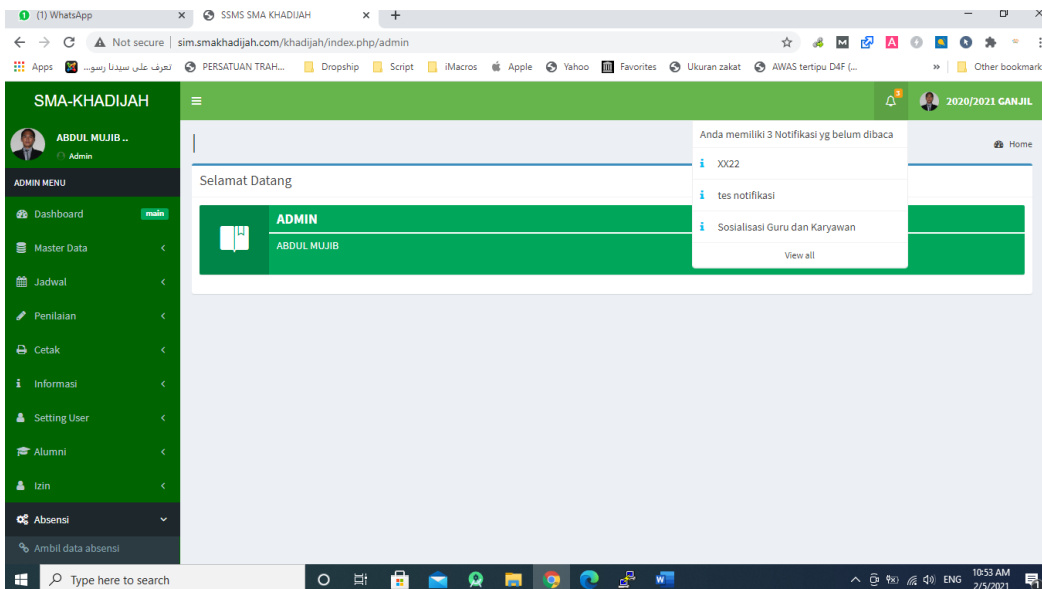


Figure 4.3 Dashboard Admin

Figure 4.3 above shows that this study focuses on certain menu menus, which are related to student presence, menus that can be set are master data, schedules, assessments, information, user settings, and also attendance. In the master data menu, the admin user will manage several things, such as: name of students, class, teacher, subject, program, class, school year and lesson time. In the schedule menu the admin user will arrange everything by scheduling, such as the schedule of lessons that are reported to parents / guardians, and also the picket schedule for teachers of SMA Khadijah Surabaya, this can be seen in Figure 4.4 below.

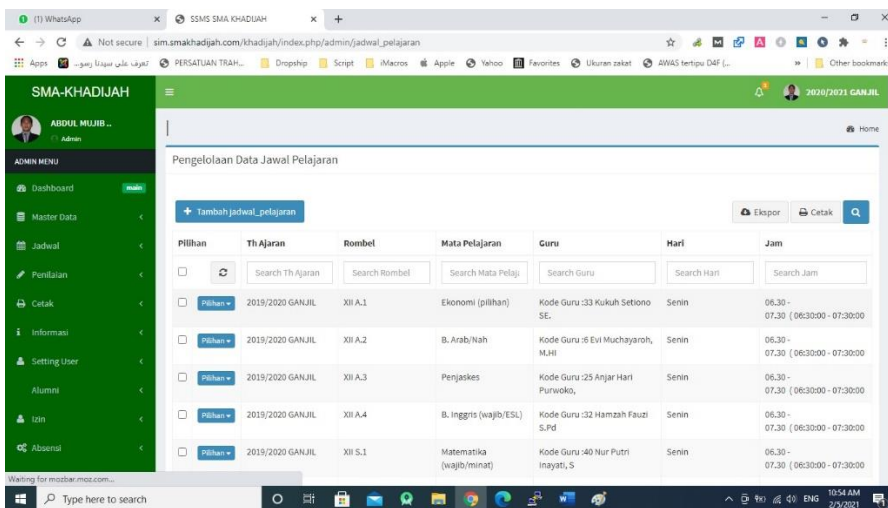


Figure 4.4 lesson schedule settings

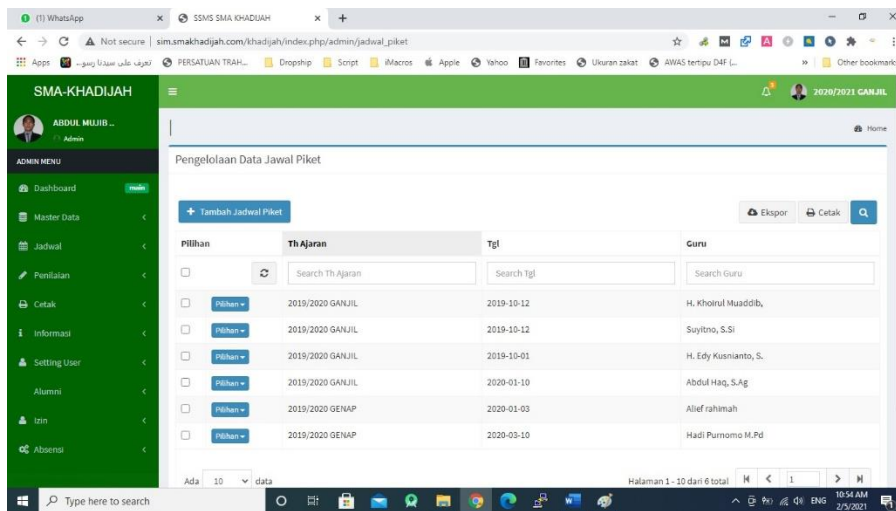
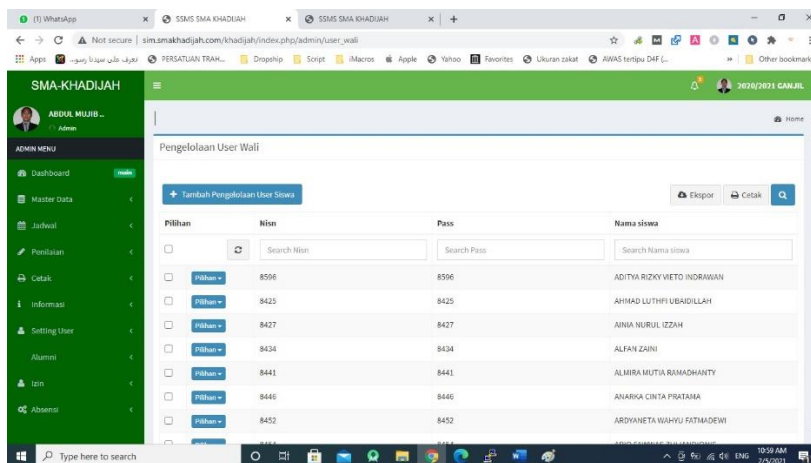
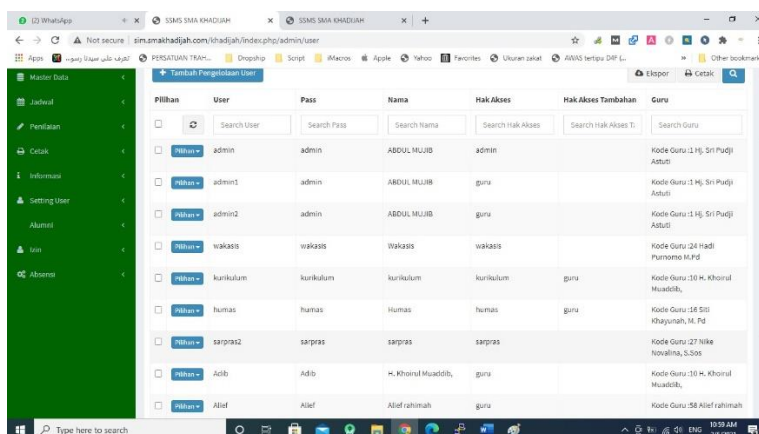


Figure 4.5 picket schedule settings

In Figure 44 a, for setting the lesson schedule, it is adjusted to the schedule of each teacher and it is reported in the parent / guardian user according to the class of each student. Meanwhile, the teacher picket schedule also consists of columns for the school year, date and the teacher concerned, from the picket schedule settings it will be seen in each teacher's account.



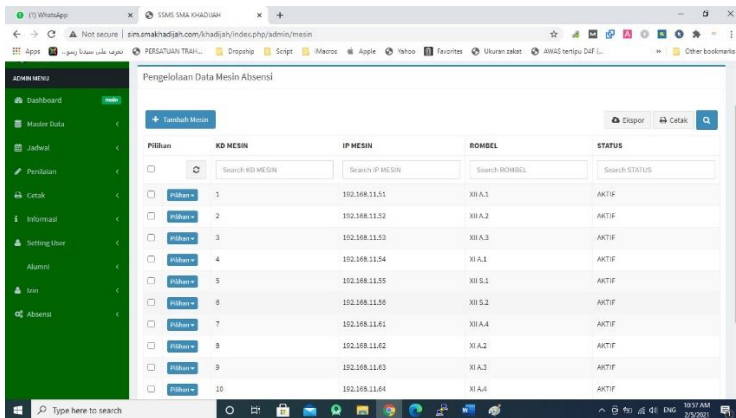
(a)



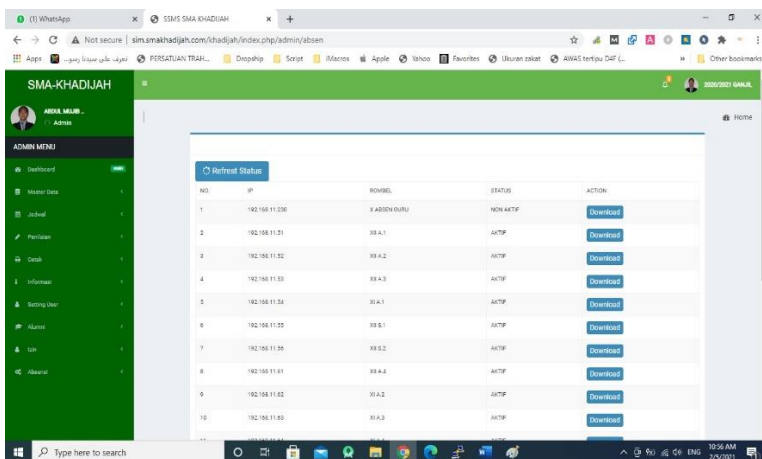
(b)

Figure 4.5 Guardian user settings (a) and teacher user settings (b)

Because in this case the user used other than admin is the teacher user and user parent / guardian. Then in the settings of the two users, they can access the system according to their respective access rights.



(a)



(b)

Figure 4.6 Finger machine settings (a) finger data retrieval settings

The focus of this research is the presentation of students who are reported in real time to parents / guardians, it can be seen in Figure 4.6 a as an integration of a finger machine with this system, it can be seen that the finger machine will be controlled, if the machine starts eating it is reported to be “active” if there is no connection or not on will report “inactive”.

4.3 User Teacher

Teacher user access rights are as reporters of grades to parents / guardians, and receive information about teaching hours and announcements intended for

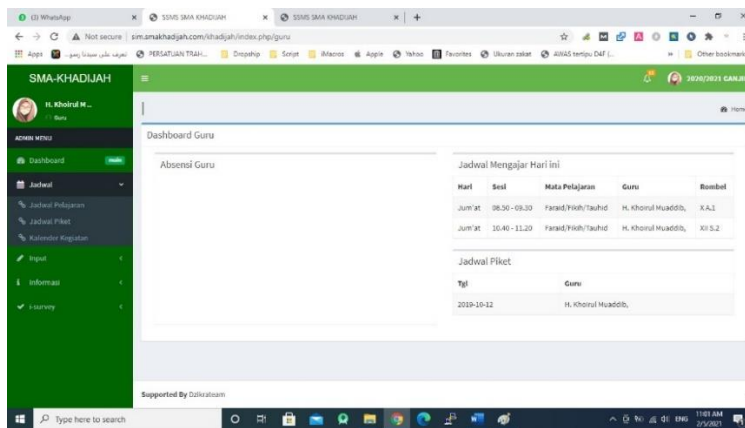


Figure 4.7 Dashboard user teacher

The teacher's User Dashboard in Figure 4.7 will display the teacher's schedule per day, while the teacher's schedule as a whole can be seen in the "schedule" menu with the lesson schedule sub menu, besides the lesson schedule it also displays each teacher's picket schedule. The teacher's lesson schedule can be seen in each teacher's account, while the appearance can be seen in Figure 4.8 below.

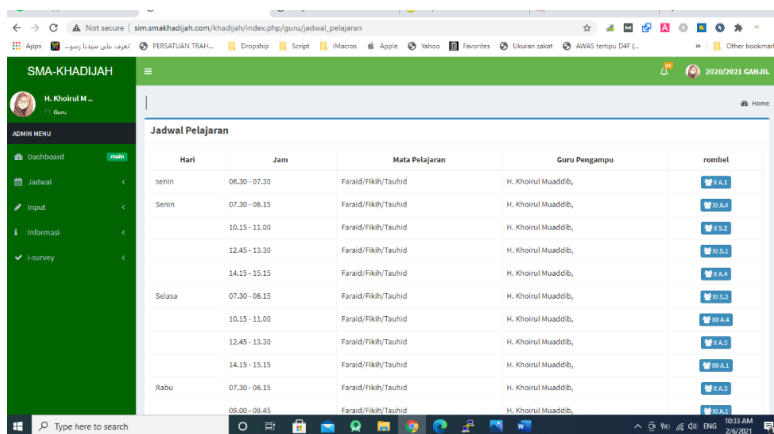


Figure 4.8 Teacher Schedule on the Teacher user

The teacher user in the figure above is named H. Khoirul Muaddib, who is scheduled to teach as shown in Figure 4.8 complete with each class and the name of the student. Likewise, information on teacher announcements, both in general and in person, can be seen in the accounts of each teacher. As in the following figure, figure 4.9

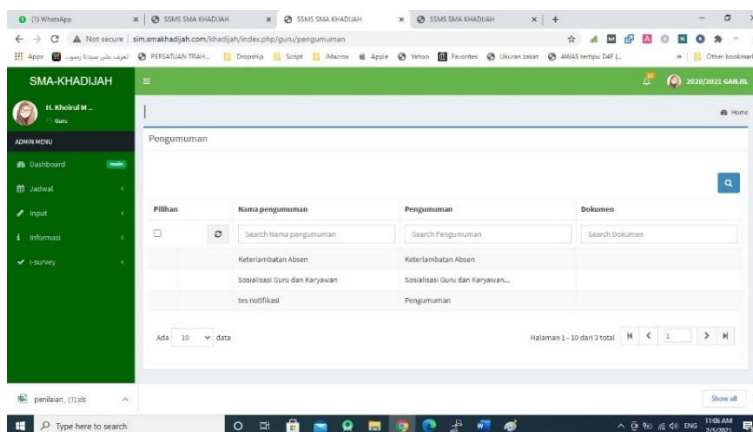


Figure 4.9 teacher user announcement information

For input values on the weekly and monthly daily assessments, there is also an input menu in the teacher's account as shown in Figure 4.10 below.

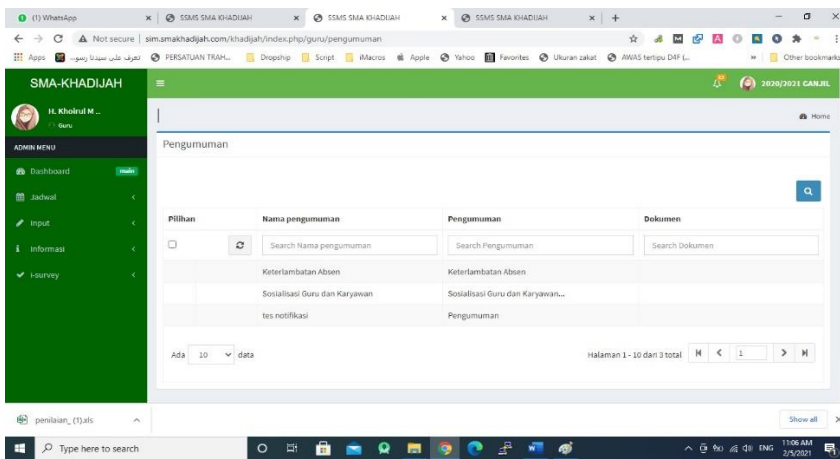


Figure 4.10 teacher assessment input

4.4 User Parent

For parent / guardian users it is only informational, starting from student presentation information, announcements and also value information from the student, along with the dashboard display of the parent / guardian user. Can be seen in figure 4.11 below.

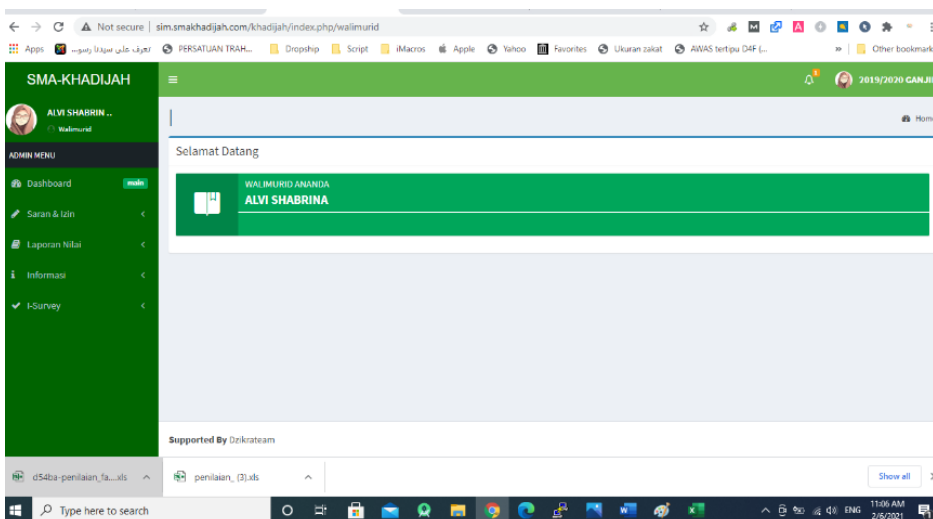
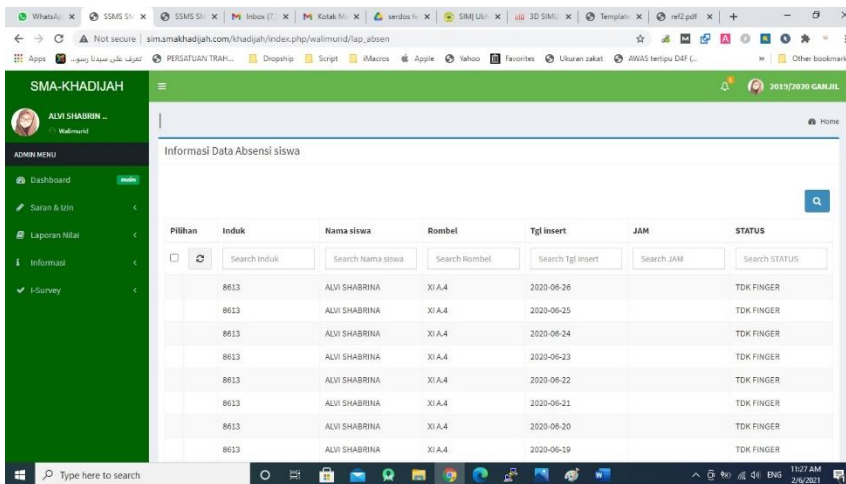
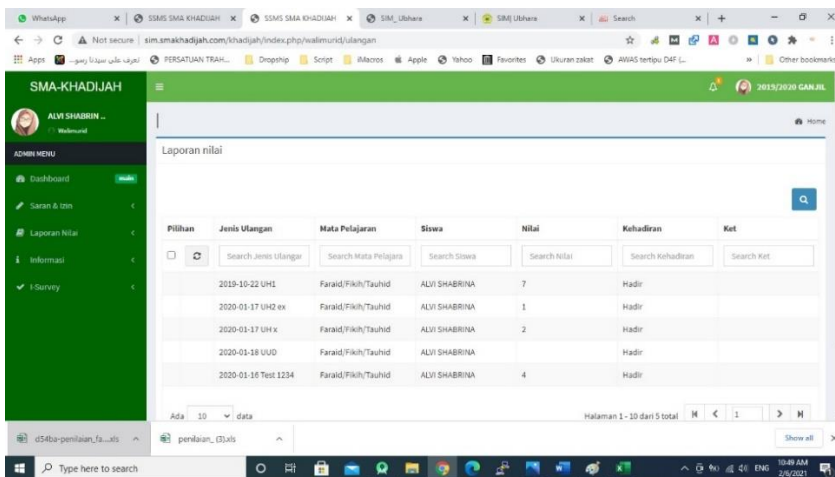


Figure 4.11 Dashboard user parent

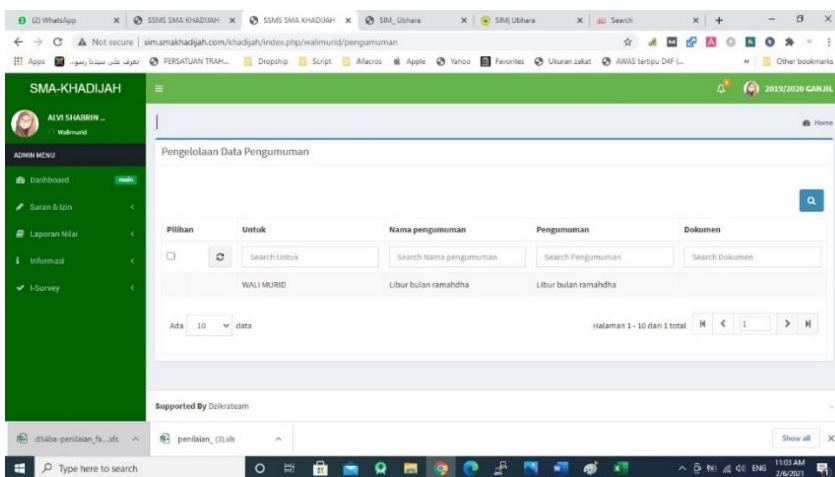
some of the information that is obtained is the presence of students that is integrated with fingerprints, announcements and assessments. Here is how it looks, can be seen in figure 4.12 below.



(a)



(b)



(c)

Figure 4.12 parent / guardian user (a) presence information, (b) value information (c) announcement.

5. CONCLUSION

In this study, it can be concluded that the existence of a smart school system in the Khadijah High School in Surabaya can improve the quality of discipline from the school, especially in student presence, by reporting daily on parents / guardians, can minimize the level of delinquency among high school students in SMA Khadijah Surabaya.

6. REFERENCE

- [1]. Ariawan,SE., MM, 2009, Buku Ajar, Sistem Informasi Manajemene.
- [2]. Ahmad Fauzi, Eko Harli,Peningkatan kualitas Layanan Melalui CRM dengan Metode RAD, Jurnal RESTI Vol 1No. 1 (2017) 76 – 81 | ISSN Media Elektronik : 2580-0760.
- [3]. falaah abdussalam, Samdea Anggieta Saputra, PERANCANGAN SISTEM INFORMASI COMPLAINT MANAGEMENT DENGAN METODE RAD MENGGUNAKAN FRAMEWORK LARAVEL, Jurnal E-KOMTEK (Elektro-Komputer-Teknik) Vol.2 No.2 Tahun 2018 |
- [4]. Mohammad Arya Rosyd Sikumbang , Roni Habibi, Syafril Fachri Pane. Sistem Informasi Absensi Pegawai Menggunakan Metode RAD dan Metode LBS Pada Koordinat Absensi, JURNAL MEDIA INFORMATIKA BUDIDARMA Volume 4, Nomor 1, Januari 2020, Page 59-64 ISSN 2614-5278, ISSN 2548-8368. 2020.
- [5]. Retno Wulan Damayanti, Mohammad Hisjam,Haryono Setiadi, Perancangan sistem Informasi Kepegawaian, sebagai pendukung keputusan daftar urut kepangkatan di Universitas sebelas Maret Menggunakan Metode RAD. Performa 2008,vol 7 no 1. 200