



# Analysis of the Use of Website-Based Management Information Systems at SMA Muhammadiyah 4 Porong

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**Abstract.** *This study aims to determine the implementation of a website-based student-friendly management information system at SMA Muhammadiyah 4 Porong and the obstacles faced by the school when implementing the applications used. The method used in this research is to analyze the system and collect data by taking some data directly, besides that the author also interviews various related parties. The results showed that the management information system application implemented at Muhammadiyah 4 Porong High School helped facilitate school performance in terms of completing teaching administration, Facilitating monitoring of payment transactions, Ease of processing student grades, archiving letters and of course being friendly for students. The obstacles facing schools are the small number of server hosting services, teachers' awareness of using the school system, and also uploading books in digital libraries. Schools are making efforts to overcome the obstacles they face, namely updating server hosting, holding teacher training, increasing upload capacity in digital libraries.*

**Keywords** – Management Information System, Website School

**Abstrak.** *Penelitian ini bertujuan untuk mengetahui implementasi sistem informasi manajemen berbasis website di SMA Muhammadiyah 4 Porong dan keterbatasan yang dihadapi sekolah dalam menjalankan aplikasi yang di gunakan. Dalam penelitian ini metode yang digunakan adalah dengan cara menganalisis sistem dan pengumpulan data dengan mengambil beberapa data secara langsung, selain itu penulis juga mewawancarai berbagai pihak terkait. Hasil penelitian menunjukkan bahwa aplikasi sistem informasi manajemen yang di terapkan di SMA Muhammadiyah 4 Porong membantu memudahkan kinerja sekolah dalam hal menyelesaikan administrasi mengajar, Memudahkan dalam mengawasi transaksi pembayaran, Kemudahan mengolah nilai siswa, pengarsipan surat dan tentunya mudah bagi siswa. Kendala yang hadapi sekolah adalah kecilnya layanan server hosting, kesadaran guru dalam menggunakan sistem sekolah, dan juga ada upload buku di perpustakaan digital. Sekolah berupaya mengatasi kendala yang dihadapinya yaitu pembaharuan server hosting, mengadakan pelatihan guru, menambah kapasitas upload di perpustakaan digital*

**Kata Kunci** – Sistem Informasi Manajemen; Website Sekolah

## I. INTRODUCTION

Information systems play a very important role in all areas of life today. Particularly in the field of education, many schools have introduced information systems that make it easier for users to access the data they need. As technology advances, teachers can offer services to students without dealing directly with students. Education Management Information System is a system used for management requirements to support the administrative functions of educational organizations. Educational information system management that is implemented can improve administrative functions and activities in the administration of educational institutions and the achievement of their goals. According to Gaol, the system is a relationship between one unit and other units that are interconnected so that they cannot be separated to achieve a unit to achieve that goal.[1] There are also other arguments from Rochaety stating that management information systems are a combination of human resources and information technology applications for storage, selection, retrieval and further processing of data to support the pedagogical education decision-making process. [2] Whereas according to Yogiarto, the system is a series of actions that are interrelated and unite to achieve certain goals.[3] Management information system (MIS) is a system that processes and organizes useful information to support task performance in an organization.[4]

Initially, the management of SMA Muhammadiyah 4 Porong went well, although it still used paper and manual materials. However, as time went on there were obstacles in the administration of this school. the obstacles in question are the long process of finding student financial information, the preparation of financial reports that are less accurate and more often neglected, the high workload of teachers at the end of the semester, namely making student report cards. This is also in accordance with the research of Gede Dana Harta et al, who found that obstacles to implementing computer-based tuition payment applications were caused by several problems with manual entry, including student delays caused by long queues at the time of payment, loss of student payment cards, input errors. , backlog of late payments, manual input process that takes a long time.[5] As is the case with Lolita Dewi Novity's

research at Al Karimi Tebuwung High School. The system used is still manual, information from typed files is entered into Microsoft Excel to fill in student information.[6] Even though the implemented system already uses a computer, there is no database in the recorded data. If the data is lost or the computer is damaged by a virus, all data that has been entered will be erased, and again if you want to find student data you have to search manually one by one on the computer. The next research from Intan Dwi Fatmaningtyas is SD XYZ Management which still uses a manual system. Information from the data documents is entered into Microsoft Excel to fill in student, teacher and staff information. The management system used by SD XYZ is already computerized, but the information stored does not have a database. So if the information is lost, so if the data is lost, you have to repeat the data input from the beginning.[7] And at the beginning of the new 2019/2020 school year, SMA Muhammadiyah 4 Porong is determined to provide good service to students, as well as improve the quality of the school by creating a website-based school management application which includes everything needed at SMA Muhammadiyah 4 Porong. According to Setyaningsih et al. Website is a collection of web pages consisting of domain names that contain various information. The website can display information about the school's background, products or services, contact information and short news about the school, so that the operation of the website can build the school's image, so that it is better known to the public, and the website can also be used as a forum function that facilitates the dissemination of information both internally and externally. external.[8] This aims to facilitate school performance, facilitate the delivery of information to interested parties and monitor school status, and as an effort to improve efficiency.

But it doesn't end here that the use of the school management information system, which was implemented for the first time at Muhammadiyah 4 Porong High School, encountered many obstacles, including applications that were difficult to access simultaneously and many human resources who did not understand anything related to the School Management Application System. Based on Churotul Farah Uyun's research on the Implementation of the Smart School Management System at SMA Khadijah Surabaya, he said that the limitations encountered in the Smart School Management System application are still relatively reasonable to start implementing the application, because it requires customization from both the user and the use of the information management system.[9] Efforts to resolve the obstacles carried out at Muhammadiyah High School are in two ways, the first is to update hosting services so that the number of application access rights can be used by more people and the second is by providing training to server controllers by carrying out maintenance, always updating information data. The same results are also found in Handayani and Prasetyo's research. Socialization is needed to clarify the contents of the management information system concept applied in schools, to support it so that it can continue to function. A complete understanding of the application concept requires follow-up and evaluation by both parties with the help of application developers.[10]

## II. METHOD

The research uses a qualitative approach to describe the problem and research focus. The qualitative method is a stage of social research that produces descriptive data in the form of words and pictures. Qualitative research is an approach that does not use a statistical work basis but is based on qualitative evidence. In another article he stated that a qualitative approach is an approach based on field data and the experience of respondents, finally looking for theoretical references.[12] A qualitative approach is research that presents an evaluation process that produces descriptive information about people and observed behavior in the form of written or spoken words. In this case, the researcher reads the data and explains what he finds from interviews, observations and documentation, so that the answers to the problems are clear and detailed. The selection of qualitative research was carried out because of a desire to be more detailed in research and to obtain in-depth information and to consider the existing reality. According to Nasution, qualitative research is a research technique that produces descriptive information about people and observed behavior in the form of written or spoken words. The purpose of this research is to collect as much descriptive information as possible, which must be summarized in the form of reports and descriptions.[13] Suharsimi Arikunto also stated that the research was descriptive, namely. If the researcher wants to know the circumstances and so on, then the research is descriptive in nature, namely describing the events and things that are seen. [14] Data analysis obtained using a qualitative descriptive approach (in the form of words, pictures or behavior) is not presented in the form of numbers or statistics, but through an explanation or description of the situation or situation being studied in a narrative description.[15] The presentation is objective to avoid the subjectivity of researchers in interpretation

The data collection method used is a descriptive analysis method, it is designed to obtain information regarding the analysis of the use of a web-based management information system for SMA Muhammadiyah 4 Porong. In descriptive research, researchers will try to see events that are the center of attention in schools related to the use of child-friendly management information systems in schools, and then describe them in detail. Nana Sudjana and Ibrahim pointed out that descriptive research is research that tries to describe something, events, events

that were happening at that time. Descriptive research takes a problem or focuses on real problems that existed at the time the research was conducted. Descriptive educational research naturally tends to work more to solve practical educational problems.[16]

In this study, the data sources taken consisted of secondary data and primary data. According to Sugiyono regarding information sources, primary and secondary sources can be used in data collection. Primary sources are data sources that provide information directly to researchers, and secondary sources are indirect sources that provide data to researchers.[17] The data source acquisition technique used is purposive sampling. Purposive sampling is a data source sampling technique based on certain considerations.[18] The specific items here are the participants we chose as references who are considered the most experienced or competent in using a web-based management information system for SMA Muhammadiyah 4 Porong that is easy for students to use. Primary information data or the main source of information, namely information in the form of oral information obtained from informants, in this case the principal, teachers, employees, students and student guardians. Main data sources, and supporting data sources, include: The IT team in schools. Information related to the analysis of the use of web-based management information systems is obtained from these sources

The data collection used in this study are as follows:

#### 1. Observation

This observation is a study that is carried out intentionally and systematically by using sensors from various events that occurred or were recorded during the event.[19] The observation method is a data collection tool that is carried out through systematic observation and recording of observed symptoms. [20] Nasution's opinion quoted in Quantitative Research Methodology explained to Sugiyono that observation is the basis of all science.[21] As for the collection of this observation method, researchers used the participant observation model. Participatory observation, namely researchers who participate in the daily activities of the subject or act as a source of research material. The information obtained through participatory observation is more complete, sharp and at the level of understanding of the management information system that is implemented in schools. So in this study the researchers observed the use of a website-based management information system at SMA Muhammadiyah 4 Porong

#### 2. Interview

Interview is a method of gathering information by holding conversations, asking people who can provide information. This method includes methods used by someone for a specific purpose, trying to obtain information or opinions verbally from direct informants.[22] Researchers use semi-structured interviews, namely, a type of interview that asks a series of structured questions, which are then deepened one by one to look for additional questions.[23] This is what researchers use so that the interview process is not rigid, but flexible and loose, but more contained. In this study, the authors used in-depth interviews to find problems more openly and intensively where the informants were asked for their arguments and ideas. This method is used to obtain data about the use of a website-based management information system at SMA Muhammadiyah 4 Porong

#### 3. Documentation

Collecting and analyzing them in the form of written documents, images and electronics.[24] This method is a data collection technique from data sources or document files, this source is very accurate and stable because it reflects real conditions and makes it easier for researchers because data can be analyzed repeatedly. Suharsimi Arikunto argues, the documentary method is a method of collecting information in the form of notes, copies, books, newspapers, magazines, photographs, writings, treatises, books, agendas and others.[25] In this study, the method used was to collect information documents, especially those related to the information application of the Management Information System at SMA Muhammadiyah 4 Porong.

Analysis is a systematic search and collection of information from the results of interviews, observations and documentation by sorting data into categories, breaking it down into units, synthesizing patterns, combining them and choosing which ones are important and which are not important. . to investigate and draw easy-to-understand conclusions for oneself and others.[26] In terms of data analysis, the researcher did this after the researcher collected the data obtained through observation, interviews and documentation. Data reduction is the process of summarizing, summarizing, or selecting data collected. So that each of these data can be classified, targeted or adapted to the problem under study. Another book states that data reduction is the processing of raw data that is collected, condensed, and systematized so that it is easy to understand and observe. This data reduction is a form of data analysis so that the final conclusions of the research can be verified. [28] In this case, the researcher reduced relevant information related to the use of a website-based management information system at SMA Muhammadiyah 4 Porong

### III. RESULT AND DISCUSSION

Obtaining research results from the background of implementing a web-based school management application, in this case using the Mumtaz app, researchers conducted interviews to find or examine the contents of existing problems by interviewing relevant parties at school. Like the interview that the researcher conducted with the Principal, namely Rizna Maharani, S.si. he said that: *"In early 2018, in January to be precise, we experienced problems in administering school data, which included student payment data, student savings for class XII, and also teacher administration. And at the beginning of the new 2019/2020 school year we are determined to provide good service to students, as well as improve the quality of the school by creating a school management application which includes everything needed at SMA Muhammadiyah 4 Porong. This is aimed at facilitating school performance, facilitating the provision of information to interested parties as well as monitoring of the school's position, and as an effort for efficiency."*

This is in line with the responses of several teachers at school when asked about school management. among them Mrs. Lilik said: *"There must be changes, there must be progress, there must be a breakthrough to move forward, one of which is by making a school management information system. All school information is centralized into one, for example the teacher needs attendance or student data can go directly to this click, then the teacher wants to input the value of this click report card, the teacher wants to hold daily tests, just uploads the questions then students work on their respective cell phones and the teacher just has to monitor on the website. this is all solely for the betterment of the school"*

This was also reinforced by the response of the school treasurer, Ms. Vivi, when trying to implement an administration application, she said.: *"So far we still use manual (handwritten) payments, this has not been properly controlled, and students often lose their payment cards causing us to open the main book to check payments manually."*

Finally, at the beginning of the new 2019/2020 school year, SMA Muhammadiyah 4 Porong uses an application called the Mumtaz App. Mumtaz App is a website-based school management application as a centralized management solution for schools with several integrated modules that can be used by all students (teachers, homeroom teachers, school staff and students) and parents / guardians of students. Mumtaz App assists schools in adjusting the management used by schools, including the need to manage school management, and strengthens school communication relationships with students and student guardians. With the help of current technology and its use in the world of education, especially in school management, it is hoped that it can be carried out more effectively, efficiently, responsibly and openly. Applications made with the system can be used by many users simultaneously. Easy management of student data, starting from class data and student data, import, export and card printing functions, as well as easy management of staff data. There are many items in the finance menu, namely school fees, payment arrangements, student savings. The reporting module includes billing, paid and savings reports. Its function is to provide data related to payment reports for each class, date, student bills, besides that it can print journal reports. Parents of students will also get notifications via WhatsApp of proof of payment, bills and savings. Parents of students can make payments via bank transfer. Meanwhile, student presence is carried out online by the respective class teachers. All detailed student information is securely stored in a central system. Schools can control who has access to student data. Personal details, classes attended by students, daily assignments and tests completed by students, arrears reports and various other learning activities, are easily monitored. To facilitate operational activities and teaching and learning. The following are 8 services in the Mumtaz App application. The following is the appearance of the Mumtaz App.

Halaman login siswa

Halaman login Administrator

Halaman utama siswa

Halaman utama administrator

Halaman utama guru

Halaman utama staf TU

Halaman utama PTM

No	Tanggal	No. Peserta	Pembayaran	Status	Jumlah
1	2022-07-05	0453-3-109-00000-00-20220705000	bayar kasir	ok	Rp 500.000
2	2022-07-05	0453-3-109-00000-00-20220705000	bayar kasir	ok	Rp 500.000
3	2022-07-05	0453-3-109-00000-00-20220705000	bayar kasir	ok	Rp 500.000
4	2022-07-05	0453-3-109-00000-00-20220705000	bayar kasir	ok	Rp 500.000

Halaman utama bendahara

Picture 1. Muntaz App

### 1. Assessment Competency Minimum

The Assessment Competency Minimum is an assessment of the fundamental competencies needed by all students to be able to develop their own capacities and participate positively in society.[29] There are

two basic competencies that are measured: literacy and numeracy (counting). literacy and numeracy, These abilities include the ability to think logically, the ability to reason logically using learned concepts and knowledge, as well as the ability to sort and process information. And presents problems in different contexts for students to solve, by leveraging students' reading and math skills. This aims to measure competence in depth, not just mastery of the material. Planning, implementation and evaluation are a series of learning activities that cannot be separated. All three influence each other on the achievement of learning processes and outcomes. The government has changed the National Examination (UN) into a National Assessment (AN) based on the learning needs of the 21st century. A good assessment is not only about identifying cognitive improvements but also the process. [30]

The Mumtaz App supports AKM questions in the form of multiple choice questions, complex multiple choice questions, essays or descriptions, matchmaking and short answers. The application runs online, meaning students don't have to install it first, just access the Muhammadiyah 4 SMA central server. Porong will then display the test menu. On the exam menu there is a student monitoring feature, meaning that students when taking an exam cannot switch any page except on the question page. if a student accesses another page, an alarm will automatically sound, and will not stop unless the student returns to the exam page. After completing the exam, students can immediately see their grades on the student dashboard and the grades will automatically be recorded as one on the server. The application of this exam system, through the Mumtaz App application, researchers found several weaknesses, including students having difficulty logging in and the process of sending exam results. This is in line with the results of interviews the researcher conducted with Mr. Muhammad Abdul R, who is the designer and maker of the Mumtaz App application, that: *"There are several weaknesses in this application, especially on the hosting server owned by SMA Muhammadiyah 4 Porong, the server has a small capacity of only 4GB and can only accommodate 70 students. if all students currently number 130 then there must be an additional new server and this costs money, finally we use online and offline servers. meaning that we change student access to two servers, one online and one offline. alhamdulillah this worked"*

After the reshuffling of the exam server access was running normally, this is as the result of an interview with a class XII student named Ratih Mar'atus who said: *"On the first day of the exam yesterday students experienced problems accessing the login page, there were also those who could access the login page but it took a long time to load. but on the 2nd day everything went smoothly"*

## 2. E-Learning

E-learning is an educational tool and process that utilizes current developments in electronic technology, where electronics refers to information technology related to internet use.[31] One form of information technology development that can be used as a means of learning is online learning. Online or online learning is an innovation that can be used in the learning process not only to provide learning materials but also to change the abilities of different students. When studying online, students not only listen to material explanations from teachers, but also actively observe, demonstrate, present, etc. Online learning has significant advantages, especially when it comes to limited space and time for learning. Learning can only be done online.[35] Subject matter can be virtualized in various formats to make it more interesting and dynamic, so that it can motivate students to progress in learning.[32] At the beginning of 2020 the E-Learning application menu was used properly, bearing in mind that at that time there was Covid-19 which required students to study at home. with E-learning this does not prevent students from continuing to learn. Students can access material in e-learning anytime and anywhere using the various devices they have. They can review any material if they still don't understand it. Students can also choose material according to their interests and needs. All teachers can monitor their students in detail regarding student learning activities because they use a centralized system safely. Teachers can also control who can access student information. Important notes, classes attended, assignments and exams completed, as well as various study activities, can all be easily monitored on one screen. At the beginning of the new school year 2022/2023 this application is rarely used, in fact it is no longer used, because learning has begun to be carried out face-to-face at school. Mrs. Kholiyah Ningsih said *"Children are tired of looking at cellphone screens when studying, 1 year at home and learning to use cellphones. At the start of the school year the children are excited to be back in school. so e-learning is rarely opened anymore"*

## 3. Menu PTM

As a teacher, of course, you must understand that the task of a teacher is not easy. In addition to educating the nation's generation, it is also necessary to ascertain whether students are moving in the right direction or not. And do students already have the character that is in accordance with the ideals of the nation. All this of course requires a long process. In addition, from an administrative point of view, teachers are required to complete various existing documents to increase teacher professionalism. The PTM menu serves to assist teachers in completing teaching administration. including making plans for implementing

one sheet of learning automatically, teacher teaching schedules, student attendance, teacher agendas, teacher attendance, and input of students' daily scores. The entire teacher administration can also be accessed by the deputy head of curriculum and school principals, because the principal and deputy head of curriculum will correct teacher administration. well, the deputy head of the Muhammadiyah high school curriculum said: *"There needs to be a special meeting with the teacher to discuss and study the design of this learning implementation. Many teachers don't understand how to run this application, even though this helps ease the teacher's work in completing teacher administration."*

#### 4. E-Payment

Utilization of information technology in an institution or organization can accelerate access to information, present and produce information in a timely manner and provide effective and efficient services. Some of the problems faced by SMA Muhammadiyah 4 Porong related to the use of financial management include long queues to pay student bills, insufficient number and qualifications of officers, payments can only be made at the school office, lack of guaranteed student payments, difficulties when compiling reports, Payment receipts pile up and can get lost. From here, a special menu was created, namely E-Payment, which can only be accessed by the school treasurer. The E-Payment menu is used for management of payment of tuition fees and student activities at school, there is something interesting about this application, namely the student's guardian will get a notification via WhatsApp, if payment has been completed and will automatically send proof of student payment in realtime. In this case it is reinforced by several responses from parents of students on behalf of: Sabrina who said that: *"The spp payment system is now very good and not what it used to be, the spp payment system now makes it very easy for me to watch over my child, because I get WhatsApp every time the child pays and also arrears report."*

However, the implementation of this E-payment system has several limitations, including student data being one with academic data and financial data. If there are students with outgoing mutations deleted, it will affect financial data and receipt of monthly SPP payments. according to Mrs. Vivi as the school treasurer: *"This is still under development, but usually I work around this by backing up first before I delete the student data and isolate (manually) students who transfer in."*

The E-Payment menu on the Mumtaz App affects the deposit amount for SPP payments which increases every month. This payment application makes it easy to track, store, provide information and report payment transactions.

#### 5. E-Report

Digital innovation in the world of education, such as online report cards, is of course in accordance with the Indonesian education motto Ing Madya Mangun Karsa, which means that teachers and students must be able to create initiatives and ideas. This innovation indirectly contributes to the effectiveness and quality of teaching and learning, thus enabling students to compete and maximize their potential. Parents can also directly monitor their child's learning. In addition, with advances in technology in today's online era, work such as data processing can be made easier by using the system via a website that is connected to the internet.[33] The mumtaz App application is an application that can be used to determine student grades. This application is designed to make it easier for teachers to process student grades. The presence of the 2013 Curriculum itself makes student assessment quite complicated, because there are several aspects that are added and must be assessed. As a result, teachers often have difficulty determining grades for students. With the Mumtaz App, teachers can use the K13 Report Card application to enter student data and grades more easily. Automatically, the data and grades entered will produce a report that is ready to be printed. The deputy head of the Muhammadiyah 4 Porong High School curriculum said: *"Over time the curriculum has also changed to become an independent curriculum, this makes us also have to adjust the report cards. And later there will be the latest updates."*

#### 6. E-Savings

In the current system, savings payments are still made simultaneously with tuition payments, which is once a month, and the information is inputted by the school treasurer into Microsoft Access 2010, which has the possibility of entering data incorrectly. students cannot know the nominal savings. The amount of the balance itself, does not allow students to save daily and can only be used in class XII (twelve). So a separate system is needed to manage student savings. With the implementation of a management information system on the E-Savings menu, it can really help work better because all transactions for deposits, withdrawals and data reporting can be done with just one click. In addition, the benefits obtained with the E-Savings menu are that it can help reduce recording errors. and also the student's guardian will get a notification via WhatsApp, if the payment has been completed and will automatically send proof of student payment in realtime.



## 7. Digital Library

The development of the digital era has many implications, one of which affects the world of education. Many schools are competing to improve the quality of education and services so that they are more developed and keep abreast of technological developments.[34] In this case the habit of reading books changes to reading books that are made online or do not have to come to the library. These online libraries are often referred to as digital libraries. In other words, digital libraries can be accessed through the electronic devices we usually use, namely cellphones. Therefore, it can be said that with the existence of digital libraries, the way of reading books has changed little by little and little by little the number of digital library users is increasing. This is because digital libraries are very flexible because books can be read anywhere and anytime. students also do not need to be confused when borrowing books. In the implementation in the field, the researcher found that there were still deficiencies in this application menu, namely the small capacity of the book server, this resulted in not maximally uploading books. As Mr. Muhammad Abdul R said: *"The upload capacity is only a little, in the future we want to create our own local server that students can access online."* This was also complained of by many students including class XII students who said: *"It's actually good, but sometimes it still takes a long time to load when accessing the book we want to read"*

## 8. Staff

The main task of school administration is implementation, documenting administration. All functions related to correspondence, recording, typing and all administrative matters are carried out by administrative staff. School administration is part of the technical implementation unit for the implementation of education management and information systems in schools. To make it easier for Administrative Staff (TU) to make school administration, there is a special menu for TU staff to manage data on school document archives, mail administration, student and teacher attendance data, and other important data. TU staff in interviews stated that: "in this application we are made easy in archiving important files and also letters"

## V. CONCLUSION

Based on the output of the interviews and observations that the researchers have conducted on the use of Management Information Systems, the conclusions of this study are 1) The application of the Mumtaz App application on the Minimum Competency Assessment menu found several weaknesses, including students having difficulty logging in and the process of sending exam results. However, after revamping the test server access or dividing the server into two parts, it finally ran normally. 2) At the beginning of Covid-19 the use of the E-Learning menu on the Mumtaz App was used well and was very helpful in the teaching and learning process but has now decreased, due to the start of face-to-face learning. The school is working to use it again for structured student assignments. 3) On the PTM menu which functions to assist teachers in completing teaching administration. However, there are still many teachers who do not understand that schools will hold special training so that all teachers can use this application menu properly. 4) The implications of using the E-Payment menu have an impact on the level of acceptance of student tuition payments each month. Facilitate monitoring, recording, provision of information and reporting of payment transactions. In addition, the student's guardian will receive a notification via WhatsApp after payment. 5) The E-Raport menu is designed to make it easier for teachers to process student grades, this has been going well and will continue to be updated according to the existing curriculum. 6) The E-Savings menu can really help the treasurer's work because all transactions, whether depositing, withdrawing money and reporting data, can be done with just a click. In addition, of course, student guardians will get WhatsApp notifications for each transaction. 7) In the implementation of the Digital Library menu, it was found that there were still deficiencies, namely the small capacity of the book server, this resulted in not maximally uploading books. 8) Archiving of letters is now done in a recorded manner in the application, all incoming and outgoing letters are all archived neatly.

The Mumtaz App application is a website-based school management application as a centralized administration solution for schools, making it easier to carry out school management activities from school principals, teachers, staff, students and parents.



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