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Web-Based Design of School Information Systems at SMA Madani Depok

Septyan Dwianto[1], Jejen Jaenudin[2], Fitria Rachmawati[3].

[1,2,3]Universitas Ibn Khaldun, Bogor 16164

E-mail: septyan@gmail.com[1], zen@uika-bogor.ac.id[2], fitria@uika-bogor.ac.id[3]

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ABSTRACT

School Information System Design In Smk WEB-BASED MADANI DEPOK. SMK Madani Depok is an educational institution engaged in educational services that is currently improving the performance of the institution. SMK Madani Depok is located at JL. Mandor Samin RT. 02/06 Ex. Kalibaru District. Cilodong, Depok City, which has a duty in Education Services. In carrying out this task, SMK Madani Depok has several school data or report documents, such as student data, teacher data, subject data, majors and some activity information. However, so far there have been shortcomings in terms of data processing and how to convey information to parents as guardians of students, because at SMK Madani Depok there are still a lot of manual systems. To overcome this problem, a new system is needed that makes it easier to process data and reports, so as to minimize errors in data and information management. The design of a web-based school information system for SMK Madani Depok is one solution to improve the quality of education services. With this service can make it easier to manage data processing and reports. This information system is designed using PHP and MySQL, and this information system is connected to the user who can provide information to the user.

1. Introduction

Information is one of the main needs of society in this modern era. Information needs to be obtained, disseminated and exchanged between one party and another to meet the needs of human life. Currently, humans have easily obtained the desired information through several media, one of which is the internet, which is the result of advances in information technology that continues to grow because of the various abilities it has. The internet is an option for obtaining, disseminating and exchanging information because it can be accessed anytime, anywhere at a relatively lower cost than using other media [1].

SMK Madani Depok is an educational institution that is engaged in educational services which is currently improving the performance of the institution. The agency requires a WEB for media information services. At this time the presentation of information carried out by SMK Madani Depok to the public is still very limited, namely still using brochures and print media to promote educational services. For this reason, the author provides an alternative in facilitating the delivery of information to users with WEB which is needed by SMK Madani Depok. Based on the existing background at SMK Madani Depok, it can be formulated the problems faced, how to design a WEB-based school information system at SMK Madani Depok. The purpose of this research is to design a WEB-based school information system at SMK Madani

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Depok which helps the process of public information services and makes it easier for students to get data and information.

2. Research Method

The system development method in this study uses the waterfall model. The stages in the waterfall model include analysis, design, coding and testing. The following description of each stage in the waterfall method can be seen in Figure 1

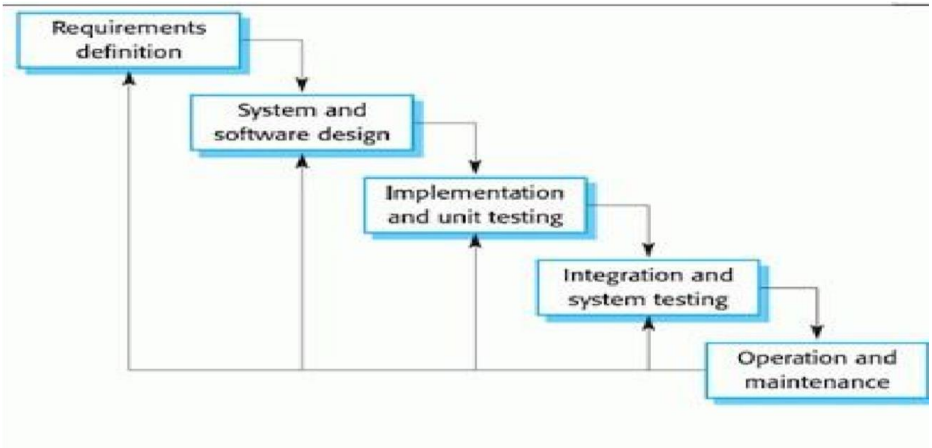

Figure 1. Research Method

3. Result

3.1 Analysis

a. User Needs Analysis

Based on the background of the problem that has been described regarding the need for an information system for School Design at SMK Madani Depok, the system users are the parties who access information regarding the management of Information and Data at SMK Madani Depok. The results of the analysis of user needs can be seen in Table 1.

Table 1 User Needs

User	Functional Needs
TU staff	Admin users are system users who manage who has the right to access the system by creating levels as access rights, creating users who can login, and also managing what menus can be accessed by each user and all data that is managed according to company needs.
Student	Get information About school profiles, galleries, announcements and class schedules.

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b. System planning

In designing the system, it will discuss the description of data flow diagrams, entity reality diagrams, table structures and relations between tables in designing Web-based information systems for SMK Madani Depok Schools. At DFD level 0 obtained results as shown in Figure 2.

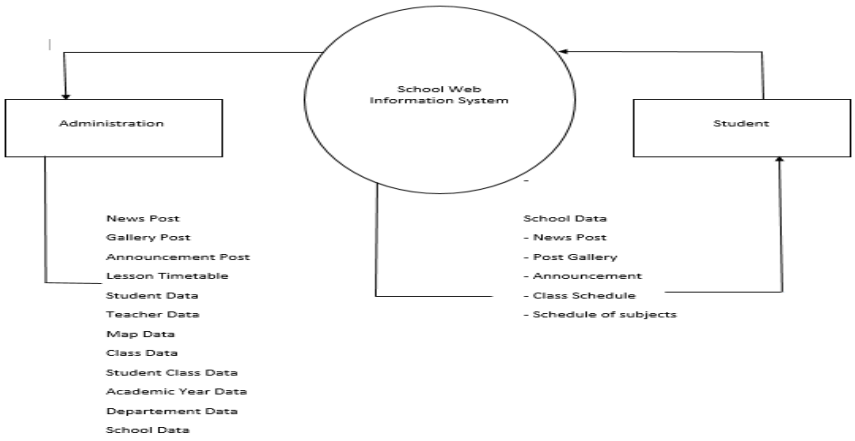

Figure 2. Data Flow Diagram level 0

The data flow diagram level 0 represents all elements of the web-based school information system of SMK Madani Depok. In the picture, there are 2 users in the information system, students, receiving information in the form of school data, news, galleries, announcements, class schedules and subjects. Administrative staff is the data manager at SMK Madani Depok.

c. Relationships Between Tables

Relationships are relationships between tables that represent relationships between objects in the real world. Relationships are relationships that occur in a table with others that represent relationships between objects in the real world and function to regulate the operations of a database. Can be seen in Figure 3.

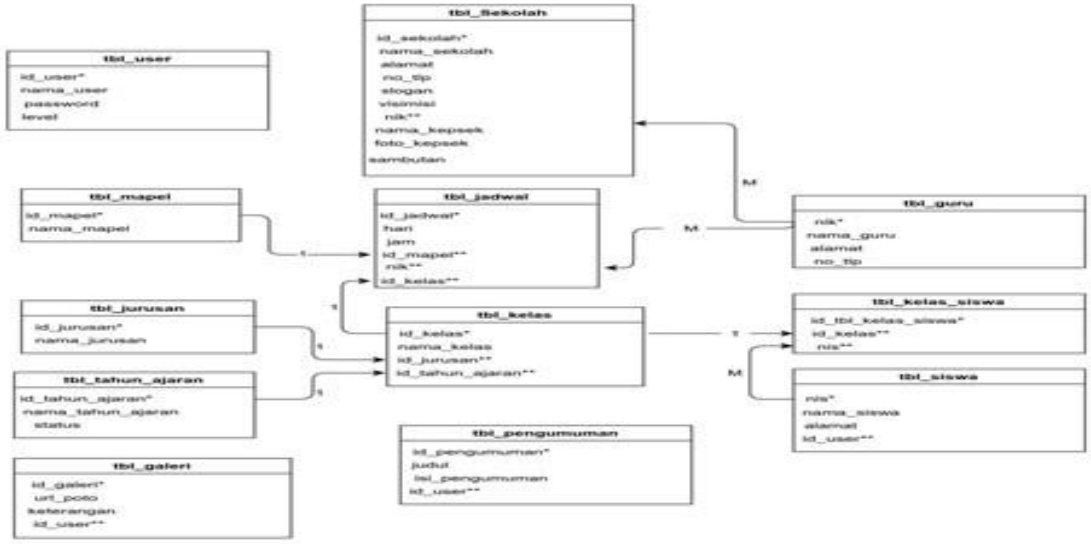

Figure 3. Database

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3.2 Application

a. Announcement Data Post Page

On this page On this page displays the latest announcements. Views can be seen on this page can be seen in Figure 4.

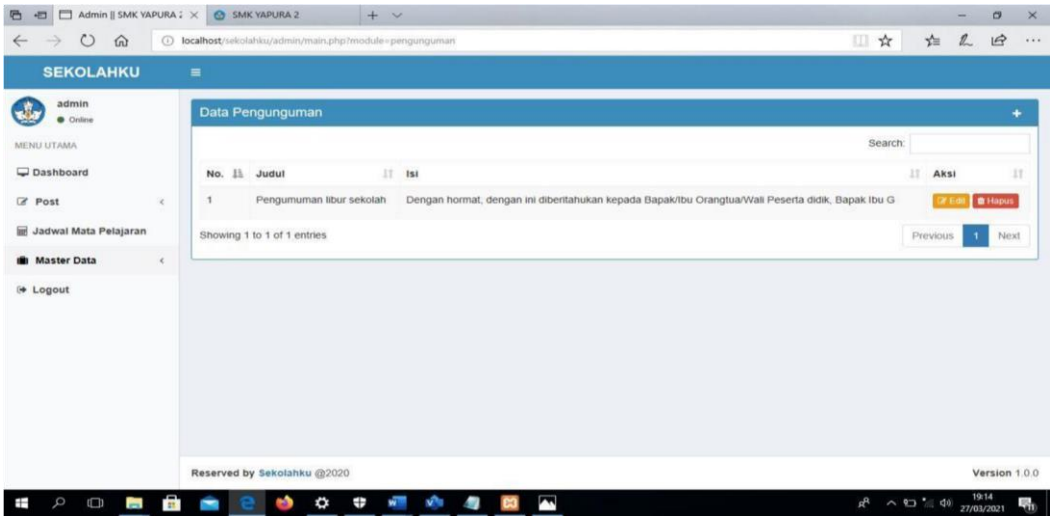

Figure 4. Announcement Data Post page

b. Depok Madani Vocational High School Class Data Page

This page displays class data and input the updated student class schedule. The display can be seen on. This page can be seen in Figure 5

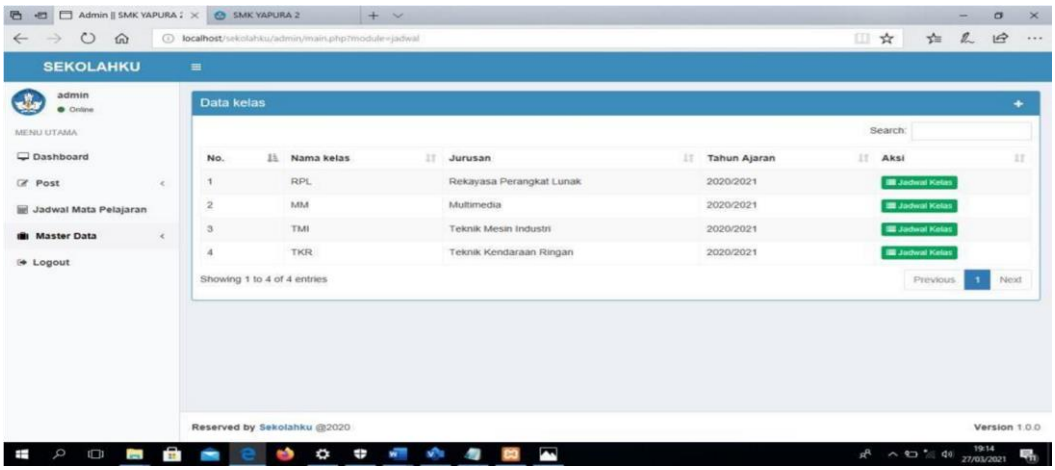

Figure 5. Class Data Pages for SMK Madani Depok

c. Depok Madani Vocational High School Student Data Page

This page displays student data that will be entered into the system so that they can login to the web page. This page can be seen in Figure 6.

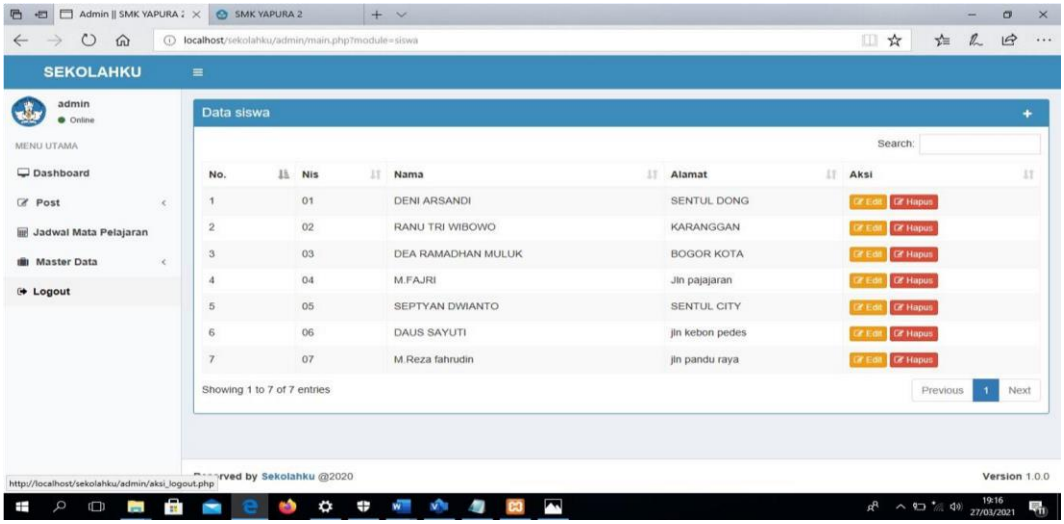

Figure 6. Student Data Page of Madani Vocational High School Depok

d. Madani Vocational High School Teacher Data page Depok

On this page, the Admin enters data for all teachers at SMK Madani Depok who are ready to teach. This page can be seen in Figure 7.

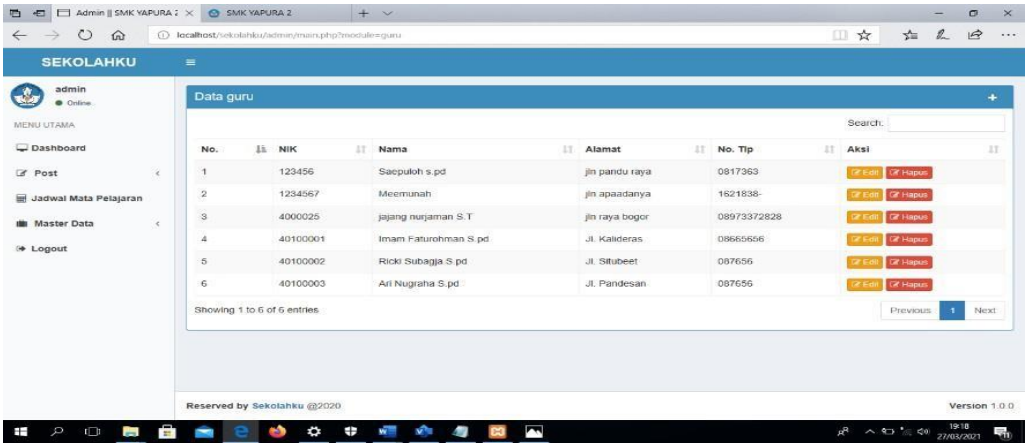

Figure 7. Teacher Data for Madani Vocational High School Depok

e. Data Page of SMK Madani Depok Subjects

On this page, the Admin inputs all subjects at the Madani Depok Vocational School so that they can be updated in the system. This page can be seen in Figure 8.

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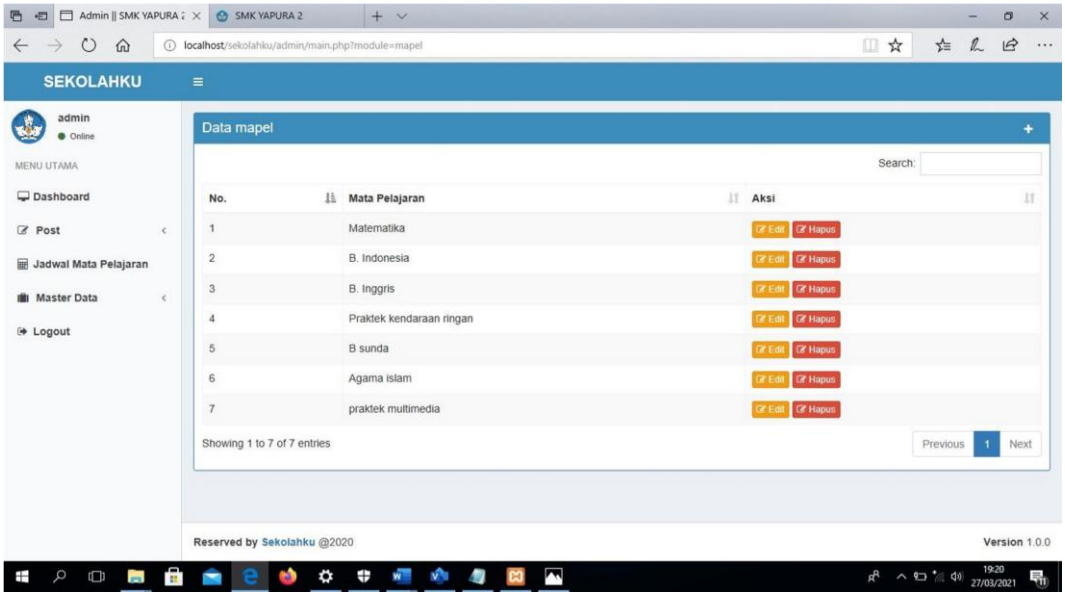

Figure 8. Subject Data Page of SMK Madani Depok

f. Data Page of SMK Madani Depok Subjects

On this page, the Admin inputs all subjects at the Madani Depok Vocational School so that they can be updated in the system. This page can be seen in Figure 9.

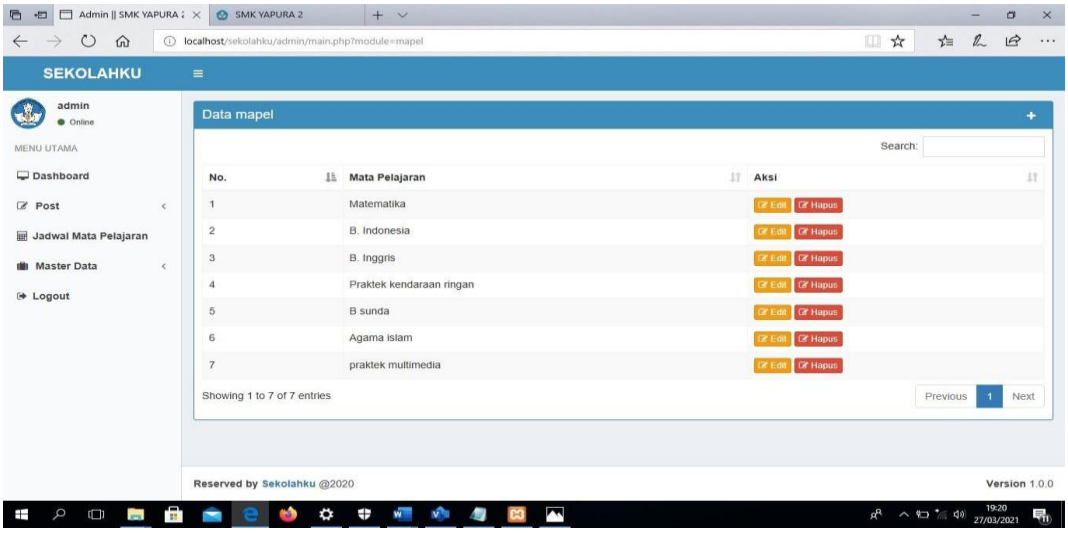

Figure 9 Subject Data Page for Madani Vocational High School Depok

g. Depok Madani Vocational High School Class Data Page

On the page to enter all classes or majors at SMK Madani Depok. This page can be seen in Figure 10.

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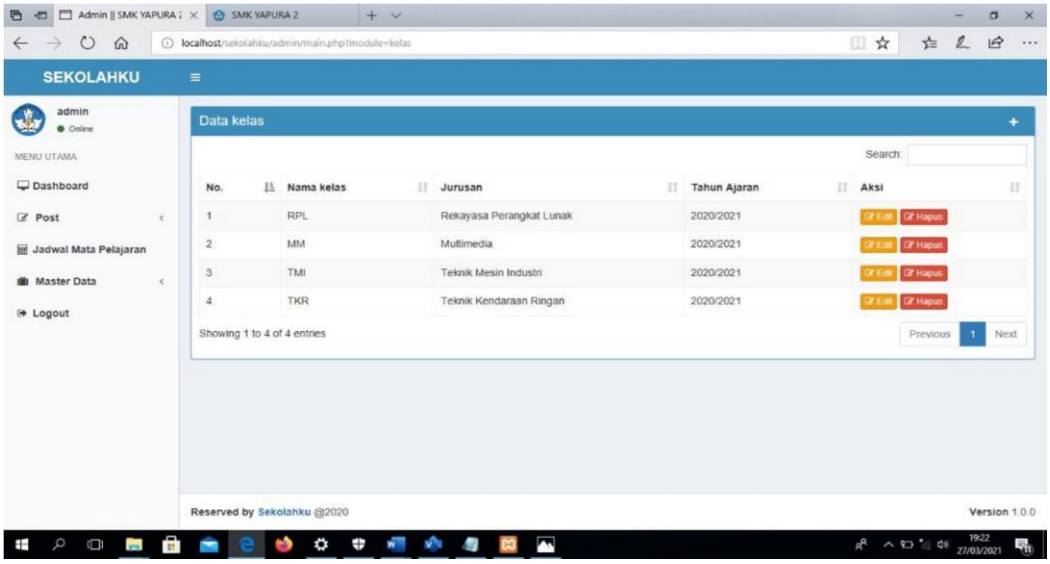

Figure 10 Class Data Pages for SMK Madani Depok

h. Class Data Page for SMK Madani Depok Students

On this page to input all students into the class they want to be arranged in the subject. This page can be seen in Figure 11

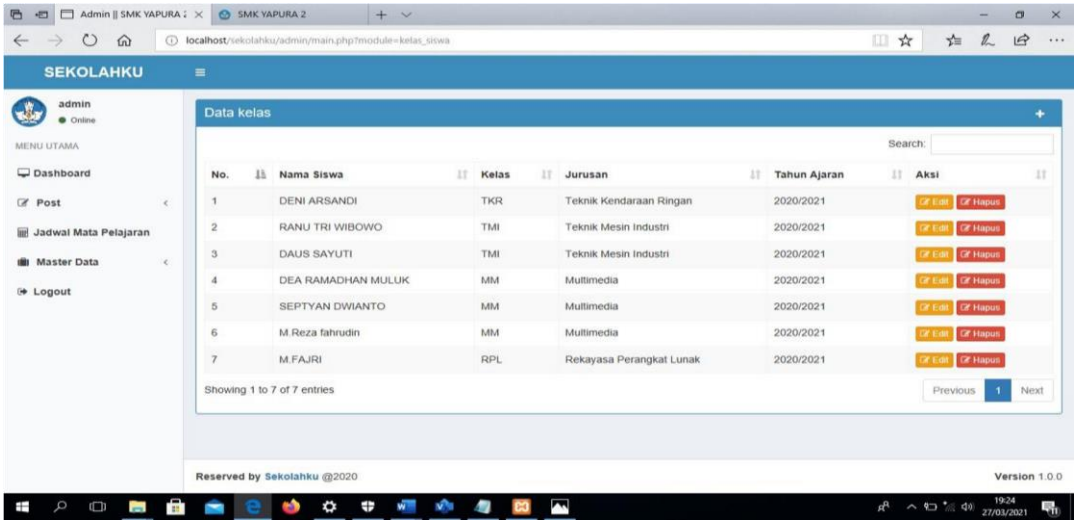

Figure 11 Class Data Pages for Madani Vocational High School students in Depok

3.3 Testing

Testing is an important part of the system development cycle. Tests are carried out to ensure quality and also find out the weaknesses of the system. The purpose of this test is to ensure that the system built has reliable quality. Testing this system using the black box testing method. Black box testing does not need to know what is really going on in the system, what is being tested is the input and output. With various inputs given, whether the system provides output as we expect or not.

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a. Test Plan

Testing the car rental information system using test data in the form of an input data. Can be seen in table 2.

Table 2 Test Plan

No	Test Name	Test Items	Test Type
1	Admin Login	Admin logs into the system	Black Box
2	Logout	Admin logs out of the system	Black Box
3	Add Student/Student data	Admin adds data for SMK Madani Depok students	Black Box
4	Add Teacher Data	Admin adds teacher data to Madani Vocational High School Depok	Black Box
5	Add subject data for SMK Madani Depok	Admin adds subject data for SMK Madani Depok	Black Box
6	View Class data	Students of SMK Madani Depok can view class data on the system.	Black Box
7	View subject data	Students of SMK Madani Depok can view class data on the system.	Black Box
8	Change password	Admin and Student can change password on system.	Black Box

b. System Functionality Test Results

Functional testing includes checking the buttons and system processes whether they are running as needed or not, can be seen in table 3.

Test Form	Test Scenario	Expected results	Test results
	Enter the correct username and	1. If all fields are entered correctly and click the enter button, it will go straight to in the attendance system. 2. When you enter the wrong	

Login	password.	username and the password will appear notifications/alerts (login fail! wrong username or password).	In accordance
Logout	Click the logout button.	When the logout button is clicked, it will exit the attendance system.	In accordance
See Plus Student	Click the add student menu	When the add student menu is clicked it will display several menus including: first name, full name, name school, email,Password.	In accordance
See List Teacher	Inputting ready teacher data teach	When it is input, it will enter the data of teachers who are ready to teach	In accordance
See Data Subjects	Click button Subjects	When the lesson data menu is clicked then will display any lesson data that will be input	In accordance
View class data	Click the class data button	Will display all class data that is has been entered in the system neatly	In accordance
Class data Students	Click the class data button	Will display all students who registered at SMK Madani Depok with their respective	

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	Students	majors	
			In accordance
Subject Data	Click the subject data menu	When the view menu appears, all the subjects available for students will appear	In accordance
	Click button	When the change password button is clicked it will display	In accordance
Change Password	Change Password	several forms that must be filled include: user, new password, repeat password	
	Click	When the exit button is clicked it will return to the login page	
Exit	Exit button		In accordance

4. Conclusion

Based on a series of research and analysis conducted related to the design of a Web-based school information system at Madani Depok Vocational School which has been carried out at Depok Madani Vocational School, the following conclusions can be drawn: manual based. 2 Provide accurate information so that it can be used as the right data reference for making decisions. 3. The resulting information is easier, faster, and more accurate so that it can be presented in a timely manner.

References

[1] Firman, A., Wowor, H. F., Najoan, X., Teknik, J., Faculty, E., & Unsrat, T. (2016). Web-Based Online Library Information System. Electronic and Computer Engineering E-Journal, 5(2), 29 36.

[2] Kurniawan. (2014). Chapter II Theoretical Foundation. Journal of Chemical Information and Modeling, 53(9), 8–24.

[3] Fatmawati, M. S., Pujiastuti, W., & Septiwiharti, D. (1981). Utilization of Libraries as Learning Resources in PKN Learning at Karuna Dipa Middle School in Palu. Journal of Chemical Information and Modeling, 53(9), 1689–1699.

[4] Nofyat, N. (2018). IJIS Indonesian Journal on Information Systems ISSN 2548-6438. IJIS-Indonesia Journal on Information System, 3(April), 11. https://media.neliti.com/media/publications/260171-sistem-informationpengolahan-data-belii-e5ea5a2b.pdf

[5] Gitleman, L. (2014). No Title No Title No Title. Paper Knowledge . Toward a Media History of Documents, 7–19.

[6] Resky, D. D., Said, S., & Labbase, I. (2018). Influence of User Interface Information System on Go-Jek Online Transportation Selection Decision in Makassar City. Center of Economics Student Journal, 1(1), 116–122.
[7] Hartono, H. (2012). Understanding Websites Websites. Understanding Websites and Their Functions, 10–35.
[8] Bangkit Wahyu Pusprabowo. (2015). School Information System Design Web-Based at Afternoon Vocational High School, ATMA LUHUR STMIK Information System PANGKALPINANG, Jl. Gen. Sudirman Selindung Lama Pangkalpinang, the Babylon Islands. Email : darkid4@gmail.com.
[9] Benny Suhendar. (2018), Analysis and Design of Web-Based Information Systems at SMA 2 Serang City, Journal of Information and Informatics Systems (SIMIKA) Vol.1 No1 in 2018.
[10] Edi, D., & Betshani, S. (2012). Data Analysis Using ERD and Data Warehouse Conceptual Models. Journal of Informatics, 5(1), 71–85.
[11] Pregnant, I. (1991). Chapter 2 literature review 2.1. d(1953), 5–12.
[12] II, B. A. B. (2002). Chapter I. lim (2009), 1–25.
[13] Melan Susanti. (2016). Web-Based Academic Information System Design at SMK Pasar Minggu Jakarta, STMIK Nusa Mandiri Jakarta, melan.msu@bsi.ac.id, Journal of Informatics, Vol.III No.1 April 2016
[14] Ade Wiwid Taniah, Sri Harjunawat (2017), Information System Design Wedding Organizer Rental Transactions on CV. Denis Citra Mandiri Bekasi, Computerized Accounting, AMIK BSI Jakarta JL RS. Fatmawati No.24 Pondok Labu 124 South Jakarta taniaadewiwid@gmail.com ; 2) sri.shw@bsi.ac.id, JOURNAL OF SCIENCE AND COMPUTER TECHNOLOGY VOL. 3. NO. AUGUST 1 2017 E-ISSN: 2527-4864
[15] Ritzkal, R. and Setiadi, D., 2021. Data Storage System Arrival and Departure Airnav Halim Perdana Kusuma Airport. Jurnal Mantik, 5(2), pp.555-562.
[16] Ritzkal, R. and Subchan, M., 2017. Quality Measurement of a Web-Based Activity Management Reporting System for Email-Based Alerts. In of the 2nd National Teknoka Seminar UHAMKA.
[17] Jaenudin, J. and Al Ikhsan, S.H., 2022. Web Based Procurement Information System Design (case study: PT. Restindo Dayatama). Jurnal Mantik, 5(4), pp.2535-2541.
[18] Evan, I.J., Jaenudin, J. and Widhyaestoeti, D., 2021. Rancang Bangun Sistem Informasi Bank Sampah Induk Berbasis Aparatur pada Dinas Lingkungan Hidup Kota Bogor. Jurnal Informatika Universitas Pamulang, 6(2), pp.421-431.
[19] Maulana, F. and Rachmawati, F., 2021. SISTEM INFORMASI PENGIRIMAN BARANG DI PT FADILLINDO JASA ANTARAN BERBASIS WEB. Jurnal Inovatif: Inovasi Teknologi Informasi dan Informatika, 4(2), pp.117-121.
[20] Nugraha, Y.D. and Rachmawati, F., 2021. SISTEM INFORMASI DATA CUSTOMER PADA GERAI AGEN BRI LINK BERBASIS WEB DI GERAI AGEN BRI LINK. Jurnal Inovatif: Inovasi Teknologi Informasi dan Informatika, 4(1), pp.20-27.

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