

IMPLEMENTATION AND DEVELOPMENT OF E-VOTING SYSTEM FOR ELECTION OF STUDENT COUNCIL CHAIRPERSON OF SMP NEGERI 10 PEKANBARU

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ABSTRACT

Intra-School Student Organization is an organization that is at the school level in Indonesia, starting with junior high schools and senior high schools. The student council is managed and managed by students who are chosen to be student council. Usually this organization has a mentor from the teacher chosen by the school. Student council members are all students who are in one school where the student council is located. In an effort to elect the student council president, the researchers created a web-based information system in selecting the student council president. E-voting is an electoral system where data is recorded, stored and processed in the form of digital information. In the election of the chairman is always a problem in carrying out his election, such as having to prepare space, paper, and others. And after that it takes time in completing the vote count, it also requires a lot of people or committees in carrying out the chairman's election, lack of transparency in vote counting, there are still errors in vote counting.

Keywords : E-voting, Election, OSIS, Mysql, Codeigniter, School.

1. INTRODUCTION

Today's technology world is not a scary thing anymore but it has become a necessity in every line of life. Almost everyone uses technology in their activities. Including our students from elementary to high school / vocational school can use technology, especially the name Mobile. There are bad and good sides in using IT among students, it depends on us as parents or teachers to guide them in utilizing technology. Information is data that is processed into a form that is more useful and more meaningful for the recipient. The source of information is data. Reality data that describe a real event and unity. Events (events) are events that occur at certain times (Johan, et. al., 2017).

Intra-School Student Organization is an organization that is at the school level in Indonesia, starting with junior high schools and senior high schools. The student council is managed and managed by students who are chosen to be student council. Usually this organization has a mentor from the teacher chosen by the school. Student council members are all students who are in one school where the student council is located. In an effort to elect the student council president, the researchers created a web-based information system in selecting the student council president. E-voting is an electoral system where data is recorded, stored and processed in the form of digital information (Alvarez, et. al., 2013). The application of e-voting is considered capable of overcoming problems arising from conventional voting (Tsahkna, 2013). E-Voting is a system for making ballots, giving, counting, showing votes, and generating and maintaining audit tracks electronically and digitally. An understanding of e-voting refers more to the process of utilizing electronic devices to better support the smooth process and also the automation model that allows minimal interference from individuals in all processes (Garg, et. al., 2019).

In the election of the chairman is always a problem in carrying out his election, such as having to prepare space, paper, and others. And after that it takes time in

completing the vote count, it also requires a lot of people or committees in carrying out the chairman's election, lack of transparency in vote counting, there are still errors in vote counting. From the problems above, the researcher wants to make an information system in the election of the student council president. In developing this information system researchers used the Codeigniter and MySQL Framework (Putri & Supriyono, 2019).

2. LITERATURE REVIEW

Related research that has been conducted with web-based object oriented are as follows: Research conducted by Harma Oktafia Lingga Wijaya, in 2017 researched about Rantau Jaya Village (Lake) is a village in Karang Jaya sub-district, Musi Rawas Utara Regency, with geographical location at -2.8513807 and longitude 102.8111672, The electoral system in this village still uses the conventional electoral system, the voting and counting process in the conventional election still has many weaknesses including the wrong voters in terms of marking on the ballot paper, because the legal provisions of the marking are unclear so many ballots are in declared invalid, and the second is the announcement of the results of a slow election because they have to do calculations manually and fraud often occurs, and the security of the data is very important in this system because the election is a crucial problem in the community so security is needed to secure the results of the election. Research conducted by Daha & Cristal (2017) In this election it is usually done in two ways, namely voting through writing the name chosen and through sending from the chairman of the commission. This is considered ineffective because it does not consider the candidates' vision, mission, and performance weights, which is why an online voting system has been made that can cover these shortcomings. The system development methodology used in this study is the Simple Additive Weighting (SAW) method. The software used in building this application is PHP (Pear Hypertext Preprocessor) as a programming language, MYSQL as a database server, Sublime Text 3 as a support. The KPPM Jatiwringin E-voting System is a system that provides information about candidates about their vision, mission, and performance weights that can be assessed by voters anywhere and anytime so that all youths both in Jatiwringin and outside the city can participate in this election.

Research conducted by Roni Setiawan (2019), Jawi Wetan Jatiwringin Christian Church is a church located in Jatiwringin Hamlet, Sukoharjo Village, Kayen Kidul District, Kab. Kediri. This church has 7 commissions, one of which is the KPPM (Youth and Student Development Commission). This commission handles the youth alliance in it both in worship and in existing problems. In the KPPM, there is a change of youth leaders in every two years. In this election it is usually done in two ways, namely voting through writing the name chosen and through sending from the chairman of the commission. This is considered ineffective because it does not consider the candidates' vision, mission, and performance weights, which is why an online voting system has been made that can cover these shortcomings. The system development methodology used in this study is the Simple Additive Weighting (SAW) method. The software used in building this application is PHP (Pear Hypertext Preprocessor) as a programming language, MYSQL as a database server, Sublime Text 3 as a support. The KPPM Jatiwringin E-voting System is a system that provides information about candidates about their vision, mission, and performance weights that can be assessed by voters anywhere and anytime so that all youths both in Jatiwringin and outside the city can participate in this election. Research conducted by Diana and Febrianti (2017), Prayer is one means to communicate between the servant and Allah SWT in certain

circumstances. In addition, prayer as a spirit of worship or essence of worship as stated by Rasulullah SAW. At present many children are not aware of the existence of various kinds of daily prayers due to their lack of understanding of the existence of prayer in daily life and also the teaching of the teacher and from the child's parents. The purpose of this study is to design a daily prayer application for android-based Muslim children using the MVC method. Model-View-Controller (MVC) is a concept used to encapsulate data along with processing (model), isolate it from the process of manipulation (controller) and view (view) to be represented on a user interface. From the results of the analysis, design, testing and implementation of programs that have been carried out on the application of the Daily Prayer for Children it is concluded that the Model View Controller can be applied in application development and of course the program or application is more structured. Research conducted by Mara Destiningrum & Qadhli Jafar Adrian (2017), Researchers develop a Web-Based Doctor Scheduling Information System that can be a solution for data processing and can provide information about

3. RESEARCH METHODS

Previous research has been carried out at Pekanbaru 10 Public Middle School. The study was conducted from November 8, 2019 to October 31, 2020. In carrying out this research a framework is needed as a guide in compiling the research. The figure below explains in general the steps taken in carrying out this research.

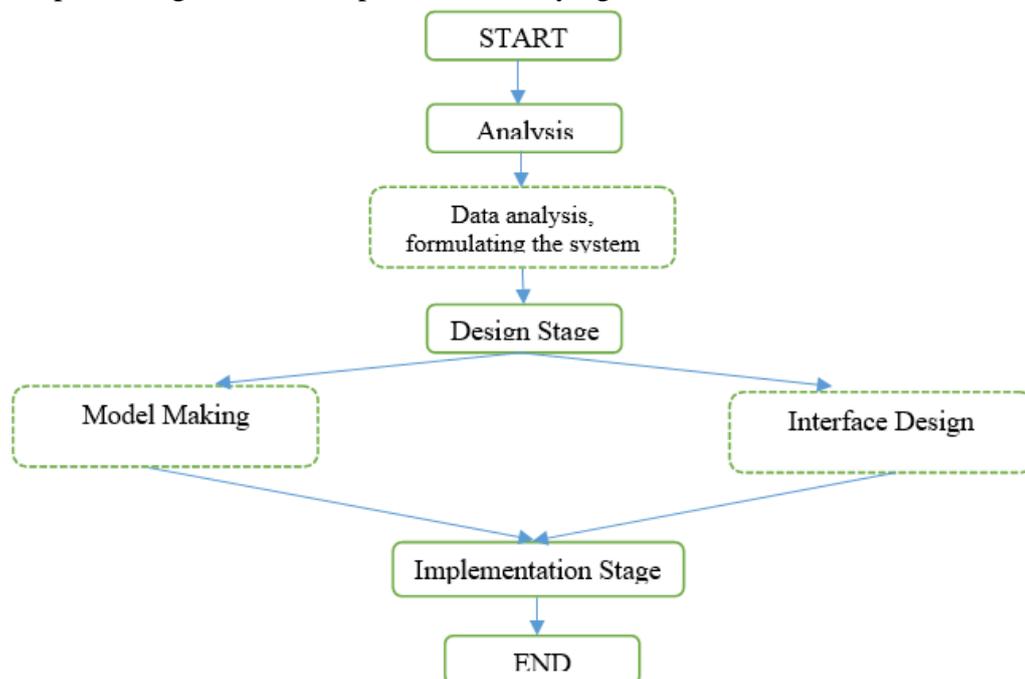


Figure 1. Research frameworks

4. RESULTS AND DISCUSSIONS

This analysis process is the decomposition of a whole system into component parts with a view to identifying and evaluating problems, opportunities, obstacles that occur and the expected needs so that improvements can be proposed. The Analysis Phase is an important stage, because errors in this stage will cause errors at the design and implementation stages. System analysis is needed to meet the need for data and procedures for an ongoing system.

After the analysis and planning phase, we can implement the system according to the planned needs. In this implementation stage the researcher has done the coding and display design according to the plan. So that the processes in the system that are running can be better understood, it can be seen from the activity diagram below:

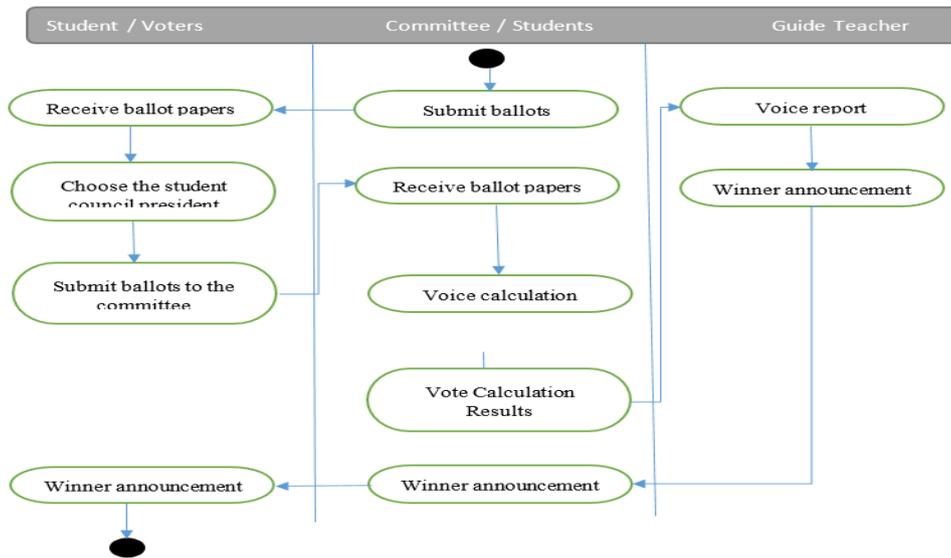


Figure 2. Activity Diagram

Implementation of this display illustrates what is in the system. Location of the navigation menu that will be displayed.

a. Front page

Main Menu Display is an interface that will appear on every page when opening the e- voting system .

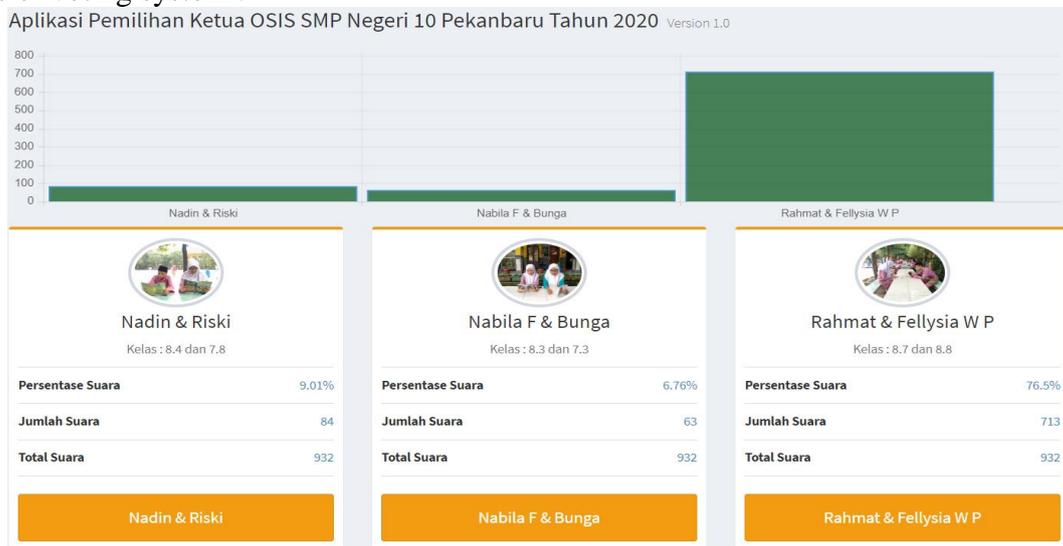


Figure 3. Front page

b. Login page

Login interface is the page that first appears when the website is opened which is used to verify the user by entering the correct username and password.



Figure 4. Display Login

c. Admin Page Display

Admin main menu interface is a display that appears after the admin has logged in, where the admin can process student data, candidate data and user data, and see data that has not been voted, already selected and recapitulated.



Figure 5. Admin Display

d. Student Data Display

The student data menu interface is the display that appears after the admin clicks on student data, so the admin can add, change, and delete student data.

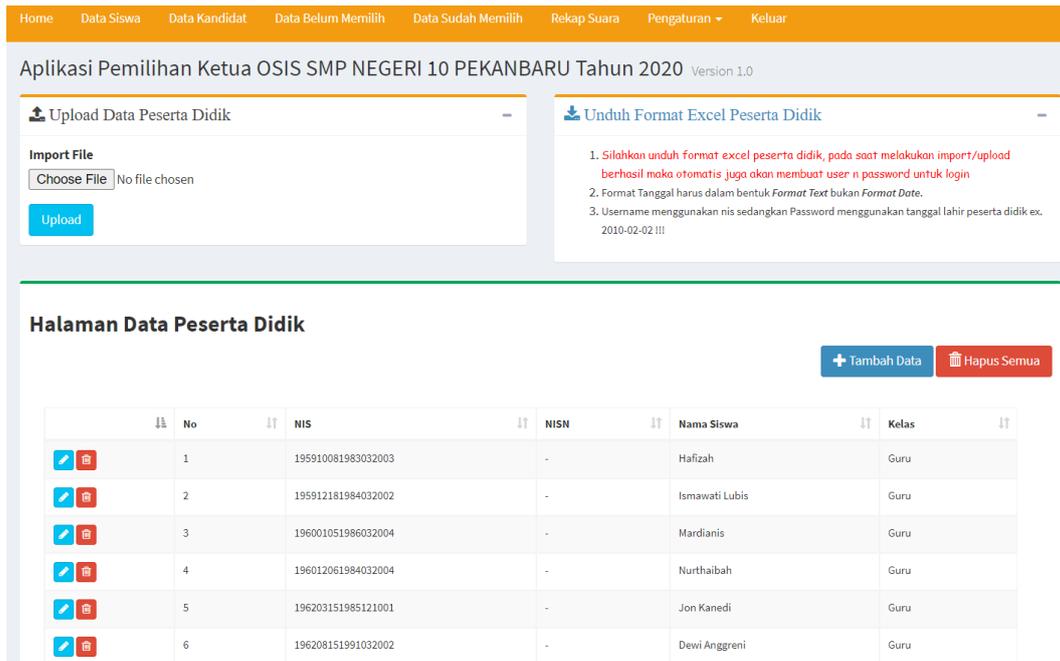


Figure 6. Display Student Data

e. Add Student Data Page

Admin main menu interface is the display that appears after the admin clicks the add menu on the student data menu.

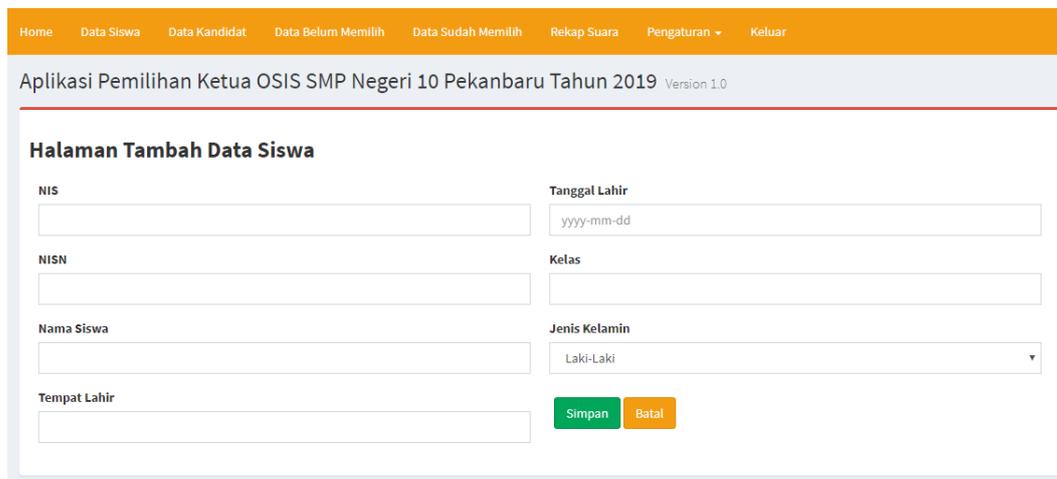


Figure 7. Display Add Student Data

f. Candidate Data Display

The candidate data menu interface is the display that appears after the admin clicks on the candidate data, so the admin can add, change, and delete candidate data.



Figure 8 . Candidate Data Display

g. Data Display Not Voted Yet

The data menu interface is not selected yet is the display that appears after the admin clicks on the data not yet selected, so the admin can see the data of students who have not chosen the student council president.



Picture 9. Data Display Not Yet Voted

h. Data Display Already Selected

The data menu interface chosen is the display that appears after the admin has clicked on the data selected, so the admin can see the data of students who have chosen the student council president.

No	NIS	NISN	Nama Siswa	Kelas	Status Pilih
1	195910081983032003	-	Hafizah	Guru	Sudah Memilih
2	195912181984032002	-	Ismawati Lubis	Guru	Sudah Memilih
3	196001051986032004	-	Mardianis	Guru	Sudah Memilih
4	196208151991032002	-	Dewi Anggreni	Guru	Sudah Memilih
5	196211051985122003	-	Rosida	Guru	Sudah Memilih
6	196309251987032005	-	Hasni Hastuti	Guru	Sudah Memilih
7	196401011984122002	-	Syofniarti	Guru	Sudah Memilih
8	196407022007012002	-	Asfiarti	Guru	Sudah Memilih
9	196501311998032002	-	Ermidani	Guru	Sudah Memilih
10	196509251989032004	-	Asti Rusti Pangestu Maryana Si	Guru	Sudah Memilih

Figure 10. Display Data Already Voted

i. Voice Recap Page

The voice recap menu interface is the display that appears after the admin clicks on the voice recap, so the admin can see the results of the vote count by the system.



Figure 11. Display Voice Recap

j. User Data Page

The user data menu interface is the display that appears after the admin clicks settings and then the user, so the admin can set users based on access rights in the system.

No	Username	Nama Lengkap	Level
1	admin	Administrator	Admin
2	20198188	ANYA PUTRI DEWI	Siswa
3	20198189	ASSYA HAMADA ZURRIAT AZHAR	Siswa
4	20198190	BIANCA BILBINA AZZAHRA	Siswa
5	20198191	DAFA ALYATAMA	Siswa
6	20198192	DANIEL ROYUANES SIALLAGAN	Siswa
7	20198193	DEKA MIKO CHRISTIAN	Siswa
8	20198194	DHEBY ANDARA PUTRI	Siswa
9	20198195	FAHDIL NABILSYAD	Siswa

Figure 12. User Data

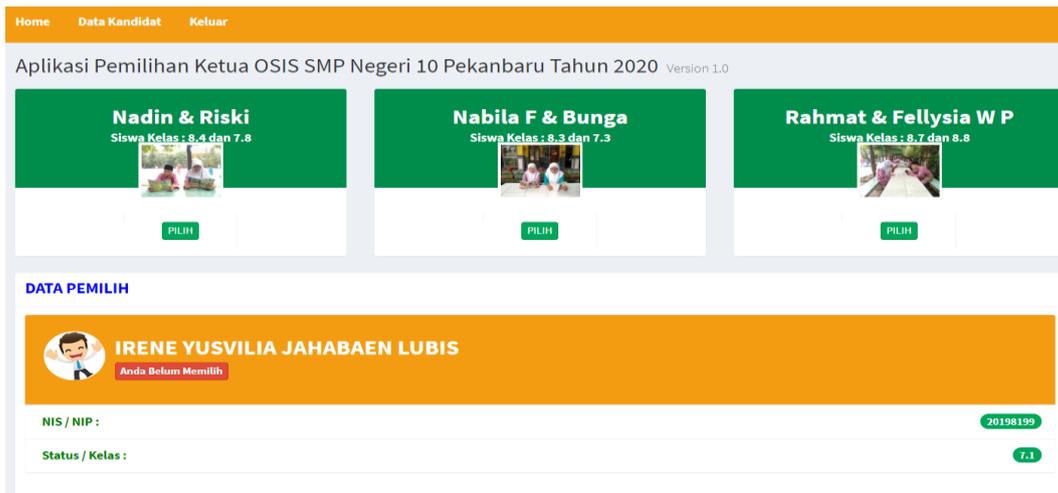
k. Display Add User Data

Admin main menu interface is the display that appears after the admin clicks the add menu on the user data menu.

Figure 13. Display Add User Data

l. Main Display of Students Before Voting

The main menu of the student interface is the display that appears after students log in where students can process selected data and view candidate data. In this menu students choose the student council president by clicking the select button.



Picture 14. Display Students Before Voting

m. Candidate Data Pages For Students

The candidate data menu interface for student views that appears after students click on the candidate data menu.



Figure 15. Display Candidate Data for Students

n. Main Display of Students Before Voting

The main menu of the student interface is the display that appears after the student has logged in where the student has made his choice of the student council presidential candidate.



Figure 16. Student Display After Voting

5. CONCLUSION

After implementing the application in schools, the school was very satisfied with the results of the voting which were very transparent and very easy to be used by students, while for the students themselves really felt democratic and transparent elections. The problems that occurred last year are no longer felt this year, such as the length of the announcement of the elected Chairperson, the use of large amounts of paper and the final waste, and incurring large costs and time-consuming elections. Whereas using this election system makes everything feel easy and fast, it doesn't take long to implement and can immediately get the results of the vote.

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