THE ELECTION KLEBUN BASED APPLICATION

Devie Rosa Anamisa[1], Aeri Rachmad[2]

[1,2] Faculty of Engineering, University of Trunojoyo Madura, Indonesia

Abstract **- In a democratic system, elections must be based on transparency and accountability to generate confidence for all parties. The main problem of the democratic system is how to build network systems that enable the implementation of the election be transparent and practical. Electronic Software is one of the practical applications made on the implementation of the democratic party in Indonesia, especially for the election of village leaders, or called by Klebun in Madura, which aims to establish a network in each polling station and makes it easier to communicate and exchange data within a computer network. From this point, the availability of services is used to facilitate access the performance of the election and to get information. In the selection of Klebun, it also needs to be supported by modern technology and focus on usability rather than its function. In this study, the technology which is used is the Local Area Network (LAN) to build a network, where each computer will be connected at every polling station in the village as a research object, so that the technology uses the local network (private) that is connected to other local networks. These network-architectures form star-shape. The software application has been scrambling sign or a random word to vote and is distributed automatically. Voters exercise their right to choose all the candidates for village leaders to get in first with a token. Each voter gets only one of many tokens. The mechanism of data security token system uses Message Digest 5 (MD5) for security systems which each stage of encryption security uses the MD5 algorithm; so that it is only the private key that can open or read data. The results of this study indicate that the application of electronic voting for the election Klebun can be integrated in every village TPS and uses MD5 security system so that the sound system is user-friendly; and it can be helpful for a quick count of the number of choosing each candidates. This can reduce human error and also the voters can see the results in the graph after the electoral process is completed.**

Keywords **– Electronic Software, Application, Election, Klebun in Madura.**

I. INTRODUCTION

The village is the unity of the legal community has boundaries. It has been listed in Government Regulation No. 72 in 2005 is about the village [1]. The village government is the organizer of government activity by the village government, is to regulate and manage the interests of the community. The village government or village leaders have terms in Madura is Klebun. Based on both subsection are 14 and 15, Government Regulation No. 72 of 2006, is the village leader's job is to keep the village government based on policies set by the Organization of Regional Representatives.

Before people know the technology, mechanisms in choosing a village leader begins by giving the task to the committee of the village so that they may have made their own rules for smooth activities, such as the voter must have an ID card and family card based on the place of his life. On the other hand, the procedure of the election is also determined by the forum. Forum organizers of events has many tasks, such as finding and collecting the names of candidates with the village leaders, in the opinion of the head of the family in the village. Another is to check and observe the names of candidates on Voicemail, elections held by the Council, collecting Voicemail and collecting names of the candidates elected by majority vote, controlling the implementation of the election, and report the news of the election results. The selection mechanism that exists today, there are still weaknesses in the system itself as well as human error.

Development of information technology has given changes for humans, including the use of electronic software. The use of computer technology in the election of village leaders has been known as an electronic software for voting. Selection of software technologies used in electronics is highly variable, such as the use of a smart card for authentication of voters, use of the internet as a voting system, the use of touch screen instead of a sound card, and many other technological variations [2]. Paper use has been minimized in applications with electronic software, because these applications have been based on digital technology. With a simple, electronic software can do election. Voters use their right to select all candidates for village leaders to sign-in first by the token. Each voter gets only one of many tokens, then the application will calculate the choice digitally. With electronic software for the implementation of the voting have been doing time efficiency and energy used in the calculation of noise [3]. In the statement had give effect on the level of flexibility and effectiveness is significant in the ease of use of electronic services. By using the latest electronic software make elections more efficient than using manual processes. Voters are more satisfied because of the sound they choose will be calculated without the slightest error[4].

This research has the goal to develop electronic software in Election of Village Leaders or Klebun in Madura by simulation on the environment. The results of this research can be input for the government in the implementation of electronic software for the election or selection of village leaders in Indonesia. In this research, simulation of application software is limited to systems based electronics, and do not take security on the confidentiality of the contents of the database system so that it helps a quick count the number of voters in each candidates, reduces human error

1087

and also the voters can see the results in the graph after the election process is completed.

II. METHODOLOGY

Election is a process in which voters choose their representatives and express their preferences for the way they are governed. Truth, resistance to fraudulent behavior, coherence, consistency, security, and transparency of voting all the major requirements for the integrity of the election process [5]. There is a wide variety of different voting systems which are based on traditional paper ballots, mechanical devices, or electronic voice. In traditional paper ballots, voters choose or mark their favorite choice on the ballot paper and put them in a box, sealed and officially opened under special conditions to guarantee transparency. The ballots are then calculated manually, which is a tedious process that has a human error so that the system is not reliable [6,7]. Implementation of the election is very influential on the development of a government policy. The first election was made by the committee, then the committee voter records based on age and registered as voters, if the voter is feasible then the voter is permanent voters and stored in Microsoft Excel. In addition, the Committee should make a voting card, calculate and oversee the election process[8,9]. Finally, along with the rapid technological development, then an electronic software for Election Klebun in Madura, especially the city of Bangkalan is necessary, because of the way the election Klebun Madura in the village of Dlamba Dajah and Dlamba Laok still manual, so this needs to be developed into a modern. Based on the analysis of the situation of the two villages, there are 1600 Family Card (63% of women and 37% of men). Voters greatest number of 32-46-year-old man was in 2154, 17-31 year-old voters is 1346 people, 47-61 year-old voters is 756 people, Voters aged 62-76 years was 198 people, and voters aged over 76 years is 92 people. This year there are 92% use their right to vote and 8% is not chosen, it shown in Figure 1.
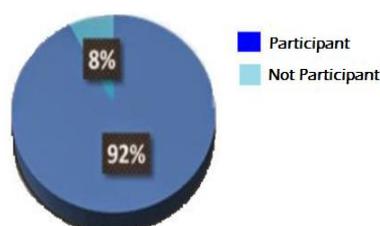

Fig. 1. Graph average of Citizen Participation in Two Villages.

The level of community participation in both partners in Bangkalan-Madura very high. However, 70% of Voters do not have a reason. They just joined in, the term "The most important voting". This indicates that people do not understand the definition of election Klebun. The second reason is the participation of the villagers are encouraged because there are relatives or associates known as Klebun candidate. The third reason is the voters agree with the vision and mission of candidates, so this reason is a good reason, it shown in Figure 2.
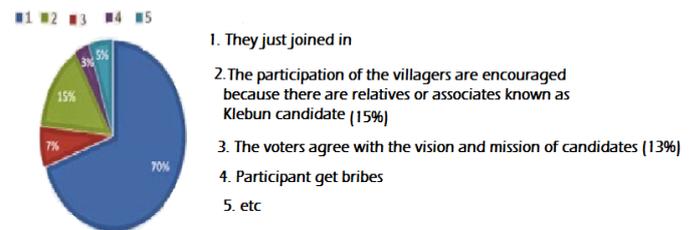

Fig. 2. Graph Various Reasons of Participation Villagers.

Of these conditions, in this research, the implementation of choosing village leaders provide an electronics software. Electronic Software is the process of voting and counting of votes, which uses an electronic device or information technology. The objective of the electronic software is to accelerate the process of voting and vote counting and more important is to maintain authenticity or genuineness of the vote and maintain the accuracy of the count [10]. So the model is designed to be flexible enough to be adapted to different election environments. An electronic software results provided by the model, for a particular election process, allow offices administering an election process to deploy adequate hardware and networking resources to make the process as successful as possible.

III. ANALYSIS AND DESIGN

A. The Proposed Electronic Software Model

Automating an election process can significantly mitigate many of the factors that would hamper a healthy progress of a given election process. For automated electronic software processes to be fully acceptable worldwide, several issues must be addressed and resolved. Among these issues are authentication/validation, security, robustness, performance and correctness. Given the short history of electronic software systems across the world and the inherent limitations in the scope of implementation, it is very difficult to measure the success or failure of any or all of the issues mentioned above. In addition, any voting process, as mentioned earlier, is bound by regulations and cultural values that characterize the different societies involved. Hence, the example of one country may not directly suite the example of another. As a result, it is highly recommended to build a simulation model whereby an electronic software system can be evaluated and various attributes adequately assessed before one is deployed.

This paper introduces one simulation model, where we address the main factors which directly contribute to the success of a voting process. The simulation parameters can be changed based on the peculiarities of any entity. Define an electronic software system as any systems that allow the eligible voter to cast their votes via a computer normally connected to internet or intranet from anywhere like home or office. The proposed electronic software systems that use a contactless card. he design after finding the requirement for the systems from both user and administrator side the ballot card has to protect the privacy of the user based on the

ISSN: 2278 – 1323

International Journal of Advanced Research in Computer Engineering & Technology (IJARCET)
Volume 5, Issue 4, April 2016

functionalities it is having the proposed systems has to has functions that will validate each and every user as to whether or not is a eligible voter and voter's authorities are limited in order to prevent his violation. The systems is in line with principles which include security and uniqueness. The main components of the architecture of the model are shown in Figure 3.

Fig. 3. Systems architecture for Electronic Software of Klebun Election

The systems have the limitations of incomplete regulations as the absentees voters cannot be allow to vote later. It still needs to be discussed in legislative systems. This electronic voting scheme to be successful, in addition to carrying out the basic task in voting systems it is also expected to be user friendly. When the proposed systems become complicated and complex such that there is drastic change with the previous systems known to users, then they may decide to shun away from the new systems. Therefore the researcher focuses on usability rather than functionality. Effectively argue that the people understanding or perception of this electronic voting system can have a great effect on their decision to use it, and subsequently their decision to cast their votes. As such it is very necessary to make the characteristics of that voting machine so friendly in order to allow the eligible voter cast their vote. It is in line with this problem of acceptability develop a model to test this situation. The model contain five major constructs which include: ease of use, availability, accuracy, privacy protection, and. mobility. A survey was conducted among some professional and experience internet users, the result indicated that the major factor influencing the turnout of voters are the ease of use of the device and level of confidence of voter towards the general facilities in the exercise. The systems use a token to verify any process initiated by the user. Automated system will scrambles token for each voter after the network is successfully connected and the committee will print tokens to voters. Each voter has only one token, can be seen in Figure 4.
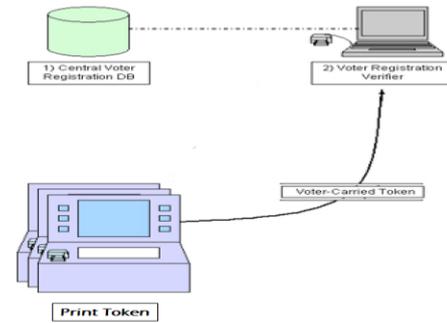

Fig. 4. Systems architecture for Electronic Software of Klebun Election

Token or random words are distributed to voters and voters do their right to vote in accordance with the token login. Voters have the right to log in and cast their Klebun candidates using computers at polling stations. As for the security of data using encryption techniques md5. Encryption md5 is used to lock the data date, month, year, password, username, and the results of the election Klebun so that data storage can not be read directly. And use triggers to record the commands changes that the user. From the aspect of security, electronic Software is able to cope with various threats that may occur such as SQL Injection.

B. Ballot Design

This feature is provided for the administrator, where ballot can be setup i.e. inserting candidate names into the ballot for respective categories (electoral position). The administrator can also update any candidates' profile or information by either editing or deleting information for respective categories of the election. After editing the setup the administrator can post the ballot for voting.

C. Database Administrator

Administrator has the privilege of viewing registered voters and editing their information, searching for a person (registered voter) by entering his name, can view the details of all voters who have registered. The administrator is also provided with the feature of viewing the information of voting i.e. numbers of voters, the all error log, view live results, though voters also have the privilege to view live results as the voting is taking place, which reduce the tendencies for rigging.

D. Voting Module

This module is for the voters, where votes are casted. After a voter has registered beside getting token, username and password is sent to the mail of each registered voter. During the voting, on the voting interface, voters are required to fill in their username and password correctly, which automatically takes them to the voting proper. And once a voter has cast his or her vote for all categories i.e. for Village Leader elections, a voter cannot go back on this page to cast a vote again.

IV. RESULT AND DISCUSSION

Results of research conducted by displaying the menu that can be accessed by the user, with a few menu options, as shown in Figure 5. E-Klebun is an electronic software for the election of village leaders of both the strengths and weaknesses of the use of the electronic software. Profile Klebun is the identity of the two villages in both villages and rural Dlamba Dajah Dlamba Laok as input data electors and candidates village leaders and also leaders of the old village. Candidate profile is the application displays all the village leaders candidates eligible to be selected with the identity and motto of each candidate. Village profile is the application displays the condition of each village (village of Dlamba Dajah and Village of Dlamba Laok, Madura) about the location, the number of villagers as well as information about the number of people who know about electronic software on the village leadership election. Login is an application for voters, admin and candidates to conduct election of village leaders after getting a token of the committee. Token is given by the committee to voters is only one token. So voters have only one chance on several occasions to select it, as shown in Figure 6.

Fig. 5. The Main Interface for Electronic Software of Klebun Election

Fig. 6. Login for Electronic Software of Klebun Election

Login interface visible on the sign-up button. Button is used by villagers to enroll as a participant of voters in the election of village leaders. This is done in a way, that exchange the token has been received and printed by the committee, then the participants sent an email username and password so that participants can login as voters. Sign-up interface is shown in Figure 7. At the end of the election, all the villagers can see the results of the percentage of the enthusiasm of the voters in the voting system in the form of a graph, shown in Figure 8.
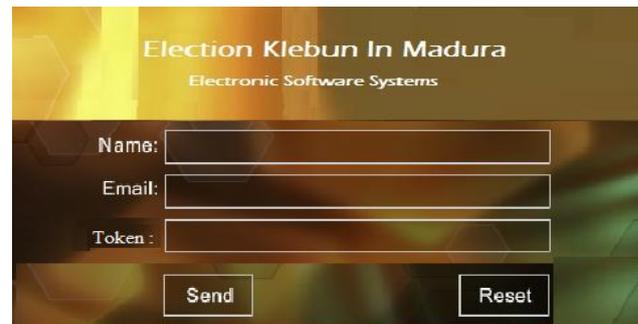

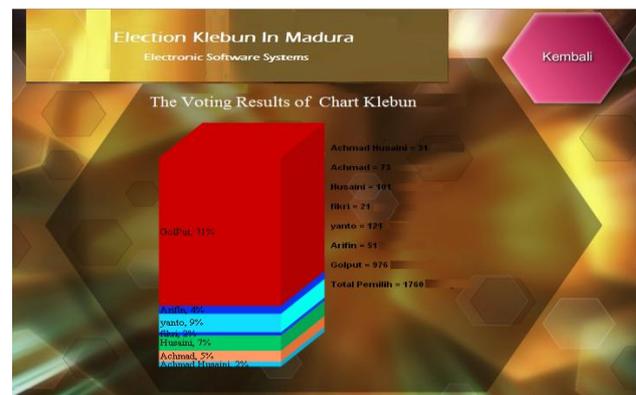Fig. 7. Sign up for Electronic Software of Klebun Election

Fig. 8. The Result of Voting Process

V. CONCLUSION

Electronic Software of Klebun election construed as a vote by touching a computer screen or electronic panels for election Klebun. In this paper has proposed an electronic software which can solve all the problems previously encountered in (manual) election of village leaders. The new system proposed system is able to deny access to any voter illegal, prevent some people with the same voters, and that would adversely affects the voting process altogether so that the security of the ballots is of considerable concern to prevent various forms of possible threats, Management of database of voters and candidates in an integrated system of computer networks and automatically updates all data Klebun good election voter data per family card and data Klebun candidate or candidates to be selected. Other than that, The proposed voting system can provide information on the voting results in the election of the form chart Klebun, and can determine the percentage of the number of voters who are present so that the village can know the enthusiasm of citizens in elections Klebun follow the next year.

These factors address the number of voting stations needed at any voting center, as outlined by the voting needs of a given voting village to support the needs of a given voting locality, amongst others. The system, via these simulations, has shown ruggedness and sustained reliability in terms of preventing multiple votes by the same voter, and maintaining internal system audits that would warrant no missed votes, per candidate, in the process of voting. With the use of an e-Voting system, as the one proposed in this paper, many of the issues, that had long challenged traditional voting systems, are bound to be resolved providing a peace of mind

to both voters and election candidates.

REFERENCES

[1]. Government Regulation No. 72 Year 2005 on Village

[2]. Mahdi Alhaji Musa, et al. "Design of Electronic Voting Systems for Reducing Election Process". International Journal of Recent Technology and Engineering, Vol.2, Issue-1, March 2013.

[3]. Feras A. Haziemeh, et al. "New Applied E-voting System". Journal of Theoretical and Applied Information Technology, Vol.25, No. 2, pp. 88-97, March 2011.

[4]. Hayam K. et al. "E-Voting Protocol Based On Public-Key Cryptography". International Journal of Network Security & Its Applications (IJNSA), Vol.3, No.4, pp. 87 – 98, 2011

[5]. Weldemariam, K., et al. "Formal analysis of an electronic voting system: An experience report". *Science Direct on The journal of Systems and Software*, pp.1-20, 2011.

[6]. Shafi'í Muhammad A, et al. "The Design and Development of Real-Time E-Voting System in Nigeria with Emphasis on Security and Result Veracity". I.J. Computer Network and Information Security, Vol. 5, Issue 2, pp. 9-18, April 2013.

[7]. Mohammad Malkawi, et al. "Modeling and Simulation of a Robust e-Voting System". Communications of the IBIMA, Vol.8, No. 26, pp. 198-206, 2009.

[8]. Halili, "Practice of Political Money To The Village Head Election". The Journal of Humaniora, vol. 14, No. 2, pp. 99–112, 2009.

[9]. Bintan R, Saragih. "Process of Election of Regional Head and Deputy Regional Head". Roundtable Discussion: Center for Local Government Innovation, Jakarta, 2003.

[10].Chevallier M, Warynski M, Sandoz A. "Success Factors of Geneva's e-Voting System". The Electronic Journal of e-Government, Vol. 4, Issue 2, pp. 55 - 62, 2006.