E-Voting "A Step towards Digital India"

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ABSTRACT:
The word "vote" means to choose from a list, to elect or to determine. The main goal of voting (in a scenario involving the citizens of a given country) is to come up with leaders of the people's choice. Most countries, Kenya not an exception have problems when it comes to voting. Some of the problems involved include ridging votes during election, insecure or inaccessible polling stations, inadequate polling materials and also inexperienced personnel. This E- voting seeks to address the above issues. It should be noted that with this system in place, the users, citizens in this case shall be given ample time during the voting period. They shall vote for their party by sitting anywhere in the world with the help of mobile/computer on the day of election.

1. INTRODUCTION:

As we know that our PM Narendra Modi is focusing more and more on digital India so, E-voting is a very important and efficient step towards his dream of Digital India. E-Voting is a term encompassing several different types of voting embracing both electronic means of counting votes. Electronic voting technology can include not only voting for parties by voters but also it will involve registration of new voter ids ,registration of party candidates standing for election, counting and many more. It can also involve transmission of ballots and votes via telephones, private computer networks, or the internet. E-voting is an electronic way of choosing leaders via a web and mobile driven application. The advantage of E- voting over the common "queue method" is that the voters have the choice of voting at their own free time and there is reduced congestion with more percentage of voting. It also minimizes errors of vote counting. The individual votes are submitted in a database which can be queried to find out who of the aspirants for a given post has the highest number of votes. This system is geared towards increasing the voting percentage in India since it has been noted that with the old voting method {the Queue System}, the voter turnout has been a wanting case. With system in place also, if high security is applied, cases of false votes shall be reduced. With the "E-VOTING", a voter can use his\her voting right online without any difficulty. He\She has to register as a voter first on the web application which will be driven by appropriate security measures before being authorized to vote. The registration should be done prior to the voting date to enable data update in the database. However, not just anybody can vote. For one to participate in the elections, he/she must have the requirements. For instance, he/she must be a registered citizen i.e. must be 18 and above years old. Registration is mainly done online by the user itself keeping in mind the appropriate security measures (OTP). The user is cross checked by comparing their details submitted with those in existing databases such as those as the Registrar of Persons, the citizen is then registered by the IEBC as a voter As already stated, the project 'E-Voting' provides means for fast and convenient voting and access to this system is limited only to registered voters. Internet voting systems are appealing for several reasons which include; People are getting more used to work with computers to do all sorts of things, namely

Sensitive operations such as shopping and home banking and they allow people to vote far from where they usually live, helping to reduce absenteeism rate. Nowadays almost everyone knows how to use internet or mobile app, so it will become much easier for them to caste their vote or register themselves or vote counting without going to polling stations and standing in long queues. Along with all these benefits we can achieve 100% voting which will be a very great for our country India.

2. OBJECTIVE AND SCOPE OF E-VOTING:
The specific objectives of the project include:
Reviewing the existing/current voting process or approach Coming up with an automated voting system. Implementing an automated/online voting system Validating the system to ensure that only legible voters are allowed to vote.

3. SCOPE OF STUDY:
It is focused on studying the existing system of voting and to make sure that the peoples vote is counts, for fairness in the elective positions. This is also will produce:
Less effort and less labor intensive, as the primary cost and focus primary on creating, managing, and running a secure web voting portal
Increasing number of voters as individuals will find it easier and more convenient to vote, especially those abroad.

4. SYSTEM STUDY:
This section explores the current voting system and problems associated with it.

DESCRIPTION OF THE EXISTING VOTER REGISTRATION SYSTEM:
The existing system of voting is highly manual,the EC has a laid out data capture form that is used to register residents in their areas. A Period for registration is set to start and end on a particular day, such a period is announced to the public using the various mass communication medium including newspapers and radio. During such a period potential voters are expected to report to these officers in order to be registered using paper and pen. Every potential voter fills out a form with details such as location, date of birth among others; such an individual must be verified to be residents of that particular area. The IC officers collect filled in Data capture forms from officials at the end of the registration period to be taken to the central IC offices where data entry clerks are then employed to do entry into the central database from which a voter register is produced. At the end of this process, voters are registration cards are produced to be issued to voters.

PROBLEMS WITH THE EXISTING VOTER REGISTRATION SYSTEM:
The problems of the existing manual system of voting include among others the following:
1. Expensive and Time consuming: The process of collecting data and entering this data into the database takes too much time and is expensive to conduct, for example, time and money is spent in printing data capture forms, in preparing registration stations together with human resources, and there after advertising the days set for registration process including sensitizing voters on the need for registration, as well as time spent on entering this data to the database.
2. Too much paper work: The process involves too much paper work and paper storage which is difficult as papers become bulky with the population size.
3. Errors during data entry: Errors are part of all human beings; it is very unlikely for humans to be 100 percent efficient in data entry.
4. Loss of registration forms: Some times, registration forms get lost after being filled in with voters' details, in most cases these are difficult to follow-up and therefore many remain unregistered even though they are voting age nationals and interested in exercising their right to vote.

5. Short time provided to view the voter register: This is a very big problem since not all people have free time during the given short period of time to check and update the voter register.

6. Above all, a number of voters end up being locked out from voting. Hence there is great desire to reduce official procedure in the current voter registration process if the general electoral process is to improve.

5. CONCLUSION:

The proposed protocol fulfils requirements for electronic election schemes, such as eligibility, privacy, unfeasibility, fairness, robustness, individual and global verifiability and coercion-resistance. Although at the current stage this project cannot be implemented all over India but it should start with small high-tech cities like Gurgaun, Bangalore then Delhi and after that all cities across India. It will take around 10-15 years for being implemented across all over India. No complex cryptographic primitives are applied, besides easy calculations it computes digital signature and for communication between the participant's discrete logarithm encryption (e.g. EL-Gamal) is recommended.

REFERENCES:

1. "A Preliminary Assessment of the Reliability of Existing Voting Equipment," The Caltech-MIT Voting Technology Project, March 30, 2001 (revised). Available at http://www.vote.caltech.edu/Reports/index.html)
2. "Lorrie Cranor's Voting Papers," Lorrie Faith Cranor. http://lorrie.cranor.org/pubs/voting.html
3. "A Better Ballot Box?" Rebecca Mercuri, IEEE Spectrum, Volume 39, Number 10, October 2002.
4. "Security Criteria for Electronic Voting," Peter Neumann, presented at the 16th National
5. Computer Security Conference Baltimore, Maryland, September 20-23, 1993. Available at http://www.csl.sri.com/users/neumann/ncs93.html
6. "Secret-Ballot Receipts and Transparent Integrity," David Chaum, draft. Available at http://www.vreceipt.com/article.pdf
7. "Electronic Voting - Evaluating the Threat," Michael Ian Shamos, CFP '93. Available at http://www.cpsr.org/conferences/cfp93/shamos.html\
8. "Electronic Voting," Rebecca Mercuri. http://www.notablesoftware.com/evote.html