



I-VOTING

Prof P Jayalakshmi¹, Prof M N Rajaprabha²,

Prof R Vijay Anand³

^{1,2,3}*School of Information Technology & Engineering, VIT(India)*

ABSTRACT

In this paper we proposed a basic methodology called I-Voting which is called internet voting. Voting is the basic right of all the citizen of the country and casting vote is essentially needed by every citizen of the country , because development of the country is mainly depends on administration and the way the economic grows in the country, if the country is very high in economic its basically gives benefits to the citizen of the country, but for that every citizen should volunteer themselves and choose the best among larders of the country this can be done only in the way of voting, But nowadays because of many unavoidable circumstances the citizen may not turn up for posting their votes this makes election partial among the entire country to avoid this we introduced an idea called I-Vote in which citizens of the country can directly post there vote without coming and standing in queue in the polling , let us go through all the concepts below in this paper to get clear idea about how the implementation work and how the idea benefits different branches of the country.

Keywords used:*Citizen, Voting, Cloud computing, Cloud Services, Server.*

I. INTRODUCTION

In all the country voting is very essential and very much needed to contribute to the growth of the country, In the democratic countries like India it is very much important to get high number of voters count to form a best people leader which will indirectly leads to the growth to the country. But our current election system is very much time consuming and very expensive process because all the voters should spend some time in the queue to post there vote this reduces the interest of the voters to skip voting which may not be good to form a best people government, Nowadays as technology emerges everyone in the country is familiar with internet and how to use the internet. As the people are literate they know how to use technology and internet, This gave the path to implement I-Vote as replacement for traditional election system. Each citizen will be given one UID (Unique Identification Number) which the citizen can use while he post the vote through online, UID will be provided by the government authorities of the country in which election is proposed. This UID solved the problem of making people to post vote multiple times and they can post only once without discrepancy. One major advantage of this system is it gives open option for user to vote from anywhere in the country irrespective of their geo location.

In this proposed model we used Cloud services and some other important features like Centralized server which will handle the entire request for voting form citizen and centralized database with the server which all the voting counts and other details about the voters will get stored, We took special care about the scalability,

efficiency, high performance and other no redundancy. We will go through the entire concept in details from this paper.

II .RELATED WORK

2.1 Cloud Computing:

Cloud computing provides new way of using all the software and infrastructure resource in a global way, Cloud gives an open platform for all the user and it provides lot of services in which we can choose the server we want and we can pay only for the particular service we selected for the particular time period, Cloud service provide us a advantage of storing very huge amount of data into the server and maintaining in cloud is secure and user full, Since I-Vote is idea which will get implemented throughout the country so it will take very large amount of data to be maintained , cloud gives a very effective path to maintain those data on the centralized server in a secured way. Also after completion of election its not necessary for the all the details to be maintained in the server which we got during the election so with the backup of the data we can release some sever so that we will not pay for that server after the election, this makes I-Vote a big advantage for the replacement of traditional election system.

Moving forward we will see some of the services which we get with the cloud computing , In Cloud we will get 3 type of service 1) IaaS that is Infrastructure as a server in this we will get all kind of network and operating system related infrastuctre for the period of time, This support can vary from the requirement which we have , 2) SaaS is Softare as a service SaaS mainly provides us all kind of software which is pay as per use , We can get a software and depends upon the usage we do on that software we need to pay if we no longer need the software we can stop paying for that, The software can be anything it may be for different operating system platform also 3)PaaS is Platform as a service from here we can get hardware support and also network space or else network support , PaaS will basically comes as a high data security environment because of the fact it provides the network support we needs high security to protect the data.

Focus towards I-Vote Using cloud environment:

1. It mainly Reduced hardware cost(In traditional voting system we use many electronic voting machines there is no need for any additional hardware for implementing I-Vote)
2. Authenticity (Using UID provided by government it Become more effective to authenticate the user.)
3. Accuracy (Only one vote per ID is possible so accuracy will be more than the traditional election system.)
4. Extensibility (Failures will be handled effectively)
5. Privacy (Data will get stored securely only authorized can view the data).
6. Report generations (Getting report from data stored is easy and many tool are used to generate graphical data)

III.VOTE SYSTEM ARCHITECTURE

3.1 MAJOR COMPONENTS

1. e-governance database: The database contains all the details about the voter, Voters details such as region in which he belongs to and the age with the UID given by the government authority.

2. Polling Management:

I) Central Server: It will get the voter records from the e-governance database and process it to validation.

II) Node Servers: It is very difficult for the central server to validate all the user information, so node servers are the instance of the central server which do the same work as the central server

3. End Users/Citizen: The people of the country who takes part of the I-Vote system , These are the people who use I vote application for posting their vote.

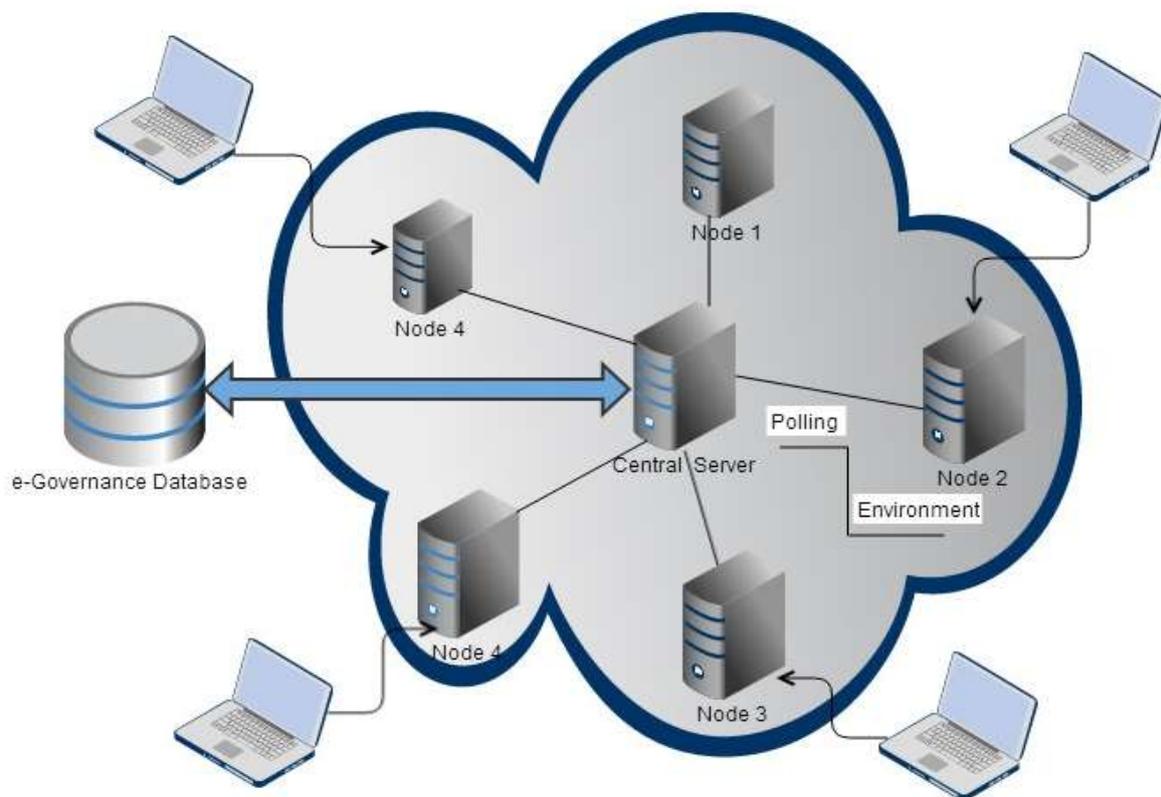


Fig.1. Architecture of I-VOTE system

3.2 I-VOTE SYSTEM MODULES

Identification module:

This is the first step of getting into the I-Voting process. All the citizen details are fetched from the e-governance database where are the details like UID generated by government for each user and the unique private number (PN), UID is the primary key to identify each and every user during polling, All the details will get gathered from the database twenty days prior to the election and updated during election time. Multiple polling environment will get created for different geo – location which will be maintained by the centralized server.

Registration module:

Ten days prior to the polling a registration phase will get opened where are the user who are all eligible for voting need to register using the application, During registration user must provide the details of UID and the PN (private number), These details are passed to the centralized server for the validation.

If UID and PIN matches

Then

Registration Success

Else

Registration Failed

End

Steps for posting vote:

At the time of voting user much login to the application using UID and PN .Only the user who done with the registration are eligible for the voting. Once use submit the UID and PN it will get transferred to the nearest central server and the server validate the details using the UID and PN, If it matched then the user is valid to declare the vote.

After successful validation the user will get the list of candidate name and the party, User need to choose one from the list of candidate , He need to choose at least one to post the vote , Once user selected the candidate and post the vote for the candidate he can't change it again. After every poling a ticket will get generated, UID with ticket number and PN will get transferred to the node server and user will get successful confirmation after the details uploaded on the node server.

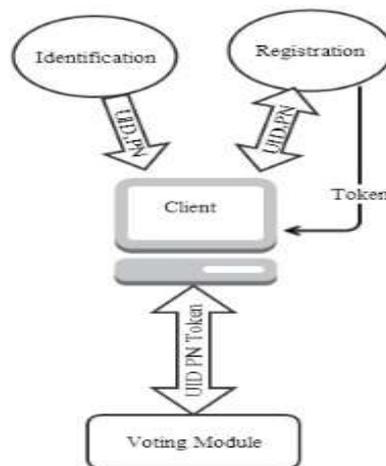


Fig.2: Voter Action Module

COUNTING MODULE

As soon as polling gets over the counting process will be initiated by the government officials, all the details from the node server will get collected into the central server from the central server we can start working on



with the counting process, Public can get the result in few min after the counting start it also saves lot of time for the officials to do counting in fast way, We can able to get details such as number of hours required to get the counting process complete.

SECURE COMMUNICATION

Security is major issue nowadays where the data get transferred through the network. Voting details are to get traveled through different network from the node server to the central server, the data travelled by this way is not secured so we need to use multiple data encryption technique to bind the data and encrypt it will some hash function or key value, Some encryption techniques such as RSA and some key exchange algorithm like Diffie-Hellman algorithm are used to encrypt the data , There some major security related concern for I-Vote are as follows :

Replication of vote detection

This system is different from other voting system. In traditional voting system each user has to present themselves into the voting pole at the election offices, No proposed system identified and solved the problem of replication of the user voting. In this I- Vote we solved the issue by providing unique token UID number and it will get vanished immediately after user post the vote this will prevent from user voting multiple time with one registration. Let see some practical difficulties in I-Vote implementation. These are the major concern to be noted while implementing.

Loss of data due to corruption

In normal manually voting system there is no centralized database where are the data will get stored in one since data centre, since we use centralized database we if the data lost or server fails then the recovery of huge data is relatively impossible. We need to take consistent backup and need replication of data to different centre to avoid loss of data.

Security through internet

Using secure encryption and cryptography algorithm we give full security for the data during voting, its not possible for the third party member to interfere and get the voting details of the citizen. But in traditional voting its very insure and any third party person can get access to the voting details.

Third party attacks:

Internet usage is very high nowadays it make I-Vote implementation little complex, all the details will get travelled through the internet its important to give high security of data. Proper algorithm implementation is needed for the preventing data from hacker or any third party unauthorized user.

Secured Recovery mechanism

In this system we have rapid data recovery mechanism that provides a virtual copy of each node server and if any node server fails central server is capable of retrieving the data from virtual copy of the server.

3.3 COMPARISON BETWEEN EXISTING AND I-VOTE SYSTEM



E- System	I-VOTE System
It is Electronic Based	It is Internet Based
Special hardware is used for voting.	Computer system is used for voting.
It Takes time for computation of result.	Fast Computation of results
Updating is somewhat difficult.	Easy to update.
At each step ,an committee has to be establish to accomplish operation	Less man power is needed.
This system is affected by the geological location.	It is independent of geological location.

IV. CONCLUSION

The paper presents a way to computerize the current voting system of country by using cloud technology Centralized cloud system. We are providing unique identification and personal identification number which will use to safe guard the voting system and to provide the reliable system with accurate Values and the result. The voter will use his personal identification number and UID to give his vote. The voter can save their time by giving vote online. As all results are save in the centralized cloud system, the result are reliable and can be obtain within few hour of voting as compare to current system the proposed system saves time, money and man power.

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