

## Secured E Voting via Smart Phone App

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**Abstract:** In every country voting is very much important for electing the government. Various voting systems are applied for electing the representative but all these systems are not up to the point as concern to the security, privacy, time consumption. Most of the person who are eligible but unable to go for voting due to higher education or any personal problem and some of them are NRI's because of this voting count decreases. This all are nothing but drawback of existing system but still this systems are in work. The proposed system "Secure E voting via smart phone" overcome all this drawback. This system makes the use of smart phone for voting purpose and ruins the paper work, solve security and time consuming problem and increase the voting count and also view the result in voting day.

**Keywords:** Smart phone, e-voting, Face Recognition, Face Detection, Iris Recognition, Barcode scanner.

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### I. INTRODUCTION

Electronic voting system used presently used in India, but before that Paper based voting system used by India which was totally depend on papers and manual procedure while most of the foreign countries used internet voting system to vote. Paper voting system is not efficient due to mandating on home town voting and requirement of election card and ballots paper. Even Internet Voting system have disadvantages that user have to go to net cafe for voting and also require election card. The new technology also entails disadvantages that must be considered. One is the difficulty of guaranteeing ballot secrecy with absolute certainty

This smart phone app solves all these issues. There is no need of election card for voting in smart phone app. Voting can be done via smart phone where all the details of user registered in the database. Then users have to login on the app and his all details are verified from the database for the authentication purpose. When the user authenticated he can proceed forward to vote. OTP generate on the mobile no of the user and he has to enter OPT before vote for security purpose. After that he can view the details of Candidates so that he will take the decision for voting to his favourable candidate easily. Captcha can be used to recognize human. This smart Phone app allow user to give feedback about voting app. This app require only Adhar card and Barcode scanner for voting process.

### II. LITERATURE SURVEY

In conventional voting system, one has to put the voting mark on or near the symbol of the candidate of his

choice, fold it first vertically and then horizontally and thereafter put it into the ballot box. This conventional system needs printing of millions of ballot papers and there may be chance of invalid votes. Cost is more because of millions of ballot papers.

Result calculation done manually which takes 30-40 hours to declare. This conventional system was not secure and not usable for those people who are away from hometown as well as those who missed their election card due to which voting rate is less. Some people have multiple elections card which leads to cause false result [1].

An electronic voting system is a type of voting system which uses electronic ballot that would allow voters to broadcast their secret vote ballot to election officials over the internet [2]. With the prosperity of internet over the years, inventers start to make the use of electronic voting in order to make the voting process more convenient and to raise the participation of the civic. From now on, engineers have repeatedly created new technology to improve the feasibility of electronic voting system [1].

In foreign countries like USA, Canada they used internet voting system for government election in which details of user is stored in database system. First user has to register himself and they get user id and password. Using this user id and password the user have to login, and user get authenticated. After authentication, user is able to login and he is able to vote [4]. Every single vote is stored in database and at the time of results calculation of votes. Voter information is also recorded in the database. Information filled by voter is checked and false information is discarded. User is also asked for the type of voting they are going to vote for. This

will help in differentiating the user at different level of voting. And used face recognition for authentication purpose. But for accessing this voting system, the user had to visit net café or one should have internet facility at their convenience and there is chance of security as they are using face recognition technique for authentication. This was the drawback of this foreign voting system [5].

As we refer Mexican voting system, they are trying to find out any human error through the whole voting system. There voting system uses public networks with the DRE (Direct Recording Electronic). They install temporary electronic ballots at various places that are connected to the central system

.The votes are transferred from the temporary ballots to the central system over a public network, that is server client system. The votes may be transferred as batch of votes from local ballots to central throughout Election Day or may be only at the end of the Election Day. The central counting system should have the registration of all the local temporary ballots. They are using the cellular network data and the security used is public key system. The main features of their system are:-

- Privacy
- Receipt freeness
- Correctness
- Robustness
- Democracy
- Verifiability
- Fairness

Though it is handling empty and void ballots but this system has the one common problem that it does not support remote voting. The voter not present at its native place or not at electoral booth will not be able to vote from remote location [6].

**Summary:**

Conventional voting system required ballot paper and do manual calculation for result whereas in EVM voting system instead of ballot paper ballot button is used which reduces cost for ballot paper .In Mexican voting system They install temporary electronic ballots at various places that are connected to the central system that electoral process is extremely expensive and full of human errors. There voting system uses public networks with the DRE (Direct Recording

Electronic). In internet voting system, no need of ballot paper and ballot button but user has to go to net café for vote. Every system has some drawback which can be overcome by e voting system via smart phone app.

There are various types of internet voting system.

Following are the types of voting system:

1. Raise Your Hand or Raise Your Voice or Put Stick in box- Earlier days election was held by raising hands or shouting out „Aye” or “Nay”.



Figure1. Raise your hands

2. Paper Ballot (1858 Australian paper ballot introduced)- Voter Write the name of his favourable candidate on the paper and put that paper in ballot box secretly



Figure2. Paper ballot

3. Lever Machine (1892, Mechanical lever voting machines)- On mechanical lever voting machines, the name of each candidate or ballot issue choice is assigned a particular lever in a rectangular array of levers on the front of the machine. The voter pulls down selected levers to indicate his favourable candidate.



Figure3. Lever machine

4. Postal voting- People also cast their votes by means of post their votes on the place of voting.



Figure4.postal voting

5. Optical Scanning (Mark sense)(~1970, Optical mark-sense ballots)- Voters mark their choice in a voting response location, usually filling a rectangle, circle or oval, or by completing an arrow. Then the sheet is scanned by optical scanner for final results.



Figure5. Optical Scanning

6. SMS and Phone through voting- People can also cast their votes by means of messages or doing call.



Figure6. SMS voting

7. Electronic voting machine system-The EVM consist of the electronic voting machine to cast a vote by pressing button in front of their favourable candidate.



Figure7. EVM

### PROBLEM DEFINITION

1. In the Paper voting system, those user who are living in remote area or having mobility issue unable to vote but by internet voting system it become easy for user to vote ,still they have to go Net cafe for voting even having data connection in smart phones.
2. Voting system need paper and ballots and election card to vote. User can have multiple election card which misleading .Result never be declared in one day.
3. Voting count is less as per the population of India, voting rate of illiteracy people is more than that of the literate people.

### III. PROPOSED SYSTEM

This E voting system via smart phone app overcome all the drawback of existing system such as wastages of time , security problem , manual work , requirement of election card ,minimum voting count as most the young crowd are unable to cast their vote due to higher education and some are NRI's and user cannot edit their details. This system also allows android phone user as well as normal user to vote by using following module. This system is cost bearable, effective to use, need no hard effort as the result declared at the end of day due to automatic calculation of votes of each candidates.

This E voting system first of all registered user and provide user id and password to user. Registration done as per their Adhar ID as it is used for checking whether user already registered or not. This system gives notification to the user one day prior to election. When the voter login at the time of voting in election day ,voter first authenticated by means of QR code Scanning and check whether he voted already or not and also check whether he is valid voter by age or not. If he is valid user then he

can proceed further to vote. List of candidates for votes are displayed along with their brief description and symbol. After that user can cast vote to his favourable candidate.

Security can be done through Iris detection and Recognition. Casted vote by the user can be stored at online sever in the encrypted form. Face can also be detected and recognized. Result declaration can be done at the end of the day.

#### OBJECTIVE

The proposed system having following objectives

1. To Maximize the voting Count : Smart Phone app allows user to vote through mobile with full security.
2. Result declaration in same day : Counting of the vote can be calculated at the time of voting.
3. Able to edit personal information : Setting option allows user to change personal details like mobile number.
4. Feedback system : User can give feedback at the time of voting.
5. No need of election card : Only Adhar card is sufficient to give vote.

#### IV. CONCLUSION

This Voting system via smart phone app is very effective as it give the result in same day ,no manual calculation .automatically, used to maintains a log of user details .It solve the mobility problem and no need of election card. And also used to maximize voting count.

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