

# E-VOTING SYSTEM USING CLOUD IN INDIAN SCENARIO

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## Abstract

The E-voting system using cloud is introduced in a new way for Indian voting scenario in this paper. The proposed model is more secured for identifying the voter. All security passwords of voters is ratified with the main database of E-voting Commission of India then after Authentication of the voter he/she will able to vote to the elector. In this model voter can vote from anywhere any constituency of India. The main thing of this proposed model is to provide a security level by level. In this model votes counting will be done automatically. This system rescue a huge time and E-voting commissioner of India easily publicize the result within a few period.

**Index Terms:** AADHAAR ID, Cloud computing, E-voting machine, E-ballot, E-voting system

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## 1. INTRODUCTION

The E-voting system using the way of cloud technology is a new and it is more secure way of the highly secure voting system in information security research in India. The E-voting system provides a platform for the voter to elect their elector and manifest their best choice for who will be governed. The faith of the public in the E-voting process is most important [1]. The E-voting system using cloud provide an overall process of election fully coverage of media it is helpful for public and election commission if something is going on wrong. This model will raise a high level of security and faith for voters. Maoist affected area of the E-voting has been pre-listed in [2] while [3] describe the origin of Maoist rudeness and the emphasis secure part of their E-voting process. An E-voting system using cloud involves many steps in the setup, voter verification and tally of e-ballots. The main question is how to count your vote in right manner was defined in [4] while in [5] analyse securities of E-voting has been described. The faith of E-voting has been conferred in [6].

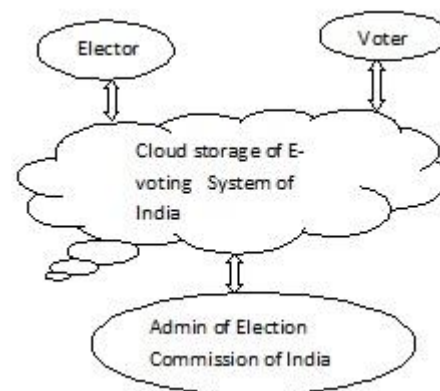
It is difficult to make E-voting process trustfully only if it follows high level of security requirements secrecy, confidentiality and honesty. Secrecy and Confidentiality mean all voters careful and secretly vote to their preferable electorates and all voters have knowledge about their preferable elector. Integrity means verification; authentication of voter and election result should be in the right manner. Confidentiality comes under secret e-ballots. This model process emphasize to the voter to vote with secure manner without any dread. This model process provides security for

the vote in digital form. This proposed model also guarantees no one able to leak the vote.

## 2. E-VOTING SYSTEM USING CLOUD PROCESSES

The E-voting system using cloud has many important steps. The system emphasizes on two areas

- From Admin area of the E-voting system of India
- From voter area



**Fig-1: General view of E-voting system using cloud**  
Important steps of E-voting system:

### 2.1 Verification of voter Information

In E-voting system using cloud, all details of the voter are verified with the main database of the E-voting commission of India; According to Unique AADHAAR Identification

Number .each voter of India has their own Unique AADHAAR Identification Number. The government of India is generated Unique AADHAAR Identity number for every voter/citizen of India. But Especial first things, through Unique AADHAAR Identification Number the registration and verification of voter should be done by the Admin of the constituency. If the registration and verification of the voter are matched with the main database server of Election commission of India then e-mail is automatically generated which contain the all details of voter as well as a password. After that password is compulsory to change by each voter, then voters will login with AADHAAR ID and the changed password then voters will be able to vote. In verification process the proposed system used an index finger for identifying the voter if the index finger print does not match with the main database server of Election commission then immediately blocks the AADHAAR Identification Number. The system does verification of the voter again. All the changes will be done only virtual keyboard/on screen keyboard. The main use of a virtual keyboard is for security purpose because nobody can able to get his/her password.

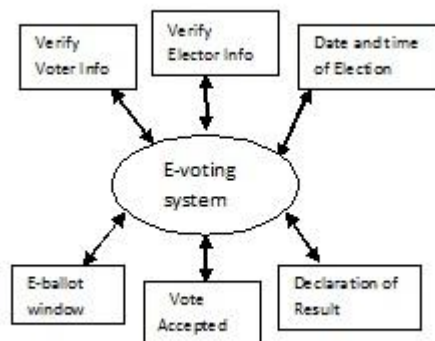


Fig-2: E-voting system processes

## 2.2 Verification and uploading of elector Information

In E-voting system using cloud, the admin gets elector's details with an AADHAAR Identity number of the elector and after verification of all the information of electors, the admin will register elector for his/her constituency. After registration the electors get their unique identification number. In this stage Elector image, Elector Unique identification number and

their party sign are added. The AADHAAR Identity number is mandatory for every elector to register.

## 2.3 Declaration of Date and Time

In this stage, the Admin of the election commission of India decides the date and the timing of initiating and termination of the election. Admin situated standard Indian time zone that is GMT +5:30. The voter can vote from any constituency within the decided time period by the Election commission of India on Election Day.

## 2.4 Election Day

On the Election Day, the Admin of the constituent systematize the mobile booths in all areas of India. The admin of the Election Commission opens the E-voting website based on cloud server till the terminate time. All registered voters/citizen can vote from any constituency and anywhere any location of India.

## 2.5 Vote Submission

In this stage, the verified citizen/voter of India login through their unique AADHAAR id and new updated password. After opening his/her account, the window of e-ballot comes in front of the voter .The e-ballot webpage contain the elector information such as elector unique AADHAAR identification number, elector image, elector name, electoral party sign and elector's party name and submit vote option.

When the voter press the "SUBMIT VOTE" button then cloud based server check all security process for verification of voter done automatically.

Example view of E-ballot






















UNIQUE ID	ELECTOR IMAGE	ELECTOR NAME	PARTY SIGN	PARTY NAME	SUBMIT VOTE
4824423434		P.K. MALVIYA		AAP	
2967547343		R. BALIYAN		BJP	
9823864868		J. THOMSON		SS	
3739431705		S. AGARWAL		CONG.	
1864296364		P. JAYASWAL		SP	
5297646729		R. JAIN		BSP	
7465582746		K. REDDY		RLD	

Fig-3: Window of e-ballot paper

## 2.6 Vote Acceptance

The cloud based server automatically checks all security verification of the voter when he/she pressed "SUBMIT VOTE", the submit button is not worked and instantly it again generates the new high security password on the new window and the new generated password is not updated/changed. When the new high security password is entered, the cloud based server again verified the voter through little finger and index finger for authentication. The database of the E-commission of India is recognized the fingerprints as same as cloud database fingerprints then the vote is accepted by the Election Commission of India and District level Admin cloud database server. The proposed system used little finger and index finger for verification of voter at the time of acceptance of vote and till now index finger and little finger are unique. If the fingerprints will not match then voter AADHAAR identification will be blocked automatically then again verification and authentication of the voter. All votes stored in main cloud database server of the E-commission of India as well as the District level Admin server.

## 2.7 Observation of votes

At this stage, the Admin of Election commission of India cross checks up voter's vote to the cloud based main database of server to District level admin cloud database server.

## 2.8 Result Announcement

In this stage, Results are declared after cross checking of the votes which is done automatically by the cloud server during the election days.

## 3. Cloud Storage

In India, there are millions of voters so the database size is very big, the E-voting system using cloud storage is a more suitable for storing the big data. The proposed E-voting system using cloud has easily managed the maintenance and security of the database.

Some main issues of E-voting system using cloud:

### 3.1 Reliability

The E-voting system using cloud can easily handle big size of database with better reliability. This E-voting system follows the superior way of storing the huge amount of data.

### 3.2 Cost

The E-voting system using cloud is more expensive because the system is not established one server of E-voting system rather than this system is installing many servers of the E-voting system over various geographical locations of India and The E-voting system using cloud uses standard bandwidth for transferring of data.

### 3.3 Usability

The E-voting system using cloud is easily handled by Admin of the E-commission of India and the Admin can update the information with a high level of security and this system is more secure, data corruption can't be occurred.

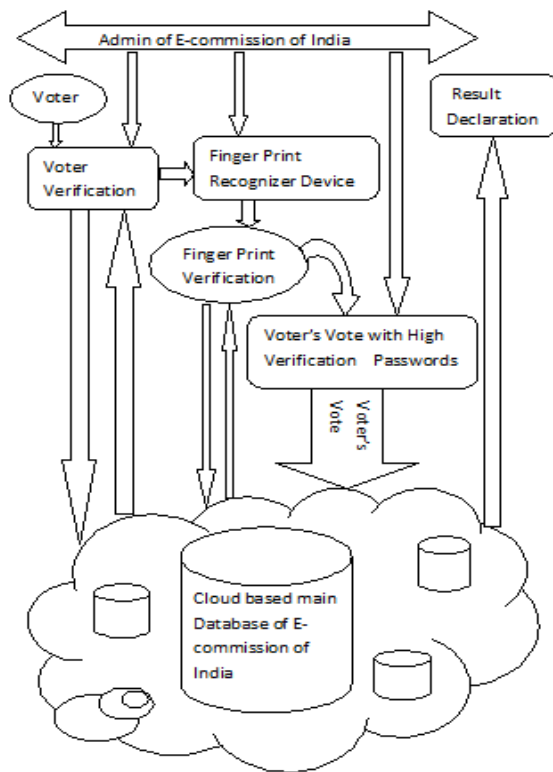
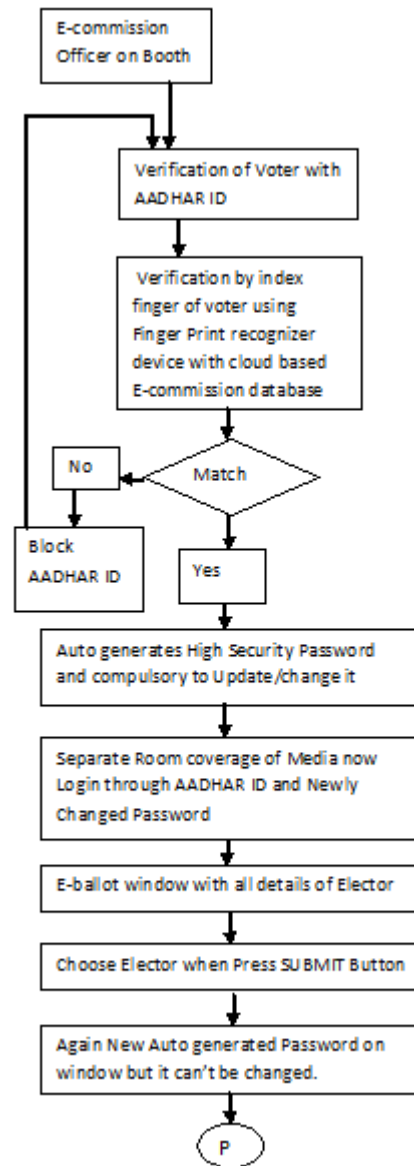


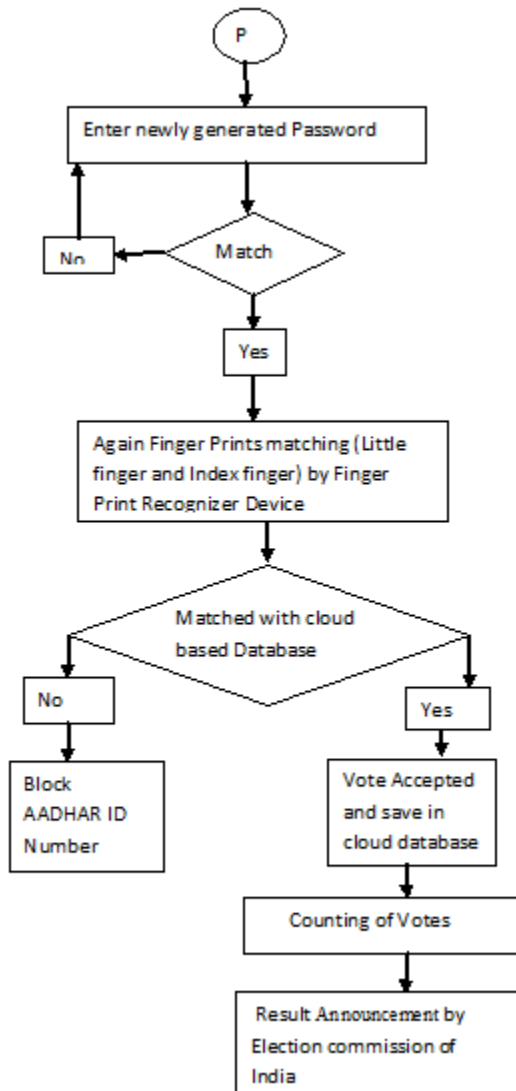
Fig-3: Overview of E-voting system using cloud

**Architectural view of E- voting system**

The E-voting system using cloud straightaway declare the result, saves times, easily managed and less demand on manpower and the correct way of voting.

The architecture shows diagrammatic approach of the E-voting process and focuses on level by level security





**Fig-4: step by step Process and Acceptance of vote with High security**

#### 4. CONCLUSION

This paper depicts the new model of E-voting system using cloud in Indian Scenario. The preferred model is more secure and efficient than the Conventional voting system. The E-voting system avoids the delay of result it is capable to count all votes within few times. A unique AADHAR identification number is the base point of this model. This model easily verifies to the voter and elector. In this proposed model, we have endeavoured to make more secure E-voting and it avoids unauthorized access. The model of E-voting system using cloud will enhance the transparency and reliability of the current electoral system.

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