



# “REAL TIME VOTING SYSTEM USING TWO FACTOR AUTHENTICATION”

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**Abstract:** Now days everyone are facing a problem in voting system the present process or system which government are conducting is creating more fake votes, data are leaked, information are not stored and not secured. An electronic voting system is a voting system in which election data is stored. There are two types of voting system online and offline via internet and voting machine. Main challenges public are facing in voting system are authentication, voting process and securing data. The security of the system is main on the voting machine, but security of data, accuracy of voting as also consider in this voting system. To overcome all these challenges this project is designed to ensure voters information and polling data is secured, unauthorized person can't cast vote. In offline voting process authentication done using two methods one is face detection and fingerprint, which allow votes to cast vote. It secures the voters data and votes details which will be stored in EEPROM.

## I.INTRODUCTION

In modern technology today every system has different kind of development. In voting system previously, the voters were casting vote by paper box booth now it's changed to electronic voting machine or ballot voting by selecting the candidates, but now first to today the data of voters or the fake votes are not secured or reduced. To detect all the problems this project is designed, it helps the people to vote without any issues what present they are facing. It also uses for disabling, handicap, or physical challenge people to vote easily. In this project information is secured, time is saved, percentage of voters are calculated, and results are calculated easily. [9] Prasanna et al., carried out work on noise in a signal has become a major problem and hence mobile communication systems are demanding noise-free signals. The outcomes suggest the errors are reduced significantly when the number of epochs are increased. Vijaya et al [10], carried out investigation on ICRODI: Image Compression of Region of Diagnostics Interest (RODI) using Layer Segmentation and Wavelet and emulated PSNR and MSE for lossless image compression and reconstruction.

## II.Motivation

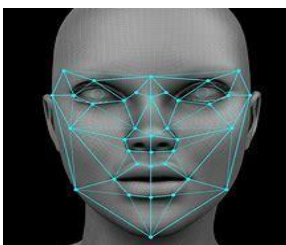
The main motivation to this project to help common people, uneducated people and physical challenge people, to reduce all their existing problems in voting system this project has been designed by using two methods of authentication, Face detection and fingerprint by this queue system is reduced, unauthorized person can't vote, data is secured, voters get privacy, counting and calculating easily, percentage of voters can calculate, and voting are increased.

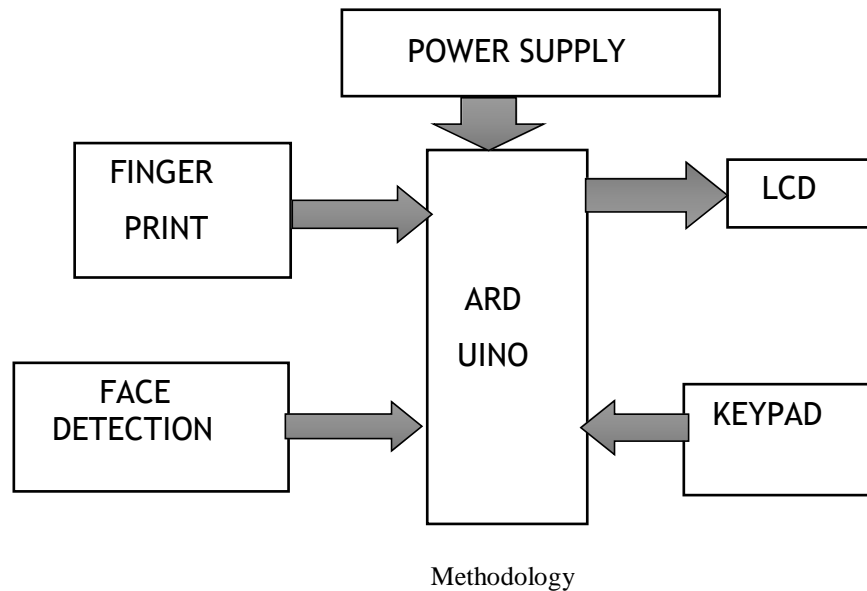
## III.Problem Statement

Fake display units could be installed in electronic voting machines which would show manipulated numbers but originally fake votes could be generated from back end. This process does not need any hacker to hack the software. Such fake display units are easily available in the market. Many physically challenged people have complained that very large queues would be present and time consuming during the verification, before the process of voting.

## IV.Proposed Method

As per existing problem, we can see that the different techniques are efficient in controlling the fraud votes and making the process quicker using Face detection and fingerprint technology.





The main object is to actually differentiate and identify the image of the particular individual with those voters which we will be able to see in the voter's data base. A data base is something in which the voter's data would be collected initially and stored prior to the input image would be highly noise some time or there might be some slight change in the individual facial feature as the human face will be in a dynamic structure and would be change rapidly and time passes considering all these, we can tell that Eigen face approach would be best for the face recognition. During the time of registration, the image of the face and the fingerprint must be taken with the voter's details so that during the time of polling two factor biometric authentication of the voters can done by Eigen face algorithm for face recognition and the voters will be if vote if and if the Eigen face and the finger would be match according to the data base registered initially.

The best algorithm for face recognition is Eigen face recognition this algorithm is very popular to use, and this can be recognized using system and pc, where the only requirement is web camera. For a valid face the similarity should be greater than or equal to 60%. Some of the features used in face recognition are:

- 1) It recognizes the picture separately.
- 2) It divides the image in parts.
- 3) It checks end to end and edge to edge.
- 4) The recognition is done by eyes, ear, nose, mouth and facial expression.
- 5) The data will be stored in all variance of faces in collection of face image.
- 6) Encode and decode the image without any reduction of the data source.

The Minutae based algorithm is used to recognize the fingerprint. The fingerprint of the voter will be initially stored in data base and when the voter ready to cast the vote the fingerprint will sense the finger using Minutae based. These algorithm works on two methods

- 1) Ridges
- 2) Valleys

Each finger will have unique Ridges and valleys. The ridges and valleys are of different types and they are:

- 1) It senses the small line in shape of delta pole and dots.
- 2) It checks end to end and edge to edge time of race.
- 3) It divides in two or more shapely identify neatly.
- 4) The middle space or the empty space between the two blocks lines of ray can be seen.
- 5) The cross over and the over lapping lines can be seen and identified.

## V.Simulation Result

- 1) When waiting for face.



- 2) When the finger has to be placed



- 3) When finger is sensed



- 4) When a voter's data is valid.



- 5) After casting the vote.



- 6) To see the results of the votes.



## VI. CONCLUSION

Offline voting system using two factor authentication works with two types of securities 1 – face recognition and 2 – biometric i.e. fingerprint these were better for voting system and made fraud free and better one which can be implemented. Some of these advantages are lesser cost, faster tabulation of results, improved accessibility, greater accuracy, and lower risk of human and mechanical errors. It is very difficult to design ideal e-voting system which can allow security and privacy on the high level with no compromise. Future enhancements focused to design a system which can be easy to use and will provide security and privacy of votes on acceptable level by concentrating the authentication and processing section .In case of online e-voting some authentication parameters like facial recognition, In case of offline evoting some authentication parameters like, Finger Vein and iris matching detection can be done.

## VII.ACKNOWLEDGEMENT

We like to acknowledge our regards to our guide, Dr Vijaya S M, Associate Professor, Department of Electronics and Communication Engineering, RRCE, who admired us to work on this project. We also thank center of excellence RRCE for giving us opportunity to explore improve our knowledge.

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