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# Android Voting System Using Face Authentication

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**ABSTRACT:** The project entitled provides a new technique of casting votes using mobile phones with aadhaar verification. The electoral context has more interested in using facial recognition technology due to its improvements in recent years. Android voting system is an application developed for android devices to deploy an easy and flexible way of casting votes anytime and from anywhere. The application is especially developed for organizations to get employees votes for any new policy regulation. We go over the corpus of research that covers facial recognition technology in its technical form, voter identity and verification, and its potential to improve voting. This process fed into the system by the admin. Users can then cast their vote for candidates using their login credentials. On the login process the face authentication is verified. One voter can only post one vote. Each and every vote casted is stored in the database for the respectively. At the end of the voting process the system counts the total votes and generates a brief report of it to the admin. Thus, the app helps the company to get proper feedback of the employees.

## I. INTRODUCTION

We are living in the era of cutting -edge technologies. The fourth industrial revolution is already happening with diverse fields including government sectors. In the last decades, many of the governments has begun being used to Electronics voting systems on their elections. Among the countries, Estonia was the very earliest adopter an electronic voting system for its national wide elections in the modern world. After that, the electronics voting system was used for an open and fair vote in Nigeria. Switzerland was the very first-time user for their state election and Norway was adapted to their council election. For the traditional voting system to compare with an electronic voting system, basically two system to their work likely to similar. Moreover, this electronic technique does provide reliable, secure, fair services than the traditional ballot system. But the traditional electronic system does not provide anonymity and integrity whereas blockchain-based e-voting can be solved these problems. Rowena Cullen. Presented a comparative study among democracy-based countries that have a certain amount of democracy between 167 countries out of 200 countries.

## II. LITERATURE REVIEW

[1] Swapnil Singh, Krunal Patil proposed the " Smart voting System using Face recognition" where the people can vote by online mode instead of the Manual voting. First step, where they created login mechanism with unique id to to cast their vote using CNN and Haar cascade to algorithm to train the dataset. In the second step Face detection mechanism by through c++ toolkit and labeled faces. Finally, Face Recognition can be done through a person can vote in safest way without any illegal issues.

[2] Hemanth Kumar T, Sowmya B P proposed the " Smart Online Voting System through Facial Recognition Using Haar Cascade Algorithm" where haar can compare the angular pixel of each face and detecting the edge nodes in pixels to recognise the features of the face. Then person can registered in the portal then verification through the E\_ID and vote to candidates.

[3] Mr.D. Sreekanth, Dharbastu Nishith proposed the "EVOTING SYSTEM USING FACIAL RECOGNITION" The population increases so that EVM and Ballot paper and manual work at election portal may require human work that increases the cost for election committee. Using Block chain technology to store the dataset and maintain security and

illegal actions at the voting area. Also by using Open-CV method for face recognition and getting authorized by using the block chain technology and OTP verification method enable secured voting online.

[4] L. Vetrivendan, Dr. R. Viswanathan, J. Angelin Blessy, "Smart Voting System Support through Face Recognition" This system works in 3 level security checking first election ID and User identity number issued by the government then face recognition of a person to select the candidate. For face recognition they use Eigen Face Algorithm where it can collect pictures of a person then train the data using PCA projections and follow the clustering of the images then provide face recognition.

[5] Ganesh Prabhu S, Prabu.S, R.R. Thirrunavukkarasu The system proposes "Smart online voting System" The system works on Arduino UNO, LCD display, PUSH Button. In Arduino Uno RIFD used to store the database of the user and he/she can vote in the election in online mode but it requires some hardware components.

### III. EXISTING SYSTEM

The current system which is present now is a machine and paper-based voting system which needs much manpower and requires a lot of resources. The present voting system finds difficulty during the counting also because it is counted manually.

#### 3.1.1 Disadvantages of existing system

- The system cannot be used anytime and from anywhere by the employees for voting.
- It includes the use of manual voting process by manual help.

### IV. PROPOSED SYSTEM

Android e-Voting application on smart phone user gives user to vote. The application can be installed in the android phones and voting will be enabled by the administrator on the polling day. If there are different stages of polling then application will enable the user only on the polling day. The user can enter into the application by giving his voter ID/Aadhar number (unique number) and a secret password which is provided to the user. As soon as the user enters into the application, he selects his constituency and his booth number or place then the user can cast his vote and logout from the application. The vote should be kept secret and it should be available on the voting day in the counting center.

#### 4.1.1 Advantages

- The system can be used anytime and from anywhere by the employees.
- It excludes the use of manual voting process.
- Employees can keep themselves updated with all things going on in the organization.
- No one can cast votes on behalf of others and multiple times.
- Saves time and reduces human intervention.
- It makes employees happy as their opinions are considered for the matters in organization.
- Admin can get instant result. The system is flexible and secured to be used.

### V. IMPLEMENTATION

#### 3.3.1 LOGIN

It is the login session for the administrator voter and exit. The login module serves as the entry point for both administrators and voters. It provides a secure session for users to authenticate themselves and gain access to the voting system. Administrators and voters can log in using their respective credentials. Additionally, there is an option to exit the login session.

#### 3.3.2 VOTER DETAILS

It is used to view voter details from database. This module allows users to retrieve and view voter details stored in the database. Voters' information such as name, age, and email address and face authentication can be accessed through this module. It provides administrators with valuable insights into the demographics of the electorate.

### 3.3.3 ADD CITIZENS

It is used to add a voter into database and it includes searching a voter and removing voter from database. This module allows users to retrieve and view voter details stored in the database. Voters' information such as name, age, and address can be accessed through this module. It provides administrators with valuable insights into the demographics of the electorate.

### 3.3.4 POLLING

It is used to poll vote to candidates during election. The Polling module facilitates the voting process during elections. It allows registered voters to cast their votes for candidates or ballot measures. This module ensures the integrity and accuracy of the voting process by recording each vote securely and preventing duplicate votes.

### 3.3.5 REPORT GENERATION

It is used to get election results and also reset database after all process is completed. The Report Generation module generates comprehensive reports on election results. It collates and analyzes voting data to produce informative reports for administrators. Additionally, this module includes functionality to reset the database after the completion of the election process, ensuring a clean slate for future elections.

## VI. CONCLUSION

This Online Voting system will manage the Voter's information by which voter can login and use his voting rights. The system will incorporate all features of Voting system. It's provide the tools for maintaining voter's vote to every party and it count total no. of votes of every party. There is a database which is maintained by the election commission of India in which all the names of voter with complete information is stored. In this user who is above 18 year's register his/her information on the database and when he/she want to vote he/she has to login by his id and password and can vote to any party only single time. Voting detail store in database and the result is displayed by calculation. By online voting system percentage of voting is increases. It decreases the cost and time of voting process. It is very easy to use and It is very less time consuming. It is very easy to debug.

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