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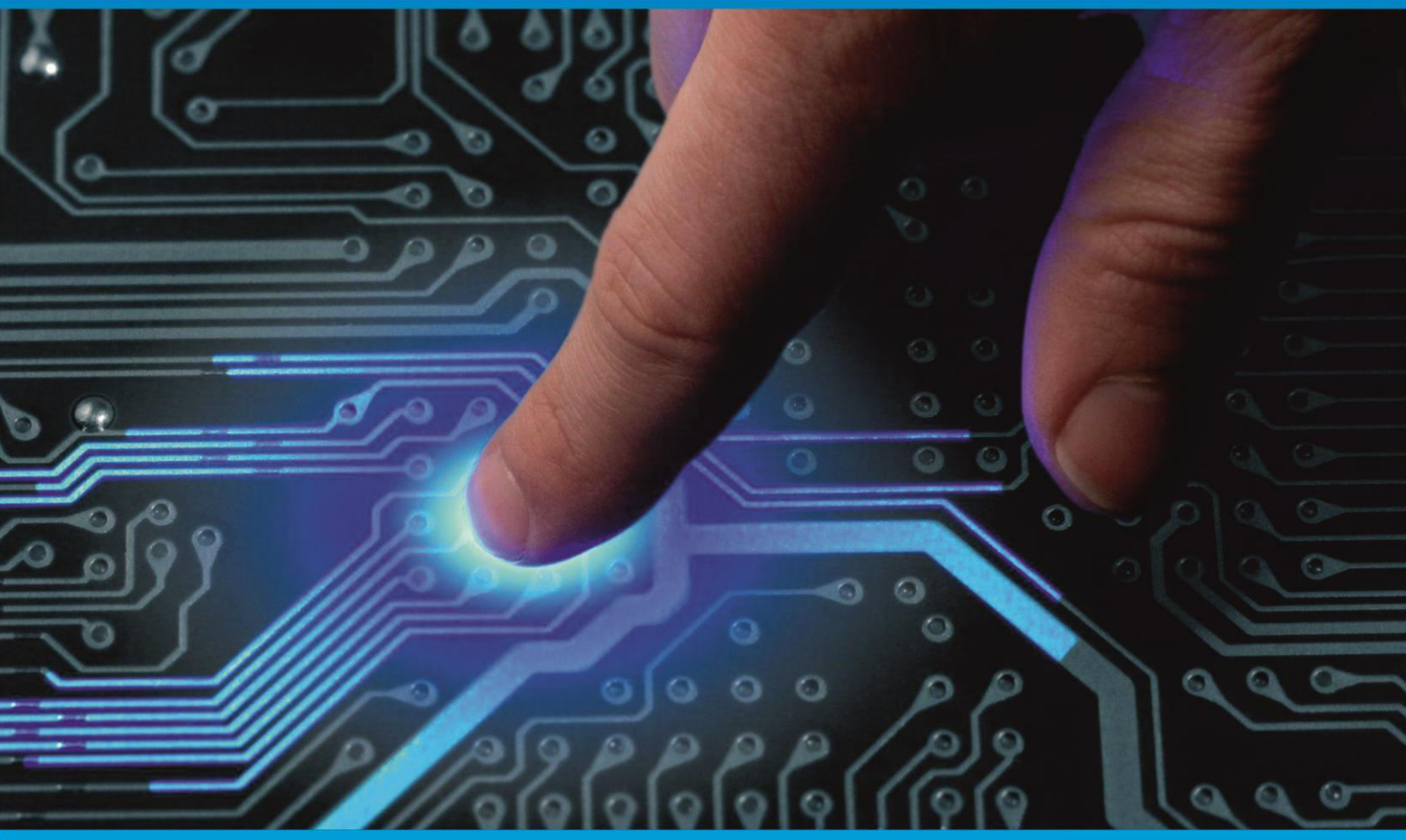

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Android Based Voting System Using LSTM

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ABSTRACT: The advancement in the mobile devices, wireless and web technologies given rise to the new application that will make the voting process very easy and efficient. The E-voting promises the possibility of convenient, easy and safe way to capture and count the votes in an election. This research project provides the specification and requirements for E-Voting using an Android platform. The e-voting means the voting process in election by using electronic device. The android platform is used to develop an evoting application.

KEYWORDS- Voting System, face recognition, OTP

I. INTRODUCTION

Voting is the method for choosing a person who is being selected by the community member for a position at entire country. Voting process not just only in the election for selected the candidates who will be in the requirement position like a President. The process also will do for choosing the person that needs to vote who will in the position for handle the task for example for the choosing the leader in the class. As known, the voting process was using the ballots paper to ensure the process system. It is difficult because the problem which the ballots need to calculated by manually calculating. In manually calculating, the problem that can be happen when the person who calculated the ballots will miss counting or maybe the person more bias at one person candidates.

Now the growth in technology has progressed in such a way that Android Applications are widely used. This paper is about an Android Application that facilitates Aadhaar based voting system. The key features of this application involves reduction in costs of conducting elections and decrease in the number of fake votes. The finger print verification is the uniqueness of this application which allows the casting of vote only once by an individual. This application is particularly targeted at the easiness in the conducting of an election. At present for the election duty a number of officers are to be appointed for different voting booths which increases the cost, with help of this application only a single officer is required. He will have a login in the system through which the fingerprint system will prompt for the voters.

As it is a centralized voting system, a state can conduct the parliament election and the panchayath elections on the same day. The problems of casting a vote only in one's own constituency can be avoided through this system since a person can cast his vote from any constituency and the person once voted from any part can't cast his vote again.
An election is a formal decision-making process by which a population or society chooses an individual to hold a political office. Elections have been the usual mechanism by which modern representative democracy operates that predates to as early as the 17th Century. Elections are conducted both by public entities such as the government as well as private and business organizations, for example, choosing representatives for the Board of Directors of a company, professional club leadership and even, used in voluntary associations.

II. LITERATURE SURVEY

The proper execution of democratic rights has become linked to the availability and reliable functioning of advanced information and communication technology (ICT) [23]. While modern societies fully rely on ICT for business, work and leisure time activities, the use of ICT for democratic decision making is still in its infancy. In fact, the out date technological concepts for voting have been blamed in part for lost and uncounted votes and could therefore be responsible for biased political decisions making. Countries all over the world are examining e-voting, for it has some striking advantages over traditional paper voting, including security for casting votes, accuracy of counting and analyzing votes, options to conduct voting in a centralized and decentralized manner, etc. The reasons why the e-voting technology has not matured to equivalent levels as known for business and leisure time activities lies mostly in an

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inherent lack of trust and fear of electronic threats. While most countries are still conceptualizing or testing evoting systems, three cantons in Switzerland have pioneered the development of e-voting to its full technological maturity. The world is always in improvement and growth in technology, that's why we should go parallel with it, to be able as much as we can get benefit from these improvements.

A .Iris Detection in Voting System. In this paper, the author focuses on the Iris Detection of the voters. Voter's Iris is detected and once it matches, the system confirms the voter to be the eligible individual to vote by checking his/her Aadhar details. Once confirmed the voter will be allowed to cast the vote.[1]As the existing Aadhar database contains all the information about voter's Iris, fingerprints and other details like address, blood-group voter can be easily tracked and checked. This approach requires less manpower and highly secure.

B.Voting System using Fingerprint Recognition.The author focuses on biometric data of the voters to recognize the authentic voters. Once the biometric image is read the information will be sent to the web application through the microcontroller's serial port. After matching the biometric image with the existing image in the database the server sends the message and displays it on the LCD confirming the owner's identity. If not confirmed, it displays the same as not eligible through LCD.[2]

E. Secure Reliable Multimodal Biometric Fingerprint and Face Recognition. The author focuses on the facial feature extraction using component-based face detector. Once all the features are extracted they are compressed to a single feature vector and it is fed to the recognizer. The whole process is implemented using MATLAB. [5]The same is done with the fingerprint images. Every pixel of the fingerprint images is analyzed whereas for facial images the distance between the facial marks or features is analyzed. The analysis is called principal component analysis. This approach helps to build a better version of the existing system.

The issues behind e-voting need to be examined conservatively before such potentially dangerous moves are made. In a voting system, privacy and security are desired, but are not always simultaneously achievable at a reasonable cost. In online voting systems, verification is very difficult to do accurately, and anonymity is difficult to ensure. This document shows some of the many problems with practical e-voting and why public elections are too important to trust to it [3].

When e-voting system scheme is considered there are different modules involved to consider the security and design. Three important phases of having a secure system are considered as design, development and deployment. In other words, it is important tp have the foundation in designing a secure and practical e-voting scheme to produce a secure, efficient and publicly acceptable implementation of voting schemes in the real world.

Any additional check for the security or spam will decrease the security concerns users have today for the e-voting systems. A CAPTCHA is a program that can generate and grade tests that humans can pass but current computer programs cannot. In our project this is used to confirm that users are trying to vote instead of the automated computer systems. CAPTCHAs have several applications for practical security like preventing comment spam in blogs, protecting web registrations, online polls where you want to make sure that humans are voting not the programs, preventing dictionary attacks, search engine bots, worms and spasm etc. Official Captcha site has published some guidelines for it [6].

- Accessibility: It should be easily accessible for reading the text. If it is a problem due to legal reasons audio CAPTCHA can also be used.
- Image Security: Images should be distorted randomly. Without random distortion, application will be open to the attacks.
- Script Security: By using this, systems are closed to any computer attacks. However we also need to make sure that scripts used are not easily accessible so that attacker will find the easy way around them to use the systems.
- Security Even After Wide Spread Adoption: Some of the sites might be using the sites that have CAPTCHAs setup. It is important that the security level kept the same and these sites are still secure even after a significant number of sites adopt them [6].

III. PROPOSED SYSTEM

An election is a formal decision-making process by which a population or society chooses an individual to hold a political office. Elections have been the usual mechanism by which modern representative democracy operates that predates to as early as the 17th Century. Elections are conducted both by public entities such as the government as well as private and business organizations, for example, choosing representatives for the Board of Directors of a company, professional club leadership and even, used in voluntary associations.

There are two (2) categories under which voting systems can be classified, namely:

- Traditional or Paper – Ballot Voting Systems

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- Electronic Voting Systems (EVM)

In traditional elections, a voter usually goes to the voting stations. After direct person-person verification with some IDs, the voter is allowed to vote. The voter is then given a ballot which allows a
single vote. Once the ballot is used, it cannot be used again. However, this ballot must also be anonymous. The ballot must identify the voter as being permitted to vote, but not reveal their actual identity, and the voter must also be given assurances of this. Traditional polling methods trust a lot of parties during the election. The current methods require an attacker interact directly with the voting process to disrupt it. There is a greater chance of getting caught as there will be physical evidence in the traditional polling.

The current system which is present now is a machine and paper based voting system which needs much man power and requires lot of resources. The present voting system finds difficulty during the counting also because it is counted manually. To overcome this as we said earlier the e voting system provides an efficient way to complete the whole voting system. The e voting system is an android application which enables user to vote in his smart phone. This is more advanced compared to the present system because it doesn't need any man power. And voter doesn't need to visit the polling booth. The application also reduces the complexity of counting since it is automatic.

This system enable user to vote from home/offices without going in premises. User takes his selfie or captures his image and send to administrator via uploading image in Mobile app. Image is store in firebase server. This image is fetched in Python IDE. Face recognition process is carried out and processed image is compare with image from dataset. When face match, OTP is sent to register no against face. If OTP matches then app allows user to vote.

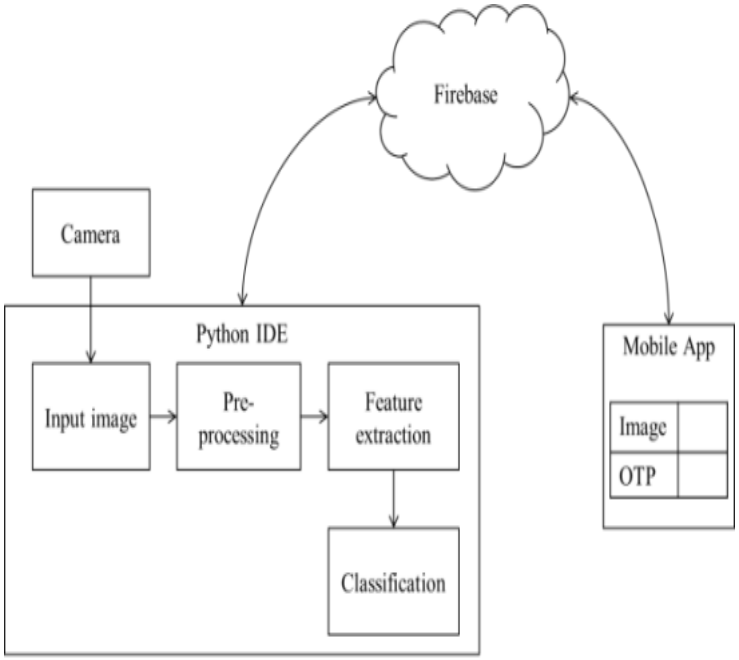

Fig 1 of proposed system

Input image is downloaded image from firebase server. Image is pre-processed to denoise it. Preprocessing is a common name for operations with images at the lowest level of abstraction. The aim of pre-processing is an improvement of the image data that suppresses unwanted distortions or enhances some image features important for further processing. The common goal of feature extraction and representation techniques is to convert the segmented objects into representations that better describe their main features and attributes. The type and complexity of the resulting representation depend on many factors, such as the type of image (e.g., binary, grayscale, or color) etc. image is compare with image from dataset and then the image is classified. For classification we are using LSTM algorithm.

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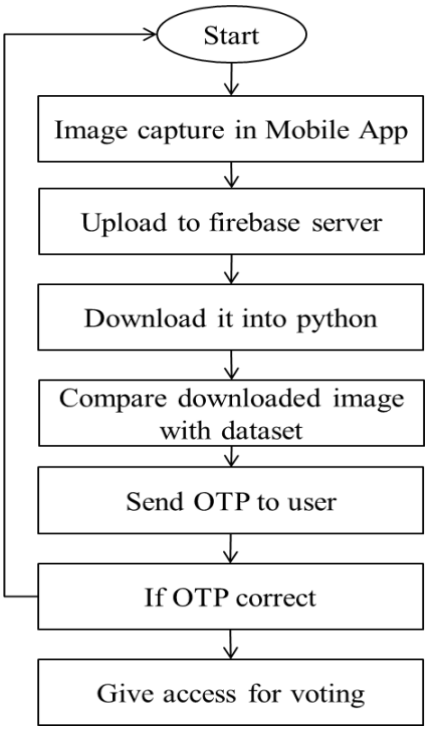

Fig 2.flowchart of proposed system

IV. CONCLUSION

The existence voting system which having a problem which is the cost to provide the ballot papers and the electronic voting machines that produced in India can be attacked to demonstration which is the system has been solved. Thus, the voting system in the Android application has their disadvantages. It included the problem when the phone was corrupted or damage, it will cause the error of the voting. Otherwise, the Android application for voting system was more efficient than the voting system that using a ballot papers. The android voting system apps was shown that the new system for the election day. Normally, their community used the ballots paper for Election Day progress. That was used a lot of cost to organized the events. Thus, with this project the problem of using a lot of cost can be reduced. In additional, the Android application can be automatically calculated the data which is the votes can be calculated without using a man power to calculate the votes. Also reduced the time taken to publish the overall result.

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