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Online Voting System Using ML

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Abstract: *Online voting system is an Android application used to securely conduct votes and elections. As a digital platform, they eliminate the need to cast your votes using paper or having to gather in person. They also protect the integrity of your vote by preventing voters from being able to vote multiple times. Our System makes the use of Firebase as backend, for login, registration and for storage purposes which make our system highly secured and reliable. It also uses Firebase ML kit for face detection and face encoding will be used to identify the voter face with the assistance of AWS which allows us to vote, one person at a time. Along with the admin panel also provided to check vote results and change party names.*

I. INTRODUCTION

Choosing something is an essential part of human behavior, and giving options for choosing makes that part even easier, similarly people need to vote for someone who could manage the work, voting is also considered as an essential part. Counting Ballots takes a large amount of time that causes delay in the result declaration. Furthermore, calculating results could be biased and time consuming which causes voters to wait for the results.

Today's scenario as everything is pacing up and new ideas and inventions are always appreciated, our mobile application is also one of them.The traditional system which allows users to go to the voting booth and cast their vote is troublesome for some people, there are many people who might be out of town and and are unable to cast their vote, also old age people who are unable to walk to the voting booth, their votes are wasted, under such condition there needs to be a system that allows such people to cast their vote and find the mostly preferred candidate.

Online Voting System is an android application that allows users to vote remotely without going anywhere. This Application is user friendly and easy to use for online voting securely and conveniently. This Application allows users to create an account with their number, which will be used for login purposes and also, an account will be created. This Application also ensures that only those persons are allowed to vote who are eligible for vote, this task accomplished by allowing users to enter their IDs. This system also allows the user to cast their vote only once. There are various countries that have started using the online voting system. Election results are calculated automatically and declared instantly thus reducing human effort and chances of human errors.

We can also develop such systems for college students to cast their votes anytime and from anywhere using android devices. The aim of this app is to provide convenience to voters as well as election officers who monitor the voting process. The app gives election results accurately and instantaneously.The app has an easy to use interface "Login Screen" for voters where they can login using their credentials . Each voter's data is stored in a database containing their essential information and a voting status which stores whether the voter has voted or not. Once a voter submits his/her response, then re-submission will not be permissible. Thus,ensures that there is no bogus or fake voting in the system.

II. LITERATURE

According to Mohan Reddy Paluggulla , During the 1960s, few could have anticipated the effect that an undesired scholarly system of four centralized computer PCs, living at various colleges and research focus, would have on the eventual change of fate. Cloud uses the conventional electronic system for casting a ballot framework and will advance into another idea of incorporated approach for better precision and less number of weaknesses of the votes in the decision making.

Also Ankit Anand and Pallavi Divya says to cast a web based vote we need to configure, fabricate and test a web based casting a ballot framework voter, Candidate , Election Commission Officer to partake in web based casting a ballot. It also oversees and makes casting a ballot and a race detail as every one of the clients must login by client name and secret key and snap on his great contender to enroll vote.

All security passwords of voters are endorsed with the fundamental database of E-casting a ballot Commission of India then after Authentication of the voter he/she will be ready to cast a ballot to the balloter .The voter can vote from any place in India according to this paper. The primary concern of this proposed model is to give a security level after level.to recognize the voter this

model is moreverified In this model votes tallying will be done consequently as said by Pankaj Kumar Malviya

III. PROPOSED SYSTEM

To overcome the drawbacks of the existing system, the proposed system has been evolved. This project aims to reduce the paperwork and save time to generate accurate results from the Online Voting System (OVS). The system provides the best user interface.

Voter:

This online voting system will manage the voters information by using which the voters can login into the system for their voting. There is a database implemented on a Firebase real time database in which complete detail of voters with complete voting information is stored. At the time of registration voters will be asked for their full name, their phone number, their password, fingerprint, and passport size photo of the voter. All this information will be stored on the firebase real time database. When the voter will login to the system he needs to verify his phone number, his password and capture his picture which will verified with the passport size photo which was uploaded during the registration with the help of machine learning, if the uploaded photo and captured photo do not match with each other, the voter won't be able to vote. Once this login is completed, the voter will be redirected to the voting panel where now the voter will be able to cast his vote to his desired candidate.

Admin:

The admin will have his own admin panel where he can add or change the candidates. The admin will also have access to the firebase real time database where he can keep track of the candidates who have voted and who have not voted. When the voting is completed the final result will be available on the admin panel. The admin then can declare the result to the public. The admin login credentials will be confidential which will only be known to the admin. The voters' credentials will be visible to the admin through the firebase real time database but voters will not be able to see the admin side.After getting the details, the user can vote by clicking the Vote button. Then user votes will be stored in the database.

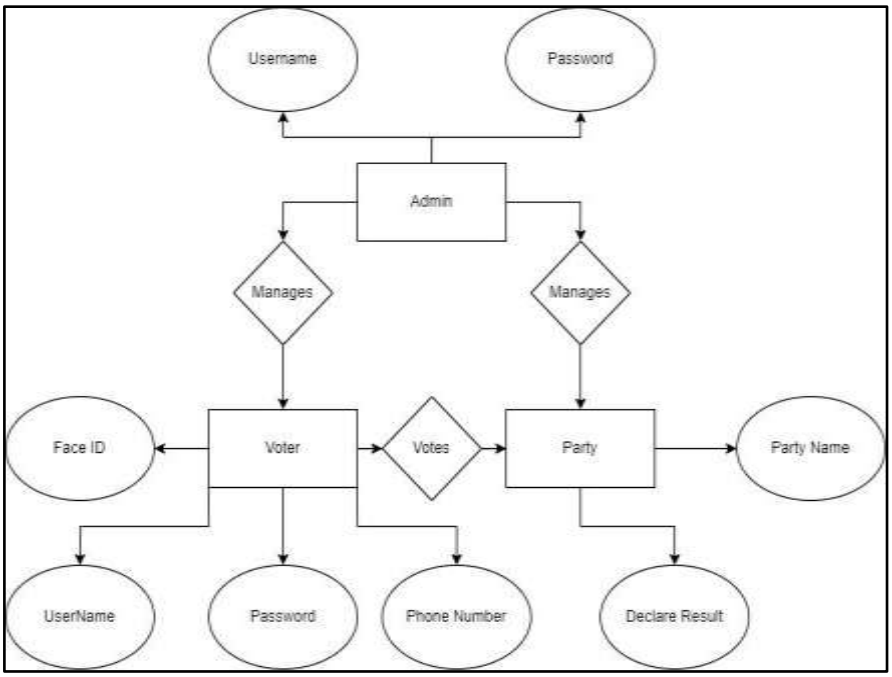

Fig. 1: Proposed System

From fig. 1 we can understand that the admin has control over the voting system, the admin has its own username and password from which he can login into the admin panel, the admin manages the voters and also manages the party, the admin has the permission to add or remove candidates and also rename the candidates. Admin is the only one who can declare the result of the voting, while on the other hand the voter is requested to add his Face ID, his username, his password, and phone number. All those details are requested when the voter is registering, once the voter completed its registration he/she can cast its vote at the exact moment of later in time.

The voter when casting his vote is again requested with his picture which will be used to compare with the photo ID using Machine Learning, and once the verification is done, the voter will be redirected to the voting page where the voter can cast its vote to his desired candidates. Once the voting is done the voter will not be allowed to vote again and his details along with his vote will be stored in the database.

Fig. 2: Firebase RealTime Database

Here the admin can check if a candidate has voted or not from the firebase real time database. Also we can see the database stores the PhotoID, Username, Party which has been voted, the password, phone number and the the vote count, 0 means the voters has already voted and cannot vote again and 1 states that the voters has its vote pending. All this information is available to the admin since the admin has the login credential of the firebase real time database.

IV. CONCLUSION

The results of this study strengthen our understanding of how the use of Internet voting impacts stakeholders and teach us about their attitudes and opinions of the technology. These findings also allow us to extrapolate some broader lessons learned that are particularly important for local governments to pay attention to as they adapt existing Internet voting programmes or consider deployment of the technology in future elections or other types of votes.

Overall this study finds strong support for Internet voting among voters, candidates, and election administrators. In addition to high levels of satisfaction among all three groups, voters and local government administrators say they would like to see online ballots offered in elections at all levels of government. With respect to paper voters, though some prefer the traditional voting method and would like to stick with it, a sizable proportion say they would use Internet voting in a future election.

Some say they would vote online 'no matter what', while others indicate they would use the service under special circumstances which may prevent them from making it to a physical poll location. Altogether, there is strong support for the deployment of Internet voting in local elections. Even among non-users of the service there is a desire to see it continue as a complementary voting option to ensure voting accessibility and convenience for electors.

When it comes to the effects of Internet voting, commonalities between Internet voters, candidates and election administration include perceptions of improved electoral accessibility and convenience. Convenience is the biggest motivation for voters (both Internet and paper) and is identified as a benefit by electoral administrators. All three groups clearly communicate that Internet voting makes the voting process 'easier' and adds efficiency to the election process more generally.

V. FUTURE SCOPE

The app can be personalized as per user requirements (Post, candidates, user identification). For securing the database application, we can use algorithms for data encryption/decryption while storing or retrieving data from the database. We may restrict voters from participating in the voting process with the help of geo-fencing. Geo-Fencing is a functionality that allows admin to restrict voters from certain geographical areas only to be able to vote. People outside that geographical area would not be able to vote.To incorporate better result visibility, admin may authorize others also to view the results. He can make it visible to all including the voters or he can decide that results would be visible to him only. Instead of using the passport size photo, aadhar card verification can also be used. At the end of the voting system, instead of letting the admin declare the results, the results can be sent to the voters via email or text message on their registered phone number.

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References

1. *Zapata, B. C. (2013). Android studio application development. Packt Publishing Ltd.*
2. *Studio, A. (2016). the official IDE for Android. Android Studio. URL: https://developer. android. com/studio/index. html.*
3. *Felsenthal, D. S., &Machover, M. (1998). The measurement of voting power. Books.*
4. *Stradiotto, C. R., Zotti, Â. I., Bueno, C. O., Bedin, S. P., Hoeschl, H. C., Bueno, T. C., ... & Mirapalheta, V. O. (2010, December). Web 2.0 e-Voting system using android platform. In Progress in Informatics and Computing (PIC), 2010 IEEE International Conference on (Vol. 2, pp. 1138-1142). IEEE.*
5. *Rabinadnan kishor,"Implementation of cloud for online election system",International journal of advance research in computer science and management studies,vol.3, March 2015.*
6. *D. A. Kumar, T. Ummal, and S. Begum, "A novel design of electronic voting system using fingerprint," 2011.*
7. *Malwade Nikita, Patil Chetan, Chavan Suruchi, Prof. Raut S. Y, Secure Online Voting System Proposed By Biometrics And Steganography, Vol. 3, Issue 5, May 2017.*
8. *https://developer.android.com/studio*
9. *https://firebase.google.com/products/realtime-database?gclsrc=aw.ds&gclid=Cj0KCQjw6pOTBhCTARIsAHF23fI8jdYWfGKyL7Ix0PrzrNhcywEbknJlofRN8SzqSUemsEmVK0vSFqUaAvexEALw_wcB&authuser=2*
10. *https://firebase.google.com/products/ml?gclsrc=aw.ds&gclid=Cj0KCQjw6pOTBhCTARIsAHF23fJyHPBlQr3NUU5qfOL5_90Eah1oJ0K9UIemon5x6hFrvzpekF_YToAaAoZSEALw_wcB&authuser=2*