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Mobile Based Photo Matching Using OTP Verification for Voting System

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Abstract: As we know in urban areas now a day the voting system is getting most complicated only because of the person's identity. They only have the voting card as a proof of identification. So there are lots of chances of fake voting. To avoid this we are developing this project which will store the identity of the voters using android mobile through photo matching recognition systems. This system will capture faces of the voters and match with the existing faces in the stored database. After the confirmation of valid face detected, the OTP (One- Time Password) is generated and send to the voters registered mobile number. Then the voter is validated and he is allowed to do the voting. This is very fast and helpful technique to do the verification of the voters. This will also reduce voter's time to stand in queue for doing vote.

I. EXISTING SYSTEM

The whole election process is divided into many parts. So providing security to them is also necessary. So, it needs a lot of man power, therefore it is quite difficult to manage it. Here Election commission provides the polls. These polls will be arranged in school or in halls. Existing systems contains certain drawbacks as chances of the violence, damage of machineries, dummy votes etc [2]. So, to avoid these drawbacks this paper implements a new technique as Android Mobile based Voting System through photo Recognition [3]. There are also so many other techniques such as finger print recognition system [12] but we are using this technique which provides bandwidth utilization for face matching and reorganization [4].

Disadvantage of Existing system

A. Expensive elections:

In India, elections are very expensive so common man cannot afford this. Therefore, only rich people can fight elections. Also, they make use of political power and money through illegal methods.

B. Misuse of official machinery:

The election laws have to check the misuse of official machinery during the elections. But then also the ruling party makes use of government vehicles and servants in their favor.

C. Use of caste/religion in election:

In India, many votes are cast on the basis of caste and religion. As a result of this people get divided on the basis of caste which is very harmful for election process. So to avoid these inconsistencies we propose the online voting system through photo recognition and OTP generation. It also overcomes the above challenges.

II. PROPOSED SYSTEM

In the first step the registration process is done by the voters through an application. Then in the second step the application will start its process. It first captures the face of the voter using mobile front camera. Then that image is sent to the existing database. Here we use already existed database or centralized database, which contains voter's information with photos. Then system compares the send images with already stored images in centralized database. Once the image is recognized successfully or matched with the existing images of the database then the server sends the OTP (One-Time Password) to the voters registered mobile number. Then voter enters that OTP, then database again verifies that entered OTP by voter and if it is correct that means it is valid user. After that the candidate's list will appears. This list contains the candidate name and in front of that name the button named 'Vote' is provided. Voter



should have to press that button then only the voting is done and the voting procedure is completed. Here security is also necessary to protect the system. For that session level security mechanism is being used. First client need to request valid session id to server. Once server validate client it will respond with session id. By handshaking this session id communication takes place. On each request session id will be send and validate. Once client logout from system it will destroy session id. Also password is encoded in MD5 format, so nobody able to see the password text.

Software Requirements: -

Operating System: Windows OS
Front-End : HTML, CSS, and JS
Back-End : Angular JS, PHP, MYSQL

Hardware Requirements: -

RAM : 2GB
Hard disk : 100GB
Os : Windows OS
Processor : Intel

III. SYSTEM FEATURES

In the life of the software development, problem analysis provides a base for design and development phase. The problem is analyzed so that sufficient matter is provided to design a new system. Large problems are sub-divided into smaller once to make them understandable and easy for finding solutions. Same in this project all the task are sub-divided and categorized.

System Modules:

- ☐ **Admin**
 - ☐ Create Election Candidate
 - ☐ Allocate election Data with candidate
 - ☐ Allocate user to election wards
 - ☐ Modify the data
 - ☐ See election user report
- ☐ **USER**
 - ☐ Login
 - ☐ OTP Verification
 - ☐ Upload face image file for verification
 - ☐ Select candidate
 - ☐ Submit Vote

3.3.1 Login Module

The main activities in the application are the user login page for user. The other modules are followed by this login page. This module records only user and password of the user.

3.3.2 OTP Module

Another main function of our proposed system is registration, in order to register with the OTP. Once the image is recognized successfully or matched with the existing images of the database then the server sends the OTP (One-Time Password) to the voters registered mobile number. Then voter enters that OTP, then database again verifies that entered OTP by voter and if it is correct that means it is valid user.

3.3.3 Face image file for verification

User image is sent to the existing database. Here we use already existed database or centralized database, which contains voter's information with photos. Then system compares the send images with already stored images in centralized database.



3.3.4 Select candidate & Submit Vote

After that the candidate's list will appear. This list contains the candidate name and in front of that name the button named 'Vote' is provided. Voter should have to press that button then only the voting is done and the voting procedure is completed.

Admin

3.3.5 Create Election Candidate & Voters:

The voter name, voter date and other information is first entered in the application. After the successful registration, the voters sign in into the application. Then the photo of the voters is taken and then sends it to the centralized database. Voters list will be uploaded using excel sheet to the database to create credential to the voting system.

3.3.6 Allocate election Data with candidate:

Provides the detail information about the election, such as election name, election date, and election ward and election disc.

3.3.7 Allocate user to election wards:

Allocate the Candidate to the wards using detailed information about the election, such as election name, election date, and election ward and election disc.

3.3.8 Modify the data:

Modifying if any voters list will be uploaded using excel sheet to the database to create credential to the voting system.

3.3.9 See election user report:

Admin can see the election report and candidate votes count from admin panel

IV. SOFTWARE ENVIRONMENT

4.1 Hyper Text Markup Language

Hypertext Markup Language (HTML), the languages of the World Wide Web (WWW), allows users to produce Web pages that include text, graphics and pointer to other Webpages (Hyperlinks). HTML is not a programming language but it is an application of ISO Standard 8879, SGML (Standard Generalized Markup Language), but specialized to hypertext and adapted to the Web.

The idea behind Hypertext is that instead of reading text in rigid linear structure, we can easily jump from one point to another point. We can navigate through the information based on our interest and preference. A markup language is simply a series of elements, each delimited with special characters that define how text or other items enclosed within the elements should be displayed. Hyperlinks are underlined or emphasized words that load together documents or some portions of the same document. HTML can be used to display any type of document on the host computer, which can be geographically at a different location. It is a versatile language and can be used on any platform or desktop.

HTML provides tags (special codes) to make the document look attractive. HTML tags are not case-sensitive. Using graphics, fonts, different sizes, color, etc., can enhance the presentation of the document. Anything that is not a tag is part of the document itself.

V. CONCLUSION

- The major advantage of e-voting is user can cast the vote from any place and at any time with increased security.
- We have proposed an approach to e-voting system using face Detection and Recognition system (FDR) and one-time password (OTP) as an authentication technique in online voting.

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