Smart Voting System Support through Face Recognition

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Abstract— A new technique in voting system with facial recognition of voter is used. Currently In our country India, two voting system are present. First one is Secret Ballet paper and Second one is Electronic Voting Machines (EVM). But both of the voting system has some drawback. Online voting system is not yet used in India. The present voting systems are not safe and secure. In order to provide security huge manpower is required to avoid mal practices. For voting voter need to go to polling booths and stand in a long queue, due to these most people failed to cast their vote. Some fake voter also vote by fake means which cause severe problems. Hence in this project we have to propose a system which use face recognition using eigen face algorithm to cast their vote on their place without moving to polling booth they can cast their votes through online.In our system we have three level of security in voting process.

Keywords— **Online voting system, face recognition, Eigen face algorithm.**

INTRODUCTION

Currently in our country India two styles of Ballot technique square measure used. The Primary technique is secret ballet paper, within which large amount of paper are used and another technique is EVM (Electronic voting machine). As this systems are not secure we want to propose a method for online ballot which can be safer than the present system.

In this proposed project face detection and recognition thought is used to spot the exact person. There square measure three levels of verification were used for the voters in our projected system. The primary one is Exclusive id range verification, second level of verification is election commission id or voter card range, if your election commission id or citizen card range, number is correct then you have to go for third level of security that is the main security level wherever the system acknowledge the face of the real voter from the info of face pictures given by the election commission. If the captured image is matched with the several image of the citizen within the database, then a citizen can cast their vote in the election.as you have got to understand that in existing system is not far more secure as a result of in existing system security level is just citizen card therefore anybody will offer alternatives person vote with with voter card however here we tend to proposed a way for voting which is safer than existing system.

EXISTING SYSTEM

In the current legal system, the ballet machines where used in which the signs of different political parties are show. Once we press the button with the several party's (political party) image the voting is finished. The probability of fake person casting their vote is more in the existing system. The ballot person might use the faux ballot card and cast his vote, this might cause problem. Within the existing system, the person needs to travel long places to his body to cast his vote. Therefore, we want an efficient methodology to spot the faux voters throughout ballot. So, the method is used for detection of the proper person and additionally creating the system to

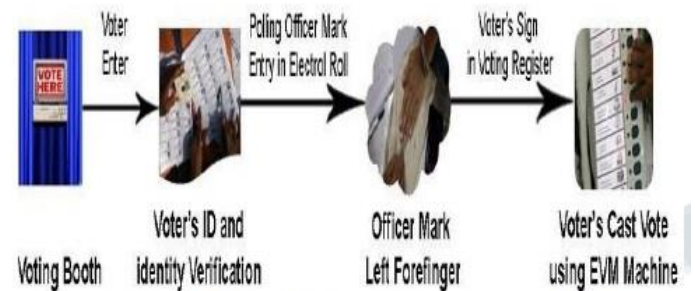work in online, which can facilitate the voters to cast their vote from their place itself.

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Fig.1 Exiting Voting Process scenario

PROPOSED SYSTEM

In this project we are working with three distinct security levels Level1: -Unique id variety (UID) . At the time of citizen registration system can request for the distinctive id from the citizen. The entered distinctive id is verified from the database provide by the election commission. Level2: Election committee id card variety. In the second level of verification, the citizen needs to enter the election commission id or voter's id number. The entered id variety is verified from the database provide by the election committee. Level3: - Face recognition with several committee id variety. During this level, Eigen face algorithm is used to verify the facial image of the voters from the database provided by the election commission.

Eigen Face Algorithm:
The main idea of Eigen Face algorithm is to follow the looks –based approach to face recognition. It is used to capture the variation in a collection of face pictures and this data is use to cypher the actual pictures of individual faces. Then the encoded pictures of individual faces are compared with the gathering of face picture in a holistic manner. The Eigen faces itself type a basis set of all pictures used to construct the variance matrix. The fashioned smaller set of basis pictures are used to represent the initial training pictures that produces dimension reduction. By comparison however faces are described by the premise set, the classification may be achieved. Face pictures are projected into a feature house ("Face Space") that best encodes the variation among known face pictures. The face house is outlined by the "eigen faces", that the eigenvectors of the set of faces.

Working of Eigen face algorithm:

Face Recognition Steps
- Initialization: Acquire the training set and calculate Eigen faces (using PCA projections) which define Eigen space.
- Once a brand new face is encountered, calculate its weight.
- Confirm if the image is face.
- If yes, classify the load pattern as well-known or unknown.
- (Learning) If identical unknown face is seen many times incorporate it into well-known faces. Principal element Analysis
- Eigen face follows the Principal element Analysis approach, within which face area forms a cluster in image area

EXPERIMENT AND RESULTS

Data used here are from the ORL database of faces. Facial images of 16 persons each with 10 views are used. - Training set contains 16×7 images.
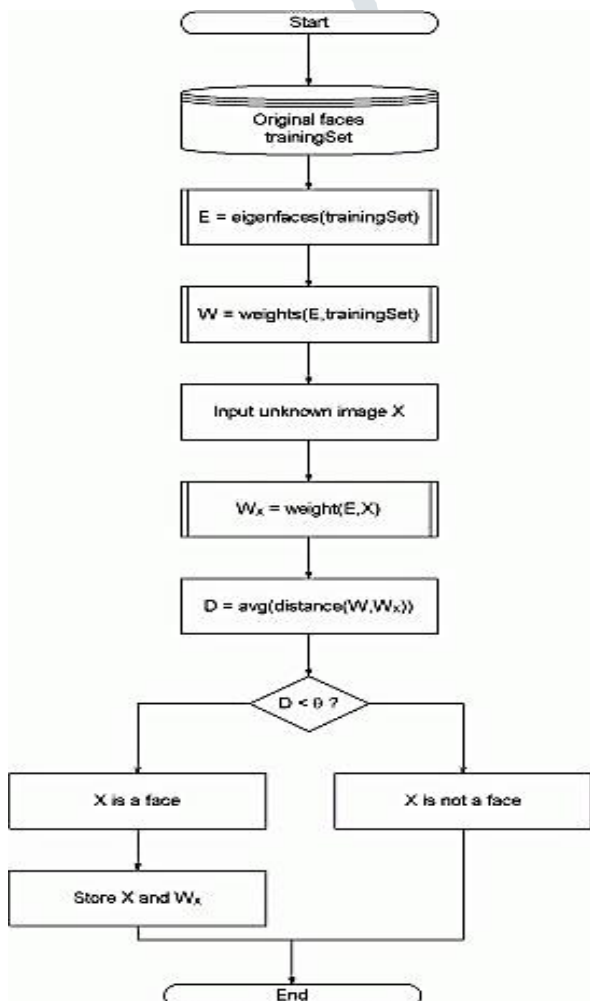

Fig.2 Data Flow Diagram of Eigen face-based facial recognition algorithm
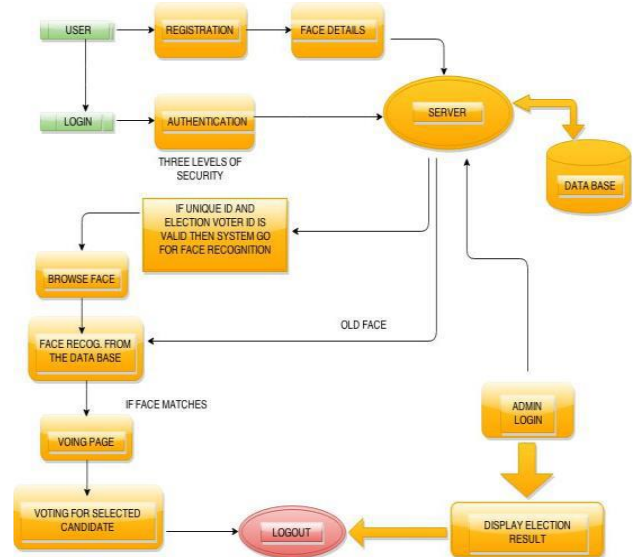
7. SCOPE: -

Fig.3 Proposed frame architecture

1. Highly secured because in this project we have to use face recognition . And face comparison. Tech. so false user can't give votes.
2. We can access result (counting) faster than existing system. Because ballet system takes much more time for counting process.
3. Online voting system increase voting percentage in India. Because lots of people don't give vote. they think that the voting process is to lengthy but in our approach any one can give vote from home easily.
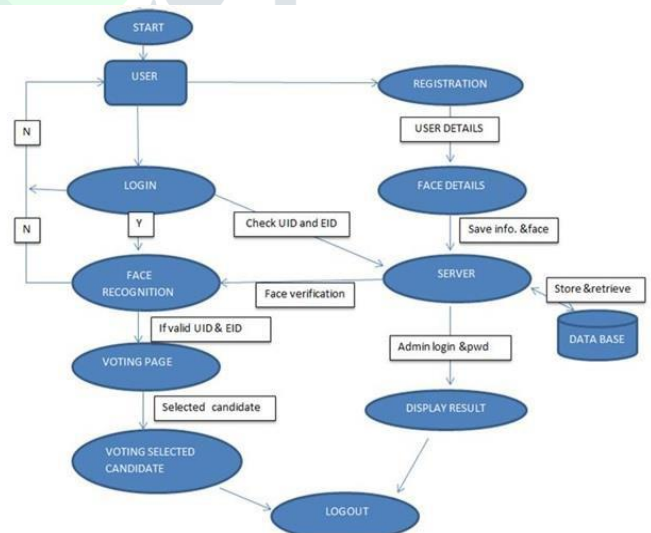

Fig 4. Data flow diagram of proposed system

i). Every New User within the India is 1st register for pick. So, our commencement is registration

ii). At that point of Registration System Capture, the Face of the user by Web Camera and Store the Face sample within the Server Database for Security Purpose.

iii). At the time of election, we'll use 3 level of security 1st one is exclusive id verification other is citizen id verification third one is face recognition.

iv). System are checking no matter distinctive id and citizen id entered by the citizen is correct or not.

v). If distinctive id or citizen id is correct than system can take image of citizen and compare with the individual image of information or server.

vi). If the image in information is matching with the captured image of the citizen, then he/she is allowed to forged is vote.

vii). On the pick page all the party no matter party contest within the election symbols /buttons are there. citizen will forged his /her choose the election.

viii). As shortly as citizen can provide vote the id of citizen logout mechanically therefore we are able to say that a citizen can provide just one vote.

ix). On counting form only election committee authorized user can login with the secure id and password if both id and password is correct then voting process will be continuing.

CONCLUSION:

A E -voting system with face recognition provide safety and security. This new voting system eliminate all the drawbacks of current voting system.
As every operation is performed through internet connectivity so, it is onetime investment for government.
As information is hold on in centralized repository therefore, information is accessible at any time still as backup of the info is feasible. The info must be updated each year or before election.

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