INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 8.165

Smart Voting System through Facial Recognition using HAAR-Cascade Algorithm

Veena MS, Dr.C.D Guruprakash, Dr. M Siddappa

II nd Year, Master of Technology, Department of Computer Science Engg, Sri Siddhartha Institute of Technology,

Tumakuru, Karnataka, India

Professor, Department of Computer Science Engg, Sri Siddhartha Institute of Technology, Tumakuru, Karnataka, India

Professor and HOD, Department of Computer Science Engg, Sri Siddhartha Institute of Technology, Tumakuru,

Karnataka, India

ABSTRACT: In this paper we present a human face recognition method for voting system for automatically matching features in images corresponding to the same facial point, lines on an image. It is a category of biometric software which works by matching the facial features like eye, nose line, marks etc. Face recognition has been since its beginning more secure and trustworthy form of authentication by including this feature with our present voting system we could enhance the capabilities of the system and can make it more secure and free from false voting. In this paper, we have provided a one algorithm, that is, haarcascade. Along with this, we have also compared their performance based on how they classify face in the images. Our training set consisted of 2316 images. The images in the training set were augmented for further enhancement of their features. Each augments set constituted of 4 more samples per image. So, the complete set constituted of 2316*4 that is 9264 images. On the basis of our research, we observed that the accuracy of the algorithms based on the training data. The training data consisted of 2316 labeled image. In future work, we plan on increasing the training dataset and applying other important techniques like deep learning neural network etc. Face recognition system is also remaining a challenging problem till today.

I. INTRODUCTION

In India, currently we are having two kinds of voting mechanisms first the secret Ballet paper and the second one is Electronic Voting Machines (EVM), but the process of voting has some demerits and drawbacks, that is, why is the present ongoing system not so much safe & secure. In our chosen study of the system, we are proposing three levels of verification which is very effective in reducing the false voting scenarios. The first includes the unique id generate at the of registration which would be given to the voter. After which, in the second level of security when given id to the Election Commission Officer where it would be cross-checked by the officer and now the new tier of verification through which the voter needs to go, will greatly enhance the security, here we would be matching the current facial features of voter with the one present in database, this would reduce the chances of false casting of voting and make the system safer and accurate. In this paper, we will discuss the one algorithm used in the field of facial recognition. We have also measured the accuracy of this algorithm by practically implementing it and evaluating it on the test set.

1.1 RELATED WORKS

Face recognition is still a difficulty today. The main confront is to improve the recognition concert when affected by the variability of non-linear property including lighting variation, pose, facial language, occlusions etc. This article proses robust four-layer (CNN) architecture for the face recognition trouble, with a explanation capable of handing out facial images contain occlusions, poses, Facial language and variable illumination. The test in the 35 subjects of the FERET folder achieved an accuracyof85.13%,whichiscomparabletothebestresult of preceding work in language of presentation. This essay presents a robust real-time solution for mobile platforms that have limited computing and baggage compartment income measure up to PC platforms. This solution aims to join our two previous real-time implementations for mobile display place to speak to the insufficiency of each completion. The first implementation provides an online or on-the-go relationship Light source calibration for the second accomplishment, which is considered robustfordifferentface p o s i t i o n Orientations. Real-time results obtained on a true mobile raised area

indicate the strength and real-time capability of this hybrid facial acknowledgment solution.

1.2 OBJECTIVEOFTHEPROJECT

There are three levels of confirmation which were used for the voters in our proposed system.

II. EXISTING SYSTEM

In India, we currently have two types of appointment mechanism: the ballet secret roleand the second are electronic selection machines (EVM), but the voting process has some drawback and disadvantages, that is, why the current organization is not operational? Both safe and protected.

III. PROPOSED SYSTEM

In our project, we are proposing three levels of verification which is very effective in reducing the false voting scenarios. The first includes the unique id generate at the registration which would be given to the voter. After which, in the second level of security when given id to the Election Commission Officer where it would be cross-checked by the officer and now the new tier of verification through which the voter needs to go, will greatly enhance the security, here we would be matching the current facial features of voter with the one present in database, this would reduce the chances of false casting of voting and make the system safer and accurate. In this paper, we will discuss the one algorithm used in the field of facial recognition. We have also measured the accuracy of this algorithm by practically implementing it and evaluating it on the test set.

Beneficiaries of the proposed project:

* False voters can be easily identified.
* The facial authentication technique is very much useful in identifying the fraud voters, so we can avoid the bogus votes during election commission.
* The voters can cast their voting from anywhere by login to our proposed smart voting system through internet.
* Smart voting system provides updated result at each and every minute.
* It requires less man power and resources.

Applications

* Face recognition for Attendance system.
* Face recognition for Smart Home.
* Face recognition for Fraud detection.
* Banking Applications.
* Face recognition for Employ Management.

IV. RESOURCES NEED FOR THE PROJECT

Hardware System Configuration: -

Processor	-	Dual Core
Speed	-	1.1 G Hz to more
RAM	-	4 GB (min) to more
Hard Disk	-	20 GB
Key Board	-	Standard Windows Keyboard
Mouse	-	Two or Three Button Mouse
Monitor	-	SVGA

Software System Configuration: -

Operating System :   Windows xp,7,8 etc

Technology   :   Python

Front End   :   Tkinter

IDLE   :   Python 2.7 or higher

Database   :   MySQL
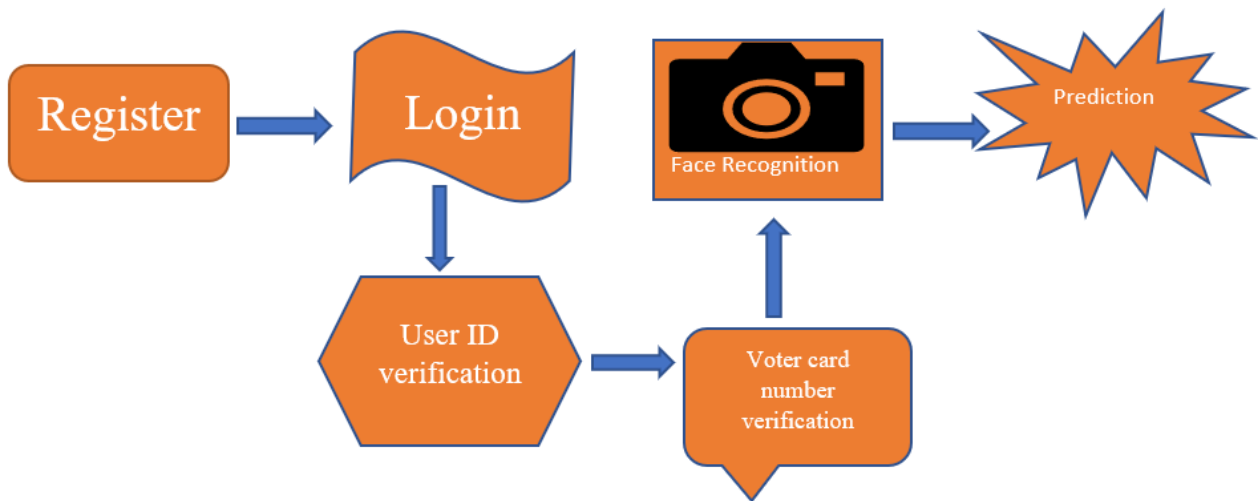

SYSTEM DESIGN

Fig 1: from registration to prediction process

In the system design part, it is showing that we need to register first in the particular page or website or any election portal then it will register name and the details and then login then the user ID will be generated then it will be verified after the verification voter card number will be verified and updated then the face recognitions will do then it will allow to vote then it will predict the voters and winners. Finally, three kinds of verification has been performed

Fig 2: detecting the face of the person

Face recognition will do for end to end it will select every single edge of the face and lines, marks, object.

It will authenticate the person and allow to verification. the face recognition is the third stage of verification and important one in the smart voting system.

List of Modules:

1	RegistrationModule
2	LoginModule
3	VerificationModule
4	UserIdVerificationModule
5	Votercard number Verification Module
6	FaceRecognition Verification Module

Listof Modules:

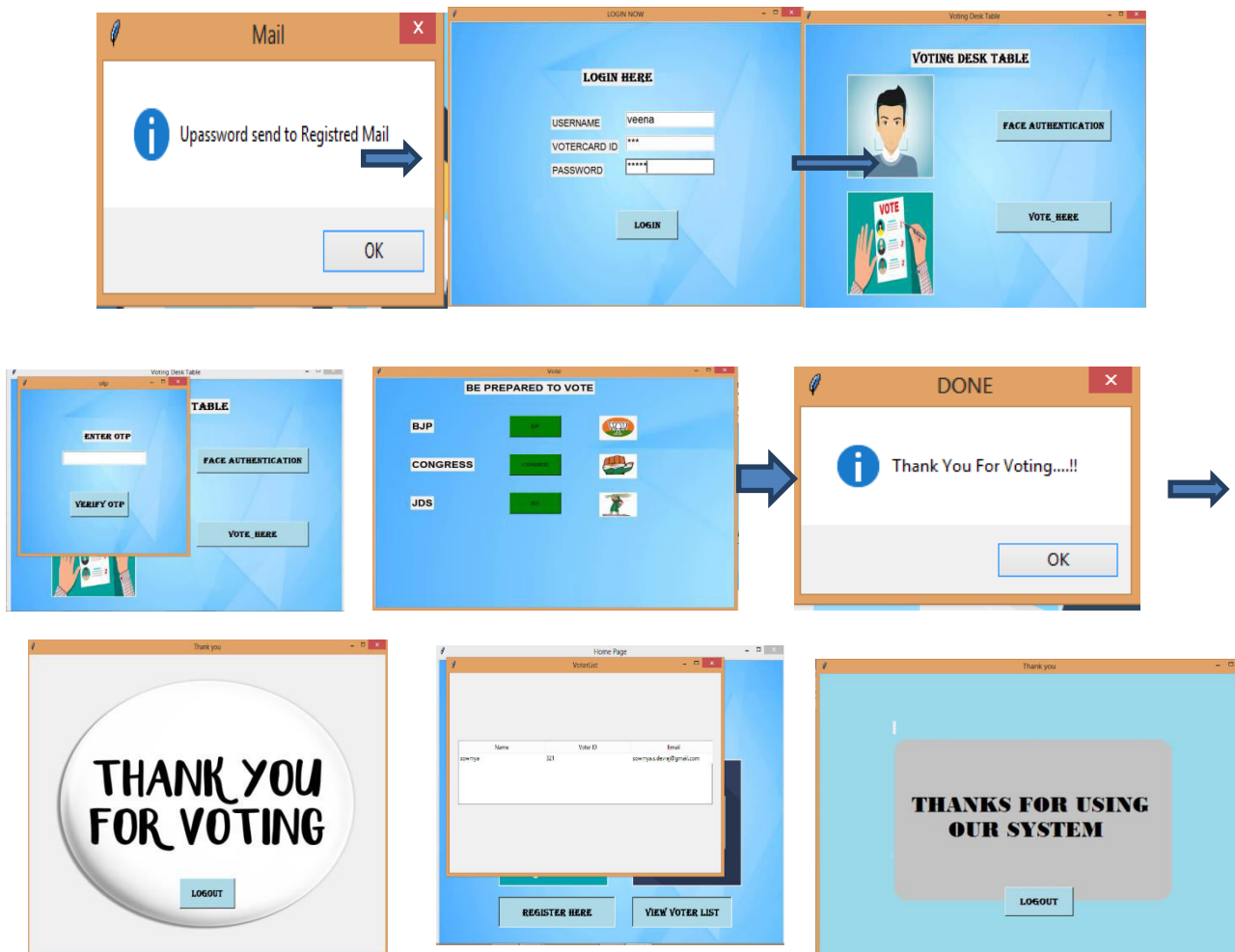|	
1	RegistrationModule
2	LoginModule
3	VerificationModule
4	UserIdVerificationModule
5	Votercardnumber Verification Module
6	FaceRecognition Verification Module

RESULT:
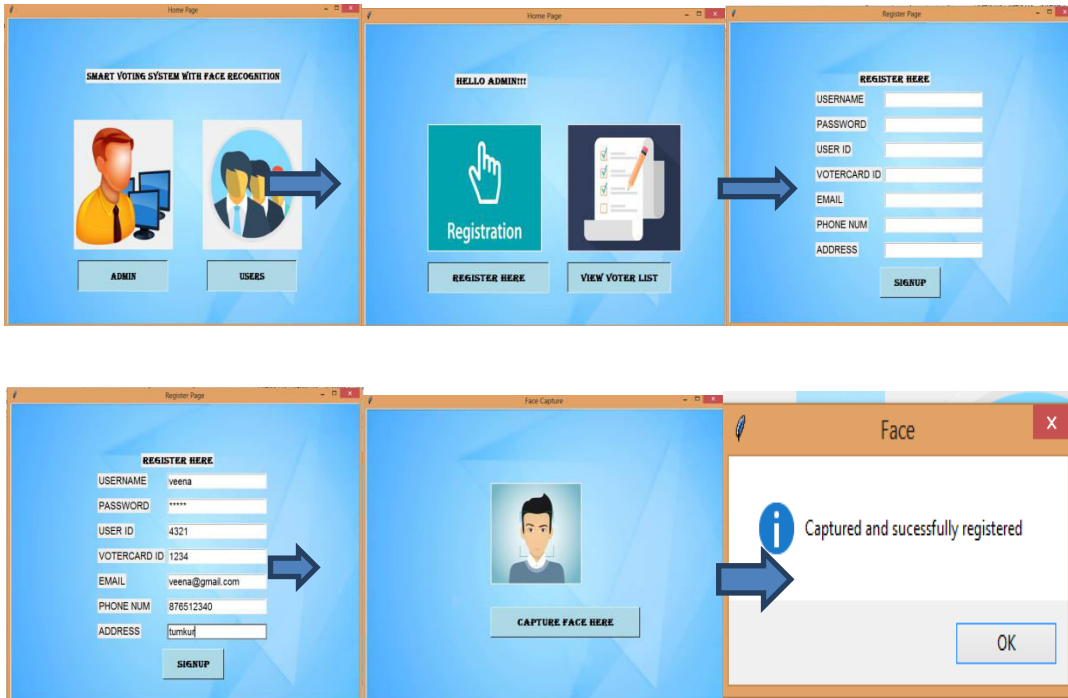
Fig 3: complete screen short of the how the registration to vote calculation process

V. CONCLUSIONS

Face recognition has been since its advent a more secure and trustworthy form of authentication by including this feature with our present voting system we could enhance the capabilities of the system and can make it more secure and free from false voting. In this paper, we have provided a one algorithm, that is, Haarcascade. Along with this, we have also compared their performance based on how they classify faces in the images. Our training set consisted of 2316 images. The images in the training set were augmented for further enhancement of their features. Each augments set constituted of 4 more samples per image. So, the complete set constituted of 2316*4, that is, 9264 images. On the basis of our research, we observed that the accuracy of the algorithms based on the training data. The training data consisted of 2316 labeled image. In future work, we plan on increasing the training dataset and applying other important techniques like SIFT, deep learning neural network, etc.

REFERENCES

[1]A. Baumberg, "Reliable feature matching across widely separated views", in CVPR, 2000

[2] F. Song, D. Zhang, J. Wang, H. Liu, and Q. Tao, "A parameterized direct LDA and its application to face recognition," Neurocomputing, Vol.71, 2007.

[3] H. Bay, T. Tuytelaars, L. Van Gool, "SURF: speeded up robust features", in ECCV, 2006.

[4] KashifHussainMemon, Dileep Kumar and Syed Muhammad Usman, "Next Generation A Secure EVoting System Based On Biometric Fingerprint Method", 2011.

[5] P. Viola and M. J. Jones, "Robust real-time face detection," International Journal of Computer Vision, Vol.57, pp. 137-154, 2004.

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

📱 9940 572 462   🟢 6381 907 438   ✉ ijircce@gmail.com

Scan to save the contact details