Online voting system using face recognition based on otp

[1]Assist.prof.Baliram Deshmukh,[2]Vinayak Jadhav ,[3]Ronak Durge, [4]Apurva Pawar

[1,] Assistant professor Computer Engineering /Trinity academy of Engineering pune/SPPU/India
[,2,3,4] Computer Engineering /Trinity academy of Engineering pune/SPPU/India

Abstract

The fundamental goal of this system is to provide an online voting system that will aid in reducing fraud in manual voting systems and earlier iterations of online voting that used a webcam for face recognition and OTP generation. For voters who are unable to attend the polling location, we are also introducing a location-free voting method. (hometown). Here, we provide a system with many layers of verification, including face verification and OTP verification with validation data, to guarantee the device's dependability. Each voter can only access the system after being identified and verified against the provided database of registered voters. The voter will be able to continue selecting their chosen candidate from the panel once the corresponding face has been matched with the data given.Keywords: voting, security,Haar cascade,voter,OTP,detection.

I. I. INTRODUCTION

 Voting has played a major part within the law based societies. Traditional voting method employments paper-based ballot. However, this approach is expensive, badly arranged and time consuming for voters. Numerous individuals these days favor a more instant way to vote. With the advancement of computer technology, numerous analysts are proposing secure, reliable and helpful electronic voting frameworks as a substitute to the traditional voting strategy. It in this way helps to energize each voter to form utilize of their right to vote. Such frameworks have to be outlined to fulfill the taking after prerequisites.

 The later a long time, analysts are more centering on developing a unused innovation which can support uncoercibility, receipt-freeness additionally universal-verifiability. Many end-to-end irrefutable frameworks (E2E) are proposed and being broadly utilized. In guideline, E2E voting framework offer assurance to the voters as they cast their vote by dispersing a receipt of their vote which can be utilized for confirmation purpose from the by and large organization of the collected votes. However on the other hand, this receipt cannot be utilized as a verification in vote buying or vote impelling in spite of the fact that all of the receipts will be posted freely in a secured append-only Bulletin Board once the voter wrapped up the voting handle. Subsequently, the E2E system would still secure the voter's protection.

In arrange to achieve the already expressed requirements, many plans have been executed and proposed. Those schemes are for the most part established in one specific field of security - cryptography. In electronic voting component, cryptography is utilized to ensure the information transmitted between the voter and the server to guarantee that it would not be spilled to a third party. Cryptography hypotheses are too connected in each

process in the system to form beyond any doubt the genuineness of the voter, the originality of the poll, casted and collected votes, the reliability of the counted votes and the security all through the election. There are numerous cryptography strategies that can be applied, such as dazzle signature plot, homomorphic encryption, unaware signature conspire, bit commitment scheme, Schnorr recognizable proof plot, mixed-net schemes, digital signature conspire, secure multi-party computation, cryptographic hash-function, etc. Be that as it may, in this paper only a few chosen plans would be connected in difference.

II LITERATURE SURVEY

Face recognition is a type of biometric security that synchronises the features of the face. By using the face recognition technique, it helps with voter verification. The Haar Cascade algorithm, which in this suggested system uses Haar-Like characteristics to coordinate the face, is used for face identification. Any democracy that is ruled by the people expressing their choices or articulate ideas by voting must have elections as one of its core distinguishing features. The voting process has advanced significantly since the days of straightforward handwritten ballots to include internet voting technologies. The procedure takes a lot of time. Voters can cast their ballots from any location in the world thanks to the system's solely online nature. The use of face detection technology reduces the possibility of duplicate votes being cast, and individuals who registered prior to the election and are recognised by the system will be permitted to cast a ballot. Similar to fingerprints, every face has distinctive characteristics like the space between the eyebrows and eyes that don't change as people age, increasing the security of the system.

II. SYSTEM MODULES

Admin Module: The administrator must log in to this module using a valid user name and password. Once logged in successfully, he can perform certain tasks, including Authorise, View All Users View Every Website for E-Commerce and Authorise View All Early Product Reviews, All Nd Product Reviews, View All Keyword Search Results, View All Product Review Rank Results, View All Products Search Ratio, and All Keyword Search Details.

View and Authorize Users: The list of people who have registered can be seen by the administrator in this module. The admin can access the user's information in this, including user name, email address, and address, and reauthorizes the user.

Ecommerce User: There are n numbers of users present in this module. Before doing any operations, the user should register. Once a user registers, the database will record their information. After successfully registering, he must log in using an authorised user name and password. Once logged in, the user can perform a number of things, including adding products, viewing all products with reviews, viewing all early product reviews, and viewing all transactions that have been purchased.

End User: There are n numbers of users present in this module. Before doing any operations, the user should register. After a user registers, their information is added to the database. After successfully registering, he must log in with an authorised user name and password. After successfully logging in, the user can perform a number of actions, including Manage Account.

III. WORKING OF MODEL

In our proposed model first the new user will register with the username and his her email id and password and the user is able to login with the portal for voting then the system will verify the user with the help of image processing algortithm and allowing them to do voting if the person is authorized Proposed Algorithm: Haar Cascade

Haar Cascade is an Object Detection Algorithm used to identify faces in an image or a real time video. The algorithm uses edge or line detection features proposed by Viola . Haar Cascade is a machine learning-based approach where a lot of positive and negative images are used to train the classifier. Get hold of all the important Machine Learning Concepts with the Machine Learning.
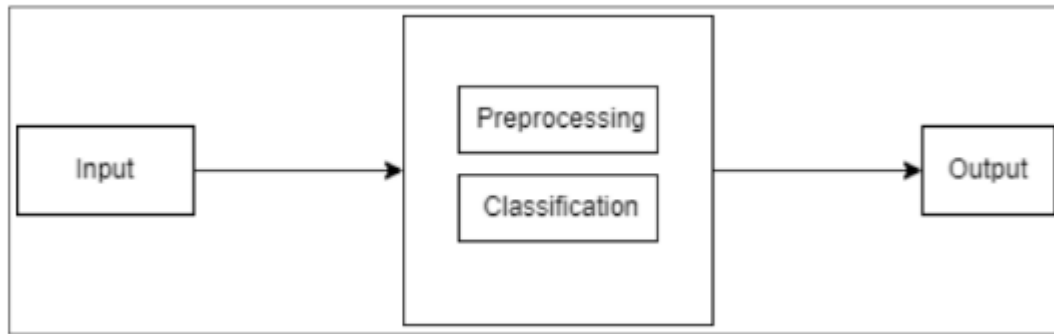
IV IMPLIMENTATION DETAILS

To identify the person's face first in this model, we apply the haar cascade. They were first discussed in Viola and Jones' seminal study, "Rapid Object Detection using a Boosted Cascade of Simple Features."Training: To begin with, a sizable dataset of both positive and negative images is used. While negative photos lack the object that must be detected, positive images do.

Extracting Features: The training photos are used to extract Haar-like features. These characteristics are rectangular spaces that determine the variation in pixel intensities between white and black areas.

Detection: The Haar cascades method moves a fixed-size window across a new image at various scales to find items in it. At each position and scale, the cascade of classifiers evaluates the presence of the object. If the object is detected, its location is recorded.

After detecting the face and OTP it will allow voter to vote.
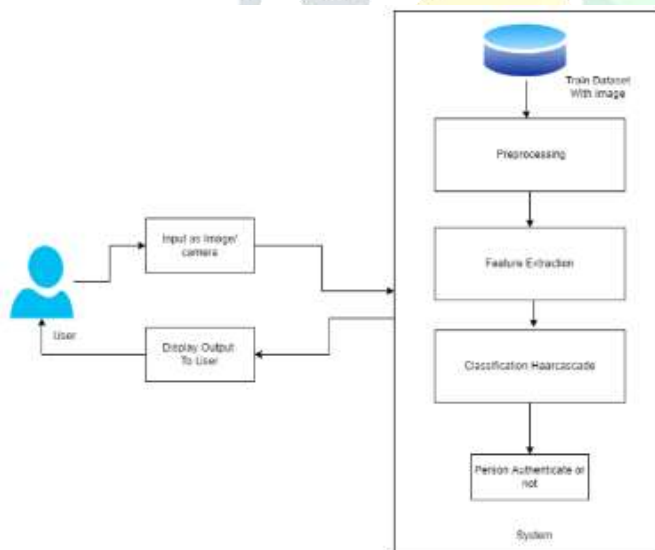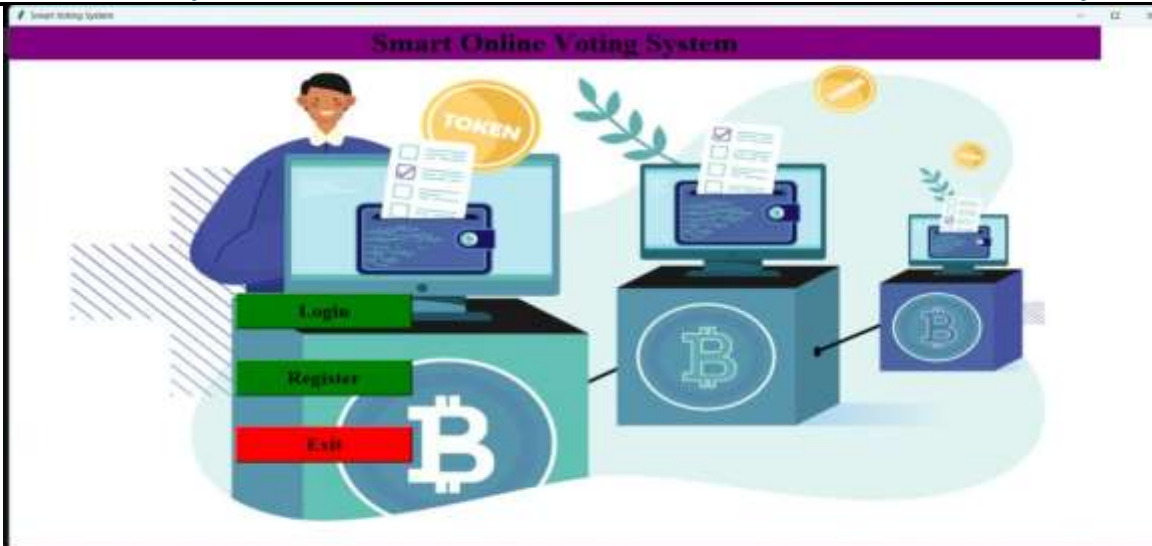
IV. CONCLUSION

Our suggested approach combines facial identification with machine learning to enable voters to register and cast ballots from any location, regardless of where they are. This technique offers security and prevents one person from casting multiple votes. This approach, in which we can cast our votes from many locations, is more dependable.Additionally, it reduces work, human needs, and time resources.

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