IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

DIGITAL VOTING SYSTEM USING MACHINE LEARNING

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Abstract: **A new authentication technique is discussed i.e. facial recognition verification for online voting systems. In India, currently there are two types of voting system in practice. They are Secret Ballet paper and Electronic Voting Machines (EVM)But both of the process had some limitations or demerits. In India online voting has not been implemented yet. The current voting system is not safe and secure too. The electorate want to visit distinct locations like polling cubicles and stand in an extended queue to cast their vote, because of such reasons most of the people skip their chance of voting. The voter who isn't eligible also can forge its vote via faux way which can also additionally cause many problems. That's why in this project we have proposed a system or way for voting which is very effective or useful in voting. This system can also save money from the government which is spent in the election process. Over- all this project is being developed to help staff of the election commission of India and also reduce the human efforts. So, this new technique aims to develop a computerized voting system to make the election process more secure and user friendly.**

INTRODUCTION

Election plays an important role in such a huge democratic country like India where the leader is Elected by residents. Elections preserve a truthful state functioning, as they provide people the choice to select their personal government. So the election ought to be an unfastened and truthful process. Every citizen of a democratic country has a right of voting with his/her own choice. One of the fundamental Issues in the conventional democratic framework is that it expends bunches of lab our and resources. Also some humans can be worried about illegal publications of movement at some point of this manner of election or its preparation.

NEED OF THE STUDY.

A Digital voting system is an electronic system that allows voters to cast their votes using electronic devices such as Digital phones, computers, or tablets. The system is designed to make the voting process more efficient, secure, and accessible.
The problem with traditional voting systems is that they are prone to errors and fraud. Paper ballets can be lost or tampered with, and manual vote counting can be slow and prone to errors.

Additionally, traditional voting systems may not be accessible to all voters, such as those with disabilities or who live far from polling stations. A Digital voting system aims to address these issues by providing a more secure, accurate, and accessible way of voting. However, the development of a Digital voting system poses several challenges, such as ensuring the security of the system, protecting voter privacy, and preventing hacking or manipulation of the system. The system must also be user- friendly and easy to use for all voters, regardless of their technological proficiency. Finally, the cost- effectiveness of a Digital voting system is an important consideration. The system should be affordable and cost-effective, particularly for countries or regions with limited financial resources

OBJECTIVE

The main objective is to develop an application that seeks to use various stages of security authentication to enhance the election process for political party elections using the real case study, ie; The University of Ibadan, in the end imparting an internet platform which permits all eligible electorate to work- out their franchise from any region for the duration of the election period. The targets are:

1. To create a secured online voting platform where authenticity of votes and voters are ensured with the use of mechanisms such as facial recognition and one – time password.
2. To enhance Voter's identity due to the fact that biometric functions can't be shared.
3. To ease the trouble of queuing in the course of balloting duration in elections.

The objective of a Digital voting system is to provide a secure, accurate, and convenient voting experience for citizens. Digital voting systems aim to leverage technology to improve the voting process, increase voter turnout, and reduce the possibility of fraud.

SOFTWARE REQUIREMENT

OS	**Windows 7 or Higher**
Editor	**VS Code**
Programming Language	**Python 3**
ML Model	**CNN (Haar-cascade)**
Framework	**Django**
Database	**Sqlite3**

HARDWARE REQUIREMENT

CPU	**I5 or Ryzen 5 series**
RAM	**8GB or Higher**
SSD (Recommended)	**128GB**
GPU (Recommended)	**2GB (Integrated or Dedicated)**

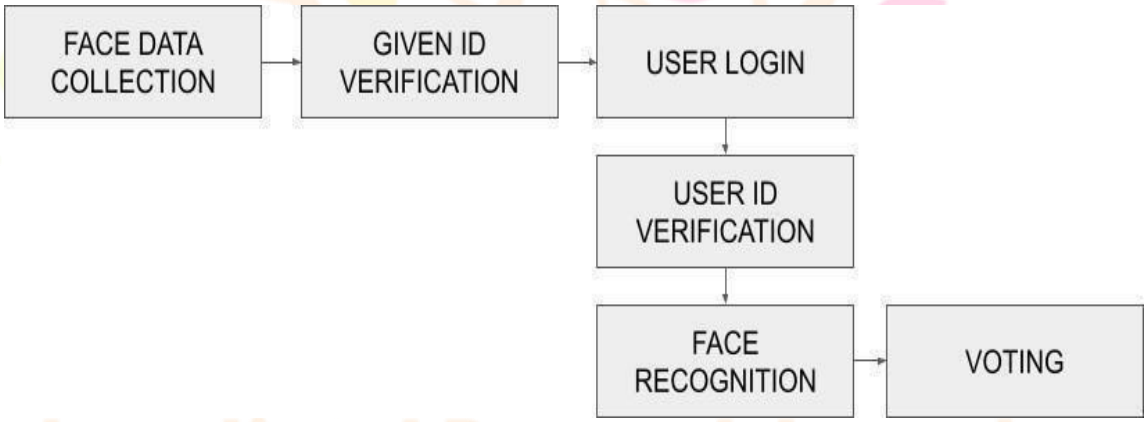
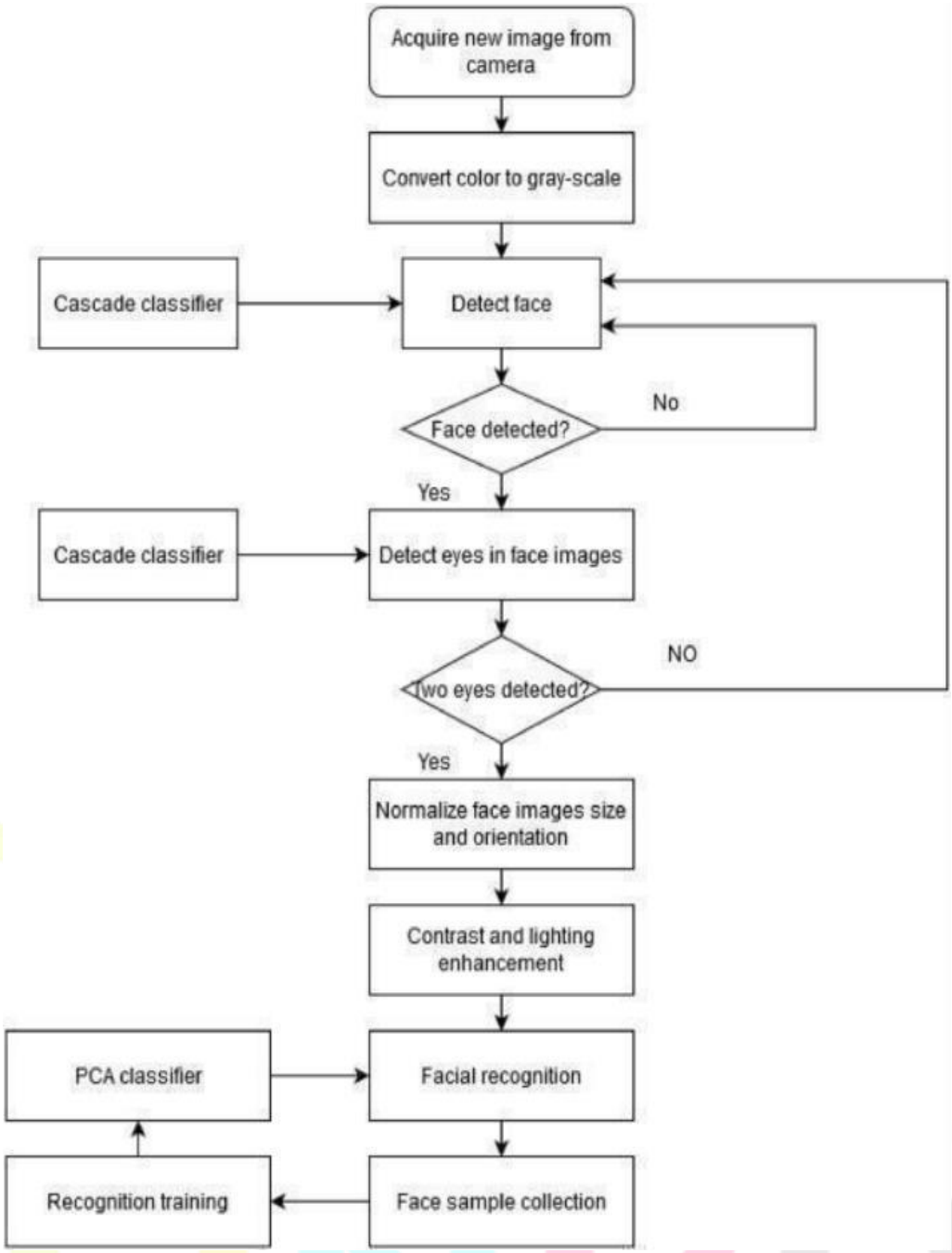
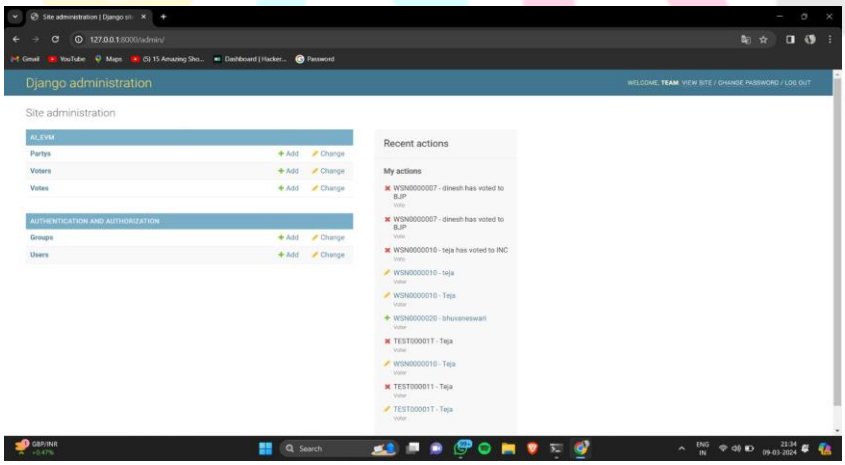


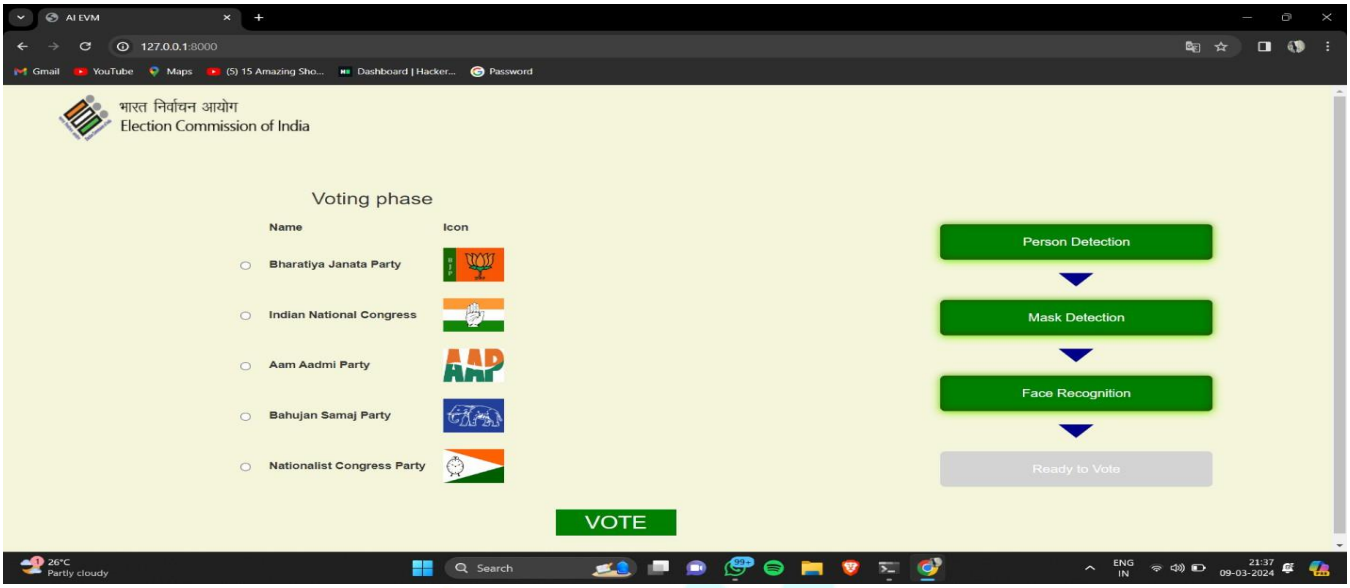
Fig. Block diagram for Digital Voting through Face Recognition System

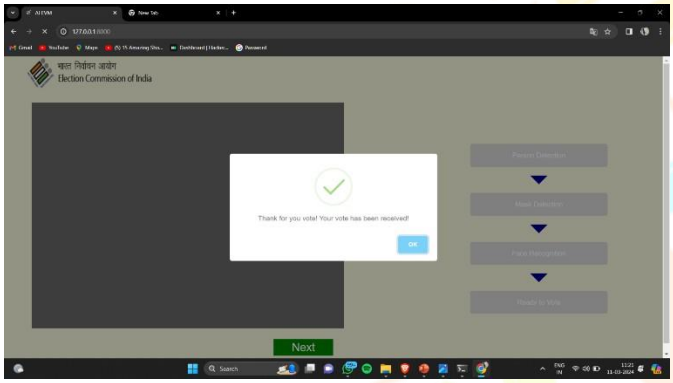
FLOW CHART:

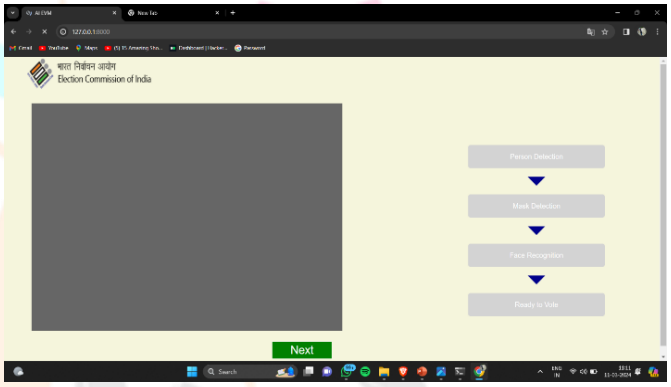


RESULT:









CONCLUSION:

The main objective is development of an online voting system using webcam as an authentication technique. Thus, security increases as there is an extra level of authentication. It will provide fearless and violence free voting that will increase the percentage of voting for strengthening democracy.

Face recognition has been since its coming a progressively secure and reliable type of confirmation by including this feature in the proposed voting system, could improve the capacities of the framework and can make it more secure and liberated from bogus voting. In this paper one algorithm that is Haar Cascade, used to compare the faces and it is dependent on Haar features. The Face detection technique assists with expanding security and recognizing unauthenticated voters. The proposed framework is efficient by staying away from manual works and progressively secure through face detection.

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