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Secured online voting system using face detection

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ABSTRACT

This project is developed for the threat free and user oriented online voting system. The online voting system is made for the people of the country residing around the world and wants to vote for their representative. In the proposed system described how the web application are efficient and can be used for voting. Our system support simultaneous voting due to the distributed nature of the database. During election electronic device is used for voting process. The traditional approach there was a need to go to the voting booth and cast a vote. People from various locations who don't have their voting cards are not able cast their votes. Also validation of the user was poor and not appropriate. There was a bundle of manual work in the traditional voting system which was very time consuming process. Therefore the new system is developed to eliminate the efforts needed in the existing voting process. The given new projected system has an application which is developed for browser via which the user can cast his or her vote from anywhere on the face of the globe The proposed system supposed to propose a new voting system which ensures voter confidentiality and voting accuracy, thus providing an important framework that based on face detection and unique identification aadhar id number. An online solution is very useful as the information about the voters and the election committee is also made available to the people in the system.

INTRODUCTION

In present system, if you wish to vote for someone, then you have to go to the destination where the voting procedure is going on and then only you can vote for him or her. Proposed system is highly automated and greatly technical. In this system, not even you can vote via sitting at your own place but also you can learn about laws and regulations related to voting. Using this online voting based project, end users do not faces any difficulties as because they don't have to make registration before submitting their answers. Also advancement in android device is very easy and secure voting. The scope of the project will be that it will surely increase the percentage of voting.

LITERATURE SURVEY

Paper Based Voting

The scope of the Voting machine must produce human-readable Hard copy paper results, which can be verified by the voter before the vote is cast, and manually recounted later if necessary. David Chaum presents a very interesting scheme, whereby voters could get receipt for their votes. This receipt would allow them to know if their votes were included in the final tally or not, and to prove that they voted without revealing any information about how they voted security of this scheme depends on visual cryptography developed by Naor and Shamir, on voters randomly choosing one of two pieces of paper. The voter gets a blank ballot and use a pen or a marker to indicate he want to vote for which candidate. Hand-counted ballots is a time and labor consuming process, but it is easy to manufacture paper the ballots and the ballots can be retained for verifying, this type is still the most common way to vote.

Electronic Voting Machine

Mercuri and Neumann advocate the use of this technique in electronic voting systems in earlier method voter has to cast their vote by putting the stamp in front of their favorite candidate name. And then by folding that ballot paper, it is inserted into the ballot box. This is very time consuming. So during the next election, Election Commission of India, has introduced a new

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method of polling i.e., Electronic Voting Machine (EVM).

THE EVM CONSISTS OF TWO COMPONENTS:

1. Control Unit. 2. Ballot Unit.

Control unit stores and assembles votes. And the Ballot Unit is used by Voter and it is placed at the election booth. These both units are connected via a five meter cable. This proposed system by a battery pack inside the control unit. It is a six volt alkaline battery, which means they can easily be used in rural areas where there is no electricity. A voter has to simply press a button in front of his favorite candidate to cast his/her vote. Only six votes in a minute can be accepted by the machine, and after each vote, machine locks itself and can be unlocked using a new ballot number. The polling booth is always presided by a government officer who is the in charge of the controlling unit of the EVM. To accept another ballot the machine is unlocked by the in charge officer. This system is tamper-proof and a person won't be able to cast more than one vote. One machine is able to accept up to 3,840 votes, and cater to 16 candidates each. Using Blind signature by D.Chaum, it mainly lies on simplifying the algorithm used in the voting process and it can secure voting data during the transmission. When In this proposed system use blind signature in the election, its intractability is the major issue as voters might not be able to track their votes. There are two systems developed for conducting an electronic voting machine.

These are the Direct Recording Electronic voting machine (DRE) and Identical Ballot Boxes. A DRE voting system records votes by means of an electronic display provided with mechanical or electro optical components that can be activated by the voter, that processes voter selections by means of a computer program, and that records that processed voting data in memory components. It produces a tabulation of the voting data that is stored in a removable memory component and may also provide printed renditions of the data. The system may further provide a means for transmitting the processed vote data to a central location in individual or accumulated forms for consolidating and reporting results from precincts at a central location.

DRE systems additionally can produce a paper ballot printout that can place in front of the voter before they cast their ballot. 2) The Identical Ballot Boxes hold the ciphered vote, encrypted with the PMA voting key and the ciphered Identification Card Number, encrypted with their personal 4 digit key. It is designed to accept connections from the vote distribution server, and ensures an acceptable level of security as far as remote vote manipulation is concerned. 3) Integrated Election Software package, running on a Microsoft Windows computer, allows the election official to set up and record the details of an election. When voting is completed, it counts the votes and displays the outcome of the count results.

PROPOSED SECURED ONLINE VOTING

Problem Definition

In this proposed system initially the voters are allowed to authenticate themselves by using the face detection and ADHAAR identification number. A Voters directly login to the web application to perform voting operation. This constraint is imposed to ensure that only the genuine person is allowed to vote in the elections. Proposed system is highly automated and greatly technical. In this system, not even you can vote via sitting at your own place but also you can learn about laws and regulations related to voting. Using this online voting based project, end users do not faces any difficulties as because they don't have to make registration before submitting their answers.

Algorithm

In machine learning, a convolutional neural network (CNN or ConvNet) is a class of deep, feed-forward artificial neural networks that has successfully been applied to analyzing visual imagery. In the last few years, deep neural networks have lead to break through results on a variety of pattern recognition. One of the essential components leading to these results has been a special kind of neural network called a convolutional neural network.

Break The Image Into Overlapping Image Tile

Passing the sliding window over the entire original image and save each result as a separate, tiny picture tile: by doing this, we turned our original image into 77 equally-sized tiny image tiles

Feed Each Image Tile into A Small Neural Network

Earlier, we fed a single image into a neural network to see if it was an "8". We will do the exact same thing here, but we will do it for each individual image tile. However, there's one big twist: we will keep the same neural network weights for every single tile in the same

original image. In other words, we are treating every image tile equally. If something interesting appears in any given tile, we will mark that tile as interesting.

Save The Results From Each Tile Into A New Array

We don't want to lose track of the arrangement of the original tiles. So we save the result from processing each tile into a grid in the same arrangement as the original image. In other words we have started with a large image and we ended with a slightly smaller array that records which sections of our original image were the most interesting.

Downsampling

The result of step 3 was an array that maps out which parts of the original image is the most interesting. But that array is still pretty big. To reduce the size of the array, we down sample it using an algorithm called max pooling. We will just look at each 2×2 square of the array and keep the biggest number. The idea here is that if we found something interesting in any of the four input tiles that make up each 2×2 grid square, we will just keep the most interesting bit. This reduces the size of our array while keeping the most important bits.

Make a Prediction

So far we have reduced a giant image down into a fairly small array. That array is just a bunch of numbers, so we can use that small array as input into another neural network. This final neural network will decide if the image is or isn't a match. To differentiate it from the convolution step, we call it a "fully connected" network

CONCLUTION

Internet voting is just an additional way of voting. Proposed system is highly automated and greatly technical. In this system, not even you can vote via sitting at your own place but also you can learn about laws and regulations related to voting. Using this online voting based project, end users do not faces any difficulties as because they don't have to make registration before submitting their answers. It widens accessibility. It takes time to change voter's habits and attitudes and to increase the turnout. Internet voting brings people closer to the information society. Integrated functioning of public sector of IT systems raises the cost-efficiency. By online voting system, the percentage of voting increases. It decreases the cost and time of voting process. It is very easy to use and very less time consuming. It is very easy to debug and also much authenticated.

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