Online Based Authenticated Election Voting System

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Abstract – The identity proofs (voter ID and Aadhar id) are used in Online Voting System for voter verification. The user doesn’t need to carry their ID which contains person’s required details. The user information must be already stored in the database of election commission of India. The online voting system reads the details of the person from the database. The online voting system fetches the data which is given by the person at the time of election and compares this data with already existing data during registration. The data must be matches with the pre-stored information, then only the person is allowed to cast their vote.

Keywords— Voter ID; Aadhar ID; OTP; Verification.

1. INTRODUCTION

1.1 About the project
Online voting system project is implemented in ASP.NET platform using Mysql database as back end. Main aim of online voting system is to develop an online application like online reservation system, for citizens who are above 18 years of age to vote through online. Using these system citizens of India can vote through online without visiting polling booth. A centralized database is maintained by election commission of India where citizens information is maintained when ever citizen is using online voting system his/her information is authenticated with the data present in database if user is not in the list he cannot use online voting system.

1.2 Objective
We live in a democracy and voting is one of our fundamental duties as responsible citizens of the country, but nowhere around the country a 100% people come to vote during the elections in their territory (country). There have been many reasons for that some of them are: In the rural areas the influential people keep their men at the polling booths to threaten the common man to vote for them There are many portions of the country like the North East where there is locally sponsored terrorism, at such places the security conditions are also not very bright, so naturally people feel afraid to come out of their houses and go to vote
• Net savvy new generation want free voting system. Also the people in metros want a system through which they can vote for their country without traveling.
Keeping in mind these situations and to improve the state of democracy in the country Online Polling System can be thought as a solution, in conjunction with the ongoing current manual voting system.

II. LITERATURE SURVEY

A. Electronic Voting in India
The Election Commission of India developed the country's EVMs in partnership with two government-owned companies, the Electronics Corporation of India (ECIL) and Bharat Electronics Limited (BEL). Though these companies are owned by the Indian government, they are not under the administrative control of the Election Commission. They are profit-seeking vendors that are attempting to market EVMs globally [7]. The first Indian EVMs were developed in the early 1980s by ECIL. They were used in certain parts of the country, but were never adopted nationwide. They introduced the style of system used to this day, including the separate control and ballot units and the layout of both components. These first-generation EVMs were based on Hitachi 6305 microcontrollers and used firmware stored in external UV-erasable PROMs along with 64kb EEPROMs for storing votes. Second-generation models were introduced in 2000 by both ECIL and BEL. These machines moved the firmware into the CPU and upgraded other components. They were gradually deployed in greater numbers and used nationwide beginning in 2004 [3]. In 2006, the manufacturers adopted a third-generation design incorporating additional changes suggested by the Election Commission. According to Election Commission statistics, there were 1,378,352 EVMs in use in July 2009. Of these, 448,000 were third-generation machines manufactured from 2006 to 2009, with 253,400 from BEL and 194,600 from ECIL. The remaining 930,352 were the second-generation models manufactured from 2000 to
2005, with 440,146 from BEL and 490,206 from ECIL [4]. (The first generation machines are deemed too risky to use in national elections because their 15-year service life has expired [5], though they are apparently still used in certain state and local contests.) In the 2009 parliamentary election, there were 417,156,494 votes cast, for an average of 302 votes per machine [6].

B. Evaluation of Voting Equipment
In the recent years, voting equipment which were widely adopted may be divided into five types [7].

1) Paper-based voting: 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 ballots and the ballots can be retained for verifying, this type is still the most common way to vote.

2) Lever voting machine: Lever machine is peculiar equipment, and each lever is assigned for a corresponding candidate. The voter pulls the lever to poll for his favorite candidate. This kind of voting machine can count up the ballots automatically. Because its interface is not user-friendly enough, giving some training to voters is necessary.

3) Direct recording electronic voting machine: This type, which is abbreviated to DRE, integrates with keyboard, touchscreen, or buttons for the voter press to poll. Some of them lay in voting records and counting the votes is very quickly. But the other DRE without keep voting records are doubted about its accuracy.

4) Punch card: The voter uses metallic hole-punch to punch a hole on the blank ballot. It can count votes automatically, but if the voter’s perforation is incomplete, the result is probably determined wrongly.

Optical voting machine: After each voter fills a circle correspond to their favorite candidate on the blank ballot, this machine selects the darkest mark on each ballot for the vote then computes the total result. This kind of machine counts up ballots rapidly. However, if the voter fills over the circle, it will lead to the error result of optical scan.

III. EXISTING SYSTEM
Biometric Finger print devices are used in the Electronic Voting machine for voter verification.

The system aims at developing a fingerprint based advanced Electronic Voting Machine (EVM) which helps in free and fair way of conducting elections which are basis for democratic country like India. This project consists of following units a Voting system, fingerprint module and ARM controller Unit. The voter first puts his finger on the fingerprint module which checks for the authentication of the user. If the voter is the authenticated one, he will now poll his vote in the voting system by simply pressing button against his favorite leader through a button. The control unit consists of a ARM controller, push button for different operations of EVM. The votes casted for particular candidate in that particular section of constituency is shown through an LCD display. To perform this intelligent task, ARM controller is loaded with an intelligent program written in embedded ‘C’ language.

Limitations of Existing System:
• Before voting the user has to enroll first.
• Sensitivity of finger print module causes sometimes combine character error. It can make mistakes, with dryness or dirty of the finger’s skin, as well as with the age(is not appropriate with children, because the size of their fingerprint changes quickly).
• Finger print based voting requires integration and additional hardware.
• The voter will wait long time in a queue while using finger print system.
• The system doesn’t give an instant poll of results.
• Image captured at 500 dpi. Resolution: 8 bits per pixel. 240 Kbytes required to save a person fingerprint. So compression is essential while storing the fingerprint.

IV. PROPOSED SYSTEM
Online voting system has several important steps. The system is approachable from two sides:
• From the Election Commission of India side who is a administrator.
• From the voter side.
Have a user-friendly interface and user guides understandable by people of average computer skills. Be able to handle multiple users at the same time and with the same efficiency. The nominees can be added by an administrator.

Aadhar Identity:
Authority of India) on behalf of the Government of India. This number will serve as a proof of identity and address, anywhere in India. All the information of each voter is
added/uploaded in main database of Election Commission of India according to Adhere is a 12 digit individual identification number issued by the UDAI (Unique Identification Adhere identity number.

- The aadhar identity number is unique for every citizen or voter of India and this also recognize the constituency of the voter.

**Voter Identity:**
The Indian voter ID card is an identity document issued by the Election Commission of India which primarily serves as an identity proof for Indian citizens while casting votes in the country’s municipal, state, and national elections. It also serves as general identity, address, and age proof for other purposes such as buying a mobile phone SIM card or applying for a passport. It is also known as Electoral Photo ID Card (EPIC). It was first introduced in 1993 during the tenure of the Chief Election Commissioner TN Seshan.

V. WORKING PROCESS

**A. Flow chart**
This process basically consist of two stages:

(i) **Voter Enrollment:**

   ![Flow chart for Voter Enrollment]

(ii) **Online Vote Casting System:**

   ![Flow chart for Online Vote Casting System]

**B. Methodology**
This is implemented with both software and hardware using different tools as:

(i) **Software**
- Front end : ASP.NET
- Back End : SQL Server 2012
- Tools : Microsoft Visual Studio 2010

(ii) **Hardware**
- Processor : Pentium IV
- Processor Speed : 2.80GHz
- Main Storage : 512MB RAM
- Hard Disk Capacity : 80GB
- Floppy Disk Drive : 1.44MB
- CD-ROM Drive : LG 52X Reader

VI. RESULT

(A). Home Page

![Home Page Image]
(B). Admin
1). Admin Login

2) Admin activities:

3) Add nominee:

4) Nominees List

5) Vote result

(C). USER
1) User Login:

2) User Registration

3) User Homepage
4) Voting System

5) OTP Verification

6) Candidate Selection

7) User Logout

VII. ADVANTAGES:

- This system allows only authenticated voting as the person is identified based on their aadhar ID & voter ID which is unique for every one.
- The OVS is cost effective.
- The OVS requires low power consumption.
- The OVS is economical and it requires less man power.
- Time conscious, less time required for voting and counting.
- Avoids invalid voting as it prevents unregistered voters from voting.
- The OVS is more convenient on the part of voter.

VIII. APPLICATION

- Fast track voting system could be used in large scale elections, like Lok Sabha and Rajya Sabha elections.
- The OVS could also be used to conduct opinion polls during annual shareholders meeting.
- The OVS could also be used in a schools and colleges to select the leader.
- The OVS could also be used in small scale elections, like resident welfare association, “panchayat” level election and other society level elections, where results can be instantaneous.

CONCLUSION

The project “online based authenticated voting system” was mainly intended to develop a aadhar ID based advanced online voting system which helps in free and fair way of conducting elections which are basis for democratic country like India.

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