

E-Voting With Captcha

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ABSTRACT

In this paper we propose to built an E-Voting system which is basically an online voting system through which people can cast their vote through their smart phones or by using an e-voting website. To maintain the security we are using Captcha code. CAPTCHA stands for Completely Automated public Turing test to tell Computers and Humans Apart. This technology is used most commonly on the web to tell the difference between a human using a web service and an automated bot thus making the website more secure against spam-bot attacks.

Keywords

captcha, website, android app ,secure, verification, one time password

1. INTRODUCTION

The word “vote” means to choose from a list ,to elect or to determine. The main goal of voting is to come up with leaders of the people’s choice. Most countries including India have problems when it comes to voting. Some of the problems include rigging vote during elections, insecure or inaccessible polling stations, inadequate polling materials and also inexperienced personnel. This online voting system /polling system seeks to address these issues[2]. E-VOTING SYSTEM is an online voting technique. In this technique people who have citizenship of India and are above 18 years of age can cast their vote using their mobile phones without going to the polling stations. The users can also be able to see the details of all the candidates along with the details of the party they belong to and results of the elections on the website[2]. Using this system it is possible for people to vote from any part of the globe as this is an online application available on internet.

2. LITERATURE SURVEY

In the past, people go to polling place and take the blank ballots, then punch a hole or append the seal. If the seal is not clear enough, or the vote is damaged by soiling, it may bring some debate on the result. In order to resolve these situations, the technology of electronic voting (e-voting) comes into existence. By using information technology, E-voting system can cast and count votes with higher convenience and efficiency, even make the electoral procedures simple and reduce the mistake rate of ballot examination[6].

Prof. C.R. Mandal, IITKharagpur and Dhaval Patel in his report mentioned that the most recent configuration in the evolution of voting systems are known as direct recording electronic, or DRE. They are an electronic implementation of the old mechanical lever systems. As with the lever machines, there is no ballot; the possible choices are visible to the voter on the front of the machine. The voter directly enters choices into electronic storage with the use of a touch-screen, push buttons, or similar device. An alphabetic keyboard is often provided with the entry device to allow for the possibility of write-in votes. The voter’s choices are stored in these

machines via a memory cartridge, diskette or smart card and added to the choices of all other voters. sites[5].

3. EXISTING SYSTEM

In the past, people went to polling place and take the blank ballots, then punch a hole or append the seal. If the seal is not clear enough, or the vote is damaged by soiling, it may bring some debate on the result. In order to resolve these situations, the technology of electronic voting (e-voting) comes into existence[6]. The initial E-voting System which was developed was not much secure and hence less efficient. It was also meant for a small number of people, restricting its use for a small organization. By using information technology, E-voting system can cast and count votes with higher convenience and efficiency, even make the electoral procedures simple and reduce the mistake rate of ballot examination[6].

4. PROPOSED SYSTEM

In this paper we propose to built a e-voting system along with Captcha that would provide security.[1] In this project we will be developing a website through which user can cast their vote. We are also planning to develop an android app which will be linked to the e-voting website so that user can cast their vote using their smartphones. We would be using concepts such as PHP ,Javascript, MySql ,Xampp Server, Captchacode, One time password and SDK tool kit for developing our system.



Figure 1: Example of Captcha.

A **CAPTCHA** (an acronym for "Completely Automated Public Turing test to tell Computers and Humans Apart"), is a type of challenge-response test used in computing to determine whether the user is human or not. CAPTCHAs are designed to be unreadable by machines, such as screen readers cannot interpret them.

PHP is a general-purpose scripting language that is especially suited to server-side web development where PHP generally runs on a web server. Any PHP code in a requested file is executed by the PHP runtime, usually to create dynamic web page content or dynamic images used on websites. It is open source technology available free of charge, and the PHP Group provides the complete source code for users to build, customize and extend for their own use.

JavaScript (JS) is an interpreted computer programming language used in web development[7]. As part of web browsers, implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed.

MySQL is a relational database management system (RDBMS). MySQL databases, build database structures, back up data, inspect status, and work with data records. MySQL Workbench is actively developed by Oracle, and is freely available for use.

One-time password (OTP) is a password that is valid for only one login session or transaction. OTPs avoid a number of shortcomings that are associated with traditional (static) passwords. The most important shortcoming that is addressed by OTPs is that, in contrast to static passwords, they are not vulnerable to replay attacks.[7] This means that a potential intruder who manages to record an OTP that was already used to log into a service or to conduct a transaction will not be able to abuse it, since it will be no longer valid.

Android Applications are developed in the Java language using the Android software development kit (SDK)[7]. The SDK includes a comprehensive set of development tools, including a debugger, software libraries, a handset emulator based on QEMU, documentation, sample code, and tutorials. The officially supported integrated development environment (IDE) is Eclipse using the Android Development Tools (ADT) plugin. Native Development Kit for applications or extensions in C or C++, Google App Inventor, a visual environment for novice programmers, and various cross platform mobile web applications frameworks.

XAMPP is a free and open source cross-platform web server solution stack package, consisting mainly of the Apache HTTP Server, MySQL database, and interpreters for scripts written in the PHP and Perl programming languages[7]. XAMPP is regularly updated to incorporate the latest releases of Apache, MySQL, PHP and Perl. It also comes with a number of other modules including OpenSSL and phpMyAdmin.

Form 1

* required field.

NAME: *

ADHAR CARD NO: *

PHONE: *

DATE OF BIRTH: yyyy/mm/dd *

CAPTCHA: *

SUBMIT

Figure 2:FORM NUMBER1

Form 2

* required field.

ADHAR CARD NO: *

ONE TIME PASSWORD: *

CAPTCHA: *

SUBMIT

Figure 3:FORM NUMBER 2

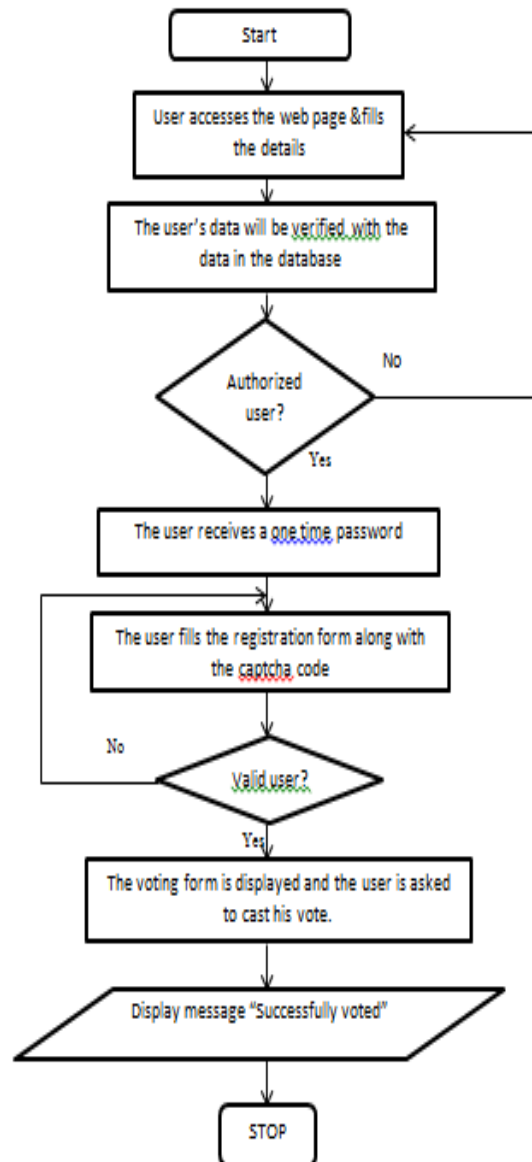


Figure 4: FLOWCHART

Initially the user who is interested in voting browses the website. The website will also contain information about various parties, the candidates for the elections, their history and other related information. The user will access the login form and fill in his personnel details like name, date of

birth,phonenummer,adhar card number etc.The user details will then be verified with the backup database present in the system.The database will be containing the information of all the people who have registered for the AdharCard.If the user details match with the entries in the database then the user is authorized.The user will also be asked to enter the CaptchaCode.This will verify that the user is a human and not a robot.Thus preventing a Spam bot attack.

After verification the authorized user will be registered for voting The user will then receive a unique code i.e. a One Time Password(OTP) on the mobile number which the userhas registered during AdharCard registration. A new window will open where user should enter unique code or OTP(One Time Password) and Adhar card number along with Captcha.This is done to prevent bogus voting i.e.voting by some inappropriate user.

Now the user is eligible to cast his vote.The list of candidates standing for the election will be displayed and user will be asked to cast his vote by clicking on the radio button.The user will then submit his vote by clicking on the vote button.Thevote will be cast and the count of the candidate and status of the user will be updated in the database. Finally a Thank you message along with 'Successfully Voted' will be displayed.

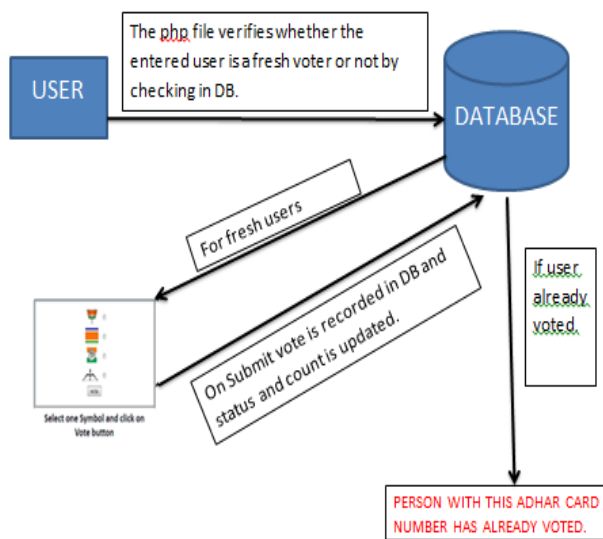


Figure 5:WORKING MODEL

5. HARDWARE AND SOFTWARE REQUIREMENTS

- **MYSQL DATABASE:**It is platform independent and therefore can be used across several hardware mainframe.It is fast in performance,stable and provides business rules in less cost.
- **HTML:** HyperText Markup Language: version 4 and 5
- **PHP CODING**

- **WEB BROWSERS:**Mozilla Firefox,Google Chrome,Internet Explorer
- Testing is done using **WAMPP/XAMPP SERVER.**
- **CAPTCHA CODE:**Captcha is a randomly generated alpha numeric image.It prevents the hackers to exploit the web forms as a relay of sending bulk unsolicited emails thus preventing spam boot attacks and denial of service attacks.
- **ANDROID:**IDE ToolKit

6. CONCLUSION AND FUTURE SCOPE

In this paper our approach is to develop an E-Voting System which includes a website and an android application to make voting much easier and efficient.We would be using CAPTCHA to make the system secure against spam-bot attacks and One Time Password(OTP) to

prevent bogus voting.Hence we wish to built a E-Voting system which is more secure and reliable than the previous one's.

This system can be made more efficient by using Image-based Captcha.This system is for smaller region and future work can be done on this to extend it to broader level.

7. REFERENCES

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