SOFTWARE REQUIREMENT SPECIFICATION FOR

E-VOTING SYSTEM IN COLLEGE

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1.1 INTRODUCTION

Voting is an important part of democracy as it provides an opportunity to peoples choosing their opinion and select what they believe. There are several different methods of voting in use in world. The most common used voting method is ballet paper system on which the voter marks their vote on paper and put on ballet for counting by officials. Living in 21st century it is shame to say that we are using conventional ballet paper system for choosing our leaders. Because, with respect to past centuries, IT field achieved many improvements. Much of its possibilities also increased.

Internet voting systems are appealing for several reasons which include; people are getting more used to work with computers to do all sorts of things, namely sensitive day to day operations such as shopping, payment of bill through online, home banking and even electronic surgeries. People are getting more attached to IT fields. So why not trust our votes to Electronic voting systems? E-Voting is a method that comes instead of ballet paper system, which takes advantage of IT.

1.2 ABSTRACTION

The proposed system is an online voting technique named E-Voting. The aim of this project is to present an electronic voting system (E-Voting) to be applied to College that simplifies the task for Electoral process in college. This project aims to the simplification of the existing election procedure on the college. The project makes the traditional election procedure to an E-Voting system. This project deals with making a completely computerized election procedure such that choosing College Representatives via web driven application. Students can cast their votes with minimum cost and effort.

This project carried out voting procedure as paperless with high security and secrecy and ultimately producing accurate trustworthy results. Only eligible students are permitted to cast and use the system. This is verified by student's admission no. Students who have registered by the election officer, can cast their vote through this system. If a student is verified by invigilator, he can also verify whether his name is displayed in the voting system's screen. Then the

voting procedure starts. The individual votes are submitted in a database which can be queried to find out which of the candidates for a given post has the highest number of votes. Counting of vote in E-Voting system is much faster than ballet paper system. This system eliminates invalid vote and it also minimize on errors of vote counting. Several security measures were integrated into the E-Voting system in order to achieve an enhanced, speedy and accurate performance.

1.3 BACKGROUND

Traditional voting system has a lot of disadvantages like it uses the complicated manual system to do the voting, verifying the student and candidate, publishing the results etc. The paper-based voting system can be described as the traditional means of voting that has been in used in which the voter gets an unfilled ballot and use a pen or a marker to indicate he want to vote for which candidate and subsequently required to drop the ballot paper into a ballot box placed in an open place within the polling unit. Election officer manually count each ballet after voting process is end.

2 SYSTEM ANALYSIS

Here we will discuss and analyse about the developing process of E-Voting System

2.1 SOFTWARE REQUIREMENT SPECIFICATION

2.1.1 Objective

In this system students in a particular college can give their vote through a computer which has access to internet. Students can cast their vote with minimum cost and efforts. This system simplifies the task of electoral commission in college and save university's resource and time. Several security measures were integrated into the E-Voting system in order to achieve an enhanced, accurate performance and trustworthy results.

The specific objectives of the project include:

- *Anonymity*: No one should be able to identify to whom the student cast the vote and edit the vote even the election commission, even after every voting is count. That way no one can ask us, threaten us by knowing to whom we voted. We don't want to prove how we voted. That is, vote has to be anonymous.
- *Efficiency*: Students are able to see candidates in general seat and student in corresponding department can select their representatives from the same department, (other departments are disabled from casting vote). Status of voting is updated in order to ensure that no student can cast his/her vote more than once.
- *Trust*: E-Voting system make a sense of trust by making sure that our vote is securely and accurately counted. Students also can verify that their votes were casted correctly before final submit of vote.
- *Paperless:* E-Voting system creates positive impact on environment. In addition, it reduces complexity of using papers during election procedure.
- *Accurate results:* The election result is obtained only after Election procedure has ended. Only the authority can stop the procedure, and they can only view the result-- i.e., no permission to edit the result. Results obtained faster than ballet paper system.

- *Security*: Several security measures were integrated into E-Voting system in order to achieve an enhanced and accurate performance and trustworthy results.

We hope our project eases the voting procedure with high security and secrecy and ultimately producing accurate trustworthy results.

2.1.2 General Description

Mainly there are 3 types of modules:

i. Admin
ii. Teacher
iii. Student

ADMIN

The Admin is the person who manages overall election procedure and has control over this application. Admin have a valid username and password. System allows Admin to login into their profiles and add, edit, delete and view details required for election. He enters details of Teachers, Department, Course, Seat, Student, Candidates and instructions on the working procedure.

Special care has to be taken before entering details.

- Department consist information such as Department Name and Head of Department
- Course specifies type of course whether the course is BSc, BCA, B Com, BBA, B Tech, MCA etc.
- Student details consists of Admission no, Name, Date of Birth, E-Mail, Phone number, Department, course and academic year in which the student is studying.
- Candidates are selected from the list of students. By typing admission number, we fetch the details. After that we need to specify the category and position in which the student representing.
- Only Admin is able to view the election results at the end of the election procedure.
- The Admin cannot alter or delete the result. He has only right to view results.

TEACHER

Teacher is the person who has control on the election procedure in various booths. Usually at least one booth is assigned to one department to eases the election procedure. Each booth is controlled by one Teacher and the Teacher is controlled by the Admin. The Teacher may be an authorized person which means he is teaching staff or may be non-teaching staff.

- When student enters into booth Teacher verify him by checking admission number. If the details are correct Teacher allow student to cast vote.
- When election procedure ends he can prevent the system from accepting further votes.

STUDENT

The Student have only participation on the election procedure on which he can just choose the preferred candidate. This is to ensure security.

- The Student can just verify the details when he appears in front of the E-Voting system. If his details are correct he can proceed else, he can report to officials.
- Voters can vote to their desired candidates and view the details of the candidate.
- There are 3 types of seats are there, General seat, Association seat and DC representative Seat.
- All Students can vote to all general seats.
- Association seats are for selecting representatives of corresponding department. No students are permitted to select association representative of other department.
- DC seats are for selecting a representative year wise. 1st year students can select their representative among them. This representative is termed as 1st DC. Similarly, students can select 2nd DC, 3rd DC and so on.

2.1.3 Software and Hardware Requirements

Software Requirements

The software requirements of the application are as follows:

- Windows 10 32/64-bit Operating System
- PHP
- XAMPP control panel v 3.2.4
- Sublime text v3.2.2
- MySQL DBMS: It allows combination, extraction, manipulation and organization of data in database. It is platform independent and therefore can be implemented and used across several such as windows, Linux server and is compactable with various hardware mainframes. It is fast in performance, stable and provides business values at a low cost
- A compatible browser: It is used for accessing the modules. Commonly used web browsers are Mozilla Firefox, Google Chrome, Opera and Internet Explorer.

Hardware Requirements

The hardware requirement of the application includes the following:

A Compatible Computer: The application should be run on a computer with at least the following configurations:

- Memory: 2 GB RAM
- Processor: 2.20 GHz Dual-Core CPU Processor
- Disk space: 500 GB HDD

2.2 EXISTING SYSTEM

There are several different methods of voting in use in world. The paper-based voting system can be described as the traditional means of voting that has been in used in which the voter gets a unfilled ballot and use a pen or a marker to indicate he want to vote for which candidate and subsequently required to drop the ballot paper into a ballot box placed in an open place within the polling unit. Election officer manually count each ballet after voting process is end.

Limitations of Existing System

The problem with existing system of voting includes:

- Too much paper work: Existing system requires lot of paper work. It is estimated that in a high population country like India tons of paper was used every time when there was an election conducted in country. It is a huge loss of our nature's resources.
- Expensive and time consuming: There is often high cost incurred during the printing of various election materials, purchase of paper-handling equipment as well as the cost needed to store and transport the materials. It is also labour consuming process
- Vulnerable to error and Low reliability: Hand marking paper is difficult to restore if any mistake is done by voter on ballot paper. Ballots cannot be copied without loss of fidelity. It will also make voter nervous. Consequently, he lost his chance vote. So this vote is discarded and vote lost forever.
- Voter Intimidation: There have been cases of harassment of voters during elections, voter coercion and issues of ballot counting discrepancies.
- Increasing population make the election process more complex.

2.3 PROPOSED SYSTEM

With the increase in population and complexity, technology brought into use to make the election process more efficient. One of the most used alternatives to ballet paper system is E-Voting system. The proposed system is user friendly because this process is fast and efficient. More over the graphical user interface provides users to deal with the system very easily.

This system consists two processes at single platform, casting and counting of vote. When a student comes for voting he is subjected to undergo through some verification process. The student is verified according to his details such as admission number, name, department and course by the invigilator (Teacher). If verification is successful invigilator allow him to vote. In this system student can also able to verify his details. If his details are incorrect he can report it. Students click the button in the system to choose preferred candidate. Each

student can mark their vote for different kind of seats. All the data of voting procedure is fetched into separate database immediately. If all students mark their vote sub admin can terminate the voting process. It prevents the E-Voting system from accepting further vote. The results can be declared within a couple of minutes as compared under the paper ballet system.

Advantages of Proposed System

- Privacy: There is no association between voter's identification and a marked ballot.
- Uniqueness: No voter can cast his ballot more than once.
- Completeness: No one can forge a valid ballot and a voter's ballot cannot be altered, the valid ballots are counted correctly.
- Fairness: No one can falsity the result of voting.
- Efficiency: Counting vote in E-Voting machine is faster easier than conventional ballet paper system. The counting process in this step is independent on number of voters. It is also easy to recount if require. Votes obtained by different candidate are displayed in output unit.
- Voter’s choice is unmistakable: With E-Voting system voter’s choice is unmistakable.
- Eliminate invalid votes: Invalid votes which are a big challenge in ballet paper system can be reduced significantly.
- Huge cost saving: Huge amount of paper used in election was saved by replacing ballet paper system with E-Voting system. Initial efforts for manufacturing and distributing this system including training the staff sounds like very complex and expensive. Though the machine cost is higher it was more neutralized by saving in matter of protection of nature and printing of ballet paper, transportation, storage and also reduction in the counting staff.
- Electronic Ballots: Electronic voting systems may use electronic ballots to store votes casted in computer memory. Unlike ballot paper voting a voter cannot destroy the paper. Additionally, the need to print paper ballots periodically are eliminated which is often a major chunk of the costs incurred.
- Accessibility: The voters can be guaranteed to cast their votes with ease and minimal technical skills needed.

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