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An Efficient and Centralized Way of Online Voting System

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Abstract:

The flagship project titled "Voting System" aims to design, develop, and implement an information system to manage the process of the voting system in the Students' Union. The current process uses a pen and paper method, which makes it error-prone and time-consuming. Make the voting process fast, accurate, and secure by developing a database-based voting system. The researchers used a modified waterfall model, a step-by-step model that begins with problem identification and ends with project implementation. A self-made questionnaire was used as a system assessment and evaluation tool. Based on the findings and results of the study, the researchers strongly recommend the use and implementation of a computerized voting system as it is easier, more effective, and efficient compared to the manual voting process.

Keywords: Centralized, Voting, Polling, Efficient, Security.

1. Introduction

At its core, the online voting system protects the integrity of your vote by preventing voters from voting multiple times. As a digital platform, they do not

need to collect votes in person, on paper, or by any other means (e.g. mail, insecure polling software). You may have heard of an online voting system called an online voting system, online electronic voting system, or electronic voting. They all refer to the same thing: a secure voting tool that allows your group to gather group feedback and review the results in real time. Our article discusses online voting systems that facilitate online voting by users (voters), candidates, and administrators (who will control and verify all users and information). Our online voting system is very secure and has a simple interactive user interface. The online portal offered is secure and has unique security features such as unique ID generation, which adds another layer of security (in addition to login ID and password) and allows admin to verify user information and decide if they are eligible to vote. It also creates and manages voting and election details, as all users must log in with a username and password and click on a candidate to register to vote. Our system is also equipped with a chatbot that assists users during the voting process as voter support or guidance.

2. Literature Survey

Background: This is a system that users can use to vote in elections. All voters

must log in and click on Vote for the candidate of their choice to submit their ballot. Research, development, and testing are carried out over the LAN. Online voting software, on the other hand, has been under investigation for years, examining reported cases of improper implementation in recent years. These factors must be considered so that the public can vote in a safe and appropriate environment. Online voting is voting software that allows any user to exercise their right to vote anywhere. The online voting application contains:

- a) User details
- b) Username with username and password.
- c) Users vote in the database.
- d) The sum of the total number of votes.
- e) Results panel.
- f) Chatbot to help the user.
- g) Assign a unique user ID My administrator.

The different operations offered in the system are: User information in the database. Validate the details submitted by the user. Delete incorrect information. Each message is submitted to management.

2.1 Product perspective: The product is an election tool with a simple GUI and a chatbot. The system is developed in php. The product is independent. It requires a XAMPP server.

2.2 Product features: Our system has a main server responsible for authenticating users and managing the necessary details. A server-side user interface can create elections on behalf of users. The user must log in with a username and password, then he can access the election module where he can vote very easily and comfortably, his answers will be recorded and after that the results will be displayed.

3. Proposed System

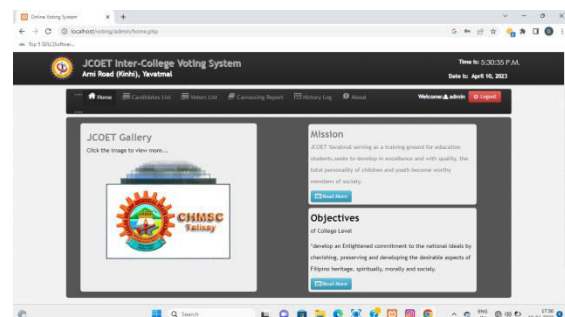
An online voting system is a software application that eliminates the extra human hours spent maintaining

records and counting votes. In this way, users and candidates can register online. Their information is stored in a database and administrators can easily access voter and candidate details. Voters can vote online, and they can even vote sitting at home. Each user can only vote once, so there is no chance to vote again. The application contains data centrally which is available to all users simultaneously. It is very easy to manage historical data in the database. They can easily use the tool and reduce the human time spent on normal things, thus improving the performance.

4. Design and Implementation

Online voting is a portal where voter s can vote by registering themselves on the online voting platform. All information about the user is entered into a database where the administrator can identify the user. There are different tables in the database for users, competitors, results, administrators. Every voter must fill in all important information such as name. This is the first page of the website called the welcome page. It has all page options like home page, clipboard.

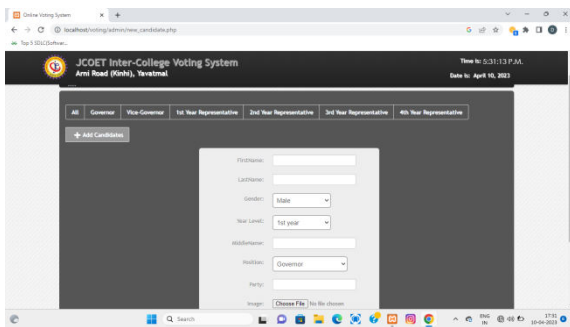
4.1 Home



It is the first page of our portal,

having all the feature options of the portal. It has a link of other pages such as registration page, login page, admin section, about us. This page also gives brief description of our system about how it work, hence this page gives user the overview of wholesystem.

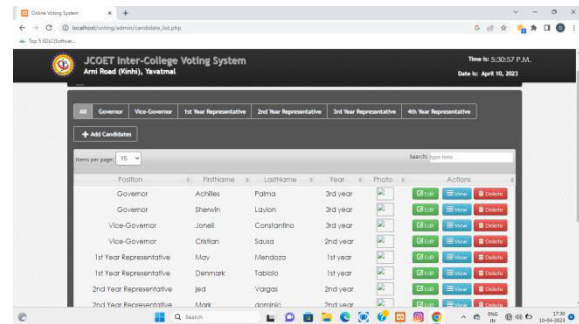
4.2 Registration:



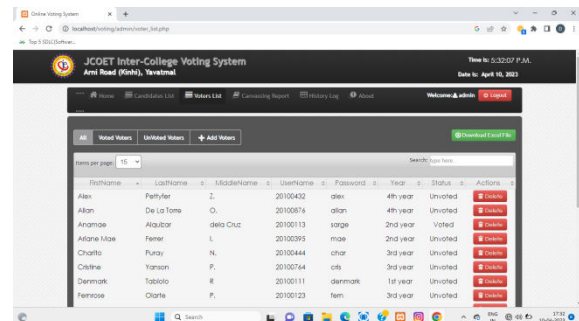
The system (Organization) register the voters on a special site of the voting system. Visited by only voters simply filling a registration form to register voters. After registration, the voters are assigned a secret voter id with which voter can use to log into the system and enjoy the services provided by the system such as voting. If invalid/wrong details are submitted, the citizen is not registered to vote. Now the voters who are approved for voting will log into the voting system and voting system will store vote in the database. After the voting process is complete the admin will calculate the result and store it in the database, the system (Organization) will request for the result and get the result from the database through the voting system. At last the voter can check the result by logging in the system and get the result and admin will logout from the system.

4.3 Admin Panel:

From here admin can login to his account and can manage whole voting process by adding new election, generating id for user, verifying the users, generating result and many more. He has the right to generate id for user by verifying the users.



4.4 Election:

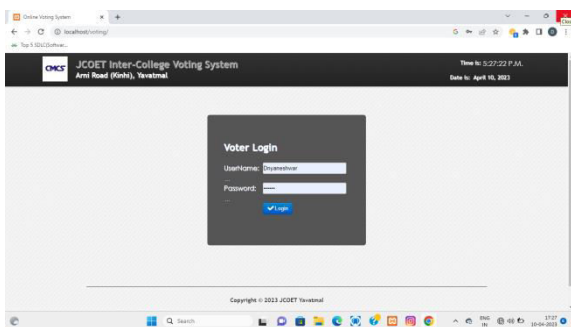


This is a module which gives a list of all ongoing election, this module is accessible only to those users who have been verified by admin. By this module user can cast their vote by selecting a candidate of a particular election.

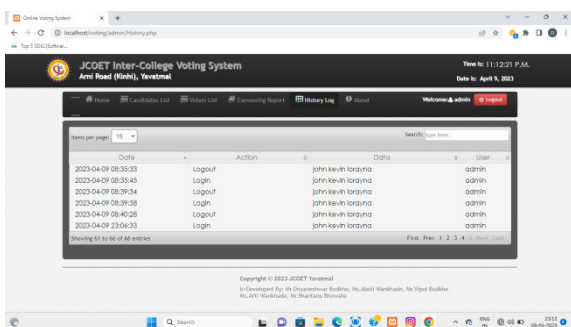
4.5 User Login:

After registering into the portal, their details are saved to the database and sent to the admin. The user can login to the portal with his unique USERNAME and

PASSWORD generated through registration. There is option for FORGOT PASSWORD, in case user forget his password then user can go with option of forgot password.



4.6 Total Voters:



This module which gives the brief information about those voters they are participated in the voting. That means when user or admin are logged in and votes but the vote of voters can not changeable by admin. History will be available for only admin not for user.

5. Conclusion

This saves time, counting errors and invalid ballots. This facilitates the electoral process. It also avoids physical contact or

the visit-anywhere process, so holding an election during a pandemic will also be more helpful.

Our proposed voting system is more secure and efficient than traditional voting systems. Delays in results and manipulation of votes are easily avoided in this system. The most notable aspect of our project is the use of two-factor authentication, which allows for easier and more accurate voter verification. For the same reason, when a user registers, he must provide his voter ID, which facilitates the verification of voters and candidates. The proposed online system should increase the transparency and reliability of the current electoral system for an organization or institute.

6. Result

When a voter casts a vote, the number votes the voter receives is increased by 1, and the results are announced after the voting is complete. It is valid from the day after the expiration date. Here we explain the results in a graphical presentation based on the percentage of votes the candidate received. Anyone visiting the site can view the results without any authentication issues.

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