ONLINE ELECTIONS PORTAL (OEP)

Group Number 7

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1. Introduction:

An online elections portal is needed to make the process of voting a lot easier, by reducing the amount of manual labour involved in the elections process. This nullifies the need to manually count votes and also provides a location to access the credentials of the candidates.

A user first logs into the portal using his/her BITS mail ID. The next page consists of a list of all candidates along with a link that allows you to view the credentials of all the candidates. After logging into the page and viewing credentials the user has to input the OTP that will be sent to him by mail. If the user inputs the correct OTP then, he is taken to the voting page. On this page the user is given 30 seconds to submit their votes after which they will be logged out of the portal. After the elections are done, the results will be displayed by the portal.

1. One Time Password

Once a user logs into the portal a random function from our code generates a random number and updates the value of OTP for the current user in the users table in the database. This is done through an SQL query which updates the value of the OTP column, to the generated random value, when user=”username”.

In the users table in the database there is a column called Valid. This column contains the value of the valid bit. Once a user logs into the portal the valid bit is set to one for that user. This indicates that the user has logged in for the first time and the OTP is generated. Another OTP cannot be generated while the valid bit is set to one. This ensures that the user only gets one OTP. Next the user must input the OTP in the text field next to insert OTP. There are three possibilities after a user inputs the OTP, which are

* The user enters the correct OTP and is allowed to enter the voting page
* The user enters the incorrect OTP
* The user enters their OTP after having voted already

In the first case the OTP is entered by the user and if it is equal to the value in the database, the user is allowed to go to the voting page. If the user has entered the incorrect OTP, an error message is displayed saying that “Incorrect OTP has been inputted”. If a user has already voted, the user is not allowed to enter the voting page, and an error message is displayed saying “You have already voted, please logout”. This is done by checking the value of the Valid bit, which becomes two after the user votes. Therefore before allowing a user to vote, the value of the Valid bit is checked. The user enters the voting page only if the Valid bit is not two.

1. View Candidates

This page displays the nominees for various posts by implementing the horizontal scroll bar with divisions in a page which are based on various posts available. In each division, the candidates for a particular posts are displayed. There is an option to view credentials of the candidates for different posts. To the bottom of the page, we have the option to verify the OTP which is sent to the mail sent previously.

1. View Credentials

The user is directed to this page from the previous View Candidates page by a hyperlink. This page is designed such that all the credentials of all the candidates are viewable in a table. All the hyperlinks for different posts are displayed on the top of the page, followed by a back button which takes the user back to the View Candidates page.

1. Structure and Process

**Database:**

There is a table maintained for each of the posts with only two columns: Name (Name of candidate) and Count (Number of votes for the candidate).

**Front End:**

For each post a set of radio buttons is created, one for each candidate contesting for the post and an additional option for None of the Above (NOTA). The user can select only one of the options for each post. When the user has selected an option for all posts, he/she can confirm the vote by clicking on a button labelled “VOTE”.

There is also a timer displayed to let the user know the amount of time left for the voting period to expire.

**Back End:**

Firstly we need to check if the user requesting to enter voting page has already voted or not. For this we have a column in the user’s table called ‘valid’ which is set to 2 for a user after he has voted. Thus we check the value of valid for the current user and in case it is 2 we disallow him to enter the voting page. Then we verify the correctness of the OTP and then allow the user to enter the voting page.

After the user selects his choices and confirms his vote by clicking on the button, we first confirm that a selection has been made for each post. If it is not an alert is thrown up that says *“One or more fields are missing!!”* and on the page itself we notify the user which post have been unselected by printing *“Please select a candidate”* beside the relevant posts.

On the other hand if a candidate has been chosen for all the posts then we increment the count column for each table for the selected candidate. Then we set the valid bit for the user to 2 (as mentioned above) and proceed to the logout page.

In case the timer runs out before user can confirm his vote, an alert shows up to nifty the user that the Time’s up and then the user is automatically logged out without registering his vote.

1. INSTALLATION:

First you will need to check if you have PHP on your computer. If you don’t have PHP you can download it from this link <http://windows.php.net/download/> . This portal requires a localhost in order to run because it has been coded in PHP.

The localhost that we have used is XAMPP. XAMPP can be downloaded from the following link, <https://www.apachefriends.org/download.html> . After installing XAMPP we will need to install Apache and Mysql for XAMPP. If you already have mysql you will need to move it into the XAMPP folder. Mysql is for using the PHPmyadmin database.