

DSA Hackathon

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Team:9

Members:

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Topic:Voting System

Abstract:

Using C language to engineer a voting system using data structures such as linked list and doubly linked list and array of structures. Implementing a login system with a username and a password which appears as asterisks when entered for extra security. A captcha of sorts has been implemented using a random module, and only once the correct otp is entered, you can proceed to vote. Once correct password and username have been entered the option to vote from a number of candidates appears. Once voted for a candidate you cannot vote again when the program is running, thus further solidifying security. Just before the program terminates the results of the election are displayed on the terminal.

Problem Solving Approach:

- Created Structures for storing voter information : Username, Password and a flag to check if they have voted as well as the voter count
- Created Structures for storing candidate information: Name and their vote count.
- Made an array of both structures so that multiple voters and candidates can be registered.
- Functions to register voters and login as a voter.
- A function to vote for preferred candidate → reflects in the vote count of the candidate for each user and each voter was allowed to vote only once
- After voting process, an input other than 1 or 2 ends the voting session and displays the results.

Abstract Data Types:

- structures
- Array of structures

Features and Functionality and assumptions made:

- A list of structures to store n number of voters and candidates (restricted in the code implementation for output sake)
- Made the password look encrypted by removing the input stream character and replacing it with '*'
- Assumed that the voter gets an OTP upon logging in (current implementation →random otp was generated and displayed manually)
- Voters can vote only once due to flag in the structure maintaining realism throughout the voting process.

!! Source Code and Outputs screenshots(for different inputs) are within the same zip file.