<<ONLINE VOTING SYSTEM>>

21CSS101J – PROGRAMMING FOR PROBLEM-SOLVING

Mini Project Report

Submitted by

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BONAFIDE CERTIFICATE

Certified that Mini project report titled **Online Voting System** is the bonafide work of Reg.No**RA2311030010073**Name **Roehan Ranganathan** who carried out the minor project under my supervision. Certified further, that to the best of my knowledge, the work reported herein does not form any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

SIGNATURE

(GUIDE)

SIGNATURE

(HEAD OF THE DEPARTMENT)

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1.PROBLEM STATEMENT

- ***Background***: In the current era of technological advancements,conducting elections. Traditional voting systems often face challenges such as long queues, logistical complexities, and concerns about the integrity of the process. To address these issues, the project aims to develop an Online Voting System using the C programming language.
- ***Objective***: The primary objective of this mini project is to design and implement a secure, user-friendly online voting system that allows eligible voters to cast their votes remotely. The system should ensure the integrity of the voting process, maintain voter anonymity, and prevent any form of tampering or fraud.

2.METHODOLOGY / PROCEDURE/ ALGORITHM

Designing an online voting system involves several steps, including creating a user interface, implementing security measures, and managing the voting process. Below is a simplified algorithm and procedure for an online voting system implemented in C. Please note that this is a basic example, and a real world system would require more robust security features and error handling.

Algorithm:

1.User Registration:

- Users create accounts by providing valid identification details
- Store user information securely in a database.

2. User Authentication:

- Users log in with their credentials.
- Use secure authentication mechanisms, such as password hashing

3. Candidate Registration:

- Election officials add candidates to the system.
- Store candidate information in the database.

4. View Candidates:

- Display the list of candidates to the voters.

5. Vote Casting:

- Users select their preferred candidate.
- Verify the eligibility of the voter.
- Update the vote count for the chosen candidate.

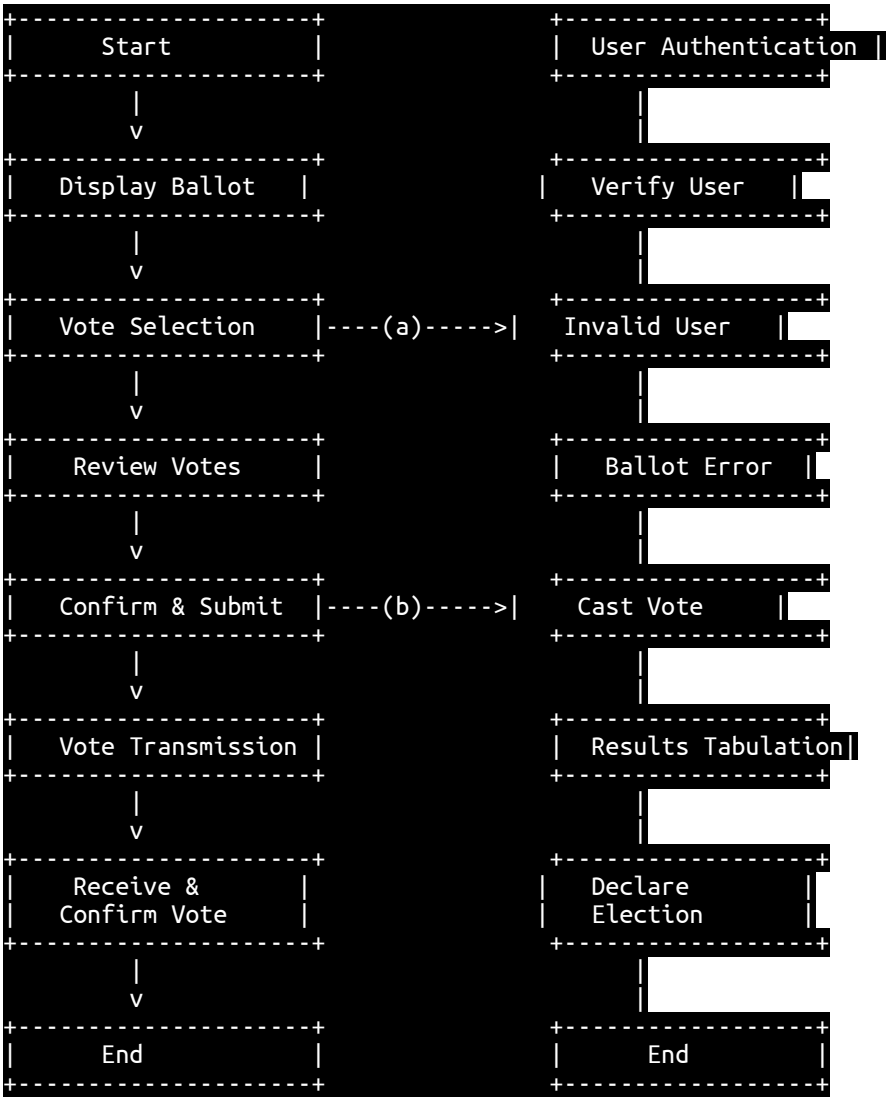
6. Vote Submission:

- Confirm the vote and update the database.
- Ensure that users can only vote once.

7. Results Display:

- Display the election results after the voting period ends.
- Ensure transparency and integrity in result reporting.

3. FLOW CHART


Start
Display Ballot
Vote Selection
Review Votes
Confirm & Submit
Vote Transmission
Receive & Confirm Vote
End
User Authentication
Verify User
Invalid User
Ballot Error
Cast Vote
Results Tabulation
Declare Election
End
(a)
(b)

4. CODING (C/PYTHON)

```
#include<stdio.h>

#define CANDIDATE_COUNT

#define CANDIDATE1 "vijay"
#define CANDIDATE2 "surya"
#define CANDIDATE3 "ajith"
#define CANDIDATE4 "kamal"

int votesCount1=0, votesCount2=0, votesCount3=0, votesCount4=0, spoiledtvotes=0;

void castVote(){
int choice;
printf("\n\n ### Please choose your Candidate ####\n\n");
printf("\n 1. %s", CANDIDATE1);
printf("\n 2. %s", CANDIDATE2);
printf("\n 3. %s", CANDIDATE3);
printf("\n 4. %s", CANDIDATE4);
printf("\n 5. %s", "None of These");

printf("\n\n Input your choice (1 - 4) : ");
scanf("%d",&choice);

switch(choice){
   case 1: votesCount1++; break;
   case 2: votesCount2++; break;
   case 3: votesCount3++; break;
   case 4: votesCount4++; break;
   case 5: spoiledtvotes++; break;
   default: printf("\n Error: Wrong Choice !! Please retry");
         //hold the screen
         getchar();
}
printf("\n thanks for vote !!");
}
```

```
void votesCount(){
printf("\n\n ##### Voting Statics ####");
printf("\n %s - %d ", CANDIDATE1, votesCount1);
printf("\n %s - %d ", CANDIDATE2, votesCount2);
printf("\n %s - %d ", CANDIDATE3, votesCount3);
printf("\n %s - %d ", CANDIDATE4, votesCount4);
printf("\n %s - %d ", "Spoiled Votes", spoiledtvotes);
}

void getLeadingCandidate(){
   printf("\n\n  #### Leading Candiate ####\n\n");
   if(votesCount1>votesCount2 && votesCount1>votesCount3 && votesCount1
>votesCount4)
   printf("[%s]",CANDIDATE1);
   else if (votesCount2>votesCount3 && votesCount2>votesCount4 && votesCount2
>votesCount1)
   printf("[%s]",CANDIDATE2);
   else if(votesCount3>votesCount4 && votesCount3>votesCount2 && votesCount3
>votesCount1)
   printf("[%s]",CANDIDATE3);
   else if(votesCount4>votesCount1 && votesCount4>votesCount2 && votesCount4
>votesCount3)
   printf("[%s]",CANDIDATE4);
   else
   printf("----- Warning !!! No-win situation----");
   }

int main()
{
int i;
int choice;

do{
printf("\n\n ###### Welcome to Election/Voting 2023 #####");
printf("\n\n 1. Cast the Vote");
printf("\n 2. Find Vote Count");
printf("\n 3. Find leading Candidate");
printf("\n 0. Exit");
```

```
printf("\n\n Please enter your choice : ");
scanf("%d", &choice);

switch(choice)
{
case 1: castVote();break;
case 2: votesCount();break;
case 3: getLeadingCandidate();break;
default: printf("\n Error: Invalid Choice");
}
}while(choice!=0);

//hold the screen
getchar();
return 0;
}
```

5.FROND-END CODE(HTML,CSS,JAVASCRIPT)

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Election Voting System</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: #f4f4f4;
      margin: 0;
      padding: 0;
    }

    header {
      background-color: #333;
      color: #fff;
      text-align: center;
      padding: 1em;
    }

    main {
      max-width: 600px;
      margin: 20px auto;
      padding: 20px;
      background-color: #fff;
      box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
    }

    footer {
      background-color: #333;
      color: #fff;
      text-align: center;
      padding: 1em;
      position: fixed;
      bottom: 0;
      width: 100%;
    }
  </style>
</head>

<body>
  <header>
```

```
    <h1>Election Voting System</h1>
  </header>

  <main>
    <h2>Welcome to Election/Voting 2019</h2>
    <ul>
      <li><a href="#vote">Cast the Vote</a></li>
      <li><a href="#count">Find Vote Count</a></li>
      <li><a href="#leading">Find Leading Candidate</a></li>
      <li><a href="#exit">Exit</a></li>
    </ul>

    <section id="vote">
      <h3>Cast the Vote</h3>
      <p>Choose your candidate and cast your vote.</p>
    </section>

    <section id="count">
      <h3>Find Vote Count</h3>
      <p>Check the vote count for each candidate.</p>
    </section>

    <section id="leading">
      <h3>Find Leading Candidate</h3>
      <p>Discover the leading candidate in the election.</p>
    </section>

    <section id="exit">
      <h3>Exit</h3>
      <p>Thank you for participating in the election.</p>
    </section>
  </main>

  <footer>
    <p>&copy; 2023 Election Voting System</p>
  </footer>
</body>

</html>
```

6.MODULES OF THE PROPOSED WORK

When designing an online voting system in C, you can organize the code into different modules to improve readability, maintainability, and code reuse. Here are some suggested modules for the proposed work on an online voting system:

1. Authentication Module:
   - Functions for user registration (registerUser())
   - Functions for user authentication (authenticatellser())
   - Password hashing functions for security.
2. Candidate Module:
   - Functions for candidate registration (registerCandidate())
   - Functions for displaying candidate information (displayCandidates())
3. Voting Module:
   - Functions for casting votes (castVote())
   - Validation functions to ensure the eligibility of the voter.
4. Results Module:
   - Functions for displaying election results (displayResults())
   - Functions for calculating and processing vote counts.
5. Database Module:
   - Functions for connecting to the database.
   - Database queries for storing and retrieving user and candidate.
6. User Interface Module:
   - Functions for displaying the user interface and menu options.
   - Input validation functions.
7. Security Module:
   - Functions for implementing secure coding practices.
   - Encryption and decryption functions for sensitive data.
8. Logging Module:
   - Functions for logging events and errors for auditing purposes.
   - Error handling functions.
9. Main Module:
   - Contains the main() function and orchestrates the flow of the program.
   - Calls functions from other modules based on user input.

7.RESULT/SCREENSHOTS

```
###### Welcome to Election/Voting 2019 #####

 1. Cast the Vote
 2. Find Vote Count
 3. Find leading Candidate
 0. Exit

 Please enter your choice : 1
 ### Please choose your Candidate ####


 1. vijay
 2. surya
 3. ajith
 4. kamal
 5. None of These

 Input your choice (1 - 4) : 1
 thanks for vote !!

 ###### Welcome to Election/Voting 2019 #####

 1. Cast the Vote
 2. Find Vote Count
 3. Find leading Candidate
 0. Exit

 Please enter your choice : 3
 #### Leading Candiate ####

[vijay]

 ###### Welcome to Election/Voting 2019 #####

 1. Cast the Vote
 2. Find Vote Count
 3. Find leading Candidate
 0. Exit

 Please enter your choice : 0
 ERROR!
Error: Invalid Choice
```

8. CONCLUSION

The main aspect behind OVS is that it enabled us to bring out the new ideas that were sustained within us for many for many days. This project offers the voters to cast easily through internet. Vote counting is also made easy by the OVS since it's just a matter of querying the database. OVS is used by a number of countries today. Developing a good system is critical to the success of the system to prevent system failures and to gain wide acceptance as the best method available.

9.REFERENCES

- Geeksforgeeks.com
- google.com
- GDB.com.