SRM UNIVERSITY- AP, ANDHRA PRADESH

Introduction to Programming Using C
Project Report on

"SMALL SCALE ONLINE ELECTION SYSTEM"

Submitted in partial fulfillment for the award of the degree in

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

Submitted by

Group-1 **Section-C**

1.Jawad Khan (AP21110010131)
2.Harika Kommu (AP21110010132)
3.Karthikeya Nainala (AP21110010133)

Under the guidance of
Mrs. Vidya V

ABSTRACT

The word “vote” means to choose from a list, to elect or to determine. The main goal of voting is to come up with the leaders of the people’s choice. Online voting is as an election system that utilizes the internet to ensure access to a domain or website and allows the eligible voters to cast their secure and secret ballot electronically. Most countries, India not being an exception have problems when it comes to voting. Some of the problems are inadequate polling materials, insecure or inaccessible polling stations and inexperienced polling staff. The online voting/polling systems is used to tackle the above-mentioned problems. However, the users/citizens shall be given ample of time during the voting period. They must also be introduced to the concept of online election before-hand.

CONTENTS

Chapter no.	Chapter number	Page no.
1	Introduction	
2	Objective	
3	System Requirement Specification 3.1 Software Requirements 3.2 Hardware Requirements	
4	System Design 4.1 Flowchart 4.2 Algorithm	
5	System Implementation	
6	Results	

1.INTRODUCTION

EVM voting:

EVM is a simple machine that can be operated easily by both polling personnel and voters. It is a stand-alone machine without any network connectivity hence nobody can interfere with its programming and manipulate the result. It mainly consists of two units: Control unit and Ballot unit. The control unit is main unit which stores all the data and controls the functioning of EVM. The program which controls the functioning of control unit is burnt into a microchip on a one-time programmable basis. Once read it can't be copied or altered. The EVMs use dynamic coding to enhance security of data transmitted from ballot unit to control unit. The new EVMs are also able to record the exact time and date when the vote was casted.

After voting is completed and close button is pressed, the machine doesn't accept any data or record any vote. Through the press of total button, the control unit can display the number of votes recorded till that instant of time which can be crossed checked with the register of voters. The display system of control unit shows the number of votes polled in the polling station and candidate-wise votes polled in the machine.

Remote online or internet voting:

Program on "Election System" provides us with an online voting technique. It can also be referred as "Online Voting System". In this system people who have citizenship of India and whose age is above 18 years of age is eligible to vote irrespective of his/her caste, race, religion, or gender without going to any physical polling station. There is a database which is maintained in which all the names of the voters with complete information is stored.

To cast the vote online, a user must follow the following steps:

1. Login: To enter Online Election System you will need two pieces of data: Voter ID and a password

2. Confirm your login: In this step the system checks if your name and data is present in the electoral roll. Only eligible voters are granted are granted access after this step.

3. Casting your vote: A list of candidates is displayed on the screen, and you can cast your vote. The ballot can only be accessed if the voter hasn't already voted.

4. Completion of voting: The voter will have to logout of the voting system in this step. Only then the vote casted is transferred to online ballot. After logging out, the voter can't reuse the login data.

The procedure which is to be followed by Vigilance Officer is:

1. Login: Login using a pre-set password. The pre-set password is very confidential, and it is already known to the officer.

2. Find the vote count: This option enables the officer to find the votes obtained by each candidate.

3. Find the leading candidate: This option enables the officer to find the candidate with maximum number of votes

4. Logout: The officer needs to logout of the system by the press of a key.

Features of our project:

1. Registering the voter.
2. Casting of vote by the voter and incrementing the vote count.
3. Displaying the results of the elections.

2.OBJECTIVE

The main aim of Online Election system is to provide fair elections for all. It defines a set of rules that determine how elections and referendums are conducted and how their results are determined. This system maintains a state of readiness and serves the public consistently with integrity and excellence. It also aims at reducing the workforce used during elections to a great extent.

3.SYSTEM REQUIREMENT SPECIFICATIONS

3.1Software requirement specifications:

Language used: C
Operating system: Windows 10
Compilers used: Online GDB

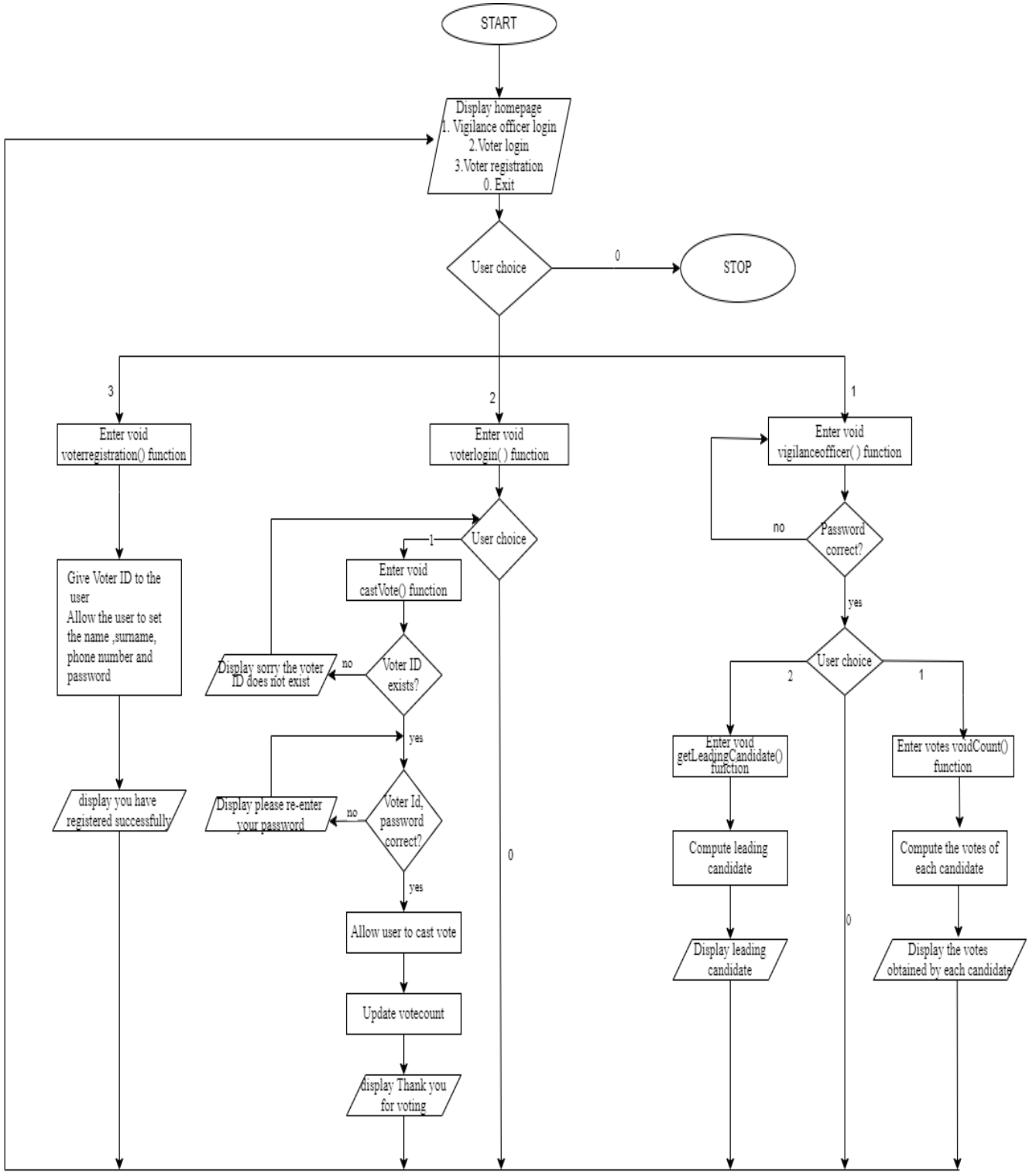
3.2Hardware requirements:

Minimum hardware requirements: -
Processor: Intel core i3
Hard Disk: 512 SSD

Preferred hardware requirements: -
Processor: Intel core i5
Hard Disk: 1TB
Graphic card: Radeon Graphics 2.90Hz
RAM: 8.00GB (7.42 GB usable)

4. SYSTEM DESIGN

4.1 Flowcharts



4.2 Algorithm

Step 1: Start

Step 2: Display homepage containing the options
1. Vigilance officer login
2. Voter login
3. Voter registration
0. Exit

Ask the user to input his/her choice.

Step 3: If the user chooses 1, enter the function void vigilanceofficer(). There is pre-set password to ensure that the user is a Vigilance Officer. Input the password.

Step 4: After the password is correctly entered, display the options
1. Find vote count
2. Find leading candidate
0. Exit

Ask the user to input his/her choice.
If the user select option 1, enter the function void votesCount() and find the votes obtained by each candidate.
If the user select option 2, enter the function void getLeadingCandidate() and find the candidate with maximum number of votes.
If the user select option 0, go to step 2.

Step 5: If the choice is option 3, enter the function void voterregistration() and grant the user a unique voter Id. Then allow the user to give their credentials such as name, surname, phone number. Prompt the user to set their password to complete the registration.

Step 6: After following step 5, display a message 'You have registered successfully'
After completing registration go to step 2.

Step 7: If the user is a registered voter, he/she must select option 2. Enter function voterlogin()
Display the options:
1. Cast your vote
0. Exit

If the user selects option 1, enter the function void castvote().Allow the user to login using the voter Id. If the voter Id exists, give the user an option to enter password else direct him/her back to login page. If the user has entered the password correctly and hasn't voted before the allow him/her to vote. Update the vote count and display 'Thank you for voting.'
If the user selects option 0, go to step 2.

Step 8: If a user selects option 0, he/she can exit from the program.

Step 9: Stop

5. SYSTEM IMPLEMENTATTION

The program on 'Online Election System' consists of 10 functions. The functions are as follows:

1. void interface1( ) and void interface2( ):

```
void interface1()
{
    printf("\n\t\t=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=");
    printf("\n\t\t=*=*=*=*=*      ONLINE ELECTION SYSTEM        =*=*=*=*=");
    printf("\n\t\t=*=*=*=*=*          C MINI PROJECT            =*=*=*=*=");
    printf("\n\t\t=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=");
    printf("\n\n");
    getc;

}
void interface2()
{
    printf("\n\t\t=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=");
    printf("\n\t\t=*=*=*=*=*              WELCOME                 =*=*=*=*=");
    printf("\n\t\t=*=*=*=*=*                 TO                   =*=*=*=*=");
    printf("\n\t\t=*=*=*=*=*      ONLINE ELECTION SYSTEM        =*=*=*=*=");
    printf("\n\t\t=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=");
    printf("\n\n");
    getc;

}
```

These two functions are used to give good readability and look to the output.

---

2. int main ( ):

```
int main()
{
    system("clear");
    interface1();
    interface2();
    int i;
    int choice;

    do{
    printf("\n\t\t ###### Welcome to Election/Voting 2022 #####");
    printf("\n\t\t If you are a new voter please register yourself first by selecting choice 3");
    printf("\n\t\t 1. Vigillance officer login ");
    printf("\n\t\t 2. Voter login ");
    printf("\n\t\t 3. Voter registration");
    printf("\n\t\t 0. Exit");


    printf("\n\t\t Please enter your choice : ");
    scanf("%d", &choice);
    switch(choice)
    {
    case 1: vigilanceofficer();break;
    case 2: voterlogin();break;
    case 3: voterregistration();break;
    default: printf("\n Thank you ");
    }
    }while(choice!=0);

    fflush(stdin);
    getchar();
}
```

This is the main function. It is used to print the home screen of our program. As you can see there are sub-functions vigilanceofficer( ), voterlogin( ), voterregistration( ). Depending on the input from the user the control goes into any one of these sub-functions.

---

3. void vigilanceofficer( ):

```
168 void vigilanceofficer()
169 {
170     system("clear");
171     interface1();
172     interface2();
173     char vigilance_password[]="aticle@world";
174     char enter_password[30];
175     printf("\n\t\tEnter the password: ");
176     scanf("%s",enter_password);
177       if(strcmp(vigilance_password,enter_password)==0)
178       {
179
180        int choice_officer=0;
181       do{
182         printf("\n\t\t 1. Find Vote Count");
183         printf("\n\t\t 2. Find leading Candidate");
184         printf("\n\t\t 0. Exit");
185
186         printf("\n\t\t Please enter your choice : ");
187         scanf("%d", &choice_officer);
188
189         switch(choice_officer)
190         {
191         case 1: votesCount();break;
192         case 2: getLeadingCandidate();break;
193         default: printf("\n Please wait,you are being directed to home page");
194         }
195       }while(choice_officer!=0);
196       }
197       else
198       {
199           printf("\n\t\t Please renter the password correctly");
200       }
201 fflush(stdin);
202 getchar();
```

This function is used to login the Vigilance Officer in. It is called by main function. There is a pre-set password which is known by the officer. If the password is correct then the officer is logged in. The sub-functions used here are votesCount( ) and getLeadingCandidate( ). Depending on the input from the user the control flows into any one of these functions.

4. void votesCount():

```
135 void votesCount(){
136 system("clear");
137 interface1();
138 interface2();
139 printf("\n\t\t ##### Voting Statics ####");
140 printf("\n\t\t %s - %d ", CANDIDATE1, votesCount1);
141 printf("\n\t\t %s - %d ", CANDIDATE2, votesCount2);
142 printf("\n\t\t %s - %d ", CANDIDATE3, votesCount3);
143 printf("\n\t\t %s - %d ", CANDIDATE4, votesCount4);
144 printf("\n\t\t %s - %d ", CANDIDATE5, votesCount5);
145 fflush(stdin);
146 getchar();
147 }
```

This function is used to know the votes obtained by each candidate. It can only be accessed through the function 'void vigilanceofficer( )'.

---

5. void getLeadingCandidate( ):

```
149 void getLeadingCandidate(){
150     system("clear");
151     interface1();
152     interface2();
153     printf("\n\n  #### Leading Candiate ####\n\n");
154     if(votesCount1>votesCount2 && votesCount1>votesCount3 && votesCount1 >votesCount4)
155     printf("[%s]",CANDIDATE1);
156     else if (votesCount2>votesCount3 && votesCount2>votesCount4 && votesCount2 >votesCount1)
157     printf("[%s]",CANDIDATE2);
158     else if(votesCount3>votesCount4 && votesCount3>votesCount2 && votesCount3 >votesCount1)
159     printf("[%s]",CANDIDATE3);
160     else if(votesCount4>votesCount1 && votesCount4>votesCount2 && votesCount4 >votesCount3)
161     printf("[%s]",CANDIDATE4);
162     else
163     printf("----- Warning !!! No-win situation----");
164     fflush(stdin);
165     getchar();
166 }
```

This function is used to find the leading candidate. As you can see there are if else statements here which help us in getting the leading candidate. This function can only be accessed through the function 'void vigilanceofficer( )'.

---

6. void voterlogin( ):

```
207 void voterlogin()
208 {
209     system("clear");
210     interface1();
211     interface2();
212     int choice_voter;
213     do
214     {
215         printf("\n\t\t 1.Cast your vote");
216         printf("\n\t\t 0.Exit");
217         printf("\n\t\t Please enter your choice:");
218         scanf("%d",&choice_voter);
219 
220         switch(choice_voter)
221         {
222             case 1: castVote();break;
223             default: printf("\n Please wait you are being directed to home page");
224         }
225     }
226     while(choice_voter!=0);
227     fflush(stdin);
228     getchar();
229 }
```

This function is used to log the voter in. It is called by main function.The sub-function used here is castVote( ). Depending on the input from the user the control flows into this subfunction or the user is directed back to the home page.

7. void castVote():

```c
void castVote()
{
  system("clear");
  interface1();
  interface2();
  int choice;
  int var;
  int hi=0,ji=0;
  int hii=0;
  char passwerd[30];
  printf("\n\t\t Enter your voter id : ");
  scanf("%d",&var);
  for(hi=0,ji=0;hi<i || ji<=i;hi++,ji++)
  {
      if(var==v[hi].voter_id)
      {
          do
          {
              printf("\n\t\t Enter your password: ");
              scanf("%s",passwerd);
              if(strcmp(v[hi].voter_password,passwerd)==0)
              {
                  if(v[hi].voter_check==0)
                  {
                  printf("\n\t\t Voter name : %s",v[hi].voter_name);
                  printf("\n\t\t ### Please choose your Candidate ####");
                  printf("\n\t\t 1. %s",CANDIDATE1);
                  printf("\n\t\t 2. %s",CANDIDATE2);
                  printf("\n\t\t 3. %s",CANDIDATE3);
                  printf("\n\t\t 4. %s",CANDIDATE4);
                  printf("\n\t\t 5. %s",CANDIDATE5);

                  printf("\n\n Input your choice (1 - 5) : ");
                  scanf("%d",&choice);

                  switch(choice)
                  {
                    case 1: votesCount1++; break;
                    case 2: votesCount2++; break;
                    case 3: votesCount3++; break;
                    case 4: votesCount4++; break;
                    case 5: votesCount5++; break;
                    default: inValidvotes++;
                  }
                  v[hi].voter_check++;
                  }
                  else
                  {
                      printf("\n\t\t Sorry you have already voted!!!");
                  }
                  hii=0;
              }
              else
              {
                  printf("\n\t\tYou have enterd the password incorrectly!!!");
                  printf("\n\t\t Please re-enter the password correctly.....");
                  hii++;
              }
           }
           while(hii!=0 && hii<=3);
           break;

      }
      if(ji==i)
      {
         printf("\n\t\t Sorry the voter id doesnot exist!!!");
         break;
      }

  }
  printf("\n\t\tThank you for voting");
  fflush(stdin);
  getchar();
}
```

This function can only be accessed through ‘void voterlogin( )’. Before casting the vote,the voter must login using the voter Id. If the voter Id exists then the the voter can enter the password else a message appears stating ‘Sorry the voter Id doesn’t exists!!’ . If the password is correct and the voter has not voted before then he/she is allowed to cast vote to any candidate of their choice. Then, as you can see the respective vote count is updated. Also,the voter check is updated so that the voter shouldn’t be able vote again. However if the password entered was wrong then a message ‘Please re-enter the password correctly….’ is printed. The voter is given 3 tries to enter the correct password.

---

8. void check_required( ):

```
45  void check_required()
46  {
47    int noo=0;
48    for(noo=0;noo<50;noo++)
49    {
50      v[noo].voter_check=0;
51    }
52    getc;
53  }
```

This function is basically to check if the voter has voted before or not. This function is called by ‘void castVote()’.

---

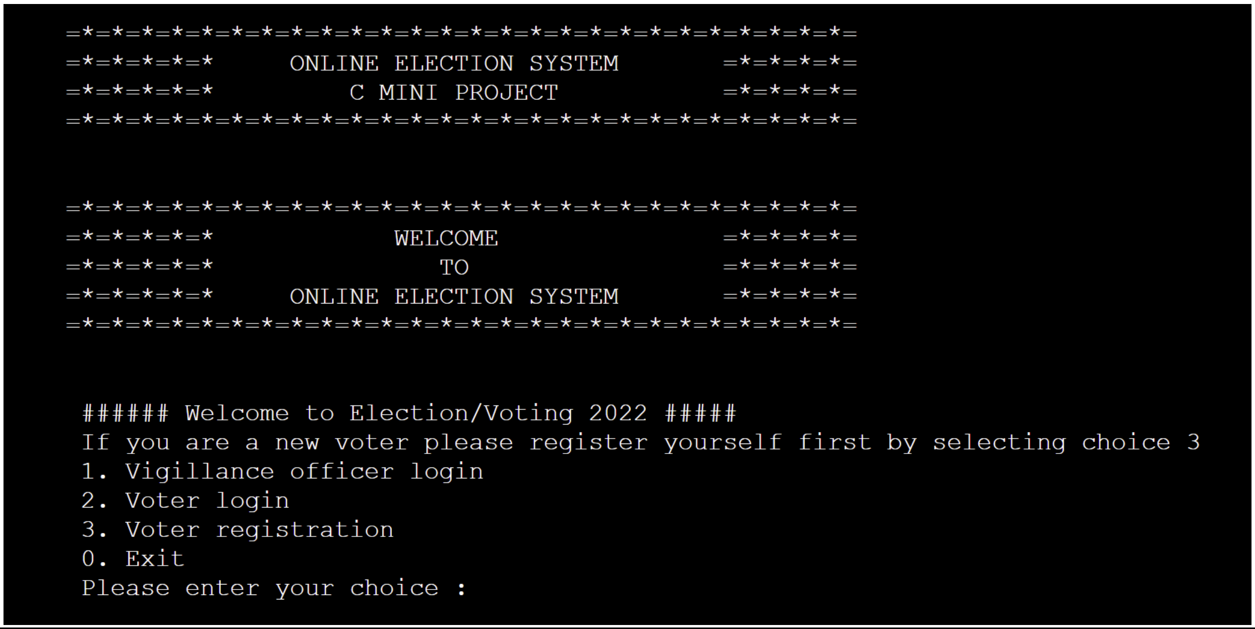
9. void voterregistration():

```
228 void voterregistration()
229 {
230     system("clear");
231     interface1();
232     interface2();
233     static int x=0;
234     static int id=3458889;
235     printf("\n\t\t Your voter id is %d",id);
236     printf("\n\t\t Please enter the voter id alloted ot you: ");
237     scanf("%d",&v[x].voter_id);
238     printf("\n\t\t Enter your name: ");
239     scanf("%s",v[x].voter_name);
240     printf("\n\t\t Enter your surname: ");
241     scanf("%s",v[x].voter_surname);
242     printf("\n\t\t Enter your phone number: ");
243     scanf("%s",v[x].voter_phone);
244     printf("\n\t\t Set your password: ");
245     scanf("%s",v[x].voter_password);
246     printf("\n\t\t You have successfully completed the registration!!!");
247     x++;
248     id++;
249     i++;
250     fflush(stdin);
251     getchar();
252 }
```

This function is used to register the voter. It is called by main function.A voter must always register before casting the vote.It gives a unique voter Id to each voter. Then it takes the inputs from the user such as name,surname,phone number and finally prompts the user to set a password and updates the information to database. After following all the steps a message is ‘You have successfully completed the registration’ is displayed.

6. RESULTS

Home Screen

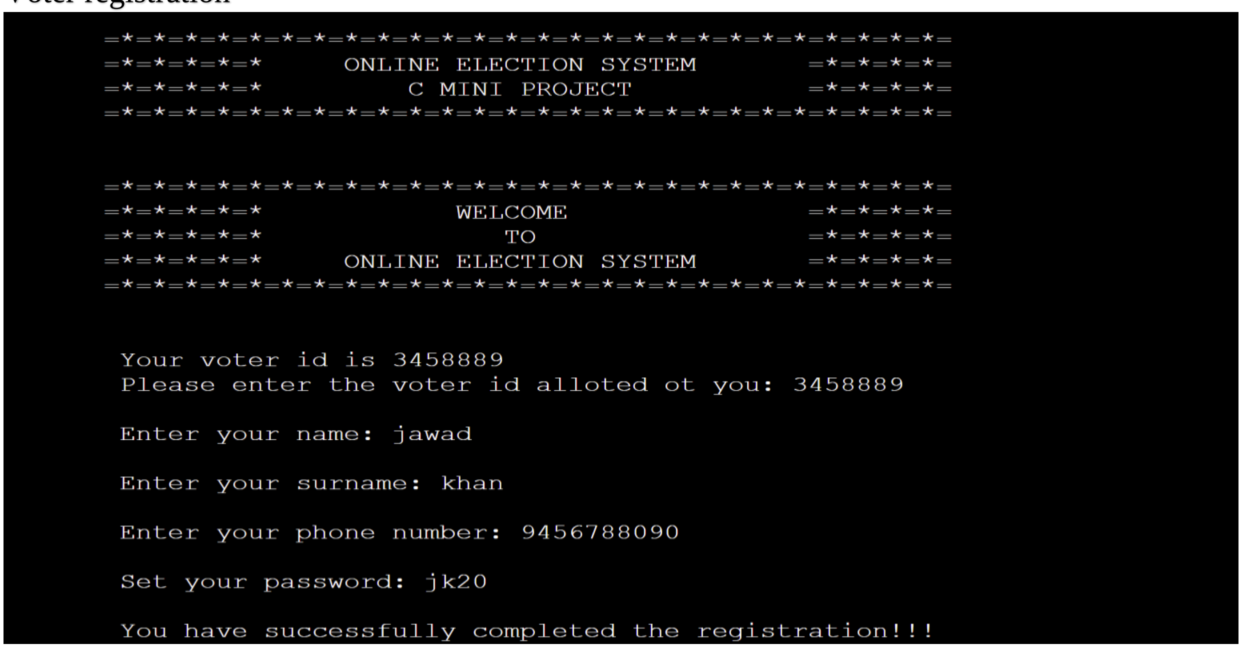


```
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*     ONLINE ELECTION SYSTEM       =*=*=*=*=
=*=*=*=*=*         C MINI PROJECT           =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*            WELCOME               =*=*=*=*=
=*=*=*=*=*               TO                 =*=*=*=*=
=*=*=*=*=*     ONLINE ELECTION SYSTEM       =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


 ###### Welcome to Election/Voting 2022 #####
 If you are a new voter please register yourself first by selecting choice 3
 1. Vigillance officer login
 2. Voter login
 3. Voter registration
 0. Exit
 Please enter your choice :
```

Voter registration



```
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*     ONLINE ELECTION SYSTEM       =*=*=*=*=
=*=*=*=*=*         C MINI PROJECT           =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*            WELCOME               =*=*=*=*=
=*=*=*=*=*               TO                 =*=*=*=*=
=*=*=*=*=*     ONLINE ELECTION SYSTEM       =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


 Your voter id is 3458889
 Please enter the voter id alloted ot you: 3458889

 Enter your name: jawad

 Enter your surname: khan

 Enter your phone number: 9456788090

 Set your password: jk20

 You have successfully completed the registration!!!
```

Here all the details are provided by the user one by one.

Voter login and casting of vote

```
               =*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
               =*=*=*=*=*      ONLINE ELECTION SYSTEM       =*=*=*=*=
               =*=*=*=*=*         C MINI PROJECT            =*=*=*=*=
               =*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


               =*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
               =*=*=*=*=*             WELCOME               =*=*=*=*=
               =*=*=*=*=*                TO                 =*=*=*=*=
               =*=*=*=*=*      ONLINE ELECTION SYSTEM       =*=*=*=*=
               =*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


                Enter your voter id : 3458889

                Enter your password: jk20

                Voter name : jawad
                ### Please choose your Candidate ####
                1. Vladimir Putin
                2. Kim Jong-un
                3. Narendra Modi
                4. Joe Biden
                5. NOTA

Input your choice (1 - 5) : 3

               Thank you for voting
```

Vigilance officer login

```
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*      ONLINE ELECTION SYSTEM       =*=*=*=*=
=*=*=*=*=*         C MINI PROJECT            =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*             WELCOME               =*=*=*=*=
=*=*=*=*=*                TO                 =*=*=*=*=
=*=*=*=*=*      ONLINE ELECTION SYSTEM       =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


Enter the password: aticle@world

 1. Find Vote Count
 2. Find leading Candidate
 0. Exit
 Please enter your choice :
```

Seeing the results of elections

```
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*      ONLINE ELECTION SYSTEM        =*=*=*=*=
=*=*=*=*=*          C MINI PROJECT            =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*              WELCOME               =*=*=*=*=
=*=*=*=*=*                TO                  =*=*=*=*=
=*=*=*=*=*      ONLINE ELECTION SYSTEM        =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


 ##### Voting Statics ####
 Vladimir Putin - 1
 Kim Jong-un - 1
 Narendra Modi - 2
 Joe Biden - 1
 NOTA - 0
 1. Find Vote Count
 2. Find leading Candidate
 0. Exit
 Please enter your choice :
```

```
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*      ONLINE ELECTION SYSTEM        =*=*=*=*=
=*=*=*=*=*          C MINI PROJECT            =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=


=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=
=*=*=*=*=*              WELCOME               =*=*=*=*=
=*=*=*=*=*                TO                  =*=*=*=*=
=*=*=*=*=*      ONLINE ELECTION SYSTEM        =*=*=*=*=
=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=



  #### Leading Candiate ####

[Narendra Modi]
                 1. Find Vote Count
                 2. Find leading Candidate
                 0. Exit
                 Please enter your choice :
```