MADHAVA KRIPA
English Nursery & Higher Primary
SCHOOL

COMPUTER SCIENCE PROJECT

On

ELECTRONIC VOTING SYSTEM USING PYTHON

Name:

Class: XII B

Registration Number:

Submitted to: Tr. P Sathyavathi Mallya

Date:

MADHAVA KRIPA
English Nursery & Higher Primary
SCHOOL

CERTIFICATE

This is to certify that Master/Miss_____

has satisfactorily completed his/her minor project in subject

_____ on the topic _____

during the Academic Year 2022-23.

Date: **Project Incharge**

Signature of
External Examiner

Signature of Principal

INDEX

ACKNOWLEDGMENT

First and foremost, I would like to praise and thank God, the Almighty, who has granted countless blessings, knowledge, and opportunities, so that I have been finally able to accomplish the project.

I would like to thank our principal, Mrs. Jessy Andrews, who gave me a wonderful opportunity to present my project of computer science on electronic voting system.

I would like to express my special thanks of gratitude to our computer science teachers Tr. Sathyavathi Mallya and

Tr. Shilpa A. G for their guidance and support in completing this project.

I would also like to thank my teammate, Aparna Karanth because without her effort, cooperation, and dedication this project would not produce flying colours.

INTRODUCTION

A voting machine is a machine used to record or tally votes. The first voting machines were mechanical but it is increasingly more common to use electronic voting machines.

This application can be mainly useful in institutions, schools, colleges, where the elections for the captain or the respective leader take place. Since there are many numbers of students or people who might participate in the selection of their choice, a lot of ballot papers are required at each polling station instead of one ballot paper for each individual elector. Not only is the process tiresome, but it also involves overcrowding, wastage of time and involves administrators to check on running of the process.

Since this involves a lot of problems, we using python language developed an electronic voting system which can be used by any institution, school, or group of people to carry out their selection process more efficiently, systematically, and deliver the results faster. This system not only reduces the time taken to cast the vote, but also counts the number of votes within a matter of minutes, which is very important.

Adding to the advantages is that there are no invalid votes under this system of voting.

First, the Admin will login to the system using the respective credentials. The admin will enter/upload the voter's details. After the nomination process is complete, the admin will enter the details of candidates into the system. The system will have an option to generate the candidate list and voters list.

On the day of election, the admin as an officer will login to the system and initiates the voting process. For each voter, after the manual verification, the officer will create an online ballot for the voter. The verified voter is allowed to cast his vote by selecting the preferred candidate(s). This voting is captured maintaining the anonymity of the voter. After all voters arrived for voting and have casted their vote, the officer will declare the closing of the election so that no one else can cast vote.

Now at the backend counting is done and the winner record is displayed. Thus, the result of election could be announced as soon as the voting process is complete without any manual intervention.

SOFTWARE AND HARDWARE REQUIREMENT

SOFTWARE:

- ✓ Spyder with maskpass module
- ✓ Windows 10
- ✓ Ms Excel

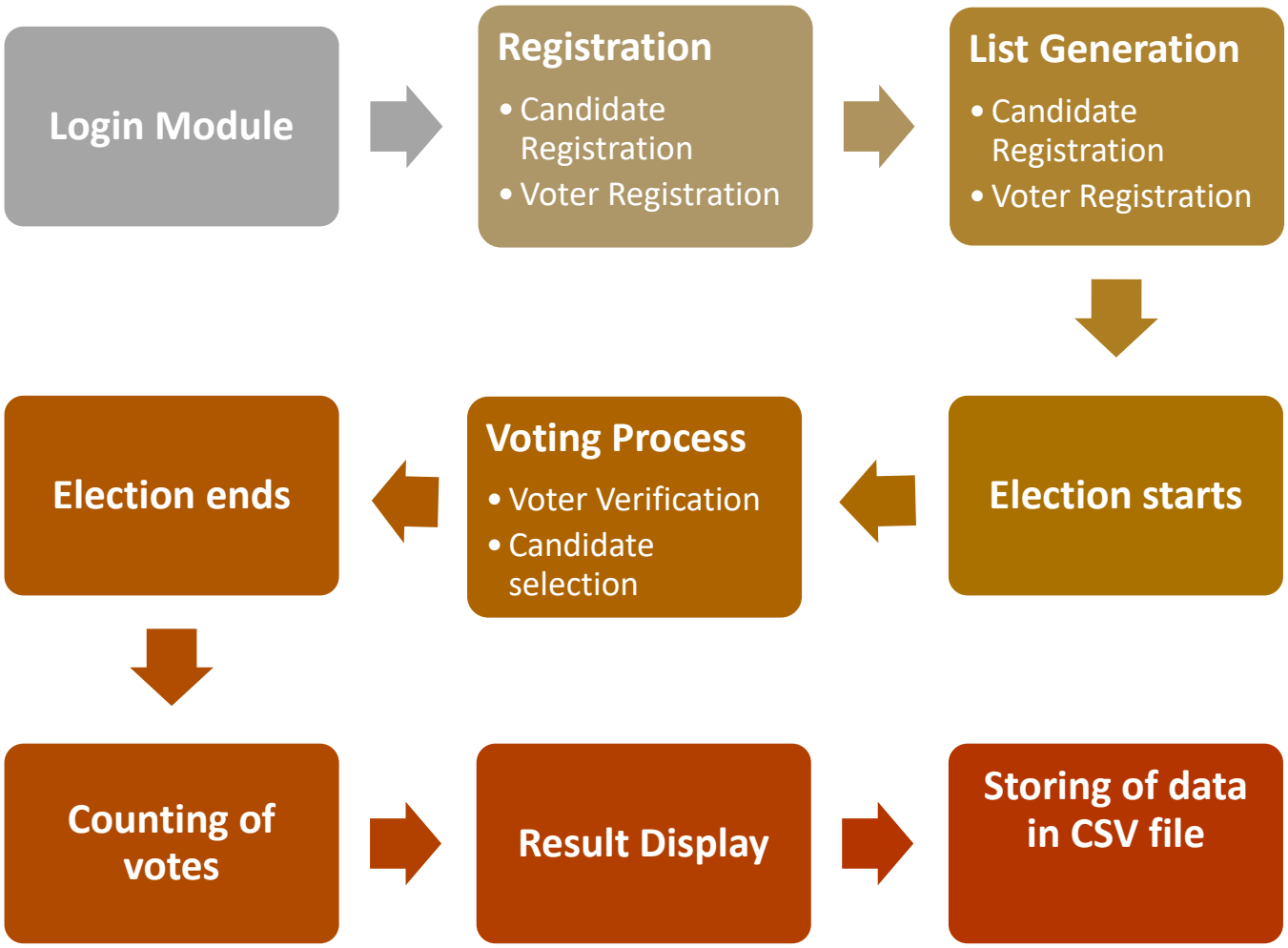
HARDWARE:

- ✓ 4.00 GB RAM or more
- ✓ System type: 64-bit operating system, x64-based processor

WHY PYTHON IS USED FOR OUR PROJECT

- Python is a high-level language
- A big **collection of libraries.**
- It is **portable.**
- It is **free** and **open-source**.
- Python can run on major operating systems – Windows, Mac, and Linux.
- It's **stable**, **flexible**, and gives developers access to a variety of tools that make their jobs easier
- It's the ultimate **learning tool**
- Simple Code **Readability**

FLOW CHART


Login Module
Registration
• Candidate Registration
• Voter Registration
List Generation
• Candidate Registration
• Voter Registration
Election starts
Voting Process
• Voter Verification
• Candidate selection
Election ends
Counting of votes
Result Display
Storing of data in CSV file

ALGORITHM

The steps involved in this project are as follows:

STEP 1: Login Module

The ***admin*** will login to the system using the credentials provided.

STEP 2: Registration

a. Candidate Registration

Admin will enter the details of all the Candidates for various positions.

b. Voter Registration

Admin will enter/upload the details of all voters.

c. Voter List Generation

Admin will generate the voters list consisting of list of voters.

d. Candidate List Generation

Candidate list consisting of list of all candidates is generated.

STEP 3: Election Module

a. Voter Verification

The code will verify the Id of voter and creates an online ballot for this voter

b. Candidate Selection

Verified Voter will cast his/her vote to the candidate(s) by selecting the preferred candidate(s), which is captured maintaining anonymity.

c. Closing of Election

If all the voters arrived for polling have casted their vote(s), Polling Officer will declare the closing of election. Now no more voters can cast the votes.

STEP 4: Storing of the following election data using CSV files:

a. Candidate details
b. Voter id and their votes
c. Number of votes secured by each candidate
d. Winner and the number of votes secured

STEP 5: Result Display

a. Admin/Polling Officer will login to the system
b. If election is complete, the result will be generated displaying the winner(s).

STEP 6: Reading the data from the CSV file:

The number of votes gained by each candidate will be fetched from the CSV file and will be displayed at the end.

SOURCE CODE

```
def candfile():
    global file_candlist
    with open("evmfile.csv","w",newline='') as csvfile:
        obj=csv.writer(csvfile)
        head=["CODE","NAME OF THE CANDIDATE","PARTY NAME"]
        obj.writerow(head)
        for cand in file_candlist:
            obj.writerow(cand)
        obj.writerows("\n\n\n")
def votefile():
    global file_voterlist
    with open("evmfile.csv","a",newline='') as csvfile:
        obj=csv.writer(csvfile)
        head=["VOTER ID","VOTE"]
        obj.writerow(head)
        for voter in file_voterlist:
            obj.writerow(voter)
        obj.writerows("\n\n\n")
def resultfile():
    global file_ballot
    with open("evmfile.csv","a",newline='') as csvfile:
      obj=csv.writer(csvfile)
      head1=["CODE","NAME OF THE CANDIDATE","PARTY
NAME","VOTES"]
      obj.writerow(head1)
      for cand in file_ballot:
          obj.writerow(cand)
      obj.writerows("\n\n\n")
def winner():
    global file_winner
    with open("evmfile.csv","a",newline='') as csvfile:
      obj=csv.writer(csvfile)
      head2=["WINNER","NUM OF VOTES"]
      obj.writerow(head2)
      for win in file_winner:
          obj.writerow(win)
    with open("evmfile.csv","r",newline='') as csvfile:
      obj=csv.reader(csvfile)
```

```
import time,csv,maskpass
from tabulate import tabulate

username = 'evm'
password = 'mks'

print('\t\t\t!!ADMIN LOG IN!!')
user = maskpass.advpass('Enter the username: ')
passw = maskpass.advpass('Enter the password:')

namelist=['dummy']
grplist = ['dummy']
codelist=[0]
ballot=[0]
voterslist = []
votersvotes = [0]
maxcan, maxvotescan = 0,0
file_voterlist=[]
file_candlist=[]
file_ballot=[]
file_winner=[]

if user==username and passw==password:
    print('\n\n')
    print('\t\t\t!!WELCOME TO EVM ELECTIONS!!\n')
    n = int(input('Enter the number of candidates standing for election: '))
    for i in range(1,n+1):
        print('\n\n')
        print('\t\t\t!!CANDIDATE REGISTRATION!!')
        print("\n")
        print('Enter the details of the candidate:',i)
        name=input('Enter the name of the candidate: ')
        grp = input('Enter the group name: ')
        print('\n')
        namelist.append(name)
        grplist.append(grp)
        codelist.append(i)
        ballot.append(0)
        file_candlist.append(()+(codelist[i],namelist[i],grplist[i]))
    candfile()
    main_head1 = ['CODE', 'NAME OF THE CANDIDATE', 'PARTY NAME']
    print(tabulate(file_candlist, headers=main_head1, tablefmt='grid'))
    print('\n')
```

```
nomvoters = int(input('Enter the number of voters : '))
print('\n')
for i in range(1,nomvoters+1):
    voterslist.append(i)

print('\t\t\t!!ELECTIONS STARTS!!\n\n')
for i in range(1,nomvoters+1):
    voteid= int(input('Enter ur voter ID-roll number:'))
    if voteid in voterslist:
        print('You are a Voter!')
        print('\t\t\tWelcome to EVM elections')
        head = ['CODE', 'NAME OF THE CANDIDATE', 'PARTY NAME']
        print(tabulate(file_candlist, headers=head, tablefmt='grid'))
        vote=int(maskpass.advpass("Enter your vote(code): "))
        print("Thank you for voting!!")
        file_voterlist.append(()+(voteid,vote))
        votersvotes.append(vote)
        voterslist.remove(voteid)
        if vote in codelist:
            ballot[vote]+=1
        else:
            ballot[0]+=1
        print('\a')

    else:
        print('You have already voted / You are not eligible for voting....')
        print('\a\a\a')
votefile()
for i in range(1,n+1):
    file_ballot.append(()+(codelist[i],namelist[i],grplist[i],ballot[i]))
    if ballot[i]>maxcan:
        maxcan = ballot[i]
        maxvotescan = i
        x=True
    elif ballot[i]==maxcan:
            print("Equal votes have been scored by the candidates")
            x=False
resultfile()
if x==True:
    file_winner.append(()+(namelist[maxvotescan],maxcan))
    winner()
    print("Counting the votes...\n")
    time.sleep(5)
```

```
        print("Processing the results...\n")
        time.sleep(5)
        print(namelist[maxvotescan],"is the winner and has
scored",maxcan,"votes!")
        print("\n")
        main_head2 = ['NAME OF THE WINNER','NUMBER OF VOTES']
        print(tabulate(file_winner,headers=main_head2,tablefmt='grid'))
else:
    print('You are not the adminstrator!')
```

OUTPUT

1. ADMIN LOGIN

```
                              !!ADMIN LOG IN!!
Enter the username: ***
Enter the password:***
```

2. CANDIDATE REGISTRATION AND LIST GENERATION

```
                          !!WELCOME TO EVM ELECTIONS!!

Enter the number of candidates standing for election: 2



                          !!CANDIDATE REGISTRATION!!


Enter the details of the candidate: 1
Enter the name of the candidate: Laxmi Srivastav
Enter the group name: Phoenix

                         !!CANDIDATE REGISTRATION!!


Enter the details of the candidate: 2
Enter the name of the candidate: Gururaj Arora
Enter the group name: Rising Sun


+--------+-------------------------+--------------+
|   CODE | NAME OF THE CANDIDATE   | PARTY NAME   |
+========+=========================+==============+
|      1 | Laxmi Srivastav         | Phoenix      |
+--------+-------------------------+--------------+
|      2 | Gururaj Arora           | Rising Sun   |
+--------+-------------------------+--------------+
```

3. VOTER LIST GENERATION

```
Enter the number of voters : 5
```

4. ELECTION STARTS

```
                        !!ELECTIONS STARTS!!


Enter ur voter ID-roll number:1
You are a Voter!
                        Welcome to EVM elections
+--------+-------------------------+--------------+
|   CODE | NAME OF THE CANDIDATE   | PARTY NAME   |
+========+=========================+==============+
|      1 | Laxmi Srivastav         | Phoenix      |
+--------+-------------------------+--------------+
|      2 | Gururaj Arora           | Rising Sun   |
+--------+-------------------------+--------------+
Enter your vote(code): *
Thank you for voting!!

Enter ur voter ID-roll number:2
You are a Voter!
                        Welcome to EVM elections
+--------+-------------------------+--------------+
|   CODE | NAME OF THE CANDIDATE   | PARTY NAME   |
+========+=========================+==============+
|      1 | Laxmi Srivastav         | Phoenix      |
+--------+-------------------------+--------------+
```

```
                        Welcome to EVM elections
+--------+-------------------------+--------------+
|   CODE | NAME OF THE CANDIDATE   | PARTY NAME   |
+========+=========================+==============+
|      1 | Laxmi Srivastav         | Phoenix      |
+--------+-------------------------+--------------+
|      2 | Gururaj Arora           | Rising Sun   |
+--------+-------------------------+--------------+
Enter your vote(code): *
Thank you for voting!!

Enter ur voter ID-roll number:3
You are a Voter!
                        Welcome to EVM elections
+--------+-------------------------+--------------+
|   CODE | NAME OF THE CANDIDATE   | PARTY NAME   |
+========+=========================+==============+
|      1 | Laxmi Srivastav         | Phoenix      |
+--------+-------------------------+--------------+
|      2 | Gururaj Arora           | Rising Sun   |
+--------+-------------------------+--------------+
Enter your vote(code): *
Thank you for voting!!
```

```
Enter ur voter ID-roll number:4
You are a Voter!
                        Welcome to EVM elections
+--------+-------------------------+--------------+
|   CODE | NAME OF THE CANDIDATE   | PARTY NAME   |
+========+=========================+==============+
|      1 | Laxmi Srivastav         | Phoenix      |
+--------+-------------------------+--------------+
|      2 | Gururaj Arora           | Rising Sun   |
+--------+-------------------------+--------------+
Enter your vote(code): *
Thank you for voting!!

Enter ur voter ID-roll number:5
You are a Voter!
                        Welcome to EVM elections
+--------+-------------------------+--------------+
|   CODE | NAME OF THE CANDIDATE   | PARTY NAME   |
+========+=========================+==============+
|      1 | Laxmi Srivastav         | Phoenix      |
+--------+-------------------------+--------------+
|      2 | Gururaj Arora           | Rising Sun   |
+--------+-------------------------+--------------+
Enter your vote(code): *
```

5. RESULT DISPLAY

```
Enter your vote(code): *
Thank you for voting!!

Counting the votes...

Processing the results...

Laxmi Srivastav is the winner and has scored 3 votes!


+----------------------+--------------------+
| NAME OF THE WINNER   |   NUMBER OF VOTES  |
+======================+====================+
| Laxmi Srivastav      |                  3 |
+----------------------+--------------------+
```

6. READING FROM CSV FILE

```
NUMBER OF VOTES SCORED BY EACH MEMBER:

+--------+-------------------------+--------------+---------+
|   CODE | NAME OF THE CANDIDATE   | PARTY NAME   |   VOTES |
+========+=========================+==============+=========+
|      1 | Laxmi Srivastav         | Phoneix      |       3 |
+--------+-------------------------+--------------+---------+
|      2 | Gururaj Arora           | Rising Sun   |       2 |
+--------+-------------------------+--------------+---------+
```

7. MS EXCEL- CSV FILE

	A	B	C	D	E
1	CODE	NAME OF THE CANDIDATE	PARTY NAME	VOTES	
2	1	Laxmi Srivastav	Phoenix	3	
3	2	Gururaj Arora	Rising Sun	2	
4					

	A	B	C	D
1	CODE	NAME OF THE CANDIDATE	PARTY NAME	
2	1	Laxmi Srivastav	Phoenix	
3	2	Gururaj Arora	Rising Sun	
4				
5				
6				
7	VOTER ID	VOTE		
8	1	1		
9	2	2		
10	3	1		
11	4	1		
12	5	2		
13				
14				
15				
16	WINNER	NUM OF VOTES		
17	Laxmi Srivastav	3		

ADVANTAGES OF THE PROJECT

→Designed for the K-12 classroom

- ✓ Creates unlimited online ballots
- ✓ Collects responses from those eligible to vote
- ✓ Move beyond counting hands and scanning ballots
- ✓ Our accessible and secure voting platform makes it safe and easy for everyone to participate.

→ Environment friendly

- ✓ Less/no use of paper
- ✓ No printing
- ✓ Easier to store and transport

→ More efficient

- ✓ Faster counting of votes
- ✓ No invalid votes
- ✓ Easy to install and use
- ✓ Less amount of time spent on scheduling and conduction of school elections

→ Security

- ✓ Not easily tampered

→ Inexpensive

- ✓ Less costly than paper ballots and other ways of voting

FUTURE ENHANCEMENT

- Customize the program according to the user requirements
- Applying graphic user interface for making it a user efficient program.
- We can add other features like symbols for each candidate/party, and multiple users with different rights

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