PROJECT REPORT

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Online voting system

B.Tech(CE)Sem-IV

Subject: SP+SEPP

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CERTIFICATE

This is to certify that the term work carried out in the subject of **Software Engg. And Practices** and recorded in this report is bona Fide work of

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Project Guide

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1. Introduction

1.1 Brief Introduction

India has democratic government. As now all Indian citizen become a part of the growing digital India .They have a digital ID that is Aadhar card. Voting schemes have evolved from counting hands in early days to systems that include paper, punch card, electronic voting machine. An electronic voting system which is used nowadays provide some characteristic different from the traditional voting technique, and also it provides improved features of voting system over traditional voting system such as accuracy, convenience, flexibility, privacy, verifiability and mobility. But Electronic voting systems suffers from various drawbacks such as time consuming, consumes large volume of paper work, no direct role for the higher officials, damage of machines due to lack of attention, mass update doesn't allows users to update and edit many item simultaneously etc.These drawbacks can overcome by Online Voting System. This is a voting system by which any voter can use his/her voting rights from anywhere in the country. Voter can cast their votes from anywhere in the country without visiting to voting booths, in highly secured way. That makes voting a fearless of violence and that increases the percentage of voting.

1.2 Tools/Technologies Used

Technologies:

o Django
o Python
o MySQL
o Bootstrap
o HTML
o CSS
o JavaScript

Tools:

o Git
o Visual Studio Code

Platform:

o Local development server

2. Software Requirement Specifications

i. MYSQL DBMS- It allows combination, extraction, manipulation and organization of data in the voters' database. It is platform independent and therefore can be implemented and used across several such as Windows, Linux server and is compatible with various hardware mainframes. It is fast in performance, stable andprovides business value at a low cost.

ii. NetBeans IDE 7.1.2- The NetBeans IDE is an awardwinning integrated development environment available for Windows, Mac, Linux, and Solaris. The NetBeans project consists of an open-source IDE and an application platform that enable developers to rapidly create web, enterprise, desktop, and mobile applications using the Java platform, as well as PHP, JavaScript and Ajax, Groovy and Grails, and C/C++.

iii. Testing- XAMP/WAMP SERVER.

• HARDWARE REQUIREMENTS:
i. Microsoft Windows XP Professional /Windows 7 Professional /Windows 10:
ii. Processor: 800MHz Intel Pentium III or equivalent
iii. Memory: 512 MB
iv. Disk space: 750 MB of free disk space
v. Finger Print Scanner

2.1 System Functional Requirements

R.1 Administrator Session

The administrator session begins when the admin enters a valid username and password. If the username or password are invalid, an error screen is displayed, and no session is started. The administrator is allowed to perform one or more tasks, choosing the task each time from a menu of options. The session will initiate the appropriate task. After each successful task the administrator is asked if he/she would like to perform another task. If the task fails for any reason, an error screen is displayed and the user is asked if he/she would like to perform another task. When the administrator is finished with the session, the session is closed.

R.2 Administrator Update Documente

An administrator selects the update documents task from the session options list. The administrator chooses what document type to update based on various categories (election, candidate, etc.). The user is then asked to provide the documents to the system. If the task fails, and error screen will be displayed and the user is asked to input the documents again, if the task fails a number of times, the task is ended and the user is asked if he/she would like to perform another task. Once a document is provided, the user is asked if he/she would like to update another document.

R.3 Administrator Talley

An administrator selects the talley task from the administrator session option list. The administrator chooses what election he/she would like to talley the current results for. The system then talley's the results for the specified election. If the talley fails, an error screen is displayed to the administrator, the administrator has the option of attempting to run the talley again, or exiting the task. If exit task is chosen, the task is ended and the administrator is returned to the administrator session. If the talley is successful, the administrator is presented with the results.
The results can be used in the update documents use case. The task is ended and returned to the administrator session.

R.4 Administrator Create Election

An administrator selects the create election task from the session options list. The administrator is presented with a series of choices: What is the scope of the election (national, state, local). When is the election to be held (single day, length of time). Proper error handling will be done, dates will be checked and if a date is invalid the user must enter a new date or exit. After all questions are answered satisfactorily, the administrator is asked if he/she would like to save the changes. If the admin answers "no", the election is discarded. If the answer is "yes" the election is saved. The admin is then returned to the administrator session.

R.5 Administrator Add/Delete Candidates

An administrator selects the add/delete candidate task from the administrator session options list. The administrator then selects the appropriate election to add/remove a candidate. The admin then selects if he/she wants to add or remove a candidate. If add is selected, the user is then asked to enter the name and personal information about the candidate. If delete is selected the admin is presented with a list of candidates to delete.

R.6 Administrator Create Ballot

An administrator selects the create ballot task from the administrator session options list. The administrator then selects the appropriate election to create a ballot. The admin is presented with a list of election candidates which can be placed on the ballot. The admin selects the candidates that should appear on the ballot and presses 'ok' or 'cancel'. If 'cancel' is pressed the task is ended and

the administrator session is presented. If 'ok' is selected then a ballot is created. If the task fails for any reason, an error screen is displayed and the admin is asked if he/she would like to perform the task again, continuing until the task completes or the admin cancels the task.

R.7 Administrator Manage Voters
An administrator selects the manage task from the administrator session options list. The administrator then selects the appropriate election to manage the voters. The admin is presented with a list of voters which can be managed for this election. The admin selects the voter to manage, and then updates the voter's attributes (such as if he/she can vote in the electoral college, etc.). If the task fails for any reason, an error screen is displayed and the admin is asked if he/she would like to perform the task again, continuing until the task completes or the admin cancels the task. If completed the admin is asked if he/she would like to save the changes, If the admin answers "no", the changes are discarded. if the answer is "yes" the changes are saved. The admin is then returned to the dministrator session.

R.8 Administrator Report Resulte
An administrator selects the report results task from the administrator session option list. The administrator chooses what election he/she would like to report the results for, only elections that are completed will be selectable. The system then report's the results for the specified election. If the report fails, an error screen is displayed to the administrator, the administrator has the option of attempting to run the report again, or exiting the task. If exit task is chosen, the task is ended and the administrator is returned to the administrator session. If the report is successful, the administrator is presented with the results. The results can be used in the update documents use case. The task is ended and returned to the administrator session.

R.9 Administrator Manage Administrators
An administrator selects the manage candidate task from the administrator session options list. The admin then selects if he/she wants to add or remove an administrator. If add is selected, the user is then asked to enter the name and personal information about the administrator. If delete is selected the admin is presented with a list of administor to delete. The admin selects the desired administrator to be deleted and presses 'ok', otherwise pressing 'cancel' to not delete anybody. When completed the admin is asked if he/she would like to save the changes, If the admin answers "no", the changes are discarded. if the answer is "yes" the changes are saved. The admin is then returned to the administrator session.

R.10 Administrator Set Voting Policy Use Case
An administrator selects the set voting policy task from the administrator session options list. The administrator then selects the appropriate election to set the voting policy.

R.11 Voter Session
The voter session begins when the voter enters a valid social security number, voter id number, and password. If the information entered is not valid (i.e. there is no registered user with that information) an error screen is displayed and the user is asked to enter the information again, or register. If the information is correct, the voter session begins and the voter is allowed to choose one or more tasks from a menu of options (if the voter is actually a electorate voter, he/she will have a greater list of options). The session will initiate the appropriate task. After each successful task, the voter is asked if he/she would like to perform another task. If the task fails for any reason, an error

screen in displayed and the voter is returned to the last "valid" state, at which point he can continue with his current task. If the task fails a number of times, the task is ended, and error screen is displayed, and the voter is asked if he/she would like to perform another task. If the task is successful, the voter is asked if he/she would like to perform another task. This continues until the voter declares that he/she is done, at which point the voter session is ended.

R.12 Voter Register

The voter begins the use case by entering a valid social security number and voter id number. If the information is invalid, he will recieve an error message and asked to enter the information again. If the information is valid, he will be asked to enter information about himself: phone number, address, party affiliation, demographics information, etc. If any information is invalid, the user asked to re-enter the information which was previously invalid. If the user cancels the registration at any time, no information is saved. If all the information is validly entered, the user is asked if he would like to save the information. If he selects no, the information is discarded; if he selects yes, the information is saved into his profile.

R.13 Voter Research

A voter selects a research task from the session options list. The voter can choose what type of research he/she wants to do: documents on state/national laws, election laws, candidates, party platforms, bills, referendums, etc. The voter is then presented with the appropriate type of documents. He/she can choose to view any number of documents from a menu of options for this category of research. If there is an error at any time, the voter is taken back to the last valid state, where he can cancel or continue his task. When the voter is done viewing documents, he/she clicks the "stop viewing documents" button. At this point, the voter is asked if he/she would like to perform any other tasks in the voter session.

R.14 Voter Vote

A voter selects a vote task from the session options list. The voter first selects what election type he would like to vote in: local, state, national. Once the voter selects the voting type, he will either be asked to enter a new vote, or change his vote if he has already voted in this election, and the election is not yet over. The voter enters his vote by selecting from a choice of candidates for the current election type. If anything goes wrong an error screen is returned and the voter is asked to select another voter transaction type from the voter session. If the voter successfully enters his vote, the vote is logged and the user will be asked if he/she would like to perform any other tasks in the voter session.

R.15 Voter Change Vote

A voter selects a change vote task from the session option list. The voter is then asked for which election he would like to change his vote. He is only presented with elections in which he is registered, and which are still open for voting. If the voter selects an election which he has not yet voted in, he will be presented with an error screen and rerouted to the voting screen for that election. If he has already voted in this election, then he is presented with options allowing him to change his vote. Once he has changed his vote, he is asked if he would like save his changes. If he answers no, his original vote is kept; if he answers yes, his new vote is kept and his old vote is discarded. The voter is then asked if he would like to perform any other tasks in the voter session.

R.16 Voter Update Registration

A voter selects the update registration case from the session option list. The voter is then presented with a menu of options, listing which registration attributes he can change: party affiliation, address, phone number, password. After the voter selects an attribute, he is presented with a screen to change this attribute. After he is done, he can choose to save or discard his changes. If the changes are invalid, he will be presented with an error, and prompted to enter the information again. If he chooses to cancel the transaction at any point before saving, his old information is kept intact. If he chooses to save his changes, his old attribute will be discarded. The voter is then asked if he would like to change other attributes. If he says no, he will then be asked if he would like to perform any other tasks in the voter session.

R.17 Voter Check Results

A voter selects the check results case from the session option list. The voter is then presented with a menu of elections from which he can check results. He can only check results when the election is closed. After the voter selects an election, he is presented with a menu of results he can check: winner, statistics, demographics, etc. Once he is done checking results for this election, he clicks on "stop viewing election results". He is then asked if he would like to check results for other registered elections. If he says no, he will then be asked if he would like to perform any other tasks in the voter session.

R.18 Candidate Session

The candidate session is derived from the voter session, however it has a two additional options, "update personal information", and "register candidacy".

R.19 Candidate Update Personal Information

A candidate selects the update personal information task from the session options list. The candidate chooses what document type to update based on various categories (personal statement, background information, etc.). The user is then asked to provide the documents to the system. If the task fails, and error screen will be displayed and the user is asked to input the documents again, if the task fails a number of times, the task is ended and the user is asked if he/she would like to perform another task. Once a document is provided, the user is asked if he/she would like to update another document. This continues until the user is finished, at which point the user is asked if he/she would like to save the changes made. If the user answers "no", the changes are discarded and the task is ended, sending the user back to the administrator session. If the user answers "yes", the changes are committed to the system, the task is ended, and the user is sent back to the candidate session.

R.20 Candidate Register Candidacy

A candidate selects the register candidacy case from the session options list. The candidate is then presented with a menu of elections he can register for. If the candidate is ineligible to register for this election type, he is presented with an error screen and prompted to select another election type or cancel the registration process. If the candidate is eligible to register for this type of election, he is then presented with an official form to fill out. If at any time, the candidate cancels the registration process, the information is discarded and he will be taken back to the registration menu. If he completes and submits the information, he will be presented with a screen detailing the registration procedure for candidates (the official laws), and will be asked if he would like to perform other tasks from the candidate session

2.2 Other Nonfunctional Requirements

1. Usability:
- The system must be easy to use by users such that they do not need to read an extensive amount of manuals.
- The options of the system must be easily navigable by the users with buttons that are easy to understand.
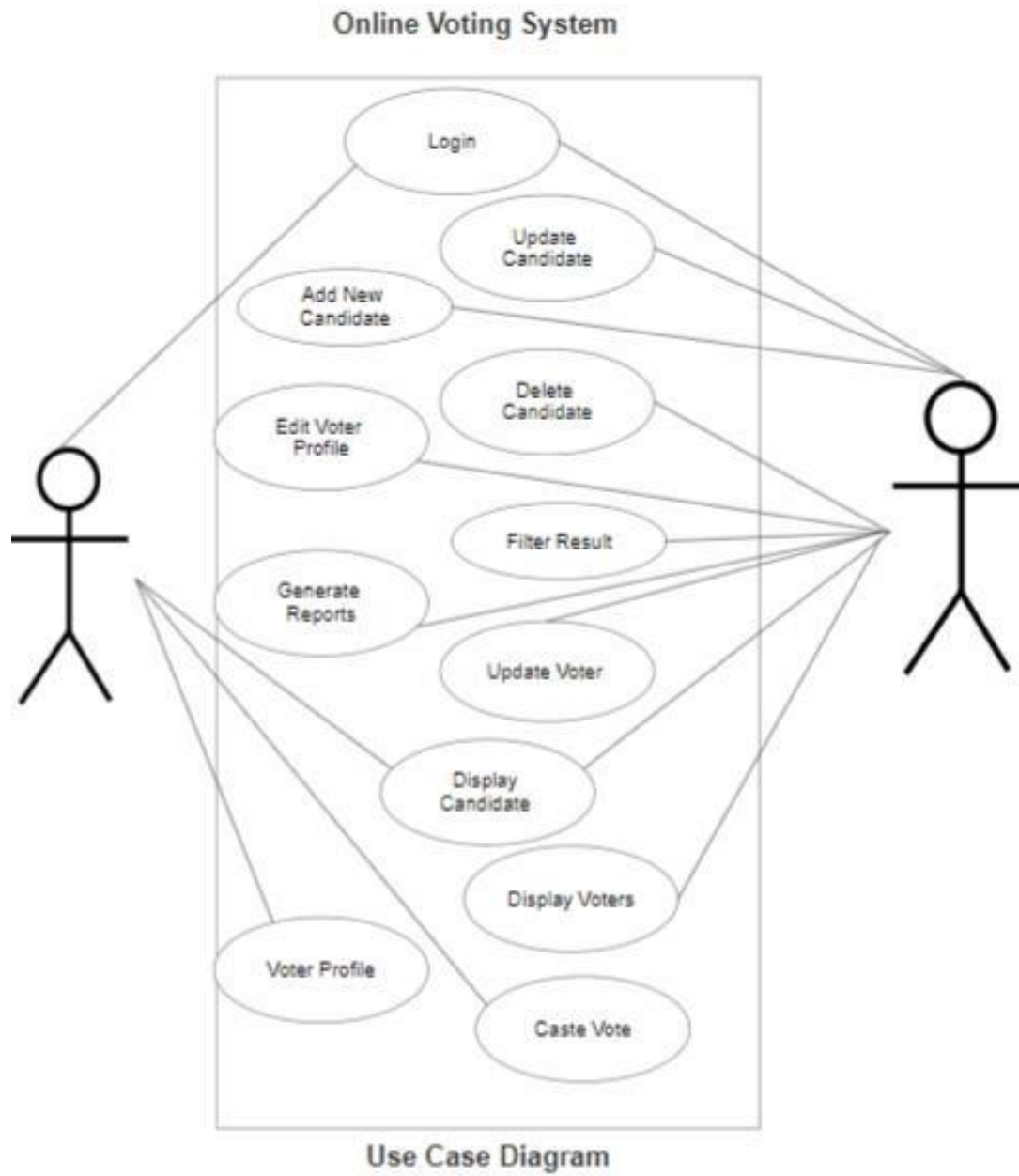
2. Reliability:
- The system should not update the data in any database for any failed processes.
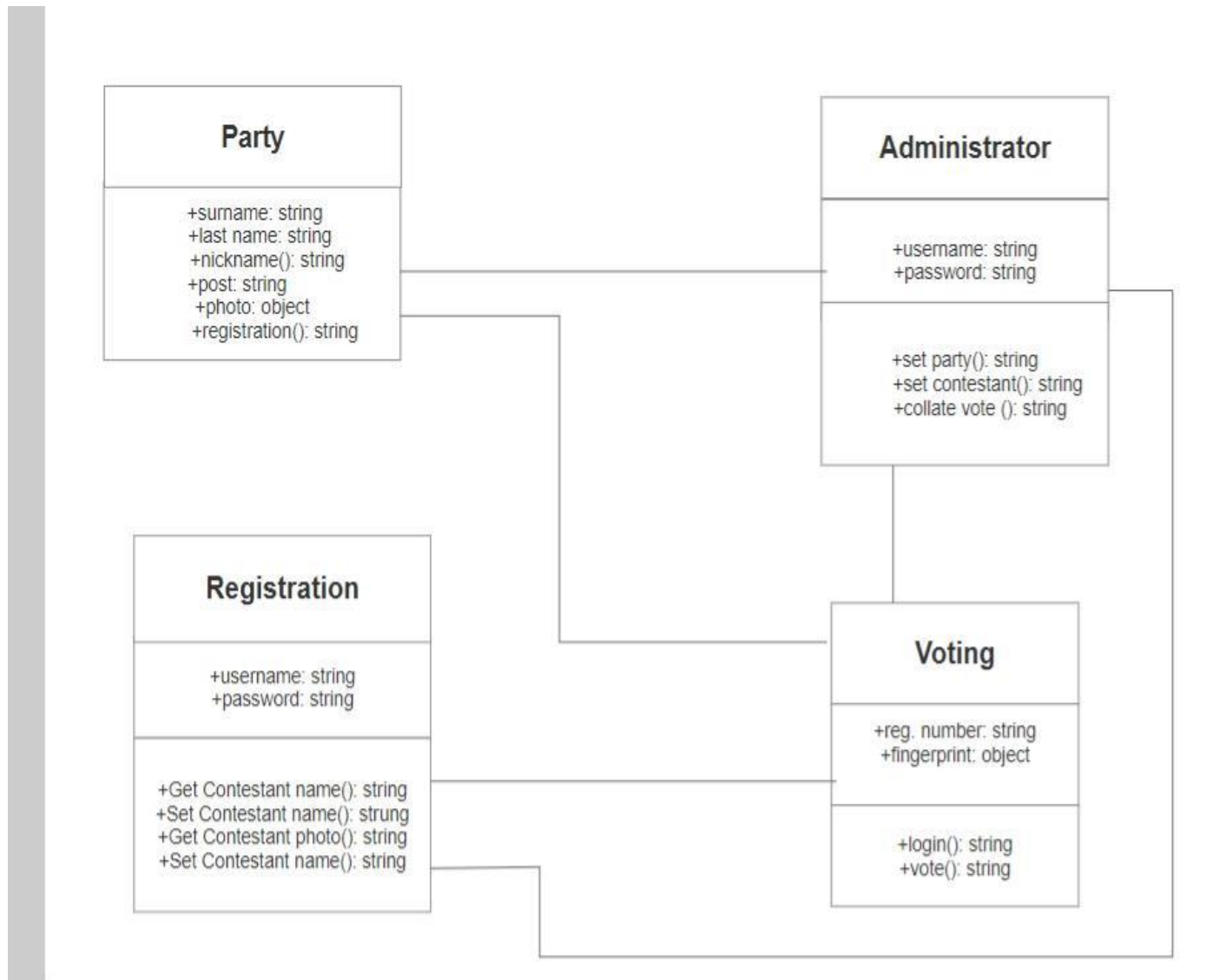- The system is able to update and delete information which is provided by system user very easily.

3. Performance:
- The system must complete updating the databases options successfully every time the user requests such a process.
- All the functions of the system must be available to the user every time the system is turned on.

3. Design

3.1 Use Case Diagram

Online Voting System

Use Case Diagram

3.2 Class Diagram

3.3 Sequence Diagram

Sequence Diagram: online voting system

Voter

Voting System

enter login and password()

Check Validity()

List of candidate display()

Click on vote Button()

If already vote d, Inform voter cannot vote()

Save Data()

Conform vote()

Sequence Diagram: online voting system

Voter		Voting System

enter login and password() →

← Check Validity()

← List of candidate display()

Select Candidate() →

← Candidates Information Display()
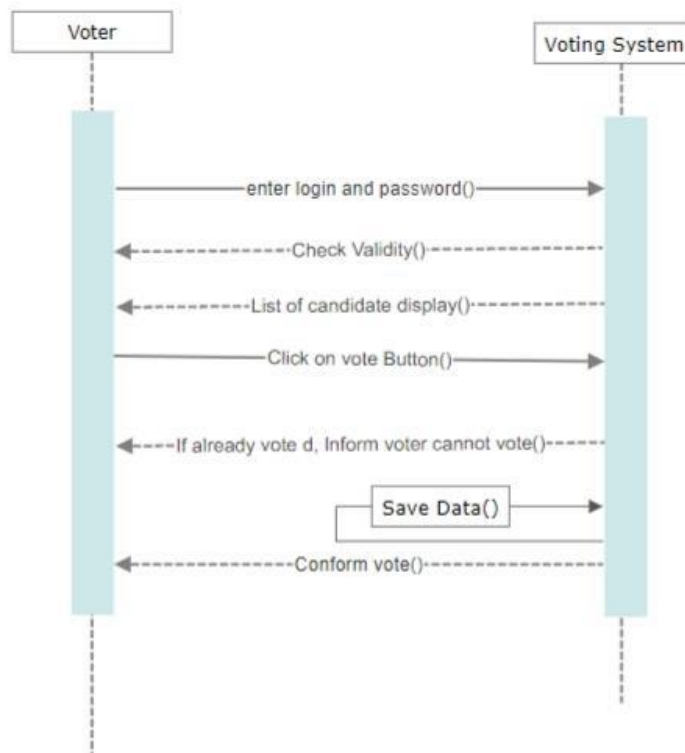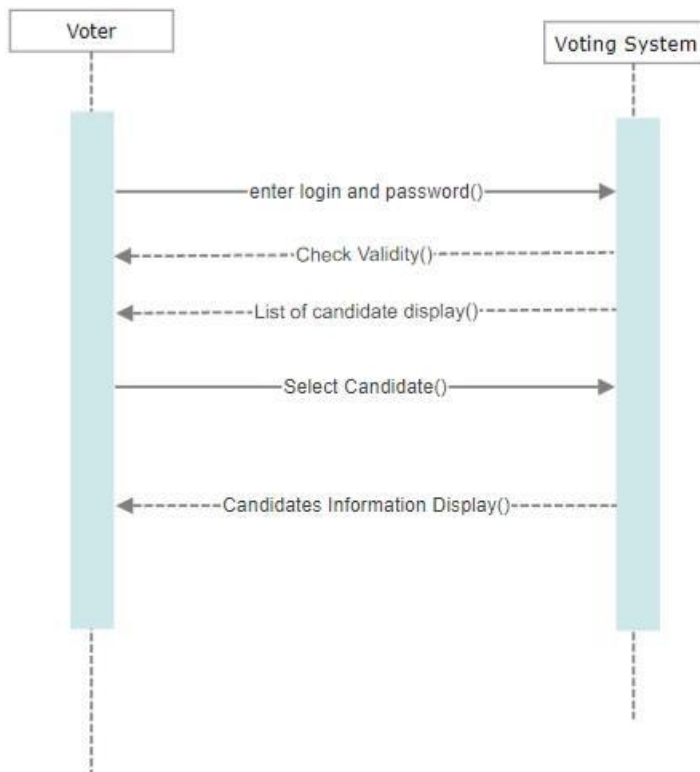
3.4 Activity Diagram
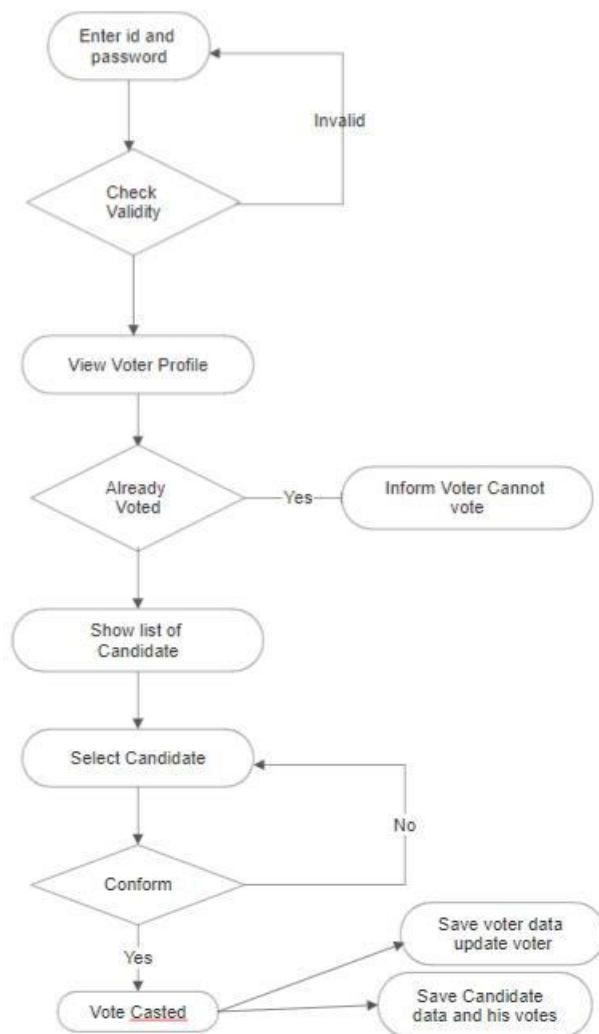
3.5 Data Flow Diagram
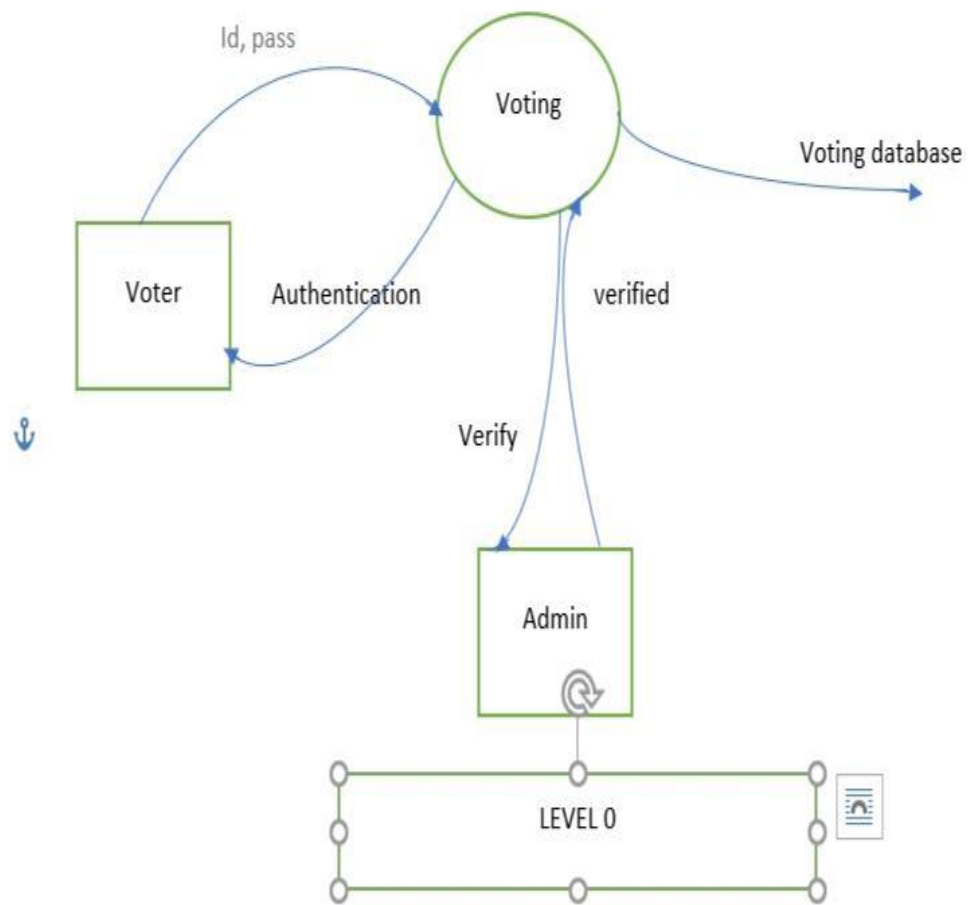
Level 0 : Context Diagram

Login
voter

Access the list

id , pass

Show candidate list

Display
candidate

voter

Logged

Provide list

Admin

Access link
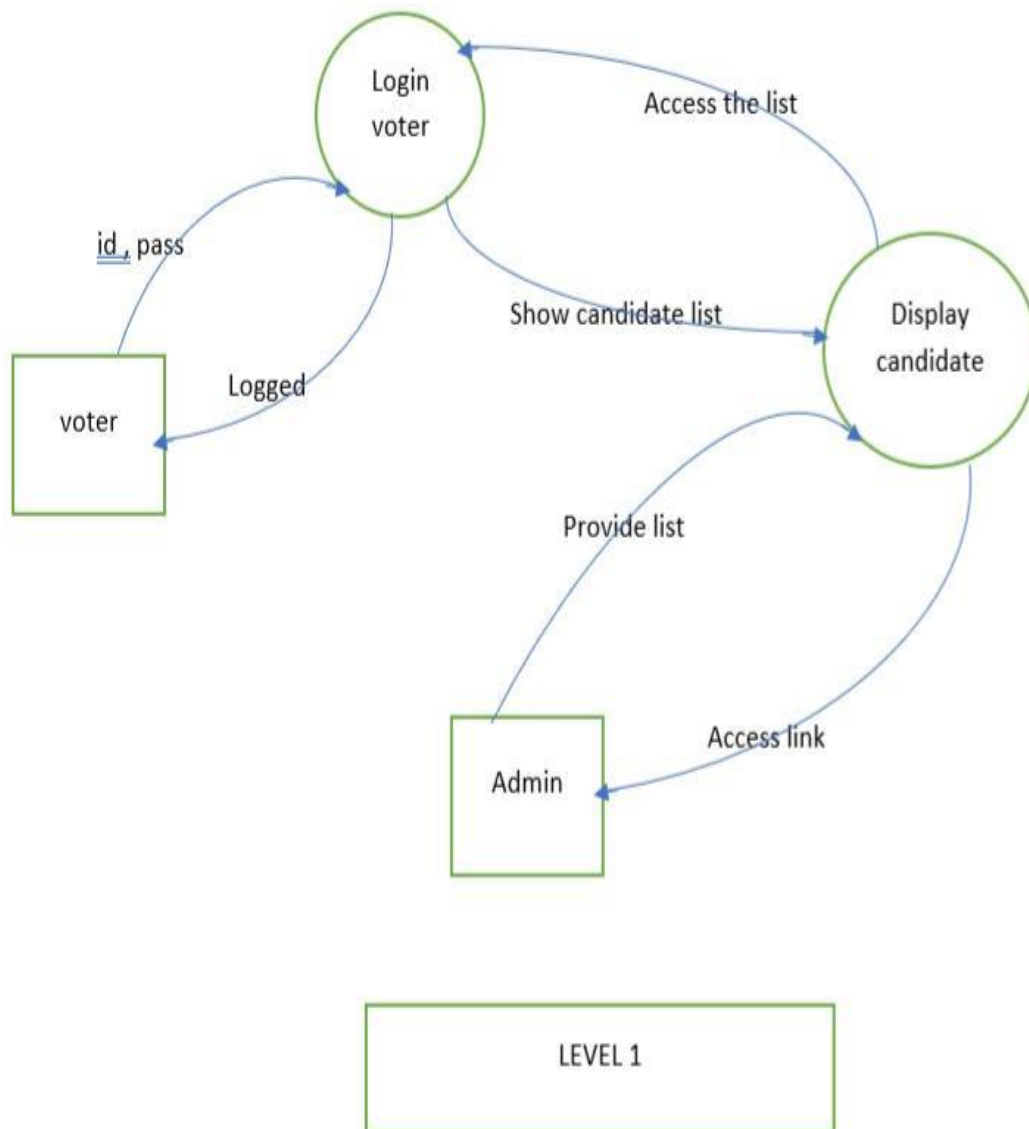
LEVEL 1

Level 1 : DFD

3.6 Structure Chart
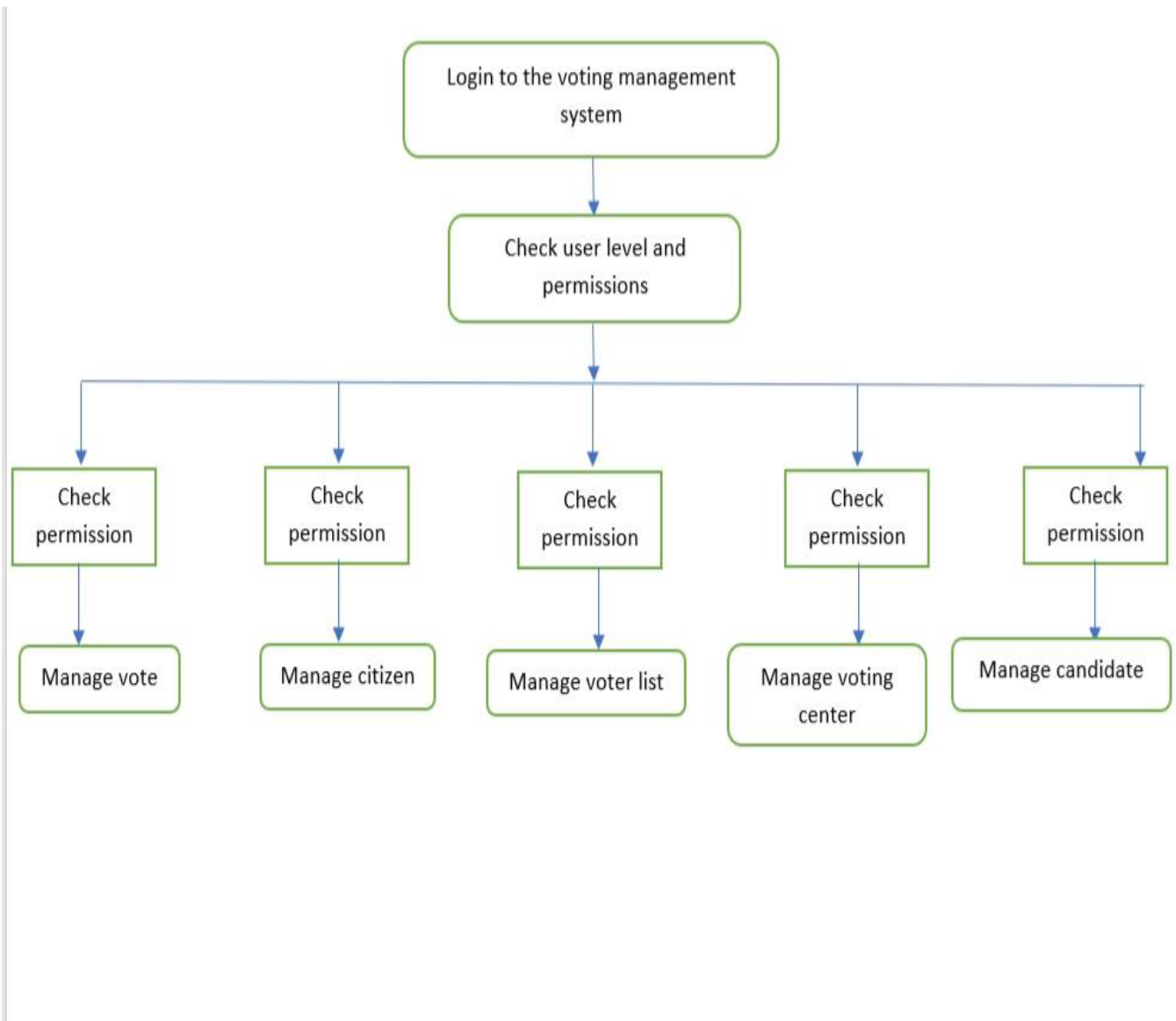
- Data Dictionary

Voter details

ATTRIBUTE	DATA TYPE	LENGTH
NAME		
First Name	Char	20
Second Name	Char	20
Last Name	Char	20
FATHER'S NAME		
First Name	Char	20
Second Name	Char	20
Last Name	Char	20
ADDRESS	Char	50
SEX	Char	1
CONTACT NUMBER	Int	12
PASSWORD	Char	10
AGE	Int	2
COURSE	Char	20
USERNAME	Char	20
ROLL NUMBER	Int	10
ENROLLMENT NUMER	Int	10

Administration Details

ATTRIBUTE	DATA TYPE	LENGTH
USERNAME	Char	20
PASSWORD	Char	20

Login details

ATTRIBUTE	DATA TYPE	LENGTH
STUDENT First Name Second Name Last Name	Char Char Char	20 20 20
USERNAME	Char	20
PASSWORD	Char	10
ROLL NUMBER	Int	10

Implement Details:

Modules

○ The system consists of   basic modules namely

1. Register user Module
2. Login Module
3. Voting module
4. Result Module

1.Register user module

Basic informations of user is taken by system and stored in database.

2.Login user module

User are able to login themselves. System login user in,then and only then user can use other functionalities of system.

3.vote module

Vote module is a vote for a favourite item,persion,like etc. Once you can register successfully then login the voting system. After the login

You vote for any your favourite item,persion,language,like.

4.result module
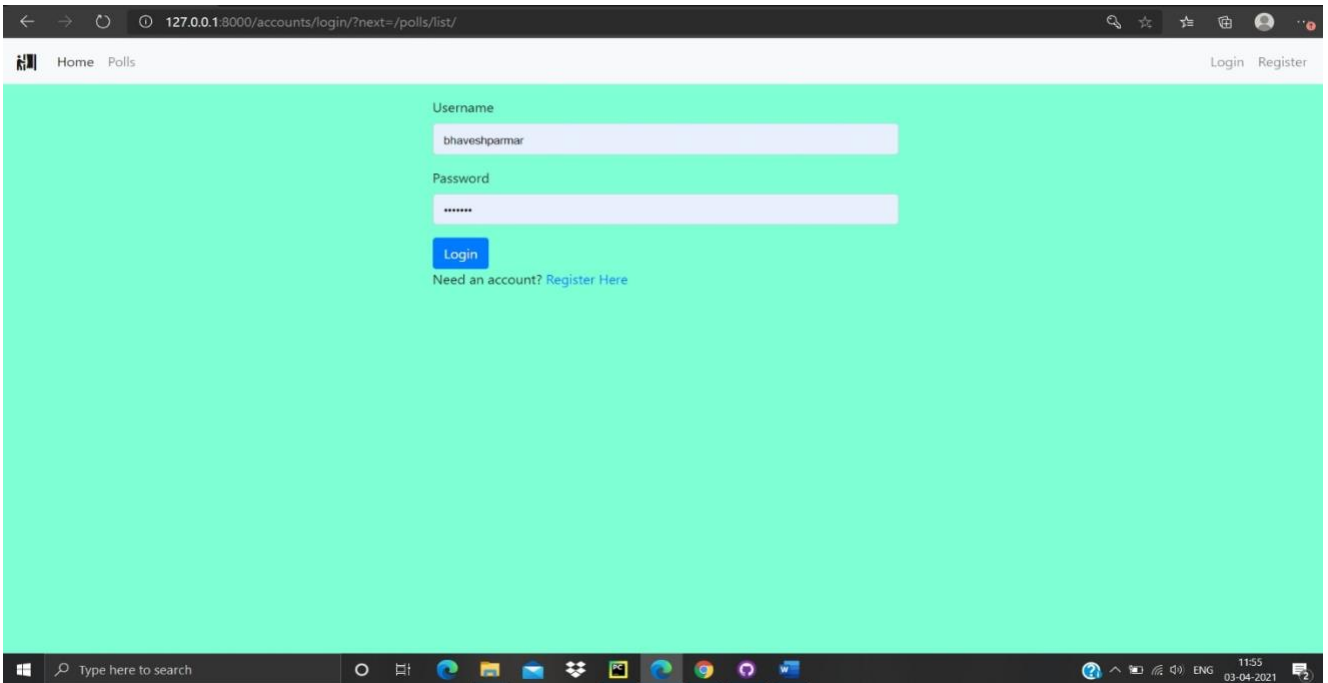
Once the your vote is successfully then show the result.

Screenshots

1.Home panel:-

2.User panel:-

3.Register panel:-
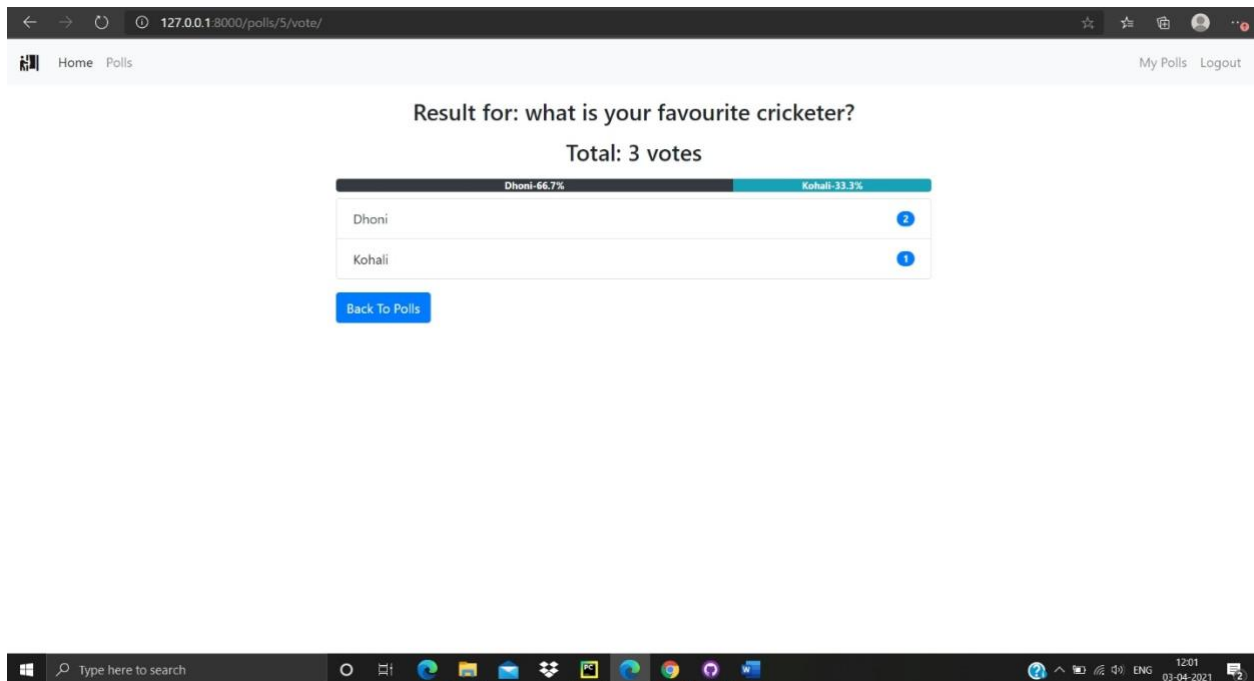
4.Polls list panel:-

5.Poll/vote panel:-
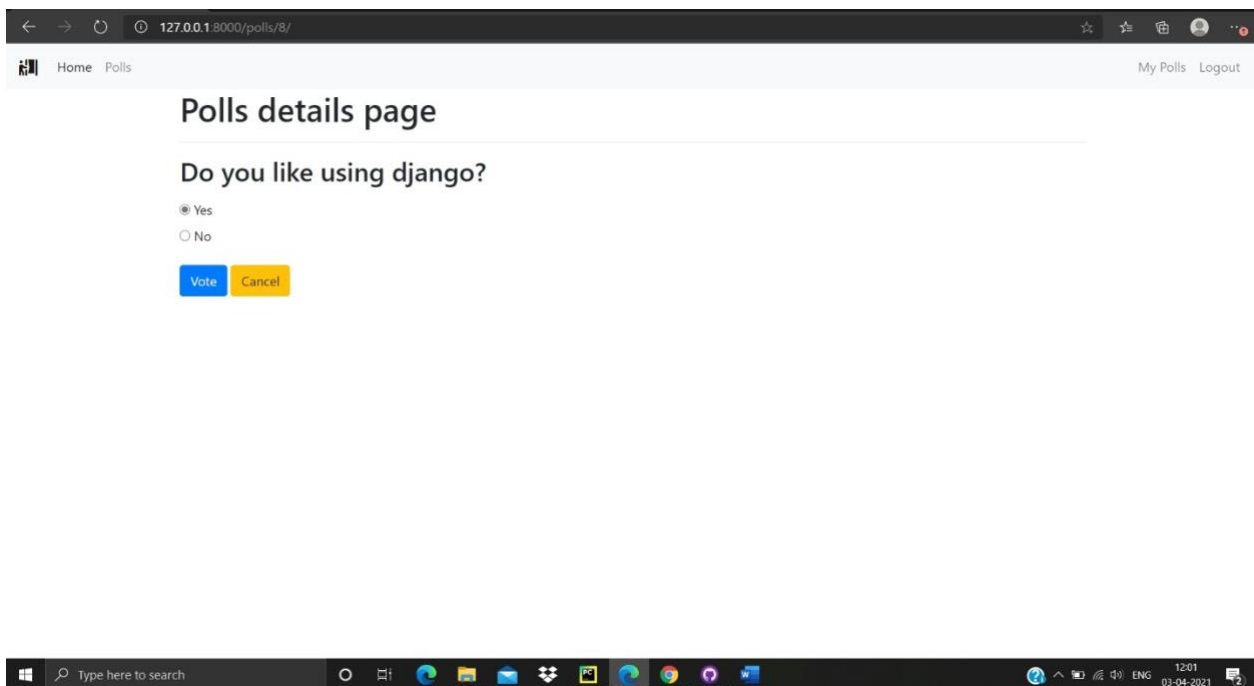
6.Result panel:-

Conclusion:

   After reviewing our work, the conclusion is that after many adjustments the system works. As good as it is now, there can still be made many adjustments/improvements.However in the time was given that two persons can work on this project, the overall results are satisfactory in our opinion. The report covers the entire course of the project and results are there were needed. The first weeks the work progressed slower than expected, then thepace was increased to finish on time.

   For voters, online voting becomes easier. It takes more time if voters go to the polls. Online voting can save time.

○ **Limitations and Future Extensions:**

Unless we ensure quality education for all, including technical and practical knowledge, I-voting will not much bring about any substantial transformation in voting. However, can still predict that in near future it will be implemented. however , it must enable every outside residing person to vote ,whether it is migrated businessman or student or professional or migrated workers.

○ **Reference / Bibliography:**

Following links and website were referred during the development of this project:

- https://getbootstrap.com/
- https://www.djangoproject.com/
- https://github.com/
- http://stackoverflow.com/
- https://codewithharry.com/