A Review-2 Project Report

on

ADVANCED E-VOTING SYSTEM

Submitted in partial fulfillment of the
requirement for the award of the degree of

BTech Computing Science & Engineering

(Established under Galgotias University Uttar Pradesh Act No. 14 of 2011)

Under the
Supervision of

Mr. Anas sir
(Assistant Professor)

Submitted By

Vivek kumar singh(21SCSE1010851)

Damodar (21SCSE1010785)

Raghvendra singh(21SCSE1010799)
Nikhil kumar(21SCSE1010832)

SCHOOL OF COMPUTING SCIENCE AND ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
GALGOTIAS UNIVERSITY, GREATER NOIDA
INDIA
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SCHOOL OF COMPUTING SCIENCE AND ENGINEERING
GALGOTIAS UNIVERSITY, GREATER NOIDA

CANDIDATES DECLARATION

We hereby certify that the work which is being presented in the Review-1 Project Report entitled

"ADVANCED E-VOTING SYSTEM" in partial fulfillment of the requirements for the award

of the <u>BTech Computing Science and Engineering</u> submitted in the School of Computing Science

and Engineering of Galgotias University, Greater Noida, is an original work carried out during the

period of February, 2023 to March, 2023, under the supervision of Ms. Parvesh (Assistant

Professor), Department of Computer Science and Engineering, of School of Computing Science

and Engineering , Galgotias University, Greater Noida.

The matter presented in the Review-1 Project Report has not been submitted by us for the

award of any other degree of this or any other places.

<div align="right">

Damodar   (21SCSE1010785)
Vivek kumar singh(21SCSE1010851)
Rag

</div>

This is to certify that the above statement made by the candidates is correct to the best of my

knowledge.

<div align="right">

Mr. Anas sir

Assistant Professor

</div>

<u>CERTIFICATE</u>

The Review-1 Viva-Voce examination of Damodar (21SCSE1010785), vivek kumar singh (21SCSE1010851), Raghvendra singh(21SCSE1010799), Nikhil kumar (21SCSE1010832)

has been held on 27th March,2023 and their work is recommended for the award of BTech Computing Science and Engineering.

Signature of Examiner(s)   **Signature of Supervisor(s)**

Signature of Project Coordinator   **Signature of Dean**

Date : 27th March, 2023

Place : Greater Noida

Abstract

A web-based online voting system for Indian elections is proposed in this project. Typically, the proposed model has a greater security or in other words, that ensures high security password is confirmed before the vote is accepted in the real-key database of Election Commission of India. The additional feature of the model is that the voter can confirm if his or her vote has moved to the correct candidate/political party. In this particular model, a person can also vote in the elections being far away from his or her allotted constituency or from his/her preferred location. Inside the recommended system, the tallying of the ballots will be achieved automatically, thus saving a huge time and enabling Election Commission of India to announce the end result within a very short period of time.

Keywords : Online Voting system, PHP, My SQL, XAMPP Server.

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CHAPTER I: INTRODUCTION

1.1 Background

The Online voting system (OVS) also known as e-voting is a term encompassing several different types of voting embracing both electronic means of counting votes. Electronic voting technology can include punched cards, optical scan voting systems and specialized voting kiosks (including self contained direct-recording electronic voting systems or DRE). It can also involve transmission of ballots and votes via telephones, private computer networks, or the internet.

Online voting is an electronic way of choosing leaders via a web driven application. The advantage of online voting over the common "queue method" is that the voters have the choice of voting at their own free time and there is reduced congestion. It also minimizes on errors of vote counting. The individual votes are submitted in a database which can be queried to find out who of the aspirants for a given post has the highest number of votes.

This system is geared towards increasing the voting percentage in Nepal since it has been noted that with the old voting method {the Queue System}, the voter turnout has been a wanting case. With system in place also, if high security is applied, cases of false votes shall be reduced.

With the "ONLINE VOTING SYSTEM", a voter can use his\her voting right online without any difficulty. He\She has to register as a voter first before being authorized to vote. The registration should be done prior to the voting date to enable data update in the database.

However, not just anybody can vote. For one to participate in the elections, he/she must have the requirements. For instance, he/she must be a registered citizen i.e. must be 18 and above years old. As already stated, the project 'Online Voting' provides means for fast and convenient voting and access to this system is limited only to registered voters. **[1]**

Internet voting systems are appealing for several reasons which include; People are getting more used to work with computers to do all sorts of things, namely sensitive operations such as shopping and home banking and they allow people to vote far from where they usually live, helping to reduce absenteeism rate.

1.2 Introduction of Organization

"ONLINE VOTING SYSTEM" is an online voting technique. In this system people who have been in an organization and those who participated in election can give his\her vote online without going to any physical polling station. There is a database which is maintained in which all the names of voters with complete information is stored.

In "ONLINE VOTING SYSTEM" a voter can use his\her voting right online without any difficulty. He\She has to be registered first for him/her to vote. Registration is mainly done by the system administrator for security reasons. The system Administrator registers the voters on a special site of the system visited by him only by simply filling a registration form to register voter. Employees seeking registration are expected to contact the system administrator to submit their details. After the validity of them being employees of organization has been confirmed by the system administrator by comparing their details submitted with those in existing databases such as those as the Registrar of Persons, the citizen is then registered as a voter.

After registration, the voter is assigned a secret Voter ID with which he/she can use to log into the system and enjoy services provided by the system such as voting. If invalid/wrong details are submitted, then the citizen is not registered to vote. **[2]**

1.3 Current Situation of the Organization

The current situation of the existing manual system of voting include among others the following:

1. **Expensive and Time consuming**: The process of collecting data and entering this data into the database takes too much time and is expensive to conduct, for example, time and money is spent in printing data capture forms, in preparing registration stations together with human resources, and there after advertising the days set for registration process including sensitizing voters on the need for registration, as well as time spent on entering this data to the database.

2. **Too much paper work**: The process involves too much paper work and paper storage which is difficult as papers become bulky with the population size.

3. **Errors during data entry:** Errors are part of all human beings; it is very unlikely for humans to be 100 percent efficient in data entry.

4. **Loss of registration forms:** Some times, registration forms get lost after being filled in with voters' details, in most cases these are difficult to follow-up and therefore many remain unregistered even though they are voting age nationals and interested in exercising their right to vote.

5. **Short time provided to view the voter register:** This is a very big problem since not all people have free time during the given short period of time to check and update the voter register.

6. Above all, a number of voters end up being locked out from voting.

1.4 Security Issues of Online Voting

Foreign experience revealed that they are often confronted by security issues while the online voting system is running. The origin of the security issues was due to not only outsider (such as voters and attackers) but also insider (such as system developers and administrators), even just because the inheritance of some objects in the source code are unsuitable. These errors caused the voting system to crash.

The proposed solutions were correspondingly outlined to hold back these attacks. For example, to avoid hacker making incursion into the voting system via network, we can design our system to transmit data without network. Another example is to limit voter to input particular data, so that we can prevent the command injection from running. **[3]**

1.5 Objectives of the Project

The specific objectives of the project include:

- ❖ Reviewing the existing/current voting process or approach in Organization ;

- ❖ Coming up with an automated voting system in Organization;

- ❖ Implementing a an automated/online voting system;

- ❖ Validating the system to ensure that only legible voters are allowed to vote.

1.6 Scope of the Project

It is focused on studying the existing system of voting in and to make sure that the peoples vote is counts, for fairness in the elective positions. This is also will produce:

- Less effort and less labor intensive, as the primary cost and focus primary on creating, managing, and running a secure web voting portal.

- Increasing number of voters as individuals will find it easier and more convenient to vote, especially those who are abroad having name on voter list. **[4]**

1.7 Features

- Requires less number of staff during the election.
- This system is a lot easier to independently moderate the elections and subsequently reinforce its transparency and fairness.
- Less capital, less effort, and less labor intensive, as the primary cost and effort will focus primarily on creating, managing, and running a secure online portal.
- Increased number of voters as individual will find it easier and more convenient to vote, especially those abroad. **[5]**

1.8 Methodology/Procedure

➢ For the development of project the designing of database was done on PHPMYADMIN, back end was coded in basic PHP and for frontend we used the same basic PHP codes.

➢ Software methodologies are concerned with the process of creating software – not so much the technical side but the organizational aspects. Several software development approaches have been used since the origin of information technology.

1.9 Project Framework

A framework is a standardized set of concepts, practices, and criteria for dealing with a common type of problem, which can be used as a reference to help us approach and resolve new problems of a similar nature.

The aim of framework is to provide a common structure so that developers don't have to redo it from scratch and can reuse the code provided. In this way, frameworks allows us to cut out much of the work and save a lot of time. **[6]**

1.10 Data and Information

Data collection plays an important role in a projects succession and also it plays an inevitable role in the timely completion of the project. The data in the project includes contact information of the clients and their respective feedbacks/complaints which is stored in a database. To assure safety, only the admin has proper access to the information provided by the clients.

1.10.1 Primary Source of Data

Primary data are the first hand data. The necessary information was collected from day to day observation, problems, instructions of supervisor. queries. and personal discussion with the staff of the organization.

- Observation of working environment
- Informal discussion and interaction with the staff of the library department **[7]**

1.10.2 Secondary Source of Data

The Secondary sources of data were collected in order to achieve the real and fact data as far as available. The major sources of secondary data are as follows:

- Annual reports of the concerned organization
- Related websites

1.11 Tools Used
- ❖ **Xampp:**
    - ○ **Apache:**
        - ▪ (Application Server) Apache , often referred to as Server, is an open-source Java Servlet Container developed by the Apache Software Foundation.
    - ○ **MySqlServer:**
        - ▪ It handles larege databases much faster than existing solutions.
        - ▪ It consists of multi-threaded SQL server that supports different back ends, several different client programs and libraries, administrative tools, and application programming interfaces (APIs)
        - ▪ Its connectivity, speed, and security make MySQL Server highly suited for accessing databases on the Internet.
- ❖ **Sublime Text 3.1.1-** Sublime Text is a sophisticated text editor for code, markup and prose. You'll love the slick user interface, extraordinary features and amazing performance.
- ❖ **Web browsers**: Google Chrome,Mozilla Firefox, Opera and Internet Explorer.
- ❖ **Git Hub**: GitHub Inc. is a web-based hosting service for version control using Git. It is mostly used for computer code. It offers all of the distributed version control and source code management functionality of Git as well as adding its own features.

1.12 Testing
Testing is evaluation of the software against requirements gathered from users and system specifications. Testing identifies important defects, flaws, or an error in the application code that must be fixed .It also assesses the feature of a system. Testing assesses the quality of the product. **[8]**

1.12.1 Unit Testing
Unit testing refers to the testing certain functions and areas of the code. It gives the ability to verify that all the functions work as expected. Eventually, it helps to identify failures in the algorithms as well as logic to help improve the quality of the code that composes a certain function.

1.12.2 Integration Testing
Integration testing is basically a logical extension of unit testing. In simple words, two tested units are combined into a component and the interface between them is tested. It identifies problems that occur when different units are combined The different modules of this project have undergone integration testing while being merged.

1.12.3 System Testing
System testing tests the behavior of whole system as defined by the scope of the development project. It might include tests based on risks as well as requirement specifications, business process, use cases or other high level descriptions of system behavior, interactions with the operating systems and system resources. It is most often the final test performed to verify that the system meets the specification and its objectives. System testing has been performed at the completion of each feature and is still taking place to make improvements on the existing system.

CHAPTER II: TASK AND ACTIVITIES PERFORMED

2.1 System Analysis

System Analysis is a detailed study of the various operations performed by a system and their relationships within and outside of the system. Here the key question is- why all problems exist in the present system? What must be done to solve the problem? Analysis begins when a user or manager begins a study of the program using existing system. During analysis, data collected on the various files, decision points and transactions handled by the present system. The commonly used tools in the system are Data Flow Diagram etc. Training, experience and common sense are required for collection of relevant information needed to develop the system. The success of the system depends largely on how clearly the problem is defined, thoroughly investigated and properly carried out through the choice of solution. A good analysis model should provide not only the mechanisms of problem understanding but also the frame work of the solution. Thus it should be studied thoroughly by collecting data about the system. Then the proposed system should be analyzed thoroughly in accordance with the needs. System analysis can be categorized into four parts.

- System planning and initial investigation
- Information Gathering
- Applying analysis tools for structured analysis
- Feasibility study
- Cost/ Benefit analysis.

In our existing system the recording of user's information is done manually, So taking more time for searching the information of the users. Another major disadvantage is that preparing the list of members that viewed any user's information takes more time. So, after conducting the feasibility study I decided to make the manual Online Voting System to be computerized. **[9]**

2.2 Preliminary Analysis

In the analysis the scope of project and risk associated with it was investigated and found out that Online voting System is one of the most demanding software in the field of politics. It was learnt that rather than using flexible and user-friendly computerized system, they are maintaining all their activities manually with wastage of valuable time. I tried to figured out that some employees were using excel to enter their data. So, through research it was found that the development will surely overcome the overall problems related with the cost and time.

2.3 Problem Analysis

It is related with the accessing the detailed information of a user and a candidate. So, I have initiated this project with simple requirements regarding the user and candidate information. Some of the problems for designing and developing this project are discussed below:

2.3.1 Design and Development Problem
- Problem in running XAMPP.
- To debug the error during the development.
- To show a relationship between entity.
- Minor error with database table. **[10]**

2.4 Feasibility Analysis
A feasibility analysis is conducted once the problem is clearly understood. The purpose of the study is to determine whether the problem is worth solving. It is an analysis and evaluation of a proposed project to determine if it is technically feasible, feasible with the estimated cost and profitable.

2.4.1 Economical Analysis
The economic feasibility of a system is used to evaluate the benefits achieved from and the costs incurred for the project or system. This is done by a process called cost benefit analysis. It provides tangible and intangible benefits like reduction in cost, more flexibility, faster activities, proper database management, etc. **[11]**

The application is medium scale application and is economically feasible for us to accomplish it. This involves cost benefits analysis. Thus there is no problem of high cost and cost benefits analysis.

2.4.2 Software Analysis
- Consumes a long-time for development of web application.
- Research and analysis cost to determine the actual need in real world.
- Implementation of application in the server and cost associated with the space in server.
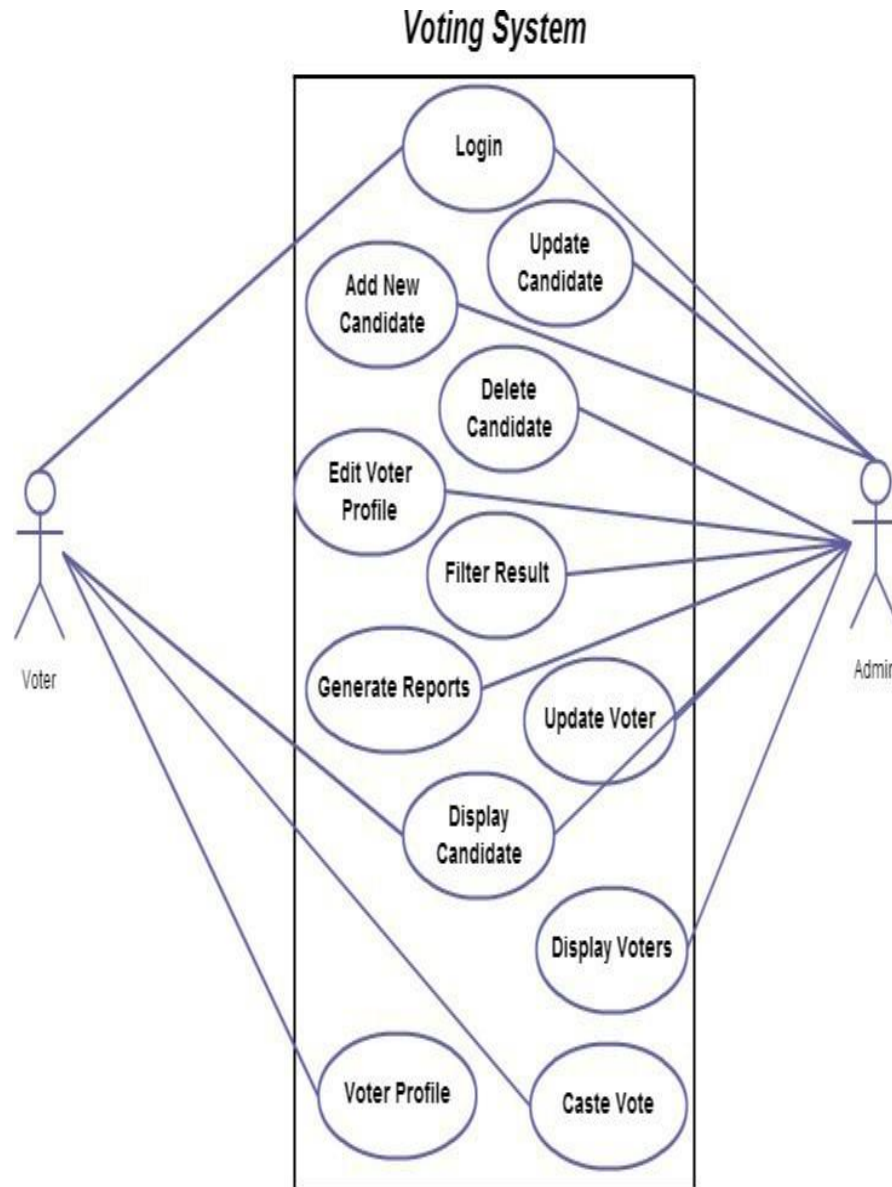
2.4.3 Data Conversion
Another cost associated while implementing this web application is the data conversion. The previously used software database must be stored and backup such that there will be no loss in implementing a new web application which consumes time as well as money.

2.4.4 Operational Feasibility
The system is operational feasible as the system can be operate by normal users with basic computer skills without any additional trainings. We have developed this system with the willingness and ability to create, manage and operate the system which is easy for the end users to operate it.
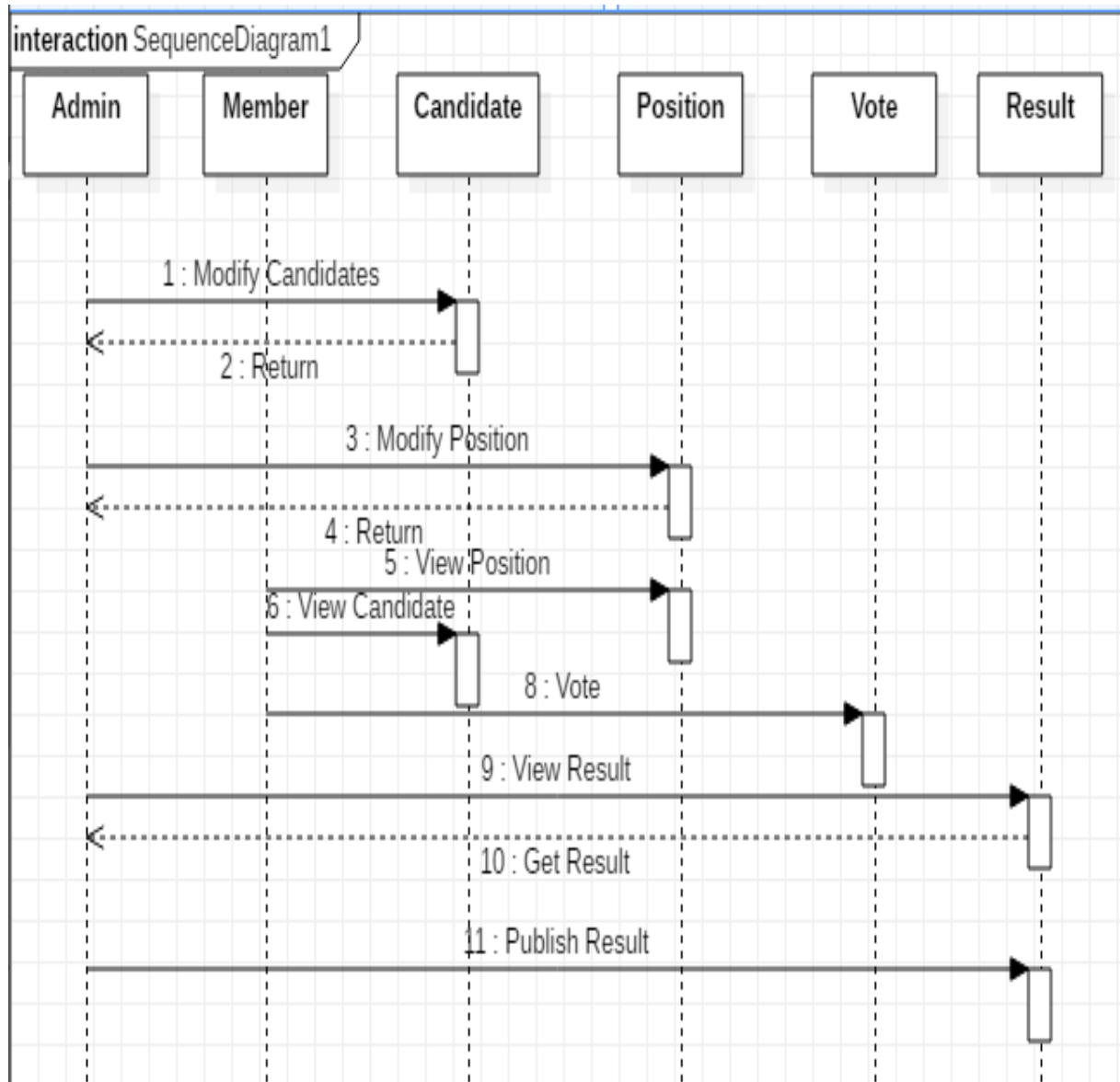
Voting System

Login

Update Candidate

Add New Candidate

Delete Candidate

Edit Voter Profile

Filter Result

Generate Reports

Update Voter

Display Candidate

Display Voters

Voter Profile

Caste Vote

Voter

Admin

Above figure represents Use Case Diagram of the project and is a useful technique for identifying, clarifying, and organizing system requirements. It describes how a user uses a system to accomplish a particular goal. Use cases help ensure that the correct system is developed by capturing the requirements from the user's point of view.

2.6 Sequence Diagram

A sequence diagram is a type of interaction diagram because it describes how—and in what order—a group of objects works together. A sequence diagram specifically focuses on lifelines, or the processes and objects that live simultaneously, and the messages exchanged between them to perform a function before the lifeline ends. **[12]**

Figure 2: Sequence Diagram

Above diagram represents Sequence Diagram of the project which is a type of interaction diagram because it describes how—and in what order—a group of objects works together. A sequence diagram specifically focuses on lifelines, or the processes and objects that live simultaneously, and the messages exchanged between them to perform a function before the lifeline ends.
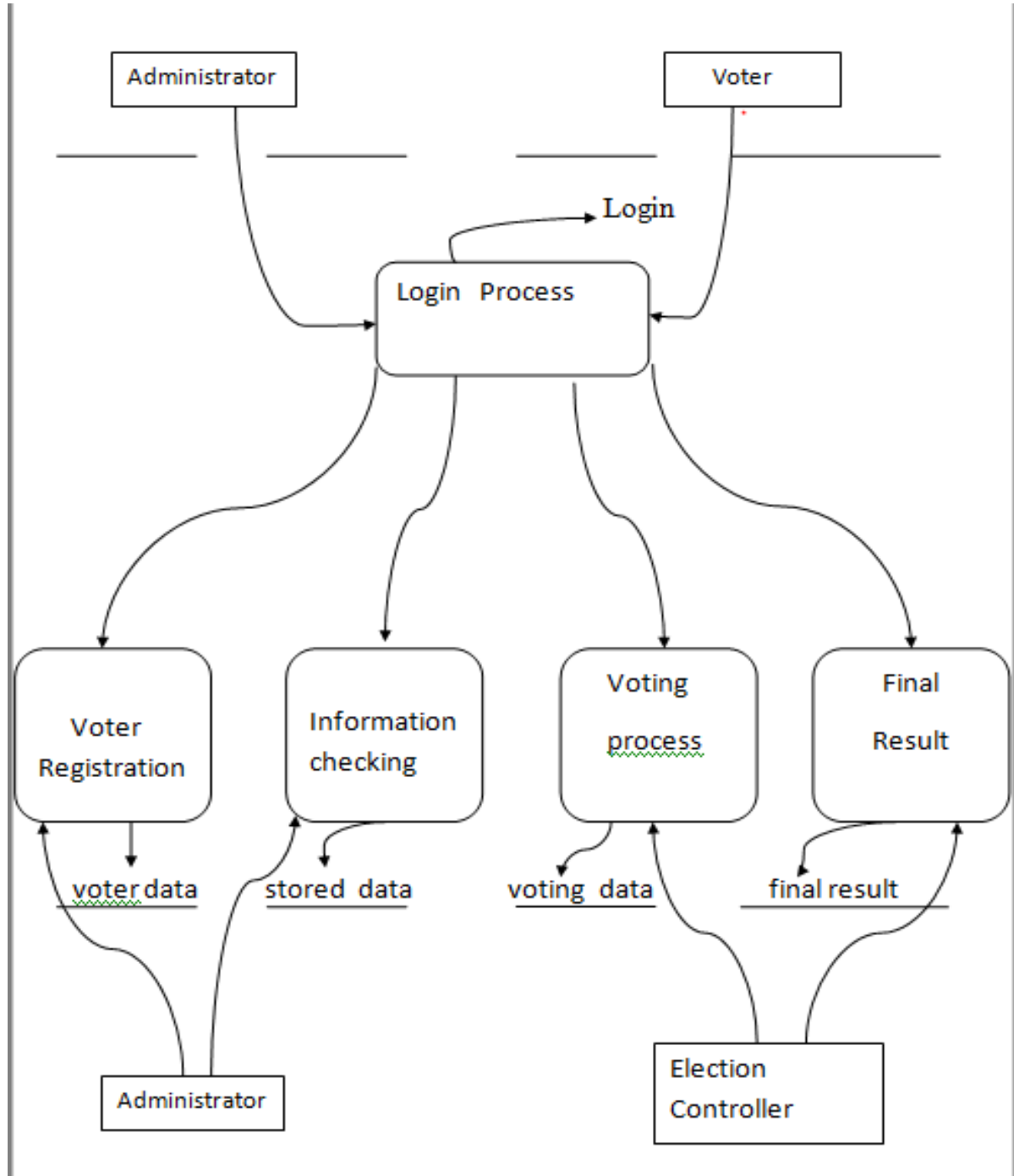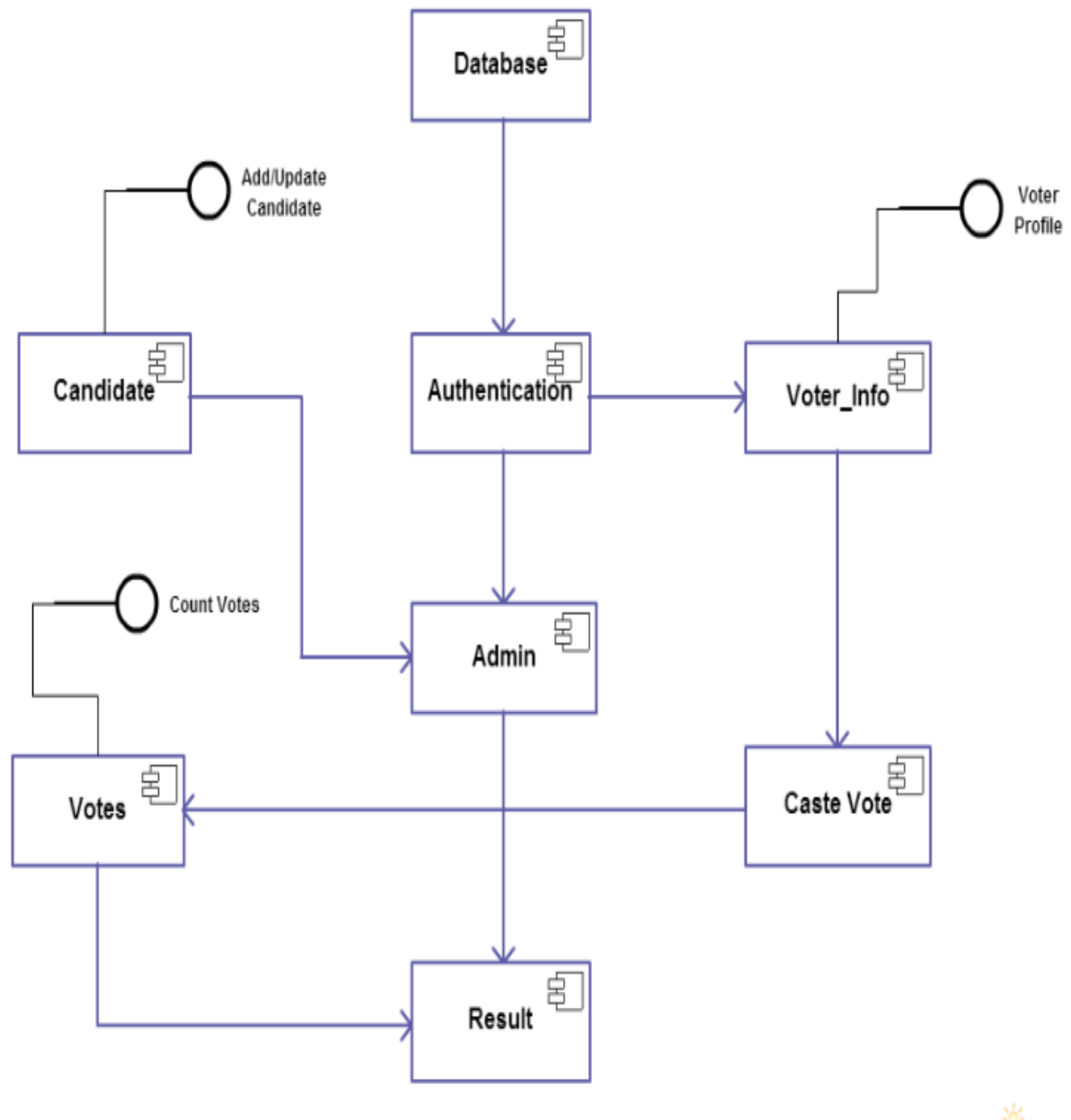
9

2.7 Data Flow Diagram

Figure 3: Dataflow Diagram

Above Data Flow Diagram, explains the overall structure of the system. It shows how and what types of services the client chooses and the amount of admin interaction in it.
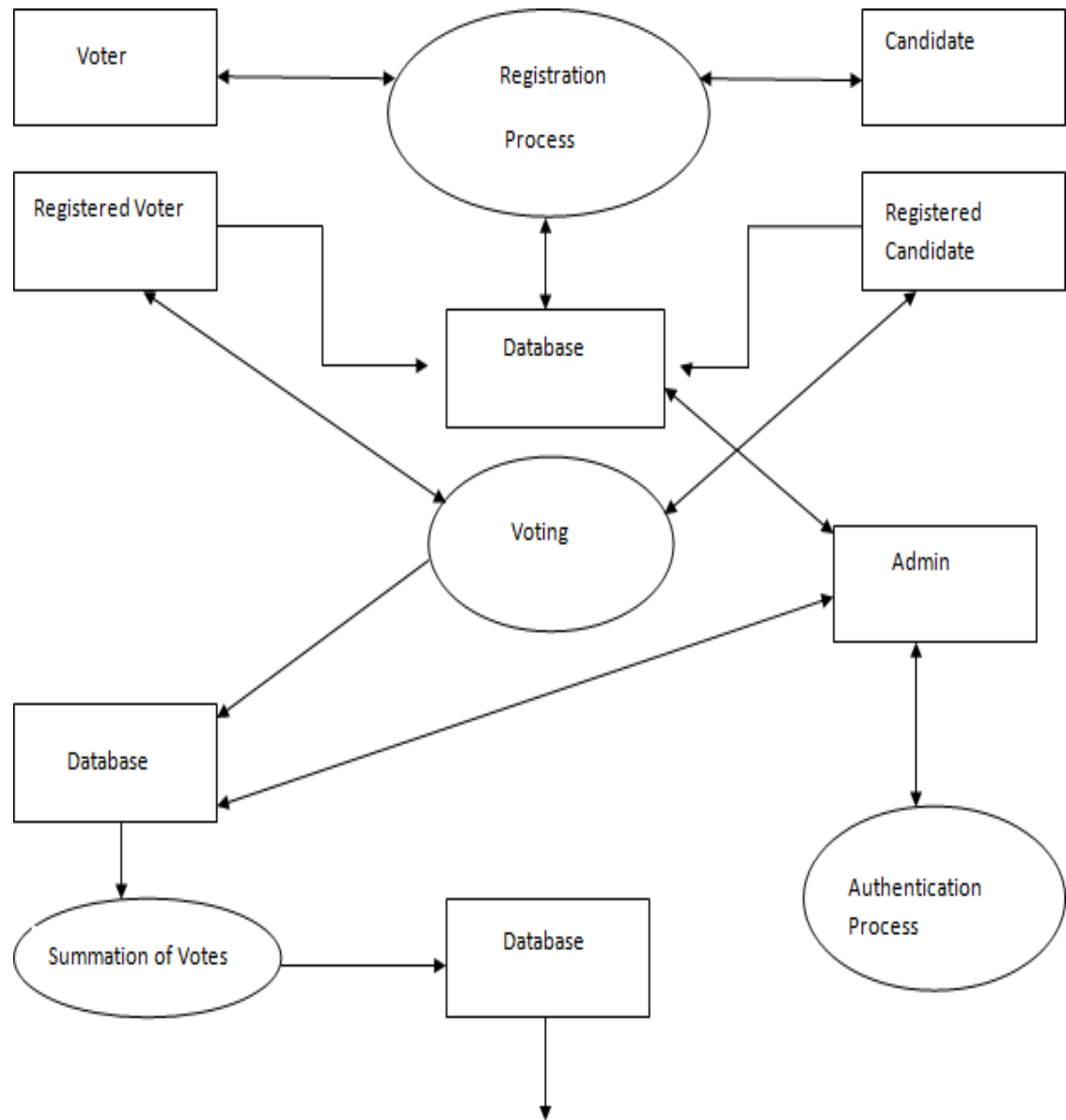
2.8 Activity Diagram

Figure 4: Activity Diagram

Above diagram describes the flow of control of a system. The flow can be sequential, concurrent or branched showing the overall functions of the system.**[13]**

2.9 ER Diagram

Figure 5: ER Diagram

ER diagram show all the relationships between entity sets stored in the database. It illustrates the logical structure of the database. It helps to visualize how data is connected in general ways.

2.11 Test Case

Test Scenario ID	Test Scenario Description	Test Case ID	Test Case Description
TCS_PRS_001	Verify the login functionality	TC_PRS_Login_001	Enter a valid email & valid password
TCS_PRS_002	Verify the login functionality	TC_PRS_Login_002	Enter a valid email & invalid password
TCS_PRS_003	Verify the login functionality	TC_PRS_Login_003	Enter an invalid email & valid password
TCS_PRS_004	Verify the login functionality	TC_PRS_Login_004	Enter an invalid email & invalid password
TCS_PRS_005	Verify the login functionality	TC_PRS_Login_005	Enter none of the credentials
TCS_PRS_006	Verify the login functionality	TC_PRS_Login_006	Enter only password
TCS_PRS_007	Verify the login functionality	TC_PRS_Login_007	Enter only email

Test steps	Pre Conditions	Test data	Post Conditions
1. Enter valid email 2. Enter valid password 3. Click login button	Valid URL Test Data	Email:ghimire.awash15@gmail.com Password: Admin123	Redirect to dashboard page
1. Enter valid email 2. Enter invalid password 3. Click login button	Valid URL Test Data	Email: ghimire.awash15@gmail.com Password:********	Error: Invali Email o Password
1. Enter invalid email 2. Enter valid password 3. Click login button	Valid URL Test Data	Email:********* Password: Admin123	Error: Invali Email o Password
1. Enter invalid email 2. Enter invalid password 3. Click login button	Valid URL Test Data	Email:********* Password:*******	Error: Invali Email o Password
1. Click login button	Valid URL Test Data	Email: Password:	Redirect to dashboard page
1. Enter password 2. Click Login	Valid URL Test Data	Email: Password: Admin123	Please fill o this field
1. Enter email 2. Click Login	Valid URL Test Data	Email: ghimire.awash15@gmail.com Password:	Please fill o this field

Expected Results	Actual Results	Status
Login Successful	Login Successful	Pass
Error: Invalid Email or Password	Login Successful	Fail
Error: Invalid Email or Password	Error: Invalid Email or Password	Pass
Error: Invalid Email or Password	Error: Invalid Email or Password	Pass
Message: Please fill out this field	Login Successful	Fail
Message: Please fill out this field	Error: Please fill out this field	Pass
Message: Please fill out this field	Error: Please fill out this field	Pass

A test case is a specification of the inputs, execution conditions, testing procedure, and expected results that define a single test to be executed to achieve a particular software testing objective, such as to exercise a particular program path or to verify compliance with a specific requirement.

2.12　Findings

After a series of testing and debugging, the project was ready for projection and is believed that it will achieve the goals that it is designed to get, which is to vote in ease.

2.12.1 Application's Output

1.

Figure 6 : Voter's Registration

o　It is the main page used for registration of the voter in our Online Voting System.

2.

o It is the main page used for registration of the voter in our Online Voting System. It displays a message confirming that the user has been successfully registered on the Voting System.

3.

o It is used to login a user into the main UI of the Voting System.

4.

Back	**Online Voting System**	Logout

No groups available right now.

Name : Mohd Faiz Khan

Mobile : 9858745125

Address : Ziyarat Halqe Wali, Rampur (U.P)

Status : Not Voted

Figure 9 : Dashboard

o   Dashboard is the main UI of Voting System.

5.

Group Name : Chief Minister

Votes : 1

Voted

Group Name : MLA

Votes : 0

Voted

Group Name : MP

Votes : 1

Voted

Figure 10 : Candidates

o   Add Candidates for voting purpose.

6.

Group Name : Khaqan

Votes : 1

Voted

Figure 11 : Voter

o   Add Voters for voting purpose in Voting System.

7.

Figure 12 : Ballot Preview

o   Tally the vote immediately showing all the necessary details of the candidate, political party's election symbol, total number of votes received in real-time and position.

2.12.2 Application's Source code

o **SQL Source Code :-**

```sql
SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET AUTOCOMMIT = 0;
START TRANSACTION;
SET time_zone = "+00:00";


/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;


--
-- Database: `online-voting-system`
--

-- -----------------------------------------------------------

--
-- Table structure for table `user`
--

CREATE TABLE `user` (
`id` int(11) NOT NULL,
`name` text NOT NULL,
`mobile` bigint(10) NOT NULL,
`password` int(11) NOT NULL,
`address` varchar(255) NOT NULL,
`photo` varchar(255) NOT NULL,
`status` int(11) NOT NULL,
`votes` int(11) NOT NULL,
`role` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;


--
-- Indexes for dumped tables
--


--
-- Indexes for table `user`
--
```

```sql
ALTER TABLE `user`
ADD PRIMARY KEY (`id`);


--
-- AUTO_INCREMENT for dumped tables
--


--
-- AUTO_INCREMENT for table `user`
--
ALTER TABLE `user`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=8;
COMMIT;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

➢ The above SQL commands and queries have been used to create a database for our Online Voting System to store and retrieve the information from this database in SQL.

o **PHP Source Code :-**

```html
<html>
  <head>
    <title>Online voting system - Home</title>
    <link rel="stylesheet" href="css/stylesheet.css">
  </head>
  <body>

      <center>
      <div id="headerSection">
      <h1>Online Voting System</h1>
      </div>
      <hr>

      <div id="loginSection">
        <h2>Login</h2>
        <form action="api/login.php" method="POST">
          <input type="number" name="mob" placeholder="Enter mobile" required><br><br>
          <input type="password" name="pass" placeholder="Enter password" required><br><br>
          <select name="role" style="width: 15%; border: 2px solid black">
            <option value="1">Voter</option>
```

```html
            <option value="2">Group</option>
          </select><br><br>
          <button id="loginbtn" type="submit" name="loginbtn">Login</button><br><br>
          New user? <a href="routes/register.php">Register here</a>
        </form>
      </div>

    </center>
  </body>
</html>
```

➢ The above PHP code has been used to index the project application.

       o **PHP Source Code (API) :-**

```php
<?php
  include("connection.php");

  $name = $_POST['name'];
  $mobile = $_POST['mob'];
  $pass = $_POST['pass'];
  $cpass = $_POST['cpass'];
  $add = $_POST['add'];
  $image = $_FILES['image']['name'];
  $tmp_name = $_FILES['image']['tmp_name'];
  $role = $_POST['role'];

  if($cpass!=$pass){
    echo '<script>
        alert("Passwords do not match!");
        window.location = "../routes/register.php";
      </script>';
  }
  else{
    move_uploaded_file($tmp_name,"../uploads/$image");
    $insert = mysqli_query($connect, "insert into user (name, mobile, password, address, photo, status, votes, role)
values('$name', '$mobile', '$pass', '$add', '$image', 0, 0, '$role') ");
    if($insert){
      echo '<script>
          alert("Registration successfull!");
          window.location = "../";
        </script>';
    }
```

```
        }

    ?>
```

➢ The above PHP code has been used to create and insert the data into the Registration Page of our Voting System, which also serves as the API.

- o **PHP Source Code :-**

```html
<html>
  <head>
    <title>Online voting system - Registratrion</title>
    <link rel="stylesheet" href="../css/stylesheet.css">
  </head>
  <body>
    <center>
      <div id="headerSection">
      <h1>Online Voting System</h1>
      </div>
      <hr>

      <h2>Registration</h2>
        <form action="../api/register.php" method="POST" enctype="multipart/form-data">
          <input type="text" name="name" placeholder="Name" required>&nbsp
          <input type="number" name="mob" placeholder="Mobile" required><br><br>
          <input type="password" name="pass" placeholder="Password" required>&nbsp
          <input type="password" name="cpass" placeholder="Confirm Password" required><br><br>
          <input style="width: 31%" type="text" name="add" placeholder="Address" required><br><br>
          <div id="upload" style="width: 30%">
            Upload image: <input type="file" id="profile" name="image" required>
          </div><br>
          <div id="upload" style="width: 30%">
            Select your role:
            <select name="role">
              <option value="1">Voter</option>
              <option value="2">Group</option>
            </select><br>
          </div><br>
          <button id="loginbtn" type="submit" name="registerbtn">Register</button><br><br>
          Already user? <a href="../">Login here</a>
        </form>
      </center>
  </body>
```

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</html>

➤ The above PHP code has been used for displaying the Registration Page of our Voting System.

          ○ **PHP Source Code :-**

```php
<?php
  session_start();
  include("connection.php");

  $mobile = $_POST['mob'];
  $pass = $_POST['pass'];
  $role = $_POST['role'];

  $check = mysqli_query($connect, "select * from user where mobile='$mobile' and password='$pass' and role='$role' ");

  if(mysqli_num_rows($check)>0){
    $getGroups = mysqli_query($connect, "select name, photo, votes, id from user where role=2 ");
    if(mysqli_num_rows($getGroups)>0){
      $groups = mysqli_fetch_all($getGroups, MYSQLI_ASSOC);
      $_SESSION['groups'] = $groups;
    }
    $data = mysqli_fetch_array($check);
    $_SESSION['id'] = $data['id'];
    $_SESSION['status'] = $data['status'];
    $_SESSION['data'] = $data;
    echo '<script>
        window.location = "../routes/dashboard.php";
      </script>';
  }
  else{
    echo '<script>
        alert("Invalid credentials!");
        window.location = "../";
      </script>';
  }

?>
```

➤ This PHP code has been used to create the Login Page of our Voting System, which also serves as the API.

```php
<?php
    session_start();
    session_destroy();
    header("location: ../");
?>
```

➢ The above PHP code has been used which helps the user logout of the Voting System with ease.

```php
<?php
    session_start();
    if(!isset($_SESSION['id'])){
        header("location: ../");
    }
    $data = $_SESSION['data'];

    if($_SESSION['status']==1){
        $status = '<b style="color: green">Voted</b>';
    }
    else{
        $status = '<b style="color: red">Not Voted</b>';
    }
?>


<html>
    <head>
        <title>Online voting system - Dashboard</title>
        <link rel="stylesheet" href="../css/stylesheet.css">
    </head>
    <body>

        <center>
        <div id="headerSection">
        <a href="../"><button id="back-button"> Back</button></a>
        <a href="logout.php"><button id="logout-button">Logout</button></a>
        <h1>Online Voting System</h1>
        </div>
        </center>
```

```php
<hr>

<div id="mainSection">
  <div id="profileSection">
    <center><img src="../uploads/<?php echo $data['photo']?>" height="100" width="100"></center><br>
    <b>Name : </b><?php echo $data['name'] ?><br><br>
    <b>Mobile : </b><?php echo $data['mobile'] ?><br><br>
    <b>Address : </b><?php echo $data['address'] ?><br><br>
    <b>Status : </b><?php echo $status ?>
  </div>
  <div id="groupSection">
    <?php

    if(isset($_SESSION['groups'])){
      $groups = $_SESSION['groups'];
      for($i=0; $i<count($groups); $i++){
        ?>
          <div style="border-bottom: 1px solid #bdc3c7; margin-bottom: 10px">
          <img style="float: right" src="../uploads/<?php echo $groups[$i]['photo']?>" height="80" width="80">
          <b>Group Name : </b><?php echo $groups[$i]['name']?><br><br>
          <b>Votes :</b> <?php echo $groups[$i]['votes']?><br><br>
          <form method="POST" action="../api/vote.php">
          <input type="hidden" name="gvotes" value="<?php echo $groups[$i]['votes'] ?>">
          <input type="hidden" name = "gid" value="<?php echo $groups[$i]['id'] ?>">
          <?php

          if($_SESSION['status']==1){
            ?>
            <button disabled style="padding: 5px; font-size: 15px; background-color: #27ae60; color: white; border-radius: 5px;" type="button">Voted</button>
            <?php
          }
          else{
            ?>
            <button style="padding: 5px; font-size: 15px; background-color: #3498db; color: white; border-radius: 5px;" type="submit">Vote</button>
            <?php
          }
          ?>
          </form>
          </div>
        <?php
      }
    }
    else{
```

```
                    ?>
                        <div style="border-bottom: 1px solid #bdc3c7; margin-bottom: 10px">
                           <b>No groups available right now.</b>
                        </div>
                    <?php
                }
                ?>
            </div>
        </div>
    </body>
</html>
```

➢ The above PHP code has been used to create and display the Dashboard (main UI) of our Voting System.

        ○ **PHP Source Code (API) :-**

```
<?php
    session_start();
    include("connection.php");

    $votes = $_POST['gvotes'];
    $total_votes= $votes+1;
    $gid = $_POST['gid'];
    $uid = $_SESSION['id'];

    $update_votes = mysqli_query($connect, "update user set votes='$total_votes' where id='$gid'");
    $update_status = mysqli_query($connect, "update user set status=1 where id='$uid'");

    if($update_status and $update_votes){
        $getGroups = mysqli_query($connect, "select name, photo, votes, id from user where role=2 ");
        $groups = mysqli_fetch_all($getGroups, MYSQLI_ASSOC);
        $_SESSION['groups'] = $groups;
        $_SESSION['status'] = 1;
        echo '<script>
                alert("Voting  successfull!");
                window.location = "../routes/dashboard.php";
            </script>';
    }
    else{
        echo '<script>
                alert("Voting failed!.. Try again.");
                window.location = "../routes/dashboard.php";
```

```
            </script>';
    }

?>
```

➢ The above PHP code has been used which helps the voter to cast the vote with ease in the Voting System. It updates the tally of the number of votes casted in real-time and also displays a message when the vote has been casted successfully or throws an error when the voting goes unsuccessful, asking the user to try again. It also serves as the API.

- o **PHP Source Code :-**

```php
<?php
$connect = mysqli_connect("localhost", "root", "", "online-voting-system");

?>
```

➢ The above PHP code has been used to establish a connection between the SQL database and the Voting System Application and also serves as the API.

- o **CSS Source Code :-**

```css
input  {
  padding: 10px;
  border-radius: 5px;
}

select {
  padding: 10px;
  border-radius: 5px;
}

#upload {
  padding: 10px;
  border-radius: 5px;
  border: 2px solid black;
}

#headerSection {
  padding: 2px;
  font-family: Cursive;
}
```

```css
#loginSection {
  padding: 5px;
}

body {
  background-color: #b8e994;
}

#loginbtn {
  padding: 5px;
  font-size: 15px;
  background-color: #3498db;
  color: white;
  border-radius: 5px;
}

#reglink {
  padding: 5px;
  font-size: 15px;
  background-color: #3498db;
  color: white;
  border-radius: 5px;
  text-decoration: none;
}

a {
  text-decoration: none;
}

#mainSection {
  padding: 10px;
}

#profileSection {
  width: 30%;
  float: left;
  background-color: white;
  padding: 20px;
}

#groupSection {
  width: 60%;
  float: right;
  background-color: white;
```

```css
    padding: 20px;
}

#back-button {
  float: left;
  margin-left: 20px;
  margin-top: 20px;
  padding: 5px;
  font-size: 15px;
  background-color: #3498db;
  color: white;
  border-radius: 5px;
}

#logout-button {
  float: right;
  margin-right: 20px;
  margin-top: 20px;
  padding: 5px;
  font-size: 15px;
  background-color: #3498db;
  color: white;
  border-radius: 5px;
}
```

➢ The above CSS code has been used to create the style and design of our Voting System application, basically the front-end portion.

Chapter III: CONCLUSION & DISCUSSION

3.1 Conclusion

This Online Voting system will manage the Voter's information by which voter can login and use his voting rights. The system will incorporate all features of voting system. It provides the tools for maintaining voter's vote to every party and it count total no. of votes of every party. There is a database which is maintained by the Sarwamangal Youth Club in which all the names of voter with complete information is stored.

In this member who had registered his/her information on the database and when he/she want to vote he/she has to login by his email and password and can vote to any candidate only single time. Voting detail store in database and the result is displayed by calculation. By online voting system percentage of voting is increases. It decreases the cost and time of voting process. It is very easy to use and it is vary less time consuming. It is very easy to debug.

3.2 Future Enhancement

With the existing constraints, the developed systems is not what was planned initially. The primary aim of this project has been met. All the objectives that were set out have been completed and giving positive results in the ends. In the future some features that can be added will be about the two factor authentication. Although the user requirements were successfully met the application is not yet fully utilized because the users of this website are just learning about the benefits and working of the website. The user testing and evaluation of the application did however highlight rooms for the expansion. The application could therefore be developed further as soon as the user is fully aware of its working

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