**A**

**MINI PROJECT REPORT**

**ON**

**“Online Voting System”**

**SUBMITTED BY**

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**Academic Year 2022-2023**

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And Management

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**(Approved by AICTE, Recognized by DTE, Mah.; Affiliated to SPPU)**

**Ref:** DYPIMCAM/Acad/Note/ 35/23 Date:16/03/2023

**CERTIFICATE**

This is to certify that the Project entitled

**“Online Voting System”**

Has been successfully completed

By

**SHUBHAM KAILAS DESHMUKH**

Towards the partial fulfilment of

M.C.A. (Master of Computer Application)

Under

Savitribai Phule PuneUniversity for

Academic Year 2022-2023

**Mrs. Yogeshwari Yawalkar**

**Internal Project Guide Internal Examiner**

**Dr. Kavita Suryawanshi Dr. K Nirmala**

**HOD-MCA, Vice Principal Director**

**External Examiner**

**Acknowledgement**

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Shubham Deshmukh

MCA I

Div- B

(21728)

**Dr. D. Y. Patil Pratishthan’s**

**D. Y. Patil Institute of Master of Computer Applications and Management**

**(M.C.A. Programme)**

(Approved by AICTE, New Delhi & Affiliated to Savitribai Phule Pune University)

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**Chapter 1: Introduction**

1. An online student council voting system is a platform that allows students to vote for their preferred candidates running for positions in their school's student council. It is a digital alternative to traditional paper-based voting systems that were used in the past.
2. The system is designed to make the voting process more accessible, convenient, and efficient for students, as it can be accessed from any device with an internet connection. It also eliminates the need for physical ballot boxes, reducing the risk of tampering and ensuring a fair and transparent election process.
3. The online student council voting system typically consists of a website or a web-based application that allows candidates to create their profiles and provide information about their campaigns and platforms. Students can access the platform using their school-issued credentials and cast their votes for the candidates of their choice.
4. The system also allows for real-time vote counting and result reporting, providing immediate feedback on the election outcome. This not only saves time but also ensures accuracy and transparency in the election process.
5. Overall, an online student council voting system is a modern and efficient approach to student council elections, ensuring fair and transparent elections while encouraging student participation and engagement in the democratic process.
   1. **Objectives**
6. Efficiency: To create a system that streamlines the voting process and reduces the time and effort required to conduct student council elections.
7. Accessibility: To create a system that allows all students to easily participate in the voting process, regardless of their location or physical abilities.
8. Security: To create a secure and tamper-proof system that ensures the integrity of the voting process and prevents any fraudulent activities.
9. Transparency: To create a system that provides transparency to the voting process and allows students to view the results of the election.
10. User-Friendliness: To create a system that is easy to use and understand for both students and administrators.
11. Cost-Effective: To create a system that is cost-effective and requires minimal resources to implement and maintain.
    1. **Existing System and Need of System**

**Existing System**

1. Paper-based voting: This is the most traditional form of voting. Voters fill out a paper ballot and drop it into a ballot box. The votes are then manually counted by election officials.
2. Electronic voting: Electronic voting systems use electronic machines to record and count votes. These machines can be touchscreen or lever-operated, and some systems also provide a paper trail for auditing purposes.
3. Hybrid voting: This system combines elements of paper-based and electronic voting. Voters use a touchscreen machine to make their selections, which is then printed out on paper. The paper ballots are then counted manually.
4. Blockchain-based voting: This system uses blockchain technology to create a tamper-proof ledger of votes. Voters cast their votes electronically, and the results are recorded on the blockchain, providing a transparent and secure voting system.

**Need Of System**

1. Accessibility: Online voting systems allow voters to cast their votes from anywhere, as long as they have access to the internet. This makes voting more convenient for people who are unable to physically visit a polling station due to geographical, physical, or time constraints.
2. Efficiency: Online voting systems are faster and more efficient than paper-based systems. They eliminate the need for manual counting of votes, and results can be tabulated and announced much more quickly.
3. Cost-effective: Online voting systems can be more cost-effective than paper-based systems. They eliminate the need for printing and distributing paper ballots, and the cost of hiring election officials to count votes.
4. Increased participation: Online voting systems can increase voter participation by making it easier and more convenient for people to cast their votes. This can lead to higher voter turnout and a more representative election.
5. Eco-friendly: Online voting systems are more environmentally friendly than paper-based systems, as they eliminate the need for printing and distributing paper ballots, reducing the amount of paper waste.
6. Accessibility for disabled voters: Online voting systems can be designed to be accessible to disabled voters, allowing them to cast their votes independently and confidentially.
7. Increased accuracy: Online voting systems can be designed with built-in checks and balances to ensure that votes are accurately recorded and counted. They can also reduce errors caused by illegible handwriting or other human errors that can occur during manual vote counting.
   1. **Scope of work**
8. Student participation: An Online Student Council Voting System can increase student participation in the electoral process by making it more accessible, convenient, and user-friendly.
9. Election administration: The system can streamline the election administration process, making it faster, more efficient, and less prone to errors.
10. Cost-effective: The system can be more cost-effective than traditional paper-based systems, as it eliminates the need for printing and distributing paper ballots and hiring manual vote counters.
11. Accessibility for remote students: An Online Student Council Voting System can allow remote students who are studying from home or off-campus to participate in the electoral process, thereby increasing the inclusivity of the system.
12. Time efficiency: The system can save time for both the election organizers and the voters by eliminating the need for physical attendance and reducing the time required for counting and verifying votes.
13. Better data management: The system can store and manage voter data securely, and can provide automated processes for voter registration and verification, reducing the likelihood of errors or discrepancies.
14. Increased student involvement: The system can encourage more students to get involved in the electoral process, not only as voters but also as candidates or election organizers.

**1.4 Operating Environment-Hardware and Software**

**Hardware:**

1. Desktop PC or a Laptop
2. Intel® CoreTM i3-6006U CPU @ 2.00GHz
3. RAM 4 GB
4. 64-bit operating system, x64 based processor
5. 1024 x 768 monitor resolution

**Software:**

1. Operating System : Windows 8(or above)-license copy
2. Front End : JSP , HTML, CSS , JavaScript
3. Back End : Core Java
4. Database : MySQL
5. Documentation tools: Draw.io and Star UML

**1.5 Technology Used**

1. Java Servlet and Jsp Concept
2. Eclipse
3. Xampp
4. Tomcat 9.0

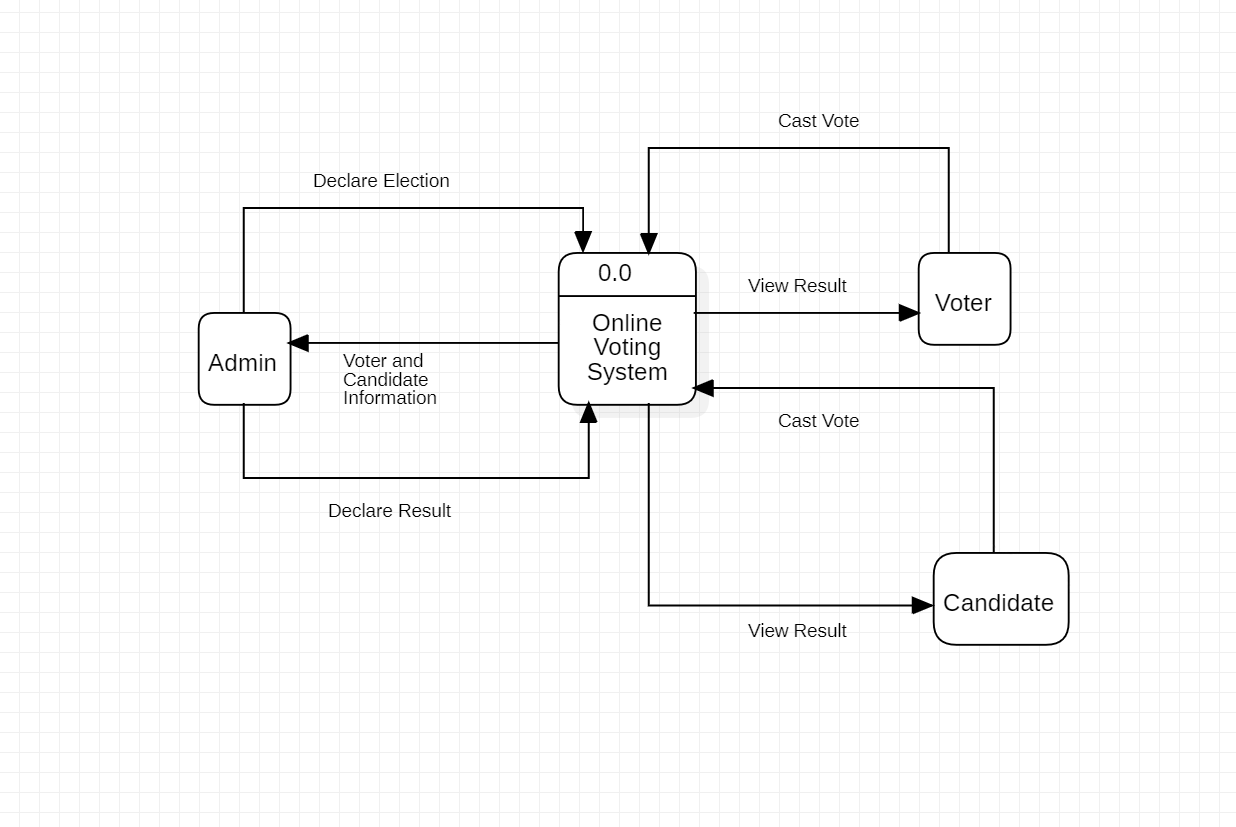
**1.6 Module Specification**

1. Authentication Module : This module is responsible for verifying the identity of the voters using unique login credentials such Reg No and password.
2. Voter Registration Module : This module allows new voters to register for the election by providing their personal information such as name, email, college details, and contact details. The module should also validate the information provided to ensure that the voter is eligible to participate in the election.
3. Candidate registration module: This module allows candidates to register for the election by providing their personal information and their agenda or manifesto.
4. Voting module: This module allows voters to cast their votes online. The module should provide an easy-to-use interface and support various types of voting methods such as first-past-the-post (FPTP), preferential voting, or ranked voting. The module should also ensure the confidentiality of the voting process and prevent any attempts of double voting or vote manipulation.
5. Vote counting module: This module is responsible for counting the votes and declaring the election results. The module should be able to handle large volumes of data and provide accurate and transparent results.
6. Administration module: This module allows the administrators to manage the election process such as creating new elections, managing voter and candidate information, and monitoring the voting process.

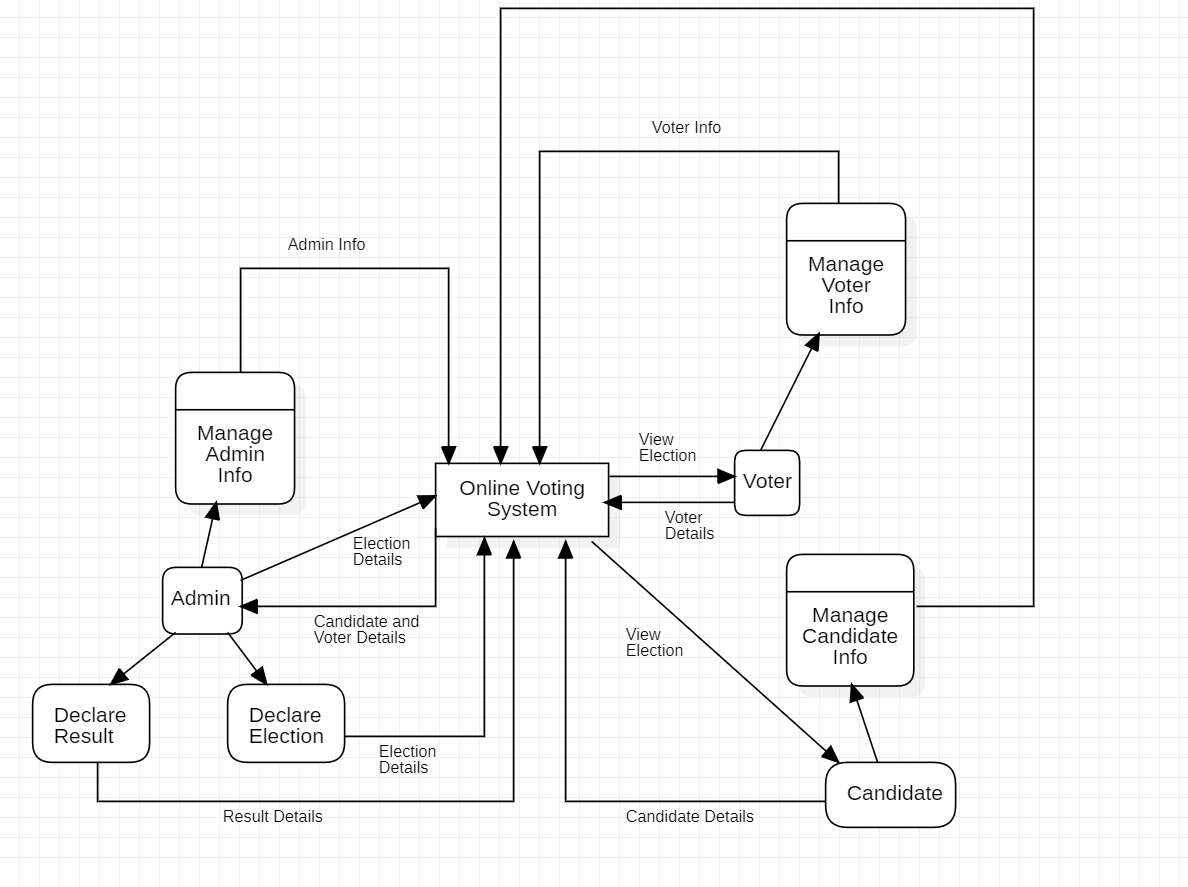
**Chapter 2: Analysis & Design**

**2.1 Data Flow Diagram**

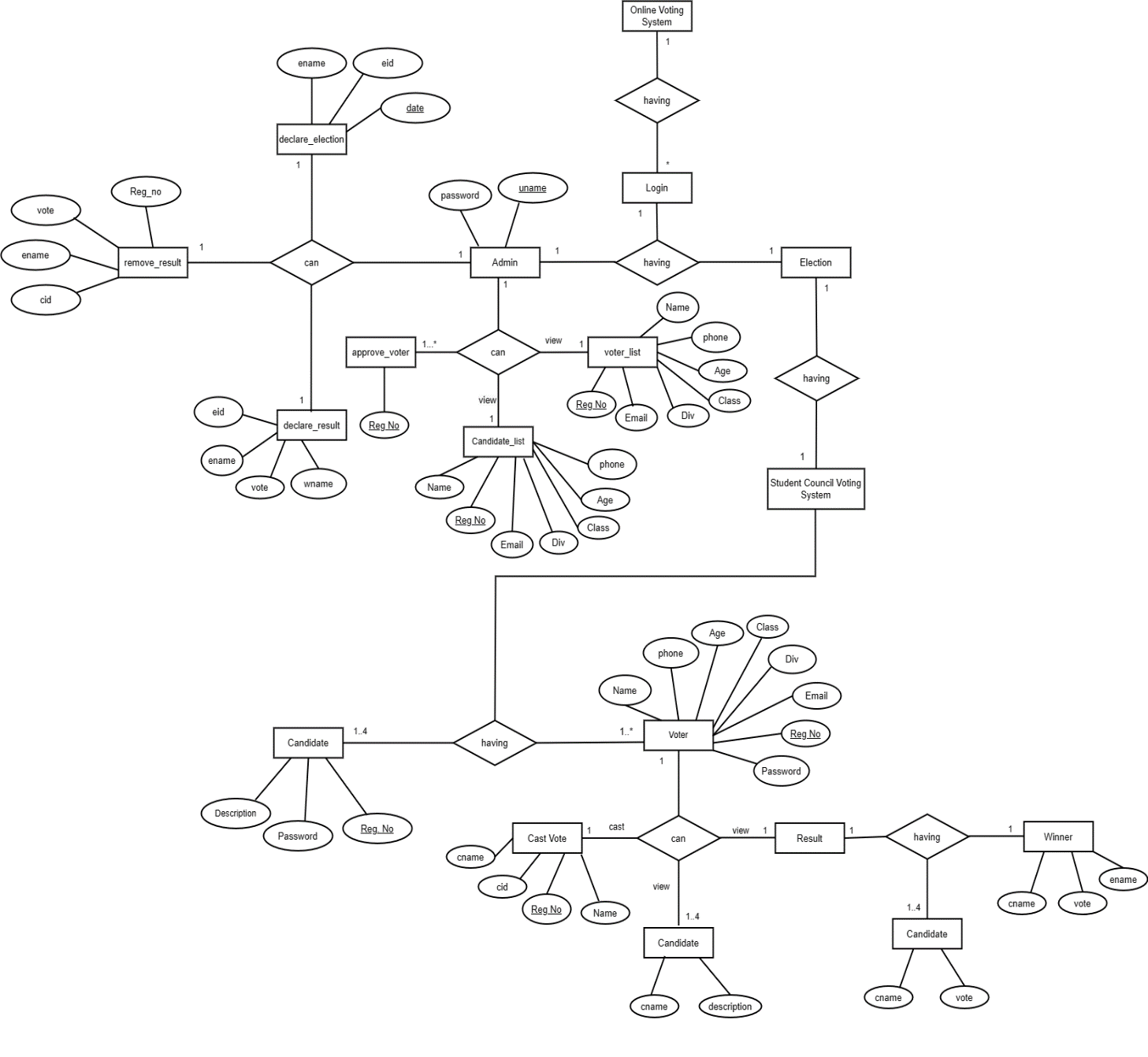
* **Zero level Data flow Diagram:**

****

* **Level One Data Flow Diagram:**

****

**2.2 Entity Relationship Diagram:**

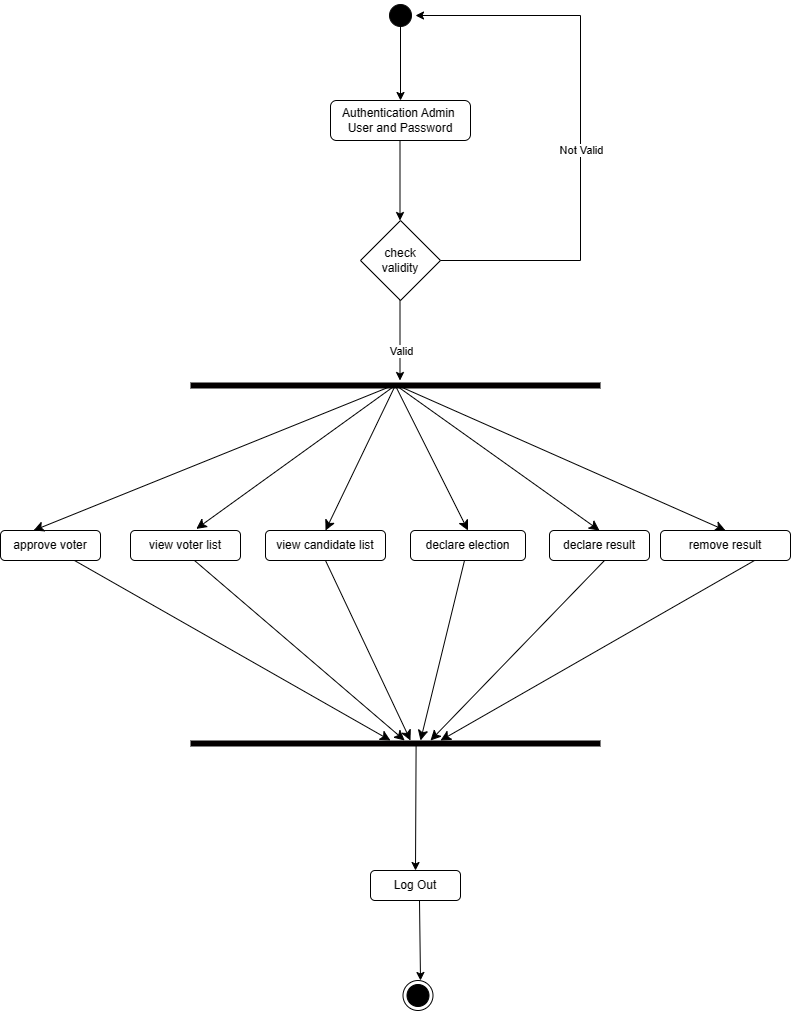
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**2.3 Use Case Diagram :**

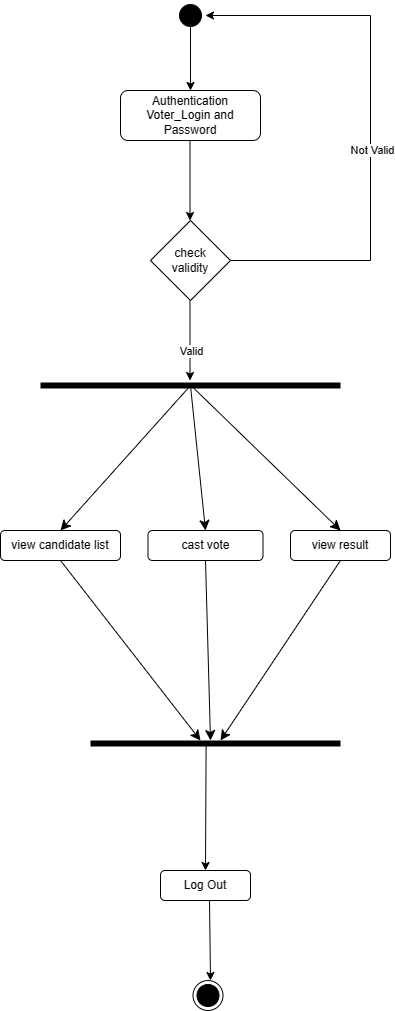
****

**2.4 Activity Diagram**

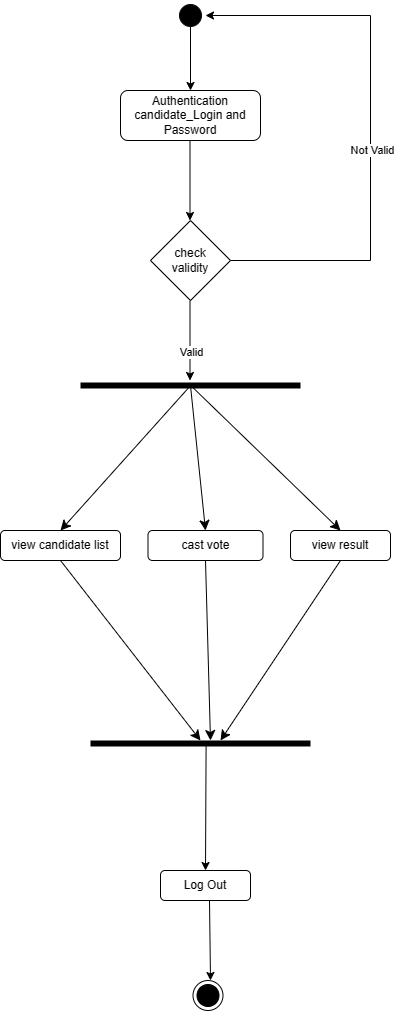
* **Admin Activity Diagram :**

****

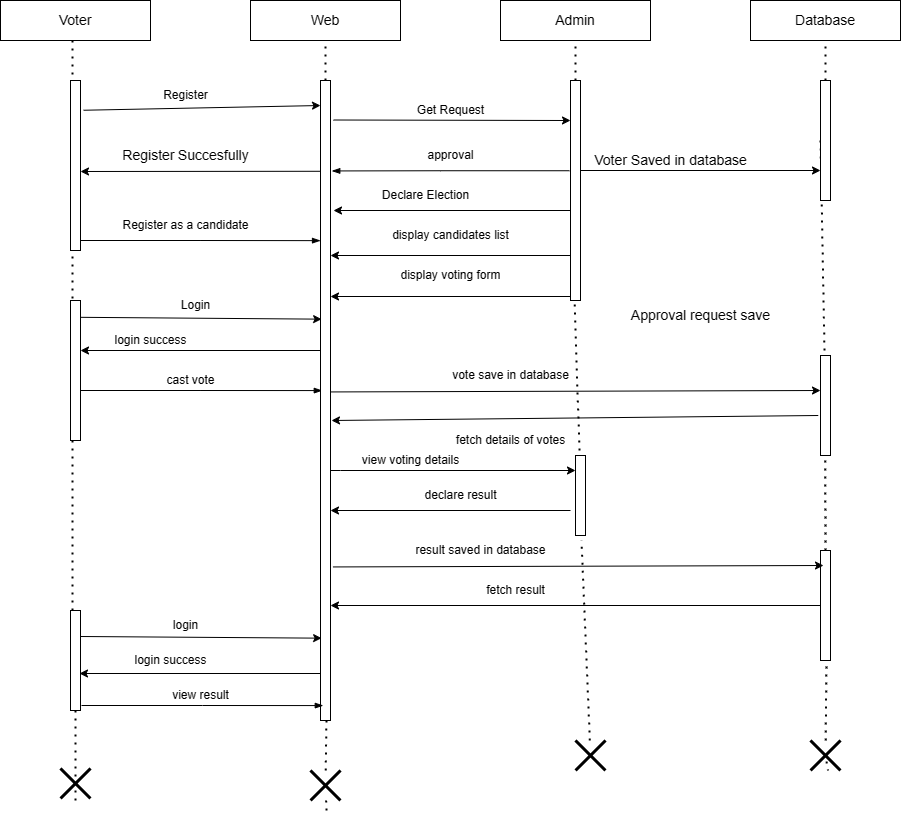
* **Voter Activity Diagram :**

****

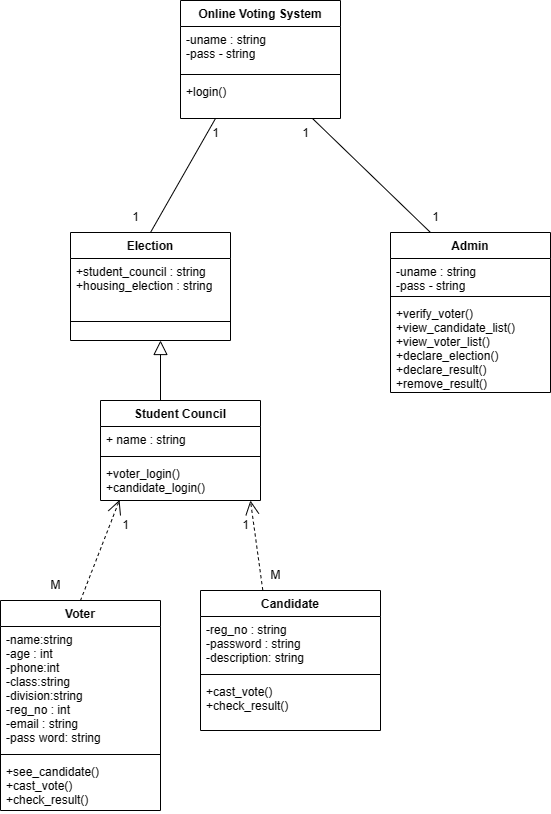
* **Candidate Activity Diagram :**

****

**2.5 Sequence Diagram :**

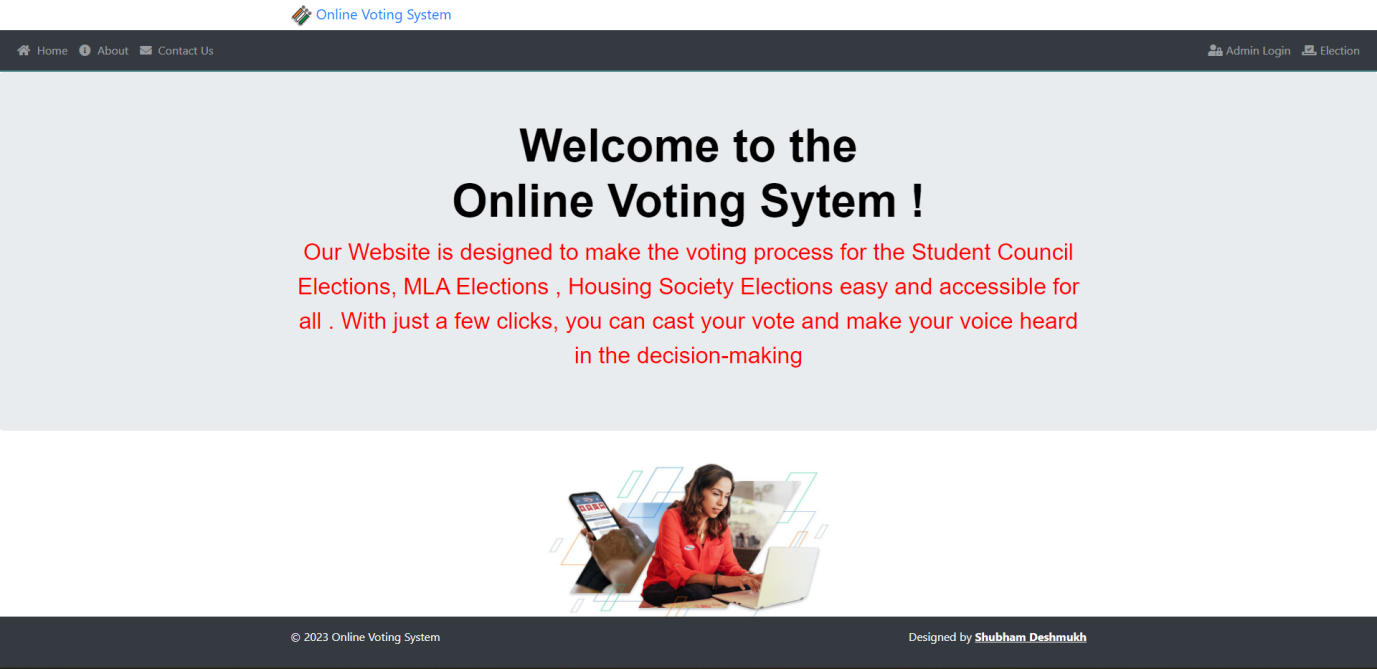
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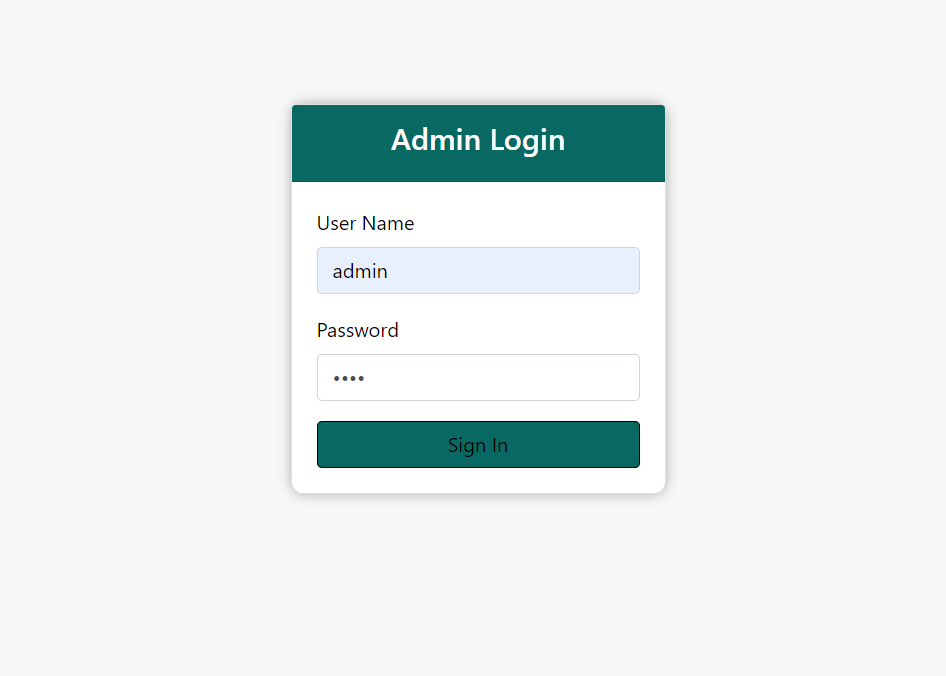
**2.6 Class Diagram :**

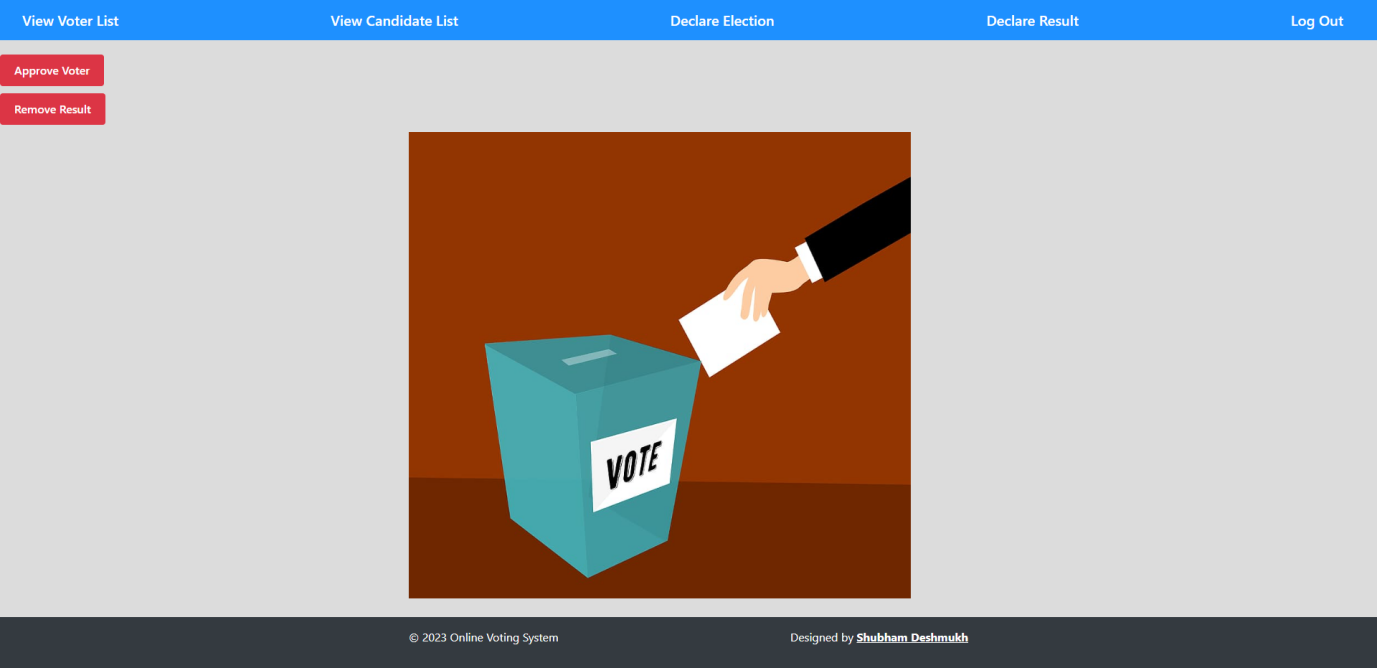
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**2.7 User Interface Screens:**

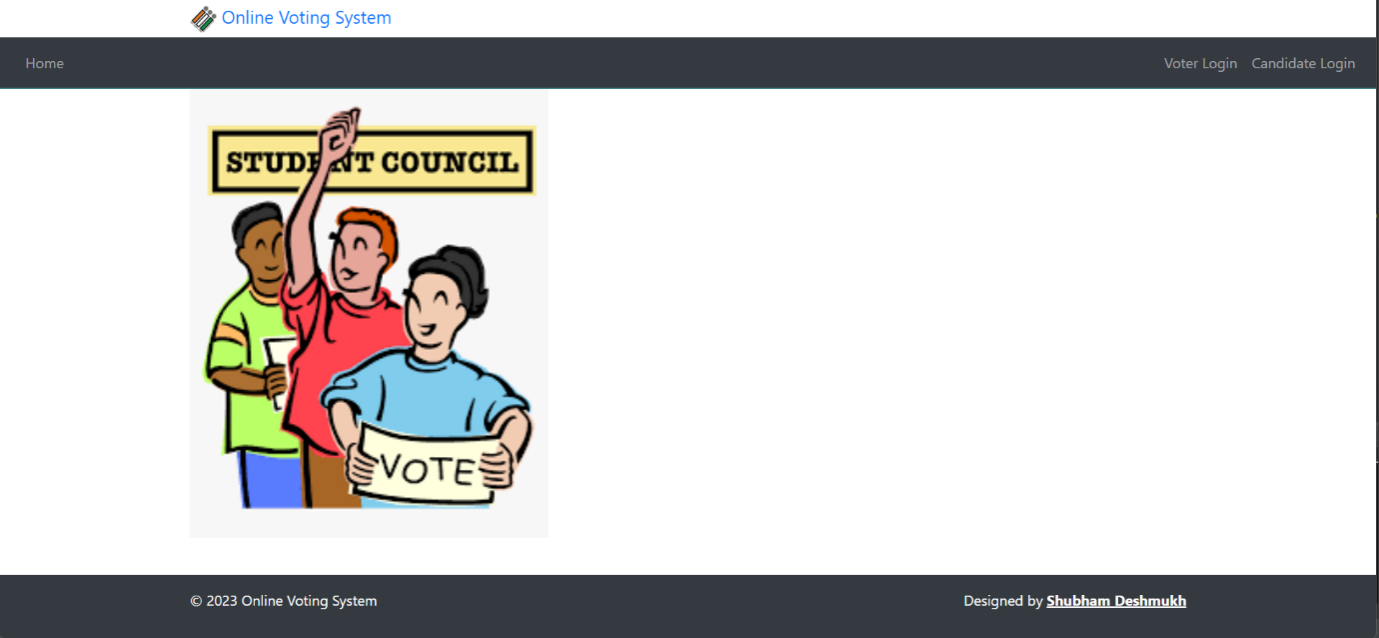
* **Home Screen**

****

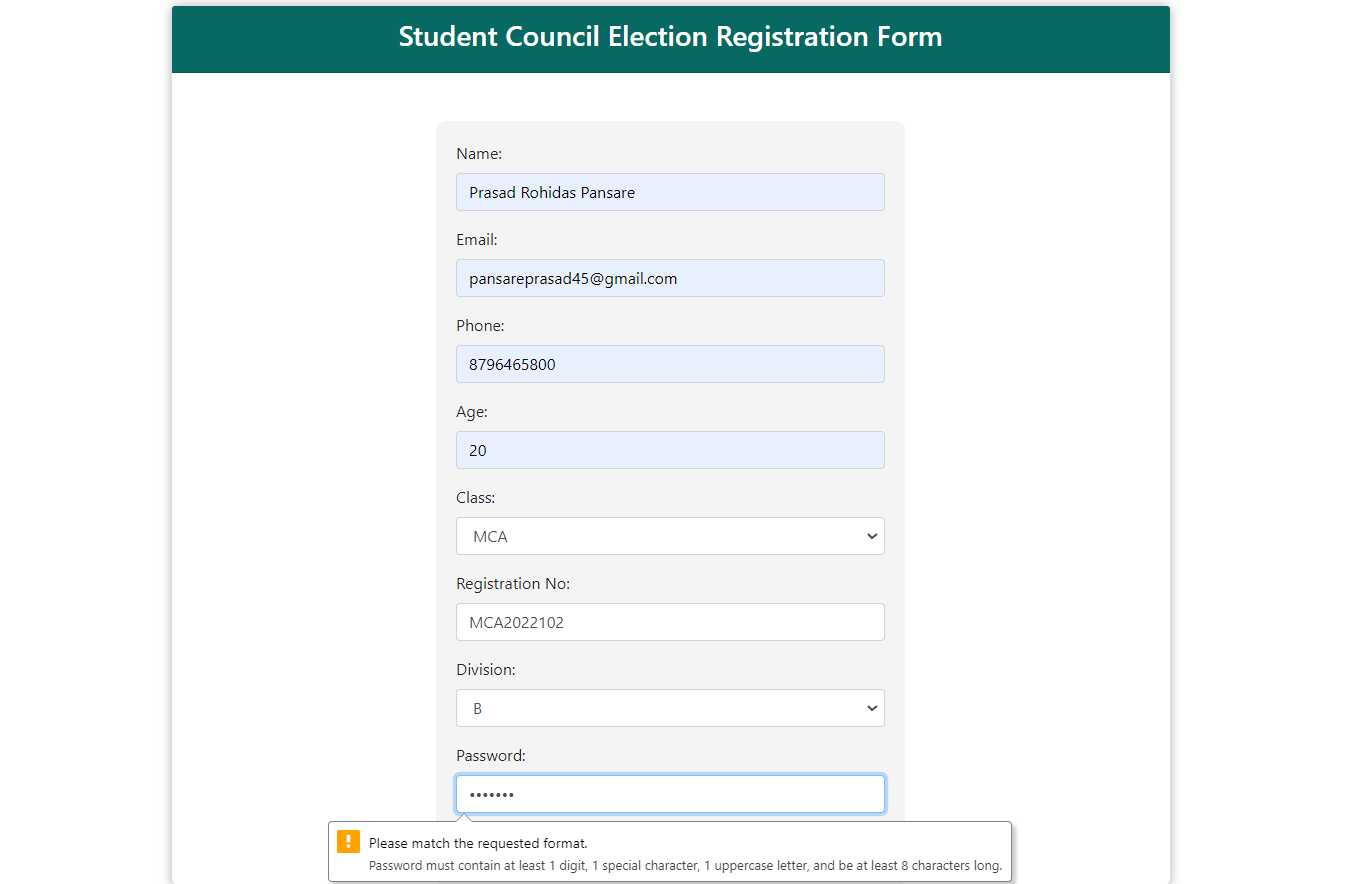
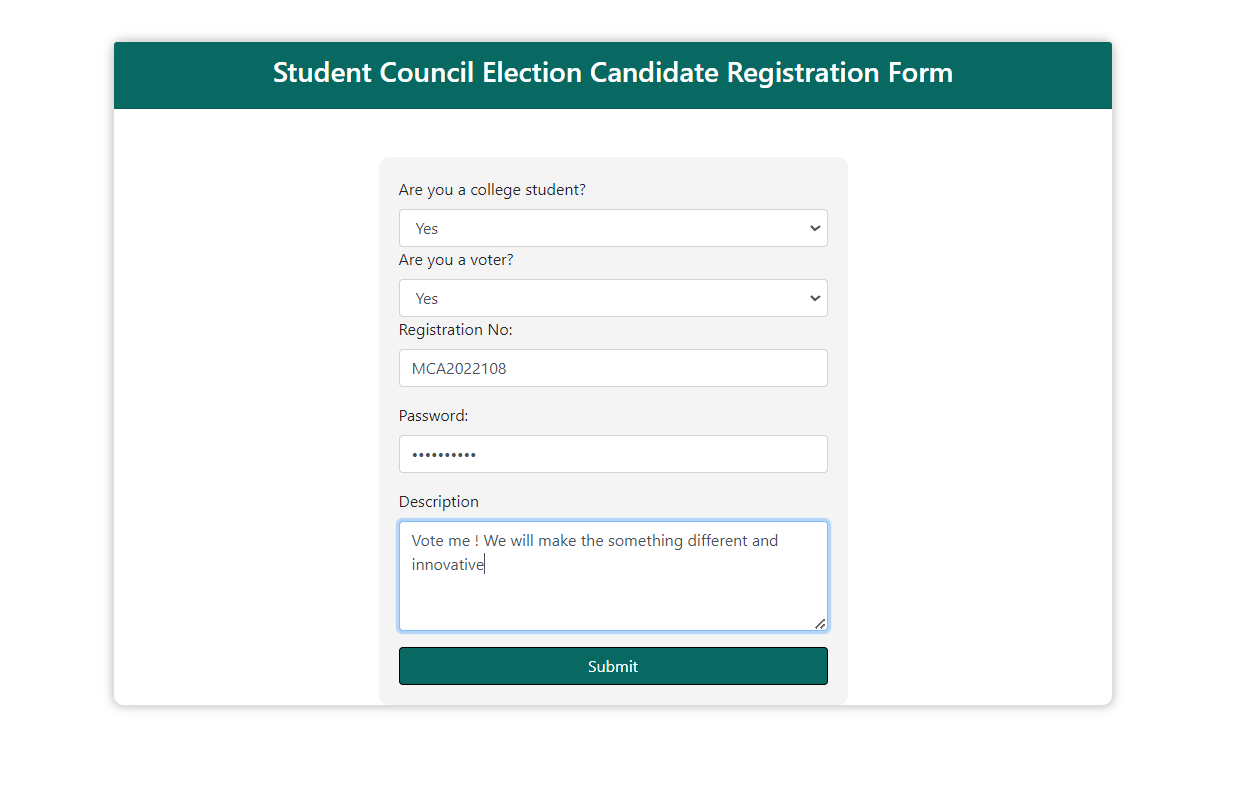
* **Admin Login****Admin Dashboard**

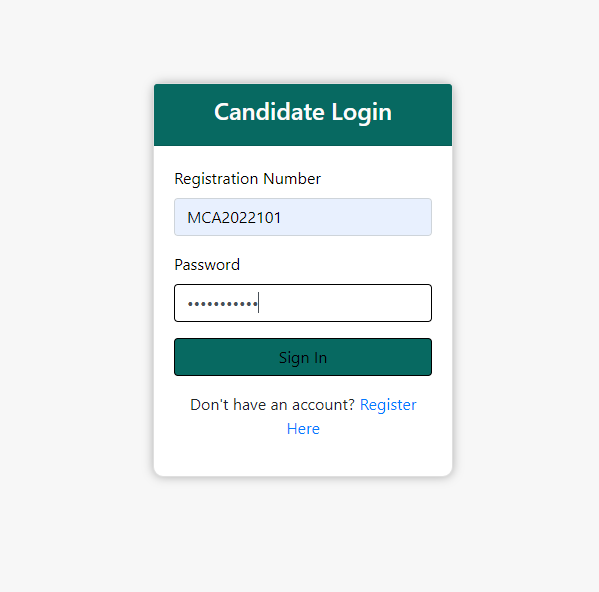
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* **Student Council**

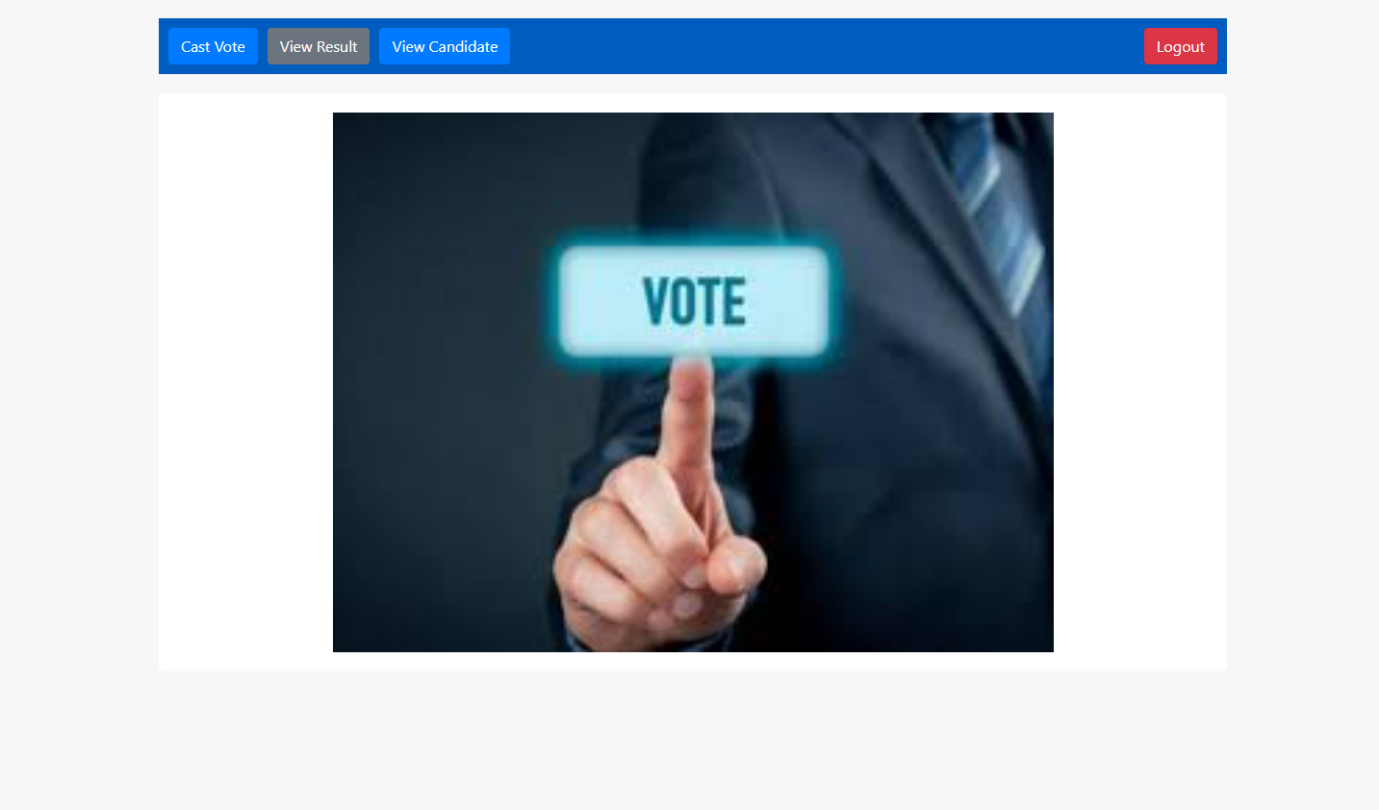


* **Voter Registration**

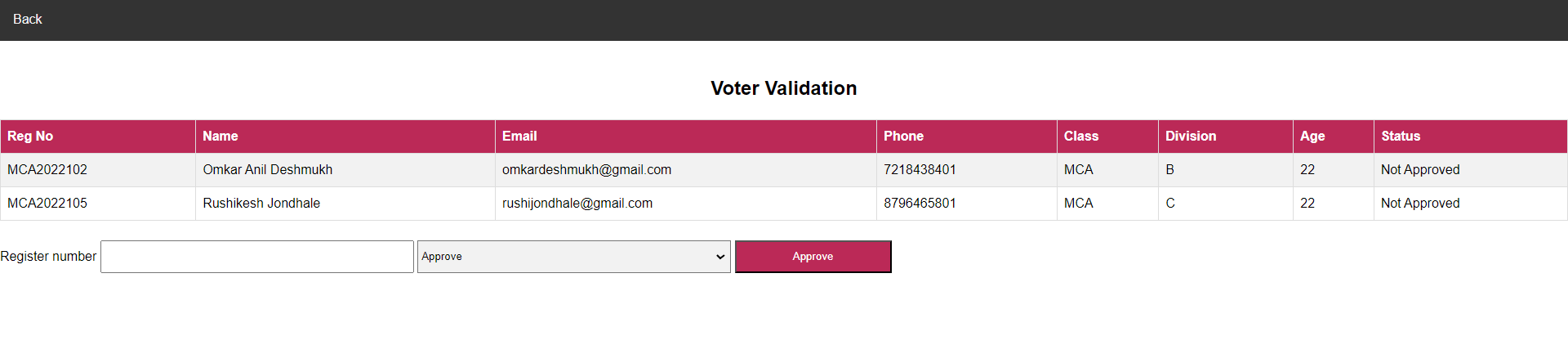
**Candidate Registration****Login**



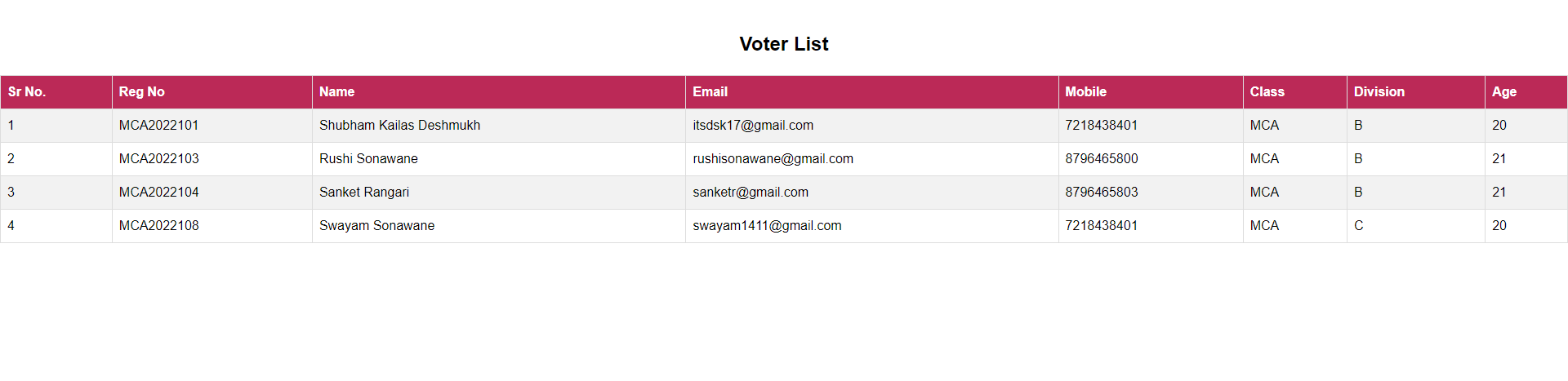
* **Voter Dashboard**



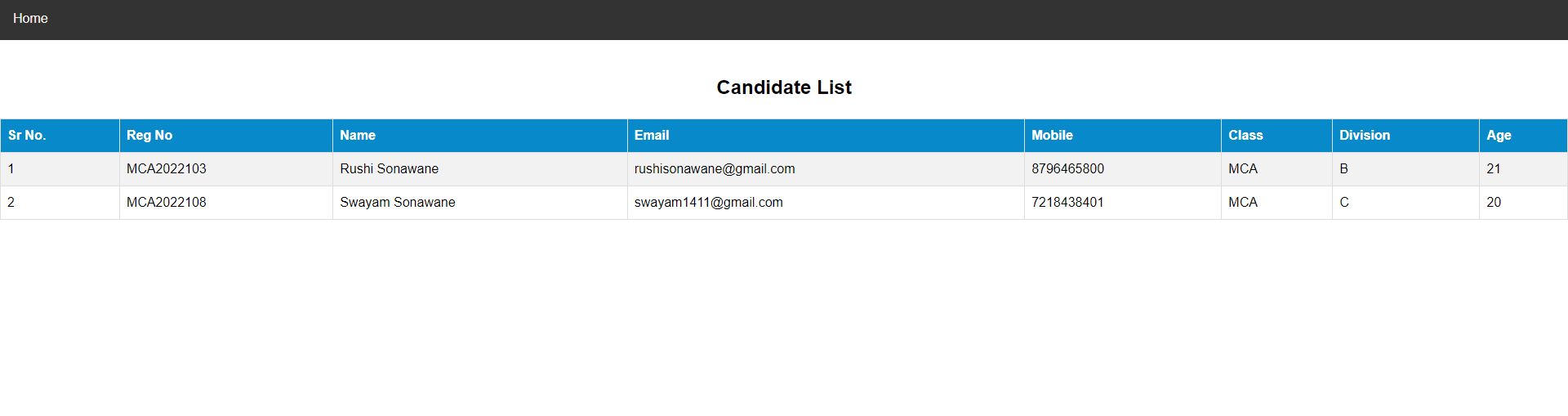
**Approve Voter**



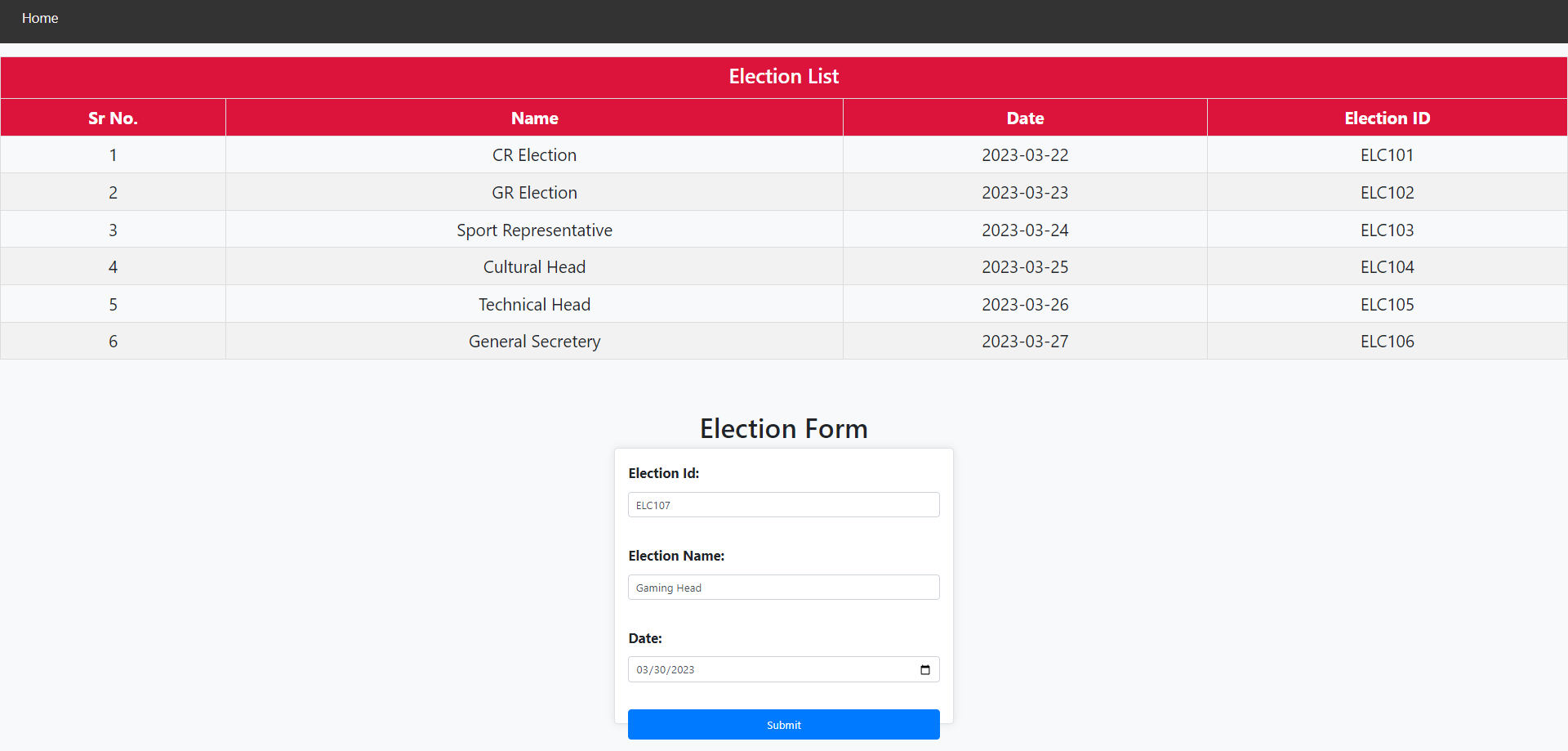
* **Voter List**



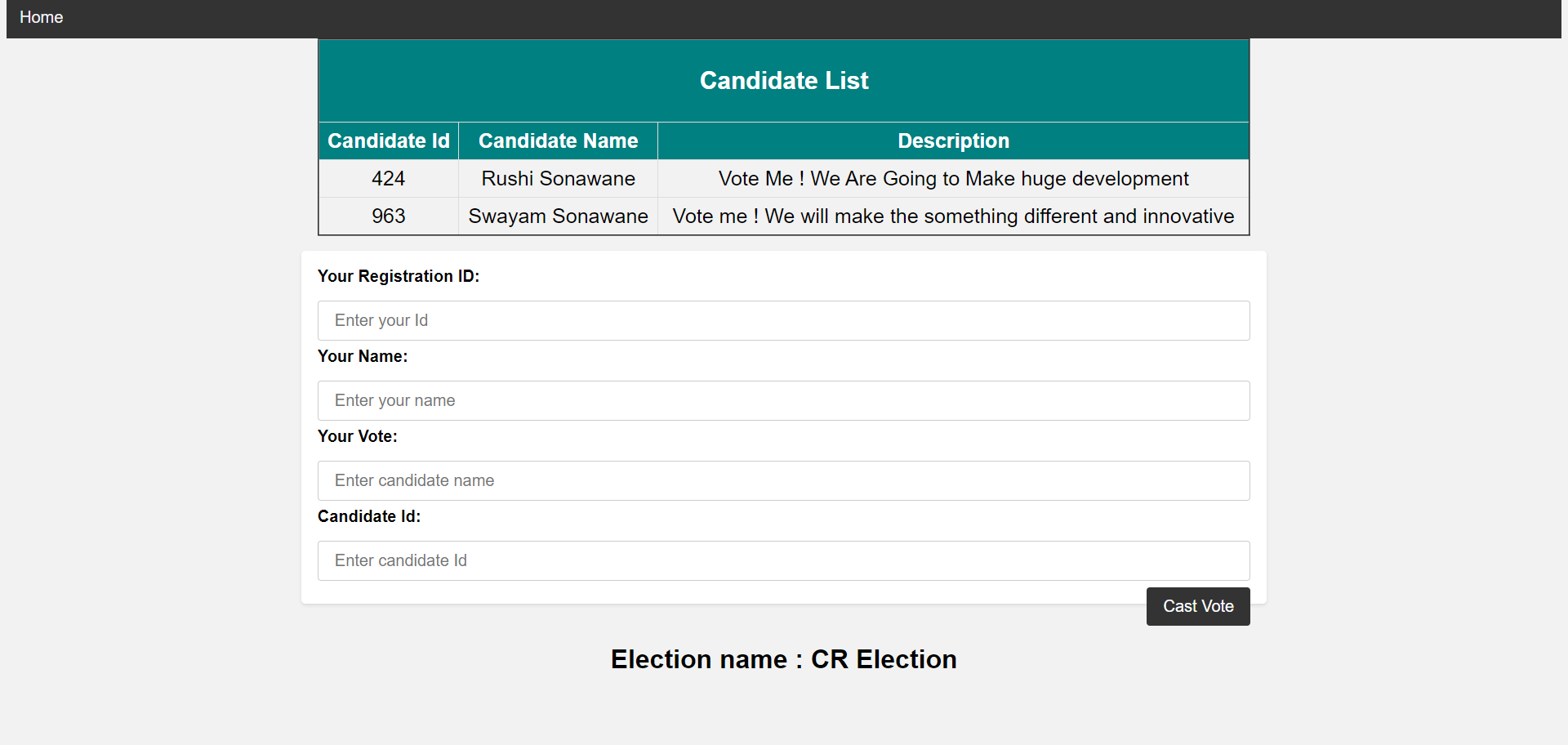
* **Candidate List**



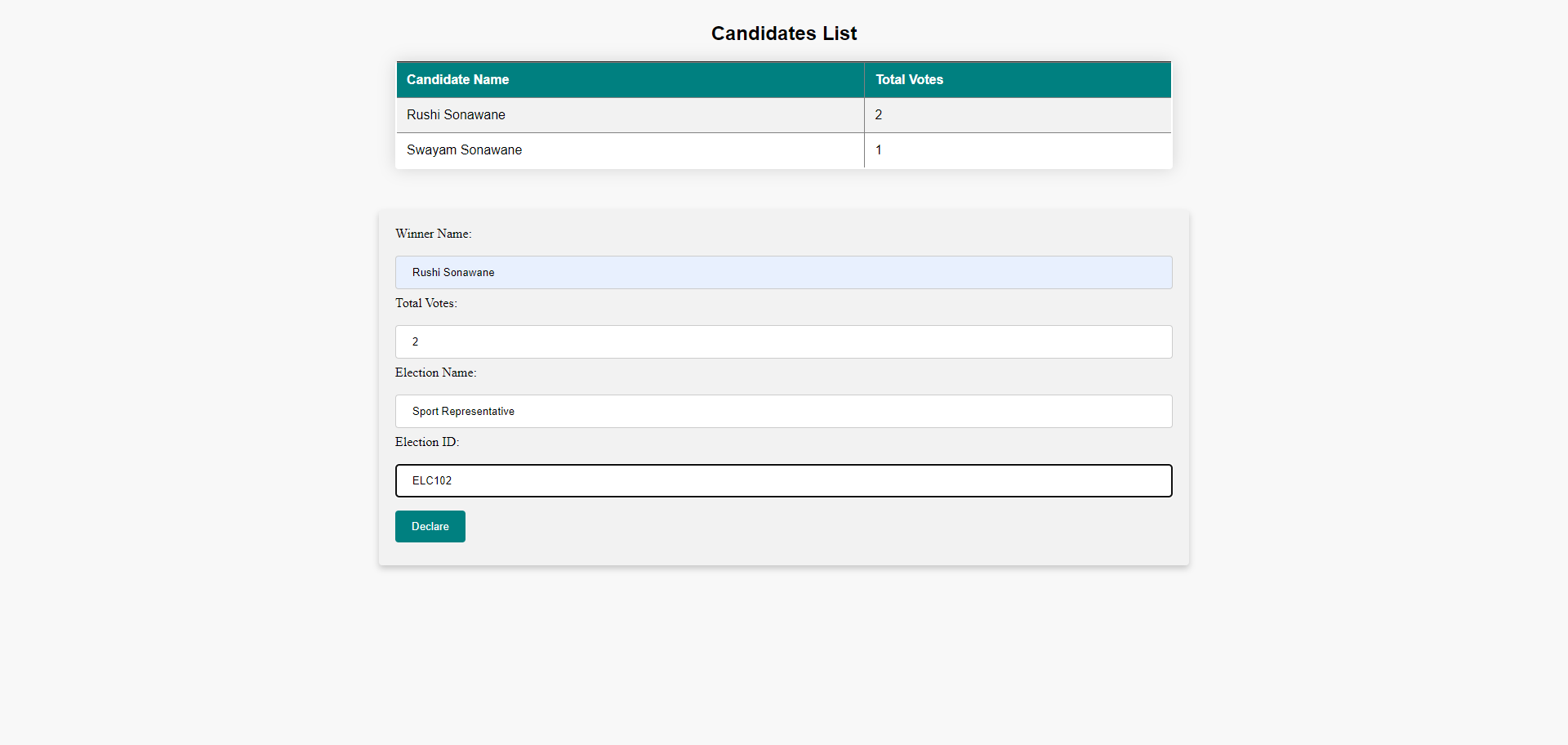
* **Declare Election**



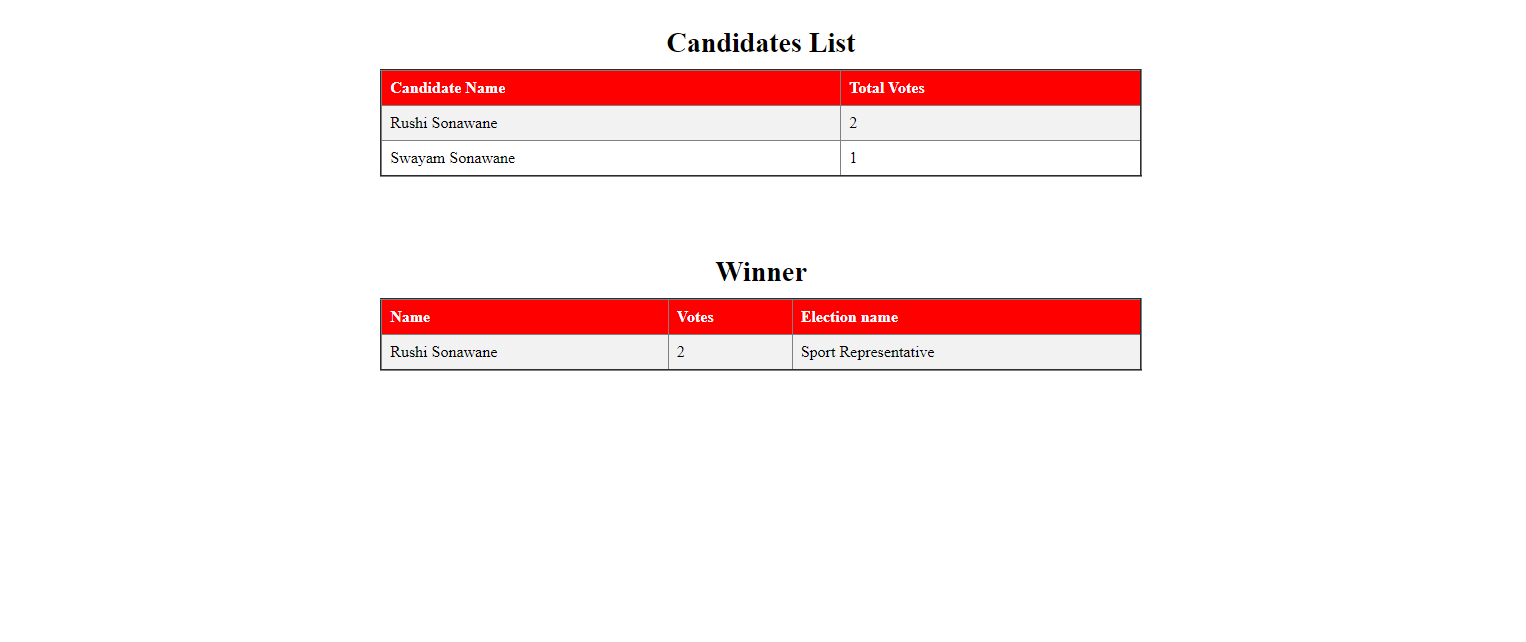
* **Cast Vote**



* **Declare Result**



* **Winner**



**2.8 Table Structure:**

* **Login**

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Datatype | Constraints | Description |
| uname | varchar(10) | NOT NULL | Admin’s username |
| Password | varchar(10) | NOT NULL | Admin’s password |

* **voter**

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Datatype | Constraints | Description |
| name | varchar(20) | NOT NULL | Voter’s name |
| email | varchar(30) | NOT NULL | Voter’s email |
| phone | bigint(10) | NOT NULL | Voter’s contact |
| class | varchar(10) | NOT NULL | Voter’s class |
| reg\_no | varchar(10) | Primary | Voter’s reg no |
| password | varchar(8) | NOT NULL | Voter’s password |
| division | varchar(10) | NOT NULL | Voter’s division |
| Age | varchar(10) | NOT NULL | Voter’s age |

* **candidate**

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Datatype | Constraints | Description |
| reg\_no | varchar(10) | Primary | Candidates reg no |
| password | varchar(8) | NOT NULL | Candidates password |
| description | varchar(150) | NOT NULL | Candidates description |
| cid | int | NOT NULL | Candidates id |

* **voterapprove**

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Datatype | Constraints | Description |
| name | varchar(20) | NOT NULL | Voter’s name |
| email | varchar(30) | NOT NULL | Voter’s email |
| phone | bigint(10) | NOT NULL | Voter’s contact |
| class | varchar(10) | NOT NULL | Voter’s class |
| reg\_no | varchar(10) | Primary | Voter’s reg no |
| password | varchar(8) | NOT NULL | Voter’s password |
| division | varchar(10) | NOT NULL | Voter’s division |
| Age | varchar(10) | NOT NULL | Voter’s age |

* **class**

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Datatype | Constraints | Description |
| reg\_no | varchar(10) | Primary | Voter’s reg no |

* **election**

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Datatype | Constraints | Description |
| name | varchar(20) | NOT NULL | Election name |
| date | varchar(30) | Primary Key | Election date |
| eid | varchar(10) | Unique Key | Election id |

* **result**

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Datatype | Constraints | Description |
| id | varchar(10) | NOT NULL | Voter reg no |
| name | varchar(20) | NOT NULL | Voter name |
| vote | varchar(30) | Primary Key | Candidate name |
| cid | varchar(10) | NOT NULL | Candidate id |

* **winner**

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Datatype | Constraints | Description |
| ename | varchar(20) | NOT NULL | election name |
| name | varchar(30) | NOT NULL | Voter name |
| votes | int | NOT NULL | No of votes |
| eid | varchar(10) | NOT NULL | Election id |

**3. Drawbacks and Limitations**

1. Limited Accessibility: While online voting systems offer convenience and flexibility, they can be limited in accessibility for individuals who do not have access to the internet or who may not be comfortable using technology.
2. Technical Issues: Technical issues such as glitches, errors, and system failures can disrupt the online voting process, leading to delays and frustration among voters.
3. Dependency on Technology: Online voting systems are entirely dependent on technology, which can make them vulnerable to technical issues, hacking, and cyberattacks. This can also create logistical challenges in areas with poor internet connectivity or where power outages are common.
4. Voter Approval by default : Voter approved by admin are just by seeing their information and without video conferencing .

**4.Proposed Enhancement**

1. Voter Approval by Video Conferencing : - Now voter is approved by admin by just checking the records of the voter , but in future video conferencing is used to approved the voter.
2. Add Different Type of Election : - Current system is giving the functionality of student council voting system. In future we can add different elections like Housing Society Election , Bank Election ,etc.
3. Login using Face Recognition :- Based on the current system Voter can login through reg\_no and password but in future in can login in the system by face recognition.
4. Voter can update profile : - In current system , voter only register into the system but he cannot update his/her profile .
5. Add Image to Profile : In current system voter only provide personal information , but in future he/she can add image to their profile as well.

**5.Conclusion**

1. Online Student Council Voting System has the potential to transform the modern , classic voting system to make digital voting system , in the Digital World.
2. The Online Student Council Voting System is an innovative and efficient way to conduct elections.
3. It can save time, resources, and reduce human errors, while increasing accessibility, transparency, and security in the voting process.
4. With proper planning and implementation, the online voting system has the potential to revolutionize the election process and help build a more participatory and democratic society.

Overall, a conclusion should provide a clear and concise summary of the project and its outcomes, while highlighting its significance and potential impact. It should also provide a roadmap for future work and improvements to the online voting system.

**6.Bibliography**

* "Online Voting System: https://www.eballot.com/votes-and-elections/what-is-an-online-voting-system
* Java book by Balagurusamy is "Programming in Java: A Primer
* JavaTpoint
* GeeksforGeeks
* Tutorials Point
* <https://codedec.com/tutorials/crud-operation-using-jsp-servlet-and-mysql/>
* https://eci.gov.in/evm/
* Oracle

**Annexure :**

**Index.html**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="utf-8">

<meta name="viewport"

content="width=device-width, initial-scale=1, shrink-to-fit=no">

<title>Voting Dashboard</title>

<link rel="stylesheet"

href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">

<link rel="stylesheet"

href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.3/css/all.min.css">

<link rel="stylesheet" href="index.css">

</head>

<body>

<header>

<div class="container">

<a class="navbar-brand"

href="http://localhost:8082/Online\_Voting\_System"> <img

src="election\_commission\_logo.jpg" left="20" width="30" height="30"

alt="Election Commission Logo"> Online Voting System

</a>

<button class="navbar-toggler" type="button" data-toggle="collapse"

data-target="#navbarNav" aria-controls="navbarNav"

aria-expanded="false" aria-label="Toggle navigation">

<span class="navbar-toggler-icon"></span>

</button>

</div>

</header>

<nav class="navbar navbar-expand-lg navbar-dark bg-dark">

<button class="navbar-toggler" type="button" data-toggle="collapse"

data-target="#navbarNav" aria-controls="navbarNav"

aria-expanded="false" aria-label="Toggle navigation">

<span class="navbar-toggler-icon"></span>

</button>

<div class="collapse navbar-collapse" id="navbarNav">

<ul class="navbar-nav mr-auto">

<li class="nav-item"><a class="nav-link"

href="http://localhost:8082/Online\_Voting\_System"><i

class="fas fa-home"></i> Home</a></li>

<li class="nav-item"><a class="nav-link" href="about.html">

<i class="fas fa-info-circle"></i> About

</a></li>

<li class="nav-item"><a class="nav-link" href="contact.jsp">

<i class="fas fa-envelope"></i> Contact Us

</a></li>

</ul>

<ul class="navbar-nav ml-auto">

<li class="nav-item"><a class="nav-link" href="Login.jsp"><i

class="fas fa-user-lock"></i>Admin Login</a></li>

<li class="nav-item"><a class="nav-link" href="Election.jsp"><i

class="fas fa-vote-yea"></i>Election</a></li>

</ul>

</div>

</nav>

<div class="jumbotron">

<div class="container">

<h1>

Welcome to the<br> Online Voting Sytem !

</h1>

<p>Our Website is designed to make the voting process for the

Student Council Elections, MLA Elections , Housing Society Elections

easy and accessible for all . With just a few clicks, you can cast

your vote and make your voice heard in the decision-making</p>

</div>

</div>

<div style="text-align: center;">

<img src="evoting.jpg" alt="Your Image" width="450" height="250" />

</div>

<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>

<script

src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"></script>

<script

src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>

<footer class="bg-dark text-white py-3 fixed-bottom">

<div class="container">

<div class="row">

<div class="col-md-6">

<p>&copy; 2023 Online Voting System</p>

</div>

<div class="col-md-6 text-right">

<p>

Designed by <a href="https://github.com/shubhamdsk"

class="text-white"><u><b>Shubham Deshmukh</b></u></a>

</p>

</div>

</div>

</div>

</footer>

</body>

</html>

**Admin\_dashboard.jsp :**

<%@ page language="java" contentType="text/html; charset=UTF-8"

pageEncoding="UTF-8"%>

<%@ page import="javax.servlet.http.HttpSession"%>

<%@ page import="java.sql.\*"%>

<%@page isELIgnored="false"%>

<%

HttpSession sessions = request.getSession();

String loggedInUser = (String) sessions.getAttribute("loggedInUser");

%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Admin Dashboard</title>

<!-- Link to Bootstrap stylesheet -->

<link rel="stylesheet"

href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">

<style type="text/css">

/\* Add CSS for the dashboard \*/

nav {

background-color: #1E90FF;

padding: 10px;

margin-bottom: 20px;

}

nav a {

color: #fff;

font-weight: 600;

margin-right: 20px;

}

nav a:hover {

text-decoration: none;

color: #fff;

}

table {

margin-top: 40px;

border-collapse: collapse;

width: 50%;

font-family: Arial, sans-serif;

font-size: 14px;

color: #333;

}

td {

font-weight: 400;

padding: 10px;

text-align: left;

border: 1px solid #ddd;

}

th {

border: 1px solid #ccc;

font-weight: bold;

padding: 10px;

text-align: left;

background-color: #f2f2f2;

}

.container {

max-width: 800px;

margin: auto;

padding: 0 10px;

}

.btn-remove-candidate {

background-color: #dc3545;

color: #fff;

font-size: 16px;

font-weight: 600;

padding: 10px 20px;

border: none;

border-radius: 4px;

margin-right: 10px;

margin-bottom: 10px;

transition: all 0.3s ease-in-out;

}

.btn-remove-candidate:hover {

background-color: #c82333;

cursor: pointer;

}

table {

margin: 0 auto; /\* center horizontally \*/

margin-top: 0;

width: 20%;

}

body {

background-color: #DCDCDC;

}

</style>

</head>

<body>

<nav class="navbar navbar-default">

<div class="container-fluid">

<div class="navbar-header">

<a class="navbar-brand" href="voter\_list.jsp">View Voter List</a>

</div>

<a class="navbar-brand" href="candidate\_list.jsp">View Candidate

List</a> <a class="navbar-brand" href="declare\_election.jsp">Declare

Election</a> <a class="navbar-brand" href="declare\_result.jsp">Declare

Result</a> <a class="navbar-brand" href="logout.jsp">Log Out</a>

</div>

</nav>

<div>

<a href="voter\_approve.jsp" class="btn btn-remove-candidate">Approve

Voter</a> <br> <a href="remove\_result.jsp"

class="btn btn-remove-candidate">Remove Result</a>

<%

int cntvoter = 0, cntcandidate = 0;

Connection con;

PreparedStatement ps;

Statement st;

ResultSet rs;

DatabaseMetaData dbmd;

ResultSetMetaData rsmd;

try {

// load a driver

Class.forName("com.mysql.cj.jdbc.Driver");

String url = "jdbc:mysql://localhost:3306/mca?useSSL=false";

String user = "root";

String pass = "kalen6370@gmail.com";

con = DriverManager.getConnection(url, user, pass);

ps = con.prepareStatement("select \* from voterapprove");

rs = ps.executeQuery();

while (rs.next()) {

cntvoter++;

}

ps = con.prepareStatement("select \* from candidate");

rs = ps.executeQuery();

while (rs.next()) {

cntcandidate++;

}

} // try

catch (Exception e) {

System.out.println(e);

} // catch

%>

<div class="container">

<img src="vot box.jpg" alt="Your Image" width="700"

height="650">

</div>

</div>

<!-- Bootstrap JS -->

<script

src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"></script>

<!-- Link to Bootstrap JS and jQuery libraries -->

<script

src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script

src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></script>

<script

src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>

<footer class="bg-dark text-white py-3 fixed-bottom">

<div class="container">

<div class="row">

<div class="col-md-6">

<p>&copy; 2023 Online Voting System</p>

</div>

<div class="col-md-6 text-right">

<p>

Designed by <a href="https://github.com/shubhamdsk"

class="text-white"><u><b>Shubham Deshmukh</b></u></a>

</p>

</div>

</div>

</div>

</footer>

</body>

</html>

Thank You !