A

Project Report

on

“Online Voting Management System”

Submitted to

Savitribai Phule Pune University, Pune
In Partial Fulfillment of

Master of Computer Application

(MCA - I, Sem-II)

Submitted by

Miss. Sakshi Santosh Phatke

Under the Guidance of

Prof. Kiran Shejul

Through

Dr. D. Y. Patil Educational Federation’

Dr. D. Y. Patil Institute of Management and Entrepreneur Development

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DECLARATION

I, the undersigned hereby declare that the project entitled "Online Voting Management System**"** being submitted for the award of degree of **Master of Computer Application(MCA – I, Sem – II)** by me to **Dr. D. Y. Patil Institute of Management and Entrepreneur Development, Varale, Talegaon, Pune affiliated to Savitribai Phule Pune University, Pune** is the result of an independent work carried out under the guidance of "**Prof. Kiran Sheju**l" Sir is my original work . Further, I declare that this project has not been submitted to this or any institution for the award of any degree.

PLACE:

DATE: Miss. Sakshi Phatke

ACKNOWLEDGEMENT

The project developed for the MCA was not possible without the persons and organizations that helped me in completing this. I am deeply grateful to all whose enthusiasm and energy transformed my vision of this study into reality.

I extend my sincere thanks to **Prof. Kiran Shejul Sir** for making it easy to work in the Institute and providing me needed guidance throughout the project keeping it focused and on the track. I am thankful to him/her for the extended knowledge imparted to me during the course of project development.

I take this opportunity to thank our HOD Dr. Ashwini Chavan and our Director Dr. Priyanka Singh, for encouragement and guidance throughout the progress of this report.

Miss. Sakshi Santosh Phatke

ONLINE VOTING SYSTEM

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1. INTRODUCTION

1.1 Purpose

In “ONLINE VOTING SYSTEM” a voter can use his\her voting right online without any difficulty. He\She has to fill a registration form to register himself\herself. All the entries is checked by the DATABASE which has already all information about the voter. If all the entries are correct then a USER ID and PASSWORD is given to the voter, by using that ID and PASSWORD he\she can use his\her vote. If conditions are wrong then that entry will be discarded.

1.2 Scope

The scope of the project that is hosted on the server. There is a DATABASE which is maintained by the ELECTION COMMISION OF INDIA in which all the names of voter with complete information is stored.

1.3 Technologies to be used

This project will be a Web application to be developed in PHP having

- Database Design (My SQL)
- Form Design (HTML 5 & CSS)
- Coding (PHP)
- Testing (XAMPP SERVER)
- Reporting Tool (Data Report)

1.4 Overview

- ✓ Project is related to Online Voting System.
- ✓ The project maintains two levels of users:-
    - Administrator Level
    - Voter Level
- ✓ Main facilities available in this project are:-
    - Maintaining voter's Identification.
    - Providing online voting management.
    - Providing Updation of voter's information.
    - Provide voter information to ELECTION COMMISION OF INDIA.
    - ELECTION COMMISION OF INDIA maintains the complete information of voter.
    - Voter can give his\her vote from any part of India
    -

2. PROPOSED SYSTEM

2.1 Goals of proposed system

1. **Planned approach towards working: -** The working in the organization will be well planned and organized. The data will be stored properly in data stores, which will help in retrieval of information as well as its storage.
2. **Accuracy: -** The level of accuracy in the proposed system will be higher. All operation would be done correctly and it ensures that whatever information is coming from the center is accurate.
3. **Reliability:** - The reliability of the proposed system will be high due to the above stated reasons. The reason for the increased reliability of the system is that now there would be proper storage of information.
4. **No Redundancy: -** In the proposed system utmost care would be that no information is repeated anywhere, in storage or otherwise. This would assure economic use of storage space and consistency in the data stored.
5. **Immediate retrieval of information: -** The main objective of proposed system is to provide for a quick and efficient retrieval of information.
6. **Immediate storage of information: -** In manual system there are many problems to store the largest amount of information.
7. **Easy to Operate: -** The system should be easy to operate and should be such that it can be developed within a short period of time and fit in the limited budget of the user.

2.2 Background

ONLINE VOTING SYSTEM is a voting system by which any Voter can use his\her voting rights from any where in India. ONLINE VOTING SYSTEM contains-:

- Voter's information in database.
- Voter's Names with ID.
- Voter's vote in a database.
- Calculation of total number of votes.

Various operational works that are done in the system are:-

- Recording information of the Voter in Voter database.
- Checking of information filled by voter.
- Discard the false information.
- Each information is sent to ELECTION COMMISSION OF INDIA.

2.3 Project Requirements

Hardware Requirements (Processor RAM Disk Space)

Pentium II, Pentium III, Pentium IV, Higher 128 Mb or Higher 130 Mb

Software Requirements (Operating System Database)

Win-98, Win-XP, Linux, My SQL

2.4 User Characteristics

Every user should be:

- ✓ Comfortable with Internet Browser.
- ✓ He must have brief knowledge of voting system.
- ✓ He must also have basic knowledge of English too.

2.5 Constraints

- ✓ GUI is only in English.
- ✓ Login and password is used for identification of Voter.

2.6 Definitions of problems

• **Not User Friendly:** The existing system is not user friendly because the retrieval of data is very slow and data is not maintained efficiently.

• **Difficulty in report generating:** We require more calculations to generate the final result so it is generated at the end of the session. And the voter not get a single chance to change his\her vote.

• **Time consuming**: Every work is done manually so we cannot generate report in the middle of the session or as per the requirement because it is very time consuming.

3. ANALYSIS AND DESIGN

Depending on the results of the initial investigation the survey is now expanded to a more detailed feasibility study. "**FEASIBILITY STUDY**" is a test of system proposal according to its workability, impact of the organization, ability to meet needs and effective use of the resources. It focuses on these major questions:

1. What are the user's demonstrable needs and how does a candidate system meet them?
2. What resources are available for given candidate system?
3. What are the likely impacts of the candidate system on the organization?
4. Whether it is worth to solve the problem?

During feasibility analysis for this project, following primary areas of interest are to be considered. Investigation and generating ideas about a new system does this.

Steps in feasibility analysis

Eight steps involved in the feasibility analysis are:

- Form a project team and appoint a project leader.
- Prepare system flowcharts.
- Enumerate potential proposed system.
- Define and identify characteristics of proposed system.
- Determine and evaluate performance and cost effective of each proposed system.
- Weight system performance and cost data.
- Select the best-proposed system.
- Prepare and report final project directive to management.

3.1 Technical feasibility

A study of resource availability that may affect the ability to achieve an acceptable system. This evaluation determines whether the technology needed for the proposed system is available or not.

- Can the work for the project be done with current equipment existing software technology & available personal?
- Can the system be upgraded if developed?
- If new technology is needed then what can be developed?
- This is concerned with specifying equipment and software that will successfully satisfy the user requirement. The technical needs of the system may include:

Front-end and back-end selection

An important issue for the development of a project is the selection of suitable front-end and back-end. When we decided to develop the project we went through an extensive study to determine the most suitable platform that suits the needs of the organization as well as helps in development of the project.

The aspects of our study included the following factors.

Front-end selection:

1. It must have a GUI that assists employees that are not from IT background.
2. Scalability and extensibility.
3. Flexibility.
4. Robustness.
5. According to the organization requirement and the culture.
6. Must provide excellent reporting features with good printing support.
7. Platform independent.
8. Easy to debug and maintain.
9. Event driven programming facility.
10. Front end must support some popular back end like Ms Access.

According to the above stated features we selected PHP as the front-end for developing our project.

Back-end Selection:

1. Multiple user support.
2. Efficient data handling.
3. Provide inherent features for security.
4. Efficient data retrieval and maintenance.
5. Stored procedures.
6. Popularity.
7. Operating System compatible.
8. Easy to install.
9. Various drivers must be available.
10. Easy to implant with the Front-end.

According to above stated features we selected MY SQL as the backend.

The technical feasibility is frequently the most difficult area encountered at this stage. It is essential that the process of analysis and definition be conducted in parallel with an assessment to technical feasibility. It centers on the existing computer system and to what extent it can support the proposed system.

3.2 Economical feasibility

Economic justification is generally the “Bottom Line” consideration for most systems. Economic justification includes a broad range of concerns that includes cost benefit analysis. In this we weight the cost and the benefits associated with the candidate system and if it suits the basic purpose of the organization i.e. profit making, the project is making to the analysis and design phase.

The financial and the economic questions during the preliminary investigation are verified to estimate the following:

- The cost to conduct a full system investigation.
- The cost of hardware and software for the class of application being considered.
- . The benefits in the form of reduced cost.

- The proposed system will give the minute information, as a result the performance is improved
- This feasibility checks whether the system can be developed with the available funds. The **Online voting system** does not require enormous amount of money to be developed. This can be done economically if planned judicially, so it is economically feasible. The cost of project depends upon the number of man-hours required.

3.3 Operational Feasibility

It is mainly related to human organizations and political aspects. The points to be considered are:

- What changes will be brought with the system?
- What organization structures are disturbed?
- What new skills will be required? Do the existing staff members have these skills? If not, can they be trained in due course of time?

The system is operationally feasible as it very easy for the End users to operate it. It only needs basic information about Windows platform.

3.4 Schedule feasibility

Time evaluation is the most important consideration in the development of project. The time schedule required for the developed of this project is very important since more development time effect machine time, cost and cause delay in the development of other systems.

A reliable **Online voting system** can be developed in the considerable amount of time

3.4 Software Requirement Specification

3.4.1 Objective:

The main objectives of system for **Online voting system** are:

- The objective of **Online voting system** is to help the organization in automating the whole manual processing of the existing system.
- The main objective to develop the system is to make the accurate & efficient decisions in different tasks at different time at different situations. The existing system is manual so members of the unit generally face a lot of embarrassing situations many times. Now they need to automate the whole process so as to make it more easy and accurate.
- System should support multi-user environment.
- System should be fully automated.
- System should provide concrete security features like creating users and assigning privileges to users of the system.
- System should be capable to keep track of all the detailed descriptions of the client and the whole details of services offered by the client organization.
- Various outputs (reports) should be available online any time.
- System should be able to handle extremely large volumes of data (i.e. Large database support)

3.4.2 Scope:-

1. **Advanced technology**- It is an advanced technology used now a days. It increases the E knowledge of the users which is very necessary for current generation.

2. **Internet:** It is an online facility and hence very useful for the users.
   Voters can vote from any where at any time in India.

3. **E-Mails:** ELECTION COMMISION OF INDIA can send the error report to a particular user if he\she entered false information.

4. **E-SMS:** People they have not internet connection they can not check the emails or not have email they can be informed by SMS on their mobile. Today many websites provide free SMS to the mobile. ELECTION COMMISION OF INDIA can use these to send any information.

3.4.3 Advantages:

- Fast and easy service.
- The online voting system provides a less time consuming .
- It reduces the paper work and makes the work less tedious for ELESTION COMMISION.
- It is a better way for voting.
- By this voting percentage will increase drastically.
  Voter has no need to go to any polling booth ,so it is easy to use.

3.4.4 Technologies to be used:-

This project will be a Web application to be developed in PHP having

- Database Design (My SQL)
- Form Design (HTML 4.0)
- Coding (PHP)
- Testing (XAMP SERVER)
- Reporting Tool (Data Report)

3.4.5 OVERVIEW:

1. Requirements:

- **FUNCTIONAL REQUIREMENTS:**

  - Registration of the voter is done by ELECTION COMMISION OF INDIA.
  - ELECTION COMMISION OF INDIA can change the information any time if required.
  - Registration of the Voter depends upon the information filled by the user.
  - Voter is given a unique ID and PASSWORD
  - `Voter can give vote after login and entering the ID and PASSWORD`
  - In the DATABASE information of every voter is stored.
  - Database shows the information of every user.

- **NON-FUNCTIONAL REQUIREMENTS:**

  1. Secure access of confidential data (user's details). SSL can be used.
  2. 24 X 7 availability.
  3. Better component design to get better performance at peak time.
  4. Flexible service based architecture will be highly desirable for future extension

2. Project Requirements

Hardware Requirements (Processor RAM Disk Space)

Pentium II, Pentium III, Pentium IV, Higher 64 Mb or Higher 130 Mb

Software Requirements (Operating System Database)

Win-98, Win-XP, Windows Operating System, My SQL

3. Software interface:

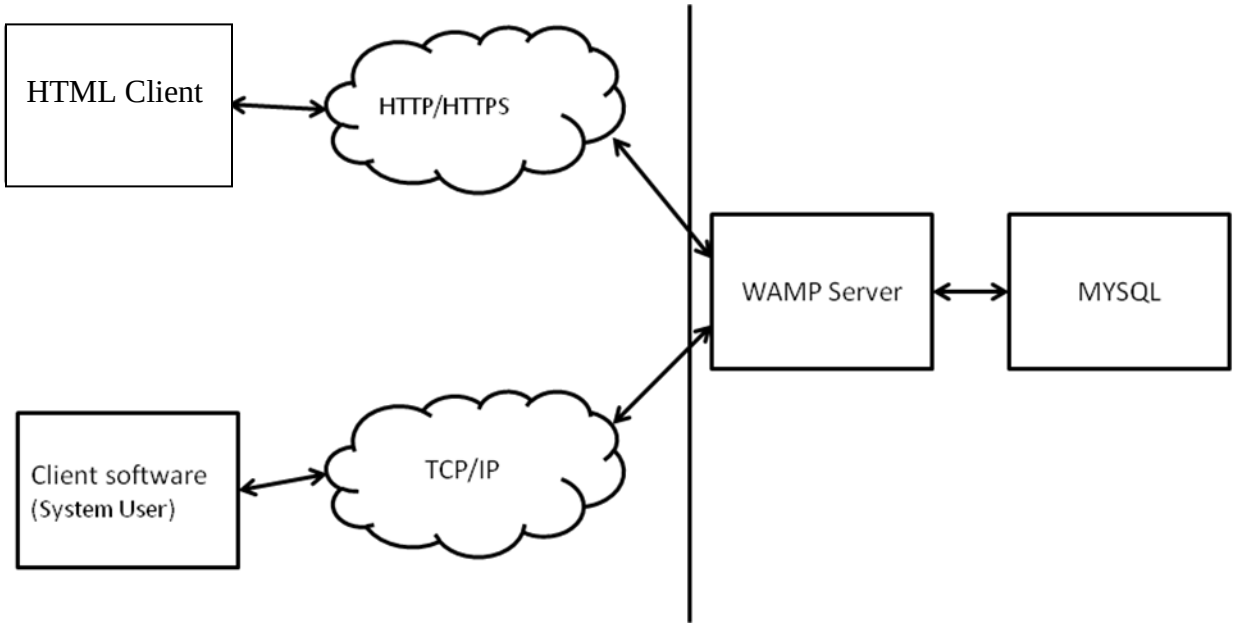
- Client on Internet: Web Browser, Operating System (Windows).

. Client on intranet: Client Software, Web Browser, Operating System (Windows).

- Web Server: WAMP Server, Operating System (Windows)

- Data Base server: MYSQL, Operating System (Windows).

4. Communication interface:



Client side **Application server** **Database server**

The above diagram shows the connectivity between the client side, application server and database server. The client or customer can access the HTML server or client software. These are connected to the Wamp Server (WAMP) by a TCP/IP which is a communication protocol used to connect the teachers or parents to the internet. This WAMP Server now directly communicates with the database made in MYSQL. All the enquires or data will be retrieved from the database.

Summary:

"ONLINE VOTING SYSTEM" is an online voting technique. It is based on the other online services like "ONLINE RESERVATION SYSTEM" .In this system people who have citizenship of INDIA and whose age is above 18 years of any sex can give his\her vote online without going to any polling booth. There is a DATABASE which is maintained by the ELECTION COMMISION OF INDIA in which all the names of voter 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 fill a registration form to register himself\herself. All the entries is checked by the DATABASE which has already all information about the voter. If all the entries are correct then a USER ID and PASSWORD is given to the voter, by using that ID and PASSWORD he\she can use his\her vote. If conditions are wrong then that entry will be discarded.

SYSTEM MODLING

Entity Relationship Diagram

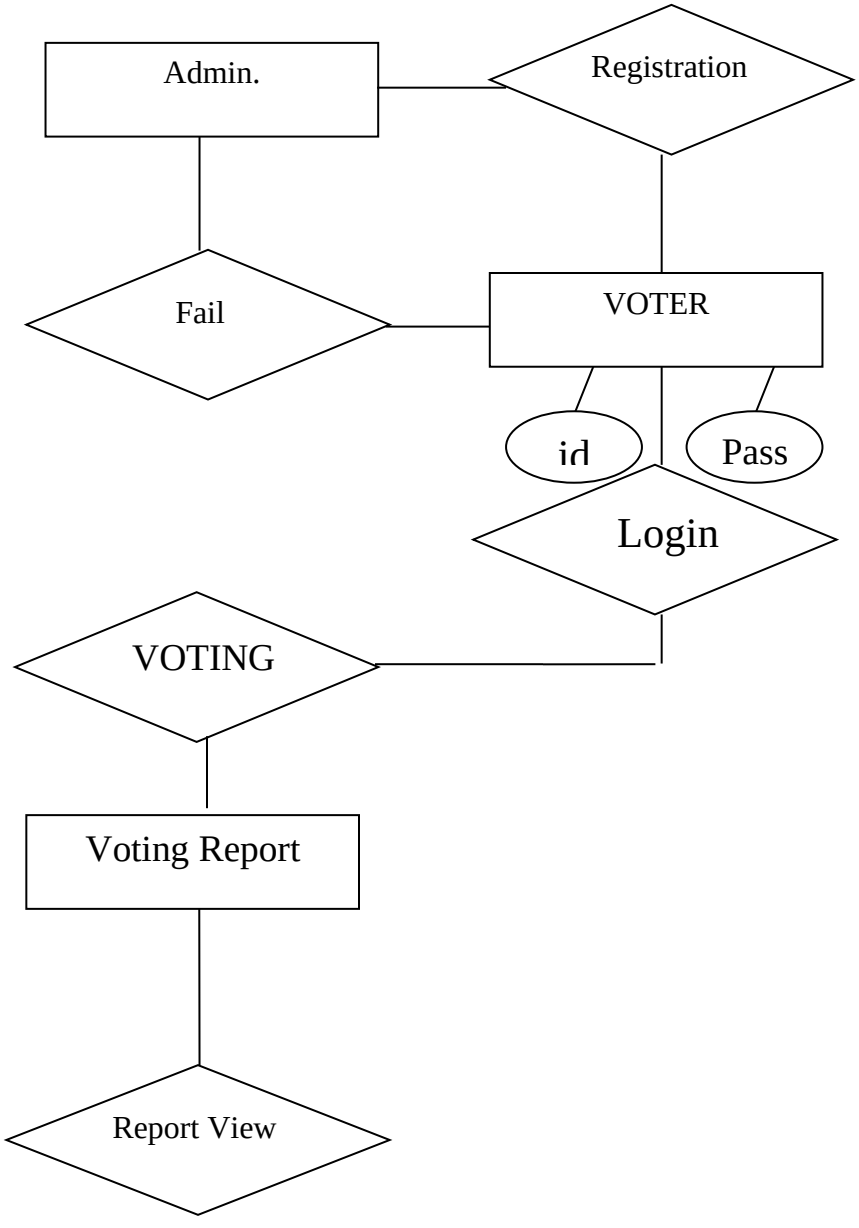
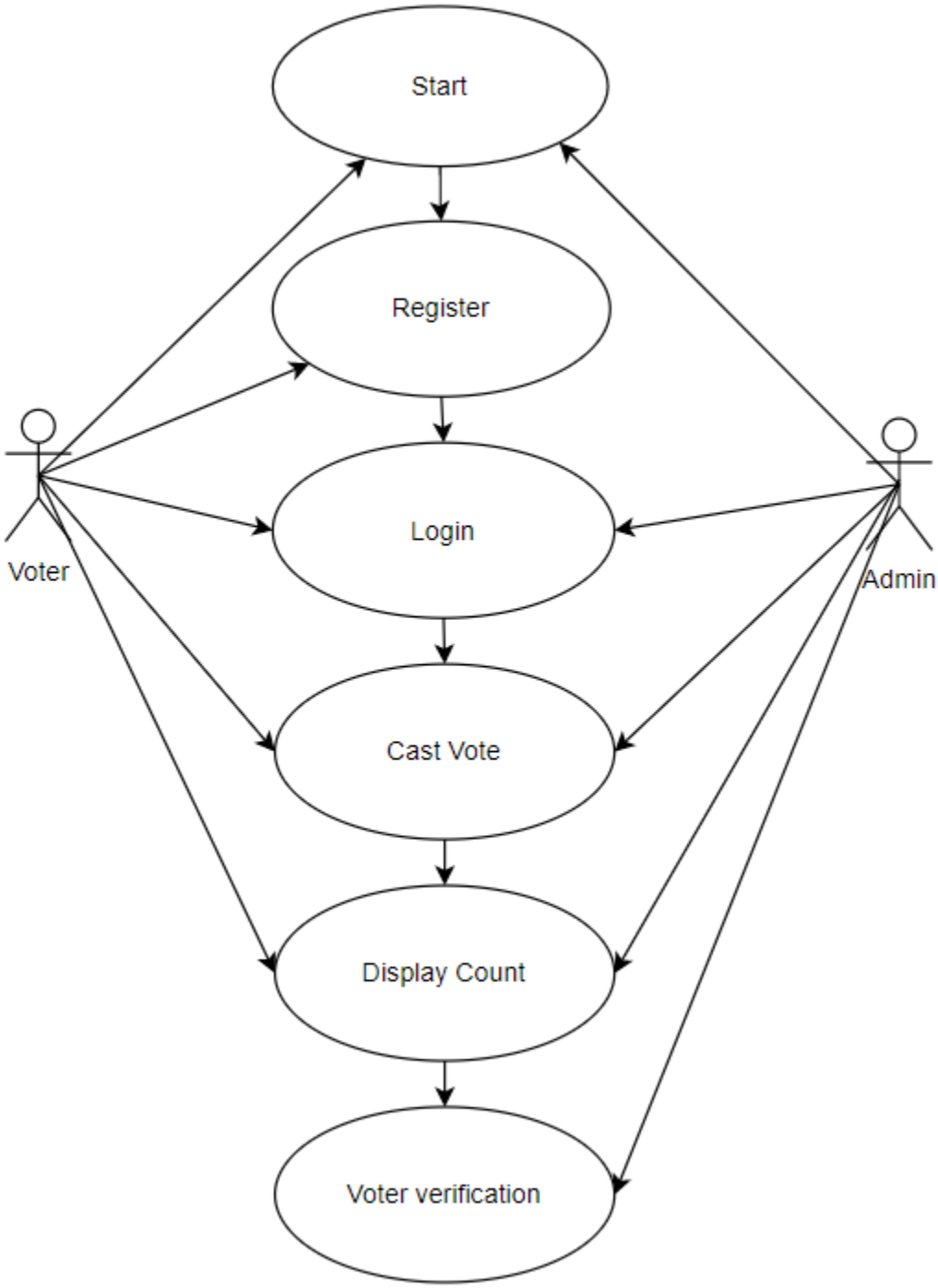


TABLE STRUCTURE

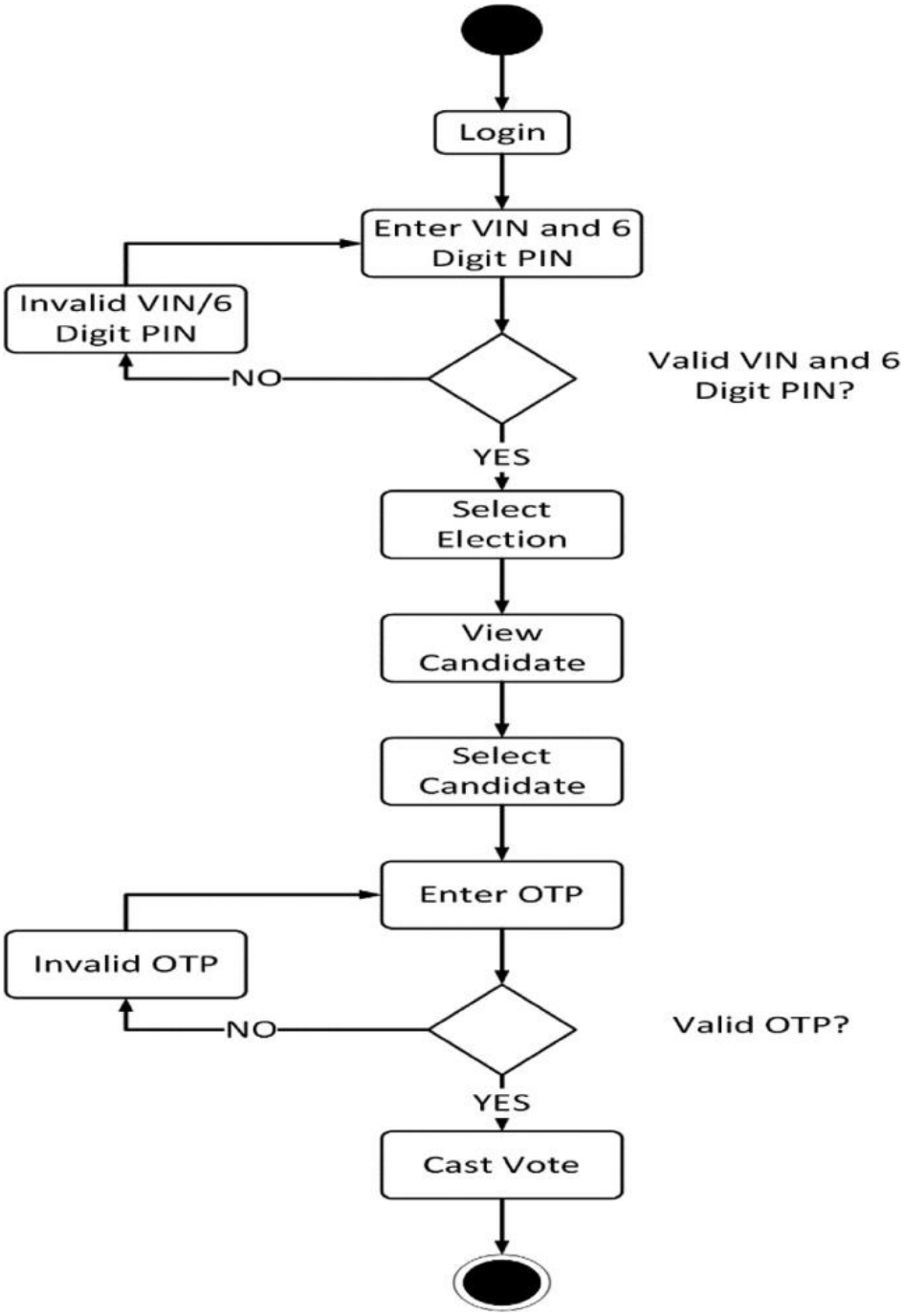
User table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	username	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
3	mobile	varchar(20)	utf8mb4_general_ci		No	None			Change Drop More
4	password	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
5	photo	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
6	standard	enum('group', 'voter')	utf8mb4_general_ci		No	None			Change Drop More
7	status	int(11)			No	None			Change Drop More
8	votes	int(11)			No	None			Change Drop More

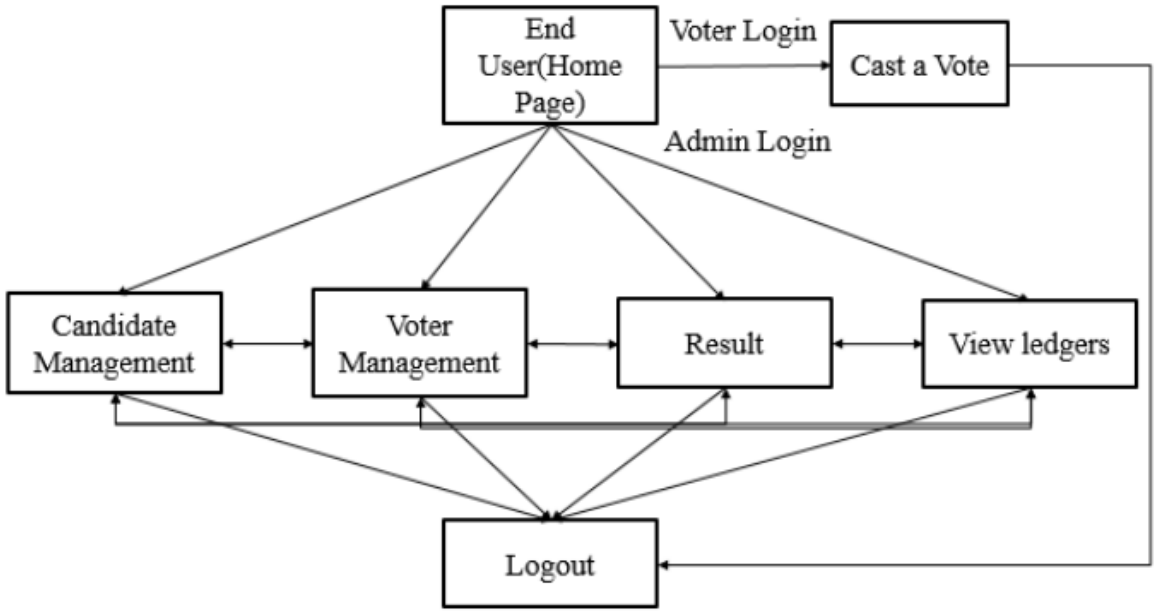
Use Case Diagram:



Activity Diagram:-

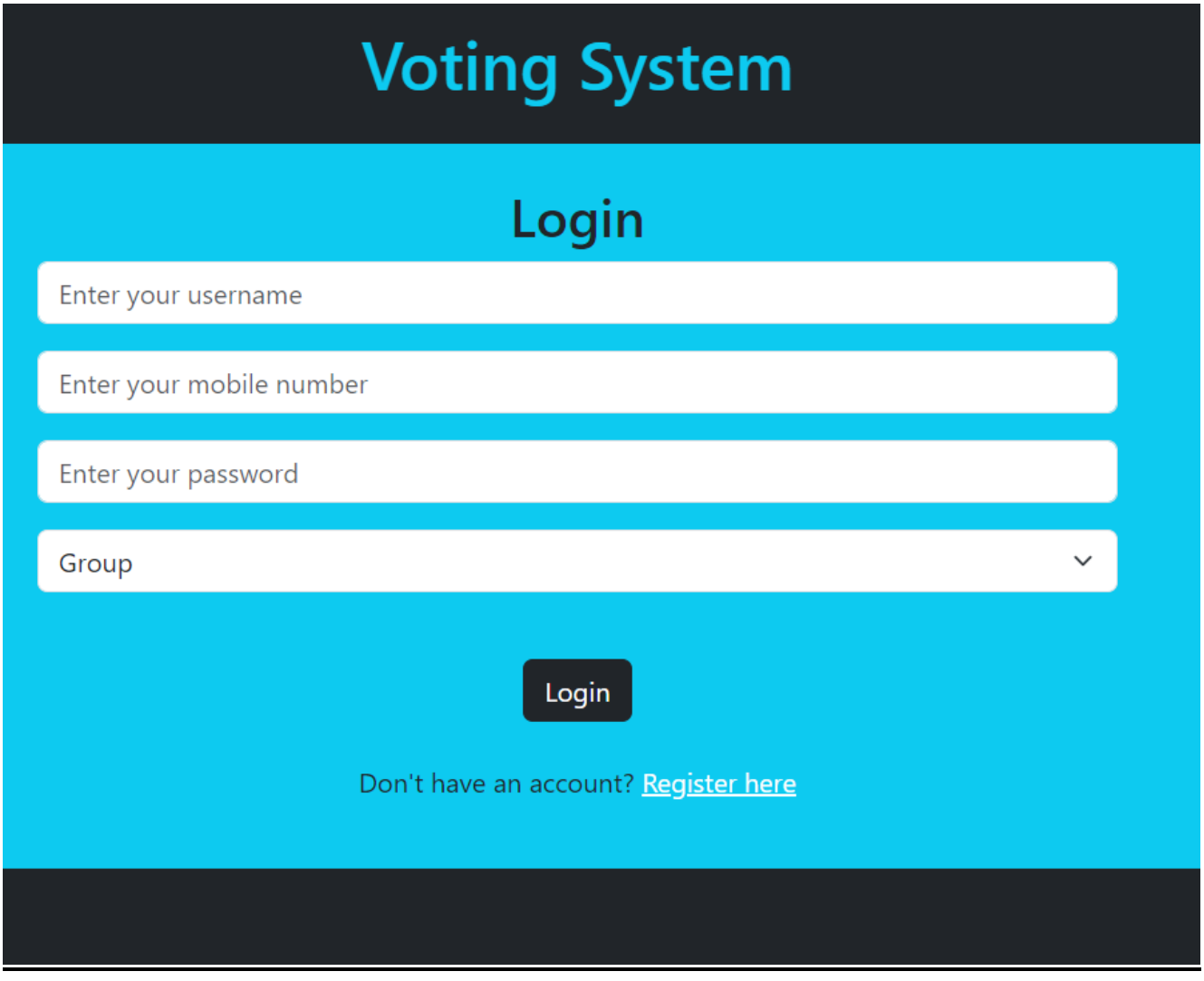


Deployment Diagram

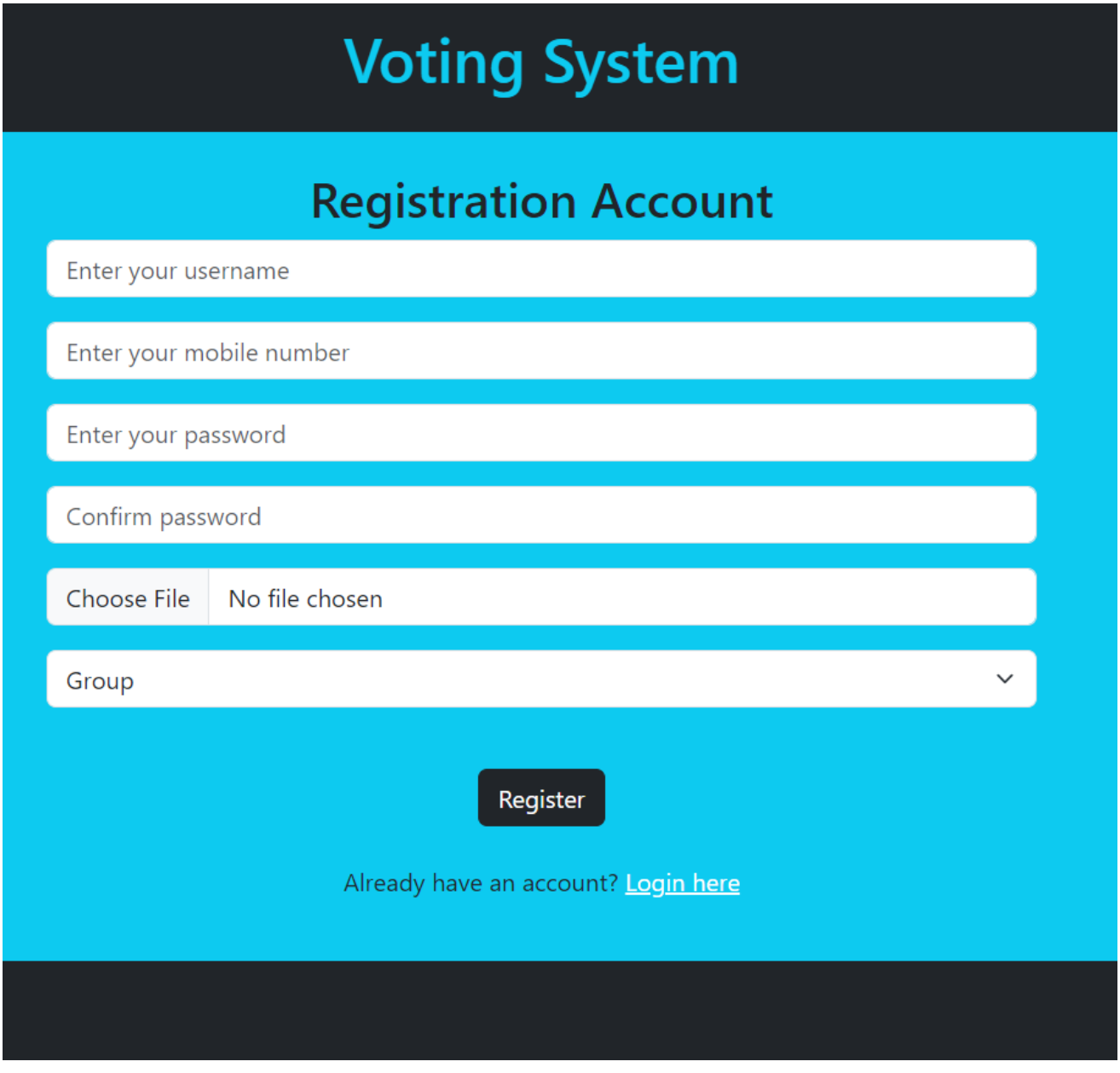


Sample Input and Output Screen:

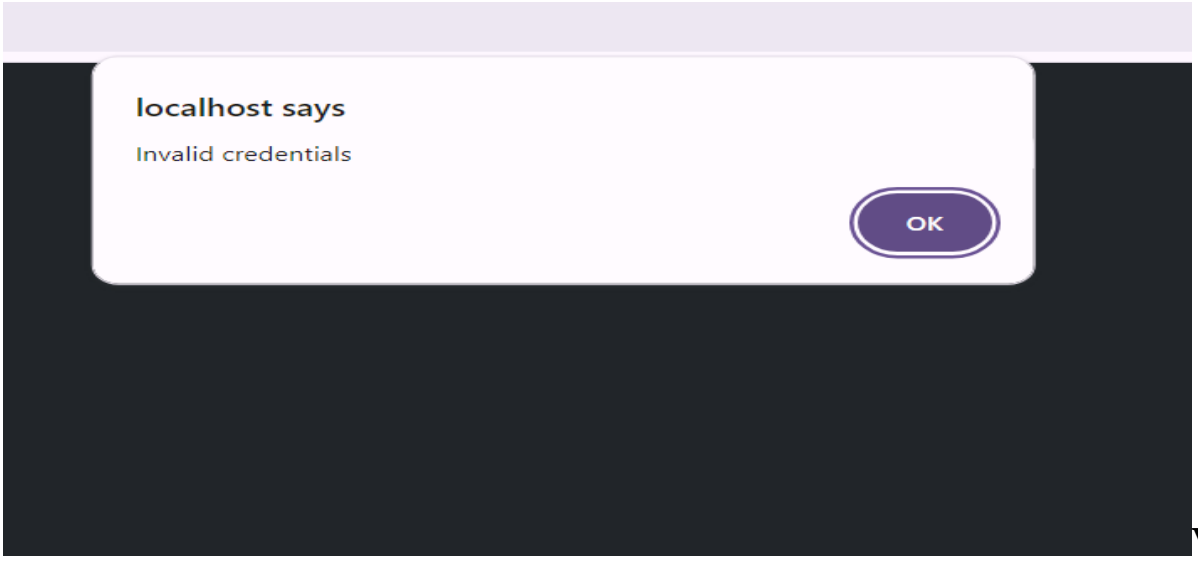
Login page :



Registration page :

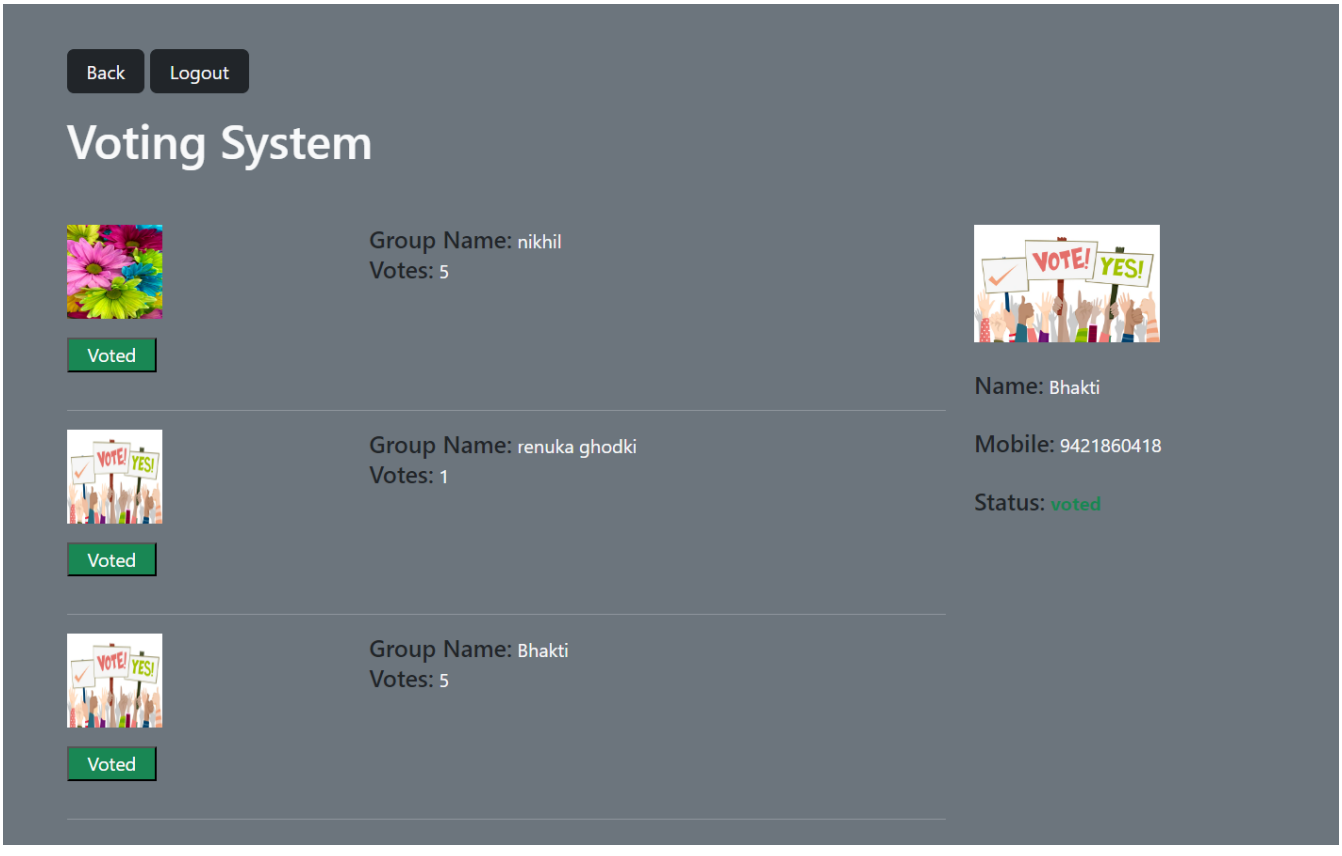


Invalid Password or username :



Voti

Voting Status:



4.CODING

```php
<?php
session_start();
include('connect.php');

// $username = mysqli_real_escape_string($con, $_POST['username']);
// $mobileno = mysqli_real_escape_string($con, $_POST['mobile']);
// $password = mysqli_real_escape_string($con, $_POST['password']);
// $std = mysqli_real_escape_string($con, $_POST['std']);

    $username=$_POST['username'];
    $mobileno=$_POST['Mobile'];
    $password=$_POST['Password'];
    $std=$_POST['std'];

$sql = "SELECT * FROM userdata WHERE username='$username' AND mobile='$mobileno'
AND password='$password' AND standard='$std'";
    $result = mysqli_query($con, $sql);

    $num=mysqli_num_rows($result);

        if($num>0)
        {
         $sql = "SELECT username, photo, votes, id FROM userdata WHERE
standard='group'";
         $resultgroup = mysqli_query($con, $sql);

        if (mysqli_num_rows($resultgroup) > 0) {
        $groups = mysqli_fetch_all($resultgroup, MYSQLI_ASSOC);
        $_SESSION['groups'] = $groups;
    }

    $data = mysqli_fetch_array($result);
    $_SESSION['id'] = $data['id'];
    $_SESSION['status'] = $data['status'];
    $_SESSION['data'] = $data;

    echo '<script>
    window.location="dash1.php";
    </script>';
} else {
    echo '<script>
    alert("Invalid credentials");
    window.location="index1.php";
    </script>';
}
?>
```

4.1 REGISTRATION

```php
<?php
include('connect.php');

$username=$_POST['username'];
$mobileno=$_POST['mobile'];
$password=$_POST['password'];
$cpassword=$_POST['cpassword'];
$image=$_FILES['photo']['name'];
$tmp_name=$_FILES['photo']['tmp_name'];
$std=$_POST['std'];



if($password!=$cpassword)
{
    echo '<script>
    alert("Passwords do not match");
    window.location="registration.php";
    </script>';
}

else{
     move_uploaded_file($tmp_name,"voter_project/$image");
    $sql="INSERT into userdata
(username,mobile,password,photo,standard,status,votes) values
('$username','$mobileno ','$password','$image','$std',0,0)";

    $result=mysqli_query($con,$sql);

    if($result){
        echo '<script>
    alert("Registration successfull");
    window.location="registration.php";
    </script>';

    }else{
        die(mysqli_error($con));
    }
}
```

4.2 VOTING

```php
<?php
session_start();

include('connect.php');

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

$update_votes=mysqli_query($con,"UPDATE userdata SET votes='$totalvotes' WHERE
id='$gid'");

$update_status=mysqli_query($con,"UPDATE userdata SET status=1 WHERE id='$gid'");

if($update_votes and $update_status)
{
    $getgroups=mysqli_query($con,"SELECT username,photo,votes,id from userdata
 WHERE standard='group'");
    $groups=mysqli_fetch_all($getgroups,MYSQLI_ASSOC);
    $_SESSION['groups']=$groups;
    $_SESSION['status']=1;

    echo '
    <script>
        alert("Voting Successfully......!");
        window.location="dash1.php";
    </script> ';

}
else{

    echo '
    <script>
        alert("Technical error !! please login after sometime....!");
        window.location="dash1.php";
    </script>  ';

}

?>
```

5. TESTING

5.1Test Strategy

Creating a test strategy for an online voting management system involves defining a comprehensive approach to ensure the system's reliability, security, and usability. Here is a structured test strategy:

1. Objectives

- **Ensure the system's functionality meets requirements.**
- **Verify security measures protect against fraud and attacks.**
- **Confirm system performance under various loads.**
- **Validate usability for different user types (voters, administrators).**
- **Ensure accessibility compliance.**

2. Scope

- **Functional Testing**
- **Security Testing**
- **Performance Testing**
- **Usability Testing**
- **Compatibility Testing**
- **Accessibility Testing**

3. Test Approach

A. Functional Testing

Objective: Verify that all features work as intended.

- **Test Cases:**
- **User registration and login**
- **Vote casting process**
- **Ballot generation and submission**
- **Results tabulation and display**
- **User profile management**
- **Techniques:**
- **Equivalence Partitioning**
- **Boundary Value Analysis**
- **Decision Table Testing**
- **Tools:**
- **Selenium for UI automation**
- **Postman for API testing**

B. Security Testing

Objective: Ensure the system is protected against threats and unauthorized access.

- **Test Cases:**
- **SQL injection**
- **Cross-site scripting (XSS)**
- **Cross-site request forgery (CSRF)**
- **User authentication and authorization**
- **Data encryption**
- **Techniques:**
- **Penetration Testing**
- **Vulnerability Scanning**
- **Ethical Hacking**
- **Tools:**
- **OWASP ZAP**
- **Burp Suite**

5.2 UNIT TEST PLAN

Creating a unit test plan for an online voting management system involves defining specific tests for the smallest units of the system's code, typically functions or methods. Here is a detailed unit test plan:

1. Test Approach

A. User Authentication

Objective: Ensure that all user authentication functions work correctly.

Functions to Test:

registerUser(username, password, email)

loginUser(username, password)

logoutUser()

resetPassword(email)

Test Cases:

registerUser:

Valid inputs (username, password, email)

Invalid inputs (missing fields, invalid email format)

Duplicate username

loginUser:

Valid username and password

Invalid username or password

Locked out account after multiple failed attempts

logoutUser:

Successful logout

Logout without login

resetPassword:

Valid email

Invalid email

Email not registered

B. Voting Process

Objective: Verify that voting-related functions work as intended.

Functions to Test:

castVote(userId, candidateId)

validateVote(voteData)

getVoteStatus(userId)

Test Cases:

castVote:

Valid user and candidate IDs

Invalid user or candidate IDs

User trying to vote multiple times

validateVote:

Valid vote data

Invalid vote data (e.g., missing userId or candidateId)

5.4 TEST CASE /TEST SCRIPT

1 Test Case for Registration

Test Case 1: Register User with Valid Inputs

Test Case ID: TC_REG_001

Description: Verify that a user can register with valid inputs.

Preconditions: The registration page is accessible.

Test Steps:

Navigate to the registration page.

Enter a valid username.

Enter a valid password.

Enter a valid email address.

Click the "Register" button.

Expected Results: The user is registered successfully and a confirmation message is displayed.

Postconditions: The new user account is created in the system.

Test Case For User Login

Test Case 1: Login with Valid Credentials

Test Case ID: TC_LOGIN_001

Description: Verify that a user can log in with valid credentials.

Preconditions: The user is registered in the system.

Test Steps:

Navigate to the login page.

Enter a valid username.

Enter the corresponding valid password.

Click the "Login" button.

Expected Results: The user is logged in successfully and redirected to the homepage or dashboard.

Postconditions: The user session is active.

Test Case for Voting

Test Case 1: Cast Vote with Valid Data

Test Case ID: TC_VOTE_001

Description: Verify that a user can cast a vote with valid data.

Preconditions: The user is logged in and the voting period is open.

Test Steps:

Navigate to the voting page.

Select a candidate from the list.

Confirm the vote selection.

Click the "Submit Vote" button.

Expected Results: The vote is cast successfully, and a confirmation message is displayed.

Postconditions: The user's vote is recorded in the system

5.5DEFECT REPORT

1. Defect ID:

DEF_VOTE_001

2. Title:

Unable to Cast Vote: "Submit Vote" Button Unresponsive

3. Description:

Users are unable to cast their votes because the "Submit Vote" button is unresponsive when clicked. The button does not trigger any action, and no votes are recorded.

4. Environment:

Browser: Google Chrome 91.0.4472.124

Operating System: Windows 10

Application Version: v2.3.1

Device: Desktop

5. Steps to Reproduce:

Log in to the online voting system with valid credentials.

Navigate to the voting page.

Select a candidate from the list.

Click the "Submit Vote" button.

Observe that the button does not respond and the vote is not submitted.

6. Expected Result:

The "Submit Vote" button should be responsive, submitting the user's vote and displaying a confirmation message.

7. Actual Result:

The "Submit Vote" button is unresponsive, and no vote is submitted. No confirmation message is displayed.

8. Severity:

High

9. Priority:

Critical

10. Attachments:

Screenshot of the unresponsive "Submit Vote" button.

Video demonstrating the issue.

11. Assigned to:

[Developer Name]

12. Reported by:

[Tester Name]

13. Date:

2024-05-21

1. Defect ID:

DEF_VOTE_002

2. Title:

Vote Recorded Incorrectly for Selected Candidate

3. Description:

Users report that their votes are being recorded for a different candidate than the one selected. This issue seems to occur sporadically and affects multiple users.

4. Environment:

Browser: Mozilla Firefox 89.0

Operating System: macOS Big Sur 11.4

Application Version: v2.3.1

Device: Desktop

5. Steps to Reproduce:

Log in to the online voting system with valid credentials.

Navigate to the voting page.

Select Candidate A.

Click the "Submit Vote" button.

Check the vote confirmation and results page.

Observe that the vote is recorded for Candidate B instead of Candidate A.

6. Expected Result:

The vote should be recorded for the selected candidate, Candidate A, and the confirmation should reflect this.

7. Actual Result:

The vote is incorrectly recorded for Candidate B, and the confirmation message shows Candidate B instead of Candidate A.

6.LIMITATION OF PROPOSED SYSTEM

While the proposed online voting management system offers numerous advantages, such as convenience, efficiency, and accessibility, it also has several limitations that need to be considered:

1. Security Vulnerabilities

Cyber Attacks: The system is susceptible to various types of cyber attacks such as hacking, phishing, and denial-of-service (DoS) attacks. Malicious actors may attempt to manipulate the voting process or disrupt service availability.

Data Breaches: Sensitive voter information and voting data are at risk of being exposed due to inadequate security measures.

Vote Integrity: Ensuring the integrity and confidentiality of votes is challenging. Without robust encryption and secure transmission protocols, votes could be intercepted and tampered with.

2. Technical Issues

System Downtime: The system may experience downtime or technical glitches, especially during peak voting periods, which can prevent users from casting their votes.

Scalability: The system must be able to handle a large number of concurrent users, particularly in national elections, which may require significant infrastructure and resources.

3. Accessibility Concerns

Digital Divide: Not all voters have equal access to the internet or digital devices, potentially disenfranchising those in rural or underprivileged areas.

Usability: The system must be user-friendly and accessible to individuals with disabilities, including those with visual, auditory, or motor impairments. Poor design could hinder their ability to vote independently.

4. Voter Authentication

Identity Verification: Ensuring that each vote is cast by a legitimate and eligible voter is difficult. Current methods for voter authentication, such as ID verification, may not be foolproof and could be subject to fraud.

Impersonation: There is a risk of voter impersonation, where someone might vote on behalf of another person without their knowledge.

7. PROPOSED OF ENHANCEMENT

Enhancing an online voting management system involves addressing the limitations and improving the overall functionality, security, accessibility, and user experience. Here are several proposed enhancements:

1. Enhanced Security Measures

Advanced Encryption: Implement end-to-end encryption to ensure the confidentiality and integrity of votes during transmission and storage.
Multi-Factor Authentication (MFA): Use multi-factor authentication methods to strengthen voter identity verification, such as biometric verification, SMS codes, or email verification.
Regular Security Audits: Conduct regular security audits and vulnerability assessments to identify and mitigate potential security risks.
Blockchain Technology: Integrate blockchain technology to create a tamper-evident ledger of votes, ensuring transparency and immutability of the voting records.

2. Improved System Resilience

Load Balancing: Implement load balancing to manage high traffic during peak voting periods and prevent system overload.
Disaster Recovery: Develop a comprehensive disaster recovery plan to ensure system availability and data integrity in case of unexpected failures or cyber attacks.
Redundancy: Deploy redundant servers and failover mechanisms to maintain system availability and reliability.

3. Enhanced Accessibility

User-Friendly Interface: Design an intuitive and user-friendly interface that accommodates users of all technical skill levels, with clear instructions and feedback.

Accessibility Features: Ensure compliance with accessibility standards (e.g., WCAG 2.1) by incorporating features such as screen reader compatibility, text resizing, high-contrast modes, and voice commands.

Mobile Optimization: Optimize the system for mobile devices to accommodate voters who prefer to use smartphones or tablets.

3. **Robust Voter Authentication**

Biometric Verification: Integrate biometric authentication (e.g., fingerprint, facial recognition) to enhance voter identity verification.

Real-Time Verification: Use real-time verification methods, such as video identification, to confirm voter identity during the voting process.

Digital IDs: Leverage government-issued digital IDs or electronic identity verification services to ensure the authenticity of voter identities.

8.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. Its provide 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 ELECTION COMMISION OF INDIA in which all the names of voter with complete information is stored.

In this user who is above 18 year's register his/her information on the database and when he/she want to vote he/she has to login by his id and password and can vote to any party 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.

9. BIBLIOGRAPHY:-

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