VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JNANA SANGAMA", BELAGAVI - 590 018

A MINI PROJECT REPORT

on

# "ONLINE VOTING SYSTEM"

*Submitted by*


| | |
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*In partial fulfillment of the requirements for the V semester*

## DBMS LABORATORY WITH MINI PROJECT

of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE & ENGINEERING(DATA SCIENCE)

*Under the Guidance of*

Mr. Ganaraj K

Assistant Professor, Department of ISE

at


SAHYADRI

College of Engineering & Management

An Autonomous Institution

MANGALURU


2022 - 23

# SAHYADRI

## College of Engineering & Management

### An Autonomous Institution

### MANGALURU

### Department of Computer Science & Engineering(Data Science)


# CERTIFICATE

This is to certify that the **Mini Project** entitled **"Online Voting System"** has been carried out by **Jeevan J L (4SF20CD020)** and **Mahesh (4SF20CD022)**, the bonafide students of Sahyadri College of Engineering & Management in partial fulfillment of the requirements for the V semester **DBMS Laboratory with Mini Project (18CSL58)** of **Bachelor of Engineering in Computer Science & Engineering(Data Science)** of Visvesvaraya Technological University, Belagavi during the year 2022 - 23. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The mini project report has been approved as it satisfies the academic requirements in respect of mini project work.

| | |
|---|---|
| **Mr. Ganaraj K** | **Dr. Mustafa Basthikodi** |
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### External Practical Examination:

| Examiner's Name | Signature with Date |
|---|---|
| 1. ..... | ..... |
| 2. ..... | ..... |

# SAHYADRI

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# DECLARATION

We hereby declare that the entire work embodied in this Mini Project Report titled **"Online Voting System"** has been carried out by us at Sahyadri College of Engineering and Management, Mangaluru under the supervision of **Mr. Ganaraj K** as the part of the V semester **DBMS Laboratory with Mini Project (18CSL58)** of **Bachelor of Engineering** in **Computer Science & Engineering(Data Science)**. This report has not been submitted to this or any other University.

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# Abstract

The Online Voting System is an Online Voting technique. The main objective of the Online Voting System is, the people who are authorized by the admin can cast vote online without going to the polling station. This type of system can be used for elections, surveys, or other forms of voting. The key features of an online voting system typically include voter registration, candidate registration, vote casting. The system will be designed to be user-friendly and easy to navigate. Voters will be able to create an account and log in to the system using their VoterId and a Password. Once logged in, they will be able to view the candidates or options for the election or survey and cast their vote. The system will be designed to ensure that each voter can only cast one vote. an online voting system aims to increase voter participation and provide a convenient and secure way for individuals to cast their vote. The voter can cast their vote securely and logout of the system. Hence Online Voting System could be used for conducting secure and fair elections online. The online voting system is done by the internet so it can be called Internet Voting.

# Acknowledgement

It is with great satisfaction and euphoria that we are submitting the Mini Project Report on **"Online Voting System"**. We have completed it as a part of the V semester **DBMS Laboratory with Mini Project (18CSL58)** of **Bachelor of Engineering** in **Computer Science & Engineering(Data Science)** of Visvesvaraya Technological University, Belagavi.

We are profoundly indebted to our guide, **Mr. Ganaraj K**, Assistant Professor, Department of Information Science & Engineering for innumerable acts of timely advice, encouragement and We sincerely express our gratitude.

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# Chapter 1

# Introduction

The existing manual Voting system consumes more time for Vote Casting. Voter has to wait for vote polling station to vote for a right candidate. The election officers has to be check the voter, this voter can vote in this booth then check voter id present in voters list of booth those are information will be present then the voter can vote in that booth. The voter had to stand in the queue to cast their vote. All the work is done in paper ballot so it is very hard to locate a particular candidates, some voters cast their votes for all candidates. To overcome of all these problems we provide an online voting system which provides features such as accuracy, convenience, flexibility and verifiability which is helpful for voting from any where.

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## 1.1 Purpose

The objective of the Online Voting System is the replacement of the traditional system that is in existence. This smart system reduces the time for voting and also the system is reliable, and faster.

## 1.2 Scope

The scope of the Online Voting System is a DBMS project for voting process . The online voting system will manages the voter's details, Candidate details. The main feature of the project includes voters information and candidate information, voter can login and use thier voting rights. the candidate can login and register for voterid for voting and register for contesting in election. The system can manage the information data very

efficiently.

## 1.3 Overview

The Online Voting System helps the voting process more reliable, faster, accurate and easy to handle compared to existing manual system. Online Voting Systems are designed to provide an easy and efficient way for individuals to participate in the democratic process. They allow voters to cast their vote online, ensuring that their vote is recorded accurately and securely, and they provide real-time reporting of results to administrators. With the growing popularity of online voting systems, they are becoming an increasingly important tool in modern elections and surveys. It helps to computerize everything and reducing the errors as compare to manual voting system. This web application is designed for easy use and implementation of the same..

# Chapter 2

# Requirements Specification

## 2.1 Hardware Specification

- Processor : AMD Ryzen 5 3500U with Radeon Vega Mobile Gfx
- RAM : 8GB
- Hard Disk : 1TB,256GB SSD
- Input Device : Standard keyboard and Mouse
- Output Device : Monitor

## 2.2 Software Specification

- Database : MySQL 8.1.12
- Markup Language : HTML 5
- Scripting Language: PHP 8.1.12
- IDE: Microsoft Visual Studio Code 1.74.3

# Chapter 3

# System Design

## 3.1 ER Diagram

An Entity Relationship Diagram (ER Diagram) graphically explains the relationship between entities to be stored in a database. Fundamentally, the ER Diagram is a structural design of the database. It acts as a framework created with specialized symbols for the purpose of defining the relationship between the database entities.

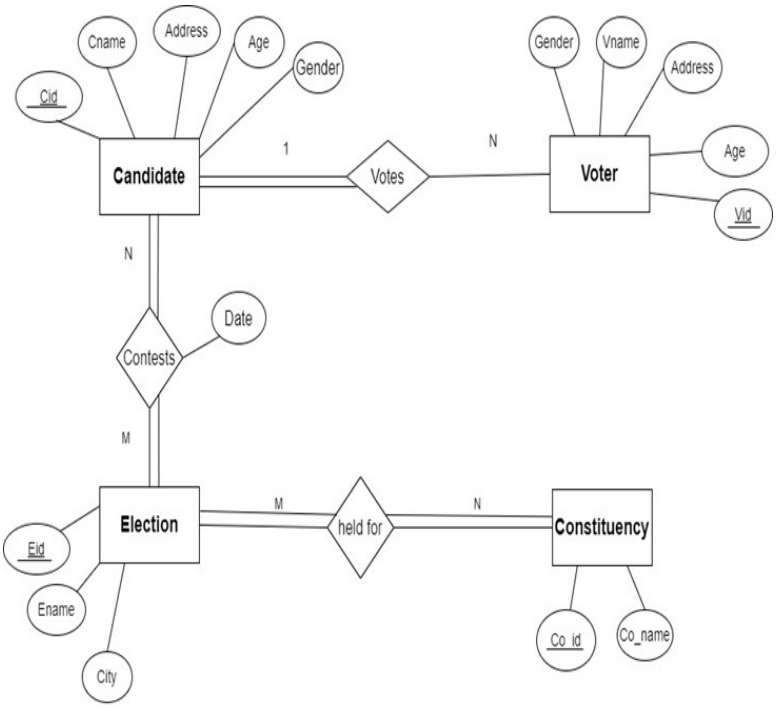



Figure 3.1: ER Diagram for Online Voting System

This ER(Entity Relationship)Diagram represents the model of Online Voting system entity. The entity relationship diagram of Online voting System shows all the visual

instrument of Datbase tables and the Relations between Candidate, voter, election and Constituency. The main Entities of Online Voting System are Candidate, Voter, Election, Constituency. By defining the entities, thier attributes and showing relationship between them, an ER diagram illustrates the logical structure of Databases.

## 3.2 Mapping From ER Diagram to Schema Diagram

1. **Mapping of Regular Entities:**

   This step involves mapping all the regular entity types to tabular format by identifying their primary keys.

2. **Mapping of Weak Entity:**

   When mapping weak entity types along with other at-tributes the partial key and primary key of parent entity together will form their primary key of the new relation.

3. **Mapping of 1:1 Relation:**

   In this step foreign keys are assigned using foreign key approach. The primary key of the participating relation R or S is added as primary key to second entity types by looking at the participating constraints.

4. **Mapping of 1:N Relation:**

   Foreign key approach is used to add one sided primary key to the n sided entity at foreign key.

5. **Mapping of M:N Relation:**

   Here we use the cross reference approach where the relationship is converted to a new relation within attributes on primary keys of both participating relation.

6. **Mapping of Multivalued Relation:**

   For multivalued attributes a separate relation has to be created along with primary key of parent relation.

7. **Mapping of N-ary Relation:**

   For mapping N array relationship we create a new relation with a relationship name in its attribute and primary keys of all participating entity types.

## 3.3 Assumptions

- One Voter can vote for one eligible candidate in the election.
- One Candidate can be voted by many Voters of the Constituency.
- Multiple Elections are held for several Constituency.
- Many Candidates can contests in multiple Elections.
- Every Candidate must be a voter and every voter is not a candidate.

## 3.4 Schema Diagram

A Schema is a logical representation of the relationship between the database tables in the database that is created. The Placement Management System schema of a database system is its structure described in a formal language supported by the database management system. The term ” schema” refers to the organization of data as a blueprint of how the database is constructed. Here the schema is got by following the mapping from ER to schema. The tables got are student, company, training, exam and Attends as m:n relation was present.

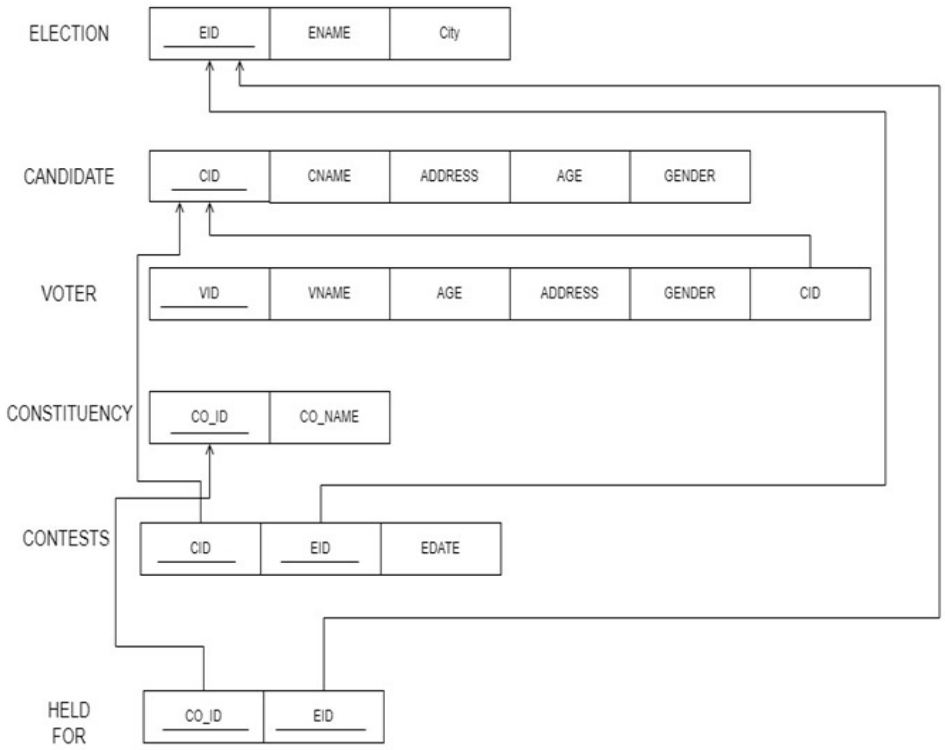



Figure 3.2: Schema Diagram for Online Voting System

# Chapter 4

# Implementation

## 4.1 Pesudo Code

### 4.1.1 Connection to Database

Figure 4.1 illustrates the Database connection Pesudo code. In order to store or access the data inside a MySQL database, you first need to connect to the MySQL database server. In PHP you can easily do this using the mysqli connect) function. All communication between PHP and the MySQL database server takes place through this connection. The hostname parameter in the above syntax specify the host name (e.g. localhost ), whereas the username and password parameters specifes the credentials to access MySQL server, and the database parameter, if provided will specify the default MySQL database to be used when performing queries. The default username for MySQL database server is root and there is no password.

```php
<?php
$server="localhost";
$username="root";
$password="";
$database = "online_voting_system";
// $database="notes";
$con= mysqli_connect($server,$username,$password,$database);
if(!$con){
    die("Connection failed" . mysqli_connect_error());
}
else
{
 //   echo"Connection successful<br>";
}
?>
```

Figure 4.1: Database Connection

### 4.1.2 Insertion to candidate

The figure 4.2 shows how data is added into Candidate Table. Insert statement is a DML (Data modification language) statement which is used to insert data in the MysQL table.PHP POST is a PHP super global variable which is used to collect form data after submitting an HTML form with method=”post”. The PHP mysqli query() function accepts a string value representing a query as one of the parameters and, executes/performs the given query on the database.

```php
<?php
 include 'connect.php';
$alert = false;
 if(isset($_POST['CID'])){
   $CID=$_POST['CID'];
   $CNAME=$_POST['CNAME'];
   $ADDRESS=$_POST['ADDRESS'];
   $GENDER=$_POST['Gender'];
   $AGE=$_POST['AGE'];
   $PARTY_NAME=$_POST['PARTY_NAME'];
   $VID=$_POST['VID'];

   $sql = "INSERT INTO `candidate`(CID,CNAME,ADDRESS,AGE,GENDER,PARTYNAME,VID)
   VALUES ('$CID','$CNAME','$ADDRESS','$AGE','$GENDER','$PARTY_NAME','$VID');";
   $result = mysqli_query($con, $sql);
   if($result){
       $alert = true;
   }
   else{
       die("Connection failed" . mysqli_connect_error());
   }
 }

?>
```

Figure 4.2: Insertion to candidate

### 4.1.3 Deletion From Constituency

Figure 4.3 illustrates the Deletion Pesudo code. The DELETE statement is used to delete existing records in a table. The WHERE clause specifies which record(s) should be deleted. Once data has been deleted, it cannot be recovered.Here PHP ’GET’ method used to collect form data sent in the URL.PHP GET is a PHP super global variable.

```php
<?php
include 'connect.php';
if(isset($_GET['deleteid'])){
    $id = $_GET['deleteid'];

    $sql = "DELETE FROM `CONSTITUENCY` where CO_ID=$id";
    $result = mysqli_query($con, $sql);
    if($result)
    {
        header('location:display.php');
    }
    else{
        die(mysqli_error($con));
    }
}

?>
```

Figure 4.3: Deletion From Constituency

### 4.1.4 Updation to Voter

Figure 4.4 illustrates the Updation Pesudo code. The UPDATE statement is used to modify the existing records in a table. The WHERE clause specifies which record (s) that should be updated.Here PHP 'GET' method used to collect form data sent in the URL. PHP GET is a PHP super global variable.

```php
<?php
include 'connect.php';
$id = $_GET['updateid'];
$sql = "SELECT * FROM `VOTER` WHERE VID='$id';";
$result = mysqli_query($con,$sql);
$row = mysqli_fetch_assoc($result);
$vid = $row['VID'];
$name = $row['VNAME'];
$age = $row['AGE'];
$gender = $row['GENDER'];
$address = $row['ADDRESS'];

 if(isset($_POST['VNAME'])){
   $VNAME=$_POST['VNAME'];
   $VID = $_POST['VID'];
   $AGE=$_POST['AGE'];
   $GENDER=$_POST['GENDER'];
   $ADDRESS=$_POST['ADDRESS'];

   $sql = "update `Voter` set VID='$VID', VNAME='$VNAME', AGE='$AGE',GENDER='$GENDER',ADDRESS='$ADDRESS' WHERE VID='
   $result = mysqli_query($con,$sql);
   if($result){
       // echo "Data inserted successfully";
      header('location:main.php');
   }
   else{
       die("Connection failed" . mysqli_connect_error());
   }
 }
```

Figure 4.4: Updation to Voter

### 4.1.5 Find the Candidate

Figure 4.5 illustrates the Find Pesudo code. To find the candidate in the database user has to enter Constituency id and Election id. The first step is to start up a session. After a session is started, session variables can be created to store information. Store the Session data in key-value pairs using the SESSION superglobal array. Data stored in sessions can be easily accessed by firstly calling sessionstart() and then by passing the corresponding key to the SESSION associative array. The PHP code to access a session data with two session variables Election id and Constituency id is shown below

```php
<?php
  include 'connect.php';
 session_start();
    $found = TRUE;
     $correct = TRUE;
     $temp = FALSE;
if (isset($_POST['EID'])) {
    $EID = $_POST['EID'];
    $CO_ID = $_POST['CO_ID'];
    $_SESSION['userdata1'] = $EID;
    $_SESSION['userdata2'] = $CO_ID;
    $query = "SELECT  * FROM `HELDFOR` WHERE EID= '$EID';";
    $result = mysqli_query($con, $query);
    $row = mysqli_fetch_assoc($result);
    if(mysqli_num_rows($result) > 0){
    if((strcmp($row['EID'],$EID) != 0) and( strcmp($row['CO_ID'],$CO_ID) != 0 ))
       $found = FALSE;
    else{
       $query = "SELECT EID,CO_ID FROM `HELDFOR` WHERE CO_ID= '$CO_ID' AND EID = '$EID';";
       $result = mysqli_query($con, $query);
       $row = mysqli_fetch_assoc($result);

       if(($row['EID'] != $EID)AND ($row['CO_ID']!=$CO_ID))
          $correct = FALSE;
       else{
          $correct = TRUE;
          $_SESSION['userdata1'] = $EID;
          $_SESSION['userdata2'] = $CO_ID;
          header("Location:/online%20voting/mainpage1voter/main.php");
```

Figure 4.5: Find the Candidate

### 4.1.6 Display Election

The below php code is use to display the data in the Election Table.

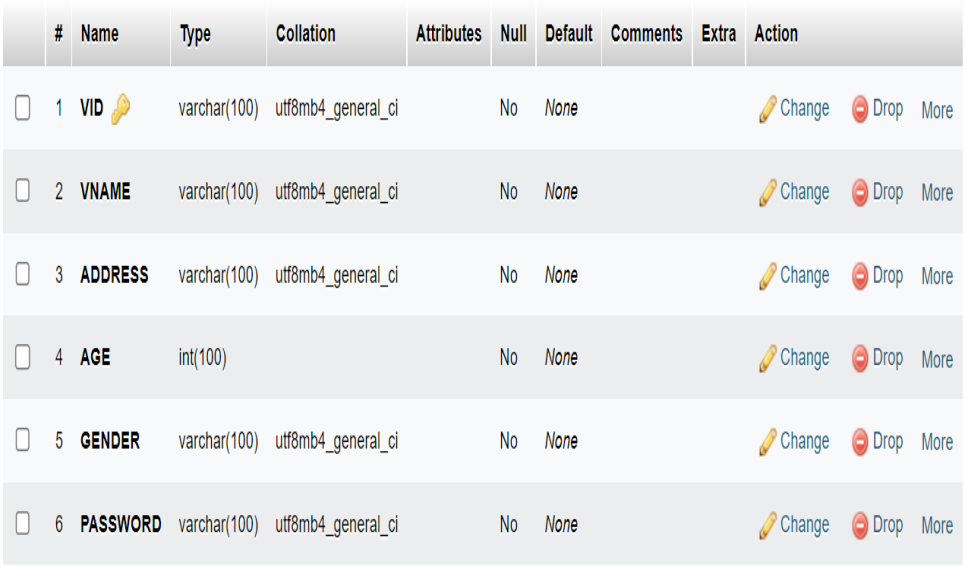
```php
<?php
    $sql = "SELECT EID,ENAME
            FROM `ELECTION` ";
    $result = mysqli_query($con, $sql);
    if ($result) {
      while ($row = mysqli_fetch_assoc($result
      {
        $Eid = $row['EID'];
        $Ename = $row['ENAME'];
        echo '  <tr>
        <th scope="row">' . $Eid . '</th>
        <td>' . $Ename . '</td>
        </tr>';
      }

    }?>
```

Figure 4.6: Display Election

## 4.2 Tables Used

### 4.2.1 Voter Table

Figure 4.7 illustrates the structure of Voter Table. It contains the attributes Voter id, Voter Name, Adderss, Age, Gender. Here the attribute, Voter id is the primary key.

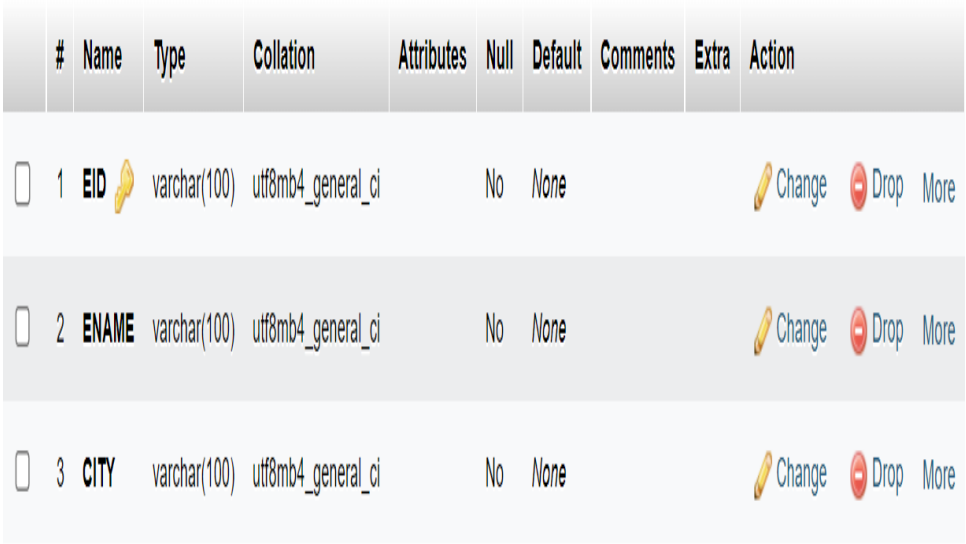


| # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|---|---|---|---|---|---|---|---|---|---|
| 1 | VID | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| 2 | VNAME | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| 3 | ADDRESS | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| 4 | AGE | int(100) | | | No | None | | | Change Drop More |
| 5 | GENDER | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| 6 | PASSWORD | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |

Figure 4.7: Structure of Voter Table

### 4.2.2 Election Table

The Structure of Election Table Figure 4.9 contains the attributes Election id, Election Name, City. Here the attribute, Election id is the primary key.



| # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|---|---|---|---|---|---|---|---|---|---|
| 1 | EID | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| 2 | ENAME | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| 3 | CITY | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |

Figure 4.8: Structure of Election Table

### 4.2.3 Candidate Table

Figure 4.8 illustrates the structure of Candidate Table. It contains the attributes Candidate id, Candidate Name, Adderss, Age, Gender, PartyName, Voter id. Here the attribute, Candidate id is the primary key and Voter id is the Foreign key.

| | # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|---|---|---|---|---|---|---|---|---|---|---|
| ☐ | 1 | CID | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| ☐ | 2 | CNAME | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| ☐ | 3 | ADDRESS | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| ☐ | 4 | AGE | int(100) | | | No | None | | | Change Drop More |
| ☐ | 5 | GENDER | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| ☐ | 6 | PARTYNAME | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| ☐ | 7 | VID | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| ☐ | 8 | PASSWORD | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |

Figure 4.9: Structure of Candidate Table

### 4.2.4 Constituency Table

Figure 4.10 illustrates the structure of Constituency Table.It contains the attributes Constituency id, Constituency Name. Here the attribute, Constituency id is the primary key.

| | # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|---|---|---|---|---|---|---|---|---|---|---|
| ☐ | 1 | CO_ID | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |
| ☐ | 2 | CO_NAME | varchar(100) | utf8mb4_general_ci | | No | None | | | Change Drop More |

Figure 4.10: Structure of Constituency Table

### 4.2.5 Contest Table

Figure 4.11 illustrates the structure of Contest Table .It contains the attributes Candidate id, Election id. Here the attribute, Candidate id and Election id is the primary key and Foreign key.

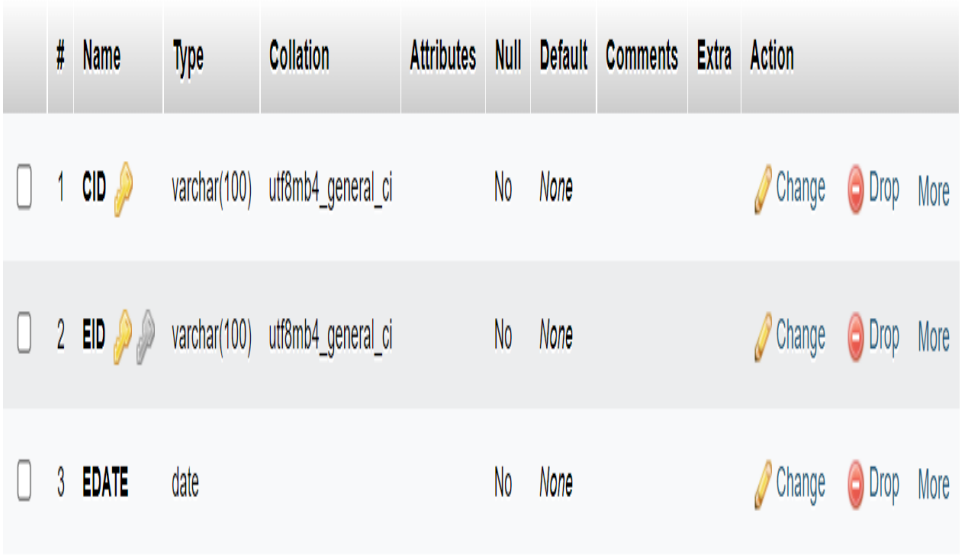



Figure 4.11: Structure of Contest Table

### 4.2.6 HeldFor Table

Figure 4.12 illustrates the structure of HeldFor Table. It contains the attributes Constituency id, Election id. Here the attribute, Constituency id and Election id is the primary key and Foreign key.


Figure 4.12: Structure of HeldFor Table

# Chapter 5

# Results and Disscussion

## 5.1 Menu page

Figure 5.2 illustrates the Menu page of the Voting System. Once the user enters the voting system they can see options like voter login and registration, candidate login and registration and admin login.

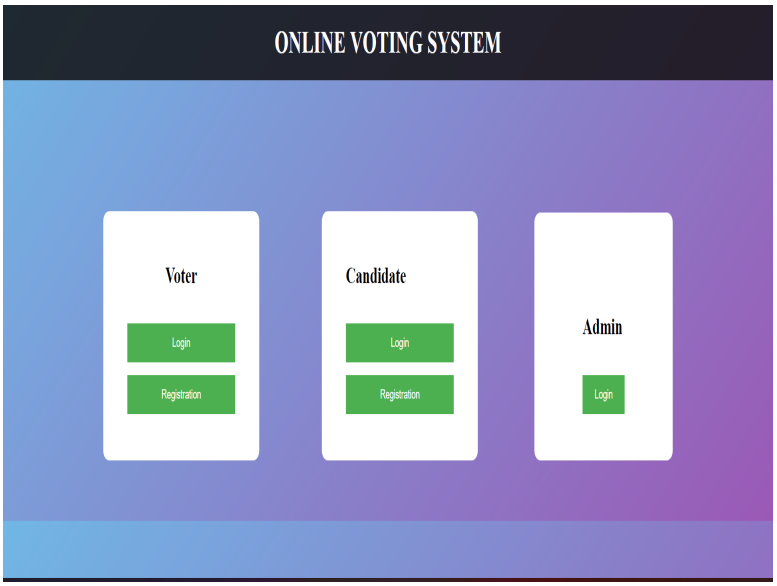



Figure 5.1: Menu page

## 5.2 Voter login page

Figure 5.2 illustrates the Voter login page. Using the Voter login page voter can login to the online voting system with appropriate credentials. The nevigation bar contains three options voter, candidate and home. If they don't have an account they can register by cliking the button Register here.

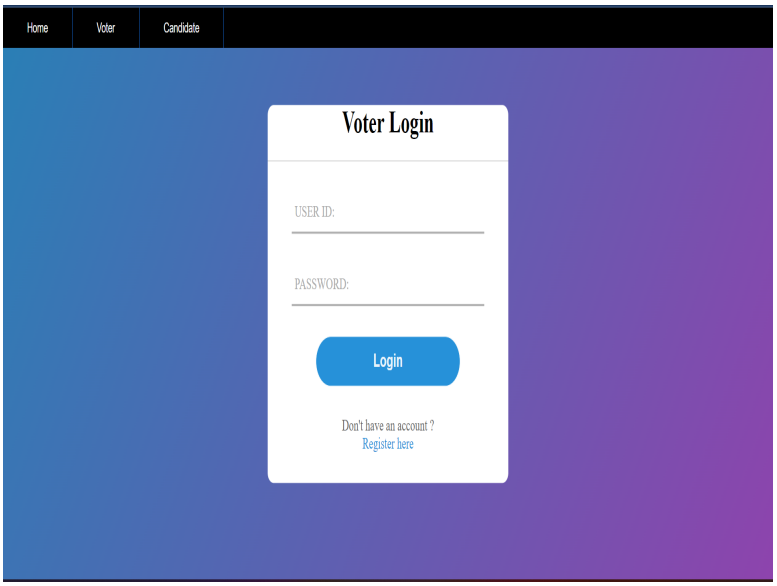



Figure 5.2: Voter login page

## 5.3 Voter registration page

Figure 5.3 illustrates the Voter Registration Page. Using the Voter Registration page the voter can easily fill all their details and register for vote . If they already register then they login to the account by cliking the button login here.

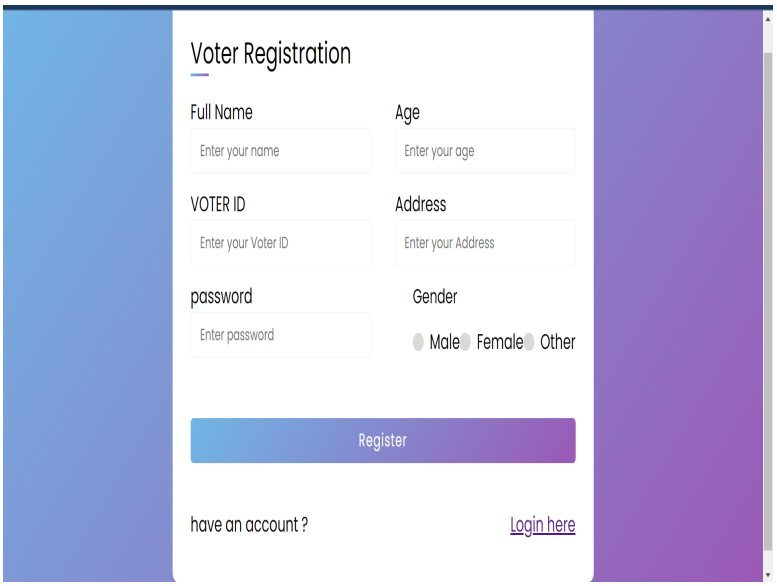



Figure 5.3: Voter registration page

## 5.4 Voter update page

Figure 5.4 illustrates the Voter Update Page. Using Voter update page the voter can easily update their detalis.

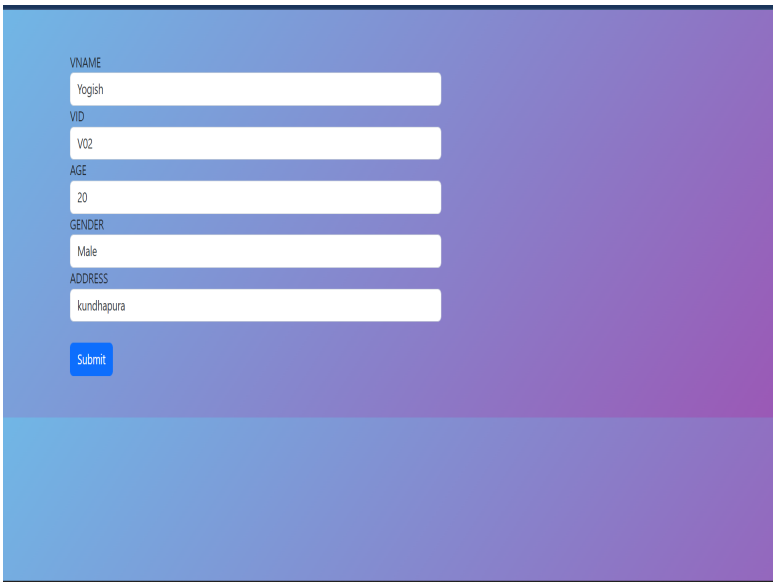



Figure 5.4: Voter update page

## 5.5 Voting page

Figure 5.5 illustrates the Voting page of voting system. On this page, the voter and candidate information is displayed and the voter can update his information.There is a three options in the navigation bar. First is the register page where candidates can register for the election. Second option display where election information and constituency information is displayed. In the Find candidate voter can find the candidate by filling election id and constituency id. There is a vote button infront of candiadte information, here voter can vote for candidate.

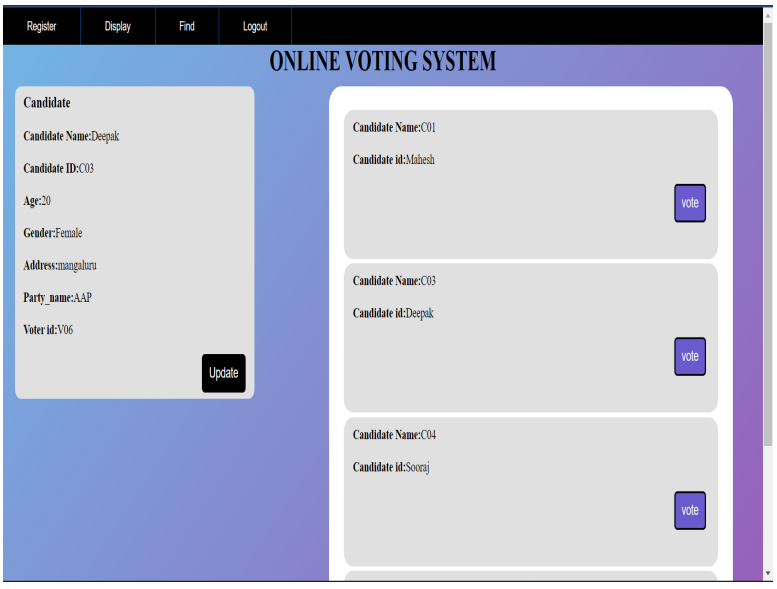



Figure 5.5: Voting page

## 5.6 Find candidate page

Figure 5.6 illustrates the Find page. Using this page voter can find out candidate by filling election id and constituency id in the form.

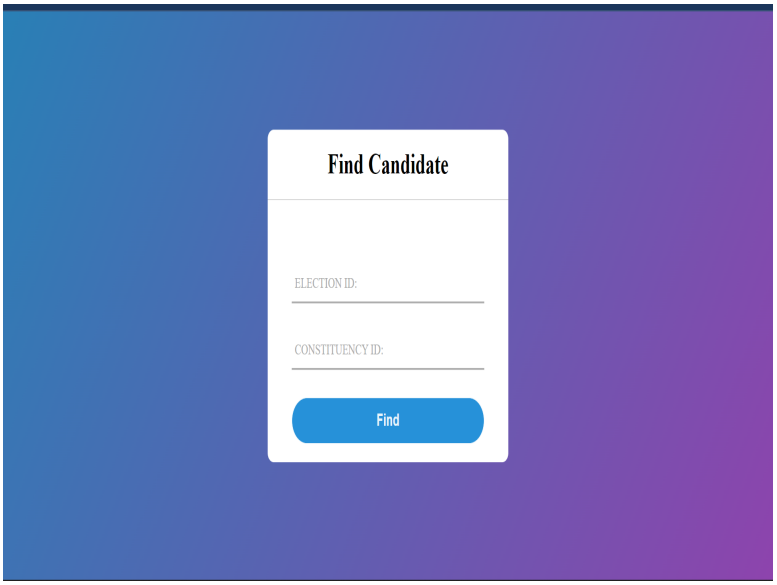



Figure 5.6: Find Candidate page

## 5.7 Election display page

Figure 5.7 illustrates the Election Display page. In this page election information will be displayed. Here Admin can add new election and update and delete the existing election.

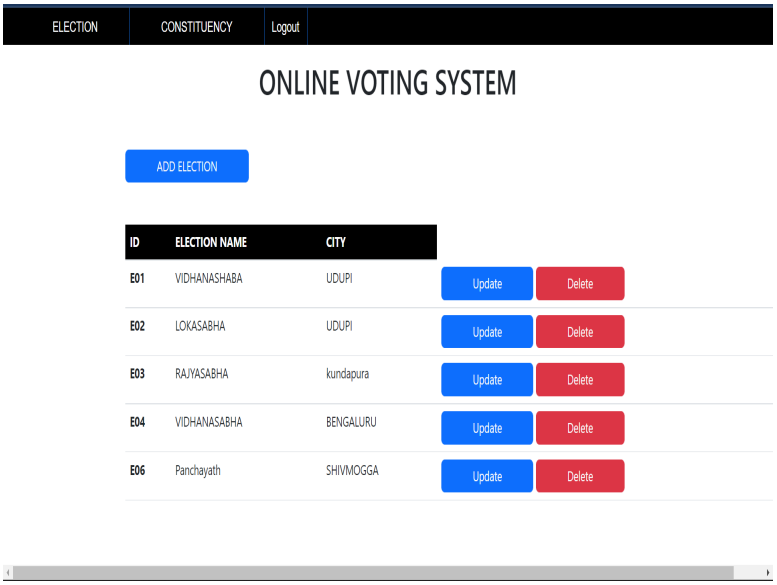



Figure 5.7: Election display page

## 5.8 Constituency display page

Figure 5.8 illustrates the Constitunecy Display page. In this page constituency information will be displayed . Here Admin can add new constituency and update and delete the existing constituency.

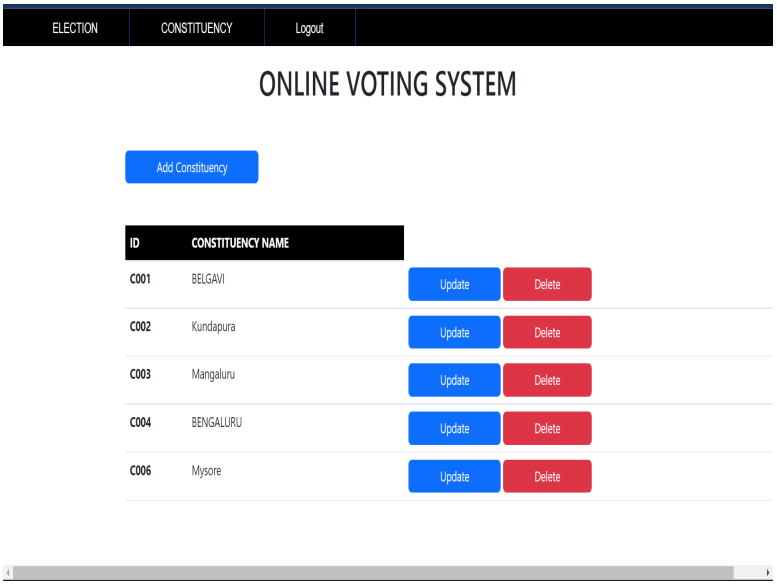



Figure 5.8: Constituency display page

# Chapter 6

# Conclusion and Future work

This online Voting system will manage the Voter's information by which voter can login and use 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 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 18years's register their information on the database and when they 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 very less time consuming. It is very easy to debug. The traditional method of manual voting system has few drawbacks. This method is obviously not efficient as it wastes the voter's energy and quite slow in term of completion. This smart system involves the voter's can cast their vote easily, and can be implemented to the entire India.

# References

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