Online Voting System

Submitted in partial fulfilment of the requirements for the following degree

B.Tech in

Computer Science and Engineering

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1. Abstract

The percentage of polling on the day of elections is not satisfactory as majority of the people are not coming to vote and thinks is just as a wastage of time. 3 in every 10 people do not vote in our country. The manual voting system takes long time as there is a lot of paper work first and then human effort is also there for counting of the votes. Manual voting consumes almost 4-6 hrs. (approx.) of every voter which is surely a headache. In this Project, we aim to buils a online voting system which will allow voters to vote anytime from the comfort of their homes.

2. Introduction

An online voting system is a software platform that allows groups to securely conduct votes and elections. Most used current voting methods include ballot paper and EVMs and optical voting machines. An online voting system is important because Voter can Vote from anywhere without much effort. It will help improve the vote count and gives us accurate results in less time. Problems like false votes and booth capturing can be prevented by using this method.

3. Literature Survey

Nurmi et al (1991) developed two agency protocols. In these two agency protocols, the electronic validator distributes a secret identification tag to each voter just prior

to the election. The validator then sends the tallier a list of all identification tags, with no record of the corresponding voters. Each voter sends the tallier his / her identification tag and an encrypted file contacting a copy of the tag and the voted ballot. At this point, the tallier can make sure the identification tag is valid, but the program has no way of examining the contents of the ballot. The tallier publishes the encrypted file, and the voter responds by sending the tallier the key necessary to decrypt it. When the election is over, the tallier publishes a list of all voted ballots and the corresponding encrypted files. This protocol also has several problems. Most importantly it doesn't protect the voter's privacy if the tallier and validator collude.

Neumann et al (1993) give a list of suggestions for "generic voting criteria" which suggests that a voting system should be so hard to tamper with and so resistant to failure that no commercial system is likely ever to meet the requirements, and developing a suitable custom system would be extremely difficult and prohibitively expensive.

Philip Klein et al (1995) present a remote voting scheme that applies the technique of blinded signature to a voter's ballot so that it is impossible for anyone to trace the ballot back to the voter. They achieve the desired properties of privacy, universal verifiability, convenience, and untraceability, but at the expense of receipt-freeness.

Aviel et al (2002) discuss the security considerations for remote electronic voting in public elections. In particular, he examines the feasibility of running national federal elections

over the Internet. The focus of his paper is on the limitations of the currently deployed infrastructure in terms of the security of the hosts and the Internet itself. He finally concluded that the infrastructure is currently inadequate for remote Internet voting.

4. <u>Proposed Work</u>

To solve the above problem, voting will be done online such that there is no need to come at the place on the time of elections and the people can vote from the home or from any other place. A key will be provided to every person, so that on the time of elections they can easily login on the election link and can use his/her vote.

The Waterfall model is a sequential development process that flows like a waterfall through all phases of a project (analysis, design, development, and testing), with each phase completely wrapping up before the next phase begins. We have chosen this model for our project because we have all the required input data available and can complete each phase of the SDLC before starting the other. Waterfall model is simple and will facilitate in the making of this project better than other models.
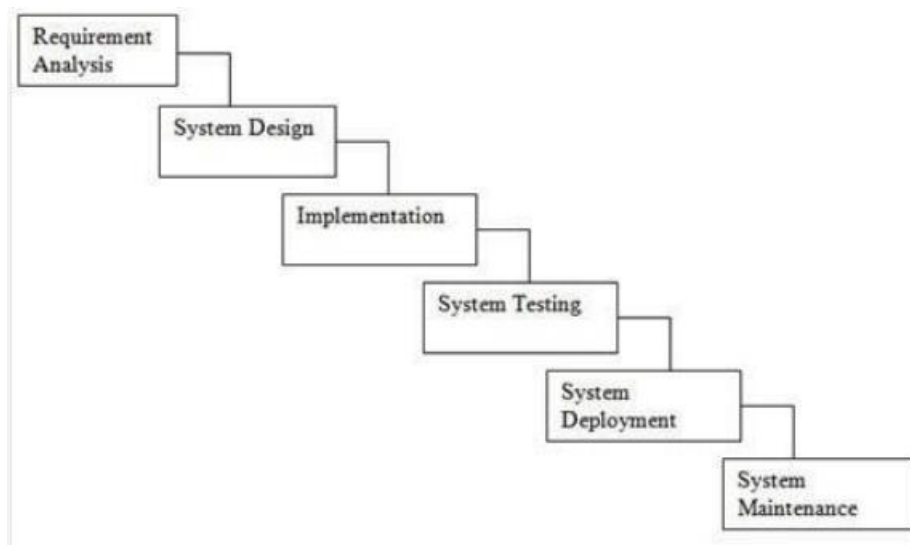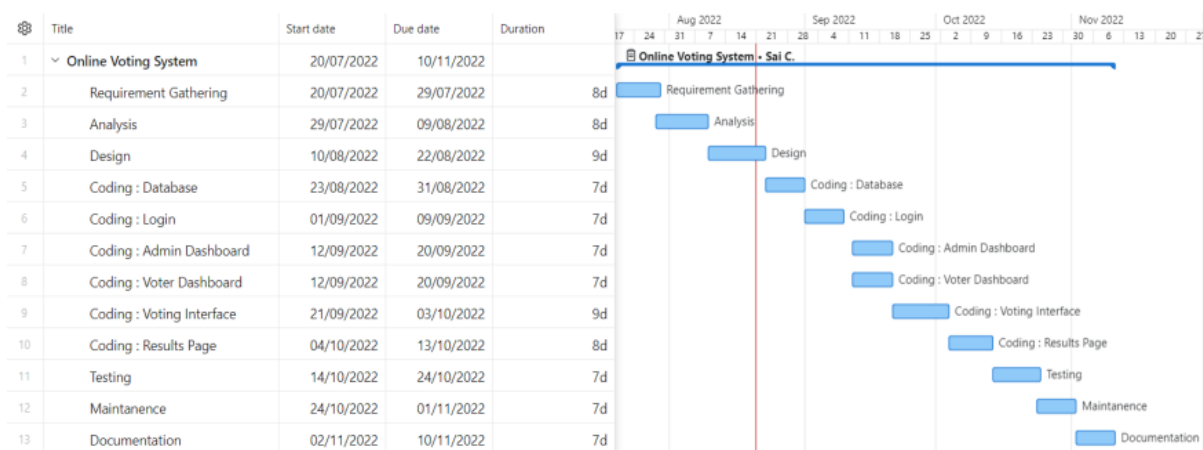
5. <u>Project Management</u>

5.1 Project Scheduling

5.1.1 Gantt Chart

A Gantt chart is a useful way of showing activities (tasks or events) displayed against time. On the left of the chart is a list of the activities and along the top is a suitable time scale. Each activity is represented by a bar; the position and length of the bar reflects the start date, duration and end date of the activity. The scheduling of the tasks in the project has been done as shown in the Gantt chart below:
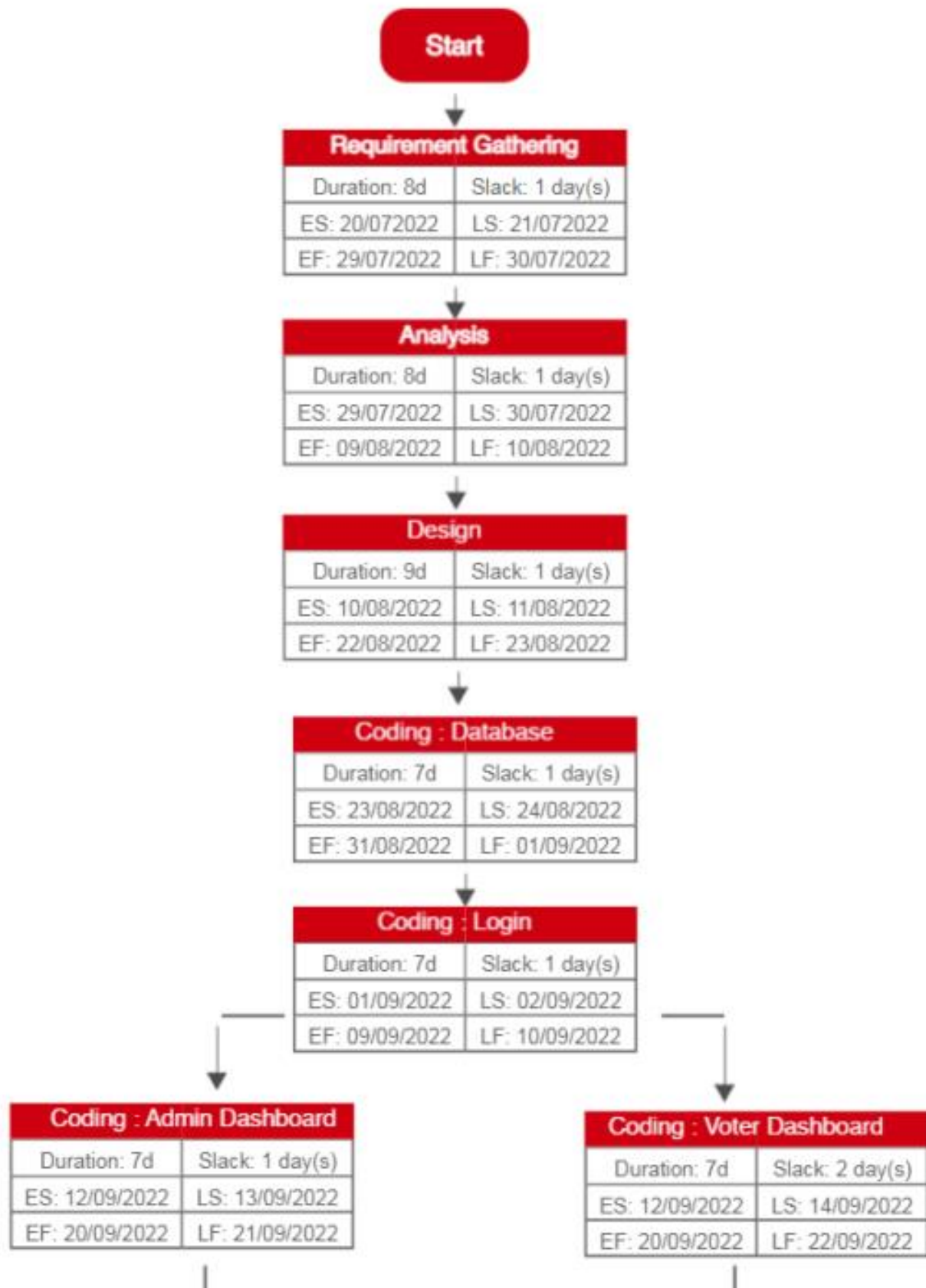
5.1.2 Timeline Chart

Timeline charts aim to describe the chronological order of past and future events on a time scale. In project management, this type of chart is often used to oversee team workload and understand the overall progress of a specific project. The timeline of the project is as shown below:
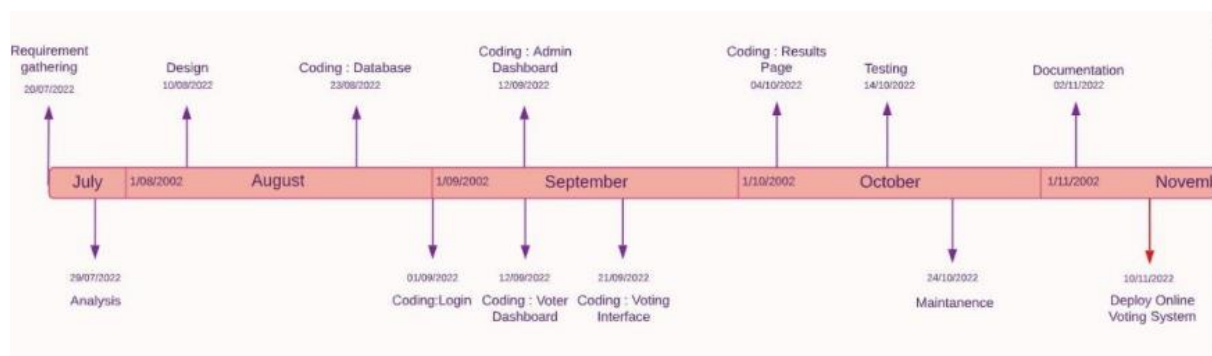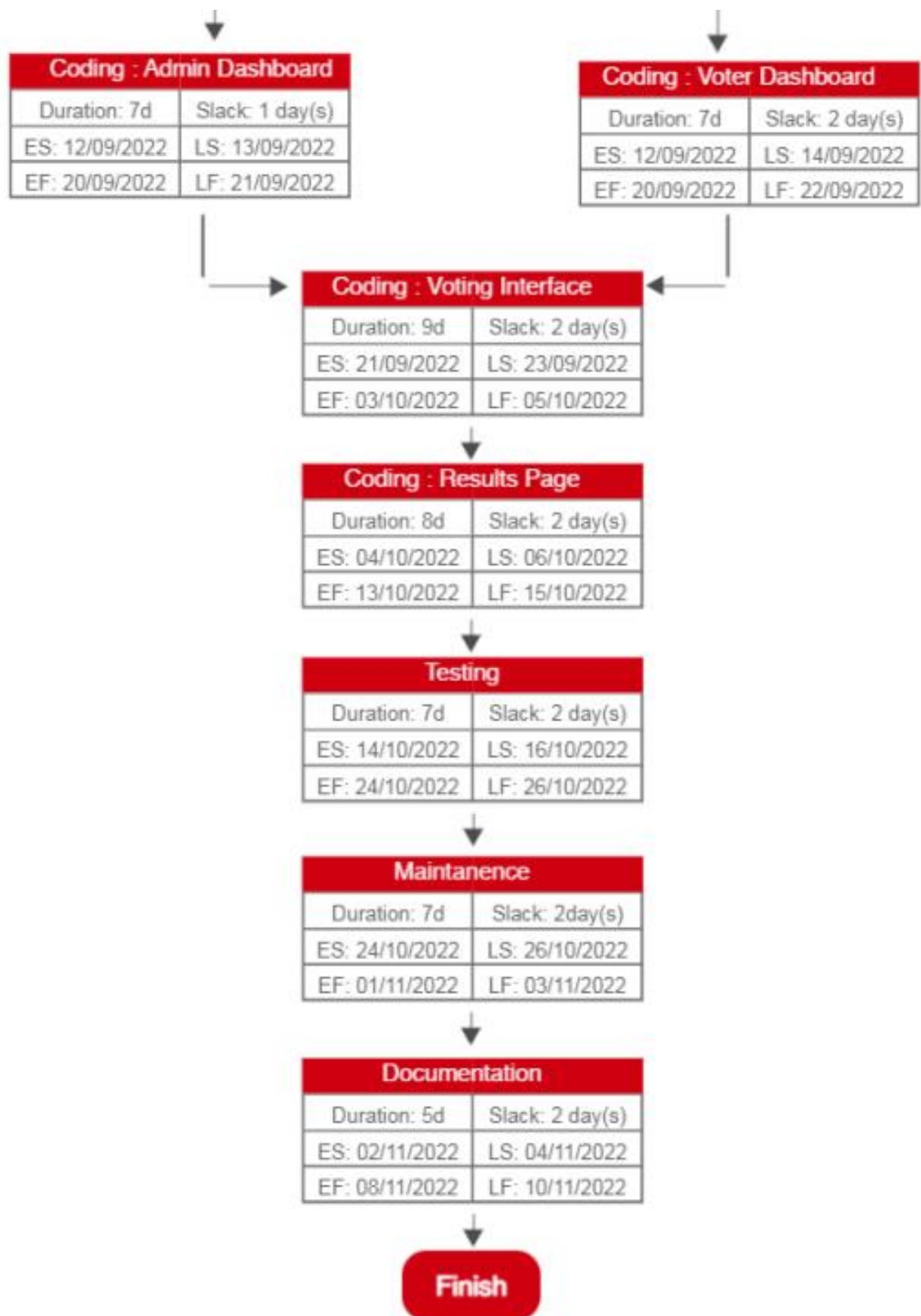

5.1.2 Pert Chart

PERT stands for program evaluation and review technique. The PERT chart is a graphical representation of the project network, which shows the sequence of activities of a project and the dependency relationships between them, in order to facilitate and help managers to monitor and control projects. Every task in the pert chart has a allowed slack period and corresponding early and late, start and finish times. The duration of a task is the time difference between the start and finish of the task. Slack time of a task can be seen as the difference between the early and late start times. The critical path of a pert chart is the path in the pert chart that takes the longest time for the project to complete.

Start

Requirement Gathering

Duration: 8d	Slack: 1 day(s)
ES: 20/072022	LS: 21/072022
EF: 29/07/2022	LF: 30/07/2022

Analysis

Duration: 8d	Slack: 1 day(s)
ES: 29/07/2022	LS: 30/07/2022
EF: 09/08/2022	LF: 10/08/2022

Design

Duration: 9d	Slack: 1 day(s)
ES: 10/08/2022	LS: 11/08/2022
EF: 22/08/2022	LF: 23/08/2022

Coding : Database

Duration: 7d	Slack: 1 day(s)
ES: 23/08/2022	LS: 24/08/2022
EF: 31/08/2022	LF: 01/09/2022

Coding : Login

Duration: 7d	Slack: 1 day(s)
ES: 01/09/2022	LS: 02/09/2022
EF: 09/09/2022	LF: 10/09/2022

Coding : Admin Dashboard

Duration: 7d	Slack: 1 day(s)
ES: 12/09/2022	LS: 13/09/2022
EF: 20/09/2022	LF: 21/09/2022

Coding : Voter Dashboard

Duration: 7d	Slack: 2 day(s)
ES: 12/09/2022	LS: 14/09/2022
EF: 20/09/2022	LF: 22/09/2022

Coding : Admin Dashboard

Duration: 7d	Slack: 1 day(s)
ES: 12/09/2022	LS: 13/09/2022
EF: 20/09/2022	LF: 21/09/2022

Coding : Voter Dashboard

Duration: 7d	Slack: 2 day(s)
ES: 12/09/2022	LS: 14/09/2022
EF: 20/09/2022	LF: 22/09/2022

Coding : Voting Interface

Duration: 9d	Slack: 2 day(s)
ES: 21/09/2022	LS: 23/09/2022
EF: 03/10/2022	LF: 05/10/2022

Coding : Results Page

Duration: 8d	Slack: 2 day(s)
ES: 04/10/2022	LS: 06/10/2022
EF: 13/10/2022	LF: 15/10/2022

Testing

Duration: 7d	Slack: 2 day(s)
ES: 14/10/2022	LS: 16/10/2022
EF: 24/10/2022	LF: 26/10/2022

Maintanence

Duration: 7d	Slack: 2day(s)
ES: 24/10/2022	LS: 26/10/2022
EF: 01/11/2022	LF: 03/11/2022

Documentation

Duration: 5d	Slack: 2 day(s)
ES: 02/11/2022	LS: 04/11/2022
EF: 08/11/2022	LF: 10/11/2022

Finish

5.2 Work-Breakdown Structure

Work breakdown structure (WBS) shows the step-by-step approach to complete large projects with several moving pieces. By breaking down the project into smaller components, a WBS can integrate scope, cost and deliverables into a single tool. WBS can be categorised into three types based on the types of smaller pieces the project is broken into - phase based, deliverable based and responsibility based. The Work Breakdown Structures for this project are shown below:
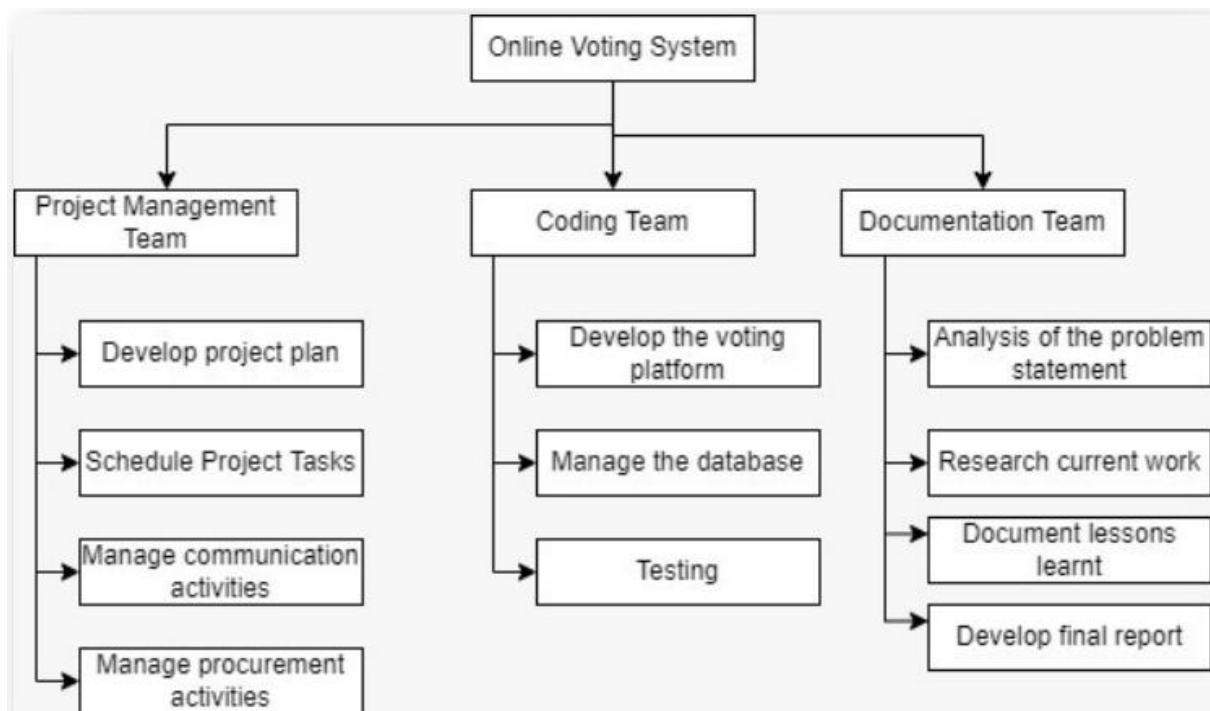
5.2.1 Phase-Based WBS
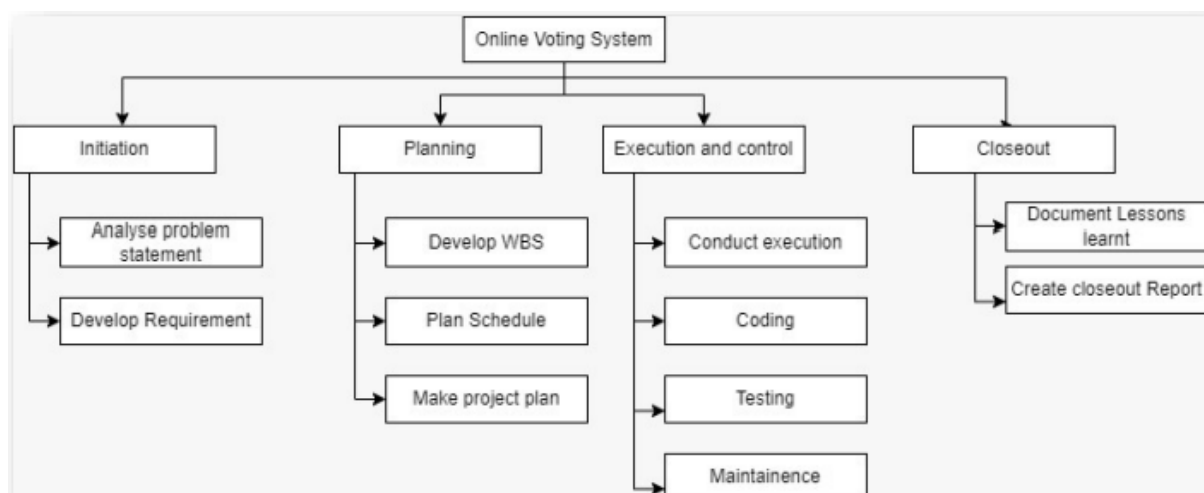
5.2.2 Deliverable based WBS
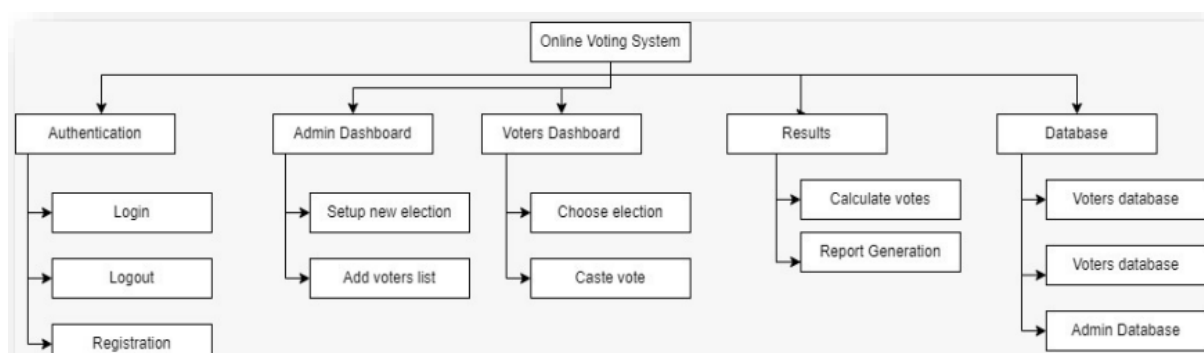
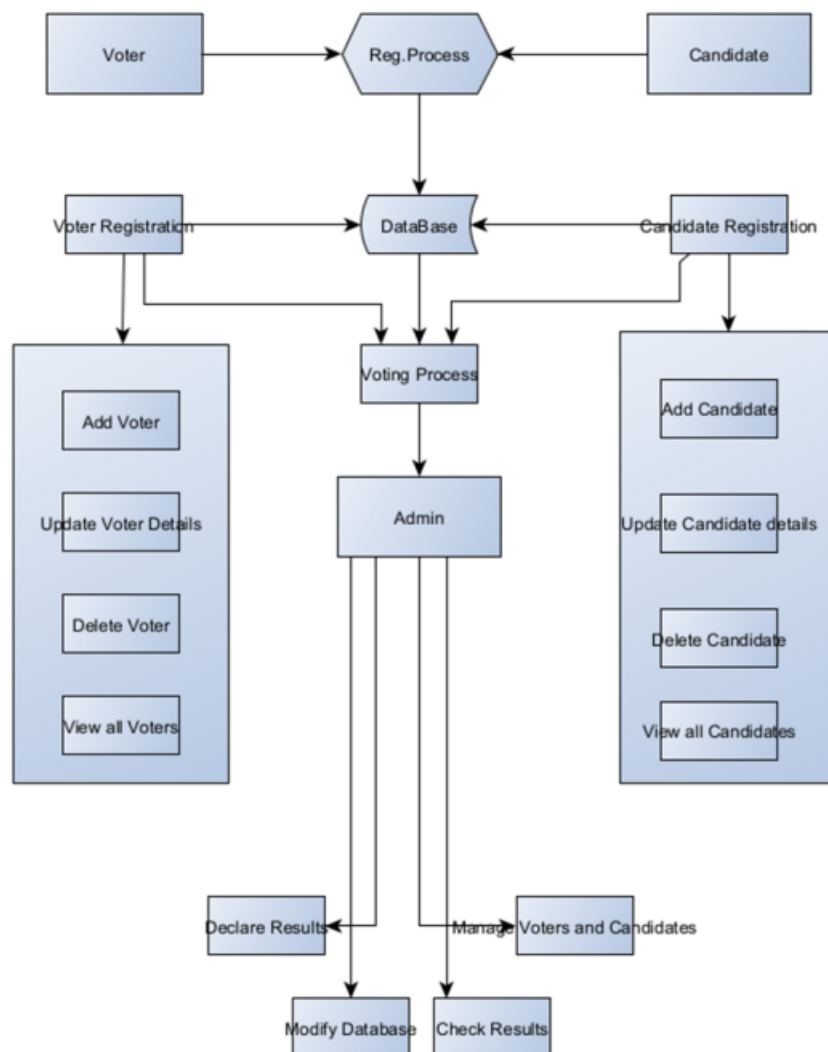## 5.2.3 Responsibility based WBS

5.3 Data Flow Diagram

5.3.1 Level-0
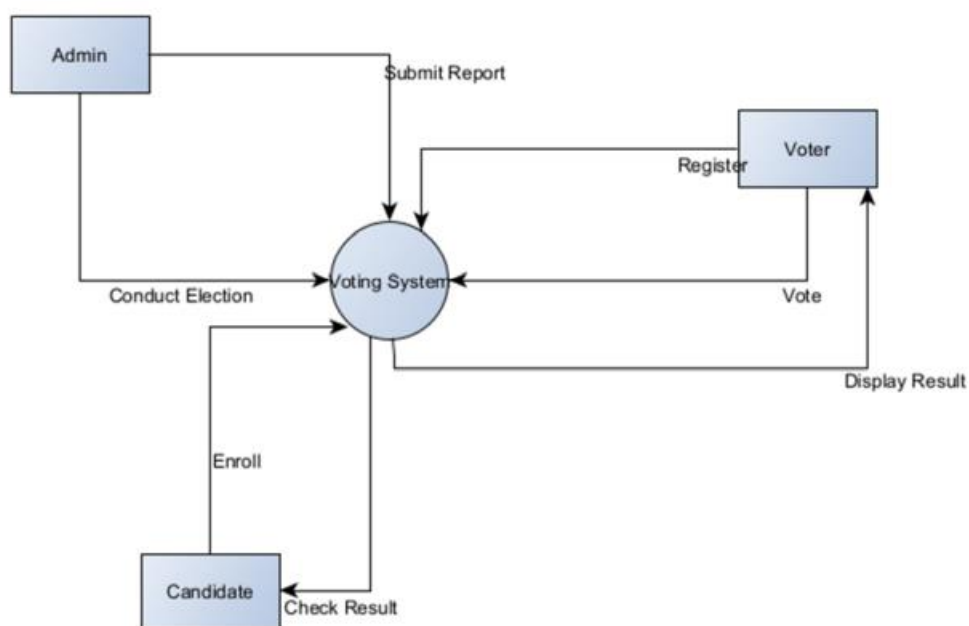
5.3.2 Level-1
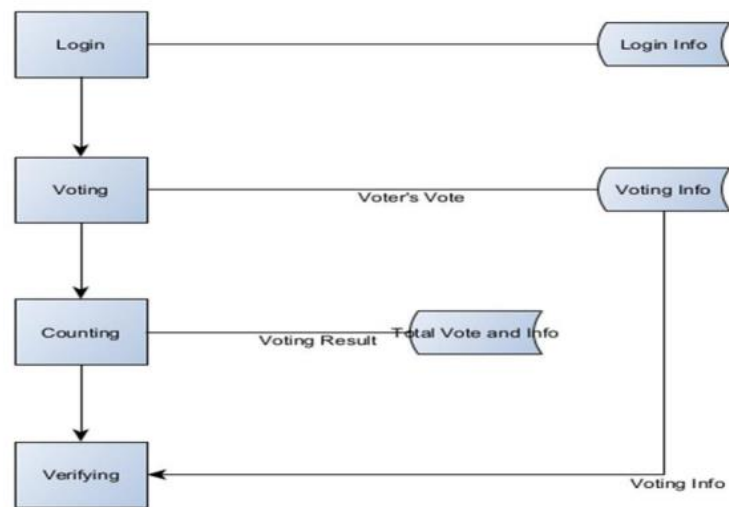
5.3.3 Level-2

6. <u>Requirements</u>

6.1 Functional Requirements

The functional requirements of a system describe the functionality or services that the system is expected to provide.

In this case:

- Authentication: The system should identify each authorized voter every time they use the system using the registered login details.

- The system shall also impose a successful voter determination strategy in order to avoid multi-voting.

- The system should also make the counting of votes fast and reliable.

- User must be able to login at any time and place

- Voters must be able to select an election and cast their vote for any candidate freely

- The system UI should be simple enough to be easily navigable by a layman and shouldn't be a hindrance to any eligible voter
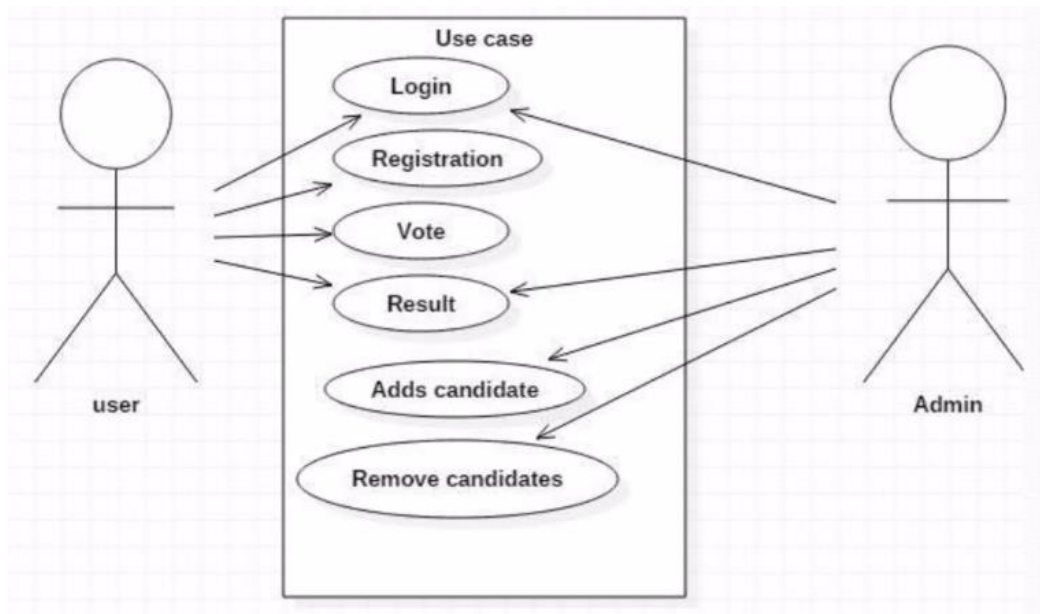
6.2 Non-Functional Requirements

A nonfunctional requirement is a requirement that specifies the criteria that can be used to judge the operation of a system rather than specific behaviors. They describe how a system is supposed to be. Outlined below are some of the expectations of the system when implemented:

- Security Requirements :The data transactions must be encrypted using high levels of modern security technology like SSL. All the passwords and usernames stored in the database must be encrypted securely and access must be very limited. The system should provide basic security features like password authentication and encrypted processes. All the passwords generated and communicated to the users should be stored in the server only in an encrypted form for login management to prevent misuse. Serial attacks should be avoided by maintaining a minimum time gap between successive invalid log-in attempts.

- Performance Requirements The software is expected to have reasonably short response time. It should be able to log-in and feed the voter with new pages on request with a response time of the order of a few seconds. There should be no down time during the voting process as it is a very delicate system requiring utmost care. The software should also be capable of being operational at a moment's notice.
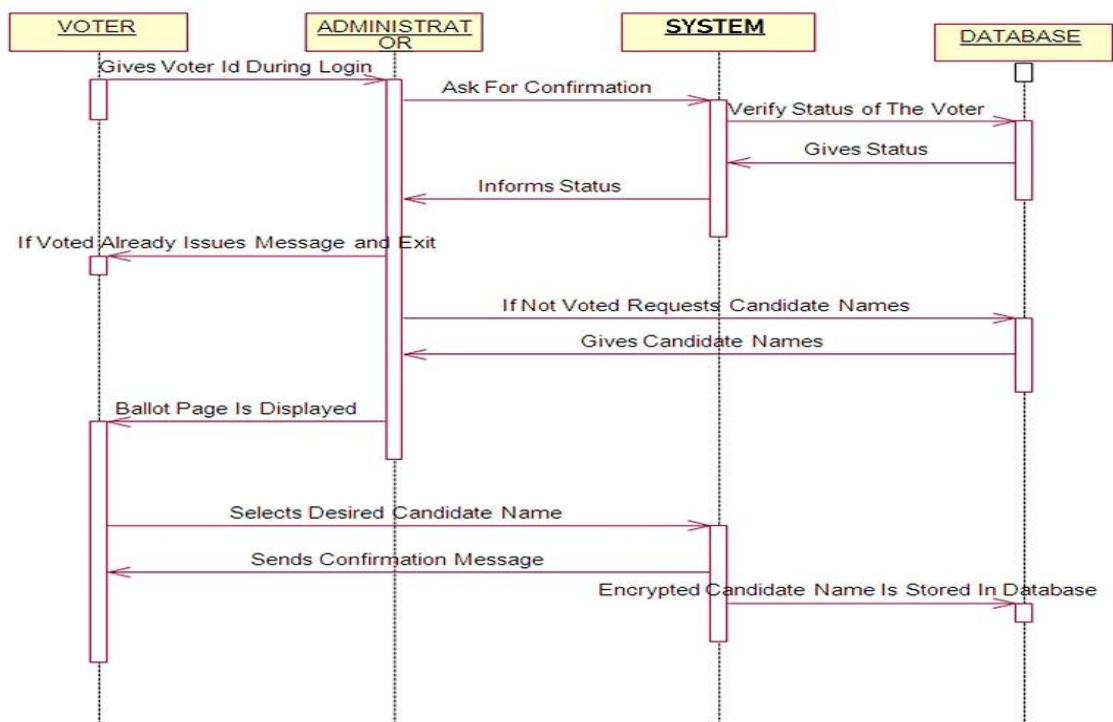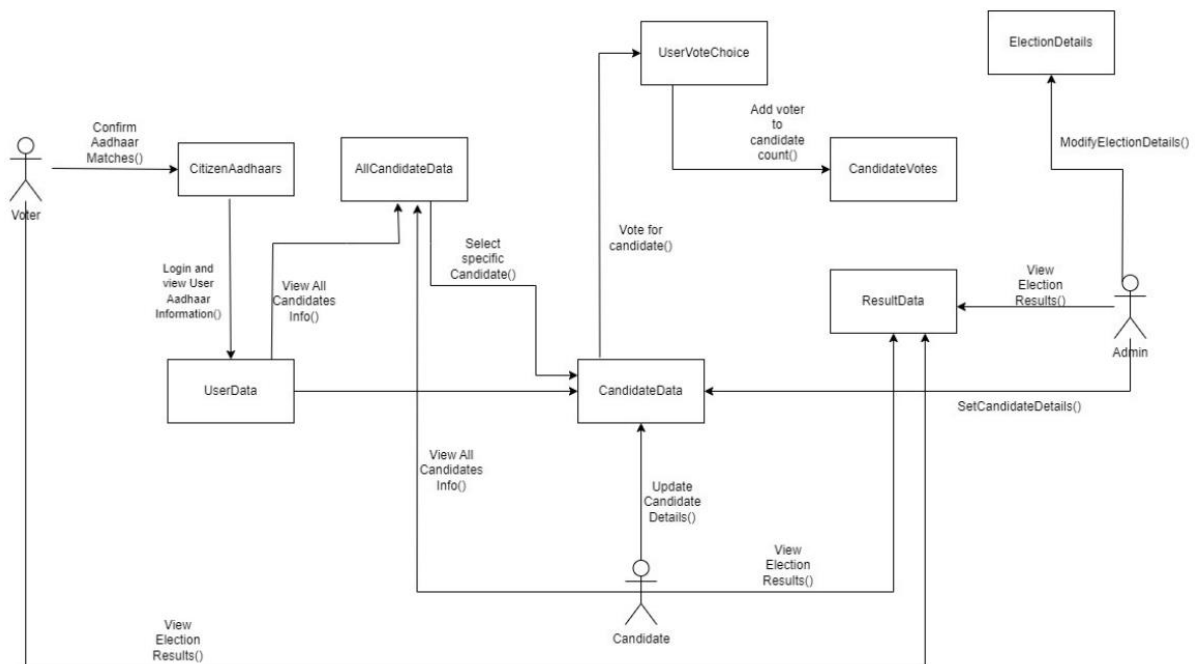
7. <u>Design</u>

7.1 UML Diagrams

7.1.1 Use Case Diagram
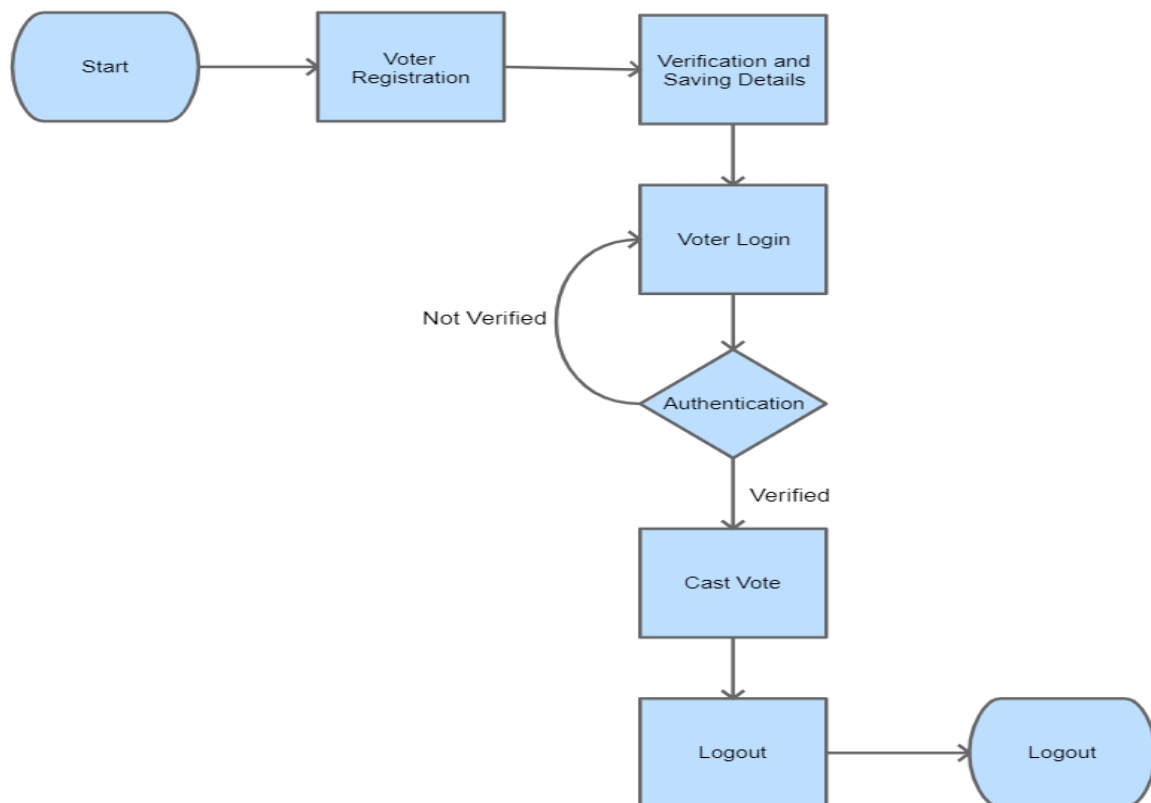

7.1.2 Sequence Diagram

7.1.3 Collaboration Diagram

7.1.4 Activity Diagram
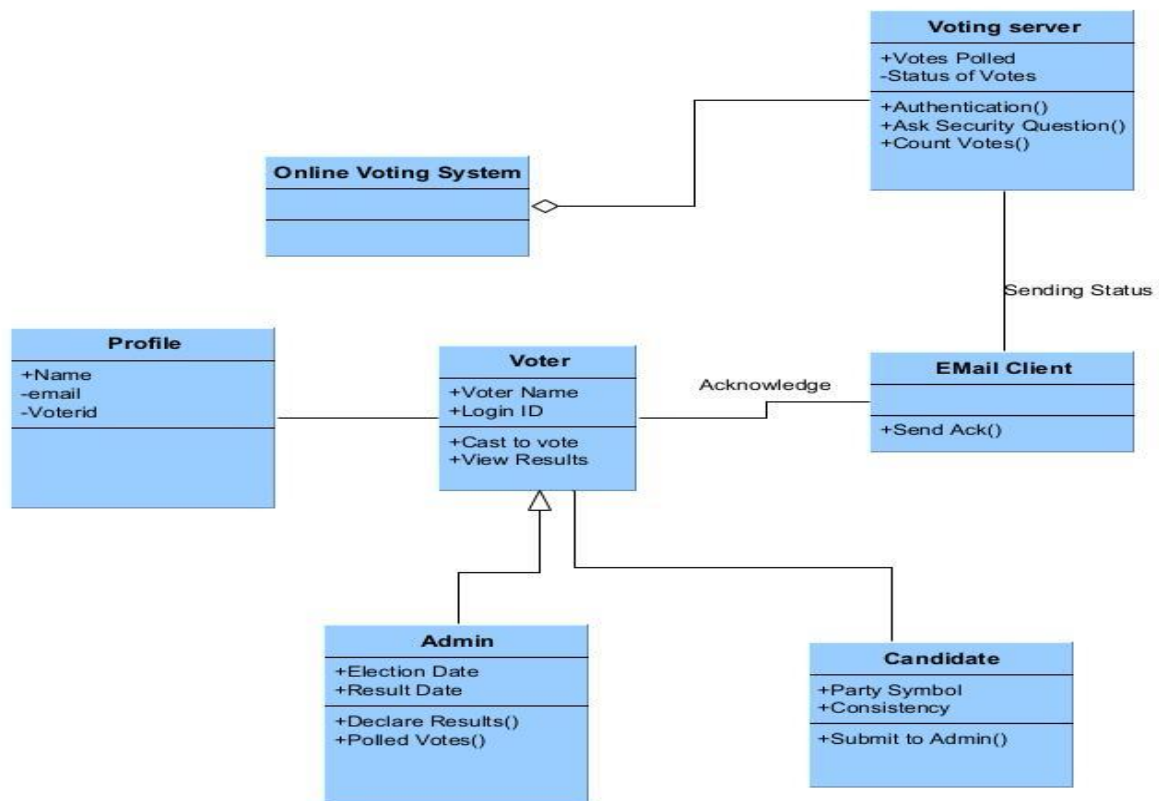
7.1.5 Class Diagram

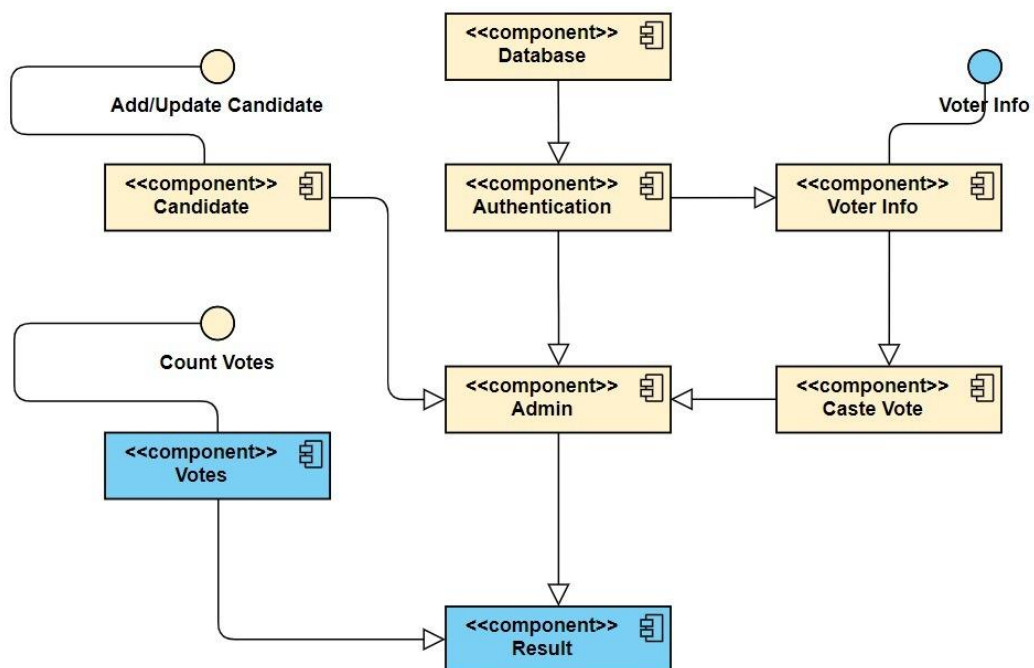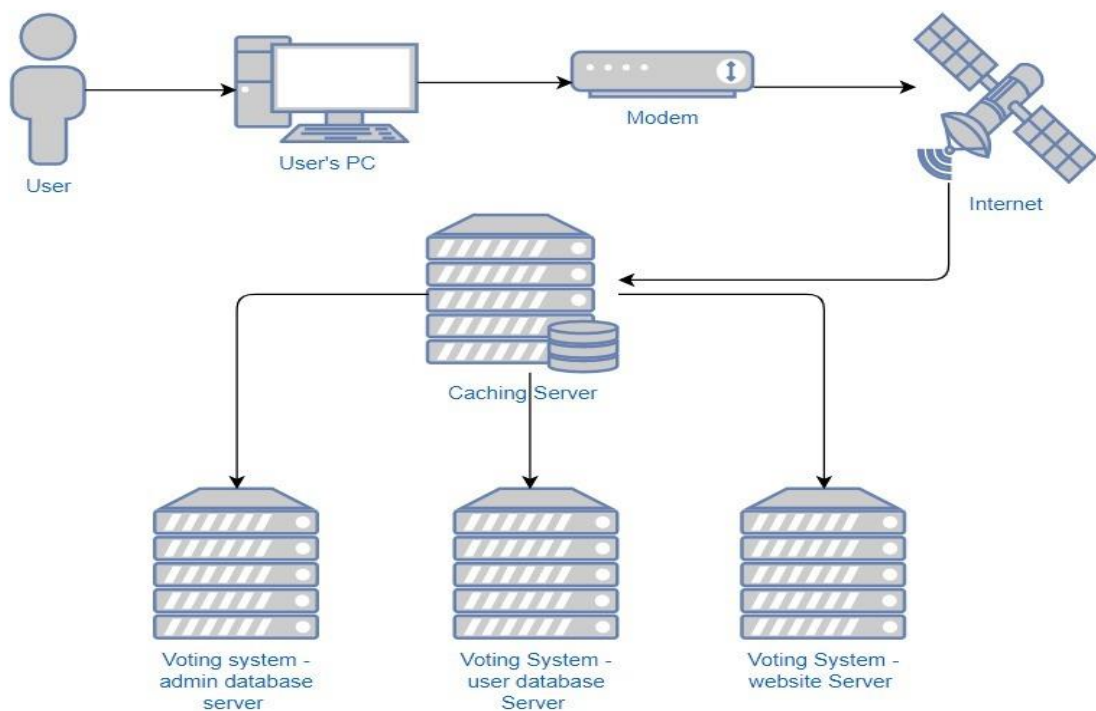**Voting server**

+Votes Polled
-Status of Votes

+Authentication()
+Ask Security Question()
+Count Votes()

Online Voting System

Profile

+Name
-email
-Voterid

Voter

+Voter Name
+Login ID

+Cast to vote
+View Results

Acknowledge

Sending Status

EMail Client

+Send Ack()

Admin

+Election Date
+Result Date

+Declare Results()
+Polled Votes()

Candidate

+Party Symbol
+Consistency

+Submit to Admin()

7.1.6 Object Diagram

V:Voting server

+Votes Polled
-Status of Votes

+Authentication()
+Ask Security Question()
+Count Votes()

A1:Admin

+Election Date:25-09-202
+Result Date:28-09-2022

+Declare Results()
+Polled Votes()
-ElectionResult()
-change password()

V1:Voter

+Voter Name: Arun
+Login ID:20BCE0656

+Cast to vote
+View Results

V2:Voter

+Voter Name:Bharath
+Login ID:20BCE1934

+Cast to vote
+View Results

C1:Candidate

+Party Symbol
+Consistency

+Submit to Admin()

C2:Candidate

+Party Symbol
+Consistency

+Submit to Admin()

p1:Profile

+Name:Arun
-email:arun@gmail.com
-Voterid:123456789

p2:Profile

+Name:Bharath
-email:bharath@gmail.com
-Voter Id:123456790

p3:Profile

+Name:Arjun
-email:arjun@gmail.com
-voterid:123456098

p4:Profile

+Name:Aravind
-email:aravind@gmail.com
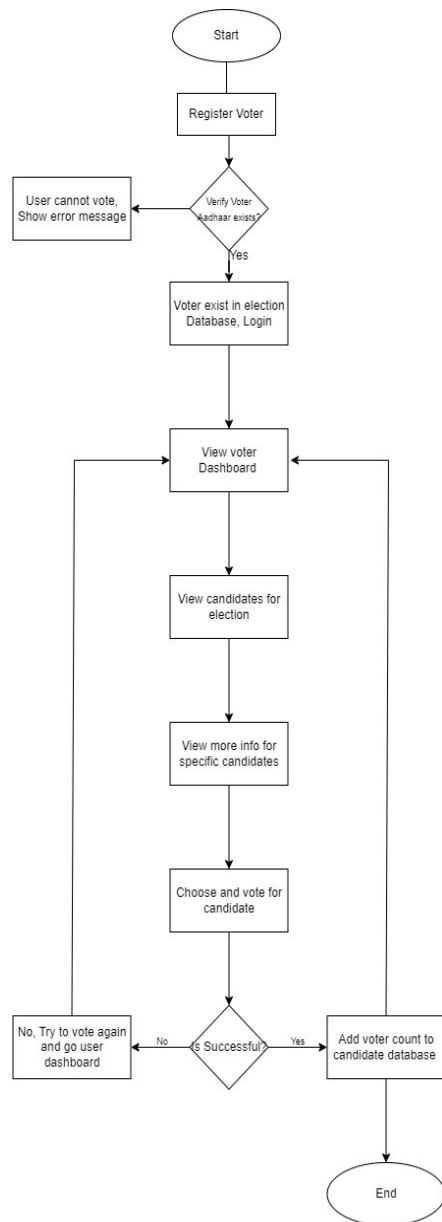-Voter id:123457890

7.1.7 Component Diagram

7.1.8 Deployment Diagram

7.1.9 State Diagram

Voter State Diagram:

```
                    ( Start )
                       |
                 [ Register Voter ]
                       |
[ User cannot vote,  <-- < Verify Voter
  Show error message ]      Aadhaar exists? >
                       | Yes
              [ Voter exist in election
                 Database, Login ]
                       |
                [ View voter
                  Dashboard ]
                       |
              [ View candidates for
                 election ]
                       |
              [ View more info for
                specific candidates ]
                       |
              [ Choose and vote for
                 candidate ]
                       |
[ No, Try to vote again  <-- No < Is Successful? > Yes --> [ Add voter count to
  and go user dashboard ]                                    candidate database ]
                                                                    |
                                                                 ( End )
```

Admin State Diagram:

```
  ( Start ) --> [ Login and
                  Authenticate as
                  Admin ]
                       |
[ Create election in  <-- Yes < Is authentication  No --> [ Display Error
  election dashboard          successful? >                 Message and abort
  admin ]                                                   auth ]
      |
[ Add election details
  and dates ]
      |
[ Add candidate details
  and information ]
      |
[ Add voter list info
  from database ]
      |
[ Make election visible
  to everyone ]
      |
[ View election  <-- No < Is election  Yes --> [ Publish results and
  overview ]              finished? >            declare winning
                                                 candidate ]
                                                        |
                                                ( Election Finished )
```
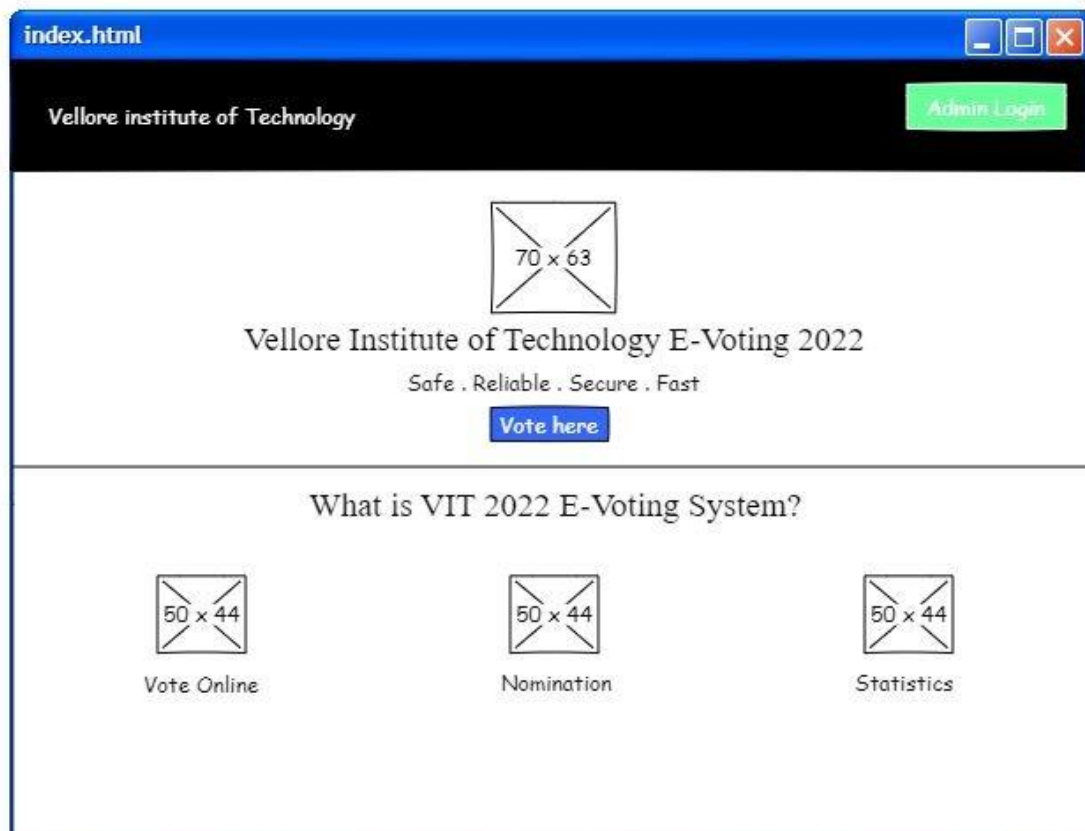
7.2 Architectural Diagram

7.3 User Interface Diagrams

admin.html

MATDAANE

Authentication

Username

Enter admin's username

Password

****

Sign In

---

vault.html

Vellore institute of Technology

Choose Your Candidate.
Prove Your Authenticity of being correct Voter

Voter's Name :

Enter your Full Name

Voter's Registered Email ID :

Enter your Email ID

Voter's Card No. :
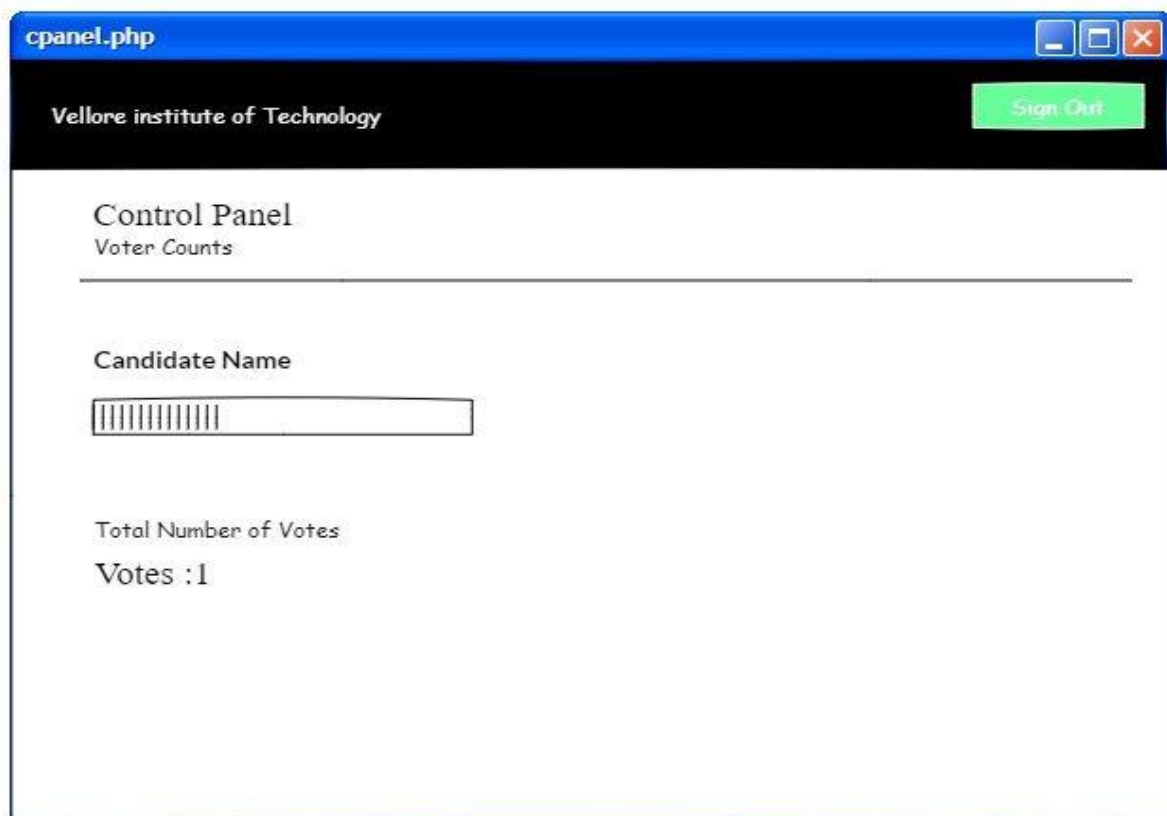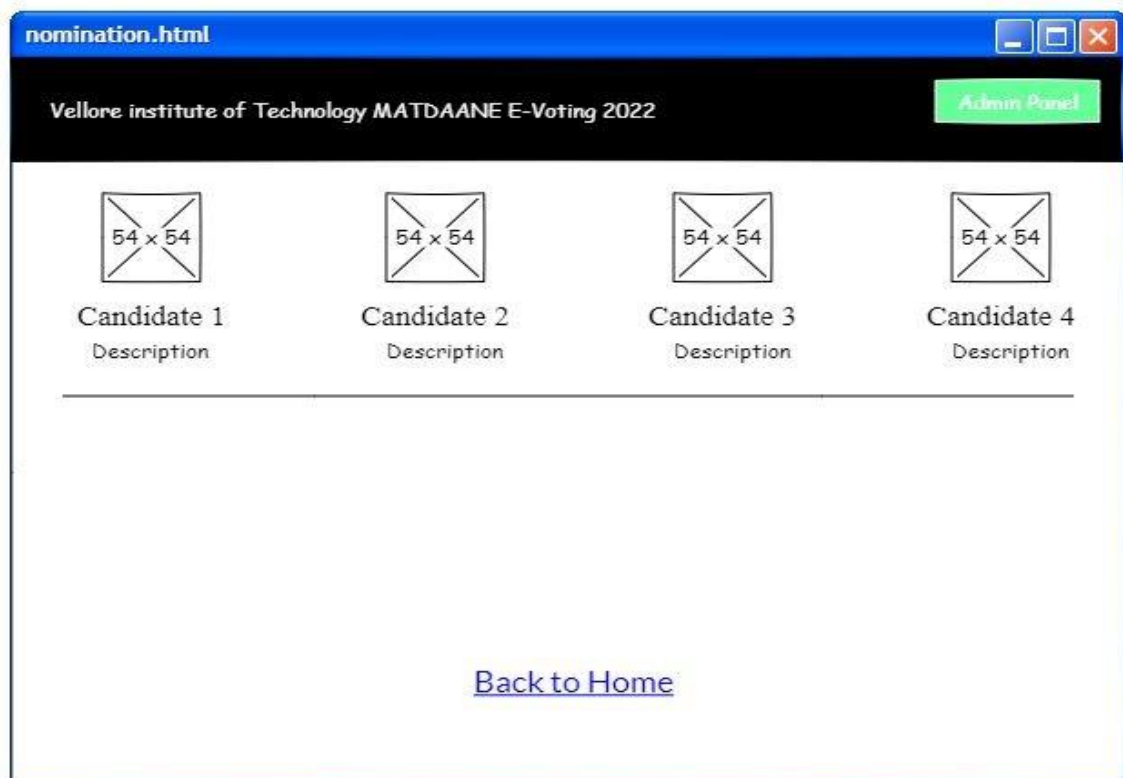
Enter your Voter Unique ID

Vote for your candidate
○ Option 1
○ Option 2
○ Option 3

Submit   Delete

nomination.html ⬓ ☐ ✕

Vellore institute of Technology MATDAANE E-Voting 2022   `Admin Panel`

| 54 × 54 | 54 × 54 | 54 × 54 | 54 × 54 |

Candidate 1   Candidate 2   Candidate 3   Candidate 4
Description   Description   Description   Description

[Back to Home](#)

---

cpanel.php ⬓ ☐ ✕

Vellore institute of Technology   `Sign Out`

Control Panel
Voter Counts

Candidate Name

||||||||||||||

Total Number of Votes

Votes :1

8. Code

Index.html

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Election |VIT</title>

    <link href="css/bootstrap.min.css" rel="stylesheet">
    <link href='http://fonts.googleapis.com/css?family=Ubuntu'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Raleway'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Oswald'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Roboto+Condensed'
rel='stylesheet' type='text/css'>

    <style>

    body{
      margin:0px;
      padding:0px;
    }
      .headerFont{
        font-family: 'Ubuntu', sans-serif;
        font-size: 24px;
      }

      .subFont{
        font-family: 'Raleway', sans-serif;
        font-size: 14px;

      }

      .specialHead{
        font-family: 'Oswald', sans-serif;
      }

      .normalFont{
        font-family: 'Roboto Condensed', sans-serif;
      }

      a {
```

```css
    color: #FFFFFF;
    text-decoration: none;
  }

  a:link {
    color: #FFFFFF;
    text-decoration: none;
  }

  /* visited link */
  a:visited {
      color: #FFFFFF;
      text-decoration: none;
  }

  /* mouse over link */
  a:hover {
      color: #FFFFFF;
      text-decoration: none;
  }

  /* selected link */
  a:active {
      color: #FFFFFF;
      text-decoration: none;
  }
  cen {text-align: center;}
</style>
</head>
<body>

<div class="container">
  <nav class="navbar navbar-default navbar-fixed-top navbar-inverse
  " role="navigation">
    <div class="container">
      <button type="button" class="navbar-toggle" data-toggle="collapse"
data-target="#example-nav-collapse">
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
      </button>
      <div class="navbar-header">
        <a href="index.html" class="navbar-brand headerFont text-
lg"><strong>Vellore Institute of Technology E-Voting 2022</strong></a>
      </div>
      <div class="collapse navbar-collapse" id="example-nav-collapse">
        <ul class="nav navbar-nav">
```

```
                    <li><a href="nomination.html"><span
class="subFont"><strong>Candidates</strong></span></a></li>

                </ul>
            <span class="normalFont"><a href="admin.html" class="btn btn-success
navbar-right navbar-btn"><strong>Admin Login</strong></a></span>
            </div>
        </div>
    </nav>
    </div>
        <div class="container-fluid">
            <div class="row">
                <div class="col-sm-12">
                    <div class="jumbotron text-center text-block" style="padding-
top:30px;">
                        <img src="images/MAT.png" alt="">
                            <h1 class="specialHead">Vellore Institute of Technology E-
Voting 2022</h1>
                            <p class="normalFont">Safe . Reliable . Secure . Fast </p>
                            <a href="signup.php" class="btn btn-primary btn-md
specialHead"> <span class="glyphicon glyphicon-tag"></span>Vote Here</a>
                    </div>
                </div>
            </div>
        </div>
        <div class="conatiner" id="featuresTab">
            <div class="row">
                <div class="col-sm-12 text-center">
                    <div class="page-header" style="padding-top:50px;padding-
bottom:50px">
                        <h1 class="normalFont" style="font-size:44px;" >WHAT IS VIT 2022
E-Voting System.</h1>
                        <p class="subFont" style="font-size:24px;">A Intractive Way To
Solve Conventional Voting.</p>
                    </div>
                </div>
            </div>
        </div>
        <div class="conatiner" style="padding:50px;" id="aboutTab">
            <div class="row">
                <div class="col-sm-4 text-center">
                    <img src="images/Nominee.png" width="100" height="100" alt=""/>
                    <a href="vault.html" class="normalFont" style="font-
size:28px;"><h2 style="color: black">VOTE ONLINE</h2></a>
                    <p>You Just Need Basic Details of Yours and We Will Let You
Vote.</p>
                </div>
                <div class="col-sm-4 text-center">
```

```html
            <img src="images/Vote.png" width="100" height="100" alt=""/>
            <a href="nomination.html" class="normalFont" style="font-
size:28px;"><h2 style="color: black">Nomination</h2></a>
            <p>Admin's Control Panel allows you to manage the list of  filled
nomination.</p>
          </div>
          <div class="col-sm-4 text-center">
            <img src="images/Stats.png" width="100" height="100" alt=""/>
            <h2 class="normalFont" style="font-size:28px;" >Statistics</h2>
            <p>Shows You the Graphical Data Representation of your votes. And,
It is in Admin's Control Panel.</p>
          </div>
        </div>
      </div>
        <hr>
      <footer>
        <div class="container">
          <div class="row">
            <div class="col-sm-6 text-center">
            <cen><h4 class="specialHead">Project
By<br>20BCE0618<br>20BCE<br>20BCE...<br>20BCE...</h4></cen>
          </div>
          </div>
        </div>
      </footer>
    <script
src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.2/jquery.min.js"></scri
pt>
    <script src="js/bootstrap.min.js"></script>
  </body>
</html>
```

nomination.html

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Candidates List</title>

    <!-- Bootstrap -->
    <link href="css/bootstrap.min.css" rel="stylesheet">
```

```html
    <link href='http://fonts.googleapis.com/css?family=Ubuntu'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Raleway'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Oswald'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Roboto+Condensed'
rel='stylesheet' type='text/css'>

    <style>
      .headerFont{
        font-family: 'Ubuntu', sans-serif;
        font-size: 24px;
      }

      .subFont{
        font-family: 'Raleway', sans-serif;
        font-size: 14px;

      }

      .specialHead{
        font-family: 'Oswald', sans-serif;
      }

      .normalFont{
        font-family: 'Roboto Condensed', sans-serif;
      }
      cen {text-align: center;}
    </style>
  </head>
  <body>

  <div class="container">
    <nav class="navbar navbar-default navbar-fixed-top navbar-inverse
    " role="navigation">
      <div class="container">
        <button type="button" class="navbar-toggle" data-toggle="collapse"
data-target="#example-nav-collapse">
          <span class="icon-bar"></span>
          <span class="icon-bar"></span>
          <span class="icon-bar"></span>
        </button>
        <div class="navbar-header">
          <a href="index.html" class="navbar-brand headerFont text-
lg"><strong>Vellore Institute of Technology E-Voting 2022</strong></a>
        </div>
```

```html
        <div class="collapse navbar-collapse" id="example-nav-collapse">
          <ul class="nav navbar-nav">
          </ul>


          <span class="normalFont"><a href="admin.html" class="btn btn-success
navbar-right navbar-btn"><strong>Admin Panel</strong></a></span>
        </div>

      </div>
    </nav>


    <div class="container" style="padding:100px;">
      <div class="row">
        <div class="col-sm-3">
          <img src="images/pushkar.jpg" class="img img-thumbnail"
style="width:200px;height:200px;" alt="">
          <h4 class="normalFont text-center">Mahesh Reddy</h4>
          <h5 class="normalFont text-center">Current Chief Minister of
Uttarakhand from BJP</h5>
          <hr>
        </div>
        <div class="col-sm-3">
          <img src="images/hrawat.jpg" class="img img-thumbnail"
style="width:200px;height:200px;" alt="">
          <h4 class="normalFont text-center">Kiran Ardhi</h4>
          <h5 class="normalFont text-center">Former Chief Minister of
Uttarakhand from Congress.</h5>
            <hr>
          </h5>
        </div>
        <div class="col-sm-3">
          <img src="images/kejriwal.jpg" class="img img-thumbnail"
style="width:200px;height:200px;" alt="">
          <h4 class="normalFont text-center">Hrushith Ram</h4>
          <h5 class="text-center normalFont">Founder of Aam Admi Party and
Current Chief Minister of New Delhi</h5>
          <hr>
        </div>
        <div class="col-sm-3">
          <img src="images/maywati.jpg" class="img img-thumbnail"
style="width:200px;height:200px;" alt="">
          <h4 class="normalFont text-center">Arbbaz Alif  </h4>
          <h5 class="normalFont text-center">From Bahujan Samaj Party.</h5>
          <hr>
        </div>
      </div>
    </div>
```

```
    <cen><u><h1><a href="index.html">Back to Home</a></h1></u></cen>

    <!-- jQuery (necessary for Bootstrap's JavaScript plugins) -->
    <script
src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.2/jquery.min.js"></scri
pt>
    <!-- Include all compiled plugins (below), or include individual files as
needed -->
    <script src="js/bootstrap.min.js"></script>
  </body>
</html>
```

admin.html

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <!-- The above 3 meta tags *must* come first in the head; any other head
content must come *after* these tags -->
    <title>Admin Panel</title>

    <!-- Bootstrap -->
    <link href="css/bootstrap.min.css" rel="stylesheet">

    <link href='http://fonts.googleapis.com/css?family=Ubuntu'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Raleway'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Oswald'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Roboto+Condensed'
rel='stylesheet' type='text/css'>

    <style>
      .headerFont{
        font-family: 'Ubuntu', sans-serif;
        font-size: 24px;
      }

      .subFont{
        font-family: 'Raleway', sans-serif;
        font-size: 14px;
```

```
      }

      .specialHead{
        font-family: 'Oswald', sans-serif;
      }

      .normalFont{
        font-family: 'Roboto Condensed', sans-serif;
      }
    </style>


    <!-- HTML5 shim and Respond.js for IE8 support of HTML5 elements and media
queries -->
    <!-- WARNING: Respond.js doesn't work if you view the page via file:// -->
    <!--[if lt IE 9]>
      <script
src="https://oss.maxcdn.com/html5shiv/3.7.2/html5shiv.min.js"></script>
      <script
src="https://oss.maxcdn.com/respond/1.4.2/respond.min.js"></script>
    <![endif]-->
  </head>
  <body>


  <div class="container">
    <nav class="navbar navbar-default navbar-fixed-top navbar-inverse
    " role="navigation">
      <div class="container">
        <button type="button" class="navbar-toggle" data-toggle="collapse"
data-target="#example-nav-collapse">
          <span class="icon-bar"></span>
          <span class="icon-bar"></span>
          <span class="icon-bar"></span>
        </button>
        <div class="navbar-header">
          <a href="index.html" class="navbar-brand headerFont text-
lg"><strong>VIT</strong></a>
        </div>

        <div class="collapse navbar-collapse" id="example-nav-collapse">
          <ul class="nav navbar-nav">
            <!--
            <li><a href="#featuresTab"><span
class="subFont"><strong>Features</strong></span></a></li>
            <li><a href="#feedbackTab"><span
class="subFont"><strong>Feedback</strong></span></a></li>
            <li><a href="#"><span
class="subFont"><strong>About</strong></span></a></li>
            -->
```

```html
            </ul>


          <button type="submit" class="btn btn-success navbar-right navbar-
btn"><span class="normalFont"><strong>Admin Panel</strong></span></button>
        </div>

    </div> <!-- end of container -->
  </nav>



  <div class="container" style="padding-top:150px;">
    <div class="row">
      <div class="col-sm-4"></div>
      <div class="col-sm-4" style="border:2px solid gray;padding:50px;">

        <div class="page-header">
          <h2 class="specialHead">Authentication</h2>
        </div>
        <form action="authentication.php" method="POST">
          <div class="form-group">
            <label for="">Username</label><br>
            <input type="text" name="adminUserName" placeholder="Enter
Admin's UserName" class="form-control"><br>

            <label for="">Password</label><br>
            <input type="password" name="adminPassword" class="form-control"
placeholder="Enter Admin's Password"><br>

            <button type="submit" class="btn btn-block span btn-primary
"><span class="glyphicon glyphicon-user"></span> Sign In</button>

            <label id="error"></label>
          </div>

        </form>
        <br>

      </div>
      <div class="col-sm-4"></div>
    </div>
  </div>

  </div>

  <!-- jQuery (necessary for Bootstrap's JavaScript plugins) -->
```

```
    <script
src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.2/jquery.min.js"></scri
pt>
    <!-- Include all compiled plugins (below), or include individual files as
needed -->
    <script src="js/bootstrap.min.js"></script>
  </body>
</html>
```

vault.html

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Uttarakhand Elections 2022</title>

    <link href="css/bootstrap.min.css" rel="stylesheet">
    <link href='http://fonts.googleapis.com/css?family=Ubuntu'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Raleway'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Oswald'
rel='stylesheet' type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Roboto+Condensed'
rel='stylesheet' type='text/css'>

    <style>
      .headerFont{
        font-family: 'Ubuntu', sans-serif;
        font-size: 24px;
      }

      .subFont{
        font-family: 'Raleway', sans-serif;
        font-size: 14px;

      }

      .specialHead{
        font-family: 'Oswald', sans-serif;
      }

      .normalFont{
        font-family: 'Roboto Condensed', sans-serif;
```

```
      }
    </style>
  </head>
  <body>

  <div class="container">
    <nav class="navbar navbar-default navbar-fixed-top navbar-inverse
    " role="navigation">
      <div class="container">
        <button type="button" class="navbar-toggle" data-toggle="collapse"
data-target="#example-nav-collapse">
          <span class="icon-bar"></span>
          <span class="icon-bar"></span>
          <span class="icon-bar"></span>
        </button>
        <div class="navbar-header">
          <a href="index.html" class="navbar-brand headerFont text-
lg"><strong>Vellore Institute of Technology E-Voting 2022</strong></a>
        </div>

        <div class="collapse navbar-collapse" id="example-nav-collapse">
          <ul class="nav navbar-nav">
          </ul>
          <span class="normalFont"><a href="admin.html" class="btn btn-success
navbar-right navbar-btn"><strong>Admin Panel</strong></a></span>
        </div>

      </div> <!-- end of container -->
    </nav>

    <div class="container" style="padding:100px;">
      <div class="row">
        <div class="col-sm-12" style="border:2px solid gray;">

          <div class="page-header">
            <h2 class="specialHead">Choose Your Candidate.</h2>
            <p class="normalFont">Prove Your Authencity of being correct
voter.</p>
          </div>

          <form action="saveVote.php" method="POST">
          <div class="form-group">
            <label>Voter's Name :</label><br>

            <input type="text" name="voterName" pattern="[A-Za-z]{6,}"
title="Enter Your Full Name" placeholder="Enter Your Full Name" class="form-
control" required/><br>
```

```html
            <label>Voter's Registered Email ID :</label><br>
            <input type="text" name="voterEmail" placeholder="Enter Your Email
ID" class="form-control"/><br>

            <label>Voter's Card No. :</label><br>
            <input id="id1" type="text" name="voterID" pattern="[0-9].{6,}"
placeholder="Enter Your Voter Uniquie ID" class="form-control" required/><br>

            <h3 class="normalFont">Vote for Your Candidate</h3>
            <div class="radio">
              <label for="">
                <input type="radio" name="selectedCandidate" value="BJP">
<strong>Mahesh Reddy (IEEE)</strong>
              </label><br>

              <label for="">
                <input type="radio" name="selectedCandidate" value="INC">
<strong>Kiran Ardhi (VITMAS)</strong>
              </label><br>

              <label for="">
                <input type="radio" name="selectedCandidate" value="AAP">
<strong>Hrushith Ram (LEOCLUB)</strong>
              </label><br>

              <label for="">
                <input type="radio" name="selectedCandidate" value="TMC">
<strong>Arbbaz Alif (CODECHEF)</strong>
              </label><br>
              <br>
              <hr>
              <button type="submit" name="submit" class="btn btn-
primary"><strong>Submit</strong></button>
              <button type="submit" class="btn btn-default">Decline</button>
            </div>
          </div>
          </form>

      </div>
    </div>
  </div>
 </div>
    <!-- jQuery (necessary for Bootstrap's JavaScript plugins) -->
    <script
src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.2/jquery.min.js"></scri
pt>
    <!-- Include all compiled plugins (below), or include individual files as
needed -->
```
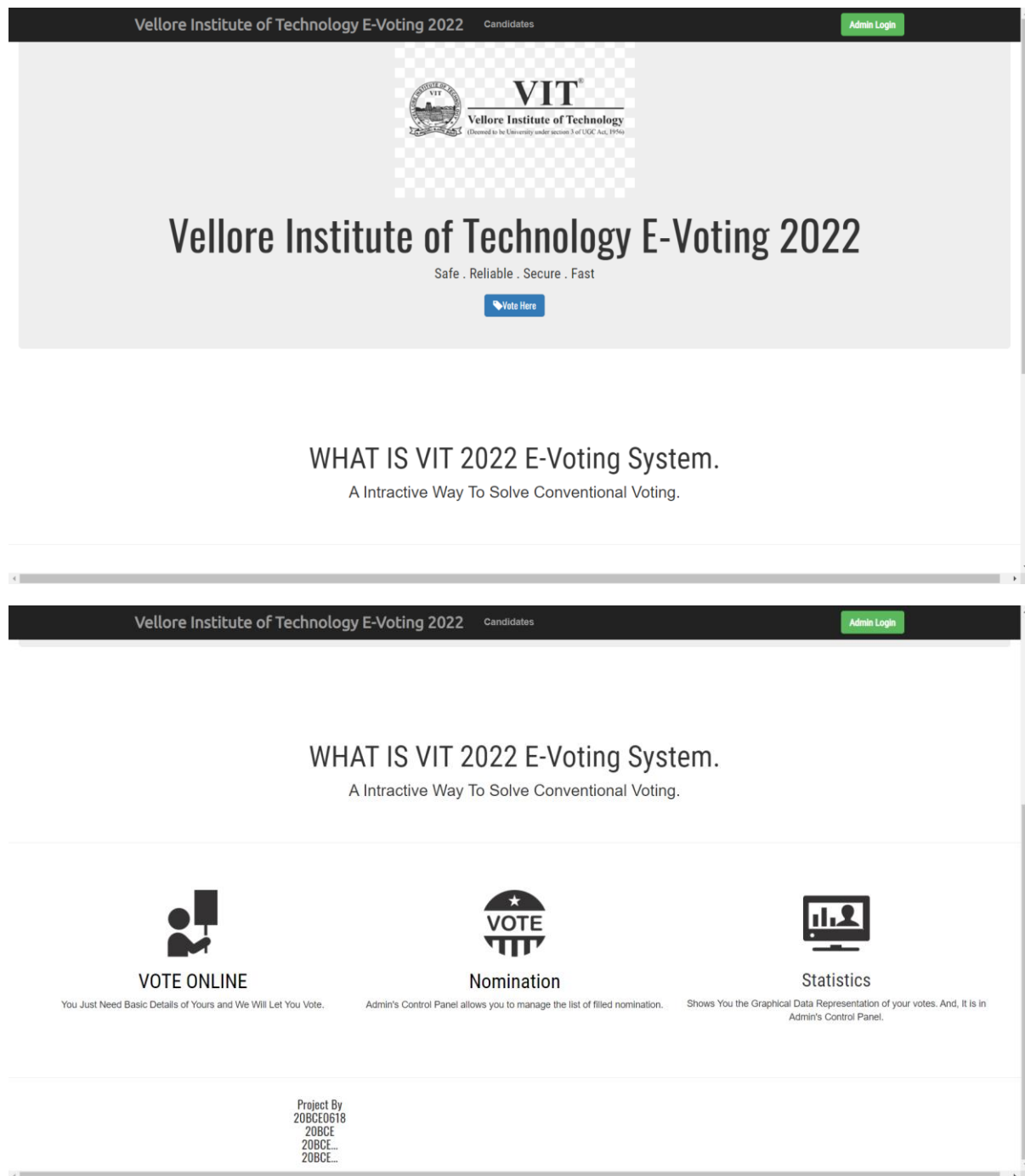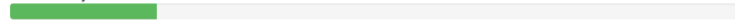
```
    <script src="js/bootstrap.min.js"></script>
  </body>
</html>
```
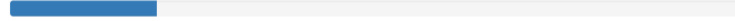
9. Output Snaps

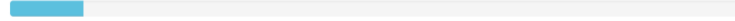## Authentication

Username

Enter Admin's UserName

Password

Enter Admin's Password

👤 Sign In

Vellore Institute of Technology E-Voting 2022   Candidates List   Admin's Password

Sign Out

CONTROL PANEL

Vote Counts
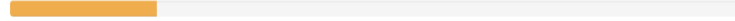
Mahesh Reddy

Kiran Ardhi

Hrushith Ram

Arbbaz Alif

Total Number of Votes

VOTES : 7

Mahesh Reddy
Current Chief Minister of Uttarakhand from BJP

Kiran Ardhi
Former Chief Minister of Uttarakhand from Congress.

Hrushith Ram
Founder of Aam Admi Party and Current Chief Minister of New Delhi

Arbbaz Alif
From Bahujan Samaj Party.

Back to Home

Choose Your Candidate.

Prove Your Authencity of being correct voter.

Voter's Name :
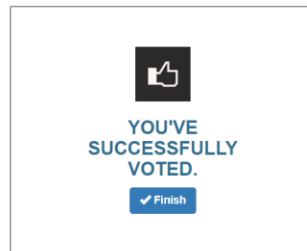
bhargav

Voter's Registered Email ID :

abc@gmail.com

Voter's Card No. :

123456789

Vote for Your Candidate

○ Mahesh Reddy (IEEE)
◉ Kiran Ardhi (VITMAS)
○ Hrushith Ram (LEOCLUB)
○ Arbbaz Alif (CODECHEF)

Submit Decline

10.   <u>Future Enhancements</u>

There are several features we plan to add on and several more existing features, that we plan to improve in the future. We intend to make the information transfer more secure by utilizing end to end encryption as part of our plan to improve the overall working and functioning of the online voting system for future use. This improvement will be made as part of a move to improve the overall working and functioning of the system. Because voting is such an essential component of democratic governance, there must be absolutely no room for error or for anyone to be able to manipulate the votes in any way, shape, or form. The resolution of this major problem will largely depend on the utilization of encryption technology. Facial recognition is going to be an additional security measure that will be implemented into this system as one of the new features that will be added. This ensures that only the person who is supposed to be voting is able to vote and that no one

else can vote on their behalf, regardless of whether or not they have access to the voter's password, user id, email address, or mobile number. We believe that the admin is given too much power in the current system, which has the potential to become a very major risk if it is held by the wrong people. As a result, we are going to work toward making the system more open and accessible to ensure that any inconsistencies can be identified with relative ease. This not only ensures that there is some level of accountability for the admin, but also that they are not the only person controlling the entire system. However, the method by which we can accomplish this is still up for debate because, at the moment, there is no obvious way to do this that does not involve disclosing an excessive amount of information in the course of achieving transparency.

References

1] J. Mohen, and J. Glidden, "The Case for Internet Voting," CACM, Vol. 44,

No. 1, pp. 72- 85, Jan.2001.

[2] Chevallier, M.: Internet voting: Status; perspectives and Issues, ITU EGovernment Workshop Geneva, 6 June 2003

[3] D. P. Gilliam, T. L. Wolfe, J. S. Sherif, and M. Bishop, "Software Security

Checklist for the Software Life Cycle," in Proc. WETICE'03, 2003, pp. 243-248.

[4] A. D. Rubin, "Security Considerations for Remote Electronic Voting,"

CACM, vol. 45, pp. 39-44, Dec. 2002