Online Voting System

- Abstratct

  The Online voting system (OVS) also known as e-voting is a term encompassing several different types of voting embracing both electronic means of counting votes. Electronic voting technology can include punched cards, optical scan voting systems and specialized voting kiosks (including self contained direct recording electronic voting systems or DRE). It can alsoinvolve transmission of ballots and votes via telephones, private computer networks, or the internet. Online voting is an electronic way of choosing leaders via a web driven application. With the "ONLINE VOTING SYSTE M", a voter can use his \her voting right online without any difficulty.
  He/She has to register as a voter first before being authorized to vote. The registration should be done prior to the voting date to enable data update inthe database.

- Problem domain

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

- Proposed work

  Online voting system is a simple way of election system where a person canvote online through the internet instead of going physically to the election center.A person can vote from any place.Inorder to vote,people need to register in prior to the elections by giving their correct details.One can just

fill their details like VoterID,AdharNumber,etc., in the website.Once registered,The system Administrator can approve the voter by checking thedetails in the existing database.Once the Voter gets approved,he/she will beeligible to vote by logging in the website with the credentials given at the time of registration.In the same way,a person willing to participate as Candidate and also register for Elections.It is the best way to conduct elections in this pandemic situations.

- Modules of the project along with explanation

ADMIN MODULE

> Login:
  The administrator can login to the website with his own credentialsinorder to view details and perform actions.

> Approve:
  The admin can approve the Voters such that they are eligible to cast theirvote.Similarly,Candidates can also be approved.

> Check Votes:
  The administrator can view the number of votes for a certain candidateand also declare the result.

VOTER MODULE

> Registration:
  In this section,a voter can register themselves for elections online bygiving their appropriate details.

> Login:
  The voter can login with the credentials given at the time of registrationin order to cast their vote.

> Voting Panel:
  In this section,the voter can select a candidate from the list,confirm andsubmit their vote.

CANDIDATE MODULE

> Register:
  The person who is willing to participate in elections as a candidate canalso register just like the Voter.They need to give all their details including the party symbol.

> Login:
  In this section,the registered candidate can view and update their detailsat any time before the elections.

- Platform or Software used for the project and justification
  As the Online Voting system is a website which can be accessed through theinternet,the platform that can support the system is any web browser.
  In development view,Front end is designed using sublime text as it gives therelevant and appropriate suggestions to the developers and run in any web Browser.Backend is designed using MySQL as the details of Voters and

candidates can be updated and retrieved easily whereas PHP is used to linkthe database information with Front end.

- SRS

<u>1. Introduction</u>

1.1 Purpose

The Online Voting System is designed to provide flexible Election mechanism through Internet without their physical presence at the election center.A person who is registered in prior to election can vote for a candidatefrom any place with their Voter IDs and passwords assigned by the Election commission.

1.2 Document Conventions

- Entire document should be justified
- Convention for main title:
    - Font Face: Times New Roman.
    - Font Style: Bold.
    - Font Size: 18.
- Convention for sub title:
    - Font Face: Times New Roman.
    - Font Style: Bold.
    - Font Size: 14.
- Convention for body:
    - Font Face: Times New Roman.
    - Font Style: Normal.
    - Font Size: 14.

1.3 Intended Audience and Reading Suggestions :

The intended audience for our product may be listed as follows :

✓ Project managers : This document would be greatly useful to Project managers in helping them build a pathway to track the progress of the project.

- ✓ Developers : Developers would make use of this document to understand the various deliverables of the project.
- ✓ Government:The Election Commission would be benefited with the document by making use of the features developed in the project.
- ✓ Citizens:This document helps the people who are willing to vote and make them understand the process and sequence of steps to be followed to cast their vote for respective candidate.

1.4 Product Scope

● Secure registration portal forVoters and Candidates.

●Portal to login in order to cast their vote.

● Mechanism to view the list of election candidates.

● Select a Candidate and vote.

● Simple casting of vote just by clicking a button.

2. Overall Description

2.1 Product Perspective

This web application provides the users(voters) to cast their vote onlinefrom any place.In the situations where a person cannot appear for the Electionphysically but want to cast the vote,our project acts as an advantageous and beneficial application.

2.2 Product Functions

- People will be able to register their details in prior
- Election candidates also would register for the election.
- The administrator would be able to activate the registration for both candidates and voters and maintain a database containing all the details.
- Registered people can further cast their vote at any place through internet.

2.3 User Classes and Characteristics

Administrator would be performing the following operations:

1.Register the voters and candidates through activating their registration by checking and confirming their details .

2.View votes,Voters and candidates.

Voter would make use of following features :

1. Register their details before the Elections.

2. Login

3.Select a candidate- recheck/review

4. Vote

2.4 Operating Environment

Our final application would be deployed on Microsoft Windows. The end userswould be able to access the application using any modern day web browser suchas Chrome, Firefox etc.

The requirements to access the website are :

- Have a stable internet connection to access the website.
- Have a system that supports modern day operating systems such as Windows,MacOS, Linux. and basic i/o devices like keyboard, monitor, mouse etc to navigate the website.
- The system should have any modern day web browser such as Chrome,Firefox etc.

2.5 User Documentation

- The application is built in such a way that people can understand it without confusion.
- It is made easy-to-use by making people learn how to use in a simple way through a manual.
- It is made easy not only for people but also the admin where he/she can easily activate the voter/candidate to participate in elections.

2.6 Assumptions and Dependencies

The assumptions are:

● The coding should be error free.

● Users may access from any computer that has internet browsing capabilities and an internet connection.

● The system should be user friendly so that it is easy to use for the users.

● The system should have more capacity and provide fast access to the database.

● The system should provide search facilities and support quick transactions.

The dependencies are:

● The end users(voters,candidates,admin) should have proper understanding of the system.

● On the basis of listing requirements and specifications the project will be developed and run.

● The server where the application is deployed will be in a running state 24*7.

3. External Interface Requirements

3.1 User Interfaces

For Voters:

● Registration page:Voter can fill the details in the form in order ton register.

● Login page:Voter can login with the credentials.

● Candidates list:The Voter can view the list of Candidates participating in the Election and select one among them.

● Confirmation page:To confirm that the voter have casted their vote successfully.

For Candidates:

● Registration page:Candidate can fill the details in the form in order to register.

● Login page:Candidate can login with the credentials.

●Votes:The candidate can check votes in this page.

User interfaces such as the keyboards, mouse, commands and menus usedfor communication between users and the computer.

3.2 Hardware Interfaces

● USB : For connecting i/o devices like mouse, keyboard.

● Ethernet : So that the system will be able to access the internet..

3.3 Software Interfaces

● Windows Operating System

● Webpage Rendering Engines like Google Chrome,Firefox,Microsoft Edge,etc.

● Java runtime environment.

3.4 Communications Interfaces

● IP network protocols

● Supported Web Browsers (Updated Versions of Google Chrome,Firefox or Miscrosoft Edge.)

4. <u>System Features</u>

4.1 Authentication

4.1.1 Description :

This feature would be responsible for dealing with authentication of users. The users are primarily classified as Voters,Candidates and Administrators.

Voters can register their details before elctions.

4.1.2 Stimulus / Response Sequences :

The following list of sequences may be considered for this feature :

1.For a person to vote,he/she must be registered first by giving relevant details in registration form and get activated by the admin.

2.To register as a voter,click on "Register as Voter" and fill the details relevantly.

3.After getting activated to vote by administrator,he/she can login with their credentials by clicking on "Login as Voter". The same process is applicable for the Candidate as well.

4.If the credentials are correct,voter can select a candidate from the displayed list and click on "vote".

5.For the Admin to activate the Voters andCandidates,he/she have to login with their Username and Password and proceed for the Activation process.

4.1.3 Functional Requirements :

The basic functional requirements of this feature may be considered asfollows :

REQ-1 : the voter must be registered in order to vote.

REQ-2 : The Voter must be able to successfully login if he / she enters thecorrect credentials.

The system must not enable users to log in with incorrect credentials.

REQ-3 : The system must not allow users to create an account with existingcredentials.

4.2 Registration:

4.2.1Description:

Registration is the key task for the Election to be held.Both the voters andcandidates follow the process to move ahead.

4.2.2 Stimulus / Response Sequences :

a.Voter:The voter can fill their details in the form by clicking on "Register asCandidate" with correct data.

b.Candidate:The Candidate also has to fill their details relevantly byclicking on "Register as Candidate".

4.2.3 Functional requirements:

Correct information should be filled in registration.Spelling mistakes orwrong information can lead to disability to vote.

The registration part should be done in prior to the elections.4.3 Voting

4.3.1 Description:

This is the crucial module in the system as it is the main agenda of onlinevoting system.

4.3.2 Stimulation or response sequence:

After giving VoterID after logging in with correct credentials,the voter can select one among the candidates and cats their valuable vote.Once he/she hasvoted,they cannot modify their vote again.

Prototyping

The current application is a Dynamic web application where the content isdifferent for different stakeholders.

The type of prototyping for this system is "Incremental prototyping" where thefinal expected product is broken into different small pieces of prototypes and being developed individually. In the end, when all individual pieces are properly developed, then the different prototypes are collectively merged intoa single final product in their predefined order. It's a very efficient approach which reduces the complexity of the development process, where the goal is divided into sub-parts and each sub-part is developed individually.

4.3.3 Functional Requirements :

REQ-1 :The voter must check once before clicking on submit button as itcannot be reset again.

REQ-2 :The voter should enter correct voterID to cast the vote.5. Other

Nonfunctional Requirements

5.1 Performance Requirements

For the online customer, and particularly the mobile user, speed is integral toa satisfactory experience. For e-commerce enterprises, delivering fast, high- quality web experiences using highly interactive content is critical for increasing conversion rates. Enabling mobile devices to achieve high performance from a web-hosting environment requires a different technology approach from the traditional. Due to the rapid pace of innovation and speed of adoption in the mobile platform, firms are needing to move with speed and agility. We have adopted the latest technologies to

achieve a smooth and hassle free experience for our users.

5.2 Security Requirements

As the online channel continues to grow, security threats increase as well. Enterprise organisations are being hacked, causing havoc across their entirecustomer base. The loss of business revenue and deterioration of the brand image are enormous concerns. This is driving organisations to adopt

technology solutions that ensure transactions and data are protected. We have attempted to use the best solutions available for securing the user's data(personal and payment related) to ensure that under no circumstances the same is compromised.

5.3 Quality Attributes

We have attempted to ensure the following preferences for our website :

● The ease of use over learning : We have attempted to create a fairly easy to use interface through which one can quickly get familiar to the system. The users would not have to spend much time learning how to use the system.

● A wide variety of features available for use : We have included a great deal of features in an organized way so that it would become easier for the users to navigate and explore.

● Availability : We have attempted to make the system available on multipleplatforms so that users using different platforms would be able to easily access it.

5.4 Business Rules

The operating principles of the product are as follows :

Voters and Candidates are responsible to adhere to the terms and conditionsof the system.