# Abstract

First take a look at traditional voting system. Large space and manpower is required to setup voting booths in multiple areas around city or village. High security has to be maintained on the date of election. Voter must visit the place where voting booth is arranged. Sometimes, voter needs to stand in a queue for a long time. Again, manpower is required for volunteering and assistance of voters at the place of voting. Voting process is done manually on voting machine. Vote counting is done with the manual process. Then there is a gap of few days for results to be displayed. So if we see, here in traditional voting system, we need lot of manpower, energy, and time to conduct this process.

Now to overcome above mentioned problems, we are going to develop an application called Online Voting System. Now as we all know, almost everything can be done online. Like Money transfer, Shopping, Booking, Teaching, Data sharing, Admissions, Job search, etc. And so many other activities are done with the help of internet. So with the easy access and use of internet, we are going to take this existing voting system on advance level. We are going to develop an online platform with high security so that the same process could be done easily without the waste of time, afford, and energy.

## KEYWORDS:

Voter, Group, Candidate, Web application, Online, Election, Voting, Results, Mobile.

## Role and Responsibility:

This project is designed so that elections could be conducted through digital medium. Now almost everything can be done online like, money transfer, shopping, booking, teaching, data sharing, admissions, job search, etc. And so many other activities are done online nowadays. So with the easy access and use of internet, we are going to step up this existing voting system on advance level.

The role of this project is to save time, energy and affords of election committee as well as participants that is wasted in conducting the process as well as casting votes. Notes for the studies, getting their doubts cleared over the internet in case where the staff is unavailable.

Main responsibility of this project is to give simple and easy access to election process for both election committee as well as participants. Every step which is required for voting can be performed as it is on this system. Just the difference is that, traditionally, election committee has to setup a venue for participants to cast votes and participants has to visit that venue physically, but here, no one needs to move anywhere. Everything can be performed online from the comfort of home.

## Scope:

This application reduces time, energy, affords, and risk of duplicate voting in the overall election process.

# Table of Content

# Table of Figures

| Sr.no | Figures | Page no. |
|-------|---------|----------|
| 1 | System Design | 34 |
| 2 | Flow Chart | 38 |
| 3 | ER Diagram | 41 |
| 4 | Data Flow Diagram | 42 |

# INTRODUCTION

# INTRODUCTION

This project focuses on a system that uses login credentials to unlock the voting system just like in your phone, and it also uses high security email verification method so that no one can vote for someone else, and this system does not require physical presence to cast a vote as the traditional system does. The process is time-consuming as well. The entirely web-based system enables people to cast their votes from anywhere in the world.

## Background

India being a democracy, that too world's largest, still conducts its elections using either Secret Ballet Voting or Electronic Voting Machines (EVM) both of which involve high costs, manual labor and are inefficient. So, the system must be optimized to be made efficient which would not leave room for unwanted means of voting. The current system requires the physical presence of every individual which is inconvenient to many people.

Using unique identity credentials, the chance of duplicating a vote is less, and those who are registered prior to the election and are recognized by the system will be allowed to vote. Currently, voting systems are Electronic Voting Machines (EVM) and Secret Ballet Voting which require man-power and are time-consuming processes. Individuals above age 18 are eligible to vote. Voter's Id and others details are validated manually and only after confirmation he/she will be allowed to vote.

## Objective

The main objective of this project is to develop a web application with high security for the purpose of online voting.

Application can be defined as follows:

1. Admin will add candidates in panel if they qualify verification criteria.

2. Voter verification will be done by Admin. After verification, every voter will be given unique code for registration.

3. Admin will initiate election process through panel.

4. Voting will be done by voters. Before voting of every individual, email verification will be done.

5. After completion of voting, results will be generated in excel sheet in Admin panel

## Purpose, Scope and Applicability

### Purpose

The purpose of Online Voting System is to save time, energy, money, and effort which are wasted in traditional voting system.

### Scope

This system can be used personally like for institutes, schools, etc. and on a larger scale such as government elections.

### Applicability

This application can be used for election purpose in government sector, sports, education, etc.

### Achievement

The benefit after completing this project is we have saved lot of time, energy, money, efforts of election committee as well as voters.

# SURVEY OF THE TECHNOLOGY

# Survey of the Technology

India being a democracy, that too world's largest, still conducts its elections using either Secret Ballet Voting or Electronic Voting Machines (EVM) both of which involve high costs, manual labor and are inefficient. So, the system must be optimized to be made efficient which would not leave room for unwanted means of voting. The current system requires the physical presence of every individual which is inconvenient to many people.

## Existing System:

Currently, voting systems are Electronic Voting Machines (EVM) and Secret Ballet Voting which require man-power and are time-consuming processes. Individuals above age 18 are eligible to vote. Voter's Id and others details are validated manually and only after confirmation he/she will be allowed to vote.

The EVMs have to checked and transported to different parts of the country wherever the election is taking place. It also needs manual power and security. The counting of the votes casted in EVMs also needs manpower and takes an entire day and ballet voting is entirely manual. So, there are a lot of ways the counting and the voting to not be clean. Hence the current system can be made a lot better, more accessible and more efficient.

Large space and manpower is required to setup voting booths in multiple areas around city or village. High security has to be maintained on the date of election. Voter must visit the place where voting booth is arranged. Sometimes, voter needs to stand in a queue for a long time. Again, manpower is required for volunteering and assistance of voters at the place of voting.

Voting process is done manually on voting machine. Vote counting is done with the manual process. Then there is a gap of few days for results to be displayed. So if we see, here in traditional voting system, we need lot of manpower, energy, and time to conduct this process.

**Proposed System:**

The system we are proposing is a solution that addresses all the above concerns mentioned. Now as we all know, almost everything can be done online. Like Money transfer, Shopping, Booking, Teaching, Data sharing, Admissions, Job search, etc. And so many other activities are done with the help of internet. So with the easy access and use of internet, we are going to take this existing voting system on advance level. We are going to develop an online platform with high security so that the same process could be done easily without the waste of time, effort, and money.

**Functions and features will be followed as:**

1. Admin will add candidates in panel if they qualify verification criteria.

2. Voter verification will be done by Admin. After verification, every voter will be given unique code for registration.

3. Admin will initiate election process through panel.

4. Voting will be done by voters. Before voting of every individual, email verification will be done.

5. After completion of voting, results will be generated in excel sheet in Admin panel

# REQUIREMENT AND ANALYSIS

# Requirement and Analysis

## Problem definition

In this section, we define problems. The problem is that, when elections are to be conducted, lot of money, physical space, man power is required. And there are so many people who are qualified for voting like old ones, but due to age factor or medical illness they are not able to visit voting venue. Another problem is that, voting machine could be manipulated by some bad people which can result in fake voting or one sided voting.

## Applications requirements

## 1. Visual Studio Code
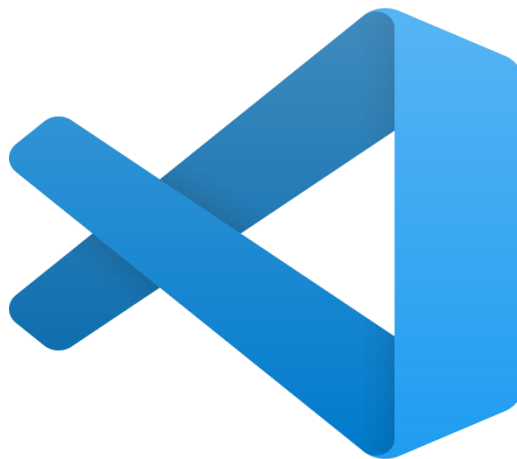


Visual Studio Code is an integrated development environment made by Microsoft for Windows, Linux and macOS. Features          include support      for debugging, syntax       highlighting, intelligent      code completion, snippets, code refactoring, and embedded Git. Users can change      the theme, keyboard      shortcuts,      preferences,      and

install extensions that add additional functionality. Microsoft has released most of Visual Studio Code's source code on GitHub under the permissive MIT License, while the releases by Microsoft are proprietary freeware.

In the Stack Overflow 2021 Developer Survey, Visual Studio Code was ranked the most popular developer environment tool, with 70% of 82,000 respondents reporting that they use it. Visual Studio Code was first announced on April 29, 2015, by Microsoft at the 2015 Build conference. A preview build was released shortly thereafter. On November 18, 2015, the source of Visual Studio Code was released under the MIT License, and made available on GitHub. Extension support was also announced.[13] On April 14, 2016, Visual Studio Code graduated from the public preview stage and was released to the Web.
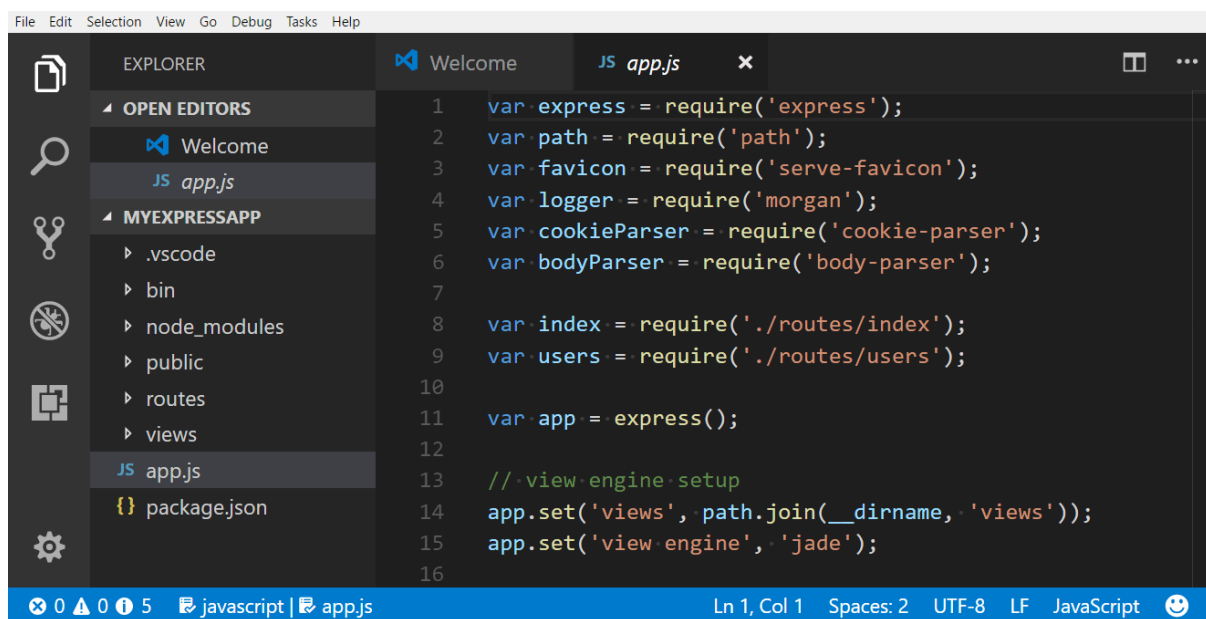
## 2. XAMPP
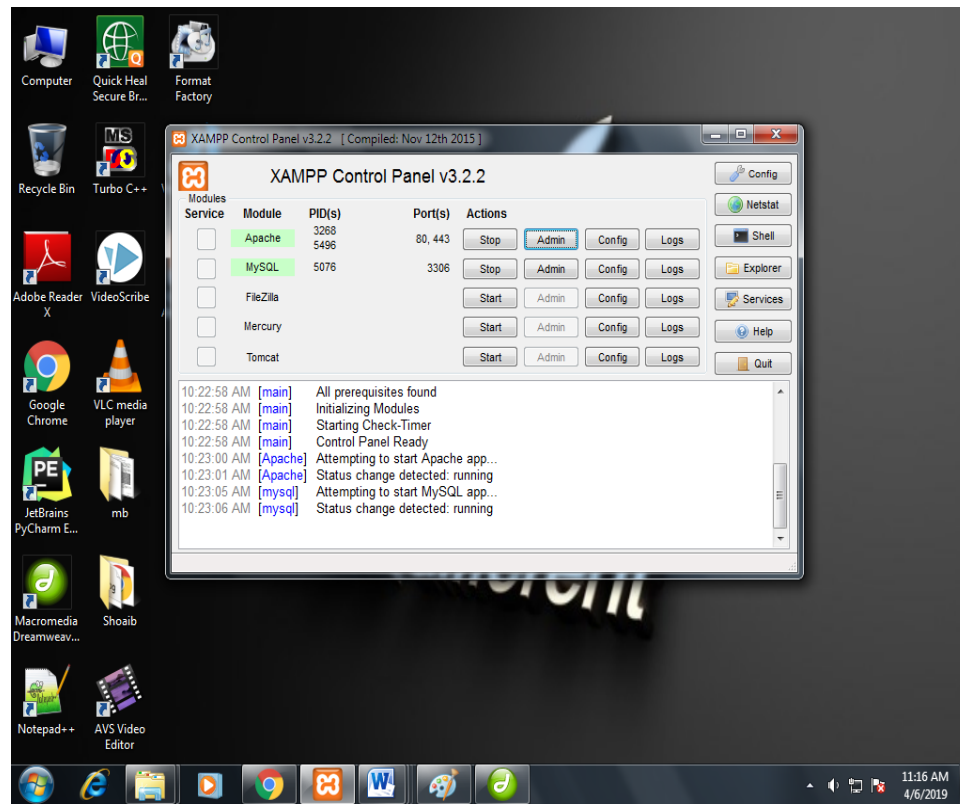


The full form of XAMPP is X stands for Cross-platform, (A) Apache server, (M) MariaDB, (P) PHP and (P) Perl. XAMPP is open source free software developed by Apache friends. XAMPP software package contains Apache distributions for Apache server, MariaDB, PHP, and Perl. And it is basically a local host or a local server. This local server works on your own desktop or laptop computer. You can just install this software on your laptop or desktop and test the clients or your website before uploading it to the remote web server or computer. This XAMPP server software gives you suitable environment for testing MYSQL, PHP, Apache and Perl projects on the local computer.

The Cross-platform usually means that it can run on any computer with any operating system. Next MariaDB is the most famous database server and it is developed by MYSQL team. PHP usually

provides a space for web development. PHP is a server-side scripting language. And the last Perl is a programming language and is used to develop a web application.

What are the Main Tools of XAMPP and its definition?

XAMPP contains tools such as Apache, MYSQL, PHP, and Perl. We will see these tools.

**Apache**

Apache server is an open source free software which is initially developed by a group of software developers and now it is maintained by Apache software foundation. Apache HTTP is a remote server(computer) if someone request files, images or documents using their browser they will serve those files to clients using HTTP servers. Mainly hosting companies use this application to create a VPS server and shared hosting for their clients.

**MYSQL**

MYSQL is an open source software. It is actually a relational database management system(RDBMS). This SQL stands for Structured Query Language.It is the most popular and best RDBMS used for developing a variety of web-based software applications. With the help of MYSQL, it is possible to organize the information, manage, retrieve and update the data whenever you wish to do.

**PHP**

The full form of PHP is Hypertext Preprocessor. It is a server-side scripting language that helps you to create dynamic websites. This language is mainly used to build web-based software applications. It is an open source software and works fine with MYSQL. What actually happens is, the PHP code will be executed on the server and at the browser side its HTML code will be displayed.

**Perl**

Perl is usually said to be general purpose programming language. This Perl language is interpreted and highly dynamic. Actually, this language is used for web development, GUI development, system administration etc. Perl is capable of working with HTML, XML and other markup languages.

In the latest version of XAMPP, there are additional tools such as Mail server Mercury, OpenSSL, phpMyAdmin etc. With the above tools, you can create a full-fledged desktop server.

**Programming technology requirements**

**HTML**

➢ HTML (HyperText Markup Language) is the most basic building block of the Web. It defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/behavior (JavaScript).

➢ "Hypertext" refers to links that connect web pages to one another, either within a single website or between websites. Links are a fundamental aspect of the Web. By uploading content to the Internet and linking it to pages created by other people, you become an active participant in the World Wide Web.

➢ HTML uses "markup" to annotate text, images, and other content for display in a Web browser. HTML markup includes special "elements" such as <head>, <title>, <body>, <header>, <footer>, <article>, <section>, <p>, <div>, <span>, <img>, <aside>, <audio>, <canvas>, <datalist>, <details>, <embed>, <nav>, <output>, <progress>, <video>, <ul>, <ol>, <li> and many others.

- An HTML element is set off from other text in a document by "tags", which consist of the element name surrounded by "<" and ">". The name of an element inside a tag is case insensitive. That is, it can be written in uppercase, lowercase, or a mixture. For example, the <title> tag can be written as <Title>, <TITLE>, or in any other way.

## CSS

- Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML.[1] CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.[2]

- CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts.[3] This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file which reduces complexity and repetition in the structural content as well as enabling the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

- Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.[4]

- The name cascading comes from the specified priority scheme to determine which style rule applies if more than one rule matches a particular element. This cascading priority scheme is predictable.

- The CSS specifications are maintained by the World Wide Web Consortium (W3C). Internet media type (MIME type) text/css is

registered for use with CSS by RFC 2318 (March 1998). The W3C operates a free CSS validation service for CSS documents.[5]

➢ In addition to HTML, other markup languages support the use of CSS including XHTML, plain XML, SVG, and XUL.

## JavaScript

➢ JavaScript (/ˈdʒɑːvəˌskrɪpt/),[6] often abbreviated as JS, is a programming language that conforms to the ECMAScript specification.[7] JavaScript is high-level, often just-in-time compiled, and multi-paradigm. It has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions.

➢ Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web.[8] JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it for client-side page behavior,[9] and all major web browsers have a dedicated JavaScript engine to execute it.

➢ As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative programming styles. It has application programming interfaces (APIs) for working with text, dates, regular expressions, standard data structures, and the Document Object Model (DOM). However, the language itself does not include any input/output (I/O), such as networking, storage, or graphics facilities, as the host environment (usually a web browser) provides those APIs.

➢ JavaScript engines were originally used only in web browsers, but they are now embedded in some servers, usually via Node.js. They are also embedded in a variety of applications created with frameworks such as Electron and Cordova.

➤ Although there are similarities between JavaScript and Java, including language name, syntax, and respective standard libraries, the two languages are distinct and differ greatly in design.

**Boostrap**

➤ Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

➤ Bootstrap is a web framework that focuses on simplifying the development of informative web pages (as opposed to web apps). The primary purpose of adding it to a web project is to apply Bootstrap's choices of color, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers. In addition, developers can take advantage of CSS classes defined in Bootstrap to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark-colored tables, page headings, more prominent pull quotes, and text with a highlight.

➤ Bootstrap also comes with several JavaScript components in the form of jQuery plugins. They provide additional user interface elements such as dialog boxes, tooltips, and carousels. Each Bootstrap component consists of an HTML structure, CSS declarations, and in some cases accompanying JavaScript code. They also extend the functionality of some

existing interface elements, including for example an auto-complete function for input fields.

- ➢ Example of a webpage using Bootstrap framework rendered in Firefox

- ➢ The most prominent components of Bootstrap are its layout components, as they affect an entire web page. The basic layout component is called "Container", as every other element in the page is placed in it. Developers can choose between a fixed-width container and a fluid-width container. While the latter always fills the width of the web page, the former uses one of the four predefined fixed widths, depending on the size of the screen showing the page:

- ➢ Smaller than 576 pixels
- ➢ 576–768 pixels
- ➢ 768–992 pixels
- ➢ 992–1200 pixels
- ➢ Larger than 1200 pixels

- ➢ Once a container is in place, other Bootstrap layout components implement a CSS Flexbox layout through defining rows and columns.

- ➢ A precompiled version of Bootstrap is available in the form of one CSS file and three JavaScript files that can be readily added to any project. The raw form of Bootstrap, however, enables developers to implement further customization and size optimizations. This raw form is modular, meaning that the developer can remove unneeded components, apply a theme and modify the uncompiled Sass files.

# jQuery

- jQuery is a JavaScript library designed to simplify HTML DOM tree traversal and manipulation, as well as event handling, CSS animation, and Ajax.[3] It is free, open-source software using the permissive MIT License.[4] As of May 2019, jQuery is used by 73% of the 10 million most popular websites.[5] Web analysis indicates that it is the most widely deployed JavaScript library by a large margin, having at least 3 to 4 times more usage than any other JavaScript library.[5][6]

- jQuery's syntax is designed to make it easier to navigate a document, select DOM elements, create animations, handle events, and develop Ajax applications. jQuery also provides capabilities for developers to create plug-ins on top of the JavaScript library. This enables developers to create abstractions for low-level interaction and animation, advanced effects and high-level, themeable widgets. The modular approach to the jQuery library allows the creation of powerful dynamic web pages and Web applications.

- The set of jQuery core features—DOM element selections, traversal and manipulation—enabled by its *selector engine* (named "Sizzle" from v1.3), created a new "programming style", fusing algorithms and DOM data structures. This style influenced the architecture of other JavaScript frameworks like YUI v3 and Dojo, later stimulating the creation of the standard *Selectors API*.[7] Later, this style has been enhanced with a deeper algorithm-data fusion in an heir of jQuery, the D3.js framework.

- Microsoft and Nokia bundle jQuery on their platforms.[8] Microsoft includes it with Visual Studio[9] for use within Microsoft's ASP.NET AJAX and ASP.NET MVC frameworks while Nokia has integrated it into the Web Run-Time widget development platform.

**Ajax**

➢ Ajax (also AJAX /ˈeɪdʒæks/; short for "Asynchronous JavaScript and XML")[1][2] is a set of web development techniques using many web technologies on the client side to create asynchronous web applications. With Ajax, web applications can send and retrieve data from a server asynchronously (in the background) without interfering with the display and behaviour of the existing page. By decoupling the data interchange layer from the presentation layer, Ajax allows web pages and, by extension, web applications, to change content dynamically without the need to reload the entire page.[3] In practice, modern implementations commonly utilize JSON instead of XML.

➢ Ajax is not a single technology, but rather a group of technologies. HTML and CSS can be used in combination to mark up and style information. The webpage can then be modified by JavaScript to dynamically display—and allow the user to interact with—the new information. The built-in XMLHttpRequest object, or since 2017 the new "fetch()" function within JavaScript, is commonly used to execute Ajax on webpages, allowing websites to load content onto the screen without refreshing the page. Ajax is not a new technology, or different language, just existing technologies used in new ways.

➢ The term Ajax has come to represent a broad group of Web technologies that can be used to implement a Web application that communicates with a server in the background, without interfering with the current state of the page. In the article that coined the term Ajax,[1][3] Jesse James Garrett explained that the following technologies are incorporated:

➢ HTML (or XHTML) and CSS for presentation

- The Document Object Model (DOM) for dynamic display of and interaction with data
- JSON or XML for the interchange of data, and XSLT for XML manipulation
- The XMLHttpRequest object for asynchronous communication
- JavaScript to bring these technologies together

- Since then, however, there have been a number of developments in the technologies used in an Ajax application, and in the definition of the term Ajax itself. XML is no longer required for data interchange and, therefore, XSLT is no longer required for the manipulation of data. JavaScript Object Notation (JSON) is often used as an alternative format for data interchange,[14] although other formats such as preformatted HTML or plain text can also be used.[15] A variety of popular JavaScript libraries, including JQuery, include abstractions to assist in executing Ajax requests.

**PHP**

- Hypertext Preprocessor is a server side scripting language designed for web development and also used as a general purpose programming language. It was originally created by Rasmus Lerdorf in 1994. The php reference is now produced by the php group. Php originally stood for personal home page. But now it stands for recursive initialism php hypertext preprocessor.
- Php code may be embedded into html code. It can be used in combination with various web template systems, web content management systems, and web frameworks. Php code is usually processed by a php interpreter implemented as a module in the web server or as a common gateway interface executable. The web server combines the results of interpreted

and executed php code, which may be any type of data, including images, with the generated web page. Php code may also be executed with a command line interface and can be used to implement standalone graphical applications.

➢ The standard php interpreter, powered by the Zend engine, is free software released under the php license. Php has been widely ported and can be deployed on most web servers on almost every operating system and platform, free of charge.

➢ The php language evolved without a written formal specification or standard until 2014, with the original implementation acting as the de facto standard which other implementations aimed to follow. Since 2014 work has gone on to create a formal php specification

**What is a PHP File?**

- PHP files can contain text, HTML, CSS, JavaScript, and PHP code
- PHP code are executed on the server, and the result is returned to the browser as plain HTML
- PHP files have extension ".php"

**What Can PHP Do?**

- PHP can generate dynamic page content
- PHP can create, open, read, write, delete, and close files on the server
- PHP can collect form data
- PHP can send and receive cookies
- PHP can add, delete, modify data in your database
- PHP can be used to control user-access
- PHP can encrypt data

With PHP you are not limited to output HTML. You can output images, PDF files, and even flash movies. You can also output any text, such as XHTML and XML.

**Why PHP?**

- PHP runs on various platforms (Windows, Linux, UNIX, Mac OS X, etc.)
- PHP is compatible with almost all servers used today (Apache, IIS, etc.)
- PHP supports a wide range of databases
- PHP is free. Download it from the official PHP resource: [www.php.net](http://www.php.net)
- PHP is easy to learn and runs efficiently on the server side

PHP is an amazing and popular language!

It is powerful enough to be at the core of the biggest blogging system on the web (WordPress)!
It is deep enough to run the largest social network (Facebook)!
It is also easy enough to be a beginner's first server side language!

**Advantages of PHP:**

The reason behind the popularity of PHP is its several advantages. PHP is most suited for the purpose of web development. The advantages of PHP are discussed briefly below:

1. **Cross Platform.**
   - All the PHP based applications can run on various types of platforms. PHP is supported by majority of Operating Systems, some of which includes Solaris, UNIX, Windows and Linux. The mentioned platforms can be used to write codes in PHP and also view web pages or run the PHP based applications.

➢ PHP easily interfaces with MySQL and Apache both. An effortless integration of PHP can be done with various other technologies like Java and there is no requirement of re-development. Therefore, saving both time and money, giving it an important advantage.

## 2. Easy database connection.
➢ A programming language like PHP is widely used on the internet and needs to connect to the database very often. Therefore, having a feature that could help PHP to connect to database easily is mandatory. Several websites such as the ecommerce websites require good database management system.
➢ PHP has a built-in module that helps it in connecting with database easily. Therefore, PHP has a great demand in the field of web development where a data driven website needs to be developed. PHP significantly reduces the time needed in developing the web application that needs an efficient database management system.

## 3. Easy to use.
➢ PHP is widely used because it is easy to use. In contrast with other programming languages that are complex, PHP is simple, fluent, clean and organized; hence it is a boon for the new users. PHP has a well-organized syntax which is logical at the same time.
➢ PHP does not require any intensive studying or manual to use it. Command functions of PHP are easily understood as the user can easily figure out from the name of the commands itself what it does. A person who is new to PHP can still code because the syntax is somewhat similar to C.
➢ A person who is new to PHP can still code because the syntax is somewhat similar to C. Hence, if a person who knows C can easily code in PHP. Hence, it is easier to create and optimize the application using PHP.

### 4. Speed
➤ Speed is the primary need of web development. There are people who face the challenge of slow internet connection and slow data speed. Furthermore, a fast loading website is always preferred by people across the globe.When compared to other programming languages, PHP is found to be the fastest programming language.

➤ In normal circumstances, it takes a lot of time to connect to the database, when you attempt to fetch certain data from the database. It takes a lot of time in connecting to the database, then executing the statement and finally getting the data. PHP performs these set of tasks faster than other scripting languages. PHP is faster in both connecting to the database and in using other important applications.

➤ The high speed of PHP gives it an advantage over other scripting languages and gives it an application in important administrations such as the server administration and mail functionalities.

### 5. Open source.
➤ One of the important advantages of PHP is that it is Open Source. Therefore, PHP is readily available and is entirely free. In contrast to other scripting languages used for web development which requires the user to pay for the support files, PHP is open to everyone, anytime and anywhere.

➤ A beginner in PHP need not worry about the support as PHP is maintained and developed by a large group of PHP developers which helps in creating support community of PHP that helps people in PHP implementation and manipulation.

**System minimum requirements**

**Hardware System Configuration:-**

- Processor         -    Dual Core/ Pentium/ i3 Intel Processor

- RAM              -    2 GB

- Hard Disk         -    512MB

- Key Board         -    Standard Windows Keyboard

- Mouse            -     Two or Three Button Mouse

- Monitor          -    Any

**Software System Configuration:-**

- Operating System    -    Windows XP/7/8/10

- Server-side Script    -    PHP

- Database           -    MySQL 6.0

# SYSTEM DESIGN

# SYSTEM DESIGN
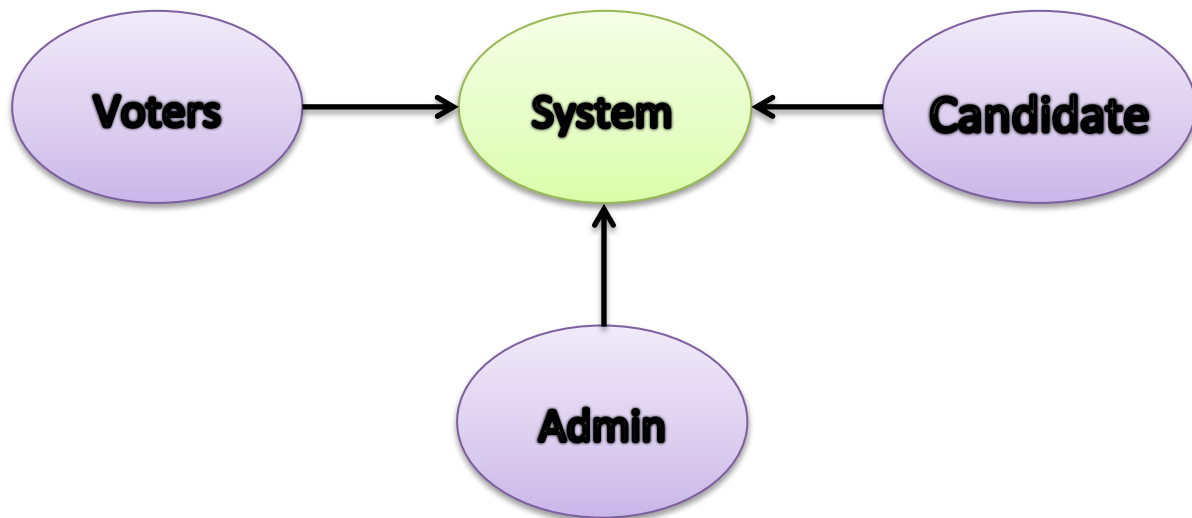


**Application Architecture**

## MODULES

### 1. Admin

Admin is the one who is responsible for conducting overall election process. Admin is like election committee or authority. Admin is able to approve voters as well as candidates. Approving means voter and candidate verification, like they should be qualified for taking part in process.

Features and functions:

- Login
- Dashboard
    - Candidates section
    - Unique code generator

- Voting start/stop/reset
- Voting status monitor
- Results in excel sheet
- Logout

**Client-side details:**

- Login ID
- Password

## 2. System

System is an online platform where election process is held. So the voters and groups are registered here. And with the help of system, voters can do voting and track their status, and Admin can also monitor election process through system.

**Features and functions:**

- Homepage
- Admin module
  - Login
  - Dashboard
  - Logout
- Voter module
  - Registration
  - Login
  - Dashboard
  - Logout
  - Forget password
    - Email verification

**3. Voters**

Voters are the people who will first get approval from Admin whether they are qualified or not. Then they will sign up on online voting panel. And then at the time of voting, they will sign in and do vote to their respective party or candidate via system.

**Features and functions:**

- Registration
- Login
- Dashboard
    - Profile info
    - Candidates list
    - Email verification
    - Voting
- Logout
- Forget password

**Client-side details:**

- Mobile no.
- Password

**Server-side details:**

- id
- name
- mobile
- email
- password

- dob
- address
- status
- is_verified

## 4. Candidates

Groups/Candidates/Parties are those who will be approved and added by Admin as representatives. They will be given votes at the time of voting.

**Client-side details:**

- Name
- Position
- Image

**Server-side details:**

- id
- name
- image
- position
- votes
- status

**Flow Chart**

```
┌──────────────┐        ┌──────────────┐
│    Voter     │        │   Candidate  │
└──────┬───────┘        └──────┬───────┘
       │                       │
       ▼                       ▼
       ┌───────────────────────────┐
       │     Admin (Authority)     │
       └─────────────┬─────────────┘
                     │
                     ▼
       ┌───────────────────────────┐
       │    Online Voting Panel    │
       └─────────────┬─────────────┘
                     │
                     ▼
       ┌───────────────────────────┐
       │      Voter sign-in &      │
       │        verification       │
       └─────────────┬─────────────┘
                     │
                     ▼
       ┌───────────────────────────┐
       │       Voting Process      │
       └─────────────┬─────────────┘
                     │
                     ▼
       ┌───────────────────────────┐
       │          Results          │
       └───────────────────────────┘
```
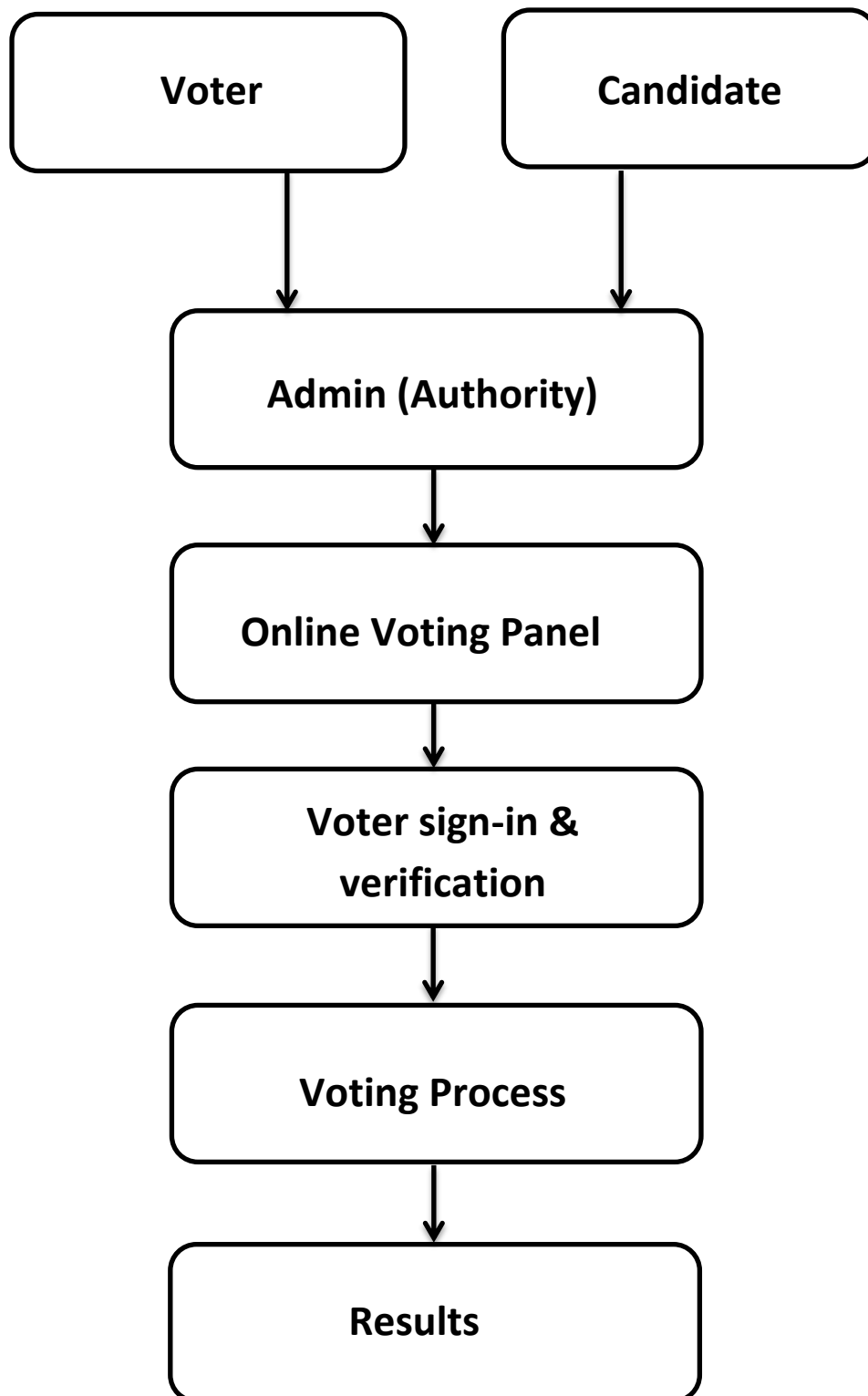
**ER Diagram**

## DFD (Data Flow Diagram)

```
        ┌──────────────┐      ┌──────────────┐
        │ Voter Login  │      │ Admin Login  │
        └──────┬───────┘      └──────┬───────┘
               │                     │
               ▼                     ▼
             Mobile                 ID
┌──────────────────┐
│ Forget Password  │  Password          Password   ┌──────────────────────┐
└────────┬─────────┘                               │  Voter Registration  │
         │                                         └──────────┬───────────┘
         ▼                                                    │
       Email                                                  ▼
                                                            Name
       New
       password                                             Email
                      ╭───────────────────╮
                      │      ONLINE        │              Mobile
                      │                    │
                      │      VOTING        │              Password
                      │                    │
                      │      SYSTEM        │              DOB
                      ╰───────────────────╯
                                                          Address

                                                          Verification
                                                          Code
```
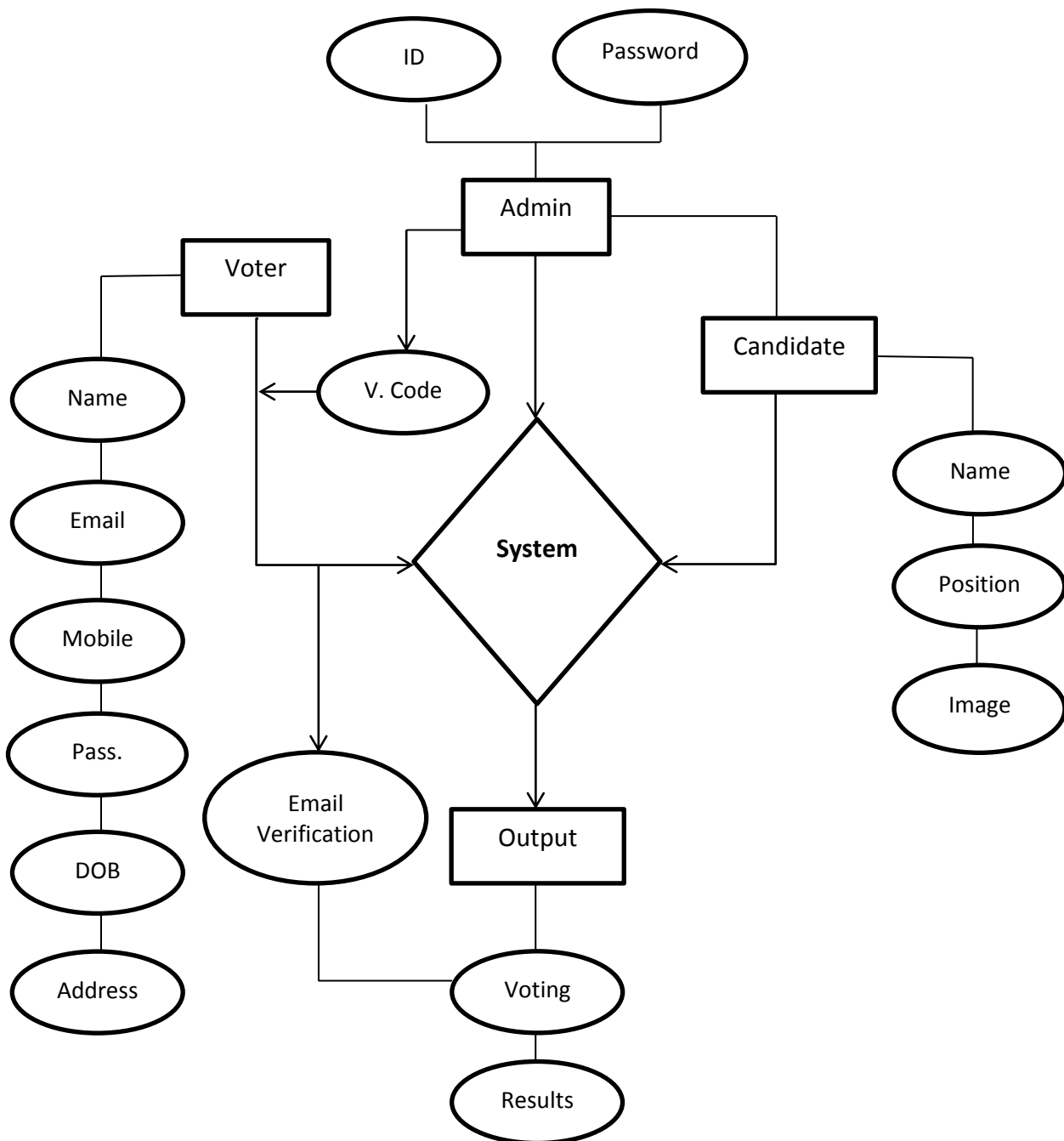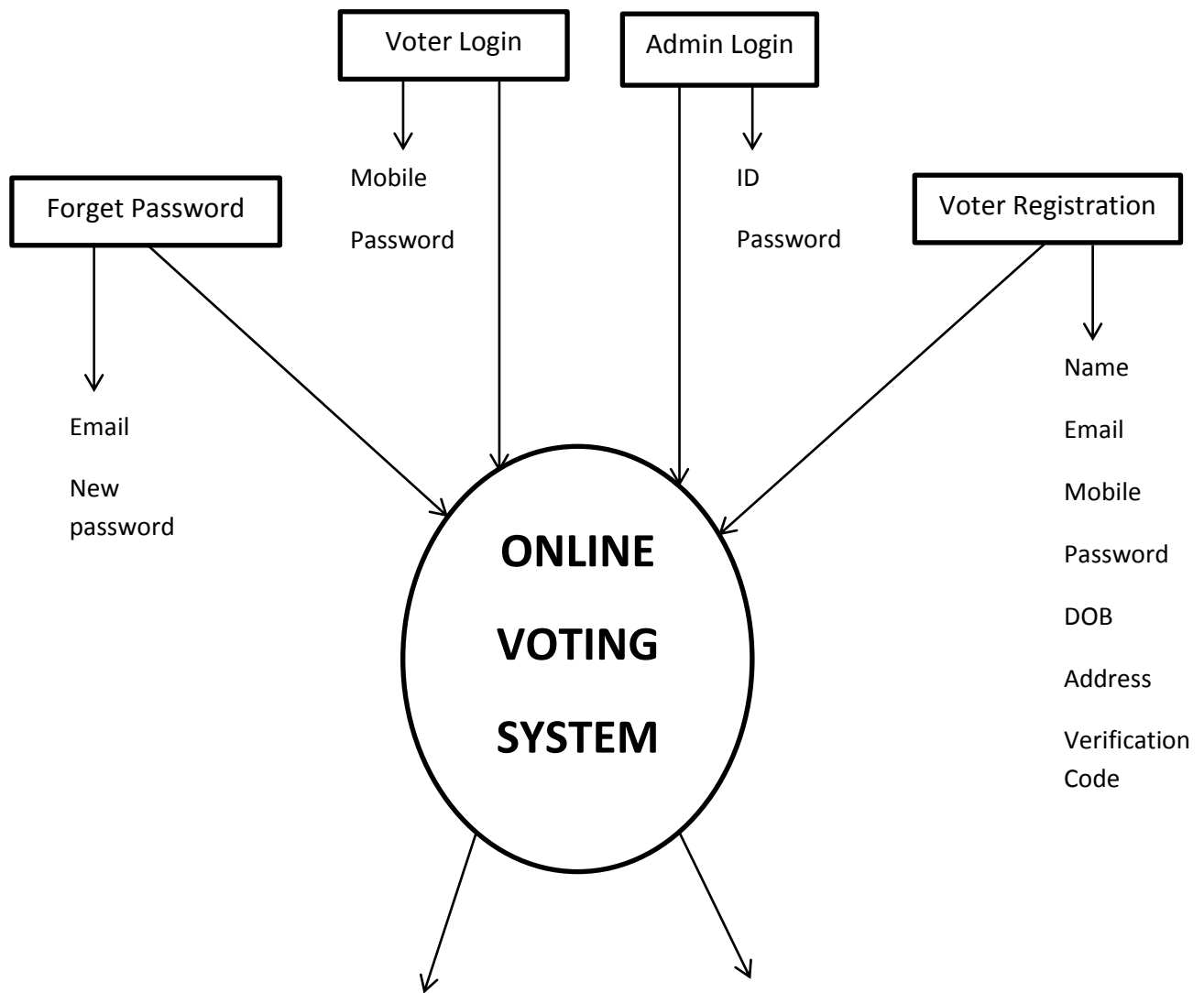
**Admin Dashboard**

- Candidates
- Code generator
- Start/Stop/Reset
- Change logo
- Edit title
- Voting status
- Results
- Logout

**Voter Dashboard**

- Profile
- Candidates display
- Email verification
- Voting
- Edit title
- Logout

# APPLICATIONS

# APPLICATIONS

This system is applicable in below fields for election purpose:

- ➢ **School**
- ➢ **College**
- ➢ **Industry**
- ➢ **Corporate**
- ➢ **Government**
- ➢ **Hospital**
- ➢ **Food and Restaurant**
- ➢ **Tourism**
- ➢ **Sports**
- ➢ **Entertainment**
- ➢ **Production**
- ➢ **Investment**
- ➢ **News and Media**
- ➢ **Technology**

# CONCLUSIONS

# Conclusion and Future work

## Conclusion

So the final conclusion we make here is that our new online voting system is much better and easy to use than traditional voting system. Almost all problems that we have discussed in problem definition section are resolved by the help of this application. So the launch of this application would create many opportunities for those who are frequently involved in conducting elections for different purposes.

## Limitations of the system

- Internet connectivity required
- Smartphone/Laptop/PC is required
- Gmail account is mandatory for every voter
- Only one election process could be conducted at a time
- Performance may become slow if network/server issue occurs

## Future enhancements

- Face detection
- Fingerprint sensor
- SMS availability
- Multiple elections at a time
- Election card generation in PDF
- Results declaration on mail of each participant

# REFERENCES

**Programming languages**

- https://www.w3schools.com

- https://www.javapoint.com

- https://www.youtube.com

- https://www.wikipedia.com

**Software**

- www.apachefriends.org

- https://code.visualstudio.com/