# KUVEMPU UNIVERSITY

## A PROJECT REPORT ON

# ONLINE VOTING SYSTEM

**Submitted by**


| | | |
|---|---|---|
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**2019 - 2020**

# KUVEMPU UNIVERSITY

## GOVERNMENT FIRST GRADE COLLEGE SHIVAMOGGA

## CERTIFICATE FROM THE PRINCIPAL

This is to certify that the project entitled "**Online Voting System**" submitted by **MANOHARA A.B, NIVEDITHA G, NIHAL R, SADHANA D, CHOWDAMMA N** student of BCA under the guidance **PREETHI L. D** Lecturer of Computer Science, Government First Grade College for the partial fulfillment of requiremet for the completion of Degree, Bachelor of Computer Application, Kuvempu University During year of 2019-2020.

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KUVEMPU UNIVERSITY

# GOVERNMENT FIRST GRADE COLLEGE SHIVAMOGGA

## CERTIFICATE FROM THE DEPARTMENT

This is to certify that the project entitled "**Online Voting System**" submitted by **MANOHARA A.B, NIVEDITHA G, NIHAL R, SADHANA D, CHOWDAMMA N** student of BCA under the guidance **PREETHI L. D** Lecturer of Computer Science, Government First Grade College for the partial fulfillment of requiremet for the completion of Degree, Bachelor of Computer Application, Kuvempu University During year of 2019-2020.

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KUVEMPU UNIVERSITY

# GOVERNMENT FIRST GRADE COLLEGE SHIVAMOGGA

## CERTIFICATE FROM THE GUIDE

This is to certify that the project entitled "**Online Voting System**" submitted by **MANOHARA A.B, NIVEDITHA G, NIHAL R, SADHANA D, CHOWDAMMA N** student of BCA under the guidance **PREETHI L. D** Lecturer of Computer Science, Government First Grade College for the partial fulfillment of requiremet for the completion of Degree, Bachelor of Computer Application, Kuvempu University During year of 2019-2020.

**Project Guide**
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Date:

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# KUVEMPU UNIVERSITY

# GOVERNMENT FIRST GRADE COLLEGE SHIVAMOGGA

## DECLARATION

I hereby declare that the project entiled "**Online Voting System**" submitted to Department of Computer Science that has been carried under the Supervision of our guide **PREETHI L.D** Lecturer of Computer Science, Kuvempu University as partial fulfillment of requirement Bachelor of Comupter Application and further certify that this has been previously formed as the award of any degree Diploma of such similar title.


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KUVEMPU UNIVERSITY

# GOVERNMENT FIRST GRADE COLLEGE SHIVAMOGGA

## ACKNOWLEDGEMENT

We would like to thank **Prof.Dhananjay** , Principal, Government First Grade College, Shivamogga for encouraging us and giving all the facilities. We express our sincere thanks to our HOD **Dr. V NARASIMHA MURTHY**, Associate Professor H.O.D of Computer Science, Government First Grade College, Shivamogga for this guidance and assistant in my project we heartily thank our internal project guide **PREETHI L.D**, Lecturer of Computer Science, Government First Grade College, Shivamogga for this guidance and suggestions during this project work. We respect and thank all teaching staffs of Department of Computer Science who helped us in successfully Completing the project work. We are thankful to all fortunate enough to get constant encouragement support from almighty, our parents and friends.

Date:

Place Shivamogga

# Dedicated to

# My beloved Parents,

# Lecturers and Friends……..

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# ABSTRACT

The Online Voting System is a web based application. The system has a centralized database to keep records of all the Voters and Candidates and Final Results. This Online Voting System is based on **SMS** sending to voters, to confirmation of Vote. This web based system is time saving, work load reduced information available at time and it provide sequrity for the data. During the election, the election commission of India has introduced a new method of polling by online voting system (OVS). The election commission will maintain this website. This is a simple, safe and secure method that takes minimum of time.

The word **VOTE** means to choose from a list, to elect or to determine. The main goal of voting (in a scenario involving the citizens of a given country) is to come up with leaders of the people's choice. Most countries, India not an exception have problems when it comes to voting. Some of the problems involved include ridging votes during election, insecure or inaccessible polling stations, inadequate polling materials and also inexperienced personnel.

# 1. INTRODUCTION

## 1.1 Problem Definition

The existing manual Voting system consumes more time for Vote Casting. Voter has to wait for vote polling station to vote for a right candidate. The election officers has to be check the voter , this voter can vote in this booth then chek voterID present in voters list of booth those are information will be present then the voter can vote in that booth. The voter had to stand in the queue to cast his vote. All the work is done in paper ballot so it is very hard to locate a particular candidates, some voters cast their votes for all candidates. To overcome of all these problems we have to implement a web application, which is helpful for Voting from any where.

## 1.2 About Project

The objective of the system is a replacement of the traditional system that is in existence. This smart system reduces the time for voting and also the system is reliable, and faster. In this system the voter username and password will be sent through SMS. The voter cast their vote enter the confirmation OTP sent their mobile number . Database maintained by this system usually contains the Voters information, Candidate information, The final Result of total votes.

# 2. PROJECT ANALYSIS

## 2.1 Existing System

The voting system currently being used by the association is a paper based system, in which the voter simply picks up ballots sheets from electoral officials, tick off who they would like to vote for, and then cast their votes by merely handing over the ballot sheet back to electoral official.

The electoral officials gather all the votes being cast into a ballot box. At the end of the elections, he electoral officials converge and count the votes cast for each candidate and determine the winner of each election category.

## 2.2 Proposed System

Here we are proposing an web application for voting process that is Online Voting System through SMS. The online voting system will manages the voter's deatils,Candidate details. The main feature of the project includes voters information and candidate information, voter can login and use his/her voting rights. The system can manage the information data very efficiently. The proposed system is more reliable, faster, accurate and easy to handle compared to existing manual system. It helps to computerize everything and reducing the errors as compare to manual voting system

# 3. SYSTEM REQUIREMENTS

## 3.1 Hardware Requirements

- Processor: Pentium
- RAM: 4GB
- Hard Disk: 1TB
- Speed: 1.1GHz

## 3.2 Software Requirements

- Operating System: Windows
- Scripting Language: JSP
- Back-End: MYSQL .
- Front-End: HTML5 and CSS3
- Supporting Tools: NetBeans IDE, JQUERY
- Type: Web Application.
- Server: TOMCAT 8.0(cross platform, Apache, MYSQL, JSP)
- Java Version : J2SDSK1.5

# 4. TOOLS AND TECHNOLOGIES USED

## 4.1 Introduction to NetBeans IDE

NetBeans IDE is a free, open source, integrated development environment (IDE) that enables you to develop desktop, mobile and web applications. The IDE supports application development in various languages, including Java, HTML5, PHP and C++. The IDE provides integrated support for the complete development cycle, from project creation through debugging, profiling and deployment. The IDE runs on Windows, Linux, Mac OS X, and other UNIX-based systems.

## 4.2 Introduction to CSS(Cascading Style Sheet)

CSS is a style sheet language used for describing the look and formatting of a document written in a markup language While most often used to style web pages and interfaces written in HTML and XHTML, the language can be applied to any kind of XML document. One of the favored features is its ability to allow the sorting of document content written in markup languages (like HTML) from document presentation written in CSS. Here are more advantages of CSS in website design:

1. Search Engine Optimization And Appearance

2. Maintainability and Browser Compatibility

## 4.3 Introduction to HTML(Hyper Text Markup Language)

HTML refers to the Hypertext Markup Language. HTML is used to create webpages. It uses many tags to make a webpage. So it is a tag based language. The tags of HTML are surrounded by angular bracket. It can use wide ranges of colors, objects and layouts. Very useful for beginners in web designing field.

**Advantages of HTML**

1. First advantage it is widely used.

2. Every browser supports HTML language.

3. Easy to learn and use.

4. It is by default in every window so you don't need to purchase extra software.

## 4.4 JSP Description

JavaServer Pages (JSP) is a technology for developing Webpages that supports dynamic content. This helps developers insert java code in HTML pages by making use of special JSP tags, most of which start with <% and end with %>.

A JavaServer Pages component is a type of Java servlet that is designed to fulfill the role of a user interface for a Java web application. Web developers write JSPs as text files that combine HTML or XHTML code, XML elements, and embedded JSP actions and commands.

In JSP there are three types of scripting elements:

- **JSP Expressions**: It is a small java code which you can include into a JSP page. The syntax is "<%= some java code %>"
- **JSP Scriptlet**: The syntax for a scriptlet is "<% some java code %>". You can add 1 to many lines of Java code in here.
- **JSP Declaration**: The syntax for declaration is "<%! Variable or method declaration %>", in here you can declare a variable or a method for use later in the code.

## 4.5 What is TOMCAT

Apache Tomcat is a long-lived, open source Java servlet container that implements several core Java enterprise specs, namely the Java Servlet, JavaServer Pages (JSP), and WebSockets APIs.

An Apache Software Foundation project, Tomcat was first released in 1998, just four years after Java itself. Tomcat started as a reference implementation for the first Java Servlet API and the JSP spec. While it's no longer the reference implementation for either of these technologies, Tomcat remains the most widely used Java server, boasting a well-tested and proven core engine with good extensibility.

**What kind of server is Tomcat**

The Java ecosystem supports several kinds of application server, so let's disambiguate them and see where Tomcat fits in:

- A **servlet container** is an implementation of the Java Servlet specification, used primarily for hosting Java servlets.
- A **web server** is a server designed to serve files from the local system, like Apache.
- A **Java enterprise application server** is a full-blown implementation of the Java EE (now Jakarta EE) specification.

Tomcat consists of the three main things that you need to know when starting web development.

They are:

- Apache Web Server
- JSP
- MYSQL

**Apache Web Server**: It is a web server that allows you to host your websites or any other content for that matter. Apache is available for UNIX as well as WINDOWS. Some of the most common server-side languages supported by Apache are - JSP, Python and Perl. It is free of charge.

**JSP:** JavaServer Pages (JSP) is a technology for developing Webpages that supports dynamic content. This helps developers insert java code in HTML pages by making use of special JSP tags, most of which start with <% and end with %>.

**MYSQL**: It is the world's most popular open source database. It is a Relational Database Management System (RDBMS) - data and it's relationships are stored in the form of tables that can be accessed by the use of MYSQL queries in almost any format that the user wants.

# 5. MODULES OF PROPOSED SYSTEM

**This proposed system consists of 3 main modules, which are listed below.**

1. **ADMINISTRATIVE MODULE**

Online Voting is a voting system by which any Voter can use his\her voting rights from anywhere in India. Online voting for association contains-:

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

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

- Recording information of the Voter in Voter database.
- Checking of information filled by voter.
- Discard the false information.
- Each information is maintained by admin.

2. **Nominee Candidate Module**

The Nominee details will be updated by the admin for the post of board of director and manager. The candidate will submit their own details and the admin maintain all of background details of the particular nominee and uploaded their information in correct procedure. In order to, the user or voter can view the nominee details.

### 3. USER/VOTER MODULE

The user after their registration only can login for voting. The user will view nominee details with their image before they can vote. After knowing the nominee details the user can login for voting. They should vote for board of director and the manager in the association. The count will taken for each voting. After voting the particular person/user cannot logon to vote again

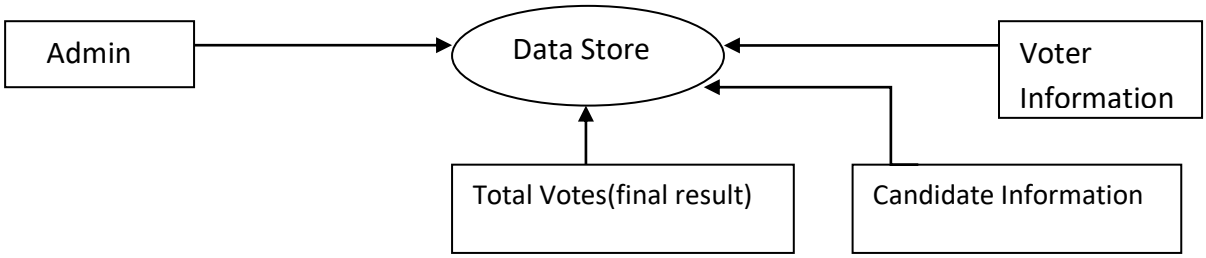
# 6. SYSTEM DESIGN

## 6.1 Data Flow Diagram

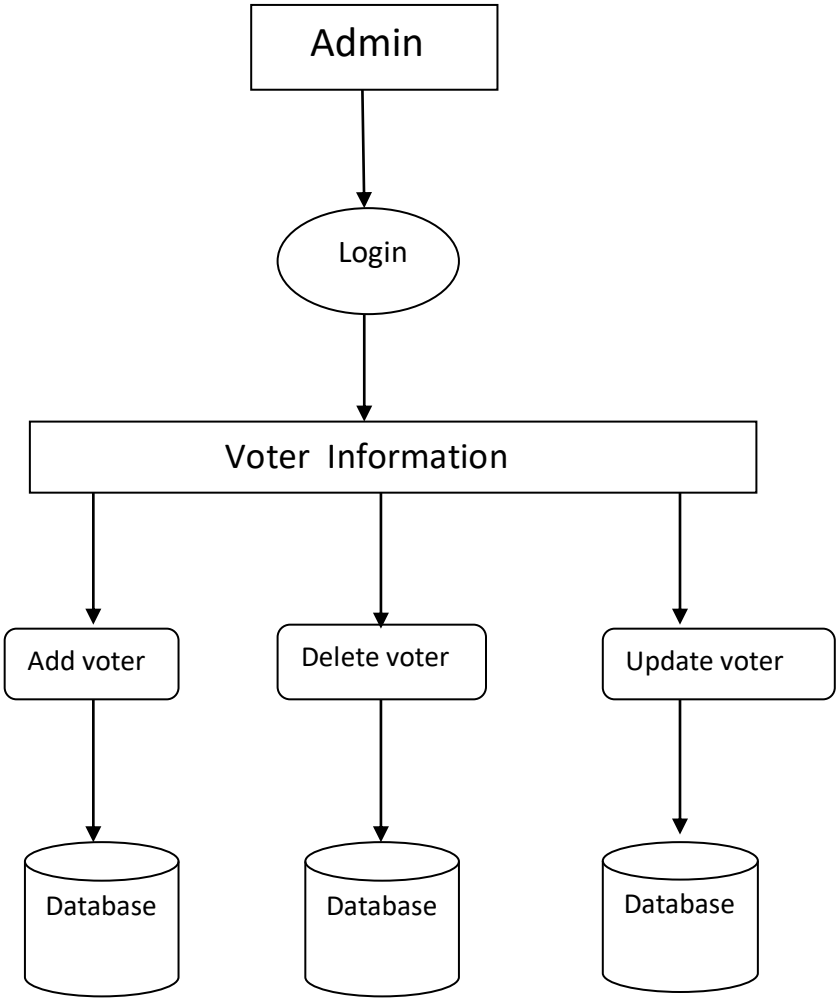
The data flow diagram(DFD) is a graphical tool used for expressing system requirements in a graphical form. The DFD also known as the "bubble chart" as the purpose of clarification system requirements and identification major transformation that will become program in system design. Thus DFD can be stated as the starting point of the design phase that functionality decomposes the requirements specification down to the lowest level of details. The DFD consists of series of bubble joined by lines. The bubble represents data transformation and the lines represents the data flows in the system. A DFD describes what data flow is does not to construct a Data Flow Diagram, we use

- **Arrow:** An arrow identifies the data flow in motion. It is a pipeline through which information is flow like the rectangle in the flowchart.
- **Circle:** A circle stands for process that converts data into information
- **Open End Box:** An open ended box represents a data store, data at rest or a temporary repository of data.
- **Squares:** A square defines a source or destination of system.

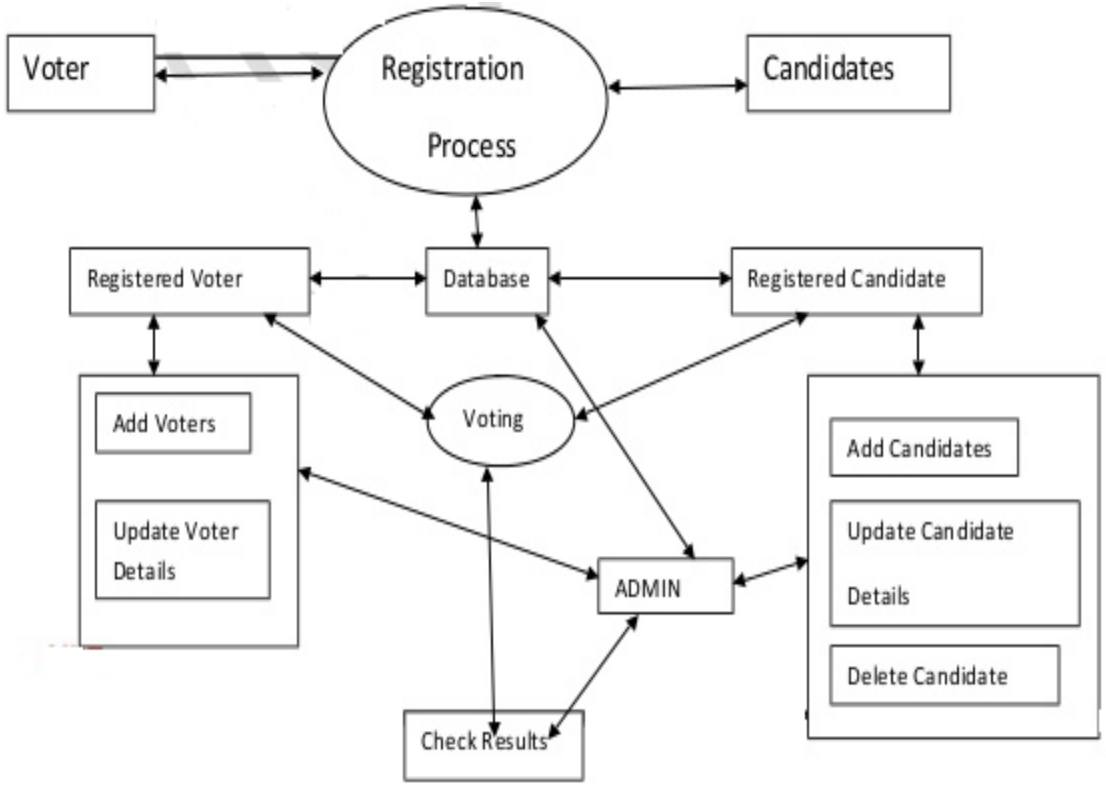
**Level 0**




**Level 1**



## 6.2 E-R Diagram



# 7. DATABASE TABLE

## 7.1 AdminTable

| Name | Type | Key | Description |
|---|---|---|---|
| admin | varchar(20) | Primary key | Login id for Admin |
| password | Varchar(20) | Foreign key | Password for Login |

## 7.2 Voter Table

| **Name** | **Type** | **Key** | **Description** |
|---|---|---|---|
| vid | varchar(10) | Primary key | Login id for Voter |
| Dob | date | Foreign key | Date of Birth |
| Age | int(3) | Foreign key | Age |
| Vlog | varchar(10) | Foreign key | Voter ID |
| Pass | varchar(6) | Foreign key | Password |
| Vname | varchar(25) | Foreign key | Voter name |
| fathernam | varchar(25) | Foreign key | Father name |
| Gender | varchar(20) | Foreign key | Gender of the voter |
| address | varchar(50) | Foreign key | Address |
| city | varchar(25) | Foreign key | City |
| mobile | int(10) | Foreign key | Mobile number |
| emid | varchar(50) | Foreign key | E-mail address |

## 7.3 Candidate Table

| Name | Type | Key | Description |
|---|---|---|---|
| Slno | int(5) | Primary key | Serial number of candidate |
| Cname | varchar(30) | Foreign key | Candidate name |
| Fname | varchar(30) | Foreign key | Father name |
| Gender | varchar(10) | Foreign key | Gender |
| Address | varchar(50) | Foreign key | Address |
| City | varchar(30) | Foreign key | City |
| Mobile | int(10) | Foreign key | Mobile number |
| Partyname | varchar(30) | Foreign key | Party name |
| partsymbol | varchar(30) | Foreign key | Party symbol |
| Age | int(3) | Foreign key | Age |
| Voterid | varchar(10) | Foreign key | Voter ID |
| Date | date | Foreign key | Date of Birth |
| Caimg | varchar(50) | Foreign key | Candidate image |
| Email | varchar(50) | Foreign key+ | E-mail |

## 7.4 Vote count table

| Name | Type | Key | Description |
|---|---|---|---|
| Voterid | varchar(10) | Foreign key | voter Id of the candidate |
| time1 | timestamp | Foreign key | Time |
| Candslno | int(5) | Primary key | Candidate serial no |

# 8. TESTING AND RESULT

## 8.1 Types Of Testing

### 8.1.1 System Testing:

Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design, and coding. The user tests the developed system and changes are made according to their needs. The testing phase involves the testing developed system using various kinds of data.

System is the stage of implementation that is aimed at assuring at the system works accurately and efficiently before live operation commences. Testing is vital to the success of the system. System testing makes a logical assumption that if all the parts of the system are correct, the goal will be successfully achieved. The candidate system is subject to a variety of tests such as recover, security and usability tests. A series of testing is performed for the proposed system before the system is ready for the user acceptance testing.

Implementation ends with formal tests. The test data are very crucial to this process. They must be realistic and cover extreme conditions are well. Ideally, vary alternative path through the program should be exercised at least once beyond the test data. The system test must involve all the elements that compose the system including program validation checking, files, and forms and triggers procedures.

### 8.1.2 Component testing

- Testing of individual program components i.e. the each module is tested
- Usually the responsibility of the component developer (except sometimes for critical systems);
- Tests are derived from the developer's experience.
- Component or unit testing is the process of testing individual components in isolation.
- It is a defect testing process.
- Components may be:
- Individual functions or methods within an object;
- Object classes with several attributes and methods; Composite components with defined interfaces used to access their functionality

## 8.2 Testing Strategies

Following are few of the testing strategies used for the testing purpose:

- Unit testing.
- Validation testing.
- Output testing.
- User acceptance testing.

### 8.2.1 Unit Testing

Unit testing focuses effort on the smallest unit of software design of the module. This is also known as 'Module Testing'. The module of FSA system is tested separately. This testing was carried out during programming stage itself in this testing each module is found to be working satisfactorily with regards to the expected output from the module.

### 8.2.2 Validating Testing

At the culmination of integration testing, software is completely assembled as a package, interfacing errors have been uncovered and corrected and final series of software test begins. Validation testing can be defined in many ways, but a simple definition is that validation succeeds when the software function in a manner that can be reasonably expected by the customer.

After validation test has been conducted, one of the two possible conditions exists, the functions are performance characteristics confirm to specification and are accepted or a deviation from specification is uncovered and deficiency list is created. Proposed system under consideration has been tested using validation testing and found to be working satisfactorily.

#### 8.2.3 Output Testing

After performing the validation testing the next test is output testing of the proposed system since no system could be useful if it does not produce the required output in the specified format. Asking the user about the format required by them tests the outputs generated or displayed by the system under consideration. Here, the output format is considered in two ways. One on-screen and other is printed format. The output format on the screen is found to be correct as the format was designed in the system phase according to the user's needs. Hence, output testing does not result in any correction in the system.

#### 8.2.4 User Acceptance Testing

User acceptance of a system is the key factory for the success of any system. The system under consideration is tested for user acceptance by constantly keeping in touch with the perspective system. Users at time of developing can make changes wherever required.

**This is done in regards to the following points:**

- Input screen design.
- Output Screen design.
- Menu driven system.
- Format of reports and other outputs

Taking various kinds of test data does the above tests. Preparation of the test data places a vital role in system testing. After preparing the test data the system under study is tested using the same. While testing the system by using the test, errors are uncovered. They are then corrected and noted down for future use.

## 8.3 Testing Guidelines

Testing guidelines are hints for the testing team to help them choose tests that will reveal defects in the system.

- Choose inputs that force the system to generate all error messages;
- Design inputs that cause buffers to overflow;
- Repeat the same input or input series several times;
- Force invalid outputs to be generated;
- Force computation results to be too large or too small.

## 8.4 Test Case Design

- Involves designing the test cases (inputs and outputs) used to test the system.
- The goal of test case design is to create a set of tests that are effective in validation and defect testing.
- Design approaches:
    - Requirements-based testing;
    - Partition testing;
    - Structural testing.

### 8.4.1 Requirements based testing

- A general principle of requirements engineering is that requirements should be testable.
- Requirements-based testing is a validation testing technique where you consider each requirement and derive a set of tests for that requirement.

### 8.4.2 Partition testing

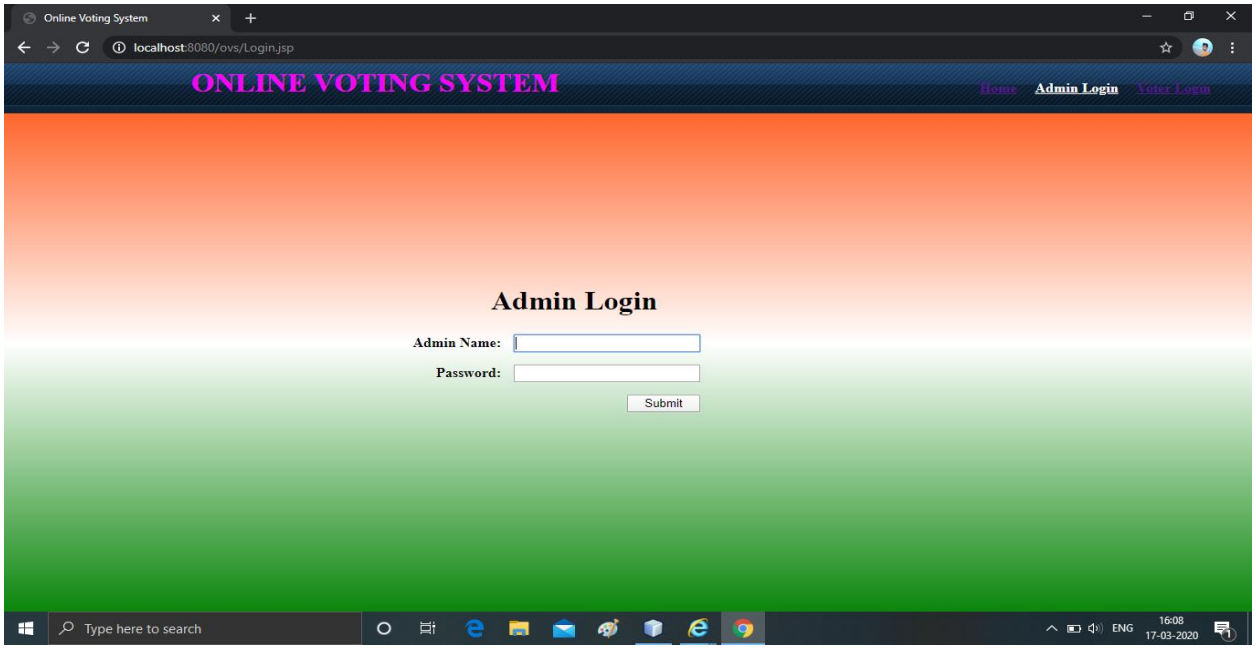
- Input data and output results often fall into different classes where all members of a class are related.
- Each of these classes is an equivalence partition or domain where the program behaves in an equivalent way for each class member.
- Test cases should be chosen from each partition.

### 8.4.3 Structural testing

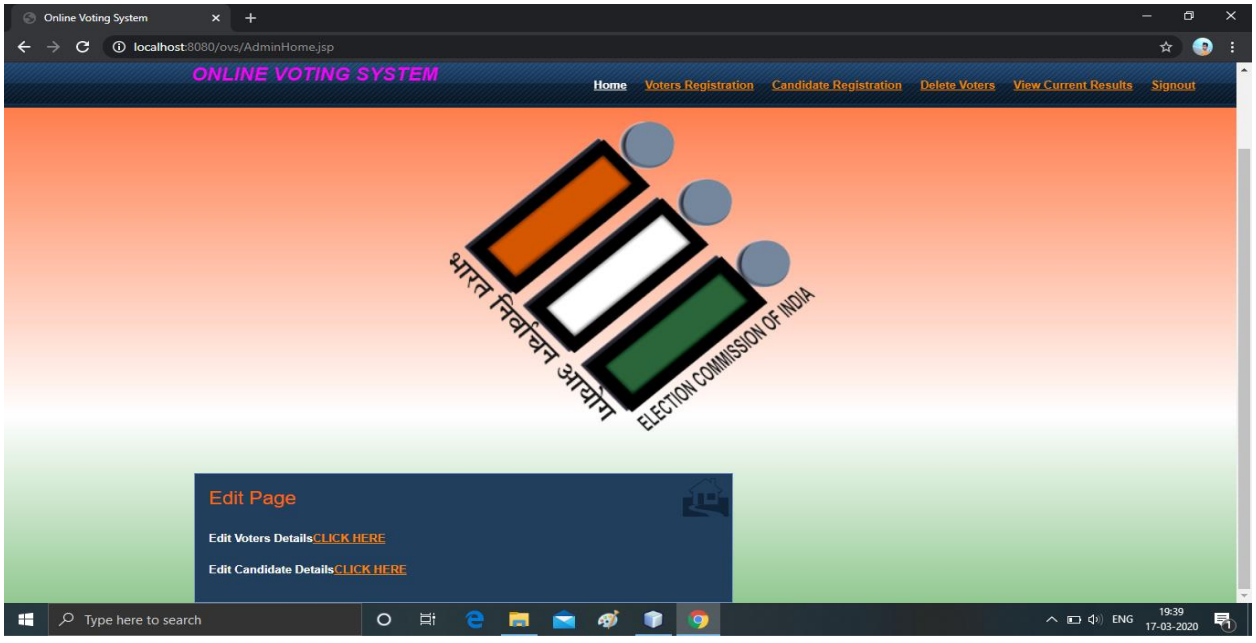
- Sometime called white-box testing.
- Derivation of test cases according to program structure. Knowledge of the program is used to identify additional test cases.
- Objective is to exercise all program statements (not all path combination)

# 9. SNAP SHOTS OF OUR WEB APPLICATION

## 9.1 Admin Login Page

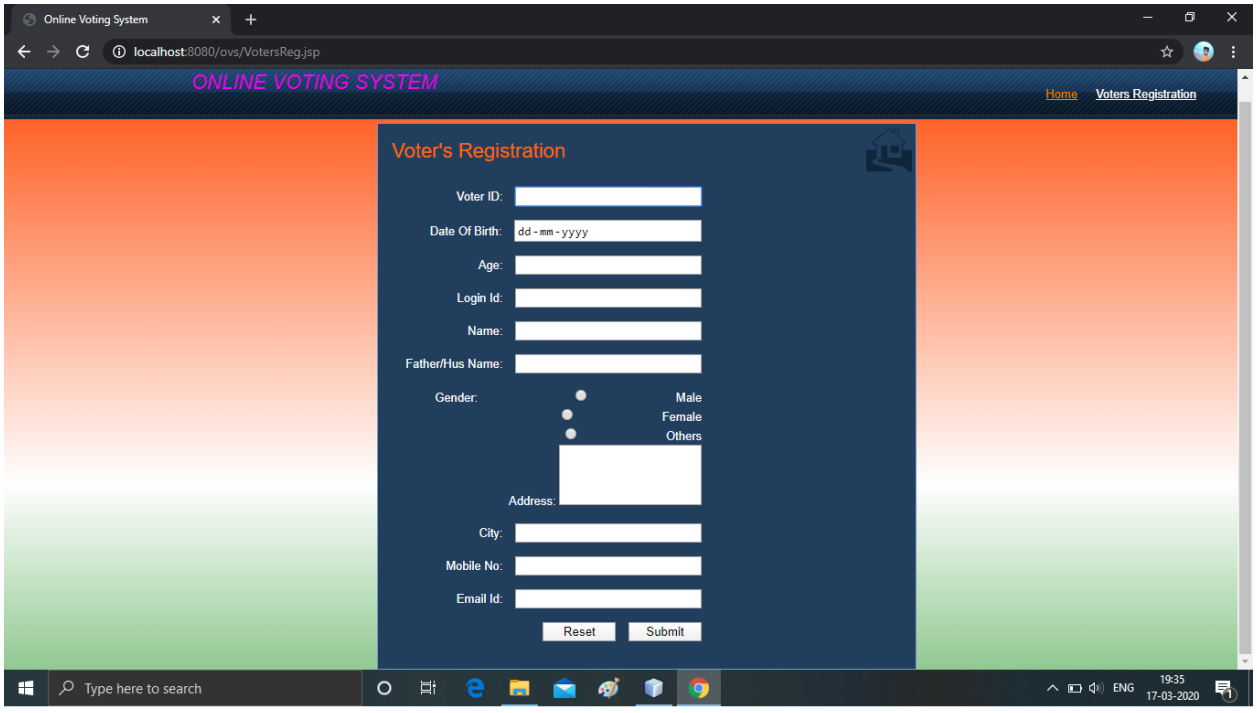



## 9.2 Admin Home page

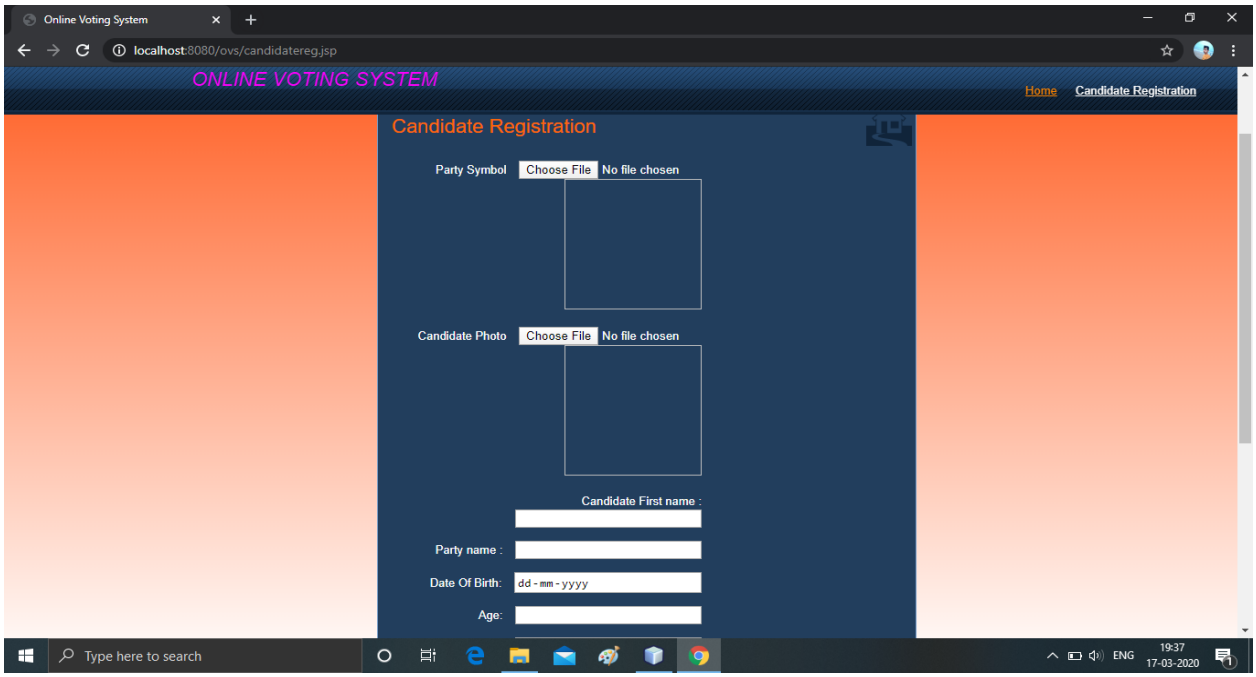


## 9.3 Voter Login Page

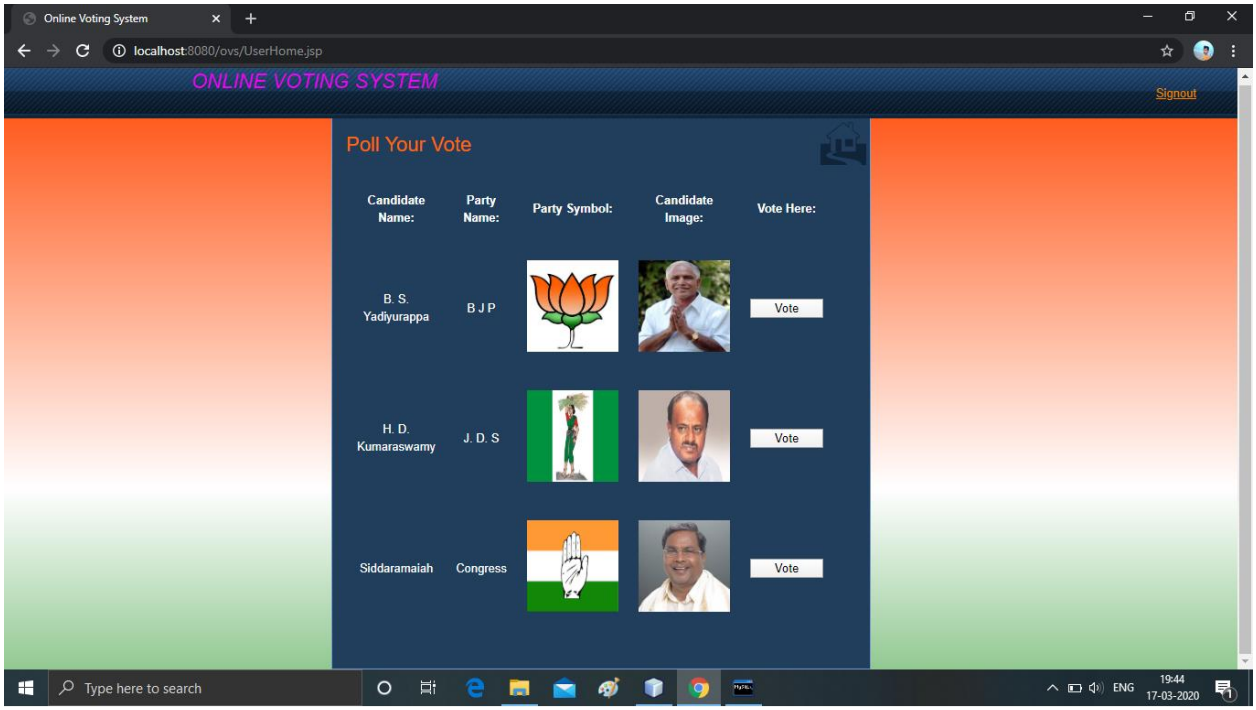

## 9.4 Voters Registration Page



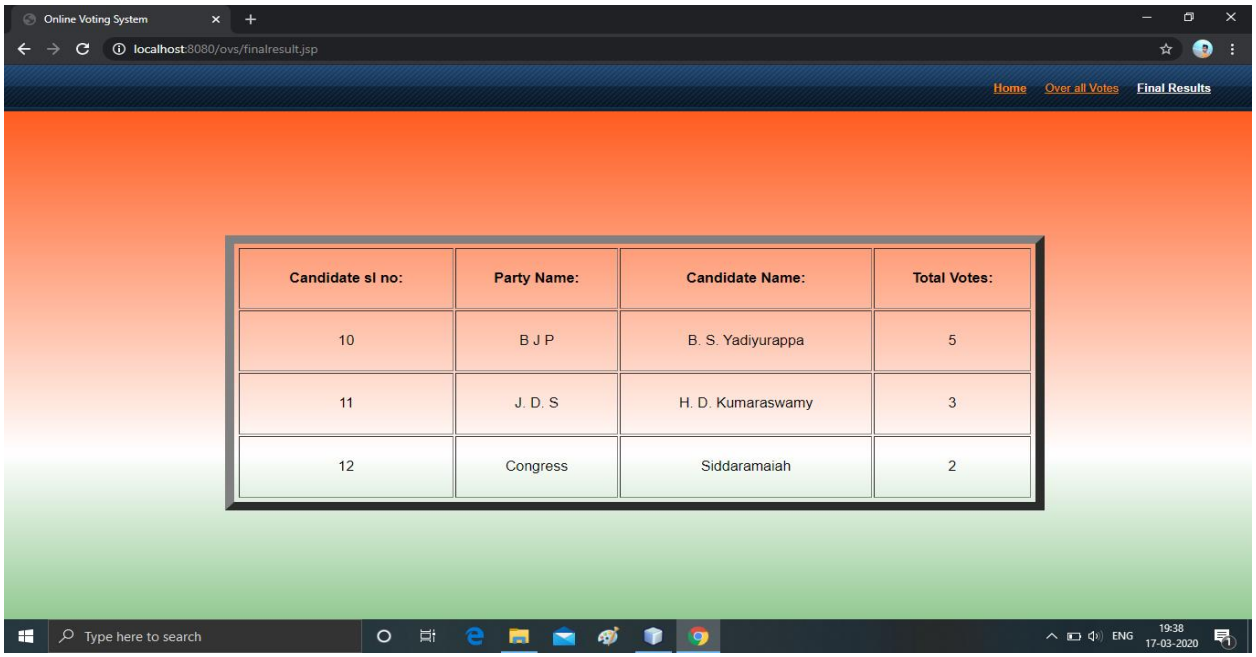
## 9.5 Candidate Registration Page




## 9.6 Voting Poll Page

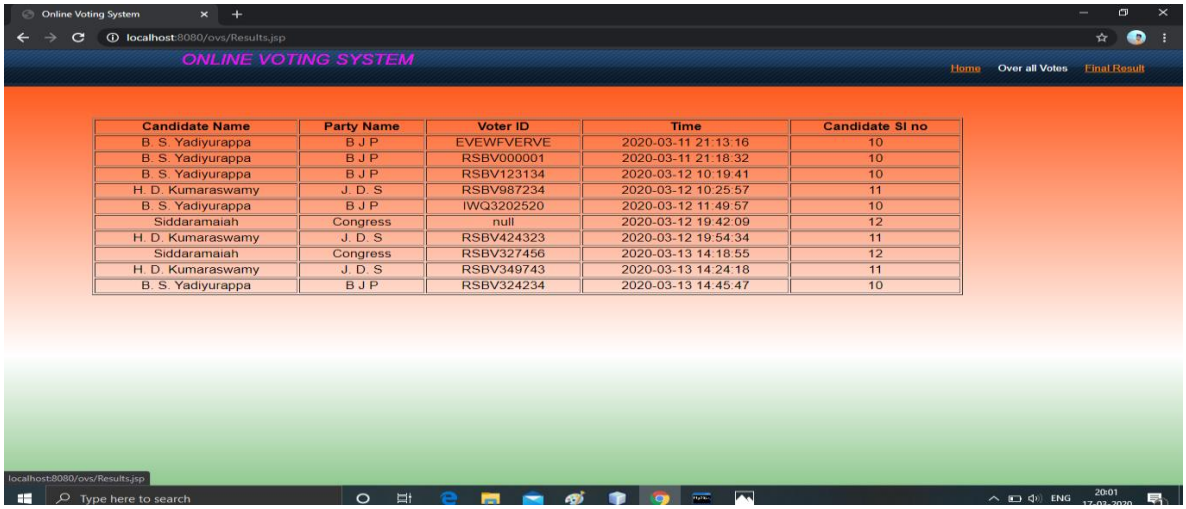


## 9.7 Final Result Page




## 9.8 Report

### 9.8.1 Votes by voters



## 10.Scope

As this website provides better way of election between voter and political parties: hence we suppose that this project as a greater scope and is important requirement is to provide a compact :stable system of voting with a facility through online.

## 11. CONCLUSION

This online Voting system will manage the Voter's information by which voter can login and use his voting rights. The system will incorporate all features of voting system. It provides the tools for maintaining voter's vote to every party and it count total no. of every party. There is a DATABASE which is maintained by the ELECTION COMMISION OF INDIA in which all the names of voter with complete information is stored.

In this user who is above 18years's register his/her information on the database and when he/she want to vote he/she has to login by his id and password and can vote to any party only single time. Voting detail store in database and the result is displayed by calculation. By online voting system percentage of voting is increases. It decreases the cost and time of voting process. It is very easy to use and it is very less time consuming. It is very easy to debug.

The traditional method of manual voting system has few drawbacks. This method is obviously not efficient as it wastes the voter's energy and quite slow in term of completion. This smart system involves the voter's can cast their vote easily, and can be implemented to the entire India.

## 12. FUTURE ENHANCEMENT

Data can be managed on cloud so that it will be secured and managed efficiently. We have developed the online system for only one particular booth , this should be extended to all the polling booths in India .

## 13. BIBLIOGRAPHY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THANK
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