# JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY



## MINOR-1 PROJECT

**ONLINE VOTING SYSTEM**

**MENTOR Group Members G(26):**

**Ms. Chetna Dabas Mohammad Faizaan Siddiqui (18103168)**

**Shridhar R (18103326)**

**Himanshu Gusain (18103321)**

## Preface

This project aims to solidify, and ease one of the major pillars of any Democracy, Voting. The project not only makes Voting simpler and transparent but also safer if a situation similar to the Covid-19 Pandemic arises ever again. Doing this project has helped us to enhance our knowledge of Database Management Systems and Web Development.

## Acknowledgement

We would like to express our deepest gratitude to our guide, Mrs. Chetna Dabas, for her valuable guidance, timely help and consistent encouragement. She provided us a very safe environment where we had her utmost support throughout the course of our project. She has always extended a cheerful and cordial support to us for the completion of this Project. We would also like to extend our gratitude to other faculty members of JIIT who have provided us with support and guidance at different point of time.

## Introduction

As the world starts to move at a high pace an Online Voting System is the need of the hour. Tasks like voting have started to become another tedious job to an average individual. Due to which, thousands of voters refrain from voting. Also, the voting systems and committees of different countries have been questioned frequently enough to create a doubt in the common man. Voting is one of the basic rights of the individual and assertion of it, should be easy, comfortable and trustworthy. It should not feel like a task but as an activity, individuals cherish. Our online Voting System, allows voters to vote from a rather comfortable place and keep them informed about the voting that is taking place installing a higher amount of trust and reducing doubts inside their head. It also makes counting of votes is easier and more reliable, which makes it easy for the administration as well.

## Problem Statement

The project is to develop a better, safer and more efficient Voting System. It will help the user vote more comfortably. Currently, this project contains a locally developed database, of candidates and voters but is highly scalable. It allows the voter to generate a password so that no one else can vote on their behalf. It also allows the administrator to provide the voter with a unique ID to create more secrecy and security.

## Motivation for the Project

For numerous years, voting systems across the globe have been asked innumerable questions, they have been criticized and their “fairness” has been questioned. Be it in India, or the recent events in United States of America. Moreover, the inefficiency of ballot paper was evident in the U.S, and it was made more noticeable due to the Covid-19 Pandemic. Today, when the world is online, almost everything available at a click away our basic right of Voting, has lagged behind for far too long. Due to this, Voting has become a huge task, and Pandemics don’t make it easier. Therefore, to be prepared for the future, and enhance our present we need to use our technology, to make our very basic right, easier to access and assert. For this reason, our team has decided to develop an online voting mechanism, that will be accessible for everyone from the comfort of their homes.

## Type of Project

Development Cum Research Project

## Literature Review

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| --- | --- | --- | --- |
| S. No. | Title | Authors | Summary |
| 1 | Online Voting System for India based on AADHAAR ID | Himanshu Agarwal  G.N.Pandey | This paper describes the proposed model for online voting system for India. The proposed system is much secure and efficient than the traditional voting system.  Manipulation of votes and delay of results can be avoided easily. A unique AADHAAR identity is the center point  of our proposed model. It leads to the easier verification of both voters and candidates.  In the proposed framework, we have tried to build a secure online voting system that is free from unauthorized access while casting votes by the voters. The server  aspects of the proposed system have such distribution of authority that server does not enable to manipulate the votes. It is expected that the proposed online voting  system will increase the transparency and reliability of the existing electoral system. |
| 2 | **Remote Online Voting System using Aneka Platform** | Karishma Varshney  Rahul Johari  R. L. Ujjwal | The author makes use of three security tools for proposing a new voting system namely encryption using  homomorphic technique, Mix-net and blind signature technique based on asymmetric encryption algorithm RSA. A voting system using Visual Cryptography was developed to vote for important and private company decisions.  The proposed application is targeting defense officials, migrants working in abroad, physically challenged and officers on duty |
| 3 | **Online Voting System using Cloud** | Ramya Govindaraj,  kumaresan P,  K.Shree Harshitha | This is an automated system. It will be secure system because user can vote only once as the database will not accept more than one vote per user as all the details of the eligible people will be stored in the database. This system should have large database support. It enables heads to make decides on polls with the goal that voters can't cast invalid votes, nor do they should be checked while tallying |

## Design/Algorithm

### **Registration Phase**

1. The voter visits the Sign up or Registration page using register option on the homepage.
2. Fills all the details and the Database is stored by administrator.
3. Creates Password, and Submits details.
4. The voter then needs to login and request the administrator to generate his unique ID.

### **Voting Phase**

1. Using the Unique ID generated, on the “vote” page, voter logs in.
2. The voter is allowed to choose the election the want to vote in, and then they are allowed to choose the candidate they want to give their vote in the election.
3. The voter can’t vote again or change their vote for the ongoing elections.

### **Results**

Viewing results is absolutely live as soon as you vote the algorithm makes sure that the vote is counted and updated. It can be viewed by the user.

Unfortunately, as it’s a locally administered database we won’t be able to show that if someone else votes that the votes increase but our algorithm makes sure that it happens and it can be viewed if the website is made public.

## Languages/Operating System used

1. Windows OS
2. JavaScript
3. JQuery
4. Bootstrap
5. MySQL
6. PHP
7. CSS/HTML

## Proposed Methodology

It is a voting system in which the students of an organization can register themselves for being eligible for the voting. After registering, they can login to the website and can cast their vote to choose the candidate as their representative. And once the voting process ends, they again can login to view the results of election.

The election results are available LIVE to every individual that votes, one can be present during the counting process, once they vote they will be able to see the increase in number of votes of the candidate they have chosen which installs more belief in the election system.

## Algorithm/Description of Work

## User

### **HOME PAGE:**

Pages available to you in the navigation bar, are “Login”, “Register” and “About us”. The page has the developer’s names and basic layout of the entire Project.

### **Register:**

A form appears asking for certain details, user can register themselves. Details submitted are stored in the database and can be accessed by the admin.

### Login:

User is required to fill in the asked details correctly, details are matched with the already present details and only then do you enter your individual account.

#### **LOGGED IN HOME:**

Basic instructions on how to vote.

#### **ID GENERATE:**

Generates a Unique ID for the user that can be used to vote.

#### **Vote:**

All actions related to voting.

#### **Results:**

Results can be viewed from here.

## Admin

### **Add elections**

Updates upcoming elections their start and end dates.

### **Add Candidates**

Updates the list of candidates for the election.

### **Generate ID:**

Generates Unique ID for the user.

## Languages

### **JavaScript/JQuery:**

JavaScript was used for validation of forms during the registration process.

As soon as the individual opens the web document, there is an option that leads him to the registration page. The form validations done throughout the project have been done using JavaScript.

The designing of the pages also had contributions from JavaScript with other contributions from HTML and CSS.

### **MySQL:**

MySQL was used to create and maintain Database for the local administrator.

### **PHP/SQL:**

PHP acted as a link between the User Interface of the website and the database present, this linkage was extremely important as without it the webpage could not access the databases and perform the required actions.

As PHP’s feature it allows updates, deletes etcetera from the MySQL database on the basis of the user’s actions without much intervention from the database administrator.

PHP can be termed as the central language of this project.

### **CSS/HTML/Bootstrap:**

Used for designing the webpage, and perform their basic operations.

### **Windows OS:**

Windows OS, provide a very user and developer friendly environment to create this project.

## Results

An operational locally administered Database supported online voting system was established.

We took 20+users to maintain our database and went on to create a voting mechanism that can be used.

Currently hosted by the localhost and a locally administered database, this project is highly efficient and can easily be used by schools/colleges to have elections without much hassle and inconvenience of false voters.

This project has immense magnifications once posted on a webpage available to the world.

Unfortunately, we are not allowed to access the Aadhaar information of the citizens of this country so we used enrollment numbers to make sure that no 2 people can vote using the same enrollment number. We also allowed the admin to provide the user with a Unique ID. With Aadhaar linkage this project will provide a very secure job for the Election Commission.

Large scale improvements are surely possible.

## Conclusion

As the leader appointed by the voters, that affect every aspect of an individual’s life, Voting is a right in our country.

This project focuses on an Online voting system that will put our prevalent administration on a path for glory and ease. Fundamentally, this project has attempted to grow the productivity and efficiency of voting. It has an affirmation that will allow the voter to use his/her information to register and then the voter’s information can be used to login and thus they can use their right to vote.

There is a database where all the information about the voters is stored securely.

This type of voting system offers a great speed and efficiency and convenience to the voter and great straightforwardness to heads as they can get choice, outcomes out more quickly than conventional strategies for manual voting.

Some effective components are:

1. Faster electoral procedure.
2. Easier to vote for every individual.
3. The system will reduce electoral fraud, and install more belief in the voting process.
4. The appropriation of this system is probably going to build the degree of interest in the country in view of the simplicity of voting and its inclination to wipe out electoral fraud.

## References

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