Design and Development of Internet Voting System

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Abstract: *The explosion in the use of information technology and the widespread use of the Internet makes information and communication technologies to get their inevitable benefits. Some of these benefits are accuracy, speed, cost saving, etc. Election and voting are one of the cases which have recently tended to be performed electronically. Our paper deals with online voting system that facilitates user(voter), candidate and administrator (who will be in charge and will verify all the user and information) to participate in online voting. our online voting system is highly secured, and it has a simple and interactive user interface. The proposed online portal is secured and have unique security feature such as unique id generation that adds another layer of security (except login id and password) and gives admin the ability to verify the user information and to decide whether he is eligible to vote or not. It also creates and manages voting and an election detail as all the users must login by user name and password and click on candidates to register vote. Our system is also equipped with a chat bot that works as a support or guide to the voters, this helps the users in the voting process.*

Keywords: E-Voting System, Internet Voting System, HTML, CSS, JavaScript, Java.

I. INTRODUCTION

Voting is an extremely hard and tiring process since the voters should individually go to voting places. This will decrease the rate of attendance of people in elections. Voting through mail can be suitable, especially for those who live or work in faraway places. Still, this method is time consuming and difficult because the casting ballots, gathering and tallying the votes are done manually. Internet voting or e-voting can solve this problem. Existing studies have pointed out that e-voting will increase public attendance in elections. As the number of service-oriented applications is increasing, the importance of dependability of them increases, too.

Online voting system is an online voting technique. In this system people who are authorized by the admin can cast his/her vote online without going to any physical polling station. There are many voting procedures which are being used for Voting purpose, such as ballot paper, EVM machine but all these procedures require more time and more man power so to eliminate all these drawbacks we provide an online voting system which provides features such as accuracy, convenience, flexibility, privacy and verifiability. Our online voting system provides user a platform where he can register himself to cast vote remotely. our is a voting system by which any Voter can use his/her voting rights from anywhere. And for the smooth processing of voting system has an integrated chatbot. It can guide users at any stage of process to make accessibility easy.

II. RELATED WORK

Existing voting Systems: -

A. Paper Ballot System:

A Conventional voting ballot system which was used in most parts of the globe for many decades. In this system, the voters cast their votes on a paper and stamp. The users cast their votes at a voting booth.

B. E-Voting System:

Subsequently, the E-Voting System came into prominence and replaced the conventional Paper Ballot system. An E-voting system is a type of voting system in which voters cast their secret vote using the electronic ballot.

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Many countries have made several attempts to replace the traditional paper-based voting system with modern voting technology.

C. Internet voting:

It is also known as remote e-voting and is the latest e-voting system introduced. In this system, the voter can directly vote on an application using a web browser from any part of the globe.

Some criticize Internet Voting from the position that traditional voting does not share the same vulnerabilities.

This is a system that can be used by user to cast vote in an election. All the voters have to login and click on cast vote to his/her chosen candidates to submit his/her vote. The research development and testing are done on LAN. On other hand online voting software is been in research for many years, researched cases of wrong implementations reported in recent years. These factors are need to be resolved so public can cast their vote in a secured and fitting environment. online voting is a voting software in which any user can use his/her voting rights from anywhere. Online voting application contains:

a) users details

b) users Names with ID and password.

c) users vote in a database.

d) sum of total number of votes.

e) result panel

Modules of our System Online voting is a portal through which a voter can cast his vote by registering themselves on the online voting platform. All the information about users is entered in database by which admin can verify the user. There are different tables in database for users, candidates, result, admin. Each voter has to enter his all basic information like name, gender, state, email-id. This is the first page of the website known as the welcome page. It has all the page options like Home, Polling Dates, Register, Login, about us, Contact us, FAQs.

It is the first page of our portal, having all the feature options of the portal. It has a link of other pages such as registration page, login page, admin section, about us, chatbot(support) section. This page also gives brief description of our system about how it works, hence this page gives user the overview of whole system.

III. BUILDING VOTING SYSTEM

The frontend of the site was built by Html, CSS to provide a user interface. JavaScript is also used at often places for some functionalities. We used Java as a backend language and SQL for managing data, processing, storage, and retrieval.
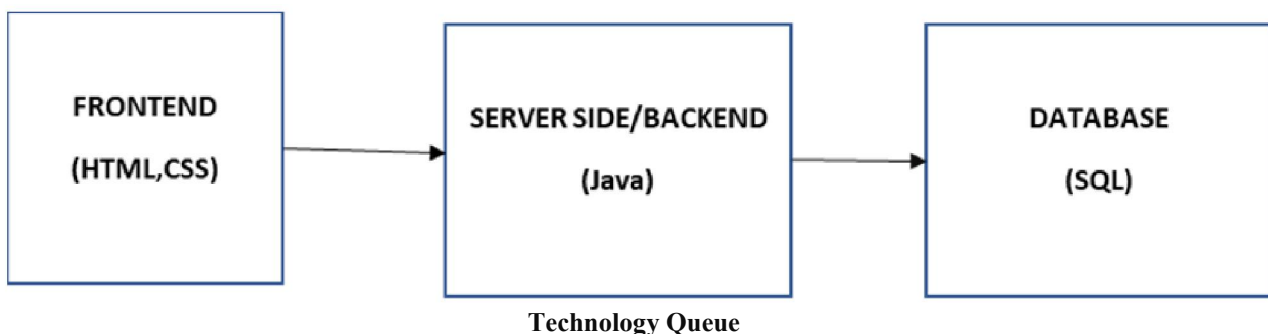
The System is divided into User & Admin Interface: -

User Side:

The user side system of an online voting system typically consists of some components: User Interface, Authentication, voting, etc.
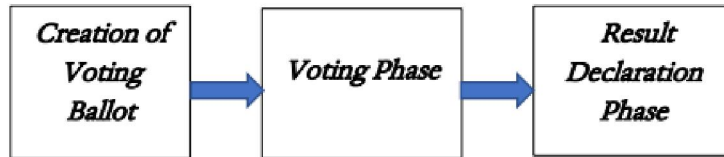
Admin Side:

The admin side of an online voting system typically consists of some components: Election setup, Candidate management, Results, etc.
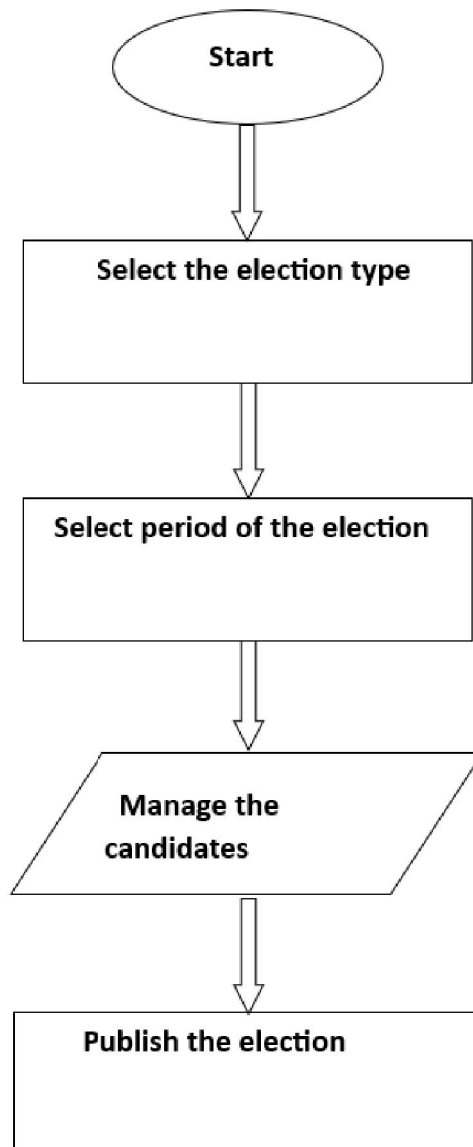

Technology Queue

IV. IMPLEMENTATION

Phases of the System
Creation of Voting Ballot
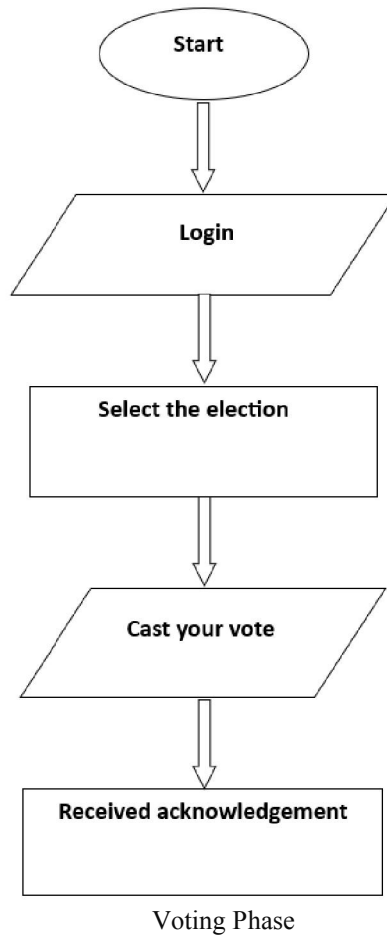Voting Phase
Result Declaration Phase

Phases of Internet Voting

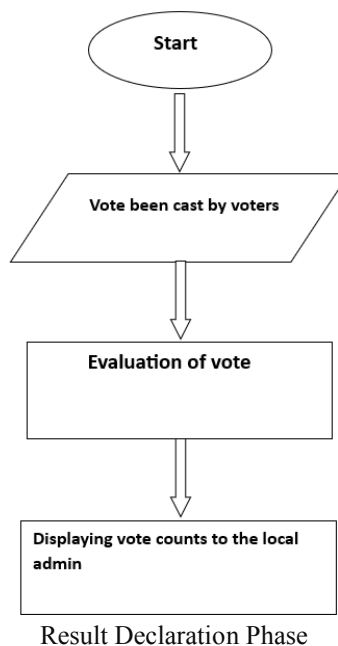**Phase 1: Creation of Voting Ballot**

Creation of Ballot
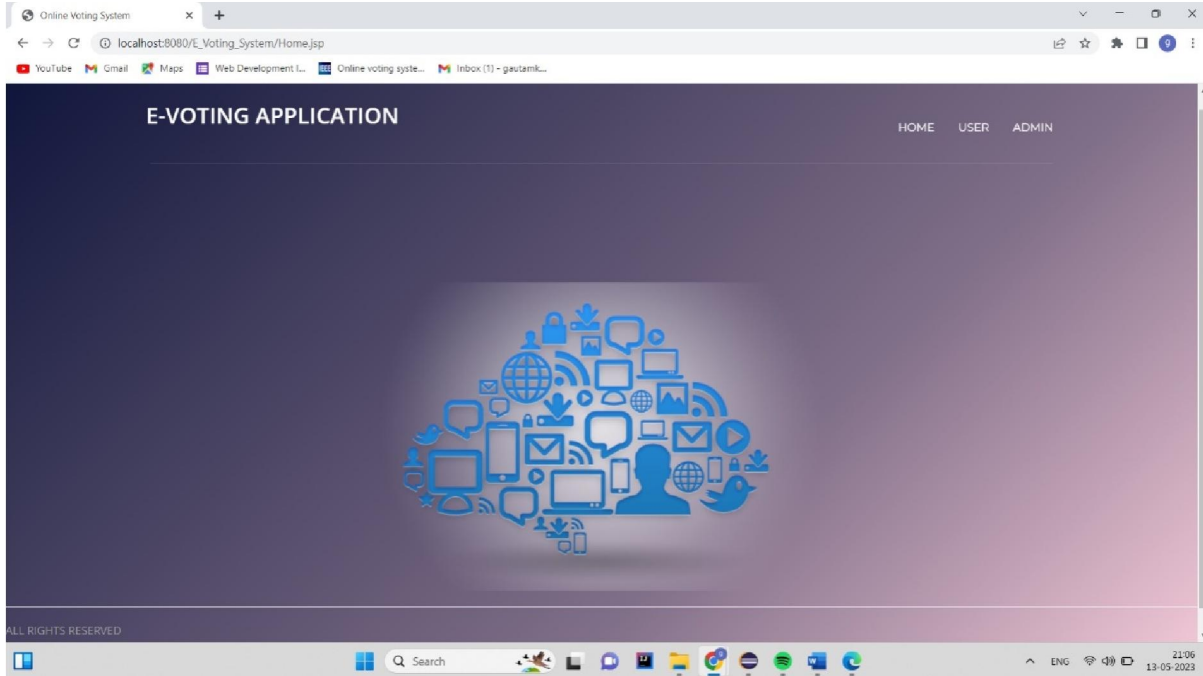
Phase 2: Voting Phase

Voting Phase

Phase 3: Result Declaration Phase
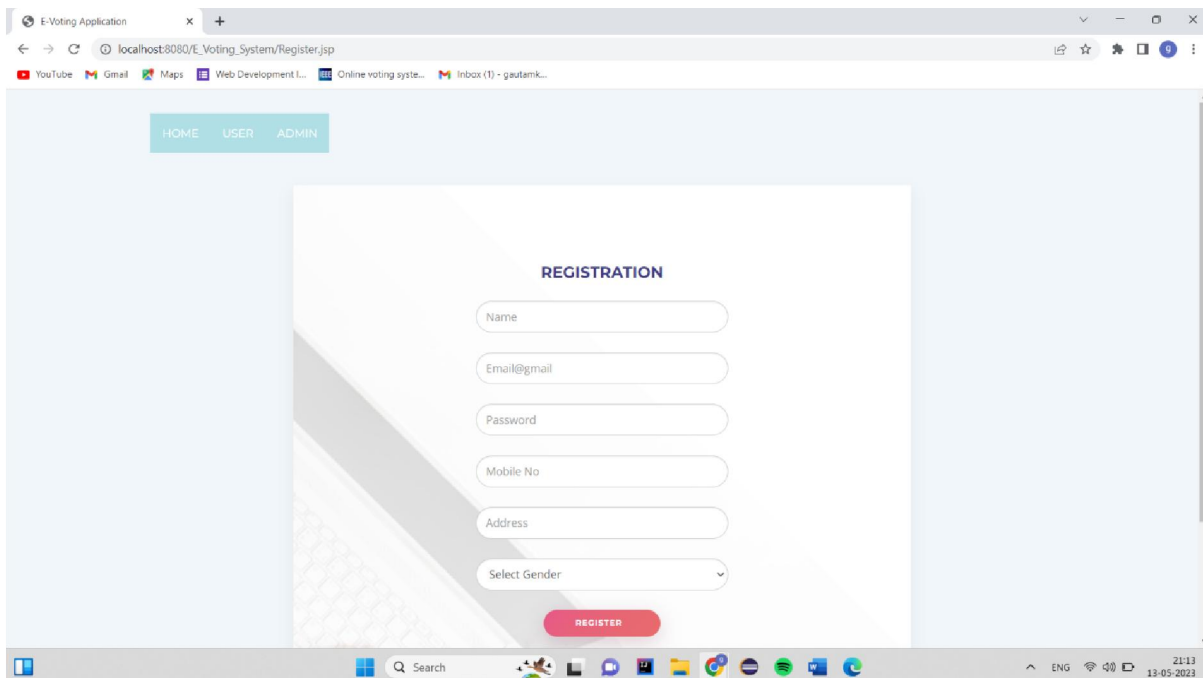

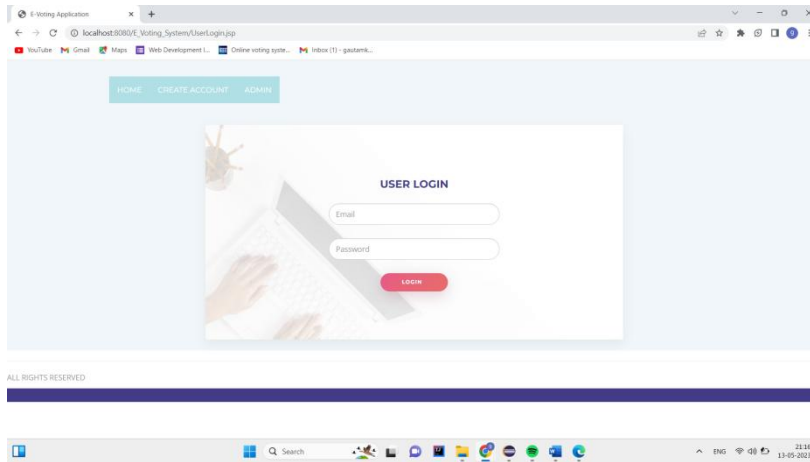Result Declaration Phase

Output

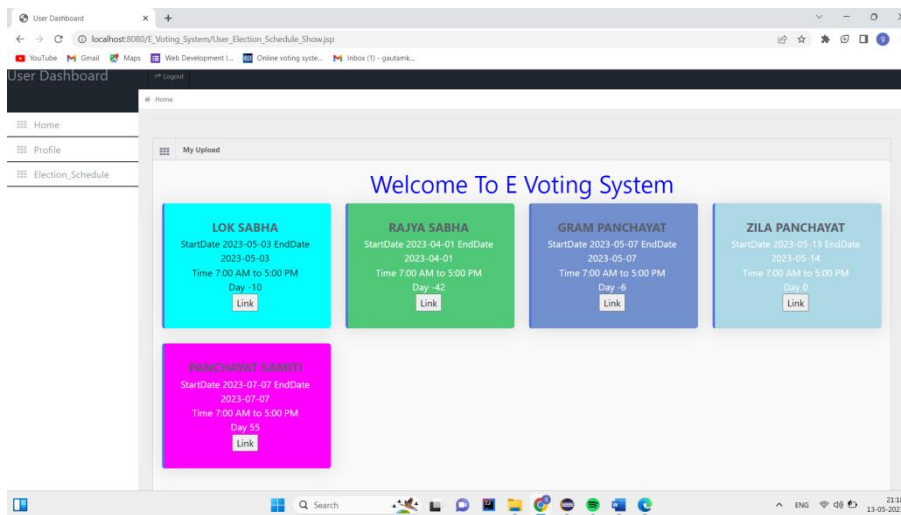There are some screenshots of the Online Voting System.
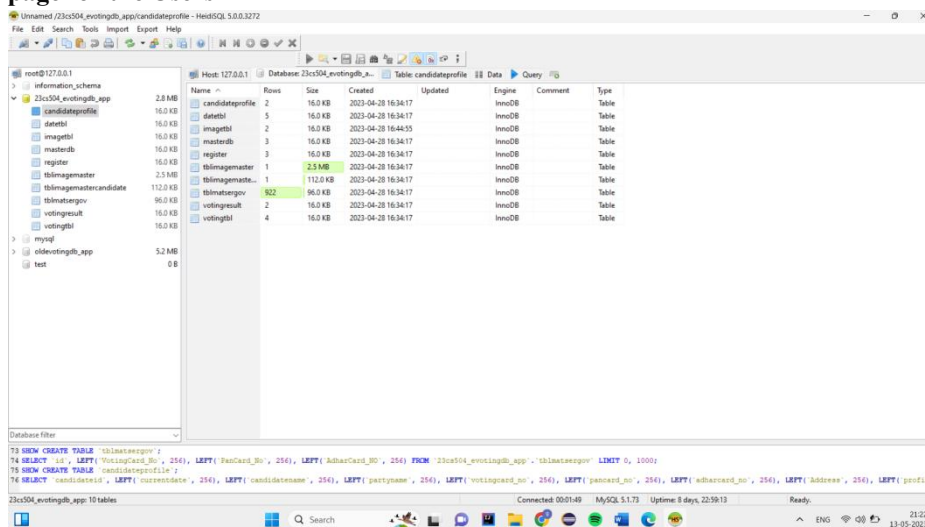

Landing Page of the System

Registration Page for the user

Login Page

Election page for the Users

Database of the Voting Application

V. RESULTS

After successfully completion of an Election setup i.e. the creation of ballot, then the voting phase begins for a limited period in which eligible voters can cast their votes, after the voting phase is finished, the result declaration phase begins in this, firstly the counting of votes will be done then admin will declare the winner of that particular election.

Limitations:

During our research, we uncovered many potential vulnerabilities that Internet Voting poses. The act of putting information onto the internet inherently exposes it to attack in a way that localized storage does not; attacks can originate from anywhere, at any time. Many critics use this to say that Internet Voting is inherently insecure and can never be made useful, but most vulnerabilities can be negated or mitigated with proper implementation, and in many cases traditional voting experiences the same vulnerability; often worse than Internet Voting does. It should be mentioned that to be considered the superior system, Internet Voting does not have to be free of flaws; it just has to be better than traditional methods.

Some limitations of our system:

Complexity

High Cost

Security Issues

VI. 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

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