ONLINE ELECTION SYSTEM DOCUMENTATION

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Introduction

Problem Statement

The Online Election System is designed to provide a secure and accessible platform for conducting elections within member-based organizations. It addresses issues such as election management, data security, and result transparency.

Project Idea

Our system allows administrators to create and manage elections efficiently. It enables users to vote using their personal devices from anywhere with internet access. This system caters to various sectors, providing a systematic and verifiable way to collect and analyse votes.

Our System is about accessible Election system in many fields. Our system delivers easy to use, high integrity, affordable voting solutions to voters and voting administrators of member-based organizations.

About our System

A secure voting tool that allows your group to collect input from your group and closely scrutinize the results in real time. Online voting tools and online election voting systems help you make important decisions by gathering the input of your group in a way that's systematic and verifiable. It gives voters the possibility to easily and comfortably fill out and cast a ballot using their own personal computer or smartphone, allowing them to vote from virtually any location with Internet access. Oftentimes, these decisions are made on a yearly basis - during an event, or at a particular time of the year, or you might run ongoing polls amongst your group. You can:

- Elect your leadership
- Admit new members to your group
- Gather anonymous feedback from your employees
- Vote on yearly budgets.
- Alter your operational procedures and bylaws

In all of these cases, an online voting system will enable better decisions, justify those decisions, and let you share proof that these decisions were carried out in line with the standards of your group.

Take your Votes to the Next Level

- Improve voter engagement.
- Notify voters using email with your own systems.
- High-integrity voting.
- Real-time results.
- Flexible Election.
- Automated and simple setup.
- Secure and private voting.

Our system works for every association, including professional associations, lawyers and accountants, and colleges and universities.

System Overview

Our system is a secure voting tool that facilitates the collection and real-time scrutiny of votes. It provides an easy and comfortable way for voters to cast their ballots using their computers or smartphones.

Entities:

- Administrator(user who create ballet)
- Voter
- Candidates

Scope

Supported Field:

- Law Firm
- Academic
- Healthcare
- Societies or Clubs
- Sports Association
- Healthcare
- Entertainment
- Industry Association

Targeted Sectors:

Our system is adaptable to various sectors, ensuring efficient and secure elections.

- Professional Associations
- Lawyers and Accountants
- Colleges and Universities
- others

User Guide

- **Registration**

Before creating an election, administrators must register themselves on the platform.

- **Logging In**

Administrators can log in using their email and password, while voters require an email and secret key.

- **Creating an Election**

Administrators can create a new election, inputting details about the election, voters, and candidates. Notifications are sent to voters and candidates.

- **Voting**

Voters can use their secret key to cast their vote, ensuring a single vote per voter.

- **Viewing Election Details**

Both administrators and users can view specific election details by entering the election ID.

Features

Administrative Features

- Election Announcement: Admin can make an election announcement
- Election Creation: Admin can make an election pole
- Email Notifications: Admin can send emails to candidates and voters
- Voter Status Tracking: vote cast or not
- History of Elections: A history of elections will be saved in history as records
- Remove Election: Remove elections when necessary.

User (Voter/Candidate) Features

- User Profile Management
- Casting Votes: Easily cast your vote online using the provided secret key.
- Viewing Election Details and Results
- Account Settings

Importing features of our system

- **Secure and Private Voting**

Our system ensures high-integrity voting, allowing voters to cast their ballots securely and privately. Each election is equipped with a single, secure voting key, and all voting choices remain anonymous.

- **Real-time Results**

With our system, election winners are instantly calculated, providing real-time results. Administrators and voters alike can access and verify the outcomes effortlessly.

- **Flexible Elections**

Efficiently manage various types of elections, from candidate selections to board positions and member votes.

- **Automated and Simple**

Setting up an election is a breeze. Spend your time monitoring the process rather than counting votes.

Technology Stack

Tools and Languages

- Pycharm
- HTML, CSS, JavaScript (Frontend)
- Python, Flask (Backend)
- MySQL (Database)

Frameworks and Libraries

- Python
- Flask REST APIs
- JQuery
- Cookies and Session Management

User Interfaces

No.#	Interface/pages	Description
1.	Home	First Page of our website with options of registration and login whether as administrator or user(voter, candidate)
2.	Registration	If you want to conduct election so you must need to register yourself before creating election otherwise you wont be able to create it.
3.	Admin login	Enter email and password
4.	User login	Enter email and secret key(received by admin through mail)
5.	Forgot password	Change your password for admin
6.	Admin Profile	Admin name, email address, job title or role, field, organization
7.	User Profile	User(voter, candidate) name, email address, job title or role, user id
8.	Admin Dashboard	Options (create election, view election details, view election record)
9.	Create New Election(admin side)	- Enter details about election. - Enter details about public(which take part in elections).you can upload file of voters names and emails - Enter details about candidates(which can be from public or outsider).so you will select candidates from public file data(at least 2 candidates) - Write notification. - Send notification to voters. Administrator can create a new election (election details(election unique id, position start date and end date), public/voter detail, candidates details) and conduct it (after creating election a mail with two secret keys(login key and election key) will be send to voters and one secret key(login key) will be send to candidates. Voters and candidates use login key to enter the system and can view election details and result but only voters are allow to give vote using secret key (election key) that can be used only one time.
10.	View Election details(admin side)	View specific election details by using election id (election details, public/voter detail(voter id,name,email,selection id,vote status), candidates details) Result will be displayed if election is successfully

		conducted. Candidate name and position with total votes with be display. Detail of voters and candidates will be display. You can also share result to other.
11.	View election record (admin side)	View previous all elections and their results information(admin side)
12.	Remove election	Enter Election ID to remove detailed information of specific Election permanently
13.	User Dashboard	
14.	Cast Vote(user side)	• Click on CAST Vote option. • Login using your email(on which you received notification). • Use ID(giving in notification) to cast vote. • You can use your ID only one time. Voter can only cast vote one time using election key(send through email)in time and day
15.	View Election detail(at voter/candidate dashboard option)	Election id,admin name,position,startind and ending date
16.	View result(user side)	After the ending date the result of election will declare as winner name and total voter count. • Result will be displayed if election is successfully conducted. • Candidate name and position with total votes with be display.
17.	Setting	• Click on Account option. • Make changes/update. • You can also Add another account. • If you no longer need this account you can also delete it. • Profile • Remove election • Theme • Deactivate account • logout
18.	About Us	
19.	Help	
20.	Log out	

Database Schema

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SQL Queries

No.#	Table	Sql Query
1	Admin	CREATE TABLE Admin (`Name` VARCHAR(15) NOT NULL, `Email` VARCHAR(45) NOT NULL, `Password` VARCHAR(10) NOT NULL, `Role` VARCHAR(45) NOT NULL, `Post` VARCHAR(45) NOT NULL, `Field` VARCHAR(45) NOT NULL, `Organization_name` VARCHAR(45) NULL, `Election_title` VARCHAR(45) NULL, `Start_time` VARCHAR(45) NULL, `End_time` VARCHAR(45) NULL, PRIMARY KEY (`Email`), UNIQUE INDEX `Email_UNIQUE` (`Email` ASC) VISIBLE, UNIQUE INDEX `Password_UNIQUE` (`Password` ASC) VISIBLE);
2	Members(public)	CREATE TABLE Members (`M_name` VARCHAR(15) NOT NULL, `M_email` VARCHAR(45) NOT NULL, `Gender` VARCHAR(20) NOT NULL, `Age` INT NOT NULL, `Degree` VARCHAR(45) NOT NULL, `Work_experience` INT NOT NULL, PRIMARY KEY (`M_email`));
3	Candidates	CREATE TABLE Candidate (`C_name` VARCHAR(45) NOT NULL, `C_email` VARCHAR(45) NOT NULL, UNIQUE INDEX `C_email_UNIQUE` (`C_email` ASC), CONSTRAINT `C_email` FOREIGN KEY (`C_email`) REFERENCES Members (`M_email`) ON DELETE NO ACTION ON UPDATE NO ACTION);
4	Voters	CREATE TABLE Voters (`V_name` VARCHAR(45) NOT NULL, `V_email` VARCHAR(45) NOT NULL, CONSTRAINT `V_email` FOREIGN KEY (`V_email`) REFERENCES Members (`M_email`) ON DELETE NO ACTION ON UPDATE NO ACTION);

Future

We will

- Admin can make an election pole
- Admin can send emails to candidates and voters
- Voters can saw their status
- A history of elections will be saved in history as records

Conclusion

In conclusion, this enhanced document for the Online Election System offers a well-structured and organized resource for users. With its comprehensive table of contents and refined content structure, it significantly improves the accessibility and readability of the system's documentation. This, in turn, aids users in understanding and effectively utilizing the Online Election System, ultimately contributing to more efficient and transparent election management.