SXC VOTE SYSTEM

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Project Developer

INTRODUCTION

Project Overview

The Vote System project is a general voting system designed to use in the college setting of St. Xavier's College (Autonomous). It features criteria based voting booth selection. It facilitates network based voting approach. It provides an all-around control to the admin to run an election without any system related problems. It encompasses features like Live-Polling updates. It also provides a way to tackle scenarios like no-contest or unopposed positions in the election. It provides a way to handle polling situations directly by the admin.

Overall, This Vote System provides all the essential tools and features to run a general election with ease. From start of the election to end of the election, it provides all facilities even the report generation at the end.

Purpose

This document provides a comprehensive guide to the SXC Vote System, covering overview, features, processes, architecture, installation, usage and maintenance of the system.
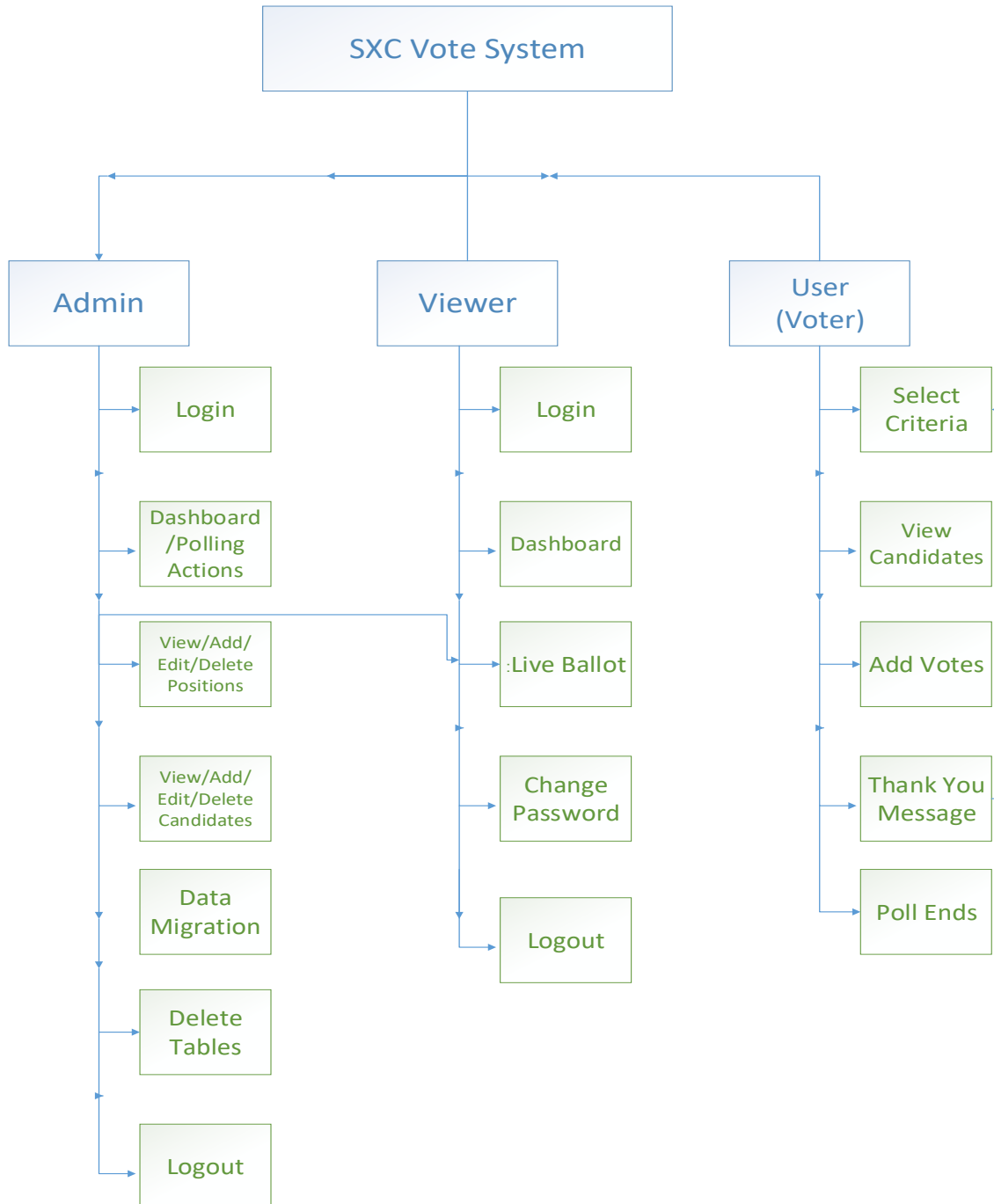
SYSTEM REQUIREMENTS

Hardware Requirements

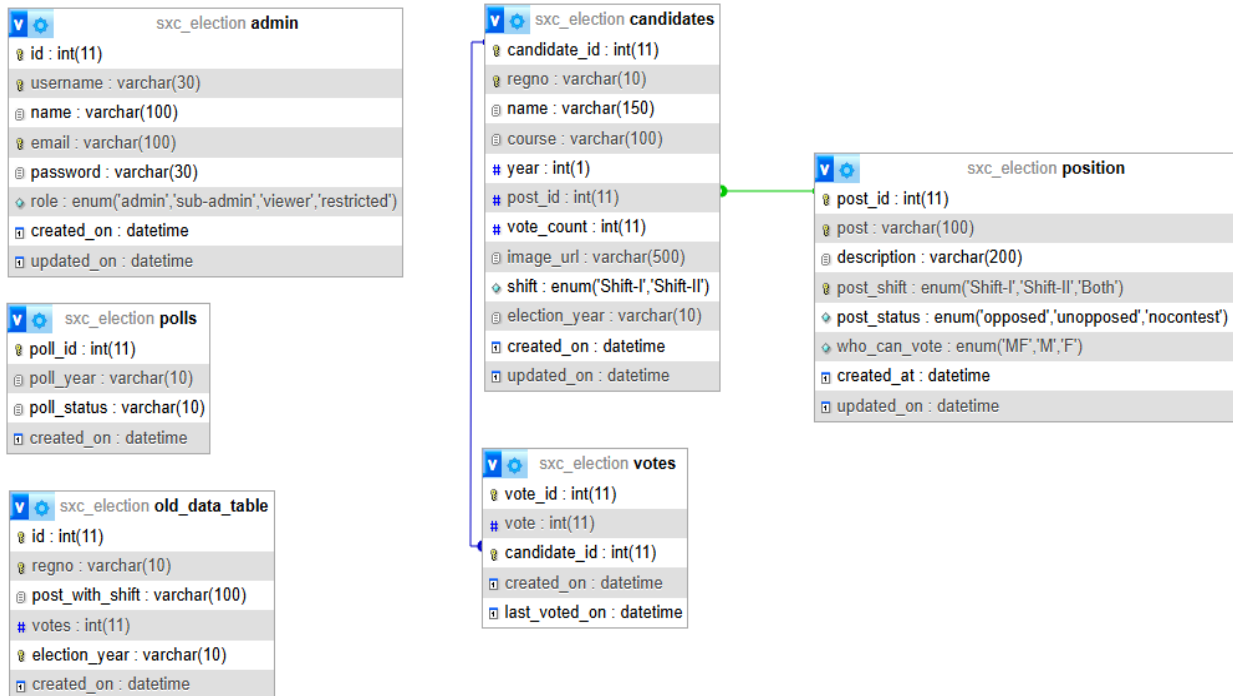|		
RAM	-	4GB RAM (Minimum)
Disk	-	Minimum of 500MB disk space needed.
Network	-	The PC which installed this software should be connected to a network (LAN advisable)
		Booth Systems should also connect to the same network of the main PC.
Power	-	The PC which acts as the main server should have uninterruptible power supply.
		If possible, all the booth system shall have this.
		The main server should not sleep at any cost.
Firewall Rule	-	The Host system should create a new inbound rule to allow PORT 80 through firewall.

Software Requirements

Operating System	-	Windows 7 – 10, Linux (Any OS which supports XAMPP)
Web Server	-	XAMPP with PHP Version > 8.0
Browser	-	Any Modern Web Browsers like Chrome, Edge, Firefox…etc. (With JavaScript Enabled)

ARCHITECTURE

Architecture Design

Database Design

sxc_election admin
- 🔑 id : int(11)
- 🔑 username : varchar(30)
- name : varchar(100)
- 🔑 email : varchar(100)
- password : varchar(30)
- ◇ role : enum('admin','sub-admin','viewer','restricted')
- created_on : datetime
- updated_on : datetime

sxc_election polls
- 🔑 poll_id : int(11)
- poll_year : varchar(10)
- poll_status : varchar(10)
- created_on : datetime

sxc_election old_data_table
- 🔑 id : int(11)
- 🔑 regno : varchar(10)
- post_with_shift : varchar(100)
- # votes : int(11)
- 🔑 election_year : varchar(10)
- created_on : datetime

sxc_election candidates
- 🔑 candidate_id : int(11)
- 🔑 regno : varchar(10)
- name : varchar(150)
- course : varchar(100)
- # year : int(1)
- # post_id : int(11)
- # vote_count : int(11)
- image_url : varchar(500)
- ◇ shift : enum('Shift-I','Shift-II')
- election_year : varchar(10)
- created_on : datetime
- updated_on : datetime

sxc_election position
- 🔑 post_id : int(11)
- 🔑 post : varchar(100)
- description : varchar(200)
- post_shift : enum('Shift-I','Shift-II','Both')
- ◇ post_status : enum('opposed','unopposed','nocontest')
- ◇ who_can_vote : enum('MF','M','F')
- created_at : datetime
- updated_on : datetime

sxc_election votes
- 🔑 vote_id : int(11)
- # vote : int(11)
- 🔑 candidate_id : int(11)
- created_on : datetime
- last_voted_on : datetime

System Architecture

Frontend	-	HTML, CSS, JS, Bootstrap, JQuery
Backend	-	PHP
API	-	AJAX for Live Polling Update
Database	-	MySQL / MariaDB
Server	-	XAMPP

SYSTEM FEAUTRES

Voting Process

- **Criteria Selection**, Booth Helpers/Staffs can choose Criteria of Voters currently on the line to vote. They can rechoose based on the Voters' Shift and Gender.

- **Vote Casting,** Initially Polling will not be active. Once admin authorized polling, Candidates will be displayed with **"VOTE"** Button under their provide picture. User can click the "Vote" for opposed candidates and "Next" Button for unopposed candidates.

- **Vote Counting,** The system increments the vote count for the candidates with their unique candidate id. But, for the unopposed candidates no vote will be added.

Live Polling

- **Real-Time Ballot,** For Admin and Viewer, the system provides a Dynamic Vote Ballot which shows the live polling data with a refresh rate of 3 seconds.

- **Dashboard,** For Admin and Viewer, the system provides a simple dashboard with position cards with total number of candidates and votes in preview.

- **Individual Post Ballot,** Viewers can see the detailed polling status for individual candidates categorized by the positions.

Administrative Functions

- **CRUD Operations,** Admin has the Create, Read, Update and Delete privileges on other admins with less priorities, Positions and Candidates.

- **Data Migration,** Master Admin has the Privilege to migrate past election data to an old table and can see the data when needed.

- **Data Deletion,** Master Admin can delete the existing data of votes, positions and candidates table so that the system would be ready for next election.

INSTALLATION

Prerequisites

- Install XAMPP from the Web and make sure it supports PHP version greater than 8.0.

Steps

- After XAMMP installation, Import the Project Folder from the **Vote_System.zip** by extracting it.

- Locate the '**htdocs**' folder in the **xampp** folder usually located at C:\xampp\htdocs\

- Copy the '**Vote_System**' folder in the '**htdocs**' folder.

- Open XAMPP Control Panel by searching it in the windows search bar.

- Start the **Apache** Server and **MySQL** server by pressing the **Start** button next to each of them.

- Click the **Admin** button next to the **MySQL Start** button.

- **PhpMyAdmin** would be opened.

- In the navigation menu look for the **Import** option and click it.

- In the choose file field, choose the **sxc_election.sql** file located in the **Vote_System\db\sxc_election.sql** of the project folder.

- Be patient while importing. After that look for any errors, If any error found contact Project Developer.

- On Successful import, check the tables and its columns with the picture shared in the Database Design area of this document.

- Then on the same browser, type the url: localhost/Vote_System/

- Go to admin login using the 'Admin' button which will be in the bottom with center align invisible. Hover there to find the button.

- Even before typing credentials, if you find any message saying 'Database Connection failed'

- Then import the 'sxc_authentication.sql' file similarly like how you imported 'sxc_election.sql'.

- Even after if you face trouble or error, then contact the project developer.

- For Security of MySQI database, it is advisable to make this step (not compulsory)

- Go to the 'c:\xampp\phpmyadmin\' folder and open the 'config.inc.php' file in any editor.

- Change the $cfg['Servers'][$i]['auth_type'] value as 'cookie' like below.
    - $cfg['Servers'][$i]['auth_type'] = 'cookie';

- Save the changes and close it.

- Then restart the 'mysql' in the xampp control panel.

- So next time when you go to PhpMyAdmin, it will ask for Login credentials.

Database Backup

- If you wish to take Database backup, Go to PhpMyAdmin, select a database 'sxc_election'.

- After going to that database, Select the export option and just press the **export** button. 'sxc_election.sql' file will be downloaded rename it with 'sxc_election_date_of_backup' and keep that safe.

Troubleshooting

- If you experience any XAMPP related issues, just stop the server and start it again.

- If you experience any issue in mysql starting, then do the same.

- Even after restarting the server didn't work out, Just Restart the PC and try again.

- Even after there exists trouble, uninstall the xampp properly using 'uninstall.exe' of xampp located at c:\xampp.

- Before uninstalling take the Project folder 'Vote_System' a backup and save it in any other folder other that xampp folder.

- If the system or environment still exhibits issues, contact project developer.

Contact Information

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