

VOTING MANAGEMENT SYSTEM

DBMS - FINAL PROJECT

INTRODUCTION

The core objective of a Voting Management System is to facilitate fair, accurate, and timely voting by automating processes such as voter registration, ballot creation, vote casting, vote counting, and results reporting. By leveraging technology, a VMS helps to eliminate the risks of human error, minimize the potential for fraud, and ensure that the election process is both transparent and accessible.

The word "VOTE" is written in large, bold, white capital letters on a solid red rectangular background. The letters are slightly slanted to the right. A small white graphic of a ballot box or envelope is positioned inside the top letter "O".

PURPOSE

A Voting Management System (VMS) aims to improve the election process by automating key tasks, reducing human error and fraud, and ensuring fair, accurate, and timely elections through technology."

This concise statement highlights the core benefits of a VMS:

- Automation: Streamlines tasks like voter registration and ballot creation.
- Accuracy: Minimizes errors and potential for fraud.
- Efficiency: Enables faster and more reliable vote counting and results reporting.
- Transparency: Increases trust in the electoral process.
- Accessibility: Potentially improves voter access and participation.



FEATURES AND FUNCTIONALITIES

Admin Features

Voter Management:

- View a complete list of registered voters.
- Add new voters to the system.
- Remove or update voter details.

Election Management:

- Create, edit, and delete elections with title, description, and schedule.
- Add, update, or remove candidates for each election.
- Assign candidates to specific positions (e.g., President, Secretary).
- Monitor live voting results in real time.

Vote Tracking and Reporting:

- Track the total votes for each candidate during and after the election.
- Access activity logs to review who has voted and detect irregularities.



FEATURES AND FUNCTIONALITIES

Voter Features

Registration and Authentication:

- Register an account with details like name, email, and password.
- Log in to access a personalized dashboard.

Dashboard:

- Display the title and description of current elections.
- Show voting history, including the candidates they voted for (while maintaining election integrity and anonymity).

Voting System:

- View the list of elections they are eligible to vote in.
- Display the list of candidates for each election with position details.
- Allow voters to cast their vote (one candidate per position).
- Confirm the vote with a success message.

Vote Confirmation and Results:

- Show confirmation of successful vote submission.
- Display real-time total votes per candidate after voting.



FEATURES AND FUNCTIONALITIES

Security Features

Authentication and Authorization:

- Secure login system with username and password for both admin and voters.
- Ensure only registered voters can participate in elections.

Vote Integrity and Audit Logs:

- Prevent double voting or unauthorized access to voting.
- Maintain a secure and immutable log of all activities, including who voted and when.

Data Security:

- Encrypt all votes to ensure they cannot be altered after submission.



FEATURES AND FUNCTIONALITIES

Voting and Results Features

Voting Process:

- Allow each voter to vote only once per election.
- Automatically update vote counts in real time for admin monitoring.

Result Management:

- Provide a live tallying feature for admins to track ongoing voting progress.
- Generate final election results instantly after voting ends.



FEATURES AND FUNCTIONALITIES

Usability Features

User-Friendly Interface:

- Intuitive navigation for both admins and voters.
- Clear instructions on registration, voting, and managing elections.

Accessibility:

- Ensure the system is easy to use for individuals with basic technical knowledge.



ERD DIAGRAM

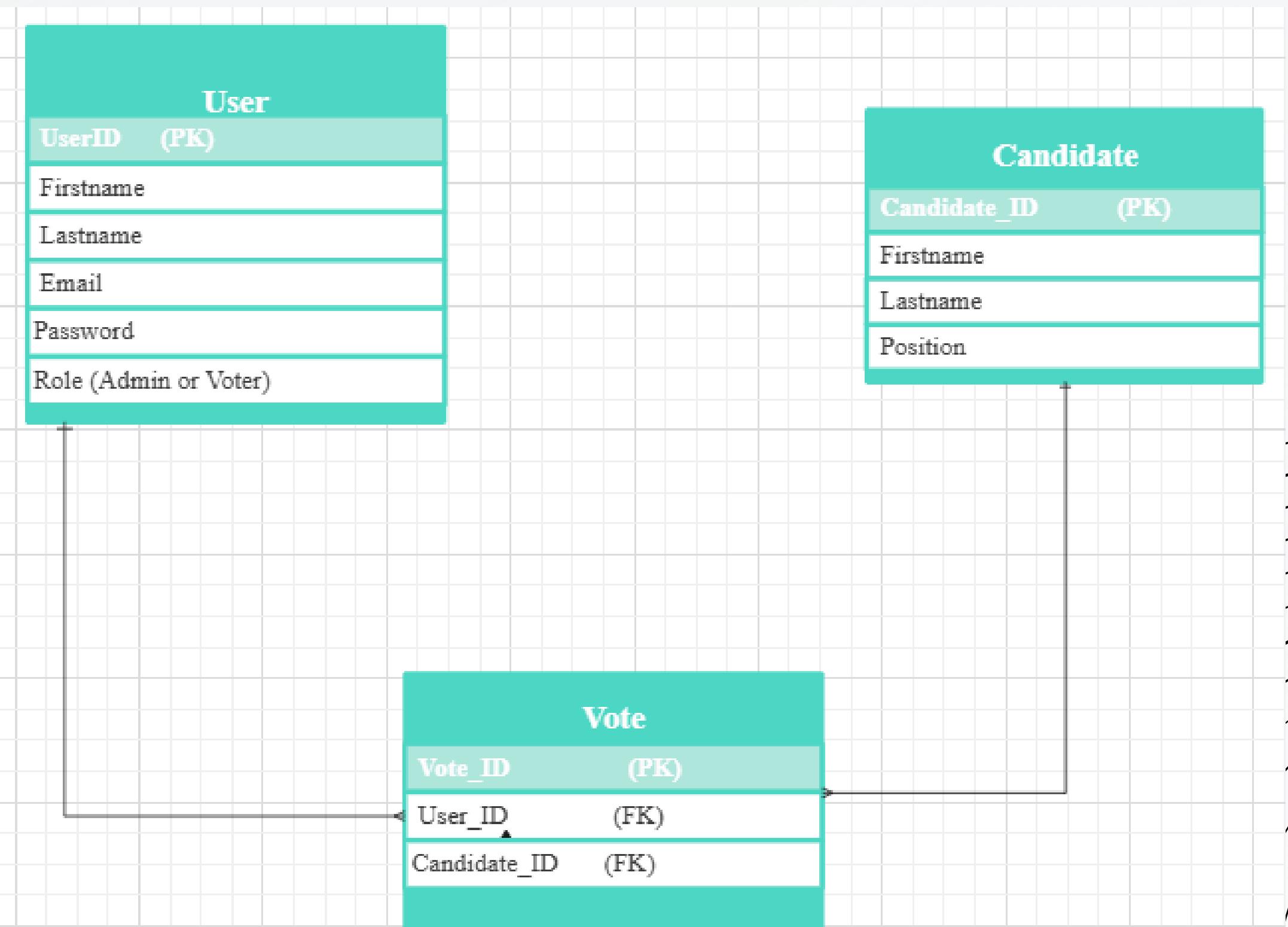
Relationship & Cardinalities:

USER TO VOTE - one to many

- A user can cast multiple votes, but each vote is linked to one user.

CANDIDATE TO VOTE - one to many

- A candidate can receive multiple votes, but each vote is for one candidate.



NORMALIZATION

User Table

Includes user information with a role column

D

Candidate Table

Separated candidate positions into a Positions table.

Vote Table

Kept normalized as all attributes depend on the primary key.

2NF

All non-prime attributes fully depend on the entire primary key in each table.

	user_id	firstname	lastname	email	password	role
<input type="checkbox"/>	1	user	admin	admin@gmail.com	pass	admin
<input type="checkbox"/>	2	test	user	testuser@gmail.com	pass	voter

	candidate_id	firstname	lastname	position
<input type="checkbox"/>	2	Leni	Robredo	President
<input type="checkbox"/>	3	Bongbong	Marcos	President
<input type="checkbox"/>	5	Risa	Hontiveros	Vice President
<input type="checkbox"/>	6	Chel	Diokno	Vice President

	vote_id	user_id	candidate_id
<input type="checkbox"/>	23	2	2
<input type="checkbox"/>	24	2	6

WIREFRAME

VOTE

Log in to your account
or [create a free account](#)

Email

Password

Remember me [Forgot your password ?](#)

LOGIN

— or —

 [Login with Google](#)

Don't have an account yet? [Sign up](#)

VOTE

Create a free account
or [log in to your account](#)

Name

Email Address

Password

Sign up

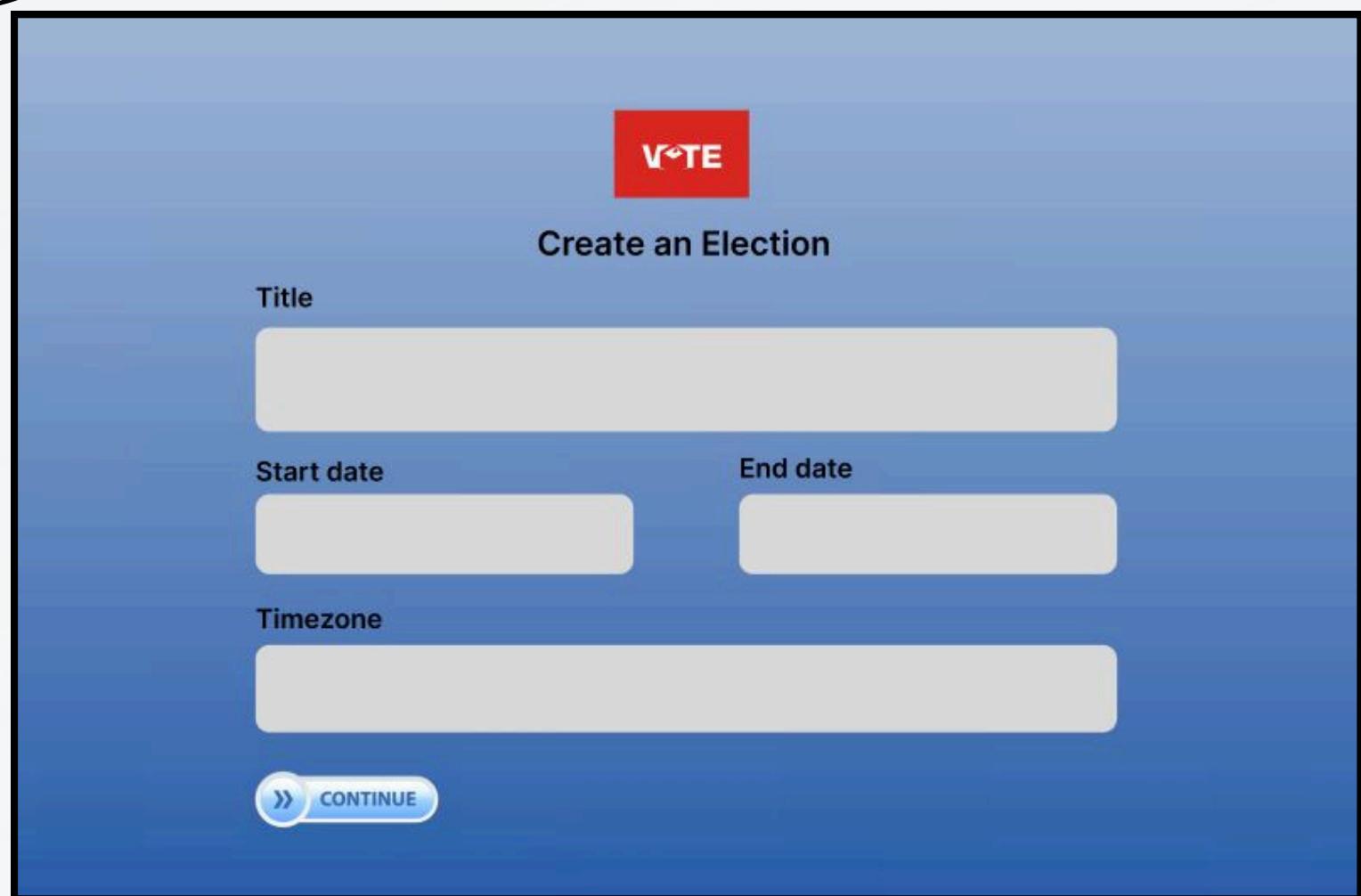
— or —

 [Login with Google](#)

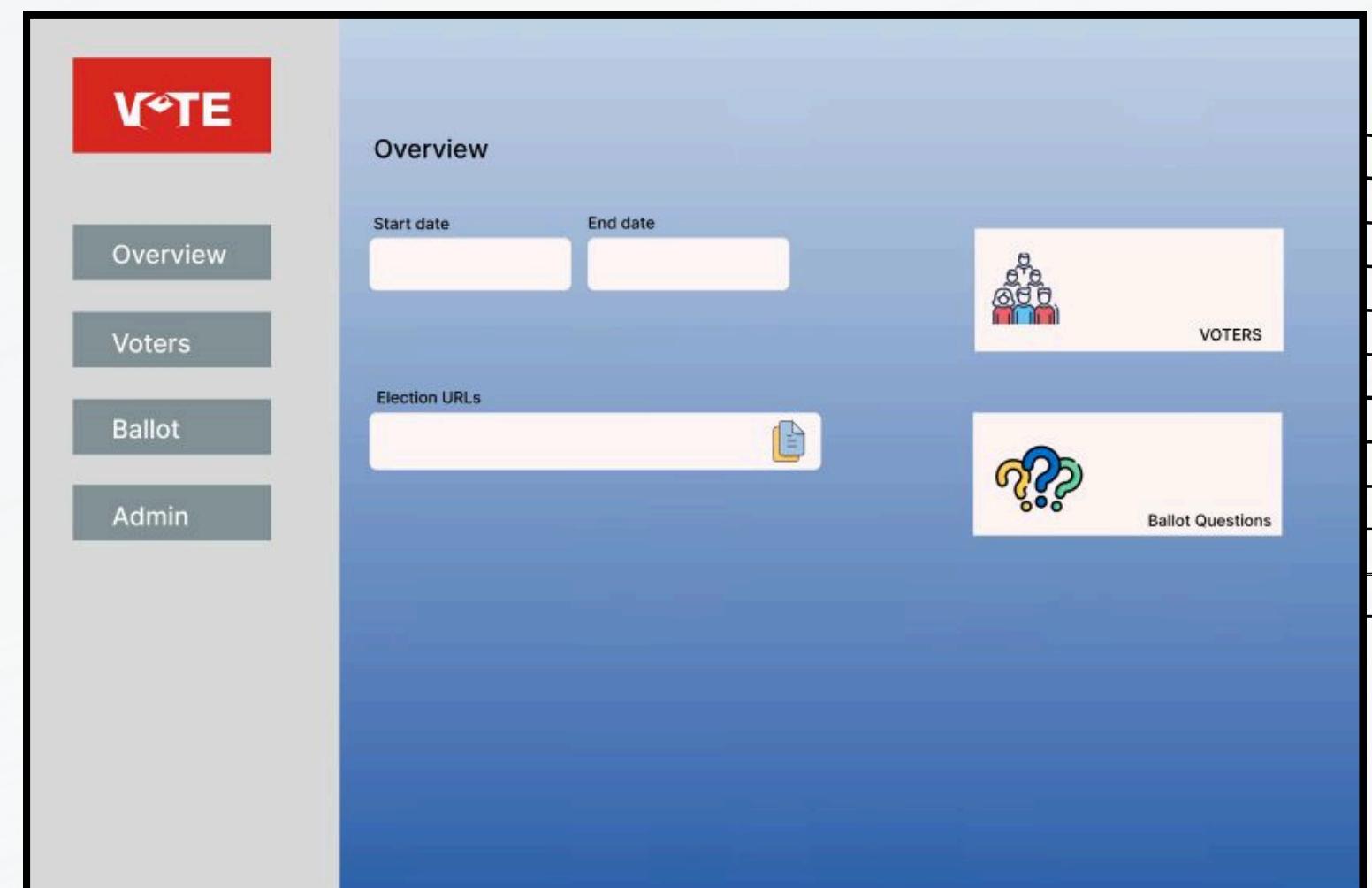
Already have an account? [Log in](#)



WIREFRAME

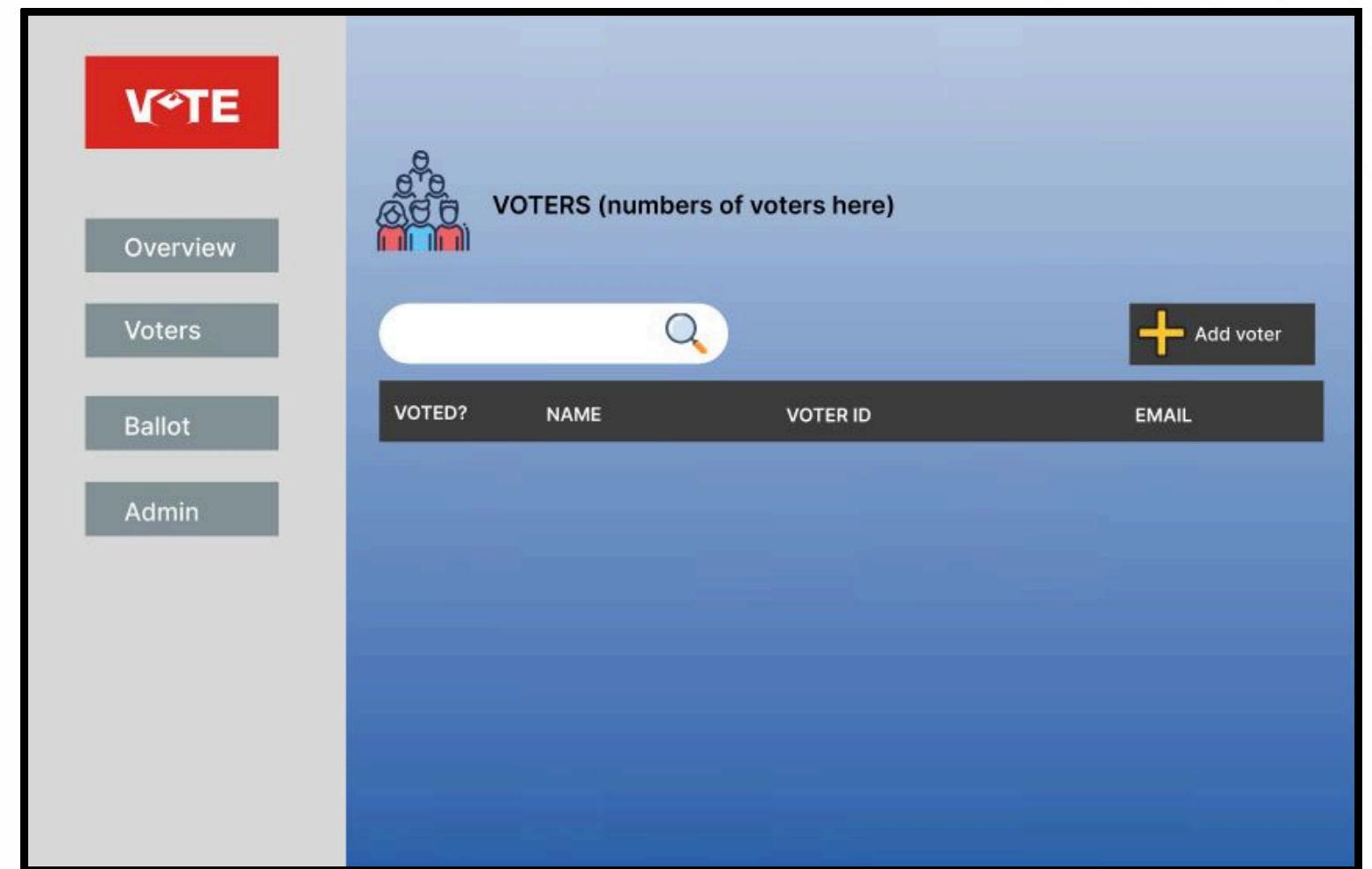
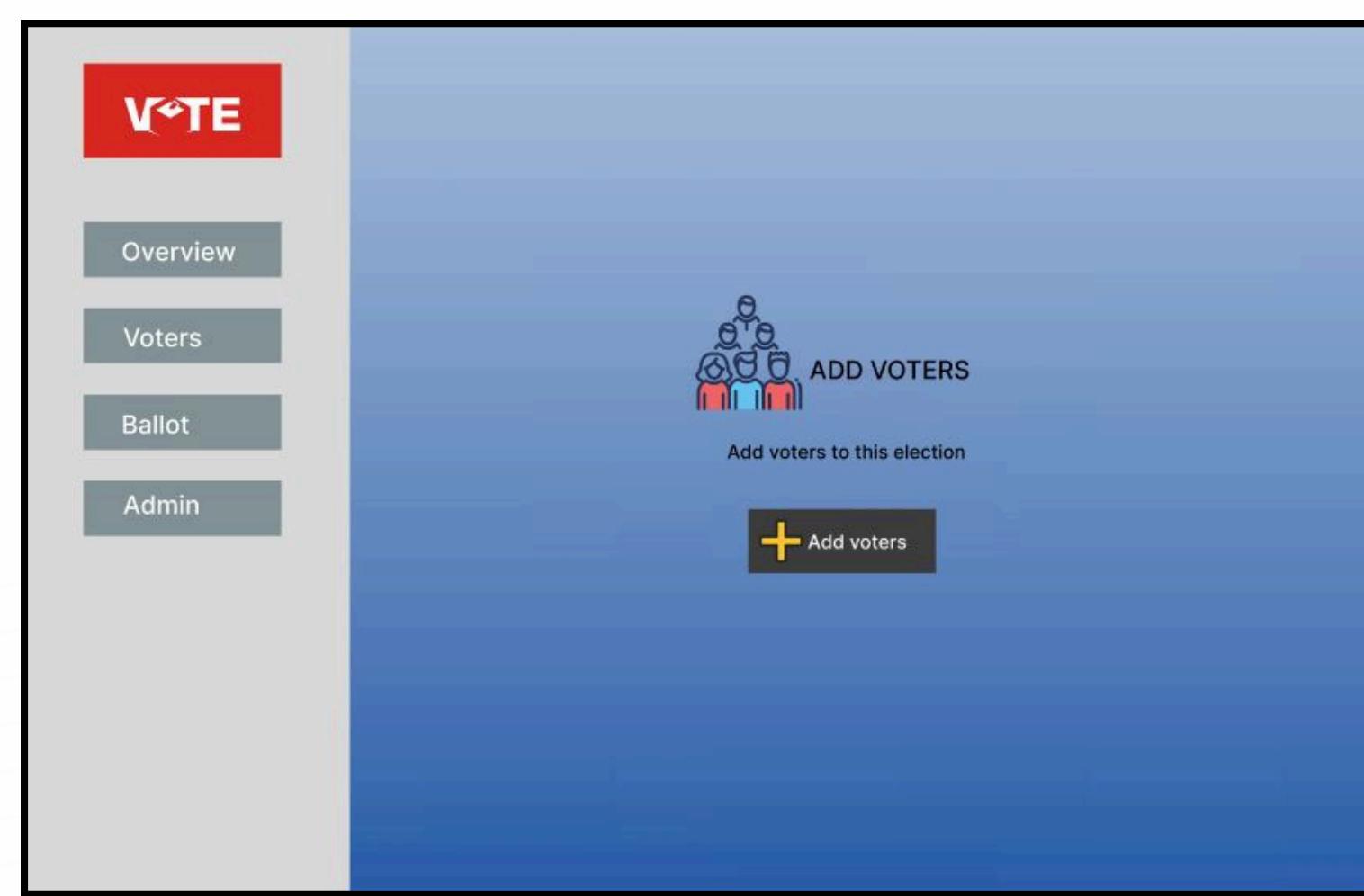


A wireframe for the 'Create an Election' page. It features a large red 'VOTE' button at the top right. Below it is the title 'Create an Election'. The form includes fields for 'Title' (a large input box), 'Start date' and 'End date' (two side-by-side input boxes), and 'Timezone' (a single input box). At the bottom is a blue 'CONTINUE' button with a double arrow icon.

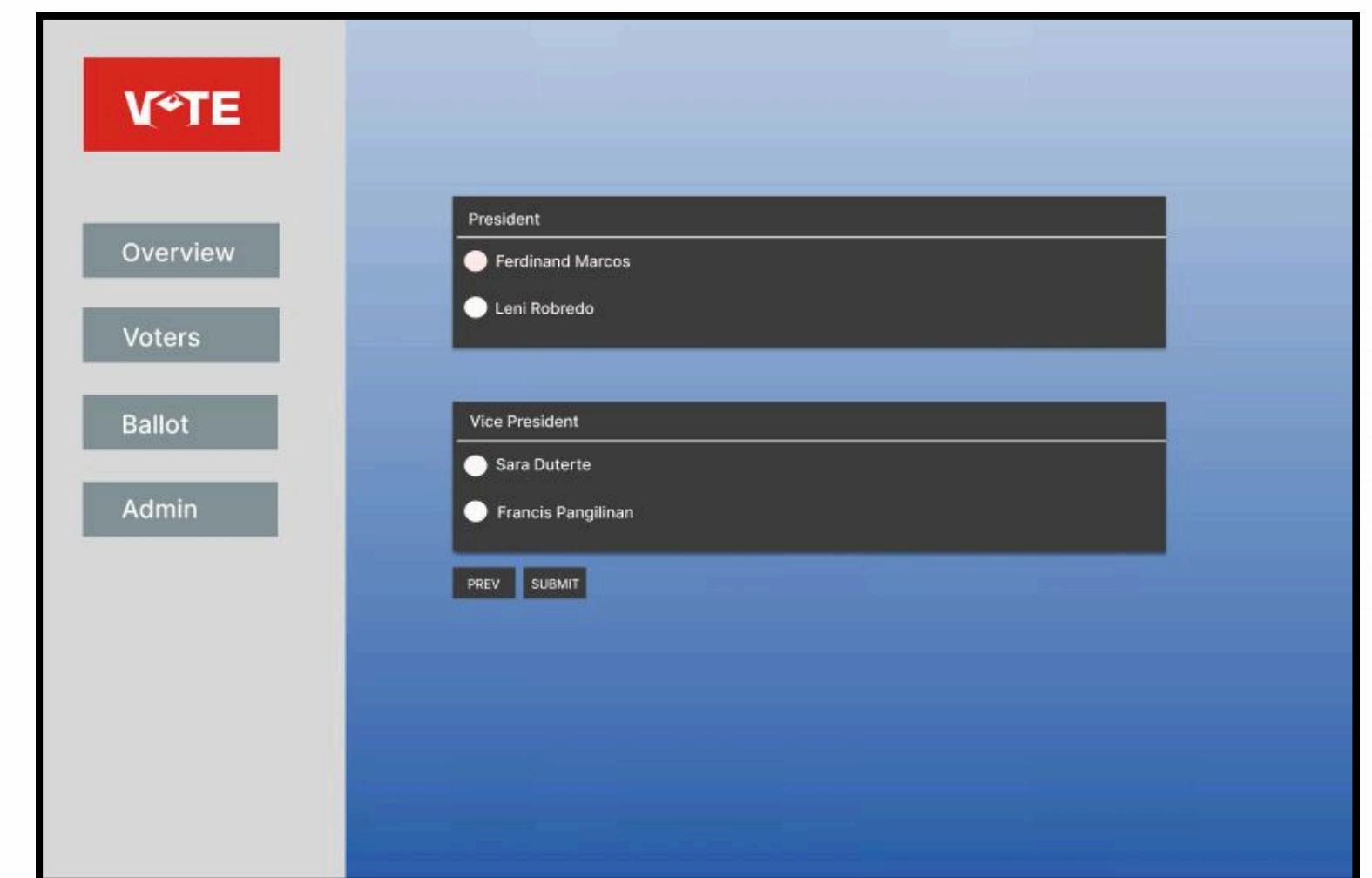
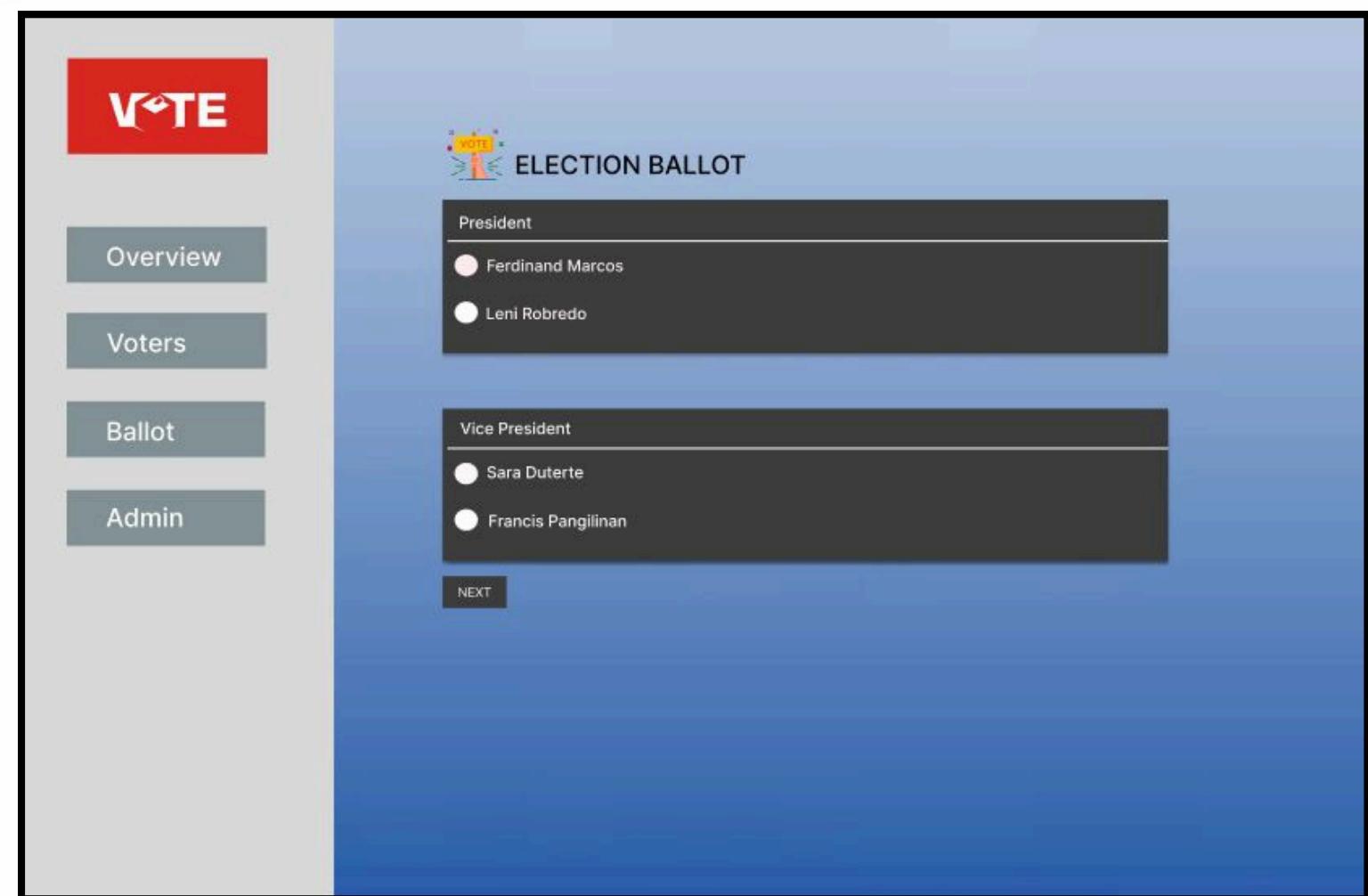


A wireframe for the 'Overview' page. It has a red 'VOTE' button at the top left. On the left is a sidebar with four buttons: 'Overview', 'Voters', 'Ballot', and 'Admin'. The main area contains 'Start date' and 'End date' fields, a 'VOTERS' section with a people icon, and a 'Ballot Questions' section with a question mark icon. There is also a 'Election URLs' field with a clipboard icon.

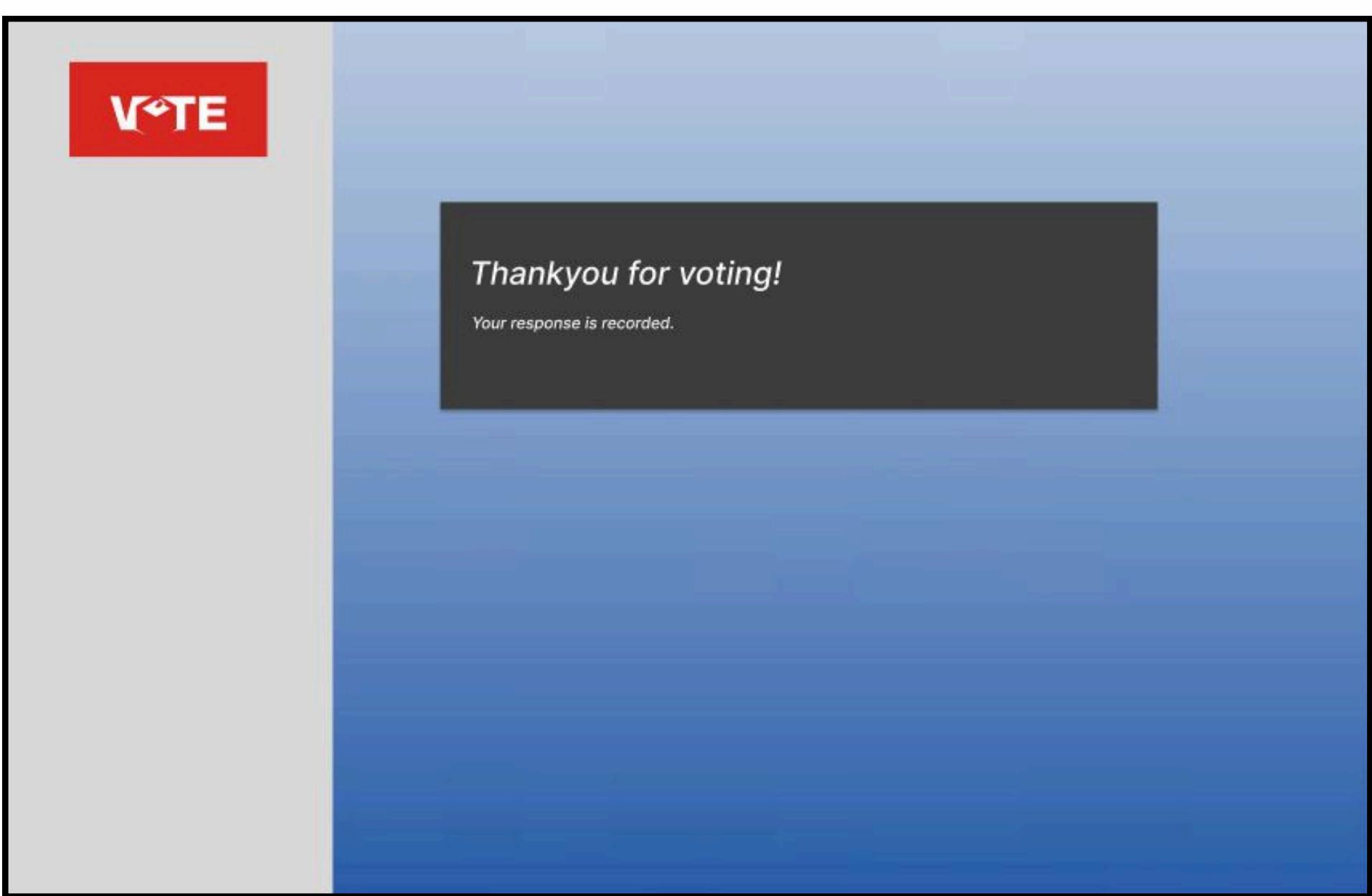
WIREFRAME



WIREFRAME



WIREFRAME



The logo consists of the word "VOTE" in white capital letters on a red rectangular background. A stylized white 'V' shape is positioned above the letter 'O', with a small white arrow pointing upwards and to the right from the top of the 'V'.

VMS, INC.

THANK YOU!

- PRINCE ENABE
- SHANE ANN EBOÑA
- RYAN FAJARDO
- KRISTINE DUMAYA
- REIGNE HEART DELA MERCED
- PAUL VINCENT ACASIO

