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MINI PROJECT REPORT

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Java-Based ONLINE VOTING SYSTEM

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1. PROBLEM STATEMENT & INTRODUCTION

In today's digital world, secure and accessible voting is a crucial requirement for various types of elections—whether it's for schools, organizations, communities, or even large-scale government processes. With the increasing shift toward online platforms, ensuring that only eligible voters can participate and that every vote is counted accurately has become more important than ever. However, many systems either fall short on security or lack basic features like voter authentication and result integrity, which can lead to distrust and misuse.

This project introduces a simple, Java-based **Online Voting System** designed to tackle these issues. It provides a basic yet functional framework for managing users, casting votes, and viewing results using the fundamental principles of Object-Oriented Programming (OOP). The system is modular and easy to expand, making it a great starting point for learning or building more advanced e-voting applications.

Some key features include:

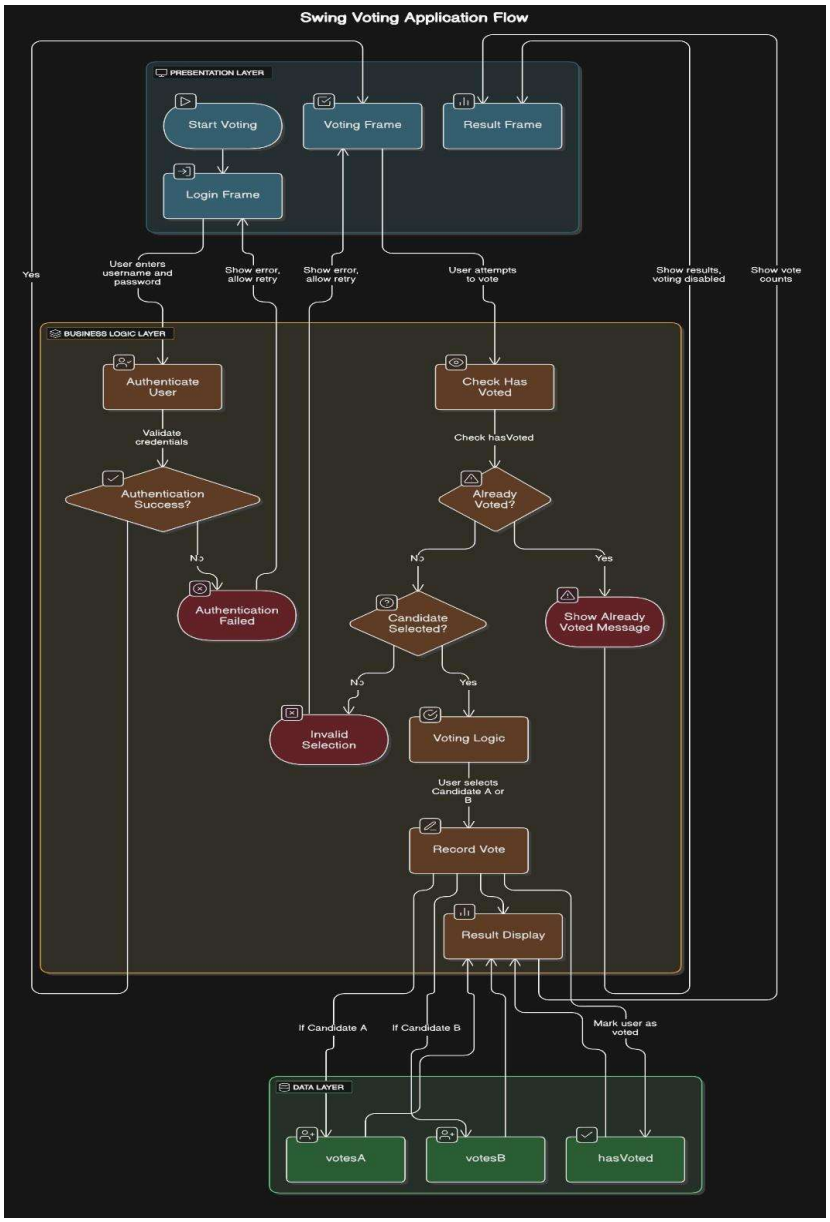
- Voter Registration: Allows eligible users to sign up with validated credentials.
- Login System: Authenticates voters and grants access to the voting process.
- Voting Mechanism: Ensures each user can cast only one vote securely.
- Result Display: Shows real-time or final vote counts for each candidate.
- Voter Listing: Displays all registered users—useful for admin oversight.

The interface is built using a command-line environment, making it lightweight and beginner-friendly. All data is stored temporarily in memory using Java's built-in structures like arrays and objects—no external databases are required. This approach keeps the focus on Java basics like encapsulation, class structures, and user-defined methods.

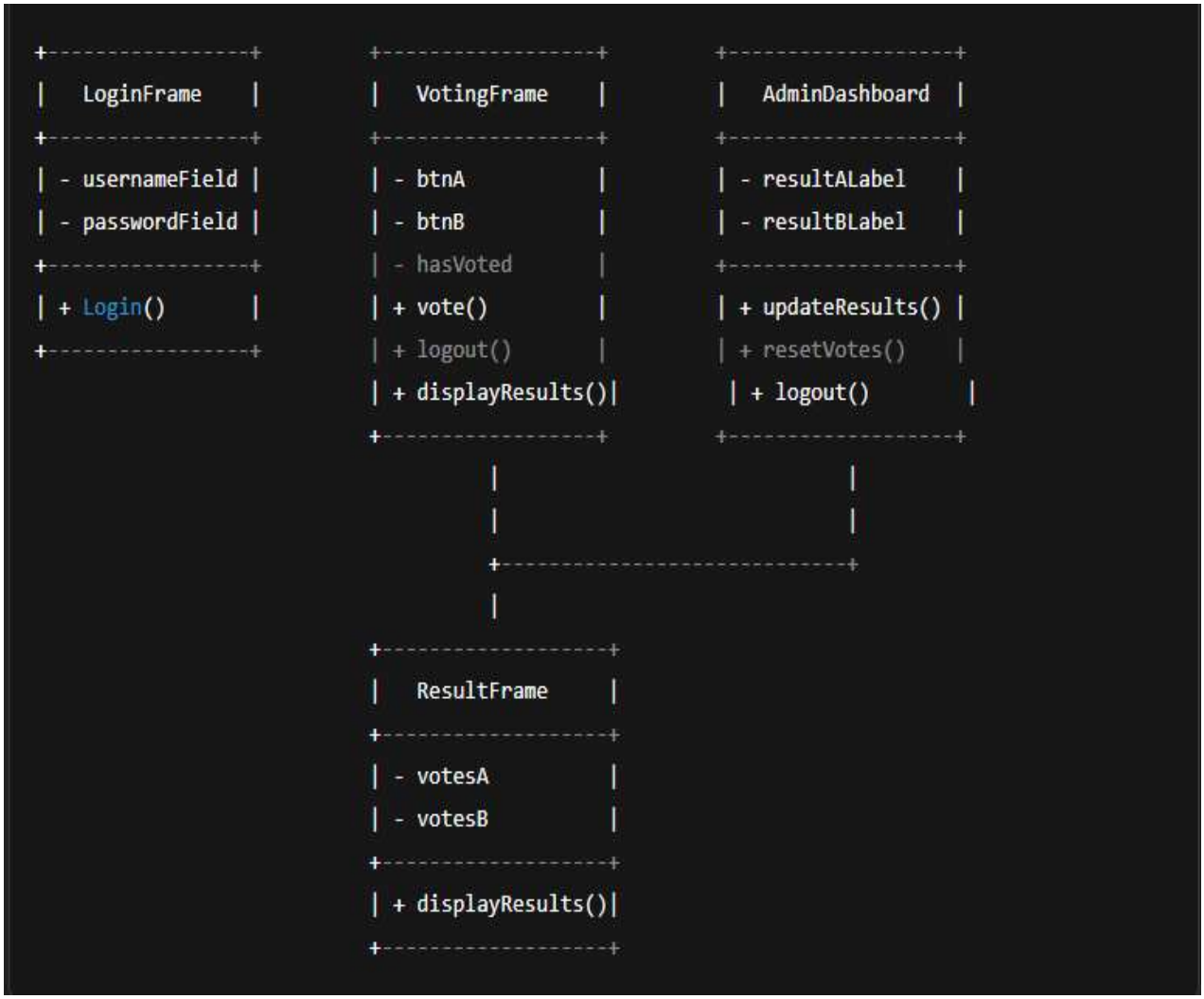
Even though this is a simple system, it introduces important concepts like data validation, error handling, and session control. It also lays the groundwork for future improvements such as persistent data storage, encryption, multi-role access (admin vs. voter), and web-based or graphical interfaces.

Whether you're just starting with Java or looking to prototype an electronic voting system, this project offers a solid foundation that balances functionality with simplicity.

2. SYSTEM ARCHITECTURE



3. CLASS DIAGRAM



4. MODULE DESCRIPTION

1. Authentication Module

Description:

Handles user registration and login. Ensures only eligible users (voters or admins) can access the system.

Features:

- User registration with basic details.
- Login for voters and admin using credentials.
- Password validation and session control.

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2. Admin Dashboard Module

Description:

Enables the admin to manage the election process, including candidate registration, election creation, and result management.

Features:

- Add/edit/delete candidates.
- Create and manage elections.
- View voting results.
- View list of registered voters.

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3. Candidate Management Module

Description:

Allows the admin to manage candidate information and assign them to specific elections.

Features:

- Register candidates with their details (name, party, photo, etc.).
- Assign candidates to particular positions or elections.
- Edit/remove candidate data.

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4. Voting Module

Description:

Enables authenticated voters to cast their votes in active elections securely.

Features:

- View list of available elections.
- One vote per user per election (ensures no duplicate voting).
- Real-time vote submission.

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5. Voter Dashboard Module

Description:

Provides voters with a simple interface to view election details and cast votes.

Features:

- View ongoing or upcoming elections.
- View candidate list.

- Cast vote securely.
- View personal voting history.

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6. Result Management Module

Description:

Automatically calculates and displays election results after voting ends.

Features:

- Real-time result generation.
- Display winning candidates and total votes.
- Available to both admin and voters (after election ends).

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7. Database Module

Description:

Handles data storage and retrieval for users, candidates, votes, and elections.

Features:

- Maintains data integrity and relationships.
- Ensures persistence across application restarts.
- Typically implemented using MySQL, PostgreSQL, or SQLite.

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8. Security Module

Description:

Ensures the system is secure from unauthorized access and vote tampering.

Features:

- Input validation and password hashing.
- Role-based access control (admin vs voter).
- Secure session and data

1. SCREEN-SHOTS

1. Login :

2.Cast Vote

2. Voting Results: