COMSATS UNIVERSITY ISLAMABAD (ABBOTTABAD)

CAMPUS

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Assignment   1

Brief Introduction:

In the Online Voting Machine system, registered users (voters) can participate in various polls. The system provides a secure, digital way for users to cast votes, with each vote being counted accurately. The main functionalities include registering a vote, casting a vote, creating a poll, and searching results. By implementing this system, we aim to simplify the voting process, make it accessible online, and ensure transparency and integrity in the vote-counting process.
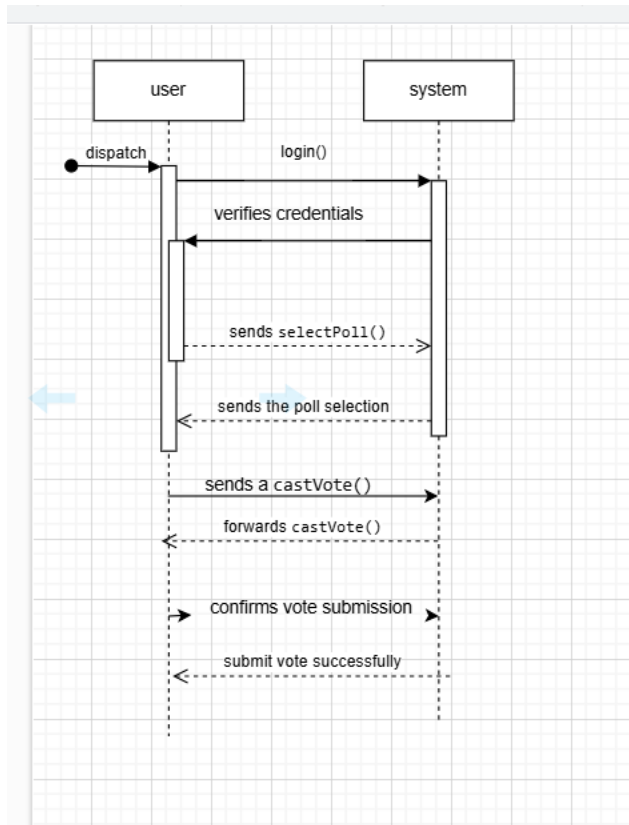
Use Case Overview:

- The system supports four main use cases:

    o **Register Vote**: Allow users to register their details to participate in polls.

    o **Casting Vote**: Let registered users cast their votes in a specific poll.

    o **Create Poll**: Enable admins to create new polls.

    o **Search Results**: Provide users with a way to view poll results.

- **Use Case**: Casting Vote

    o The voter interacts with the system to cast a vote in an active poll.

- **Description**: This diagram shows the interaction between the **Voter** and the system for casting a vote, as well as the relationship with other use cases (Register Vote, Create Poll, and Search Results).
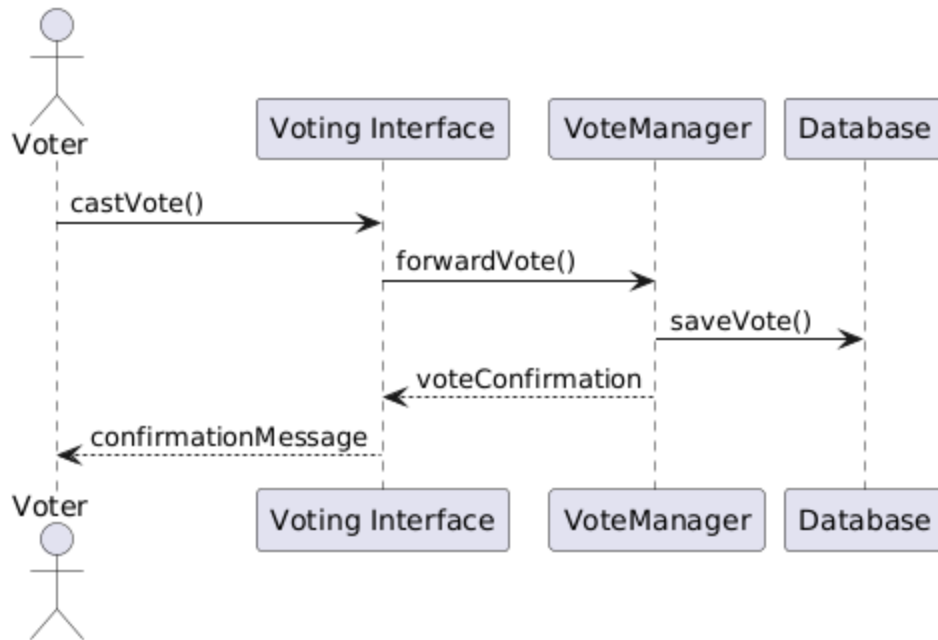
b. Fully Dressed Use Case for "Casting Vote"

- **Use Case Name**: Casting Vote

- **Primary Actor**: Voter

- **Stakeholders and Interests**:

  - **Voter**: Wants to cast their vote securely and accurately.

  - **System**: Ensures that each vote is unique and counted properly.

- **Preconditions**:

  - The voter must be registered in the system.

  - There must be an active poll open for voting.

- **Main Success Scenario**:

1. The voter logs into the system.

2. The system authenticates the voter.

3. The voter selects a poll to participate in.

4. The voter chooses an option and submits their vote.

5. The system confirms the vote and updates the poll results.

- **Extensions (Alternative Scenarios)**:

  - 3a. **Poll Not Found**: If the selected poll doesn't exist, the system displays an error.

  - 4a. **Vote Already Cast**: If the voter has already cast a vote, the system prevents multiple votes.

- **Postconditions**:

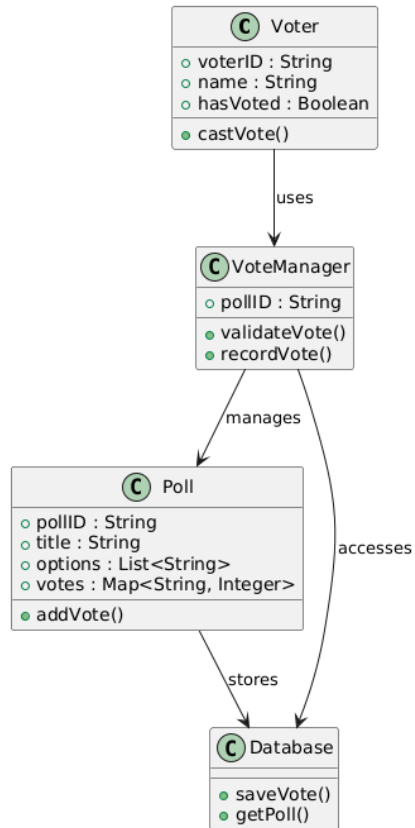 - The voter's vote is recorded in the system, and the vote count is updated.

SSD Diagram:

Communication diagram:

Class Diagram:

Voter
- ○ voterID : String
- ○ name : String
- ○ hasVoted : Boolean
- ● castVote()

uses

VoteManager
- ○ pollID : String
- ● validateVote()
- ● recordVote()

manages

Poll
- ○ pollID : String
- ○ title : String
- ○ options : List<String>
- ○ votes : Map<String, Integer>
- ● addVote()

accesses

stores

Database
- ● saveVote()
- ● getPoll()

Package Diagram:

Voting
Interface

Vote
Manager

Poll

Result
Process

Database