Electronic Voting System

Voting is a method for a group of individuals to make a collective decision or voice their cumulative opinion to arrive at a consensus. The results of a vote can have far-reaching consequences, making it imperative to maintain integrity by ensuring that there is no scope for fraud or cheating while the votes are being cast. It is crucial that voting is carried out in a fair and just manner.

# Key Requirements:

1. The user cannot know any information about the vote.

2. Votes cannot be tampered.

# System Overview

The electronic voting system is designed to ensure that votes are cast and counted securely, maintaining the integrity of the election process. The system includes several key features, such as voter registration, candidate addition, vote casting, result display, vote verification, and audit logging.

# Key Components

## 1. Voter Registration

Voter registration is a crucial step in ensuring that only eligible voters can participate in the election. Each voter is assigned a unique voter ID, and the system tracks whether a voter has already cast their vote to prevent double voting.

## 2. Candidate Addition

Candidates are added to the system by authorized personnel. Each candidate is recorded with a unique identifier, and the system keeps track of the number of votes each candidate receives.

## 3. Vote Casting

When a voter casts their vote, the system generates a unique vote ID and encrypts the vote information using advanced encryption techniques. This ensures that the vote remains confidential and cannot be tampered with.

## 4. Displaying Results

After the voting process is complete, the system can display the results, showing the number of votes each candidate received. The results are presented in a clear and transparent manner.

## 5. Vote Verification

The system includes a vote verification feature that allows authorized personnel to verify that each vote was cast correctly and has not been altered. This ensures the integrity of the election process.

## 6. Audit Log

The system maintains an audit log of all actions performed, including voter registration, candidate addition, vote casting, result display, and vote verification. The audit log is crucial for ensuring transparency and accountability in the election process.

# Conclusion

The electronic voting system described here offers a secure and reliable method for conducting elections. By leveraging advanced encryption techniques and maintaining a comprehensive audit log, the system ensures that the voting process is both fair and transparent, with no possibility of tampering or fraud.