



Sanskar College of Engineering and Technology

VOTING SYSTEM



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Semester : 3rd

Session : 2024-25

Overview of UMS

Definition :

A voting system is an electronic platform that enables secure and systematic collection, recording, and tallying of votes

Essential Elements:

- **Digital Authentication:** Validates voter identity through Aadhar and Voter ID
- **Electronic Ballot:** Provides digital interface for casting votes
- **Data Security:** Ensures vote integrity and voter privacy
- **Result Management:** Enables accurate vote counting and result display

Purpose : The purpose of this system is to provide a secure and transparent platform for democratic voting, ensuring the integrity of the electoral process.

Features of UMS

- Home
- Voter Login
- Voter Registration
- Admin Login
- Admin Registration
- Dashboard
- Voting Results
- Show All Records
- Search User
- Update User
- Delete User
- Logout

IMPACT AND BENEFITS

- The electronic voting system revolutionizes democratic processes through secure, accessible digital voting.
- It reduces costs and environmental impact while ensuring accuracy and transparency.
- The system enhances participation through convenient access, maintains data integrity through encryption, and enables real-time monitoring.

How it works?

- The system uses Tkinter for GUI and MySQL for database management.
- Users authenticate via login (voter/admin).
- Voters select position and poll for group.
- Admins manage users and monitor results.
- System ensures one-time voting, data encryption, and real-time result compilation through secure database operations.

TECHNICAL APPROACH

- The system implements a three-tier architecture using Python.
- Frontend utilizes Tkinter for GUI components including login forms, voting interfaces, and admin dashboards. Backend logic handles authentication using SHA-256 encryption, session management, and database operations. MySQL database manages voter records, admin data, and vote storage with prepared statements preventing SQL injection. System employs connection pooling for optimal performance and implements comprehensive error handling with logging mechanisms.

Conclusion

- **The implemented electronic voting system successfully demonstrates a secure, efficient, and user-friendly solution for modern electoral processes. By integrating Tkinter GUI, Python backend, and MySQL database, it delivers robust authentication, accurate vote recording, and comprehensive administrative controls. The system's modular design ensures scalability while maintaining data integrity and user privacy, making it a viable solution for digital voting needs.**