National University
Of Computer and Emerging Sciences

Project Deliverable 2

Votix

In partial fulfillment
Of the requirement for the course of

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Software Development and Analysis

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Project Proposal

Title: E-Voting System for Secure and Transparent Elections in Pakistan

Scope:

The project aims to modernize Pakistan's voting process with a desktop-based E-voting system for use by electoral staff at polling stations. This system will automate voter registration, vote casting, and result tabulation within a controlled offline environment to enhance security and efficiency.

Previous E-voting systems often faced vulnerabilities due to public network exposure and limited transparency. They typically lacked real-time result updates and struggled with automation and local adaptation.

Objectives:

- Enhance security by implementing a desktop-based E-voting system at polling stations, providing real-time results every 30 minutes.
- Utilize advanced data security techniques to ensure a transparent, immutable audit trail for vote verification while maintaining voter anonymity.
- Automate voting processes to minimize manual errors and accelerate result processing.
- Tailor the system to Pakistan's specific needs with a focus on usability, comprehensive staff training, and local development to reduce costs and reliance on foreign resources.

Problem Statement:

- **Current Inefficiencies:** Manual voting methods are prone to delays and errors.
- **Security Concerns:** Paper-based systems are vulnerable to fraud and cyber threats.
- **Need for a Secure Environment:** A controlled desktop-based system is required to mitigate hacking risks.
- **Transparency and Automation Needs:** Automation will enhance efficiency, and real-time updates will improve transparency and public trust.
- **Certification and Stakeholder Involvement:** Certification by standards organizations and engagement with stakeholders will build confidence in the system.
- **Voter Education:** Public education on e-voting will foster trust and understanding.