Electronic voting systems (EVS)

An Electronic Voting System is a software solution designed to modernize and streamline the voting process, making it more secure, transparent, and accessible. This system leverages technology to improve the overall efficiency of elections. Key features include:

Voter Registration: Maintain a centralized database of eligible voters, ensuring accurate and up-to-date voter information. Streamline the registration process for both administrators and voters.

Ballot Creation: Design and customize electronic ballots for different elections and voting scenarios. Ensure ballot accuracy and compliance with electoral regulations.

Secure Authentication: Implement robust authentication mechanisms to verify the identity of voters, preventing unauthorized access and ensuring the integrity of the voting process.

Real-time Voting: Enable voters to vote electronically, promoting a faster and more convenient voting experience. Ensure the anonymity and confidentiality of each vote.

Audit Trail and Transparency: Maintain a transparent and verifiable audit trail of the voting process. This enhances accountability and instills confidence in the integrity of the election.

Results Tabulation: Automate the tabulation of votes, minimizing the likelihood of errors and expediting the announcement of election results. Provide real-time updates to stakeholders.

Accessibility Features: Implement features to make the voting process accessible to disabled individuals. Ensure inclusivity and compliance with accessibility standards.

Security Measures: Employ robust security protocols to protect against cyber threats, tampering, and unauthorized access. Implement encryption and other measures to safeguard the integrity of the electoral system.

The DSRM processes, spanning from problem identification to evaluation, are expounded with a distinct emphasis on the execution of the e-voting project. This encompasses the progression from the problem activity stage through the evaluation activity stage, all preceding the actual implementation. The sequential stages are outlined as follows:

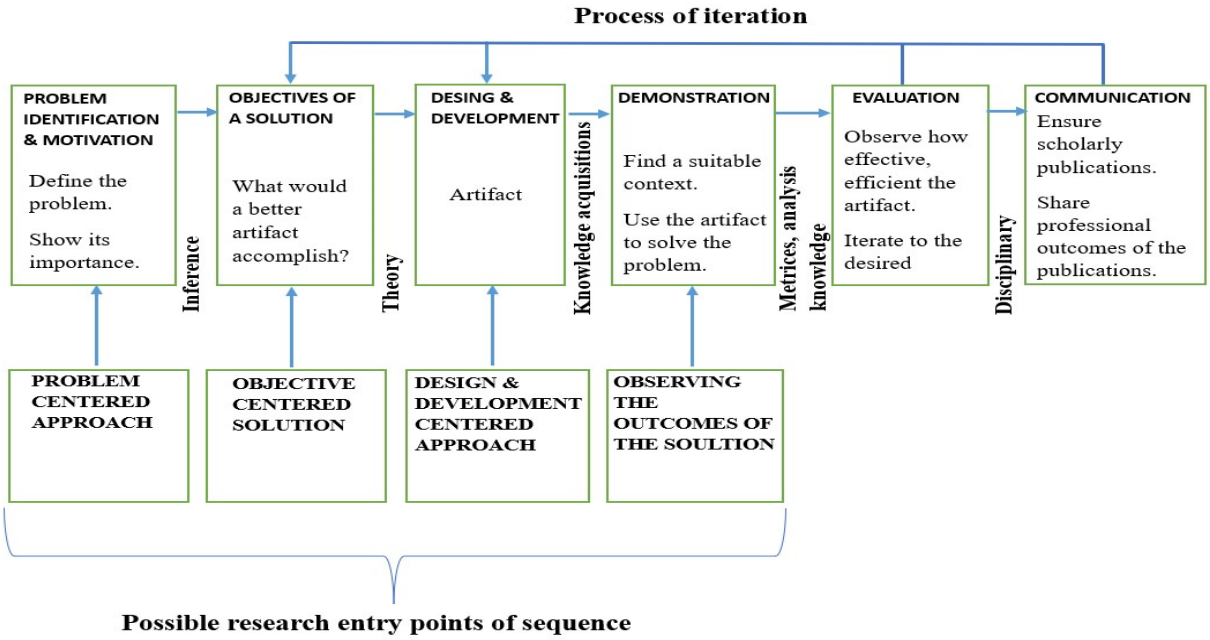

Figure 1: Design Science Research Methodology Process Model

EVS System design and architecture

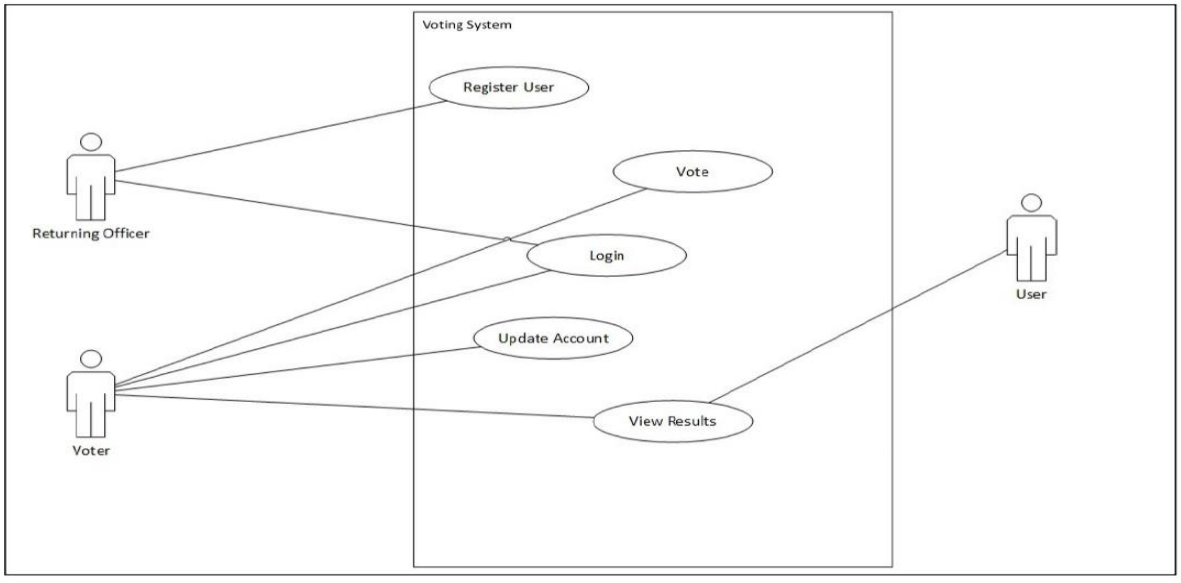

Figure 2: Use Case Diagram

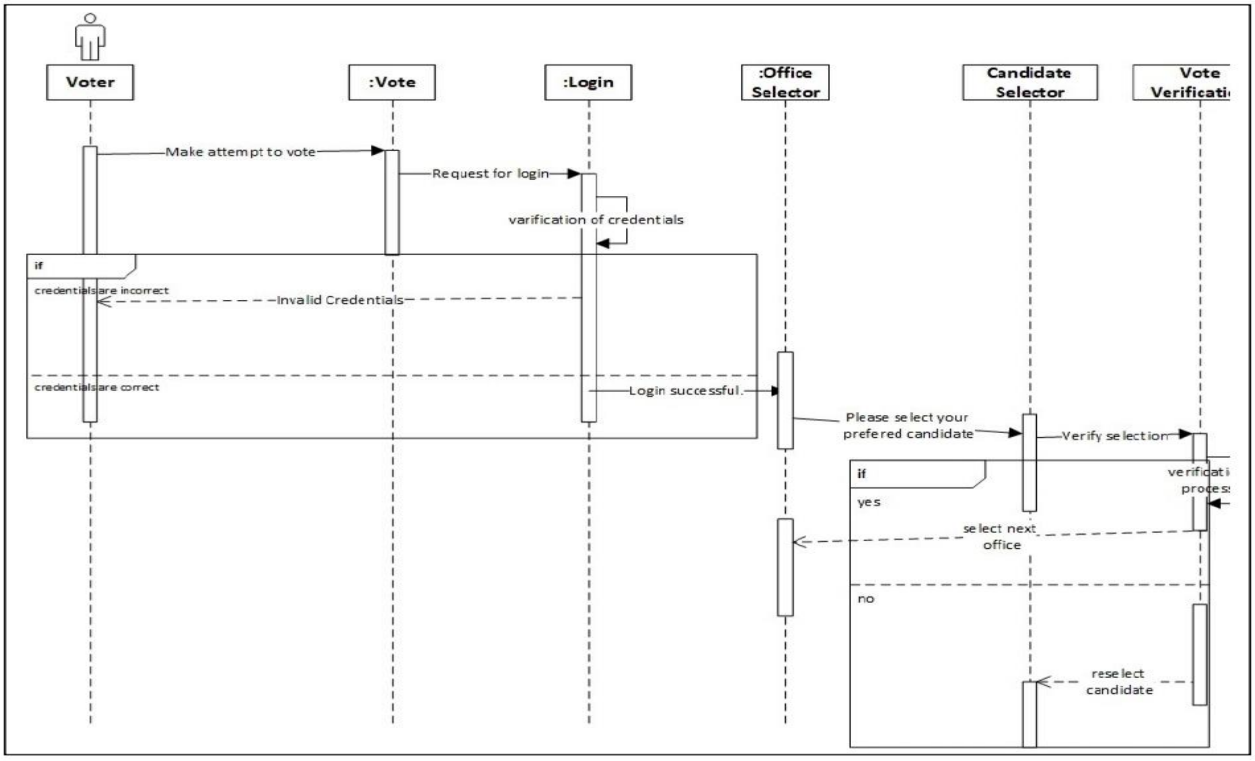

Figure 3: Sequence Diagram

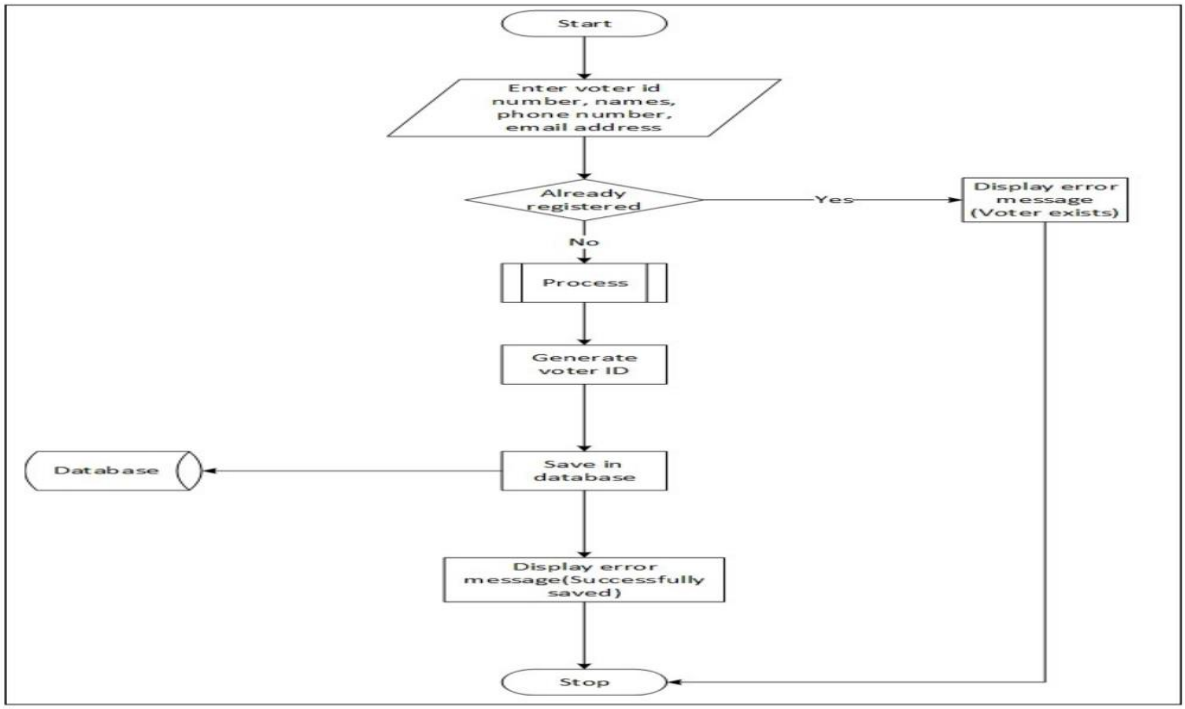

Figure 4: Register Voter Flowchart

EVS System interfaces

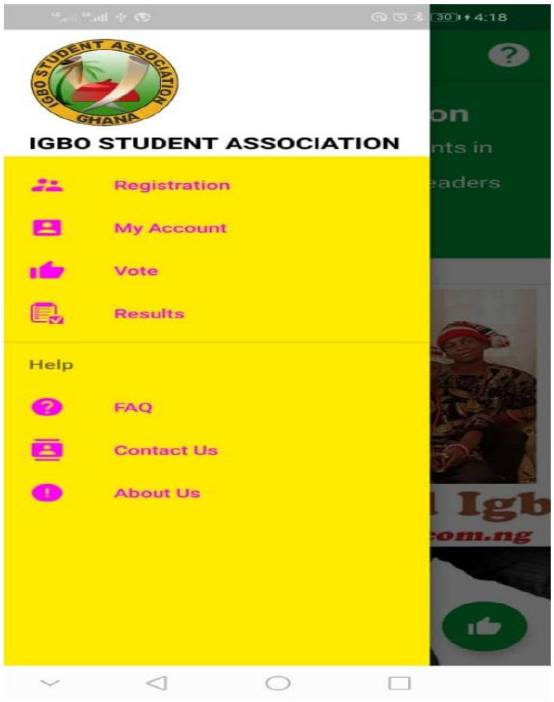

Figure 5: Menu Page

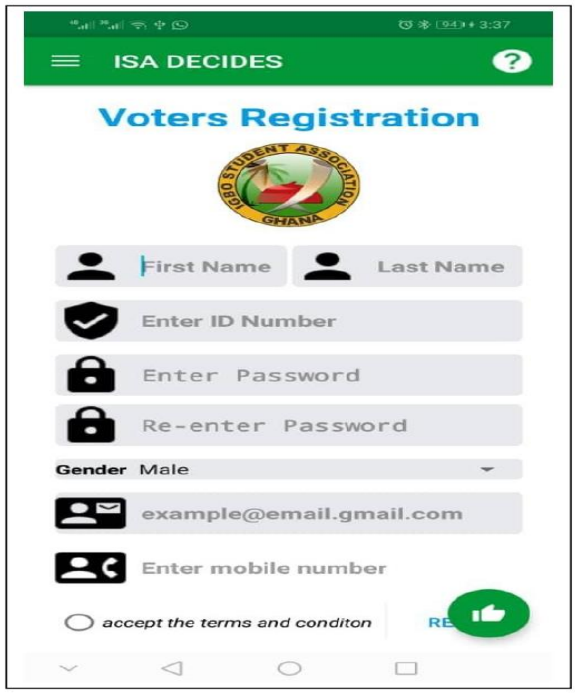

Figure 6: Voter Registration Page

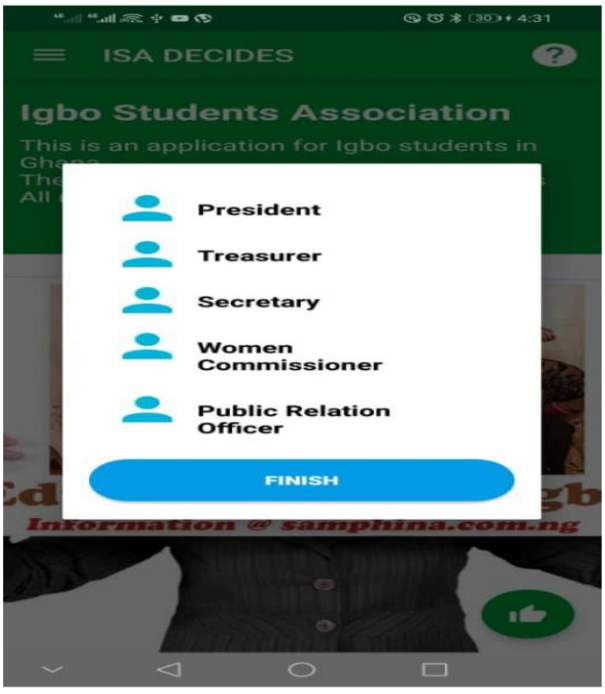

Figure 7: Candidate Voting Page

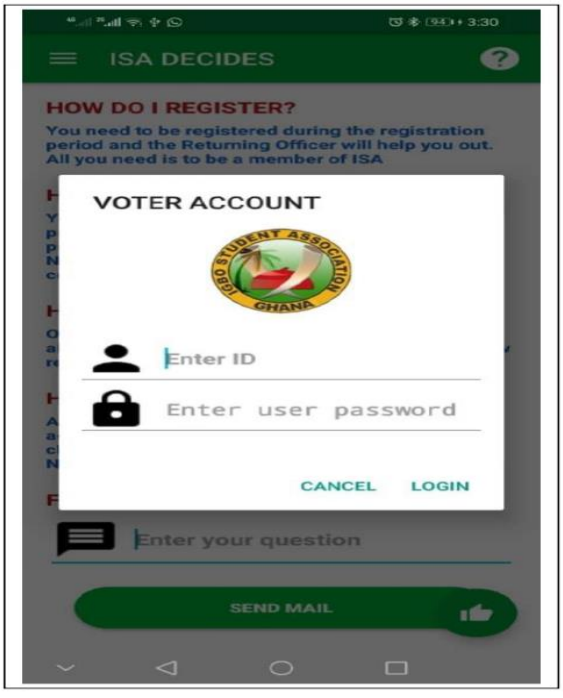

Figure 8: Login Page