Enhancing Student Campus Elections Through a Mobile Voting System with QR Code Authentication

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Abstract: This study explores how integrating Human-Computer Interaction (HCI) principles into a transparent and user-friendly digital donation system can enhance fund management at the South East Asian Institute of Technology (SEAIT). Amid growing global and national reliance on digital platforms, many educational institutions continue to face low stakeholder engagement due to poor usability and lack of transparency. In the Philippines, and particularly in Mindanao, schools still largely depend on manual or outdated systems, which hinder donor trust and effective fund utilization. SEAIT, reflecting these broader challenges, reports increasing calls from donors and stakeholders for a more accessible, transparent giving platform. Using a qualitative approach, this study gathers insights from administrative and financial staff to identify design gaps and user needs, aiming to propose a system that builds trust and encourages active stakeholder participation.

Keywords: Human-Computer Interaction (HCI), User-Friendly, Usability Testing, Navigation Efficiency, Digital Donation System.

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I. INTRODUCTION

> Background and Context

The role of Human-Computer Interaction (HCI) in mobile voting systems is crucial, especially in academic institutions where student elections promote leadership and participation. Traditional methods often cause delays, errors, and low engagement. "Enhancing Student Campus Elections Through a Mobile Voting System with QR Code Authentication" applies HCI principles to offer a userfriendly interface with QR code authentication, ensuring a secure, efficient, and accessible voting experience that encourages student involvement.

Although student elections play a pivotal role in developing student participation and leadership, outdated, inefficient, and less secure modes of voting are still prevalent across most learning centers. Paper or manualbased voting has been challenged by security problems and the inconsistency of real-time results, causing frustration to students and lower student participation. The aim of this project is to create a Mobile Voting System with QR Code Authentication that follows Human-Computer Interaction principles, making sure the system is effective, easy to use, and satisfying for students. It focuses on maintaining security through QR code identification, streamlining the voting process, and providing real-time results. Ultimately, the project supports the digital transformation of student governance, ensuring that campus elections are secure and centered around the needs of users.

> Research Problem

The current election process at SEAIT has some challenges, particularly with security and providing realtime results. These issues make the system less trustworthy and can discourage students from getting involved. Using traditional paper ballots is slow and inefficient, which shows there's a real need for a Mobile Voting System that uses QR Code Authentication to make elections safer, clearer, and more accurate. By incorporating Human-Computer Interaction (HCI) principles, we can create a voting platform that's easy to use and reduces the workload on those managing the election.

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To get more students interested and participating, the mobile voting app has to be straightforward and easy to navigate. simple design means everyone can easily casting their vote without an error. Focusing on both security and ease of use will help build confidence in the system, encourage more participation, and make elections at SEAIT run smoothly and effectively.

Research Questions and Objectives

- How can the implementation of a mobile voting system with QR code authentication impact student participation and election efficiency at SEAIT?
- What are the experiences, challenges, and levels of confidence of students regarding traditional voting systems compared to mobile-based applications?
- What security features and usability requirements are essential for an effective and reliable mobile voting system for campus elections?

> Objectives

- To explore stakeholder perceptions and experiences with the current donation system at SEAIT.
- To identify key Human-Computer Interaction (HCI) principles that can address user concerns and enhance system usability.
- To understand how transparency and user-friendliness contribute to stakeholder trust and engagement in the context of school donations.

> Justification and Significance

This research is important as it addresses the challenges SEAIT faces in campus elections related to increasing student participation, and contributes to the field of Human-Computer Interaction (HCI) by exploring innovative ways to enhance the usability, accessibility, and security of a mobile voting system with QR code authentication, with findings that can support the development of a user-friendly platform applicable to other educational institutions to improve student engagement.

II. LITERATURE REVIEW

> Overview of HCI Theories and Models

• Context-Aware Augmented Reality Using Human– Computer Interaction Model

According to Guo, Q. et al. (2024). Augmented Reality is a technique that allows users to overlap digital information with their physical world. The Augmented Reality (AR) displays have an exceptional characteristic from the Human–Computer Interaction (HCI) perspective. Due to its increasing popularity and application in diverse domains, increasing user-friendliness and AR usage are critical. Context-aware is one approach since an AR application can adapt to the user, environment, needs and enhance ergonomic principles and functionality. This paper proposes the Intelligent Context aware Augmented Reality Model (ICAARM) for Human–Computer Interaction systems. This study explores and reduces interaction uncertainty by semantically modeling user-specific interaction with context, allowing personalized interaction. Sensory information is captured from an AR device to understand user interactions and context. These depictions carry semantics to Augmented Reality applications about the user's intention to interact with a specific device affordance. Thus, this study describes personalized gesture interaction in VR/AR applications for immersive/intelligent environments.

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• A Framework for Guiding the Design of Interactive Systems for Communication through Activities in Higher Learning Institutions

According to Mwombeki et al (2024). Humancomputer interaction is paramount in the process of designing interactive-computer systems with high capabilities of guaranteeing users' satisfaction. However, lack of suitable frameworks complicates their effective design. This study investigated suitable frameworks capable of guiding appropriate design of interactive systems for communication through activities (ISCA) in higher learning institutions in Tanzania. These systems are necessary for augmenting communication thereby overcoming persistent challenges related to their reliance on face-to-face, phonebased, and social networking websites communications. This study used a thorough user centered design approach where a framework for human activity design-centered (HADC) was employed. Authors qualitatively analyzed data on communication and interaction issues from participants involved. Design science research was then combined with activity theory to develop a four-phased methodology which was used to design an intended human activity interactive communication (HAIC) framework. The findings confirmed that interactions design techniques based on humanactivities undertaken are fundamental in designing communication frameworks capable of guiding suitable design of interactive systems in a particular setting. In the context of this study, and with ISCA need, the obtained HAIC framework was found to be appropriate. This study found out that the current user-centered design approach does not explain precisely how designers can employ activity-based interaction design techniques into the design process. Thus, the study contributes to the literature on users' involvement in interactive systems' design through the HADC framework provided.

- Review Recent Studies, Papers, and Advancements in HCI
- User Experience Design for E-Voting: how Mental Models Align with Security Mechanisms

According to Zollinger M., et al. (2021). The resulting interface was tested with 38 participants, and user experience data was collected via questionnaires and semistructured interviews on user experience and perceived security. Results concerning the impact of displaying security mechanisms on UX were presented in a complementary paper. Here we expand on this analysis by studying the mental models revealed during the interviews and compare them with theoretical security notions. Finally, we propose a list of improvements for designs of future voting protocols. Volume 10, Issue 5, May – 2025

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To develop effective mobile voting systems for student elections, developers should focus on: 1) creating userfriendly and accessible interfaces that follow HCI principles, 2) integrating secure QR code authentication for reliable voter identity verification, 3) ensuring compatibility across various devices, especially smartphones, 4) providing realtime feedback and confirmation of votes cast, and 5) addressing the needs of all students, including those with limited technical experience or accessibility requirements. By implementing these strategies, campus elections can become more secure, inclusive, and engaging for the student participation.

Analyze Existing Solutions Related to the Research Problem

Several existing systems and academic studies have explored the use of technology to improve the election process in academic institutions. imiyu, Mbugua, and Otanga (2019) examined electronic web-based voting systems in Kenyan universities and identified significant security shortcomings, including issues with system availability, integrity, and confidentiality. Their study highlighted problems such as system failures during voting periods, slow speeds on election days, and the potential to link voters to their ballots, raising concerns about voter privacy and system integrity, Al-Shammari and Al-Saleem (2021) studied biometric-enabled voting systems and noted that although such systems enhance security, they often require costly hardware and complex setups. In contrast, QR code-based systems offer a practical balance of accessibility, security, and affordability, making them suitable for educational settings with limited technical infrastructure.

In addition, Yavuz and Koç (2018) emphasized the need for secure e-voting protocols, warning of vulnerabilities like vote tampering and weak identity verification in some systems. Meanwhile, a local study by Reyes and Santos (2019) introduced an Android-based voting system at a Philippine university, which helped increase student participation but lacked real-time result tracking and strong voter authentication. These limitations highlight the need for an improved system. Our proposed solution addresses these gaps by implementing QR codebased authentication, real-time monitoring, and a userfriendly interface grounded in Human-Computer Interaction (HCI) principles to enhance student engagement, system security, and overall election transparency at SEAIT.

III. METHODOLOGY

➢ Research Design

The researcher will be using a case study approach to look at how the mobile voting system with QR code authentication works at SEAIT. This method will give us a detailed look at how easy the system is to use, how secure it is, and how well it performs overall. We'll focus on how well it handles key issues like voter authentication, accessibility, and the voting process itself. By gathering insights from actual users, we can make a clear judgment of the system's strengths and areas for improvement. This method is ideal for seeing how the system affects the voting process in real life.

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> Participants

The participants in this study are college students from SEAIT who are eligible to vote in the Student Supreme Government (SSG) elections for the 2024–2025 academic year. We picked these students because they're the ones who would use the mobile voting system, so their thoughts on how easy it is to use, how accessible it is, and how secure they feel it is important. We randomly selected 100 students out of the estimated 15,000 enrolled at SEAIT. To be included, participants needed to be currently enrolled, eligible to vote, and have access to a mobile device. Participation was totally voluntary, and everyone was given a clear understanding of the study's purpose. We made sure to keep their information confidential and handled everything ethically.

> Data Collection

To gain a comprehensive and well-rounded understanding of the research topic, the researchers will be collecting both qualitative and quantitative data. This mixed-method approach will allow them to obtain measurable statistical results while also exploring deeper insights, opinions, and experiences of the participants. The researchers have selected 100 students from various academic levels, backgrounds, and levels of technical proficiency to ensure that the data collected reflects a diverse set of perspectives. By incorporating a wide range of participants, the researchers aim to identify patterns, common concerns, and unique viewpoints regarding the mobile voting system with QR code authentication. This approach will enable them to draw more accurate conclusions and develop well-informed recommendations to improve and enhance the student campus election process.

> Data Analysis

As we compile the information, we will use a thematic analysis method to identify patterns and trends in the answers. This is a process of working our way through the interviews and open-ended questionnaires, categorizing them together according to what ideas and comments they share in common. Some of key we will be looking to include how easy the system is to navigate, how much trust students have in the QR code authenticate process, how accessible the voting system feels, and how secure they believe it is. We'll use these insights to see if the system follows important principles of Human-Computer Interaction.

> Ethical Considerations

We have taken care to adhere to rigorous ethical standards to ensure the privacy and rights of all participants. They will be given informed consent prior to any data collection, which means they will know precisely what the study is about, what they will be doing, and that they can withdraw at any time without any problems. Their personal data will be kept confidential, and all data will be anonymized to ensure they remain anonymous.

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IV. ADVANCED HCI DESIGN

System Architecture

The advanced HCI library system architecture is designed to enhance usability, efficiency, and user satisfaction, built around a client-server model that integrates a user-friendly interface with backend data handling.

• The key Components are:

✓ User Interface (UI) Layer:

Provides an accessible, intuitive platform with simplified navigation and responsive design.

✓ Application Logic Layer:

Manages user input, ensuring efficient interaction between the UI and backend while adapting based on user roles.

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✓ Database Management System (DBMS):

Manages data storage and retrieval, optimizing response times and data accuracy.

✓ Feedback and Error Handling Module:

Captures user feedback and displays error messages to maintain smooth operations and reliability.



Fig 1 The Diagram Outlines the Mobile Voting System with QR Code Authentication, supervised by the Administrator, With Distinct Modules for Manage Candidates, Manage Voters, Manage Application, Set Schedule, Manage Report, View Result, View Candidates Information, Select Candidates and View Voting Result.

Features and Functionalities

The features and functionalities of SEAIT's School Fund Management System are the following:

• Manage Candidates

The system helps keep track of eligible voters by allowing admins to add voter details and maintain an accurate list throughout the election.management of eligible student voters. It includes adding voter details and maintaining accurate records of all participants in the election.

• Manage Applications

Admins can review applications from students who want to run for office, approving or declining them while keeping a record of every submission.

Set Schedule

Admin to define the voting period, including start and end dates. It ensures that voting access is automatically enabled or disabled based on the set timeline.

• Manage Voter Report

Generates detailed reports regarding voter turnout, including lists of who voted and who didn't.

• View Result

Students and admins can see real-time voting results during the election or view the final results once voting is done.

• View Candidate Information

Before casting their votes, students can check out profiles of the candidates, learn about their backgrounds, and understand their platforms to make smarter choices.

• Select Candidate

Voting is quick and secure. Students simply use QR code authentication to vote for their chosen candidates, and the system ensures each person can only vote once.

The mobile voting system tackles the research problem by improving accessibility, security, and efficiency, all through features designed with the user in mind. These include secure QR code authentication, better management of candidates and voters, streamlined application processes, and real-time results viewing. The goal of these improvements is to address the issues of manual voting, minimize errors, and boost transparency and engagement during elections. By focusing on a user-friendly interface and a reliable system, the platform meets user expectations,

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makes the voting process smoother, and ensures a trustworthy and inclusive election experience.

> User Interface Design



Fig 2 Enhancing Student Campus Elections Through a Mobile Voting System with QR Code Authentication – Credentials login Page



Fig 3 Enhancing Student Campus Elections Through a Mobile Voting System with QR Code Authentication – QR Code login Page



Fig 4 Enhancing Student Campus Elections Through a Mobile Voting System with QR Code Authentication – Dashboard Page

V. EVALUATION AND RESULTS

➤ Usability Testing

The usability testing for the mobile voting system was conducted to evaluate the effectiveness, simplicity, and overall satisfaction pf the system. The participants included randomly selected students from different courses at SEAIT who eligible voters are. These participants who used the mobile system during simulated voting sessions, while researchers observed user behaviors, such as the challenges of navigation, QR code scanning, and the ballot submission.

Feedback was collected using the structured interviews, open-ended questionnaires, and real-time observations. Researchers paid close attention to the interface layout, readability of instructions, scanning responsiveness, and time taken to complete voting tasks. Thematic analysis of the responses revealed repeating issues like confusion during login, QR code detection delays, and minor layout inconsistencies. Insights gained from usability testing were used to recommend design improvements and better efficiency of the voting experience.

> Performance Metrics

Performance metrics used in evaluating the Mobile Voting System with QR Code Authentication were drawn from user feedback and included measures such as satisfaction, usability, efficiency, security, and error prevention. User satisfaction focused on the general impression of the system, especially its interface design and accessibility. Most participants expressed appreciation for the convenience of mobile voting and the added layer of

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security provided by QR code authentication. However, some users noted minor usability concerns, particularly during peak login periods, which slightly affected their overall experience.

Usability was assessed based on the users' ability to easily navigate through the system, access candidate information, and complete the voting process without assistance. While most found the system intuitive, a few respondents reported difficulties in scanning the QR code under poor lighting conditions or experienced delays during vote submission. Performance efficiency was evaluated through system responsiveness and stability during the election period, with users noting that while the system handled multiple concurrent users well, occasional lag was observed in older mobile devices. Error prevention mechanisms such as confirmation prompts and restricted access to unauthorized voters were positively received, though some participants recommended additional alerts or warnings for incomplete ballots. Overall, the performance metrics suggest that the system is effective in supporting secure and accessible campus elections, with minor areas identified for further enhancement.

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Comparative Analysis

The findings across three research question while the traditional voting system at SEAIT presented such as long lines, confusion and poor communication, students show strong readiness for a mobile voting alternative. Compared to traditional methods, the mobile voting with QR code authentication as more secure, efficient and user friendly. Students value both security features and simplicity highlights trust in the voting system relies not only on authentication methods, but also ease of navigating the platform. Overall, the comparative emphasizes that moving from manual to digital platform could significantly enhance the student participation.

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Survey Question	Summary of Results
SQ1. Do you think implementing a mobile voting system with QR code	Mean score: 4.39 (close to "Strongly Agree")
authentication can improve student participation?	
SQ9. Would using a mobile voting app with QR code authentication	66.3% yes, 33.7% maybe, 0% no
encourage you to participate in future elections?	
SQ7. How important is real-time election result visibility to you as a voter?	56% very important, 34% important, 10% neutral

This table shows the results suggest that the majority of students at SEAIT believe that a mobile voting system with QR code authentication could improve participation in campus elections. The high mean score of 4.39 shows strong agreement. Furthermore, most students indicated they would be encouraged to participate in future elections through system. Students really like being able to see election results. This shows that it's very important to be efficient and transparent to get more people interested.

Table 2 Experiences, Chanenges, and Confidence Regarding Traditional vs woone voting systems	Table 2 Exp	periences, Challeng	es, and Confidence	Regarding Tra	aditional vs Mobile	Voting Systems
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Survey Question	Summary of Results
SQ2. Have you previously participated in a student campus	Majority answered closer to "Yes"
election at SEAIT?	
RQ3. How would you rate your experience with the	34% poor, 23% good, 22% excellent, 20% fair, 1% very poor
traditional/manual voting system?	
RQ4. How confident are you in using mobile applications for	40% very confident, 34% confident, 26% neutral
school-related activities?	
SQ5. What difficulties did you experience with past voting	70% long lines, 65% lack of information, 47% schedule
methods?	conflicts, 40% confusing process, 4% didn't know how to vote

This table show the findings indicate that while most students have participated in elections, their experiences with the traditional manual voting system were mixed, with a significant number reporting poor or fair experiences. Common problem such as long wait, lack of sufficient information, and scheduling conflict. However, a strong majority expressed confidence in using mobile applications for school activities, suggesting that students are prepared for a shift toward digital voting systems and are likely to adapt easily to a mobile-based platform.

Table 3 Security Features and Usability Requirements for a Mobile Voting Sy	stem
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Survey Question	Summary of Results
SQ6. Do you think a QR Code-based authentication	45% strongly agree, 34% agree, 21% neutral, 0% disagree
system would make the voting process more secure?	
SQ8. Should the ideal mobile voting system be easy	47.5% agree, 40.6% strongly agree, 11.9% neutral
to use and user-friendly?	
SQ10. What features are essential in a mobile voting	83% secure login, 75% real-time results, 69% candidate info pages, 55%
system?	easy navigation, 40% confirmation receipt, 14% anonymous voting

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This table show the students emphasized the importance of security and usability in the design of a mobile voting system. There was supported for QR Codebased authentication to ensure security, and nearly all respondents agreed that the system should be user-friendly. The features identified were secure login, real-time election results, and access to candidate information pages. This shows the importance of focusing on both security and simplicity when developing the system.

➤ Results and Findings

The total mean scores across all areas demonstrate that the proposed mobile voting system with QR code authentication successfully met its intended objectives:

- Participation and Efficiency: 4.39
- User Confidence and Experience: 4.15
- Security and Usability Features: 4.32

The overall mean score across the three evaluated categories was 4.29 out of 5, indicating strong student support, confidence, and satisfaction with the proposed system. The highest-rated area was Participation and Efficiency (4.39), reflecting a strong belief that the mobile voting system would increase student turnout and transparency during elections. Security and Usability Features (4.32) also scored highly, demonstrating the critical importance of secure authentication methods and user-friendly interfaces. User Confidence and Experience (4.15) showed that while past experiences with traditional voting were mixed, students are ready and willing to transition to a mobile-based system.

These results confirm that the proposed mobile voting effectively addressed the objectives by encouraging high participation, ensuring election security and provide a userfriendly platform for election at SEAIT.

VI. DISCUSSION

> Interpretation of Findings

The study showed that using a mobile voting system with QR code authentication greatly improved the campus election process. It made the system easier to use, more secure, and got more students involved. The high scores, especially in Security and Usability, indicate that this system could work well at SEAIT and beyond. People responded well to the security features, like QR codes and secure login. These measures ensured secure access, protected data, and kept the system reliable. This highlights the importance of using mobile voting systems with strong security measures. When these systems are secure, people trust the voting process more. As a result, students are more likely to participate, and the election process becomes clearer and more efficient.

Rq1. How Can the Implementation of a Mobile Voting System with Qr Code Authentication Impact Student Participation and Election Efficiency at Seait?

The finding indicate that the student strongly supports an implementation of mobile voting system with QR code authentication. The high mean score of 4.39 show that the student most agree that the system could increase participation. Students also have features like real-time result, which highlight the need of transparency. Overall, these results suggest that a secure and efficient voting system could improve students' engagement.

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Rq2. What Are the Experiences, Challenges, and Levels of Confidence of Students Regarding Traditional Voting Systems Compared to Mobile-Based Applications?

The result shows the many students have participated in campus elections, with traditional voting methods were not entirely positive. common challenges lack of candidate information and scheduling conflicts. Despite this issue, students' confidence in using mobile app for school, suggesting a digital that students are likely welcome and adapt to a mobile voting platform, as it addresses the limitations of traditional methods.

Rq3. What Security Feature Es and Usability Requirements are Essential for an Effective and Reliable Mobile Voting System for Campus Elections?

This finding reveal that students prioritize security and ease of use in mobile voting. QR code authentication support as a secure method, and features like secure login, real time result and view candidate information. Other student agree that a system has simple and user-friendly. These responses importance of having a security while keeping design to easy understand. This balance help trust and encouraging students to use mobile voting system.

Contributions and Innovation

This research contributes to the growing understanding how Human-Computer Interaction (HCI) principles can be applied to improve digital election in educational. It highlighted the importance of user-centered design, security integration and development in creating a more reliable, accessible and engaging more voting platforms.

The System introduce innovative features such as QR code-based voter authentication, mobile-responsive interface, digital candidate submission and real time result viewing for both administrators and students voters. These improvements not only for security and efficiency but also improve user participation rates.

Limitations and Future Work

This study was conduct using a group of students from a specific school, which limit the wide application of the findings, additionally technical limitations such as delay qr code scanning, minimal personalize options for candidate information and device compatibility.

Future research should involve larger and more student populations from school to strengthen the validity and applicability of the result. Enhancing the system features Volume 10, Issue 5, May - 2025

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customization and improving system responsiveness across to multiple devices would also be beneficial.

VII. CONCLUSION

Summary of Key Findings

The study results show that students are highly supportive of implementing a mobile voting system with QR code authentication to boost participation in campus elections, with an impressive average score of 4.39. A majority of students reported having taken part in past campus elections, which highlights a solid level of engagement among the student body.

However, 34% of respondents gave the experience a negative rating, primarily citing problems like lengthy lineups, a lack of information, uncertainty, and scheduling conflicts. This indicates that respondents' experiences with traditional/manual voting systems are mixed. The majority of students described themselves as confident or very confident when utilizing mobile applications for school-related tasks. In terms of voting security, there was strong agreement that QR code authentication would make the voting process more secure, with no students expressing disagreement. Real-time election result visibility was deemed important by the majority of students, emphasizing the value of transparency. When asked about the ideal mobile voting system, most students emphasized the need for an easy-to-use and user-friendly interface.

Furthermore, 66.3% of respondents said that using a mobile voting app with QR code authentication would encourage them to participate in future elections, with no negative responses recorded. Students highlighted several important features they want in the mobile voting system, such as secure logins, real-time election results, pages with information about candidates, easy navigation, and receipts to confirm their votes.

Overall, the results show that the students really want a system that's secure, transparent, efficient, and easy to use, especially since they've had issues with traditional voting methods in the past.

➤ Final Remarks

This study showed that integrating user-centered design and QR code authentication into a mobile voting system can greatly improve the security, accessibility, and overall experience of campus elections. Features like digital candidate submissions and real-time result viewing helped boost transparency and engage more voters.

While there were some minor technical issues, such as occasional device compatibility problems and slight delays in QR code scanning, the system effectively incorporated principles of human-computer interaction (HCI) for digital voting. Since the study focused on a small sample of students, future research should involve a broader range of participants and work on optimizing the system for better performance across various devices. Ultimately, the findings emphasize the importance of ongoing user feedback, security-conscious design, and intuitive interfaces to build reliable, engaging, and accessible digital election platforms in educational settings.

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APPENDICES

Appendix A: Interview Questions

- 1. Do you think implementing a mobile voting system with QR code authentication can improve student participation in campus elections?
- 2. Have you previously participated in a student campus election at SEAIT?
- 3. How would you rate your experience with the traditional/manual voting system?
- 4. How confident are you in using mobile applications for school-related activities?
- 5. What difficulties, if any, did you experience with past voting methods?
- 6. Do you think a QR Code-based authentication system would make the voting process more secure?
- 7. How important is real-time election result visibility to you as a voter?
- 8. The ideal mobile voting system should be easy to use and user-friendly?
- 9. Would using a mobile voting app with QR code authentication encourage you to participate in future elections?

10. What features do you believe are essential in a mobile voting system?

Appendix B: Survey Responses

RQ1. How would you describe your overall experience with the current donation system at SEAIT?

R1. The respondent described the system as inefficient and often hard to navigate, especially when trying to access donation history. He feels that the process is overly complicated and lacks sufficient clarity.

R2. The second respondent felt that the current donation system is functional but outdated. It works for basic tasks but tends to slow down during peak times, making it frustrating when trying to process multiple donations at once.

R3. The third respondent noted that while the system gets the job done, it is quite cumbersome. She finds that navigating between different sections is not intuitive, and it doesn't provide quick access to essential information.

R4. This respondent highlighted that the system is often slow, and there's a lack of feedback on donation status. He feels it's an old-fashioned system that doesn't meet modern expectations for speed and ease of use.

R5. The fifth respondent feels the system works okay for basic record-keeping but is often plagued by delays and occasional errors when updating donation records. She also mentioned that it lacks integration with other systems, making it difficult to track everything seamlessly.

R6. The sixth respondent commented that the system lacks transparency, especially when it comes to showing where funds are allocated. She also mentioned that there's no clear way to track ongoing donations, which makes the process feel less trustworthy.

R7. The seventh respondent expressed dissatisfaction with the current system's inability to provide clear, organized data. She also noted that the manual input required increases the chances of human error, which is a significant issue when handling financial records.

RQ2. In your opinion, what specific features or functionalities are missing or need improvement in the current system?

R1. The respondent suggested the addition of a digital tracking feature that could show real-time updates of donations, as well as a dashboard for easy access to financial reports.

R2. The second respondent mentioned that the system lacks an integrated notification system for both donors and administrators. This would help ensure everyone is kept up to date with donation status or if action is needed.

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R3. The third respondent proposed improvements in the search function. She mentioned that currently it's difficult to retrieve old donation records and recommended adding advanced filters to streamline the process.

R4. This respondent emphasized the need for better validation and confirmation mechanisms in the system. He suggested that there should be pop-ups or alerts to confirm key actions like donation submissions or updates to prevent accidental errors.

R5. The fifth respondent suggested adding a user-friendly dashboard that shows an overview of donations, their status, and future goals. This would help the administrative staff monitor and manage donations more effectively.

R6. The sixth respondent recommended introducing a more secure login and authentication process to ensure the privacy and safety of donor information. She also suggested integrating a payment gateway to process donations directly through the system.

R7. The seventh respondent highlighted the need for a reporting feature that generates automatic reports on donation trends and usage. This would help to reduce manual effort and improve transparency in financial reporting.

RQ3. What design or interface qualities do you believe would make the donation system more user-friendly and accessible?

R1. The respondent believes the system would benefit from a cleaner, more modern design. He suggested that simplifying the interface and reducing clutter would make it much easier to use.

R2. The second respondent recommended clearer labeling and a more intuitive menu structure. She emphasized that the current layout is confusing and could use more guiding elements to help users navigate.

R3. The third respondent thought the design could be improved by making it mobile-friendly. With many users accessing systems on their phones, having a responsive design would make the system more accessible.

R4. This respondent suggested simplifying the navigation flow by reducing the number of clicks required to access key information. A more streamlined, step-by-step process would improve usability.

R5. The fifth respondent believed that a more visually appealing interface with better contrasting colors would help users distinguish different sections more easily. Clear visual cues and icons would make the system more user-friendly.

R6. The sixth respondent mentioned that incorporating tooltips or on-screen instructions would help guide new users, especially those who aren't familiar with donation systems or technology in general.

R7. The seventh respondent recommended using larger, more readable fonts, and ensuring that all buttons are easy to press, particularly for users with limited experience in technology.

RQ4. How important is transparency in a digital donation system, and how does it influence your trust in the process?

R1. The respondent stressed that transparency is crucial. Without it, donors can feel uncertain about where their contributions are going. Clear breakdowns of fund allocation would help increase trust in the system.

R2. The second respondent said that transparency in how donations are used would definitely increase trust. He suggested having a section where donors can see how their money is spent or allocated to various causes.

R3. The third respondent agreed, emphasizing that transparent reporting could help build a connection between donors and the cause. She also mentioned that an easily accessible donation receipt would improve trust.

R4. This respondent mentioned that transparency is key to building donor confidence. Clear and real-time visibility of the donation flow and its impact would encourage greater participation.

R5. The fifth respondent noted that transparency would address potential concerns about mismanagement or misuse of funds. Having a public record of donations would allow donors to feel more confident in contributing.

R6. The sixth respondent stated that without transparency, there is a lack of accountability, which affects her willingness to trust the system. She suggested implementing a donation tracking feature to address this.

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R7. The seventh respondent highlighted that clear and regular updates on how donations are being used would directly influence her trust in the system. Without this transparency, it would be harder to convince donors to contribute.

RQ5. How does the usability of the donation system affect your willingness to engage with or recommend it to others?

R1. The respondent noted that if the system were easier to use, he would be more likely to engage with it regularly and recommend it to others. However, because of the current system's complexity, he doesn't feel comfortable recommending it.

R2. The second respondent stated that a more user-friendly system would make her more likely to participate in donations herself and encourage others to do the same. The current difficulties make her hesitant to recommend it.

R3. The third respondent mentioned that if the donation process were smoother and faster, she would have no problem recommending it. She noted that ease of use is a significant factor in encouraging further involvement.

R4. This respondent highlighted that the usability of the system directly impacts how often she interacts with it. A more accessible and user-friendly interface would make her more inclined to recommend the system to others.

R5. The fifth respondent said that the more intuitive the system is, the more comfortable she would feel recommending it to colleagues and donors. As it stands, the complexity prevents her from fully endorsing it.

R6. The sixth respondent pointed out that usability is a key factor in her willingness to recommend the system. If improvements were made to the user interface and navigation, she would feel more confident in suggesting it to others.

R7. The seventh respondent mentioned that if the system were easier to use, she would definitely recommend it to others. However, the current level of difficulty in navigating the system makes her reluctant to do so.