The Islamia University of Bahawalpur

Department of Computer Science

Project Proposal
(SCOPE DOCUMENT)

for

<Online Voting System>
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Project Category: (Select all the major domains of proposed project**)**

○ **A-** Desktop Application/Information System	● **B-Web Application/Web Application based Information System**	
○ **C-**Problem Solving and Artificial Intelligence	○ **D-**Simulation and Modeling	○ **E-** Smartphone Application
○ **F-**Smartphone Game	○ **G-**Networks	○ **H-**Image Processing
○ Other (Specify Category): -		

Abstract

The Web-Based Online Voting System project aims to design and develop a secure, efficient and user-friendly voting platform. It will eliminate the need for physical polling station and paper work wastage and a person from anywhere just with an internet connection can cast a vote. It allows voters to register, verify their identities, view candidate information and cast their vote remotely through a web-based interface. The System seeks to increase voter participation, reduce electoral fraud, provide a convenient voting experience and mainly modernize the democratic process. This Project focuses on ensuring the integrity and accuracy of voting process. It also automates the process of voter registration, ballot creation and result declaration.

Introduction

The purpose of this proposal document is to draft the key points and details of Online Voting System. It is such a request for approval that contains understanding of Problem Statement, Problem Solution, Scope, Advantages and Limitations. Here is detailed background of the system: -

In today's digital age, technology has transformed various aspects of our lives, including the way we interact, communicate, and even exercise our democratic rights. Voting, a fundamental right in any democracy, has traditionally been done through physical ballots or paper-based systems. However, these methods have limitations, such as geographical constraints (physical location and distribution of voters, polling stations, and election infrastructure), long queues, vote theft and manual counting errors. In recent years, online voting systems have emerged as a potential solution to address these issues. An online voting system is a web-based platform that enables voters to cast their votes remotely, using their digital devices, such as computers, smartphones, or tablets. This approach offers numerous benefits, including increased voter turnout, reduced costs, enhanced accuracy and real-time results.

Problem Statement

- **What** problem does your software solve?
  - ❖ Geographical Constraints: Voters can cast their vote remotely, eliminating the need of physically visiting the polling station.
  - ❖ Voter Turnout: It makes voting more accessible and convenient, potentially increased participation.

- ❖ Cost: Online voting can minimize the need for physical polling stations, ballot papers, and manual counting.
- ❖ Real-time Results: Online Voting System provides instant results and streamline election process.
- ❖ It solves various other problems such as reduce human errors, reduce vote theft, reduce administrative burdens on officials and speed up voting process.

▪ **Why** you are developing this system?

I am developing the Online Voting System to combat the following issues:

- ❖ To increase voter participation
- ❖ Corruption: To prevent fraudulent activities and to ensure that each vote is authentic
- ❖ Human error: To reduce manual counting errors and ensure accurate results
- ❖ Support democratic values: By making voting more accessible and efficient, we aim to strengthen democratic values.
- ❖ Limited accessibility: To enable voters with disabilities and those living in remote areas to cast their votes easily

▪ **Does** the same system already exist? **If yes**, how will a re-implementation aid your learning?

- ❖ By rebuilding an existing system, I'll gain hands-on experience with the programming languages used in online voting systems.
- ❖ It will me to understand design decisions and problem-solving techniques used in re-implementing it.
- ❖ It will give me deep understanding of challenges and complexities involved in developing such a system.
- ❖ I may encounter failures during reimplementation that will provide me valuable learning opportunities.

▪ **What** skills do you expect to learn from this project?

- ❖ Programming Skills
- ❖ Web Development Skills
- ❖ Database Management Skills
- ❖ Testing and Debugging skills
- ❖ Problem-Solving Skills
- ❖ UI Design Skills and so on.

Problem Solution for Proposed System

As there are problems such as geographical constraints, cost, voter turnout, results issues, etc. Proposed System will provide solution for all these. Some voters cannot visit to polling stations due to various reasons such as distance or disability, they can also cast vote and use their democratic right remotely from any place. In this case, the voters who cannot cast vote due to any reason will also cast vote that will increase voter turnout. This system will also provide solution to cost issue. As traditional voting requires a lot of paper work and polling agents at every polling station which creates a lot of cost

issue but this system eliminates this issue only digital system is involved and there will be no need of polling agents. It also solves issue of counting mistakes and vote or ballot theft as this system will use automatic run time counting visible to every voter which will also ensures transparency and credibility. “Justice delayed is justice denied” describes that time is very precious. This system speeds up the voting systems more than hundred times than traditional voting system as multiple voters can cast vote at a single instant. To ensure transparency, result is streamed live to every voter during whole voting time.

Related System Analysis/Literature Review

Application Name	Weakness	Proposed Project Solution
election runner	Elections only up to 20 voters is free. It can’t support democratic elections as everyone can create ballots and there is no verification of it.	Other than the democratic elections, I will provide schools and college free elections up to any number of students and cast vote on it.
doodle	Create ads which also create load. Complex Interface and not a user friendly	My proposed system will be too User friendly and easy to use.
poll-maker	Too less features just seems as such a MCQs question type polls	My proposed system will include many features for voter and admin. Admin will create poll and voters will cast by verifying his identity.

Advantages/Benefits of Proposed System

As I have described the problems and its solution to problems earlier, there are many benefits of my proposed system. Its main benefit is that it will save cost of any organization who want to conduct elections. Mainly, it is being developed for democratic elections, it will save cost burden of many crores on government such as paper wastage and pay of polling agents. It will reduce vote selling and casting fake votes because it will require user verification before casting a vote. This proposed system will give everyone opportunity to choose his leaders because voter can cast vote online whether he is a person with disability or out of city eliminating geographic constraints. It will reduce long lines and wait times. It reduces voter frauds and provide quick results.

Scope

The proposed online voting system aims to provide a secure, accessible, and efficient voting experience for voters. The scope of this project includes following functions and features:

- Voter registration and verification
- Admin verification
- Ballot creation and management
- Real-time vote counting and results display
- User-friendly interface and will be used for local and national elections
- Accessible through mobile and desktop devices

There will be some boundaries also:

- Will not support offline voting
- System will not be integrated with existing election management systems
- System will be not suitable for illiterate because there will be no automatic voter registrations and physical polling stations or ballots

Modules

Module 1: User Registration Module

This module allows voters to register and create an account to access the online voting system. New feature is that every voter id will be verified manually by the team. This module ensures only authorized voters can participate in the election. After registration, the voter is assigned a secret voter id which he/she can use to log into the systema and enjoy services provided such as voting.

Module 2: Administration Module

This module enables election officials to manage and configure the online voting system. It includes features such as user management, system settings, and election configuration. This module streamlines system administration, reducing errors and increasing efficiency.

Module 3: Ballot Creation Module

This module enables election officials (Admin) to create and manage ballots for various elections. It includes features such as ballot template design, candidate and option management, ballot review and approval.

Module 4: Voting Module

This module is the core component of the online voting system, where voters can cast their ballots. It includes real-time validation, and option for voters to review and confirm their selections. It also allows voters to confirm that their vote casted successfully.

Module 5: Results Module

This module displays the election results in real-time, as votes are casted and counted. It includes interactive results dashboard and winner declaration. It will also show voter turnout. This module provides transparency and immediacy, allowing voters to track results as they happen.

System Limitations/Constraints

- ❖ Dependence on internet connectivity
- ❖ Potential for technical glitches and errors
- ❖ Risk of cyber-attacks and data breaches
- ❖ High development and maintenance costs
- ❖ Difficulty in ensuring voter privacy and anonymity
- ❖ Difficulty in ensuring smooth testing, piloting and implementation
- ❖ Need for voter education and awareness campaigns

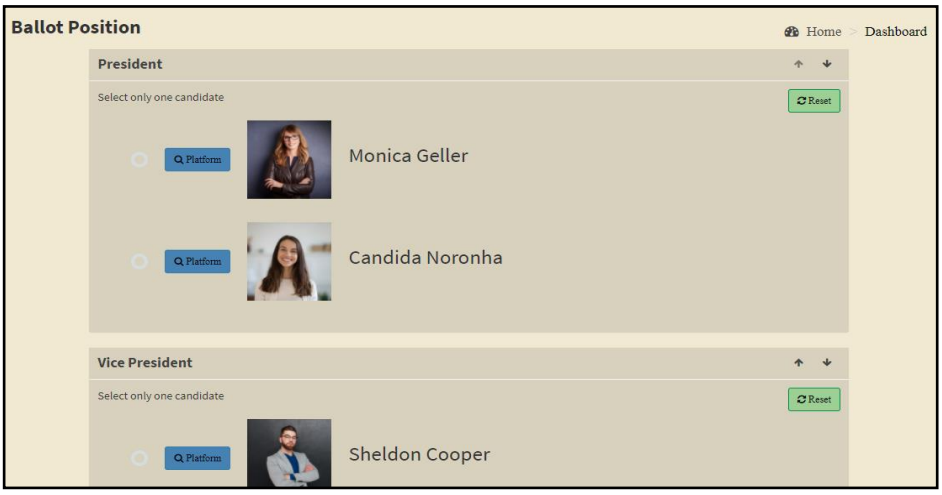
Software Process Methodology

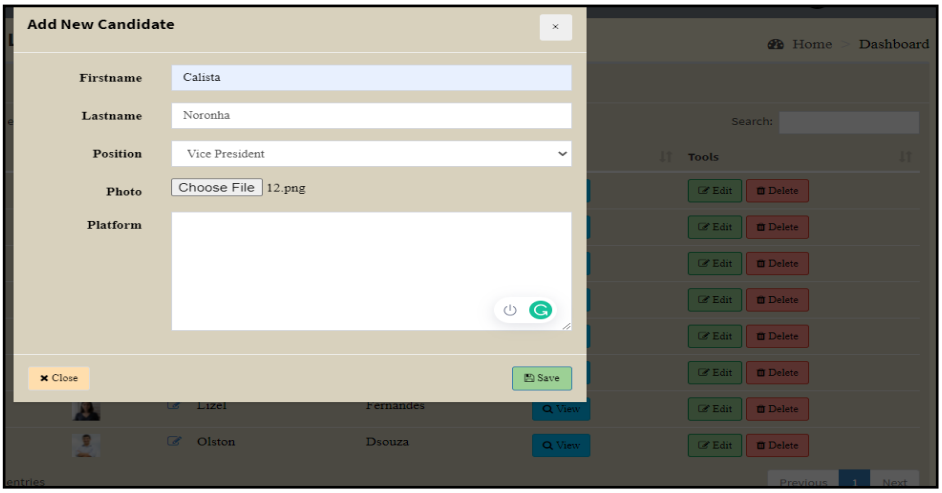
Software methodology/ software process that will be used for project development is **Agile Development Methodology**. I have chosen **Agile Development Methodology** because it is an iterative and incremental approach to software development that focuses on flexibility and customer satisfaction. It emphasizes delivering small, working pieces of software in short cycles, called iterations, and continuously improving the product based on customer feedback and changing requirements. Its best quality is that it responds to changes over following a plan.

Tools and Technologies

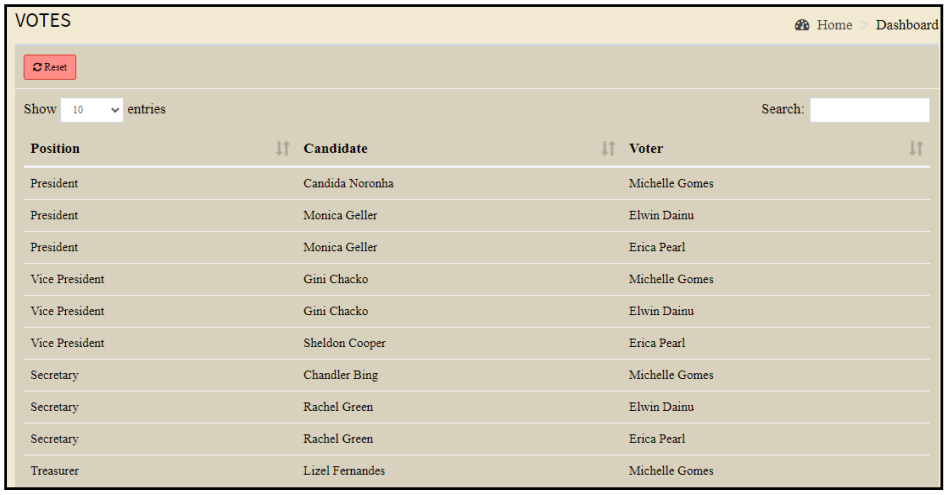
	Tools	**Rationale**
Tools And Technologies	VS Code	IDE
	MySQL	DBMS
	HTML, CSS	Design Work
	MS Word	Documentation
	MS Power Point	Presentation
	JavaScript	Front End
	Node.js	Backend

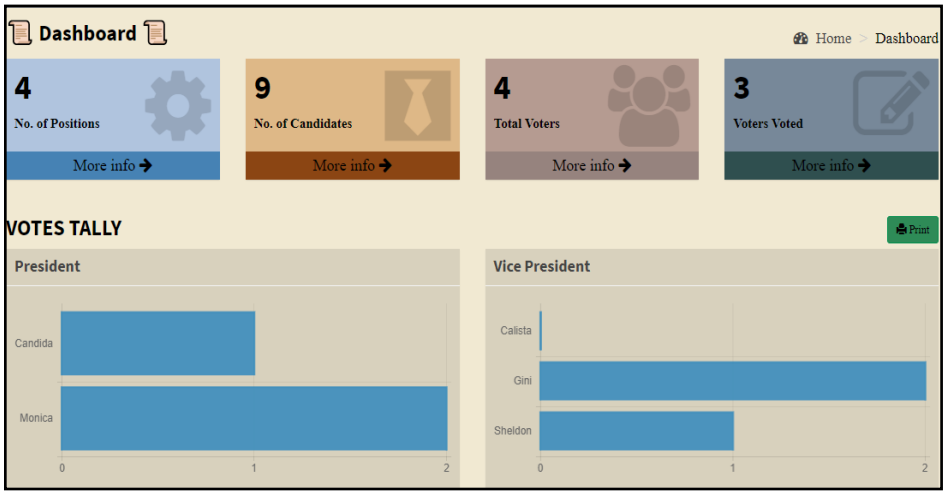
Mockups


Ballot Position
Home > Dashboard
President
Select only one candidate
Reset
Platform
Monica Geller
Platform
Candida Noronha
Vice President
Select only one candidate
Reset
Platform
Sheldon Cooper


Add New Candidate
Firstname
Calista
Lastname
Noronha
Position
Vice President
Photo
Choose File
12.png
Platform
Close
Save
Home > Dashboard
Search:
Tools
Edit
Delete
Olston
Dsouza
View


Candidates List
Home > Dashboard
+ New
Show 10 entries
Search:
Position
Photo
Firstname
Lastname
Platform
Tools
President Monica Geller View Edit Delete
President Candida Noronha View Edit Delete
Vice President Sheldon Cooper View Edit Delete
Vice President Gini Chacko View Edit Delete
Secretary Chandler Bing View Edit Delete
Secretary Rachel Green View Edit Delete
Treasurer Lizel Fernandes View Edit Delete
Treasurer Olston Dsouza View Edit Delete





Conclusion

In conclusion, this project scope document has provided a detailed and comprehensive overview of the Online Voting System, including its Problem statement, problem solution, modules, benefits, limitations, technology used and also provided its mockup. Proposed system aims to provide efficient, more accessible and cheap way of elections. By developing an online voting system, we can increase voter turnout, reduce costs, and improve the overall democratic process. This project has the potential to make a significant impact on the way elections are conducted and are excited to bring this innovative solution to life of elections.

References

1. "Project Report of Online Voting System" in Kenya