



SIKSHA 'O' ANUSANDHAN

(Deemed to be University)

Faculty of Engineering & Technology (ITER)

Department of Computer Science and Engineering

Project Proposal Form

SENIOR DESIGN PROJECT-2024

SECTION: CSE-"O"

GROUP NO: 05

PROJECT TITLE: Blockchain based voting system

PROJECT ABSTRACT:

Our project aims to develop a secure, transparent, and tamper-resistant voting system using Blockchain technology. Traditional voting systems often face transparency, security, and trust challenges, leading to concerns about the integrity of election results. Our project addresses these issues by leveraging Blockchain's decentralized ledger to create a reliable and immutable record of voting transactions. The primary problem we seek to address is the lack of trust and transparency in conventional voting systems. Instances of electoral fraud, tampering, and disputes undermine the credibility of democratic processes. By implementing a Blockchain-based voting system, we aim to enhance the integrity of elections and restore public confidence in the electoral process. Our system offers several key functionalities and technicalities to ensure the integrity of the voting process. These include a Decentralized Ledger, Voter Authentication, Transparency and Auditability, Security Measures, and Immutable Records which together maintain the integrity of votes during elections. The benefits and social contributions of our project are manifold. By enhancing the transparency and security of the voting process, we promote democratic principles and strengthen civic engagement. Our system empowers citizens to confidently participate in elections, knowing that their votes are accurately recorded and counted. Additionally, the transparency afforded by Blockchain technology facilitates accountability and trust between electoral authorities and the electorate, fostering a more robust democratic society. In conclusion, our project aims to revolutionize the electoral process by harnessing the power of Blockchain technology to create a secure and transparent voting system. By addressing the shortcomings of traditional voting methods, we pave the way for fairer and more credible elections, thereby advancing democratic ideals and principles.

(1) SOFTWARE, HARDWARE OR METHODS/ALGORITHMS SPECIFICATIONS:

For the Blockchain-based voting system project, several software and technologies will be utilized to implement various components of the system. Here are some probable ones:

1. Blockchain Platforms:

Ethereum: Ethereum provides a robust platform for building decentralized applications (DApps) and smart contracts, making it suitable for implementing a Blockchain-based voting system.

Remix: Remix provides an IDE to write, test, and deploy smart contracts.

2. Smart Contracts: Smart contracts are self-executing contracts with the terms of the agreement between parties directly written into code. They will be written in Solidity (for Ethereum) and deployed on the Blockchain to manage the voting process.

3. Web Development:

Frontend: Technologies like HTML, CSS, JavaScript, and frontend frameworks/libraries such as React.js will be used to develop the user interface for the voting system.

Backend: Server-side programming languages (Node.js) and frameworks (e.g., Express.js, Django) will be used to develop the backend logic for interacting with the Blockchain network and manage user authentication.

4. Database Management:

Databases: Databases like MongoDB will be used to store non-Blockchain related data such as user profiles, authentication tokens, and configuration settings.

Blockchain Ledger: The Blockchain itself serves as a decentralized and immutable ledger for storing voting transactions and related data.

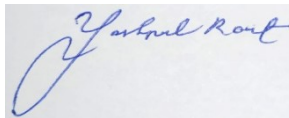
5. Security:

Authentication and Authorization: Technologies like OAuth, JWT (JSON Web Tokens), and custom authentication mechanisms will be used to authenticate users and manage access control.

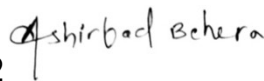
These are just some of the probable software and technologies that will be used for developing the Blockchain-based voting system. The specific choices may vary based on different situations and factors.

(2) NAME, REG. NO AND SIGNATURE OF GROUP MEMBERS:

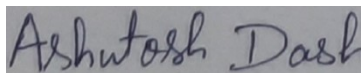
1) YASHPAL ROUT, 2041018123



2) ASHIRBAD BEHERA, 2041002052



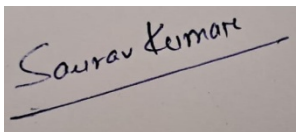
3) ASHUTOSH DASH, 2041004104



4) KIRTIKANTA SEKHAR, 2041019183



(3) **APPROVAL STATUS**(To be filled in by the Section Coordinator of SDP):

A rectangular box containing a handwritten signature in black ink. The signature reads "Sourav Kumar" and is underlined with a single horizontal stroke.

.....
Project Supervisor

.....
Section Coordinator, SDP

.....
SDP Coordinator