"A Research Paper on Online Voting System using Blockchain and Smart Contracts"

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ABSTRACT

Our paper deals with Online Voting System that facilitates (Voter), Candidate and Administrator(who will be not changed and verify all the users and information) to participants in Online voting system. This Voting system provides all the necessary security with Id and Password. This will be done on the basis of users documentary. Every user gets the unique Id and Password for voting. The admin panel will verify the user is Eligible or not.

Many of the countries not India as a exception have problems regarding the voting system. Some of the problems involve the duplicate voting during elections. So our system can solve this problem easily.

Keywords: *Html, CSS, Voter, Candidates, Python, JavaScript, Blockchain algorithm, MySQL.*

I. INTRODUCTION:

Elections are the organizations that's speculated to bring democracy into countries. They mostly play an important role within the way forward for a citizens life. Therefore, it's much importance for each single person involved in these elections. Irrespective of the organization, elections should be trustworthy in its nature. They need to confirm people's privacy and vote's security. Additionally, the authority which is to   blame for counting votes shouldn't spend an excessive amount of time on counting votes since waiting long period of your time for results increases concerns about manipulation of results. However, because of the various reasons reckoning on the areas that elections are made, trust has been a controversial issue for every election. Especially, paper elections are managed by a centralized authority, there's always a risk to control ballots and election results.

There are some attempts to remove problems of traditional election system. These attempts try to benefit from online systems to automate the whole process. To dissipate problems of both conventional and e-voting elections, e-voting can be improved using Blockchain mechanism. Blockchain has impressive features to overcome troubles of voter's security, privacy and data integrity of votes.

Blockchain is an inalterable and an easy confirmable system. Under favour of these qualifications, Blockchain has a significant potential to be an alternative to traditional elections. It brings smart solutions to central authority problem in terms of all blocks having all data in the chain. Also, it is impossible to change an information in a block since it is discerned by other blocks which have whole data. Consequently, Blockchain increases the security of information by keeping the entire data in all blocks, and removes the need for an official center to provide a secure election. As mentioned before, counting votes and making election results publicly available takes considerable time. Blockchain solves this problem by its nature. Since the last node on the chain keeps all information, it is enough to look for only the last node for the results.

II. LITERATURE REVIEW:

[1] Biometric voting system using Aadhar card in India - S Chakraborty, SMukherjee in the year 2016

The main goal of this venture is to make a secure electronic voting machine using Finger printing technique that distinguishes proof, so we are able to use the Aadhar card information for specific marks. The online-voting confirmation method should be possible during the race voting season using finger vein detection, that permits the electronic poll reset to permit voters to cast their votes.

[2] Trustworthy Electronic Voting Using Adjusted Blockchain Technology -Basit Shahzad Raju, Jon Crowcroft in the year 2019

This paper suggests a system that produces use of suitable hashing strategies to confirm data security. This paper introduces the idea of block-creation and block sealing. The implementation of a block sealing principle helps to create the blockchain flexible to fulfil polling process requirements.

[3] Security Analysis of India's Voting Machine - Hari K. Prasad, ArunKanakabati, Sai Krishna Sakha muri in the year 2010

A Real Indian EVM Security Review is taken from anonymous source. The paper states that EVM is vulnerable to extreme attacks which will alter the outcome and breach the ballot's confidentiality. Use custom hardware, two attacks have been demonstrated.

[4] Blockchain e-voting system with the use of intelligent agent approach M. Pawlak, A. Poniszewska-Marańda Published 2 December 2019

There exist many voting solutions, which have different benefits and issues. The most significant difficulties faced by such systems are lack of transparency and auditability. Recently developed blockchain technology may be a solution to these issues. The paper describes the use of intelligent agents and multi-agent system concept for Auditable Blockchain Voting System (ABVS), which integrates e-voting process with blockchain technology into one supervised non-remote internet voting system which is end-to-end verifiable.

[5] Blockchain-Based Electronic Voting Protocol Clement Chan Zheng Wei,Chua Chai Wen Published 10 September 2018

This paper proposes a protocol using blockchain to turn election protocol into an automated control system without relying any single point of entity, and gives a comprehensive overview of the protocol.

III. METHODOLOGY:

An rapid Growth of Technology and Networking helped in Growth of Knowledge and Use of Technology Became Understandable to Common people. Many people Started seeking online services as this are easy and cost effective .E-voting is one of Such easy and profitable Service .

An user can create its Id and Password and Cast a vote from desired location with some designed conditions

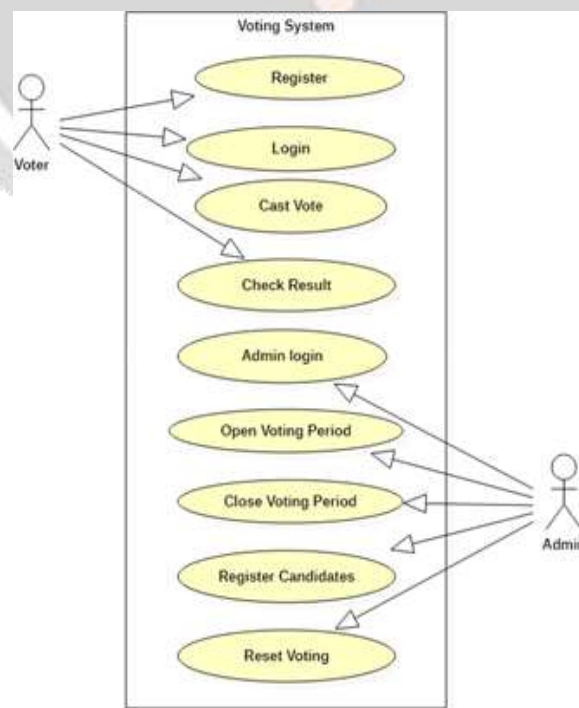Creating ID requires some of persons detail and its all set.
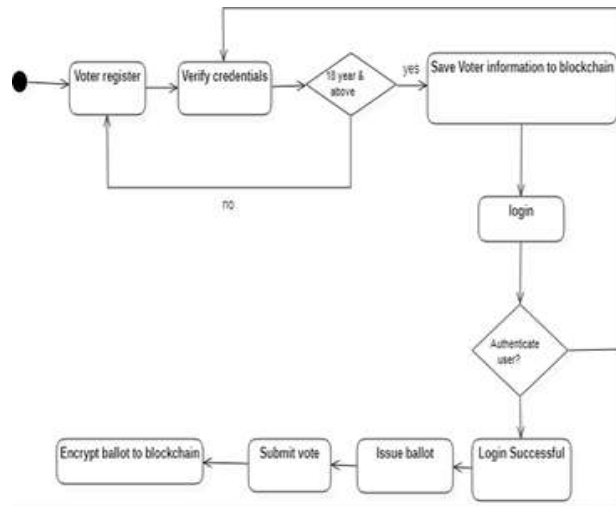

Fig.1 use case diagram

Fig. 2: Activity Diagram

IV. OUTPUT:

After implementing the project, the generated output is shown
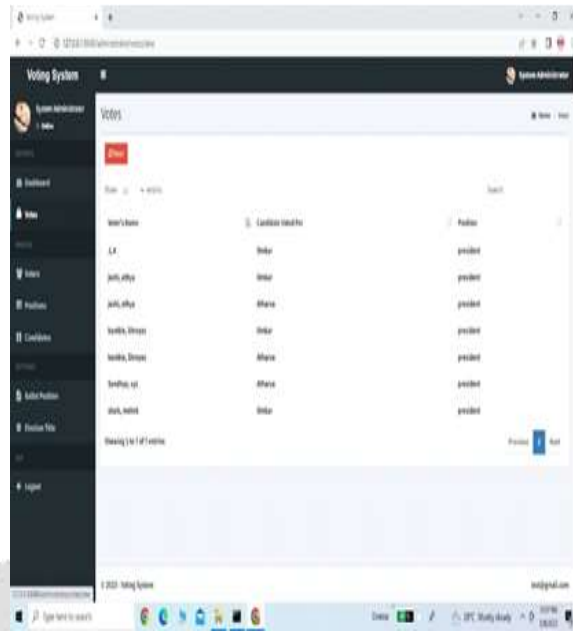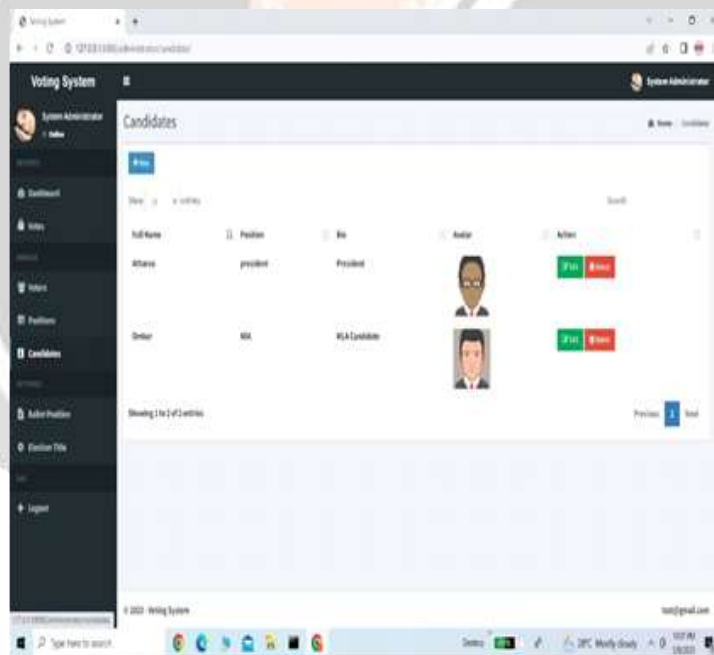
below.

Fig .3: Dashboard

Fig 4: Votes

Fig 5: Candidates
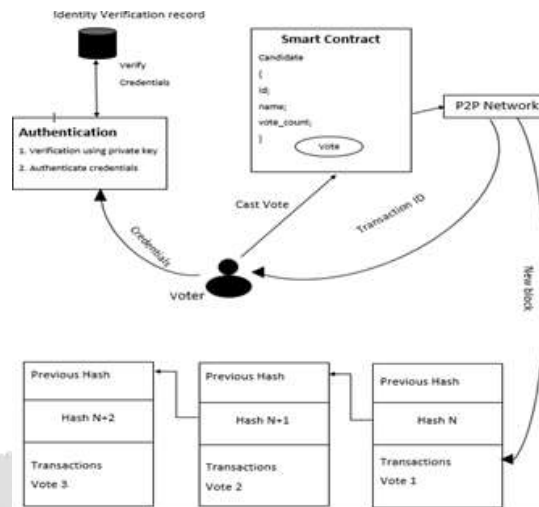
V. PROPOSED SYSTEM:

Fig 6: System Architecture

VI. CONCLUSION AND FUTURE WORK:

 The need to create voting system with next generation technology like blockchain has created an immense opportunity in the voting field to modernizeits infrastructure and harness the power of technology. This improvement willhelp the voters to cast their vote in an efficient manner.

       This idea of adapting digital voting systems to make the public electoral processcheaper, faster and easier, is a compelling one in modern society. It also opensthe door for a more direct form of democracy, allowing voters to vote from anypart of the world through internet and can monitor that their vote has been counted. Blockchain technology offers a new possibility for democratic countriesto advance from the pen and paper election scheme, to a more cost- and time- efficient election scheme, while increasing the security measures of the todaysscheme and offer new possibilities of transparency and guarantee that each individual voters vote is counted from the correct district, which could potentiallyincrease voter turnout.

             This system could be developed further to make it more eligible for nationalgovernment elections, based on fingerprint authentication, using Artificial intelligence for facial and single user authentication and by using upcoming technologies for the easy, better and secured voting.

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