

Authentication and Tracking of Government Benefits Using Blockchain

Rushikesh Kamble¹, Renuka Patil², Riya Shelwante³, Bhagyashri Kankekar⁴, Prof. S.S. Navale⁵

Students^{1, 2, 3, 4}, Professor⁵

Department of Computer Engineering

Sinhgad Institute of Technology and Science, Narhe 411041

Corresponding Author's Email: - rushikesh5001@gmail.com¹

Abstract

India, a fastest growing economy in the world, has a great potential in attracting global customers and adapting to new technologies and changes. Digitalization has great capabilities which in turn improve and enhance the connectivity in nearly every sector of its economy. But at times the distribution of these approaches is uneven among a few sectors of government. Adapting to the latest growing technology will in turn help in bringing great value and a drastic change in the mode of operations/work for the large group of people out there.

Blockchain is one such technology. Due to its feature-like decentralized approach, secure, immutable, tamper proof nature it is being adopted by each and every sector globally. Funds in India, on the contrary, are a heated topic and various schemes issued in public interest are allotted tons of money as funds. Due to the lack of transparency, Blockchain can be used to bridge that gap and to provide a fully secure, immutable environment for funds tracking.

Keywords: *Block chain, Ledger, Block chain applications, Funds*

INTRODUCTION

The increasing rate of corruption in India is a major problem. Many Funds are dispatched by the government every year

but do not reach needy people or desired locations. For many villages contracts are passed but still, there are no good roads for people. Also, we see that in covid

pandemic government promised to people about funds but in reality, lots of people are there who don't receive any benefits from the government. The only reason for the above situations is the increase of corruption. The U4 Anti-Corruption Resource Centre (CMI) aims to identify, communicate and inform approaches and partners to reduce the Harmful impact of corruption on sustainable and inclusive development. Based on a conceptual framework of corrupt practices and processes involving parallel dynamics of institutionalization, rationalization and socialization (Ashforth'Anand, 2003) we derive solid insights into the potential anti-corruption effects of block chain technology.

Authentication and Tracking of Government Benefits Using Blockchain

We try to develop a system that will help to overcome corruption. Our system will maintain the records of transactions that are immutable and shared across many regions. If someone wants to change records he/she will not be able to change the record.

We try to fill the gap between government and people. Using our system, common people will be monitoring funds and track the record. Our assumption is we can

overcome at least 30 percentage of corruption if we develop such a system.

India is 86th rank in corruption worldwide. This motivates to build a system that can prevent corruption in India. So India will decrease rank as much as possible. Also because of the UP government, the UP government developed a system to prevent corruption in the land sector.

The feasibility of blockchain will help us to develop a system to prevent corruption. Blockchain technology's ability to store data in a decentralized system is one way to combat corruption. It ensures and improves the security and transparency of transactions, so that no one can change the data stored in each block. There is also huge potential to use blockchain as an automated transaction tracking system that intercepts corruption and fraud in the shortest possible time, is not dependent on human intervention, and is less prone to error of belief and corruption.

LITERATURE REVIEW

In an article by Carlos Santiso, Mar 05, 2018 [1] - Will blockchain technology be the next disruptive technology to revolutionize government? Probably not. Can it be a game changer in the global fight against corruption? Possibly so. New

technologies are disrupting our lives and transforming government.

Governments around the world are going digital, embracing digital innovations to modernize their bureaucracies and recast their relations with citizens. Technology is changing how governments are expected to meet the rising expectations of citizens in terms of quality, speed, and integrity. Digital citizens are expecting more from their governments, demanding better services and greater accountability. Governments struggle to catch up.

Technology has become the greatest ally of transparency, as it allows one to leverage the insights that can be gleaned from the exponential growth of data.

Digitally savvy citizens are far less tolerant about corruption and have more means to uncover it. There are heightened and even inflated expectations about the potential of blockchain to improve the delivery of public services and strengthen integrity in government. Pilots and proofs of concept are mushrooming, driven by a Myriad of technology-driven start-ups in a wide variety of industries. This enthusiasm is generating intense debate, and an “expectations bubble” is building up rapidly.

Given the hype, it is important to assess both the promises and the pitfalls of blockchain, thinking through what it can and cannot do, based on hard evidence. Initiatives such as blockchan.ge by New York University’s Governance Lab are starting to look closer at whether and how blockchain technologies can be used for social change. Blockchain has emerged first in the financial industry, building on crypto currencies such as Bitcoin.

The requirements and implications of blockchain in the public sector, however, are yet to be fully understood. Key issues include being clearer about the problems it is expected to address, its advantages compared to alternative digital solutions, its fitness-for-purpose in different institutional contexts, and, ultimately, the value it could add to existing institutions.

The Opportunities and Challenges of Blockchain in the Fight against Government Corruption published in 2019 [2] States government corruption is the abuse of public power for private gain. It can assume various forms, including bribery, embezzlement, cronyism, and electoral fraud. At root, however, Government corruption is a problem of trust.

Corrupt politicians abuse the powers entrusted to them by the electorate (the Principal-agent problem). Politicians often resort to corruption out of a lack of trust that other politicians will abstain from it (the collective action problem). Corruption breeds greater mistrust in elected officials amongst the public. The problem of trust is compounded where a lack of transparency and asymmetric information impede effective control over the exercise of public powers.

The advantage of that software is:

1. Help to reduce corruption.
2. Make the process transparent.
3. Tracking of funds is possible.
4. Easy to report about fake transaction.

OBJECTIVES

1. Authenticate/validate the transaction.
2. Tracking of funds, end to end.
3. Make the process transparent.
4. Common peoples will be able to monitor every fund.
5. Try to reduce corruption using Block chain Technology.

METHODOLOGY

Software requirements

This section mentions the various tools and Frame work that will be required to develop this project.

1. Web Browser - A web browser is the most essential when we need to access a website.
2. Python 3.0 - Python is used in this project to develop a front-end part of the system.
3. Django - High-level framework for rapid web development.
4. AWS - Amazon Web Services, AWS, is a cloud-based web hosting service.

Hardware requirements

1. CPU - Intel core i3
2. RAM - 4GB
3. Hard Disk - 500 GB

PROJECT MODULE

In the project there are three entities Admin, Sub-admin, Guest which can access the User interface to perform various operations. Further process is hidden from users like hashing, Authentication, Send Notifications.

There are two primary roles: first one is Admin and second is sub-admin and guest is temporary user which has access to only view and report transactions. Admin have privileges to create sub-admins/admins and create genesis blocks. Sub-admin can add transaction data and beneficiaries Information. Sub-admin first request to login, Credentials are checked at login

page and the sub-admin will be able to add transaction details at this phase transaction is authenticate.

If it's authenticated then it creates a block with previous hash values. Guests can directly view the records; there is no need for username and password .if a user wants to register a report for a particular transaction then there is option for it, first report is authenticated if it's genuine report then and then only the system will notify authorities like policies etc.

CONCLUSION

The project "Authentication and Tracking of Government Benefits Using Blockchain" is designed in order to Detection of illegal activates. Using this system we can track government funds. As, blocks are immutable so no one can make change in it. Common people can track so transparency will be maintained.

REFERENCES

1. The risks and dangers of relying on blockchain technology in underdeveloped countries, Christopher G. Harris School of Mathematical Sciences, University of Northern Colorado, Greeley, Colorado 2017.
2. EGov-DAO: A Better Government using Blockchain based Decentralized Autonomous Organization, Larry Carranco, Ton-Chanh Le, Abraham Bez Surez, Glenn Turner Computer Science Department, and University of Houston, Texas, USA 2018.
3. Blockchain: Panacea for Corrupt Practices in Developing Countries, Ab- durrashid Ibrahim Sanka ,Ray C.C. Cheung ,Department of Electronics Engineering, City University of Hong Kong, Hong Kong SAR, China 2019.
4. Blockchain Potential Contribution to Reducing Corruption Vulnerabilities in the Brazilian Context, Edimara Luciano, Odirlei Magnagnagno, Escola de Negocios, PUCRS, Porto Alegre, Brazil 2020.
5. Logos, mythos and ethos of blockchain: an integrated framework for anti-corruption, ziya aliyev, department of public administration, Erasmus University Rotterdam 2019.