



DAB : Verify Authenticity of Digital Documents using Blockchain

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Abstract: In the digital age, the rise of fake particular instruments has come a pressing concern, challenging the integrity of essential documents like university degrees, passports, and identification cards. This issue is aggravated by security vulnerabilities within being instrument procedures, allowing unauthorized variations and leading to the proliferation of fraudulent instruments. Blockchain technology, famed for its decentralized, transparent, and inflexible nature, offers a robust result to this problem. By using blockchain, these instruments can be securely stored and vindicated, icing their authenticity. The decentralized nature of blockchain prevents unauthorized parties from altering instrument information, furnishing a tamper- evidence system that significantly reduces the threat of counterfeiting. This innovative approach not only enhances the security of particular instruments but also streamlines the verification process, offering a flawless and secure system for validating the legality of these pivotal documents. Identity verification has always been a problem for the banking assiduity, particularly when it comes to Know Your client(KYC) processes. Traditional approaches include indistinguishable verifications over several databases, which can affect in inefficiencies and security pitfalls.

Keywords : Decentralization ,tamper- proof ,blockchain ,authentication ,contracts.

1 . INTRODUCTION

Birth instruments, identity cards, and passports are particular instruments that are essential for day- to- day deals; educational credentials, on the other hand, are critical for career and social advancement. But these instruments can be altered or counterfeited, which presents serious problems for both individualities and governments. Global worries about instrument fraud have made a strong frame necessary to guarantee the legality and authenticity of these documents' sources. This critical problem has a revolutionary result in blockchain which was first conceived by Stuart Haber and W. Scott Stornetta and made popular by Satoshi Nakamoto in 2009 through Bitcoin. The distributed tally system known as blockchain functions grounded on the generalities of invariability, translucency, and decentralisation. Blockchain technology was originally developed to enable safe, decentralised peer- to- peer electronic deals, but its operations have expanded beyond finance. These days, it finds use in a wide range of diligence, including government, energy, healthcare, education, and force chains. Blockchain technology is revolutionising the old paper- grounded degree and instrument

allocation system in the education sector. Educational institutions can safely issue digital instruments through blockchain, allowing for quick and impenetrable verification. This technology protects against hiring unfit workers in addition to doing down with the headaches that come with paper- grounded systems, similar as instrument loss or phony . By icing the legality of credentials through digital verification, the pitfalls connected with fraudulent conditioning and false claims are reduced. As the world embraces blockchain technology, it becomes a lamp of trust and security, revolutionizing the way we validate essential instruments in the digital age. also, blockchain technology is

being used in education for purposes other than only vindicating instruments. It makes it easier to make automated and decentralised literacy platforms that give safe, individualised literacy surroundings. Smart contracts, a abecedarian element of blockchain technology, give easy cryptocurrency payments, simplifying deals for both educational institutions and scholars. also, by offering visible and incommutable records of intellectual property, blockchain protects the integrity of scholarly examinations and publications. Blockchain improves effectiveness in the education ecosystem by digitising scholarly benefactions and academic achievements. It also fosters a culture of legality and trust. also, the intellectual rights of pens, artists, and preceptors are defended through the use of blockchain in publication and brand protection, which promotes invention and creativity. As academic institutions do to incorporate blockchain technology results, the sector is poised for a transformative shift, empowering learners and preceptors while buttressing the integrity of the entire education system.

II. Literature Survey

Anjali Singh states that Traditional paper- grounded educational instruments frequently face issues like damage, loss, and time- consuming verification processes. This paper proposes a result exercising Blockchain technology, specifically the Ethereum platform and smart contracts. By converting paper instruments into secure digital performances, each document is assigned a unique ID and sale hash. Enhanced Security and Tamper- Proofing The TVS scheme utilizes blockchain's cryptographic security to produce tamper- evidence digital hashes of office documents. DAB corroborate Authenticity of Digital Documents using

Blockchain Decentralized translucency By using blockchain's decentralized nature, TVS eliminates the need for central authorities, promoting translucency and reducing the threat of fraud. [1]Ujwala Ravale states that In the period of digital deals, particular identity documents are constantly participated with colorful realities, leading to security pitfalls and vulnerabilities. fiscal associations, in particular, grapple with storing sensitive information securely. Blockchain technology emerges as a robust result. It minimizes repetitious checks, security .This system offers secure and effective notarization through blockchain and eID integration, icing tamper- evidence records and simplified access. Qatawneh , Orieb informs that Blockchain technology, with its core attributes of decentralization and translucency, serves as a potent tool to combat counterfeiting in colorful disciplines. [2]This study focuses on the vital part of blockchain in precluding the allocation of fake particular digital instruments, similar as university degrees and identification cards, by exploiting security vulnerabilities in the current instrument procedures This literature mapping provides a structured overview of exploration on secure identity operation, exercising blockchain technology to enhance data protection and authentication processes.

III . EXISTING SYSTEM APPROACH

1. Blockchain Adoption in Certificate

Verification: Adoption of Blockchain Technology in Certificate Verification: Applying blockchain technology to enhance the authenticity and security of government certifications has been the subject of extensive research. Passports, identity cards, and birth certificates can now be successfully authenticated because to the decentralization and immutability of blockchain technology. These investigations demonstrate the importance of a tamper-proof system in preventing fraud connected to certificates [1]. Furthermore, blockchain technology has radically changed the education sector and decreased the dangers related to fraud and false claims by digitizing certificates and enabling transparent verification procedures [2].

2. Decentralized Learning Platforms and Smart Contracts :

Recent studies have focused on the application of blockchain technology in education, going beyond traditional certificate verification. The ability of blockchain technology to create automated and decentralized learning systems is one of its key characteristics. These platforms offer safe, customized learning experiences, which enhances the entire learning environment. Furthermore, the adoption of smart contracts in education has streamlined the process of paying with cryptocurrencies, ensuring secure and efficient transactions for both students and educational institutions. [3]

3. Blockchain for Academic Research and Copyright Protection:

Scholars have investigated how blockchain technology might safeguard scholarly research and intellectual property. Blockchain provides visible and unchangeable records of academic labor, ensuring the integrity of intellectual research and publications. This has significant implications for defending intellectual property

rights and fostering academic innovation and originality. The use of blockchain technology for copyright and publishing protection has grown in importance, emphasizing the need for trustworthy and secure procedures to protect the works of authors, artists, and educators [4].

4. Challenges and Opportunities in Blockchain Adoption:

Academics state that while blockchain technology has enormous potential to revolutionize credential verification and educational systems, there are several issues that need to be resolved. Among these issues include scalability, interoperability, and the integration of blockchain technology into the present educational systems. Studies have proposed strategies to overcome these challenges and ensure a smooth implementation of blockchain technology in educational institutions [5]. Moreover, studies are continually being carried out to look into new applications of blockchain technology, which is opening up new possibilities for its integration into the educational sector [6].

5. Conclusion and Future Directions:

The study of related work ends with a summary of the different ways that blockchain technology is being used in credential verification and education. Through the application of blockchain technology's core features, academics have made significant strides toward mitigating the limitations of traditional certification methods and enhancing their validity and security. In order to properly leverage blockchain technology in education, business, government, and academia need to collaborate to get past the challenges that have been identified.

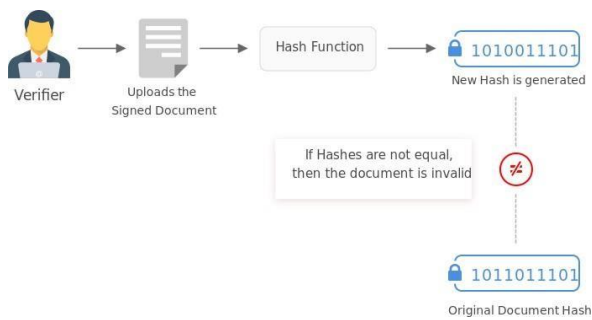
IV. METHODOLYGY USED

Now that we have covered the concepts of blockchain, its development, and the tools needed to put it into practice in chapter two, we have enough background knowledge to comprehend and get started on the construction of our suggested system. [4]We'll go over our process for developing a document verification system in this chapter. We'll go over the methods and resources we employed in detail.

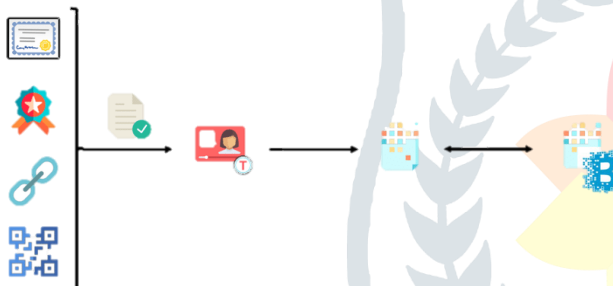
First, we need to develop and implement a smart contract before we can build a blockchain. The generated smart contract will serve as the foundation for building the front end. Next, we establish communication between the frontend and the smart contract via Web3. Then, a digital currency wallet is used to finish the transactions. The workflow is depicted in the diagram below:

V . PROPOSED SYSTEM APPROACH

The figure below shows the workflow method and system architecture. Relevant parties in the system include the graduating student, the university that provided the document, the firm, and the place the student intended to go for personal reasons, such finishing graduate school or seeking work..



After graduation, the institution keeps the graduating students' documents in its own archiving system (Blockchain), and the student receives a PDF file or a QR code for additional verification. A student sends the university his or her PDF or QR code file when they choose to apply to a business in order to obtain employment or finish postgraduate coursework. This institution visits the website of the university that provided the graduate student's document in order to verify the student's priorities. The university that issued the document will confirm its legitimacy or reject it.



VI CONCLUSION AND FUTURE WORK

Basically, an advanced and efficient technology that is far from the norm is needed to accomplish our daily dealings. Blockchain technology is a great and unparalleled invention for such a need. Blockchain is one of the most popular and recent growing technology that is underuse in different sectors such as health care, insurance, banking, evoting, supply chain management and certificate verification and digital identity etc. Blockchain is considered secure technology, which stands in publically distributed and peer to peer networks. Blockchain allows storing excessive amounts of data due to complex network architecture.

There are possible additions and improvements for future works. More creative requirements are needed to drive the project forward. The project supervisor can submit our purposed ideas as a future graduation project in the coming years, or a senior propose them to project supervisors as an idea for his graduation project.

IPFS necessitates the use of long-term memory for File storage to can be recovered later. As a result, our recommended future plan will be to store document files on servers located throughout the region of interest. This is a significant step forward in terms of reliability and efficiency.

V REFERENCES

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