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# Trusted Framework for Online Banking in Public Cloud Using Multi Factor Authentication Using Block Chain Framework

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**ABSTRACT:** There are persistent possible risks from viruses, ransomware, adware and hackers. In the past few years, several large multinational corporations have been infiltrated and compromised. In some situations, this has resulted in the disclosure of sensitive and sensitive records, including bank numbers, addresses, financial transactions, etc., with a good monitoring mechanism in place that will avoid certain incidents until they get close to the company's private data. This is critical not only in terms of secrecy, but also to escape the costly penalties levied on firms who do not secure consumer information effectively. The project is a verification framework that only verifies the user when they have the right entry credentials to enter the system. Three user certificates are included in the project, i.e. Of modules. There are several forms of usable security certificates. So, we use custom blockchain for banking protection and user authentication purposes in this proposed framework. There is less scope for hacking and leakage of sensitive data when using these levels of authentication. Safer bank transactions are also needed in today's scenario, as the technology in the security sector is enhanced. They have also been active in industries such as industry, pharmacy, telecommunications, home automation, etc. Essentially, Blockchain is a public ledger. It will hold facts such as who owns or claims a trust on a specific piece of property. The technology can be used to retain an immutable ownership record and allow the asset to be transacted by distrustful parties.

**KEYWORDS:** Machine Learning, Python, CNN(Convolutional Neural Network).

## I. INTRODUCTION

One of the most vulnerable sectors is the banking sector. It requires high security and many solutions to solve this problem have been invented (for example, Micro-services). In all aspects of banking, blockchain will remove the threat or the possibility of theft, and this may extend similarly to a trading platform. In addition, because it can be made open and permanent, Blockchain can also fix concerns such as operational risk and compliance costs. The traceability and permanent historical record that would remain on the Blockchain would offer assurance and authenticity in the supply chain by backing up any asset or value object that was traded. so let's look at top blockchain usage cases that have proven their reasonableness and efficacy. If you've ever looked at some degree of cryptocurrencies, so you may have seen the word blockchain being batted about. Banks are now introducing this valuable piece of technology to give their customers a smoother banking experience online. Let's take a look at how this blockchain is revolutionizing the online banking landscape.

## II. RELATED WORK

Banks provide people and countries with the impetus to expand economically. They make it quick, safe and convenient for financial trading. Banks are active in welfare activities and donate to individual social causes as well. Financial transfers are made by most banks via passbooks, ATMs, mobile banking, electronic banking and telephone banking. E-banking and mobile banking can be more efficient for these financial transfers, and these two are important for busy people. Specifically, supplying users with an affordable, efficient and stable e-banking service is important because customer demands and cyber-attacks on internet-based technology are growing. We live in a world that is very important for personal protection and for the neighborhood. It is easy to uninstall standard protection mechanisms such as passwords, speech recognition, finger-publishing, palm scanning and Iris scanning. We can enter the device by

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learning the password, and we can crack the remaining authentication scheme by coercion or by setting one in a state of understanding. The proposed blockchain-based authentication technology, thus, allows the privacy protection of our transactions, sensitive data and quality solutions to be managed. The bank account can only be safe if both these steps fit. Among all methods used for defense, 1this is the strongest. So, this makes the soul special to it. Security is also an important topic of interest when blockchain technology hits a high degree. A protection mechanism for industrial use has not been developed for this cycle, but it does not preclude someone from being tempted by it.

## III. BLOCKCHAIN

As mentioned, the concept of a blockchain first grew up around cryptocurrencies. To be specific, it was the record-keeping technology used to keep track of cryptocurrencies like Bitcoin. It is a decentralized ledger, accessible to everyone, which helps to keep strangers honest and consistent in their online transactions.
It is easiest to imagine the blockchain as a literal chain of blocks to fully understand it. The “blocks” are digital information about transactions while the “chain” is a public database they are stored on.
The blocks are made up of information like the date, time, and amount of the transaction plus a digital signature of the person who made it. If the person was to create a second transaction from the same online store using a blockchain, the new block would have many of the same characteristics but would be different from the first, due to a different “hash code,” the cataloging code blockchains use.
A block can store 1MB of data. That might not seem like very much nowadays, but it is actually enough to store a few thousand transactions.

**Why Use Blockchain?**
Wait, if a blockchain is accessible to anybody, why is it safe to use? Surely anyone could then log on and take a look at our private data? Not so, blockchains are actually quite secure.
Anyone who has access to the blockchain can make a copy of it to view at any time, meaning that at any given point there might be thousands of copies of one blockchain in operation. For a hacker to manipulate the blockchain, they would simultaneously have to manipulate all existing copies of it, and this is a task well beyond the skills of what online hackers and fraud artists are capable of.
Furthermore, your information is kept safe thanks to that digital signature. You do not have to provide any information to the block except the contextual details of the transaction like the amount given and the date and the only information about you is the digital signature; something which is practically arbitrary.
With this complete lack of geographical context to your transactions (as not even IP addresses are stored on blockchains), the transactions are reduced to near-meaningless lists of data to an outsider. The records exist thanks to the chain, but they will be of little use to anyone.

**What Makes Blockchains Secure?**
Banks are interested in blockchain technology as it is a secure way to keep financial records. Why is this? For one simple reason; bank records can always be edited but blockchains cannot.
This is because new blocks are always added to the end of the chain, so they are always stored in chronological order. Remember those hash codes? Each block on the chain has a unique hash code, but it also stores the hash code of the block directly above it. If anything is done to change the data stored on one block, this will alter its hash code.
However, this will have to alter the hash code of the block above, which will then alter the code of the one above. Since this can only be done through manual manipulation, it just can’t be done.
Bitcoin’s blockchain is over 580,000 blocks high as of June 2019, and this is only increasing with every passing minute. The computational power needed to edit that blockchain just simply doesn’t exist. Once the block is made, it cannot be edited and the data it stores is secure.

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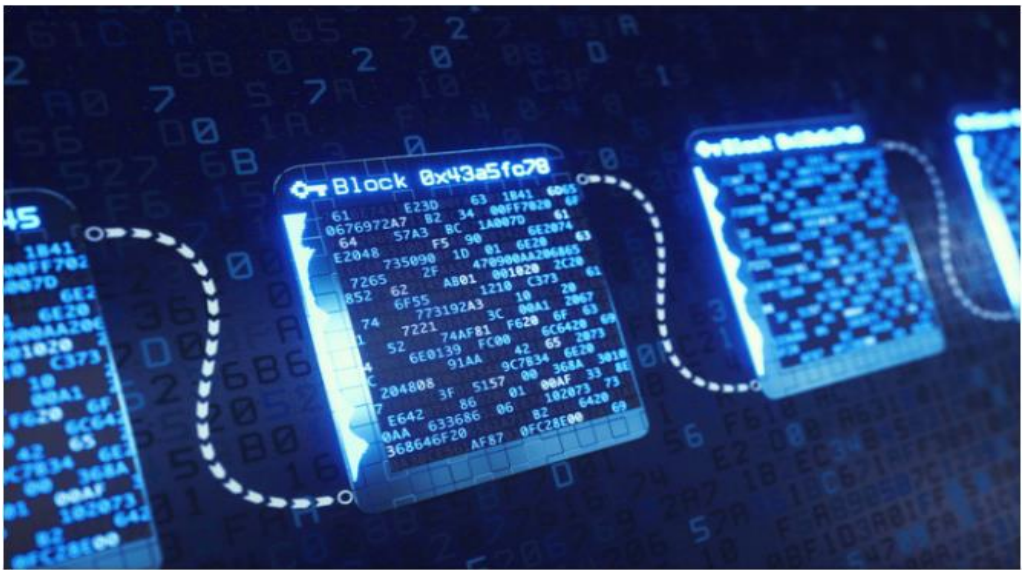


**Fig. 1: Blockchain Technology**

**Why are Banks Interested?**

Online banks are interested in blockchain technology as it has the chance to change the way they do business majorly. Transactions are currently limited by the actual working hours of the bank, meaning that banking often can't be done on a Sunday.

The blockchain runs 24 hours a day, 7 days a week, and this could significantly speed up the transaction times banks are facing. Banks are already looking into ways this can be implemented, and perhaps it won't be long before this becomes common practice.

Taking things digital means decentralizing and giving access to anyone who could use it. Transactions between different countries would not have any fees, and cryptocurrencies also allow those with unstable currencies to trade on a more open field.

With applications for secure data storage spreading far beyond what we can expect from the financial sector, it is obvious that blockchain technology is our next step in safe records and private transactions. The changes it can bring to both the banking sector and our everyday lives will be amazing.

**What about convenience?**

Converting over to the blockchain is still in its early stages when compared to the track record of traditional banking practices. The idea is nice in principle, but the convenience factor still isn't there. Many people prefer cash and therefore prefer a traditional physical bank based on proven practices.

Others opt for the online option, taking their time to find the best online banks. Ultimately, cash is becoming less convenient, especially with the rise of cashless businesses. These online banks can offer competitive benefits due to their decreased amount of overhead. Maybe once blockchain conquers the convenience factor, society will be able to make a cultural shift to blockchain banking.

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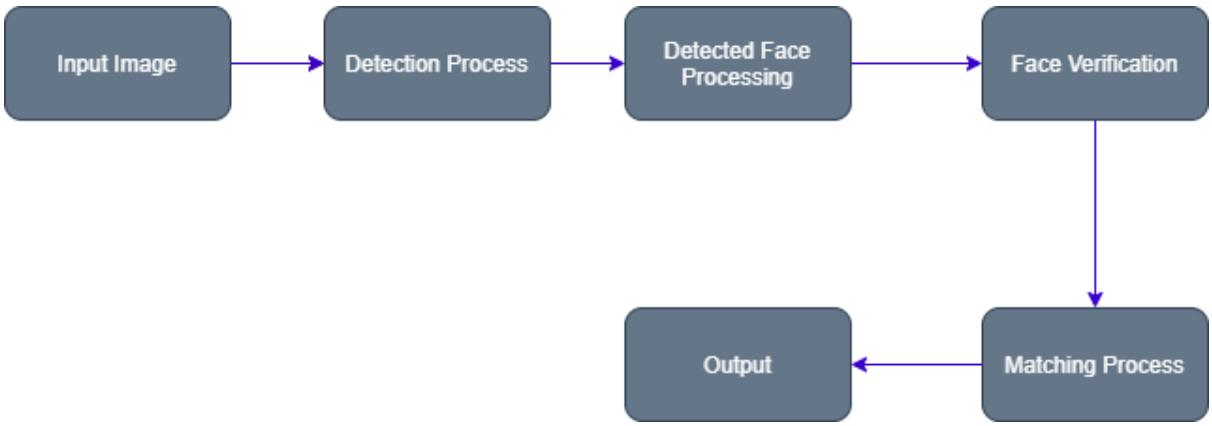
## IV. PROPOSED SYSTEM




## V. CONCLUSION

The integration of online banking into the cloud would include specialist solutions at nominal cost, fast processing speed, secure storage and advanced business functionality. Data protection and anonymity, citizenship and legal regulatory regulations remain top and legitimate issues that discourage the implementation of public cloud environments by banking organizations. We defined two realistic security measures in this post, the multifactor biometric fingerprint authentication and safety portal, which helps banking organizations to retain their own controls in a shared cloud over customer-sensitive data. In fact, the cloud service provider and other malicious users would not be shown user credentials and customer account records. The MFA is used to check whether online banking facilities are authenticated by the customer or not. Fingerprint data is a crucial factor for verification in our strategy. Using data extraction, biometric matching, and symmetric and asymmetric encryption/decryption algorithms, we established the MFA protocol. Using GNY conviction logic, we also examine the completeness of our proposed authentication protocol. Our proposed encryption portal enables businesses to secure the confidential details of their clients destined for the public cloud and to resolve data protection issues. As an important part of the security gateway, we have incorporated sophisticated tokenization methods and data anonymization protocols to maintain the anonymity of the main piece of information from hostile attackers within and outside. Our suggested security frameworks make an average citizen in the cloud safer and more available for banking online services. We intend to introduce query auditing strategies to detect and avoid the leakage of sensitive information in future work, as well as to establish an appropriate self-learning algorithm to recognize sensitive data fields in complex cloud datasets.

## REFERENCES

[1] Human Action Recognition based on Convolutional Neural Networks with a Convolutional Auto-Encoder. Chi Geng,JianXin
Song 5th International Conference on Computer Sciences and Automation Engineering (ICCSAE 2015)
[2] Komkov D.K. «Features, applications and directions for the development of distributed databases». [Electronic resource]. URL https://cyberleninka.ru/article/v/osobennosti-sfery-primeneniya-inapravleniya-razvitiya-raspredelennyh-baz-dannyh
[3] Butakova N.G., Fedorov N.V. Kriptograficheskiye metody i sredstva zashchity informatsii: uchebnoye posobiye. – SPb.: ITS «Intermediya», 2016 - 384 p
[4] Maas T. «The Quick, 3-Step Guide to Blockchain Technology» [Electronic resource]. URL: https://hackernoon.com/3-steps-tounderstanding-blockchain-8a285572daa3
[5] Dobkina L. «5 advantages of the blockchain and one trap for the investor» [Electronic resource]. URL https://ru.ihodl.com/investment/2017-12-13/5-preimushestvblokchejna-i-odna-lovushka-dlya-investora/
[6] Osmolovskaya A. S. «Smart Contracts: Functions and Applications» own [Electronic resource]. URL https://cyberleninka.ru/article/n/smartkontrakty-funktsii-i-primenenie

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