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International Money Transfer Using Blockchain

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Abstract: *The proposed project aims to implement the use of blockchain technology, namely Ethereum blockchain, in order to streamline international transactions in the banking system and reduce their costs. The idea is to transform the entire manner in which the cross-border transfers are conducted by utilizing the intrinsic attributes of blockchain, such as immutability, and decentralization. The problem of middle-man banks can be eliminated, through decentralized banking program. This simplifies the process of transaction. Smart contracts play a great role in this system since they will automatically enforce transaction rules and ensure the compliance of all people. This creates credibility and genuineness in the process. The abstract discusses the design and the establishment of such a system. It demonstrates that it can significantly enhance the current state of affairs with regard to remittance to foreign countries and make it more efficient, cheap, and create confidence in transactions.*

Keywords: International money transfer, block chain, Amount, decentralizaion, ethereum

I. INTRODUCTION

Quick, safe and clear international money transfer systems are highly proficient in a world economy that is increasingly becoming interconnected. Conventional options such as wire transfer, third party remittance services, among others, have numerous flaws, such as exorbitant transaction charges, lengthy processing time, and limited transparency [1]. These structural inefficiencies demonstrate the importance of adopting new technologies to transform the manner of conducting cross-border financial transactions.

The blockchain can be regarded as a powerful alternative to the conventional approaches. Blockchain is the distributed system of registering that the existence of cryptocurrencies such as Bitcoin and Ethereum relies on. It is open, cannot be changed and cryptographically secure [2]. Due to these aspects, blockchain may present an enormous possibility of how money can be sent across countries, capable of being settled more swiftly, gaining more trust, and with less practical complexity.

Banks play the role of the intermediaries between the source and receiving institutions to facilitate transactions in the traditional transfer systems [3]. Although the middlemen ensure that payment is made, they increase the cost of transacting money especially on sending large sums [4]. Furthermore, due to verification and compliance measures, every middle level introduces time in which the information is processed, and thus funds are delayed [5]. The absence of end-to-end visibility only makes the process even less efficient since individuals engaged in a deal cannot always understand how it is going in real-time, which is the cause of doubt and less trust [6].

To address these issues, the proposed project will introduce blockchain technology in the remittance of funds between nations. Blockchain enables the documentation of events using a distributed ledger architecture [7], in a manner that is immutable. The transactions are stored in a block whose cryptographic hash of the previous block is stored. This forms an indestructible chain that ensures the safety of data and reduces the chances of theft [8].

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Blockchain is stateless and therefore enables peer-to-peer transactions, eliminating the requirement of middle-man banks [9]. This reduces the number of middlemen, hence reducing the transaction costs as well as time taken to complete payment. Also, blockchain can be verified and tracked in real time, so a clear and auditable history of transactions can be observed by authorized users [10].

The implementation tool that was selected is Ethereum since it possesses advanced smart contract functionality. Computer programs that execute the predetermined conditions of a deal without the assistance of any human are called smart contracts that reduce the risk of operations and people [11]. Another feature that is supported by Ethereum is the development of decentralized applications (DApps) that enable individuals to develop their own financial applications that satisfy the requirements of international transfers. It is even better in this project due to its mature ecosystem, vibrant developer community and continuous security enhancement [12].

In conclusion, conventional methods of transferring money across the borders are characterized by excessive expenses, excessive temporal delays and lack of information. The proposed solution leverages blockchain and smart contract technology of Ethereum to develop a quicker, more secure, and more transparent system of transferring cross- border money. This will assist in the growth of the financial system in the world.

II. RELATED WORK

This is the reason blockchain technology has received a significant amount of attention over the past few years since it can transform numerous areas, including industrial networks, data sharing, equipment maintenance, and security. This literature review examines the latest publications and advances in the low latency blockchain architectures, access control structures, smart maintenance, the issues that blockchain introduces, and the approaches towards enhancing security by blockchain.

A comprehensive study of low latency blockchain systems specially designed to work with industrial networks was carried out by Ikechi Saviour Igboanusi et al. [1]. The paper emphasizes the significance of the blockchain systems having a minimal delay to ensure that the transactions and data processing can occur in real time. We examine various approaches and strategies of creating industrial blockchain networks of low latency. This assists us in knowing the design issues and trade-offs that occur when implementing these architectures.

The access control system proposed by Wei Zhou et al. [2] should be based on the blockchain, which would help to provide people with a safer way to share their data on the industrial internet. The framework uses blockchain technology to generate an immutable and secure database of rules of access control. This ensures that sensitive data is only accessed by authorized people. The framework applies the smart contracts and cryptography to offer strong access control measures. These reduce the chances of unauthorized access and alteration of the data.

Qiuan Chen et al. [3] invented a novel method of executing clever maintenance on complex machines by integrating blockchain and digital twin technologies. The paper also examines how blockchain can facilitate a safer and open exchange of data between digital twins and real assets that can be used to aid fault diagnosis and scheduled maintenance. The suggested solution would allow making the maintenance of industrial equipment more effective and dependable because of the capabilities of blockchain to be logged and viewed by all people.

Will Cong et al. [4] investigated the potential of the blockchain technology to transform most businesses and the way that it can be disruptive. This study demonstrates the transformation of traditional ways of doing business using blockchain. It dwells on the smart contracts and their applicability in automating and enforcing accords. The authors demonstrate the transformations of economic, legal, and social norms with real-life examples and interpretations brought about by blockchain, and pave the way to decentralized and trustless systems.

According to blockchain technology, Yitong Liu et al. [5] proposed how the corporate internet identification data could be safer. The paper examines how blockchain can enhance the security and credibility of identification information within the business environment and prevent it to be hacked or be accessed by individuals that are not meant to. The recommended approach relies on cryptographic primitives of blockchain and decentralized consensus mechanisms to

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deliver high-performance authentication of the user and integrity of the data. This increases general safety of industrial internet systems.

In the literature review, it is demonstrated that the blockchain technology can be applied and it can assist in numerous spheres, including industrial networks, data sharing, machine maintenance, and security. The most recent studies in these directions will give us much information on how blockchain can be utilized to address significant issues and drive the business environment to innovations. The research demonstrates that blockchain produces an enormous impact on the industry processes and makes them safer, more efficient, and transparent. Such applications can be observed in low latency blockchain architecture, access control model, and smart maintenance systems.

III. MATERIALS AND METHODS

The suggested system will overcome the shortcomings of the current foreign transaction system by utilizing the blockchain technology, the Ethereum blockchain to develop a decentralized banking application.

The system applies blockchain technology, namely, Ethereum blockchain, which has the following characteristics: immutability, transparency, and decentralization. Transactions are stored on blockchain in an encrypted and impossible to cheat way and that brings transparency and confidence among the participants.

The suggested system will have a decentralized banking application that will enable users to create and orchestrate foreign transactions directly on the blockchain. The application facilitates the transaction process by removing the involvement of the middle-man banks that make the transaction expensive and inefficient in terms of time.

Smart contracts will be important in the suggested system as they will automate the rules and conditions of transactions. Smart contracts are smart contracts and the terms of the contract are coded.

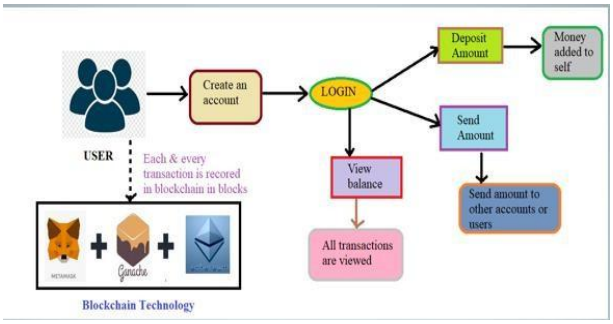

Fig. 1. System Architecture

The diagram in figure 1 illustrates a blockchain money transfer process. One can start by creating an account and signing in the site. On being verified, the users are allowed to add money to their account, the users are also allowed to send money to other users or they are also allowed to view their account balance and transaction records. Money is transferred safely between accounts, and deposited amounts are added to the account of the user. With Ethereum tools such as MetaMask and Ganache, every transaction will be stored in a blockchain block. This ensures that all the transactions are transparent, irreversible and safe in a decentralised system.

A) Modules:

The modules that we applied to this project are user and amount.admin.

These modules description given below:

Open An Account: With this module, initiating new users or buyers is easier since it involves the collection of personal or business details, identity, and other data needed. It adheres to the KYC (Know Your customer) regulations which ensure that it complies with the legal provisions. Storing the data in the Ethereum blockchain ensures that it is not lost or altered and enhances confidence and safety in the employment process.

Login to Account: In this module, authentication will be employed to ensure that the registered users are who they present themselves to be when logging in. Once they are validated, users will be able to log in to their personal

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accounts and view a history of their transactions, the current amount of their account and other useful information. The system enhances security through effective registration measures that ensure safety of the user account information and this creates confidence in the process of logging into the system.

Deposit Amount: This will allow users to add money into their accounts easily. Storing events using the Ethereum blockchain ensures that the information is stored in a manner that cannot be altered. That is why the process is clear and easy to check. Blockchain offers users security in that all their transactions are securely logged in the blockchain. This renders the history of the deposit clear and inalterable. This increases the chances of people having trust in the banking process and hence safeguard user funds and make them honest.

Send Amount: This capability allows a user to send money in one account in the system to another account in the system or an account outside the system securely. When trading with the Ethereum blockchain, transactions are trustworthy and secure and this ensures that the transferring process is trustworthy. The transfer can be easily initiated by users as they are aware that all their transactions are safely kept in blockchain. This will make the process of fund transfer more reliable and transparent.

View Balance: The blockchain ledger provides real-time information to this module hence users can view the amount in their account in real time. Ensuring that the information is accurate and up to date provides the individuals with the latest financial information. Collectively, each component of the KYC verification system operates with the Ethereum blockchain to ensure that the user accounts, as well as activities, are handled safely, transparently, and within the laws. The two of them ensure that the system is upright and functions effectively and in accordance with the regulations imposed by the government.

B) Tools & Technologies:

Blockchain Technology: The open nature of blockchain is used in the project to allow individuals to send money to one another all over the globe without a central authority. Transactions are logged in a manner that is understandable and cannot be altered through the use of distributed ledger that is replicated in many computers. This setup eliminates intermediaries, enhances autonomy and ensures that correct, verified transaction records are only visible to their authorized users on a real-time basis.

Smart contracts are the implementation of already predetermined conditions of transfer, and therefore transactions can be executed safely without human intervention. This approach ensures the integrity of the data and prevents unauthorized interventions when it is coupled with the cryptography background of blockchain, which prevents the alteration of data. It is because the transactions that have been recorded cannot be modified that makes security much stronger, safeguards financial information and makes money transfer across countries faster and more dependable.

Ganache: The testing environment used in this project is Ganache which is an Ethereum local environment. It provides a visual means of monitoring the blockchain transactions such as accounts, transactions, and installed smart contracts. It allows you to have a closer look at each block by displaying the block number, the time, the amount of gas consumed, and the activities that were involved. Ganache also provides easy access to the data stored in the blocks, and this allows the developer to view blockchain events, experiment with how smart contracts operate, and monitor the overall network performance during the development and testing process.

Metamask: MetaMask may be utilized both as an ethereum wallet and a browser extension. It simplifies the management of the cryptocurrencies of the users who are mostly Ether (ETH), and it links them to decentralized applications (DApps). Ether can be stored, shared and received by people, and they are also able to use their web browsers to access several Ethereum-based applications.

MetaMask is a secure method of receiving and sending Ethereum in the project environment. It allows individuals to transact using the International money transfer method to have clear transactions with ETH. To illustrate, it simplifies the procurement of ETH to carry out various activities or payments in the system to ensure that every financial activity is transparent and secure.

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IV. EXPERIMENTAL RESULTS

Fig.2 Main Page

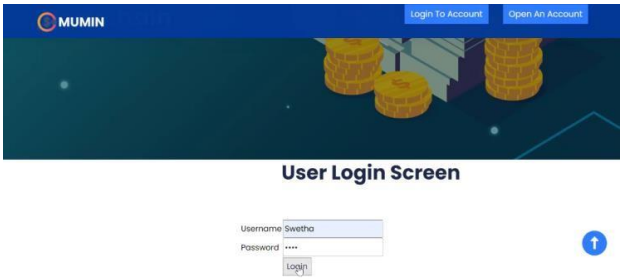

Fig.3 User Login Page

Fig.4 Deposit Amount Page

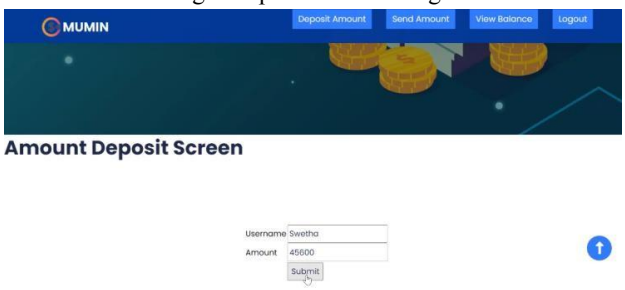

Fig.5 Amount Deposit Page

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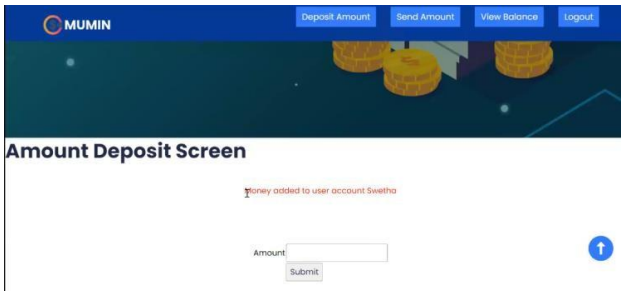

Fig.6 Money Added to User Account Page

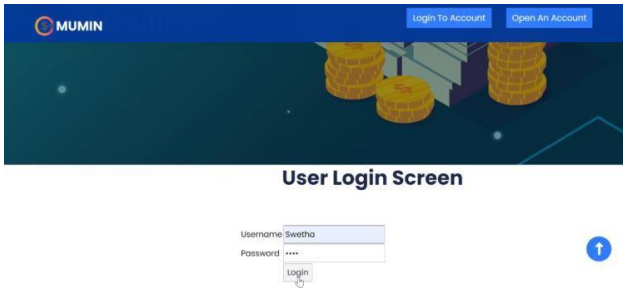

Fig.7 User Login Page

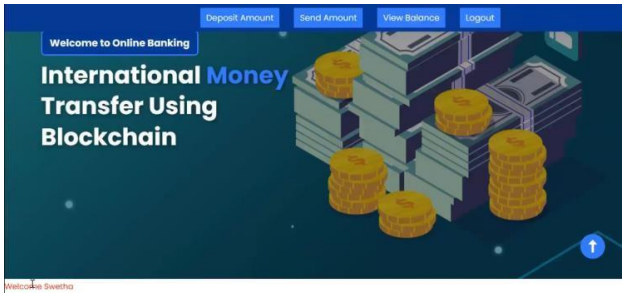

Fig.8 Main Page

Fig.9 Send Amount Page

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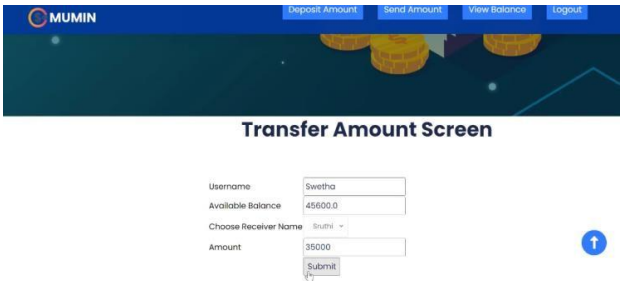

Fig.10 Transfer Amount Page

Fig.11 Main Page

Fig.12 View Balance Page

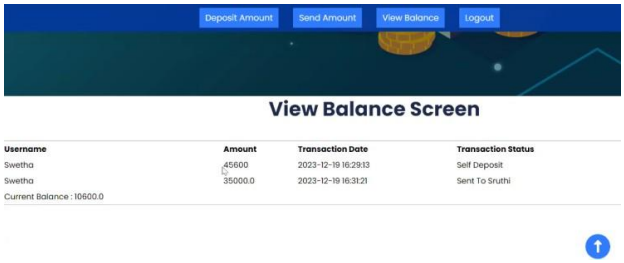

Fig.13 Balance Page

Fig.14 Logout Page

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Fig.15 Login to Account Page

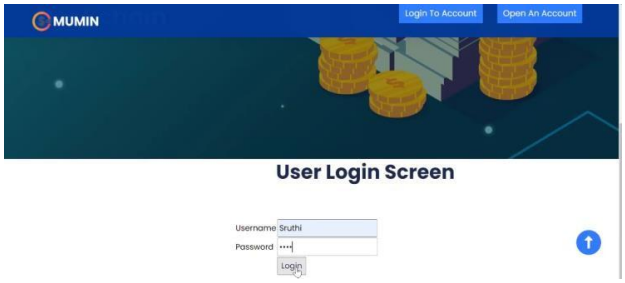

Fig.16 User Login Page

Fig.17 Main Page

Fig.18 View Balance Page

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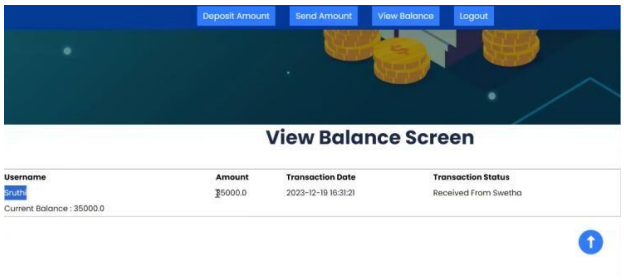

Fig.19 Balance Page

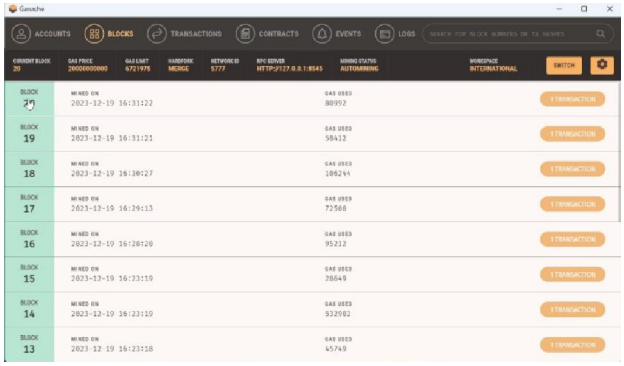

Fig.20 Ganache Page

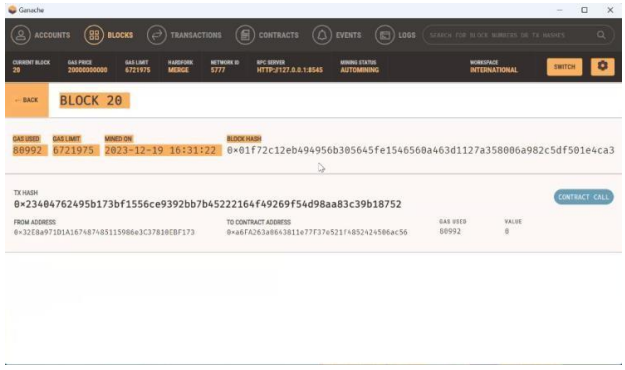

Fig.21 Ganache Page – Block 20

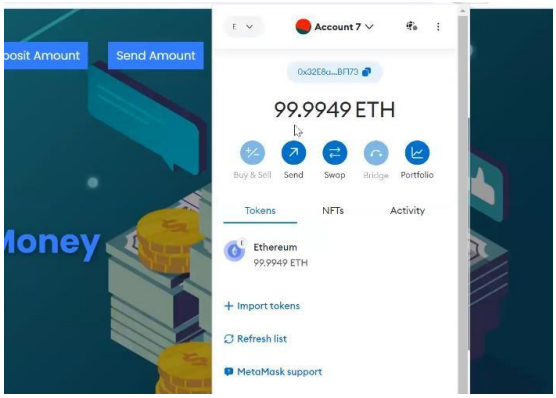

Fig.22 Meta Mask Page

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V. CONCLUSION

This project demonstrates the transformation of blockchain technology on the manner in which foreign money transfers are performed by pointing out how faster, cheaper, safer, and more open it is as compared to the old methods of transfers. Although legal compliance, integration, scalability, and trust building has been an issue, the project has come a long way indicating that the project is stable and adaptive. The project is interested in the removal of middlemen, reduction of transaction costs, and acceleration of trades using the decentralized network, smart contracts, and distributed ledger of blockchain. This will enable more efficient process making, and money saved. It is a significant shift in the international transfers mechanisms due to this ingenious application of blockchain. It has greater security provisions and opens up possibilities of more innovations in the global financial arena. All in all, the project is a massive leap in the right direction which will bring massive implications to the idea of foreign money transfer in the future.

The proposed system may be applied not only in the transfer of money across the borders. It might as well be remittances, trade finance, supply chain finance and cross- border business payments. Besides increasing the size of the system, this would also allow global financial transactions to be quicker and easier to people in a variety of different areas.

Although the system is destined to disrupt the normal banking system, there may be the possibility that the system can work and be linked with the existing banks. Banks should enhance their foreign exchange services to use blockchain technology and decentralized applications. This would provide the customers with quicker, less costly and more open choice. This type of cooperation would transform the very nature of how money functions using the capabilities of blockchain innovation with the long-established infrastructure and experience of a traditional banking institution, which would be beneficial to both the consumer and corporate sectors.

REFERENCES

[1] S. Nakamoto, Bitcoin: A peer-to-peer electronic cash system, [online] Available: https://bitcoin.org/bitcoin.pdf.
[2] Z Zheng, S Xie, H N Dai et al., "Blockchain challenges and opportunities: A survey[J]", International journal of web and grid services, vol. 14, no. 4, pp. 352-375, 2018.
[3] A A Monrat, O Schelén and K. Andersson, "A survey of blockchain from the perspectives of applications challenges and opportunities[J]", IEEE Access, vol. 7, pp. 117134-117151, 2019.
[4] M Belotti, N Božić, G Pujolle et al., "A vademecum on blockchain technologies: When which and how[J]", IEEE Communications Surveys & Tutorials, vol. 21, no. 4, pp. 3796-3838, 2019.
[5] K Wüst and A Gervais, "Do you need a blockchain?[C]", 2018 crypto valley conference on blockchain technology (CVCBT), pp. 45-54, 2018.
[6] E Sisinni, A Saifullah, S Han et al., "Industrial internet of things: Challenges opportunities and directions[J]", IEEE transactions on industrial informatics, vol. 14, no. 11, pp. 4724-4734, 2018.
[7] A R Sadeghi, C Wachsmann and M Waidner, "Security and privacy challenges in industrial internet of things[C]", Proceedings of the 52nd annual design automation conference, pp. 1-6, 2015.
[8] H Boyes, B Hallaq, J Cunningham et al., "The industrial internet of things (IIoT): An analysis framework[J]", Computers in industry, vol. 101, pp. 1-12, 2018.
[9] W Z Khan, M H Rehman, H M Zangoti et al., "Industrial internet of things: Recent advances enabling technologies and open challenges[J]", Computers & Electrical Engineering, vol. 81, pp. 106522, 2020.
[10] A Bahga and V K Madisetti, "Blockchain platform for industrial internet of things[J]", Journal of Software Engineering and Applications, vol. 9, no. 10, pp. 533-546, 2016.
[11] A L H Muna, N Moustafa and E Sitnikova, "Identification of malicious activities in industrial internet of things based on deep learning models[J]", Journal of information security and applications, vol. 41,
pp. 1-11, 2018.

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[12] Y Chen, W Hu, M Alam et al., "Fiden: Intelligent fingerprint learning for attacker identification in the industrial Internet of Things[J]", IEEE Transactions on Industrial Informatics, vol. 17, no. 2, pp. 882-890, 2019.
[13] Y Cao, F Jia and G Manogaran, "Efficient traceability systems of steel products using blockchain-based industrial Internet of Things[J]", IEEE Transactions on Industrial Informatics, vol. 16, no. 9, pp. 6004- 6012, 2019.
[14] E Al Alkeem, C Y Yeun, J Yun et al., "Robust deep identification using ECG and multimodal biometrics for industrial internet of things[J]", Ad Hoc Networks, vol. 121, pp. 102581, 2021.
[15] D M S Velandia, N Kaur, W G Whittow et al., "Towards industrial internet of things: Crankshaft monitoring traceability and tracking using RFID[J]", Robotics and Computer-Integrated Manufacturing, vol. 41, pp. 66-77, 2016.
[16] Y Liu, B Xie, T Han et al., "Modeling identifiable data in industrial Internet[J]", IEEE Access, vol. 8, pp. 29140-29148, 2020.
[17] J Q Li, F R Yu, G Deng et al., "Industrial internet: A survey on the enabling technologies applications and challenges[J]", IEEE Communications Surveys & Tutorials, vol. 19, no. 3, pp. 1504-1526,
2017.
[18] M Serror, S Hack, M Henze et al., "Challenges and opportunities in securing the industrial internet of things[J]", IEEE Transactions on Industrial Informatics, vol. 17, no. 5, pp. 2985-2996, 2020.
[19] H Mouratidis and V. Diamantopoulou, "A security analysis method for industrial Internet of Things[J]", IEEE Transactions on Industrial Informatics, vol. 14, no. 9, pp. 4093-4100, 2018.
[20] W Qin, S Chen and M. Peng, "Recent advances in Industrial Internet: insights and challenges[J]", Digital Communications and Networks, vol. 6, no. 1, pp. 1-13, 2020.
[21] E Sisinni, A Saifullah, S Han et al., "Industrial internet of things: Challenges opportunities and directions[J]", IEEE transactions on industrial informatics, vol. 14, no. 11, pp. 4724-4734, 2018.
[22] L Zhou, K H Yeh, G Hancke et al., "Security and privacy for the industrial internet of things: An overview of approaches to safeguarding endpoints[J]", IEEE Signal Processing Magazine, vol. 35, no. 5, pp. 76-87, 2018.
[23] K Tange, M De Donno, X Fafoutis et al., "A systematic survey of industrial Internet of Things security: Requirements and fog computing opportunities[J]", IEEE Communications Surveys & Tutorials, vol. 22, no. 4, pp. 2489-2520, 2020.
[24] H Hui, C Zhou, S Xu et al., "A novel secure data transmission scheme in industrial internet of things[J]", China Communications, vol. 17, no. 1, pp. 73-88, 2020.
[25] A Hassanzadeh, S Modi and S Mulchandani, "Towards effective security control assignment in the Industrial Internet of Things[C]", 2015 IEEE 2nd World Forum on Internet of Things (WF-IoT), pp. 795- 800, 2015