iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 11 **Issue:** V **Month of publication:** May 2023

DOI: https://doi.org/10.22214/ijraset.2023.52259

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue V May 2023- Available at www.ijraset.com

Skill Verification System using Blockchain: SkillVio

Yash Wamane[1], Chaitrali Barmukh[2], Pradnya Nitanavare[3], Prasad Bhoite[4], Prof. K. S. Hangargi[5]
[1, 2, 3, 4]B.E. [5]Professor, Dept. of Computer Engineering, P.K Technical Campus Pune, Maharashtra

Abstract: ***In today's dynamic work environment, where skills and competencies are the key drivers of success, it is crucial to have an effective skill verification system. Traditional methods of verifying skills and competencies can be time-consuming, cumbersome, and often lack transparency. A blockchain-based skill verification system can provide a secure, transparent, and decentralized platform to record and verify an employee's skills, experience, learning goal progress, and competency level. In this paper, we present a detailed analysis of the benefits of using blockchain technology for skill verification, the challenges associated with implementing such a system, and the potential future scope of this project.***
Keywords: Blockchain, Decentralization, Skill Verification, skills

I. INTRODUCTION

In the workplace, blockchain-based talent verification systems are gaining popularity as they provide a secure and dependable means to confirm an employee's abilities and competencies. These solutions can significantly minimise the time and effort needed for skill verification and competency checks, as well as increase confidence in the organization's skill and competency management. An employee's talents can be documented on a network that is accessible to all authorised parties by using a blockchain-based system. A transparent and trustworthy method of evaluating an employee's talents is provided by the skills being validated and approved by the employee's prior bosses or employers. Employers can make the greatest use of this data to deploy staff to projects that match their qualifications and prior experience.

Organizations can construct a secure, decentralized system for tracking and confirming an employee's abilities, background, and credentials with the aid of blockchain technology. Employers, recruiters, and other key stakeholders will be able to access a tamper-proof and transparent record of an employee's skill set and capabilities thanks to the implementation of a blockchain-based system.

Employers often spend a lot of time and resources on the skill verification process. Utilising blockchain technology can speed up the procedure and lower the time and expense involved in confirming an employee's qualifications. Additionally, a decentralized approach ensures that the data is not retained by a single organisation, making employee data management more secure and open.

In the end, a blockchain-based skill verification system can boost an organization's productivity, boost employee morale, and produce superior financial results.

II. IDEA AND APPROACH OF THE PROJECT

A blockchain-based system for skill verification could help speed up the process of finding users with the right skills and enhance talent management. and adaptability of an organisation. The talent verification system will assist the employees in listing their abilities and job history on the chain network, where their managers or prior employers can attest to their abilities. As a result, a chain constructed using the blockchain network can be used to assert the reliability of an individual's talents and level of knowledge. Additionally, organisations can see openly whether qualifications and expertise are endorsed or not.

Additionally, this will help businesses make the best use of trustworthy, officially verified employees, increasing the productivity of each individual company.

1) Authentication is handled by the Metamask account.
2) A message function to alert the user to incoming or ongoing requests.
3) Barcode implementation for quicker connections.
4) Inform staff of any certificates or skill endorsements that the organisation may choose to accept.
5) The employee profile page, which was created by the retrieve API using data from the internet, has charts and graphs that show details like endorsement ratings and dates.
6) Using the chat tool, employees and HR from certain organisations can communicate. This includes scheduling an interview or asking for a recommendation for a trait, certification, or experience.

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7) Using the cryptographic hash technique SHA-256, perform end-to-end encryption.

III. WORKING OF THE SYSTEM

1) *Registration:* Employees register on the blockchain-based skill verification system by providing their personal and professional details, such as name, job title, and work experience.
2) *Skill Recording:* Employees record their skills on the blockchain-based system by adding details such as the skill name, level of proficiency, and experience in using the skill. They can also upload supporting documents such as certificates, training records, and performance evaluations.
3) *Verification:* The system verifies the skills recorded by the employee by checking the supporting documents and contacting the previous employers/managers listed by the employee. These employers/managers verify the employee's skills and experience by providing their endorsement on the blockchain-based system.
4) *Skill Chain:* The verified skills are recorded on the blockchain as a "skill chain" for the employee. The skill chain is a record of the employee's skills, experiences, and endorsements, and is stored in a decentralized and immutable manner on the blockchain.
5) *Access Control:* Access to the employee's skill chain is controlled by the employee, who decides which employers or third-party organizations can view their skills and endorsements.
6) *Skill Matching:* Employers can search the blockchain-based system for employees with specific skills and experience. The system matches employers with the most qualified employees based on their skill chains and endorsements.
7) *Skills Utilization:* Employers can leverage the credible employees with the required skills for respective business needs. The system helps employers in efficient and effective utilization of resources.

Overall, a blockchain-based skill verification system can help reduce the time and effort spent on conducting competency checks and skill verification while building trust in the skill and competency management within the organization. It provides transparency and immutability, which leads to increased confidence in employee's capabilities and better utilization of their skills.

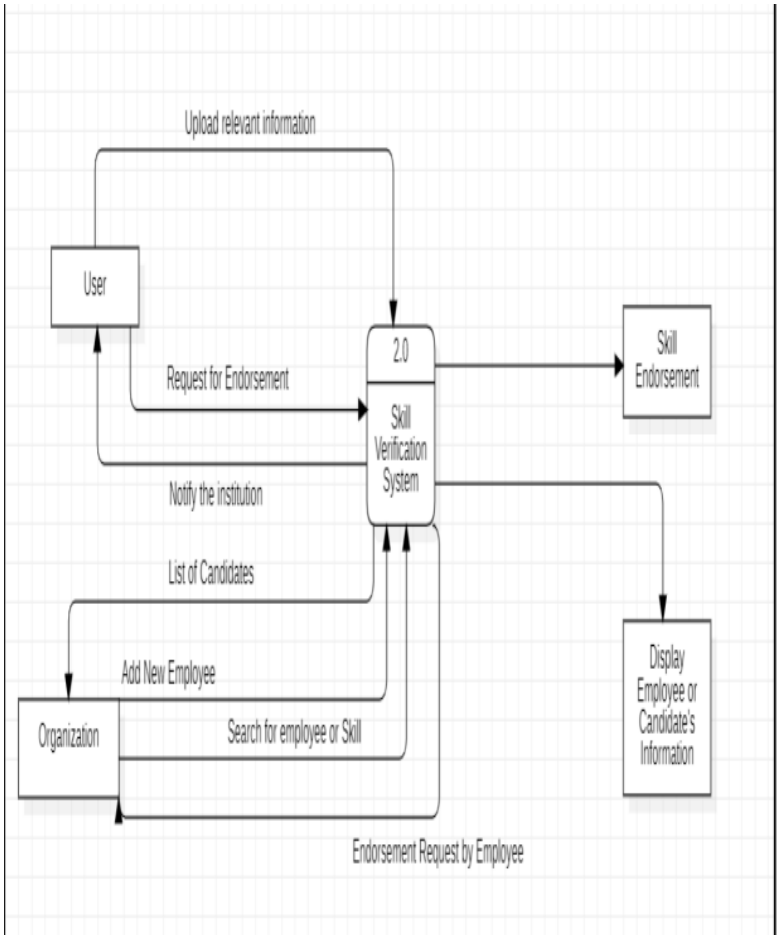


Fig 1. Block Diagram

IV. RESULTS AND OUTPUTS

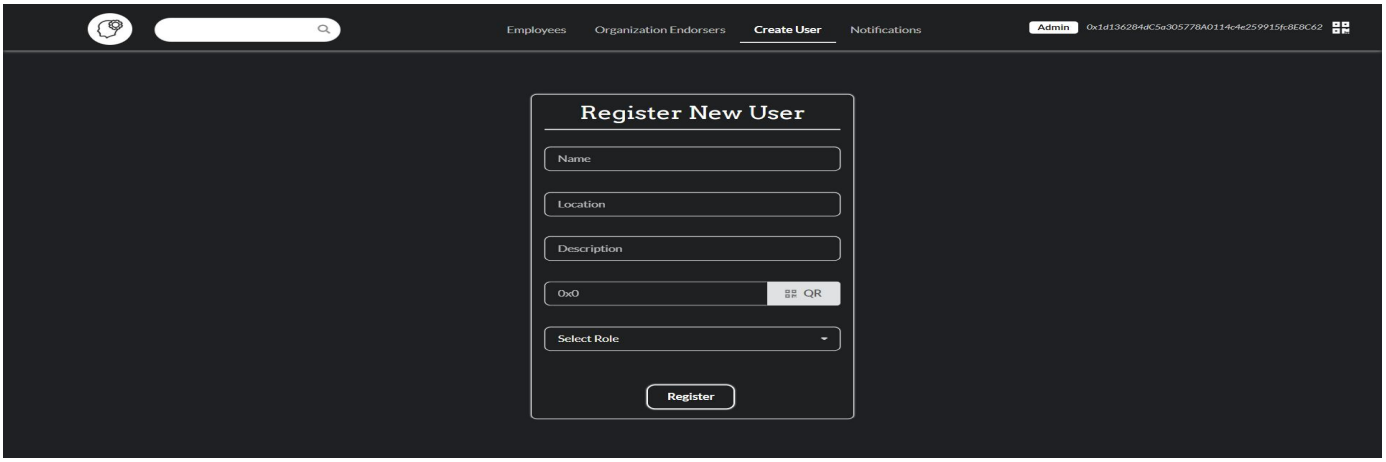


Fig.2 Requesting Admin for role



Fig.3 Showing Employee Work Experience

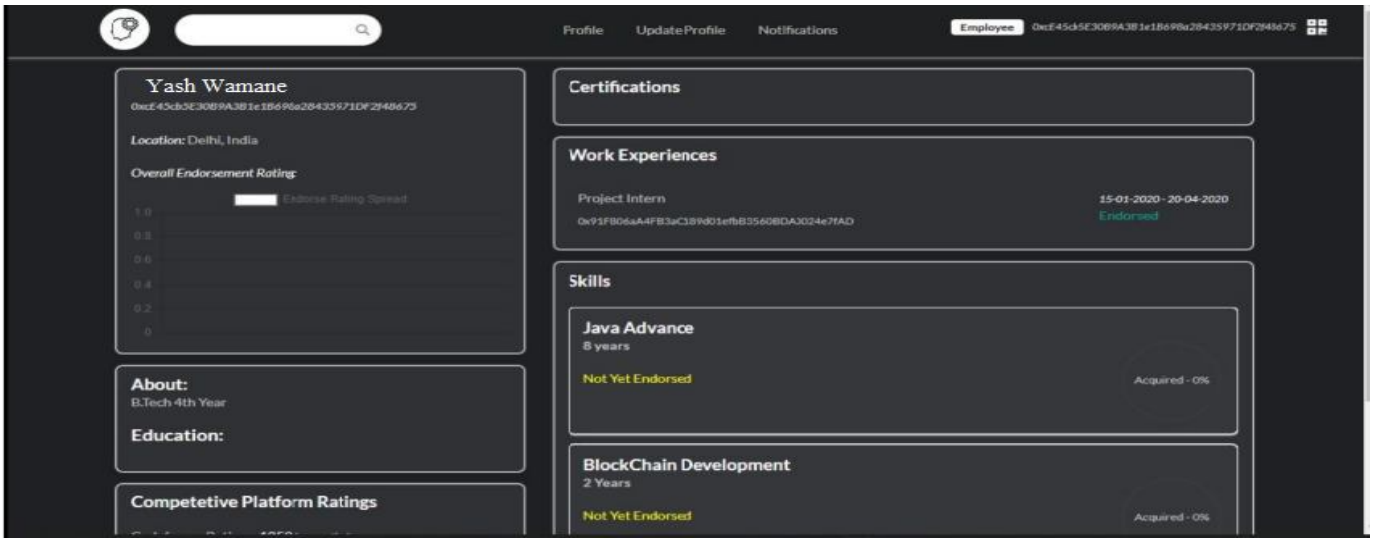


Fig.4 Employee Profile

V. CONCLUSIONS & FUTURE SCOPE

In conclusion, a blockchain-based skill verification system has the potential to bring significant benefits to an organization's skill and competency management processes. By providing a transparent and immutable record of employee skills and competencies, the system can help reduce the time and cost associated with competency checks and skill verification, build trust and transparency, optimize resource allocation, and improve employee feedback and career development.

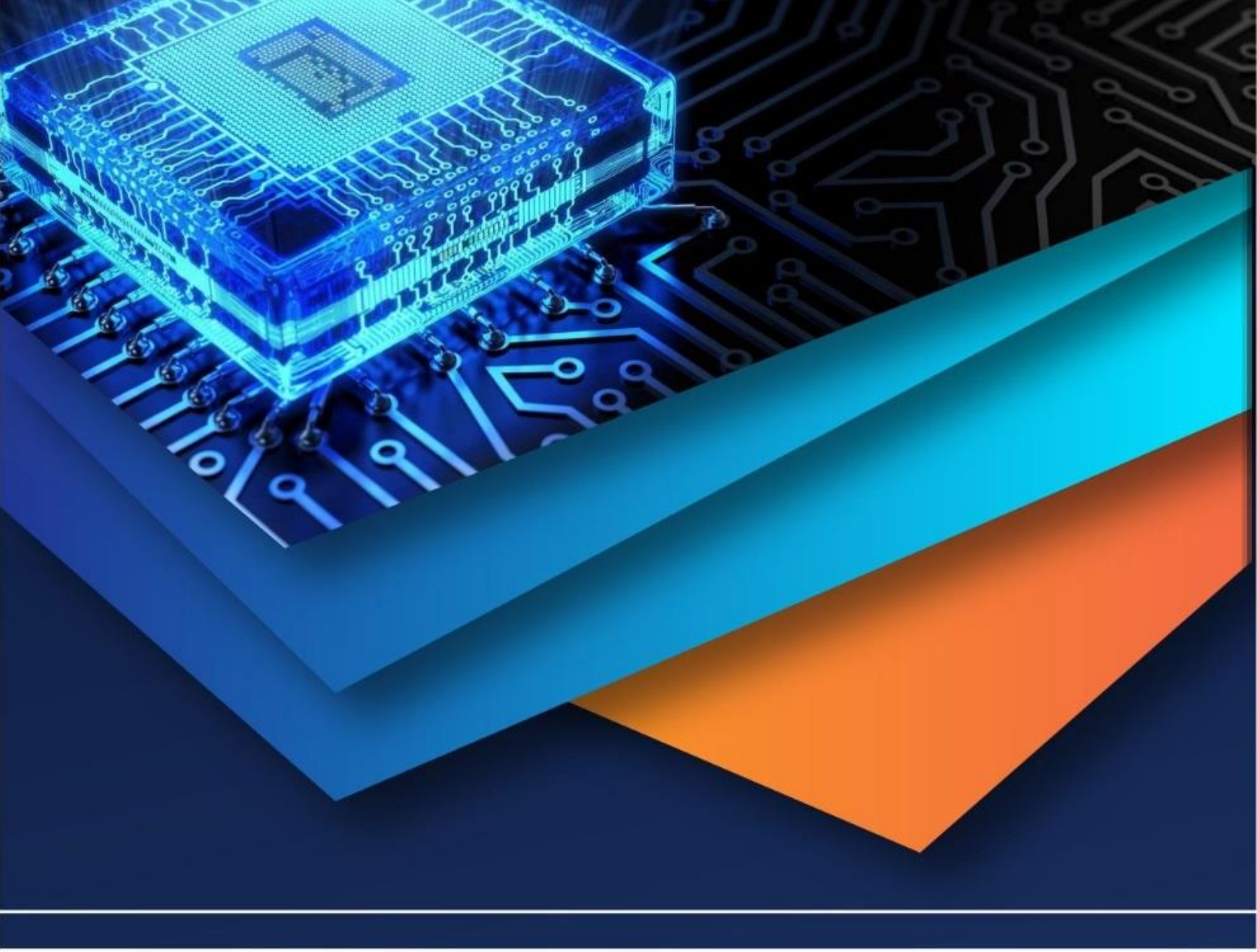
In addition to this, the following extra capabilities can be incorporated into software:

1) System of Online Skill Tests
2) Push Notifications,
3) Arranging interviews
4) The blacklisting of employees

REFERENCES

[1] Priti P. Bokariya and Dilip Motwani, "Decentralization of Credential Verification System using Blockchain," vol-10. 11-Sept-2021,
[2] Harshita Bhosale, Rutuja Kanki, Gayatri Jaiswal, "Revolutionizing Verification and Management of Educational Certificates with Self-Sovereign Student Identities using Blockchain" : Vol-08, 5-May-2021
[3] Thilagavathi M and Daphne Lopez, "Blockchain-based Framework for Online Entrance Examination and Score Card Verification System," Turkish Journal of Computer and Mathematics Education Vol.12 No.1S. (2021)
[4] Seung Jae Pee, Eung Seon Kang, Jae Geun Song, Ju Wook Jang, "Online test and management system using blockchain network" 2-May-2019
[5] T. Rama Reddy, P.V.G.D Prasad Reddy, Rayudu Srinivas, Ch. V. Raghvendran, R.V.S Lalitha, and B. Anupama "Proposing a reliable method of securing and verifying the credentials of graduates through blockchain"
[6] U.M. Strewe, E. Hofmann, N. Bosia, Supply Chain Finance and Blockchain Technology: The Case of Reverse Securitisation (Springer, Berlin, 2017)
[7] S.S. Kanhere, A. Dorri, R. Jurdak, Blockchain in internet of things: challenges and solutions. arXiv preprint. arXiv:1608.05187 (2016)
[8] Blockchain-Based Certification for Education, Employment, and Skill with Incentive Mechanism by Meng Han, Liyuan Liu, Reza M. Parizi, Yiyun Zhou & Mohamed Korayem(2020)

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