

## EMPLOYEE BACKGROUND CHECK USING BLOCKCHAIN

**B.V. Praveen Kumar, K. Varshini, D. Manasa, V. Ramya, N. Mohith Kumar**

**Abstract** It is very difficult to secure a job in a company. People manipulate their documents with fake information to find a job. Multinational National Companies are investing heavily to verify the background details of the job applicants. But, the background verification process implemented by these companies is extremely costly, time-consuming, and inefficient. To resolve this problem, we present a working prototype of a solution using Block chain technology where the hash values of all the original documents of a job applicant provided by various organizations are saved on a consortium block chain. The job applicant's details can be verified during the hiring process by comparing the hash value of the given document with the hash value of the document present on the block chain.

**Keywords:** Block chain, Hash Value, Background Verification prose.

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## 1. INTRODUCTION

Employee Background checks are a crucial aspect of the recruitment process to ensure company integrity. Currently, background verification companies employ a manual-heavy approach that averages a lead time of 2-3 weeks for every candidate. More often than not, pre-employment screening often takes more time than the rest of the recruitment process. So far, there has been no workaround for this process with background check companies as word-of-mouth has been the most reliable method. That is until now !. Before we answer this question, it's important to address the digital transformation brewing in the HR field. Digital HR and people analytics have been the focal point in the sector over the last few years. Adoption of technology has accelerated by seven years, according to a report by McKinsey. These changes are a testament to the fact that HR is undergoing revolutionary changes, and experimenting with new technology is far easier today than a decade ago. Speaking specifically of digitization in the recruitment process, BGV (Background Verification) companies are currently using ATS (Application Tracking Systems) to quickly sift through boards of applications, using simple word-mapping and big data. As of now, the mesh that the ATS filter uses is quite hoarse, meaning the system helps eradicate unsuitable candidates based on qualifications mentioned in the resume. However, ATS technologies can easily double-down with an ultra-fine mesh of verification right at the beginning of the application process using Blockchain. Saying so is not just a conjecture! Circling back to the commercial feasibility of Blockchain, the answer is a resounding yes. This is a relatively easy integration, and some key baby steps have been initiated worldwide. Some examples are mentioned below:

MIT already has a block chain system set up for verifying degrees. Given access, anybody can verify potential candidates. Proofed is a network of verified professionals who securely input verified personal data onto the platform. Empowering networking at a whole new level, the company charges a commission each time professionals are offered a job, a business proposal, or a commercial offer based on the verified data. Australian cryptocurrency Chrono bank has developed a block chain-based platform that allows hiring managers to access a database of freelance workers with verified work records. UK based APPII is doing the same for full-time career professionals, but with the addition of facial recognition technology. With 20-30% of candidates including fraudulent references in their resume, it's time that the HR industry embraces a more robust system that guarantees the safety and security of employers and employees while also reducing massive overheads. Blockchain offers a secure, fast, and economical solution in transforming BGV processes to fit the digital-first era. EMPLOYEE BACKGROUND CHECK URCET DEPT-CSE 3 Blockchain allows for quick digitization of the manual heavy background check processes of the past (and present!). With blockchain, the entire resume is stored as a block of data that all stakeholders are privy to.

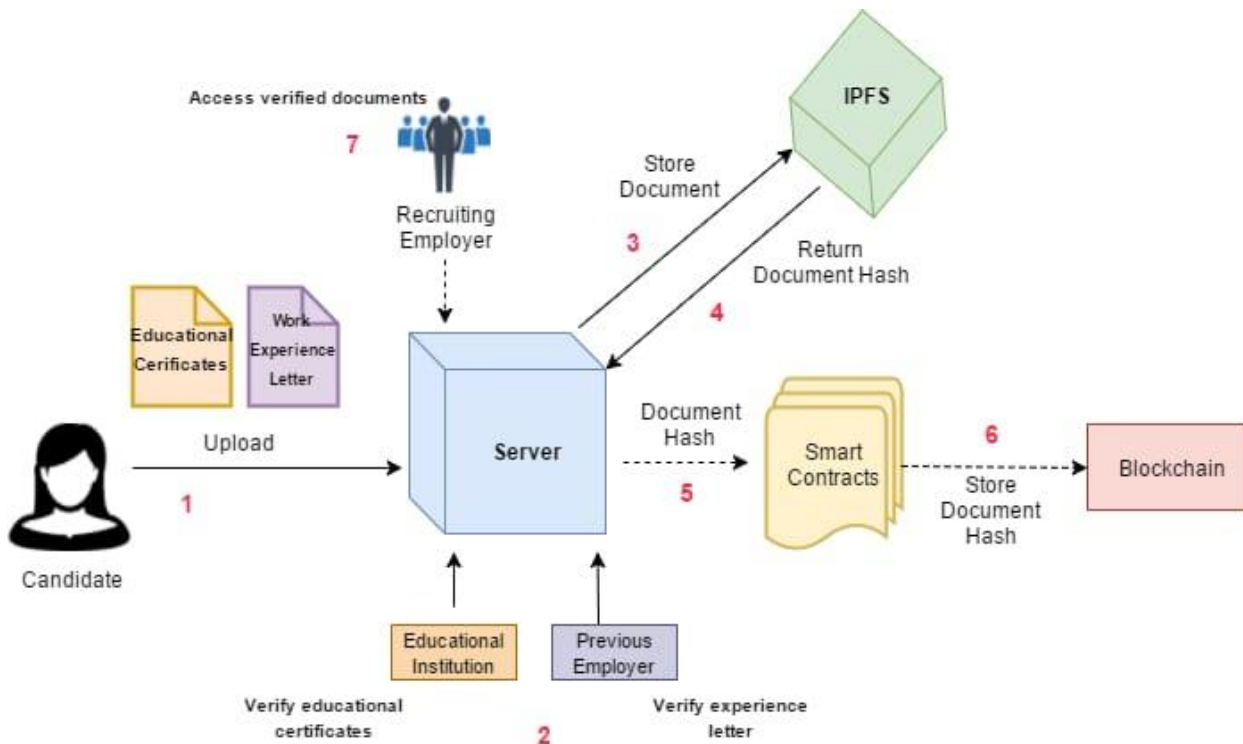
Entering data into a blockchain network means that employers, candidates, and certifying institutes all have access, but only a few have the authority to add/change/validate the data as needed. As the candidate adds data in the respective fields, government organizations are privy to validate criminal background checks, educational institutes verify degrees, past employers perform reference checks and so on. Blockchain is the backbone Technology of Digital Crypto Currency Bitcoin. The blockchain is a distributed database of records of all transactions or digital event that have been executed and shared among participating parties. Each transaction verified by the majority of participants of the system. It contains every single record of each transaction. Bitcoin is the most popular cryptocurrency an example of the blockchain. Blockchain Technology first came to light when a person or Group of individual's name 'Satoshi Nakamoto' published a white paper on "Bitcoin: A peer to peer electronic cash system" in 2008. Blockchain Technology Records Transaction in Digital Ledger which is distributed over the Network thus making it incorruptible. Anything of value like Land Assets, Cars, etc. can be recorded on Blockchain as a Transaction.

## 2. DESIGN

Implementation is the most crucial stage in achieving a successful system and gives user confidence that the new system is workable and effective. Implementation of a modified application will replace an existing one. This type of conversation is relatively easy to handle, provide there are no major changes in the system. Each program is tested individually at the time of development using the data and has verified that this program linked together in the way specified in the programs specification. The computer system and its environment is tested to the satisfaction of the user. The system that has been developed is accepted and proved to be satisfactory for the user. And so the system is going to be implemented very soon. A simple operating procedure is included so that the user can understand the different functions clearly and quickly. Initially as a first step the executable form of the application is to be created and loaded in the common server machine which is accessible to the entire user and the server is to be connected to a network. The final stage is to document the entire system which provides components and the operating procedures of the system. Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus it can be considered to be the most critical stage in achieving a successful new system

and in giving the user, confidence that the new system will work and be effective. The implementation stage involves careful planning, investigation of the existing system and its constraints on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

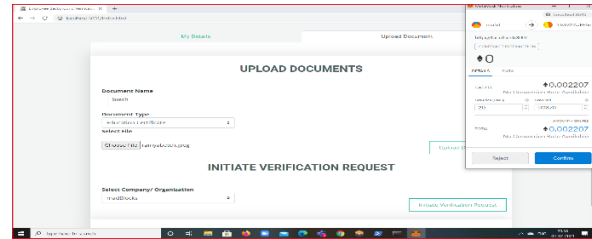
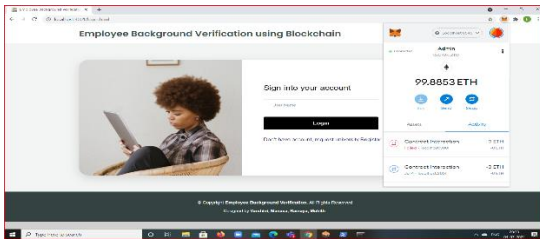
### 3. Architecture



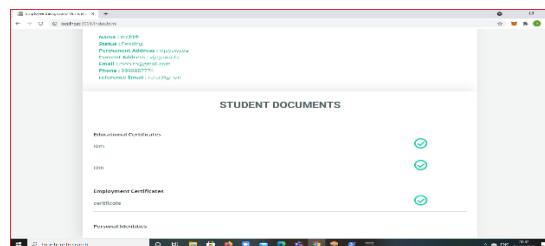
### 4. ANALYSIS

Blockchain allows for quick digitization of the manual heavy background check processes of the past (and present!). With blockchain, the entire resume is stored as a block of data that all stakeholders are privy to. Entering data into a blockchain network means that employers, candidates, and certifying institutes all have access, but only a few have the authority to add/change/validate the data as needed. As the candidate adds data in the respective fields, government organizations are privy to validate criminal background checks, educational institutes verify degrees, past employers perform reference checks and so on. M.J. Jucious has defined, “The selection procedure is the system of functions and devices adopted in a given company for the purpose of ascertaining whether or not candidate possess the qualifications called for by, a specific job”. Heinz Wehrich and Harold Koontz have defined as, “Selection is the process of choosing form the candidates, from within the organization or from outside, the most suitable person for the current position or for the future positions” Decenzo & Robbins: Selection activities follow a standard pattern, beginning with an initial screening interview and concluding with final employment decision. Recruitment is the process of discovering potential candidates for actual or anticipated organizational vacancies. Or, from another perspective, it is a linking activity-bringing together those with jobs to fill and those seeking jobs. (De Cenzo and Robbins 1999) According to Edwin B. Flippo<sup>5</sup> “Recruitment is a process of searching for prospective employees and stimulating and encouraging them to apply for jobs in an organization.” In the words of Dale Yoder,<sup>6</sup> “Recruitment is the process to “discover the sources of manpower to meet the requirements of the staffing schedule and to employ effective measures for attracting that manpower in adequate numbers to facilitate effective selection primary purpose of identifying and attracting potential employees” (Barber, 1998)<sup>7</sup> Recruitment accomplishes the essential role of bringing managerial human capital into the organization and has a direct impact on such post-hire activities as training and development

## 5. RESULTS



**FIGURE : SIGN IN TO ACCOUNT** **FIGURE : UPLAOD DOCUMENTS**



**FIGURE : STUDENT DOCUMENTS**

## 6. CONCLUSIONS

With businesses adapting to digital transformation initiatives, the culture of remote work will thrive more in the upcoming years. The trend of working what you love will encourage more people to work in a gig economy. Leveraging blockchain-enabled employee background verification solutions at scale can ensure both freelancers and employers to work in a safe and secure environment efficiently. Access verified and reliable data at a faster pace. Eliminate the need for third-party services for background check Verify employees even if their last employer has shut business. Ensure verification without human contact. Blockchains automate away at the centre. Instead of putting the taxi driver out of a job, blockchain puts Uber out of a job and lets the taxi drivers work with the customer.” – Vitalik Buterin, founder of blockchain platform Ethereum. With blockchain creating the option to eliminate many of the third party and back office elements of recruitment, blockchain could potentially be responsible for recruiters becoming redundant. Once someone has done a degree, they will just put their certificate in blockchain and it never needs to be verified again. Blockchain, the decentralized distributed database, is being trialled and implemented by numerous companies across multiple industries on a global scale. No longer confined to cryptocurrency, blockchain’s capabilities can be extended to sectors such as logistics, fashion, healthcare and even humanitarian causes like we can see with the ID2020 digital identity initiative which aims to provide a global identity solution for refugees. And with its assurance of transparency, promises to solve this challenge. In the last five years, several start-ups have made significant strides in this space, making blockchain employee verification accessible to organizations across the globe.

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