**STREAMLINING CREDENTIAL VERIFICATION FOR HIRING PROCESSES WITH BLOCKCHAIN TECHNOLOGY**

**ABSTRACT**

In the current landscape, both companies and educational institutions rely heavily on manual processes to validate student academic credentials, which can be susceptible to fraudulent verification through bribery or manipulation by employees. Some universities have attempted to address this issue by maintaining student credentials in centralized servers. However, these centralized systems are not foolproof, as internal database administrators can manipulate data, leading to potential security breaches and service disruptions.

To overcome these challenges, we propose a Blockchain-based student credential verification system. Blockchain inherently supports data verification, encryption, and distributed data storage. By storing data in a decentralized manner across multiple nodes, the system ensures resilience in case of node failures, providing uninterrupted services.

Blockchain's built-in tamper-proof features involve storing each data record as a block or transaction, associating it with a unique hash code. When new records are added, the Blockchain verifies the hash codes of all previous blocks. If the data remains unchanged, the hash codes match, resulting in successful verification. Any attempt to alter data would lead to a hash code mismatch, triggering a verification failure and detection of data tampering.

**SYSTEM REQUIREMENTS**

**HARDWARE REQUIREMENTS**

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| MINIMUM (Required for Execution) | | MY SYSTEM (Development) |
| System | Pentium IV 2.2 GHz | i3 Processor 5th Gen |
| Hard Disk | 20 Gb | 512 Gb |
| Ram | 1 Gb | 4 Gb |

**SOFTWARE REQUIREMENTS**

|  |  |
| --- | --- |
| Operating System | Windows 10/11 |
| Development Software | Python 3.7.0 |
| Programming Language | Python |
| Integrated Development Environment (IDE) | Python IDE |
| Front End Technologies | HTML5, CSS3, Java Script |
| Web Server or Deployment Server | Apache tomcat |
| Design/Modelling | Rational Rose |
| Framework | Django |
| Graphical User Interface (Database) | SQLYog 6.56 Enterprise |
| Tool | Node JS |
| Server | Block Chain |