# BLOCKCHAIN BASED ACADEMIC AND PROFESSIONAL RECORD SYSTEM

**MINOR PROJECT II**


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## Abstract

The project titled “BLOCKCHAIN BASED ACADEMIC AND PROFESSIONAL RECORD SYSTEM” is a blockchain based implementation of the database system for storing and maintaining academic and professional records to increase efficiency in the recruitment process. It will help the candidates, companies and the institutions to save time and money. It will also help to increase the reliability of the systems.

Two basic methods are available for creating a database system that are the centralized server systems and the distributed systems which are based on a public blockchain such as Ethereum. We aim to build our system by combining ideas from both of these methods. For this, we have decided to implement a private blockchain that is accessible only to the authenticated users. Further, we have implemented a method of tokenization to implement data security by limiting the time for which the data is being accessed.

We use a customized hashing algorithm to calculate the unique hash of a particular block based on the data stored in that block. Each block contains various data fields that are helpful in the storing of data. These data fields and the data contained within them acts as an input to the hashing algorithm. Also, a copy of the blockchain is present for all the participating entities that helps in ensuring the security of the entire system.

To change any value in the database by any unauthorized entity, that entity will have to gain control of more than 50% of the database network and will have to calculate the hash of all the blocks again and make it available to all the chains in order to make the database valid again by overwriting the currently available chains on all the nodes.

Also, since each new change is added to the chain as a new block, the block can contain the hash of the block in reference to which the change was made. This helps in faster tracing of the changes through the entire blockchain compared to the traditional systems of storing the data.

# Table of Contents

**Page No.**

# List of Figures