

# **BLOCKCHAIN BASED AGRICULTURAL RECORD SYSTEM**

## **MINOR PROJECT I**

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## **Abstract**

The project titled “BLOCKCHAIN BASED AGRICULTURAL RECORD SYSTEM” is a blockchain based implementation of the database system for storing and maintaining agricultural records. The project’s primary focus is on the land records and the types of crops grown along with the soil quality.

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.

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.

This project can be used to improve the current agricultural record system.

# Table of Contents

	Page No.
Abstract	i
List of Figures	iii
1. Introduction	1
1.1. Blockchain	1
1.2. Blockchain in Agriculture	2
2. Background Study	2
2.1. Blockchain: The Evolutionary Next Step for ICT E-Agriculture	2
2.2. Food Safety Traceability System based Blockchain and EPICS	3
2.3. Ensure Traceability in European Food Supply Chain by using blockchain System	4
3. Requirement Analysis	5
3.1. Description	5
3.2. Functional Requirements	5
3.3. Non-Functional Environments	6
3.4. Use Case Diagram	6
4. Detailed Design	7
4.1. Features of the system and the problems that will be solved	7
5. Implementation	10
6. Results and Analysis	11
7. Conclusion of the Report and Future Scope	14
8. References	14
9. Powerpoint Presentation	15

## List of Figures

1. <b>Figure 1:</b> Formation of a blockchain by the links through hash values.	1
2. <b>Figure 2:</b> Advantages of the given system (public blockchain) over other systems	4
3. <b>Figure 3:</b> Use Case Diagram	6
4. <b>Figure 4:</b> Representation of the nodes in the network	7
5. <b>Figure 5:</b> Diagram representing the blockchain structure in the form of blocks	7
6. <b>Figure 6:</b> Flowchart for access control	10
7. <b>Figure 7:</b> Control and Data flow in the System	10
8. <b>Figure 8:</b> UML Diagram	11
9. <b>Figure 9:</b> Output from the C++ program	12
10. <b>Figure 10:</b> Output of the Python program for the Server and Client	12
11. <b>Figure 11:</b> The contents of the file received at the other virtual node	12