**A Study of Blockchain Technology in Farmer’s Portal**

Blockchain is a method in which a confirmation of a transaction is kept by means of a crypto-currency. The record is maintained transversely, linking several computers in a peer to peer network. Contracts, transactions, and the records of them define the economic system of a country. They set boundaries and provide security to the assets. Considering the features of blockchain such as immutability and maintaining the footage of transaction details, this paper highlights the usage of blockchain technology with farmer’s portal that keep the footage of selling and buying information of crops. The proposed solution uses the python as a programming language in integration with the blockchain system that will benefit the farmers or vendors and individuals by preserving the contract of trade. An interface for the farmers is designed using a python programming language in addition with blockchain technology, which is used to store the information related to seller, buyer, selling and buying an item and total value transacted.

**EXISTING SYSTEM:**

In the existing system Farmers, as well as agriculture, are the foundation of life. Numerous work has been done towards the enhancement of agriculture by developing technologies that support directly and indirectly to agriculture. A range of research shows that with the various enhancements in the field of ICT (Information and Communication Technologies), the farmers are unable to take its advantage and fail to get the proper sale value for their crops. An interface that benefited the farmers by providing the information related to the advancement of agriculture techniques. Various technical approaches made in agriculture, mostly in the field of food and supply chain management. The incorporation of blockchain technology in agriculture has improved the efficiency of the agriculture supply chain by reducing the need for verification of data. However, the technology proposed benefited only the producers in terms of maintaining the accuracy of data for supply.

**DISADVANTAGES OF EXISTING SYSTEM:**

* Transaction depends on third party.
* Data stored in local servers it means data may be not secure.

**PROPOSED SYSTEM:**

The Proposed Farmer’s portal is a single gateway through which the e-commerce activity of crops can be performed. The users’ experience of the portal can be tailored according to the individual need. It is a single access point i.e., everything is in a single place, the only thing needed is single login to approved users.

User: A user can be a buyer or a seller. The seller may be a farmer or a representative of him. Device: The user can interact through the portal using a computer or a laptop. Interface: To access the portal, the user needs to register using a sign-up. The registered user logins using the correct credentials. Once the user signs in successfully. The user will have access to the portal/ interface. A user can view available items that are crops and seeds with their price.

**ADVANTAGES OF PROPOSED SYSTEM:**

* The buyer can buy a product and can search for any product according to the requirement. They can add the product in cart.
* The seller can add a new item, update the existing items, allot and update the price of the item.
* Purchasing an item is considered as a transaction and is added to the blockchain accordingly with the correct unique digital signature and timestamp so that any user cannot deny the activity done by them.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Intel Core i3.
* Hard Disk : 1 TB.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 8 GB.

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows 10.
* Coding Language : Python
* Tool : PyCharm, Visual Studio Code
* Database : SQLite

**REFERENCE:**

Rahul Talreja, Rohan Chouksey, Sushma Verma Department of Computer Science and Engineering Medi-Caps University Indore, India" **A Study of Blockchain Technology in Farmer’s Portal**" Proceedings of the Second International Conference on Inventive Research in Computing Applications (ICIRCA-2020)

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