

# Medicine Traceability using QR Code

<sup>1</sup>Komalika Dhanrale, <sup>2</sup>Rasika Malekar, <sup>3</sup>Pritee Kokate, <sup>4</sup>Roshani Rathod

Department of information technology  
Pune Vidyarthi Griha's College of Engineering & S.S.D. Institute of Management, Nashik

## Abstract

Blockchain-based drug store network the board is a progressive methodology that offers upgraded security and straightforwardness to guarantee the credibility and wellbeing of medications. Later on, arising number of people are probably going to embrace this innovation to ensure that they get the right drugs. Blockchain, a decentralized and permanent record, is utilized to record each step of a medication's excursion through the production network. Every exchange, from the production of drugs to their dissemination, is cryptographically recorded on the blockchain. This straightforward record permits partners and shoppers to get to constant data about the medications, their beginnings, and their dealing with. By giving a protected and alter safe record of a medication's set of experiences, blockchain assists purchasers and controllers with confirming the credibility of drug items. This decreases the gamble of fake or unacceptable medications entering the market. All partners, including makers, merchants, drug stores, and patients, approach similar information. This straightforwardness fabricates trust and responsibility inside the store network.

**Keywords:** Blockchain, medicine, web application



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## INTRODUCTION

Supply Chain Management (SCM) plays a pivotal role in today's globalized economy, serving as the backbone that ensures the efficient flow of goods from manufacturers to consumers. However, traditional supply chain systems often face challenges related to transparency, traceability, and security, particularly in industries where product authenticity and safety are paramount, such as pharmaceuticals. In recent years, the emergence of blockchain technology has offered a promising solution to these challenges. By incorporating blockchain into SCM, it becomes possible to revolutionize the conventional approach and establish a comprehensive system that guarantees traceability and tracking of products from their source to the hands of the consumer. This innovation not only enhances operational efficiency but also delivers numerous benefits, including safeguarding consumers, fostering trust, improving service quality, and closing loopholes that malicious actors exploit, especially in the distribution of counterfeit or substandard drugs. In this exploration, we will delve into how blockchain technology can be harnessed to transform supply chain management and address critical issues in product authenticity and safety.

## LITERATURE SURVEY

Blockchain based counterfeit medicine authentication system: For a few decades, it is a very big challenge to monitor and keep track of genuine medicine in health care. Lacking a trust system and strong monitoring authority, syndicates can make counterfeit medicine easily. With the shifting of life-critical healthcare, it becomes an emergency to ensure substandard drugs. Because counterfeit medicine has a deadly effect on the human body and has disastrous results. To detect the falsified medicine, we proposed a drug tracing system using block chain technology. Our system is able to detect substandard and anomaly drugs from manufacturer company to patient's hand. Also can verify the defective and expired drugs in the market using smartphones by scanning QR (Quick Response) code. Block chain security could make the system more transparent and reliable. This paper aims to ensure drug quality, transaction security, and data safety using

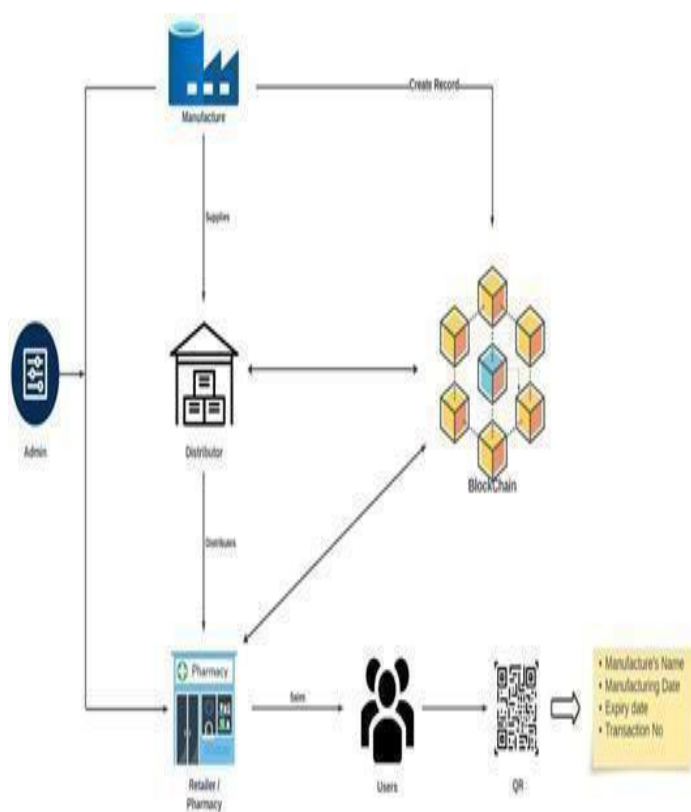
block chain technology. Traceability of counterfeit medicine supply chain through blockchain. The main issues with drug safety in the counterfeit medicine supply chain, are to do with how the drugs are initially manufactured. Advanced features make it capable of providing a basis for complete traceability of drugs, from manufacturer to end consumer, and the ability to identify counterfeit-drug.

### MOTIVATION

Numerous businesses, including drugs, are dependent upon severe guidelines. Block chain can help in guaranteeing consistency by giving a straightforward and auditable record of movements of every sort and exchanges in the store network.

Integrating block chain innovation into inventory network the board can possibly upset the business by tending to a significant number of the difficulties that have endured for a really long time, including duplicating, failure, and absence of straightforwardness. This innovation offers inspiration as well as a down to earth answer for protecting shoppers, encouraging trust, upgrading administration quality, and shutting provisos took advantage of by noxious entertainers in different enterprise

### SYSTEM ARCHITECTURE



**Fig -1:** System Architecture Diagram

In Architecture based on a decentralized system such as QR Code in which the manufacturer will create a medicine and will Create QR Code. After that, the Company Scan this medicine using QR Code. Thereafter, Distributor Scan Medicine using QR Code, then Deliver to Dealer. After Receiving medicine dealer also scan Medicine using QR Code n give to end users, hospitals. The QR code can be implemented successfully on a medicine package. The QR codes are unique in nature. Scan the code and you get the detail for the medicines packed inside the carton. The code on the package successfully links to the intended information by providing easy access to the users. Company, Distributor, Dealer, Medical Shop can login to App for QR code scanning. After scanning QR code scanning medicine will validate in system. Each medicine validation is depend on previous level validation. Levels are Company (Distributor (Dealer (Medical. End user is a guest User he/she scan QR code to check medicine is original or not. DHT 11 sensor is used to monitor temperature. The buzzer is triggered whenever it encounters high temperature. if it high Temperature

detected then alarm indicates Vehicle Temperature is high and it's risky for medicine. The system should be able to detect the medicine is original or not and notify the user with the information.

## CONCLUSION

Block chain can help with following different guidelines and principles by giving straightforward and auditable records. This can work on the method involved with meeting administrative necessities. All in all, consolidating block chain innovation into SCM can possibly change the manner in which supply chains work. It offers further developed proficiency, wellbeing, trust, and straightforwardness, which can help all partners. Besides, it can significantly affect shielding buyers from fake or unsatisfactory items, which is particularly vital in ventures where item quality and security are principal. While there are moves and boundaries to survive, the expected advantages of block.

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