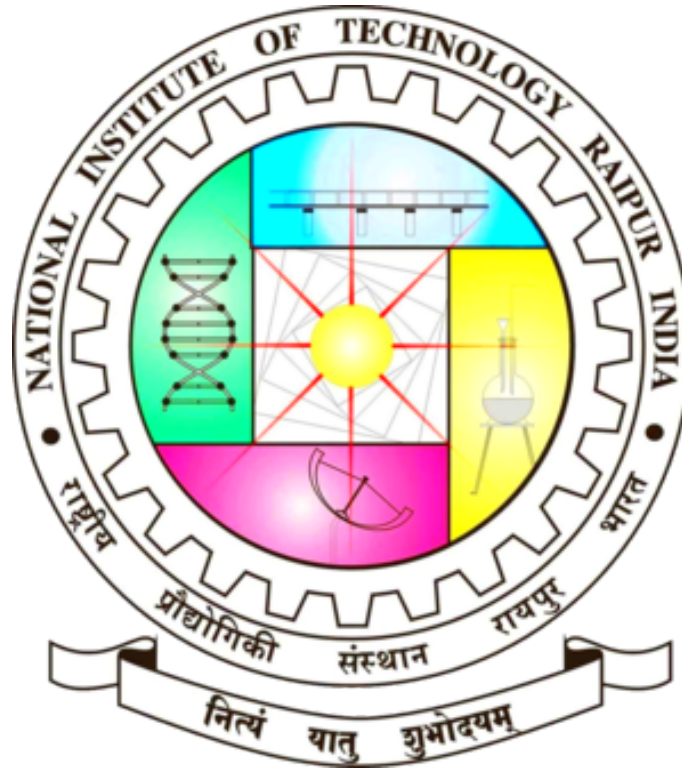


BLOCKCHAIN IN HEALTHCARE PREVENTION FROM DATA TAMPERING AND SCAMS



Submitted By:

Raj Motwani
Roll No : 21111042
Section and Branch -
Sec "A" Biomedical
Email id :
rajmotwani38@gmail.com
1st Sem

Submitted To :

Dr. Saurabh Gupta
Department of
Biomedical Engineering
NIT Raipur,
Chattishgarh,
India, 492013

Acknowledgement

I am grateful to Dr. Saurabh Gupta for their proficient supervision of the term project on "Blockchain in Healthcare(Prevention from Data tampering and Scams) ". I am very thankful to department for their continuous guidance and support.

Raj Motwani
Roll No: 21111042
1st semester,
Biomedical Engineering
National Institute of Technology,Raipur

Abstract

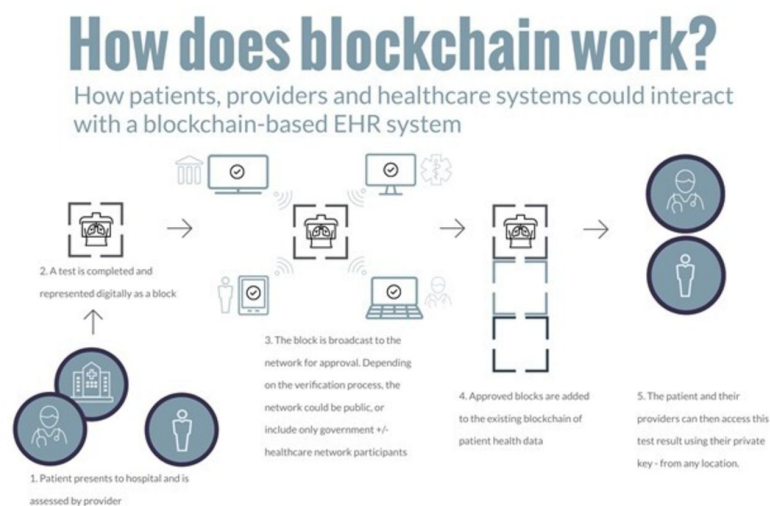
The healthcare sector is one of the most important and sensitive industries in the world. The security and privacy of patient data is of utmost importance, and data tampering can have serious consequences. The use of blockchain technology can help to prevent data tampering and donor scams in the healthcare sector. Blockchain is a distributed database that is tamper-proof and secure. It can be used to store and track patient data, and to verify the authenticity of data. The use of blockchain technology can help to prevent data tampering and donor scams in the healthcare sector. For preparing a simple blockchain storage bucket we use solidity programming language and create a smart contract with it (here we are using ethereum blockchain).The we will use tools like ganache and truffle to deploy our smartcontract on a test-net before running it on mainnet.And at last using web dev tools like Js,Html,CSS and React.js for creating backend and frontend UI.Also using MySQL for data management. As Blockchain is immutable so data cannot be manipulated that is already on blockchain.

Introduction

The lack of accessibility to medical records for both patients and clinicians has long been recognised as a barrier to transparent and efficient healthcare.While electronic health

record (EHR) systems help address this issue somewhat, many of these systems are heterogeneous, demonstrate varying success integrating into clinical workflows and exhibit minimal interoperability between platforms. Accordingly, many EHR systems in their present state struggle to deliver fundamental benefits of digital technology such as a streamlined user experience, data sharing capabilities and advanced analytics. This lack of interoperability becomes increasingly challenging as complex patients present to a variety of care providers in different healthcare jurisdictions with various EHR systems. A blockchain-based system is one possible solution conferring several benefits that could be exploited for data federation. That said, blockchain remains a nascent technology and there are key technical, regulatory and institutional barriers that limit its full potential in medicine.

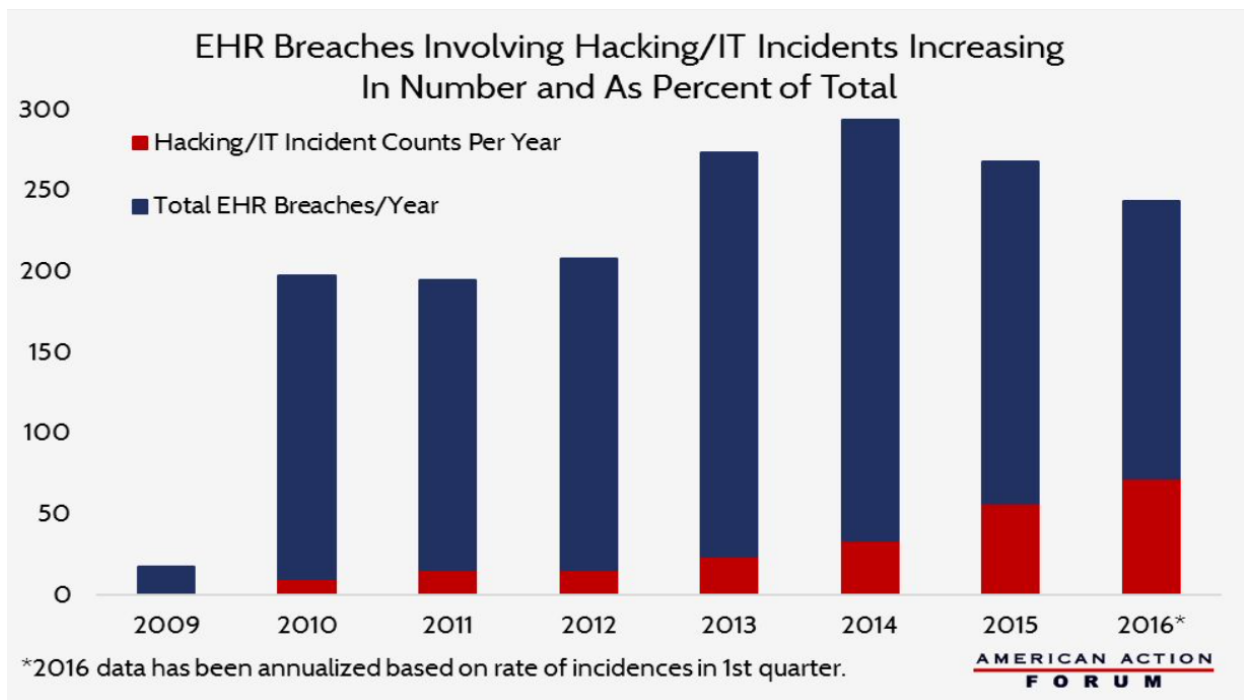
EHR System based on Blockchain:



Blockchain can be used to create a tamper-proof database of patient records. This database can be accessed by doctors and other healthcare professionals, as well as patients themselves. The data in this database can be verified using blockchain technology. This ensures that the data is accurate and secure. Blockchain can also be used to track donations made to charity organisations. This information can be stored on a blockchain ledger, so that it is secure and tamper-proof. This information can be used to prevent fraudsters from stealing donations from charities. The use of blockchain technology can help to prevent data tampering and donor scams in the healthcare sector. It can also help to ensure that patient records are accurate and secure, and that donations are tracked and used for the intended purpose. Overall, blockchain is a valuable tool that can be used in the healthcare sector to protect the privacy of patients and donors.

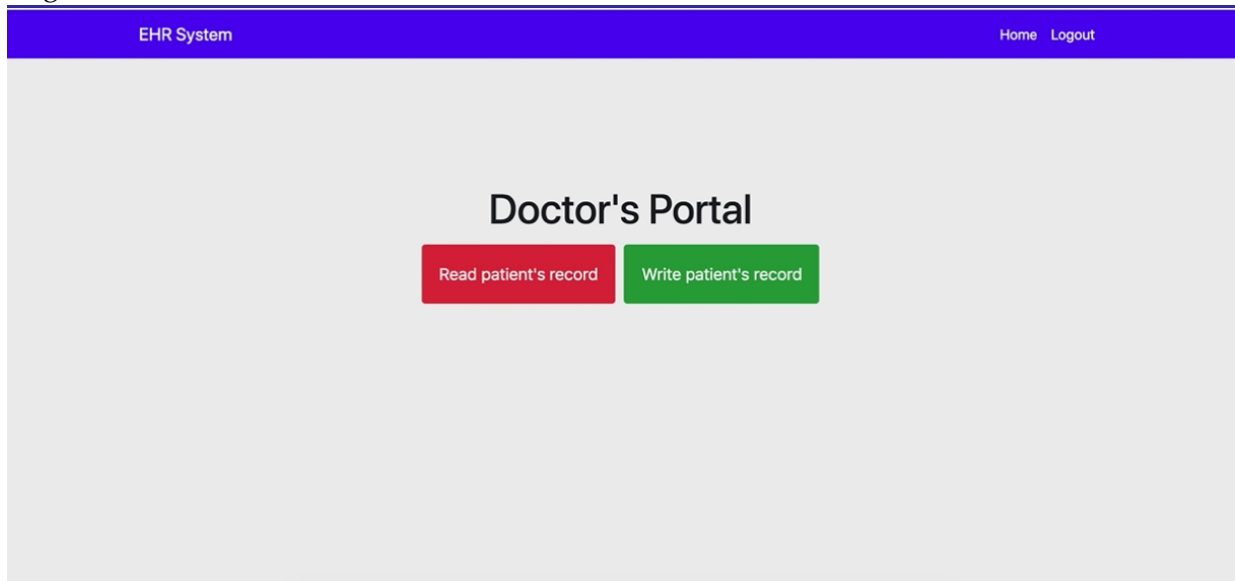
Why it is needed:





Sample UI of Portal:

Login Portal:



The screenshot displays a web application titled 'Data Entry Portal' for an 'EHR System'. The interface features a purple header bar with 'Home' and 'Logout' links. The main content area is light gray and contains a central white card titled 'Write patients record'. This card includes a form with the following fields: 'Enter patient's Id' (a single-line text input), 'Diagnosis' (a single-line text input), and a table for recording medicine. The table has two columns, 'Add medicine' and 'Quantity', with five rows of input fields. A blue 'Submit' button is located at the bottom left of the card.

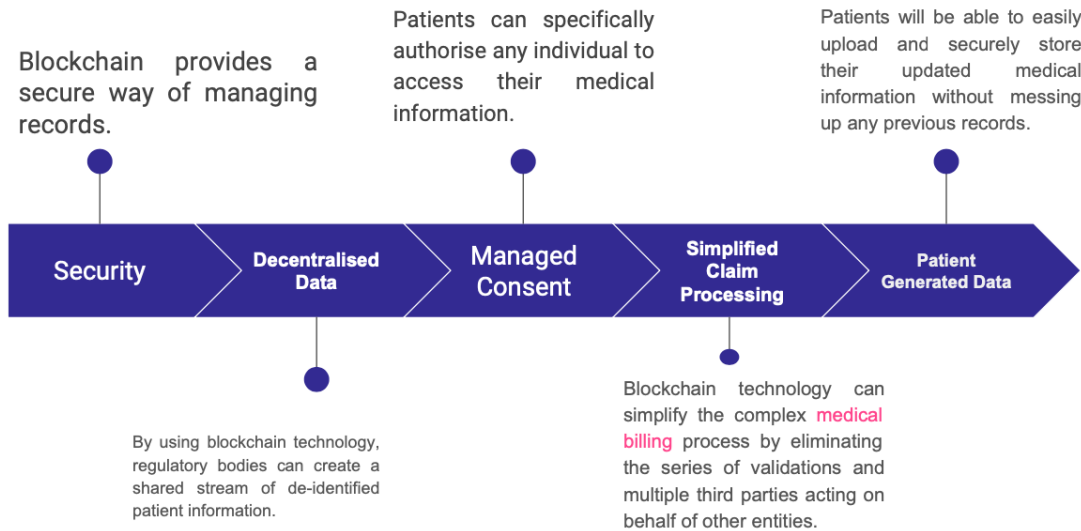
Write patients record	
Enter patient's Id	
Diagnosis	
Add medicine	Quantity
Add medicine	Quantity
Add medicine	Quantity
Add medicine	Quantity
Add medicine	Quantity
Add medicine	Quantity
Submit	

Conclusion:

With its ability to deflate the current spending bubble, protect patient data and improve overall experience, using blockchain in healthcare may help ease the pain. The technology is already being used to do everything from securely encrypt patient data to manage the outbreak of harmful diseases. Blockchain has a wide range of applications and uses in healthcare. The ledger technology facilitates the secure transfer of patient medical records, manages the medicine supply chain and helps healthcare researchers unlock genetic code.

How it is working:

Advantages of Blockchain for storing patient records



References:

<https://builtin.com/blockchain/blockchain-healthcare-applications-companies>.

<https://github.com/Akshat-Jain/Electronic-Health-Record-System>

<https://www.sciencedirect.com/science/article/pii/S266660302100021X>