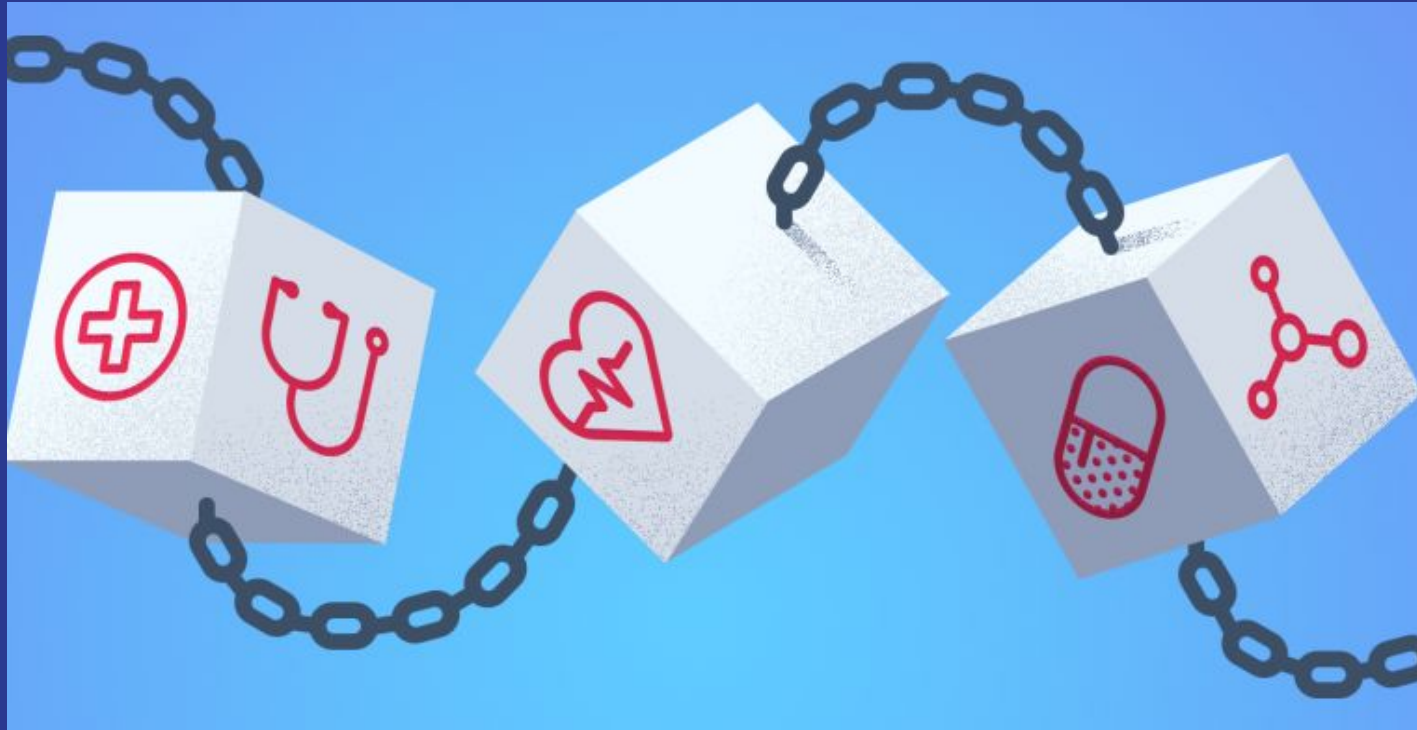


Hospital Patient Information System (based on Blockchain)



Team Details

Institute: Indian Institute of Technology Patna

Degree: BTech

Team members:

Akshat Jain (Team Leader)

Shubhankar Amitabh

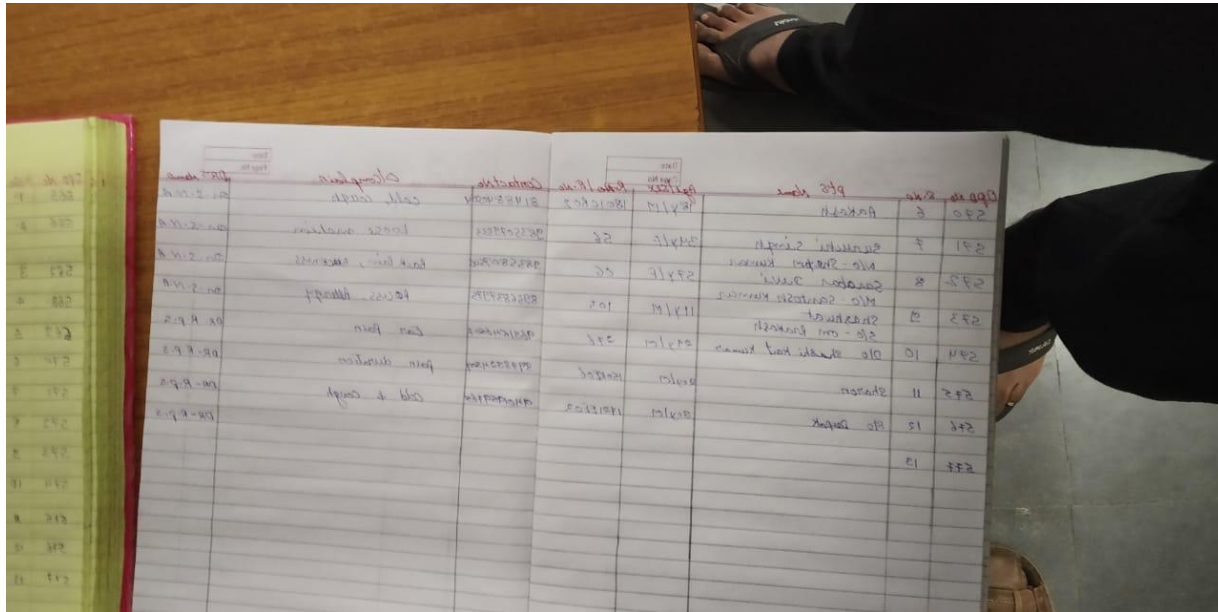
Ravi Kishan

Ashwani Yadav



Problem statement

Over decades, medical facilities have evolved elegantly. Still most of us are the witness of the fact that whenever we see a doctor, we need to put forward our medical file in front of him/her. Our file contains our previous prescriptions, medical reports, X-Rays, MRIs etc. It is a tedious task to keep record of all these.



Aim of the project

We aim to provide a digital solution to this problem so that, next time when you visit your doctor, you don't need to carry your medical file. We will make a Web portal and an Android app to allow the doctor to view the past records of any patient with the patient's consent.

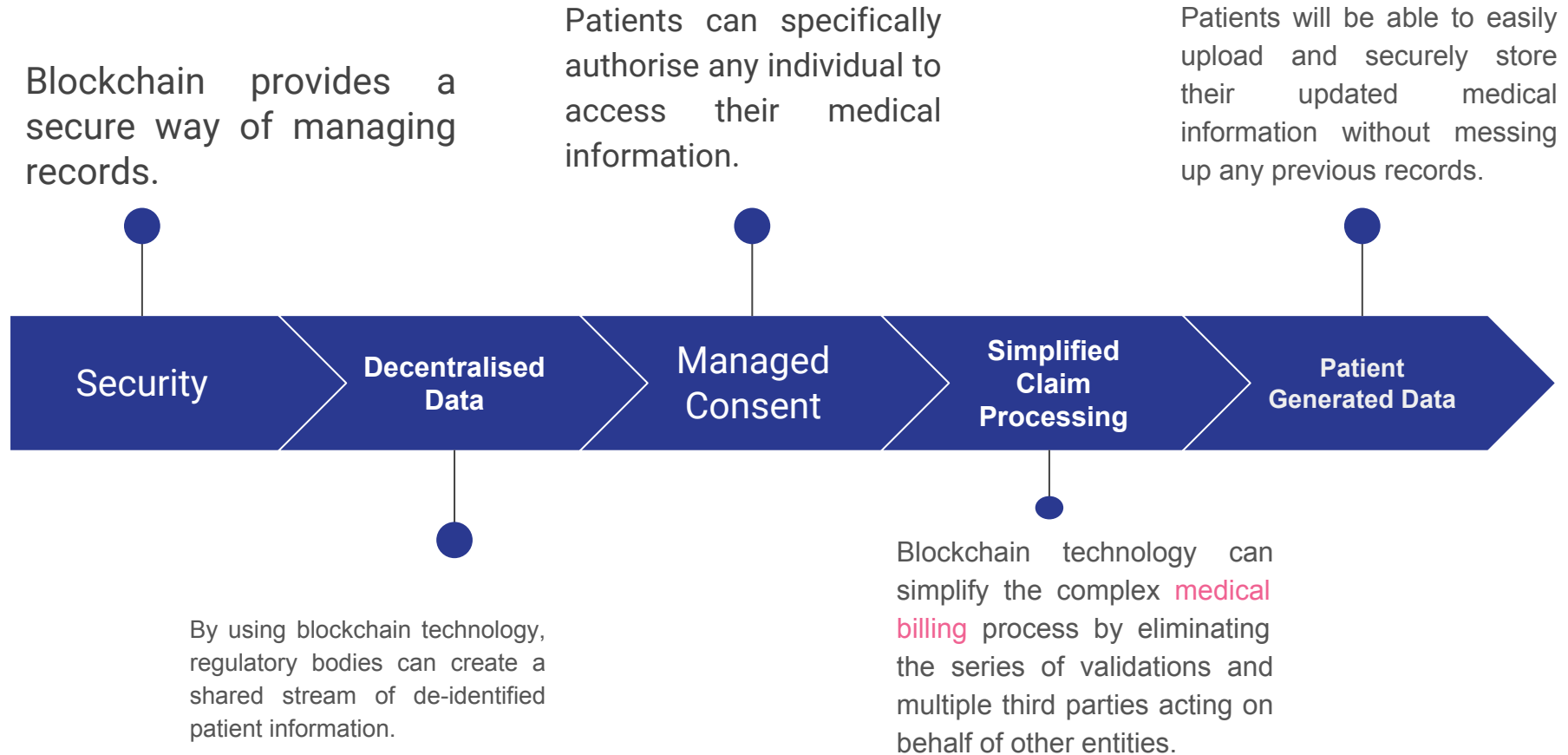
We will be using Blockchain technology to store the patient records. This will ensure that the information remains secure while being decentralised across different peers.



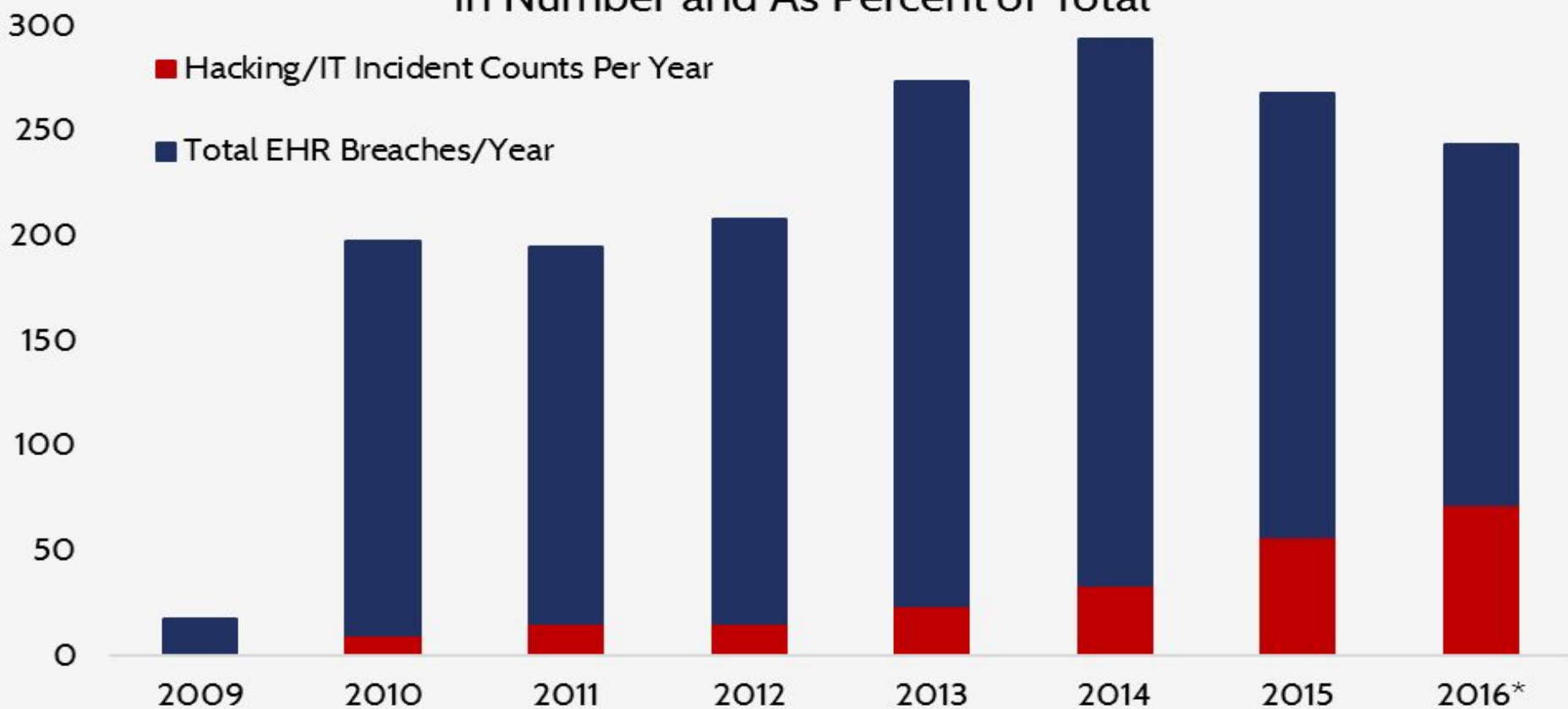
The basic idea is to use Blockchain for storing patient records. The workflow would be as follows:

1. Anyone can register on the Blockchain network as a doctor or a patient.
2. Whenever a patient visits a doctor, the doctor will have the required permissions to store the diagnosis and medical logs in the patient's record which would be stored in distributed ledgers across the Blockchain network.
3. The doctor would require to sign in the transaction (which would be cryptographically encrypted with his private key) to create and modify the records of a patient (who would be uniquely identified by a patient ID).
4. The medical records of a patient will be accessible from any hospital.

Advantages of Blockchain for storing patient records



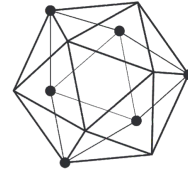
EHR Breaches Involving Hacking/IT Incidents Increasing In Number and As Percent of Total



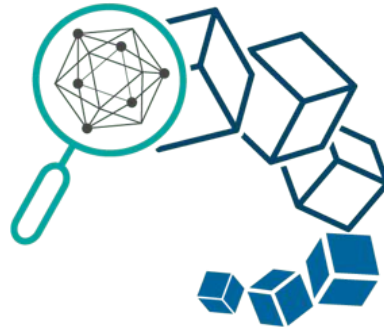
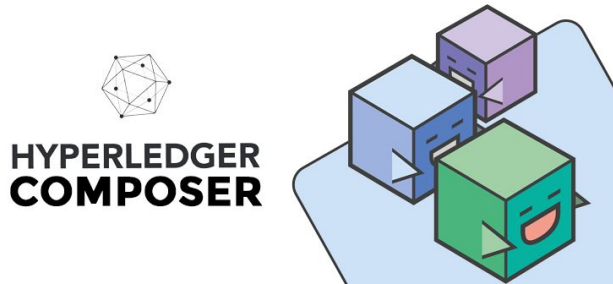
*2016 data has been annualized based on rate of incidences in 1st quarter.

Technology Stack

- IBM's Hyperledger Framework for Blockchain
- Hyperledger Composer based on Fabric Architecture
- Hyperledger Playground
- JavaScript for website



HYPERLEDGER



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Patient's record

Name: Shubhankar Amitabh

1. Diagnosis: Fractured wrist

- Doctor: Ashwani
- Date: 2019-1-26
- Time: 07:46:54

<u>Medicine</u>	<u>Quantity</u>
Max Payne Painkiller	666
Combiflam	4

- X-rays, MRI and other data.



Doctor's Portal

Read patient's record

Write patient's record

Read Patient's record

Get info

Write patients record

GitHub Repository Links for the Project

Repo Link for Blockchain network for EHR System:

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

Repo Link for Web Client:

<https://github.com/ashwaniYDV/webClient>



Thank You