# Decentralised Storages of Cases Dsoc

Use of Blockchain for Healthcare

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# The Problem

- During this pandemic, we learnt that one of the most important tool is information. Who and When?
- The number of cases and information about it, in case of pandemics as this, or epidemics [or any small scale infection that is contagious] is crucial for the people.
- At first, China hid the numbers, and the information about the cases, mostly causing the chaos that is now.
- The database of the cases is kept by individual hospitals or a central authority like the government.

Central authorities can fudge number for their benefit

People won't inform that they tested positive

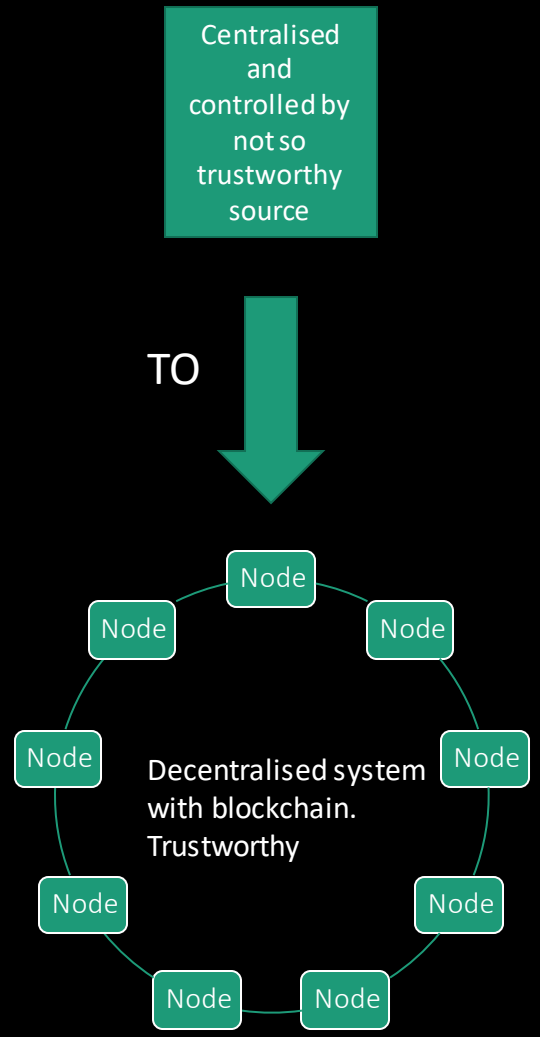
Some countries might withold or show wrong numbers

# The Problem

- This results in us finding out about this cases through media and unreliable sources
- The number of cases can be fudged by the central authority for their benefit. Ex; To win elections, or induce fear into people's minds.

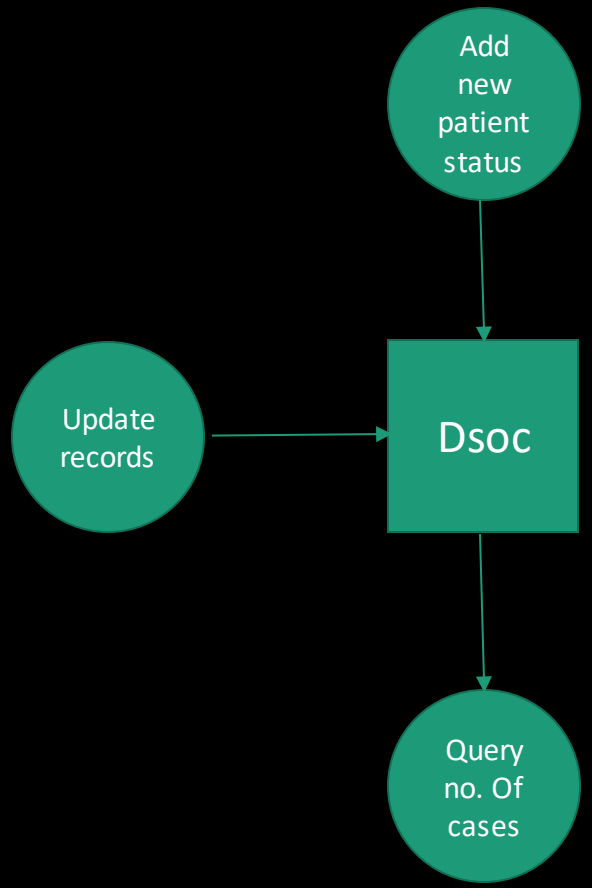
# The Solution

- In order to solve this problem, we bring the database of the cases from centralized storage to decentralized using Blockchain.
- All the cases must be updated to the blockchain by the hospital immediately. This results in this information being, clean, concise and secure
- We can be sure about the number of cases, and we can retrieve and access data of people who have it, thus helping in keeping us safe.



# Our product

- Dsoc provides a page for hospitals and healthcare institutes to register themselves properly [verification would be done to check if that institute is legal and viable]
- And keeps a record of cases in a decentralized way.
- They can add a new record, or update an existing record.
- Can query records based on region, id.
- The number of cases can be viewed easily.



# Why Blockchain

- By using blockchain here, we ensure two things

1. Security
2. Accessibility

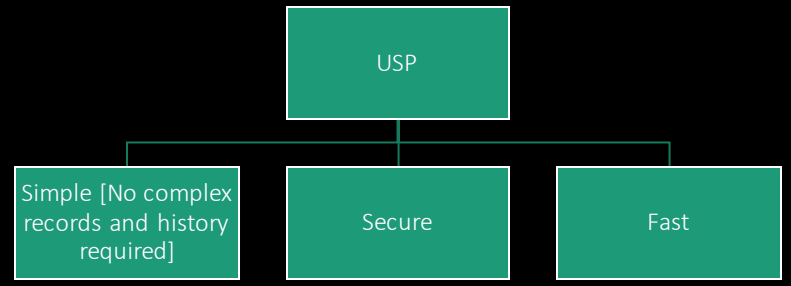
- The number of cases cannot be changed or hidden.
- And information about everyone who is positive/negative is available to the public and organizations, who can use this data to keep themselves safe

Security

Accessibilty

# Implementation

- Implementation of patient records and such has been done by many Blockchain companies.
- But our USP[Unique Selling Point] is that we are function specific and very simple. That is this cannot be used for general purposes. This system has only one job. To keep track of the cases. It does not require too many details from the patient and no complex previous medical history
- Just plain simple, name, id, hospital id.
- Even though it's simple, it's fast and secure.

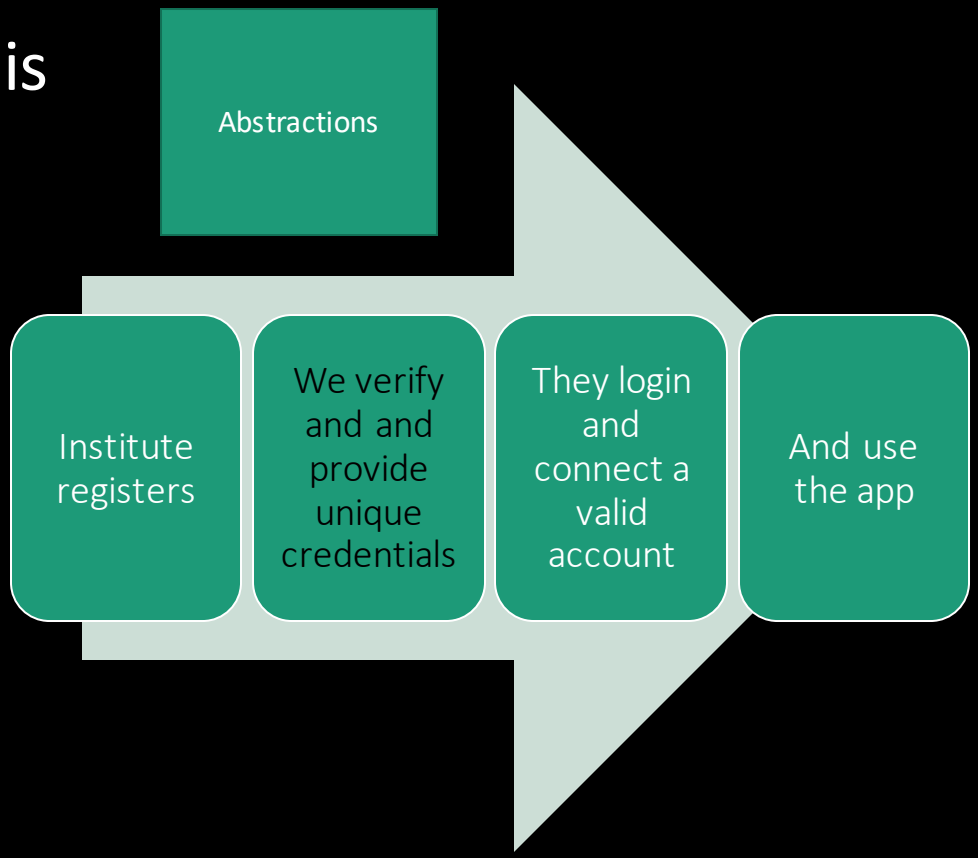


# Implementation

- We used node and web3 backend for the web development.
- Ethereum Block chain.
- Solidity and Truffle for Smart contract development.
- ELAETHSC to deploy our Smart contracts.

# Some Abstractions

- There are some abstractions in the Dapp.
- The authentication to verify the healthcare is considered to be done beforehand



# Implementation [Dapp preview]

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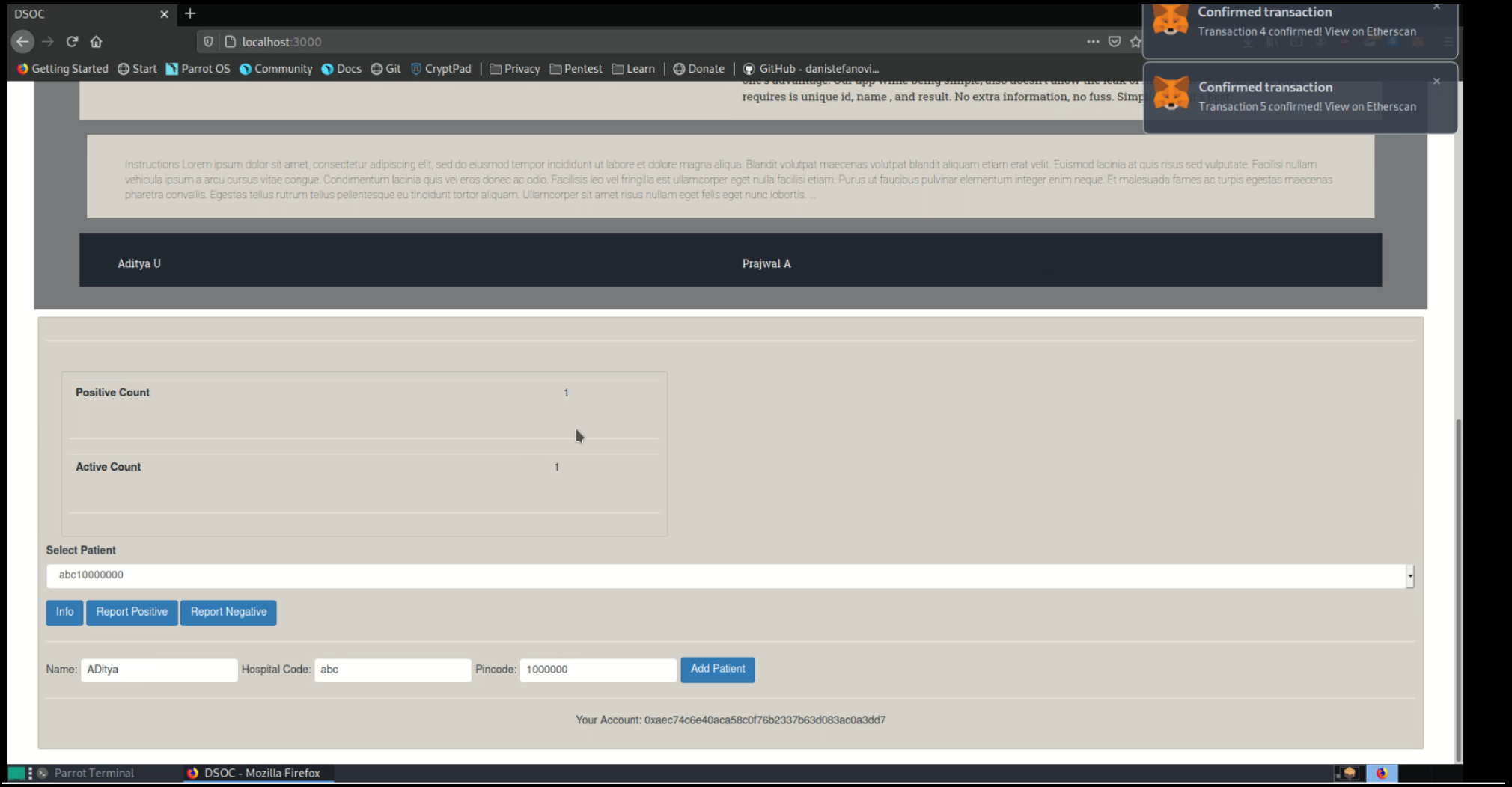

# Pro's and Con's

- Pro's: Simple, efficient, no extra information, secure, available to the public
- Con's: Getting all hospitals to use this tech

# Additional improvements

- Implementation of DID
- Was not possible because of incomplete documentation and some constraints

# Next Steps

- If successful, we'd like to make this more robust
- Plan the deployment
- Expand the dapp
- Cover other areas in healthcare where information which is important to the people is centralized and inaccessible.

# Conclusion

- We have created a simple, secure system to store noumber of cases of Pandemics and epidemics. So that we would better prepared next time.
- Implemented with Ethereum Solidity Smart contracts and Deployed on ELAETHSC

# Thank You