

Blockchain for Electronic Health Records

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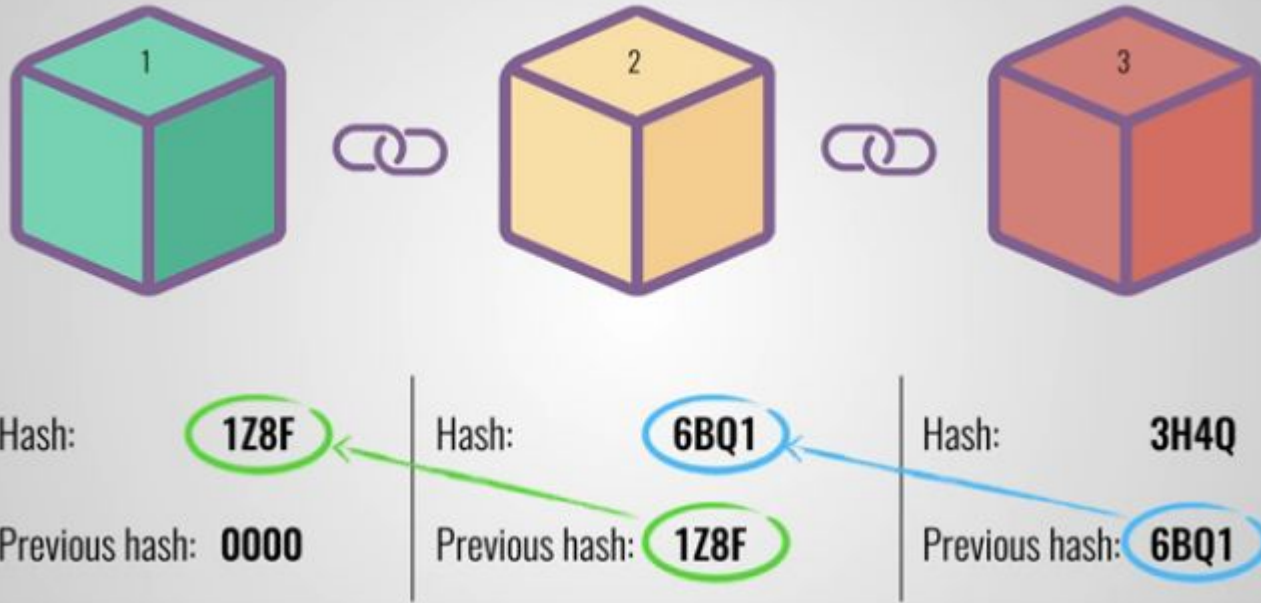
Issues with Current Health Record

Interoperability

Information Asymmetry

Data Breaches

What is a blockchain?



What This Paper Proposes

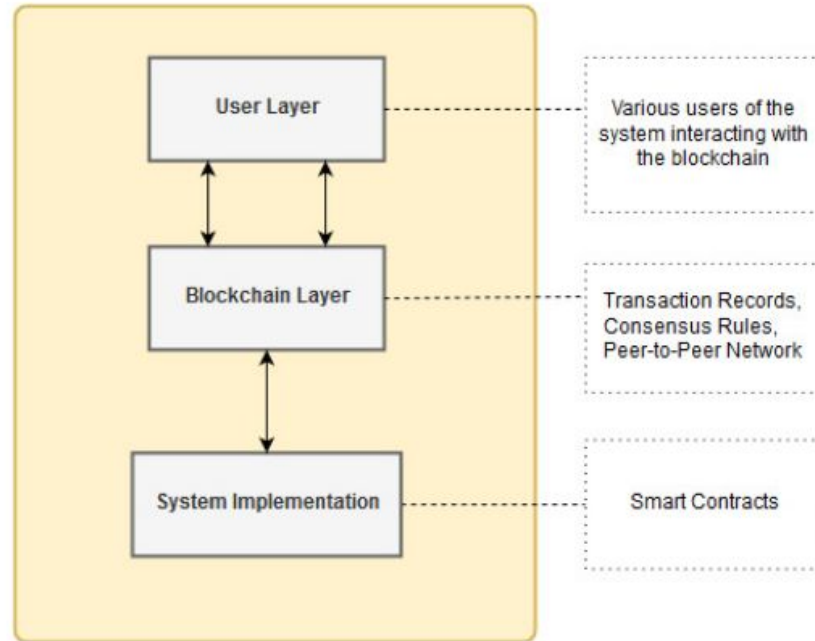


FIGURE 2. System design of proposed framework.

How This Relates to the Class

$P = NP$

$P \rightarrow$ Level of Effort to solve a problem

$NP \rightarrow$ Level of Effort to check a solution

Blockchains have a P with high effort to solve, and an NP with a low effort to check solution.

If $P = NP$ in this case then every block can be accessed and everyone's information is freely available.

Weakness of the approach

Critics of blockchains in general say the consensus algorithms they use consume too much energy relative to the gain of using them.

Blockchain information exchange is slow. About 25 records per second in a network processed on the high end.

Attacks, like a “51% Attack” are possible. Basically takes over the consensus algorithm.

Alternative Solution

Centralized information hub to easily access your data all hospitals have to use, and every patient has a copy of their data accessible with the changelog.