Property Blocks

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Outline

- Currently, more than 2.2 crore property-related cases are pending before all courts in India.

- The average time taken by the Honorable Supreme Court to resolve land acquisition disputes is 20 years. These delays in resolving disputes have far-reaching consequences.

- Government store documents related to ownership and real-estate in its database and also in physical formats but, the database are venerable to hackers and can be hacked and a particular data can be changed making it difficult to identify original or true ownership or facts.
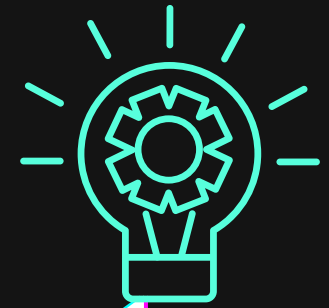
Introduction - BLOCKCHAIN
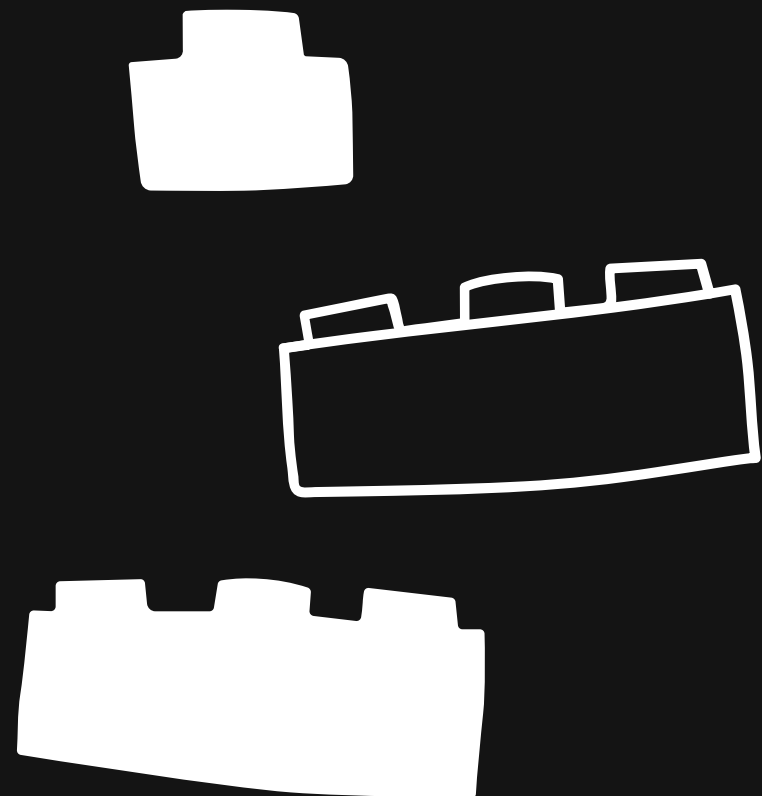
Instead of using traditional way of storing data we can use *Blockchain*

BLOCKCHAIN IS A CHAIN OR NETWORK OF BOXES WHERE EACH BOX HAS 3 COMPONENTS -

1. Cryptographic hash of it's own block.
2. Data or Transaction.
3. Cryptographic hash of previous block.

This is more secure as cryptographic hash of every block is unique and depends on data. If there is any change in data the cryptographic hash of the block will change hence breaking the chain.

Thus because of this property of blockchain it makes it more secure, less venerable to hacking and immutable.
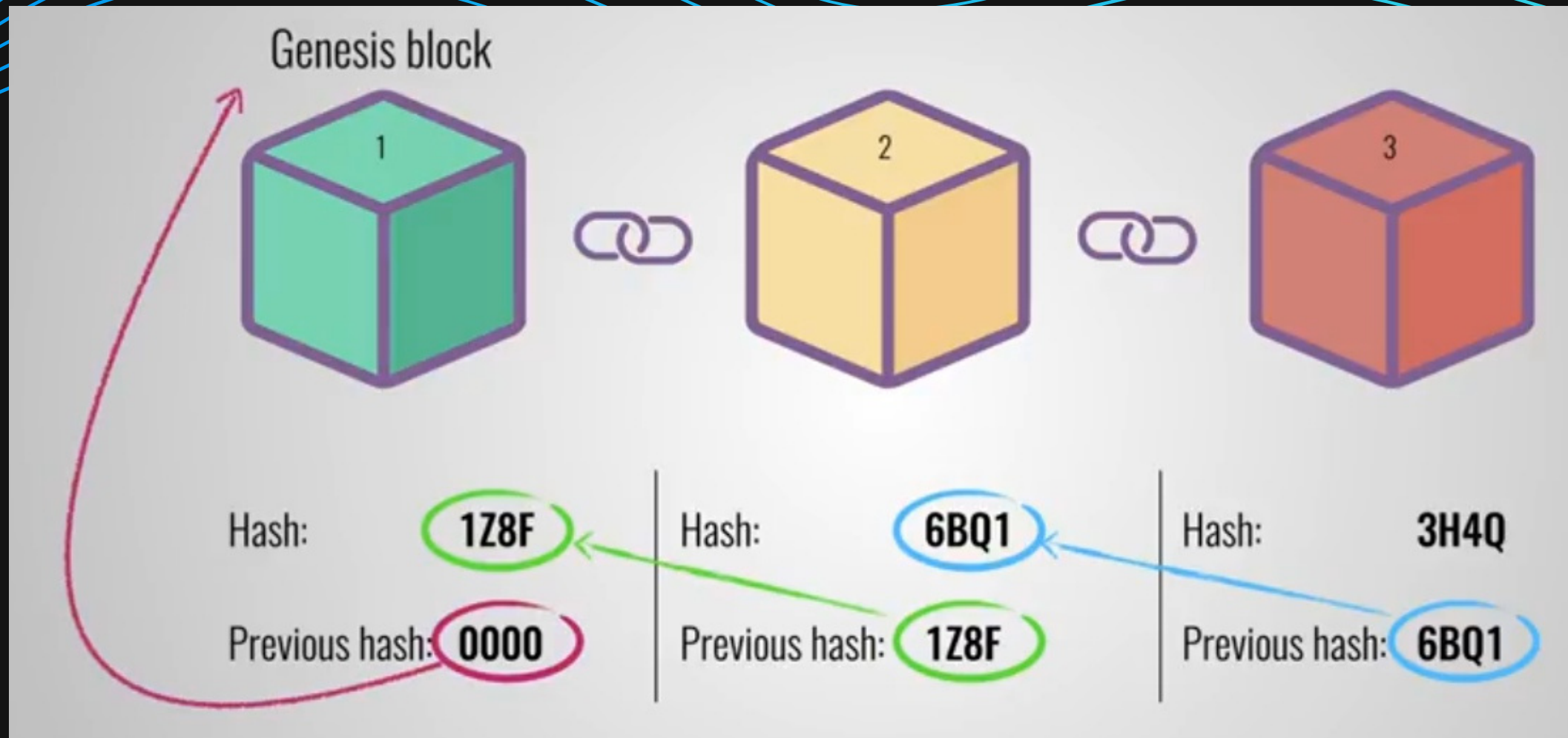
Here we have a chain of 3 blocks. As you can see,each block has a hash and hash of the previous block. So block 3 points to block 2 and number 2 points to 1.

Now let's say that you tamper with the second block. This causes the hash of the block to change as well. In turn that will make block 3 and all following blocks invalid because they no longer store a valid hash of the previous block.

MALAK EL HALABI

Results

Has an Owner

Issues Transaction

ID = Digital Cert

Copy of Ledger
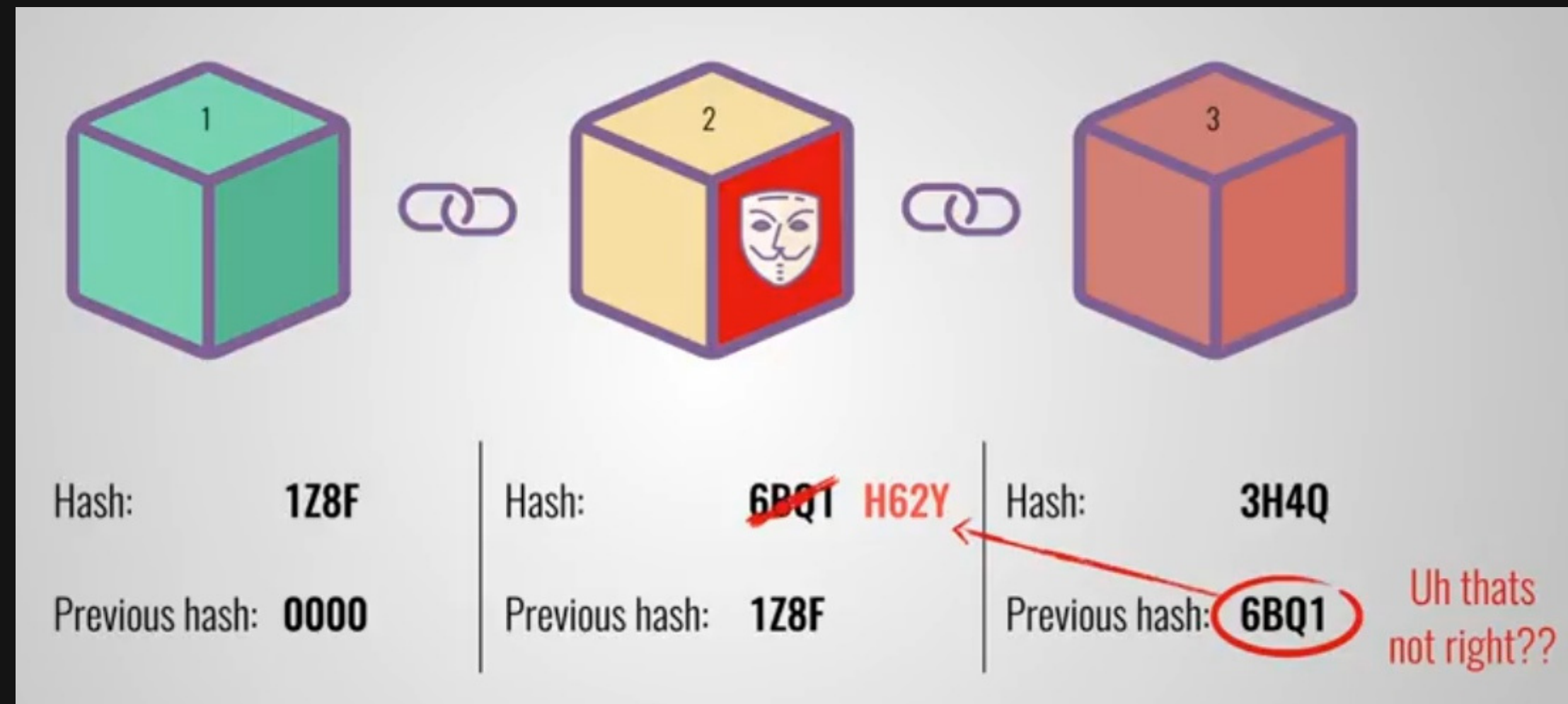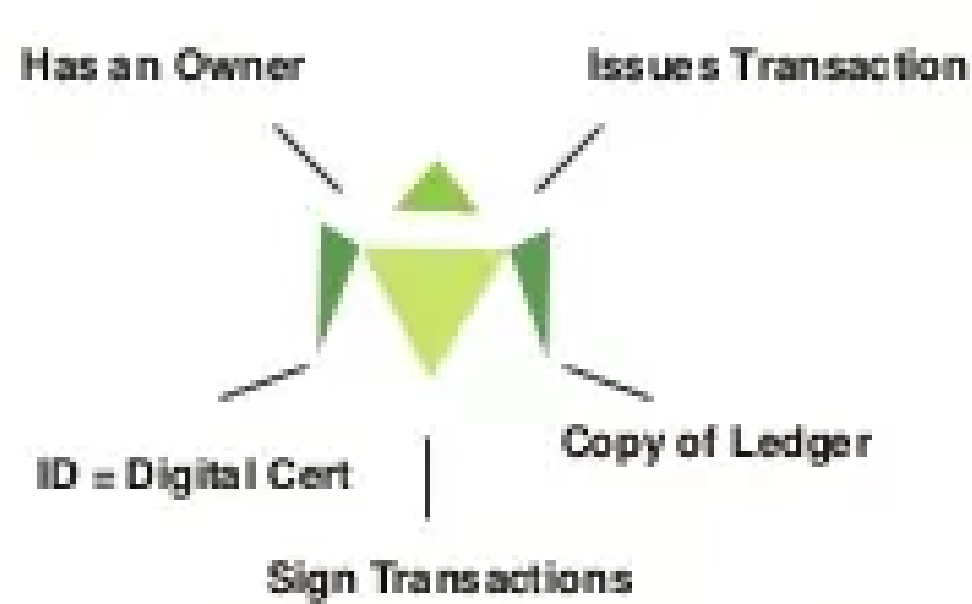
Sign Transactions

1. It all starts with one node

Blocks

Each block has a digital fingerprint of the previous block
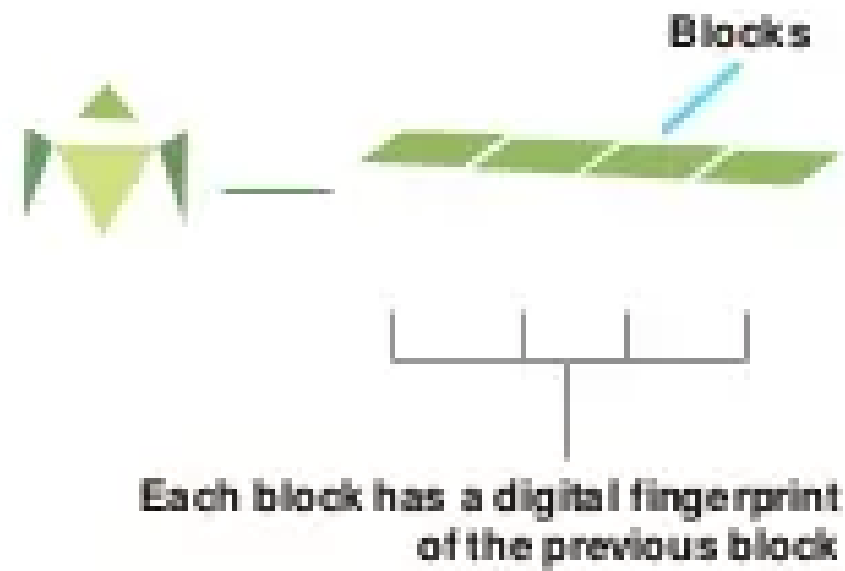
2. Each node has the shared ledger
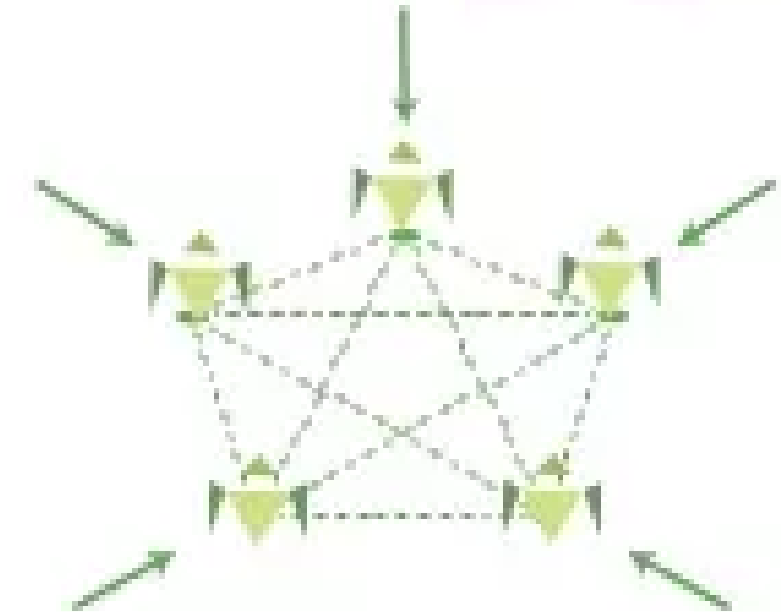
3. Nodes form a peer network

4. Users submit transactions

5. Consensus and leader election

Update A = 100

Then A=10   Now A=100

Answer Validated

6. Execution & Recovery

Screenshot 1 (top-left)

Property Blocks

localhost:3000

No. of Blocks Mined

Node Address (sync ⟳)

#5

0xcdc256670ed04ddb8a69d4f6a5afdd85

PROPERTY

Land registry made simple!

Recipient   cdc256670ed04ddb8a69d4f6a5afdd85

Property location   0   Address

Store

Property transactions

(Sync to get the latest transactions in the blockchain)

| From | To | Property location | Timestamp |

Screenshot 2 (top-right)

Property Blocks

localhost:3000

No. of Blocks Mined

Node Address (sync ⟳)

#5

0xcdc256670ed04ddb8a69d4f6a5afdd85

PROPERTY

Land registry made simple!

Recipient   cdc256670ed04ddb8a69d4f6a5afdd85

Property location   10   Address

Store

Property transactions

(Sync to get the latest transactions in the blockchain)

Screenshot 3 (bottom-left)

Property Blocks

localhost:3000

No. of Blocks Mined

Node Address (sync ⟳)

#6

0xcdc256670ed04ddb8a69d4f6a5afdd85

PROPERTY

Land registry made simple!

Recipient   Enter Recipient Address

Property location   0   Address

Store

Property transactions

(Sync to get the latest transactions in the blockchain)

| From | To | Property location | Timestamp |

Screenshot 4 (bottom-right)

localhost:3000

Land registry made simple!

Recipient   Enter Recipient Address

Property location   0   Address

Store

Property transactions

(Sync to get the latest transactions in the blockchain)

From	To	Property location	Timestamp
0xcdc256670ed04ddb8a69d4f6a5afdd85	0xcdc256670ed04ddb8a69d4f6a5afdd85	10.00000	2020-09-20 22:09:54.379187
0xe36f0158f0aed45b3bc755dc52ed4560d	0xcdc256670ed04ddb8a69d4f6a5afdd85	1.15000	2020-09-20 22:09:58.452683
0xe36f0158f0aed45b3bc755dc52ed4560d	0xcdc256670ed04ddb8a69d4f6a5afdd85	1.15000	2020-09-20 22:09:44.822040
0xcdc256670ed04ddb8a69d4f6a5afdd85	0xcdc256670ed04ddb8a69d4f6a5afdd85	10.00000	2020-09-20 22:04:59.695278
0xe36f0158f0aed45b3bc755dc52ed4560d	0xcdc256670ed04ddb8a69d4f6a5afdd85	1.15000	2020-09-20 22:05:07.196092

Application of Project

- A digital ledger entirely composed of blocks would be created. Every time anyone wants to undertake some form of transaction, and so add information to the blockchain, they need to add an entirely new block.

- Unlike the way most data is written then overwritten by conventional digital ledgers, the advantage of such a system is that a complete record of transactions is there for all to see.

- Rather it operates as a peer-to-peer network that is not controlled by any one party. Each participant in the network is known as a node, and each node has equal control over the ledger.

- Whenever a transaction is made on the blockchain, all the participating nodes are required to authenticate and approve the transaction.

- Since each node has a record of the blockchain, features such as security and transparency are in many ways improved when compared to conventional systems.

- The advantages of not relying on a single controlling entity, as well as having multiple nodes maintaining the database is extremely useful.

Future Scope

Our idea aims on providing a better, efficient as well as a more secure way of storing the ledger of properties. Our idea makes use of blockchain which is both easily traceable and secured way of registering new properties and it will ward off the chances of the data being tampered and easily tackle the problem of a single property being registered to multiple accounts. Not only it will maintain transparency but also help in settling the property disputes.

Conclusion

Almost all of the land disputes in India occur due to incorrect land registry, involvement of fraud third party, or tampering of land documents. The system proposed, focuses on making the process of land registration easy and solely between the buyer and the seller with no involvement of any kind of third party. This system uses the concept of blockchain to store the information about a property cryptographically and safe from hacking or theft.

- Storing sensitive details of properties in an immutable manner called 'blocks'.
- Ensuring safe and complete transaction between only the buyer and the seller.
- Reducing the chances of any third-party involvement thus reducing time and extra money.
- Eliminates the chances of fraud sellers selling a single property to multiple buyers.

References

- https://www.researchgate.net/publication/340830321_Blockchain_based_land_registry_system_using_Ethereum_Blockchain
- https://ww.researchgate.net/publication/329222337_Digitalization_of_Land_Records_From_Paper_to_Blockchain
- https://www.researchgate.net/publication/
- 349686944_Toward_Smart_Land_Management_Land_Acquisition_and_the_Associated_Challenges_in_Ghana_A_Look_into_a_Blockchain_Digital_Land_Registry_for_Prospects
- http://ica-it.org/pdf/Blockchain_Landregistry_Report.pdf
- https://www.leewayhertz.com/blockchain-land-registry-platform/#:~:text=Blockchain%20land%20registry%20platform%20will,land%20title%20and%20prevent%20from
- https://www.investopedia.com/terms/b/blockchain.asp