VIRTUAL VOTING SYSTEM

Implementation of a virtual voting system based on Blockchain Technology

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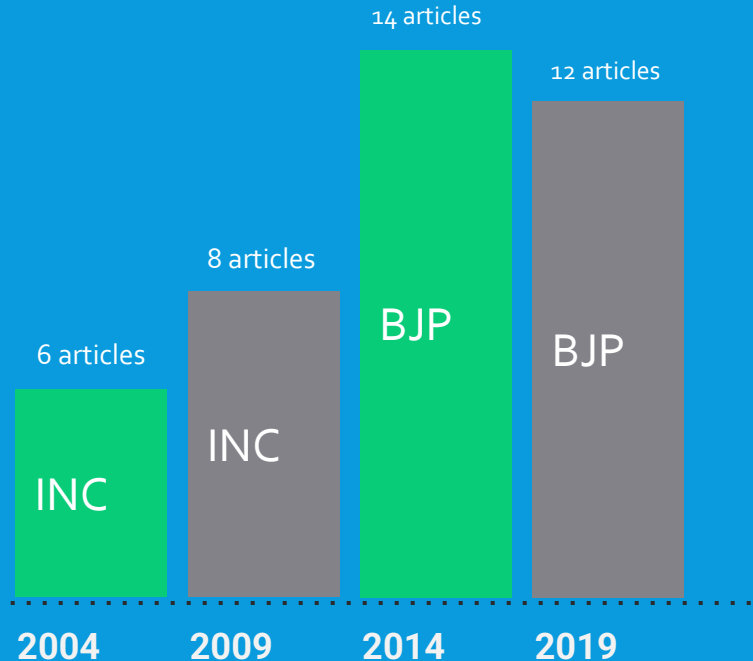
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BLOCKCHAIN TECHNOLOGY

Blockchain is a shared immutable ledger, that facilitates the process of recording multiple number of transactions in multiple places on a computer network. Blockchain, as the name tells, it is a chain of immutable Blocks.

Structure of a Block

- Data : Details such as sender/receiver/party name etc.

- Hash : A unique code for each block.

- Previous Hash : Hash of the previous block.

REASON BEHIND IMPLEMENTATION OF VOTING SYSTEM THROUGH BLOCKCHAIN

If we take a look at the election activities of the last two decades. From 2004, we will find news reports, articles aiming at the problem of "tempering with votes". This issue becomes the hot topic after every election activity. So to overcome this problem and to provide assurance to the public, implementing the EVMs through blockchain technology is a good idea.

14 articles

12 articles

8 articles

6 articles

BJP

BJP

INC

INC

2004   2009   2014   2019

Solution to the problem

Step 1

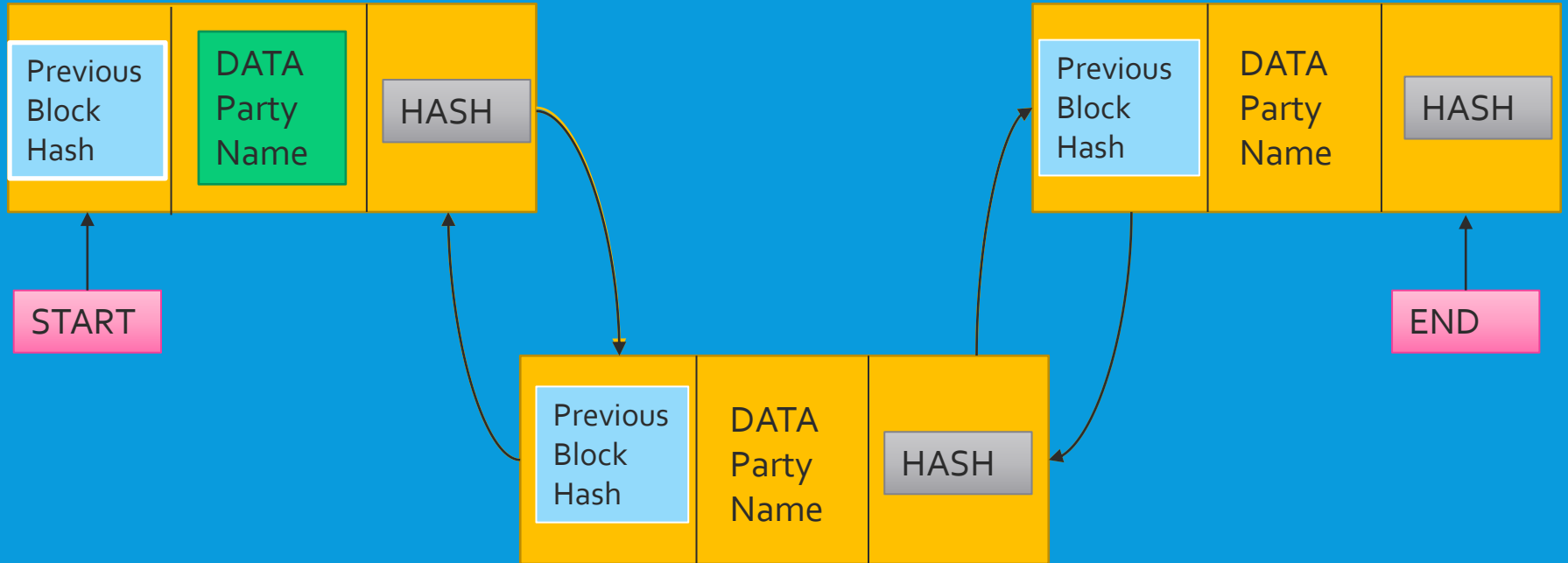Make each vote as a separate block in blockchain by using Linked List data structure.

Step 2

Provide each vote with a unique hash value that is associated with that particular block only

Step 3

Now connect each vote block by storing the hash value of the block previous to the current block.

ARCHITECTURE DIAGRAM

DEMO OF VIRTUAL VOTING SYSTEM

From the interface,

Press 1 to vote for BJP

Press 2 to vote for INC

Press 3 to vote for AAP

Press 0 to exit

```
!!!!!!! Welcome to Virtual Electronic Voting Machine !!!!!!!

Hello! Candidate 1 !

1. BJP (Bhartiya Janta Party)
2. INC (Indian National Congress)
3. AAP (Aam Aadmi Party)

Press 0 to end the Voting

Enter the respective number of party you want to vote to :
```

OUTPUT

The result will be shown as a blockchain.
Each vote block is connected to each other via hash values, each block contains the hash value of the previous block.

Finally print the name of winning party based on higher number of Votes.

```
VOTING RESULT (BLOCKCHAIN)
=========================
Previous hash    0
Block hash       919796464
Transaction      BJP_PARTY


Previous hash    919796464
Block hash       1529089529
Transaction      INC_PARTY


Previous hash    1529089529
Block hash       489904506
Transaction      AAP_PARTY


Previous hash    489904506
Block hash       -2067328251
Transaction      BJP_PARTY



BJP WINS WITH 2 VOTES
```