***SoChain***

***social media using blockchain technology***

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***Abstract*—**S**ocial media is becoming one of the most powerful tool to connect people to the world. It has the power to change people’s perspective, opinion and their beliefs. With Servers the whole power rests with the company that owns the servers. Blockchain is one of the first methods capable of removing the need of the servers by using an advanced p2p network with consensus protocol thereby redistributing the power between many individuals. Most transactions in Blockchain are charged i.e communication between nodes requires money, but social media has to be free of cost since it has to be made available for everyone. In this paper we propose a solution by using blockchain with Dpos consensus protocol where the tokens are distributed to a collective set of users and are increased or decreased depending on the validity of their vote. Social Media has to be secure and private. This is mostly achieved by the use of blockchain itself but in addition we encrypt the data at the client side itself using the receiver's public key and the sender’s private key and decrypt at the receiver side.**

***Keywords— blockchain; Dpos Consensus protocol; p2p network; validator nodes; tokens; voting power; votes; client side encryption and decryption***

# **Introduction**

These days Social media has become an important part of a person’s life and an important source of information. Every social media company holds very specific data on a user like likes, dislikes, family details etc,. Spammers may also use social media to spread false information. All this data stored on a server or a server farm which is prone to attacks or gives the company that owns the server farm sole power.

In this paper we propose a solution to all above mentioned problems through the use of blockchain technology. Instead of proof of work consensus protocol mentioned in Bitcoin[1], we use a proof of stake consensus protocol used in Tendermint[2] with a new token distribution system. Normally in a proof of stake consensus protocol, the validator nodes would get a tokens as payment for correctly validating a transaction. But social media has to be free cost since it has to be available to the common man. There a new token system is necessary. In this type of token system each new user gets a few token initially for getting entering into the network. Since Proof of stake consensus protocol doesn’t require mining, any low-end device is capable of entering into the network. A user can earn more tokens by allowing to use some memory in this device for a certain amount of time. The user has to pay cost to send a message. This cost depends on size of the message, number of users he/she has to send it to. To hold the user information and to maintain the site we have a set of validator nodes who get paid in tokens for allowing the network to use memory on their device. These tokens can’t be bought or sold but can be earned or transfered which is verified by the validator tokens. So the whole network isn’t maintained by a company but by the users. The more the number of users the better the network will function. Further applications can be built on this network of data. For private messages we use Asymmetric Encryption. Each user holds a public key and private key. We use public key of the receiver for encryption and corresponding private key for decryption.

The whole network is entirely decentralized. For Middleware Technology we propose an in app Machine Learning which allows to flood-subscriber protocol used in IPFS (Interplanetary file system) to be optimized and for posting data we use publisher-subscriber protocol[3].

##### References

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