Ethegram - An Ethereum and IPFS-based Decentralized Social Network with Reward System

Motivation:

As we are aware, Facebook provides decent service at the extremely high cost of constantly disregarding user privacy, common decency, and laws around the world, and yet they still have billions of users as they are the monopoly. Monopolies breed complacency, low quality, and high costs. And Facebook has a monopoly over your friend network. We can't leave because everyone is on Facebook. Switching to a new platform means every single one of your friends has to make a new account, download a new app, and you have to rebuild that whole network—if you can convince them at all. It's the same story for any platform (though most don't charge such a high price), and it's unavoidable.

Abstract:

We believe the solution is a decentralized social network which is encrypted at rest. When the user has the key to decrypt and modify their own data, they have complete control, and can grant and revoke control from third parties. Everyone's data is just 'out there', many copies floating around in encrypted blobs that anyone can host or download but only friends can decrypt. Decentralization also provides robustness against censorship, internet outages, and would-be social monopolies.

The key to this decentralized paradigm is not merely security, which is not too hard with public key cryptography, but user-friendly security, which lets us have the conveniences we're used to in centralized systems, but keeps the network secure and open to anyone interfacing with it in whatever way they please.

IPFS - Inter Planetary File System

We achieve these features, including confidentiality, metadata hiding, profiles, friend networks, instant messaging, groups, and much more through a carefully constructed profile file tree distributed peer to peer over IPFS. It can be easily updated, distributed via deltas rather than bulk transfers, and hosted without being able to glean any information about that user. Offline or network-partitioned use is natural for our system, and it will handle such network difficulties gracefully—spreading data to what peers it can reach and recovering effortlessly once the partition is resolved. Most importantly of all, it lays the foundation for a secure system that people may actually want to use.

Reward system

When the user creates a post, other users of the application can view and like the post if they like the content. Each like generates a single token in the application account of the creator. This token count can be seen in the UI profile section of the user. These tokens can be redeemed into Ethers from the platform itself. The funds are directly transferred to the account address from the contract balance. Each token when redeemed gives 0.0001 Ether. Thus, the cost of creating a new post is recovered when the user receives 10 likes on his post. More likes would ensure that the one-time registration cost is also recovered. This makes the rewards system purely content dependent. Content creators are rewarded only based on how much their content is liked by other users of the application.

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