

# DECENTRAGRAM: A Blockchain Social Media.

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**Abstract-** Decentragram is a blockchain social media platform that enables the creation of applications and smart contracts. It was created using blockchain protocols and platforms. The blockchain protocols that facilitate the creation of social media Decentralised Applications include, but are not limited to, Ethereum, Steem, and Stellar. Blockchain social media networks are decentralized, meaning there is no single proprietary authority controlling all the data. Instead, the data is distributed and stored in a homogenous way on servers at each network node. In federated social networks, users must link their real-world identities, such as email addresses or phone numbers, when they register accounts. Furthermore, these networks often rely on public key cryptography for account security rather than relying on a single organization to protect user data. While this creates advantages from a data security perspective, it also presents challenges. Blockchain-based social media platforms support social networking, content sharing and even blogging, but being decentralized, they enable end-to-end encryptions for every interaction. This decentralized social media provides another answer to data privacy and security.

**Index Terms**—Blockchain, Security, decentralized, social media.

## INTRODUCTION:

Social media has become a huge part of one's life. We turn to it to form groups, foster relationships, and keep in touch with long-distance friends. We use it to share ours. And we use it to stay on top of local, national, and international news and politics. But centralized social media continues to breach our trust. Seemingly benign quizzes and games leak our data and our friends' data to huge organizations with vote-garnering and money-making motives. News feeds don't provide accurate and well-rounded perspectives on current events. Advertisers stalk from one website to the next. Fortunately, a wave of visionary computer programmers are developing new services that circumvent the dangers of our current social media framework through decentralization. Decentralized social media operate on independently run servers, rather than on a centralized server owned by a business. This social network gives more control and autonomy. An individual can set up their social network and determine how it operated and what users can say. Instead of having content monitored by a corporation, the founder of a federated social network can establish the terms of acceptable behavior for the site. For the first time since the creation of mainstream social media platforms, the number of American users with at least one social media profile decreased in 2018. People are choosing to leave social media platforms for many reasons, from the platforms' negative effect on mental health to the general mistrust of platform owners. Users are increasingly becoming aware of the amount of power single entities hold over their information.

However, a move toward decentralized social media could put power back in the user's hands. Many social media profiles are connected to email addresses, phone numbers and other personal identifications. However, having access to user information is essential to social media marketers, who rely on using customer data to deliver personalized content. It is estimated that social media marketers could be losing up to \$16.4 billion, making content for fake bots and fake views on social media platforms. Blockchain is a database authenticated by a wider community, rather than one central authority. The technology can return control of personal data to users.

## LITERATURE REVIEW:

Social Media is a platform focused on communication, community-based input, interaction, content-sharing and collaboration. The main drawbacks to social media are the loss of personal privacy, data protection and ownership of information. So the solution for this problem is decentralised social media where a Blockchain based social media platform is provided which supports social networking, content sharing and even blogging with end to end encryptions.(Ching-man Au Yeung1, Ilaria Liccardi1, Kanghao Lu, Oshani Seneviratne, Tim Berners-Le) presents how these problems can be solved by adopting a decentralised approach to online social networking. With this approach, users do not have to be bounded by a particular social networking service. This can provide the same or even higher level of user interaction as with many of the popular social networking sites we have today. In addition, it also allows users to have more control over their own data. A decentralized social networking framework described is based on open, technologies such as Linked Data [Berners-Lee 2006], Semantic Web ontologies, open single-sign on identity systems, and access control. The use of URIs as identifiers throughout allows the decentralised framework to be distributed and extensible, as users, applications and data to be linked to by referring to their URIs. [1]

Online social networks (OSNs) are becoming more and more prevalent in people's lives, but they face the problem of privacy leakage due to the centralised data management mechanism. The emergence of distributed OSNs (DOSNs) can solve this privacy issue, yet they bring inefficiencies in providing the main functionalities, such as access control and data availability. In view of the above-mentioned challenges encountered in OSNs and DOSNs, the author exploits the emerging blockchain technique to design a new DOSN framework that integrates the advantages of both traditional centralised OSNs and DOSNs. By combining smart contracts, we use the blockchain as a trusted server to provide central control services. Meanwhile, the storage services are separated

so that users have complete control over their data. In the experiment, real-world data sets verify the effectiveness of the proposed framework. [2]

#### 1) Decentralization: The Future of Online Social Networking:

(Ching-man Au Yeung<sup>1</sup>, Ilaria Liccardi<sup>1</sup>, Kanghao Lu, Oshani Seneviratne, Tim Berners-Lee) This paper presents how these problems can be solved by adopting a decentralized approach to online social networking. With this approach, users do not have to be bounded by a particular social networking service. This can provide the same or even higher level of user interaction as with many of the popular social networking sites we have today.

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#### 2) A survey on decentralized Online Social Networks:

(Thomas Paul, Antonino Famulari, Thorsten Strufe)

Because of growing popularity of Online Social Networks (OSNs) and huge amount of sensitive shared data, preserving privacy is becoming a major issue for OSN users. While most OSNs rely on a centralized architecture, with an omnipotent Service Provider, several decentralized architectures have recently been proposed for decentralized OSNs (DOSNs). In this work, we present a survey of existing proposals.

We propose a classification of previous work under two dimensions: (i) types of approaches with respect to resource provisioning devices and (ii) adopted strategies for three main technical issues for DOSN (decentralizing storage of content, access control and interaction/signaling). We point out advantages and limitations of each approach and conclude with a discussion on the impact of DOSNs on users, OSN providers and other stakeholders.

#### 3) BCOSN: A Blockchain-Based Decentralized Online Social Network: (Le Jiang and Xinglin Zhang)

Online social networks (OSNs) are becoming more and more prevalent in people's life, but they face the problem of privacy leakage due to the centralized data management mechanism. The emergence of distributed OSNs (DOSNs) can solve this privacy issue, yet they bring inefficiencies in providing the main functionalities, such as access control and data availability.

In this article, in view of the above-mentioned challenges encountered in OSNs and DOSNs, we exploit the emerging blockchain technique to design a new DOSN framework that integrates the advantages of both traditional centralized OSNs and DOSNs. By combining smart contracts, we use the blockchain as a trusted server to provide central control services. Meanwhile, we separate the storage services so that users have complete control over their data. In the experiment, we use real-world data sets to verify the effectiveness of the proposed framework. [2]

#### 4) A Blockchain based autonomous decentralized online social network: (Ningyuan Chen; David Siu-Yeung Cho)

Online social networks (OSN) are becoming more important in people's daily life, however, all popular OSNs are centralized, and this raises a series of security, privacy and management issues. A decentralized architecture based on blockchain technology provides the ability to solve above issues.

In this paper, an OSN service is developed based on blockchain technology in order to make it operate decentralized. Large volume of data normally required low-security requirements can be stored in Interplanetary Filesystem (IPFS) to make data decentralized. A decentralized autonomous organization is developed for user autonomy, users can self-manage the OSN in a democratic way.

### PROPOSED SYSTEM:

The proposed system is a website which allows users to post their creative stuff just like other Social sites. Figure 3.1 shows the architectural diagram of the project. The portal is available on the website and will allow the user to login after authentication of credentials. MetaMask is a popular and established browser extension which functions as a cryptocurrency wallet that connects to the Ethereum blockchain. The user account is connected to Metamask. The Ganache application provides dummy accounts to the decentralized social networking application to carry out ethereum transactions.

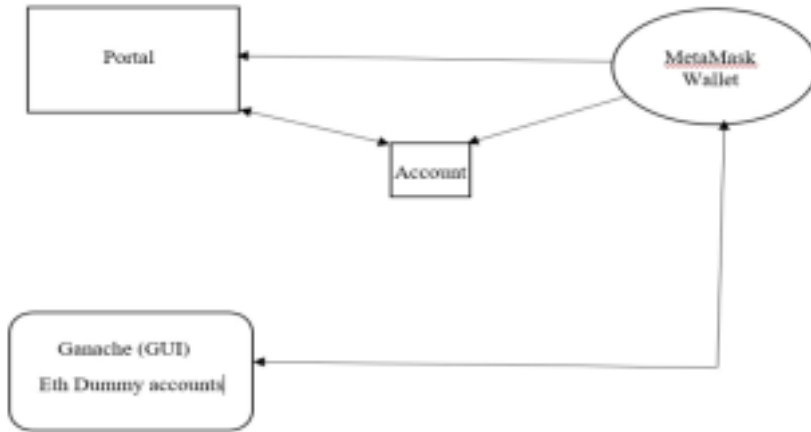


Fig 3.1 Architectural block diagram

Figure 3.2 shows the workflow diagram of the project. A frontend web client made of React js service is provided to all the content creators to post their contents. Smart contracts are developed using solidity for successful creation, tipping and updating the content and this smart contract is compiled using Truffle. Injected wallet (metamask) is connected to the frontend source using web3.js. The Accounts in the Metamask wallet are imported from Ganache. Ganache provides dummy ethereum accounts. All the details of the content have been stored in a distributed storage using IPFS(InterPlanetary File System). IPFS converts the content into the hash codes using SHA 256 encryption, these hash codes are added in the block architecture. User’s account will be updated after posting and tipping of content. Content would be sorted on the basis of tipped ethereums.

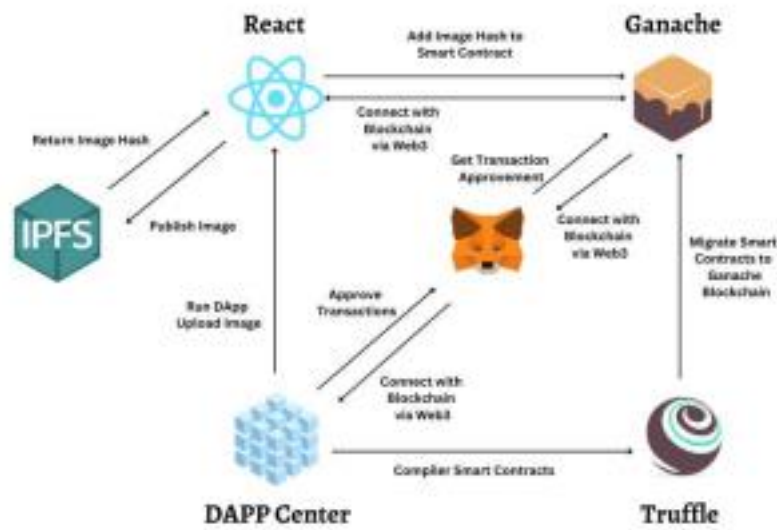


Fig 3.2 Workflow of Proposed system

**IMPLEMENTATION DETAILS:**

**GANACHE**

**CONCLUSION:**

Blockchain technology is giving rise to a new era of social networks. This new technology takes the existing social media models and gives them the best privacy. Data selling, algorithm changes and unnecessary content censorship could become a thing of the past. It is because these blockchain technology social networks are owned and run by the people by themselves. In the absence of any centralized authority, users on these networks benefit from greater privacy which in turn upholds the freedom of speech and expression, relieving users of the miseries of being prosecuted for their thoughts on social media. Most decentralized social media platforms also enable their users to earn cryptocurrencies upon posting and interacting. A decentralized messenger called the Dchat protocol enables messaging that is directly tied to the crypto address (domain name, e.g. unstoppable. Crypto). Any wallet or blockchain application can independently build and release features on top of it, like team chats, auto-destruct features, stickers apps, games, etc. It will be built on a P2P storage network.

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