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Social Media Using Blockchain

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ABSTRACT: Social media has transformed the mode of communication globally by providing an extensive system for exchanging ideas, initiating business contracts, and proposing new professional ideas. However, there are many limitations to the use of social media, such as misinformation, lack of effective content moderation, digital piracy, data breaches, identity fraud, and fake news. In order to address these limitations, several studies have introduced the application of Blockchain technology in social media. Blockchains can provide transparency, traceability, tamper-proofing, confidentiality, security, information control, and supervision. This paper is a systematic literature review of papers covering the application of Blockchain technology in social media. To the best of our knowledge, this is the first systematic literature review that elucidates the combination of Blockchain and social media. Using several electronic databases, 42 related papers were reviewed. Our findings show that previous studies on the applications of Blockchain in social media are focused mainly on blocking fake news and enhancing data privacy. Research in this domain began in 2017. This review additionally discusses several challenges in applying Blockchain technologies in social media contexts, and proposes alternative ideas for future implementation and research.

I. INTRODUCTION

In an era dominated by the relentless expansion of social media and the insatiable hunger for engaging content, a revolutionary fusion is on the horizon. The convergence of blockchain technology with traditional social media platforms promises to reshape the digital landscape as we know it. This groundbreaking synergy not only ensures fairness and transparency in content monetization but also unlocks novel avenues for content consumers to actively participate in and benefit from the success of their favourite creators^[1].

The traditional social media paradigm has long been plagued by issues of centralized control, opaque algorithms, and unequal distribution of rewards. However, the integration of blockchain technology heralds a new dawn of empowerment and equity. By leveraging the immutable and decentralized nature of blockchain, our platform endeavors to redefine the relationship between creators, consumers, and content.

In this exploration, delving into the immense potential and significance of the blockchain-based social media platform, this venture is not merely a technological innovation but a bold endeavor to revolutionize the very essence of content creation, appreciation, and financial reward. Join on this transformative journey as the way is paved for a more inclusive, transparent, and rewarding digital ecosystem.

Despite the potential benefits of blockchain in social media, there are also several challenges and limitations that need to be addressed. One of the main challenges is the scalability issue, which refers to the ability of a blockchain to handle many users and transactions. Another challenge is the issue of interoperability, which refers to the ability of different blockchains to communicate and exchange data with each other. In addition, there are also issues related to the legal and regulatory frameworks that need to be considered when deploying blockchain in a social media context. In conclusion, the use of blockchain technology in social media has the potential to address many of the challenges that plague existing platforms. By providing improved user privacy, combating disinformation, and enabling secure authentication, blockchain can provide a safer, more secure, and more.^[2]

II. RELATED WORK

A blockchain is a growing distributed ledger that keeps a permanent record of all transactions that have taken place in a secure, chronological, and immutable way. It was conceptualized and first used in 2008 by an unknown person or group named Satoshi Nakamoto to create the Bitcoin cryptocurrency. In order to address these limitations, several studies have introduced the application of Blockchain technology in social media. Blockchains can provide transparency, traceability, tamper-proofing, confidentiality, security, information control, and supervision^[3]. Our findings show that previous studies on the applications of Blockchain in social media are focused mainly on data privacy, secure payment. Utilizing blockchain algorithms like SHA-256 and RSA can improve social media platform security even more. Blockchain technology can be used to regulate data access, safeguard user privacy, and enhance the quality of information on social media sites. The world of interpersonal connections and communication has changed as a result of social media. With billions of people utilizing numerous platforms to communicate with others and share information, it has become an integral part of our everyday lives.

Following is the literature survey undertaken on the research papers available:

2.2.1: Blockchain in Social Networking

In this article, we examined how blockchain technology will integrate the advantages of social networking with central servers and DOSN. In this instance, data is kept in a dispersed fashion. Even still, clients must request authorization before viewing anything. The profiles are safe since they are encrypted and stored on the blockchain. It has independent control and storage services. This study comes to the conclusion that a rapid increase in the use of social networks has an impact on the development of prospective infrastructure that guarantees more privacy as well as a way to use applications and smart contracts to carry out more tasks [4].

2.2.2: all.me

all.me is a virtual ecosystem that is mostly built around a social group and has its own market, incentive system, and payment mechanism. To arrange for the sharing of advertising money, a partner connection is upheld. Users that actively use all.me are rewarded by the community, which does this by giving them a portion of the advertising money. As much as 50% of advertising revenue is available to users.

Customers are no longer under any pressure from the platform to engage in marketing-related activities, such as watching advertisements, clicking on links in ads, and so on. I adhere to the widely-accepted guidelines for social media advertisements. Customers are also rewarded for their popularity on the platform and social activities.

More exchanges and transactions with ME occur when more people use all.me. This enhances the currency's market worth. In summary, all.me develops a new financial technology-driven economy that is essentially a ready-made infrastructure that entices users and streamlines their daily lives with a few clicks.

2.2.3: Blockchain Based Decentralized Online Social Network

By combining smart contracts with the blockchain, they have used it as a trusted server to provide features that were previously possible only through central servers in traditional OSNs. In this study, they have built a blockchain-based framework for decentralized OSNs called BCOSN.

The BCOSN can provide effective, safe, and privacy-aware newsfeed notification, friend suggestion, and authentication features compared to the current DOSNs. To safeguard user privacy, they have also given consumers access to fine-grained encryption.

To put together a tangible plan within the BCOSN framework, a set of algorithms has been developed, mostly based on smart contracts [5].

2.2.4: Ushare

This study provided a conceptual solution for creating a user-centric social network that may enable users to control, track, and safely share content. It has been suggested that this kind of platform may benefit from blockchains' decentralization, anonymity, traceability, and resistance to censorship. Ushare, the suggested platform might allow for those and more.

It might also be beneficial for offshore data encryption and blockchain-based data sharing. The functionalities could be implemented through four intermediate components: a blockchain that could keep track of who owns what data objects and what kinds of stocks have been made; a relationship device that could allow programmable code to run at the blockchain and control what kinds of shares are allowed for a data item; a hash desk that stores encrypted data that an

individual stocks; and, lastly, a local personal certificates authority that oversees circles, encryption keys, and content access [6].

III. METHODOLOGY

Problem Definition

The primary problem that this project addresses is the challenge of enabling content consumers to reward content creators and offering a mechanism for content consumers to accumulate and withdraw the value of their appreciation tokens. Key aspects of this problem include:

Recognition for Content Creators: Many content creators struggle to gain recognition and monetize their work. Providing a means for their audience to reward them can help solve this issue.

Empowering Content Consumers: Content consumers spend a significant amount of time online. Offering a way for them to convert this time into a potential income source can enhance their online experience.

Proposed Experiment Work

In order to tackle the identified problems and evaluate the effectiveness of our solution, we propose the following experimental work:

Development of the Appreciation Token System: Create an application with a user-friendly interface that allows content consumers to appreciate content creators and accumulate appreciation tokens.

Token Valuation Mechanism: Implement a system that calculates the value of appreciation tokens based on the content creator's followers and other factors.

User Engagement and Feedback Analysis: Collect feedback from users and analyze user engagement metrics to determine the effectiveness of the system in promoting content creators and benefiting content consumers.

System Architecture

The system will consist of the following main components:

User Interface: The front-end of the application that provides a user-friendly experience for content consumers and creators.

Appreciation Token Management: A component to manage the appreciation tokens, their valuation, and distribution.
User Wallet Integration: Integration with Google Pay and Paytm for secure and efficient withdrawal of appreciation tokens.

User Management: The user registration, authentication, and profile management system.

Content Management: A component for uploading, viewing, and appreciating content.

Analytics and Reporting: A backend system for collecting user engagement data and generating reports.

Security: Implementing strong security measures to protect user data and transactions.

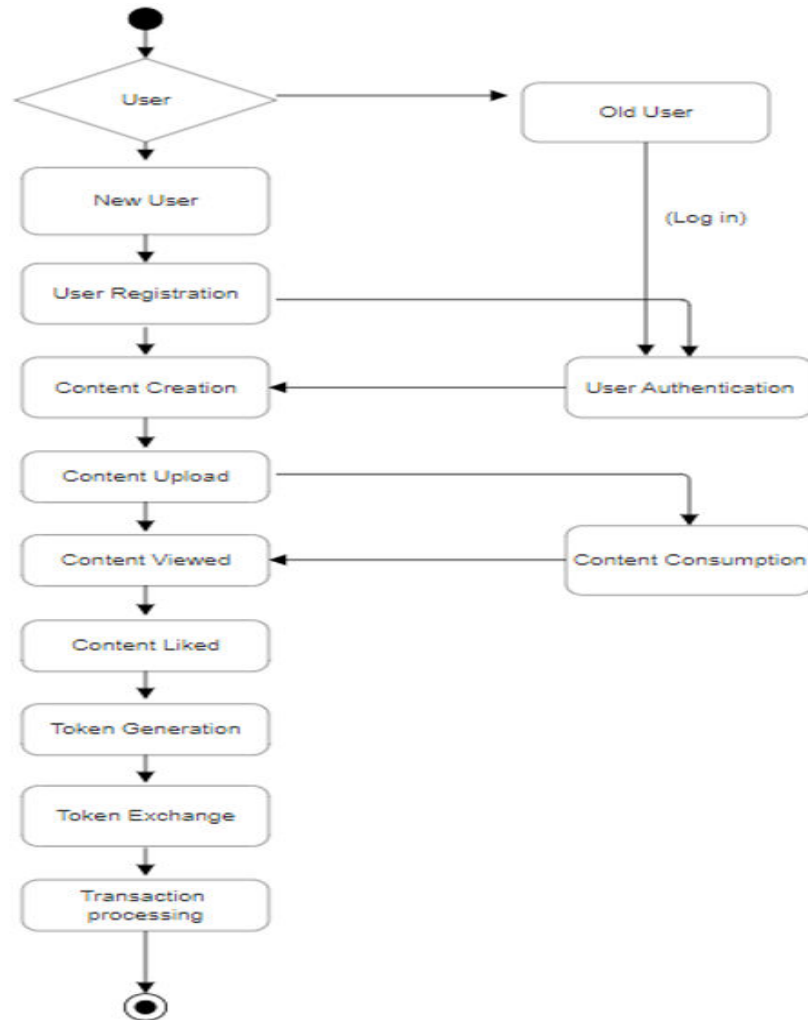


Fig: Flow of Block-chain social media App.

Start:

This is the starting point of the process. It indicates the initiation of the user's interaction with the system.

User Registration:

Users need to register themselves with the application by providing necessary details such as username, email, and password. The application verifies the user's information and creates a unique UserID for the user. This step ensures that users have a valid account to access the system.

User Authentication:

After registration, users need to authenticate themselves to access the application's features securely.

Users provide their credentials (username/email and password) to log in.

The application verifies the credentials against the stored data to grant access.

Content Creation:

Authenticated users, after successful login, have the option to create content.

Content creation involves generating new media (text, images, videos, etc.) along with relevant details such as title and description.

Users can choose to create content based on their interests or expertise.

Content Upload:

Once content is created, it needs to be uploaded to the application's servers. Users select the content files from their devices and upload them through the application interface. Uploaded content becomes accessible to other users for consumption.

Content Consumption:

Users can consume content uploaded by other users. Content consumption involves viewing and interacting with the uploaded content, such as liking or commenting. This step allows users to engage with the content and contribute to its popularity.

Content Viewed:

The application tracks when content is viewed by other users. Views are counted to determine the popularity and engagement level of the content. Viewing content contributes to its visibility and potential for further interaction.

Content Liked:

Users have the option to like the content they find appealing. Liking content indicates user appreciation and increases the content's popularity. Likes are counted and displayed as a measure of user engagement.

Token Generation:

Tokens are generated based on the performance of the content. Factors such as views, likes, and interactions contribute to token generation. Generated tokens represent value and serve as rewards for content creators.

Token Exchange:

Users can exchange tokens with each other within the application. Token exchange may involve transferring tokens in return for digital money or other services. users can utilize tokens to incentivize engagement or support their Favorite content creators.

Transaction Processing:

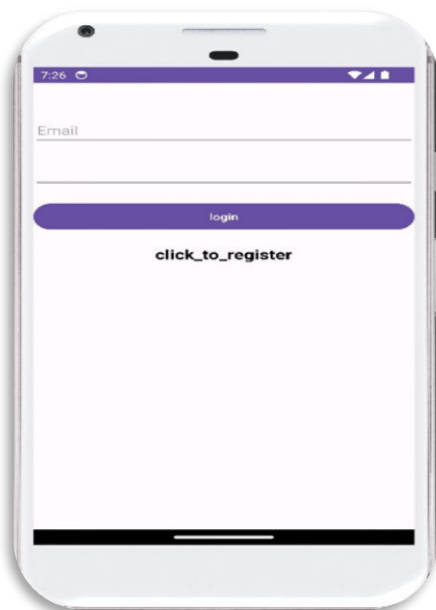
Transactions involving tokens are processed securely within the application. This step ensures that token exchanges are executed accurately and reliably. Transaction processing may involve integration with payment gateways like Razor Pay for fiat currency transactions.

End:

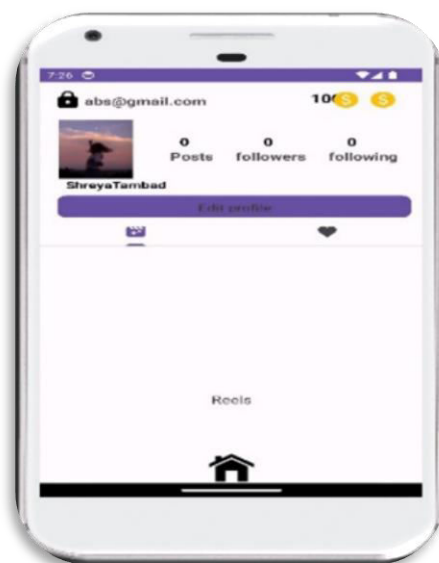
This marks the end of the process flow, indicating the completion of user interaction with the system.

IV. EXPERIMENTAL RESULTS

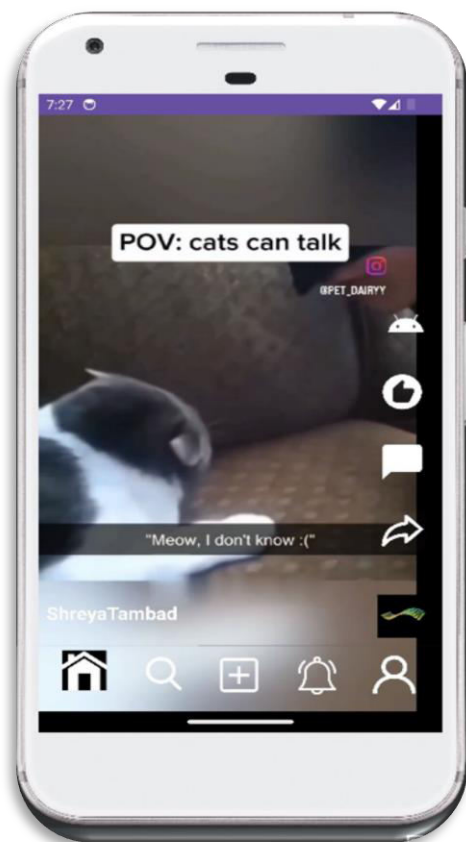
Figures shows the results of social media app using Blockchain by using Blockchain Technology. Figs. (a) Registration page. (b)Profile Page (c)Reels Page (d) Transaction Through Blockchain. Blockchain can be used to create a decentralized social media network where users control their own data and identities. User data and content were successfully stored on the blockchain, ensuring immutability and tamper-proof records. User control over and content distribution functioned as intended. However, further analysis is needed to assess scalability and performance with a larger user base.



(a) Registration Page



(b) Profile Page



(c) Reels Page



(d) Transaction Through Blockchain

V. CONCLUSION

The integration of blockchain technology into social media applications has the potential to revolutionize user data ownership and content monetization. By leveraging the core principles of decentralization, transparency, and immutability, blockchain-based social media platforms can empower users to control their data, fostering a more secure and trustworthy online environment.

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