Decentralized Audio Streaming Platform

Mrs. Bhavana Sarode[1], Rutuja P. Kaldate[2], Shweta S. Raut[3], Swapnil Parashare[4], Atharva Patil[5]
[1]*Guide, Information Technology PESMCOE Shivajinagar, Pune*
[2,3,4,5]*Information Technology, SPPU*

Abstract: Today's entertainment and music streams are heavily dependent on digital technology. People prefer online subscription services to buy physical copies of music albums. Online streaming services like Spotify, Apple iTunes, Google Music easily provide good service to the audience. However, the weaknesses of this system include long delays in payment to artists, lack of transparency, and confusing payment and licensing terms.

Build block-chain to innovatively transform delivery, consumption and payment for media streaming. Block-chain can facilitate authentication and authorization without using secure access. Due to its advantages and unique applications, the block-chain paradigm is on the fast track. Adoption and adaptation will decide. Businesses adopting newer block-chain applications are becoming more visible and viable.

- **Provide solutions for music piracy**
- **A great source of inspiration, especially for new singers**
- **Encourage people to pay for music**
- **Provide a soundtrack for the audience**
- **Streamlined music distribution for artists**

INTRODUCTION

1.1 Problem Definition

To eliminate the problems with the storage and security for the digital content in our proposed system mainly about the audio files. To eliminate middle-men in the music distribution process so as to not letting any artist remain undiscovered/unpopular because of the ease of the process in our proposed system. With traditional centralized server system increase in hacking and web attacking, the security of the content is at highest risk, thus the security of the data is main problem, need of decentralized system arises. To create a blockchain solution to innovatively transform the delivery, consumption, and payment for streaming audio.

1.2 Motivation behind project topic

Internet database platform for artists, which uses the distributed and tamper-proof technology of Ethereum blockchain to store music works, protect the data information of each music produced by artists in the music industry from being tampered by an outsider attacker by using decentralized block-chain system. Music distribution has come a long way. In modern times, music streaming platforms have emerged as a major source of exposure for artists. Artists can upload their works and create playlists. This increases the likelihood that their music or playlist will be played by a large number of people, such as new and old listeners. This kind of exposure has many advantages for budding artists. Before, people used to go from door to door with CDs or records in their hands, trying to convince others that this song is worth listening to and not just a waste of time. Most of these artists would face rejection as some would do it for commercial reasons and others would say no to future earworms But the music streaming platform has filled that gap and changed how distribution works, in the same way that email bridges the gap between sending and receiving letters. This platforms allows artist to publish their unique content on large scale securely.

1.3 Objective(s) of the work/ Benefits of proposed system

The need for decentralization is the main motivation behind blockchain technology, and decentralization is achieved by distributing computational tasks across all nodes of a blockchain network. Decentralization solves many problems of traditional systems, one such problem is point of failure. This downtime is something that is inevitable, even in a perfectly architected server. If the same situation is encountered in a decentralized network, it is not a problem, because all transaction data will be distributed to all nodes, meaning that each node can act as a backup node in case of failure, maintaining integrity. data (another key benefit of blockchain-based solutions). This is something that is achieved by maintaining a distributed ledger of blockchain data.

One of the biggest advantages that music streaming platforms bring is their ability to encourage people to pay for music. Over the past decade or so, we've seen major record labels crumble which ultimately lead to drastic cuts in payments to artists. Streaming services have provided a different approach and put people at the center of distribution channels.

1.4 Scope of project

1. Our project primarily helps increase productivity and utilize resources storage. This is related to storing digital content securely over web on larger extent.
2. This project is a music streaming/ publishing platform which allows artist to upload/ publish its content easily over the platform and this system itself takes care of security of the music with its tampering proof architecture.
3. This project is easy-to-use, reliable, and fast music streaming system. The artist need not to worry about publishing easy features help artist to do so to upload and stream its music on the platform.

2.SYSTEM DESIGNS

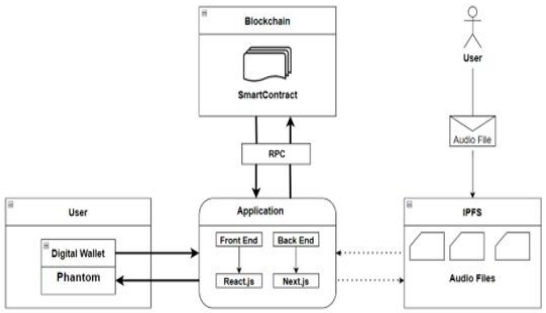

Fig 1. System Architecture

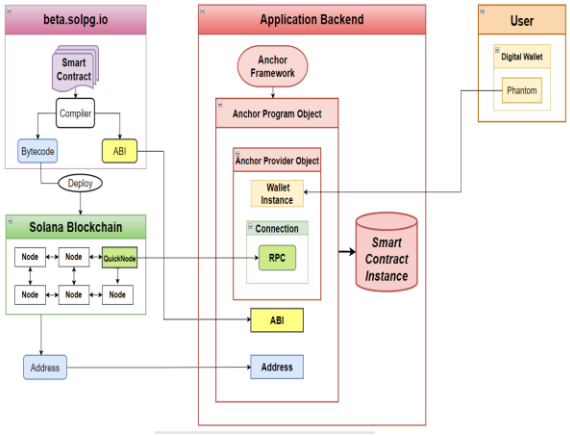

Fig 2. Blockchain-Application Connection

3.CONCLUSION

This proposed system a secured music-sharing platform that is based on block-chain and IPFS architecture. Our proposition increases music sharing of content creators across the internet using block-chain technology. This network of file sharing is constructed based on the Solana block-chain which uses a better way of consensus mechanism to achieve the stated goals of a smart contract in a fast and secured manner. Our simulation presents the various steps required to visualize the operation of the proposed system. Our simulation introduced the registration and access control feature added to the IPFS protocol to ensure that music files are. The smart contract ensures that the music player adds his content music file over IPFS. The tamper-proof state of the network was demonstrated such that every participating node ensured that records kept on music files correspond to the music player.

REFERENCES

[1] Introduction to blockchain theme issue [Editorial]IEEE Potentials (Volume: 41, Issue: 6,Nov.-Dec. 2022)
[2] Bennett, A. (2020). Youth, music and DIY careers. Cultural Sociology,12(2), 133–139. https://doi. org/10.1177/1749975518765858.
[3] Cooke, C. (2019). Dissecting the digital dollar (2nd edition.). CreateSpace Independent Publishing Platform.
[4] Music Streaming Application using Blockchain 2019 6th International Conference on Computing for Sustainable Global Development (INDIACom)
[5] https://www.theguardian.com/technology/2013/jul/29/spotify-vs-musicians-streaming-royalties
[6] https://doi.org/10.1017/S1752196318000196
[7] Haynes, J., & Marshall, L. (2018). Beats and tweets: Social media in the careers of independent musicians. New Media & Society,20(5), 1973–1993.https://doi.org/10.1177/1461444817711404
[8] https;//doi.org/10.4324/9780203404119.ch3
[9] Hesmondhalgh, David. (2020). Is music streaming bad for musicians? Problems of evidence and. New Media & Society, 146144482095354. https://doi.org/10.1177/1461444820953541INFO

RMATION, COMMUNICATION & SOCIETY 15

[10] Anjum, A., Sporny, M., & Sill, A. (2017). Blockchain Standards for Compliance and Trust. IEEE Cloud Computing, 4(4), 84–90.

[11] https://doi.org/10.1109/MCC.2017.3791019

[12] Ericsson, S. (2011). The recorded music industry and the emergence of online music distribution:–149.

[13] 10.Horváth, R., Lyócsa, Š., & Baumöhl, E. (2018). Stock market contagion in Central and Eastern Europe: unexpected volatility and extreme co-exceedance.