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# A COMPREHENSIVE ANALYSIS OF REAL WORLD APPLIED ASPECTS OF BLOCK CHAIN WITH AN EMPHASIS ON ENHANCING THE PROSPECTS OF PIRACY IN MEDIA

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## ABSTRACT

*Today, thanks to advancements in network technology and easy access to inexpensive internet plans, more than 59% of the world's population is online. 1] With the rise in online users, the illegal redistribution of digital content is also on the rise, costing content creators and owners millions of dollars. Blockchain, the progressive innovation behind the well-known digital money Bitcoin has been considered an incredible answer for settling robbery issues. The first part of this paper examines piracy and blockchain technology. After that, it suggests novel ways that blockchain technology can stop piracy in the entertainment and media industry.*

## INTRODUCTION

With the dawn of the 21st century, information and digital technology advancements have provided many opportunities for media content distribution. While in the more established days, content dispersion was restricted to broadcasting on digital television or the offer of actual media like tapes, tapes, DVDs, etc., the introduction of Web 2.0 in the mid-2000s made it ready for the web to arise as an effective substance dispersion medium. Services like file hosting, peer-to-peer (p2p) network-based distribution systems, and streaming services have made it easier to access entertainment content. Additionally, there was easy access to piracy, also known as illegally copying, modifying, and redistributing copyrighted content.

Piracy has emerged as one of the most pressing issues in today's world, where illegal content downloads can be accomplished with just a few clicks. Piracy is very bad for multimedia content creators because it leads to unauthorized and unpaid downloads that cost them a lot of money and money in royalties. Even more concerning is the fact that piracy has become commonplace in society. Many measures to counter burglary have been developed, aggregately known as electronic honors the chiefs (DRM) contraptions. Other technologies include persistent online authentication, metadata tracking, coded anti-piracy (CAP) marks, and watermarking. CAP imprints can be effectively removed during video transcoding, or somewhat moving varieties and trimming outlines make watermarks unidentifiable, which is the problem with these common anti-robbery measures. The world urgently requires new and effective measures to combat robbery.

Blockchain technology has gained popularity in recent years. It is the foundation of the wildly popular cryptocurrencies and has been utilized in other fields, such as ownership transfer and recordkeeping. The way that blockchains are incredibly secure and sealed is the reason they have

acquired such a lot of prevalence among the overall population. Thus, whether blockchain innovation can be utilized to stop robbery emerges.

This paper aims to answer the question of whether blockchain technologies can aid in the detection and traceability of pirated content and give content creators tools to protect their copyrights. To achieve this, the paper explores the principal activity of blockchain innovation and distinguishes the most predominant robbery strategies. The data from the research is combined to come up with effective ways to stop digital piracy.

## II. PROPOSED SOLUTION

A. Bounty Hunting As the name suggests, bounty hunting searches for a reward or bounty. The media file can contain a monetary reward like a Bitcoin. People outside the media industry would be encouraged to look for and report pirated content to earn bitcoins as a result. The principal benefit of this framework is that as the record is reallocated among additional individuals, it turns out to be more vulnerable to being pursued somewhere near an abundance tracker, subsequently utilizing the quick spreading nature of pilfered material against it.

Custos Media Technologies, a company based in South Africa, was the first to create a proprietary blockchain-based watermarking system.

They have created a secure, invisible, and cost-effective forensic watermark that cannot be removed without causing damage to the media file. A Bitcoin token is also contained in the watermark. Custos examines the watermark to identify the original file owner whenever a bounty hunter reports a pirated file. Almost every major and minor piracy site is covered by employing regular people as bounty hunters.

B. Content Surveillance: Content surveillance monitors every stage of the content delivery and post-delivery lifecycle. The surveillance system catches any illegal redistribution of the content. A few endeavours have involved Blockchain to aid content reconnaissance. Due to its immutable ledger, Blockchain can greatly assist content surveillance.

Digital Passport has been regarded as DRM's digital counterpart. The thought comes from an organization named Ever ledger. Vevue is the first streaming service to use the Blockchain. It is working on a smart surveillance contract that combines Blockchain and tracking technologies that have been granted patents and can track any content's life cycle. The pioneer, Thomas Olson, has expressed, "Assuming somebody duplicates content followed by our innovation by any potential means, including videoing or, on the other hand, recording a screen, our foundation will want to distinguish the proprietor of the gadget/framework where the substance was last played."

C. Blockchain-Based Distribution Platform the Server-Client model is used by today's streaming platforms. Despite its security benefits, this system could be more cost-effective. On the other hand, P2P distribution has scalability, cost-efficiency, fault tolerance, and other benefits. The absence of copyright management systems in these technologies is the only factor preventing the industry from implementing them.

An efficient and secure p2p-based distribution system may be possible with the help of Blockchain, which is also a p2p-based technology.

In their paper [11], Qureshi and others have proposed the framework for a blockchain-based platform for the peer-to-peer distribution of multimedia content. To put it another way, a Blockchain-based video system would assume perpetual control over the asset—that is, it would know who downloaded, watched, and owned the video. Each party guarantees the visibility of transfers in this arrangement.

## LIMITATIONS AND CHALLENGES

A. Application Blockchain is primarily used as a ledger in a variety of industries. Additionally, the majority of the anti-piracy solutions we observed used blockchain as a ledger. We need to fully comprehend the technology's potential for widespread adoption and locate practical applications that, rather than serving as ledgers, resolve real-world issues.

For practical purposes, a blockchain's blocks can only currently hold one to four megabytes of data. Storing entire movies and shows on a blockchain still doesn't make sense. In spite of the fact that Liu et al. 12] have proposed a framework for adaptive block sizes; however, in order to enable blockchain-based streaming, it has not yet been tested or fully implemented.

The best environment for work-related solutions would be a completely blockchain-based website where everything could be seen, which is only possible with current technology.

B. Potential Vulnerabilities Blockchain is less vulnerable because its distributed nature makes it harder to attack. Programmers don't have a

single server or focal information base to assault. It takes a lot of effort from bad actors to win.

However, it is doable. Blockchain is a new technology, despite the hype and potential. It needs to be clarified how

secure the framework is and where unexpected weaknesses might arise. The extent of the technology's potential flaws will only become apparent when it is utilized in a wider context.

Some of these flaws have been discovered. One caused the Ethereum Classic and Ether to split in June 2016. A hacker exploited a DAO flaw, resulting in an Ether heist that cost USD 50 million. The hacking of Coinbase, the largest cryptocurrency trading exchange in the world, is another illustration.

C. Unfavorable Ecological Impacts

Most blockchains work on the Evidence of Work agreement model. The complicated calculations necessitate the use of specialized equipment.

The extraordinary apparatuses, or mining equipment, consume much energy. Extraordinary server farms are loaded with these

mining devices to tackle numerical issues. In both instances, he found that Blockchain needed to be improved. In 2018, 17—22.9 MtCO2 was produced by the 31–45 TWh of electricity used for Bitcoin.

## CONCLUSIONS

The paper provided an overview of Blockchain's operation, types, and application area. Additionally, the various forms of piracy and their effects have been examined. The shortcomings of the anti-piracy measures in place to safeguard content on various entertainment platforms have also been examined. Based on the review's data, specific blockchain-based solutions to combat piracy have been proposed. Blockchain technology's drawbacks and limitations have also been discussed.

## REFERENCES

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