A Minor Project SYNOPSIS

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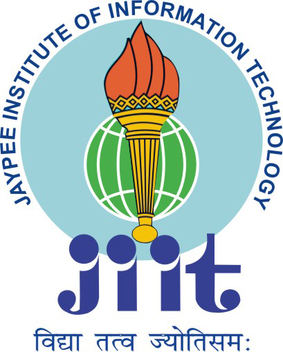
**ProJECT TITLE**

SUBMITTED IN PARTIAL FULFILLMENT FOR THE AWARD OF DEGREE OF

**Bachelor of Technology**

**IN**

**COMPUTER SCIENCE and Engineering**



**Submitted by: Under the Guidance of**

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**DECLARATION**

We hereby declare that the title of Minor Project-1, ODD 2022 is not repeated/copied from the previous submitted project works and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission.

Place: JAYPEE INSTITUTE OF INFORMATION AND TECHNOLOGY SEC- 128

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**PROBLEM STATEMENT**

The development of technology has had a great effect on the creation and dissemination of digital media and created a new music format: digital music. Digital music improves the efﬁciency of music dissemination and reduces costs in the industry. With the Internet, everyone in the world can enjoy music from a digital music platform which makes large scale propagation possible. The emergence and development of digital music not only increases consumption, but also creates new problems about how to protect copyright and artist’s incomes in the Internet era. The ﬁrst problem is copyright. A few listeners can purchase music and download or copy it from the Internet and spread it to others for free infringing the artist’s copyright. Another problem is correctly calculating artist’s income. Some musical works in services like Google Music are free or almost free to listen and download while other works need to be purchased. There are also intermediaries, like propagators and agents, which will extract royalties along the route. This means that artists put a lot of effort into writing music, but earn little from their works. Musicians, composers, and researchers have been searching for ways to protect copyright for several years.

**MOTIVATION**

There are many issues faced by the music industry at present including pre-leaking of albums, piracy of songs, fake users claiming the copyright of the original content, intermediaries involved in music dissemination that deduct fees from producing companies to copyright agents. After the many deductions, only a small amount of money remains for the creators who are the original owners. So, this issue has motivated us to remove the intermediaries through the blockchain.

Creating a platform where musicians can authorize and manage copyright independently instead of depending on third parties. Removing third parties, such as banks and music companies involved in the payment process, rights holders can help them receive almost all their royalties.

**INTRODUCTION**

In this digital world everything on the internet is always vulnerable to hackers and various malicious activities that may take the advantage of weak security in a system or networks.

One of the most promising technologies of the new economy is distributed ledger technology also known as “blockchain”. A blockchain is a distributed database or ledger that is shared among the nodes of a computer network. As a database, a blockchain stores information electronically in digital format. Blockchains are best known for their crucial role in cryptocurrency systems, such as Bitcoin, for maintaining a secure and decentralized record of transactions. The innovation with a blockchain is that it guarantees the fidelity and security of a record of data and generates trust without the need for a trusted third party. The goal of blockchain is to allow digital information to be recorded and distributed, but not edited. In this way, a blockchain is the foundation for immutable ledgers, or records of transactions that cannot be altered, deleted, or destroyed.

It is argued that blockchain can introduce long-awaited transparency in matters of copyright ownership chain; substantially mitigate risks of online piracy by enabling control over digital copy and creating a civilized market for “used” digital content. It also allows to combine the simplicity of application of creative commons/open source type of licenses with revenue streams, and thus facilitate fair compensation of authors by means of cryptocurrency payments and Smart contracts.

**OBJECTIVE AND SCOPE OF THE PROJECT**

A responsive web application to preserve the copyright rights of the composer/musician/content creators through Blockchain development.

This is a project deployed on the blockchain network which allows creators (musicians) to store their audio files on IPFS hypermedia protocol. With the help of Blockchain domain, musicians can easily authorize and manage their music copyright on a public ledger.

With blockchain technology, the industry can build a global database for copyright of music and help to directly increase the income of musicians and copyright owners, and improve transparency by displaying transactions in the public chain.

Artists would not have to worry anymore about pre-leaking of their albums since the private key of the block where their drafts and other content stored could not be accessed without the permission of the artist.

Helps in tracking the copyright infringement and in reducing piracy. Piracy refers to the unauthorized duplication of copyrighted content that is then sold at substantially lower prices in the 'grey' market. Due to this, artists suffer a huge loss.

To provide a platform for small artists to make their way to the top. Small emerging artists may not have enough resources to produce or invest in music so this platform provides them the opportunity to showcase their talent without worrying about the production cost since it directly connects their contents to the listener.

Artists put a lot of effort into writing music, but earn little from their works (around 14% of what they actually deserve). With the Blockchain platform their pay can rise up to 90%. It can ensure that musicians receive their royalty payments on time, and avoid unnecessary deductions from intermediaries. Since removing intermediaries reduces the cost of production, consumers or users find it a lot more productive to spend their money in order to buy their favorite albums and merchandise thus boosting the moral value of the artists.

**IMPORTANCE OF THE PROJECT IN CONTEXT OF CURRENT SCENERIO**

1. Blockchain is immutable. This opens a lot of opportunities for platforms that need immutable traits to make their system more functional in a highly competitive market.

2. Another crucial aspect that makes blockchain so important is transparency. There are different types of blockchain. Public blockchain provides transparency due to its nature. It is very useful for different functions of our society, including doing elections. Companies can also utilize it to ensure that the end-user can interact with the processes with full or partial transparency.

3. As a human being, one of your rights is freedom. There are centralized entities that offer connectivity in terms of economy but also take away our freedom. Take your bank, for example. It can block your transactions or confiscate your account if deemed right. There are banks that do so — even when the account holders have not done anything wrong. So, if you are taking blockchain into account, you will find there is no centralized authority.

4. Blockchain uses cryptography to add a layer of security to the data stored on the network. The decentralization feature, on top of the cryptography, makes blockchain provide better security than other systems. Cryptography utilized complex mathematical algorithms that are used to secure the data and systems on the blockchain network.

5. Blockchain is inexpensive when compared to other technologies. The removal of centralized authority removes the buffer required to run the network optimally. With no centralization, there is no need to pay a middleman, improving cost efficiency.

**METHODOLOGY**

For front-end:

* HTML
* CSS
* JavaScript
* React
* Next.js

For back-end:

* Solidity programming language
* Ethereum Blockchain
* IPFS hypermedia protocol
* Truffle development environment
* Ganache (private Blockchain)

Software Requirements:

* Atom
* Visual Code Studio
* Web Browser

Hardware Requirements:

* PC/System

**Features/ Applications of The Project**

* Subscription: Two types of subscription (monthly/yearly) would be provided to users in which they can listen to paid songs and free songs as well depending upon the plan they opt for. Blockchain transactions can be used to implement the subscription feature. The payments can be made directly to the content creator avoiding the intermediaries.

* Pre-Orders: In this feature, the user would be able to give pre-orders to the album/song where they will be provided the option to download the file. Only the users who paid for the same can access this feature.

* Download option for album buyers: The user who buys an album would be able to download songs and listen to it offline but they won’t be able to reupload the song as a creator since our copyright detecting algorithm would detect the same.
* Coins System: The users are supposed to collect coins in order to get a discount on subscriptions. The artists who are popular are provided with coins so that they can randomly distribute the coins amongst their fans.. Top five fans having a large number of coins can get a free ticket from the artist and a chance to meet them backstage.

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