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NFT Music Marketplace

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ABSTRACT

The project Music NFT marketplace is a decentralized music platform created by our group. The purpose of the blockchain is to allow the collection and distribution of digital data, but the data cannot to be modified. People interacting on this platform will be able to buy, sell, play the music deployed on a IPFS (decentralized network). Users interact with the NFT Music through their Metamask wallet by paying some cryptocurrency.

KEY WORD: Blockchain, Music NFT, Smart Contracts.

I. INTRODUCTION

This project lists the songs in the form of NFT's. If a user wants to own a music NFT he/she can visit the marketplace to purchase it. The platform keeps the list of all the unsold NFT's to the public. The music NFT's are represented in the form of Identicon which is the representation of the hashcode of that Music NFT. The platform makes it easy for users to buy, play or resell the NFT.

In this project, we implement Identicon(Hash value of the Music NFT). The storage of the Music files on uploaded in IPFS(Interplanetary File Storage) which stores the NFT in Decentralised format. Users interact with their NFT's through MetaMask wallet. The wallet addresses are imported from the Hardhat development tool to add users such as publisher, buyer, seller of the NFT. Solidity programming language is used to implement Smart Contracts with which the transaction between two parties take place. Node JS is used in backend to handle the networks smoothly.

II. MODULE IDENTIFICATION

The aim of this project is to provide a better alternative solution compared to the current music platforms which are available online. That is anyone can buy and sell the music of their desired choice in the form of an NFT without any centralized authority.

Project module:

- ❖ CONNECT METAMASK WALLET
- ❖ IMPORT PRIVATE KEYS FROM HARDHAT
- ❖ LISTING AND PLAYING ALL MUSIC NFT'S
- ❖ CONFIRMING TRANSACTION WHILE PURCHASING MUSIC NFT
- ❖ PURCHASED NFT'S LISTED IN MY TOKENS SECTION
- ❖ SELECT NFT TO BE SOLD AND ENTER THE RESELL PRICE
- ❖ CONFIRM THE RESELL TRANSACTION AND PRICE USING METAMASK WALLET
- ❖ SOLD NFT's RELISTED ON HOMEPAGE

III. SCOPE

1. This project can be the future of music streaming as creators have more control on their music and can decide where to sell the product and at what rate.
2. This technology provides better scope as the music is in the form of NFT the confidentiality and privacy of the user is at the highest point as the user has on his public key which is visible to the world.
3. Compared to centralised music streaming platforms where the revenue generated is shared between the user and the platform, in this decentralised format the revenue produced by selling the music NFT solely belongs to the creator. Hence this system has a good future scope.

IV. TASK MANAGEMENT

Task 1: Topic selection, analysis and planning

In the month of November, we selected the field in which we wanted to do our project, also gathered the content information required for this project and designed a simple software layout.

Task 2: Designing

In the month of December, the GUI for the project was implemented, various types of layouts were tested for the frontend.

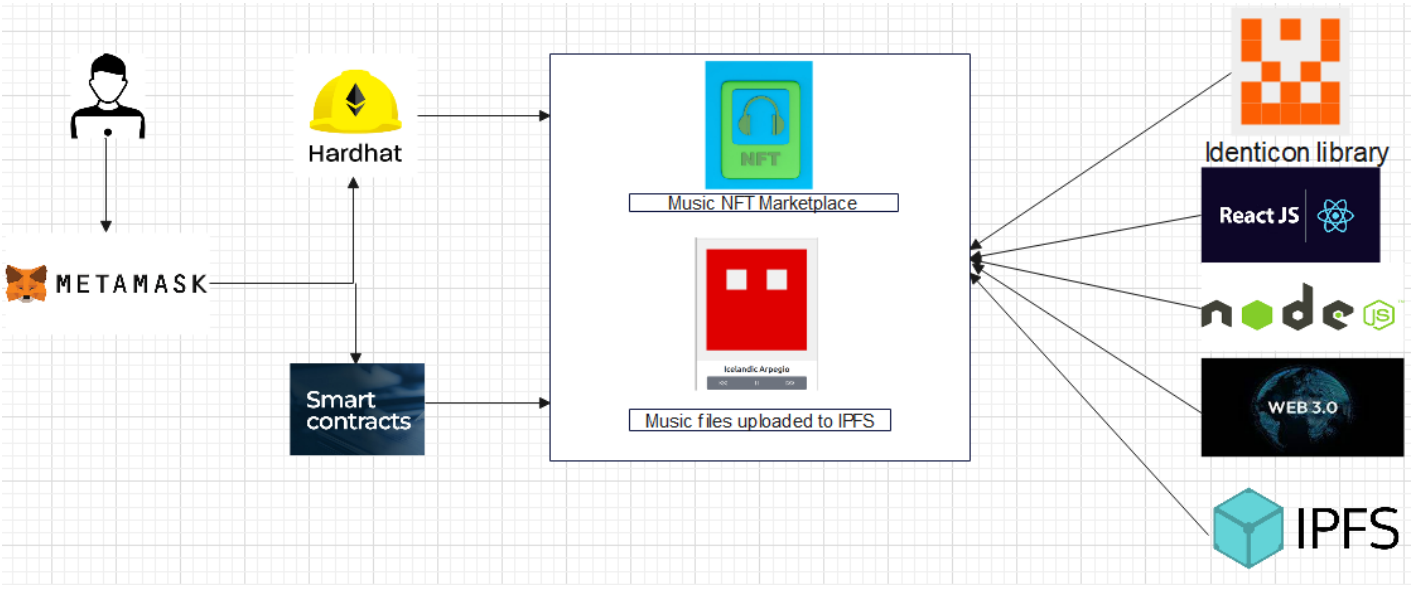
Task 3: Coding and Testing

In the month of February, logic for the smart contract was coded. The code was also debugged and the errors were removed.

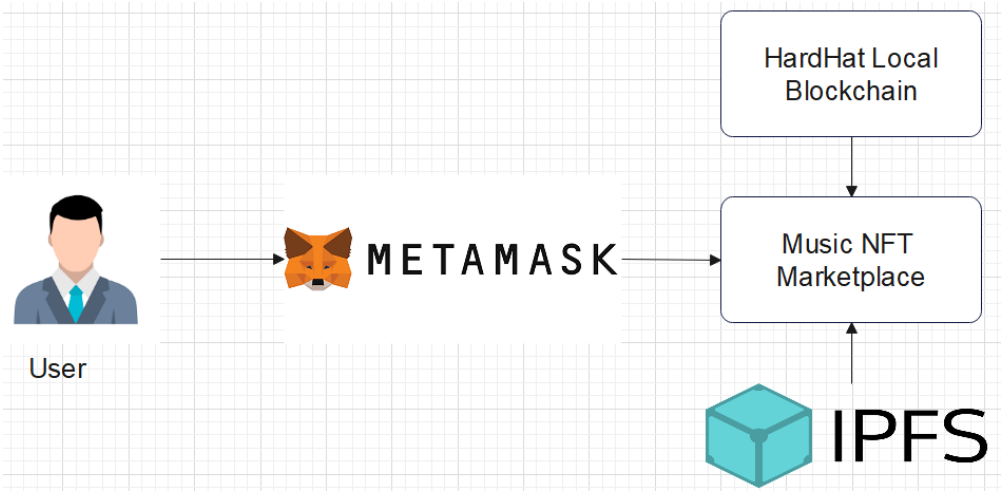
Task 4: Retesting

In the month of March from March 1 to March 10 After coding and testing, the modules were analysed and tested again by writing test scripts for the smartcontract.

V. ARCHITECTURE SCHEME:



VI. PROPOSED SYSTEM



Firstly, the user connects his Metamask wallet to the Music NFT Marketplace. The accounts are imported from Hardhat Local Blockchain. Node JS is used in backend for communication with project and the Smart Contract deployed using Solidity Programming Language on the local blockchain. Identicon library converts the hash of each music NFT into digital representation. The program code is connected to IPFS which is used for file storage in decentralised format.

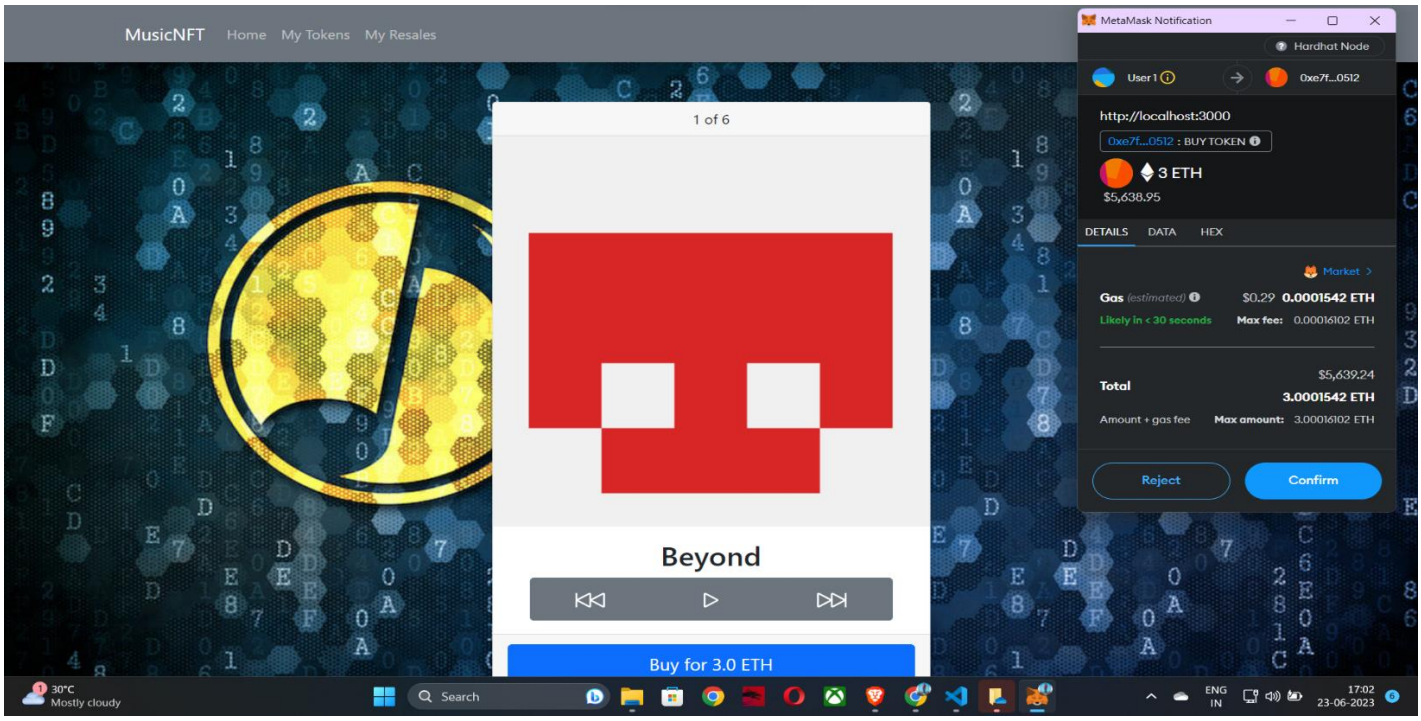


Diagram: Confirming the transaction before purchasing the NFT.

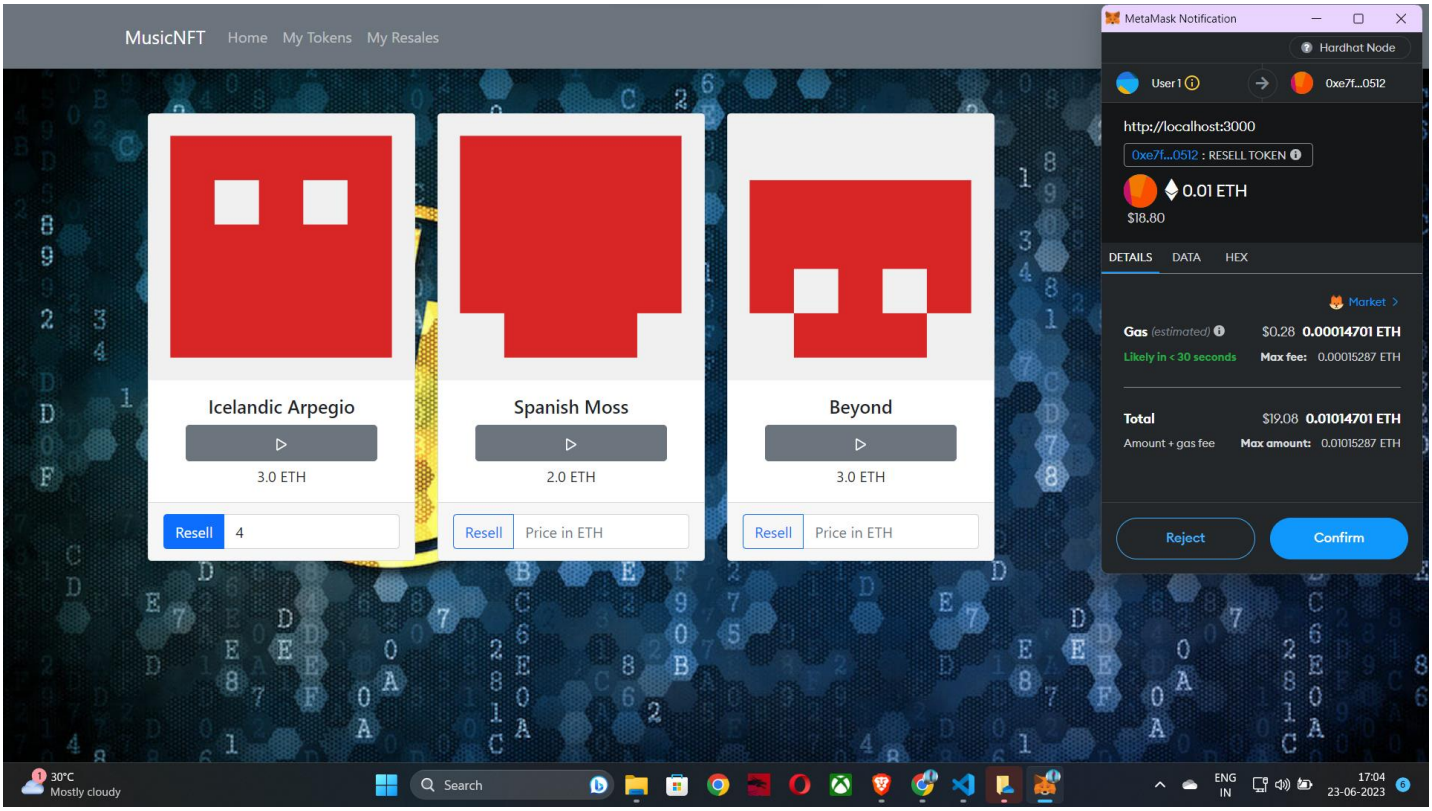


Diagram: Confirming the transaction before reselling the NFT.

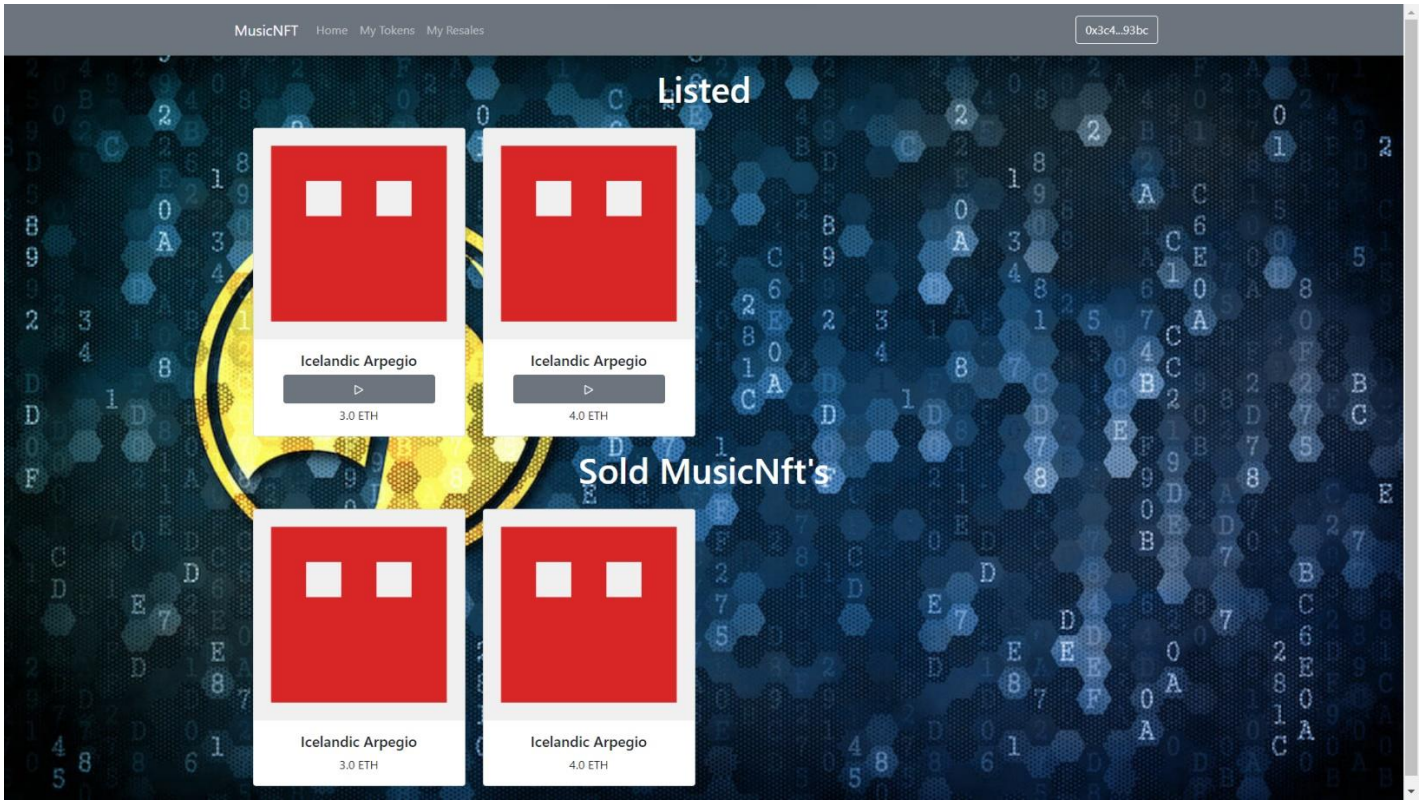


Diagram: Record of previously owned NFT's.

VIII.CONCLUSION

Music NFT Marketplace is developed for the artists who want full control over the revenue generated by the Music. The creator of the music also gets royalty when the NFT is flipped over and over by the people. The user interaction is achieved with NFT's through MetaMask wallet. The purchased NFT's are moved from 'Home' section(where the initially all NFT's are listed) to 'My Tokens' section(where purchased NFT's are stored). In My Tokens section the NFT's purchased can be resold to the public. The 'My Release' section contains the record of the purchased and sold NFT's with their prices.

IX.REFERENCES

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