

# MacNerd Enterprises

## NFT Blockchain Rhythm Game

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### Abstract

Dubstep Dukeout is a NFT/Game blockchain project. Throughout this project we developed an NFT and a game and worked on marketing our game by building a community around it. Users can log-in to our website, through MetaMask, and their information will be stored in our database. They can then mint their own NFT on the Polygon chain (Similar to Bitcoin but a different currency). Once they join the community by buying an NFT, they can play the Dubstep Dukeout game. In the future, the game will provide rewards with monetary value through the power of the blockchain.

### Motivation

Our sponsor, MacNerd Enterprises, asked our team to build a DJ-themed NFT and game ecosystem. We set out to create a game that is simple to learn but hard to master within a blockchain environment. The goal of this project is to provide players with a constant sense of value throughout their playtime by providing rewards on the blockchain. This will strengthen the community by giving players the feeling that they are always being rewarded for their time.

### Contract

Our project consists of two Solidity contracts. Our Rentable NFT contract allows for the purchase of digital assets (NFTs) that can be used in the game or rented out to other players. The Reward Token contract creates an in-game currency that can be acquired by playing Dubstep Dukeout. The Rentable NFT contract has been deployed and the Reward Token contract will be deployed in the future once the game is integrated with the blockchain.



Funk3yTown  
 HEMISYNX  
 Highscore  
 760  
 82%

Age of the Machine feat. Monique Lukens  
 DJ Macguyver  
 Highscore  
 280  
 67%

Higher Love (Coffee Wars Soundtrack)  
 HEMISYNX  
 Highscore  
 None  
 None



3 Unique Songs  
 +Import Your Own!

Choose a Difficulty!

### Result and Conclusions

- Functional Beta of the game
- Deployed Rentable NFT Contract
- Live Website to facilitate purchase of NFTs
- Deployed backend to save user website logins

We learned about blockchain, project management, and game development during our time with the project. Based on what we have learned, the only change we would make would be to implement our project management tactics sooner to facilitate even more efficient development. If we had another semester, we would integrate the game with the NFT so that the user can gain real monetary value from playing the game through reward tokens.

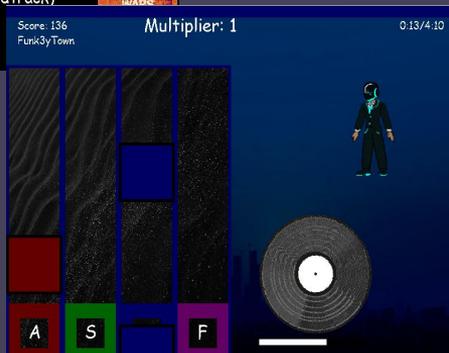


# DUBSTEP DUKEOUT

### Game

- DJ-themed game that incorporates NFT and blockchain elements
- Challenge #1: Determine the gameplay loop and appeal of the game.
  - Rhythm-based game similar to Guitar Hero in which players would play as their Dubstep Dukeout NFT
  - Appeal to players who enjoy music and rhythm gameplay.
- Challenge #2: Actually create the game.
  - PyGame package for Python
  - Librosa and Mutagen for audio processing.
  - Playtest and respond to feedback to improve the game.

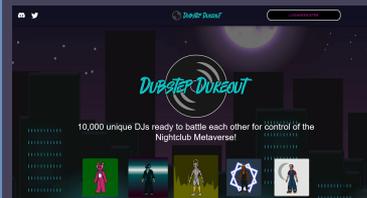
Hit Beats in  
 Time, Earn  
 Points!



### Web Frontend

- Advertise project scope and purpose
- Allow users to enter the community by purchasing an NFT
- We added the ability to purchase an NFT by connecting your Metamask wallet.
- We tweaked the advertising on the site to reflect a revised version of the project.

<https://dubstepdukeout.com>



Advertise  
 Project

Buy NFTs



### Backend

The backend of this project needed to handle users logging into our website via Metamask and hold their wallet address. By default, users are assigned a DJ#XXXX username, but they can change it from the website.

### Marketing

- Set up a new Twitter and Discord to engage the community
- Showed off sneak peaks of the game to the community

