A Game of Tokens

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Overview

1. The electronic gaming business is estimated to grow to represent USD $545 Billion dollar market by 2028.
2. The industry has a worldwide cohort of players.
3. Advances with Non Fungible Token technology allows for a new asset class that can be easily incorporated (and withdrawn) into the gaming universe(s).
4. The rise of “play to earn” games affords players an opportunity to earn a return on their time investment in the gaming universes.

Problems to solve

1. Barrier to Entry: Play to Earn can be expensive while players assemble the needed components for a winning combination.

2. Time Commitment: Play to Earn can absorb substantial labor hours to learn in-game mechanics and strategies.

3. Return of Time Investment:If a player earns X dollars an hour playing a game, they may prefer to exchange their time for other revenue generating activities that yield Y.

4. Boredom: Performing the same task over and over, even if in a gaming world, can become monotonous, and push players to seek other stimulus.

Project objective

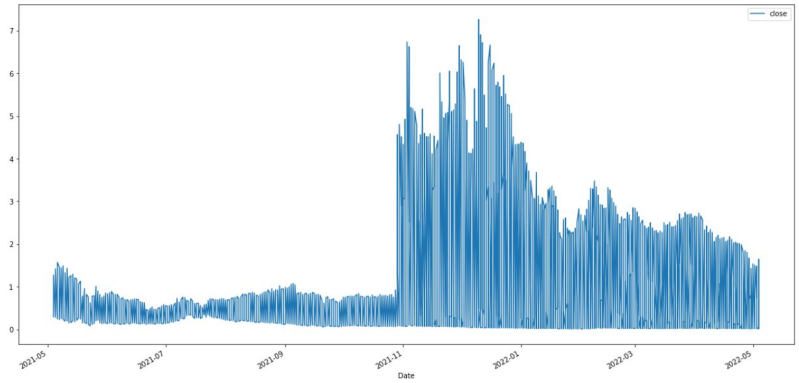
Develop a gaming based ecosystem that facilitates players the opportunity to “borrow” in play NFT tokens that allows them to play at a more advanced level, in exchange for a share of their returns.

Understanding the market

Market Trends
(The Bad News First)

Using Machine Learning, we can take a sampling of gaming tokens (SLP, MANA, GODS, PGX) and see a downward trend in value(s).

Implications:
As additional gaming venues come on line, players may gravitate to different gaming ecosystems till they settle on one that they like. AKA, “The Goldilocks Effect.”



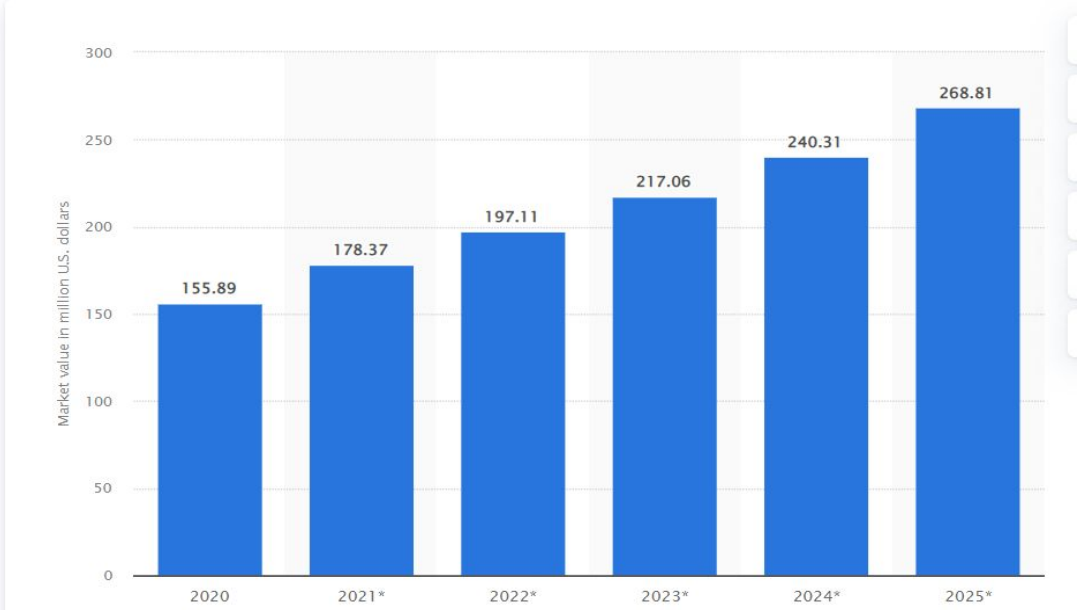
Market trends
(The Good News)

“The play-to-earn gaming industry is setting itself up for hyperbolic growth.”

Dapp Radar October 12

Global video game market value from 2020 to 2025

(in billion U.S. dollars)



Target audience:

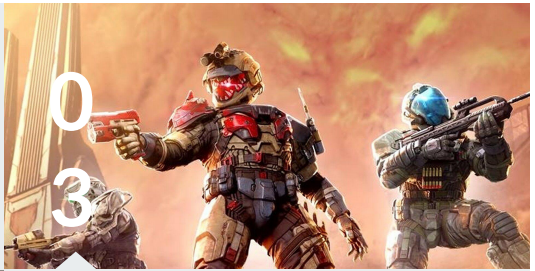
Individuals in economies where employment opportunities are limited:

- If you make $15.00 an hour stocking shelves at Target in Minneapolis, $30.00 a day for gaming may not interest you.
- The worldwide average household income is less than $11,000.00, or $30.00 a day.
- According to the World Bank, half the world lives on $5.50 a day…Or, less…

Process

Playing

Play in the ecosystems, develop an inventory of NFT's, explore the worlds, recruit others. Have Fun!



Staking (Lend-Lease)

Begin staking other players with our NFT's and then receive a share of their revenue in exchange for the use of the assets.

Ecosystem

Develop an in house token for the exchange of assets within the ecosystem and beyond.

What can NFT's Sell for?

Most expensive game NFTs

- $1,500,000 – 9 Genesis Land plots (*Axie Infinity*)
- $430,000 – 'Australia Edition 2020' (*F1 Delta Time*)
- $265,000 – Cristiano Ronaldo 2019-20 (*Sorare*)
- $223,000 – Formula 1 Grand Prix de Monaco 2020 1A (*F1 Delta Time*)
- $170,000 – 'Dragon' (*CryptoKitties*)
- $130,000 – 'Angel' (*Axie Infinity*)
- $111,000 – '1-1-1' F1 car (*F1 Delta Time*)
- $100,000 – 'Navination Season 1 Cup' (NAVI)
- $97,000 – 'Axia' (*Axie Infinity*)
- $96,000 – 'Sir Gregory' – (*Axie Infinity*)
- $89,500 – Rolex Grand Prix de Spa-Francorchamps 2020 1A (*F1 DT*)
- $85,000 – Kylian Mbappé 2020-21 (*Sorare*)
- $77,000 – '*Bahrain Edition 2020*' F1 car (*F1 Delta Time*)
- $65,000 – Kylian Mbappé 2020 (*Sorare*)
- $63,000 – Bruno Fernandes 2019-20 (*Sorare*)
- $60,000 – 'Hyperion' (*Gods Unchained*)

(USD, at time of purchase)

Applying our Bootcamp Learning:

- Machine Learning
- Recommendation Engines
- NFT's
- Air Drops

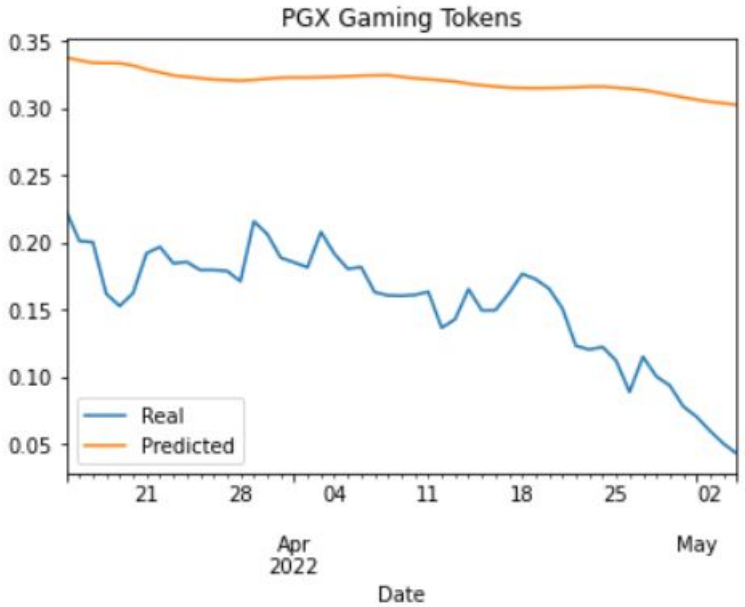
Machine Learning

Machine Learning assists us in making projections of token valuations to better assist management in the deploying of capital into ecosystems that are thriving.

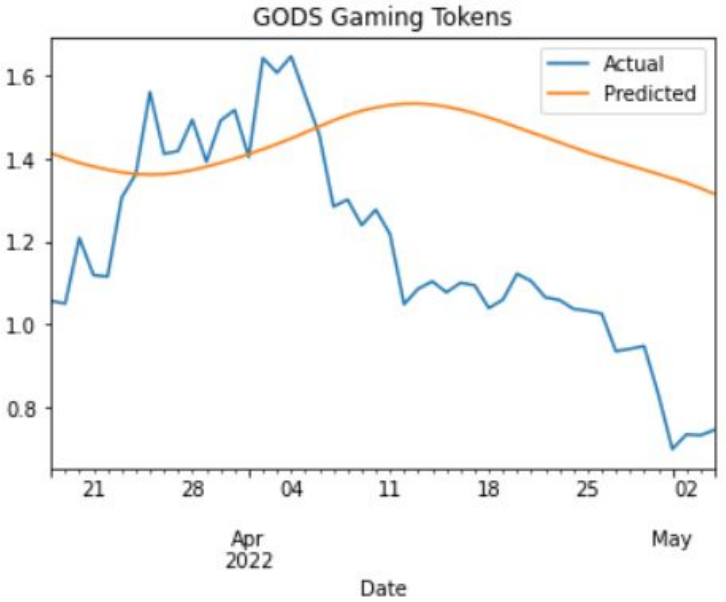
Here are four examples:

Pegaxy

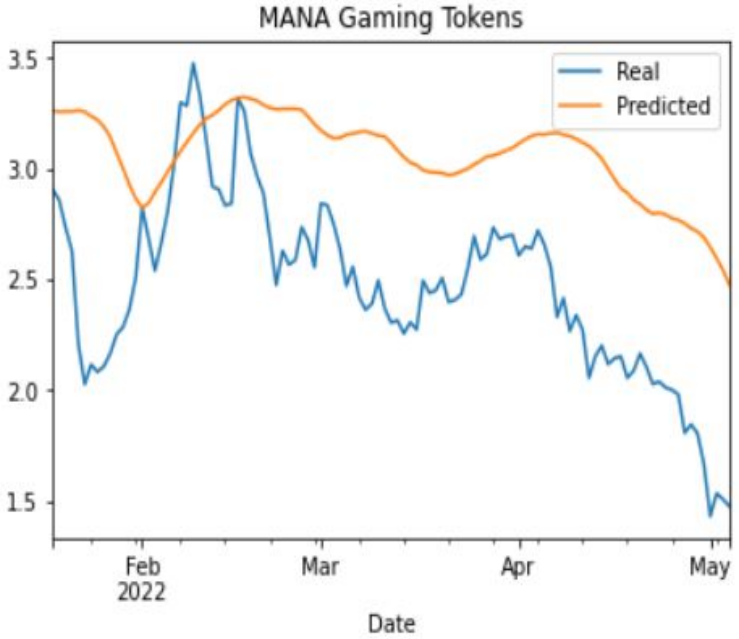
Digital horse (pegasus) racing.



Gods Unchained



Decentraland



Axie Infinity

NFTS

- Wanted the users of our business idea to feel appreciated for using our tokens
- Overtime, users would receive NFTs our company made, the more they use our tokens, the more NFTs they receive from us.
- They won't be worth much, they would just be a token of our appreciation for choosing to use our tokens

```
pragma solidity ^0.8.4;

import "@openzeppelin/contracts@4.6.0/token/ERC721/ERC721.sol";
import "@openzeppelin/contracts@4.6.0/token/ERC721/extensions/ERC721Enumerable.sol";
import "@openzeppelin/contracts@4.6.0/token/ERC721/extensions/ERC721Burnable.sol";
import "@openzeppelin/contracts@4.6.0/access/Ownable.sol";
import "@openzeppelin/contracts@4.6.0/utils/Counters.sol";

contract GameOfTokens is ERC721, ERC721Enumerable, ERC721Burnable, Ownable {
    using Counters for Counters.Counter;

    Counters.Counter private _tokenIdCounter;
    uint256 public mintRate = 0.00 ether;
    uint public MAX_SUPPLY + 99999
    constructor() ERC721("GameOfTokens", "GOT") {}

    function safeMint(address to) public onlyOwner {
        require(msg.value >= mintRate, "Not enough ether sent.");
        uint256 tokenId = _tokenIdCounter.current();
        _tokenIdCounter.increment();
        _safeMint(to, tokenId);
    }

    function _beforeTokenTransfer(address from, address to, uint256 tokenId)
        internal
        override(ERC721, ERC721Enumerable)
    {
        super._beforeTokenTransfer(from, to, tokenId);
```

NFT

New Technology: Recommendation Engines

Recommendation Engines are used to make suggestions to consumers. You see them everyday:

- Amazon
- Netflix
- Google

This is used in the project to make recommendations to customers.

More New Technology: Merkle Airdrop

Airdrops are used to generate brand excitement and are a common technique to distribute tokens to early stage adopters in an effort to generate “buzz” about the coin and the system. These could be used by this business to do the same.

“Airdrop Coin”

Merkle Proof is used to check whether the input data belongs to the Merkle Tree or not without having to reveal all the data that make up the Merkle Tree.

```
//SPDX-License-Identifier: MIT
pragma solidity ^0.8.4;


import "./GameOfToken.sol";
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/master/contracts/utils/cryptography/MerkleProof.sol";
import "https://github.com/OpenZeppelin/openzeppelin-contracts/blob/release-v4.6/contracts/token/ERC20/ERC20.sol";
import "https://github.com/NomicFoundation/hardhat/blob/master/packages/hardhat-core/console.sol";



contract AirDrop is ERC20 ("GameOfToken", "GOT") {
//root-database lookup for whose eligible for AirDrop
//immutable =only be assigned once.
    bytes32 public immutable root;
    uint256 public immutable rewardAmount;
    mapping(address => bool) claimed;

    constructor(bytes32 _root, uint256 _rewardAmount) {
            root=_root;

            rewardAmount= _rewardAmount;
    }
//take person address and hash it and put that in the function -person calling claim
//keep track of those who have already calimed tokens
    function claim(bytes32[] calldata _proof) external {
        require(!claimed[msg.sender], "Already claimed air drop");
        claimed[msg.sender]= true;
        //Keccak256 is a cryptographic function built into solidity. This function takes in any amount of inputs and conv
        bytes32 _leaf =keccak256(abi.encodePacked(msg.sender));//person calling claim
        require(MerkleProof.verify(_proof, root, _leaf), "Incorrect Merkle Proof");
```

Merkle Airdrop

Basic Flow of implementing Airdrop

- Users register for the airdrop, the list gets saved as follows (we can save it in the server, cloud or IPFS wherever you want). The first value is the registered address and the second is the number of airdrop tokens for that address.

- After the end of the airdrop registration period, from the list above, we calculate the Merkle Root and save it on the smart contract.

- Based on the number of airdrop subscribers, we will send the corresponding amount of GameOfToken coins to the Merkle Airdrop smart contract to be able to airdrop to users.

- Users will then call the Merkle Airdrop contract to claim the registered token amount. Based on the Merkle Proof, the contract will calculate whether this address has registered for the airdrop and the number of tokens claimed is okay or not? If true, the contract will send the corresponding amount of tokens to users.

Thank you.