

## STUDY ON BLOCKCHAIN GAMING

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### ABSTRACT

Blockchain technology is the most sought after technology in recent days. It has become a buzz because of its blockchain to form blockchain gaming. This paper deals the introduction of blockchain gaming. And then a detailed versatility. Blockchain is used in crypto trading and mining, NFT minting. Amidst this now gaming is blended with view on the functionalities of blockchain gaming is given. functioning and the pros of blockchain gaming over the standard gaming. Blockchain gaming refers to games that runs on the blockchain platform. It is one of the happening things in the blockchain industry. While there are numerous exciting buzz and advantages involved in this blockchain gaming, there are also numerous risks involved which are covered in this paper.

Keywords: Blockchain, gaming, assets, ownership.

### 1. INTRODUCTION

Gaming is one of the most booming fields in the world. It is the field where there will be a evolution in every new decade. Started with game CDs, then had a buzz on PC games, online streaming games and recently games in new simulations – AR and VR. On the other hand there is another industry which is making a gradual growth – The Blockchain industry. The blockchain technology is used in various sectors such as technology, finance, healthcare, insurance, media and entertainment. Though it is used in these sectors, it is highly popular in the Cryptocurrency space. Blockchain is used in crypto field because the security it provides. While people are highly engaged with mobile games, video games, VR and AR, there is a rising dominator in the gaming field called Blockchain Gaming. People can understand what is Blockchain and what is gaming, but together it might seem overwhelming for them. In short Blockchain gaming is a field where you can earn as much as you play. A detailed look on blockchain gaming is given in the further paras.

### 2. METHODOLOGY

#### BLOCKCHAIN IN BRIEF

Blockchain is a collection of nodes connected via links. Every node is interconnected to other node. A blockchain is a distributed database of records that have been executed. Every single transaction or an event that happens in blockchain is fully transparent and the system maintains the record making it a highly secured platform. Once the information is entered it cannot be erased. Blockchain enables smart contracts which refers to exchange of assets between two person without the presence of a mediator. Ethereum, Solana, Ripple, R3 Corda are various type of blockchain platforms each having its distinct features and functionalities. Cryptocurrencies and NFTs(Non-Fungible Tokens) are the two major markets which relies on blockchain. The collaboration of Cryptos, NFTs with video games is what sums up Blockchain Gaming.[1]

#### WORKING OF BLOCKCHAIN

For a transaction to be processed in blockchain, two things are verified which includes whether the asset which the sender holds has ownership which is verified by checking digital signature of the sender, whether the sender has sufficient amount of cryptos in his/her account. After the successful verification of these two steps, the transaction process begins. The transaction between the sender and the receiver is represented as a block online, then the block will be broadcasted to every party in the network thereby requesting for validation. The block will then be added to the chain of network which paves way for flawless transaction between the sender and the receiver.[1]

#### DEFINITION OF BLOCKCHAIN GAMING

Blockchain is a collection of nodes interlinked together via a chain, in which every node is connected to each other. The blockchain technology has been a revolution in the tech industry for the past few years[1]. The trending and the money swindlers - Cryptos, NFTs runs in the Blockchain technology. Likewise blockchain gaming is a field where the user can earn money from playing the game wisely. Blockchain gaming refers to games built on blockchain frameworks, games integrated with blockchain technology to facilitate NFT creation, trading, ownership capabilities. With blockchain being the high speed transaction, high scalable and securable platform game developers have opted to choose it as a platform to run games.[2]

## ORIGIN OF BLOCKCHAIN GAMING

It was all started in early 2017 Cryptokitties was the first game made with Blockchain Gaming technology. This game was built on Ethereum blockchain platform. It is a game where A player has scored a ten thousand dollars profit out of it. Cryptokitties also exposed scalability problems for games on Ethereum when it created significant congestion on the Ethereum network shortly after its launch, with approximately 30% of all Ethereum transactions at the time being for the game, and with the congestion delaying player's transactions.[2]

## WORKING OF BLOCKCHAIN GAMING

Play to earn is the simpler definition of Blockchain Gaming. Crypto games is the name given of the sub genre of blockchain gaming. Players can buy the assets in games via cryptos and they can sell it for a higher price. Players gets cryptos as rewards in the game. These cryptos can also be converted into real world currencies.[6] The game gives players the complete control to the digital assets that they earn or gain through participation in the games. These assets include the character avatars, the game tokens. If a player buys a skin for his avatar then he will have the ownership for that asset. That transaction will be recorded in the blockchain and it'll be transparent. When that asset gains popularity among other players the demand for that asset will be increased gradually and the player can sell it to other player who bids for a higher price.[3]

## PROS OF BLOCKCHAIN GAMING

One of the major benefits of Blockchain game is real digital ownership. Players have complete control over their digital assets. Traditional games are centralized, game developers make rules for the players. Since, Blockchain is decentralized and so the game built on it, the players have the privilege to modify rules. This works on the voting basis i.e, if 51% of players wishes to change rules or modify the rules, it will be reached out to the game developer community. Game developers make use of blockchain to design an environment in which players can reuse their game avatars and game assets across different games.[4] GameFi is one another feature which is a blend of gaming and decentralized finance. This brings profit to players by play-to-earn and pay-to-earn methods.[5]

## TOP BLOCKCHAIN GAMES

The following are the top profit minting games that are built in different blockchain platforms,

- Gala Games – Built on Ethereum blockchain,
- Decentraland – Ethereum based metaverse gaming ecosystem,
- Sandbox – Ethereum based gaming ecosystem,
- Plants vs Undead – Built on Play2Earn blockchain.[5]

## RISKS INVOLVED

While blockchain gaming may sound like a fun way to make some side income, there are a few things which includes risk factor. First, some games have barriers to accessibility. For example, to begin playing Axie Infinity(a famous game on blockchain), users must have at least three Axies, which may cost around \$300 as an initial investment. There is also the risk that the player may lose tokens or cryptocurrency. Gambling is one another major risk. Players would lose their money on the game if it is not structured properly. Anti-money-laundering regulations, fraud may be more common in games than in simply trading cryptocurrency. Gaming in virtual land like Decentraland involves MANA token to buy and sell assets, if inflation happens in the token player might end up in loss. Some games limit how often players can withdraw their tokens, which makes players to not withdraw the money according to their convenience.[9] Privacy is another issue to look upon. Since most of the blockchains are public and permission-less , the transaction details, bytecode details will be made public. Gas fees refers to the fee that one should pay therefore to complete a transaction. The more the usage during transaction, the higher will be the gas fee. High amount of gas fee is another disadvantage. [10]

## FUTURE OF BLOCKCHAIN GAMING

The modes of entertainment have spread their wings into virtual space, allowing them to reach previously untapped regions. Gaming, among other things, is one of the most engaging activities that has increased people's attention, excitement, and passion. The world of gaming has succeeded to entice people of all ages and social backgrounds thanks to easy accessibility and a massive community. Currently, there are almost 1 billion players that play online games worldwide, and this figure is rapidly expanding. Due to the decentralized structure of blockchain technology, some people believe that incorporating it into the gaming sector can help alleviate these issues.[7][8]

## 3. CONCLUSION

This paper dealt with the origin of blockchain, functioning of blockchain games. Also the advantage of it over the standard gaming has also been shown. The world is in the early stage of experiencing blockchain and its features.

Gaming is definitely one of the booming fields around the world. By gaming tournaments and competitions millions are swindling in the gaming industry. Since blockchain is also in its early stage of minting money, gaming industry's collaboration with blockchain technology will pave way to unimaginable source of minting money. Many more gaming companies will make use of blockchain gaming thereby bringing a revolution in this field.

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