

# GameFi: Can blockchain- based gaming redefine the industry?

2022



**Cointelegraph**  
Research

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# Dear Partners, Investors, and Friends,

When do adults stop playing and start becoming serious? Usually when they need to make a living. But what if there was a way to play for a living? A way not reserved for the top 0.1% of esports athletes? It turns out that this mythical land exists and started to come into full potential in 2021. It's called GameFi.

GameFi extends games into the financial realm. Stronger property rights mean players can take their beloved characters outside their native world for fun and profit. Blockchain technology provides the economic building blocks that used to take game developers so long to create that it prevented them from even starting.

Economic activity on GameFi has recently exploded, and entire economies have stemmed from this activity. This report looks at the history of planned-economy games like World of Warcraft against their modern crypto counterparts that create maximum value for their players. We compare five top blockchain games on balance deposited, number of active users and volume of transactions, and give them a one-out-of-five score for their gameplay and tokenomics.

Please enjoy reading Cointelegraph's latest research report published in 2022. You can find all of our previous research papers on the [Cointelegraph Research Terminal](#), destined to become the 'Bloomberg of Crypto'. In addition, you can find multiple databases and reports by our research partners there, too.

This report doesn't require knowledge of the GameFi industry but has enough depth to offer nuggets of insight to the seasoned pro. We portray the development of an industry responsible for more than 55% of all crypto transactions in the last quarter of 2021.

Cointelegraph Research helps blockchain companies communicate their cutting-edge research to the world by writing, designing, and publishing professional reports. We help companies gain wider audiences by developing educational materials in the form of in-depth reports. Our team of academics and seasoned blockchain technologists can cover a diverse range of topics including tokenomics, macroeconomics, legal, tax, central bank digital currencies, decentralized finance, supply chain logistics, and venture capital.

To work with Cointelegraph Research's team on creating a one-of-a-kind white-labeled report or for confidential bespoke research, contact us at [research@cointelegraph.com](mailto:research@cointelegraph.com).

Sincerely

**Demelza Hays**

Head of Research at Cointelegraph

Demelza Hays is the director of research at Cointelegraph, Forbes 30 Under 30, U.S. Department of State Fulbright Scholar, and former fund manager of two regulated crypto funds.



# Key Takeaways

- Blockchains offer economic building blocks. Game developers can now bring property rights to digital worlds. **Players can take characters and objects out of games and exchange them for a fiat-denominated stablecoin on a decentralised exchange.** Ownership means a lot more if they can sell their digital goods outside of the game compared to the old days on an in-game marketplace for a fixed price.
- Blockchain-based games Axie Infinity and DeFi Kingdoms reached more than **\$400 million in transaction volume on a daily basis.**
- Ultimately, **GameFi is the combination of games with financial incentives.** This new economy creates maximum value for players instead of extracting value from “customers”. By strengthening property rights, and at the same time reducing transaction costs, economic activity abounds and leads to more for everybody.
- 2022 will show how game studios deal with regulatory and environmental concerns around blockchain technology. **Most transactions made in play-to-earn games could be taxable events by now.** If they address these issues, we might see that the gaming industry is far from a plateau and that the Metaverse is a place where businesses thrive for years to come.
- The business model of traditional games is flipped completely on its head. Instead of extracting maximum value from players, **GameFi provides players with the opportunity to earn for themselves.** Its potential was exposed during the global pandemic where people needed to find alternative sources of income. Some players managed to generate more than their average monthly income from playing games like Axie Infinity.
- With around \$10 billion in earnings, **this young industry already has a measurable impact on the gaming market as a whole.**
- A profit-driven explosion in users can bring fleeting long-term growth and a player base that is less than loyal. Long-term success of P2E games will rely on more than just an opportunity to make money. **Great gameplay is the key here.**



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Coming from a finance background, Igor is keen to explore opportunities that blockchain brings to the industry. Since joining the team in 2020 Igor has co-authored the NFT report, the Blockchain VC report, and the DeFi report, among others. He is currently pursuing a master's degree in quantitative finance at the Vienna University of Economics and Finance.



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# 1 What is GameFi?

## Can games create whole economies?

The blockchain-based game Axie Infinity launched its Ronin sidechain to Ethereum in February 2021. Within weeks transaction volume and deposited balance smashed through all reasonable and even most outlandish expectations. The gaming world was perplexed. What just happened? In one word: economics. Games in the past had minimal trading functionality, but not due to game developers' lack of wanting. It was simply too difficult and remote from the game's main objectives to implement a functional in-game currency and a marketplace that facilitated trades with the lowest possible transaction costs. Enter blockchain technology. A junior Solidity developer can create an ERC20 token for a game currency in less than an hour. When game developers use the ERC721 standard for non-fungible tokens, in-game materials like swords and wands automatically become tradable on popular third-party marketplaces like OpenSea.

Blockchains offer economic building blocks. And allow game developers to bring substantial property rights to game worlds. These rights hinge on the concept of ownership. When a player can take a character out of the game and exchange it for a fiat-denominated stablecoin on a decentralised exchange, ownership means a lot more than if he can only sell it for a fixed price on an in-game marketplace.

Ultimately GameFi, the combination of games with financial incentives, creates maximum value for players

instead of extracting value from "customers". What is good for the game is ultimately good for the game development studios. We see a classic principle of capitalism in action. By making value production more roundabout and by strengthening property rights, and at the same time reducing transaction costs, economic activity abounds and leads to more for everybody.

2022 will show how game studios deal with regulatory and environmental concerns around blockchain technology. If they address these issues, we might see that the gaming industry is far from a plateau and that the so-called Metaverse is a place where businesses thrive for years to come.

Axie Infinity and DeFi Kingdoms demonstrated that they could reach more than \$400 million in transaction volume on some days. These games are the poster children of a new category called GameFi.

MixMarvel's founders first mentioned the term "GameFi" in November 2019. Andre Cronje then used it in a September 2020 tweet, and the word became standard vernacular after that.

GameFi is a concatenation of gaming and finance and broadly stands for blockchain games with a financial element, yet distinct from non-gambling activity. These games require skill and determination, with a smaller component of luck. Players earn currencies and materials by completing tasks or grooming their characters. What sets them apart from the past is what players can then do with their loot.

Figure 1 Axie Infinity gameplay featuring three characters

Source: Youtube



## Essential features of GameFi are

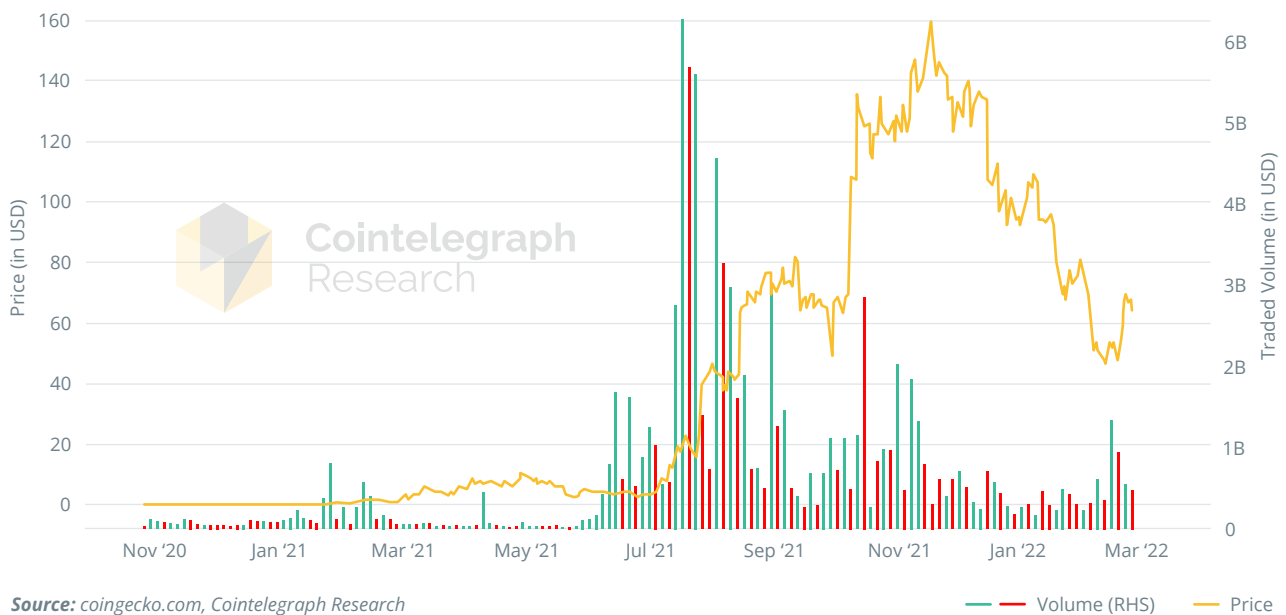
**Play-to-earn:** Players can sell rare items earned in the game to other players on marketplaces in and outside the game, thanks to open standards. The connection between the “real world” and the virtual world becomes stronger when game materials retain utility outside their native surroundings.

Some games have spawned a whole complementary industry where players make a decent living growing

and training characters or finding powerful in-game items.

In-game currencies often have clever incentives to attract investors regardless of their involvement in the game itself. While this was a boon for early adopters, escalating prices created steep entry fees for newer participants because characters required to play are priced in the game’s native currency.

Figure 2 Axie Infinity’s AXS token price exploded in value last year



**Tokenomics:** A word combined of tokens and economics, it describes these incentive schemes. “Only 21 million Bitcoin will ever exist!” is Bitcoin tokenomics in a nutshell. There’s a limited supply, and the issuance keeps decreasing.

Let’s look at Axie Infinity’s AXS token. Breeding characters sends tokens to the community treasury and removes them from circulation. Users can stake

their AXS to secure the network and receive rewards from the treasury. At the same time, AXS tokens have a maximum supply of 270 million, with tokens for the team releasing gradually over five years so team members cannot dump their share and ruin the price.

The maximum supply, slow release, and staking rewards work harmonically to make holding AXS more attractive to investors and fuel its price growth.





Galaxy Fight Club — The First Cross-IP PvP game for the TAE Universe



Galaxy Fight Club (GFC) is the first cross-IP PvP game for the NFT Universe allowing holders of different NFT collections to battle with each other to win and earn rewards through their play-to-earn mechanics and real-time mobile-first MOBA gameplay.

### Website

<https://galaxyfightclub.com/>

### Collection

<https://opensea.io/collection/galaxy-fight-club>

### Gameplay

<https://tinyurl.com/gfcgameplay>

### Whitepaper

<https://whitepaper.galaxyfightclub.com/>



Gen 2 Galaxy Fighters

Other than the ability to battle with other project avatars, GFC also has their own avatar collection, each Genesis Galaxy Fighter generates 5–15 of in-game currency \$GCOIN daily and their Generation 2 Galaxy Fighters also allow you to participate in exclusive tournaments with prizes.

## Investors & Partners

GFC's seed and private round was led by Animoca Brands, Sequoia India Capital, and The Chernin Group. Additional backers and partners in the round include Skyvision Capital, YGG SEA, Spartan Capital, Sfermion, PKO Investments as well as many other notable angel investors including Kevin Lin of Twitch, Kun Gao of Crunchyroll, and Matt Finick of ROBLOX and Marvel Studios.

NFT partners include: Cyberkongz, BYOPills, Illuvium, Karafuru, Animetas, Wicken Craniums, Crypto Raiders, Champ, and many more.





## \$GCOIN Tokenomics

\$GCOIN is our in-game utility currency that is needed for almost everything, from opening loot boxes, forging weapons, training Gen 2 fighters. \$GCOIN are only generated by Genesis Galaxy Fighters by holding them in your wallets, the other way to obtain them is through secondary markets. \$GCOIN is fundamental to progressing in the game in order to become stronger and obtain better armour & weapons.

## Ways to P2E

- Collecting \$GCOIN from Fighters
- Win \$ETH from Team Tournaments (exclusive to Galaxy Fighters)
- Forging weapons and selling them
- Training 2nd generation fighters and selling them
- Renting out fighters



## Game Loop

The GFC game loop is designed to maximise userbase by allowing both free to play players as well as NFT players to take part. All players can win loot box keys from the game regardless of what avatar they play with. However different types of loot box keys can won depending on the avatar you are using. These keys are then used to open loot boxes containing different tiers of valuable NFTs.

A larger userbase will have a net positive effect on \$GCOIN prices as demand for weapons/armour increases.

## Future Milestones

- June Cross-project Open Championship Tournament with \$300-500K in prizes
- Galaxy Terra Land Sale
- P2E System
- Buy-in Tournaments in \$APE and \$GCOIN



# 2 History of GameFi

Games have been played for money since the beginning of time. Ancient board games like [Senet](#),<sup>1</sup> Go, and checkers were no exception, and some adept players made their passion become their profession.

This report is about video games and virtual items, so we will stay in the recent past. Was there a market for video game items before the advent of blockchain technology?

## 2.1 Play-to-earn before blockchain

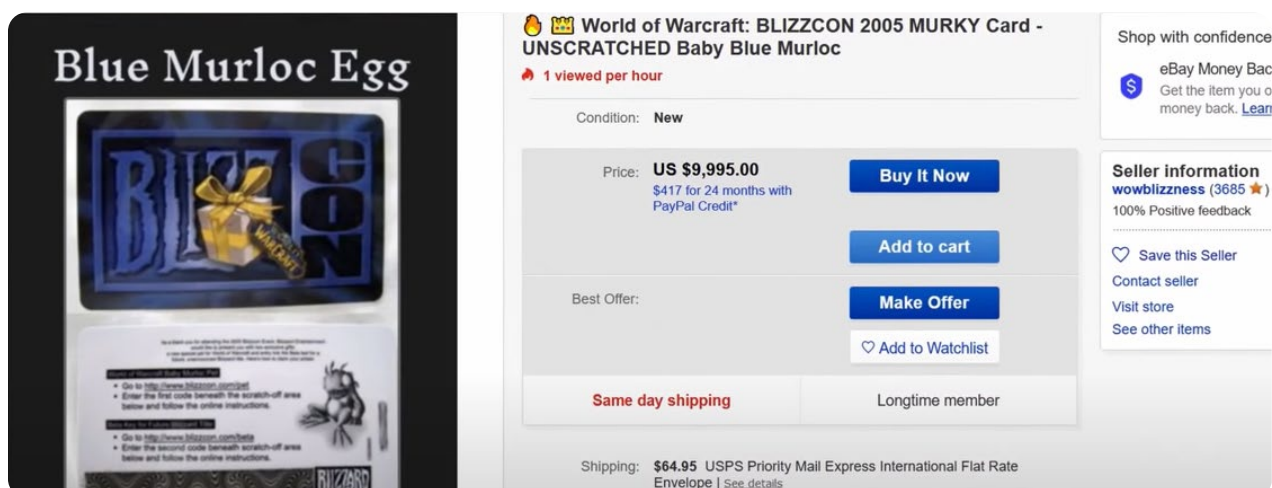
[Second Life](#)<sup>2</sup> was the first game that sparked a veritable in-game currency — called Linden dollar — and transactions of virtual items outside the game world. Real estate agent Ailin Graef made more than 1 million British pounds selling in-game plots in 2006.<sup>3</sup>

Second Life is still operational, and creator Philip Rosedale [recently returned](#)<sup>4</sup> to tackle the metaverse. Perfect timing, since Second Life pioneered much of what the metaverse is made out to be, like virtual professions, virtual land or an entire virtual economy.

The next game to smash the confines of its virtuality was World of Warcraft (WoW). This fantasy adventure saw players bid tens of thousands for [blue murloc eggs](#)<sup>5</sup> on eBay. Inside the game, characters used virtual gold for trades, but only specific items could be exchanged, often at set prices. Developer Activision Blizzard recently released its [own digital currency](#),<sup>6</sup> albeit one that is only available from the developer and only tradeable in the game itself.

Figure 3 \$9,995 for a blue murloc egg — World of Warcraft

Source: Ebay



<sup>1</sup> Oldest.org — 8 Oldest Board Games in the World

<sup>2</sup> Cointelegraph — Blockchain and the evolution of models in the game industry

<sup>3</sup> GameSpot — Second Life realtor makes \$1 million

<sup>4</sup> Cointelegraph — Second Life Creator returns to lay claim to the metaverse

<sup>5</sup> YouTube — 7 most expensive WoW items ever sold

<sup>6</sup> Cointelegraph — Blizzard creates own digital currency for World of Warcraft — still doesn't accept Bitcoin





The basic principle of play-to-earn is that players now have the opportunity to convert the time, money, and effort that they invest in games into tokens that can be converted into money. Players are rewarded with tokens by participating in a game, and (due to the true digital ownership of blockchain assets) they are able to trade those tokens on various markets. The more you play the game, and the better you become at playing, the more your earning potential increases. For many gamers, this is a fantasy come true. There are tens of thousands of players around the world today who supplement their income using play-to-earn games, and this trend will grow powerfully in the next few years.



**Yat Siu,**  
Co-founder  
and executive  
chairman of  
Animoca Brands

## 2.2 Kitties enter Ethereum

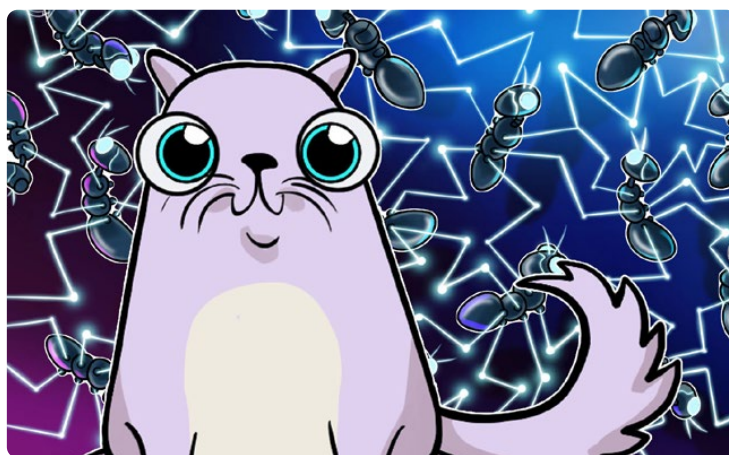
Developers from Canadian company Axiom Zen started experimenting with nonfungible tokens (NFT) in October 2017. It developed cute comic cats that could breed according to their “genetic” traits. The cat experiment became so successful that it overwhelmed the Ethereum network on numerous occasions a year later. It was called CryptoKitties.<sup>7</sup>

The game allowed people to sell their virtual pets for Ether (ETH), and the Genesis cat sold for 246,92 ETH on Dec. 2, 2017, which corresponded to \$117,712. After that,

users came out in droves, breed more than 1 million cats and conducting more than 3.2 million transactions with the CryptoKitties smart contracts. Relentless kitty demand drowned out all other transactions on the Ethereum blockchain. Regular users had to wait days for the network to process their dealings. Kitty collectors simply outbid them on transaction fees as they hurried to secure a potentially life-changing profit from breeding a rare cat.

The highest price paid for a “CryptoKitty” was more than 600 ETH, or \$1.34 million.

Figure 4 The CryptoKitties game later moved from Ethereum to the Flow blockchain



Source: Cointelegraph

What happened there? Why did CryptoKitties unlock such a frenzy of activity, while trading on bonafide

blockbuster games like World of Warcraft had remained a mere sideshow to the game itself?

One word: economics!

<sup>7</sup> [Cointelegraph — CryptoKitties](#)

# DIGITAL PROPERTY RIGHTS IN THE OPEN METAVERSE

NFTs, brands, and a compelling vision of our future



**Animoca Brands** is one of the dominant forces in the world of NFTs and the open metaverse. The company and its subsidiaries and joint ventures deliver original games as well as games officially licensed by popular global brands such as Marvel, WWE, Power Rangers, MotoGP™, The Walking Dead, Formula E, and Snoop Dogg. Animoca Brands is also a prolific investor with investments in nearly 200 leading open metaverse blockchain projects, with the goal to drive the advancement of the entire industry and its adoption to the mainstream.

## Mission

To deliver digital property rights to the world's gamers and Internet users, thereby creating a new asset class, play-to-earn economies, and a more equitable digital framework contributing to the building of the open metaverse.

### Subsidiaries



### Some Major Projects



## Some flagship products



### Phantom Galaxies

Science fiction shared-world online third-person action RPG with stunning visuals and fast-paced action. Full AAA game experience using blockchain and NFTs to enable real player-driven governance and game asset ownership. Boasts a gripping story campaign of survival and dominance in a hostile galaxy, human and alien factions, thrilling space battles, atmospheric planetary missions, and good old-fashioned mecha rampages.

[Read More](#)



### Life Beyond

Visionary, bold pioneer in the free-to-play + play-and-earn MMORPG category, produced by a team of industry-leading AAA gaming veterans. Fast-paced, ever-evolving persistent online world in which players create and foster a new society. User governance, pioneering, settling, politics, unlimited adventure on a fascinating alien planet.

[Read More](#)



### REVV Motorsport

Ecosystem of racing blockchain games powered by the REVV token, which serves as the currency of utility, purchase, and action and enables play-and-earn. Games and products include:

[REVV Racing](#)

[MotoGP™ Ignition](#)

[Formula E: High Voltage](#)

[Torque Drift](#) series

[Torque Squad](#)

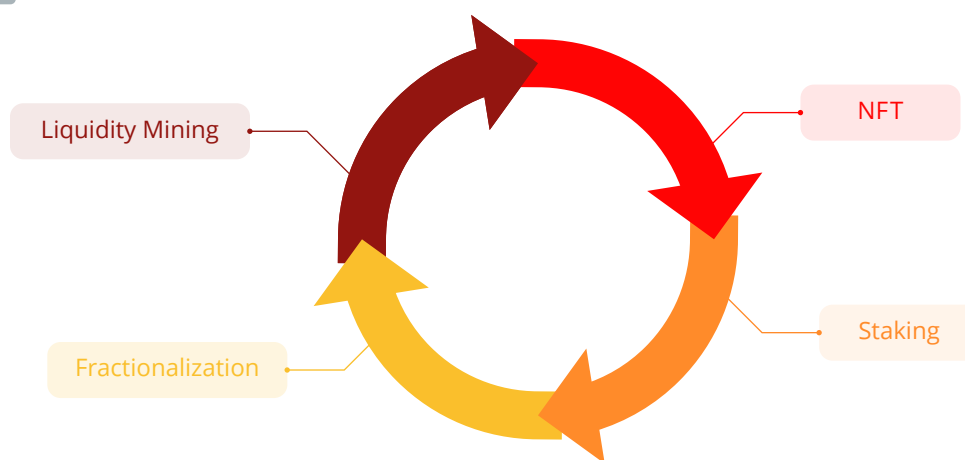
[Read More](#)

# Economics of gameplay

Blockchain gaming is turning the traditional gaming model on its head. Before GameFi, siloed game worlds didn't let players genuinely own their in-game assets. GameFi stores in-game material as unique tokens, or NFTs, and lets owners sell them on free markets for a price of their choice. In 2019, the introduction of an

in-game currency called Smooth Love Potion (SLP) boosted Axie Infinity's popularity and paved the way for other decentralized finance (DeFi) components to penetrate blockchain gaming. Such parallels that GameFi has with DeFi include staking, liquidity mining, NFT trading and NFT fractionalization.

Figure 5 Decentralized Finance in Games



Source: Cointelegraph

Crypto gaming has grown in popularity as more players collect and trade digital assets, generating a dependable income for game developers and creating value for players. In 2020, Axie Infinity gamers in the Philippines earned their regular monthly salary by just playing the game at a time when measures against the COVID-19 pandemic brought economic hardship to the country. And here we have it: The mythical lands were playing and making a living converge. No wonder this attracted a copious amount of users. According to [Bloomberg](#)<sup>9</sup>:

*"Nearly 50% of active cryptocurrency wallets connected to decentralised applications in November (2021) were for playing games. The percentage of wallets linked to decentralised finance, or DeFi, dApps fell to 45% during the same period, after months of being the leading dApp use case."*

You are probably wondering how players make money in these new virtual economies. We identified the five most popular games and how players are making money there.

<sup>9</sup> [Axie Infinity](#)











## How players make money

Axie Infinity<sup>9</sup> was the first smash hit in GameFi. With a sophisticated ecosystem, it dwarfed its competition at the top of DappRadar's NFT sales rankings for much of

2021 and into Q1 of 2022, with \$563.6 million in sales in the 30 days to January 30th.

Figure 6 Top NFT collections



Collection	Volume	Traders	Sales
 Axie Infinity ♦ ETH ♦ RONIN	\$563.6M -18.45%	614,095 3.01%	2,259,133 -7.97%
 The Sandbox ♦ ETH	\$210.42M 442.15%	13,528 114.46%	22,495 164.93%
 RTFKT — CloneX Mintvial ♦ ETH	\$180.66M 100%	8,058 100%	12,603 100%
 Bored Ape Yacht Club ♦ ETH	\$159.9M -1.71%	954 -19.29%	648 -20.88%
 CryptoPunks ♦ ETH	\$143.71M -79.34	385 5.48%	343 5.54%
 CLONE X — X TAKASHI M... ♦ ETH	\$131.63M 100%	3,824 100%	4,673 100%
 Wolf Game ♦ ETH	\$107.79M 100%	9,915 100%	42,380 100%
 Mutant Ape Yacht Club ♦ ETH	\$82.6M -6.69%	3,210 -26%	2,406 -30.46%

Source: [DappRadar NFT rankings](#)

Axie Infinity is an NFT game inspired by Pokémon and Tamagotchi. Players earn by breeding, racing, battling and trading cute Axie creatures. All in-game materials are NFTs using Ethereum's ERC-721 standard. This is the same standard that all NFT marketplaces use.

Axie's developers met while playing CryptoKitties, where they could witness the power of giving players economic liberties. All assets and all data on Axie are open source, and using it does not require permission from Sky Mavis. Developers in the community can just build what they want and let the players decide whether they like it or not. In other words: A free and open market is baked into the game design.

<sup>9</sup> [Axie Infinity](#)



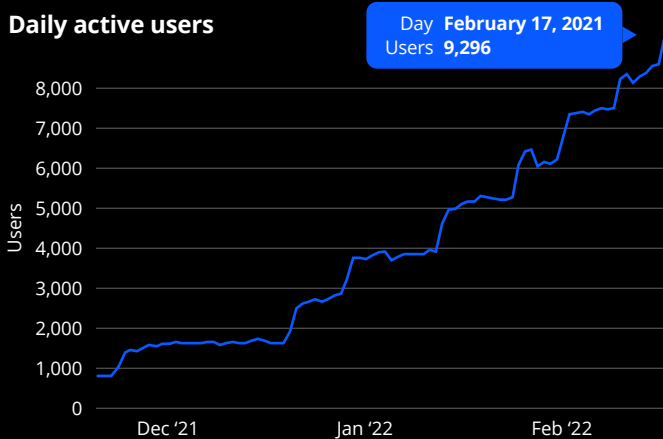
# Decentral Games

## Introducing Play & Earn Poker In The Metaverse

A free-to-play, live metaverse poker game where players earn \$ICE tokens by competing for rank on the daily chips-leaderboard and by completing challenges.

ICE Poker is the **#1 play & earn gaming ecosystem** by monthly revenue having generated \$19.7M via mints, secondary sales royalties, activations, and upgrades.

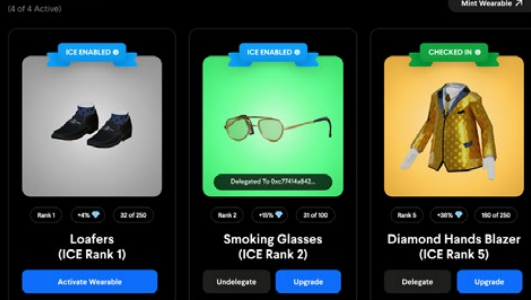
### Daily active users



### DG Monthly Active Users



### ICE Wearables



## Play and Earn

On top of obtaining ICE in-game currency for check-ins and challenges, players can earn rewards by receiving and minting NFT-wearables, which are necessary for participating in the game and help players to stand out from the crowd.

## Strive for the best

Score high on the monthly player and guild league leaderboards to earn prizes including wearables and xDG; xDG is the DAO governance token that allows you to vote to modify in-game economic incentives and govern the ~\$60M USD DG Treasury.



# DECENTRAL GAMES ICEPOKER

Figure 7 Axie Infinity land



3D scene of Axies. Source: Axie Infinity Land 3D Teaser

Axies can be bred by using Smooth Love Potion (SLP), a utility coin, and AXS, the game's governance token. SLP is rewarded for completing quests in the game. Like in Ready Player One, players can shape a part of the game's universe. But there's more.

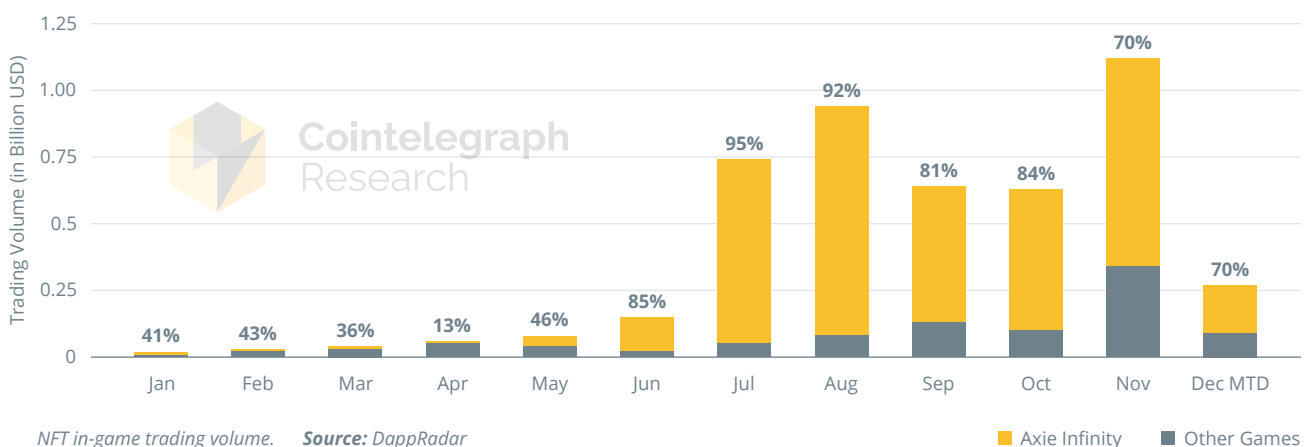
One of the most significant digital land sales in the NFT and metaverse sector to date also comes from Axie Infinity: One of its 75 genesis land plots sold for \$2.3 million. The collection has already clocked nearly \$4 billion in total sales.

Staking, or locking up, AXS over a longer period of time reaps a substantial annual percentage yield (APY). Even though this reduced from over 200% to about 88%, investors have over \$1.56 billion worth of AXS staked.

The Katana decentralized exchange allows players to provide liquidity using SLP or AXS to farm RON. RON is the ecosystem's token and can be used to pay transaction fees.

Axie Infinity is becoming a digital nation with a real economy, while use cases for AXS, SLP and RON grow.

Figure 8 Trading volume (USD) of Axie Infinity and other games





AXS' price decreased by 50% in January 2022, making it an attractive entry point for investors who were

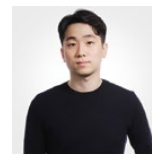
previously priced out. New land releases are on the horizon, offering handsome rewards to buyers.



Insider Insight

## Can play-to-earn become sustainable?

The first classes of P2E games relied on new entrants coming in to scoop up the previous investors' assets — I think investment will always be a strong impetus, but to complete the whole circle, we will have to build a new batch of games where players will naturally be drawn to spend money for entertainment. There's currently a gap between traditional gaming vs Web3 gaming. We are dedicated to bridging these two sectors, by bringing in top-tier game studios who are amazing at creating entertainment, and helping them to approach Web3 gaming from ground up. The future of GameFi lies where play-to-earn is completed by the "spend-to-play" let's say, by generating user demand for entertainment. This revenue can then be distributed to incentivize players and contributors, creating a more sustainable environment for P2E.



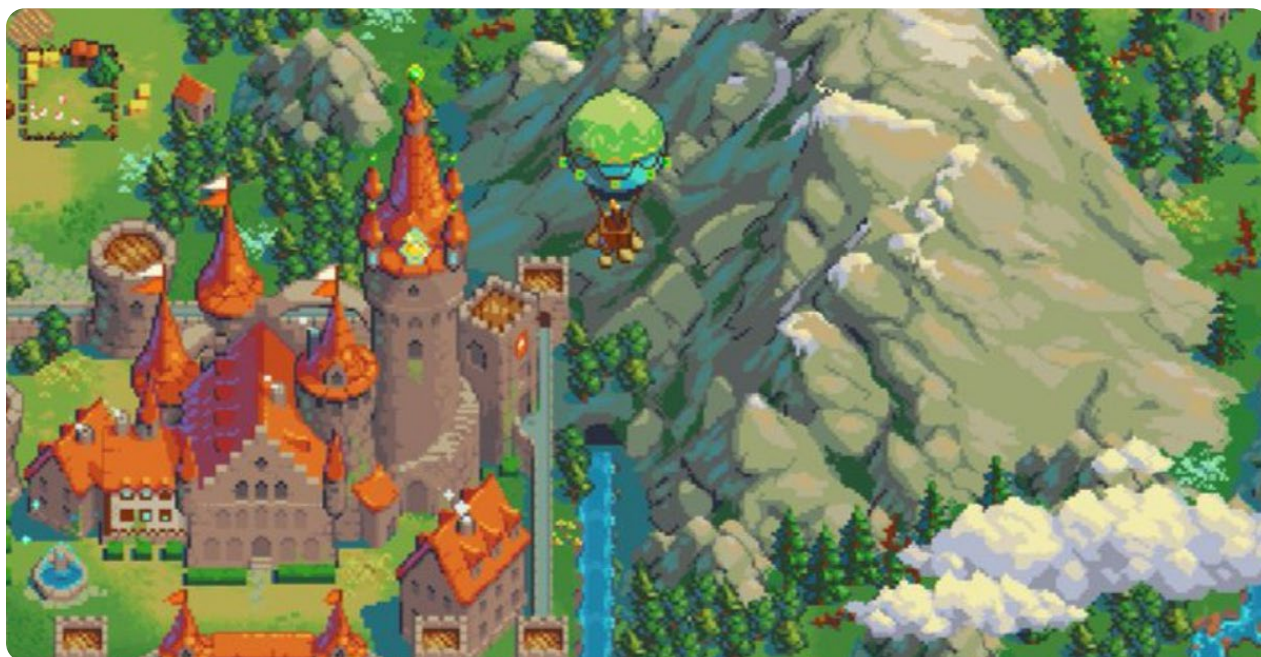
**Kijun Seo,**  
Co-CEO  
Planetarium

Another game to watch in 2022 is DeFi Kingdoms.<sup>10</sup> The inspiration for DeFi Kingdoms came from a passion for investing in liquidity pools on popular exchanges. DeFi Kingdoms was created to visualize

holdings as in-game "gardens" that represent token pairings and yields. The game depicts investors' liquidity provider share as a plot filled with blooming plants that grow in accordance with their yields.

Figure 9

DeFi Kingdoms land



DeFi Kingdoms aerial image. **Source:** [Twitter DeFi Kingdoms](#)

<sup>10</sup> [DeFi Kingdoms](#)



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Research

**Cointelegraph Research** provides bespoke research reports and white-label content for organizations in the cryptocurrency industry. If your organization has a specific research question, our industry experts can find the solution. Our team's multidisciplinary knowledge of the blockchain technology and traditional finance world enable us to solve complex challenges. We leverage primary data sources to bring you actionable insights within the digital asset space.

We cover all the major sectors of the blockchain ecosystem, including layer-1 blockchains, Decentralized Finance (DeFi), mining, custody, non-fungible tokens (NFTs), private equity, and tokenomics.

## Why Cointelegraph Research?



### House of experts

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Cointelegraph Research's team strongly relies on a data-driven approach and trusted data sources. We uncover actionable opportunities for our clients by combining deep market structure analysis with years of consulting experience.



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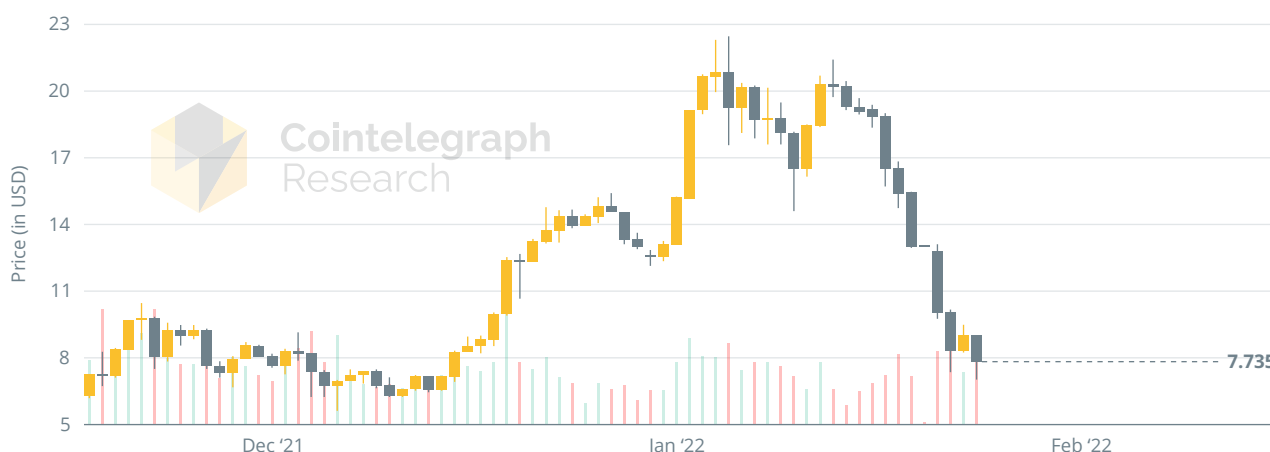
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DeFi Kingdoms became the first Harmony<sup>11</sup> project ever to top the DappRadar all-category charts thanks to users interested in decentralized finance (DeFi) and blockchain games. Its native JEWEL token went parabolic at the same time.

JEWEL is used to purchase in-game NFT buffs to increase a base-level stat and for liquidity mining in and outside of the game.

The token gives holders a vote in the growth and evolution of the project. In the past four months, the token price has surged from \$1.23 to an all-time high of \$22.52 and crashed back to \$7.70 on Jan. 30, 2022.

Figure 10 The JEWEL token crashed from a high of \$22.52 to \$7.70 on Jan. 30



JEWEL/USD daily chart. Source: Gecko Terminal

Alien Worlds<sup>12</sup> is one of the most popular play-to-earn titles. Holding particular NFTs is required to enter the game, which comprises a DeFi metaverse where planets are decentralized autonomous organizations.

Trilium (TLM) has been the governance token there since December 2020. TLM can be used for hostile takeovers of other planets' treasuries and to increase mining yield from land.

Figure 11 The varied planets of Alien Worlds offer players new challenges



The Federation of Alien Worlds. Source: Alienworlds

<sup>12</sup> Alien Worlds

<sup>11</sup> Harmony



Alien Worlds is about land ownership. Players can rent plots and pay a portion of their mining revenue to the landowner. Land NFTs also offer the opportunity to mine assets.

Tool NFTs can be bought to improve mining efficiency. Players mine Trillium and find other items in the process. Since its inception, Alien Worlds has attracted millions of new players and became one of the most played blockchain games in January 2022.

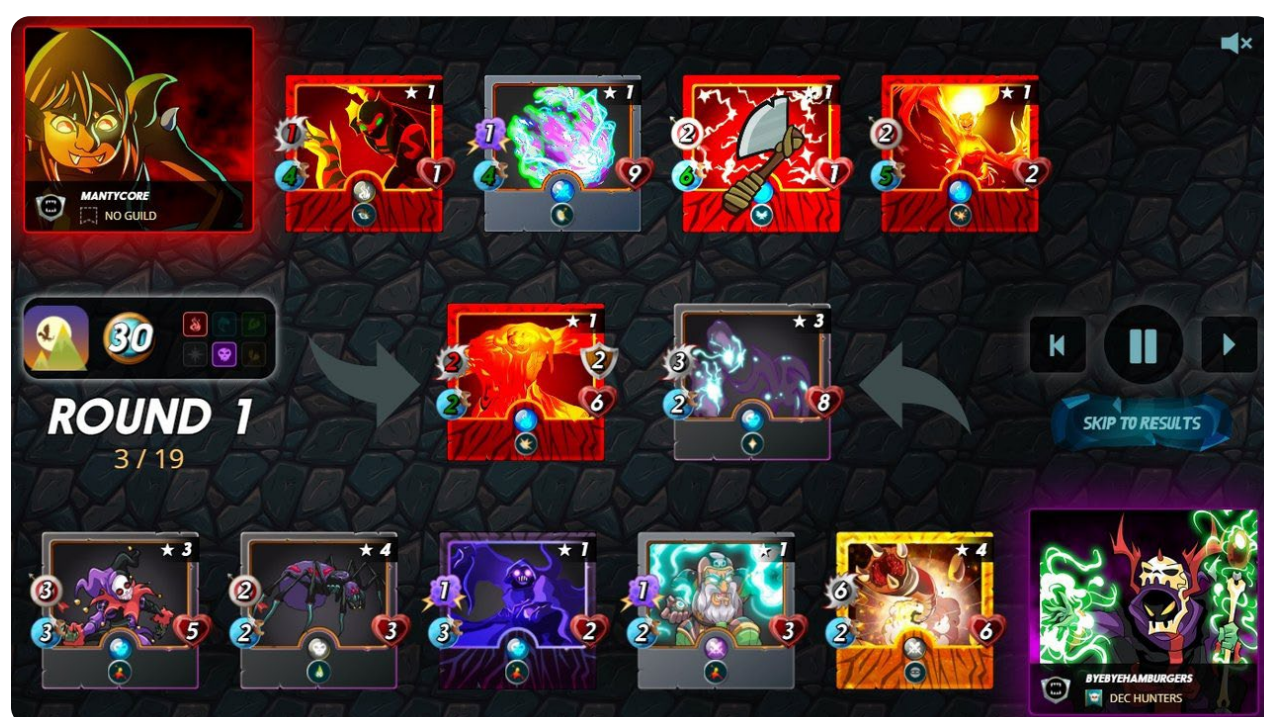
Splinterlands<sup>13</sup> is a multiplayer fantasy card game where gamers battle with monsters for control of a

chaotic world at war. It is built on the Hive<sup>14</sup> blockchain and uses NFTs as well. The gameplay is akin to Magic the Gathering or Yu-Gi-Oh where players develop a collection of cards that have different abilities and rarity levels and then pitch a selected deck against the deck of an opponent.

The main difference to its physical counterparts, of course, is that Splinterlands lets users buy, sell and trade their digital cards in a fraction of a second. Players can sell their NFT cards on third-party market platforms such as OpenSea, PeakMonsters or Monster Market.

Figure 12 An in-game Splinterlands battle

*Splinterlands gameplay. Source: Splinterlands*



Splinterlands has over 400,000 active users and thousands of new players joining every day. Up to 4 million daily transactions are executed, making Splinterlands the most active GameFi title in January 2022.

The game currently consists of tournaments where a player matches an opponent of similar ranking. Provided with a random set of battle parameters, both players have a limited amount of time to choose a selection of their cards. Once chosen, the battle will play out automatically according to predefined rules.

Splinterlands' popularity has grown exclusively

through word of mouth because of a no-ads policy.

The basic version is free to play, and about 7,000 new players give it a try every day. Of those 7,000 daily visitors, about 3,000 opt to pay \$10 for a fuller version of the game. That fee allows players to earn NFT assets in the game, which the free version doesn't. Assets include monster cards and two forms of crypto tokens, Splintershards and Dark Energy Crystals.

Take Taylor Carmichael,<sup>15</sup> owner of Coinbase Global Inc, for example; He paid \$10 to access the entire monster library, and after playing for two years, his NFT cards are now worth \$17,000 — not a bad return on investment.

<sup>13</sup> [Splinterlands](#)

<sup>14</sup> [Hive](#)

<sup>15</sup> [Nasdaq — Why this crypto could be the Dogecoin of 2022](#)





SOLADEFY

## Play - Invest - Earn

SolaDefy is the pioneering Play2Earn IDO launchpad and ecosystem where its gaming community can play their way to earn IDO allocations and be an early-stage investor in the upcoming GameFi projects. This active community of gamers are the lifeline of any P2E GameFi projects. This enables SolaDefy playing a dual role of a gaming guild and a decentralized fundraising platform at the same time making it an ideal and highly sort after launchpad for all P2E GameFi projects.

SolaDefy is revolutionizing the GameFi launchpad by introducing a unique and innovative concept of PLAY, INVEST and EARN through novel gaming experience to its curated community of Play2Earn tier investors, also referred as "Resistance Army" within the SolaDefy ecosystem. Imagine having an active community of passionate crypto Gamers participating and contributing in P2E games pre and post launch and getting incentivized by ways of IDO allocations, secondary token rewards, and upgrades to higher tiers.

SolaDefy was founded in Australia in 2021 by a team of seasoned Entrepreneurs, Engineers, and investors. Learn more about the team at [www.soladefy.io](http://www.soladefy.io)

## KEY FEATURES

PLAY 2 EARN  
IDO



ACCUMULATE IDO  
ALLOCATIONS



SETUP AUTO  
INVEST



**PLAY 2 EARN IDO  
LAUNCHPAD**

**RESISTANCE ARMY -  
CRYPTO GAMERS  
COMMUNITY OF 75K +  
AND GROWING**

**BACKED BY  
SHEESHA FINANCE**



**Sheesha  
FINANCE**



**METAVEST  
CAPITAL**



**Chainlink**



**SOLANA**



**SOLADEFY.IO**



**TWITTER.COM/SOLADEFY**

Figure 13

Splintershards (SPS) went from around \$0.22 in October 2021, to an all-time high of over \$1, to \$0.10 on January 31st, 2022



Cointelegraph  
Research

SPS price chart. **Source:** [Coinmarketcap](#)

Splinterlands developers have plans<sup>16</sup> for a governance token and initially planned a launch on Ethereum. The high gas fees and congestion issues left the team feeling that it would be limited there and that such a move would price out lower-income participants.

The token will now be launched on the BNB Chain instead. Holders will be able to stake their SPS tokens on PancakeSwap and other popular exchanges. SPS holders can vote on critical governance issues, and the community will hold all of the Splinterlands tokens.

Figure 14

Bomb Crypto gameplay cover art



Bomb Crypto Cover **Source:** [Bombcrypto](#)

Bomb Crypto<sup>17</sup> is an NFT-infused battle game where players manage a group of bomb heroes who are programmed to search for BCOIN and to fight

monsters. Reminiscent of the 1983 arcade game franchise Bomberman, the game brings a nostalgic flavor to GameFi.

<sup>16</sup> [Splinterlands — SPS](#)

<sup>17</sup> [Bomb Crypto](#)



BCOIN can be used to purchase new bombers who cost 10 BCOIN each. Every bomber is either:

- Common
- Rare
- Super Rare
- Epic
- Legendary

Each of these bombers has different abilities and stats that determine its usefulness:

- Power: 1–18
- Bomb Range: 1–6
- Stamina: 1–18
- Speed: 1–18
- Bomb Number: 1–6
- Special Abilities

Figure 15 Players use Bomber Heroes to search for BCOIN



Bomb Crypto Cover Source: [Bombcrypto](#)

A minimum of one bomber is required, and a decent team is at least 10 bombers. In January 2022, BCOIN

was worth just over \$2, sizing a good initial investment at \$200.

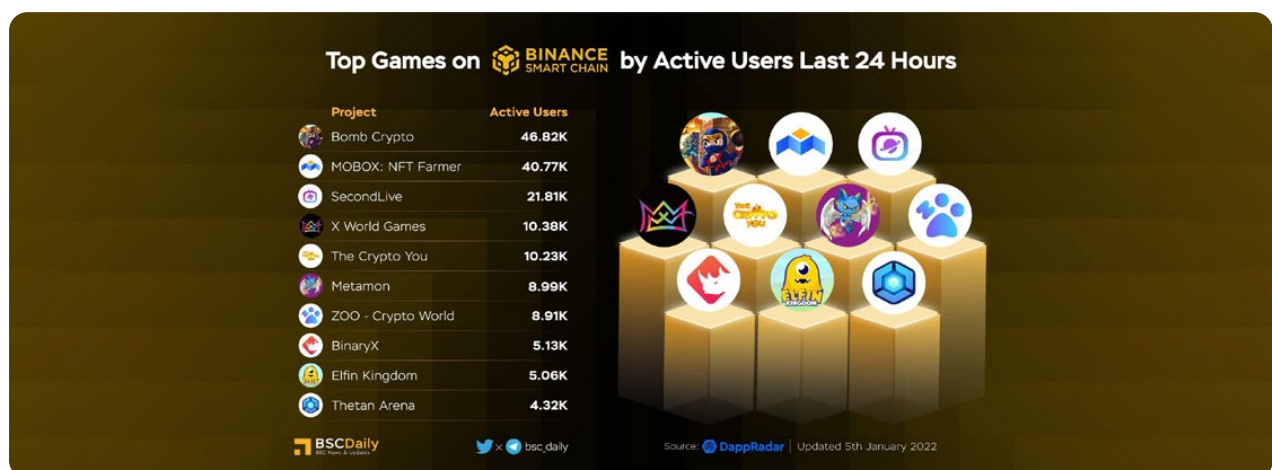
Figure 16 BCOIN price at the time of writing, Jan 30th 2022



BCOIN is Bomb Crypto's native digital currency and needed to access special features, purchase exclusive items, and enhance the experience. The Bomb Crypto roadmap<sup>18</sup> sees the launch of its own NFT marketplace on Jan. 20, with a new story mode, new battle modes, and a host of new features planned for release during the remainder of 2022.

The actual gameplay is quite active. When a bomber hero is out of energy, they will go into sleeping mode, and while sleeping, they do not earning BCOIN. A hero's stats determine their rest time and how long they can stay in the game. Stamina is needed to place bombs, while explosions consume one stamina point. Faster bomb placement clears maps in a shorter time and earns more BCOIN.

Figure 17 In the first week of 2022, Bomb Crypto had the most active users of all Binance Smart Chain games



Top Games on BSC as of January 5th 2022 **Source:** [BSC Daily Twitter](#)

<sup>18</sup> [Bomb Crypto — White paper](#)





# PHANTOM GALAXIES

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## ENTER THE OPEN METAVERSE

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## Comparing the top five

Now that we have introduced our selection, we will look at the balance players have invested in each game, the number of active users, the number of

transactions, and we will give each game one-out-of-five scores for its gameplay and its tokenomics. The table below summarizes the findings.

Figure 18 Top 5 blockchain games compared



	Alien Worlds	Axie Infinity	Bomb Crypto	DeFi Kingdoms	Splinterlands
Balance (as of Jan. 21, 2022)	\$13,098,007	\$2,958,482,851	\$3,760,140	\$3,536,925,611	\$301,735
Users* (30-day MA as of Jan. 21, 2022)	204,041	100,149	39,547	23,154	314,679
Volume** (30-day MA as of Jan. 21, 2022)	\$1,650,886	\$19,913,686	\$6,374,817	\$59,920,200	\$131,598
Gameplay Score	5	3	4	5	2
Tokenomics Factor	4	2	3	5	4

Source:

[DappRadar.com](https://dappradar.com), Cointelegraph Research

\*Number of unique wallet addresses interacting with dApp's smart contracts (30-Day Moving Average)

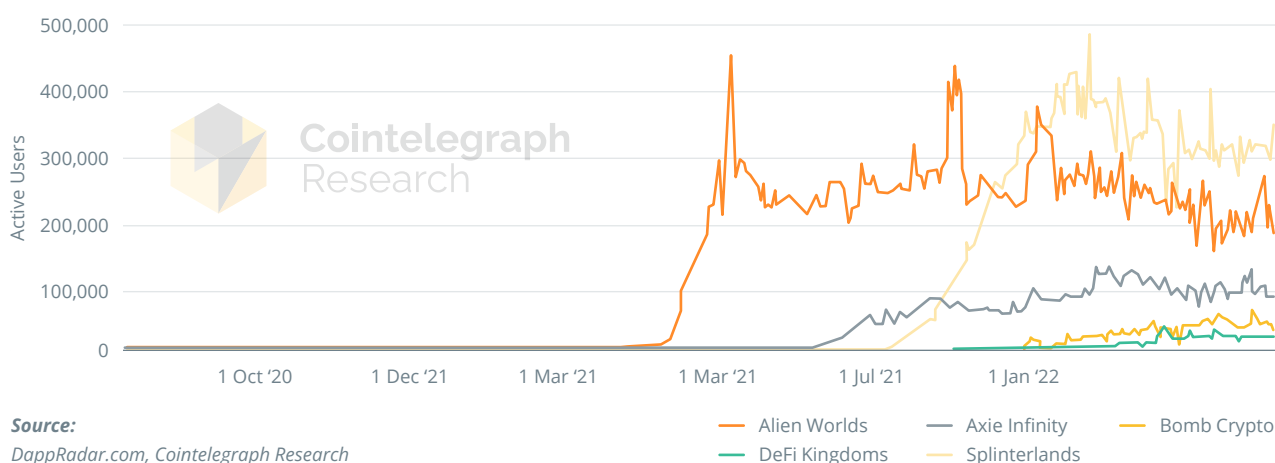
\*\*Total amount of incoming value to dApp's smart contracts

### Active users

The chart below shows the number of daily active users (measured by unique wallet addresses) for each of the top five games. Bomb Crypto and Alien Worlds

are leading, with Axie Infinity coming up third. Games seem to have a phase of rapid growth followed by a longer plateau where user numbers stagnate.

Figure 19 Daily active users of the top 5 GameFi projects



Source:

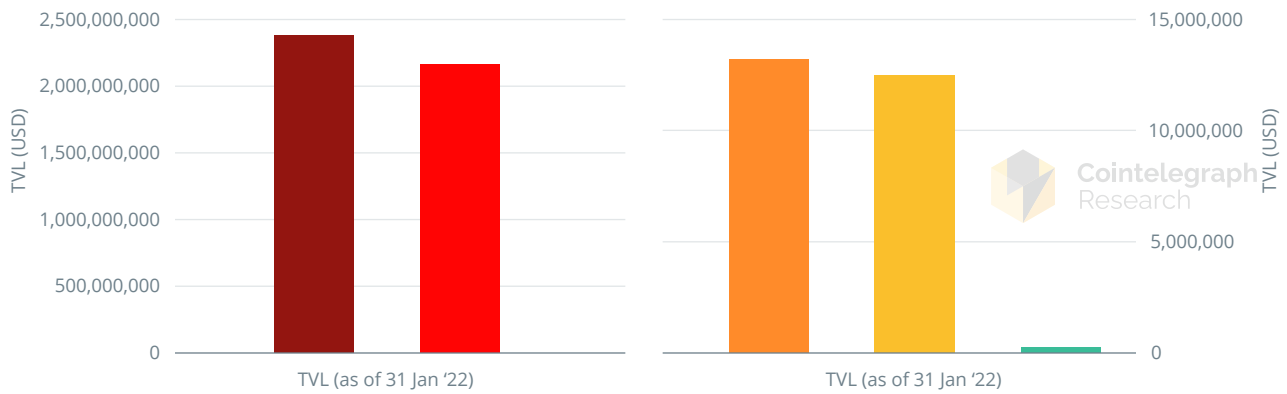
[DappRadar.com](https://dappradar.com), Cointelegraph Research

### Balance/TVL

Total value locked (TVL) represents the total assets (in United States dollars) invested in the game. Alien Worlds, DeFi Kingdoms and Axie Infinity each have a

balance of \$3 billion or more. This chart is a fantastic demonstration of just how much value players place on their in-game material.

**Figure 20** TVL in USD of the top 5 GameFi projects



**Source:**

[DappRadar.com](#), [Cointelegraph Research](#)

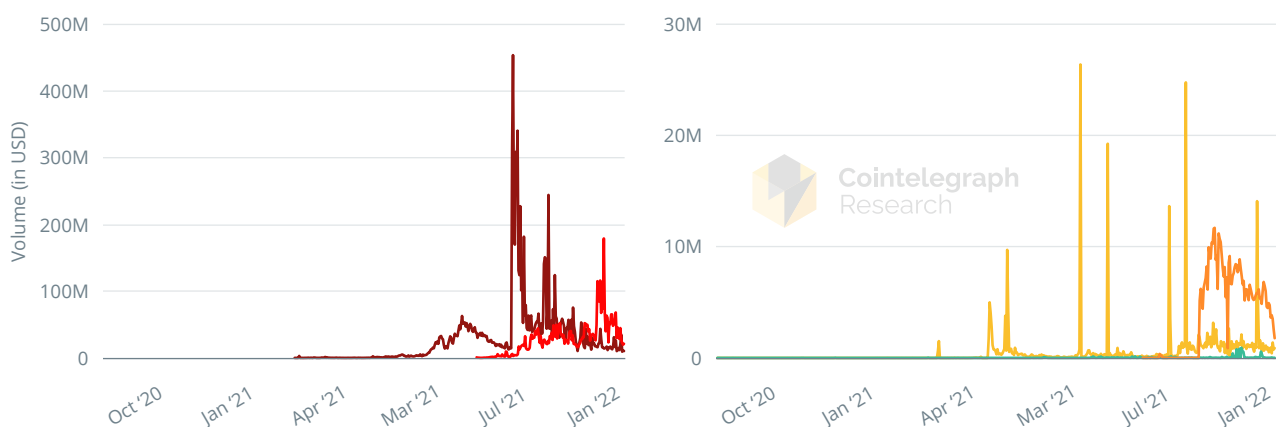
■ Axie Infinity ■ DeFi Kingdoms ■ Bomb Crypto ■ Alien Worlds ■ Splinterlands

## Volume

Volume represents the daily amount of incoming value (in USD) to the game. We can see the same rapid, almost vertical growth pattern followed by a steep tapering off. There is clear evidence of a hype phase

where players rush in for digital land-grabs. After this initial rush, it becomes harder for game developers to entice new user to join.

**Figure 21** Volume in USD on the top 5 GameFi projects



**Source:**

[DappRadar.com](#), [Cointelegraph Research](#)

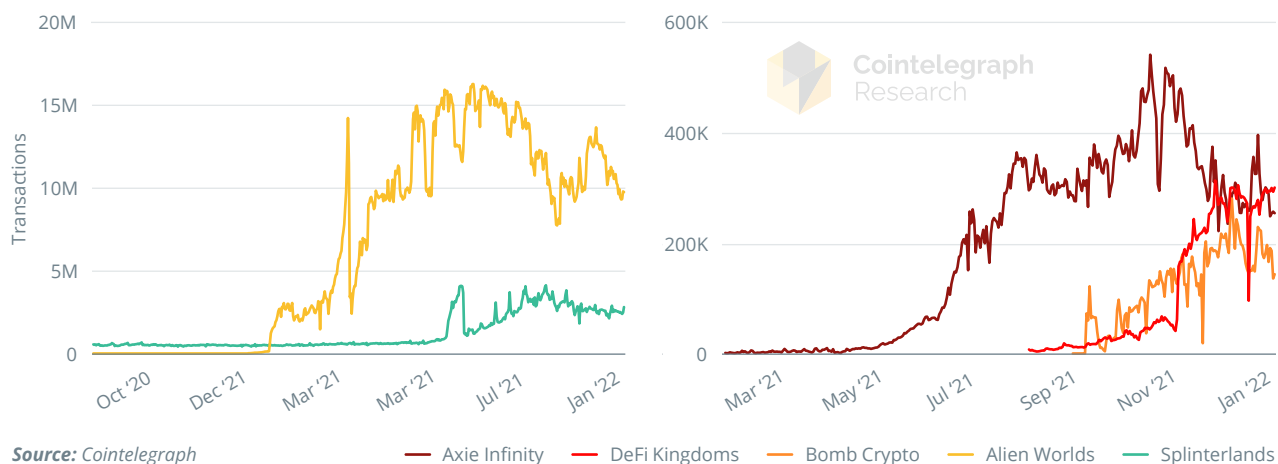
— Axie Infinity — DeFi Kingdoms — Bomb Crypto — Alien Worlds — Splinterlands

## Transactions

Transactions represent the total value (in USD) and the total amount of transactions made with each title's smart contracts.

In contrast to volume, transactions see slower and steadier growth. Once players have invested some funds into a game, they increasingly start to interact with others, a very healthy sign of an actual economy in the making.

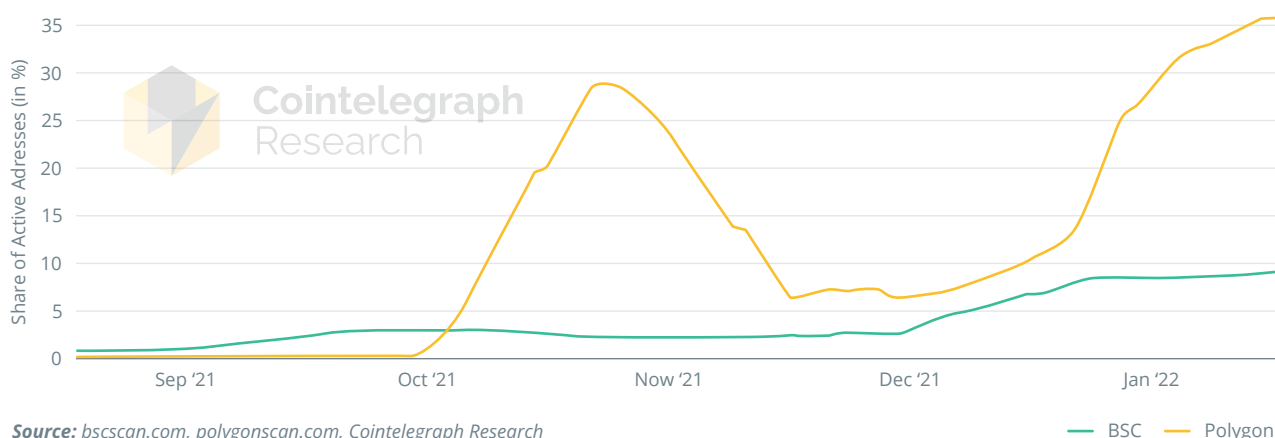
Figure 22 Transactions on the top 5 GameFi projects



Axie Infinity shows one full boom-and-bust activity cycle, as does Alien Worlds, although to a lesser extent. The other games are younger and are still in their initial growth phase.

Our analysis of Polygon and BNB Chain showed that gaming transactions account for more than one-third of all transactions there. In short, GameFi has become a key driver of blockchain adoption and usage.

Figure 23 Share of Top 5 Games per Blockchain (Daily Active Addresses, 30-Day Moving Average)



## Gameplay score

The gameplay in each of these games will not blow a veteran console gamer away. It is a very different experience from, say, Call of Duty.

But players can still have a thoroughly enjoyable experience playing NFT games, as the user numbers clearly show. We're also still in the early days of GameFi development and expect games to become more visually attractive and dynamic in the future.

GameFi scores with strategies and tactics to hook players. Our top five certainly do a great job of making crypto and NFT investing fun. We looked at entry cost,

playing modes, overall strategic difficulty and in-game mechanics to arrive at a score for gameplay between one (really bad) and five (much wow!).

## The tokenomics factor

Gaming economies of the future will happen on blockchains. The play-to-earn models seen in our five picks embrace the idea of an open economy and financial sovereignty for every user, courtesy of crypto's economic building blocks: open standards, cryptocurrency transactions, decentralized exchanges and permissionless building.



Facebook's decision to rebrand itself to Meta and build out its own "metaverse" is proof of just how valuable this proposition is. With millions of new users onboarding, the task at hand is to make in-game economies grow in a sustainable fashion.

We looked closely at the current and future potential value of in-game tokens and what they can do for investors. We took into account what the development teams have in store to bolster token value. Finally, we distilled our insights into a one (bad) to five (exceptional) score to give readers a quick overview of tokenomics.



Insider Insight

### **What does P2E IDO mean in SolaDefy ecosystem?**

Play2Earn IDO is a brand-new concept introduced by SolaDefy to help Gamify the Launchpad experience. We empower our community to play and win IDO allocations based on their gaming performance.

### **Who are we what makes us unique and what is our story?**

We are a team of Entrepreneurs & Engineers with pure passion for gaming. We are introducing first ever Solana based Play2Earn (P2E) IDO launchpad to the Blockchain GameFi ecosystem.

This enables us to create a community of passionate crypto gamers who 'Defy the Odds' and fight for equal opportunity by playing games and getting incentivized with IDO allocations.

### **Why should projects launch on SolaDefy?**

SolaDefy has community that is passionate about gaming and crypto. We incentivize our community to play games and continue to hold tokens for the project that are getting launched on SolaDefy. This will provide additional post launch support to the projects with continuous traffic and feedback from the SolaDefy community.



**Saad Laghari,**  
Founder and  
CEO [SolaDefy.io](https://SolaDefy.io)

## **Outlook: What's to come**

Data shows<sup>19</sup> how play-to-earn decentralized applications (DApp) dominated the latter half of 2021 in active wallet addresses. Since September, gaming tokens — namely The Sandbox (SAND), Axie Infinity (AXS), Enjin (ENJ), Illuvium (ILV) and Ultra (UOS) — have even outperformed Bitcoin,<sup>20</sup> albeit with some recent pullback. 2021 was the year for GameFi projects. During bull markets, vaporware, speculation and euphoria can lead to unrealistic valuations, and this is the case for some GameFi valuations.

With Axie Infinity almost entirely dependent on new players putting fresh money into the game, diminishing new player growth could send the project's whole economy into a recession. Several projects have addressed longer-term in-game economic concerns in their roadmaps and white papers, and it will be exciting to see how that plays out.

<sup>19</sup> [DappRadar — 2021 Industry Report](#)

<sup>20</sup> [Cointelegraph — Gaming tokens usher in alt-coin season](#)

# ENTER THE NFT METAVERSE



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# What's not to like about GameFi?

GameFi is changing the game's rules by giving players ownership and a potential source of income. There is a lot to be excited about in GameFi, but it's not all diamonds and roses. We have identified some

negatives to play-to-earn games and potential social consequences to consider. We also explored some of the regulatory and tax implications and what this means for the future of GameFi.

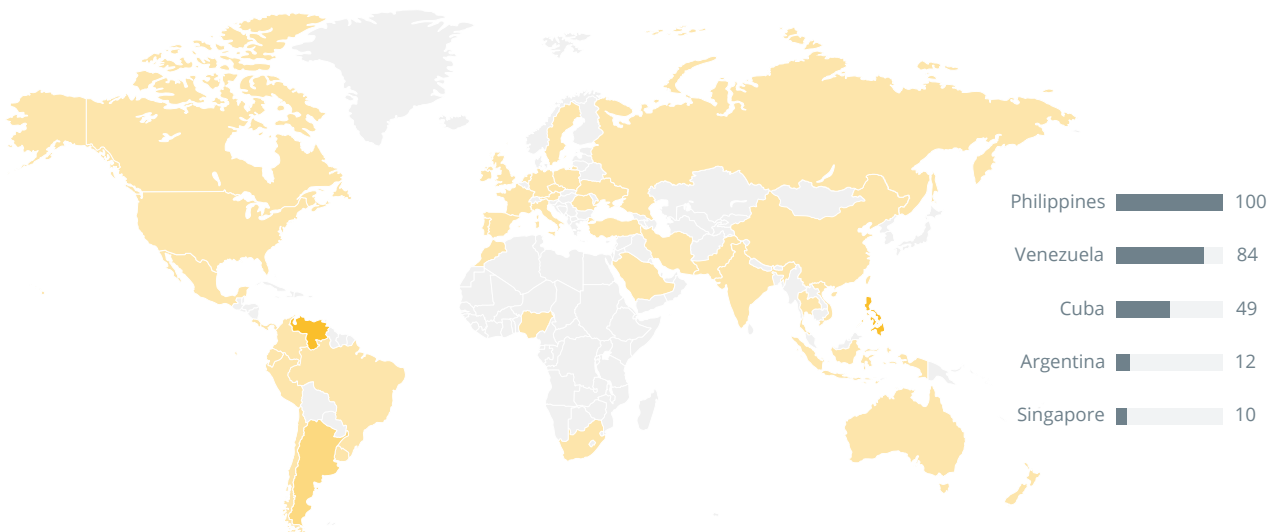
## 4.1

## Are the dice loaded?

Axie Infinity was poised to capture a new player base at exactly the right time when lower-income economies disproportionately suffered the effects of the pandemic mitigation strategies. Government-imposed lockdown restrictions have left many people unemployed and without a source of income. People

have turned to alternative ways to make ends meet, and Axie Infinity became a hit in poorer countries such as the Philippines. A search on Google Trends for "Axie Infinity" showcases the tremendous interest in the game through 2021 in the Philippines, Venezuela and Cuba.

Figure 24 "Axie Infinity" Google Trends search 2021



Source: [Google Trends](#)



Early players in low-income countries had a comparative advantage by offering cheaper in-game labor. Leveling up characters or mining for in-game gold can be a grind or consist of tasks that more affluent players are happy to outsource to players in lower-income countries.

Like the fashion industry, where production and labor are cheap but the product is sold and worn in richer countries, Axie sparked a dynamic of lower-income players leveling up characters for wealthier kids who could afford to pay for them.

GameFi kept families out of poverty during the pandemic, but the current state of the game prices out new entrants. Players need to purchase three Axies from the marketplace,<sup>21</sup> and in January 2022, these cost a minimum of \$75 — i.e., too much for low-income families in the Philippines. For extended periods in 2021, the cost of entry was as high as \$1,500.

Sky Mavis launched the Axie Infinity “Scholar”<sup>22</sup> program to encourage community development. While this initiative allows players to enter the game without bearing the associated costs, it is not without its pitfalls.

A scholarship is when a “manager” (a player who has enough Axies) gets a “scholar” (a player who cannot afford an Axie team) to play the game using the manager’s Axies. SLP earned by the scholar will

then be split between the manager and the scholar, depending on their agreement, which can be 50-50, or worse, in some cases.

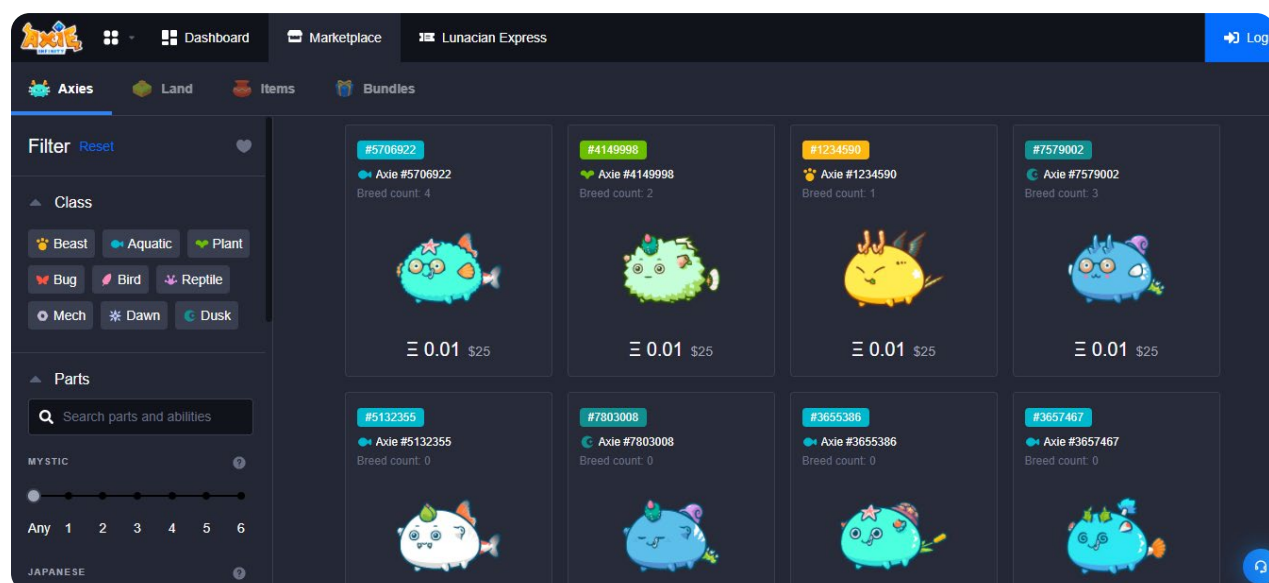
Scholars do not have access to the SLP earned, and they do not own any of the assets acquired during gameplay. The manager-scholar relationship is based entirely on trust. Because of the saturation of players wanting to play without being able to afford their own teams, there is a big surplus of scholars, most of whom come from third-world countries such as the Philippines.

With a profit-driven explosion in users came fleeting long-term growth and a player base that is less than loyal. Axie Infinity sustained its momentum throughout 2021, but with no shortage of alternatives, long-term success is another question altogether. Great gameplay is the key here.

A business model driven by short-term profit can interfere with the community’s organic pace of development. “Start-early, play hard, cash out!” was the mantra of many early adopters and left games with anaemic growth after an initial run.

To later entrants, it seems like the dice were loaded in favor of early adopters and the cash-rich who can still afford to ride the wave. Media momentum usually comes at times of peak prices, and many felt left out in the cold.

Figure 25 Axie Infinity Marketplace



Source: [Axie Marketplace](#)

<sup>21</sup> [Axie Infinity Marketplace](#)

<sup>22</sup> [Axie Scholarships](#)

On its face, this is the antithesis of a community-owned in-game economy and the underlying ethos of a decentralized, blockchain-based economy where free trade and property rights are front and center. We could argue that the rich get richer, while the poor

get a small cut for their labor. Scholarships only truly benefit managers while leaving the scholars picking up the crumbs. Such a system is far from the level playing field that games should aspire to, making sustainable success much harder.

## 4.2 Regulatory woes

Since the emergence of Bitcoin (BTC) in 2009 on the heels of the subprime crisis, lawmakers have been slowly trying to find ways to regulate and tax cryptocurrencies. With the runaway success of digital assets since 2020, these efforts have intensified.

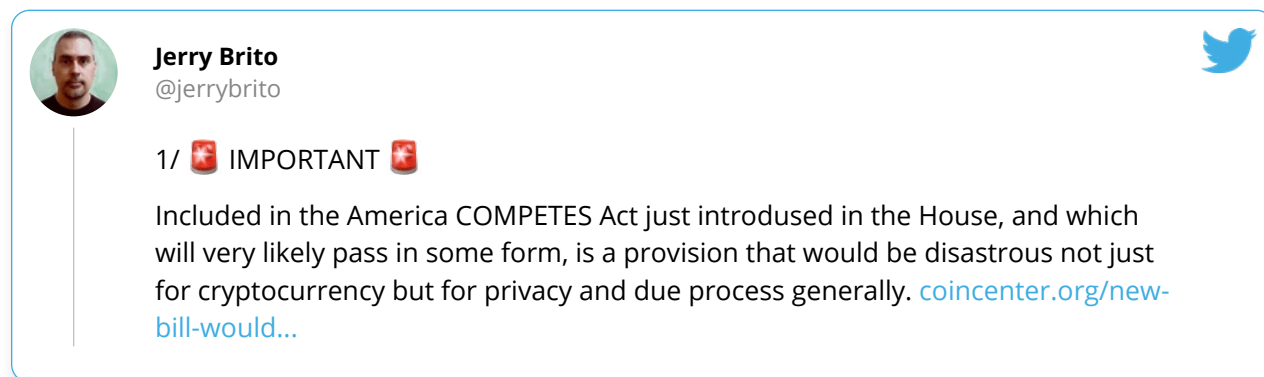
United States President Joe Biden recently labeled crypto as a “national security threat” and announced an executive order to be sent to a plethora of government agencies asking them to develop regulatory policies.

Democrats proposed another piece of legislation, worrying the crypto industry in the U.S. House of Representatives in January, the COMPETES Act.

Jerry Brito, executive director for Washington D.C.-based think tank Coin Center,<sup>23</sup> noted that one provision in the proposed bill would allow the Treasury Secretary to ban crypto exchanges from operating without any prior notice. Brito stated that he believes the bill will very likely pass “in some form.”

Figure 26 Jerry Brito twitter feed

Source: twitter.com



In November 2021, a report<sup>24</sup> published by the President’s Working Group on Financial Markets suggested that stablecoin issuers in the U.S. should be subject to “appropriate federal oversight” akin to that of banks. The report did not specify which federal agency would lead these efforts but said the Securities and Exchange Commission and the Commodity Futures Trading Commission (CFTC) had “broad enforcement, rulemaking, and oversight authorities” to address crypto transactions and companies.

Governments across the world are moving toward some form of a regulatory framework. India has recently announced<sup>25</sup> the introduction of a 30% crypto tax that targets all transfers of digital assets, along with plans to introduce its own central bank digital currency (CBDC) by 2023. Thailand also announced its plans to introduce a CBDC but recently backtracked<sup>26</sup> on plans to introduce a 15% capital gains tax on all cryptocurrencies after a public backlash against the proposal.

<sup>23</sup> Coin Center

<sup>24</sup> US Treasury — Press Releases

<sup>25</sup> Cointelegraph — India to introduce 30% crypto tax

<sup>26</sup> Cointelegraph — Thailand scraps 15% crypto capital gains tax following public backlash

Indonesia barred<sup>27</sup> financial institutions from facilitating or marketing crypto asset trading, and Singapore ordered<sup>28</sup> crypto businesses to stop marketing or advertising their offerings to retail investors, describing digital assets as “highly risky and not suitable for the general public.” This is just a small selection from a regulatory environment that is getting increasingly less liberal.

GameFi has not escaped the all-seeing eyes of regulators either. It didn't take long for the Philippines<sup>29</sup> to take note of the large numbers of users playing games such as Axie Infinity. Its Finance Ministry has recently announced that income generated from play-to-earn games is subject to income tax.

Most transactions made in play-to-earn games could be taxable events by now, even if crypto tokens and NFTs never leave the game world. The U.S. Internal Revenue Service considers any crypto-to-crypto transaction a taxable event. Since most in-game assets are tokenized, even actions such as using potions or breeding new creatures may result in taxation.

We will now look at ethical issues of GameFi and the attempts to regulate them. Technically, anyone can play these games as long as they understand the mechanics and cost of entry. This includes children under the age of 18.

Minor's playing presents an entirely new set of pain points for developers and the community. Take the Philippines, for example. If users are earning enough money to adequately replace their monthly salary during a pandemic lockdown, and the government

considers this to be taxable income, is a person under the minimum legal working age playing Axie Infinity now considered to be engaging in child labor?

Then there's the question of what constitutes gambling. In October 2021, the United Kingdom gambling watchdog opened<sup>30</sup> an investigation to determine whether fantasy NFT soccer game Sorare should be required to have a gambling license.

In an opinion piece on Gambling Insider, Richard Williams, a gambling and regulation partner at Keystone Law, argued<sup>31</sup> that Sorare may fall into the category of pool betting or other regulated activity under the Gambling Act 2005:

*“The Commission will no doubt carry out a thorough review of the product, but there is certainly a legal question mark over this. It is possible that the product could fall into the betting (pool betting) or gaming regulated activity under the Gambling Act 2005, depending on how it is structured.”*

Just how much of an element of luck constitutes gambling vs. a game of skill is a question that will need to be answered on a case-by-case basis. This becomes even harder when, for instance, an online multiplayer strategy game has a gambling saloon in its virtual world. Is a virtual bouncer checking IDs at the entrance?

This throws up more questions for GameFi developers, who will need to carefully negotiate these issues throughout 2022 — all while under the specter of threats of government regulatory moves that could severely impact the NFT gaming industry.

## 4.3 Environmental costs of GameFi

What impact on the environment do blockchains have? How much energy do they use, and is that use justifiable? A common argument we've all heard is that mining is killing the environment. However, a recent report<sup>32</sup> by the Bitcoin Policy Institute showed that Bitcoin mining is responsible for only 0.27% of global energy consumption — less than that of gold mining.

Industries need energy, period. It is reasonable to demand that the toll on our climate be as small as possible. But GameFi titles mostly use blockchains with a proof-of-stake consensus mechanism with radically lower emissions than Bitcoin, for instance, Solana, BNB Chain or Harmony.

Demanding that this new industry just use no energy at all is nothing but a death wish.

<sup>27</sup> Reuters — [Indonesia regulator says financial firms banned from facilitating crypto sales](#)

<sup>28</sup> Financial Times — [Singapore clamps down on ads for 'highly risky' crypto trading](#)

<sup>29</sup> Manila Times — [Play to earn gamers must pay taxes](#)

<sup>30</sup> UK Gambling Commission — [Consumer Information Notice: Sorare](#)

<sup>31</sup> Gambling Insider — [Legal expert: Sorare could fall under regulated betting or gaming activity](#)

<sup>32</sup> Bitcoin Policy Institute — [Fact-checking climate organizations' crypto letter](#)





## POWERING THE WORLD OF GAMING NFTs

Immutable X is the leading Layer 2 scaling solution for 100% gas-free and carbon-neutral NFTs on Ethereum. Founded by Immutable, the L2 protocol gives developers the ultimate tool to build NFT games and projects on Ethereum, the largest smart contract blockchain in the world that best represents the philosophy of trustless, decentralized asset ownership, *in hours* and not weeks.

### Scaling Engine

By combining StarkWare's state of the art L2 scaling engine, StarkEx, with Immutable's years of expertise in blockchain and NFT, Immutable X can achieve a throughput of thousands of NFT transactions per second. Developers can instantly mint and trade assets without compromising the custody of digital assets as transactions are batched into a single zero-knowledge proof and are verified on Ethereum.

### API Suite

Immutable X exposes a simple REST API which allows developers to build NFT games or projects without interacting directly with smart contracts and launch them quickly.

### Global Order Book

Immutable X has a global order book which means any order which is created anywhere on the Immutable X protocol can be immediately visible on any IMX-integrated marketplace. Sellers can create more opportunities for their NFT to be found and buyers can efficiently sort, search and filter their desired NFT on any marketplace powered by Immutable X.

### 100% Gas-Free and Carbon-Neutral

Fluctuating and high gas prices have limited creators from developing and buyers from accessing the world's best NFTs. Immutable X overcomes this issue by ensuring all NFTs traded on its L2 are fully gas-free, while offsetting its carbon footprint with certified climate conscious partners, Trace and Cool Effect.

The preferred solution for  
world-class NFTs on Ethereum



OpenSea



GameStop



@immutable



Immutable X

QR scan to get started:  
[immutable.com/contact](https://immutable.com/contact)



# 5 Property rights in virtual worlds

We have seen examples of successful pre-blockchain game economies, but few of them have ever achieved the growth and the scale of Axie Infinity and Splinterlands. The conventional wisdom was that these were “virtual assets” and, thus, inherently worthless. So, it was only during brief periods of users’ infatuation with these virtual worlds that these assets were traded for cold, hard cash — only to vanish into oblivion shortly after.

Contrast that with the derivative market, which has an unknown but gigantic size, rumored to be \$1 quadrillion<sup>33</sup> or \$1 million billion big. While derivatives are by definition related to an underlying asset, some are derivations of derivatives and so on. That sounds very virtual, too, and nobody seems to mind. So, other factors must be taken into account to explain why pre-blockchain games did not unlock that much economic activity.

## 5.1 Property rights

What has GameFi changed? Why have thousands of people decided to make their livelihood in these virtual worlds all of sudden?

Two words: property rights. Blockchains and their underlying technologies enable game developers to

offer their users a secure way to prove ownership and transact with each other. They also allow freedom of pricing and freedom of exchange, game materials and the game’s currency.

Figure 27 GameFi has 2 degrees of freedom more than traditional games



<sup>33</sup> Investopedia — How big is the derivatives market?

Before GameFi, only the trading of a small subset of game items was allowed, and prices were often fixed. While some indirect black market economy made it possible for enterprising gamers to circumvent these restrictions, this was associated with considerable work, which can be seen as a kind of transaction cost. High transaction costs limit the number of transactions — e.g., Axie Infinity. The moment the game switched from Ethereum to its own Ronin chain, the transaction volume exploded because transactions were cheap. A similar comparison can be made with Amazon: Free shipping with Prime was one of the biggest drivers of growth for the e-commerce giant. Consumers hate shipping costs and experience them as a barrier to transactions.

Developers didn't offer more economic freedom to their users because it is very hard to implement and get right. This is where blockchain technology offers a perfect remedy.

Game material can be stored as NFTs, which gives users access to huge marketplaces such as OpenSea. NFTs are a well-defined standard with audited libraries, which slashes the cost of implementation. An in-game currency can be spun up in half an hour, thanks to scalable and secure token standards like Ethereum's ERC-20.

**Blockchains are monetary building blocks.** They supply all the tech needed for strong property rights and performant economies to game developers at little cost.

All of this would have taken hundreds of man-years of development for non-blockchain game developers, which resulted in limited economic functionality for these games.

By using common standards, users get the added benefit of being able to take their game materials out of the game. Axie characters can be sold as NFTs outside of the in-game marketplace — i.e., true ownership. When players depend on central authorities to safeguard their belongings, a wipeout is just one product manager's decision away. Vitalik Buterin, co-founder of Ethereum, remembers such a story: "From 2007 to 2010, I was obsessed with playing 'World of Warcraft' till one day, [game development company] Blizzard removed the damage from my favourite warlock's Siphon Life ability. I cried myself to sleep. From that day on, I realized the terrible consequences of centralized servers. I quickly decided to quit the whole thing..."

This cannot happen when a game item is stored in a user's wallet using an open standard.

## 5.2 Virtual worlds

Just how virtual is a magic sword from a unicorn-filled role-playing game when you can sell the sword and pay for a nice house in California with the proceeds? Is a magic wand that can be used in a game or displayed as an NFT on OpenSea less virtual than if it would just be usable in the game?

Even though World of Warcraft already had some economic activity related to the world outside of it, GameFi has taken the action to a whole new level.

The point this report is making is this: **Virtual items lead to sustainable economies when coupled with strong property rights and the basic economic freedoms of price setting and unhindered exchange.**

As we have discussed in the chapter on comparative advantages, real economies supporting actual families are based on the grooming of cute virtual Axolotl or the selling of traits and game materials. The virtual and the real intersect like never before.

One way to think about that change is that the minute virtual goods are coupled with real, actual ownership, these goods gain properties outside of the game world in which they were born, which makes them more valuable. At that point, they aren't that virtual anymore.



## This changes everything

We have learned that:

- Blockchains are monetary building blocks allowing developers to give players economic freedoms with reasonable development effort.
- Property rights lower transaction costs because players can exchange easily and directly and set prices according to their preferences.

Looking at Axie Infinity's growth, this doesn't explain the whole picture, though. We can see that AXS' price growth really started taking off around Feb. 7, 2021.

Sky Mavis released its own Ronin Ethereum Sidechain to mainnet on Feb. 1, 2021. As soon as players realised they could transact cheaply, economic activity exploded, and the utility of the AXS token with it.

Figure 28 AXS' price Dec. 20 through April 21



Source: [Coingecko.com](https://www.coingecko.com), Cointelegraph Research

The security of property rights or the economic freedoms of players didn't change with the advent of the Ronin sidechain — but a barrier to transacting was lowered dramatically.

While a swap on Ethereum can cost up to \$1,000 during peak load times, the same swaps have no transaction fees on Ronin. Sky Mavis had noticed that players stopped breeding new Axies because they didn't want to pay the Ethereum fees involved. After Ronin, Axie Infinity went from a January 2021 revenue of \$100,000 to \$196 million in July. The Axie platform still receives a fee in the form of AXS when a new Axie is bred, and some of the marketplace fees also go to Sky Mavis.

In addition to having economic functionality and property rights, low transaction fees free the market, leading to greater economic activity. GameFi is a textbook case study for how free markets outperform their more regulated counterparts and create more wealth for all involved.

All in all, the business model of traditional games is flipped completely on its head. Instead of extracting maximum value from players, GameFi provides players with the opportunity to earn for themselves. It is hard to think of a more compelling incentive to play a game that would still be played if users had to pay for it.

# POWERING GAMES WITH COMMUNITIES



Planetarium is a builder of online games that utilize decentralization, gamefi, and open source to empower their player communities.

**Mission** “Enabling the next generation of game creators to imagine and realize community-powered games.”

- Openness: Games by Planetarium are designed with as much freedom as possible. In particular, our in-house games adopt open source as a top priority.
- Decentralization: Gaming experience is powered by the community without having to rely on a central party. With community's support, anyone can modify and evolve games created by Planetarium.
- Deep Tokenomics: Community members can receive sovereignty over their contributions, and get involved in the development of player experiences and economy.

Blockchain Technology R&D

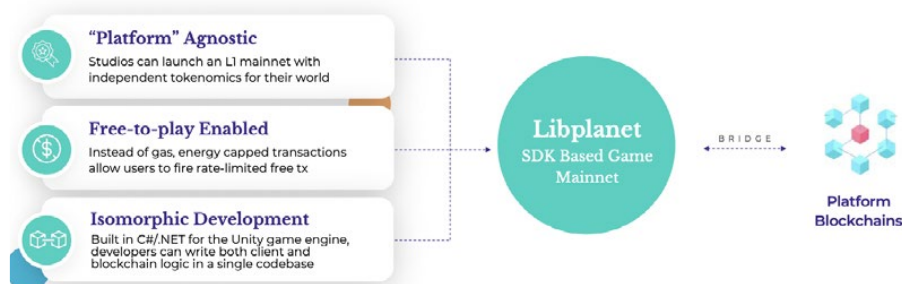
Innovative Game Production

Community Building

Web3 Incubation

## Libplanet, Blockchain SDK for Decentralized Worlds

Studios can use Libplanet to launch a customized mainnet specializing in each game



Built for Unity, the most popular game development engine.

## SELECTED PARTNERS

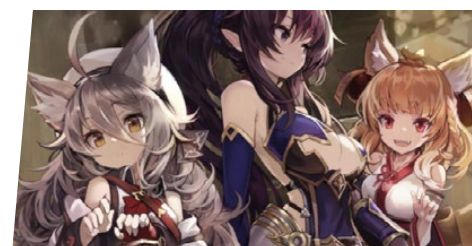
### Nine Chronicles (Mainnet Launched Oct 2020)

Nine Chronicles is a fully open-sourced online RPG without servers — using Libplanet SDK, the players and miners connect to each other to power a decentralized network dedicated for the game. Set in a vast fantasy world, it is governed by its players, and supported by a complex economy where supply and demand are the greatest currency. Over 2 million NFTs have been created and 100 million Nine Chronicles Gold have been transacted on the Nine Chronicles network.



### Stella Fantasy (Coming soon, Mid 2022)

Stella Fantasy, developed by Ring Games, is a premium collectable anime style NFT RPG. The 55 people studio is composed of veterans from King's Raid and other top tier gaming projects from Asia. Stella Fantasy is one of the first blockchain games to target the anime sub-culture scene with highly polished collectables and gameplay on the Unreal Engine. It will feature a free-to-play supported tokenomics where players can build an increasingly stronger portfolio of unique characters.



Additional partners to be announced in 2022

# Outlook and conclusion

We've come a long way, from the humble beginnings of play-to-earn gaming to a billion-dollar industry with regulatory concerns. Wrapping up this report, we will

look at the potential for blockchain games and give an outlook on where GameFi might be headed in the future.

## 6.1

### This is huge

According to industry research, the global video game market size was \$151 billion in 2019. Video games have long surpassed the movie industry in total revenue.

How can we calculate the market share that blockchain games will ultimately have? The total market capitalization of in-game tokens should not be conflated with revenue. Development companies make money from protocol revenue and commissions on game material sales. According to DappRadar,<sup>34</sup> in-game NFT trading volume surpassed \$6 billion in total sales in 2021. TokenTerminal reports Axie Infinity alone generated \$1.2 billion of protocol revenue in 2021. The move to its own blockchain is paying off.

GameFi earnings are spread more evenly among players and developers because the focus is shifted from value extraction to value creation.

With around \$10 billion in earnings, this young industry already has a measurable impact on the gaming market as a whole. Since many current blockchain games focus more on NFT collectors than on gamers, a good portion of that revenue is not at the expense of traditional games. Nevertheless, the gaming industry as a whole shrunk for the first time ever in 2021. It still accounted for \$178 billion total revenue, with the lion's share coming from mobile gaming.<sup>35</sup>

Blockchain games will not replace traditional gaming. The size of the gaming industry is not the total addressable market for GameFi. But a look at the size of the entire industry, nevertheless, indicates that the potential for GameFi is, in the words of an infamous American politician, "yuuuge."

## 6.2

### The next five years

Where to next, GameFi? What will the next years bring for this nascent sector? The future is uncertain, so any forecast always reflects the opinion of the author more than anything else.

We expect GameFi to mature in three main areas:

- **Quality of content:** Expect high-quality games on par with AAA game releases that incorporate blockchain-powered economies.
- **Business models:** Game development studios will find ways to quickly bootstrap growth and incentivize players to stick around for longer. This will require

<sup>34</sup> 2021 Dapp Industry Report (dappradar.com)

<sup>35</sup> Video game and gaming industry revenue 2021 | Statista



new business models and ongoing experimentation with how to balance these two goals.

- **Regulatory compliance:** Nobody wants to hear stories of 10-year-olds ending up in gambling rooms where adult content is being swapped in private chats. We expect the industry to work with regulators proactively and shape lawmakers'

perspectives. We also expect it to comply fully and diligently.

We're excited for what the future holds for GameFi. Looking at the five top titles we compared in our research, it's clear that these are the early days. Expect greatness.



Insider Insight

### **Have you seen any interest from big publishers to get into the blockchain space yet?**

I think all of the big publishers have blockchain on their radar, but I think it will take some time for them to embrace it. These are big companies, and they are slow to transition to new concepts. Also, this is a new model that is different from what they've done in the past. What big publishers do for the most part is take franchise games and release new versions over time. It's not a lot of risk: They know the next Call of Duty game is going to sell well, and so, they just keep these games going year after year. I don't see any big publishers going fully into this new blockchain games category in the short term.

I think many people are missing the point of what blockchain really represents for games. It is the ability to own the assets that you create. If you look at the terms and conditions for all of the big games right now, even though you earn things in your account over time, you don't actually own these assets. So, the fundamental shift would be to bring a model where you own the things that you've earned, outside of the game's context, so that you have the right to do what you want with those assets.

There's pushback right now for NFTs being speculative and the energy use associated with them, but it's going to settle. To me, this is going to become a new paradigm, and it really is going to be the future of video games, to me, because people aren't going to play the old way. If you've spent six months playing a racing game to get a high-end car, and then in the end of that, you don't own it, compared to a AAA game where you've spent six months and you do own the car in a wallet outside of the games context, I think players will switch to a game where they can own the stuff that they create. They'll feel like the old way of playing is a waste of time.

### **What is the value of putting your games on a blockchain for publishers? Are they incentivized to do so, or would they be forced into this new model?**

In the short term, NFTs provide new revenue models. Axie Infinity has shown it. There was a big movement in the gaming industry in 2009 where we started to have free-to-play games. It opened up new business models where you could either focus on advertising or focus on getting skins and other things that you could show off in the free game. The video games industry has had several big transitions, and it took some time for the new businesses to spring up. I believe now we will see a similar transition with play-to-earn.

Axie Infinity to me is the evolution of the gaming concept, and it's only going to grow. In the metaverse, people will be owning land, and we'll have 3D interactions in 3D virtual worlds integrated with VR and AR, and a lot of this is going to be tied up in



**Tom Anderson,**  
CEO Devvio  
and creator of  
Nysperians

these play-to-earn models. Overall, this concept where you personally own the things that you interact with is really the metaverse.

Longer-term, this model will become table stakes, and everyone's going to be forced into it. Customers are going to insist on this in the future as more people learn about this model and use it. So, publishers will be eventually forced into it. If a publisher would like to remain competitive, they are going to need to have that kind of mentality in the future.

So, where is this mythical land where milk and honey flow and gamers can live in plenty by pursuing their passion?

It's right here, in the cute Axies racing for SLP, in the monster cards of Splinterlands, and in the bomber heroes of Bomb Crypto.

GameFi has shown the superiority of open, free trade over centrally planned economies once again. With the winds of trade firmly at its back, it will make players happy — and wealthy.



# X WORLD GAMES

**X World Games** aims to build a diversified gaming ecosystem that connects traditional gamers with the blockchain world. "X World" represents an unknown virtual world open for players to explore, and "Games" represents all of our gaming ecosystems connected.

## Connecting Players Using Blockchain

X World Games now serves over 2 million registered gamers and has quickly become the fastest-growing crypto gaming platform aiming to become the Steam-like platform for blockchain gaming. X World Games has released its crypto games; Dream Card v1 and v2, its NFT X-Marketplace, the X-Wallet, and DeFi Pools. Their vision is to invite more game developers into the crypto space by creating and providing the underlying blockchain framework.

## Gaining Momentum

X World Games is a Play-to-Earn, Gamefi ecosystem where players can create their own unique experience by playing cross-platform with their NFT hero characters and equipment. Players can casually play on the XWG multi-gaming platform with PvE and PvP gameplay or staking to earn rewards. More XWG games will be released into the ecosystem this year while expanding the XWG metaverse with VR Dream Girls, an immersive 3D VR show staged in the XWG Metaverse Dream theatre.

## LUCID Token

- LUCID is a BEP-1155 token that will be the **primary play-to-earn reward** asset throughout the ecosystem.
- Players can earn LUCID with **three types of rarity: Basic, Magic, and Super** by playing games and opening loot boxes on the X World Games multi-gaming platform.
- LUCID will also be the **crucial** and **required** fuel for staking with the X-Pool. Players must consume a certain amount of LUCID while staking their Dream Cards to earn \$XWG tokens.
- Similarly, LUCID token will be consumed for our new DreamCard upgrade mechanisms: **Evolution & Fusion**. Players can craft cards of higher rarity with \$XWG tokens, LUCIDs, and DreamCards. To craft higher rarity DreamCards players will need higher rarity of LUCIDs — the Magic & Super.

## Fun to Play! Easy to Learn!

- 1 Log in with your Wallet, Email, or Phone Number
- 2 Buy Dream Cards on XWG Marketplace or Binance NFT
- 3 Pick your game — Download Dream Card v1 or v2
- 4 Transfer Cards — Battle/Play — Earn!



[www.xwg.games](http://www.xwg.games)



[twitter.com/xwg\\_games](https://twitter.com/xwg_games)



[discord.gg/xworldgames](https://discord.gg/xworldgames)



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