Explain It Like I'm 5: GameFi

The concept of play-to-earn games isn't novel, but other aspects of GameFi are

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From: Messari

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Don't just take it from us. Top executives such as Andrew Wilson agree. As the CEO of Electronic Arts, it's his job to position his company for disruption – and it's no coincidence he described what's emerging in the crypto space as "an important part of the future of our industry on a go-forward basis."

So, what is GameFi and how will it impact gamers?

Well, if you're like billions of others around the world, you probably play games or know someone who does. Collectively, the time spent in these digital worlds amount to hours "wasted time," at least in a direct monetary sense. All the work spent building the strongest army, collecting the best items, or completing the hardest levels – over and over – disappear once you leave the game.

Now what if that wasn't the case? What if you could keep what you built? And not only keep what you earned, but also sell it to others, loan it out, or showcase it off? While that sounds like a dream, this is the promise of GameFi, and it's why leaders like Wilson are excited about what's next. GameFi sits under a new genre where digital economies don't just end when the game is shut off, thus blurring the boundary between in-game resources and real-world assets. For yourself and billions around the world, it represents a paradigm shift, a chance to take back time and ownership into the average gamer's own hands.

What Does the Financialization of Games Mean?
GameFi, a portmanteau of "game" and "finance," runs on blockchain networks designed to merge the fun of games with the financialization of in-game economies. Distributed ledger technology is important not only to help players provide verifiable ownership of assets, but also to structure marketplaces for trading both inside and outside the game.

In this new type of game, all objects are represented as tokens on blockchain networks. So each sword, armor, or plot of land can be owned by you or anyone else on the blockchain-

based game. In other words, every gamer within a blockchain-based game becomes both a participant and an owner. While game types differ in narrative, a recurring objective is the accumulation of resources. Playing the game well allows you to accumulate more in-game currency (often represented as a fungbile token) or in-game assets (clothes, land, items) represented as non-fungible tokens (NFTs). What's key here is once assets are earned, you can trade them on marketplaces for other cryptocurrencies – or fiat money like U.S. Dollars – for disposable income.

The concept of play-to-earn games isn't novel (more on that later), but other aspects of GameFi are. Broadly speaking, there's a myriad of possibilities enabled by the combination of crypto primitives (i.e. token incentives, smart contracts, etc.) and gaming. Utilizing blockchain composability, where tokens from one application are transferable to another, game NFTs can be both vertically or horizontally integrated into a game studio gaming content. Objects from one game – for example, digital clothing or outfits – can be incorporated into other games to build out a giant world.

Outside gaming, tokenized in-game assets can be used for other purposes. For instance, owners of hard to obtain in-game items will be able to prove their ownership using an NFT opening up doors for discounts for hardcore players or in-person events for gamers of certain levels. Moreover, highly desirable NFTs sell for significant sums of money and it's not a stretch to imagine game NFTs going for similar prices. At those valuations, game NFTs can be posted as collateral for DeFi lending protocols, loaned to individuals who need items for in-game quests, membership into exclusive digital groups, or repurposed for real-world uses. The possibility behind NFTs as financial assets earned through games is ripe for innovation and yet to be fully explored.

A Brief History of Games & Where Games Are Going
The opportunities surrounding GameFi are appealing, but before diving deeper, it's worth understanding why this makes sense. What's happening with GameFi is actually a continuation of a decades-long trend: The shift of power from game studios to the player. If we want to understand what that means, let's take a trip down memory lane.

Pay-to-Play (P2P): The First Video Games
Almost all early video games began with the same revenue model. Users paid money to play a game. The first games like Pac-Man (left) let gamers play for a round or two before requiring more payment. Later games playable on personal computers, such as Call of Duty or World of Warcraft (right), sold perpetual licenses or recurring subscriptions. While transactions were simple, users didn't have much influence. The most notable improvement was simply more playing time in the form of content expansion packs.

Free-to-Play (F2P): Democratized Access to Games

Starting in the late 1990's, free-to-play games removed paid barriers to entry. Fans could download a product, start playing without having to pay upfront, and decide if they enjoyed it enough to spend money. Businesses made revenue from this model by way of ads or premium add-ons.

One example of the latter came through selling customizable appearances, known as "skins". Skins offer little value beyond cosmetic appeal – they don't give the purchaser any competitive advantage – yet undergo high demand from passionate fans. The game studio, Riot Games, for instance, famously became a multi-billion dollar company on the back of selling skins for their popular League of Legends franchise. Note the similarities between these skins and gamified NFTs.

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League of Legends (LoL) **Yearly Worldwide Revenue**

Riot Games drives the vast majority of revenue from in-game skins, with each skin costing the gamer between $4 to $25

Data as of: November 20th, 2020
Source: Statistica, SuperData
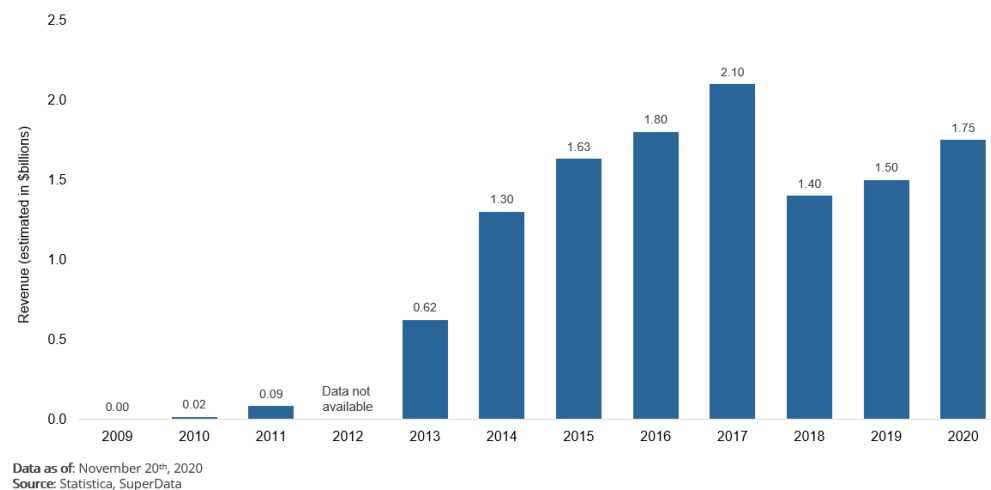
Games in this era are significantly more accessible. Players can sample different games, select the ones they enjoyed, and make purchases at-will to support their favorite developers. Power began to move slowly to the player.

Play-to-Earn (P2E): An Auspicious Way to Make Money

Low barriers to entry set the stage for the first play-to-earn games. Remember how play-to-earn isn't a new idea? Back in the 2000's, a few free-to-play games like Diablo II and

Runescape sprung up active marketplaces for in-game items. Players would complete quests to earn gold, use the gold to purchase weapons or armor, and sell the items for real money to buyers who otherwise didn't do the same.

Source: Sal's Realm of Runescape

Of course, during this era, such transactions were never recognized by the law, tax agencies, or anybody else for that matter. Gamers were able to build their own small digital economy in a niche corner of the Internet, but it was susceptible to scams, making participants more akin to shadowy online characters than hustling entrepreneurs operating within the boundary of established ecosystems.

What's different about play-to-earn this time around isn't just the sophistication of the market. It's also about the level of autonomy you have with their assets. Actions aren't limited to what's permissible by game studios. If an operator goes bankrupt or shuts down its servers, you don't just lose the assets you built up. It's why digital ledgers and NFT tokenization are important; it lets you own the asset on your own terms.

GameFi Adds Blockchain as Gaming's Future

All of this takes us to the present and the key question: If there's a massive potential for GameFi, what do GameFi games look like today?

The answer may be disappointing for those accustomed to game engines on desktop or consoles. Since blockchain games are in their infancy, the first generation of GameFi has been predominantly simple card-based games (issued as NFTs) where players use their collection to battle each other. Imagine something close to Pokémon. Winning battles and completing objectives are all ways for users to gather resources in these games. Popular titles in this generation include Axie Infinity, Alien Worlds, Sorare, Gods Unchained, and more.

Of these games, Axie Infinity is seen as the current leader. User counts have surged in 2021. Residents in the Philippines, hampered by lockdown restrictions, even play the game for

income. Some earn more from Axie Infinity than they did at prior jobs so they now play the game for a living. An award-winning short documentary named Play-to-Earn: NFT Gaming in the Philippines actually shares the story of this phenomenon.

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Axie Infinity MAU Counts Continue to Climb

User growth took off during Covid-19 and exceeded 2M monthly average users in August 2021

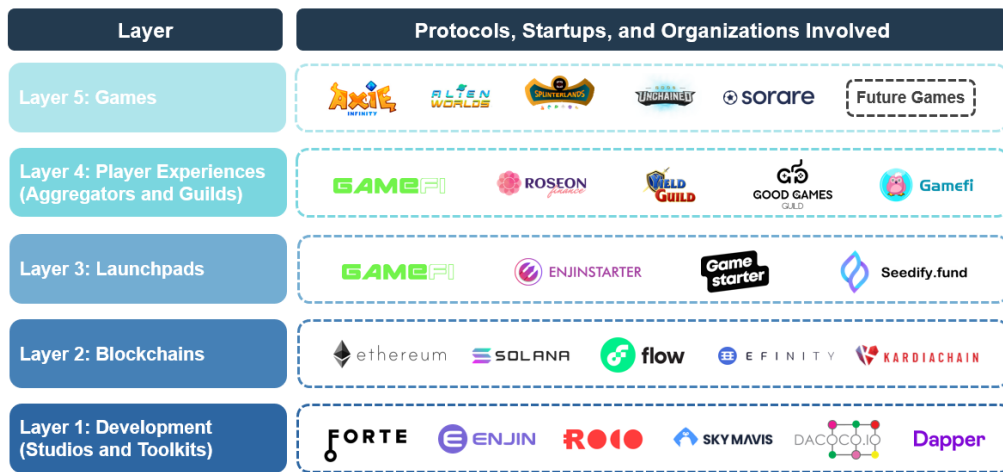**Data as of:** November 20th, 2021
Source: Active Player
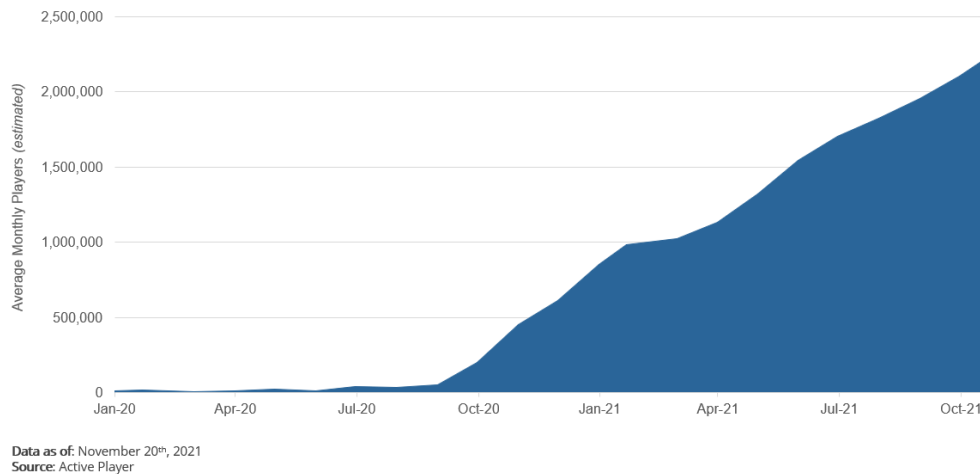
While user growth signifies interest in GameFi, developers must find a way to work around high network costs. At the moment, expensive transaction fees and slow processing times on blockchains hamper the ability to replicate the top games on desktop and consoles, but ongoing experiments with network scaling should ease the challenges over time. Alternative, NFT-specific blockchains are also rolling out to accommodate larger volumes. Future games are expected to incorporate advanced gameplay when scaling is achieved, which should make them more engaging. Next generation titles like Star Atlas and Illuvium have already raised millions of dollars in venture funding to work on those ambitions.

The World of GameFi

The potential of GameFi lies within the incentive alignment. Gamers who own their gaming assets will likely become more engaged, loyal, and better stewards of the games they enjoy. To reach that end, a plethora of startups and protocols exist to support players, developers, and game studios alike. Below are some services adding value to the nascent GameFi ecosystem, ordered from proximity to gamers down to relevance for developers.

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The Emergence of the GameFi Ecosystem

Layer	Protocols, Startups, and Organizations Involved
Layer 5: Games	Axie Infinity · Alien Worlds · Splinterlands · Unchained · sorare · Future Games
Layer 4: Player Experiences (Aggregators and Guilds)	GAMEFI · ROSEON finance · Yield Guild · GOOD GAMES GUILD · Gamefi
Layer 3: Launchpads	GAMEFI · ENJINSTARTER · Game starter · Seedify.fund
Layer 2: Blockchains	ethereum · SOLANA · flow · EFINITY · KARDIACHAIN
Layer 1: Development (Studios and Toolkits)	FORTE · ENJIN · ROCO · SKYMAVIS · DACOCO.IO · Dapper

Data as of: November 22nd, 2021
**Source**: Messari

Note: Protocols, startups, and organized shown in the visual are not inclusive of all competitors in the ecosystem

Player Guilds

As the community pushes to include new gamers, one challenge is the upfront investment needed to get started. Axie Infinity creatures, for example, cost upwards of hundreds of dollars to purchase. That cost is unaffordable for many players. Long-term, this is something game designers need to solve through the game's internal economics. Until then, capital pools have formed gaming guilds to help beginners finance initial expenses through "scholarships" in exchange for a revenue-sharing agreement. Think of them as coding bootcamp income-share agreements but for games instead of software engineering jobs.

GameFi Aggregators

GameFi aggregators function as platforms for game-related content. Gamers can explore existing and upcoming games across multiple blockchain networks. Aggregators will also allow them to manage their in-game NFTs, track earnings, and demo mini-games. The idea is to create a one-stop shop for all tokens, game releases, promotions, and more. If all this succeeds, aggregators will have the chance to expand beyond games into the realm of other NFTs such as art collections and music royalties.
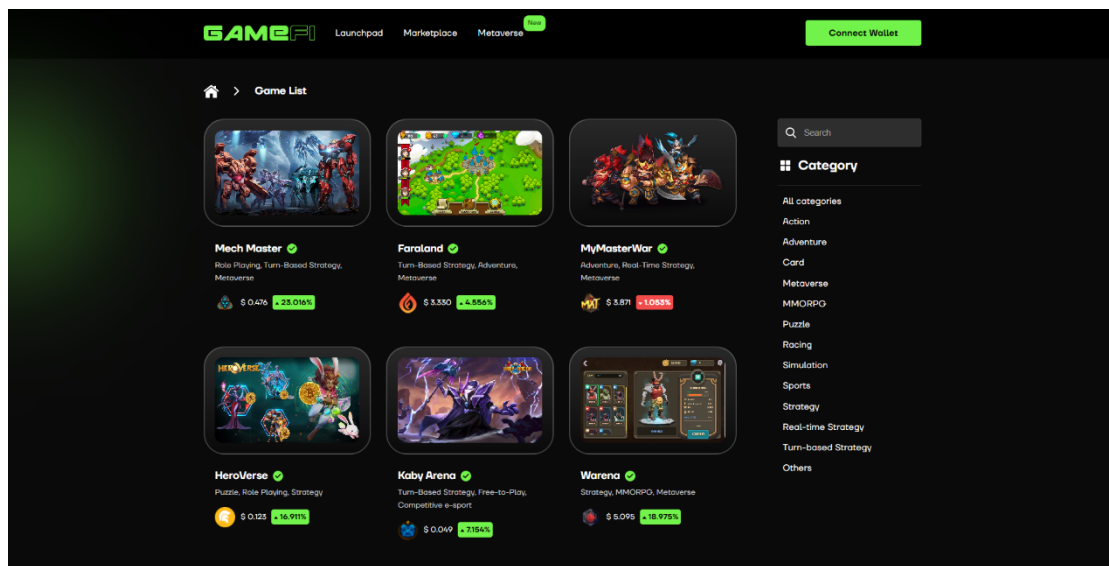
Source: GameFi (the platform, not the industry name)

Initial Game Offering (IGO) Launchpads
Launchpads are platforms designed to help facilitate the IGOs, which are fundraising events carried out via crowd sale. IGOs tend to happen when a project team needs funding to kickstart the game's release. Investors provide funding to finance a game's development in return for discounts or access to special features before the game's launch. Participation in launchpads requires accreditation under US regulations.

NFT Blockchains
The pioneers of blockchain gaming, CryptoKitties, found out how congested activity can get on the network when transactions for the game's NFTs began to account for more than 20% of all traffic on Ethereum in 2017. Competitors took that lesson to heart. Today, multiple blockchains support NFTs, bringing the so-called blockchain wars to GameFi. Games exist or plan to exist on the default network, Ethereum, as well as a variety of other general and NFT-purposed blockchains.

Developer Tools
Automating away parts of the development process helps game studios get to market faster. Astute entrepreneurs realized this need and now supply developers with the tools to succeed. These include application programming interfaces (APIs), software development kits (SDKs), payment platforms, and general infrastructure services. Most of the parties working on developer tools are centralized startups with venture capital investment.

Game Studios
Game studios are the final piece in the GameFi ecosystem. In a recent study completed in the US and UK, 58% of the 197 video game developers surveyed declared plans to use blockchain in future games. 47% of the same group have already begun incorporating NFTs in their projects. Early trendsetters set the tone for blockchain games but the community is only getting started on full development efforts. That's something to watch out for over the next

few years.

Taking Games to the Next Level
Characters in games need to keep leveling up. So does GameFi. Fortunately, two big tailwinds work in the ecosystem's favor.

The first is increased interest around gaming. The rise of esports and live streaming is a recent development in the last decade solidifying gaming as not only a source of entertainment, but also as a legitimate career. Popular games now compete with traditional sports for fandom, an idea many would have deemed unthinkable even two decades ago. Crypto gaming, specifically, has seen a surge in interest. Investments dollars in gaming are among the highest compared to other NFT subverticals, highlighting a shift in venture capital focus as investors start to grasp the opportunities in the space.

The second tailwind is continued adoption of cryptocurrency. GameFi is one of several pillars concurrently onboarding new users into crypto. Combined with DeFi, NFTs, Web3, and others, increases in total blockchain activity over the next few years seem possible. Jumping from one vertical to another is frequent, meaning it's likely GameFi will benefit.

So what does the future ultimately look like for GameFi? Predictions are speculative, but interesting activity and development is happening at an accelerated pace. Having the opportunity to own assets at will, make money from games, and connect with a broader community are widely recognized as compelling features presented in this new crypto vertical. While the future is unknown, one thing is for sure: Up until now, sentiment from participants – industry executives, game studios, investors, and gamers themselves – all seem quite optimistic.