Outlier Ventures

State of
The Open Metaverse
2021/22

Authored by:

David Shamash

Robin Andre Nordnes

#SALMANQADIR

Contents

Foreword by Jamie Burke

Outlier Ventures•

When we first sat down to draft **The Open Metaverse OS** a year ago this month we debated internally, was it too soon? Would the wider world be ready, or would we overshoot the mark? However, on reflection, it seems we were right on cue as almost immediately after its publication, in early January (2021), NFTs hit the mainstream and Axie Infinity became the highest-grossing game (in any category globally). A few months later, Facebook became Meta. It is safe to say the Metaverse is now firmly on the lips of journalists, business executives, startup founders, and venture capitalists. And almost every major media and entertainment company, especially in gaming, must have a house view on NFTs, be it good or bad.

The paper was intended as a thesis 1.0 to start a dialogue within and beyond Web3 about its future and how we believed it would become most impactful to as many people as possible in virtual worlds, gaming and begin to converge with AR and VR. It was a collection of ideas, hopes, and fears about the future and a framework to try and make sense of the direction of travel we saw ourselves hurtling towards. We felt it important to stress ahead of time there could be two kinds of Metaverse emerging; the real one based on Web3 technologies like blockchains and the sovereignty of the user and the illusionary dystopic one by Big Tech that would just extend everything that is broken about The Web, yes more immersive, but also more intrusive, and most importantly without digital property rights.

To reiterate, an individual game or social network can not in isolation be 'the Metaverse' unless it were to entirely monopolize our digital lives, which feels unlikely but not impossible. Therefore to be part of the Metaverse, a platform must be connected to something bigger than itself. It must be interoperable with other verses, in particular at an economic level. That's why the most important element of the Metaverse, beyond immersiveness or the ubiquity of any one technology like AR or VR, is that it is a shared economic system. So the question is; is that system a permissionless one like we experience in Crypto and Web3, or is it permissioned, i.e., gated by Big Tech and captured by nation-state actors.

When confronted with the reality of a permissionless and borderless meta economy, I have an increasing fear that regulators will choose to support Big Tech no matter how dystopic it gets out of an instinct for control. And they will likely insert CBDCs (Central Bank Digital Currencies) into it in place of actual crypto. Compliant, consisting of great UX and hardware, and highly personalized through a continuation of Surveillance Capitalism, making it incredibly compelling to the average internet user. So it is our job to make its opposite the Open Metaverse better. And quickly.

If you haven't read the Open Metaverse OS we recommend you start with this quick primer. This document is our follow-up and something we hope to repeat annually where we look at the State of The Open Metaverse, its progress, setbacks, and future in an objective way.

The Metaverse Awakens

Outlier Ventures

Why would I want to spend my time in the metaverse instead of real life?

So, on the Metaverse. One common retort we get is, "Why would I want to spend my time in the Metaverse instead of real life? Please don't take it personally when we tell you that you're missing the point here. This is a paradigm shift, happening whether you like it (or even care) or not. The amount of time Generation-Z and younger spend on digital platforms is indisputable and rising. The world is not becoming less digital, only more, so the question comes down to who will own and control it?

Given the rapidly evolving nature of the space, it merits a discussion in the following vein: What the Metaverse was, what the Metaverse is, what the Metaverse isn't, and what it can be. We're excited to have you on this journey with us because it's <u>you</u>, dear reader, who plays the vital role of a hero in making sure our digital future belongs to all of us.

First, a bit about us: Outlier Ventures has worked towards accelerating the Open Metaverse since 2014. The key phrase here is open, which we define as the harmonisation of (1) free markets for everything, (2) the sovereign individual, and (3) fluid collectivism; the distinction of open and closed isn't just limited to the extent to which platforms embrace open-source principles with their code and data but importantly whether they allow the transferability of value outside their ecosystem, how that interacts with fiat-based systems, and to what extent they do or don't control the monetary and fiscal policy of the underlying economy itself. We've helped 100+ startups raise $300m+ in the last year through our Basecamp accelerator programs that cover DeFi and NFTs, from

gaming to music and digital fashion working with major crypto protocols inc. Polkadot, Filecoin, Polygon. You can think of Outlier Ventures as the Y-Combinator of the Metaverse.

Some housekeeping points before we dive in:

1. We've aimed to structure this as a survey of verticals and mechanics that together comprise what we view as the building blocks of the Open Metaverse. Its intended to be neither whole nor comprehensive; we've all seen how much the space can evolve over one year alone. This is our interpretation of how some pieces of the puzzle come together, and we encourage you to compose your own (& share it with us!).

2. While we're obviously big fans of our portfolio companies, we've written this as a holistic overview of the ecosystem and Open Metaverse OS Stack as a whole that draws on direct experiences, interviews with various founders, and a host of other industry sources not directly involved with OV.

Buckle up, it's going to be (another) wild ride.

WHAT THE METAVERSE WAS

If you asked someone to explain the internet, they'd probably describe it from a personal perspective –
to the average user, it might be apps on a smartphone, to a technologist, its standards and protocols, to a
network engineer it's tubes. The enormous answer variance emphasises the prevalence and impact of the
tech. Now imagine asking for that same explanation in the 1990's.

This is the same challenge facing the Metaverse today. Is it a destination? A video game? Virtual/
augmented reality? We cannot (and would not) seek to contrive an all-encompassing definition of the
Metaverse in the same way we couldn't with the internet during its phase of nascency; it's the organic
and unpredictable nature of technological evolution that enables such large scale disruption.

Why now, though? The growth of the internet during what we call the Web 2 phase was remarkable
yet siloed. For the first time, we're entering an era in which the emergence of individual technological
phenomena is no longer limited to the few, open-source development has been a long time in the
making, it's now the benchmark of Web3 development, allowing for a coalescence never seen before.
Here are some stats to feast on[1]:

	2015	**2021**
DAU of Roblox/Minecraft	$20m	$150m
Virtual Skins Revenue	$5b	$54b
NFT Trading Volume	$0	$27b

Figuring out how we got here might be just as hard as figuring out what's next, so all we can really say
with confidence is we're on our way towards an event horizon **we've never seen before**.

WHAT THE METAVERSE IS

We view Web 3 in its simplest form as an internet mutually owned by builders and users, coordinated
by tokens and incentive structures. The foundational elements are peer-to-peer networks built on top
of trustless transaction and programmability layers – the toolbox consisting of everything from DeFi
to self-sovereign identity (SSI), decentralised governance to NFTs as an asset class (more on all of this
later). It is the foundational building blocks that Web3 consists of that allows for a shared economic
system in the Open Metaverse, these two concepts of Web3 and the Open Metaverse may be argued
to be one and the same.

It's that peer-to-peer incentive model that has allowed for such immense growth over the past twelve
months, leveraging a reduction in time and cost to produce virtual worlds and economies. The ability to
tap into a decentralised global workforce of millions of creators and tech-savvy individuals has created
collaboration opportunities never seen before in the likes of gaming, music, digital art, and even work

---

1   https://blog.chainalysis.com/reports/nft-market-report-preview-2021/

Outlier Ventures•

(DAOs on DAOs on DAOs). As a result, we've witnessed the emergence of Metaverse-native IP: "Metaverse-native brands" emerging on blockchains rather than existing intellectual property being translated into the Open Metaverse. What's impossible to know is what forthcoming components will emerge and how they'll plug into or even change the status quo as we currently know it.

WHAT THE METAVERSE ISN'T

No one company can have, or be, the Metaverse - only a game or virtual world within it (referred to as a 'verse'). The Metaverse is instead the economic system that connects them (hence 'meta'). Here's an easy trick to reveal meta-washing: Can you transfer value off their 'Metaverse' and onto another? If not, what you have is a closed system in disguise. Enjoy it, appreciate it, but remember what it truly is. Tweeting "wagmi" from your multi-million-follower account doesn't count either.

WHAT THE METAVERSE CAN BE

> *"Whilst at first glance many of the conclusions we've drawn to the uninitiated may feel fanciful or wishful thinking as we watch the convergence of Web 3 and the Metaverse happen realtime: first slowly then exponentially, many of its conclusions in retrospect will feel both obvious and inevitable"*
>
> - FROM THE INITIAL OPEN METAVERSE OS THESIS, JANUARY 2021

While we felt confident writing this a year ago, we'd be lying if we told you we thought it would come together this quickly. As we look at events unfold we are increasingly convinced there are two versions of the Metaverse emerging; a permissioned one made, owned, and controlled by Big Tech and the permissionless open one built on Web 3 and crypto. As pioneers and active participants in this pursuit, it's on all of us to remember we can in fact build a better Web, a Metaverse for our children to grow up in. We can unlock value and liquidity trapped in platforms never before accessible. We can take back control of our own data without giving up the luxuries of the internet that made it so innovative. The technology is there. The next step is embracing it.

So let's get after it then, eh?

Virtual Worlds

When you hear the phrase "virtual world," what comes to mind? For some, it's Neal Stephenson's 1992 introduction of the concept in Snow Crash. For others, it was the first taste of Second Life in 2003. 2018's Ready Player One brought the idea to life on the big screen, and 2020's Astronomical Concert drew more than 45 million viewers[2]. But what actually qualifies as a virtual world?

In the Open Metaverse a virtual world is a computer-simulated space where it is up to the individuals, not a corporation, to form and shape their narrative through unbridled exploration and world-building (this is the key distinction between a virtual world and a game and what we argue is the single most important factor in conceptualizing virtual worlds). The user experience must be one of independence and free will though always within the constructs of the virtual society built around them. The individuals cohabitating the world are able to explore the environment independently from each other but only have as much power as they've been able to obtain through participating in the localised economy: it's the ability to collectively aggregate time, value, and resources that allow for the creation of communal utility.

_____

2   https://www.billboard.com/articles/business/9422287/travis-scott-fortnite-billboard-cover-story-interview-2020

Outlier Ventures•

A COLLECTION OF "-VERSES"

Building an open virtual world is no small task, both from a perspective of resources as well as user adoption and engagement standpoint, so as it stands the space is currently dominated by a handful of well capitalised and staffed projects with significant engineering teams to build a verse from scratch. Let's meet the leaders.

Decentraland, launched out of Argentina in 2015, plays the de facto role of Metaverse old guard as the first Ethereum-based virtual world. The 3D world has positioned itself as a use case-agnostic platform, selling land parcels for a variety of purposes including a virtual Japanese shopping district[3], an Atari casino[4], and a Sotheby's virtual headquarters[5]. A second big name in the space is **The Sandbox**, another Ethereum-based virtual world platform that's already partnered with the likes of Snoop Dogg, The Walking Dead, Deadmau5 and a host of other brands (some of them also happen to be Outlier Partnership Members). The team made waves in November with the announcement of a $93m Series B led by SoftBank on the back of its native $SAND coin reaching a market cap of nearly $2.5b and a land transaction volume of $144m (the highest of any platform)[6]. **Somnium Space**, founded by Prague-based Arthur Cyshov and recently backed by the Winklevoss Twins, has positioned itself as a high-end platform with a focus on building a Metaverse designed and optimised for virtual reality. The team recently announced plans to build its own all-in-one VR headset as well as a multichain integration plan and proprietary wallet[7]. **CryptoVoxels** rounds out the pack as a popular platform among digital artists - the virtual world is split into block-asset architecture islands populated by different communities, which allows the platform users to design their creative or social spaces however they'd

like. CryptoVoxels is also highly accessible, where users can join from the comfort of their smartphone, unlike some of the others mentioned above where you need a highly performant VR headset. An alternative model of land scarcity is **Bit.country** built on Polkadot, where developers can create an infinite number of virtual worlds that are interoperable.
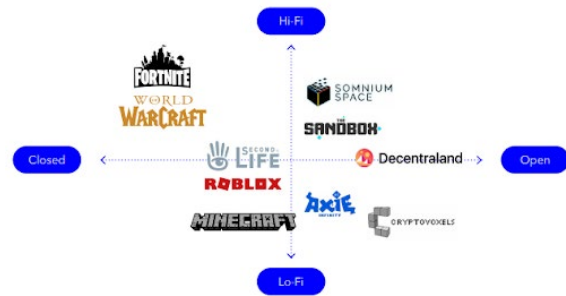
The image above is taken from our initial Open Metaverse OS thesis published in January 2021. Here we make the point that virtual worlds and games can be classified on a spectrum of Open/Closed environments and Hi-Fi/Lo-Fi.Meaning its a spectrum of accessibility for the end-user and for the developer.

Culture is the fabric that ties a society together, and that's no less relevant in the Metaverse - a world is empty until it's populated. Just as cities and countries develop their own unique customs, the same organic culture happens across virtual worlds. Decentraland most recently hosted a first-of-its-kind four-day Metaverse Festival[8] produced by Ryot Studios of Yahoo, bringing together more than 80 real-world artists including Deadmau5, Nina Nesbitt, 3LAU, and Paris Hilton. Somnium Space launched its Sky City Concert Hall[9] with a full booking/ticketing system and a slate of upcoming concerts (though if classical music isn't your vibe, there's bound to be something for you).

On culture and shared experiences, **Auki Labs** has invented the first-ever way to effortless share AR experiences across devices and even applications. Their positioning protocol for AR applications has made augmented reality a truly social

3   https://wwd.com/business-news/business-features/metajuku-shopping-center-to-play-up-digital-wearables-1234866618/

4   https://events.decentraland.org/event/?id=6e7ddb8c-7a07-466e-b4e5-3de84e0dc894

5   https://news.artnet.com/market/sothebys-decentraland-1977340/amp-page

6   https://www.reuters.com/technology/softbank-leads-93-mln-investment-nft-gaming-firm-sandbox-2021-11-02/

7   https://somniumspace.medium.com/somnium-space-is-building-the-future-of-an-open-immersive-Metaverse-announces-new-investments-95c8ae1c-b5a7

8   https://themetaversefestival.io/

9   https://virtualperforming.org/the-sky-city-concert-hall/

experience, and their goal is to one day replace the GPS and give every cubic millimetre an address. They're on a mission to help every person and device find their place in the world, literally. Not stopping there, **SuperWorld** has taken on the task of developing 64.8 billion plots of virtual world mapped over the entire surface of the globe, allowing users to purchase anything from the Taj Mahal to their ex-boyfriend's house. The owner of the land then also collects all revenue generated on the property, be it from advertising, e-commerce, tourism, etc.

> *"We at SuperWorld are excited about the near and mid-term opportunities in the immersive reality space as it relates to AR, VR software and hardware technology and the huge growth forecasted in the Metaverse space from consumers understanding the compelling future that immersive computing + web3 brings to our daily lives."*

HRISH LOTLIKAR, CO-FOUNDER & CEO OF SUPERWORLD

We'll mention Roblox, Minecraft, and Fortnite here for posterity as examples of virtual worlds in Web 2, though without any plans for decentralisation or interoperability they'll remain siloed indefinitely and therefore not part of the Metaverse (either permissioned or unpermissioned).

COLONIZING THE VIRTUAL WORLD

Over the past year or so, we've observed an immense surge of interest in owning parcels of land across virtual worlds in what can only be described as the first land grab of the digital era. But what, exactly, does land proprietorship in the Metaverse entail?

A core tenet of Web 3 is true digital property rights and ownership, so the same applies to the application of borders and jurisdiction on plots of virtual land. Similar to what you'd find in the real world, the spectrum of what can be done with a parcel of land is wide. From renting out the space for events to creating sources of passive revenue through advertising (think billboards or collecting ATM fees)[10] [11], the limit only exists in terms of creativity and technical capabilities. It's worth noting that you can sell the land with whatever you've built on it to a future buyer as an NFT across the usual marketplace platforms (just as you might with the real-world property you own). An example of the surge in demand The Sandbox has reportedly 12,000+ individual landowners registering $144m in gross merchandise value for the parcels[12] (along with the platform's 500,000 registered wallets). Similarly, a virtual plot of real estate in Decentraland was purchased for more than $913,000 worth of $MANA by Republic Realm[13], an investment firm focused on digital real estate in decentralised worlds.

What remains to be seen is how governance and structure evolve as these virtual worlds scale: How should digital land be valued? Should there be zoning regulations? How can you make sure every digital citizen has the ability to own a piece of property? The next frontier will rely on the interoperability that can bridge these separate universes into one Metaverse. Open standards, cross-chain NFTs, and the ability to populate more than one world with the same personalised avatar will be vital for depth of experience in the Metaverse and we look forward to seeing the growth of not just the worlds themselves but the foundations that underpin them as well.

---

10 https://metaverse-billboards.com/
11 https://metazone.io/metas/dcltokenswap
12 https://twitter.com/TheSandboxGame/status/1442791977670651909?s=20
13 https://decrypt.co/73895/decentraland-nft-real-estate-ethereum-metaverse-record

MetaFi: DeFi in the Metaverse

The steady growth of DeFi (decentralised finance) has proven its ability to underpin individual virtual communities as an experimental economic system. How, then, can it buttress the Web 3 ecosystem as a whole? We've dubbed it **MetaFi**, the decentralised financial tools of the Metaverse.

METAWHAT? METAWHO? METAFI

We propose that the upcoming growth in DeFi will be driven not by the further inclusion of centralised finance or real-world assets but by its ability to embed itself as the core application layer of the Metaverse. Just as we view the Metaverse as a synthetic layer on top of the real world, MetaFi is the infrastructure layer that **unlocks value** in the Metaverse. By unlocking value we mean financial inclusion for the creators, gamers and digital natives whose digital wealth is not included in the traditional financial system.

MetaFi: An all-encompassing term for protocols, products, and services that enable the complex financial interplay between non-fungible and fungible tokens (and their derivatives) within the scope of the wider ecosystem.

The unstoppable and composable nature of DeFi allows protocols to act as "money legos" for developers, affording an innovation through aggregation never before seen in financial services; the ability for developers around the world to permissionlessly participate and compete to provide the highest yields or best user experience ruthlessly removes inefficiencies in a manner traditional financial institutions can barely envisage. MetaFi will enable the creation of a full-fledged parallel economy for hundreds of millions of users through meshing together various Web 3 mechanisms, including NFTs as collateral, increasingly complex financial instruments, novel forms of community governance (DAOs), and the utilisation of previously inaccessible liquidity.

14

Open Metaverse
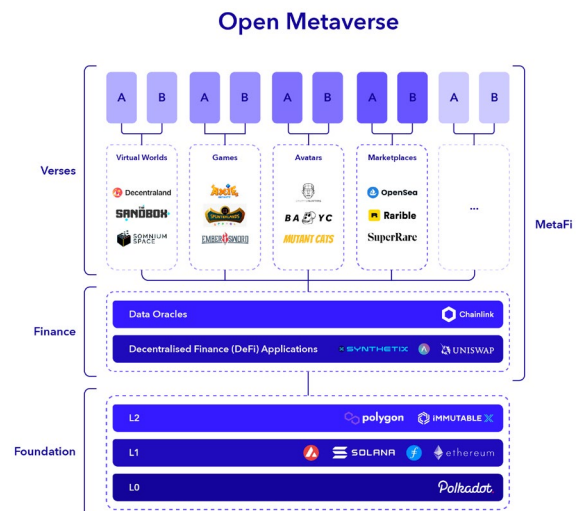
The diagram above illustrates the where MetaFi concept takes place between the Web3 building blocks and the different verticals labelled as verses. Here, the definition of MetaFi is visually represented where MetaFi is an all-encompassing term for the protocols, products and/or services enabling the complex financial interplay between non-fungible and fungible tokens (and their derivatives). The diagram is from our original MetaFi paper published December 2021

Early next year we will publish our own Metaverse GDP report, an interpretation of a *gross-domestic product model (GDP)* including protocols and services classified as Metaverse-related as an attempt to track how the MetaFi economy grows over time and to identify the factors that most contribute to it. The model will not be perfect, as none are, but our aim is to establish a baseline scale that the Web 3 community can participate in and improve upon.

FOUNDATIONS ENABLING HORIZONTAL GROWTH

As such, we encourage you to immerse yourself into MetaFi through reading our piece on the topic, so for the sake of this segment, we'll offer a sample of three key developments we've seen empowering the landscape.

Kicking things off, the explosive growth of NFTs should be apparent to anyone who's opened a newspaper in the past year. What may not be as apparent is the growth in **use-cases** of those NFTs. The narrative of simply "JPEGs with metadata" can finally be laid to rest by projects like **NFTfi** and others who have built tools that enable the usage of NFTs as collateral for loans, creating new liquidity for both borrowers and lenders[14]. **Charged Particles** similarly flipped the script by providing a framework to add DeFi components to NFTs, allowing creators to add yield-generating elements to their art[15]. Another persistent trend over the past few months has been for NFT-first projects to add a native token, creating social token economies. **EtherCards**, for example, allocated utility tokens to cardholders that offer platform discounts and give access to blue-chip NFT raffles[16].

The theme of liquidity continues to manifest via the growth of the NFT fractionalisation market (platforms that facilitate the division of NFTs into fungible "fractions" or shares) due to the upsurge in popularity and access to DAOs (Decentralized Autonomous Organizations). **PartyDAO** set the tone by building PartyBid, a tool that allows strangers to pool their capital together and bid on NFTs as a collective unit - if the auction is won, the NFT is kept in a vault with voting control split proportionally amongst individual contributors[17]. A maturing DAO tech stack will allow for the collective governance of on-chain digital assets to scale rapidly, as we see more NFT related DAOs emerge from **Flamingo DAO** to **Red DAO**. A resource allocation direction we view as beneficial for maintaining the "open" nature of the Metaverse.

Finally, we'll briefly touch on the growing gamification of finance and the role it will play in the continued development of the Metaverse. The introduction of Play-to-Earn (explained in the following segment) has taken financial gamification to a new level so the added convergence of NFT DeFi/fractionalization can only further amplify the growth. Gen-Z, in particular, has shown a proclivity for financial literacy during the recent fintech boom due to their digital fluency, so ensuring information accuracy will be vital; organisations like **Hundo** have taken the fight to the Metaverse, utilising Web 3 to build the future of work for young people through skills training, mentorship, and job recruiting[18].

---

14 https://nftfi.com/

15 https://www.charged.fi/

16 https://ether.cards/

17 https://www.partybid.app/

18 https://www.paymentsjournal.com/gen-z-money-moves-why-financial-literacy-is-important-for-digital-natives/

Gaming

> *"Gamers have spent hundreds of billions renting virtual items from publishers and corporations. NFTs now empower gamers with actual ownership and liquidity."*

BRIAN CHO, CO-FOUNDER & GENERAL PARTNER AT PATRON.XYZ

Anyone who has ever spent hours grinding away at an MMORPG (massive multiplayer online role-playing game) or other loot-based game knows the pain of walking away empty-handed after however long only to start all over again on the next new game. Imagine instead of leaving those rare items behind you could instead sell them on the open market and actually be rewarded for the hours upon hours of work you put into earning them. Welcome to the conflux of blockchain technology and gaming.

In bringing the concepts of MetaFi into the gaming industry we set the stage for a new era of digital ownership rights plus an added layer of financial inclusion; the advent of NFTs as a means of value exchange plays a vital role in blockchain gaming and what is now called the "Play-to-Earn" industry. As in-game currencies can be traded on crypto marketplaces and characters or items can be transacted as NFTs, the digital assets earned become valuable not only in-game items but as a reliable means (to the degree the game is still played) of actual income generation. The transparency and security of the protocol that the game is built atop also ensure the authenticity of any in-game assets traded as well as decentralizing ownership of the platform to the players

playing. While we can't cover the entire spectrum of games built on blockchains our aim is to share an overview of some trends emerging across the industry.

CHAINS AND THEIR LIMITATIONS

Just as different blockchain protocols are optimised for different use-cases, not all blockchains are created equally when it comes to gaming. While Ethereum has played an important role in allowing the vertical to take off, due to the high number of in-game transactions, it's become clear that creative alternatives will be necessary to provide the processing speed for a seamless gaming experience. In response **Polygon Studios**, the development arm of Ethereum L2-protocol Polygon, launched its own gaming studio over the summer to focus on building products for the 100,000+ active gamers currently interacting with the chain and provide a platform for developers to create blockchain-powered games without the congestive limitations of Ethereum[19]. Similarly, **Immutable X** was built as a zero-knowledge (ZK) Ethereum L2 built specifically for NFTs, providing instant trade confirmation at 9,000 transactions per second with zero gas fees.

---

19   https://www.gamblingnews.com/news/polygon-opens-studio-focused-on-blockchain-gaming-and-nfts/

Solana's high-speed settlements and near-zero operating costs allow the chain to process 50,000 TPS, a key differentiator in attracting gaming projects from slower protocols. The protocol, which recently announced a $100m blockchain gaming fund in collaboration with **FTX** and **Lightspeed**, has already made its first investment in Solana-based gaming company Faraway and their first-person shooter **Mini Royale: Nations**[20]. Coming off their success in the NFT space **Enjin** followed suit with the creation of its $100m Metaverse Fund for Efinity, a cross-chain network being built atop **Polkadot** that will aim to bring game developers into a $DOT ecosystem that tests at 120 million NFT mints per block with six-second block times[21]. Also built on Polkadot, **Unique Network**'s introduction of freemium blockchain games allows for brands to sponsor transaction fees, subscriptions, and scheduled transactions (similar to what **Biconomy** built with dApps).

In addition to teams building games, there's also a host of projects building infrastructure layers across the vertical as a whole. Not content with building just a game, the team behind **Fragcolor** has set out on the mission to build their own decentralised game engine from scratch. Leveraging the gaming community's love of "modding" (modifying game features or introducing user-generated content)[22], Fragcolor's aim is to empower creators to earn royalties on the development work they put in by building a universal library for game elements to be deployed across various games/platforms.

> *"Modding has the ultimate power of keeping a game alive indefinitely but what nobody tells you is that it also has the potential to create infinite economies when the modding itself is backed by decentralised protocols, like the one Fragcolor is building, where modders and original creators can receive royalties on actual user generated content."*
>
> **GIOVANNI PETRANTONI**, CEO & FOUNDER OF FRAGCOLOR

GAMES ON GAMES ON GAMES

When blockchain gaming is brought up, one name comes to mind and for a good reason. The leader of P2E gaming, **Axie Infinity** broke onto the scene in late 2020 and took the world by storm. Sky Mavis' monster-battling game uses NFTs to reward players and distributed $342m worth of $AXS tokens in August 2021 alone. Stories galore of players in developing nations hard-hit by COVID-19-related unemployment quitting their jobs and closing down businesses to play Axie Infinity instead, establishing a new paradigm of what playing-to-earn can actually mean for financial inclusion around the world[23]. As the game rapidly scaled and high Ethereum fees began to slow down adoption, Sky Mavis took matters into their own hands and built Ronin, a sidechain of their own; the proprietary chain affords players

---

20 https://news.bitcoin.com/solana-ventures-ftx-and-lightspeed-launch-100-million-blockchain-gaming-fund/

21 https://europeangaming.eu/portal/latest-news/2021/11/04/103217/enjin-announces-100m-efini-ty-Metaverse-fund-ahead-of-polkadot-parachain-auctions/

22 https://medium.com/@fragcolor/user-generated-content-mods-and-game-creation-systems-557d2b94b452

23 https://www.youtube.com/watch?v=Yo-BrASMHU4

seamless transactions, drastically reduced gas fees, community token rewards, and an Axie-specific exchange[24].

Another highly-anticipated project on the horizon is **Illuvium**, an open-world RPG focused around the hunt for creatures that can be battled against other players for tokens and NFT rewards. The game is built on Immutable X, allowing for seamless transactions while maintaining the security of Ethereum as the mainnet. Still in development, but hot off the press is also **Gotchiverse**, a combo open-world/game built using **Aavegotchi** NFTs with a DeFi twist; the first land auction that recently took place nabbed $23m in sales during 16,000 simultaneous auctions. You know what they say – Gotchi have 'em all!

Aiming for the stars (literally), the team behind Solana-based **Star Atlas** has raised $65m in revenue through the sale of $ATLAS tokens and NFTs to build the first AAA-rated blockchain MMORPG. Taking place in the year 2620, the project includes its own decentralised marketplace (Serum) and an in-game economy that allows players to trade spaceships and earn NFTs through conquering planets[25]. We expect to see a larger foray into the AAA-rated game space as larger studios begin to focus their direction and leverage their resources toward blockchain gaming[26].

> *"The Metaverse and Web3 provide ample opportunities to totally re-envision how we play, work, and transact online. With Star Atlas, we're looking to do this via an immersive triple-A experience that enables players to build real-life value for themselves throughout the process of participation in the Metaverse. The promise of Web3 and the Metaverse is one of unlimited potential as we look to not only recreate the best of our world in the digital space but to build a decentralised collective experience to last 1000 years."*

MICHAEL WAGNER, CO-FOUNDER & CEO OF STAR ATLAS

Though not a game in its current form, we'd be remiss, not to mention **Loot**, a crowd-favourite NFT project from early September 2021. Released by Dom Hofmann as a collection of 8,000 text-based loot bags, the project is a shining example of what NFT community engagement can look like: no roadmap, no boundaries, and a drop with explicit encouragement for the collective to decide the direction of the ecosystem and grow it from the bottom-up (including spinoff projects like Sploot).

18

---

24   https://katana.roninchain.com/#/swap
25   https://medium.com/star-atlas/galactic-marketplace-solana-serum-powered-core-of-star-atlas-nft-trading-7a18d2d33371
26   https://www.eurogamer.net/articles/2021-11-04-ea-says-nfts-will-be-an-important-part-about-the-future-of-our-industry

FIND A FRIEND AND THE ROLE OF DAOs

Clans, factions, and tribes are nothing new to video gamers - it's been 16 (!) years since Leeroy Jenkins brought guilds to the masses. It's vital to understand that while gaming and crypto may not see eye-to-eye across all topics, both mediums have fostered cultures across the world that obviate geographical barriers in a manner never previously possible; while the running joke is that a DAO is just a group chat with a bank account the functionality has allowed play-to-earn to develop into a full-scale economic reality.

> *"If digitally prime networks like DAOs operate on our nervous system first, it does not mean they won't come to reorganise, reshape, and redistribute our material world. Some still refuse to take seriously the fact that cooperative principles, gaming guilds, and odd imaginaries like DAOs present an emergent organisational form with legitimate political relevance. We must take them politically seriously now so that they don't remain shaped only by those on one side of the digital divide."*
>
> **KEI KREUTLER**, GROWTH DIRECTOR AT GNOSIS

Yield Guild Games (YGG), for example, runs a P2E gaming guild that funds individual players through scholarships (revenue-sharing programs that allow new players to borrow or rent NFTs so they can play a game without having to invest upfront capital) as well as investing in a variety of in-game assets. **GameDAO**, as its name might suggest, is a cooperative that provides DeFi and governance protocols for gamers, creators, publishers, and investors to create and participate in the decentralised gaming industry[27]. **Merit Circle**, another P2E scholarship DAO, is currently funding 1,200+ Axie Infinity players across Asia, Africa, South America, and Europe and plays the role of a sustainable onboarding mechanism for flywheel growth in the Axie universe. We see a strong need for tools that can provide the underlying framework to operate guilds (similar to those currently in the DAO space) that include integrated lending and borrowing applications, a seamless UX, and effective onboarding for non-technical users.

Despite the promise of NFTs, there's been a bit of backlash from gaming communities both from the platform management side (Steam, Epic) and from player communities (Ubisoft, Discord). Contrary to their banning blockchain games, however, Steam has laid the groundwork for the importance of a large-scale marketplace on which individuals/guilds can exchange assets across various games in order to stimulate industry-wide economic value creation. We're excited to continue following the growth of **Ex Populus** and other NFT-infused publishers and marketplaces as a counterbalance and Metaverse native challenger to the incumbents.

---

27 https://gamedao.co/

As of November 24	Number of Scholars	Twitter Followers	Discord Members
Avocado Guild	7,000	33,467	43,557
Yield Guild Games	4,710	121,631	78,836
ReadyPlayerDAO	1,800	13,207	7,903
Merit Circle	1,490	70,460	26,407
UniX Guild	1,000	37,480	187,993
Black Pool	988	16,174	3,773
Good Games Guild	500	79,354	20,918
3D Gamers Guild	200	611	188
Polkastarter Gaming Guild	N/A	562,862	69,204
SnackClub by LOUD	N/A	1,877	2,817

The diagram above illustrates different gaming guilds, the number of scholars (players) and their social followers on Twitter and Discord. The diagram is sourced from The Block Research on Play-to-Earn gaming guilds published in November 2021.

Avatars and Identities

The Cambridge English Dictionary defines **identity** as "the qualities of a person or group that make them different from others."[28] Break it down even further and you get to a blend of attributes (visual, nominative, credential, et al.) that together serve as a demarcation of individuality, an irrefutable distinction from others. It only makes sense, then, that as the Metaverse takes shape so will the need for identity solutions across it. We expect identity and its expression, be it through wearables or avatars, to become much more fluid and context-specific in the Open Metaverse. To keep this segment teleological, we'll attack the concept of identity from the top down: what those attributes are, why they're necessary, and how they can be transposed into the digital world.

PUNKS AND APES AND FLUFS, OH MY!

In its simplest form, your identity is what makes you unique. It's that concept alone that buoys the rise of **CryptoPunks** and the **Bored Ape Yacht Club**: as no two punks/apes are alike (just like people), and ownership is indisputable, one's PFP (profile picture) can in fact serve as a digital entity ad hominem. In a "real world" defined by identity politics, the ability to represent yourself through multiple identities and avatars, some or all of which could be pseudo-anonymous, raises many ethical questions. If you look beyond the $1b+ market value of BAYC NFTs you'll find a community-building entire ecosystem including a streetwear brand, a full-scale festival, and even a music label[29].

Before jumping into avatars, it bears mentioning that another trend we're excited to continue tracking is the convergence of AI and NFTs. Be this through breeding **FLUF rabbits** with hereditary traits through **Altered State Machine's** (ASM) AI protocol[30] or playing with Metaverse native football with AIFA ASM. Be sure that AI and NFTs will help populate the Metaverse, **EpoHeroes** by Eponym

---

28   https://dictionary.cambridge.org/us/dictionary/english/identity
29   https://www.inputmag.com/culture/bored-ape-yacht-club-nft-nyc-ape-fest
30   https://www.youtube.com/watch?v=ubZN2hhGzsA

generates PFP NFTs (soon also in 3D) using their own GAN technology. These heroes can "be photorealistic, or fantasy style. You can look like Taylor Swift, or as a hungry zombie. Nothing is off-limits. The generator is built to be inclusive and work for different genders and ethnic origins"[31].

> *"The Metaverse represents the next step of our transition into a fully digital society, maybe even the beginning of our evolution as a species to one that sees deeper integration between man and machine. It's crucial that our digital identity, data, and intelligence are owned by communities, not corporations. NFTs built on decentralised ledgers are the building bricks that enable the open, inclusive Metaverse to exist. The FLUFworld and Altered State Machine teams are dedicated to ensuring this vision are realised, and communities own our digital future."*
>
> **AARON MCDONALD**, CO-FOUNDER AT NON-FUNGIBLE LABS, FLUFWORLD

"But it's just a 2D image, how can it truly be an avatar?" That's what you think[32]. As the Metaverse evolves into the virtual world it promises, so must digital identities. We are witnessing the beginning of how internet identities are formed. What do we mean by this? Think about the demand for popular PFP projects like FLUFs or Bored Ape Yacht Club, then multiple the demand by hundreds or thousands. We will see lots of innovation in this space such as Eponym as mentioned above. The growth of the avatar industry in the past year has surpassed even what we could've expected - from celebrities like Cardi B to Karl-Anthony Towns, avatars have evolved out of video games and into mainstream culture. Traditionally

restricted to the platform they're built on (due to technical limitations, closed gaming environments, and a host of other reasons), designing an open-world avatar compatible with a range of different platforms and virtual worlds will be the next forefront of expansion. **FilterYa's** aim, for example, is to bring both your digital identity into the physical world and replicate yourself in the digital world. CryptoAvatars provide avatars as NFTs built-in VRM format (virtual reality modelling) that can be ported across various applications including Twitch, Meet, and even Zoom[33]. **Ready Player Me** has similarly set out to build the one-stop shop for avatar developers, releasing an SDK for Unity, Unreal, iOS, and Android to port 3D avatars across platforms they have already integrated with 700+ apps[34].

STANDING OUT

What would your [digital] identity be without a bit of your own style, though? Wearables are nothing new to gamers – the closed platform Fortnite made $50m from one set of skins alone![35] Though most in-game wearables are purely cosmetic and have no impact on gameplay, it's the ability to stand out amongst a (virtual) crowd that will elevate avatars into identities. We've seen virtual worlds like **The Sandbox** and **Decentraland** offer that same level of personalisation, attracting both creators and brands to launch products as NFTs across their platforms. Similar to the aforementioned limitations, though, it remains to be seen how wearable items will effectively transfer between virtual platforms based on their different aesthetics from pixelated to high-resolution design. As designer brands continue to dive into the Metaverse we'll continue to keep a close eye on projects like **Auroboros** that are shaping how "digital couture" and the

---

31 https://medium.com/@EponymNFT/the-epoheroes-c94507f425ad

32 https://twitter.com/polygonalmind/status/1432081620023001094

33 https://cryptoavatars.io/

34 https://docs.readyplayer.me/overview/frequently-asked-questions

35 https://www.forbes.com/sites/paultassi/2021/05/11/epic-reveals-it-made-50-million-from-one-set-of-fortnite-skins/

future of fashion take shape[36], similar to the world of fashion as we know it, anyone can take part in the Open Metaverse but not everyone can rock an exclusive Adidas Originals or a pair of (now Nike) punks[37] [38]. Both of these companies have been very early adopters of the Metaverse where they have taken a slightly different approach. Adidas have been early partnering with degen projects spreading their brand compared to Nike`s acquisition of **RTFKT**.

True forms of self-sovereign identity are a cornerstone of a decentralised Web and Web 3. Until you have an identity owned and controlled solely by the user rather than a platform or some kind of corporate-owned universal login like Facebook or Google you can never have a truly Open Metaverse. The availability of self-sovereign identity (SSI) technology made accessible by projects like **cheqd** places the control of your digital identity in your hands alone, all within a decentralised, permissionless network. Open standards and the interoperability of digital identities will play a crucial role in the pursuit of a multi-chain ecosystem that offers reliability and scalability of everything from payment rails to community-building.

> *"Last year we saw Google, Apple and Mozilla object to one of the key open standards (W3C DID) for self-sovereign identity as it threatened their entrenched positions (e.g. Apple storing and monetising your driving license in the US). Cheqd is leading the charge of defending individuals' right to control and ownership of their data, and ensuring ecosystems, including the open-metaverse, revolve around people, not corporations."*
>
> **FRASER EDWARDS**, CEO AT CHEQD

Crucible has taken the lead towards that aim in the Metaverse, developing an Emergence SDK that offers a portable, interoperable sovereign digital identity that can be dropped into different game engines and web frameworks; an avatar can just as effectively represent one's embedded Metaverse preferences, security settings, and land ownership as it can one's visual identity. The team behind Crucible took it one step further by launching the Open Meta DAO, a decentralised association focused on ensuring the growth of the Metaverse is owned and controlled by the community building it[39].

FUNDING PARTICIPANTS OF THE OPEN META DAO

Outlier Ventures, Animoca Brands, Enjin, Polygon executives Sandeep Nailwal and Shreyansh Singh, Dapper Labs, Wilder World founder David Waslen, Spartan Group, South East Asia-based KardiaChain, Yield Guild Games founder Gabby Dizon, Asia-based LD Capital, Boson Protocol, and NFT collector and investor Sillytuna, among others.

---

36   https://www.auroboros.co.uk/
37   https://news.nike.com/news/nike-acquires-rtfkt
38   https://www.adidas.com/into_the_metaverse
39   https://www.globenewswire.com/news-release/2021/11/17/2336742/0/en/Open-Meta-Association-Unveils-Open-Meta-DAO-focused-on-Catalyzing-the-Movement-for-an-Open-Metaverse-Valued-at-100M.html

Funding the Metaverse

Cometh the technology, cometh the funding. Following a banner 2020 for venture funding, 2021 reached heights previously unseen[40]. According to CB Insights, the first 9 months of 2021 saw $15B in blockchain/crypto funding, a 384% increase compared to the entirety of 2020[41]. Below is just a snapshot of the action that we've seen ripple across the industry (we'd need more than two pages to describe the average 4.5 deals per day that happened in Q3 alone). Here at **Outlier Ventures** we've now raised over $300m purely in seed funding for startups in the Web 3 space (plus hundreds more in later stages) and have no plan of slowing down anytime soon - you can always stay up to date by subscribing to our newsletter and following us on Twitter.

OV·   **Outlier Ventures**
@OVioHQ   **Follow**

BIG NAMES ENTER THE METAVERSE

The larger players out of Silicon Valley have signalled their commitment to the blockchain industry with their eyes set on the Metaverse as the next horizon. Andreessen Horowitz (a16z) continues to make its presence known after setting up a $2.2B crypto fund this past summer, including leading a $100m round for Meta4 Capital, an investment firm running an NFT-focused fund[42]. Galaxy Interactive, the investment arm of institutional crypto firm Galaxy Digital, raised a $325m fund aimed towards Metaverse and net-gen gaming technology; the focus includes "social sandboxes," a fast-growing category of loosely scripted sandbox games that enable players to design their own experiences online[43].

---

40   https://assets-global.website-files.com/5f34db2422dcee712f853aa0/617aa83effe6cf7018bf4239_Q321StateofVentureV2.pdf

41   https://www.cbinsights.com/reports/CB-Insights_Blockchain-Report-Q3-2021.pdf?

42   https://www.reuters.com/technology/meta4-launches-nft-fund-with-andreessen-horowitz-backing-2021-10-21/

43   https://cointelegraph.com/news/galaxy-interactive-raises-another-325m-fund-aimed-at-Metaverse-and-next-gen-games

We'd be loathed not to address the elephant in the room. Meta, formerly Facebook, has announced its plan to create 10,000 new jobs in the European Union over the next five years to build products that will serve its Metaverse[44]. A large focus of the investment in both time and resources will be put into their VR/AR divisions which includes Facebook Horizon (their social experience) on Oculus (their headset hardware); the firm has already announced a $50m XR Programs and Research Fund to collaborate with civil rights groups, governments, nonprofit organisations and academic institutions to determine how to most responsibly scale the technology. Microsoft, another sleeping giant roused, similarly announced plans to allocate funding to a Metaverse of its own utilising its HoloLens device. Wherever you fall on their foray into the space, there's no denying that when big tech moves, markets follow. The question is will they begin to work together to create a shared but permissioned Metaverse amongst Big Tech?

NFTS GET SERIOUS

At the time of writing, we've already seen more than $2B invested into NFT projects in the first three quarters of 2021, a staggering 6,523% increase over 2020. Football NFT platform Sorare led the pack, scoring itself a $680m Series B goal and sending the crowds in the stands wild. Dapper Labs, coming off of a partnership with the other football[45], followed suit with a $250m Series F led by Google Ventures and a16z. Other big rounds included a $100m Series B for OpenSea, the NFT marketplace, and a $20m Series A for Virtually Human, an NFT studio experimenting with aiming to bridge the gap between the physical world and the virtual world[46].

A host of Metaverse-specific VCs have emerged on the scene, further blurring the lines between gaming, art, sports and digital collectables. Animoca Brands, a Hong Kong based company driving digital property rights via NFTs and gaming to build the Open Metaverse, raised $65m in October 2021 to further deploy across a portfolio that includes The Sandbox (who themselves closed a recent $93m Series B led by SoftBank). Ripple announced a $250m Creator Fund providing the financial, creative, and technical support for creators to explore and craft premium NFTs and other tokenisation projects[47]. And this is just the more public rounds, but are representative of several billions dedicated to growing the spaces.

EXCHANGE VENTURE ARM MOVE UPSTREAM

In addition to the volume of traditional investments seen, we've also witnessed a large uptick in corporate venture capital as a handful of the larger players in the industry have shifted from raising capital to deploying it. Coinbase Ventures, the investment arm of Coinbase, made 49 investments in Q3 alone (compared to 28 in Q2), which breaks down to a deal nearly every two days for three straight months![48]

---

44 https://www.ft.com/content/404aae03-6b74-4270-a3f0-1a0106e02852
45 https://nfl.dapperlabs.com/
46 https://www.vhslab.com/
47 https://www.bloomberg.com/news/articles/2021-09-29/ripple-starts-250-million-fund-to-woo-would-be-nft-creators
48 https://blog.coinbase.com/coinbase-ventures-2021-q3-activity-and-takeaways-950e5ff70370

Though only 9% of the deal flow was categorized as NFT/Metaverse-focused, the 2.5m person waiting list for their NFT platform set to launch might shift that proportion soon.

Not to be outdone, Binance Labs, the venture capital and incubator arm of exchange Binance, took it a step further by announcing a $1B growth fund for projects building within the Binance Smart Chain ecosystem[49]. Following up on the $100m allocated last year the exchange plans to divide the fund across talent development ($100m), a liquidity incentive program ($100m), a builder & incubation program ($300m), and a direct investment program ($500m), including leading a recent seed round for SecondLive, a social networking-focused Metaverse building its own creator economy[50]. Kraken, the San Francisco-based exchange, followed up with the launch of its own investment operation, Kraken Labs; the team announced their launch in February 2021 with a plan to invest anywhere from $250k-$3m to projects building in multiple verticals, including digital economies across VR, e-sports and gaming[51].

WEB 3 & BEYOND

On the fringes, we've seen a host of exciting entrants to the funding space that was technologically infeasible mere months ago. DAOventures, for example, has launched the world's first Metaverse yield farming DeFi Fund that, in addition to providing diversified exposure to the Metaverse industry, also uses funds to provide liquidity through a yield farming mechanism. The Roundhill Ball Metaverse (META) ETF, led by guru Matthew Ball, surpassed $100 million in assets under management three months after launching in mid-2021. It is important to note that the META ETF only invest in listed publicly traded companies of Big Tech and not the Open Metaverse tokens, here they are investing in a permissioned Metaverse. Bitkraft Ventures, a California outfit, has launched a $75M investment fund specifically allocated to blockchain gaming, and has already contributed to Yield Guild Games (YGG), Immutable, Alethea AI and Horizon Games[52]. It's an open secret that the Metaverse is a central tenet to the Web 3 revolution and we expect to see the markets continue to respond accordingly, as the returns are there for the taking.

49   https://www.binance.org/en/blog/binance-launches-one-billion-binance-smart-chain-fund-to-reach-one-billion-crypto-users/

50   https://secondlive.world/

51   https://blog.kraken.com/post/7825/kraken-backs-launch-of-venture-capital-fund/

52   https://cointelegraph.com/news/gaming-vc-bitkraft-launches-75m-investment-fund-for-blockchain-gaming

Outlier Ventures•

The Open Metaverse:
A New Hope

The word Metaverse is now firmly on the lips of journalists, business executives, startup founders and venture capitalists. What's not yet as widely known is the differentiation between open and closed environments and where the various frameworks (Ethereum, Polkadot, etc.) fit in: where, for example, do services that enable self-sovereign identity (SSI) and decentralised governance fit into the Metaverse discussion? The Web 3 community has collectively worked for nearly a decade now to build and support infrastructure to fix what's broken about the digital economy and the web, but it's important to remember that there's no silver bullet - our design decisions must be iterable by generations to come. We began this report with a look back at 2021, and we'll end it with an eye towards 2022 and beyond.

THE VERSE RUNNERS

Virtual worlds can mean many things, as discussed earlier in this report, but the expectation of the masses tends to lean towards VR headsets. As hardware continues to evolve, though, mixed-reality

27
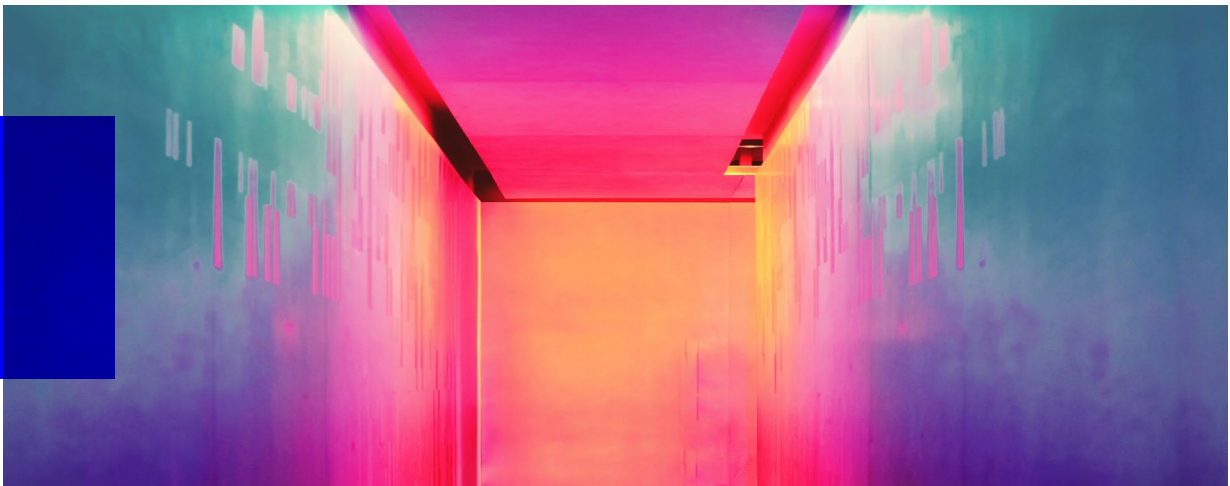
applications (augmented reality, for example) will continue to have their time in the spotlight. Next year we expect to see the launch of baseline protocols to complement the big tech foray into the upcoming mixed reality world.

- **Unifying Verses** - A collection of tools that can bind virtual verses together is needed as users aim to jump between them. Just as internet browsers revolutionised how users accessed and browsed web pages, the same portability will be needed in the Metaverse. This can take many forms depending on use cases, for example, one could be portable avatar profiles or shared protocol standards between different verses.

- **Social Experiences** - As we briefly mentioned earlier in this review, shared social experiences powered by Web3 is big, why? Because we humans are social creatures and the more we break down barriers of connecting the more fluid our conversations become. Such social experiences can be as joining a friend's shared AR space or by doing virtual shopping, together in a shared virtual space.

- **Creator Tools** - The right creator tools give the user power to shape the world around them, whether for a fortified base for a guild hang-out or a game with custom P2E logic. Here we are looking at no-code tools to lower the entry barrier for creators to populate the Metaverse with original concepts and form the basis of meta-culture.

- **DAO Stack & UX** - The tools and frameworks for hosting virtual worlds must be developed in an open-source environment such that the developers and community can work together sustainably. The backbone of such open-source mechanisms is sound governance with aligned incentives and efficient conflict resolution

- **Data Analytics & Metaverse Oracles** - Amidst the wider adoption of virtual words, real estate and economic mechanism data will become crucial. What makes one plot of land more valuable than another? What should the price benchmark be per square ~~foot~~ pixel?

METAFI: AN ECONOMIC RENAISSANCE

As discussed, we believe the big trend in the Open Metaverse is MetaFi, an all-encompassing term for protocols, products and/or services enabling the complex financial interplay between non-fungible and fungible tokens (and their derivatives). MetaFi inherits the 2 core characteristics of DeFi: unstoppability and composability. Both are driven by a mutualisation of risk, gamification of finance, growth in the availability of financial tooling, and an effective DAO services stack.

Outlier Ventures•

> *"With time, an open Metaverse built on shared open source protocols, open infrastructure, and a single unifying (yet open) financial system will erode, or 'eat,' and potentially eventually replace closed platforms due to powerful network effects"*
>

Based on what we see in the market and through our Base Camp accelerator, we expect to see the following developments in short to mid-term:

- **Novel Combinations** - Combinations of different MetaFi categories and the creation of entirely new ones, e.g. user-generated games in virtual worlds with their own economies, or yield-bearing non-fungible assets embedded into wearables or avatars.

- **User Experience** - Improvements in the UX/UI of MetaFi projects to create a seamless onboarding for non-technical users (possibly even incorporating elements of VR).

- **Efficiency & Versatility** - Innovations of DeFi 2.0 percolating into MetaFi (think Olympus DAO, Alchemix, etc.), which should include stronger legal/governance structures for the "NFTisation" of DeFi.

- **Core Optimisation** - Enhancements in existing Layer 1 fundamentals that enable better scaling, lower transaction fees, and increased throughput.

> We recommend reading our extended [piece on MetaFi](#) where we describe the history of Web3 naturally leading up to the phenomena of MetaFi applications and discuss the current limitations of the ecosystem and what is needed to realise the full potential of MetaFi.

THE GAMING GIANT AWAKENS

> *"Gamers have grinded, played, traded, and bought digital assets last 2 decades. I remain optimistic that they will be excited to own them too, as they can with web3."*
>
> **AMY WU**, HEAD OF VENTURES & COMMERCIAL AT FTX

Gaming shapes how individuals interact, crafting narratives and meaning while forming and informing culture. We've only just begun to see what Web3 components can bring to traditional gaming so it will take patience as we build towards a P2E AAA-quality game. We understand the hesitancy on the part of many gamers when it comes to Web 3 - lest we forget it was embedding economic systems within traditional games that maimed the industry in the first place (yes microtransactions, we're looking at you).

The passionate early adopters of Web3 defend their own creations with the great fidelity that traditional gamers do with their games, so it's on us to make sure we're aligned on what we're developing and why. It really will take time and a few tries to get it right. We've now seen established studios like Ubisoft dip their toes into the NFT space and receive substantial negative criticism from the community, and it's imperative to understand that when integrating Web3 components to a game or platform they should be first and foremost aligned with the overall interest of the community in a bottom-up value format.

- **Play to Earn** - P2E will gain an even stronger foot-holding next year as more browser and mobile-based P2E games are released to the public. Novel mechanisms for earning, governance, onboarding, and guilds are of paramount importance for project success.

- **Game Modularity** - Game modularity will change the game, pun intended. Counter-Strike and Minecraft set a tone for what can be done with modding, so imagine utilizing licensed components from other games in an uncoordinated, decentralized fashion (think bringing your favourite characters or game-mechanics to a friend's world they spent hundreds of hours building).

- **Web3 Gaming Framework**s - Developer-friendly tooling for bringing Web3 primitives to the gaming ecosystem is needed, including governance structures (DAOs), decentralised finance instruments (DeFi) and non-fungible mechanisms for in-game mechanics or overall game fundraising. The utilisation of Web3 primitives in the contect of gaming is immensely promising, so many usecases unexplored, so much potential.

I AM THE PROTOCOL, THE PROTOCOL IS ME

The essence of identity will be of paramount importance in the Open Metaverse. Universal login credentials (such as ENS) are coming to Web3 and fast.

- **Data Ownership** - The data generated from your activities is quite an accurate representation of who you are. Continued interest in self-sovereign data privacy and monetisation is crucial for widespread adoption. This becomes especially important and relevant once the Metaverse gains widespread acceptance and adoption, here you can control the data flow and earn revenue on your data as we described in our MetaFi thesis.

- **Proxy Identity** - The immense growth of NFT-related projects in 2021, be it collectables or 1/1s, will look to serve as more than just a profile picture representing one's identity. How that's designed, be it as avatars or identifiers, remains to be seen. Use cases such as managing multiple context-specific proxy identities, how they aggregate and form a basis of reputation.

- **Identity Interoperability** - A big part of the seamless Metaverse surfing experience will be identity solutions having interoperability across different systems and their subsystems. We need to ensure

our own individual efforts to create and verify identity is recognised across all platforms; whether primary or proxy-identity-based.

THE BUILDERS ARE COMING

What we haven't included in this report thus far is a review of regulatory oversights regarding core protocols like Polkadot, Ethereum, Polygon, etc., and how we see those changing the Web3 landscape in 2022.

- **Scalability** - Scalability will still be a core focus, even in 2022. One big theme will be L2s and their role in bringing scalability to L1. Should we move app computation off-chain and allocate on-chain L1s to deal primarily with verifying proofs? Or should we continue to aim for the perfect L1 trifecta of scalability, decentralisation, and security?

- **Onboarding** - Web3 dapps can seem simple to crypto-savvy individuals, but that's not the case for the average person. While some applications should not be as simple as one-click, the maturation of blockchain technology needs to continue building for not just degens but a larger, mainstream user base.

- **Education** - How aware should a user be about the Web3 components in the app they're using? The level of granularity is less important than a high-level baseline understanding of the pros and cons of crypto inclusion. Even if it's as simple as knowing how one's data is stored/protected, what a blockchain even is, and why a private key matter. The ability to explain these concepts with relatable examples and language will be the only way to create an environment inclusive enough to reach mainstream adoption.

We reiterate: no **one** company can **have** or **be** the Metaverse. The Metaverse is a synthesis of digital phenomena, a commixture of interoperable applications and verses built atop the foundational building blocks of Web3. The question is not whether or not it will exist but the form in which it does - permissionless and built from the ground up? Permissioned by Big Tech and ruled by nation-state actors? That is what remains to be seen.

It's the actions and decisions we make today that will steer the direction toward one of inclusivity and transparency, crafting an open Web for all that wish to participate and build within it. This is neither

a distant future nor a George Orwell dystopia - this is **now**. The Metaverse has arrived, and the next frontier of a shared human reality is emerging. There can no longer be neutrality: pick a side, find your role, and fight for the digital future you want to see.

JOIN US: APPLY NOW

Outlier Ventures has worked towards accelerating the Open Metaverse since 2014. The key phrase here is open, which we define as the harmonisation of (1) free markets for everything, (2) the sovereign individual, and (3) fluid collectivism; the distinction of open and closed isn't just limited to the extent to which platforms embrace open-source principles with their code and data but importantly whether they allow the transferability of value outside their ecosystem, how that interacts with fiat-based systems, and to what extent they do or don't control the monetary and fiscal policy of the underlying economy itself.

We've helped 100+ startups raise $300m+ in the last year through our Basecamp accelerator programs that cover DeFi, NFTs from gaming to music and digital fashion working with major crypto protocols and ecosystems inc. Polkadot, Filecoin, Polygon. You can think of Outlier Ventures as the Y-Combinator of the Metaverse.

Are you are a founder working on Web3 related technologies enabling further acceleration and adoption of the Open Metaverse? Then apply to our dedicated Metaverse accelerator Basecamp where our team of specialists help you launch, finance and grow your startup with our powerful network of Web 3 investors, founders and partners.

W // outlierventures.io/base-camp

Outlier Ventures˙