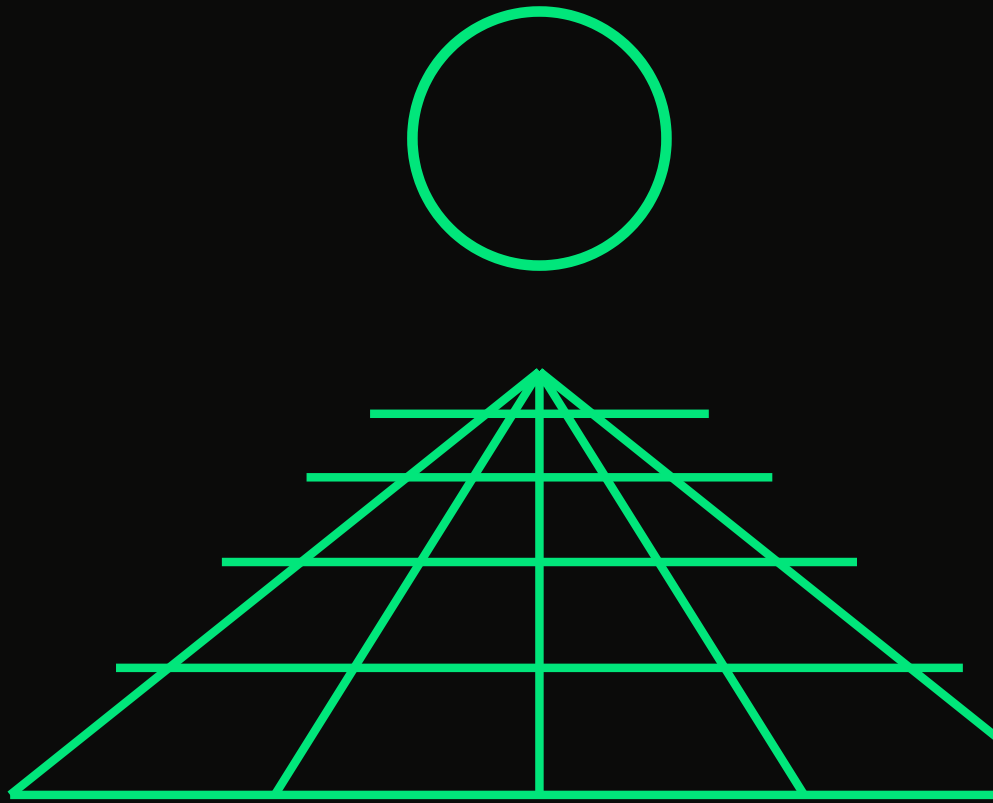




THESIS • OPEN METAVERSE ERA

2021

THE OPEN METAVERSE OS

A common operating system for an open, user-owned metaverse

The metaverse is already being built, and its rules are being set now. An open metaverse, built on shared protocols and a single open financial system, can outgrow the closed platforms over time.

The paper treats the metaverse as a process that has already begun, not a distant destination. It argues that a true metaverse needs its own native economy, where value can be earned, spent, lent, borrowed and invested across physical and virtual worlds without relying on a government. It sees two competing versions taking shape: one run by closed Big Tech platforms, the other built on open, blockchain-based protocols.

Web 3 is presented as the operating system for the open version. Its toolbox covers DeFi, NFTs, decentralised governance, decentralised cloud services, self-sovereign identity, wallets and agents. The paper maps these onto the anatomy of a virtual world and offers an openness framework for judging design choices. It admits real limits on cost, performance and user experience, and names empty worlds as the main problem to solve.

CONTEXT

By early 2021 NFTs had begun to go mainstream, DeFi had formed a proto-capital market, and lockdown had pushed time and spending into games such as Fortnite and Roblox. Big Tech was investing in its own closed virtual worlds. Outlier Ventures wrote the paper to argue for open design choices before closed models set the defaults for the next era of the web.

\$25bn

Total value locked in DeFi at the time of writing

250m+

Gamers on Discord, cited as an early social bridge between worlds

6 in 10

People worldwide excluded because virtual worlds need at least a smartphone

Figures as stated in the original paper at the time of writing.

Five ideas that shaped the paper.

01 **A journey, not a destination**

The metaverse has already started, though we mostly experience it in 2D. Treating it as a far-off future risks repeating what is broken in today's web, because the key design choices are being made now.

02 **A native, open economy**

The defining feature of a true metaverse is its own economy and currencies. Value should move freely between virtual and physical worlds, and between platforms, without depending on a single company or state.

03 **Open versus closed worlds**

Two axes classify virtual worlds: open or closed, and low-fi or hi-fi. The paper expects open worlds to erode closed ones through network effects, while low-fi access keeps the economy inclusive.

04 **Value squared**

Assets that live off-platform and trade freely in open markets gain liquidity and so gain value. Creators keep more control and can earn on secondary sales through on-chain royalties.

05 **The empty world problem**

Open worlds had few daily users next to Fortnite or Roblox. The paper looks to excluded creators, artists, brands, music and AI-generated content to fill them, with play-to-earn as a new form of income.

The Web 3 Toolbox

A composable stack that sits on peer-to-peer networks, a transaction layer and a programmability layer. People and machines reach it through wallets, apps and agents.

DECENTRALISED FINANCE

Internet money, stablecoins, lending, exchanges and oracles that form an open financial system.

SOVEREIGN VIRTUAL GOODS

NFTs for unique digital items, with minting, marketplaces, standards and physically redeemable goods.

DECENTRALISED GOVERNANCE

DAO frameworks, voting, staking and slashing, and multisignature wallets for shared decisions and assets.

DECENTRALISED CLOUD SERVICES

Storage, compute, databases and query APIs that no single cloud provider controls.

SELF-SOVEREIGN IDENTITY

Decentralised identifiers and verifiable claims that let people prove facts without revealing data.

SELF CUSTODY AND AGENTS

User-held wallets and autonomous economic agents that access and act on these capabilities.

"If we think of the Metaverse as a far off destination we will almost definitely sleep walk into not addressing some fundamental design choices."

ORIGINAL PAPER

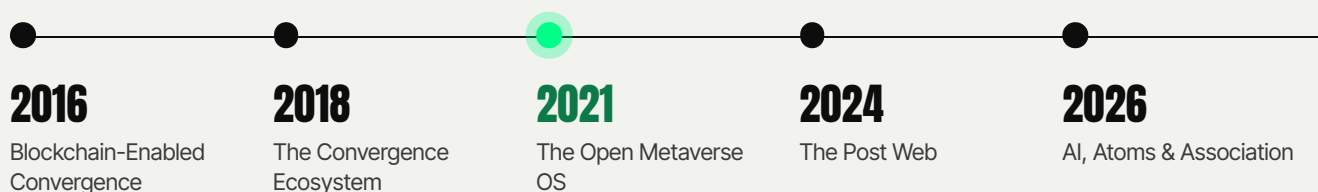
"...perhaps the defining characteristic of a true Metaverse is that it needs its own economy and currencies native to it..."

ORIGINAL PAPER

"...the Open Metaverse OS is best understood as an evolving collection of highly composable technologies..."

ORIGINAL PAPER

Outlier Ventures returned to the thesis in 2023 with *The Open Metaverse Under Attack; The Fight Back*. That paper kept the same Web 3 toolbox but warned that regulation, centralisation and Web2.5 walled gardens threatened the open vision. Its themes of agents, identity and Web 3 as a trust layer fed into OV's later Post Web thesis.



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READ THE ORIGINAL

Original thesis (PDF)

outlierventures.io/wp-content/uploads/2021/08/OV-Metaverse-OS_V6.pdf

2023 follow-up: The Open Metaverse Under Attack (PDF)

outlierventures.io/wp-content/uploads/2023/05/Open-Metaverse-Thesis.pdf

ORIGINAL CREDITS

Originally authored by Jamie Burke, as a collaborative work from across the Outlier Ventures network.

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