



L A M I N A ¹
WHITEPAPER V1.0

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1. Mission

To deliver a Layer 1 blockchain, interoperating tools & decentralized services optimized for the Open Metaverse — providing communities with infrastructure, not gatekeepers to build a more immersive internet.



2. Belief

The Metaverse represents the evolution of our lives online — graduation to rich 2D and 3D worlds in which we fluidly create, explore, socialize and transact. As we usher in this bold new era of content creation and participation, we must revisit the centralized business models of Web2 to empower creators and consumers with greater agency, ownership and privacy. A creative community that is free to innovate and transact will give rise to a thriving economy. Lamina1 delivers critical infrastructure to enable the trillion-dollar economy of the Open Metaverse.



3. Context

“Inexorable economic forces drive investors to pay artists as little as possible while steering their creative output in the directions that involve the least financial risk.”

— Neal Stephenson

Web2 introduced a period of rapid innovation and unprecedented access to entertainment, information and goods on a global scale. Streamlined tools and usability brought creators and innovators to the web *en masse* to build digital storefronts, engage and transact with their customers.

Owning and controlling that growing ecosystem of content and personal data became a primary, lucrative initiative for major corporations. Consumer behavior, recorded on centralized company servers, offered constant, privileged insight into how to monetize human emotion and attention.

- Digital disruption, followed by corporate opportunism, reset the value of creative IP and negatively impacted the creative process
- Agencies and intermediaries siphoned revenue from makers
- Data was harvested, sold, commoditized and misused
- Naivety and convenience were exploited
- Family photos became session bait for an insatiable ad model

At its best, Web3 envisions a better world through the thoughtful redesigning of our online lives, instituting stronger advocacy for our interests, our freedom and our rights. Much as Web2 flourished with the maturity of tools and services that offered creators and consumers ease of use, the Open Metaverse will benefit from open protocols for payments and data, and a set of interoperating decentralized services to support virtual worlds. Lamina1 will be the rallying point for an ecosystem of open source tools, open standards and enabling technologies conceived and co-developed with a vibrant community of creators.

New is not enough to drive adoption; broad use requires both practical and emotional appeal. For the trillion-dollar economy of the Metaverse to materialize, we must first focus on fundamental infrastructure, enablement and usability. The quality of content and experience depends on better bricks. Lamina1 will host and power the economic

and social transactions of the Open Metaverse, solving technical hurdles to accelerate adoption and unlock capability.

To inspire emotional connection, technology must mature and disappear to let experience take the lead. Introducing creative application into the earliest stages of development will not only help us achieve quality standards but pass that advantage along to others. The strength of the Lamina1 technical foundation will be validated by the ability of our very own maker, Neal Stephenson, to deliver his inspired and principled vision of what the Open Metaverse can be. We employ *story* as a powerful tool to contextualize and drive the creative and technical development required to build a virtual universe imbued with humanity.

We are makers. We are builders. We are passionate about the potential of Lamina1 to change the way we make and monetize the next generation of content, and we share the needs and interests of our fellow Open Metaverse enthusiasts. We invite you to join us in building the most powerful network of creative people on the planet.



4. State of Play

The Lamina1 value proposition acknowledges two considerable trends:

First, the accelerating pace of creation and commerce within persistent virtual worlds. Each day, hundreds of millions of people around the globe connect online to enjoy and invest in not only gameplay and world-building but freedom of self-expression and social engagement within a global digital network. Worldwide, spending on virtual goods reached an estimated \$110 billion in 2021, with nearly 30% attributed to the virtual outfitting of our virtual selves.¹

A digital Gucci Dionysus bag commanded \$4,115 in Roblox native cash — more than the \$3,400 retail value of its physical version.² A virtual plot next to Snoop Dogg’s NFT property in The Sandbox sold for the USD equivalent of nearly \$450,000³. Meanwhile, Fortnite generated more than \$20 billion in revenue from on-platform transactions from 2018-2021, with 77% of players making in-game purchases to enhance their virtual selves⁴.

As more and more industries rush to stake their claim in the space — beyond tech and gaming, into media, entertainment, sports, education, enterprise, etc. — the Metaverse’s sway in ushering in a new era of economic and digital disruption seems

¹<https://www.businessoffashion.com/articles/technology/state-of-fashion-technology-report-Metavers-e-digital-goods/>

² [https://roblox.fandom.com/wiki/Catalog:Gucci_Dionysus_Bag_\(3.0\)](https://roblox.fandom.com/wiki/Catalog:Gucci_Dionysus_Bag_(3.0))

³ <https://decrypt.co/87524/someone-paid-450k-snoop-dogg-Metaverse-neighbor>

⁴ <https://financesonline.com/fortnite-statistics/>

increasingly evident, with recent reports estimating the sector could be worth upwards of \$5 trillion by 2030⁵.

Second, we've witnessed an empowering movement among creators and consumers concerning data privacy, transaction and asset ownership. The near-ceaseless news of data misuse is driving new consumer awareness of the liberal data and privacy practices of mega-platforms. Those using these services are increasingly becoming aware (and wary) of how their virtual identities will be stored, tracked, and commoditized online — with 74%⁶ of U.S. internet users saying they are more concerned about their online privacy than they have been at any point in time.

Further, in a world where today's biggest platforms propose to take nearly half⁷ of all sales revenues on digital assets and experiences made by creators in the Metaverse, many are looking for alternative pathways to monetization and publishing in this new online era. Case and point: the past two years have seen unprecedented growth in Web3, with creators turning to NFTs to provide them direct access to their markets. In 2021, collectors sent over \$41 billion to online marketplaces and more than \$37 billion in the first half of 2022⁸. Ethereum's ability to provide Web3 features to creators (though limited), alongside security and anonymity for consumers, expanded the market nearly 200x between 2020 and 2021, with NFT sales skyrocketing from \$100 million to \$18 billion⁹. Last year, the direct marketplace OpenSea drove nearly 60% of those transactions¹⁰, but NFTs are also increasingly being used to create and monetize entire virtual worlds.

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<https://www.mckinsey.com/~media/mckinsey/business%20functions/marketing%20and%20sales/our%20insights/value%20creation%20in%20the%20Metaverse/Value-creation-in-the-Metaverse.pdf>

⁶<https://www.privacysecurityacademy.com/wp-content/uploads/2021/01/Privacy-Security-in-a-Digital-World-A-Study-of-Consumers-in-the-United-States.pdf>

⁷[https://www.reuters.com/technology/meta-take-nearly-half-sales-made-by-its-Metaverse-creators-fees-2022-04-13/#:~:text=April%2013%20\(Reuters\)%20%2D%20Facebook,virtual%20reality%20platform%20Horizon%20Worlds.](https://www.reuters.com/technology/meta-take-nearly-half-sales-made-by-its-Metaverse-creators-fees-2022-04-13/#:~:text=April%2013%20(Reuters)%20%2D%20Facebook,virtual%20reality%20platform%20Horizon%20Worlds.)

⁸<https://blog.chainalysis.com/reports/chainalysis-Web3-report-preview-nfts/>

⁹ <https://bitcoinke.io/2022/01/the-nft-market-in-2021/>

¹⁰

https://www.theblock.co/post/131443/opensea-reimburses-users-sold-nfts-below-market-value-ui-issue?utm_source=cryptopanic&utm_medium=rss

To fully realize the needs and intricacies of an ever-expanding Metaverse, the next era of digital ownership will need to include deeper integrations of persistent digital objects, virtual real estate, and interoperability services that expand upon the basics and have direct consideration of the needs of those building it. As this new digital economy crystallizes, so does the potential to reimagine the financial systems and foundational structures that fuel it. In its early stages, the success of this movement depends on the conviction of companies, creators and consumers to demand something different.



5. Strategy

To date, no chain has been expressly designed to support the unique needs of the Metaverse. Chains that have been built for Defi or other uses non-specific to enabling creative communities miss the mark — giving up performance in exchange for cryptographic purity. In areas such as digital objects, identity and payments, blockchains provide implicit assurances to developers that services will always be available at historically lower fees than offered by today's technology incumbents.

Lamina1 approaches the Open Metaverse with a multi-pronged approach:

- Layer 1 Blockchain
- Metaverse-as-a-Service (MaaS)
- Community Economic Participation and Incentives
- Original Content



6. Technology Pillars

6.a Layer 1 Blockchain

Most Layer 1 chains have predominantly technical goals. For Lamina1 and its design, we have chosen to balance social and economic goals with the current technical opportunities in the Layer 1 chain space. To make the change we want, we need to integrate quality, next-generation technology design with strong people of strong principles focused on building and enriching a worldwide community. — Lamina1 Co-Founder Peter Vessenes

An early advocate, our co-founder Peter Vessenes is a battle-tested veteran of crypto, having invested in and launched billions of dollars of tokenized value since the dawn of the cryptocurrency era. He was the founding Chairman of the Board for the Bitcoin Foundation (2012), an organization tasked with restoring the reputation of Bitcoin after controversy, the first to employ Bitcoin core developers for the sole purpose of building out the blockchain, and holds several technology and cryptographic innovations, including the patent for disambiguating conjoined Bitcoin transactions. In short, our governance and architecture decisions are the result of rich history and expertise.

Lamina1 uses a high-speed Proof-of-Stake (PoS) consensus algorithm, customized to support the needs of content creators — providing provenance for creatorship and enabling attributive and behavioral characteristics of an object to be minted, customized and composed on-chain.

We chose to start with Avalanche, a robust generalized blockchain that delivers the industry's most scalable and environmentally-efficient chain for managing digital assets to date. This starting point provides Lamina1 with a flexible architecture and an

extendable platform to support our goals in data storage, interoperability, integration incentives, carbon-negative operation, messaging, privacy, high-scale payments and identity.

We intend to work with the Avalanche team pre-launch to contribute back patches to be incorporated upstream, but anticipate that many of our features will remain only available to Lamina1 users.

Here's what you can expect at Mainnet:

- Open Metaverse Data
- Carbon Token Staking
- Cross-chain Integration
- High-scale Payments
- OpenID Connect
- EVM Quality of Life Improvements

Open Metaverse Data

Smart contract developers will be able to directly reference Metaverse metadata and ideally data from the Storage Layer — a massive leap forward in functionality, opening up composability of digital objects in the same way that ERC-20 enabled composable fungible tokens. Data for Metaverse assets such as objects, space, avatars and portals will implement standardized specifications and reference implementations to maximize interoperability. Capabilities here are dependent on the [Storage Layer](#) features that provide low-latency, optimized access to metaverse data.

Carbon Token Staking

Lamina1 is a Proof-of-Stake chain. As such, it is orders of magnitude more energy-efficient than previous Proof-of-Work (PoW) chains, with a smaller carbon footprint. However, we would prefer to have a negative carbon footprint. Our answer to

this call is to code accountability directly into Lamina1 node operation rules to ensure the chain itself requires the desired behavior. For each node operator, we will assess energy requirements and verify that each step in the PoS validation process includes retiring an appropriate number of carbon credits, tokenized on Lamina1.

Cross-Chain Integration

Our vision of the world is not Maximalist — instead, we envision many densely-connected Layer 1 and 2s in the Open Metaverse, built for the needs of their users and communities. We want to provide the tech that founders need to launch their projects and think it's sensible to support them, even up to copying Lamina1.

To support this, Lamina1 will be easily forkable at Mainnet launch and will come with batteries included for cross-chain data and value transfer to a large number of existing Layer 1 chains, of course, including Lamina1 Mainnet. Fork Lamina1, please.

High-Scale Payments

As part of our mission in supporting creators, we are in the early stages of building out a highly performant, high-scale payment subnet. When launched, this will allow users to easily create a rights payment group of hundreds of thousands of recipients, safely pay them, and allow these recipients to cheaply receive their payments.

This sort of payment facility has long been out of reach for Ethereum — most Solidity developers will be familiar with the intense gyrations they must go through to ensure they don't run out of gas while distributing payments. We intend to make this ultra-low friction and very cheap as a public utility for anyone on Lamina1, using any tokens they wish.

OpenID Connect

Lamina1 distinguishes between four categories of identity:

- **Personal Identity:** In the purest sense, one's sense of self as a human being

- Sovereign Identity: The extent to which a nation or nation-state grants a person “identity” in the bureaucratic sense (e.g. a passport or a national ID number)
- Self-Sovereign Identity: The extent to which a known federating “identity provider” grants you an identity (e.g. a Twitter handle that someone controls, a Facebook ID)
- Self-Sovereign/Permissionless Identity: The ability of anyone to say “This is an identity” online (e.g. an Ethereum address)

The four types of identity we consider each have different challenges and advantages and are each important features for people who want to transact online. Once we have a solid identity system in place, it’s clear that people will want to make associated proofs about these identities using Zero Knowledge tech. We know how to do some of this with zkSNARK technology, but there are some things we only know how to do inside of a TEE (Trusted Execution Environment). This is an ongoing area of research for the Lamina1 team as it grows.

High-level, Lamina1 has plans to support:

- Short Term Goals
 - Self-sovereign/permissionless identity
 - Sovereign identity links to self-sovereign addresses
 - OpenID connect identity links to self-sovereign addresses
- Long Term Goals
 - Support non-federated self-sovereign identity systems (Stephenson’s PURDAHs fall in this category, for instance, and would be very useful to have deployed on Lamina1)
 - Support “pure” personal identity features (have Lamina1 be able to know it is interacting directly with a particular person)

EVM Quality of Life Improvements

Cross-Chain Support for Proof-of-Work and ETH2 validation inside Solidity

It would be very useful to have the ability to assess attestations about the state of an EVM chain based on the header and Merkle proofs about certain transactions.

Unfortunately, with PoW-based ETH, this was impossible — Solidity did not allow enough gas to implement `eth_hash` directly and The Ethereum Foundation chose not to make it a cheap function baked into the EVM. We think this was a mistake and will rectify it.

With Ethereum's beacon chain, this support becomes a bit more complex — we still think instrumenting this as a very cheap feature inside Solidity will be extremely useful and intend to add it.

Self-Hosted Gas Inside Smart Contracts

We believe a major onboarding difficulty for EVM-based chains could be wiped out if business owners, nonprofits and other smart contract publishers could simply offer gas out of the smart contract itself. We will be adding this functionality in Betanet and look forward to seeing what engineers and security experts make of it.

Future Technology Opportunities

If you are developing protocols or infrastructure for rights, payments, messaging, or privacy, we would love to talk. Reach out at ecosystem@lamina1.com.

Rights Payments

Once high-scale payment support is implemented, we foresee very simple and easy rights payments implementations being possible. Rights payment support on-chain is a critical need for creators, especially those deploying work created by large groups or

with complex ownership/rights structures. Rights payments support is a common request creators have of blockchains and making this cheap and fast on Lamina1 is an area of active research.

Secure and Private Messaging

A perennial problem for crypto (and game) companies is messaging — in a formal sense, many kinds of payment and smart contract interactions benefit from the ability to coordinate. Right now, this is only possible in general with out-of-band messaging solutions. Game and experience developers face their own needs, usually with stricter requirements for latency and bandwidth. On-chain in-band messaging on Lamina1 is an area of active research, with an eye on major areas of innovation.

6.b Metaverse-as-a-Service Stack

Lamina1 will foster — with heavy participation from the ecosystem — the creation of a set of interoperating decentralized services to support virtual worlds, i.e. Metaverse-as-a-Service (“MaaS”).

Our mission is to be the rallying point for an ecosystem of open source tools, open standards and enabling technologies conceived and co-developed with a community of creators.

MaaS and ecosystem technologies will ideally be enhancements to/integrations of existing open source solutions, and/or directly provided by third parties. However, our technical team will be involved in the early launch stages to identify best-in-class tech and tools, highlight key technical areas for innovation and close critical feature gaps — possibly creating spatial technology and tools needed to get the job done — demonstrating leadership and vision toward building the Open Metaverse. That said, we will only build what is absolutely required.

Storage Layer

With regards to storage, we know what we need: exabytes of rapidly-delivered data with *reasonable* safety and availability proofs and relatively low latency. Today's successful decentralized storage solutions are focused heavily on strong cryptographic proofs around data existence. For the Metaverse, we need to turn our focus toward prioritizing latency and bandwidth concerns over "perfect" safety. We have some ideas about how to get there and will be announcing an excellent team of advisors for the Lamina1 Storage working group soon that will take this on directly. In addition, the initial Alpha will be an API backed by existing storage providers, with a technology roadmap focused on getting more fully decentralized as an option for creators that want this.

If you have an interest in this area contact workinggroups@lamina1.com



World State & Persistence

Powering virtual worlds in the Metaverse requires a managing state — for objects, avatars and environments. State changes must be synchronized among all participants and serialized to some kind of storage. A combination of on-chain and other decentralized services can achieve this.

Lamina1 will work with a range of technology providers to offer decentralized services to our creators and innovate as needed to fill gaps in existing technology. Note that one size does not fit all when it comes to multiplayer services. For example, intimate gatherings of a small number of participants have much lower bandwidth and lower processing requirements than large-scale worlds. Use cases also dictate the requirements for supporting a decentralized world state (e.g. a competitive game) that requires much lower latency than, say, a casual social space for hanging out and listening to music together.



Cloud & Hybrid Rendering

Depending on their desired level of fidelity, virtual world creators and operators may choose to use cloud rendering with pixel streaming to deliver photorealistic scenes versus depending on the processing power of the local device. Or, they may opt for a combination of local and cloud-based processing to achieve the best combination of high fidelity and interactivity.

Lamina1 will identify and work with infrastructure partners to offer decentralized versions of these services to our ecosystem. Cloud rendering is still a somewhat expensive proposition (though the costs are coming down over time) and therefore, may only be appropriate for creators and players that are comfortable with paywalls or other highly monetizing models that support these economics.



Game Engine & Web Integration

The vast majority of today's immersive Metaverse experiences are powered by game engines, the most popular being Unity and Unreal. To make developers' lives easier, Lamina1 will provide feature-rich software development kits (SDKs) for these engines to make it as easy as possible to get started and be successful in integrating our blockchain into games, immersive worlds, digital twins, simulations and other content. Lamina1 will also provide the same feature set to web developers, making it straightforward to also connect immersive web experiences.

FEATURE

BENEFIT

Asset storage

World operators can leverage decentralized storage solutions that balance performance and availability with privacy and safety.

Game Engine/Web SDKs & Editor Plug-ins	Developers can leverage existing tools/engines like Unreal and Unity, or web based engines to easily plug into Lamina1
Wallet With 3D Browser & Widgets	Improved usability and experience; render 3D content for avatars, objects and scenes directly in wallet; exchange funds easily and securely
Accessible World-BUILDER Tools	No-code, low-code, and drag/drop interfaces enable the creation of worlds without game development skills, empowering a broader base of creators
Simple World Server	Out-of-the-box capability to launch and operate basic multiplayer worlds without the need for coding skills fosters casual and serendipitous interaction
Cloud and Hybrid Rendering Services	Creators can make smart choices about

 **Browser**

Finally, we think there's an interesting opportunity to innovate in Metaverse-enabled browsers, and we have a team that's exceptionally well suited to explore this. Web applications exist because of the immense amount of work browser engineering teams have done over the last 20 years — in the early 2000s, any rich application would have been downloaded, installed and executed on (by modern terms) a highly insecure platform.

Lamina1 will explore this area by instrumenting browser and wallet tech that will push the UX of blockchains forward. This includes rendering 3D content for avatars, objects and scenes directly in the wallet (versus just static or video thumbnails), as well as creating fun utilities and widgets that enhance the user experience. 3D rendering in today's browsers via WebGL and WebGPU — while admittedly not as

high-performance as native graphics code — offers tremendous power, which has to date, been underutilized. The Lamina1 team will push these existing APIs to their limits to create great, 3D-centric user experiences. We will also explore enhancing the browser itself through extensions and other native code to achieve even greater performance and a fuller feature set.

Standards

We are committed to driving open specifications for the Open Metaverse to support interoperability of assets, identity, payments, and spaces across all networks. We've made a commitment to support the Metaverse Standards Forum as a founding member. We are encouraged by the amazing work of other communities such as W3C, IEEE, Open Meta DAO, OMA3 DAO, and many others bringing people together to create an Open Metaverse.

If you'd like to collaborate, please reach out at ecosystem@lamina.com.



7. Community & Growth

“But none of this works unless developers ignore the lure of working with well-funded giants and sign up to a rebel effort devoted to an open metaverse. An effort co-founded by someone who has won credibility through thousands of pages of geeky glory. ‘I think Neal can bring moral and philosophical power to the story that money can't buy,’ says Abovitz.”

— Stephen Levy, Wired

Without the community, the chain has no value. The people are everything.

We march waving the pirate flag at the front of the cultural movement, asking both creators and consumers to join the fight for greater agency and ownership — the fight for an economy that is imagined, produced and owned by its creators. It's going to be hard and it's going to take heart, but the upside of providing a maker direct access to their market is staggering.

At Lamina1, we believe two things will power expansion and growth in the Metaverse — a straightforward and principled approach to serving a diverse, open and self-sustaining community of makers, and a powerful ecosystem of content and experiences that will drive fans and funding directly to the platform.



7.a. Original Content & Creator System

Built on worthy infrastructure, Lamina1 will foster a vibrant ecosystem of content, and motivating economic incentives to empower the rapid expansion of the Open Metaverse.



Original IP: Neal Stephenson's *THEEE METAVERSE*

Under active early-stage development, Neal Stephenson's *THEEE METAVERSE* promises a richly-imagined interactive virtual world with an unforgettable origin story. Built on the Lamina1 chain, creators will come to experience Neal's vision and stay to develop their own. Stay tuned for more details.



Creator IP: Grants & Investments

We are also actively working to help IP holders and production studios engage with Lamina1. If you want to build something, we want to help you.

Lamina1's pre-launch ecosystem development is focused on establishing key collaborations, providing developer support and showcasing our makers on the road to Mainnet. Key community members will receive:

- Early access to Alpha/Beta/Test networks
- Support in launching live experiences for Mainnet
- Expedited support for high-impact projects
- Direct feedback channel to engineering team
- Co-marketing, PR and promotions across Lamina1-owned content, social and community channels
- Introductions to advisors and investors



Technology Grants Program

Lamina1 tokens will be deployed to community members building the chain. Key goals:

- Provide token incentives to build on or port over to Lamina1
- Enhance core capabilities of Lamina1 or target new audiences
- Broad remit of our grants oversight committee includes: Creator tooling, applications, Metaverse-specific technology & services and blockchain protocols

For ecosystem development inquiries and early access, please reach out to us at: ecosystem@lamina1.com



Events & Conference

A key element of our community strategy is to build and host a place for the community to meet, share and learn. We're dreaming up an event that serves as the big tent for creative, development, product and business teams moving into this nascent space. Expect inspiring ideas, education from experts, valuable networking and a great time with fellow Open Metaverse enthusiasts.

Stay tuned for more information on this. If you're interested in joining forces please reach out at events@lamina1.com

Additionally, we aim to attend and sponsor community events throughout the year. If you are interested in having us speak at or sponsor your event, please reach out at the email address provided above.

Social Engagement

Designated spaces on Discord, Twitter, Reddit, LinkedIn and beyond will power a large, thriving and engaged community that will help us build an Open Metaverse for all. Focused channels, working groups, exclusive content drops, test/focus groups and AMAs will actively ensure every maker in our community gets to have a voice and say in how the standards and tooling for Lamina1 are designed.

This platform will also be used to drive loyalty and incentive programs, future ambassador opportunities and affiliate growth programs to continually grow and reward our community for their engagement while linking them up with the connections and resources they need to build together.



7.b Brand & Values

What will differentiate Lamina1, drive its governance and accelerate ecosystem growth on this long journey ahead is a shared belief in the following core values:



Creator Focus

Makers have long relied upon financiers, platform owners and publishers to grant their ideas oxygen and provide a pathway to broad distribution and monetization. Though the introduction of new software and tools has allowed more amateur makers to enter the market, it has not tipped the model toward creators. This is squarely what we're interested in — building a home with more favorable economics for those who create the content we voraciously consume.

Today, storytellers, deep-thinkers and designers pitch and hustle in search of funding — in games, music, film, and fashion — only to hand over 30-70% of their revenue, oft post-recoupment, to lenders and middlemen. By acquiring the work of creators, the platform owner expands the portfolio with subscriptions, ad revenue and insights, none of which is shared with those who bring the platform such success. Lamina1 lights a new path forward.



User-Centric Design

Quality UX is key to mainstream adoption, and today's crypto user experience comes up short. The consideration of existing mental models, seamless interoperability, and intuitive interaction during the design phase of any product ultimately leads to better outcomes. By implementing a practice of Human Factors, we will reduce the barrier of entry and accelerate use.

In a 2019 study of 15 “crypto-curious” participants, UX researchers Chockablock tested five desktop wallets to better understand usability issues facing first-time users¹¹. They found that participants nearly unanimously struggled with securing a wallet application appropriately.

“...New users, who are familiar with the security paradigm of user-generated, single-string passwords — which are stored mentally and are retrievable via the centralized system if forgotten, are completely thrown off by the presentation of system-generated, multi-word pass/seed/recovery phrases which must be stored physically or digitally and cannot be retrieved via the decentralized system if lost. Simply put, they do not understand what to do much less the ramification of not doing it properly.” - Chockablock, via UX Planet on Medium

The cost of poor UX is not only delayed adoption but (at its worst), distrust. Designers of popular interactive experiences, as well as those behind some of our most beloved hardware and software products, have design in their DNA. Lamina1 believes in the value of design cycles, testing and frequent feedback from diverse groups to deliver successful products to market. We believe there are vast usability improvements to be made on both the crypto and Open Metaverse front.

To hit the milestone of early majority, crypto projects must improve front-end design, doing the hard work to better understand their community of users — both creators and consumers — of content. Benefiting from leadership that has designed UX/UI for emerging mediums like IoT and augmented reality, Lamina1 has the experience to elegantly bridge art and code to deliver consumers an enjoyable experience with less friction than current offerings.

¹¹<https://medium.com/chockablock-io/investigating-the-usability-issues-non-crypto-savvy-users-encounter-when-setting-up-desktop-68323106587b>

Environmental Sustainability

The carbon footprint of Bitcoin has been the subject of much discourse around crypto and, in less crypto-savvy circles, has even threatened to overshadow the actual innovation. To the extent that this energy consumption is a tax on the planet, it is unacceptable. However, we believe that renewable energy is abundant, even if our ability to access it is stifled.

Lamina1 is a Proof-of-Stake chain, orders of magnitude more energy-efficient than older Proof-of-Work chains, with a smaller carbon footprint. However, we prefer to have zero or negative carbon footprint. Our near-term answer is to code accountability directly into the chain. For each kind of node operator, we assess energy requirements and ensure they are retiring an appropriate number of carbon credits. We also intend to enable the tokenization of carbon credits on-chain.



8. Technology Roadmap

2022

V1 Litepaper Release	September 2022
Engine/web SDK & Wallet Alphas	October 2022
Testnet	November 2022
Browser MVP Alpha	December 2022
EVM + α	December 2022
Initial Studio Demos	December 2022

2023

Engine/web SDK & wallet Betas	January 2023
Blockchain Recompose	January 2023
Original Game Pre-Production Begins	Q1 2023
Betanet	Q1 2023
MaaS MVP Alpha	Q1 2023
Studio Launches	Q2/3 2023
Mainnet	Q2/3 2023

Roadmap is subject to change

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