

DIGITALAX

Open composable machines for dimensional
culture unlocked by the most advanced web3
fashion ecosystem.

This protocol is everything you need for those daring enough to summon
self-sustaining, self-sovereign economies built on the composable blocks
of web3 fashion, dimensional machines, decentralised fabrication,
immersive storefronts, and open world IRL game layers.

Choose your own status. It's a dark forest out there, and treasure waits
only for the bold.

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OPENING

This manual is designed for use by those who possess a general knowledge of the mechanisms and practices which enable operation of systems for purely peer-to-peer and self-sovereign coordination throughout all scopes of human activity.

Claimed as a response to severe vulnerabilities in traditional financial systems, the Bitcoin proof-of-work blockchain network was released to the public on January 3rd, 2009. It would become the inaugural standard by which all future formal systems for decentralised consensus and self-sovereign coordination are measured.

Missing from this early implementation was uncensorable clarity for how to use arcane economic theory with a high technical barrier of entry to maximum effect, across every dimension of real world social interaction—including general computation, commerce, and creative cultural activity.

After the network launch of Ethereum in 2015 and its continued development, general computation has widely been solved. It serves as the defacto standard for a globally decentralized base layer. Newer L1 competitors still have a lot to prove as of the publication date of this edition.

The reliable use of decentralised systems at massive multiplayer scale remains in progress. Zero Knowledge Proofs are rapidly being deployed as L2 network “rollups” for the most promising advancement in the history of self-sovereign mechanisms since the launch of Bitcoin and Ethereum, respectively.

The means to use, create, and collect mechanisms and goods of infinite variety across all possible dimensions is detailed in the remainder of this manual.

DIGITALAX is a comprehensive web3 ecosystem that makes extensive use of fashion and NFTs as conceptual mediums with profound implications beyond conventional wisdom. The technical protocol underpinning the full suite of mediums, tooling, and markets served is entirely public domain. It is tailor made to support the rapid creation and distribution of CCO apparel NFTs as the most exemplary means to spread dimensional culture to a world deeply in need of a breakthrough in the full adoption of self-sovereign principles and practices.

Table 1.0	
Base 13 (or 13 D.O.F.)	
1	self-determination
2	ownership
3	affiliation
4	status
5	story
6	style
7	forward\back
8	up\down
9	left\right
10	yaw
11	pitch
12	roll
13	time[stamp]



READY NOW

The DIGITALAX ecosystem is modular by design. Made to be useful from day one; ready for scale from solo designer to massive multiplayer open world markets.

At the time of this writing, it is composed of 13 distinctive subsections serving a wide diversity of intrepid creators, collectors, and dimensional travelers.

The protocol makes it easy to equip yourself with the tools, skills, and community needed to make it in web3.

Useable Now:

- Mint and collect digital fashion NFTs — scoped to the general digital fashion section of the DIGITALAX marketplace
- List and wear physical apparel for sale integrated with digital NFT mints — scoped to the general IRL fashion section of the DIGITALAX marketplace
- Connect to ESPA casual esports platform for in-game fashion NFTs with wear-2-earn and modded game compatibility
- Multi-token staking rewards in native ecosystem ERC-20s for all NFTs
- Champion select designers, labels and realms directly through multi-tiered patron NFTs
- Form or\and join indie web3 fashion Collector DAOs — target accelerated development of the web3 fashion economy, sector by sector
- Infrastructure deployed on both Ethereum and Polygon — all modules EVM compatible
- Global Designer Network DAO — web3 fashion designers & complementary creators build on-chain reputation and profiles with portable scope beyond the ecosystem
- Open source DASH File Format revisions — sightglass into engineering from schematic phase to first MVP.
- DIGIFIZZY — web3 native digital zine publication w\ NFT showcase bundles
- Original and modded game assets — Open source building blocks for massive multiplayer open world web3 game producers.
- PODE — metafunctional access key for early game testruns, mod review, and rare content experiences.
- On-chain DAO governance over “progressive” subsections — members vote to determine select paths for the future of the protocol
- On-chain token index data feed curation votes — determine the fidelity of web3 fashion and metaverse assets
- Global Models Syndicate — Collaborate with leading digital and physical fashion designers on a diverse range of NFT collections and walk in runway events
- Mint and collect digitally dressed model pose NFTs — scoped to the general runway section of the DIGITALAX marketplace
- Meta Source vaults — 3D, 2D and other digital design file submissions to public domain repositories for unrestricted use by any and all creators
- Deploy custom designer NFT marketplaces — with shared secondary marketplace orderbooks within the Realms subsection of the ecosystem
- DLTA System — On-chain NFT appraisals. Join a guild, stake whitelisted NFTs, and earn native tokens through ranked appraisal incentives
- LOOK composable fashion NFTs — inspired design primitives with on-chain narrative connectivity and inputs for procedural generation
- Fractional Garment Ownership on-chain library — mint digital pattern, material, and texture ERC-1155 NFTs for incorporation into original and derivative designs with greater provenance



WEB3 KEYS

The DIGITALAX protocol is geared towards a practical understanding of NFTs as unique keys to production and stamps of status recognition, first and foremost.

Speaking plainly: NFTs are stamps, evolved. Now equipped with features previously reserved for keys, digital displays, and time.

It is easy to forget how profound a simple stamp has been throughout all of history before first, the internet, and now, web3. We'll save the history review here, for the sake of time and clarity.

All a creator, collector, or other interested person needs to know in order to make good use of the ecosystem is that keys are simple seeming on/off switches of great power — like transistors likely powering the device allowing you to read this on a screen, projection, or print out of some kind — and stamps authorise passage of messages, transactions, people, and things between times and places. Usually within the display of a pretty picture.

They can also be used to mark many things — like affiliation to a group.

If this all sounds similar to how NFTs are used to gain access and signal status in a DAO, that's no accident.

COMPOSABLE MACHINES

Instead of avoiding the risk of change in dark forests, NFTs within our ecosystem behave like iconographic machines to transform high fidelity concepts into simple, repeatable, and composable design patterns for common use.

Beyond the binary switch of keys to turn them on/off — open/closed — the ecosystem makes use of standard reusable blocks of code composable in ways that can be explored at three levels of abstraction:

ATOMIC COMPOSABILITY

A simple concept wrapped in thick language, because systems fail and it isn't often obvious why. Simplification and abstraction of every part can reduce the likelihood of failure when systems become larger and more complex.

In other words, for maximum flexibility within the ecosystem each part is composable. Multiple objects, mechanisms, properties, and operations exist simultaneously as interconnective building blocks.

Each retain their own identity, independence from each other, and a range of executable actions they perform on their own.

When combined for a new purpose, they maintain their own interchangeability and range of actions.

MORPHOLOGICAL COMPOSABILITY

New compositions made from composable parts are also composable. Composability is maintained even while these mechanisms are used or background conditions change.

Compatibility within this diverse set of contexts requires collaboration and coordination on interoperability standards, with deliberate preparation for shifts in dimensional perspective. Real world conditions change and morph.

Composable mechanisms are designed to minimise how much can break when the ways they are used are exposed to even the most simple of human behavior.



NARRATIVE MACHINES

Machines are what they do, and our stories give them power.

In order to tell a story well — and move markets to action — a rich set of building blocks and flexible worldview are needed. Any individual not equipped with portable symbolic mechanisms (i.e. high narrative, utility, and status density NFTs) which carry abstract intentions into repeatable action, is not prepared for the transformation of economies and culture underway.

The machines we use to convert stories into reusable assets change the spatial, temporal, and intersectional dimensions of everyday life in the process.

Fashion is, and has always been, a rich narrative medium for composable machines. Necessary for survival and status signaling in dark forests of all kinds.

DIMENSIONAL ASSETS

The mediums where machines operate, messages are expressed, and cultures are discovered, retrofit, and exchanged are measured by their dimensions.

The word 'dimension' when used as "a portal into another dimension" lives a double life as a multiversal time and place. A coordinate reality. Or, one of many realms within the infinite open metaverse.

Here, we use the concept in all of its meanings, and recognize assets which have dimensional traits as more relevant and consequential when compared to those of a more flatland nature.

You may have a message, printed as a design, on the fabric of physical apparel. It may be a single piece, limited edition, or from a mass release collection.

What kind of life does it enable beyond the glances you get, protection from elements in the physical world, what you carry in its pockets, or a jpeg that is pretty to look at?

Web3 fashion NFTs are made from composable machines to be what they do: live with you as dimensional assets in an open world, narrative building range of places, times, and dynamic relationships.

The ecosystem is built for today and tomorrow, when a seamless transition between dimensions becomes commonplace.

These six areas of focus are a good place to start for a new dimensional traveler:

INTERACTIVITY — The game like power of interaction with the narratives, products, tools, and assets we own and use adds layers of active, potential, and composable value to any dimensional asset.

FABRIC — How fabric for apparel, equipment, fashion accessories, outdoor and interior design is made evolves alongside the patterns and programmatic trigger content printed or woven to it. Dimensional assets make active use of content triggers like QR portal codes and other AR keys to bridge between digital and physical spaces for human interaction, adventure, and commercial activity.

SCREENS — Digital displays continue to miniaturise component parts, become more flexible, with higher resolutions and lower costs for production. From phones to HMDs and floor to ceiling storefront window dioramas, display screens are changing how we understand the dimensions of creativity in profound ways.

PROJECTIONS — The ability to use projection mapping to transform a plain box in 3d space, IRL and in virtual simulations, into a rich and portable immersive experience is a power tool and skill NFT creators and collectors can use to attract a wide range of hyperengaged crowds and collaborators.



QR PORTALS — The simple QR code has a new role to play as portal keys to emerging metaverse storefronts and web3 immersive experiences.

MARKETS — Dimensional assets offer new ways to understand the value of self-sovereign ownership, access, status, and use in NFT markets and throughout a more diversified creative production economy.

Do more with what you own and use. Break free, between dimensions.

WHERE THEY LIVE

As a creator, collector, or curious mind of another kind, when does this dimensional expansion matter to you?

Let's consider a freestyle interactive fiction glimpse at the near future, made in collaboration between the authors of this edition and GPT-3:

You're walking down the street in your hometown, looking at the various storefronts and window displays. You see some streetwear that you like and know that you could either buy it now or make it yourself with the DAO governed member access you picked up for the new co-factory with local fabrication machinery nearby.

You decide to buy the ready to use streetwear, and collect that rare NFT it comes paired with. The embedded 3d design files are CCO and can be put to great use when you're feeling more creative later.

You get a notification on your phone screen of live bids coming in for previous items you've collected, worn, or made. While catching up on auctions, fixed price sales, and the latest market drama (which never goes away), you can't help but look at all the DMs from blue checkmark profiles on the decentralized social media platform that has finally replaced your use of Twitter and Instagram entirely.

Scroll to the latest sticker swap offer, and while you're at it quickly respond to the surprise collab request from that one designer you've always admired.

The dimensions of this reality are not far from where we are now. For some of us, it is already more vivid than previous daily life.

CCO SUMMER

We tend to believe that creativity comes last. After impossible work, and limited to the rare genius.

But the truth is that everything you experience is already creative, long before the story calls us to action, in ways that make us feel something on a level that can be social, personal, political, or just part of the culture we find ourselves in. It is with an abundance of creative works to draw inspiration and understanding from that we gain more freedom to act for ourselves.

To accomplish something we have to believe first in a story of what the future can hold.



Open access to a diverse library of creative works provides inspiration and guidance to innovators in all creative fields. The ability to access and share knowledge and skills allows for a flourishing of human creativity, including new ways to monetise original and derivative works.

NFTs with CC0 content accelerate this process by shifting what is valued to how content is used to represent status, gain access to events and experiences, enable group affiliation, keep a history of provenance, timestamp original authorship, make a statement about the free expression and exchange of creative ideas, and provide visual anchors as composable building blocks for mediums where new economic models can take root.

Rather than locking down what other people can see or limiting the reach of content, public domain creative works spread their message to the largest number of people who can appreciate them today and far into the future. This summer, CC0 shines throughout the NFT verse.

DESIGNER REALMS

The DIGITALAX ecosystem does not limit creative works, designers, or collectors to interact only through general marketplaces and other core features of the protocol. It also serves as a homeport for the launch of fully open source and forkable Designer Realms.

Realms equip designers with the composable tools and infrastructure needed for a comprehensive token economy with native incentive mechanisms, blueprints for immersive storefronts, fair distribution mechanisms, modular supply chain elements and interconnected markets on their own custom smart contracts providing the best combination of creative autonomy and strength in numbers.

This “many branches, with one shared root system” design pattern brings dimensionality into the protocol layer.

MERCH DROPS

The drop is a strategy that originates in the fashion world. Brands unable to unlock sales with mass marketing and centralised factory oversaturation fall to indie streetwear designers dripping with authenticity. Nimble collectors rely on their own skills to hunt for key info needed to be in the right place, at the right time, for the right collection.

Barriers already disappear between creators, buyers, and all attracted to the culture and spectacle with the use of simple tools for mobile communication.

The web3 fashion market goes harder in this same direction.

Far beyond yesterday's social media, designers use the DIGITALAX ecosystem to enhance product availability, novelty, utility, and the means of distribution.

DECENTRALISED COMMERCE

The DIGITALAX ecosystem provides the composable blueprints, contracts, and customisable interfaces necessary for decentralised commerce (DeCo) to be used by designers minting through the general marketplace, developing their own Designer Realms, and through the DRIP apparel marketplace, showcasing the power of decentralised commerce in action.

When commerce started is lost to time. Alongside the stretching and spinning of natural fibers into thread, long ago an early human decided to add a few new dimensions to the simple practice of trading one desirable thing for another.



In recent memory, the global transformation of commerce from local brick and mortar retailers to big box behemoths set the path we continue to evolve today.

Digital commerce was the next step.

First with the rise of search engines that could seemingly find our every want and need.

Then primitive e-commerce storefronts, dominated early by anti-competitive “everything stores”, like Amazon, leveraged economies of scale, efficient logistics, and the shift of centralised mass production to China, to push competition out of the market while making cheap consumer goods more accessible to all.

Platforms reselling cloud computing resources as e-commerce-as-a-service storefronts, like Shopify, follow. Along with hype marketing promises about dropshipping that underdeliver.

Mobile and social commerce expanded the reach and flexibility of how, when, and where we could buy and sell. But the rough sketch of how commerce works hasn't changed much.

Decentralised commerce is a real transformation.

Platforms for commerce become unbundled as payments, inventory management, data storage, customer relationship management, loyalty and rewards programs, media distribution, merch drops, creative collaborations, and everything else needed are made truly self-sovereign and peer-to-peer.

In these markets, everyone is a creator, seller, buyer, and distributor, whenever or wherever we choose to be. Often across multiple dimensions at once.

Our self-sovereignty advances with each transaction — across all 13 degrees of freedom: self-determination, ownership, affiliation, status, story, style, movement in 3 dimensional space, and time.

This means creative, economic, and personal independence grows as each person adds to networks of decentralised commercial activity.

DECENTRALISED PRODUCTION

Spread out geographically, decentralized fabrication and production are often used for custom or niche products that are not mass-produced. As web3 changes the incentive and participation model of textile and industrial production, even mass produced runs which outcompete more traditional megafactories will become commonplace.

Decentralised networks of mini-factories can be used by creators of fabrics, apparel collections, printed goods, and more complex product assemblies to anticipate customer needs with greater flexibility and personalisation.

Decentralisation offers efficiency gains and is more environmentally friendly than centralised manufacturing, since it eliminates the need to transport goods long distances and allows for more location independence for each contributor to the creative production process. As supply chains no longer need to depend on the labor and human rights practices of a small handful of nations with dominant manufacturing centers, there are also global economic and security benefits.

The key to scale for decentralised production practices is token governed coordination between designers, equipment providers, materials suppliers, product distribution channel operators, patrons and collectors across every dimension of advanced creative fabrication.

The DIGITALAX ecosystem continues to grow custom protocol features and support for patrons and DAOs that directly move the decentralisation of all layers of design and production forward.



IRLOMMMDCE

As a player you maneuver through dimensional time and space. The first map of this area appeared when you snapped a random QR code, printed on the most eye-catching set of street stickers you've seen in a while.

You'd heard the rumors of a new game. But never guessed it would be like this.

In the year 2022, the world is a very different place. The boredom economy of eras past is fast being replaced by a mouthful better suited to its acronym: A game layer for IRL open metaverse massive multiplayer dungeon crawler economies doesn't quite roll off the tongue.

Players choose their own roles, as characters with decentralised identities, frenly crews, and dimensional apparel — equipped to explore dark forests in search of loot and glory.

Go forth! Collect rare NFTs from secret drops and use them to find your crew, join a guild, unlock new treasures, get them appraised, raise your status, survive in turbulent times, and improve every dimension of this great open world.

PROCEDURAL GENERATION

Continuous development of enhancements to the DIGITALAX protocol makes it easier to create and build on open source and public domain works. Composable assets, custom interfaces, Designer Realms, marketplaces, immersive projection experiences, and IRL game layer mechanisms provide a base foundation for the scale up of the web3 open metaverse.

However, many underestimate just how much content is needed as the seamless transition between digital and physical dimensions becomes more real by the day.

To get good results, from python scripting in open source 2d\3d design tools like Blender to AI narrative and visual content generation, is more challenging than it can seem to the uninitiated. Prompt engineering is an art in itself, and a skill widely recommended for any indie web3 fashion designer to pick up as you grow your Realm, community, and markets.

From GANs to Diffusion Models, and every uncanny leap forward yet to come, the DIGITALAX ecosystem will continue to explore the leading edge in engineering and machine learning in pursuit of fascinating new creative works.

HOW TO MAKE IT

As the intrepid creator, collector, or dimensional navigator proceeds through sectors of the ecosystem a question echoes throughout our industry and reflects a deeper global anxiety in all markets and cultures: how do you actually make it with these tools you now have?

The power of networked self-sovereignty enabled by web3 is greater than the promise of all speculation we have seen to date. But the path is not always easy or quick.

We recognise training in new skills — at the intersection of advanced technology, machinery, apparel, and art — is hard.

Designers and collectors alike need more direct community feedback, more reliable methods of practice and discovery, and ELI5 clarity about what the primary concepts in decentralisation are — including what they mean, and why they matter for day to day ownership and use.

The DIGITALAX ecosystem continues to create in house designs, content guides, and immersive experiences that help you navigate this dark forest. The core team will continue to lead by practical example and showcase the best uses of the protocol for a more well lit path towards wide adoption and general understanding.



As we proceed, our next great priority is to make sure how to make it in web3, make bags, and not lose your soul becomes a message carried in every dimensional pocket, IRL, in the nascent metaverse, and wherever else curious minds may travel.

THE FIT

We have covered here, in previous editions of this whitepaper, and in many written and video posts in depth which you can find on the revamped DIGITALAX website, how each subsection of the ecosystem fits together to create a set of tools and resources greater than the sum of its parts.

From GDN to ESPA.

From MONA governance to deployments on Ethereum, Polygon — and ZK rollups ahead.

From the power and value of CCO for true creative independence to why it's so important for us to include FGO and 3d design file source materials in our NFT mints.

With v3 it's not just about the continued building of new components. The focus is on upgrades, refactoring, enhancements, use of NFTs IRL, and scaling — how the comprehensive ecosystem gives web3 creators, collectors and engineers a clear path to practical self-sovereignty in every dimension.

There is far more to come. See you there.

