



The Endless Foundation
Whitepaper 2022

Web 3 Creativity Protocol

Multiplayer Social Creativity. NFT Marketplace. Curation Token.



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About

Endless is an end-to-end social creativity ecosystem which unbundles media from a product we consume alone into a collaborative journey where participants co-create, discover and collect media in real time to assemble, curate and own their cultural identity.

Our journey so far

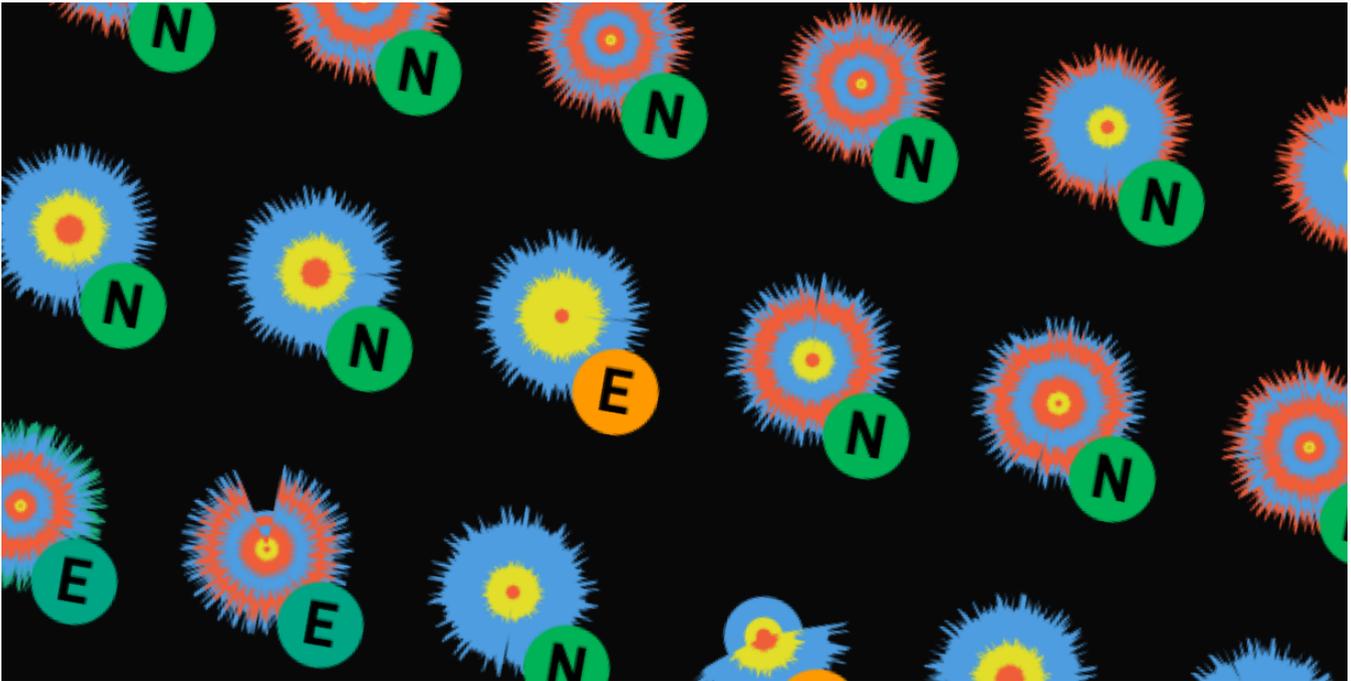
Creative Tools

Over the last 2 years, Endless has shipped iOS, MacOS and Windows apps for live collaborative music creation and platform infrastructure which enable creators to start, join and participate in collaborative 'jams' using the Endless apps.



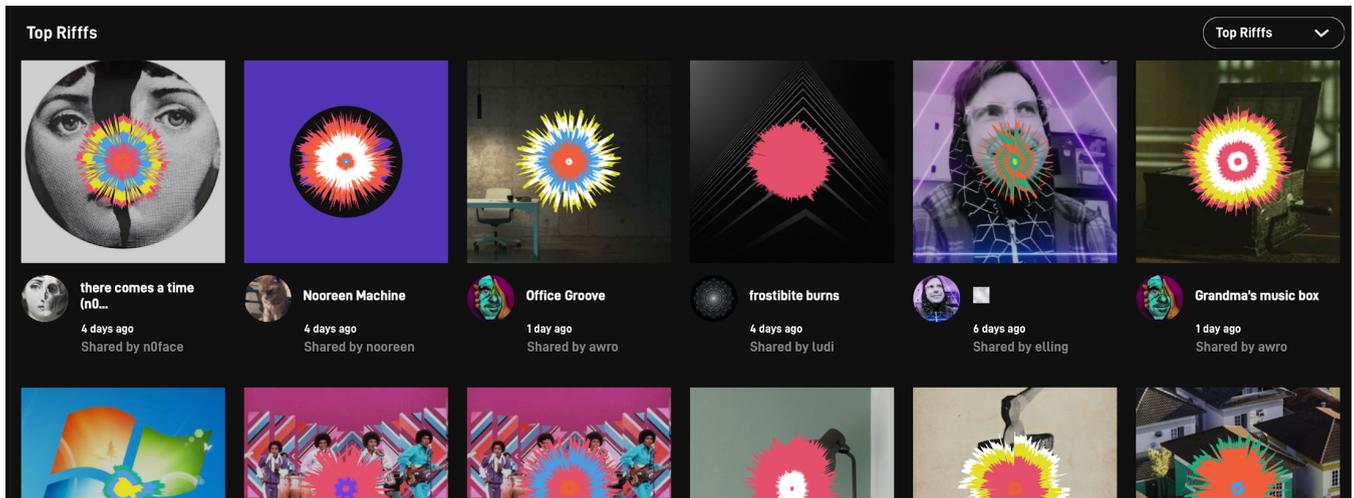
Collaborative infrastructure

Within an Endless jam, participants add to or remix an ever-growing, fully-attributed history of 'riffes' which serves as a journal of musical creativity in that jam. This journal can be browsed, played back, forked and remixed in an endless musical conversation. Jams function as both synchronous and asynchronous collaboration channels..



Creative Transformation

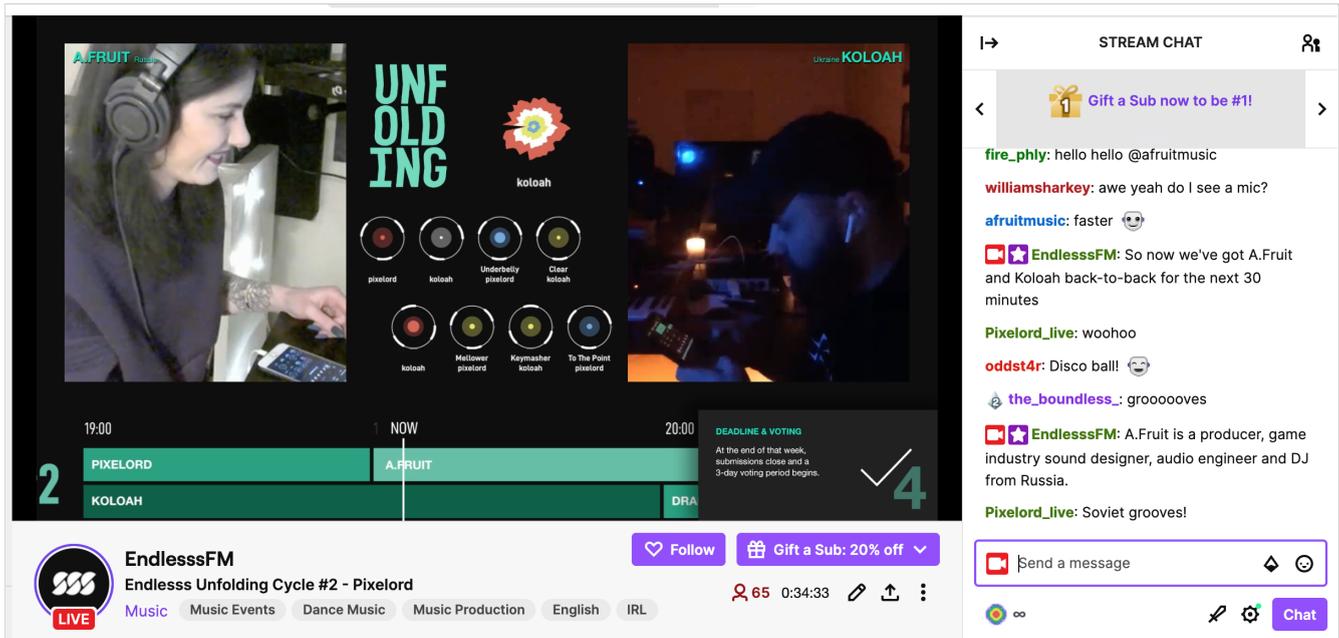
Endless transforms musical creativity from a monolithic, solo production process to an ever-evolving series of conversational social interactions represented by 'Riffs'. Riffs function as an interactive media asset with context-rich metadata about who created them, how, when and where.



Community

Around the Endless products and platform, a deeply engaged community has emerged, coordinating ongoing collaborations and community-led projects based around the platform.

Endless hosts over 140k user accounts who have created over 6m original Riffs.



Value thesis: from cultural access to cultural association

Today's model for cultural value-capture focuses on access to media and experiences. This one-size-fits-all model fails to capture and often destroys the unique and compounding value of our individual proximity to cultural context. We propose a new model empowered by web 3 to capture the value of proximity to cultural context at scale, based on association-with rather than access-to media and experiences.

Access-value and economies of scale

For over 150 years we have valued culture in terms of access. Today we're accustomed to paying to acquire or lease the rights to access media and experiences which entertain us and connect us to our shared culture. In the case of music, this started with etching the same waveform onto multiple wax cylinders and selling them. Most recently, we pay a monthly subscription to rent access to a near-comprehensive catalogue of music stored on centralised servers which can be accessed and listened to on demand.

Under the access value model, the winning strategy for cultural producers is to maximise reach by creating a single, highly-replicable cultural product which the largest possible audience will pay fixed prices to access. This incentivises cultural producers to create experiences which appeal to as many people as possible while incentivising operators of distribution channels to select and promote cultural products with the widest appeal.



Shortcomings of the access value model

Optimising one-price-fits-all cultural products for reach at best fails to capture the value of cultural context and relational intimacy. At worst, these products destroy contextual and relational value in favour of cultural experiences which provide distraction and pain relief only for the duration of the experience, at the expense of our quality of life outside these experiences.

Examples of the negative externalities of the access value model are:

- Addictive patterns in media consumption: doom-scrolling, boxset-bingeing
- Destruction of local culture at the expense of global culture
- Accelerated cycling of ephemeral trends to fulfil the need for novel experiences
- Environmental destruction due to short relevance cycles of physical cultural goods
- Anxiety due to loss of identity
- Anxiety due to loss of purpose
- Anxiety due to loss of belonging

Pre-industrial cultural context and proximity

Before industrialised media, culture was produced, consumed and transmitted locally within small communities. We were able to access culture to the extent we were associated with the context in which it was produced - the people, location, traditions, crafts and skills which we were in proximity to. Our proximity to these contexts and our shared history amplified the impact of our cultural experiences. The value of our participation in culture was cumulative and compounding. The more we interacted with our cultural context, the richer our historical and social associations, the greater the value of our past, present and future cultural participation.

When the industrial media revolution began, no technology was available to capture the unique value of each participant's cultural context within media products. Instead, industrial media captured value by scaling replication and distribution of cultural experiences with the widest appeal.

The advent of the decentralised connectivity of the internet brought the ability to assemble social graphs to capture the compounding value of social network effects. However social graphs have been unable to capture the value that flows through the connections they represent and have instead been used to farm the attention of participants in the network, accelerating the negative externalities of the access-based value model.



The opportunity: unlock compounding associative value at scale

Now web 3 technology can be used to track and verify the history of our cultural interactions. This presents a unique opportunity to shift to a new cultural value model which captures the unique and compounding value of social and historical connections we accrue through our interaction with each other and the cultural artefacts we create and choose to associate with.

The Market

Today, NFT marketplaces have built the first bridge-head to a new value model where we construct and own our cultural identities through the media we choose to associate ourselves with. Marketplaces like Opensea and NFT projects like Yuga Labs' Bored Ape Yacht Club have proved the demand side of the associative-value model, showing market appetite for collecting cultural artefacts which connect owners to deep cultural contexts and communities.

NFT sales volume — **\$25Bn in 2021**

The global creator economy — **\$104Bn in 2021**

Cryptocurrency market cap — **\$1.8Tn**

The Problem

NFT marketplaces have solved how we acquire the digital assets we use to construct our identities and top NFT projects have shown how to drive associative value around cultural artefacts, but they have not solved how these artefacts are created.

Creating media optimised for the access-value model requires tools which are optimised to produce experiences with the widest possible appeal. The best tools for this purpose are:

- Complex: they're heavy on features and options
- Private: they're optimised for a private creative process
- Monolithic: they integrate the entire complex creation process into a single process

Creating media optimised for the associative-value model requires tools which are optimised for building contextual connections. The best tools for this purpose are:



- Simple: their operation and impact must be comprehensible for both creators and consumers. The more the impact of the tools is understood, the greater the relational value of the media they're used to create
- Social: they must be optimised for social creativity. The more social interactions they prompt, the greater the relational value of the media they're used to create
- Atomic: there must be many tools, each optimised for single uses. The more atomic the tools are, the more social interactions they prompt and the broader the range of combined expressions.
- Maximally attributive: they must capture as much data about their context as possible

These tools have simply not been built yet.

The Solution

Endlessss proposes a protocol for real time collaborative creativity based on open-source, composable software and decentralised network infrastructure. The protocol is designed to empower an ecosystem of independent toolmakers to build tools, products and experiences which empower participants to create, discover, collect, trade, curate and display media assets as they accrue value through building historical and social context.

Components

- Real-time collaborative media creation app infrastructure
- Open-source SDKs for third-party developers
- Audience experience tools for discovering, attending and participating in live jams
- Marketplace tools for minting, collection and trading of creative works on the blockchain
- Agent-owned profiles for curating your identity
- Network-wide API, hosted by the Endlessss Foundation, curated by \$ESSS token holders

Business Model

Revenue is generated through the sales of digital collectibles represented by non-fungible tokens of works created within the Endlessss ecosystem by the Endlessss community. Revenue from these collectibles is split between the creators of the work and the makers of the tools they use to create them. The Endlessss Foundation will receive a network fee for all transactions that take

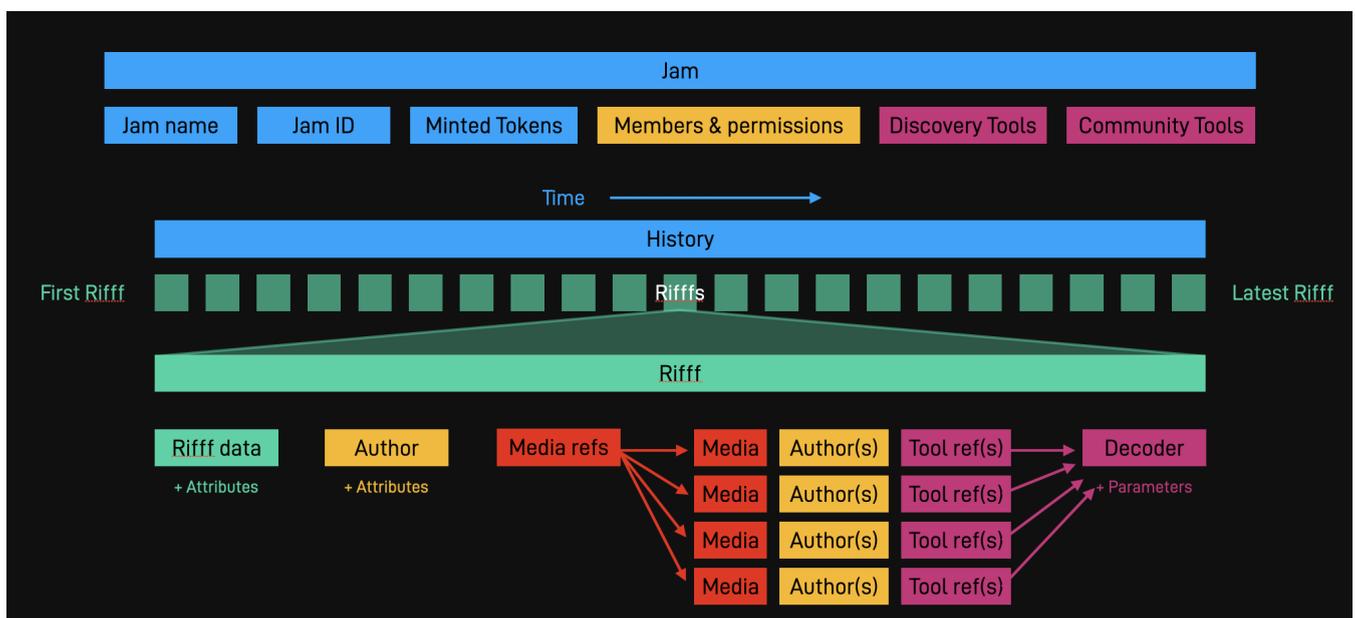


place on the marketplace. All funds received by the Endless Foundation will be used to maintain and develop open-source software and infrastructure.

Real-time collaborative media creation app infrastructure (jams)

This is the infrastructure layer which empowers toolmakers to build tools that allow one or more participants to start, join, view and participate in a stream of collaborative creativity, synchronously or asynchronously. It comprises

- A data schema for structuring and indexing a fully-attributed history of conversational collaborative creativity in any digital medium
- Standards for attribution of all participants and makers of tools used to create works in a jam
- Standards for algorithmic calculation of royalty splits due to participants
- Database and app infrastructure for reading from and appending to the jam and sending notifications to subscribed members.
- Decoder standards describing methods to read, composite, arrange and display collections of multiple media files,
- Encoder standards for modifying, adding to, arranging, rearranging, re-compositing and writing collections of multiple media files
- Cross-platform decoder and encoder SDKs to enable toolmakers to rapidly develop creation tools to use with Endless





The schema describes how a fully-attributed, historised, expandable database of creativity within a jam is structured.

Jam attributes:

- Jam name
- Jam ID
- Member names & IDs
- Member permissions
- Included discovery tools
- Included community tools
- List of tokens minted within jam

History structure:

- Expandable, time-stamped index of riffs created

Riff structure:

- Time and location created
- Author
- Media references
 - Media object location
 - Media object author(s)
 - Author split(s)
 - Creative tool(s) used
 - Creative toolmaker split(s)
- Decoder reference
- Decoder attributes



Open-source SDKs for third-party developers

Decoders and encoders

Decoders are standardised descriptions of editable, remixable collections of multiple media objects which are arranged, composited, rendered and represented as a single multimedia experience.

Today, Endless uses a single decoder for the playback of musical riffs featuring up to 8 looped audio layers with level parameters, layer summing and a simple audio mastering chain. The Endless Foundation will shortly open-source this under an Apache 2.0 license.

Toolmaker SDKs

Toolmaker SDKs are cross-platform open-source implementations of Endless decoders and encoders optimised to give toolmakers a rapid path to development and deployment of new tools.

Marketplace tools for minting, collection and trading of creative works on the blockchain

The Endless marketplace provides functionality for collectors to purchase and trade works created within the Endless ecosystem.

- Creators set jam-wide price for which any uncollected riff in a jam can be collected
- Collectors discover, mint and collect original riffs at jam price
- Proceeds from sale split between creators, toolmakers and the Endless Foundation
- Secondary sales split between creators, toolmakers and Endless Foundation
- Remix royalty for derivative jams created from a collected Riff
- Usage royalty for third party usage fees (licences, sync etc)
- Collectors build, maintain and curate their collection page
- Collector's collection page doubles as secondary market



Agent-owned profiles for curating your identity

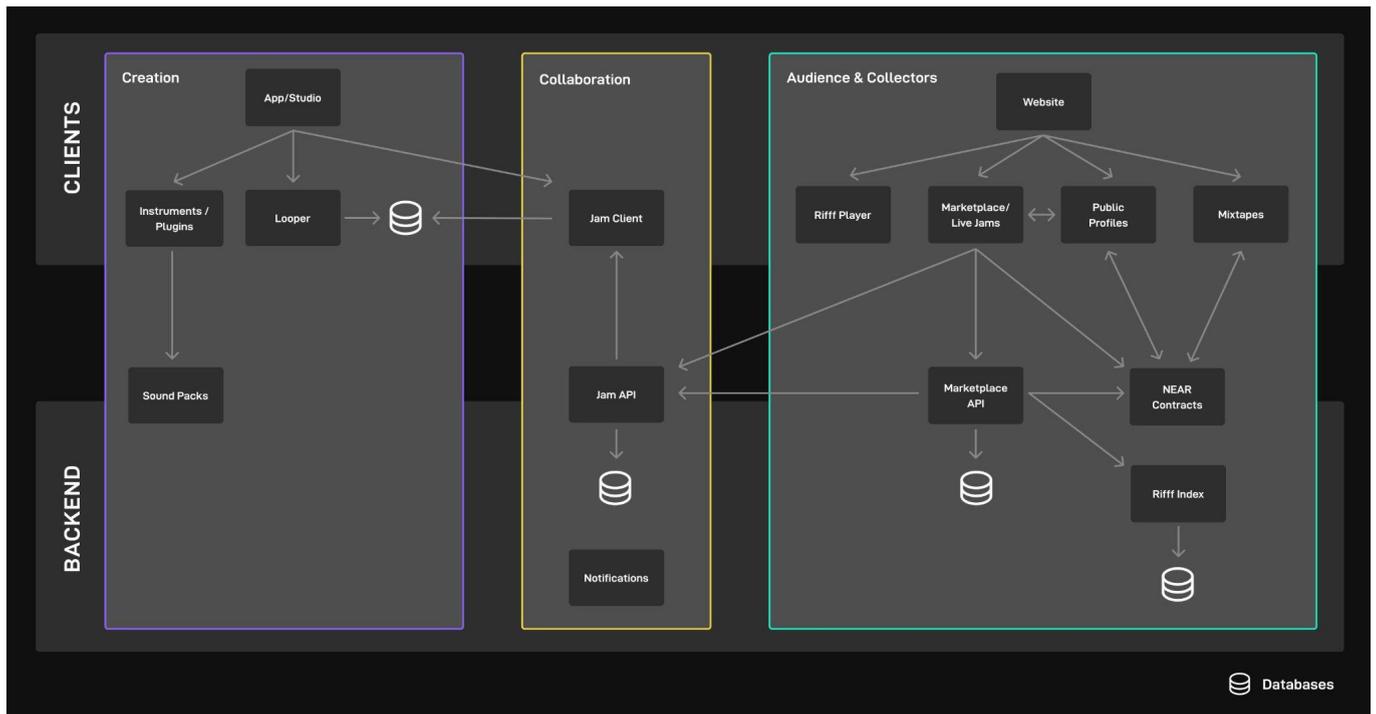
Profiles on social media platforms must be strictly homogenised by the platform owners in order to amplify competition amongst users and drive attention to the platform. In web3, value accrues to and is controlled individually by each ecosystem participant, meaning the design principle is the opposite. The more power an individual has to customise the look, feel and functionality of their own profile, the greater the richness and value of the ecosystem. Agent-owned profiles will allow participants to configure, arrange and display:

- Your owned assets
- Statistics about your actions in the Endless ecosystem and elsewhere
- People you're connected to in the Endless ecosystem
- Actions you can take to interact with the profile (follow, message, invite to jam)
- Links to your profiles with other online platforms and locations
- Custom modules developed by third parties

Open-source network-wide API, hosted by the Endless Foundation

The Endless API is an indexing and API service that aggregates on-chain and off-chain data associated with participants and jams in the Endless ecosystem and provides a single point to query, read and write this data from. The amount of \$ESSS curation token that has been staked on a particular participant or jam will affect the order in which data is returned by the API. Jams and participants with more tokens staked on them will appear nearer the top of any API queries.

The Endless API will be developed as an open source application which anyone can run. The Endless Foundation will run an instance of the Endless API as part of its mandate to support and maintain infrastructure in the Endless ecosystem.



\$ESSS token - curation utility

Value proposition

Use your \$ESSS to support and promote your favourite people and jams, build your connection to the community and get rewarded by those you back.

Curation mechanism

1. Lock X tokens for Y months to a jam or participant in the Endless ecosystem
2. "Backers" are rewarded for locking their \$ESSS to a jam by the jammers however they wish from exclusive NFTs to personal mentorship or meet-and-greets
3. Jams with most tokens locked to them become more discoverable through the Endless API and on the main Endless website.

Price driver

- Clear value proposition for the token
- Incentivises holders to lock up tokens and keep them in the ecosystem

Ecosystem dynamics

- Incentivises network-building
- Incentivises curation and promotion
- Incentivises persistent generation of new projects, new spaces, new jams



- Provides a launchpad with complete autonomy once the launch phase is complete
- Once a jam is established and has organic momentum it can become its own economy with unbounded outcomes - it could even become more valuable than \$ESSS

Structure - The Endless Foundation (CH) + Endless Ltd (UK)

The Endless Foundation's mandate is to incubate the Endless ecosystem by

- Raising funds as needed to carry out its mandate through the sale of tokens
- Providing and maintaining infrastructure and SDKs that empower toolmakers to build compelling products for discovering, starting and joining jams, creating collaboratively and collecting and trading creative artifacts
- Providing economic incentives for toolmakers to build tools through toolmaker grants and smart contract splits
- Providing economic incentives for creators through creator grants and royalties on sales
- Providing economic incentives for collectors through royalties on sales
- Promoting adoption of the ecosystem through marketing and outreach

The relationship between Endless Ltd and the Endless Foundation

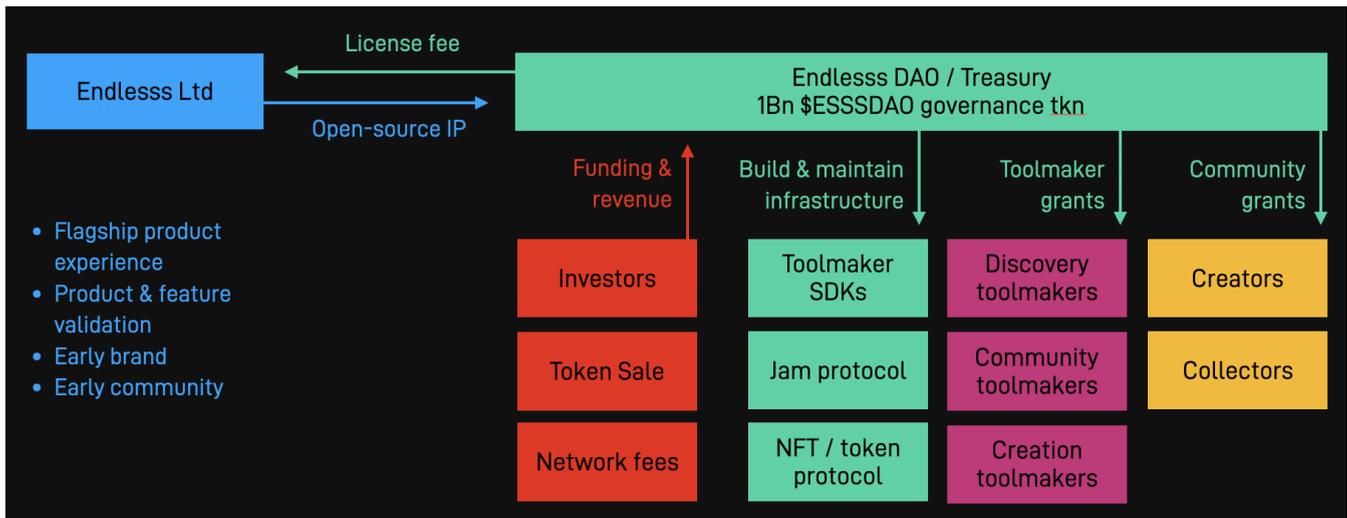
For the first 24 months, the Endless Foundation will contract Endless Ltd to

- Carry out foundational work on building the jam protocol
- Carry out marketing functions on behalf of the Foundation
- Carry out community management functions on behalf of the Foundation
- Build and launch the first live digital collectible creation product

Additionally, the Foundation will purchase a perpetual license from Endless Ltd to

- Use the Endless brand and its marketing and social media channels
- Build open-source toolmaker SDKs for the Endless music decoder derived from the music decoder developed by Endless Ltd

As the ecosystem reaches maturity, Endless Ltd will become one amongst many other toolmakers in the ecosystem. Toolmakers will generate revenue from royalty splits where value is realised from works created using a toolmaker's tool.



Grants and Community Working Groups

To incubate the Endless ecosystem, the Endless Foundation will fund community working groups and grants programs to

- Develop the jam protocol
- Develop new decoder and encoder standards
- Develop toolmaker SDKs
- Develop the toolmaker protocol
- Develop the marketplace protocol
- Promote adoption of Endless
- Educate and nurture creators
- Promote well-being and harmony in the Endless community

\$ESSS token - governance rights

Use of funds allocated to the grants programs and community working groups will be decided by the votes of \$ESSS token holders.



Roadmap

	Phase 1	Phase 2	Phase 3
	H1 2022	H2 2022	2023
Creation tool	VST / AU plugin hosting	Improved MIDI mapping, integrate new jam API	Improved live input management,
Social & Identity	Live web player, collection profiles, basic wallet connect	Following, DMs, notifications, improved profiles, improved wallet connection, non-custodial option	Customisable profiles, curation token staking, \$ESSS stake-gated jam & profile features
Marketplace	Smart contract v1 & collectible jams	Remix functionality & escrow for massive multiplayer jams	Integrate with other NFT marketplaces. Programmatic third party licensing
Platform	Handoff from Ltd to Foundation Server-side notifications	Read-only public API for jams, profiles & marketplace	Launch read-write API for jams
Protocol	Handoff from Ltd to Foundation	Build agent-owned jam app	Integrate \$ESSS token
Community	Season 1: community working groups	Season 2: community working groups	Grant programmes
Token	Legal / regulatory	Build curation functionality & UX	TGE / IDO / Airdrop



The \$ESSS Token

Token issue

Beneficiary	% supply	Tokens
Endless Ltd licence	10%	100,000,000
Private sale	16%	160,000,000
Public sale	4%	40,000,000
Treasury	10%	100,000,000
Community	20%	200,000,000
Ecosystem grants (toolmakers, protocol builders, creators)	15%	100,000,000
Team	10%	100,000,000
Marketing	10%	100,000,000
Advisors & partners	5%	50,000,000

Grants

The Foundation will issue grants and bounties denominated in \$USDC and \$ESSS to working group participants, creators and toolmakers.



Fundraising

Over the first half of 2022, we aim to raise \$6-10m through a private token pre-sale and \$4m through a public sale / IDO. These funds will be used to bootstrap the Foundation and ecosystem.

Suggested Use of Funds

Token Allocation	Total Tokens (%)	USD Amount
Endless Ltd technology service agreement	20%	2,000,000
Endless Ltd marketing service agreement	10%	1,000,000
Endless Ltd toolmaker grant	20%	2,000,000
Ecosystem Grants	20%	2,000,000
Marketing	10%	1,000,000
Operations	10%	1,000,000
Others e.g. liquidity	10%	1,000,000
Total	100%	10,000,000



Team

Endless Ltd

Tim Exile Founder / CEO	Aftab Hussain Head of Product	Ragnar Hrafnkelsson Senior Full Stack Engineer
Matt Duncan Senior Full Stack Engineer	Adam Stark Senior Full Stack Engineer	Jaimen Laitha Senior Backend Engineer
Joshua Fry Head of Design	Jack Howard Social Media Manager	

Community team

Littlewing Community Manager	Firephly Community engagement coordinator
Elling Lien Community growth coordinator	William Sharkey Developer community coordinator

Endless Foundation

Yessin Schiegg Swiss founding council member	Tim Exile Founding council member	David Atkinson Founding council member
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Advisors

Foundation	Ltd Company	Artists / Investors
BT	Imogen Heap	Imogen Heap
Christian Erickson / Zeus Jones	Cliff Fluet / Eleven Advisory	Flux Pavilion
Ben Perreau / 6, \$FWB, SYPartners	Stephen O'Reilly / IE:Music	Jon Hopkins
Raihan Anwar / \$FWB	Ben Perreau / 6, \$FWB, SYPartners	Joey Santiago
	Will Mills / LyricFind / Audoo	BT