Aspen

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dCOLLECT Whitepaper 1.0

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www.aspenlabs.io

Table of Contents

Aspen

ABOUT THE COMPANY

Aspen Labs is a decentralized application company. We specialize in three dAPPs that form the core of our decentralized finance protocol; dCOLLECT, the Hypersphere Exchange and dLEND.

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Aspen

ABSTRACT

dCOLLECT is a zero fee NFT marketplace, Aspen Labs NFT point-of-sale, NFT staking platform and eventual gamified NFT experience. Users can sell, earn passive income or participate in a virtual world with their Aspen NFTs. Allowing users to monetize their activities via multiple vectors.

Aspen NFTs are ERC-1155 standard, each are 1 of 1 and linked to a specific historical event, person or document. Collectively each series represents a larger moment in human political, social or economic history.

Collectibles and/or artwork have been a store of value, this does not change due to the vector of transmission i.e canvas vs pixels. Art tends to appreciate over time, often exponentially. But what happens in the intervening time between sales? It is hard to gain access to liquidity without selling or pawning the NFT. Aspen Labs wanted to create additional utility for users who held our NFTs. The best method for this is to allow holders of NFTs to earn passive income via staking to earn Aspen Tokens. We have built one of the first smart contracts that will allow users to stake and earn on their NFTs earning significant access to additional capital over time.

Could dCOLLECT be even more than just a zero fee marketplace or one of the first NFT staking platforms? We believe it can be gamified. Our NFTs are derived from historical events. It led us toward the thought that we can create a customizable virtual world map. Each plot of virtual land would be linked with the ID of an Aspen NFT via an Ethereum smart contract.

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ABSTRACT

Users would have the ability to customize their plots within the virtual world, enter into governance organizations to share and spend resources and the creation of micro economies. ASPEN will be used for in-world purchases.

The world is completely decentralized, once created, Aspen Labs will not act as a central authority. We will only provide software updates and addition of new functionalities desired by the community. All governance will be maintained by the users themselves via their NFTs and will remain an open-source, open-world for all users to engage.

This whitepaper will elucidate the technological, philosophical and economic foundation that Aspen Labs has for the dAPP, dCOLLECT.

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1.0 INTRODUCTION

dCOLLECT provides a platform for the sale and distribution of Aspen NFTs as well as virtual ownership of plots on a global map corresponding to the historical location to the NFT that you own. The virtual world allows for decentralized transfer of ownership based on the underlying NFT, creation of content on the land that the user owns and the subsequent development of governmental structures and creation of micro economies.

1.1 WHY?

The start of 2021 has seen the massive development of the NFT industry. Protocols have allowed you to create your own NFT (Enjin) to decentralized virtual land ownership (Decentraland) to unnecessarily centralized yet nonetheless popular platforms (NBAtopshot). A lot of development has occur in the years leading up to 2021 to allow the ecosystem to achieve the type of growth that has happened. Some have embraced the concept while others seek to restrict its growth, but the limitation of others is what creates opportunity for our community.

We began the ideation stage of Aspen Labs in December 2020, with our original De-Fi exchange concept the Hypersphere Exchange, a 4-D project that would allow for single pool trading of all assets with cross-chain compatibility. This concept is going to be released on the Moonbeam parachain of Polkadot in the coming months and will receive its' own whitepaper. The concept of dCOLLECT emerged after rigorous internal team discussions, the goal remains to create something rare, non-custodial and financial beneficial to the potential users of the protocol.

1.1 WHY?

Given the imminent release of Moonriver/Moonbeam at the time of writing, Aspen Labs has concluded that now is time to begin the creation and implementation of the dCOLLECT dAPP. Moonbeam will run an EVM (Ethereum Virtual Machine) allowing lower transaction fees and higher speeds. Additionally, cross-chain functionality should be possible on the platform, which would help increase accessibility to dCOLLECT, the Hypersphere and dLEND.

Our end goal for all our dAPPs is to have and maintain universal cross-chain interoperability, giving access to our applications to the widest possible user base of digital asset users.

1.2 A NEW CIVILIZATION

Virtual land in dCOLLECT is finite, just like land on our planet. Each parcel is intrinsically linked to an underlying Aspen NFT asset. The land is activated once the NFT is sold and is in the possession of its owner. We would borrow the concept of adjacency from Decentraland, but increase flexibility and inevitably the utility of each virtual property. Adjacency allows for the creation of districts with themed content relating to each other. But, we would like to allow for virtual land owners to enter into governmental arrangements that can help boost each others virtual land utility, establish guidance for content and be supported to create micro economies within their governance ecosystem.

1.2 A NEW CIVILIZATION

For end users this creates locations that generally have content or applications that are familiar for them. Also this allows content creators of similar interests to work together in a given location in the virtual world. The nature of our virtual world, provides the ability to maintain complete autonomy from any centralized authority. Land owners are free to enter into any governmental arrangement with any other virtual land owner anywhere within the virtual world.

1.3 MICRO-ECONOMY

Aspen NFTs are able to earn Aspen as a staking reward. In the future other protocols may wish to launch their tokens via NFT staking. Aspen will act as the native currency for the dCOLLECT virtual world.

We want developers to benefit from multi-vector economic incentives. We have already built in the case for appreciation of the underlying NFT and the potential for passive income earned via staking. Additionally, any service, application and event hosted of the the virtual property in-world can be fully monetized by the developer.

Crypto already allows for this trustless interaction to occur. Developers may need specific accounts to be supported or in the case of governance organization they may need a vested funds smart contract. For the most part we will leave this to the developers to maintain we will leave the virtual world open for custom payments integrations.

1.3 MICRO-ECONOMY

The intention is to allow developers to have the most autonomy possible in creating applications within the dCOLLECT virtual world. This would mean allowing developers to program user and application interactions. This system would allow rendering of in-world images, buildings and environments, traditional server relationships and P2P interactions.

What can be created within this virtual world is near limitless because of the consensus mechanisms afforded by smart contracts and the blockchain, experimental governance systems can be developed. Developers could create environments to host virtual events. Performances by DJs could be streamed live to viewers. Due to customization options, developers could partner with the performer for a fee and present it for free, offer the event free-of-charge or charge their viewers a nominal fee for participation. Beyond this there are opportunities to provide in-world lending services to developers or to land owners who wish to hire developers to improve their properties. Governance systems could allow for the delegation and distribution of responsibility to create robust networks and entrance into such governance systems may have positive impacts on the price of the underlying NFT.

This micro-economy has the potential to become a self sufficient network of participants. Aspen Labs will provide the framework what developers make of this network is entirely up to their creativity.

1.4 NFT STAKING

This is an important development for the Ethereum network, Aspen Labs has been able to develop a contract that would allow ERC-1155 NFTs to be staked and rewarded in Aspen Tokens. The development of the staking contract will allow the bootstrapping of the virtual world economy.

Staking would enable virtual land owners to have a source of funds to enable the economic and infrastructure development on their properties.

The current staking contract will afford 1,000,000 ASPEN to be distributed at a rate of 100,000/per annum for 10 years. The percentage of Aspen earned is proportional to the amount of the pool owned. If there are 45 NFTs deposited within the staking contract and the user owns 2 of these NFTs, the proportion of the pool they are entitled to is 0.0445%.

Depending on the rate of adoption by our users, there are possibilities that other projects would want to target our dCOLLECT community to help launch their own native project tokens. This inevitably would become another economic incentive for holding Aspen NFTs.

1.5 NFTS WITH A PURPOSE

Governance Structures: The dCOLLECT virtual world will allow for users to experiment with various types of consensual governance structures. Communities could find homes within the virtual world and find ways to expand their influence via governance. It is imagined that different governance structures could interact, support and engage with each other via trustless smart contracts.

1.5 NFTS WITH A PURPOSE

Freedom to Create Content: Users are free to gather, create and produce content on their properties or in conjunction with their wider governance communities.

Applications: The virtual environment of dCOLLECT will allow significant autonomy in how properties are developed and deployed across the network. Customization would allow for games, messaging, marketplaces and dynamic virtual realities. Capabilities would include the creation of virtual building or spaces, the addition of physics on the property, enabling P2P user interactions, payments and API connectivity. The best way to conceptualize this feature is that it would allow the variation and customization that is available across iOS or Android applications.

Adverts: dCOLLECT supports content creation by users or virtual property owners. This enables the creation of space where brands and companies could be interested. Users and virtual property owners would theoretically enter into ad arrangements as individuals or for more negotiating leverage co-operate to create ad fee standards within their communities.

Property Rental: Virtual property owners may not always have the interest, expertise or financial ability to create content or applications on their land. We believe in-world, there would become a demand for rental properties. Users could rent land from a specific owner at an agreed upon rate and develop their project without the need for NFT ownership directly. This opens up a series of economic avenues for users and property owners.

Additional Use Cases: It can be imagined that the virtual world could essentially be as customizable as the internet, allowing for seminars, trainings, in-world events, contests and many things that we may not have considered at the moment. It is a world open to human creativity.

2.0 ECONOMY

The creation of a dynamic virtual world experience requires the same incentives that drive the real world. In the end, these incentives are economic in nature.

ASPEN acts as the in-world currency, it is naturally limited in supply per year and in total supply ever to be minted. In total there will only ever be 45,000,000 ASPEN issued. The realistic cap is around 39,000,000 due to the halving period. The halving period means that the ASPEN token rewards via Hypersphere staking will take 100+ years to completely be distributed.

As it currently stands 1,000,000 ASPEN tokens are allotted to the NFT staking contract to be issued over 10 years at a rate of 100,000 per year. 30,000,000 ASPEN are allocated to the Hypersphere to be issued at a rate of 3,000,000 per year with a halving in the reward amount every 3 years until completion.

The Aspen NFTs would act as the de-facto property deed in this virtual world. Property ownership would be directly linked to the possession of these NFTs. The NFTs are limited in quantity and supply. Aspen Labs collects a fee at the point of sale of NFTs only. Prices may range from $150 to $2,000 subject to the availability and demand. These NFTs act essentially as perpetual domain name and hosting rights for the virtual land ownership to which they correspond.

2.0 ECONOMY

The ability to build your own application, content curating, rental incomes and various other methods previously defined in this paper create a virtual world that is high in economic incentives.

Users have the ability to define, set and agree upon the parameters of payments. It is possible due to the limiting factor that is presented by the availability of ASPEN that the NFTs and virtual land would dramatically rise in valuation over a short amount of time. It would inevitably create a system wherein the earliest adopters of the platform would become rather entrenched within the virtual world. To help alleviate this issue Aspen will not make all land via NFTs available at the same time. Aspen Labs will keep issuing the NFTs at a consistent and reasonable rate to allow for new entrants into the environment. Enabling a hard cap on the top price on NFTs in a given year relative to the current prices in the open market would be a way to allow economic fair play within the virtual world.

3.0 WE HAVE LAYERS

3.1 MARKETPLACE

This is where the NFTs are bought, sold and auctioned in a zero-fee marketplace. dCOLLECT NFTs are randomized at point of sale and each pack contains a very limited supply. This layer acts as the main entrance point to our virtual world and the layer upon which owners can assess the market value of their collectibles.

The marketplace is currently active and operating on the Ethereum network via smart contract. The dCOLLECT will be tentatively relocated to the Moonriver/Moonbeam parachain once launched.

3.2 STAKING LAYER

This is the one of the primary engines behind the bootstrapping of the dCOLLECT virtual world. It allows via smart contract the staking of NFTs to earn ASPEN. Conceivably our network of NFT holders would present a valuable demographic, Aspen Labs will court partners to launch via NFT staking to further provide bootstrapping and passive income options.

3.3 BLOCKCHAIN LAYER

dCOLLECT virtual world will utilize Ethereum smart contracts to track and define property ownership within the world. As previously stated the land and the NFT are inseparable as the NFT represents the ownership title to the in-world property. We plan to launch the platform via the Moonbeam parachain within the Polkadot ecosystem. This will allow for faster and lower cost transactions across the dCOLLECT platform.

The blockchain layer acts as the registry of ownership and the payment network that will tie the dCOLLECT internal ecosystem together in a trustless manner. The property ownership within the ecosystem is naturally limited by the issuance of the NFT. Each property whether New York, Monticello or The Great Wall of China would correspond with an NFT representing a person, event or document with a close relationship to the area.

Additionally, the blockchain layer would act as the governance layer for any internal communities, which have the freedom to code a smart contract fitting to their needs. It could theoretically support escrow for such things as property rentals within the ecosystem.

3.4 DELIVERY LAYER

IPFS (Inter-Planetary File System) would provide the necessary tools to distribute content across the platform as needed. The content files stored in IPFS would describe the orientation, size, texture, sound and visuals a property possesses. P2P functionality can also run via this layer such as messaging or voice interactions.

One issue that could arise, is the cost of running a distributed layer of the size Aspen Labs is proposing. At the start the funds gathered from the sale of NFTs could cover a portion of the costs, but over the long term it may be necessary to envision a system of progressive taxation that enables stability across the virtual world. This is why Aspen Labs wants to enable voluntary establishment of governmental structures, to help solve issue that lie in the future of dCOLLECT.

The obvious benefit is the lack of centralized authority (Aspen Labs or Investors) that could enact any form of censorship or cultivation of favourable relationships with users and/or developers. dCOLLECT will essentially run as an ecosystem free from a major point of failure, centralized authority.

3.5 IN-WORLD LAYER

Due to the lack of centralized authority P2P relationships need to be hosted by property owners via third party servers or established by users themselves. Aspen Labs is providing a blank slate, in relation to property ownership. Developers/owners would be free to source and provide any sort of applications they deem fit.

3.5 IN-WORLD LAYER

Property owners will need to provide servers that enable interactions between users if they wish to host online games in the vain of “Fall Guys” or “Call of Duty”. Most developers would understand this requirement, but before the official launch Aspen Labs will provide a detailed manual on how development and applications can be deployed in-world. It will be the responsibility of land owners to informed users how subsequent interactions with their applications will be handled.

Micropayments can serve as the method to cover the operating costs of applications provide these in-world services. Possibly, freemium models could work as well, but this is completely at the discretion of the property owner.

4.0 CHALLENGES

Content is decentralized so it does present an issue in terms of achieving consistent real time rendering of images, building and textures. The other challenge is the need for real time, instant access to the applications or payment structures within the virtual world. Conceivably, Aspen Labs is presented with the same level of in-world rendering issues a co-op game like Call of Duty: Warzone possesses in conjunction with the same issues an operating system would encounter.

The dCOLLECT virtual world could encounter the issue of content moderation. Due to the distributed nature of the network land owners would be free to upload anything they would desire. At the same time it is necessary to secure our platform from the criminal activities i.e child pornography and arms sales. This is a challenge that must be resolved before launch to ensure lasting value for our NFT holders and in-world developers.

4.0 CHALLENGES

Another challenge that could present itself is accessibility. Due to the nature of the dCOLLECT virtual world there would be games, content streaming and various other activities occurring in tandem. Each of these applications would possbily have a different target market. So the matter becomes making sure the virtual world is accessible to the average internet user. For games it would be of interest to have cross-platform compatibility. These issues need to be addressed as the development progresses, the most sensible approach would be to hold discussions with the community regarding the delegation of responsibility regarding compatibility.

The final issue that happens in our real-world and it currently happens within the internet and application ecosystem, is that certain areas or regions will be underdeveloped or lack the necessary funds or expertise to develop their property. We have created incentives to help mitigate this but unfortunately this will become something that occurs naturally on the platform, due to decentralization we are limited in economic intervention capabilities. Hence the need for in-world governments.

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5.0 WHAT IT IS

dCOLLECT will act as an entirely new platform that can support applications, content creation and games within a virtual world that behaves similarly to an operating system. ASPEN will act as the native currency and payment option for the internal economy. Historical series NFTs will perform the role of a registry of land ownership within the virtual world according to the area most suitably related to that NFT. Property owners can boot strap their development via NFT staking to earn ASPEN.