Loka:
A Decentralized Rewards Protocol

Evan Fenster
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Abstract

Loka is a decentralized rewards protocol designed for businesses of any size to seamlessly create and integrate long-term NFT-backed rewards relationships. It consists of three main components:

1. **Brand-facing dApp** - allows businesses to create on-chain token collections with each token representing a consumer-focused reward.
2. **Consumer-facing dApp** - an interface allowing consumers to view and interact with their NFTs derived with the Loka protocol.
3. **DeFi-TradFi Integration** - the technical bridge that connects NFT ownership to in-store reward redemption.

These three components make up the Loka protocol. The resulting infrastructure allows brands to create an NFT-backed rewards system without any technical development necessary. Additionally, it grants consumers the ability to buy into long-term rewards, while also granting them the option to sell their position to another consumer via on-chain open marketplaces. Finally, it allows on-chain NFT ownership to seamlessly integrate into traditional financial systems, lowering the entry costs for participating brands.

1. Introduction

The Loka model draws inspiration from a variety of financial systems. The close-knit consumer-producer relationship draws inspiration from the community-supported agriculture model. The gamification and intangible utility aspects come from traditional collectibles, such as sports cards and comic books. The open marketplace factor is possible via blockchain integrations. This cultivates a system meant to replace the traditional punch cards and loyalty points that fail to lock in long-term customers and fall short in their goal of drastically increasing customer lifetime value.

1.1 Community-Supported Agriculture (CSA)

Loka draws many aspects from the consumer-supported agriculture (CSA) model. CSA is a system that allows local community members to pay one upfront fee to one or more farmers in return for the ability to pick up weekly produce.

CSA Benefits

Consumers	Farmers
● Close relationship with farmers	● Can invest initial funds back into equipment
● Input on harvesting decisions	● Funds help with cash flows throughout the year
● Stress-free produce pickup throughout the year	● Allows a focus on marketing pre-growing season and less during harvesting season

The consumers, in this case, are willing to pay a premium to gain a closer relationship with their farmers. They feel a sense of trust in knowing where their food is coming from, and gain value from having some form of input into the harvesting process.

The farmers can use these initial payments to invest in their equipment as well as help with cash flows throughout the harvesting season. Additionally, it allows them to focus on marketing before the growing season, and not during it.

This unique business model has been incredibly successful for these local markets. Loka can provide these same relationships by backing the rewards with on-chain, verifiable NFTs; this allows the same systems to be applied to other businesses, such as restaurants, barbershops, movie theaters, gyms, etc.

1.2 Traditional Collectibles

NFTs can tap into the same fascination consumers have had for decades with more traditional collectibles, such as trading cards and comic books. There are a few factors that make something a potential collectible:

1. **Limited Supply:** Smart contracts allow for a collection of NFTs to have a limited supply in the same way baseball cards from the 90s cannot be recreated.
2. **Clear Ownership:** NFTs provide clear ownership in the form of a wallet address. As opposed to traditional online items, such as World of Warcraft gear, NFTs do not live on a centralized server and cannot be "revoked" or deleted from a user.
3. **Marketplace:** Traditional collectibles used marketplaces like eBay. NFTs can utilize similar digital marketplaces like OpenSea and LooksRare.
4. **Implied Value:** As long as there is supply and demand for an item, there will be an implied value associated with it. Similar to baseball cards, NFTs' value can shift over

time. This provides similar investment opportunities that traditional collectibles often have.

By connecting these long-term rewards relationships to NFTs, it creates a sense of gamification among the users.

1.3 Open Marketplaces

By putting these rewards on-chain, it allows consumers to truly own the rewards. Rather than living on a centralized server, they exist in the consumers' wallets. This allows for true ownership and seamless integration with existing on-chain marketplaces. Consumers can resell, buy, and transfer these rewards without relying on the issuing entity.

Importantly, designated resale royalties can also be baked into the rewards themselves. That way, anytime one consumer resells a reward to another consumer, the original issuing brand continues to benefit via a royalty (typically between 1% and 5% of the resale price).

Loka can capitalize on various aspects of these different systems. The result is a beneficial ecosystem for both the consumers and producers.

Loka Benefits

Consumers	**Producers**
● Close relationship with producers	● Can use initial sale funds to reinvest into business
● Input on product decisions	● Increased customer loyalty through tokenized relationship
● Consistent guaranteed rewards	● Develops a strong customer base of reward-holders
● Reward is a tradable asset	● Can generate income through resale royalties

2. Loka Protocol

2.1 Value Derived from the Blockchain

Loka aids in securing long-term consumer-producer relationships. The blockchain plays a pivotal role in creating, managing, verifying, *transferring,* and *profiting* off of these relationships.

To review how each of these roles would operate, let's proceed with a simple example: a new, local coffee shop is opening in San Francisco; how can they use Loka to jumpstart their growth?

1. **Creating:** When a firm wants to develop a strong, loyal customer base, it can leverage Loka to streamline this process. Here, they can input their parameters for their desired consumer relationship. For example, the coffee shop may decide they want fifty rewards-relationships that grant each consumer a free coffee once a day for six months. By inputting these parameters, Loka will be able to generate a collection of fifty NFTs, each representing one consumer-producer rewards-relationship. The parameters the coffee shop listed will be publicly viewable and immutable in each NFT's metadata.

2. **Managing:** By utilizing Loka, the coffee shop requires no additional infrastructure, servers, or hardware to manage these rewards relationships. These rewards relationships exist on the blockchain, and the only requirement the coffee shop has is to market the initial sale of these rewards relationships and then continue to honor the rewards they promised. This enables brands with little technology experience to integrate a new, innovative approach to maintaining a strong customer base.

3. **Verifying:** These rewards relationships exist as immutable NFTs on the blockchain. This serves as the perfect facilitator to provide proof of ownership from both the brand's end and the consumer's end without the need of a middle-man. Various proof-of-ownership technologies already exist, such as Tokenproof, that would be able to facilitate in-store reward redemption. By adding additional variables on the smart contract back-end, such as a limit on redemptions per day per reward, this technology can be integrated with both physical and digital stores.

4. **Transferring:** A unique advantage that comes with Loka, which does not easily exist within CSA, is the ability to transfer these long-term rewards relationships. In the case of CSA, if a consumer were to move locations, become unsatisfied with the product quality, or want to exit this long-term consumer-producer relationship for another reason, they had few options. Getting another consumer to take their place in a third-party sale would be difficult to facilitate and potentially create a dangerous transaction.

   However, since Loka utilizes NFTs, which are already easily transferable, consumers could easily transfer or sell their long-term rewards relationship to another individual.

Open, decentralized marketplaces allow consumers to safely and efficiently sell their NFTs to other individuals without having to know them personally. Once an NFT leaves the hands of the participating brand, the brand can be assured there will always be someone on the other end holding it; at the same time, consumers do not have to be locked into the entire reward, assuming they can resell it later on and recoup a portion (or more) of the money they spent.

5. **Profiting:** Perhaps the most vital role Loka plays is in increasing the revenue of the participating brands. In the same way local farmers use CSA to generate funds upfront, so can brands utilizing Loka. Let's say the local coffee shop sold all fifty rewards relationships for $150 each. They can use that $7,500 to reinvest back into their business, whether it is paying off loans, improving coffee equipment, hiring more staff members, etc. Then, instead of paying back that $7,500 later on with interest like a loan would require, they get to "pay it back" with the free coffee for their reward-holders, which comes at a much cheaper cost for the coffee shop.

   Additionally, they can integrate a royalty system on each NFT. For example, they can collect a 2.5% royalty on each resale on an open marketplace. As their brand grows and consumers trade these rewards more frequently between each other, the original coffee shop will continue to generate passive income. This allows the coffee shop to originally offer these rewards at an intriguing price. For example, they can afford to sell six months of free coffee for cheaper than the sum of 183 coffees with the assumption they can generate additional revenue off resale royalties and other intangible benefits (to be mentioned in later sections). Now, unlike CSA, they can sell these rewards at a discount to the customer rather than a premium, yet still profit at the same time.

   Additionally, by bringing their most loyal customers into their shop more frequently, these customers are more likely to purchase other goods while getting their free coffee, thus increasing the coffee shop's overall revenue.

By integrating blockchain technology into their business model, brands can increase customer loyalty, revenue, and brand awareness with very minimal overhead management required.

2.2 Market Landscape

The customer loyalty market is worth roughly $4 billion with an estimated 2028 size of $18 billion. $75 billion are spent annually on loyalty management programs. Among these programs, the most heavily invested technologies are mobile and digital wallets.

Additionally, web3 technologies have begun to leak into the retail space. Nike, Adidas, Coca-Cola, Gucci, the NBA, Starbucks, and countless others have developed their own NFT

collections. Each of these major brands has had varying levels of success with their respective collections. Streamlining the process through a curated dApp could help with that while simultaneously allowing smaller companies to create the same types of tokenized collections.

Meanwhile, various "buy local" initiatives have grown over the past few years. This could be built upon by allowing these local brands to seamlessly integrate their unique collections without having to hire any engineers.

These various factors put Loka in a prime position to compete in the customer loyalty management industry.

2.3 Revenue Model

Loka can easily profit off the scalability of its platform by implementing a royalty model of its own, as well as taking a small percentage of original sales. Loka takes 2.5% of initial sales revenue, as well as 2.5% of any resale as royalty from collections created on its protocol.

Per collection, this may be a small amount, but with the anticipated scale of the NFT-backed rewards ecosystem, the small percentages can add up significantly over time with minimal additional effort per new collection.

This also allows Loka to operate at no initial costs for participating brands. Many businesses may be skeptical of entering the crypto space. Being able to offer Loka for free, on a commission-based system, additionally lowers the barrier to entry for interested brands.

3. Technology Overview

Loka is built on the principle of enabling blockchain technology for the masses. To do this, it leverages the smart contract technology on the backend while keeping a simple design on the front end.

Enabling non-crypto users to participate in this beneficial rewards relationship without having to learn how the blockchain, NFTs, or cryptocurrencies work is plausible. However, certain touchpoints require users to have some knowledge in the blockchain space, such as being able to operate their self-custodial wallet and interacting with open marketplaces, as well as utilizing at least some form of cryptocurrency. To the extent that it is possible, Loka attempts to simplify this process and keep as much of the blockchain on the backend as possible.

Loka itself is a protocol that operates on two dApps: one for brands to initially create their reward collections, and another for consumers to view and redeem their rewards.

3.1 Loka dApp: For Brands

Loka is built for all brands no matter their level of technicality. Once a brand decides they would like to utilize the Loka platform to establish these long-term rewards-relationships, they fill out the following parameters:

1. Reward Name
2. Reward Cover Image
3. Reward (*free item/service, % discount, $ discount, etc.*)
4. Redemption Timer (*x* redemptions per *day/week/month/year*)
5. Redemption Timeline (reward lasts for *x days/weeks/months/years/forever*)
6. Initial Sale Date
7. Reward Quantity
8. Reward Price (*x fiat, stablecoin, cryptocurrency*)
9. Collection Method (bank account, crypto wallet address)

Existing technologies can be integrated to allow the participating brand and consumers to receive funding and pay in fiat currencies. With this integration, a brand can launch an NFT collection as a pivotal aspect of their business model without ever having to touch a cryptocurrency or digital wallet.

3.2 Loka dApp: For Consumers

Consumers need to be able to do, at a minimum, three things with these rewards: view, trade, and redeem them.

Luckily, the viewing and trading aspects will be covered by native aspects of the blockchain. Consumers can view their rewards as NFTs in their wallets, and can openly trade them on established open marketplaces. These will inherently require consumers to be familiar enough with owning an on-chain wallet and interacting with basic dApps.

The redeeming aspect will require additional functionality. Applications like Tokenproof are excellent for verifying NFT ownership. However, the local coffee shop's reward only entitles holders to *one* free coffee day. This is where Tokenproof would fall short as being able to "redeem" a reward and proving ownership of a reward are not always the same.

This can be handled smoothly on the back-end. A variable in the smart contract can keep track of whether the reward is redeemable or not. In the case of a daily reward, like our coffee shop is offering, the smart contract would take note of the time of redemption. If another redemption attempt occurs, it can compare the timestamp to the timestamp of the most recent redemption to make sure they occur on different days, otherwise, it rejects the redemption event trigger.

On the front-end, we can have a simple dApp that allows consumers to view their NFTs and trigger this "redemption" event. If determined valid, a QR code can be provided to the consumer for the business to scan (or a promo code if interacting online) accessing the reward.

3.3 Connecting the DeFi to TradFi

Perhaps the most difficult aspect of this system is connecting this scannable code to the brand's traditional payment system. Requiring the local coffee shop to have a crypto wallet on standby or a separate application to verify reward ownership would only increase the barrier to entry for using Loka. To provide this system to the masses, the integration must be as seamless as possible.

Luckily, nearly every brand already has a coupon system set up for their traditional rewards systems. By taking the time to integrate a brand's traditional payment system into our dApp's production of QR codes, we can connect DeFi to TradFi at the simplest link. Once this is established, the consumer's dApp-produced QR code should work with the brand's traditional payment system, effectively connecting the two ecosystems seamlessly.

This would allow Loka to take the place of more traditional, manual rewards systems such as punch cards. Not only would it make rewards even simpler to manage, but it would automatically be able to record the transactions, replacing the old-fashioned hole-puncher.

4. Additional On-Chain Benefits

Loka can capitalize on many of the benefits CSA and traditional collectibles provide, as well as benefit from being able to integrate with open marketplaces. However, its on-chain advantages can go even further.

At its core, Loka is an infrastructure that brands can develop and build upon. This means that brands can develop their own use-cases on top of the Loka protocol. Listed below are some possibilities that Loka unlocks. Some are already prevalent in commerce, others are used in different web3 contexts, and others are brand new opportunities for brand growth.

4.1 On-Chain Voting

Brands are constantly faced with new business decisions that require consumer data. Using on-chain voting with an NFT-backed rewards collection allows brands to gain these consumer insights while simultaneously strengthening their brand loyalty. Invested consumers are given a chance to have an impact on the decisions a brand makes.

For example, the local coffee shop may want to introduce a new seasonal drink for the holiday season. They have two options: a peppermint mocha or a gingerbread latte. They could host an

on-chain vote only for reward-holders to decide which drink they introduce. This gives the brand valuable customer insights that would theoretically lead to more sales of their new holiday drink. At the same time, it increases interactions between the brand and consumer further developing that tight-knit community feeling. Importantly, this also provides additional utility for owning the reward, hypothetically increasing the price and resale royalties the coffee shop will receive over time.

With CSA, consumers can gain a close relationship with their local farmers. With Loka and on-chain voting, we can bring these same relationships to new industries.

4.2 Exclusive Events

Member-only events have been popular for a long-time, and have recently gained traction in the web3 space as well. Large NFT collections host holder-only events at large conferences like NFT NYC.

This feature could easily be integrated into Loka as well. Since reward redemption would already require proof of owning a reward, exclusive events would work in the same way; however, it would allow any holder to enter without actually redeeming something like a free coffee. Again, this would help develop a tighter relationship with the consumer while adding new utility to the reward.

For a coffee shop, this might look something like an exclusive book club. However, it could be more prevalent in other forms of businesses. For example, a local barbershop may stay fairly busy but could offer exclusive member-only hours that allow reward-holders to easily book appointments.

4.3 Data

The importance of data continues to grow. All transactions and wallets are publicly viewable on the blockchain. This can provide immense amounts of direct retail-to-consumer data. A brand could run an analysis to see what else their reward holders are interested in and are currently purchasing.

For example, if the coffee shop sees their holders frequently purchase Ethereum tokens, they could decide to start accepting Ethereum as a form of payment. Or, if their holders are starting to purchase Bored Ape Yacht Club NFTs, they could form a collaboration with them for marketing purposes, similar to the Bored & Hungry restaurant. Additionally, they can gain insights into the amount of wealth and investments their consumers have in their wallets.

4.4 Complementors

Complementary businesses are also provided with a unique opportunity to grow. With Loka, these brands can easily identify specific target-market consumers on-chain via existing Loka collections.

Suppose a new travel mug company is struggling to reach the right audience. They may be spending thousands of dollars on marketing only to reach non-coffee enthusiasts. The travel mug company could create 10% off discounts via Loka's platform. Instead of hosting an initial sale, they could airdrop these coupons directly to the wallets of the reward holders of the original coffee shop.

Now, known-coffee lovers are being airdropped coupons to a company they are likely interested in. The coffee shop would appreciate these airdrops as it provides more utility for their reward holders and the travel mug company reaches their target audience for a negligible cost.

5. Intangible Utilities of NFT-Backed Rewards

5.1 Gamification of NFTs

There is a certain sense of gamification that comes with NFTs. Ecosystems like NBA TopShot and Axie Infinity thrived off of users collecting and trading their collectibles. NFTs unlocked a certain level of value and gamification that existed decades ago with sports cards and comic books.

From a financial standpoint, this gamification is extremely valuable for the original brand. Resales royalties allow the original seller to profit off the growth and scalability of their brand and products. Giving local brands access to this system provides new financial opportunities.

A perfect outlook would include users collecting Loka rewards from all of their favorite brands. The gamification aspect can add an unseen value to these rewards that do not have to be directly generated from the initial brand itself. With a limited supply of rewards per brand, the associated price could go well beyond the initial mint price as scarcity increases.

5.2 Associated Social Connection

The growth of social media over the past decade has amplified the necessity for brand awareness. Some brands have perfected their brand name so well that their name itself holds more value than the actual product or service they offer. This can easily be seen with luxury brands like Louis Vuitton and Gucci but exists in other industries as well. For example, brands like HydroFlask and Yeti are able to charge premiums for their products based largely on their brand name alone.

The same concept applies to NFT-backed rewards. Owning a limited edition NFT from a well-known brand has value in today's society. Consumers flaunting these brand names further increases the intangible value that name holds, creating a compounding effect.

In local communities, the same trend can occur. Owning an NFT associated with the famous local diner can serve as a form of "clout" within communities.

Brands utilizing Loka can create this value that comes with limited supply and uncapped demand. By serving as a verifiable connection to a specific brand, Loka rewards contribute to the growth of a brand's name and awareness.

5.3 Verifiable Proof of Contribution

Owning a Loka reward also verifies proof of financially supporting the associated brand. In small communities, this could have a huge impact. Many individuals care just as much, if not more, about receiving recognition for supporting good causes as they do about actually supporting those causes. Owning on-chain proof of purchasing from small, local businesses can be a powerful incentive for supporting these brands.

6. Other Applications

6.1 Delayed Rewards During a Crisis

The COVID-19 pandemic undoubtedly created a challenge for many businesses, specifically small, local brands. There were waves of individuals and groups who wanted to support their local businesses; however, these local businesses struggled to provide their normal goods and services due to various stay-at-home orders.

Loka, if it had existed during this pandemic, could have been wildly impactful. Imagine if this same coffee shop released rewards that entitled holders to "a free coffee every day for six months starting in one year". This would have allowed community members to financially support the business during this difficult time while also receiving some utility to be used at a later date.

Whether it's another pandemic, natural disaster, fire, burglary, etc., small businesses can face a variety of unexpected challenges. Loka can be a tool to gather community support in a mutually beneficial way for all involved parties.

6.2 Influencer-Generated Community Rewards

"Social media influencer" has been a wildly growing career path. The most important factor these influencers rely on to continue creating content is their ability to monetize. Platforms such

as Facebook, Instagram, and TikTok pay minuscule amounts of money for what could be millions of views. YouTube, potentially the most lucrative platform, is still far from career-changing until channels reach hundreds of thousands of subscribers.

Loka can be an innovative way for influencers to monetize their communities. Owning a rewards relationship with a content creator could entitle the holder to private events, discounts on merchandise, participation in their videos, exclusive group chats, and more. Some influencers already utilize these types of perks, but having them easily established, verifiable, tradable, and redeemable can make them more appealing to both the influencer and their fans.

6.3 Larger Firms

While this protocol is specifically designed to provide unique and innovative methods for small, local brands to market themselves, there is no reason why a larger firm could not utilize it for the same reasons. Involving larger brand names and chains would only help to increase the development of a Loka Collector's Economy, the same system that exists for collecting and trading sports cards.

7. Final Thoughts

Rudolph Steiner was an Austrian philosopher who wrote multiple publications on social reform. He imagined a world where a network of relationships could replace the traditional employer-employee system. While this idea may be a bit out of reach for today's society, the same fundamental concept can provide unique benefits in certain aspects of our economy.

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The healthy social life is found

When in the mirror of each human soul

The whole community finds its reflection,

And when in the community

The virtue of each one is living.

— Steiner, The Fundamental Social Law

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Blockchain technologies are incredibly powerful tools that have not been utilized to their full potential. They have the potential to innovate wildly unchanged systems. Loka utilizes the power of the blockchain on the backend to provide accessible, dynamic solutions on the frontend - for everyone.