Catalyst Fund 10 Closeout Report

Name of Project: Decentralized Minting | ADA Handle
Project URL: https://milestones.projectcatalyst.io/projects/1000063/
Project Number: 1000063
Name of Project Manager: Conrad Cordeiro
Date Project Started: October 8th, 2023
Date Project Ended: May 2nd, 2025

Challenge KPIs:
Since the inception of the Handles, we have always remained steadfast in our belief that the Handle protocol will be decentralized.
The primary goal of this proposal was to deliver the Smart Contract-based Merkle Tree-verified decentralized minting of Handles and SubHandles.

How we addressed the challenges:

The existing ADA Handle Standard mints Handles utilizing private keys that the co-founders manage.

As a team building on Cardano, the most decentralized permissionless blockchain, we understand the need for ADA Handle to be fully decentralized from the founders. It took Cardano a few years to decentralize itself from the founding entities and the time to initiate $handle minting decentralization has come for us too, after two years of building the standard. By moving towards permission-less minting, The Handle Standard will take a life of its own, allowing any individual to mint Handles and subHandles without relying on our minting engines nor founding team. We will, obviously, continue to develop and expand the Handle Standard.

We built a decentralized-minting engine utilizing a Merkle Tree solution.

Key Achievements:

Historically, minting these Handles has been centralized, handled by a single authority using a native script with a single signer. This project aims to move Handles minting to a Decentralized Minting (DeMi) "order and mint" system, where anyone can submit an order for a named Handle to an orders contract. This is how it works.

Order and Mint System w/ Batching

· Instead of Handles being minted directly by a central authority, users can now submit an order to a smart contract that acts as an order book.

·　　　　The smart contract records user requests for specific Handle names.

·　　　　A decentralized set of actors known as "batchers" monitor the orders contract.

·　　　　They fulfill requests by minting the requested Handle using a minting contract.

One might ask "why do you need approved batchers?" The answer is two fold:

1.　　　　UTxO contention would make it near impossible to mint without batchers organizing the mint.

2.　　　　Mint batchers need to adhere to protocol quality and security directives.

Key Learnings:

Building this decentralized minting system was a real eye-opener for us. We figured out pretty quickly that making it user-friendly, secure, and truly decentralized was a tricky balancing act. Using Merkle Trees taught us how to keep things efficient—cutting down gas fees without losing that trustless vibe. We also realized we couldn't skimp on explaining stuff to users or running tons of tests to make sure it all worked smoothly. And designing a smart contract that runs itself? That showed us audits are a must to catch the weird edge cases. Honestly, it's been a mix of tech know-how and learning how people actually use this stuff that got us here.

Next Steps:

Handle is to make sure the entire community is aware of the new Decentralized Minting solution. A full campaign will also be launched, to make sure wallets, DApps and projects know how to resolve DeMi Handles.

Final Thoughts:

Wrapping up decentralized minting feels pretty awesome. We've built something that hands the reins over to the community, and that's a big win in our book. It's wild to think anyone can just jump in and mint their own Handles without us playing middleman. Sure, it took a lot of head-scratching and fine-tuning, but seeing it come together—secure, smooth, and truly decentralized—makes it all worth it. We're pumped to see where the community takes it from here!

Closeout Video:
https://youtu.be/fDdMbCM26hg