



Colorado OS

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Colorado OS

DeFi-charged backbone of CO state licensing processes

What is Colorado OS?

Colorado OS is a dapp serving as a digital backbone for a more efficient, accessible, and secure public licensing and regulatory infrastructure in Colorado.



UseCase #1 MAKING BORING STUFF LESS OF A PITA. Web3 State Parks Pass w/DeFi charge

Our DeFi -charged digital parks pass could be issued to an individual's self-sovereign ID using Colorado OS.

USE CASE NO. 1: CPW DIGITAL PARKS PASS

Colorado OS solves three generally problems that CPW has to deal with:

- ▶ Physical form factors of CPW parks passes are slow
- ▶ The licensing system is overly urdensome on state resources.
- ▶ Big opportunity to use revenue from licensing to pay the expenses of administering the licensing program using DeFi models/features.





PROBLEM



SOLUTION



Pass registry system is outmoded and terrible because it relies on physical/ paper/traditional databases and manual verification systems.

Using **Colorado OS**, parksgoers and state administrators can be happier. 😊



Applicant goes to the state licensing office.



Park administrator issues a Web3 digital parks pass to the applicant's self-sovereign identity. The digital parks



When a parksgoer wants to visit the park, they can mint & write record of the proof to a self-sovereign data store like **Ceramic & IDX**, and/or issue a zkProof* to the contract registry with their CO digital parks pass, which is an NFT Token with all of the cool attributes of NFTs.

Current system uses lots of resources inefficiently.



Need another form factor apart from vehicle stickers



Paper passes lead to overutilization of resources (transferrable)

Colorado OS will be streamlined and efficient



Can be carried with a person or a vehicle.

With NFTs as the new "pass" form factor, no paper is no problem

We're missing out on a big opportunity for the parks pass systems to become self-sustaining, *revenue-generating* funds that will benefit the state of Colorado.

Parksgoers can be incentivized at the moment of registration to (1) donate their money to the state of Colorado.

This fund generates recurring APY revenue for Colorado Parks. ★



THE APPLICATIONS FOR THE REST OF COLORADO ARE ENDLESS!



UseCase #2: DIGITAL GAMING LICENSE ENTERTAINMENT + DOING GOOD WORKS

Non-profit game of chance feeds \$\$\$ to Colorado public goods

- ▶ First Colorado OS issues a Web3 digital gaming license NFT to the player. This license allows its holder to access a Web3 [CoinFlip](#) non-profit game of chance on Rinkeby.
- ▶ We demo a betting bot simulator that explores how long it might take to generate 10 Million dollars for Colorado Public Goods with the CoinFlip.sol game.
- ▶ All gaming profits are pooled into a public goods and infrastructure contract. This could help establish a foundation for quadratic funds distribution through self sovereign IDs.
- ▶ You can find the contracts and deployment scripts for the GamingLicense & GamingToken contracts on the [GAMING README here](#).



SUSTAINABLE DEVELOPMENT GOALS

Colorado OS Web3 registries could be deployed in support of business, professional, fishing, hunting, and other licenses or passes.

▶ **Web3 Business Entity Registry**

New FINCEN regulations require verification of IDs for new business creation. Here we show how Grasshopper and Colorado OS can be used to check ID & deploy a business registry contract to Ethereum that mints and distributes a signed digital business license NFT. [Currently in development](#)

▶ **Web3 Outdoor Licensing**

Hunting, fishing, other licenses.

▶ **Web3 Professional or Occupational Licensing**

Any licenses which must be displayed publicly can instantly be verified as unique (non-counterfeit) and valid/updated

▶ **Web3 State Tax System**

▶ **Web3 public GPS network**

UN SDGs addressed:

*3 (healthy lives);
6 (availability and sustainable
management of water)
7 (clean energy - renewable energy
sources)
9 (resilient infrastructure, innovation)
10 (sustainable cities)
12 (sustainable consumption)
13 (climate action)
14 (life below water)
15 (life on land - of course); and
16 (strong institutions - applications are
endless!)*



Decentralized satellite network feeds self sovereign GPS beacon maps



Disclaimer

This is a proof of concept and not on mainnet. There are security and privacy challenges that have not yet been reviewed and addressed. Both Colorado OS and Grasshopper should be audited.

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The CoinFlip game has been left without a coin withdraw function intentionally. Other features have been left out as well to keep it simple. We *could* use ChainLink or an other oracle to generate a seed of entropy and fork the CoinFlip contract to generate provably fair tournament trees. We believe there are other possibilities in this area as well that go beyond non-profit public games of chance and into the private gaming realm but they have not been addressed for this POC.