Blockchain Integration for Climate Emissions Data with Fabric and Cactus

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Blockchain Integration for Climate Emissions Data with Fabric and Cactus</th>
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<tbody>
<tr>
<td>Status</td>
<td>COMPLETED</td>
</tr>
<tr>
<td>Difficulty</td>
<td>HIGH</td>
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</tbody>
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Description

The Carbon Accounting and Certification WG is developing an Operating System for Climate Action, where data from a Hyperledger Fabric channel is tokenized on an Ethereum network. We would like to create a more robust integration with Hyperledger Cactus.

Additional Information

For background, see the Carbon Accounting and Certification Working Group and Operating System for Climate Action wiki pages.

To check out the code, see https://github.com/hyperledger-labs/blockchain-carbon-accounting, specifically net-emissions-token-network/README.md for more details on the integration between Fabric and Ethereum.

There is currently a Cactus issue for this project.

Learning Objectives

As part of this project, you will learn about

- Hyperledger Fabric chain code development
- Hyperledger Cactus cross-chain integration
- REST APIs
- Ethereum and Solidity
- Open source development and project management

Expected Outcome

Implementation of an integration from Hyperledger Fabric utility emissions data channel to issue tokens on an Ethereum network using Hyperledger Cactus. Documentation and tutorials showing how the integration is done.

Relation to Hyperledger

This project is part of the Hyperledger Labs blockchain-carbon-accounting project and the Climate Action SIG. It will work with Hyperledger Fabric and Cactus as the main technologies and main involve Besu as well.

Education Level

Skills

Familiarity with Hyperledger Fabric, Node.js, Ethereum, Solidity.

Future plans

After the conclusion of the project, you can join us for more development in the Climate Action SIG as well as get involved in production climate blockchains that drive climate action that include tokens and DAO’s.
Preferred Hours and Length of Internship

Full time or part time. Three months.

Mentor(s) Names and Contact Info

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Project Results

Github Projects

https://github.com/hyperledger/cactus

Pull Requests

- https://github.com/hyperledger/cactus/pull/1243

Final Report

Blockchain Integrating Cactus.pdf

Project Presentation Session Recording