

Implement Client Side Security for Climate SIG Fabric Application

Project Title	Implement Client Side Security for Climate SIG Fabric Application
Status	COMPLETED
Difficulty	HIGH

Description

The [Carbon Accounting and Certification Working Group](#) is developing an [Operating System for Climate Action](#), where there is a Hyperledger Fabric [Emissions Data Channel](#) with utility data. Currently, the security certificates for accessing Fabric are held server side. A client application authenticates the user through standard username/password authentication and then access the Fabric chain code on behalf of the user.

We would like to explore a client driven authentication for the Fabric application, similar to how Metamask is used with Ethereum dApps such as the [Emissions Tokens Network](#). In such a use case, the user would sign into a web portal, enter and upload their information, and then sign the transaction with a local security key or a dApp wallet such as Metamask.

Additional Information

For background, see the [Carbon Accounting and Certification Working Group](#) wiki page.

To check out the code, see <https://github.com/hyperledger-labs/blockchain-carbon-accounting>, specifically [utility-emissions-channel/README.md](#) for more details on the Hyperledger Fabric utility emissions channel.

There is currently a [task for testing offline signing](#).

We have also started looking at [TrustId](#) and have a [pull request](#) for integrating with it. Maria from TrustId also made a [presentation](#) during our peer programming call.

Learning Objectives

As part of this project, you will learn about

- Hyperledger Fabric chain code development
- REST APIs
- dApp security and wallets
- Open source development and project management

Expected Outcome

Implementation of an application with client side authentication for Hyperledger Fabric utility emissions data channel. Documentation and tutorials showing how this 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.

TrustId is also a Hyperleger Labs project.

Education Level

Skills

Familiarity with Hyperledger Fabric, Node.js, web and dApp security frameworks.

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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Results

<https://wiki.hyperledger.org/display/INTERN/Project+Plan+-+Implement+Client+Side+Security+for+Climate+SIG+Fabric+Application>

Final Report

<https://wiki.hyperledger.org/display/INTERN/Project+Plan+-+Implement+Client+Side+Security+for+Climate+SIG+Fabric+Application>