



A Trust Policy Language for the Self-Sovereign Identity World

Advisor: **Stefan More, Lukas Alber**

Motivation

Electronic credentials can be used to certify all kinds of information, such as statements about a person's identity, status as a student, or course grade.

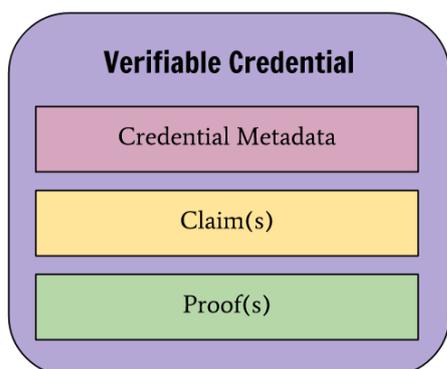
Whenever a verification tool receives an electronic credential, it uses a set of rules to decide if it trusts that credential. Those rules can be defined by a user or domain expert using a Trust Policy Language – possibly in a graphical, easy-to-understand way.

Self-sovereign identity (SSI) is a new, decentralized identity model in which users are in full control of their identity and credentials. Those credentials are signed JSON files, which need to be verified automatically using a policy.

Goals and Tasks

In this project, we want to extend an existing trust policy language system with concepts from the SSI world. The goal is that the system understands the SSI Verifiable Credential (VC) format and authenticates a credential's issuer.

-  Understand SSI concepts and a policy language
-  Explore the Verifiable Credential format
-  Implement demo tool to issue verifiable credentials
-  Extend existing policy language to support some SSI concepts



Literature

- > [G. Noble et al.](#)
Verifiable Credentials Data Model 1.0 W3C Recommendation
<https://www.w3.org/TR/vc-data-model/>
- > [S. Mödersheim et al.](#)
TPL: A Trust Policy Language
IFIPTM 2019

Courses & Deliverables

- Introduction to Scientific Working**
Short report on background
Short presentation
- Bachelor Project**
Project code and documentation
- Bachelor's Thesis**
Project code
Thesis
Final presentation

Recommended if you're studying

- CS
- ICE
- SEM

Prerequisites

- > Java programming
- > Basic understanding of identity management
- > Basic understanding of blockchains/distributed ledgers is beneficial

Advisor / Contact

stefan.more@iaik.tugraz.at