

# SELF-SOVEREIGN SHARED IDENTITY

## PROBLEM DESCRIPTION

Self-Sovereign Identity ([SSI](#)) is an emerging identity management technology which allows individuals to fully own and manage their digital identity [1]. Instead of relying on large identity providers such as Facebook and Google, or creating a new digital identity for every service, the user creates, controls, and extends relevant identity attributes to requesting services. When signing up for a service such as Netflix, rather than informing large identity providers of your new subscription by using their identity management system, the user reveals parts of their [SSI](#) such as age and payment details.

A rising trend is for services to offer group/family plans which allows a single account to manage the subscription of a group of users. The managing account is usually tied to one identity. Such plans are financially beneficial as they are cheaper than multiple individual plans, and allow users to share values like data, apps, or even money. Think of Apple Family with shared apps, movies, games, and cloud storage. Or telecom service providers that offer shared data plans.

For such services you can imagine using a shared identity that can be used to represent and authenticate the whole group. This gets rid of the need of having to identify every single individual with every other service. It is then possible to introduce group identity claims, for instance every member being above the age of 18. A shared identity also allows collective data to be shared easily and kept together, while keeping individual data separate. Control of the identity can also be spread across the members of the groups by means of secret sharing or group signature schemes.