

## SSI Wallet For Marketplaces

### Trust Your Digital Interactions

#### 1. Introduction

Online interactions differ from their physical counterparts in many ways. Therefore, they pose new and interesting challenges to the users and service providers alike. One of these major challenges is establishing trust without relinquishing control of our data. In the physical world, this is seemingly trivial; When checking out at a store, you might verify your identity by presenting an ID card to the cashier, after which the card is returned, thus keeping you in control of the data. Unfortunately, this is not the case in the digital domain, as most of the time the users of digital services have no real control or knowledge of how and where their data is being used.

To tackle this, OP Lab, through Findy Agency is working on creating an open-source platform that helps build trust online with decentralized self-sovereign identities (SSI). SSIs solve this problem by providing a way to store, share and prove credentials, without unknowingly compromising data. In particular, SSI allows the users to establish trust in digital interactions, much like in their physical counterparts. This comes with the benefit of precise control of personal data. Thus, enabling vast use-cases in daily mundane tasks and in large industries such as the financial industry.

In this project, we want to demonstrate the use of SSI wallets as a way of facilitating a more trust based online marketplace experience. This entails the creation of a Flutter based SSI web wallet application for Findy Agency. We hope that you will deliver a great, trustworthy user experience to online marketplace users. Moreover, the finished project will provide insight into the challenges of implementing real world SSI wallet applications and provide valuable feedback on the Findy Agency developer experience.

#### 2. Project goals

The primary objective of this project is to produce a Flutter based web wallet application that utilizes the Findy Agency technology stack and backend. More information about these can be found in the technologies section.

The users of the wallet application want to:

- Use the wallet in various online marketplaces. These marketplaces do not have any connection to each other.
- Trade credentials to establish trust between the seller and the buyer.

The application should allow the users to both share and validate credentials. Additionally, users should have the capability to register and authenticate themselves within the service. In addition to the application itself, a video demonstrating the finished project is desired.

The students are not limited to the goals defined here, instead experimentation and innovation are highly encouraged. For example, how to handle users that behave maliciously?

### 3. Technologies

This project will require the use of tools such as the **Flutter Framework**, **Findy Agency**, **gRPC**, **GraphQL** and **WebAuthn**. OP Lab's experts will provide support with the aforementioned technologies. In addition to these, the students are free to take advantage of any suitable technologies and frameworks.

Findy Agency offers great self-study material regarding their services to help you succeed in this project. These include an online programming workshop, documentation, blog posts, videos and a React based SSI wallet example. Moreover, OP Lab's experts will help guide you along the way.

<https://findy-network.github.io/docs/>

<https://findy-network.github.io/blog/>

<https://github.com/findy-network/agency-workshop>

<https://github.com/findy-network/findy-wallet-pwa>

### 4. Requirements

Any experience with the technologies, or mobile development will be useful during this project. Most importantly, we hope that you share our interest in new technologies, security, authentication, and great user experience.

### 5. Legal Issues

The results are published under open-source license Apache 2.0.

The client will not share any confidential information with the students.

Students sign a modified agreement. These modifications are detailed in section 7.

### 6. Client

OP Financial Group, which has over two million owner-customers and over 13,000 employees, is Finland's largest financial services group. We provide a comprehensive range of banking and insurance services for private and corporate customers. OP Financial Group consists of OP cooperative banks, its central cooperative OP Cooperative, and the latter's subsidiaries and affiliates. Our mission is to promote the sustainable prosperity, security and wellbeing of our owner-customers and operating region.

OP Lab is the innovation unit of OP Financial Group. Its mission is to identify better ways of creating customer value – whether it is about understanding the emerging trends of customer behaviour, improving operating efficiency, or harnessing the latest technology to create next-level services.

Client representatives

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**Please contact us if you have any questions!**

## **7. Additional information**

The altered section of the student agreement is detailed below. Here, the blue text indicates sections that have been modified by OP.

## **9. Reference and communication**

*The Partner and Aalto have the right to use each other's name and logo for communicational purposes related to this Project. Instruction given by the other Party regarding the use must be observed and content must be approved by the Partner's contact person in writing in advance. The consent may be given by email.*

*The Students, who are creators of a Result, have the right to make references to the participation in the course and to the Results in their analogue and digital portfolio and/or CV. The Students are allowed to use only the name of the Partner, not the Partner's logo.*