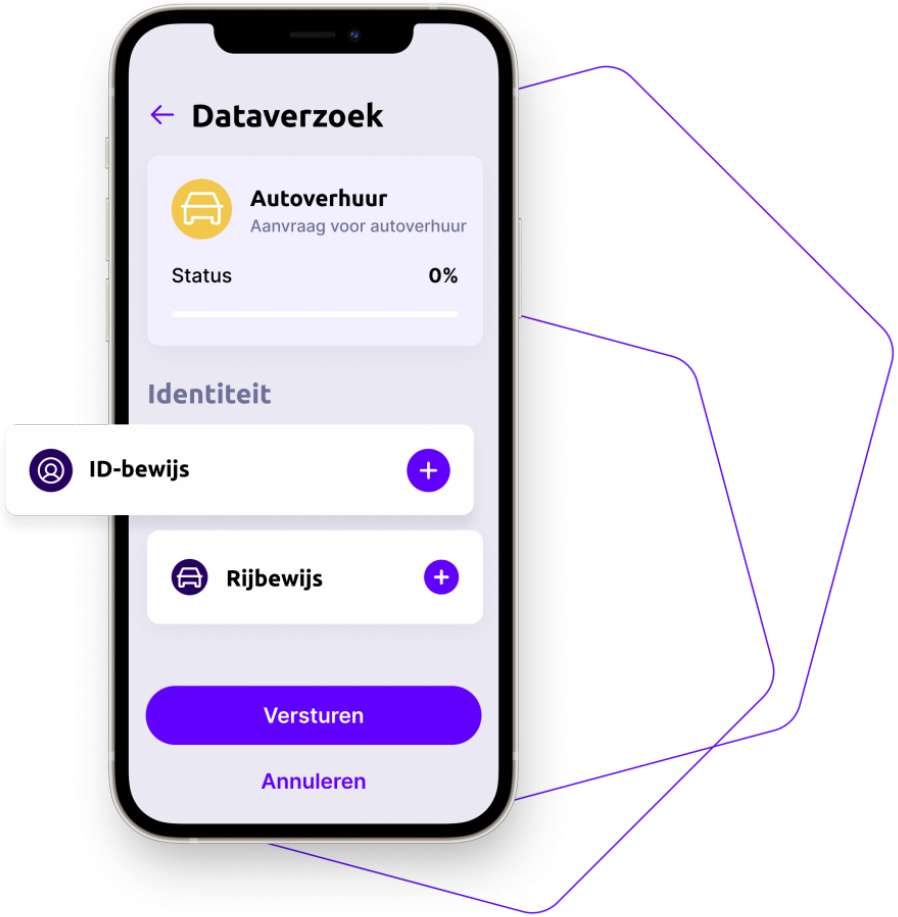
DATAKEEPER

Deep dive & learnings from Datakeeper



Joris Lange & David Lamers – IRMA bijeenkomst

V1.0

A quick introduction

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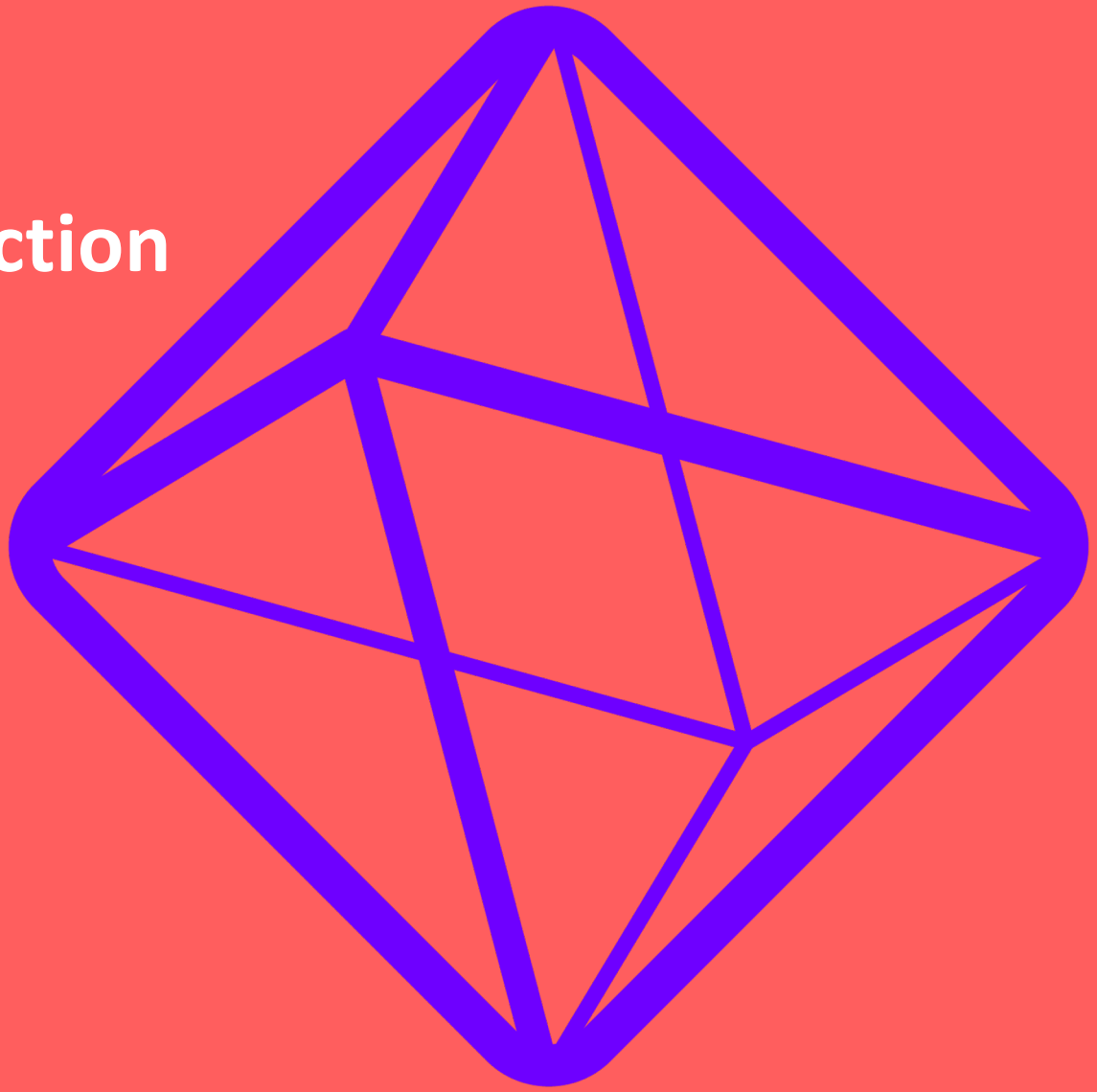

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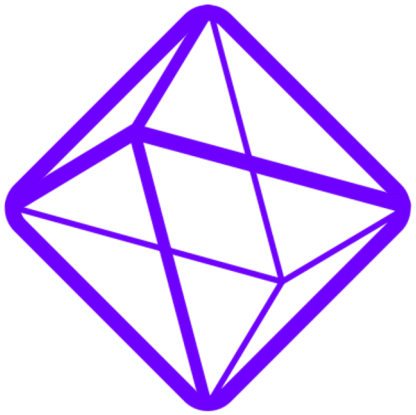


Datakeeper’s mission

Datakeeper's mission is to give consumers control over their own data. Datakeeper is a digital data safe in which you can keep all your data simple and safe and share it with parties you trust.

Information

Who is Datakeeper?

Datakeeper

Datakeeper is the startup in the Netherlands for sharing personal data. It consists of 25 colleagues :

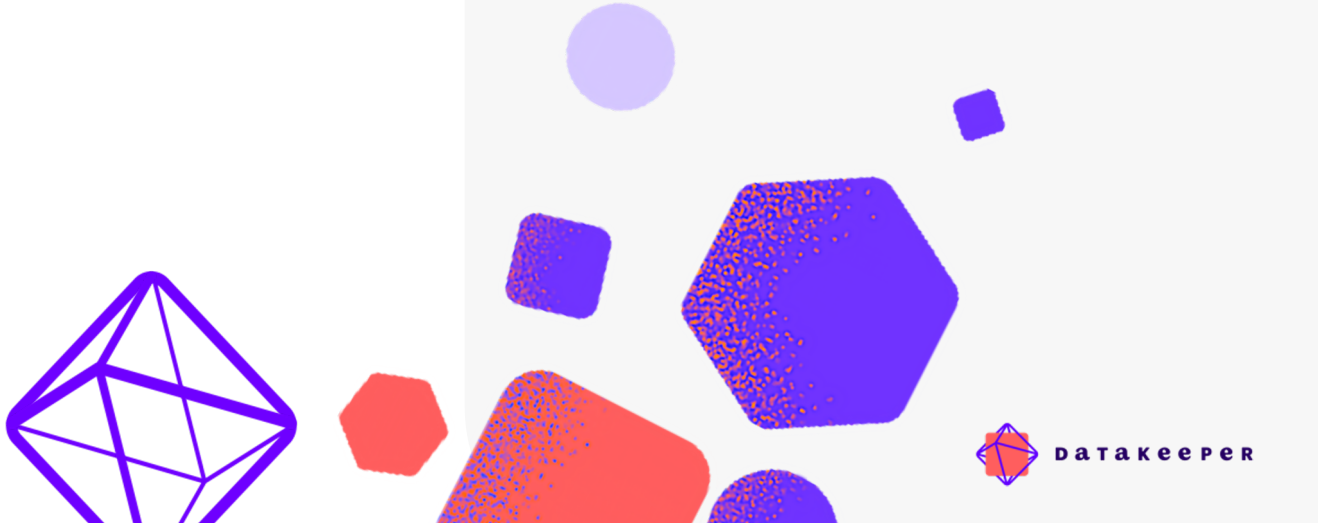
- Development
- Product- en Implementation management
- Compliance, Legal, Risk en Security support

Partnerships

Datakeeper cooperates with various partners and is looking for new trusted partners. Collaboration is essential..

Rabobank

Rabobank is strongly committed to taking a role in the data custodian landscape. In this context, Rabobank facilitates a solution to share personal data securely without anyone seeing the data or transactions.

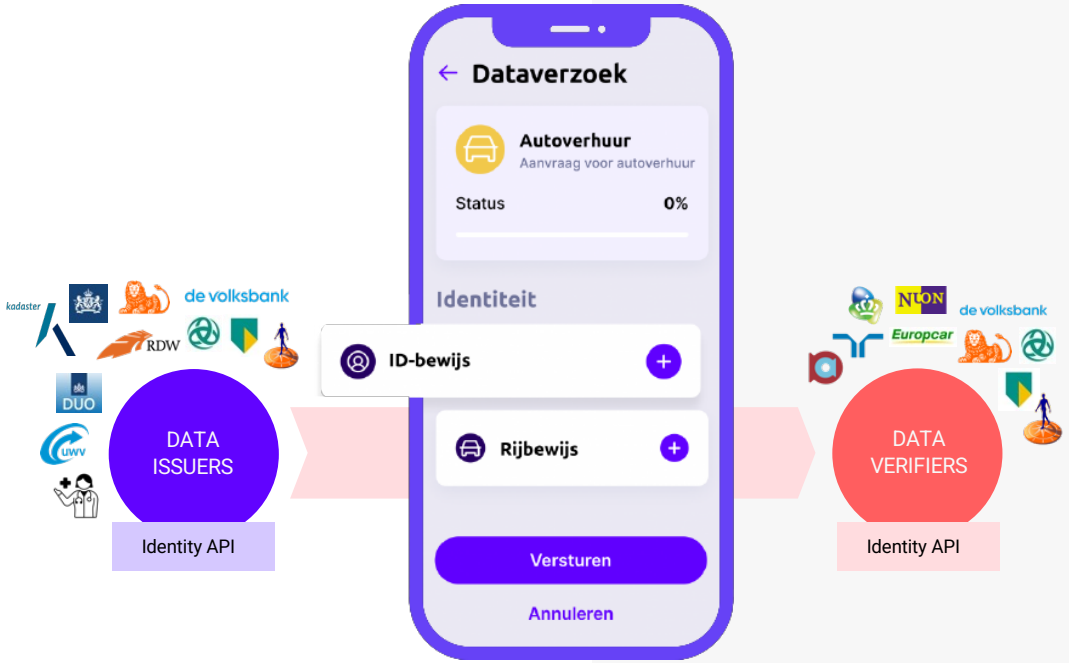


IN A NUTSHELL

Datakeeper is a Dutch Data Sharing & Identity Wallet

A personal digital wallet, in which validated data such as identity and income are safely stored on people's own mobile device and nowhere else. Allowing people to easily share the right and only most necessary data with the parties they trust.

Organizations are able to easily, quickly and securely receive only the most necessary data from customers or employees. Directly from the source, so they can be sure it is correct and up-to-date which accelerates the whole process and makes it GDPR proof.



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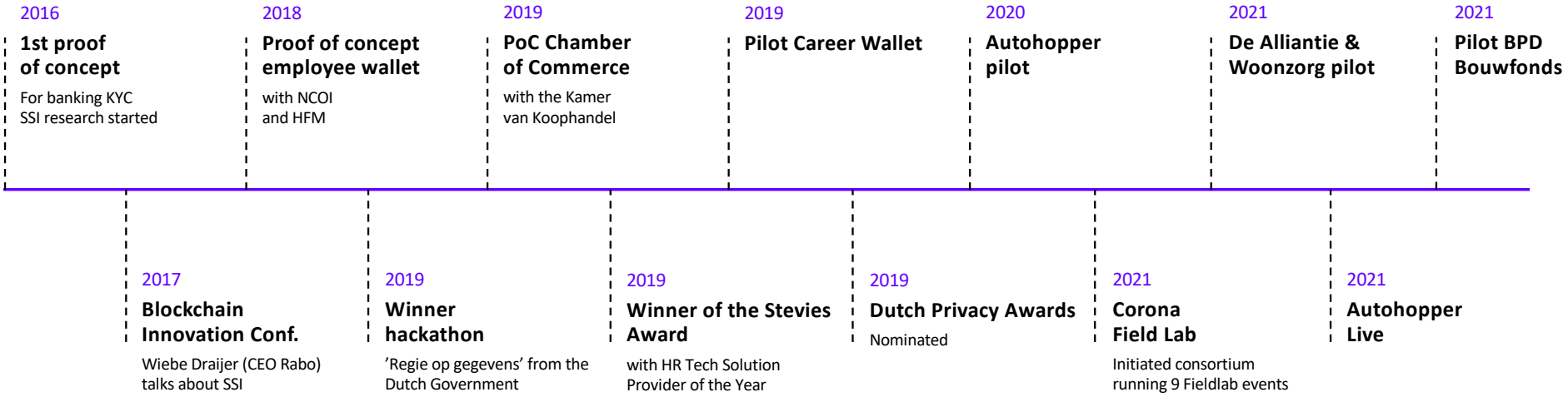
MILESTONES

Years of intense UX research, technical development and wins…



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✈️ Tickets and Boarding

👔 Job market

🛎️ Hotels and bookings

🚗 Car lease & rental

🏠 Housing

🍻 Checking age

Functionality

Data Wallet

Available data collection techniques

A user's data is often stored in closed silo's at third parties. Interesting datapoints are often coming from the government or banks, but they barely offer API's to retrieve that data. This creates a chicken & egg problem, cause without data a data wallet is useless. Therefore Datakeeper has implemented the following technical solutions so users can add data do their

PUSH API

The most important way for data issuing is the API that Datakeeper offers to issuers. When issuers connect, they can easily issue any credential they want without having extensive knowledge about SSI and verfiable credentials

PULL API

When an issuer has an API available and they do not connect to Datakeeper API's, Datakeeper can connect to their API's. Datakeeper acts in this way as proxy issuer for those data points

PSD2

Datakeeper has a PSD2 license and has integrated a PSD2 aggregator. By using this, Datakeeper can act as proxy issuer for data coming from PSD2 AIS, like IBAN and transaction data

SCRAPING

When no API is available, Datakeeper can scrape datapoints from PDF's or websites. The document is fetched using an in-app browser and scraped on a back-end to ensure irrefutability. A signed document is preferred and now always used. However, when chosen to also scrape unsigned documents this is also possible

NFC

For identification documents and driving license, Datakeeper makes use of NFC on the phone. It reads the data – signed by the government - from the chip of the document.

OCR

If the phone or document does not support NFC, OCR can be used to scan the document

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Functionality

Data Wallet

Available datapoints

- **Identification document** (passport or ID card): all information on the document
- **Driving license**: all information on the document
- **Belastingdienst Income Statement**: yearly income
- **UWV verzekeringsbericht**: monthly income and type of contract
- PSD2 **IBAN & account** holder name
- **Income & expense report** based on bank account transaction history (using PSD2). For the algorithm to create the income & expense report, Rabobank's TIX service is consumed (this is a Rabobank service which is offered to external parties)
- **IDIN** data: all information provided

Future datapoints

- Mijn Pensioen Overzicht
- Mijn Overheid
- Aangifte Inkomensbelasting

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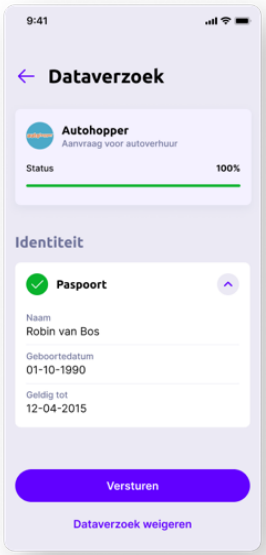
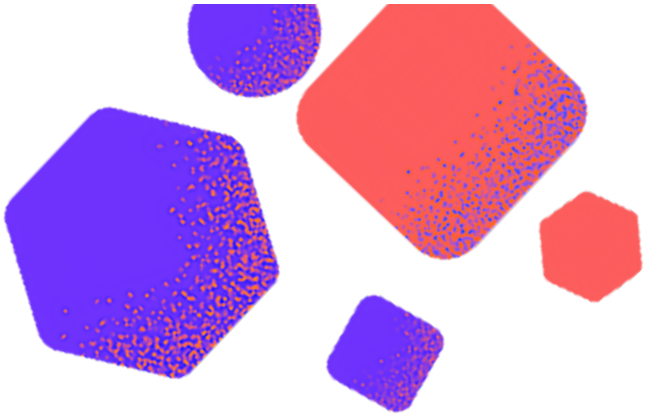
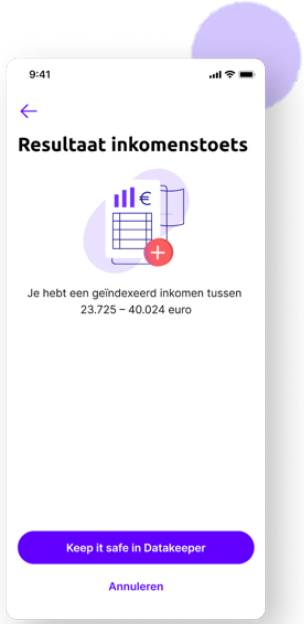
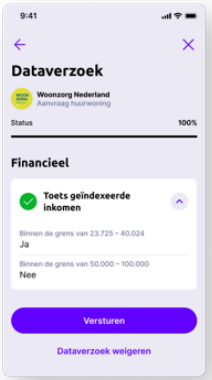
Functionality

Data Sharing









Data minimalization

Zero-knowledge proof

It is possible to share a **zero-knowledge proof (ZKP)** with the Datakeeper app. With ZKP the user only proves that the number is within a certain boundary. This means that the user is able to prove that they have a value *x* without sharing the exact number. This is achieved by sharing a cryptographical proof, so the relying party does not have to trust the Datakeeper wallet.

For example, the user can show an organization that they have more than 600 euros in savings or that he/she is above a certain age.

Selective disclosure

In order to make **selective disclosure** possible, Datakeeper creates multiple verifiable credentials out of one document. By doing so, the user is able to **only share the necessary data points** from the document which is requested by the third party.

For example, the user can add all of the passport data to the Datakeeper wallet, but only part of these data points are shared with the verifier.

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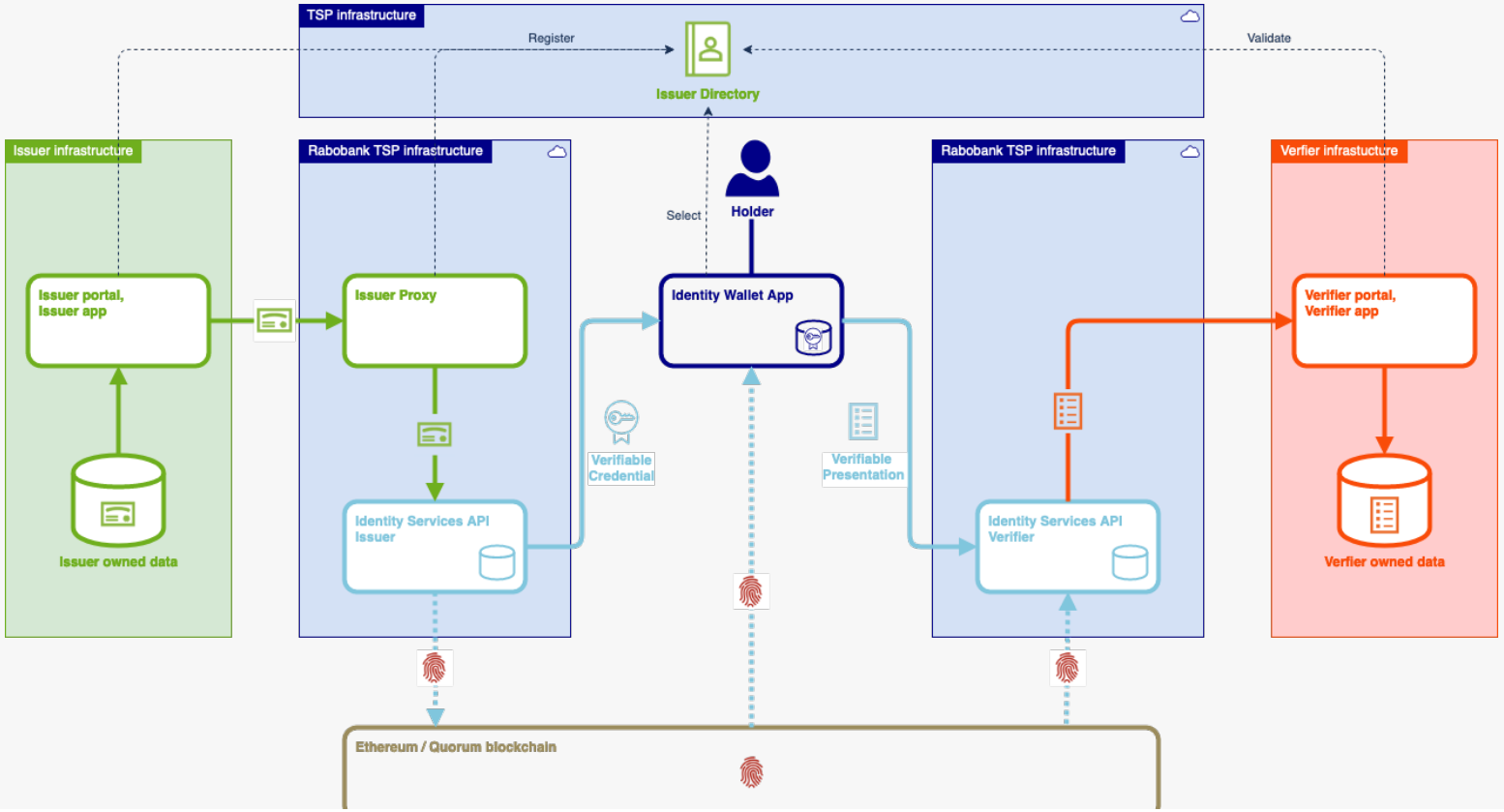
Information

Implemented architecture



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Demo

The demo contains a hypotetical data requests from Rabobank who asks for the following datapoints:

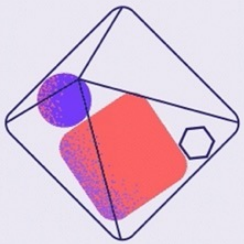
- Identity document (passport, ID card or driving license)
- IBAN
- Belastingdienst income
- Proof of income below 1.000 and 2.000

Questions?

Try it yourself!

iOS

Android



Bedankt

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