yivi

The Identity Wallet

Dibran Mulder

CTO Yivi & Caesar Groep

Today:

- User Experience
- Features
- Future

Goals for Yivi

Yivi stands for a secure, privacy-friendly digital identity fully under the user's control.

1. Yivi is the most **privacy and user friendly** ID-wallet out there.
2. Yivi is usefull in more and more scenario's **providing solutions for secure and privacy first identification.**
3. Yivi will provide and use **sovereign infrastructure** to **reduce** dependencies on BigTech
4. Yivi will become an **EUDI wallet** in the context of the eIDAS 2.0 regulation

User Experience

Understandable

Reading level checks
Reduce number of steps for important actions
Styling consistency

Accessible

Comply with WCAG 2 (later more)
Test with target audience

Trustworthy

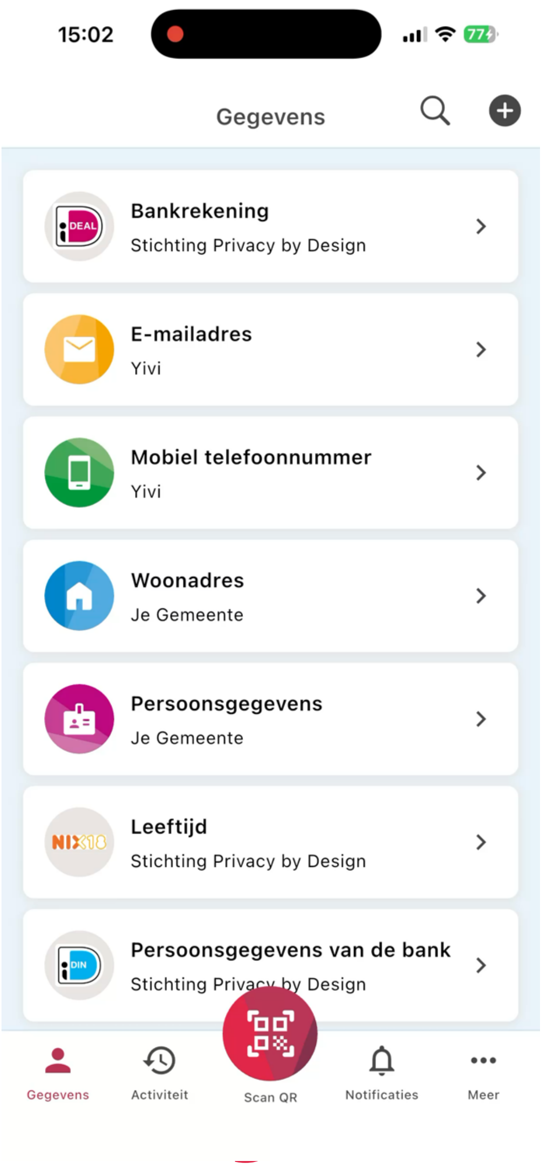
Transparent data sharing
Imagery and styling of trusted parties
Be clear about who, how and why

Beautiful

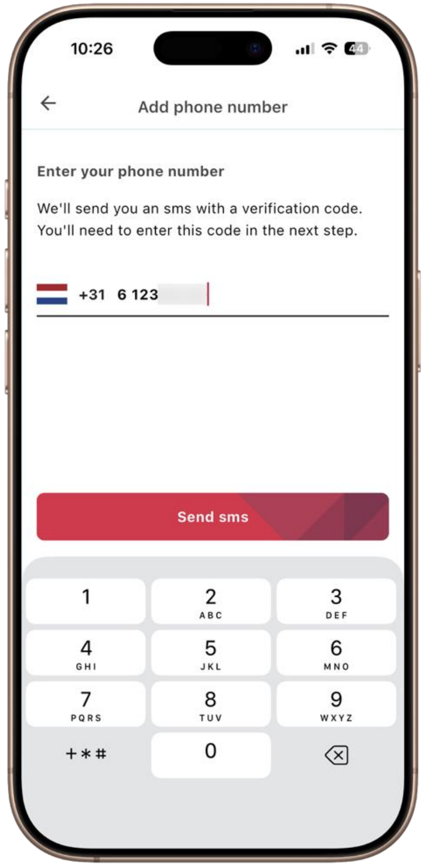
Clear, helpful images
Fluid, helpful animations
Balanced, responsive layout

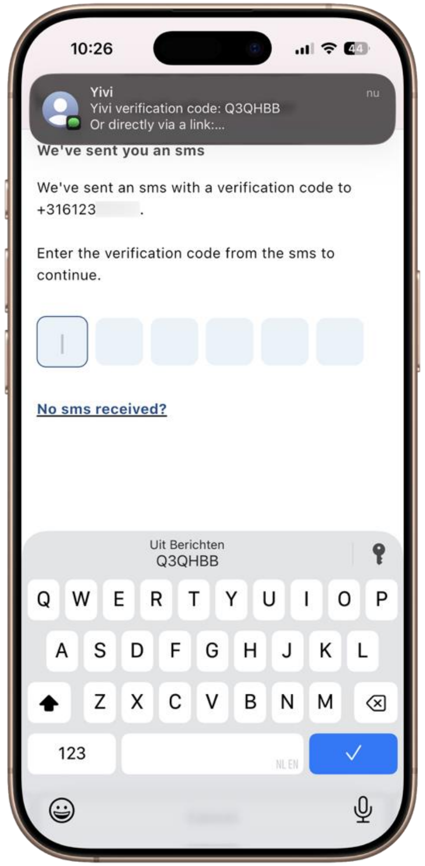
User Experience

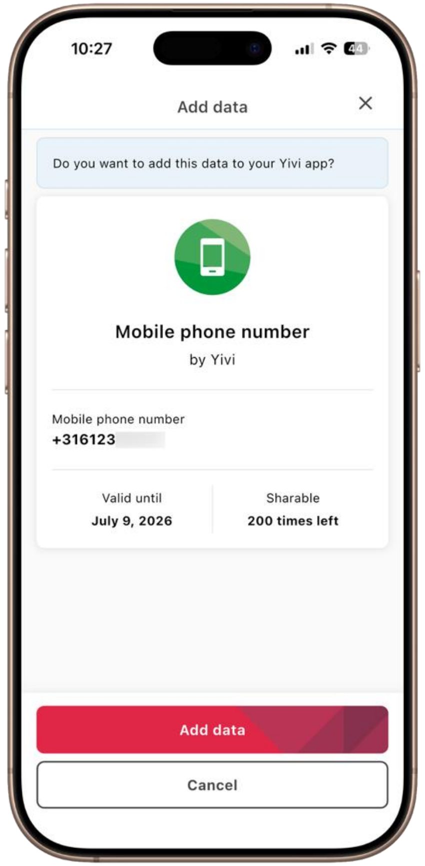
- Universal Links in Yivi frontend packages.
  - QR Codes can now be scanned with camera apps instead of only the Yivi App.
- Better card navigation
  - Reordering cards
  - Search cards
  - Platform gestures

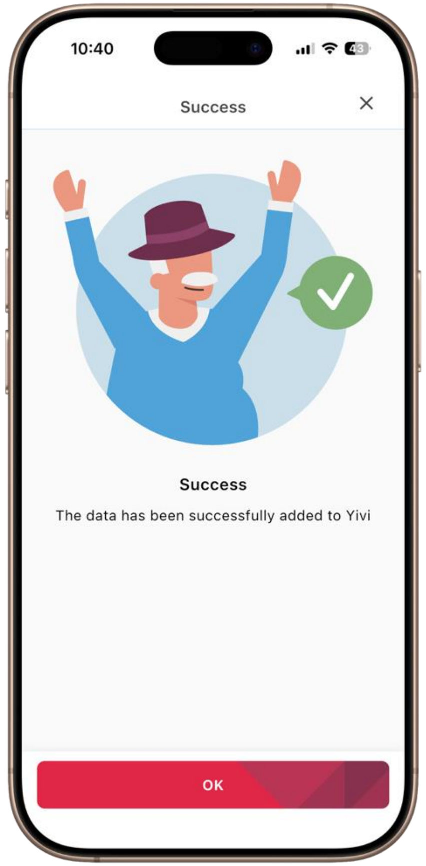


User Experience – Embedded Issuance









Age Verification

European Commission

The EU approach to age verification

EU komt in juli met tijdelijke app voor verifiëren van leeftijd gebruikers

De EU gaat vanaf juli tijdelijk een app in gebruik nemen waarmee gebruikers kunnen bewijzen dat ze oud genoeg zijn om bepaalde sites te mogen bezoeken. De app moet dienen als overbrugging tot de digitale ID-wallet in 2026 wordt ingevoerd.

NOS Nieuws • Dinsdag 27 mei, 18:51

EU onderzoekt of vier pornosites genoeg doen om minderjarigen te weren

nrc› Abonneren Podcasts

ACHTERGROND

Brussel komt met een app voor online leeftijdsverificatie: hoe werkt die en waarom is die nodig?

yivi

Age Verification vs EUDI-wallets

- Same tech, different level of assurance.

	Age-Verification App	EUDI-Wallet with Age-Verification
1 Attestation issuers	Trust Service Providers under eIDAS	Trust Service Providers under eIDAS
2 Relying parties	Registration not required	Registration required
3 Application providers	Registration not required	Registration required
4 Certification of the application	Not required	Required
5 Level of assurance for the identity verification	Substantial or high	High
6 Credential issuance based on	Notified eID + other methods that fulfil eIDAS SUBSTANTIAL requirements	Notified eID + other methods in LoA HIGH
7 Use cases	Online age over 18	Online and offline Identification and Credential Presentation, rQES

International Age Verification

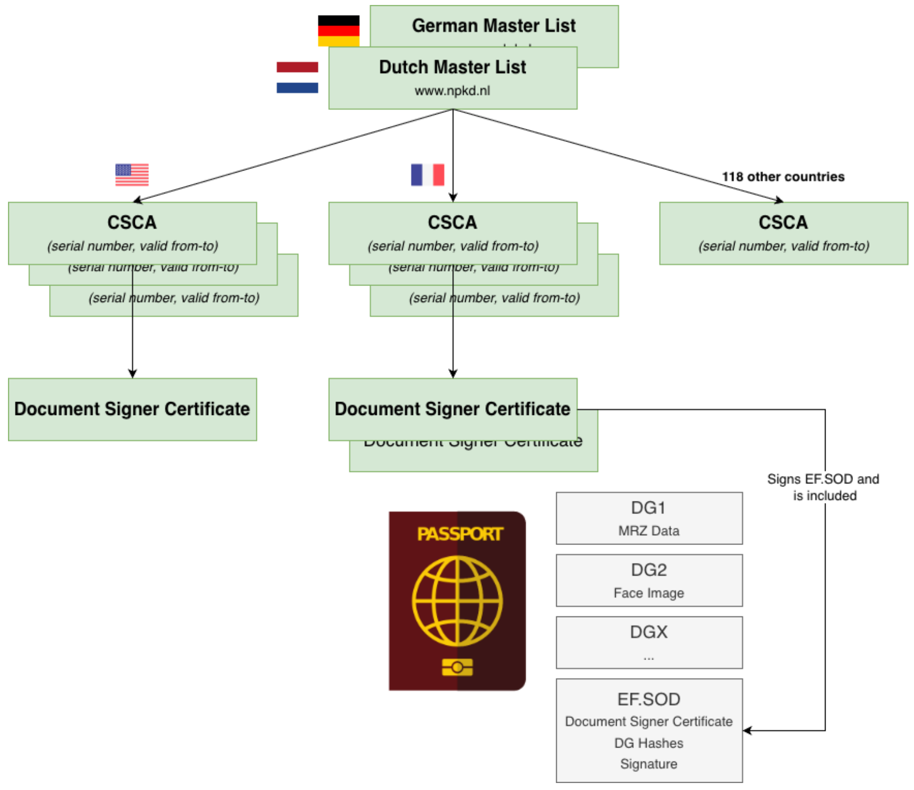
- NL Net granted us a fund to work on open source international Age Verification using machine readable travel documents.
- There are a lot of privacy unfriendly/unsucre solutions being used for instance: AI age estimation of selfies
- Especially Age Verification is a very privacy sensitive topic, you don’t want linkability between various social contexts.
  - Also the state should not be able to track your online pressence.

Machine Readable Travel Documents

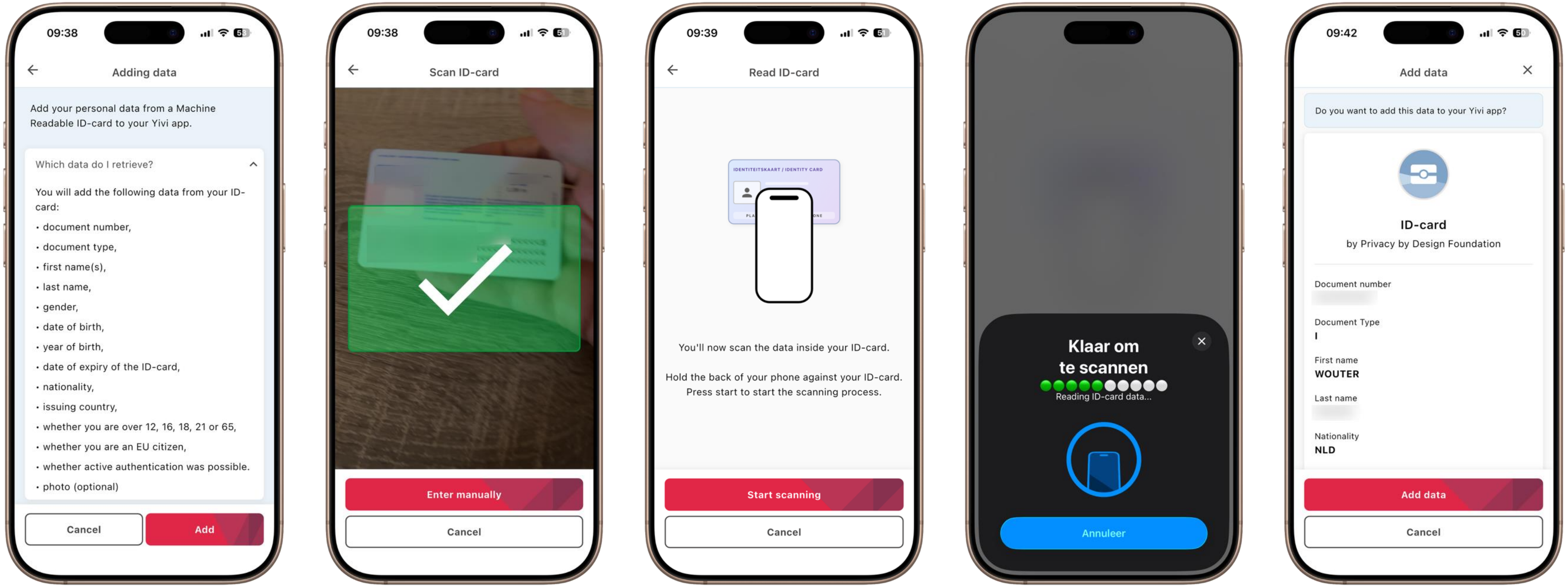
- Passports, ID cards, and driver's licenses are Machine Readable Travel Documents.
- Passports and ID cards follow the ICAO 9303 standard and can therefore be read using a mobile phone's NFC chip.
- Dutch driver's licenses follow a similar standard; internationally, few countries have a driver's license with an NFC chip.
- The content can be validated for authenticity and integrity using passive and active authentication.

Passive en Active Authentication

- The German and Dutch national governments maintain a list of validated Country Signing Certificate Authorities (CSCAs) for approximately 180 countries.
- The data in the passport is signed with a Document Singer Certificate (DCS) issued by a CSCA.
- The data in the passport can be validated by validating the signatures of the data groups in the passport with the DCS and CSCA certificates.
- The integrity of the passport can be validated by having the chip in the passport sign a nonce (Active Authentication). This ensures that the passport has not been cloned.



Example ID-card flow



EUDI

Joerg Lenz, 2025

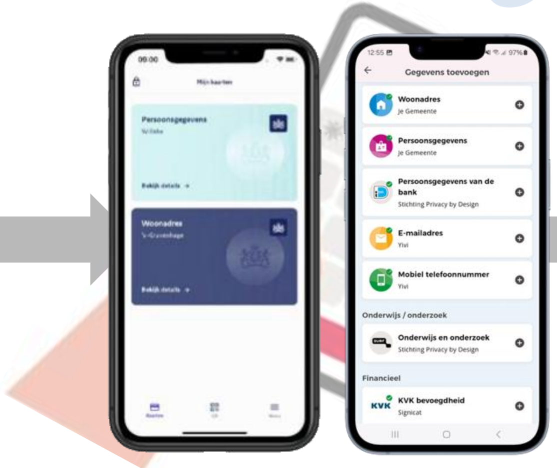
Wallet certification

- Some countries, including the Netherlands, have decided to wait putting things into production before there is official certification in place.
  - Wallet and PID Providers have to be certified.
  - Certification is on the level of NIS2 essential bodies and Qualified Trust Providers.
- The Netherlands is working together with several countries to come to a “harmonized” certification scheme.
- Timeline
  - First the certification scheme has to be finalized
  - Then a CAB has to be certified by the RVA
  - Then the wallet providers (including NL Wallet) can be certified.

EDI-stelsel

PID Provider

Issuing



EU Digital Identity Wallet

Selective Disclosure

Publieke bronhouders

Belastingdienst, UWV, DUO, etc.

Gekwalificeerde vertrouwensdiensten

Digitaal ondertekenen

Trust Providers

Vertrouwende partijen

Publieke dienstverleners

Gemeentes, Belastingdienst, Onderwijs, etc

Grote Private Partijen

Banken, Verzekeraars, Telecom, Energie, etc.

Verifiers / Relying parties

Very large online platforms

Social media, etc.

Identificatie plicht

Wwft, zorgverzekeringswet, wft

Zorg

DEZI-stelsel

EUDI Wallet through Crypto Agility

Crypto agility refers to the ability of a digital identity system to support multiple cryptographic schemes, protocols, and credential formats. For Yivi, this means:

- Supporting multiple credential formats (SD-JWT VC, Idemix, and future post-quantum implementations)
- Implementing industry-standard protocols (OpenID4VP, OpenID4VCI) alongside our existing IRMA protocol
- Enabling interoperability with various trust schemes and ecosystems

Stacking trust schemes

Who’s covering the downstream costs at issuers and wallet providers?

Who’s protecting users from data harvesting and fraud?

Issuers / Attestation Providers → Issuing →

→ Selective Disclosure → Verifiers / Relying parties

Yivi Trust Provider

EDI-stelsel

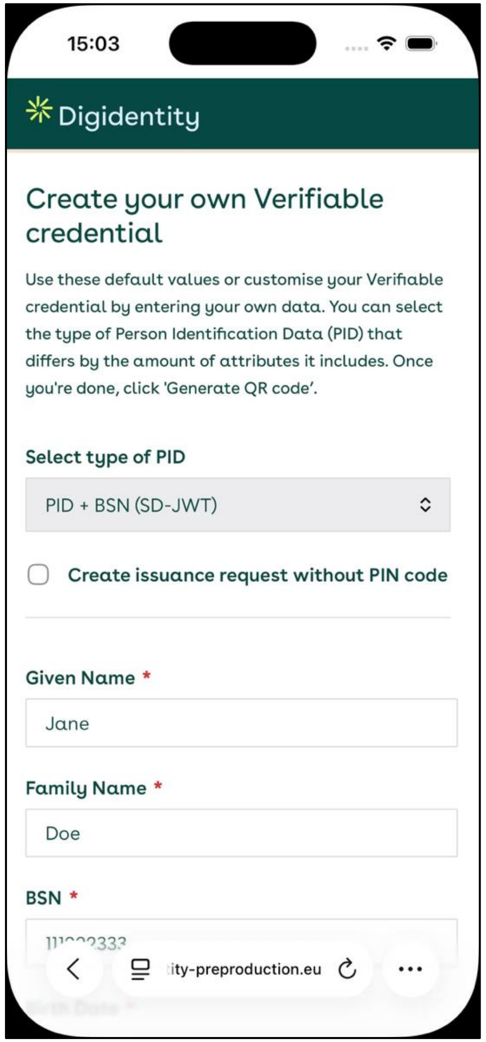
EUDI

The trust provider makes sure that issuers are compensated for their costs.

The trust provider guarantees that data is shared with a known party.

EUDI wallet

- We are expanding our interoperability: in addition to our own scheme, we now also want to support external trust ecosystems
  - Requires thorough and fundamental changes to the Yivi app.
  - The technical foundation is in place: we can now issue SD-JWTs via OpenID4VCI and display them in the Yivi app.
- Concrete milestone achieved: a working demo with Digidentity using the pre-authorized code flow.
  - Current focus: full integration with the rest of the app.
- We are actively looking for partners and issuers in external ecosystems to further strengthen our interoperability.



Roadmap

- Short term (3 months)
  - OpenID4VCI support / Schemaless credentials
  - Face verification and liveness check.
  - Product range expansion: PostGuard for business

- Long terms EUDI-wallet (1 year)
  - ISO mDL, additional credential formats
  - Wallet provider / PID
  - Hardware binding keys
  - Certificering Wallet

Questions

d.mulder@caesar.nl

yivi.app / caesar.nl

Dibran Mulder

DibranMulder