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We build isolated Islands

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- Different tech stacks (Hyperledger, ISO, JSON-LD, JWTs, ...)
- Users need to install/use multiple wallets
- Limited reach for Issuers and Verifiers

Major obstacle to adoption!

Image: Freepik.com

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Wouldn’t it be great if every wallet could communicate with every verifier and every issuer?

Interoperability is one way to achieve it.

Interoperability

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- Interoperability is a characteristic of a product or system to work with other products or systems*.
- Requires common protocols and data formats
- Achieved through Open Standards, like HTTPS and HTML
- Interoperability enables broad adoption of a plurality of solutions
- no mono culture, freedom of choice

*https://en.wikipedia.org/wiki/Interoperability

Interoperability

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- Means to reduce options and to agree on certains standards
- Observation: While we can agree that it is good to reduce options, it is hard to agree on a certain standard.

Credential Transport Protocols

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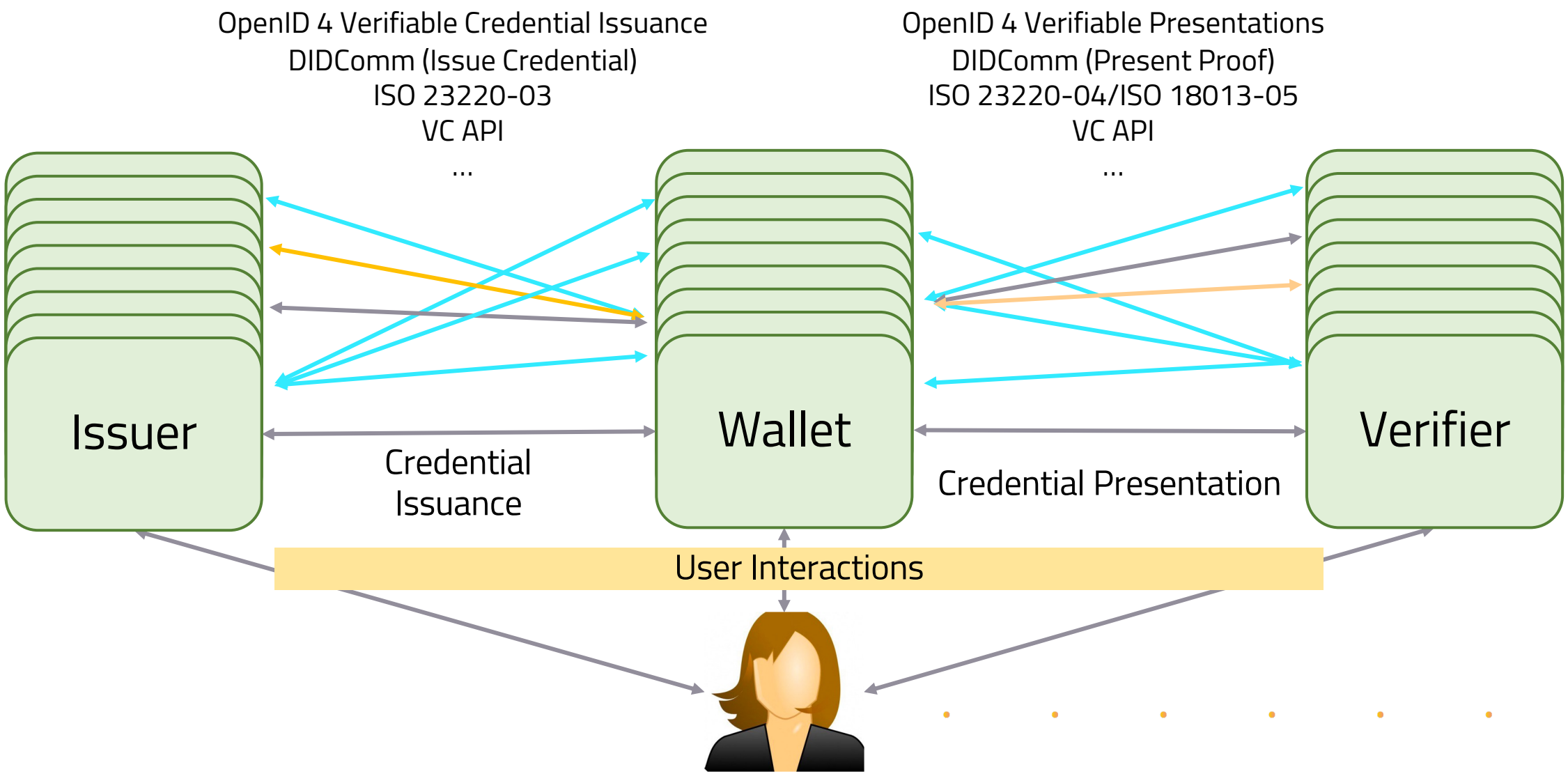

Credential Formats

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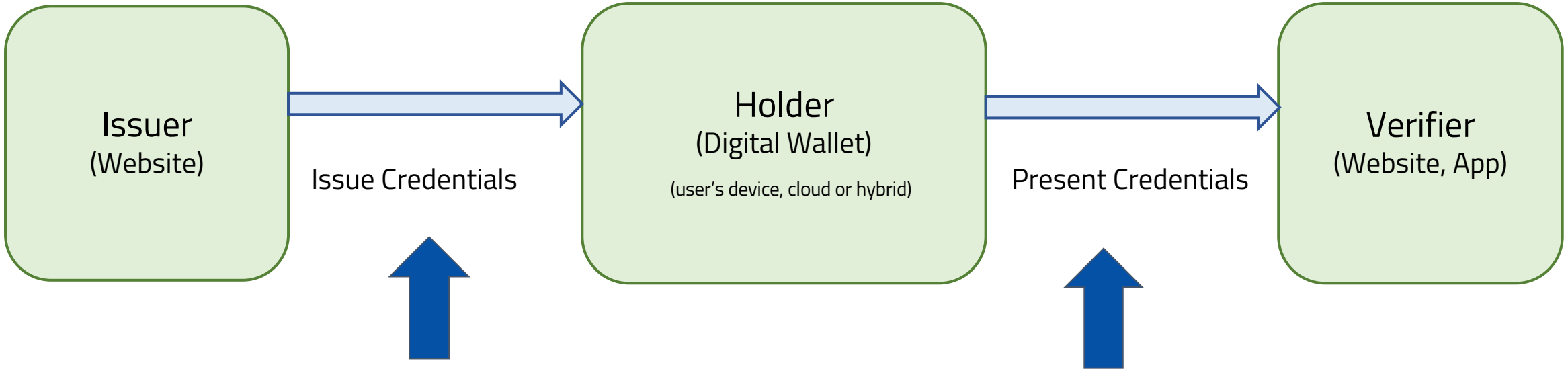

Multiple Issuers to Multiple Wallets

Multiple Wallets to Multiple Verifiers

- Verifiable Credentials are cryptographically verifiable assertions thus cannot be arbitrarily transformed
- End 2 End Interoperability requires same credential format on both interfaces

Speaking of Credential Formats* …

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- What is really used is a composition of
  - **Credential Format** (14), e.g. AnonCreds, LDP-VCs, JWT-VCs, ISO mdoc
  - **Signing Algorithm** (7), e.g. ECDSA, CL, BBS
  - **Key Management (Issuer)** (11), e.g. jwk, did:key, did:ion
  - **Key Management (Holder)** (10), e.g. did:indy, did:keri
  - **Revocation Method** (9), e.g. StatusList2021, Indy Revocation
  - **Trust Management** (7), e.g. X.509, ETSi Trust Lists, EBSI Trust Registries

* A credential profile comparison matrix to facilitate technical and non-technical decision making (https://openwallet-foundation.github.io/tac/SIGs/credential-format-comparison/)

Why now?

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- Experimentation is over - need to deliver
- eIDAS v2 as forcing function
- Luckily, we've got more transparency

How?

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- Profiles: define common protocol and data formats for a certain use cases
- Define mandatory to implement features of the selected standards
- Implementations can automatically be tested to comply (Conformance Tests)

Profiles (Examples)

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- Dutch Decentralised Identity Profile (DDIP)
- eIDAS Architecture and Reference Framework
  - SD-JWT/MDOC
  - OID4VC/ISO 18013-5
- OID4VC High Assurance Interoperability Profile with SD-JWT VCs (HAIP)

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Thank you!