2023 CHAPI - VC EDU
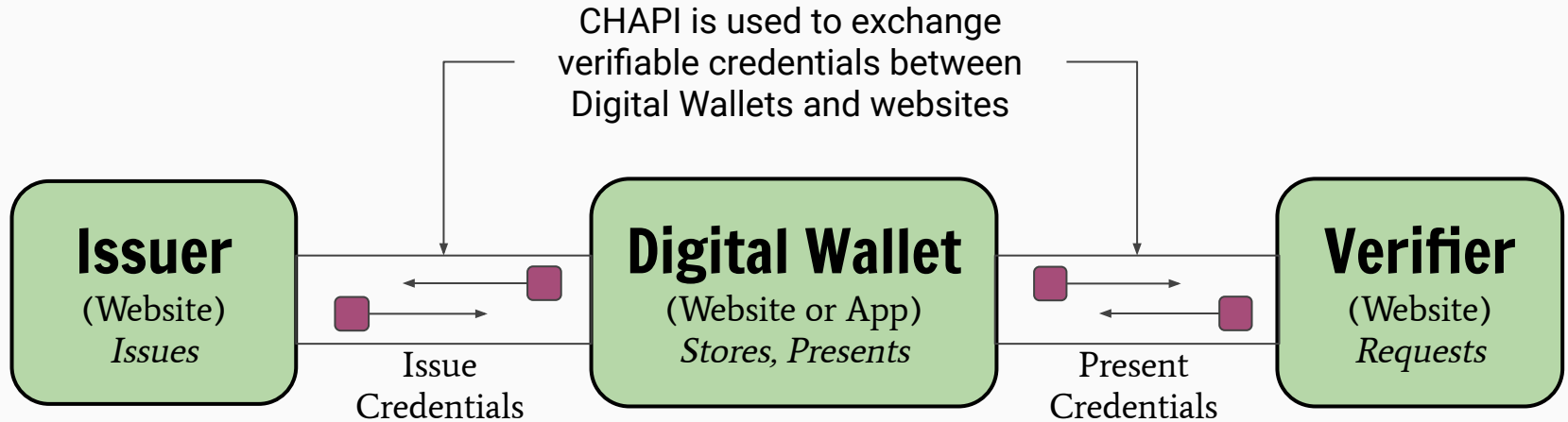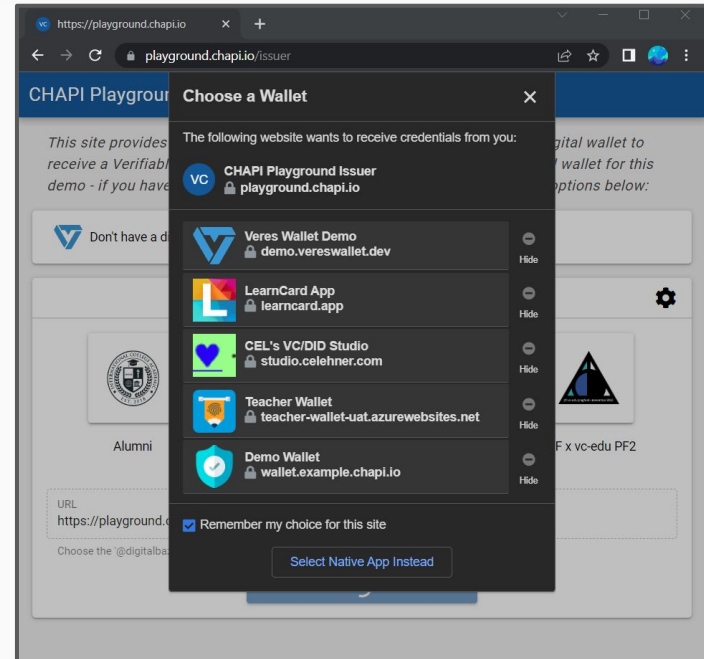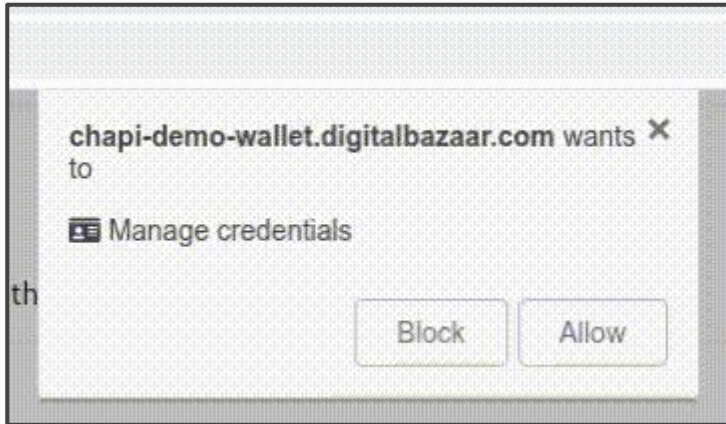
Credential Handler API
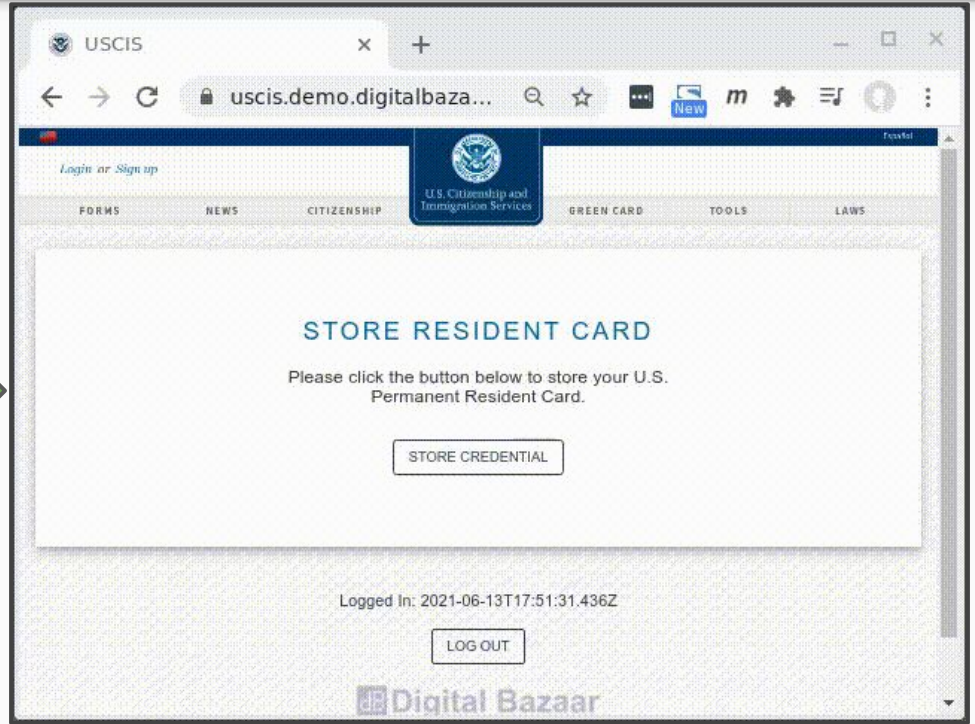
CHAPI in One Picture

CHAPI is used to exchange verifiable credentials between Digital Wallets and websites

Issuer
(Website)
Issues

Issue
Credentials

Digital Wallet
(Website or App)
Stores, Presents

Present
Credentials

Verifier
(Website)
Requests
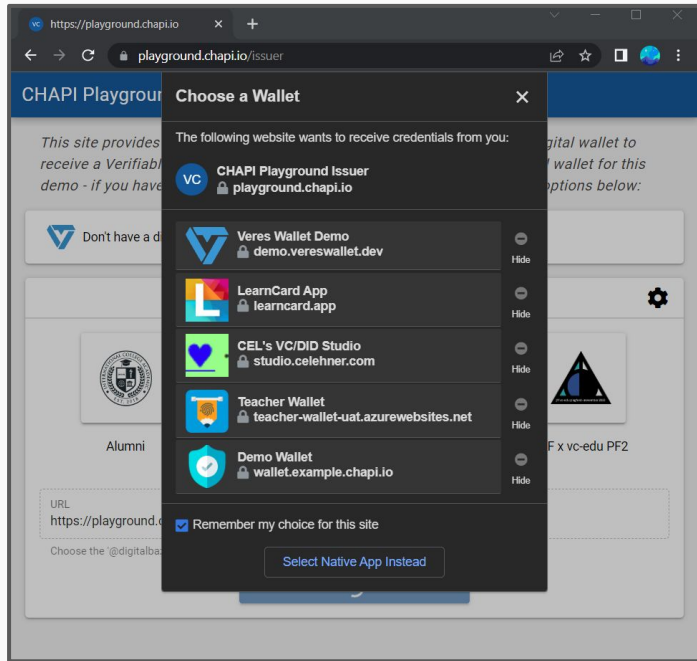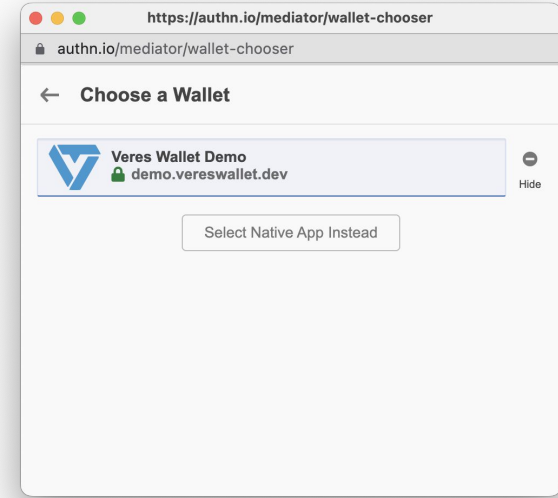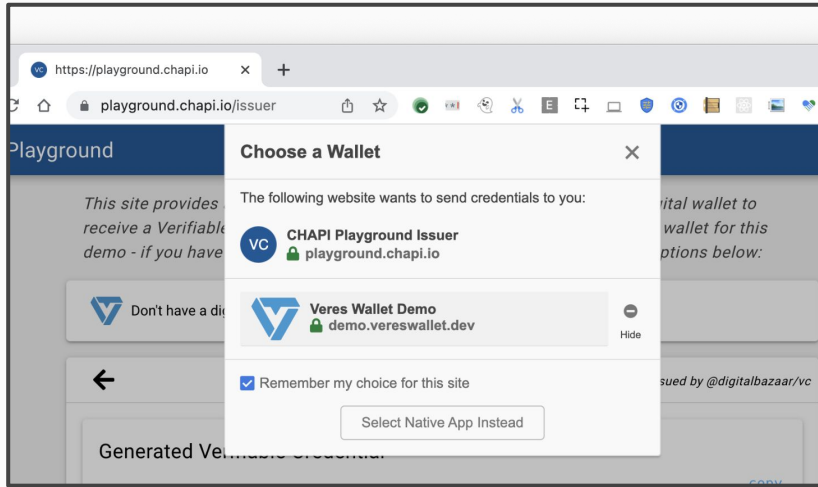
Digital Wallet Registration

Digital Wallet Selection
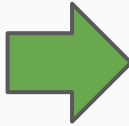
Degrades gracefully
when 3rd-party cookies are unavailable

Interoperability Overview
CHAPI and VC-API

81 **Combinations Demonstrated**

17 different Issuers
14 PlugFest participants
3 from the broader VC-API community

8 different wallets
5 web wallets
3 native mobile apps

Credential Handler Registration

Step 1
Credential repository website requests install of Credential Handler

Step 2
Individual allows credential handler install

Step 3
Credential handler ready

Verifiable Credential Storage

Step 3
Individual approves storage of Verifiable Credential

Step 1
Individual logs into website

Step 2
Website requests storage of Verifiable Credential
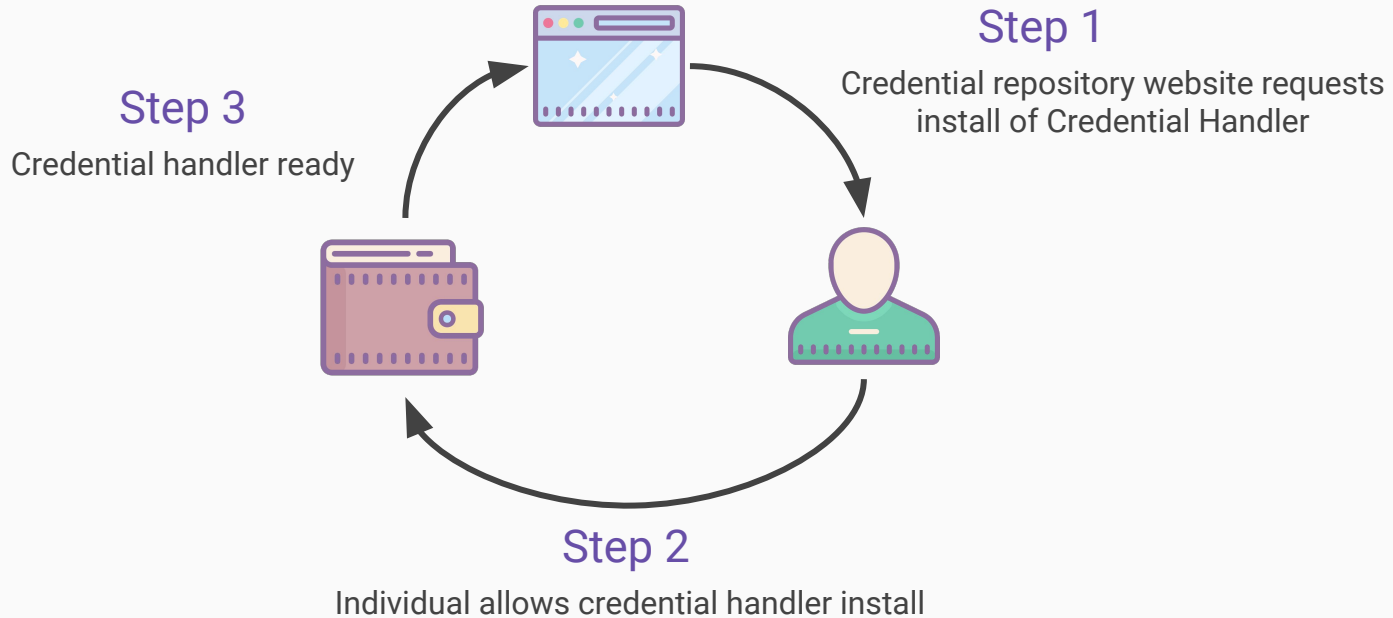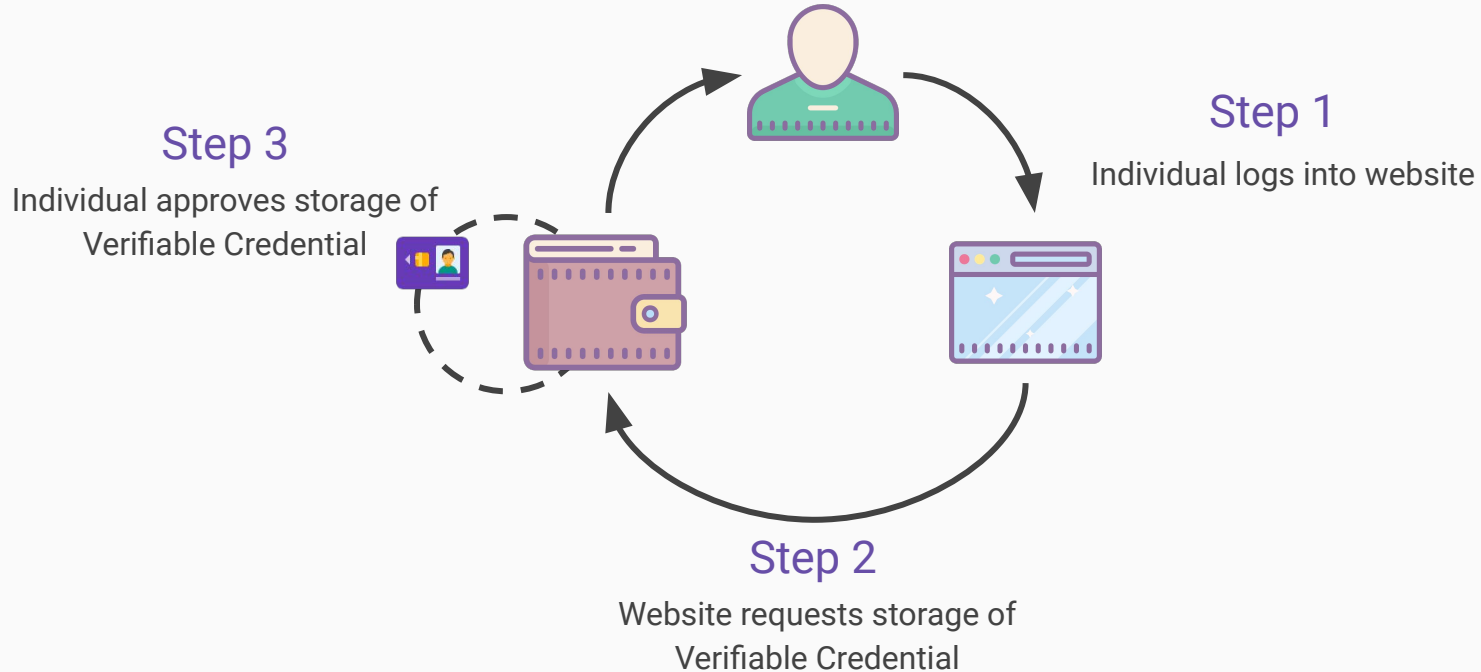
Verifiable Presentation Request

Step 1

Website requests
Verifiable Credentials

Step 2

Individual selects Verifiable Credentials
to transmit

Step 3

Individual transmits
Verifiable Credentials
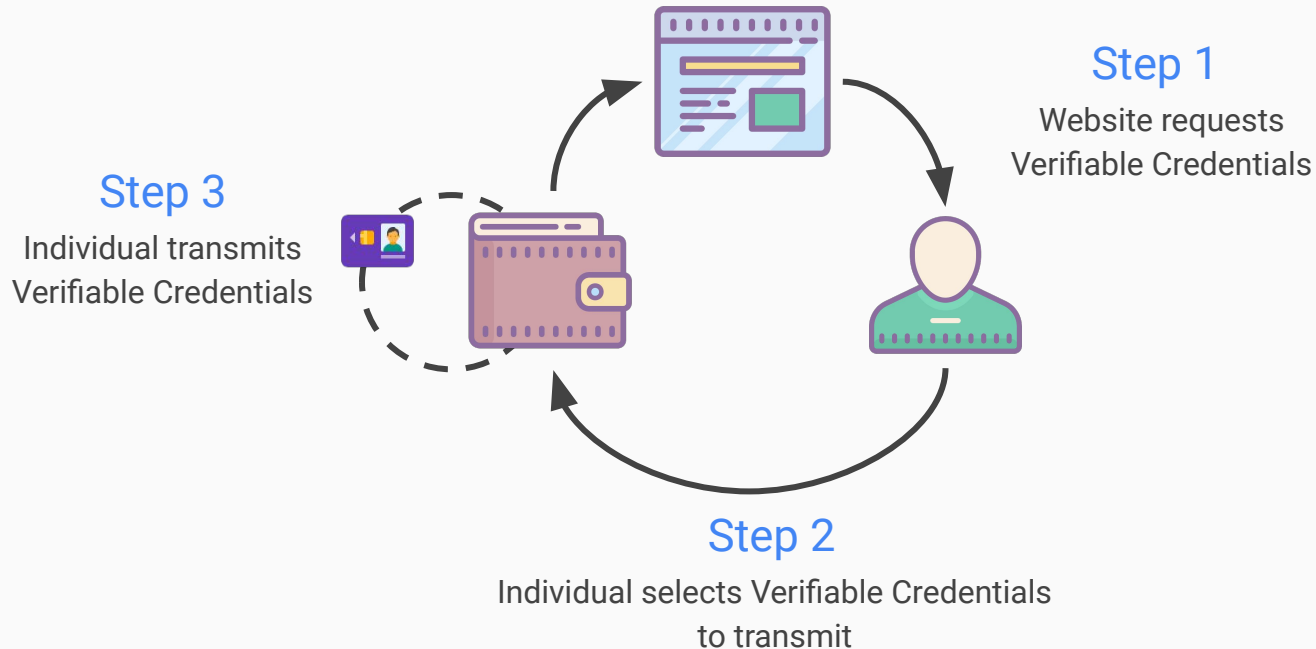
Demo

CHAPI Timeline

- 2014 - [Identity Credentials](#) protocol proposed

- 2017 - [Web Payments Handler](#) written by Dave Longley

- 2017 - [CHAPI Specification](#) created by Dave Longley

- 2017 - CHAPI [adopted](#) as W3C CCG Work Item

- 2020 - DHS SVIP Interop (6 companies interop)

- 2022 - JFF Interop (17 companies interop)

CHAPI Roadmap

- 2023

  - In production with dedicated datacenter teams
  - Better integration for native apps
  - Some variation of OID4* support
  - Native browser experiments w/ FedCM/Google

- 2024 - Some use of native FedCM browser code

- 2025 and beyond - continued upgrades and improvements

CHAPI
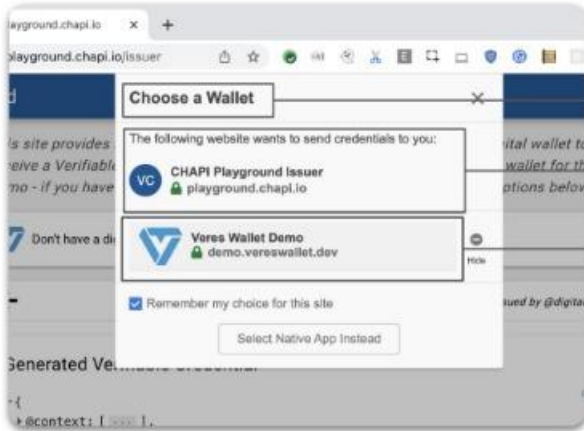
FedCM

CHAPI
- Wallet Selector
- Multiple Wallets
- Wallet language
- Modal
- Wallet Registration
- Connects with Native Apps
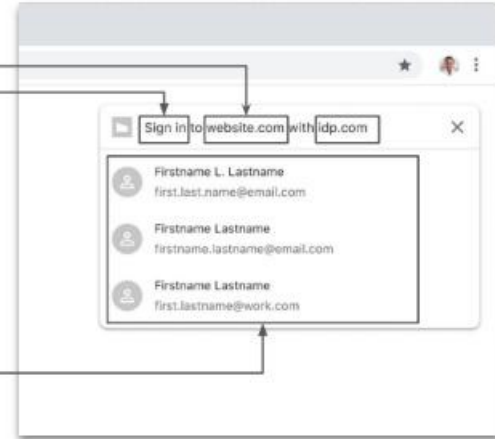
FedCM
- IdP Account Selector
- IdP Accounts from Single IdP
- Login language
- Non-modal
- IdP Selected by RPs
- Only cloud providers

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CHAPI

- Wallet Selector
- Multiple Wallets
- Wallet language
- Modal
- Wallet Registration
- Connects with Native Apps

FedCM

- Wallet Account* Selector
- Wallet Accounts* from Multiple Wallets
- Wallet language
- Modal
- Wallet Registration
- Only cloud providers (not covered, but easy)

I think there are going to be differences, but the bigger structural parts I think are similar enough.

* I think you may call these "profiles" or "sessions"?

Related Specifications and Code

Demo site: https://playground.chapi.io/issuer

Developer Documentation: https://chapi.io/

CHAPI Polyfill: https://github.com/credential-handler/credential-handler-polyfill

CHAPI Specification: https://w3c-ccg.github.io/credential-handler-api/

Appendix