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Decentralized Semantics WG Weekly Meeting

18 August 2020

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Agenda

1. Welcome (Paul—5 mins)
2. Newcomer Introductions (5 mins)
3. Task Force Updates (10 mins)
4. Demo: Aries Toolbox: Services, Verifiable Credentials with Consent (Robert—10 mins)
5. MITF focus group pitch: FHIR-OCA Object Transformation FG (Conveners: Mukundan Parthasarathy and John Walker—15 mins)
6. OCA Specification document: Contribution and RFCs (Robert—10 mins)
7. Logistics (Paul—5 mins)
    a. Chairs
    b. Meeting schedule

Newcomer Introductions

(30 seconds!)

1. Name
2. Location / time zone
3. Affiliation(s)
4. One-sentence summary of your interest in Decentralized Semantics (or one particular semantics-related issue you personally want to see solved)

Task Force Updates
(10 mins)

- Imaging TF (Scott/Moira)
- Medical Information TF (Scott/Moira)
- Notice & Consent TF (Mark/Sal)

Demo: Aries Toolbox: Services, Verifiable Credentials with Consent (10 mins)

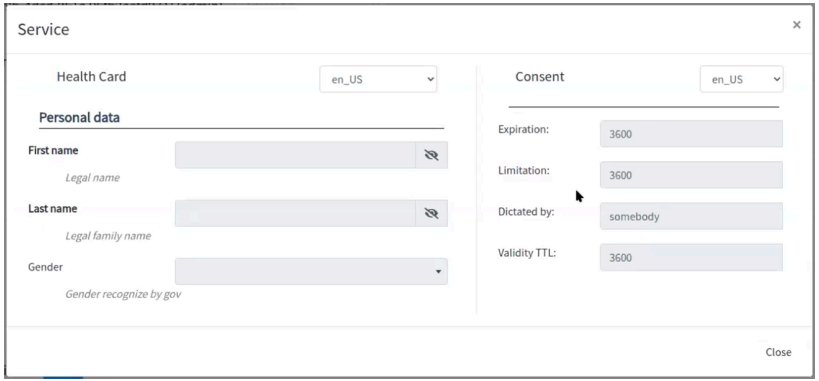
Presented by: R.Mitwicki

https://github.com/thclab/aries

Demo: Services, VCs with Consent

- Aries Toolbox adaptation

Toolbox resolution …



Ref.: https://github.com/thclab/aries

README.md

Prerequisites:

- von-network

Running up

1. Go to von-vetwork dir and run it with `./manage start`
2. In aries dir run `docker-compose up`. It serves:
   - toolbox.localhost
   - repository.localhost
   - data-vault.localhost
   - agent1.localhost
   - agent2.localhost

Scenario

Issue Credential with filled OCA form:

1. Run von-network and aries ecosystem
2. Upload schema to OCA Repository

```
curl -F 'file=@oca-schema.zip' repository.localhost/api/v2/schemas/test
```

3. Open `toolbox.localhost` in two browser windows
4. Get agents' invitation urls with `docker logs aries_agent1.localhost_1` and `docker logs aries_agent2.localhost_1`. Copy them to toolboxes - one per toolbox. Then connect into agents.
5. Connect agents together
   - In Main agent: go to **Invitations**, create new invitation and copy URL
   - In Client agent: go to **Connections**, paste invitiation url and add it (click Refresh button to see result)
6. In Main agent go to DIDs module, publish selected DID in the ledger and activate it
7. Issue credential
   - In Main agent: go to **Credential Issuance**
   - Search for `HashedStructure` schema and click `Issue`
   - Select `Client` connection and go next
   - Fill all schema fields and go next
   - Send credential
8. In Client agent check credential in **My Credentials**

MITF focus group pitch:
FHIR-OCA Object Transformation FG
(15 mins)

Conveners: M.Parthasarathy / J.Walker

https://wiki.trustoverip.org/pages/viewpage.action?pageId=67130

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FHIR-OCA FG

Sits underneath …

MITF at DSWG

FHIR-OCA Object Transformation FG (Proposed)

Created by Paul Knowles, last modified 6 minutes ago

Overview

True interoperability of dispersed data amongst multiple healthcare providers (and across organizational or geographic boundaries) remains unattainable in the current tapestry of today's digital economy. In terms of schema design, Overlays Capture Architecture (OCA) represents a schema as a multi-dimensional object consisting of a stable schema base and interoperable overlays. Reverse engineering currently deployed single-object schemas into multiple-dimensional objects would facilitate a separation of concerns: (i.) data capture vs. exchange and (ii.) data usage.

Research into a globally standardized and decentralized approach to health data capture and exchange has birthed a powerful alternative architecture in OCA. This new architecture will enable easier and effective monitoring and assessment of outbreaks and healthcare policies whilst minimizing the possibilities of tampered, damaged or erroneous data in care delivery. OCA also has the potential to better support new developments in precision medicine, gene-based therapies, federated AI solutions and other social determinants of health (SDOH) initiatives.

In conjunction with the technical components described below, OCA provides a choice architecture to better enable patient-driven consent, privacy and compliance requirements across all use cases.

Mission and Scope

The mission of the FHIR-OCA Object Transformation FG is to create and maintain FHIR-compliant OCA schema bases and core overlays that correspond to the normative HL7 FHIR Version R4 resource model.

The scope of this FG includes:

1. Per MITF, alignment with ToIP Foundation member's relationships and partnerships with standards organizations such as HL7, IHE, and ISO TC215
2. Ensuring compatibility with FHIR Profiles, FHIR Extensibility model.
3. Ensuring alignment with key ongoing HL7 initiatives (Argonaut, USCDI, DaVinci, Carin, Gravity)
4. Proof-of-concept activities such as the creation of Open Source tools to demonstrate the principles of decentralized interactions (Use cases specified below) that can ensure:
    a. regulatory compliance
    b. respecting patient-centric consent & privacy policies

Intellectual Property Rights (Copyright, Patent, Source Code)

This FG uses the same IPR licensing selections as the ToIP Decentralized Semantics WG:

- Copyright mode: Creative Commons Attribution 4.0.
- Patent mode: W3C Mode (based on the W3C Patent Policy).
- Source code: Apache 2.0.

Ref.: https://wiki.trustoverip.org/pages/viewpage.action?pageId=67130

OCA Specification document: Contribution and RFCs

(10 mins)

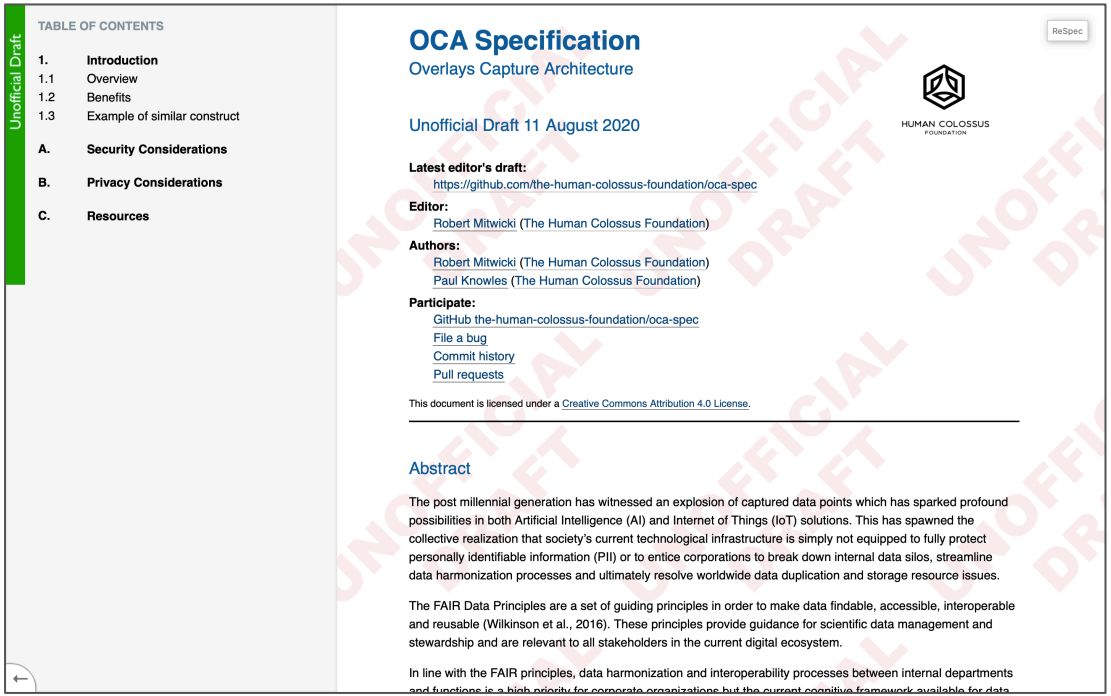
Presented by: R.Mitwicki

https://the-human-colossus-foundation.github.io/oca-spec/

https://github.com/the-human-colossus-foundation/oca-spec

OCA Specification

A specification template for collaborative input to enable a roadmap for OCA requirements



Unofficial Draft

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ReSpec

OCA Specification

Overlays Capture Architecture

HUMAN COLOSSUS FOUNDATION

Unofficial Draft 11 August 2020

Latest editor's draft:
https://github.com/the-human-colossus-foundation/oca-spec

Editor:
Robert Mitwicki (The Human Colossus Foundation)

Authors:
Robert Mitwicki (The Human Colossus Foundation)
Paul Knowles (The Human Colossus Foundation)

Participate:
GitHub the-human-colossus-foundation/oca-spec
File a bug
Commit history
Pull requests

Abstract

The post millennial generation has witnessed an explosion of captured data points which has sparked profound possibilities in both Artificial Intelligence (AI) and Internet of Things (IoT) solutions. This has spawned the collective realization that society's current technological infrastructure is simply not equipped to fully protect personally identifiable information (PII) or to entice corporations to break down internal data silos, streamline data harmonization processes and ultimately resolve worldwide data duplication and storage resource issues.

The FAIR Data Principles are a set of guiding principles in order to make data findable, accessible, interoperable and reusable (Wilkinson et al., 2016). These principles provide guidance for scientific data management and stewardship and are relevant to all stakeholders in the current digital ecosystem.

In line with the FAIR principles, data harmonization and interoperability processes between internal departments and functions is a high priority for corporate organizations but the current cognitive framework available for data

Ref.: https://the-human-colossus-foundation.github.io/oca-spec/
Ref.: https://github.com/the-human-colossus-foundation/oca-spec

Chairs

- As a Working Group, we elect our own chairs
  - At least one, and up to three
  - Two or three is recommended to spread out the load
- We can periodically rotate chairs as needed
- Volunteers now?

Meeting schedule

- Call timing
  - **ToIP Decentralized Semantics WG**

    Every Tuesday starting

    09:00 PT, 12:00 ET, 17:00 UK, 18:00 CET
- Next meeting
  - August 25th, 2020

Closing Q & A

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