INCF Neuroshapes SIG Meeting Report

Organised during the INCF BrainHack and NI 2018 at Montréal
August 8 2018

Participants:

- David keator, UC Irvine
- Tom Gillespie, UCS
- Karl Helmer, MGH/HST
- Taylor MacMillan, Krembil Centre For Neuroinformatics CAMH
- Pradeep Reddy Raamana, Rotman Research Institute, Baycrest
- Mohameth François Sy

Agenda (3 hours):

- Presentation of Neuroshapes’ motivation and goal
- Demo of using BlueBrain Nexus (https://bluebrain.github.io/nexus) to validate data against SHACL schemas
- Hack some schemas for NIDM
- Discussions

This meeting was the first one for the INCF Neuroshapes Special Interest Group. The goal was mainly to present Neuroshapes goal and motivation to the Neuroscience community at INCF NI2018. But also to connect with other data sharing and open science initiatives like NIDM to see if they can adopt Neuroshapes’ approach in term of data models. There is a poster presenting a high level overview of Neuroshapes at https://f1000research.com/posters/7-1345. There is also a corresponding abstract available at http://doi.org/10.12751/incf.ni2018.0083.

Participants showed interest in using the W3C SHACL specification, as a way to complement existing data models with data validation capability. They showed interest in the ability to describe what are the expected properties of a dataset by mean of schemas using json-ld (semantic markups) and W3C SHACL. Initiatives like Apine (https://github.com/INCF/apine) can then read the SHACL schemas and expose them through REST API. Some discussions took place around adding a SHACL parser in the Apine project. For example the NIDM data models, which are already written in RDF, can define SHACL schemas to explicitly encode what it means to be a valid NIDM data.

Taylor MacMillan from Krembil Centre For Neuroinformatics (CAMH) presented her work on describing neuroimaging data using a SHACL version of NIDM and how she went from XNAT, BIDS to NIDM and SHACL. There is a poster at https://f1000research.com/posters/7-1288 showing her result.
The participants identified the need to have a lightweight SHACL python validator to speed the adoption of Neuroshapes within the Neuroscience community even though many JAVA based SHACL validators exist. A demo of how BlueBrain Nexus (https://bluebrain.github.io/nexus) platform can be used to validate data against a SHACL schema was presented. The SIG welcomes any contribution in term of supported data models (specially a SHACL version of BIDS) and python tools.

A meeting is planned for end of October or beginning of November 2018.