

CONTEXT: THE NEED TO BETTER MODEL HUMAN ACTIVITIES BASED ON SCATTERED DATA

The French Alps are significantly impacted by the climate crisis, experiencing changes faster than the plains. It is essential to better understand the various dynamics at play (Edoardo et al., 2019). Existing data on wildlife activities is scattered and it requires different expertise to fully exploit it. Our objective is to encode these different expertise in an open and collaborative Knowledge Graph (KG) co-produced and used by participants (GIS experts and ecologist) to the IntForOut project.

A COLLABORATIVE KNOWLEDGE GRAPH (KG) ABOUT DATA AND RELATED EXPERTISE

With enough information about data, I can make relevant recommendations to users looking for data

What license applies to these data, and am I allowed to reuse them in a published research paper?



What data about human activities can we find in this area?

I have expertise on camera trap data

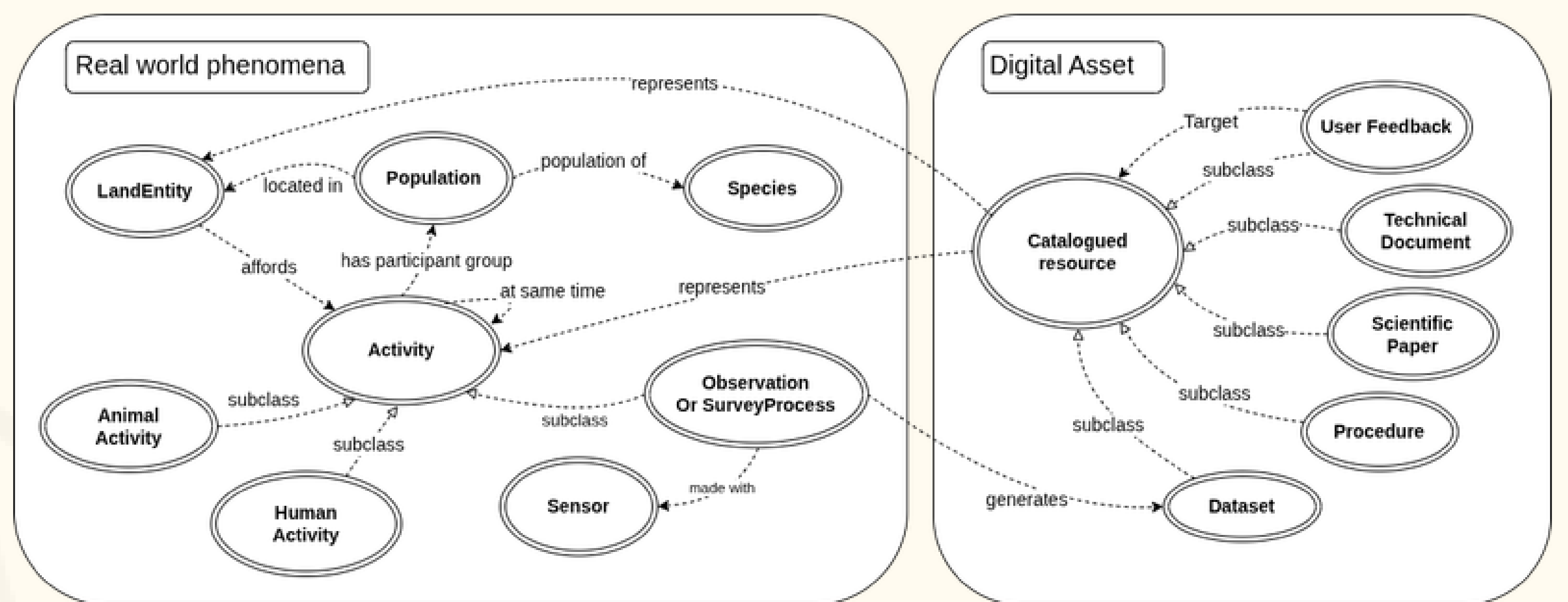
I had developed a Python library to manipulate GPS trajectories

PARTICIPANT 1

PARTICIPANT 2

Participants act both as users and as contributors to the Knowledge Graph

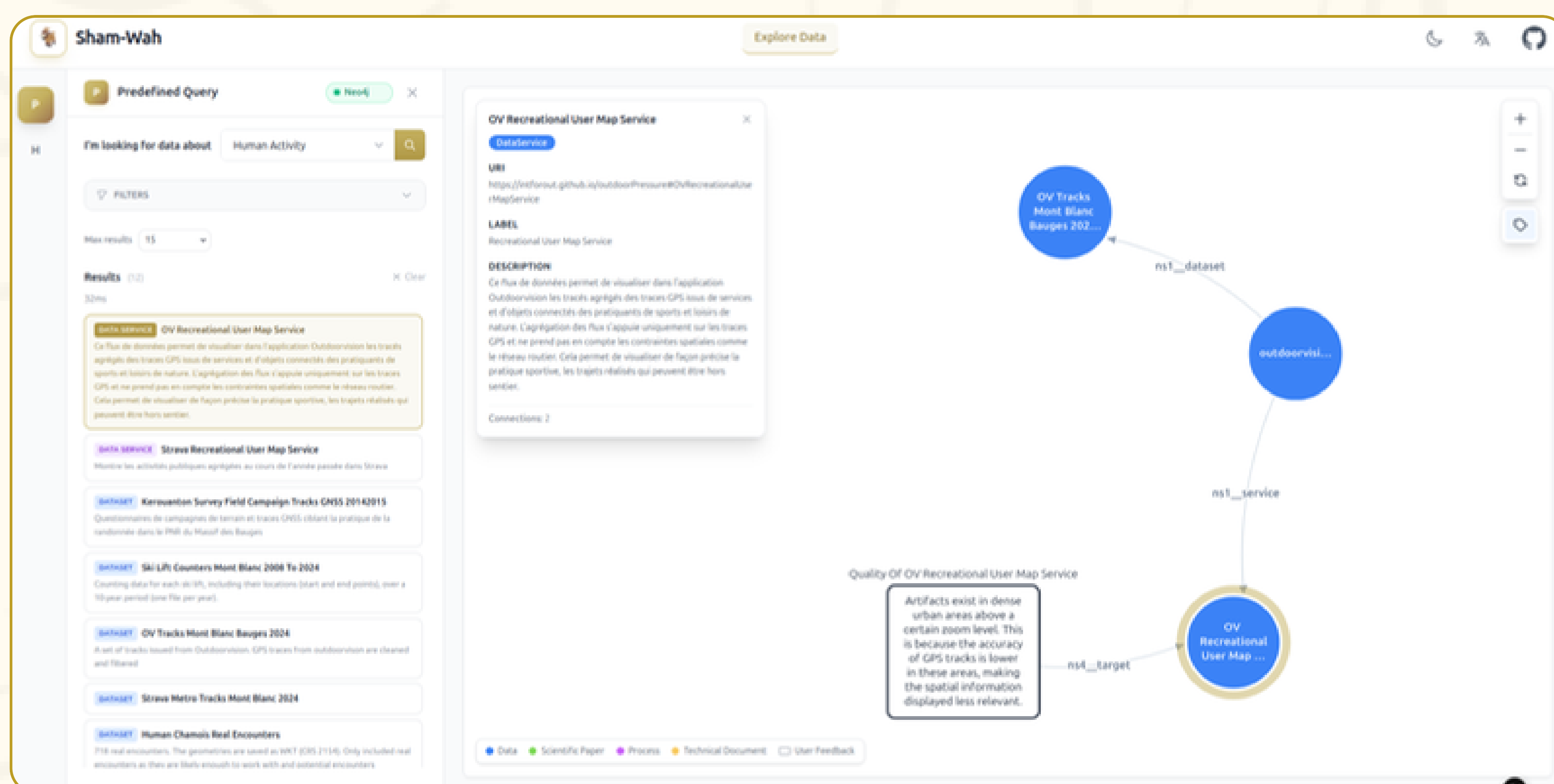
KG CORE MODEL STRUCTURE



The KG core model is simple, aligning its local classes with mainstream Semantic Web vocabularies such as DCAT (datasets), PROV (provenance), SOSA (sensors and observations), and Wikidata (general reference entities) and we introduce a set of domain-specific concepts like *Activity*, *Population*, *LandEntity*, and *Afford* property (Gibson, 1977)

Our KG is available at : → <https://github.com/IntForOut/OutdoorPressure>

A COMPANION FOR PARTICIPANTS WHO DO NOT WISH TO DEAL WITH KG TECHNOLOGIES



Sham-Wah is available at : → <https://github.com/IntForOut/sham-wah>

We created a Web App called Sham-Wah, named after the mountain goat-antelope, to overcome the technical skills usually required to interact with a KG. By easing the interaction process, Sham-Wah enables many more users to interact with the KG.

We showcase how the KG support the discovery of data related to human recreational activities and the recommendation of relevant assets (Scientific paper, technical document, procedure etc...)

FIRST RESULTS AND PERSPECTIVES

Results from a qualitative study :

- Sham-Wah-based demonstrator was necessary to engage and motivate participants
- UserFeedback can be edited very simply
- Participants expressed the need for more description of the temporal aspect of data, as well as conceptual schema and licensing.

Ongoing work focuses on enriching the KG and making Sham-wah more flexible.

REFERENCES

- ▶ Edoardo, C., Carlson, B., Filippa, G., Pogliotti, P., Alvarez, I., Fosson, J. P., Ravanel, L., and Delestrade, A.: Climate change in the Mont-Blanc Massif and its impacts on human activity, Tech. rep., ARPA VDA, https://www.espace-mont-blanc.com/asset/rapportclimat_eng.pdf, 2019
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