Innovation through Cooperation
Designing Collaborative Ecosystems on the example of
"Biodiversity and Linguistic Diversity:
A Collaborative Knowledge Discovery Environment"

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> "The cultural wealth of the world
> is its diversity in dialogue."
> [UNESCO Universal Declaration on Cultural Diversity 2001]

The UNESCO Declaration on Cultural Diversity (2001) [4] states the importance of Cultural Diversity as one of the "common heritage of humanity" and makes it´s defence "an ethical imperative indissociable from respect for the dignity of the individual." In declaring the hope, "that one day the declaration will acquire the same force as the Universal Declaration of Human rights", Koïchiro Matsuura, Director General, manifests the importance of the Declaration for global peace and one of the founding texts of the new ethics of twenty-first century UNESCO [6].

There is a fundamental linkage between biological, linguistic and cultural diversity. "Over the past decade, the field of biocultural diversity has arisen as an area of transdisciplinary research concerned with investigating the links between the world´s linguistic, cultural, and biological diversity as manifestations of the diversity of life." [5]. There is a fundamental linkage between language and traditional knowledge related to biodiversity. Local and indigenous communities have elaborated complex classification systems for the natural world, reflecting a deep understanding of their local environment. This environmental knowledge is embedded in indigenous names, oral traditions and taxonomies, and can be lost when a community shifts to another language. " [7]

This paper introduces into a multidisciplinary, collaborative knowledge discovery environment [1], established at the Austrian Academy of Sciences (AAS), Austrian Centre for Digital Humanities (ACDH) in close collaboration with Natural History Museum Vienna (Nhm), launched on September, 1st, 2017.

The project aims to establish a collaborative open science workflow and enable knowledge discovery as well as experimental scholarship related to biodiversity and linguistic diversity and it´s cultural dimensions. It aims to serve as a social and technical infrastructure to establish communities of practice. The portal contributes to the sustainable documentation and visibility of cultural diversity and traditional knowledge and to open it for the public.

In this paper we introduce into the first results of our endeavor in a nutshell.

We emphasise

1) The community aspect, e.g with evolving the portal within the COST action IS 1305 European Network of electronic Lexicography.

2) The system architecture with its three layers and most important functionalities (cf. figure1).

a) The Human Interface Layer

b) The Persistent Layer

c) The Enrichment Layer

3) Data visualisations (cf. figure 2+3).

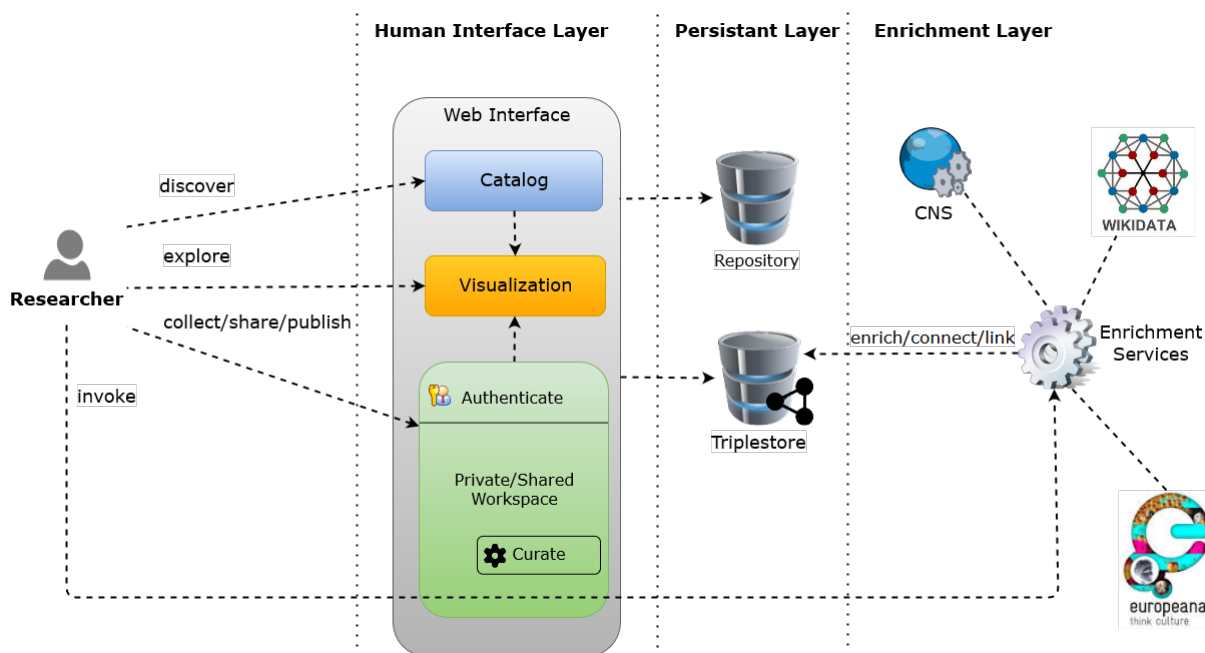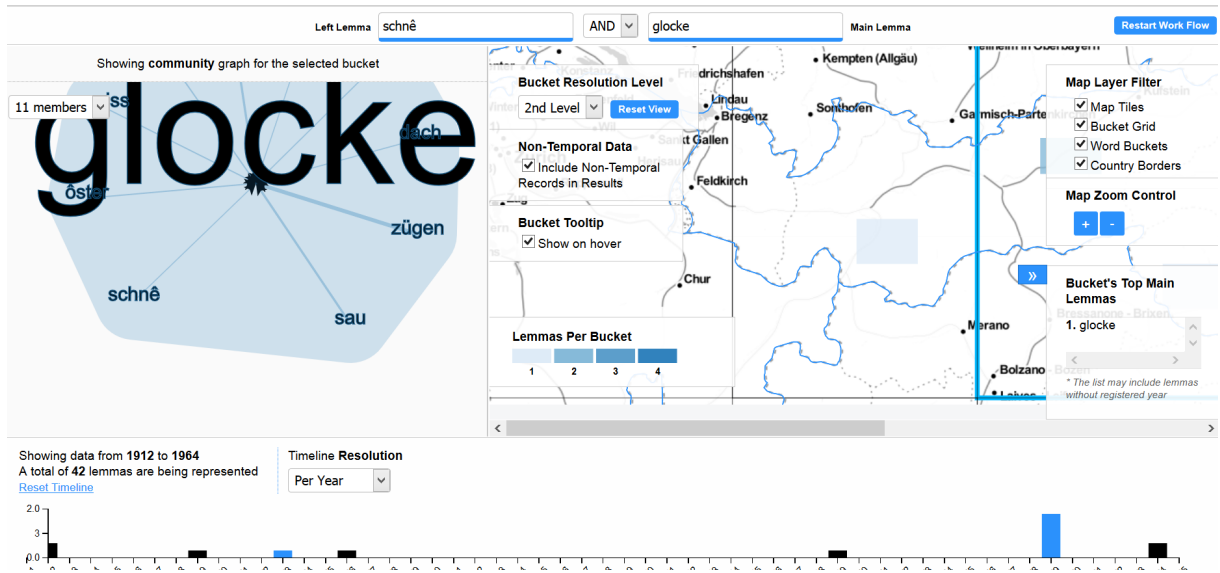4) Dictionary related outcome of the portal (cf. figure 4).

Figure 1: Pilot-architecture of the open workflow for the diversity4bio

Figure 2 +3 : Visualisation pilot for the project exploreAT! – to be scaled up for global resources
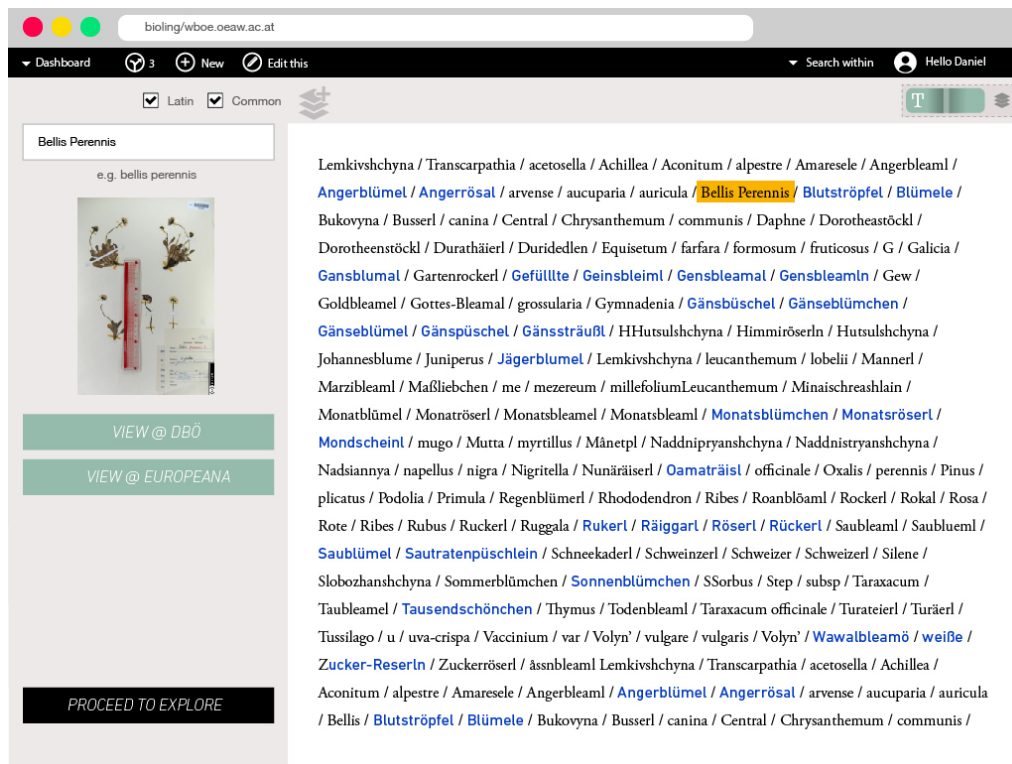
Figure 4: Design Probes for the further development of the diversity4bio portal towards a broader audience with cultural interest.

Concluding, the authors give an outlook on next steps, pathways to contribute and join in and share the personal experiences along the way.