

Socio-technical Revelation of Knowledge Transfer Potentials



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1. Context of the Work

Many **research-intensive organizations** rushed to implement the knowledge transfer¹ to external stakeholders, while their organizational infrastructure is often not efficiently supporting the **inner-organizational transfer of knowledge**. Furthermore, as scale, scope and complexity of research increases, there is a need for a systematic approach to manage the internal exchange of knowledge in research-intensive organizations. We aim to support the exploitation of untapped **opportunities for the exchange of knowledge** at research organizations supported by a socio-technical system and semantic web technologies.

2. Research Questions

We formulate the **design problem** as follows:

- Context *Improve knowledge exchange in research-intensive organisations by designing a socio-technical system that satisfies the requirements of the knowledge transfer manager and researchers in order to*
- Artefact *support the knowledge transfer manager in matching knowledge workers and to*
- Requirements *improve the collaboration at the research-intensive organisation.*
- Stakeholder Goals *1) support the knowledge transfer manager in matching knowledge workers and to
2) improve the collaboration at the research-intensive organisation.*

The **instrument goals** include the design of measurement instruments to measure the increase in collaboration.

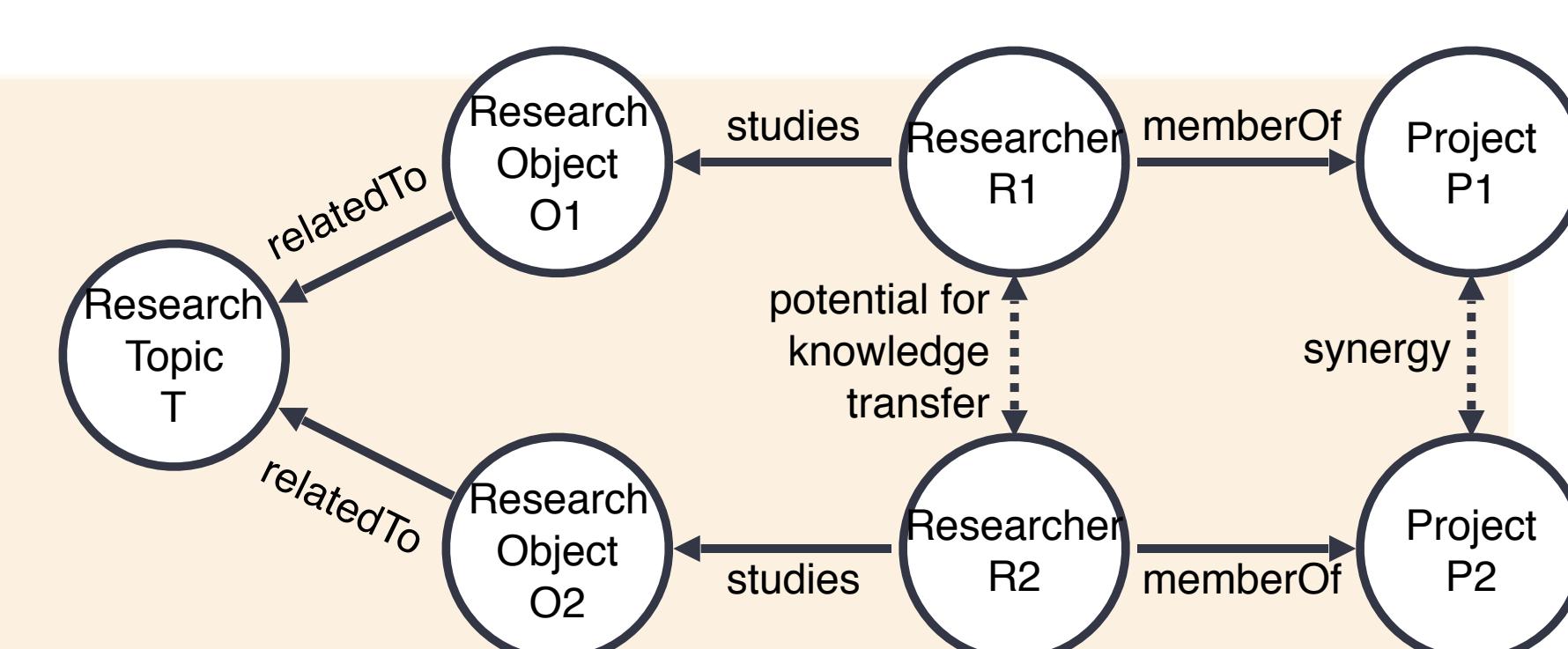


Fig. 1: Example of a potential for knowledge transfer

The preliminary **knowledge goals** are:

- Given the available data in the research-intensive organization, are we able to produce insights that are useful and actionable for managers and researchers?
- Will the materialization of the potential for inner-organizational knowledge transfer animate the researchers to collaborate more?

3. Methodology: Design Science²

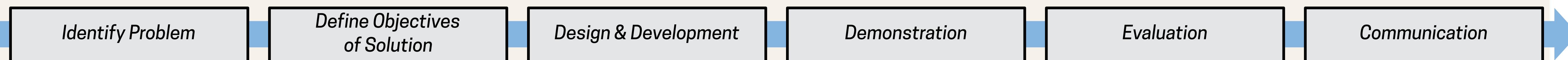


Fig. 2: Process followed in this project

4. Proposed Architecture of the Socio-technical System

Main components:

- Wiki³ with research project information
- Linked Data platform
- Rule reasoner
- Implicit and explicit relationships
- Knowledge Transfer Manager as gatekeeper⁴: By integrating the manager into the system, we aim to make implicit potentials for internal knowledge transfer actionable.
- Visualization: The awareness of communications between the members of the organization acts as a facilitator of internal knowledge transfer⁵.
- Crowdsourced development of the ontology⁶: In our “sculptural” approach of ontology engineering, we start with a complete graph and let the crowd workers successively remove relations from the graph.

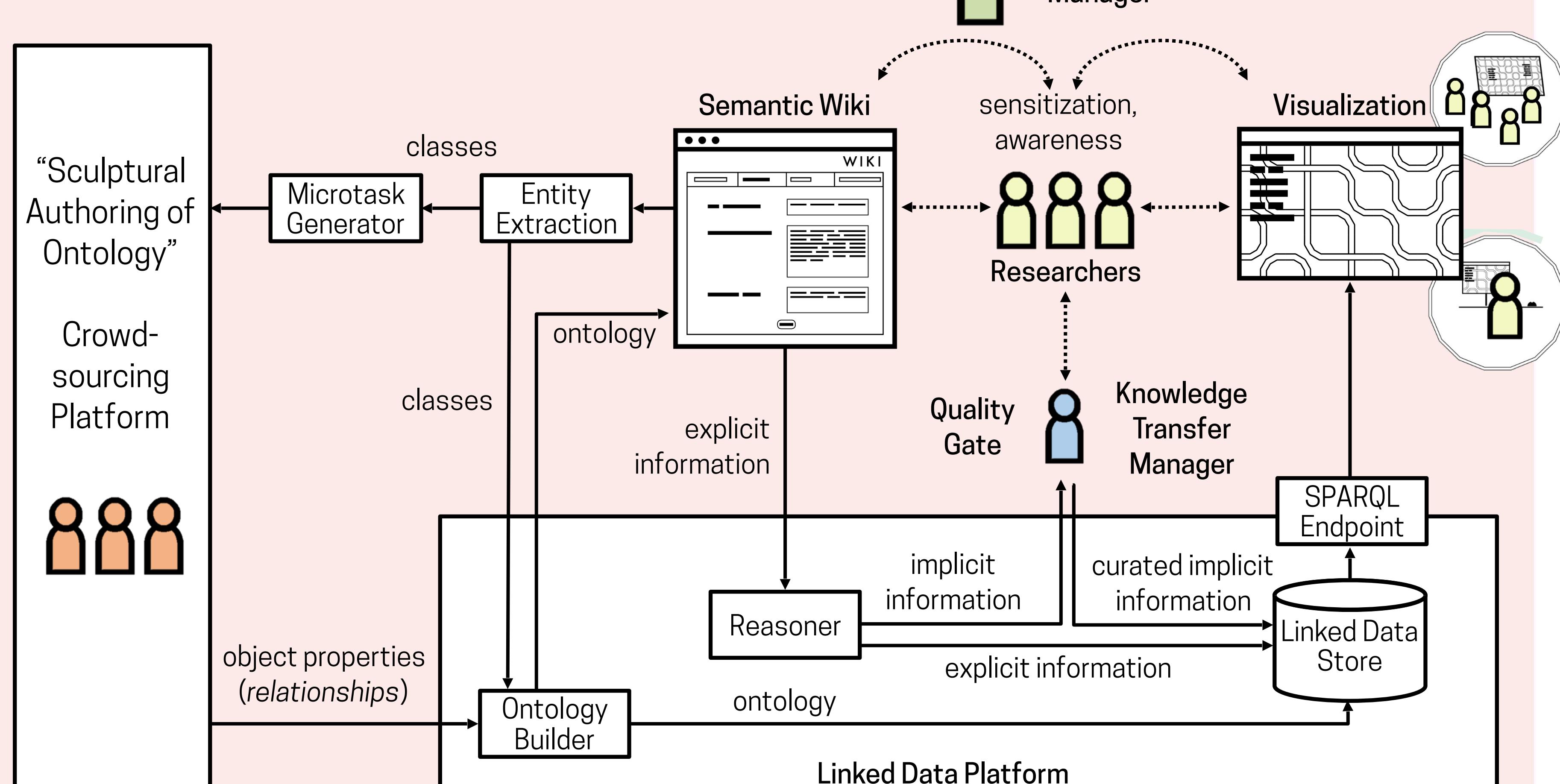


Fig. 3: Architecture of the socio-technical system

5. Humans-in-the-loop

- Researchers:** Primary internal data source. Contribute to and participate in the wiki.
- Crowd Workers:** Work on microtasks resulting in the relationships between the classes of the ontology.
- Knowledge Transfer Manager:** Validates the potentials for knowledge transfer and matches researchers.
- Community Manager:** Initial collection of data to kickstart the Wiki and sensitization of researchers.

6. Conclusions

The project aims to **increase the knowledge exchange and collaboration in research-intensive organizations**. The proposed **social machine**⁷ materializes **opportunities for inner-organizational knowledge transfer**. By publishing the inferred relationships in the **visualization**, we aim to overcome the internal **stickiness**⁸ in the organization impeding the transfer of knowledge.

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