Utrecht University

Ricgraph

Enriching Pure data using Ricgraph -Research in context graph- and BackToPure

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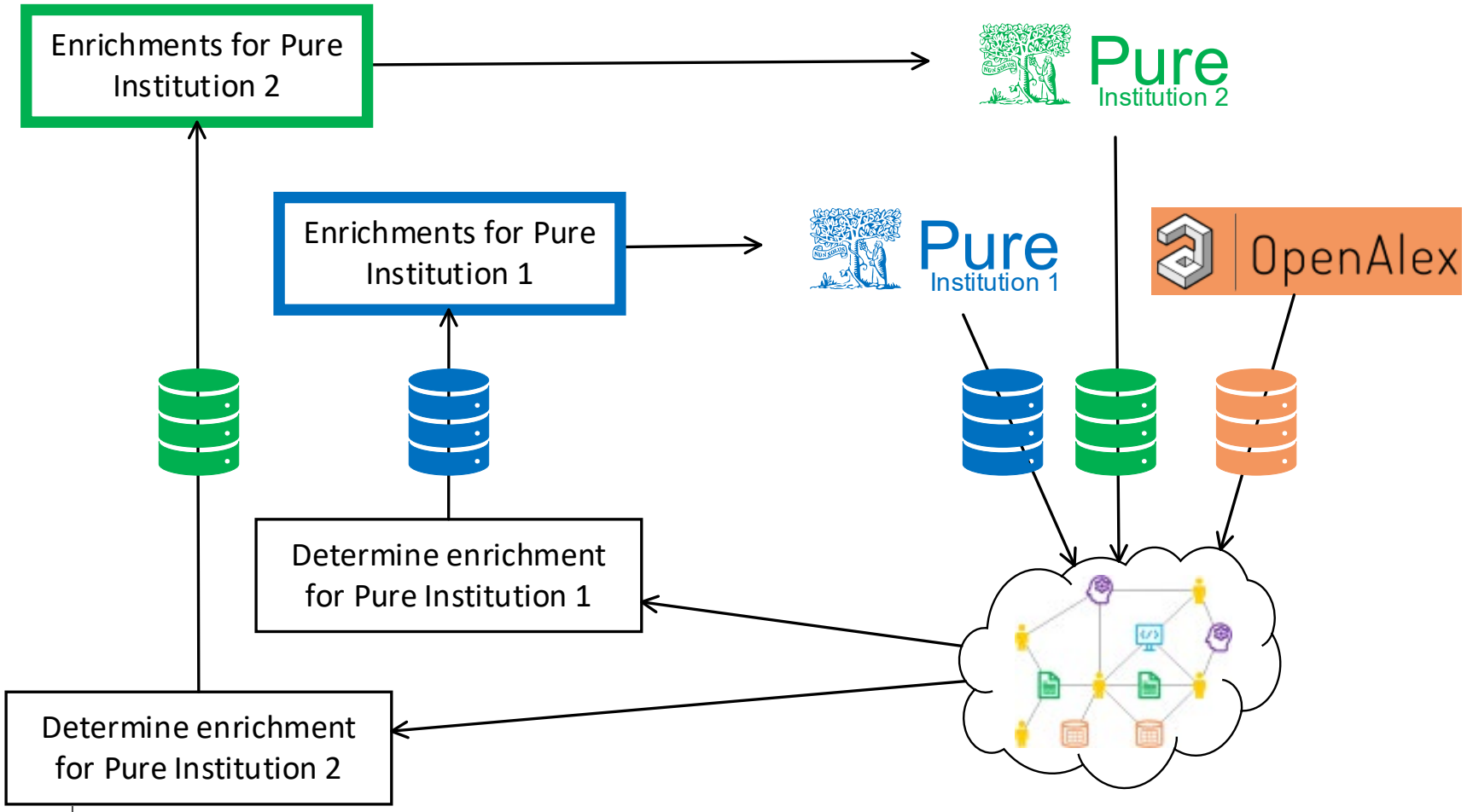
Part 1: Preliminaries

Preliminaries

- Enriching: A process to improve or enhance information in source system *A* based on information in other source systems, not present in system *A*
- Pure: Research information system
- OpenAlex: Publications and data set aggregator
- Ricgraph: Research in context graph, in this presentation
- BackToPure: Inserts Ricgraph items in Pure, in this presentation

Enriching Pure from OpenAlex and other Pures



Part 2: Ricgraph – Research in context graph

What if…
we look at research information as a network (graph)?

- We have relations between items
- Related items are neighbors
- We can “walk” from one item to another
- No duplicates

Item = person, organization, article, book, dataset, software, …

What if…
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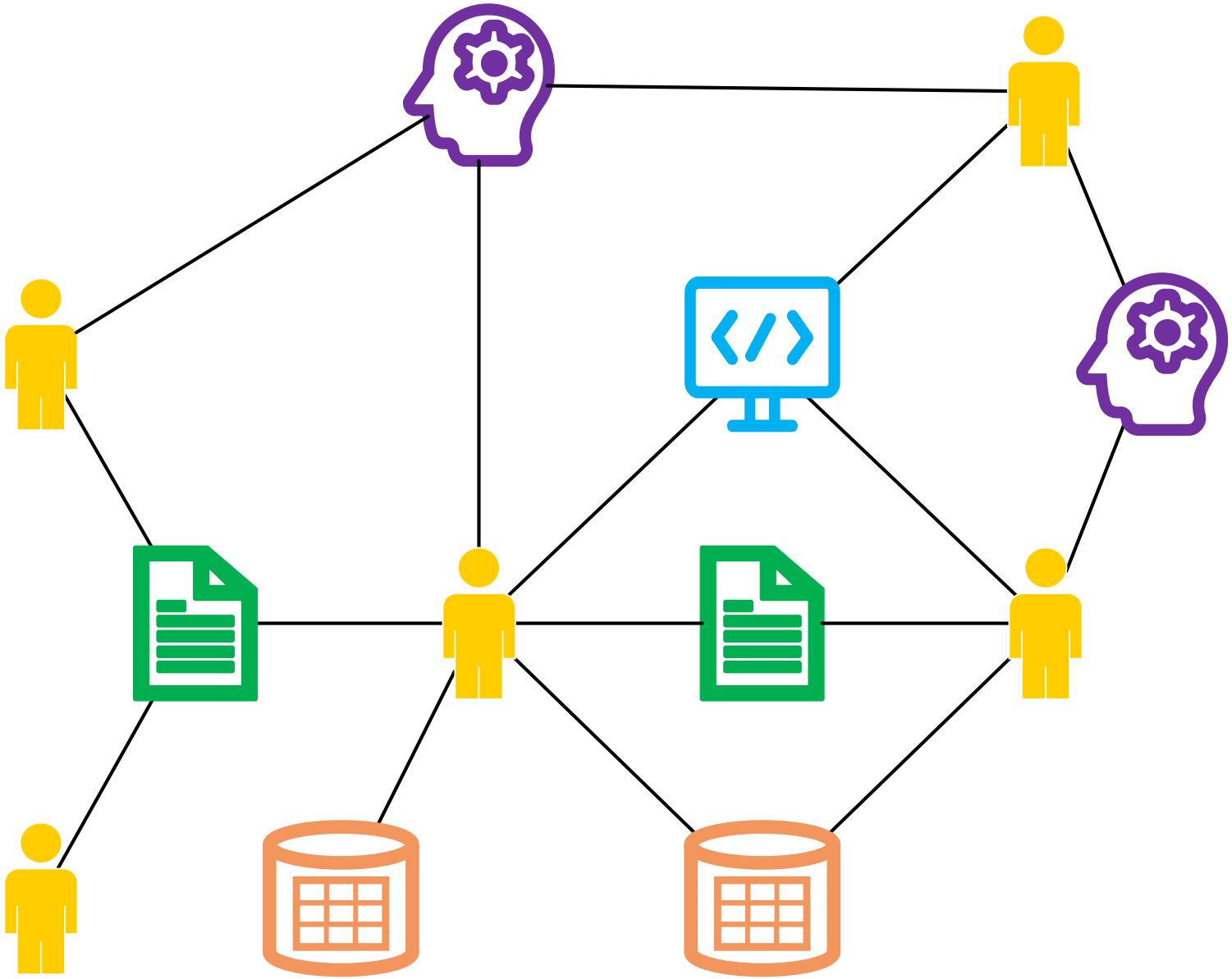
person

article

data set

software

skill



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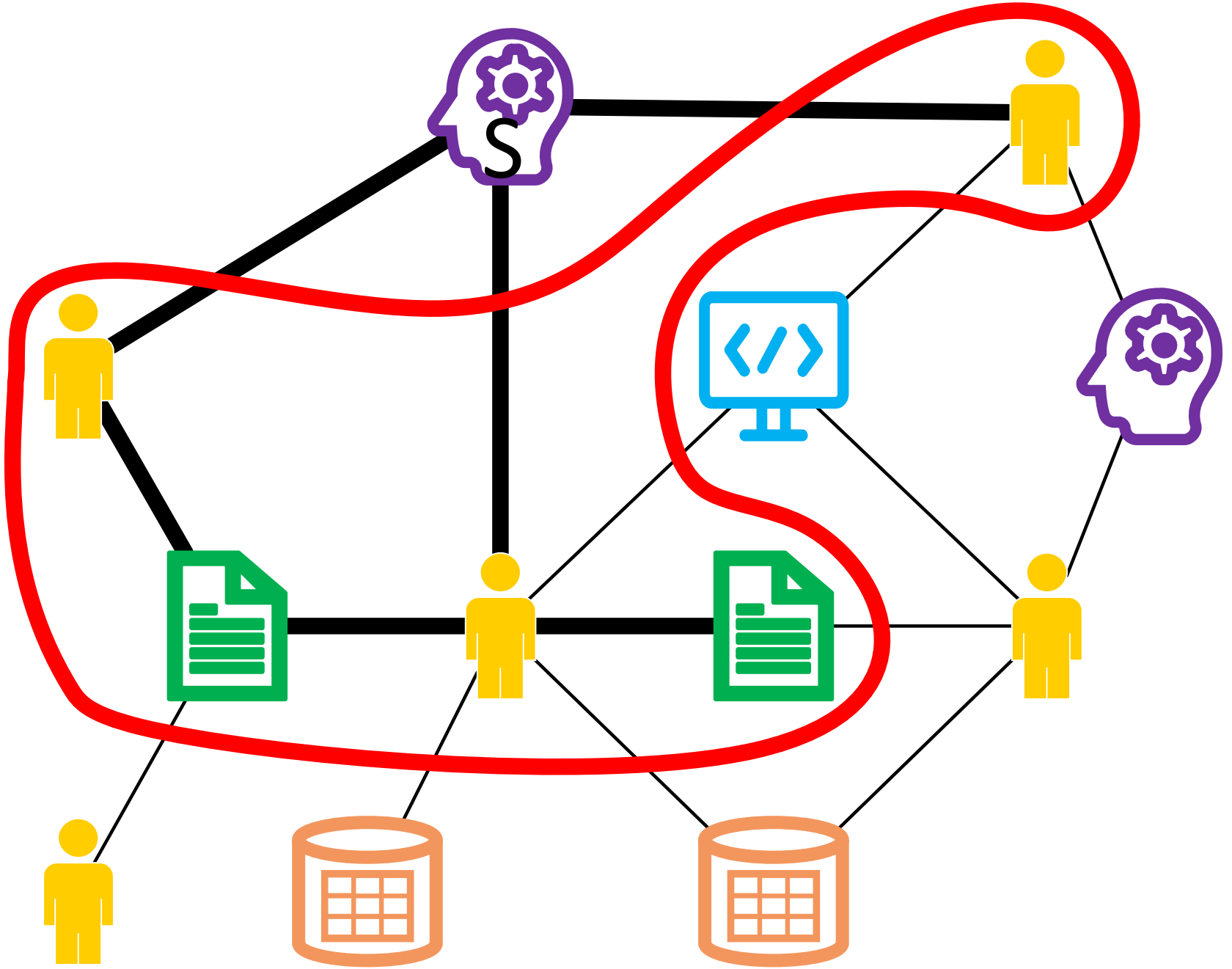
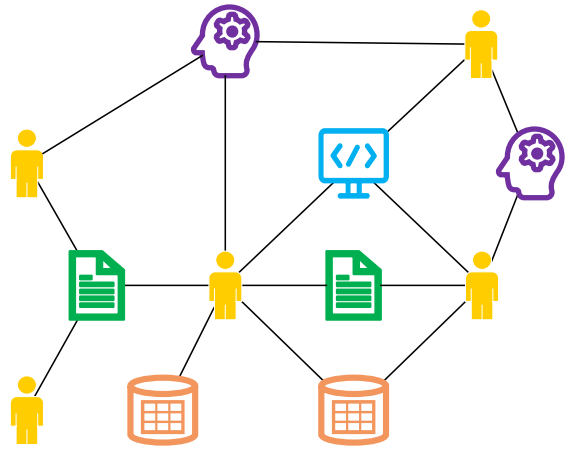
What can Ricgraph do?
Use case

As a journalist, I want to find researchers with skill S and their publications, so that I can interview them for a newspaper article

Example skill: climate change, stem cells



What is Ricgraph - Research in context graph?



- Ricgraph can store **many types of items** in a single graph
- It harvests **multiple source systems** into a single graph
- Ricgraph **facilitates reasoning** because it infers new relations between items
- Ricgraph Explorer is the **exploration tool**
- Ricgraph has a **REST API**, to programmatically get items
- Ricgraph **can be tailored** for an application area

Part 3: Enriching in Ricgraph

Real world vs. perceived world

Journal article title: Enriching a RIS using Ricgraph
Author 1: Mary Johnson, ORCID1
Author 2: John Doe, ORCID2
DOI: 10.1000/journ.111

Author 1: Mary Johnson, ORCID1, ISNI1
Author 1 orgs: Institution1, Faculty1, Department1

Author 2: John Doe, ORCID2, ScopusID2
Author 2 orgs: Institution2, Faculty2, Department2

Pure
Institution 1

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Author 2 orgs: Institution2

Pure
Institution 2

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Author 1: Mary Johnson, ORCID1
Author 1 orgs: Institution1

Author 2: John Doe, ORCID2, ScopusID2
Author 2 orgs: Institution2, Faculty2, Department2

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In Ricgraph everything fits together

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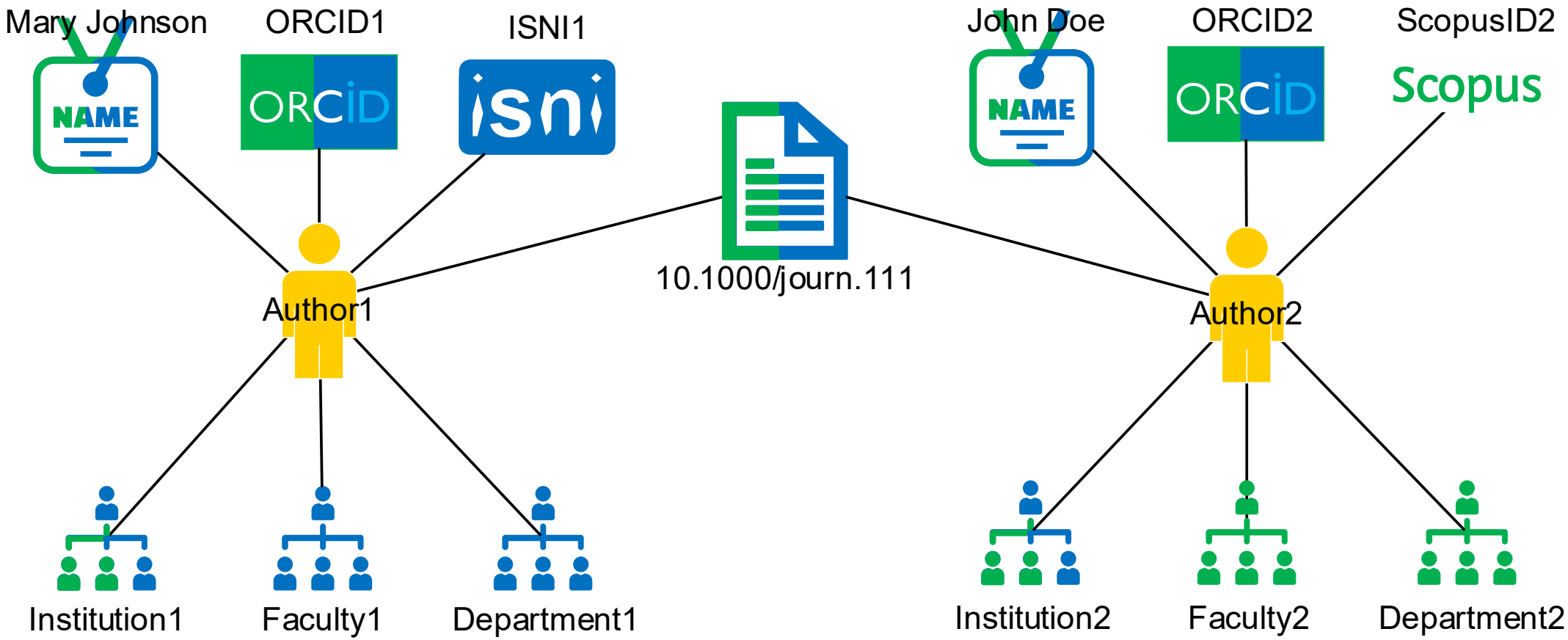

Source systems:

Pure Institution 1

Pure Institution 2

Utrecht University

Ricgraph

Candidates for enriching

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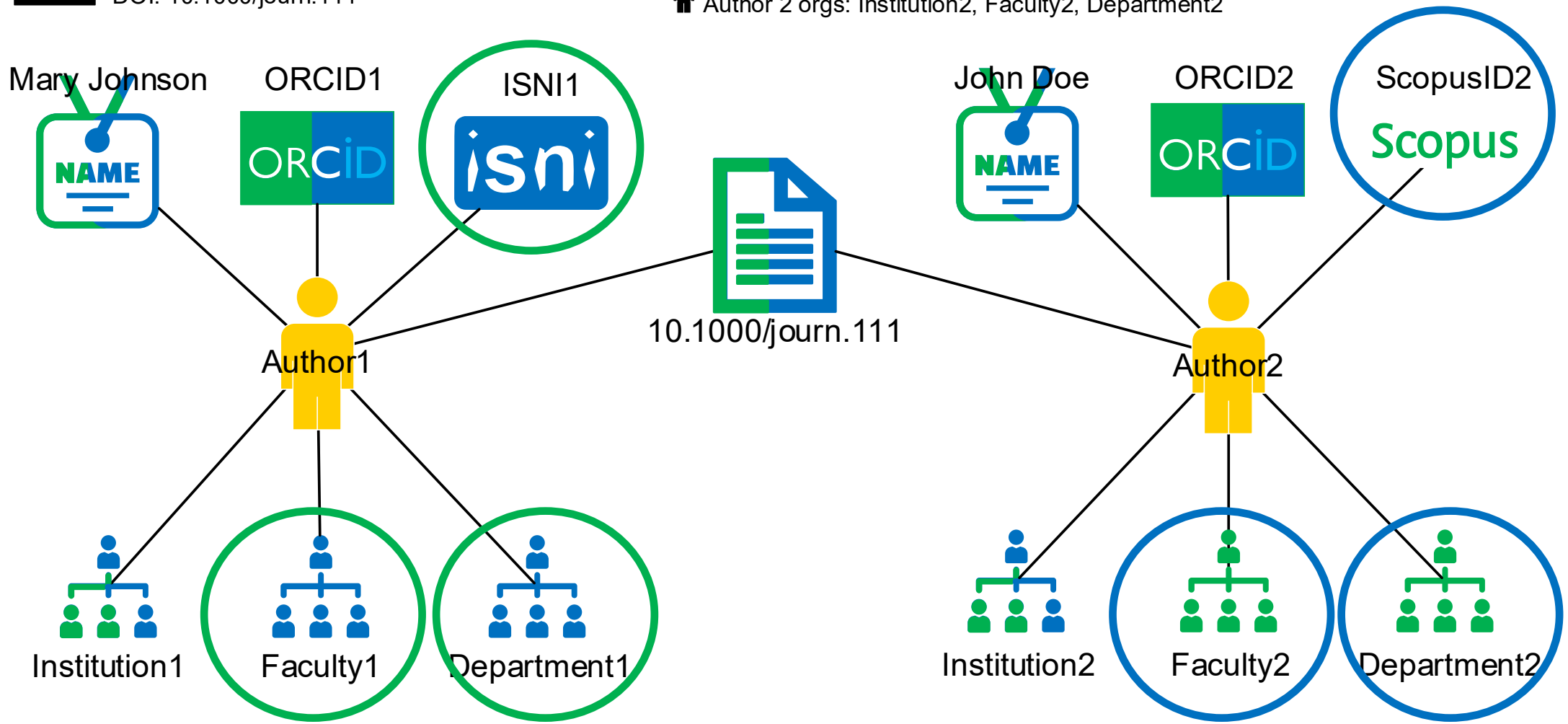


Source systems:

Pure Institution 1

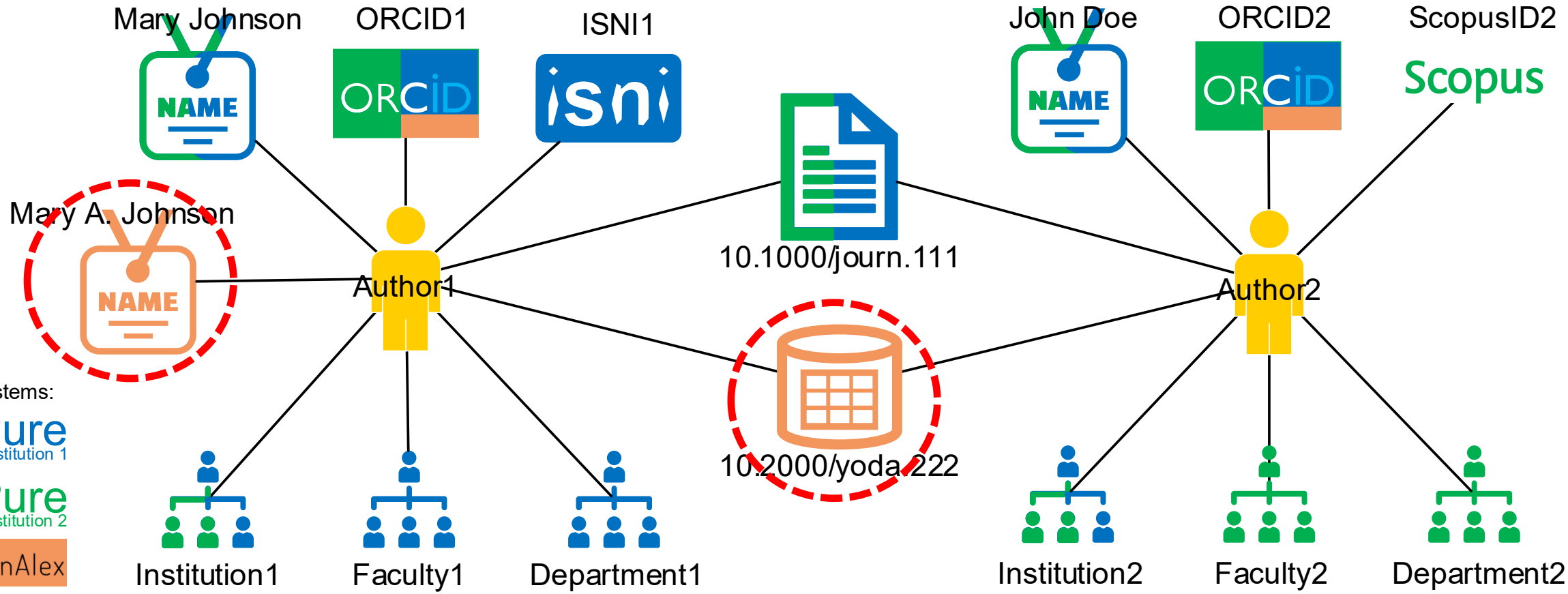
Pure Institution 2

Utrecht University

Ricgraph

Adding a data set from OpenAlex

Data set title: Ricgraph NL Pure data set 2023
Author 1: Mary A. Johnson, ORCID1
Author 2: John Doe, ORCID2
DOI: 10.2000/yoda.222



Source systems:

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OpenAlex

Utrecht University

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Candidates for enriching

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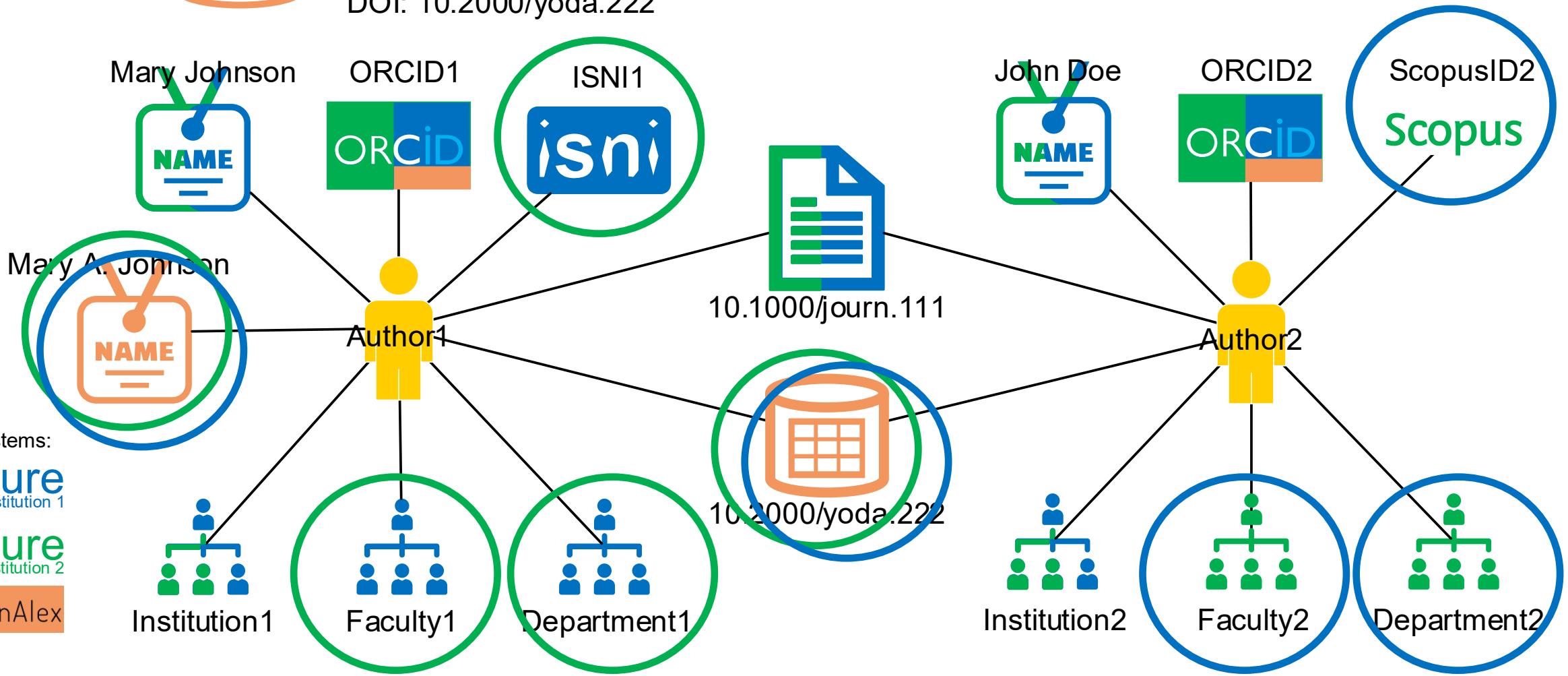


Source systems:

Pure Institution 1

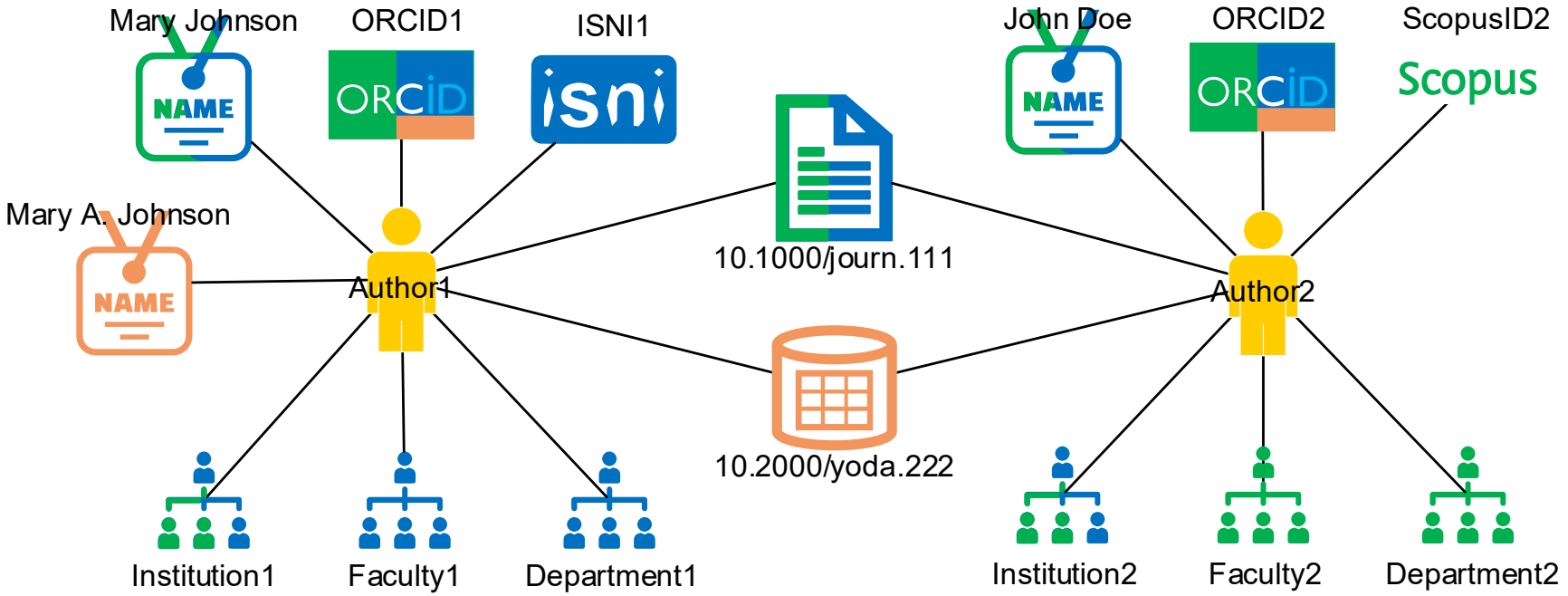
Pure Institution 2

OpenAlex

Utrecht University

Ricgraph

Things we may learn, that we did not know before



Source systems:

Pure Institution 1

Pure Institution 2

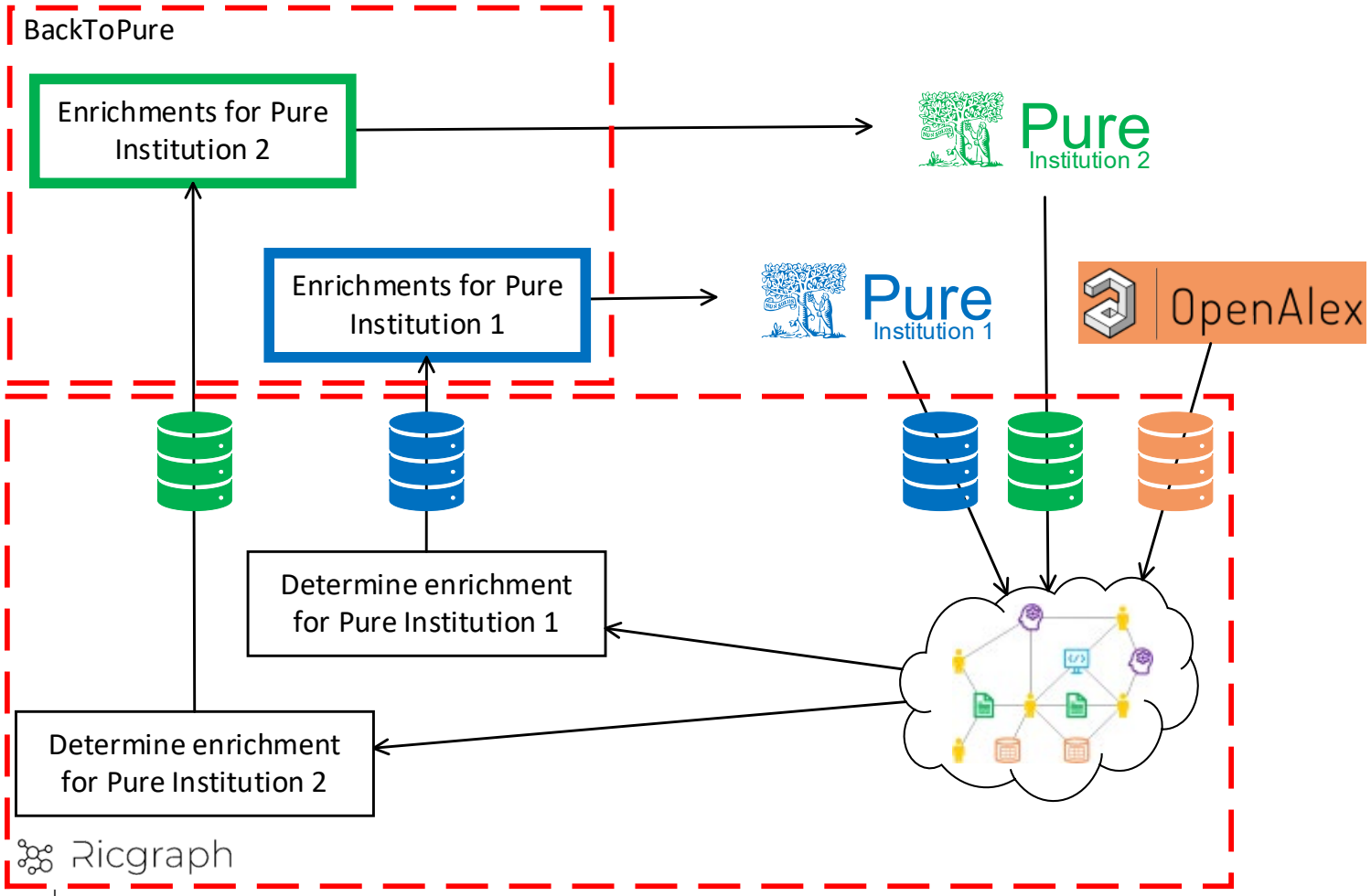
OpenAlex

We can find relations that are not present in any source system:

- collaborations between sub-organizations, e.g., Dept1 and Dept2 work together
- the data set is from Fac1, Dept1, Fac2 and Dept2
- common research results: Fac 1 and Fac 2 have a publication and data set in common

Part 4: BackToPure

Components in enriching Pure



Enriching Pure using July 2024 version of BackToPure

You can enrich your Pure by adding to a:

- *Internal person:* All IDs from a person in Ricgraph
- *External person:* Some IDs from a person in Ricgraph
- *Journal article*: A journal article in Ricgraph that has at least one *internal person* as collaborator
- *Data set*: A data set in Ricgraph that has at least one *internal person* as collaborator

Plans for extending BackToPure

- Add other research result types
- Add all IDs for *external persons* in Pure
- Option: add press-media items from Nexis Newsdesk (these also need to be added to Ricgraph)
- Please let us know!

Part 5: So, what now?

If this looks so easy, why don’t we do it?

Software is new:

- Ricgraph development started December 2022
- BackToPure development started April 2024

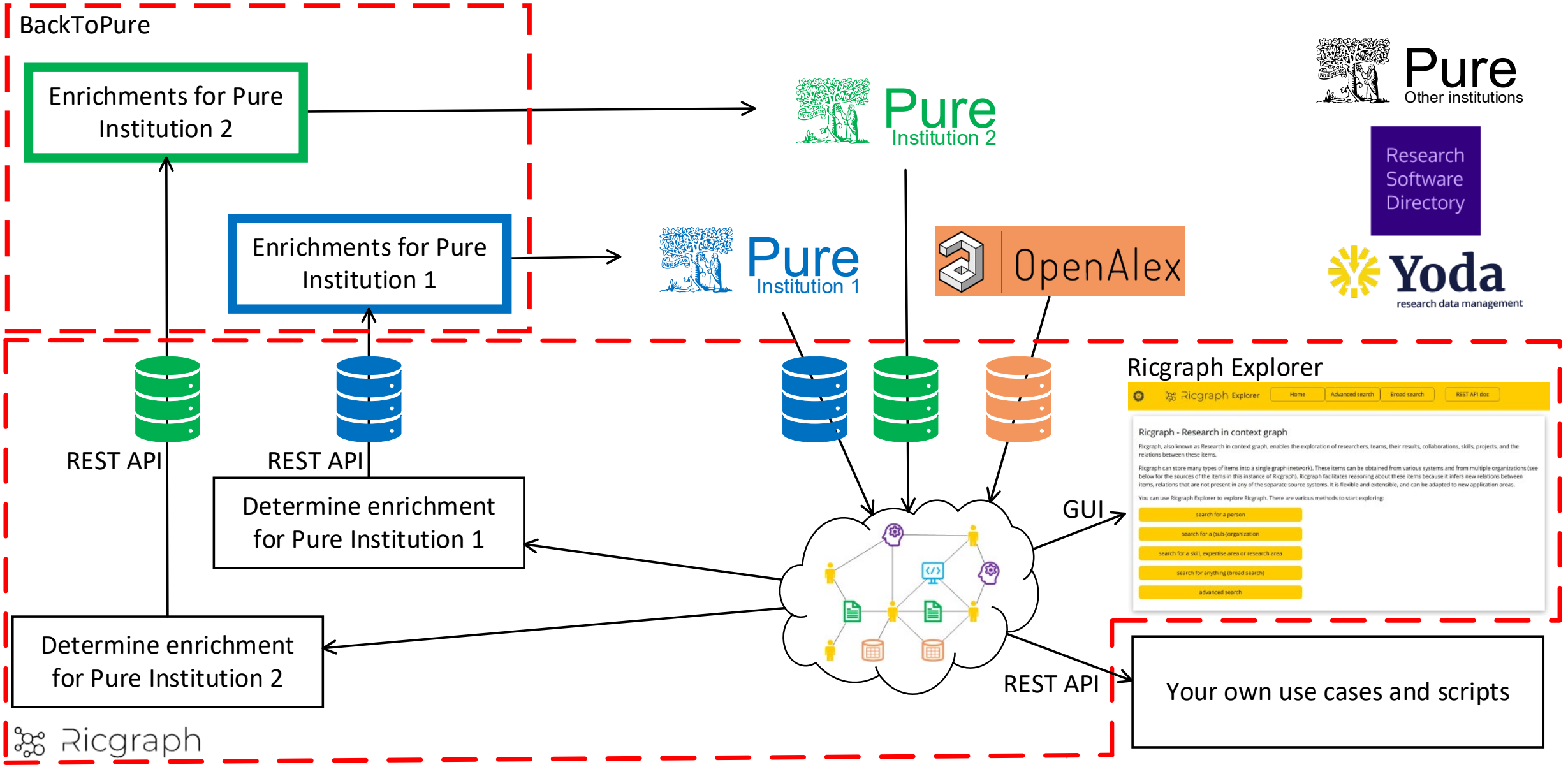
But also:

- Privacy issues: as of June 2024, waiting for approval from Utrecht University privacy officer to allow to combine information from different open sources
- Pure of Utrecht University is not open (June 2024)

We would like to start a pilot, would your institution like to participate?

- We look for a “coalition of the willing”:
  - A few institutions (3?) that allow us to harvest their Pure, and allow us to make the result open
  - Responsibility for possible privacy issues lies at your institution [UU has a draft privacy statement available]
  - We need a Read API key for each Pure
- We make available an *Open Ricgraph demo server*
- You can install BackToPure locally, so you can enrich your Pure using information from all sources in Ricgraph [you keep your Write API key for your Pure private]

Overview Open Ricgraph demo server



Research software directory: research software metadata repository; Yoda: research data repository

What is in it for your institution?

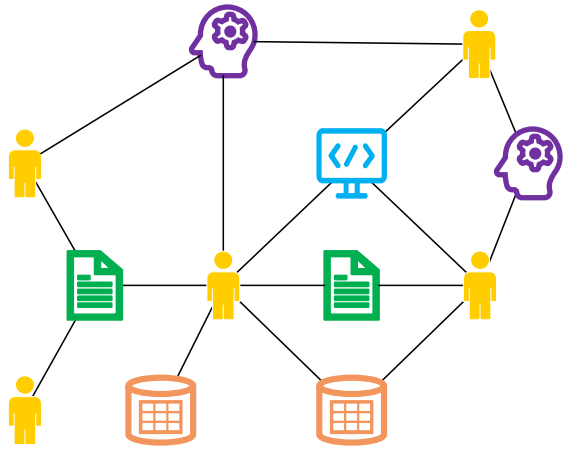
- After enriching, your Pure will have a more complete view about research at your institution
- The Open Ricgraph demo server allows to find *and explore* interesting use cases on common research information
- You can implement your own use cases and scripts using the REST API
- The more participants, the more we can learn from each other (and the more fun!)
- With your user experiences, we will improve Ricgraph and BackToPure

Part 6: Questions, demo and links

Questions

- Please let me know if you would like to participate in the “coalition of the willing” (not necessarily now ☺)

Links Ricgraph



- Website: www.ricgraph.eu
- Reference publication: Rik D.T. Janssen (2024). Ricgraph: A flexible and extensible graph to explore research in context from various systems. *SoftwareX*, 26(101736). https://doi.org/10.1016/j.softx.2024.101736
- GitHub (software, documentation and videos): https://github.com/UtrechtUniversity/ricgraph
- Zenodo: https://doi.org/10.5281/zenodo.7524314

More information, presentations, demos, install workshops:

Rik D.T. Janssen, r.d.t.janssen@uu.nl

Link BackToPure

- GitHub: https://github.com/UtrechtUniversity/BackToPure

More information, presentations, demos, install workshops:

- David Grote Beverborg, d.h.j.grotebeverborg@uu.nl

Utrecht University

Sharing science,
shaping tomorrow