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Ricgraph
Research in context graph

Ricgraph: showcasing research in context using Pure and other sources

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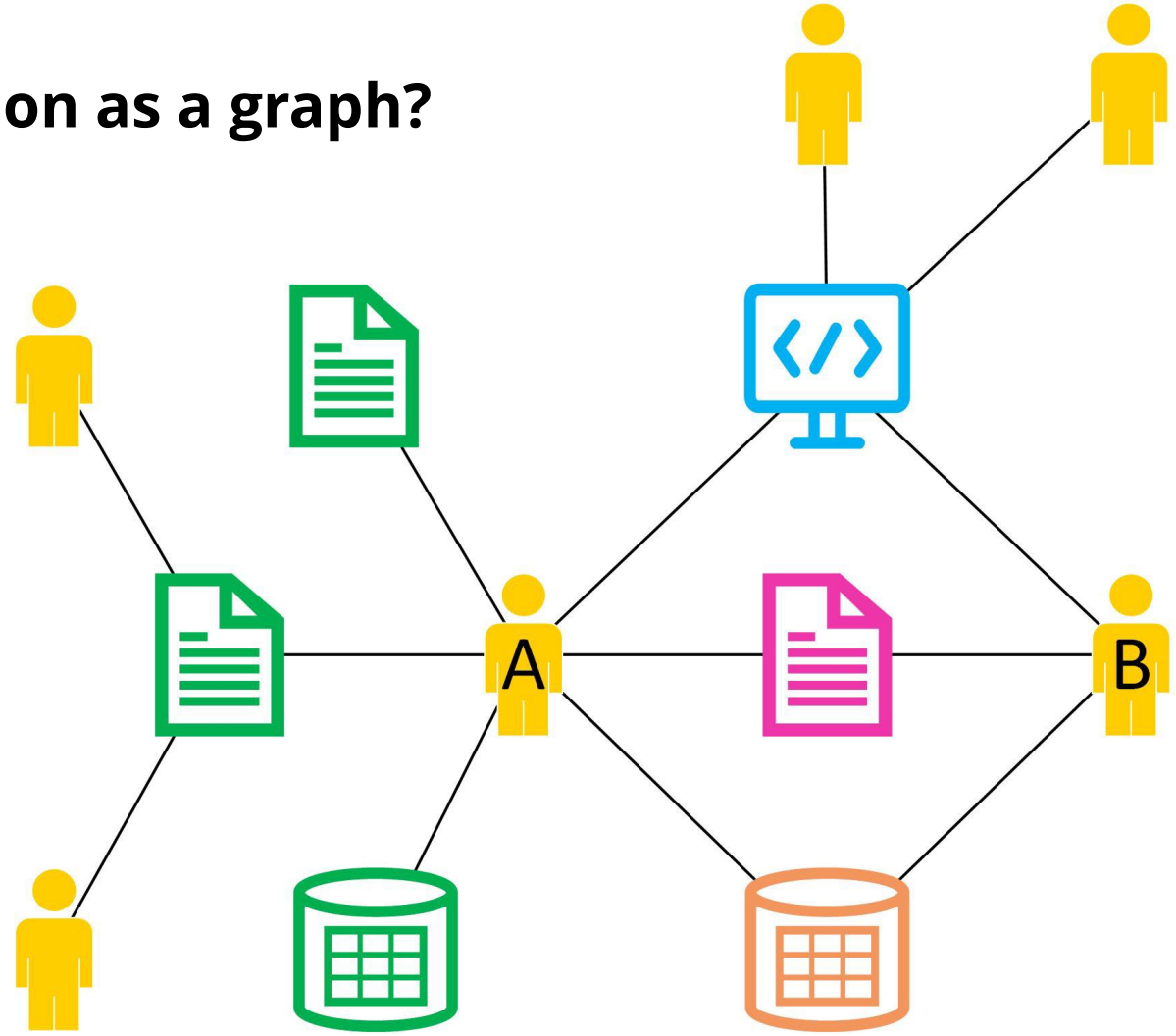
https://doi.org/10.5281/zenodo.10057998

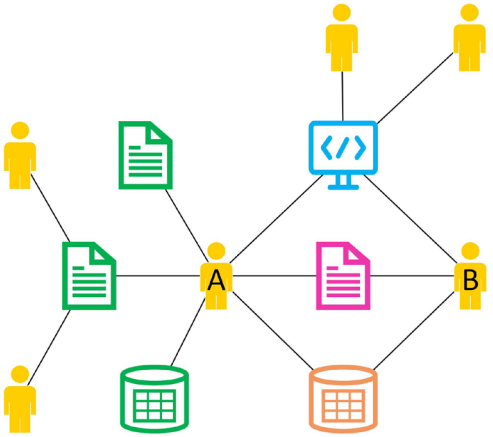
What if…
we look at research information as a graph?

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



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

What if…
we are able to harvest any source we'd like?

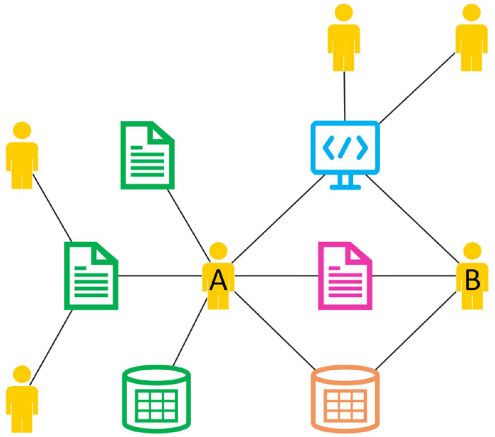


We can collect information that is:

- of specific interest (and not more)
- only visible in our own organization
- not harvested by other sources

Sources = Pure, Yoda data repository, Research Software Directory, OpenAlex, UU staff pages, Zenodo, GitHub, NWO grant application system, Scopus, OpenAIRE, …

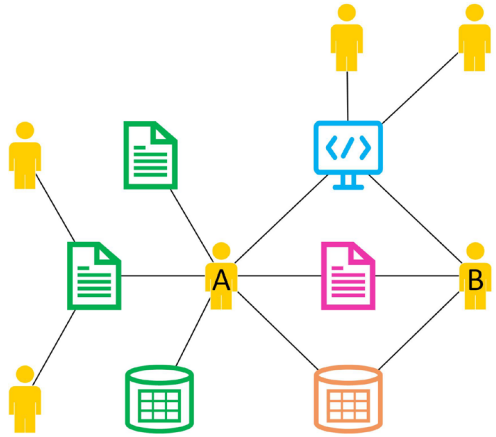
What is Ricgraph?



- A **graph** that can represent any object (node) that has a relation (edge) to another object
- It can **harvest** information from several sources
- Stores **metadata**, not objects
- **Research in context**: people, organizations, research outputs, skills, projects, … in relation to each other
- A graph is **fast**
  [time to access a neighbor not dependent on number of nodes in graph]

Research output = article, book, dataset, software, …
Sources = Pure, Yoda, Research Software Directory, OpenAlex, UU staff pages, Zenodo, GitHub, NWO grant application system, Scopus, OpenAIRE, …

Ricgraph sources (example for Utrecht University)



can contain information about any organization

OpenAlex UU publications

OpenAlex UMCU publications

Research Software Directory UU

information only accessible at UU

Ricgraph

information open to public

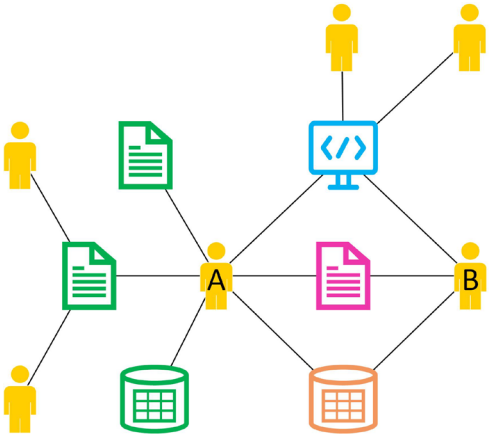
Pure UU

Yoda data repository

UU staff pages skills

contains only UU information

What can you do with Ricgraph?

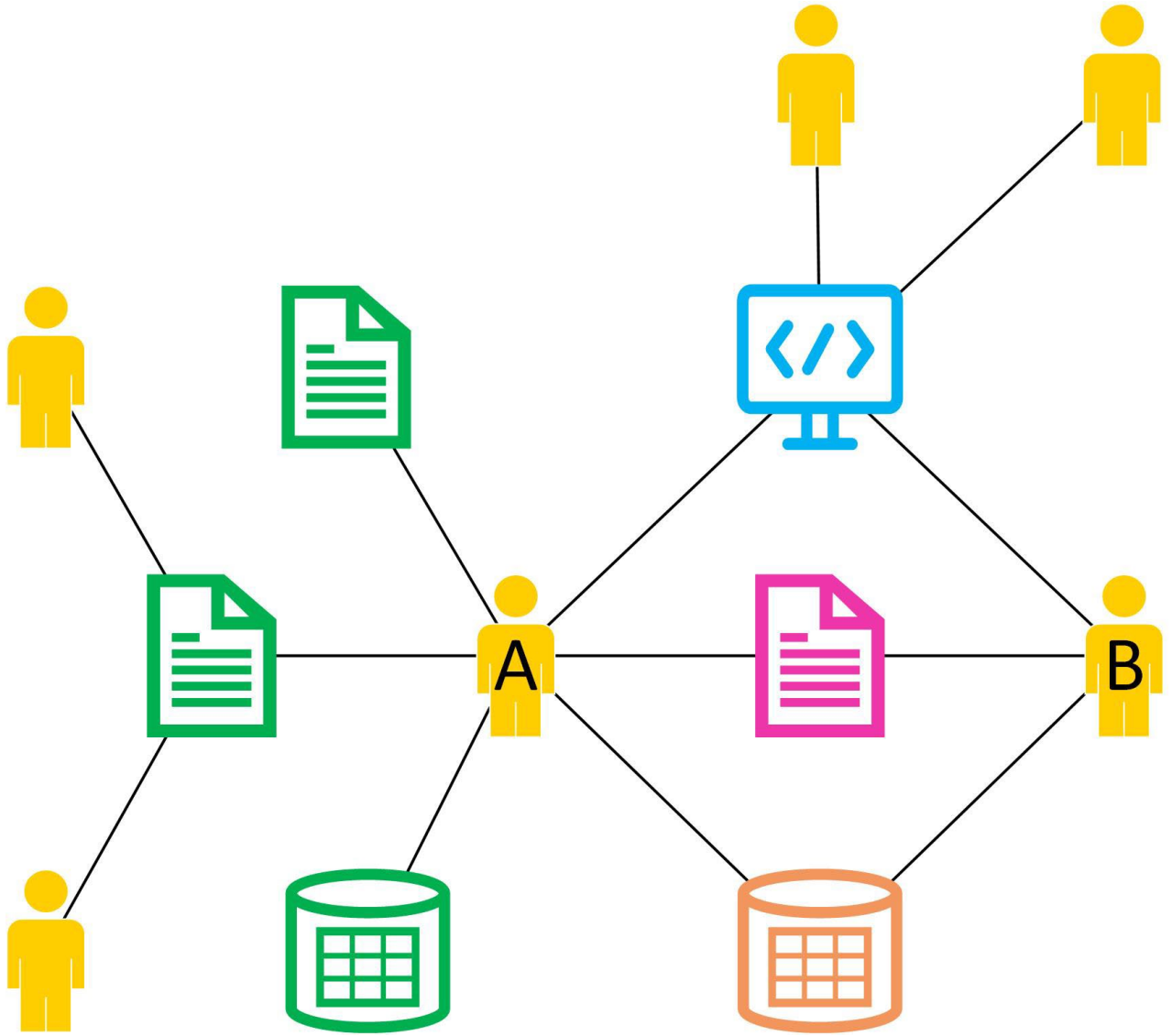


Answers to questions like:

- What are the research outputs of a person?
- Who has contributed to a research output?
- With whom has a person worked?
- What research outputs have two persons in common?
- What identifiers does a person have?
- Visual inspection.

Research output = article, book, dataset, software, ...
Identifier = ORCID, ISNI, SCOPUS_ID, email, name, GitHub, Twitter, ...

Everything in one graph



person

article

data set

software

person representative

pure

research software directory

openalex

yoda data repository

Utrecht University

Ricgraph

Add any entity you'd like

E.g. projects, skills

person

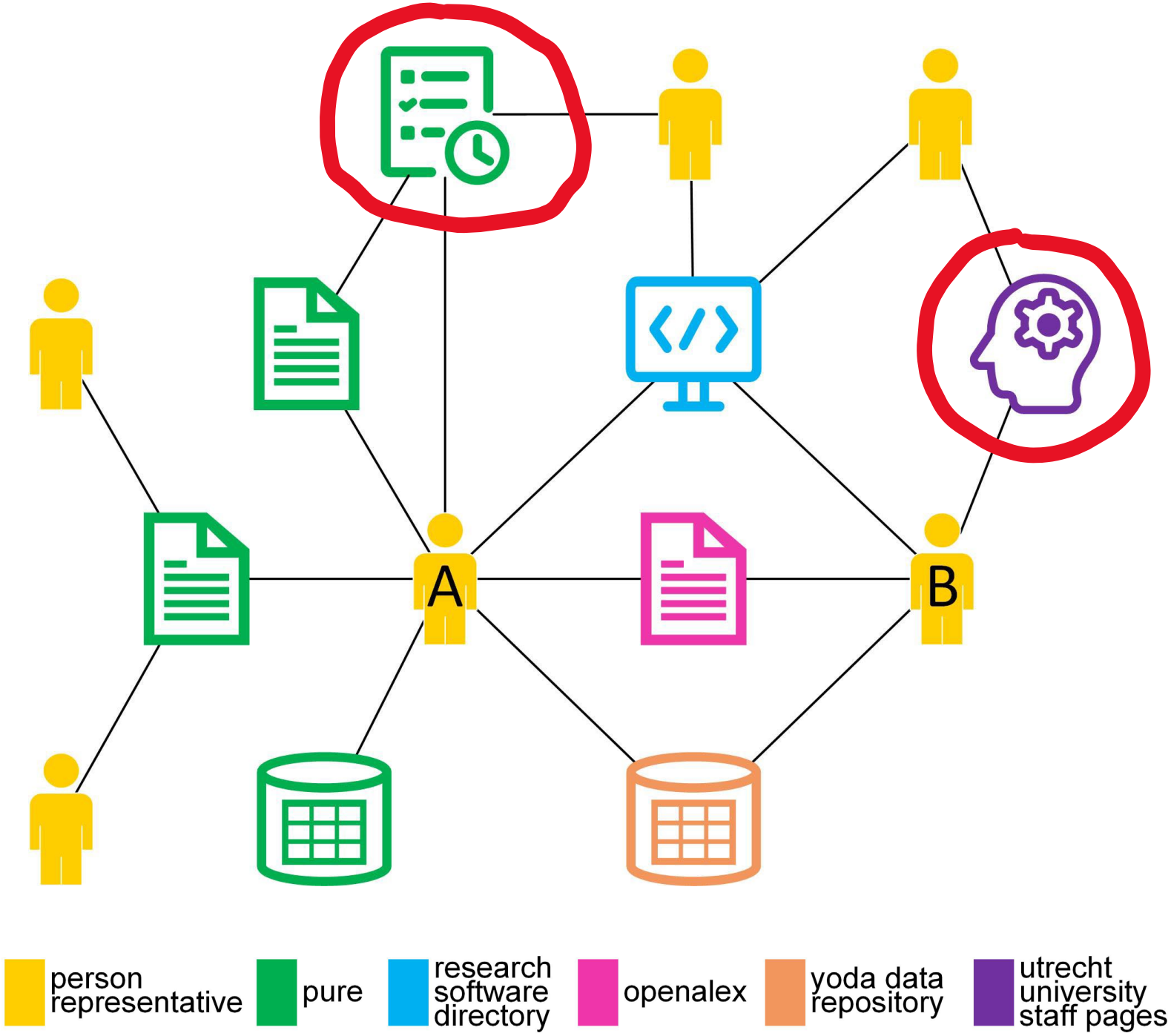
article

data set

software

skill

project



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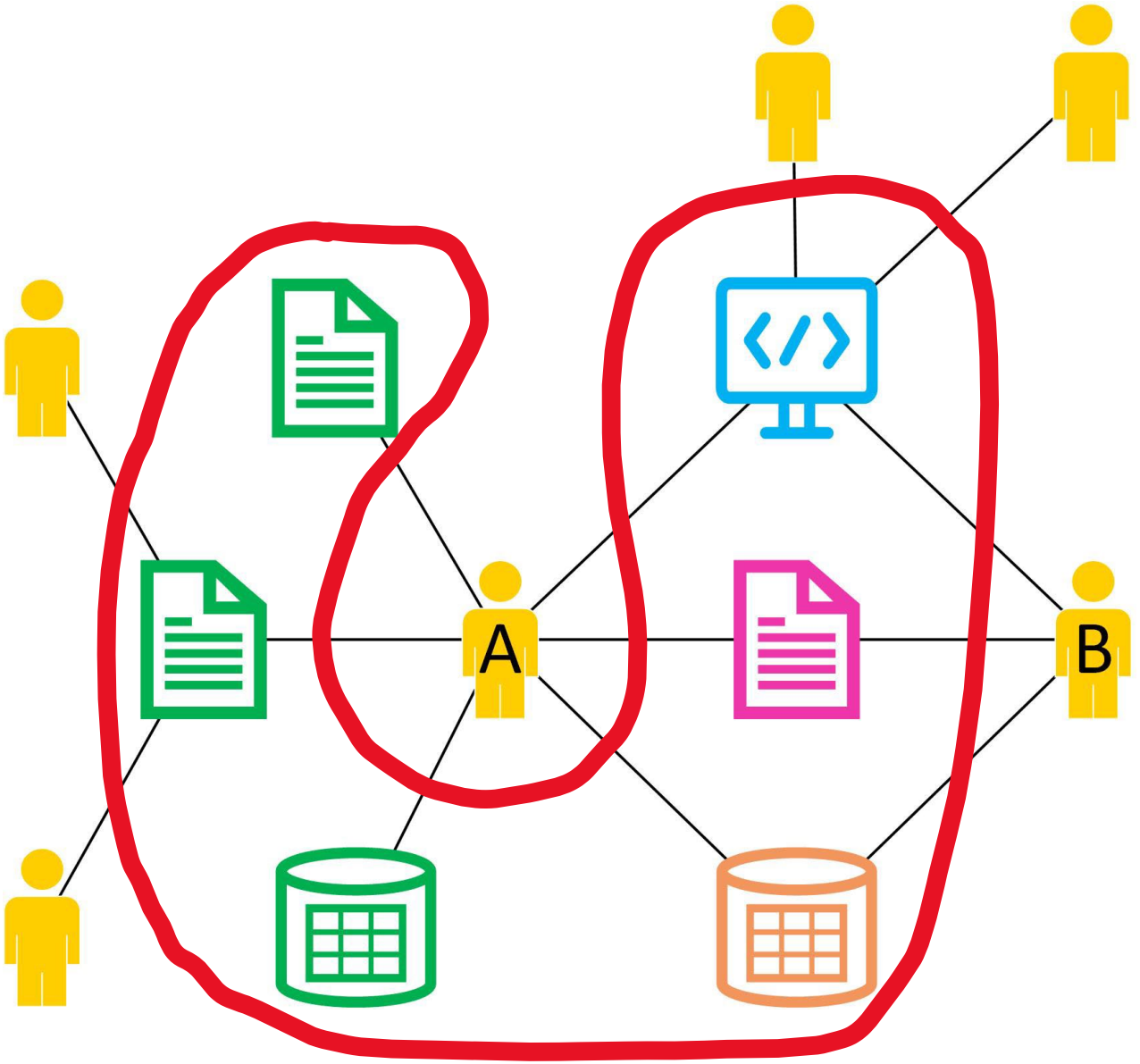
What can Ricgraph do?

What are the research outputs of person A?



person

article

data set

software

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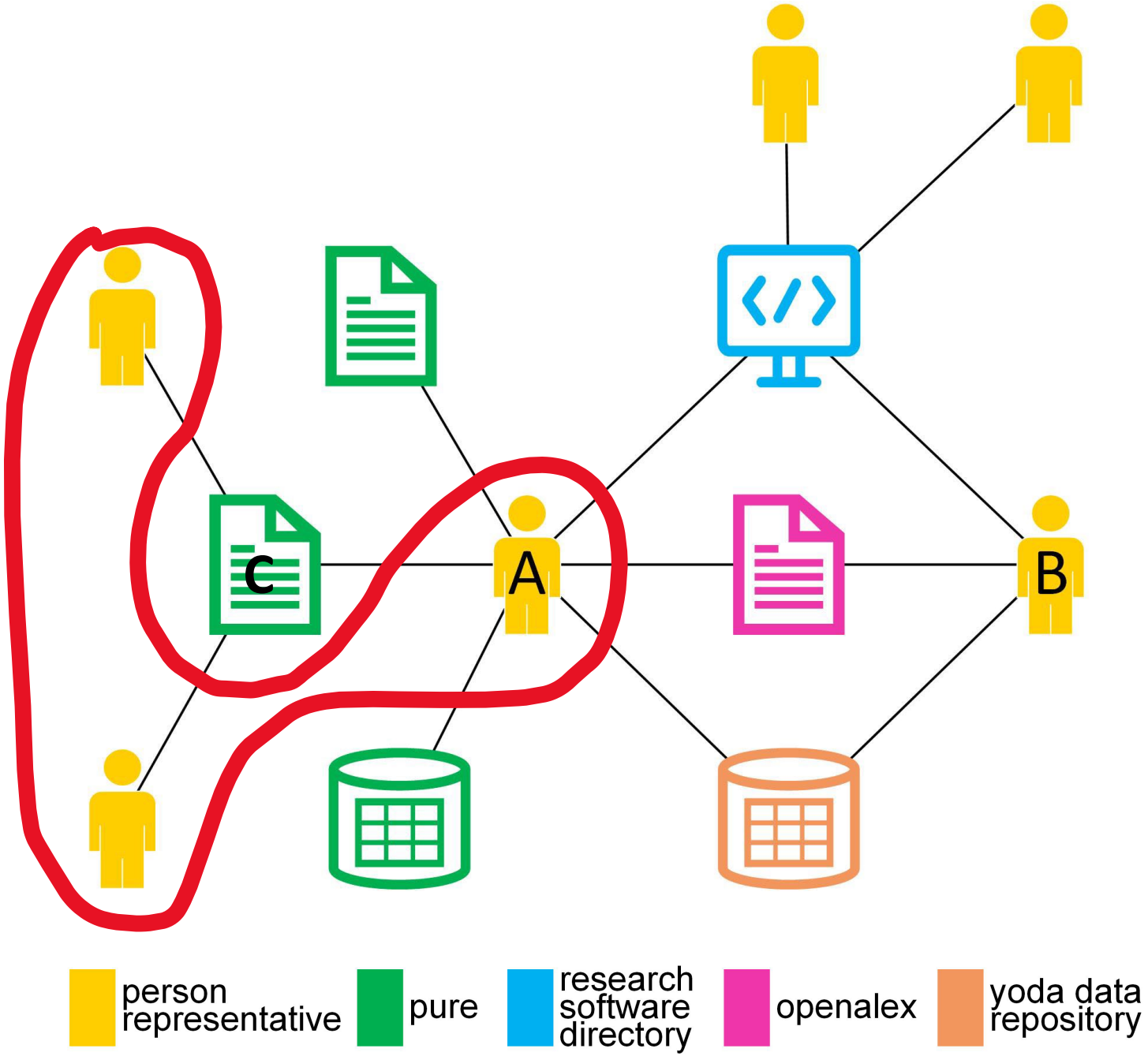
What can Ricgraph do?

Who has contributed to research output C?



person

article

data set

software

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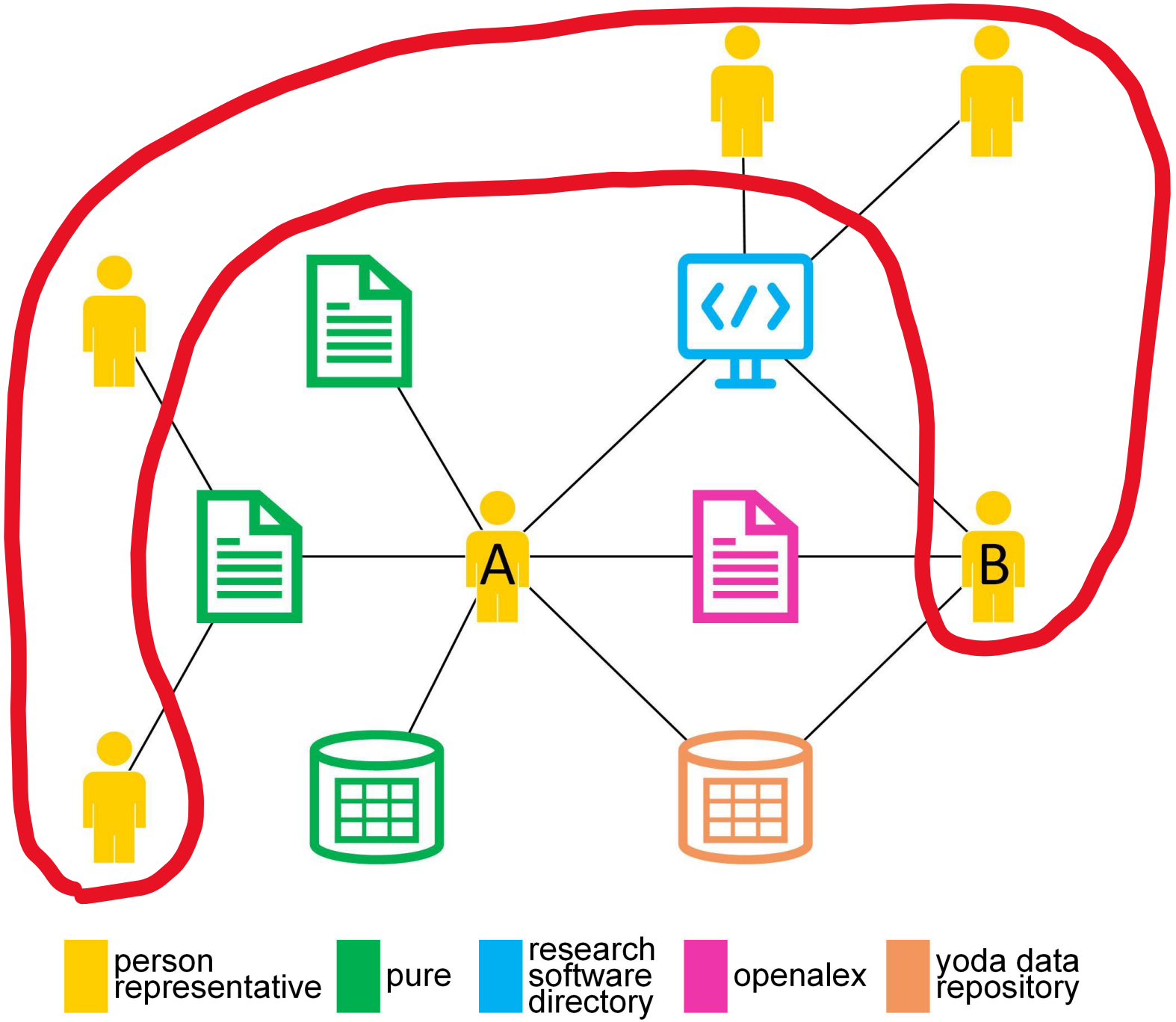
What can Ricgraph do?

With whom has person A worked?



person

article

data set

software

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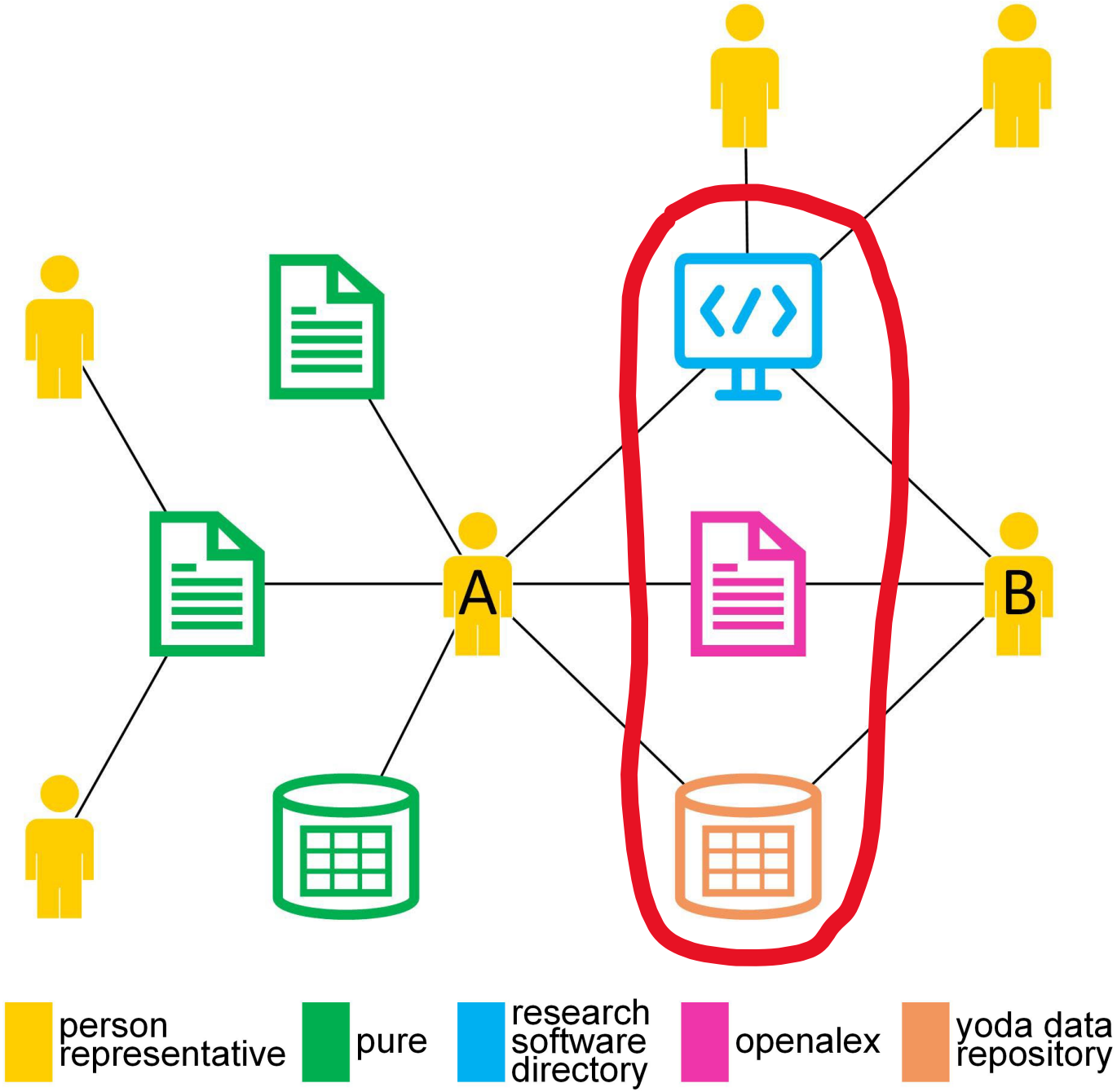
What can Ricgraph do?

What research outputs have person A and person B in common?



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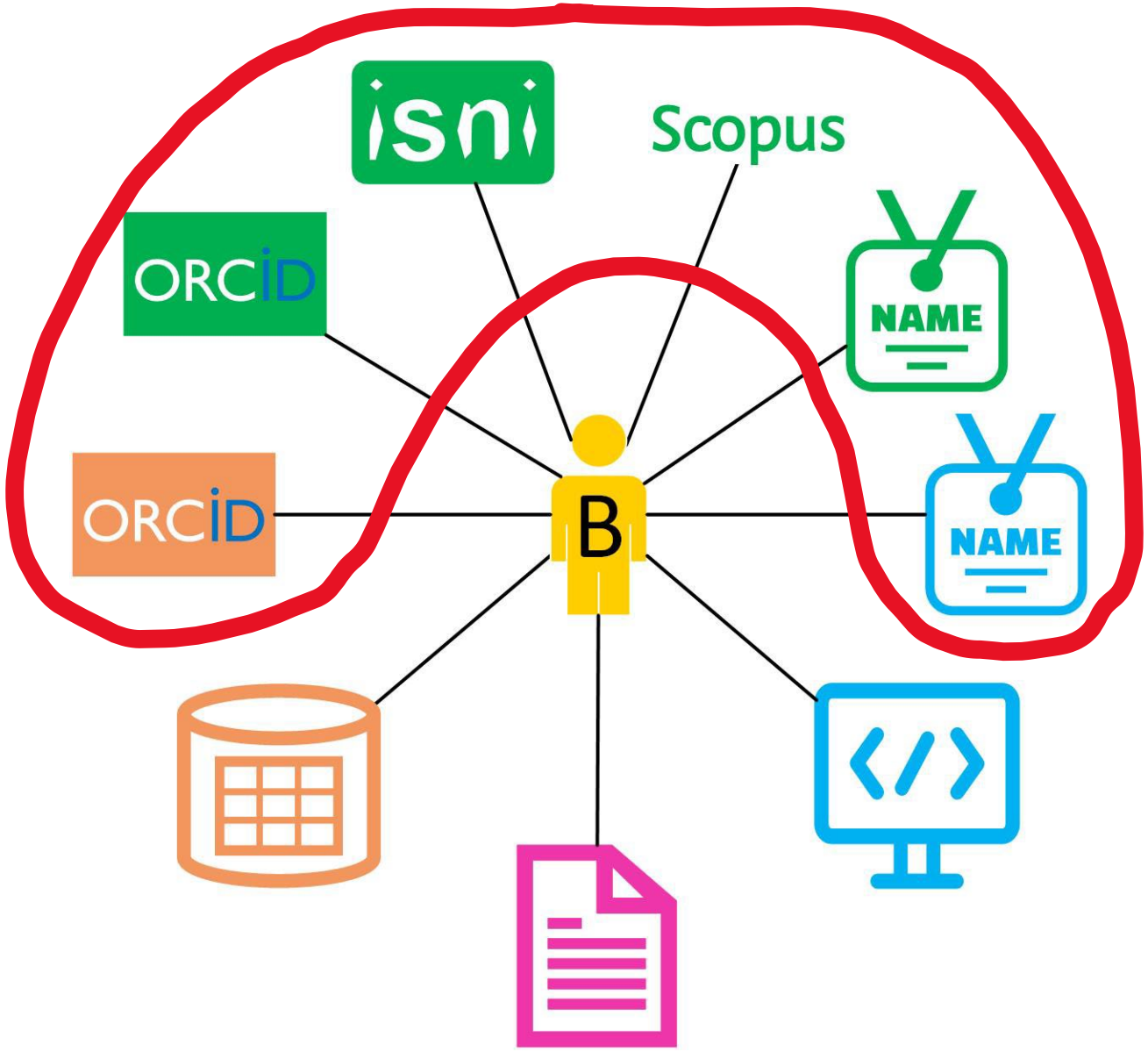
What can Ricgraph do?

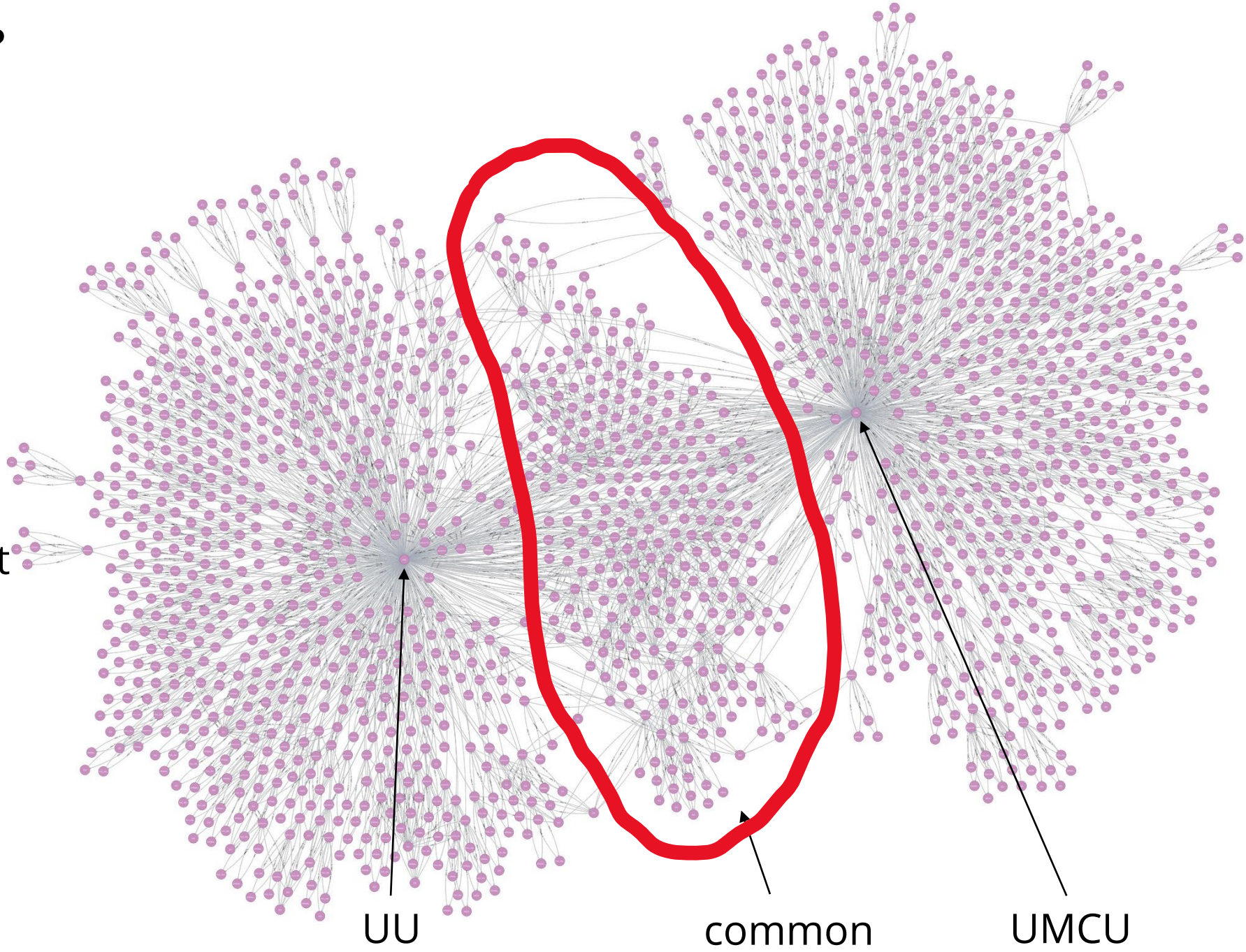
What identifiers does a person have?



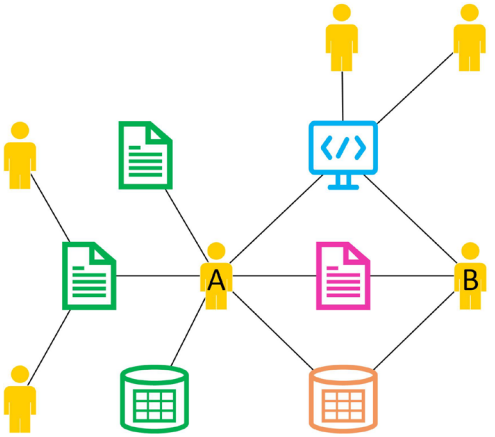
What can Ricgraph do?

Visual inspection: (some) persons and publications of

- OpenAlex Utrecht University
- OpenAlex University Medical Center Utrecht

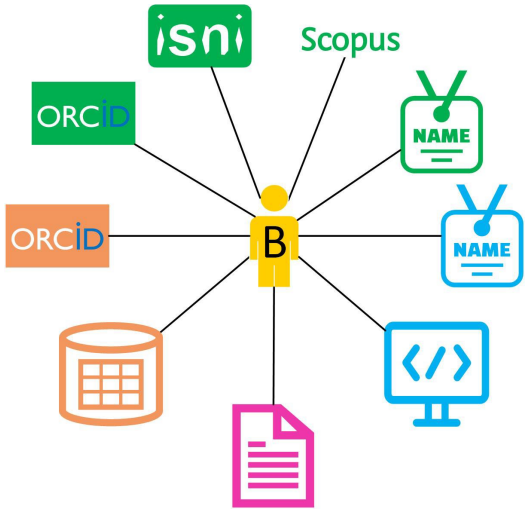


Some lessons learned



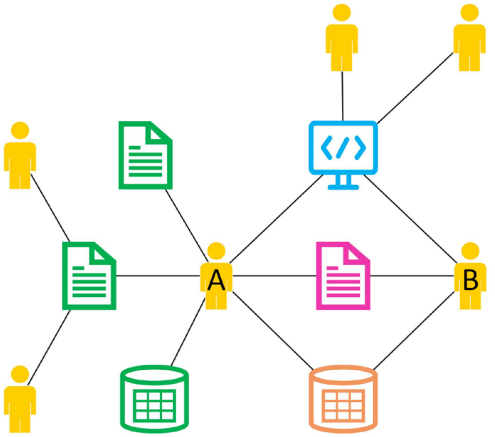
- Without identifiers we are nowhere
- We need to be able to resolve any identifier to any other
- I think only one preferred identifier will not work
- A graph is the way to go! ☺

You can install and use Ricgraph yourself!



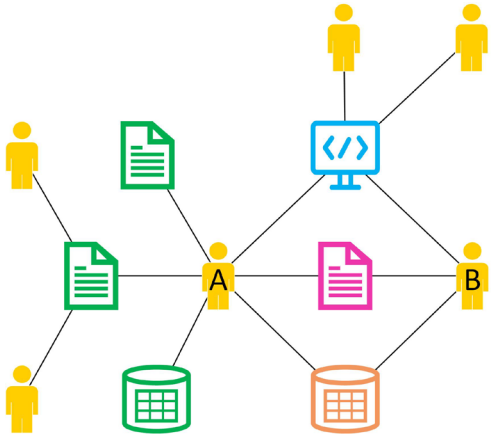
Identifier = ORCID, ISNI, SCOPUS_ID, email, name, GitHub, Twitter, …

Questions?



- Demo? Ask Arjan Sieverink!

Links



- GitHub (software, documentation and videos): https://github.com/UtrechtUniversity/ricgraph
- Research Software Directory: https://research-software-directory.org/software/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
- Arjan Sieverink, j.a.sieverink@uu.nl

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Sharing science,
shaping tomorrow