openwashdata

a community effort to bring open data practices to the WASH sector

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Global Health Engineering

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openwashdata community

openwashdata community

Vision

An active global community that applies FAIR principles (Wilkinson et al. 2016) to data generated in the great water, sanitation, and hygiene sector.

Mission

Empower WASH professionals to engage with tools and workflows for open data and code.

The Opportunity

Journal Articles

Appendix A. Supplementary data

The following is the supplementary data to this article:

Download : Download Word document (152KB)

Multimedia component 1.

Journal Articles

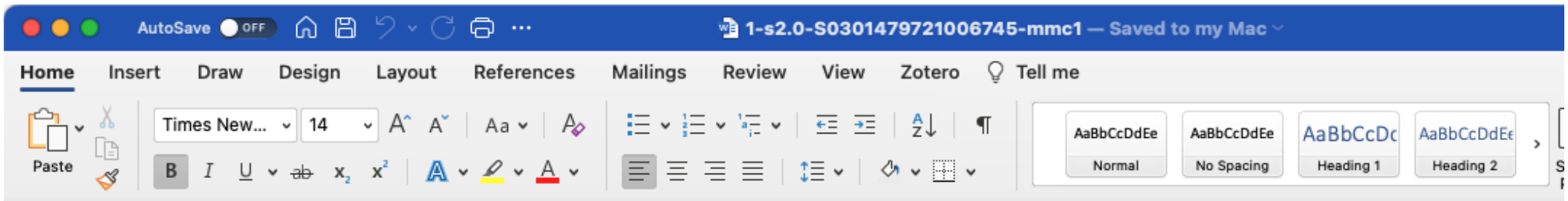


Table 1. The number of onsite sanitation facilities alphabetized by country per Service Type. The Service Type Density is calculated by dividing the population using country population. Thus, the Service Type Density covers users of sewers, onsite facilities, and open defecators. The number of facilities required for Open Defecat facilities will not be shared between households. Urban and rural proportions of the onsite facilities are provided. "ND" indicates no data available from JMP.

	Mechanized				Non-Mechanized				Unemptiable				
Country	**No. of Facilities**	**Service Type Density**	**Urban**	**Rural**	**No. of Facilities**	**Service Type Density**	**Urban**	**Rural**	**No. of Facilities**	**Service Type Density**	**Urban**	**Rural**	**No. of Facilities Required**
Afghanistan	367,345	10%	66%	34%	1,599,720	41%	31%	69%	1,351,493	34%	12%	88%	563,238
Algeria	482,751	6%	27%	73%	465,887	6%	18%	82%	255,876	3%	63%	37%	64,417
Angola	1,054,451	21%	97%	3%	1,817,690	36%	75%	25%	516,612	10%	44%	56%	1,232,071
Anguilla	2,875	72%	100%	0%	1,056	26%	100%	0%	15	0%	100%	0%	22

PDF reports


1
Treatment technologies in practice
On-the-ground experiences of faecal sludge and wastewater treatment
SNV
UTS
Institute for Sustainable Futures

PDF reports

Table 2. Influent and effluent qualities of wastewater treated at Duri Kosambi FSTP plant in 2019, as compared to effluent standards

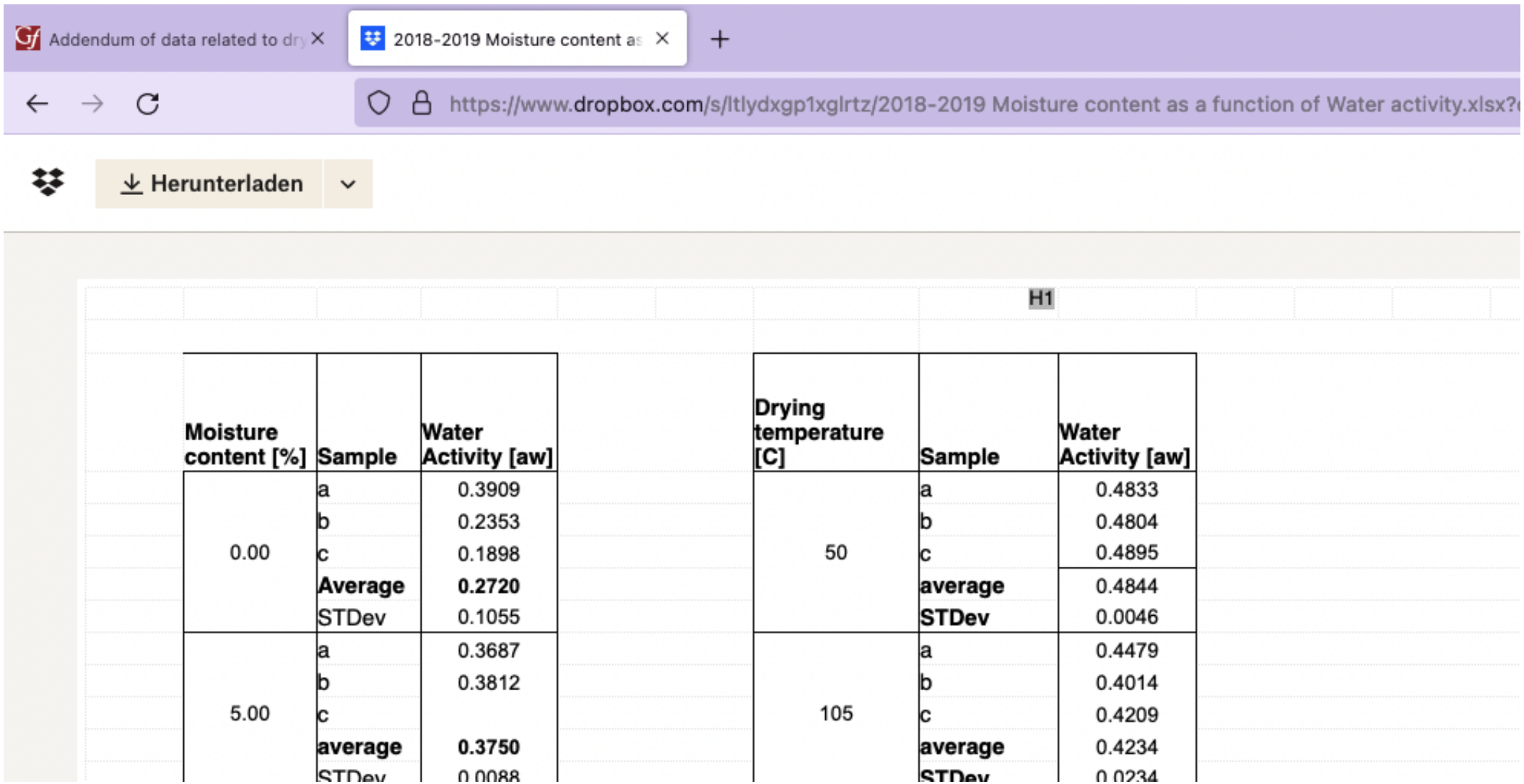
Parameter	Inlet	Outlet
pH	6, 45-7, 88 pH	7, 12-7, 61 pH
Total suspended solids, TSS	340-8933, 33 mg/L	22, 5-84, 29 mg/L
Biochemical oxygen demand, BOD_5	106, 38-646, 82 mg/L	2, 76-69, 79 mg/L
Chemical oxygen demand, COD	687, 9-2780, 37 mg/L	41, 25-127, 67 mg/L
Total organic matter, $KMnO_4$	108, 04-568, 72 mg/L	54, 21-150, 50 mg/L
Ammonia, NH3-N	108, 75-239, 25 mg/L	0, 45-29, 81 mg/L
Methylene blue active surfactant, MBAS	0, 74-2, 69 mg/L	0, 13-0, 78 mg/L

PDF reports + Dropbox

Physiochemical properties ***Addendum of data***

General information	
Type of data	Composition
Place of experimentation	Pollution Research Group, University of KwaZulu-Natal (South Africa)
Dates of the experiments	2018-2019
Feedstock	
Type of faecal material	Faecal sludge from anaerobic baffled reactor (ABR) from a decentralised wastewater treatment plant (DEWAT)
Location of collection	Durban, South Africa
Age before collection	Unknown
Moisture content	~ 90%wt

PDF reports + Dropbox



Moisture content [%]	Sample	Water Activity [aw]
0.00	a	0.3909
	b	0.2353
	c	0.1898
	Average	**0.2720**
	STDev	0.1055
5.00	a	0.3687
	b	0.3812
	c	
	average	**0.3750**
	STDev	0.0088

Drying temperature [C]	Sample	Water Activity [aw]
50	a	0.4833
	b	0.4804
	c	0.4895
	average	0.4844
	STDev	0.0046
105	a	0.4479
	b	0.4014
	c	0.4209
	average	0.4234
	STDev	0.0234

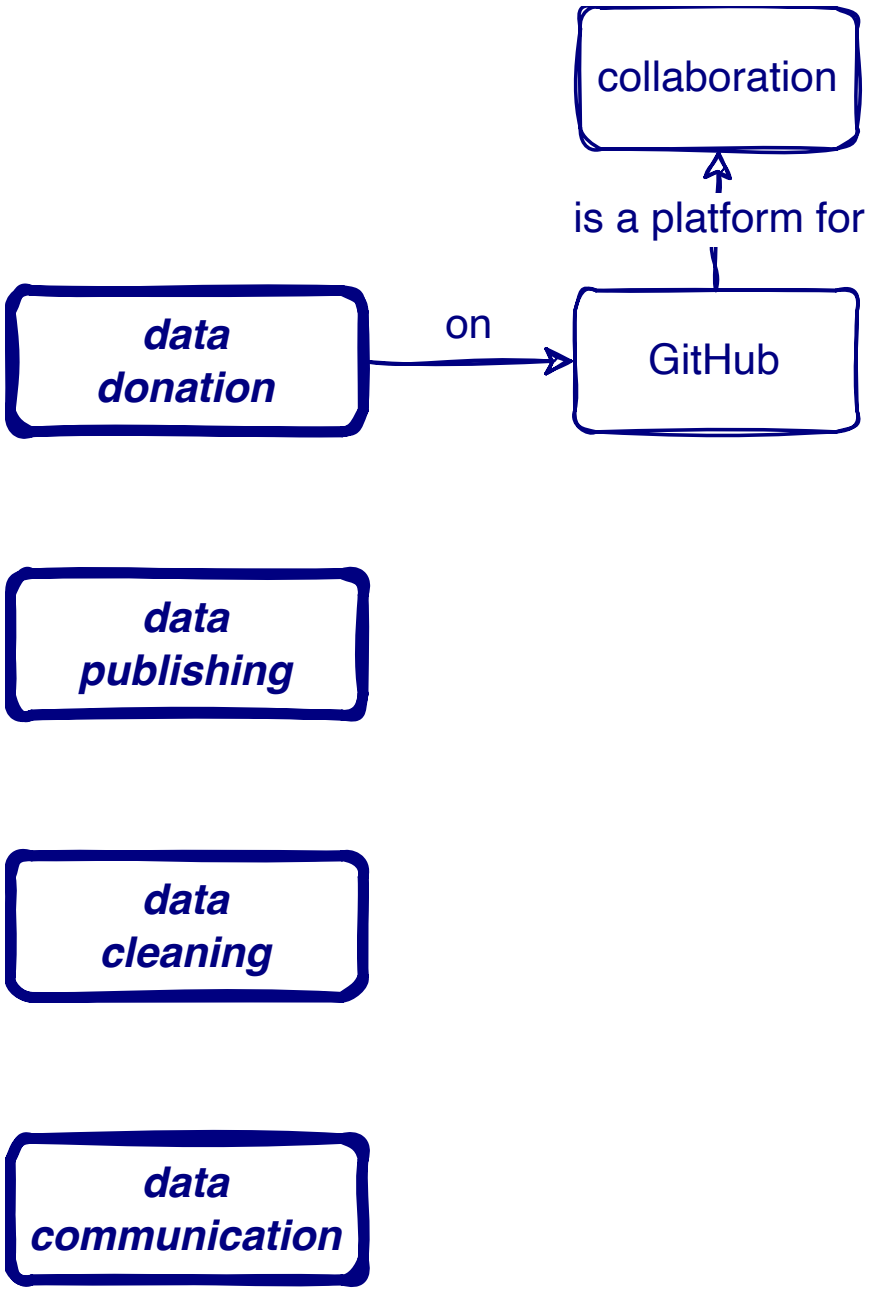
The Journey

data donation

data publishing

data cleaning

data communication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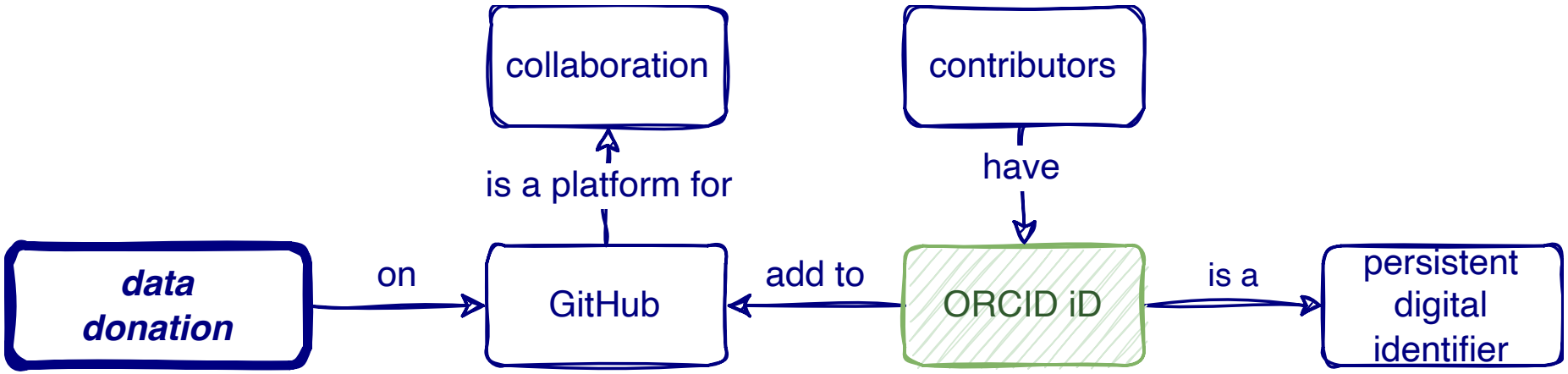

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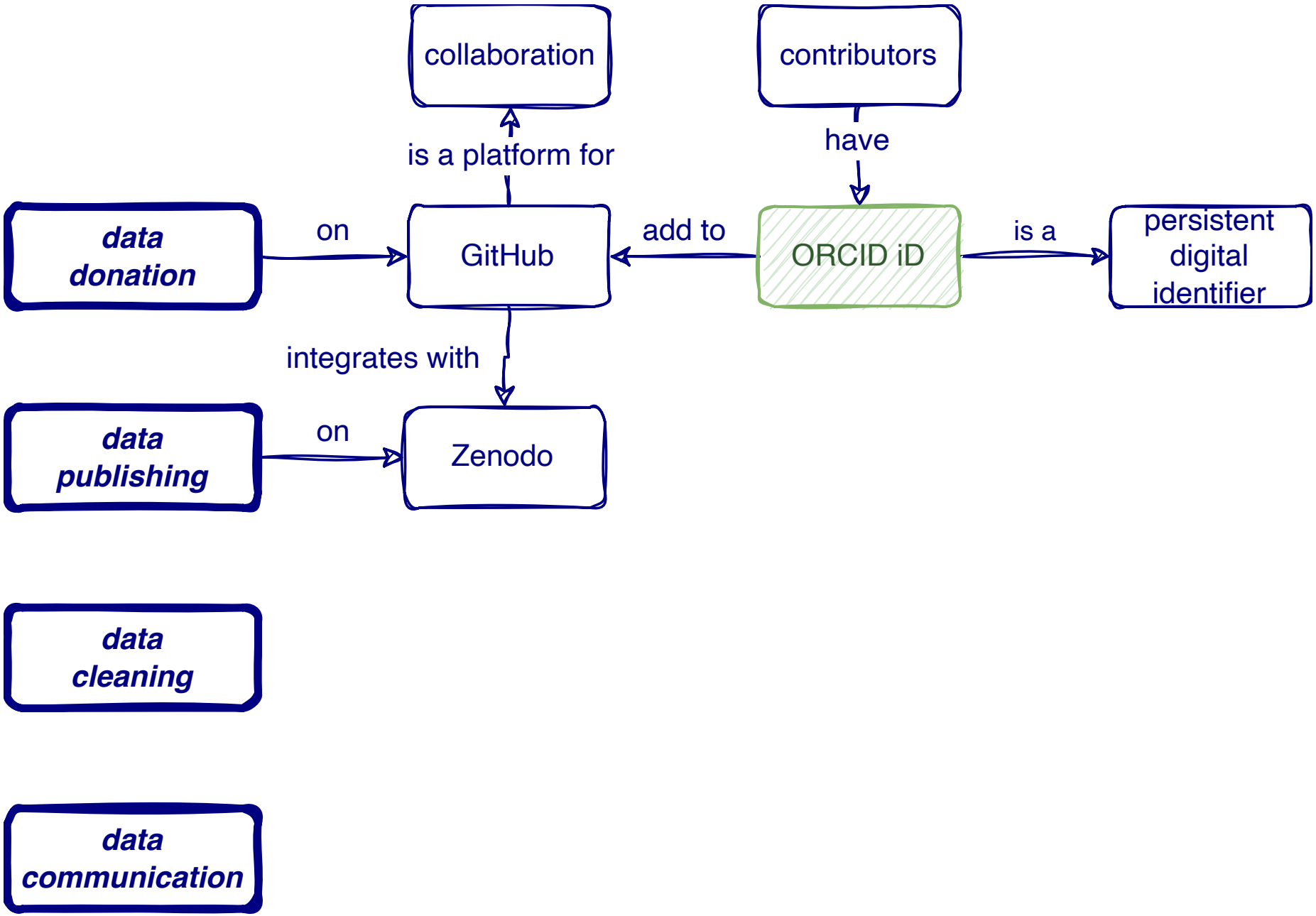
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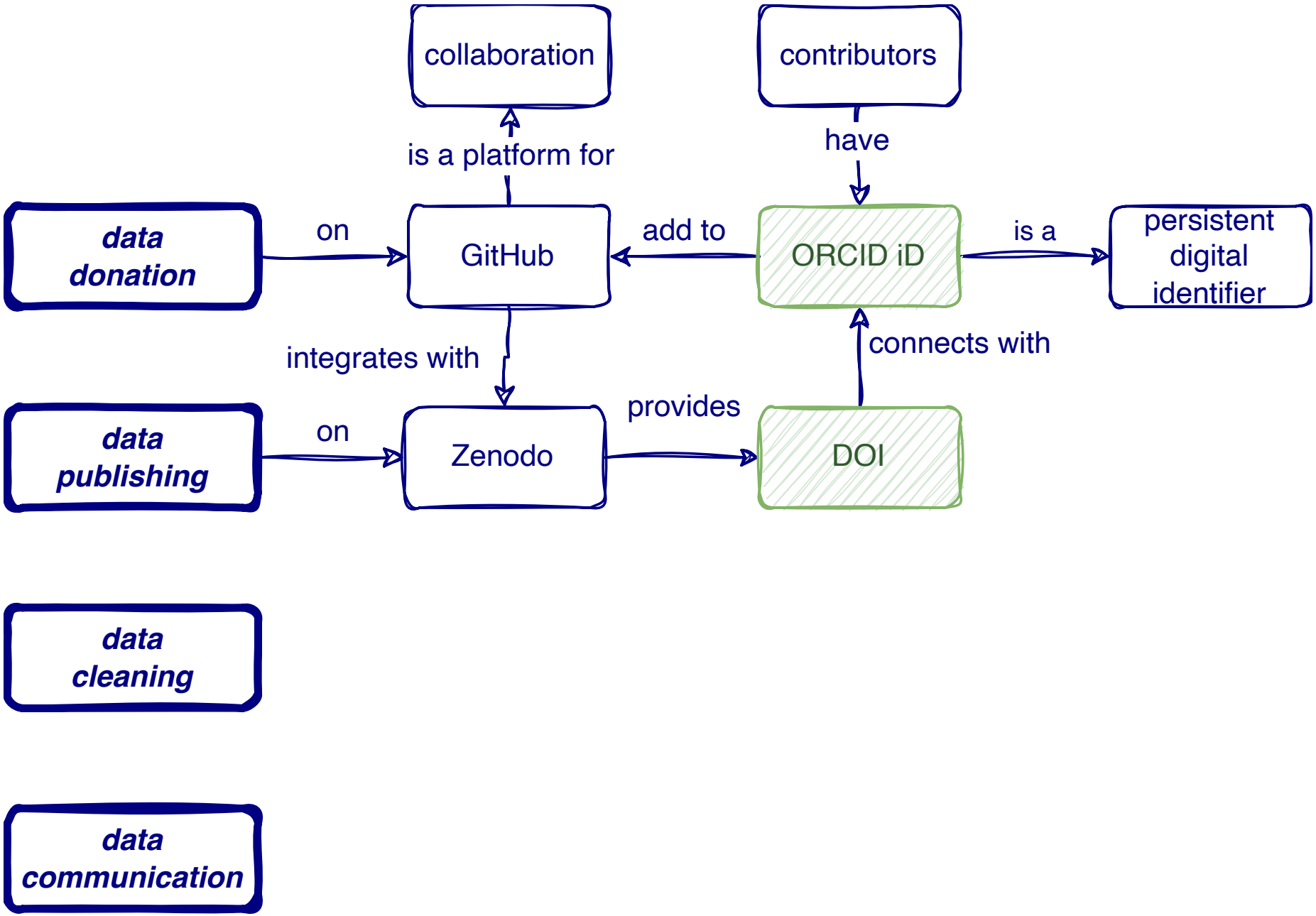
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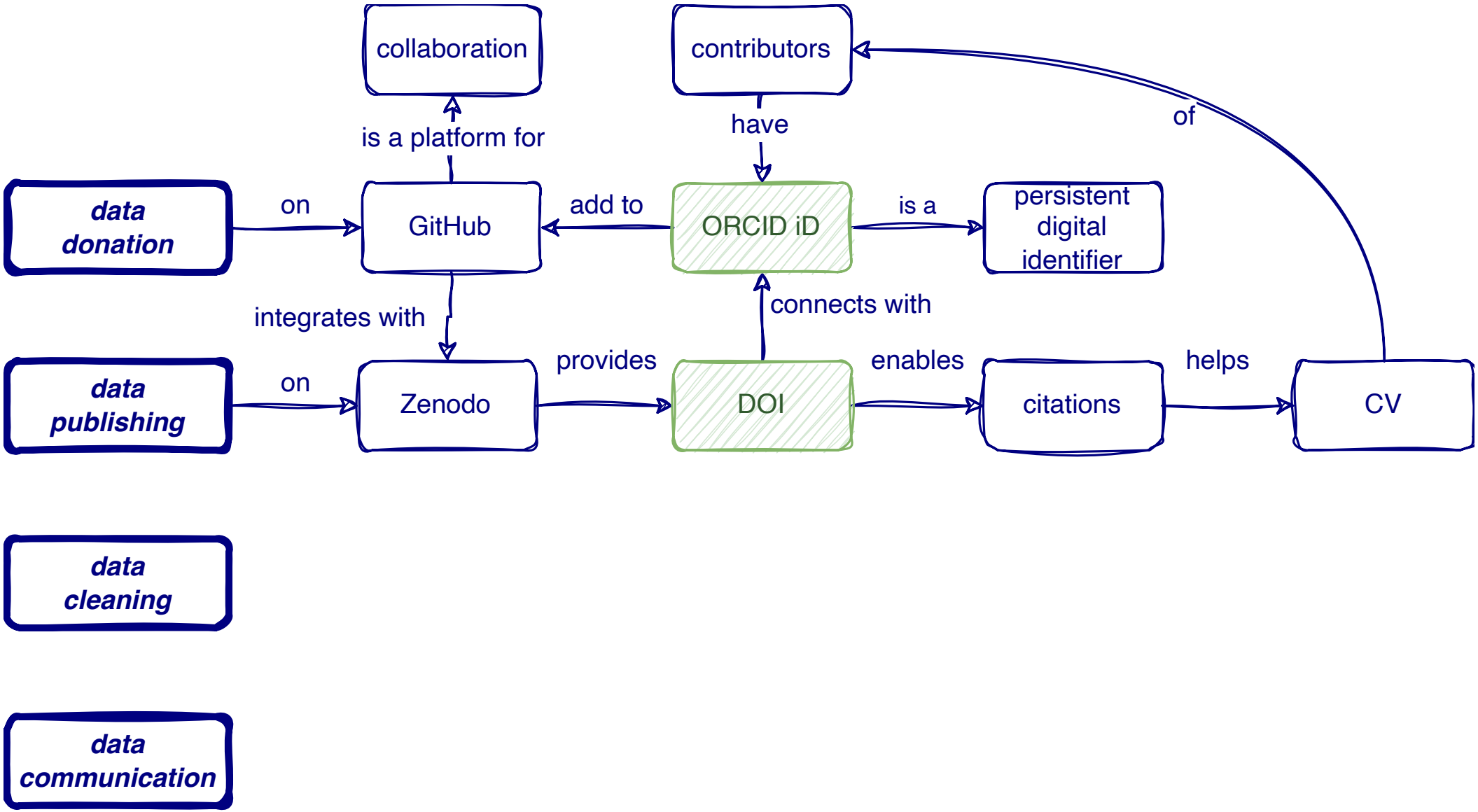
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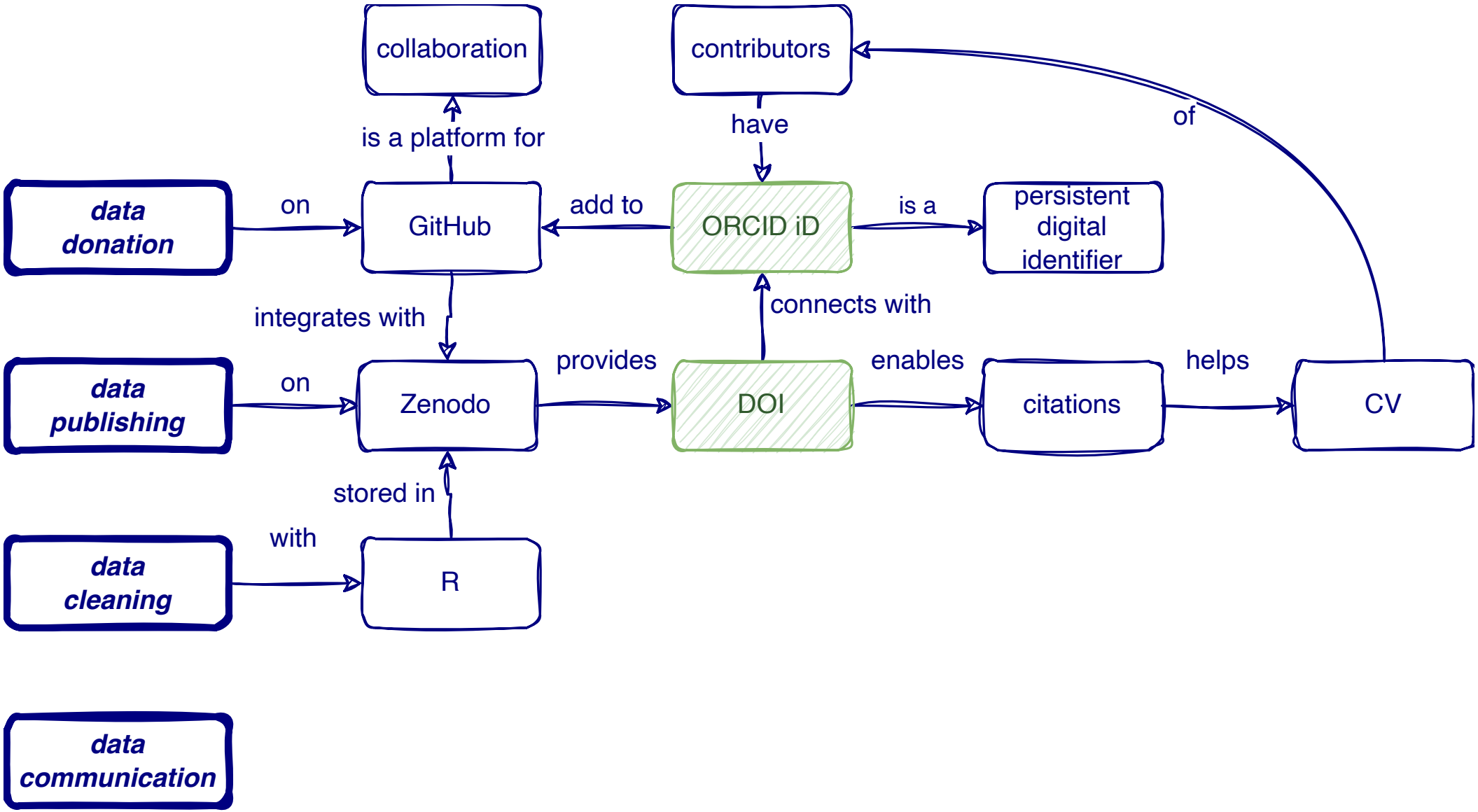
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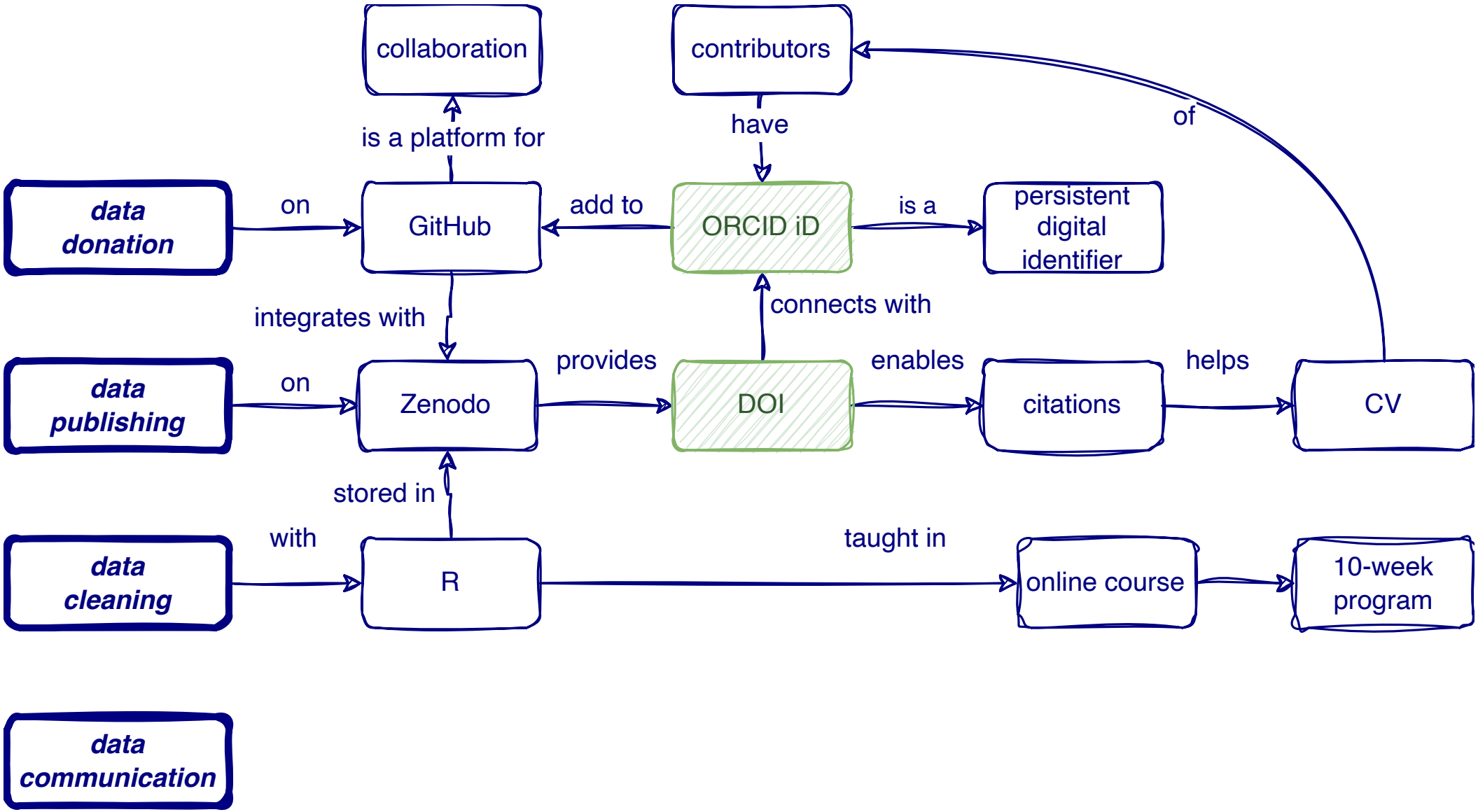
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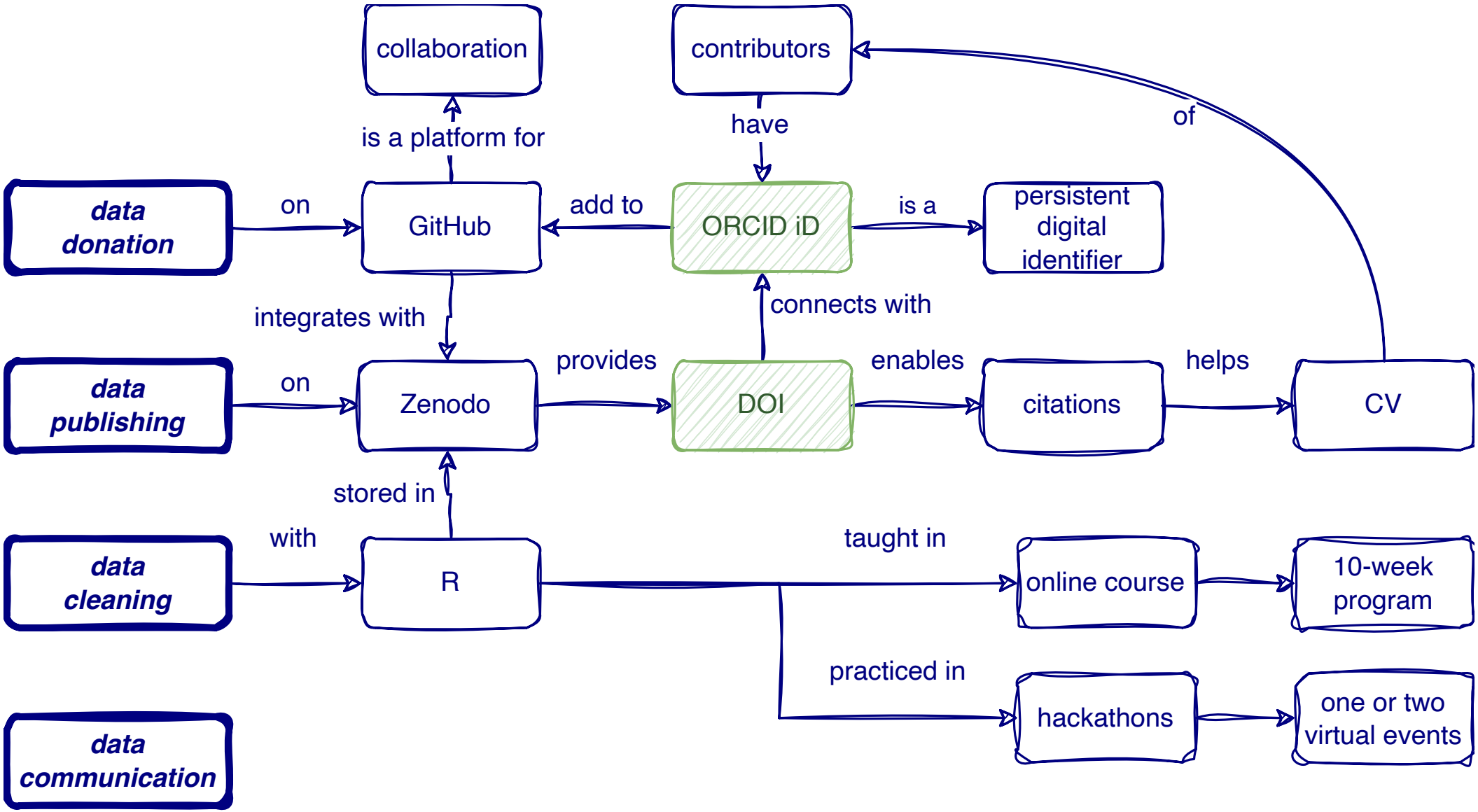
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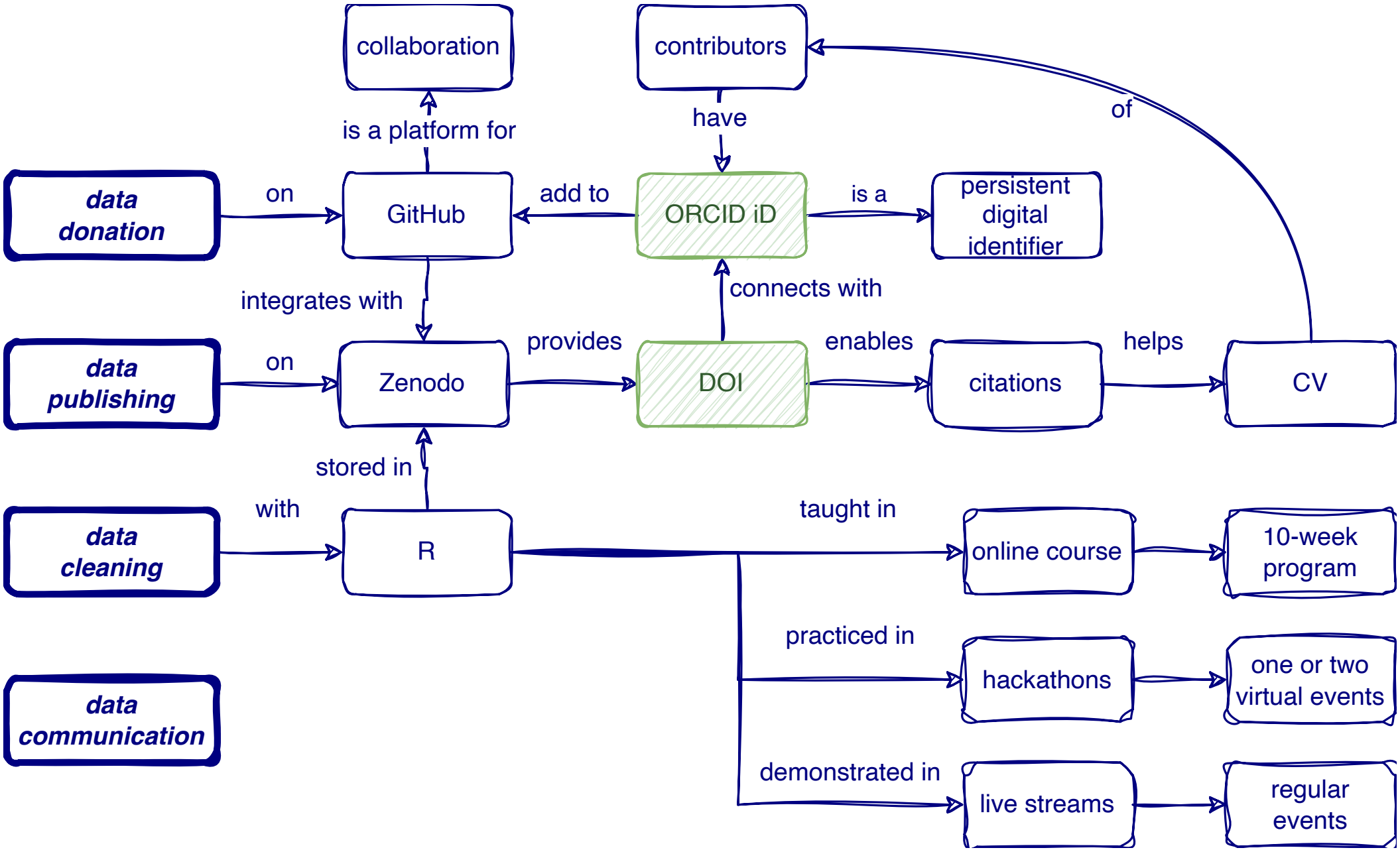
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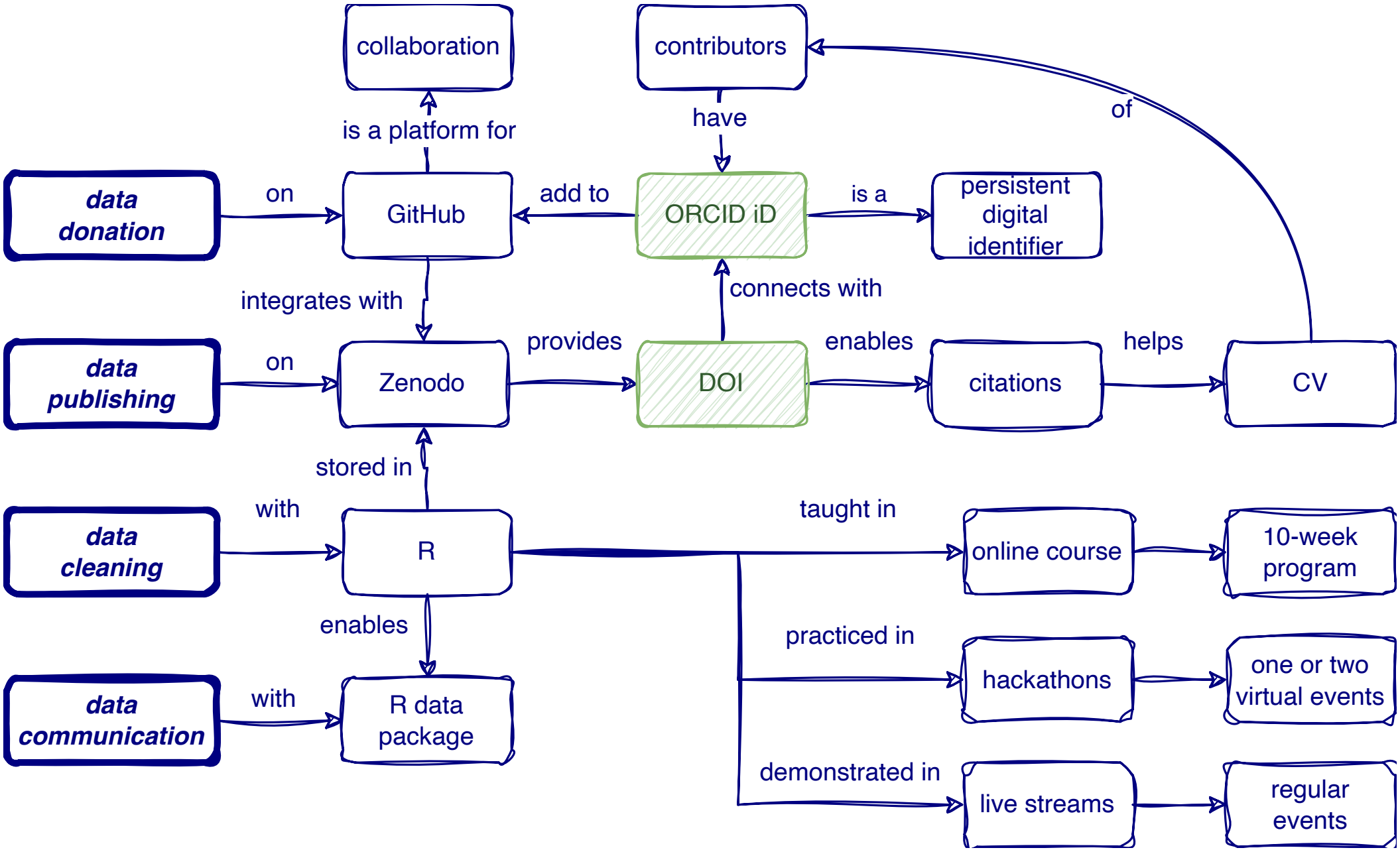
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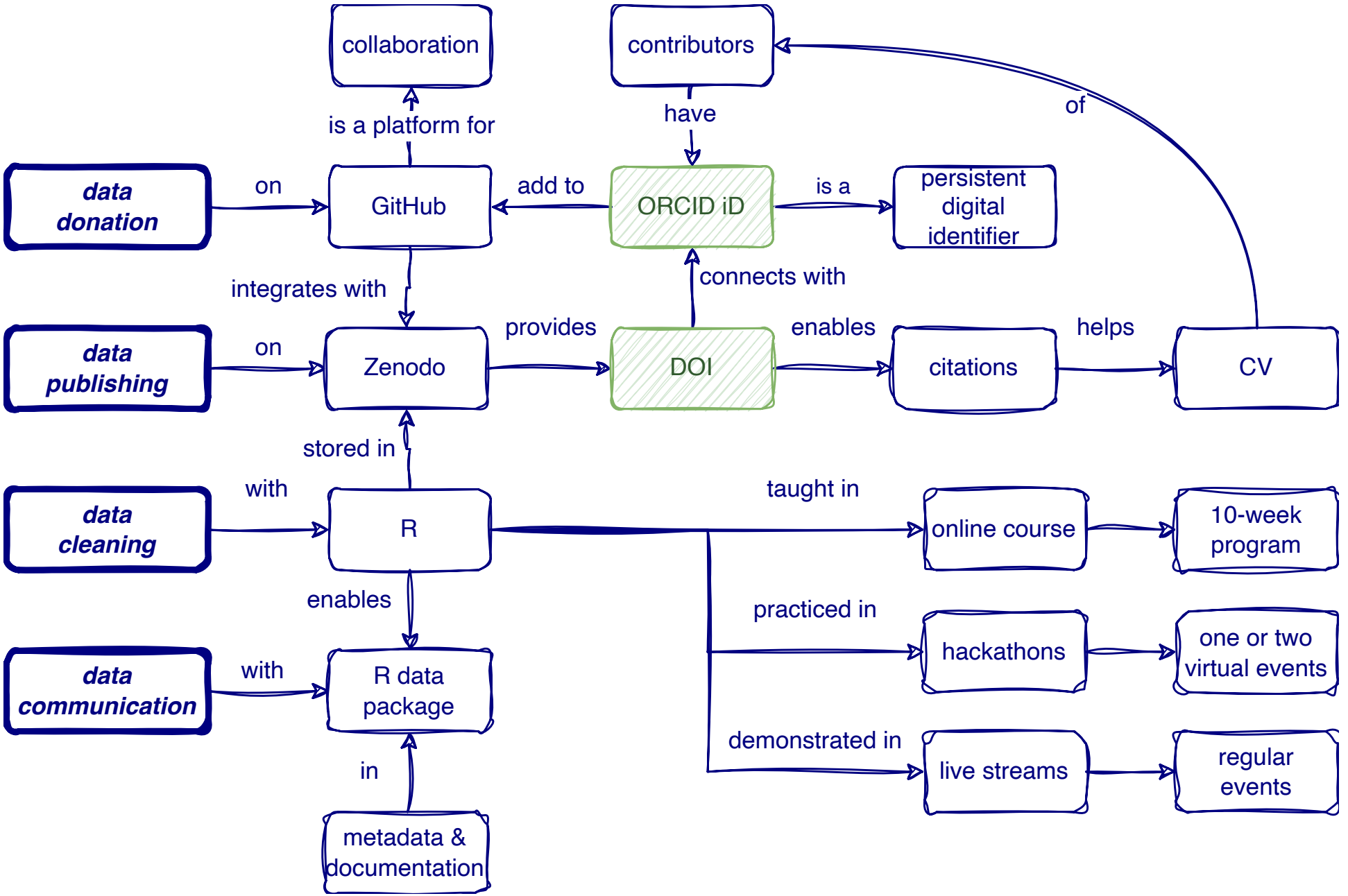
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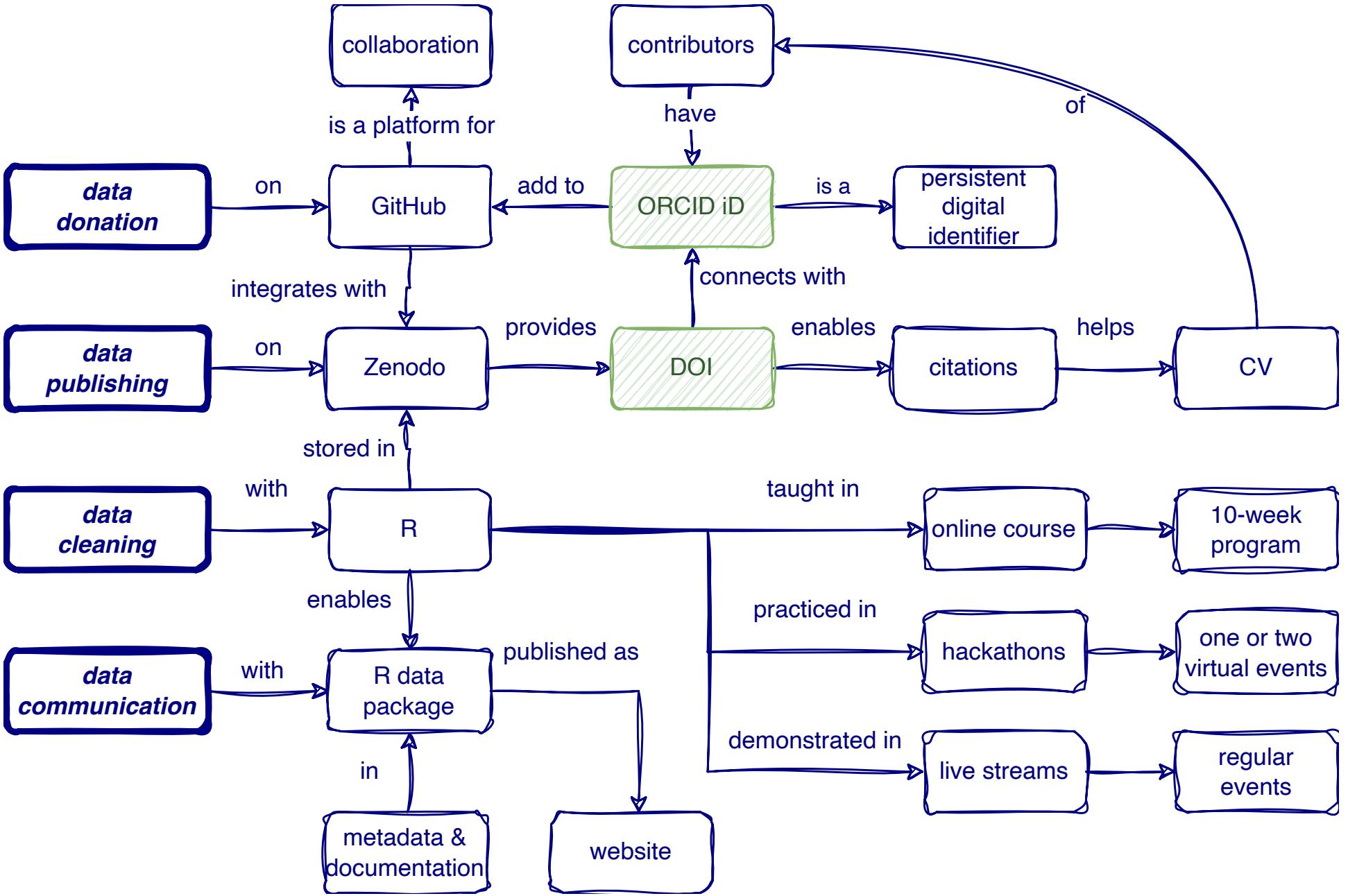
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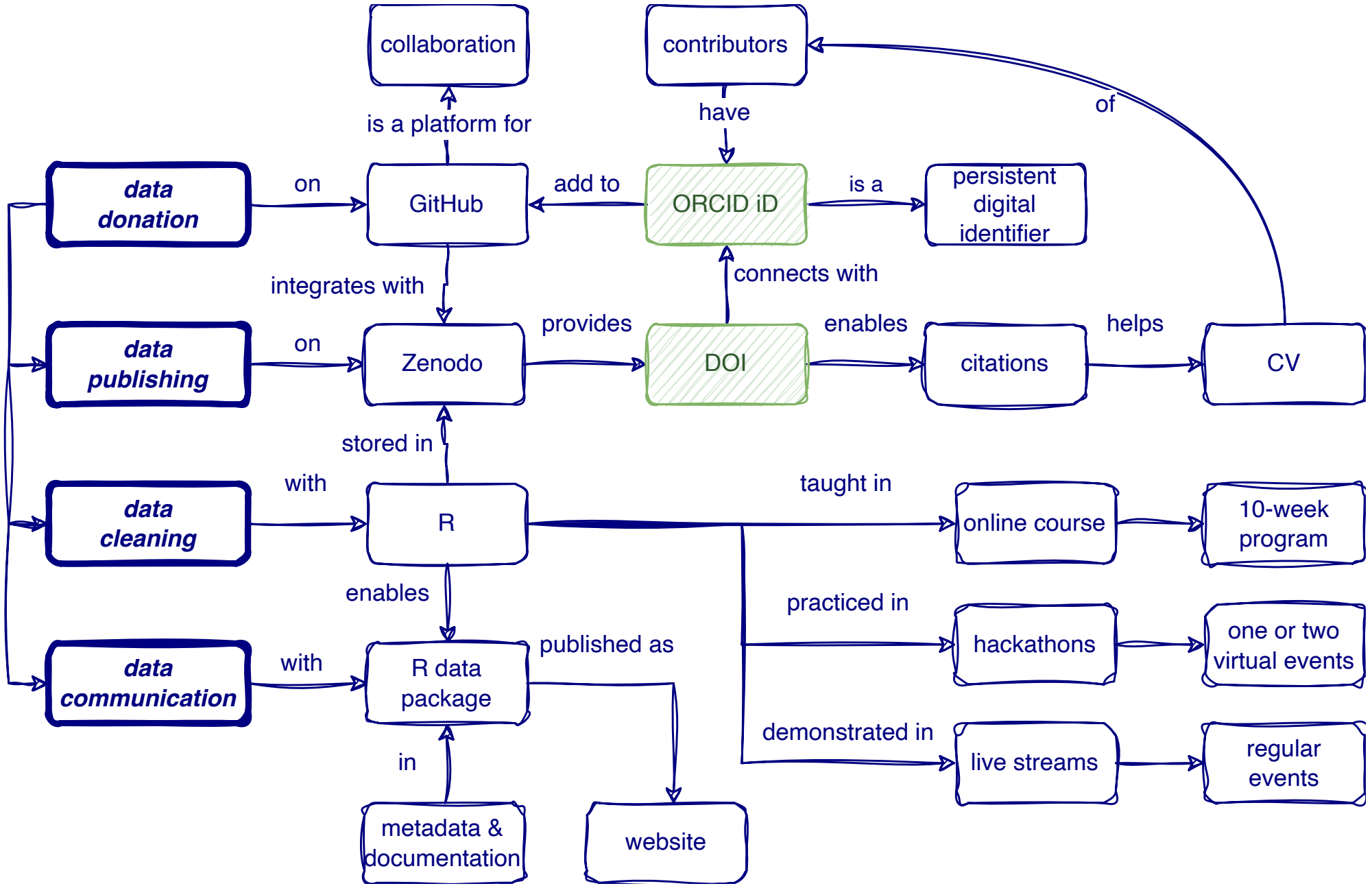
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The Product

What does final look like?

Locations of Public Waste Skips in B

https://openwashdata.github.io/wasteskipsblantyre/

wasteskipsblantyre 0.0.2 Reference Articles

Search for

wasteskipsblantyre

The goal of wasteskipsblantyre is to provide a dataset for research and planning of solid waste management in Blantyre, Malawi. The dataset includes locations of the publicly accessible waste skips in in the city. The data was collected in 2021 and has not been updated since.

Links

GitHub repository

Citation

Citing wasteskipsblantyre

Developers

So *who* does the work?

Mabvuto Yesaya
Author

Limbani Msuku
Author

Lars Schöbitz
Contributor

Elizabeth Tilley
Author

Mian Zhong
Contributor

Sebastian Camilo Loos
Author, maintainer

Thanks all!

Engage

Our channels

One-way communication

- Website: openwashdata.org
- Newsletter: buttondown.email/openwashdata
- Email: ghe@mavt.ethz.ch

Two-way engagement

- Instant messaging: Element base Matrix Chat | openwashdata-lobb ghe-open
- Data donation ideas: github.com/openwashdata/data/
- Social media: Global Health Engineering LinkedIn

course: data science for openwashdata

ds4owd-001.github.io/website/

Zoom for 10 modules over 2 months at the following times:

- Start: 31st October 2023 - 2 pm to 4:30 pm CET
- End: 20th February 2024 - 2 pm to 4:30 pm CET

Registration open for next course:
https://forms.gle/AhhWpPfnbLwzp5Ai9

- free
- provides participants with a certificate
- using exclusively tools that are free and open source
- offers 1:1 coding support for a final project with own data

course: data science for openwashdata 001

- 200 registrations
- 110 show-ups
- expected 40 graduates all with a reproducible data analysis report (paper)
- motivating graduates to publish underlying data with openwashdata

openwashdata collaboration

Funding - ETH ORD (Open Research Data) Explore programme

Phase 1

- Funding: 150’000 CHF (3 million ZAR) for 18 months ends 30 August 2024
- Goals:
  - Setup infrastructure
  - Build community
  - Design course
  - Define workflows

Phase 2

- Funding: due date for 2nd call is 29 February 2024
- Goals:
  - Establish strategic partnerships / Governance
  - Grow data science competency
  - Increase data discover-ability

Strategic partnership

- Co-funding (50/50) of a data steward for 12 months
- Works at and for UKZN WASH R&D Center
- Collaborates with openwashdata to publish research data
- Establishes draft data management strategy for UKZN WASH R&D Center

Next steps

- GHE to identify how UKZN WASH R&D Center can be included as co-applicant
- UKZN WASH R&D Center to provide information about costs for salary & overhead
- GHE to prepare a draft support letter as Appendix to proposal

Teaching collaboration

ETH4D Teaching Stay Grant

Thanks 🌻

This project was supported by the Open Research Data Program of the ETH Board.

References

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Yesaya, Mabvuto, Limbani Msuku, Elizabeth Tilley, and Sebastian Camilo Loos. 2023. “Wasteskipsblantyre: Locations of Public Waste Skips in Blantyre, Malawi.” https://doi.org/10.5281/zenodo.6470427.