FAIR data:
The key role of metadata

Joy Davidson, DCC

Acknowledgement: Content reused from DANS colleagues

What is FAIR data?

Findable

F1. (meta)data are assigned a globally unique and eternally persistent identifier.
F2. data are described with rich metadata.
F3. (meta)data are registered or indexed in a searchable resource.
F4. metadata specify the data identifier.

Interoperable

I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
I2. (meta)data use vocabularies that follow FAIR principles.
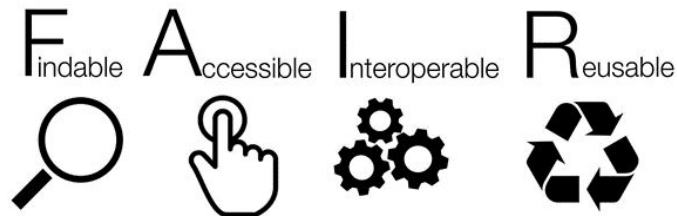I3. (meta)data include qualified references to other (meta)data.

Accessible

A1. (meta)data are retrievable by their identifier using a standardized communications protocol.
A1.1 the protocol is open, free, and universally implementable.
A1.2 the protocol allows for an authentication and authorization procedure, where necessary.
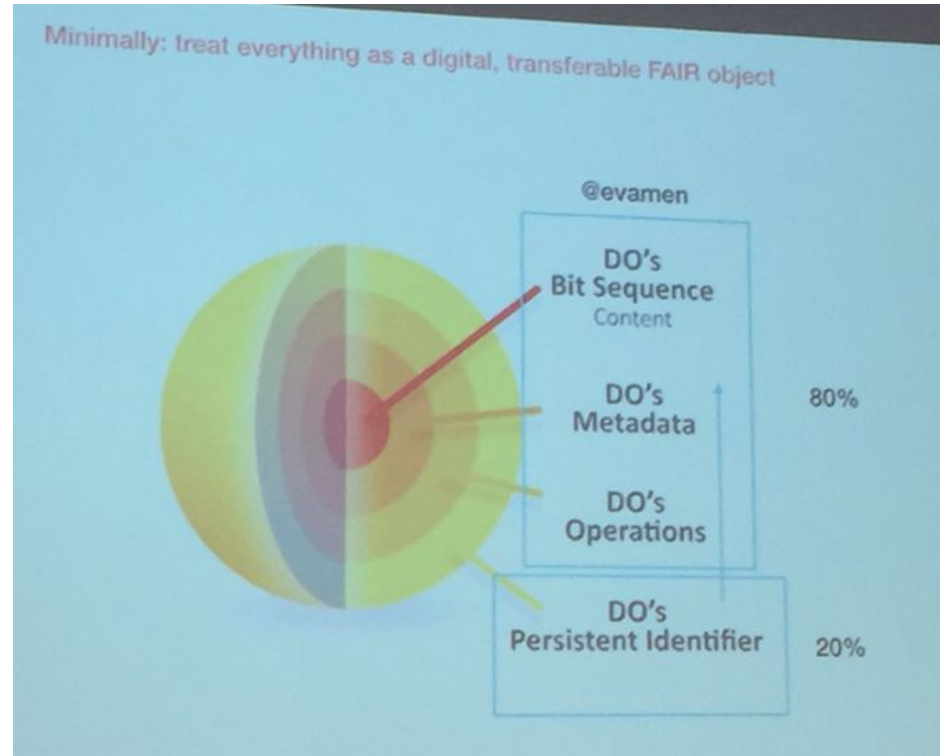A2. metadata are accessible, even when the data are no longer available.

Reusable

R1. meta(data) have a plurality of accurate and relevant attributes.
R1.1. (meta)data are released with a clear and accessible data usage license.
R1.2. (meta)data are associated with their provenance.
R1.3. (meta)data meet domain-relevant community standards.

FAIR applies equally to data and metadata!

FAIR Guiding Principles: all about metadata

80% metadata
20% PIDs

Minimally: treat everything as a digital, transferable FAIR object

@evamen

DO's Bit Sequence Content

DO's Metadata — 80%

DO's Operations

DO's Persistent Identifier — 20%

Your DATA with(out) METADATA

Bad

Better...

Best (Rich, Structured)

Nutrition Facts*

Amount Per Serving (serving size) = 1/2 cup (120mL) condensed soup

Calories 100	Dietary Fiber 2g
Fat Calories 50	Sugars 1g
Total Fat 6g	Protein 1g
Sat. Fat 1g	Potassium 60mg
Trans Fat 0g	
Polyunsat. Fat 4g	**% Daily Values****
Monounsat. Fat 1g	Vitamin A 0%
Cholesterol 5mg	Vitamin C 0%
Sodium 870mg	Calcium 0%
Total Carb. 9g	Iron 0%

* The nutrition information contained in this list of Nutrition Facts is based on our current data. However, because the data may change from time to time, this information may not always be identical to the nutritional label information of products on shelf.

** % Daily Values (DV) are based on a 2,000 calorie diet.

Acknowledgement: This slide was created by Dra. Eva Méndez, Universidad Carlos III de Madrid for
Loving DATA… loving 'cool' metadata. Metadata for FAIR data. https://wesharedata.org/Events/November

A key step is to make use of a data repository!

Preferred repositories:

1. Domain specific

2. Institutional (UPCommons, CORA-RDR)

3. Generalist (Zenodo, figshare)

- **Metadata support**
- **DOI to support discovery and access**

Walk through of uploading data to a repository

Minimum metadata required

7 mandatory fields:

- **Upload type**

- **Title**

- **Publication date**

- **Authors**

- **Description**

- **Access rights**

- **License**

Benefits to be gained by providing more than the minimum!

Give your data a title and description

IIII Digital Object Identifier	10.5281/zenodo.3550529

Optional. Did your publisher already assign a DOI to your upload? If not, leave the field empty and we will register a new DOI for you. A DOI allows others to easily and unambiguously cite your upload. Please note that it is NOT possible to edit a Zenodo DOI once it has been registered by us, while it is always possible to edit a custom DOI.

IIII Reserve DOI ✔

📅 Publication date *	2019-11-22

Required. Format: YYYY-MM-DD. In case your upload was already published elsewhere, please use the date of first publication.

🖥 Title *	FAIRsFAIR Policy and Practice Survey 2019 data for D3.1_D3.2_D6.1

Required.

👤 Authors *	Joy Davidson	Digital Curation Centre	🆔 0000-0003-3484-7675	⇕ ✕

Optional.

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Optional.

➕ Add another author

🖊 Description *	📋 📋	**B** *I* ~~S~~ x₂ x²	🔗 🔗	1️⃣ ≔	⊣≣ ⊢≣ 99 ▦ ▦	↩ ↪ I𝗑	Σ Ω	🗔 Source	⛶

As part of the EOSC project family the FAIRsFAIR - Fostering Fair Data Practices in Europe - project aims to supply practical solutions for the use of the FAIR data principles throughout the research data life cycle. The FAIRsFAIR project runs from March 2019-February 2022. Landscaping activities have been a core activity during the initial stages of the FAIRsFAIR project and there has been close cooperation with colleagues in Work Package 3 carrying out the FAIR data policy and practice analyses; Work Package 2 on assessing FAIR requirements for interoperability and persistence; Work Package 6 on providing an overview of research communities' needs for competence centres; and Work Package 7 on mapping RDM policies and support as well as FAIR education offerings in European HEIs. In particular, efforts were made to avoid duplication of effort across the three open consultation and survey instruments developed to assess the current landscape and to define a consistent approach to presenting our findings.

Required.

Add ORCIDs for authors

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https://orcid.org/
0000-0003-3484-7675

Name
Joy Davidson

Biography

Joy Davidson is Coordinator for the UK's Digital Curation Centre (DCC) - a research infrastructure that specialises in data management planning, curation and Open Science. Joy currently leads work on policies and practices (WP3) for the EC funded FAIRsFAIR project which aims to increase the production and use of FAIR data. She has been involved in reviews for ESFRI roadmap updates and H2020 research infrastructure funding programmes.

Website and social links ＞

Digital Curation Centre

Keywords ＞

data curation; digital curation; resaerch data management

Activities

Collapse all

⌄ **Employment** (9)   ≡ Sort

Show more detail

Digital Curation Centre: Glasgow,

2019-05-10 to present | Coordinator (I
Employment

⌄ **Works** (50 of 108)   ≡ Sort

Items per page: 50 ⌄   1 – 50 of 108   ‹ ›

DOI: 10.5281/zenodo.3550172

Source: OpenAIRE Explore

FAIRsFAIR Policy and Practice Survey 2019 data for D3.1 D3.2 D6.1

2019-11-22 | data-set   Show more detail
DOI: 10.5281/zenodo.3550528
DOI: 10.5281/zenodo.3550529

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Remember to add other contributors!

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Grants   European Commission (EU)   FAIRsFAIR 831558 Fostering FAIR Data Practices in Europe   ✕

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Related/alternate identifiers   recommended ⌄

Specify identifiers of related publications and datasets. Supported identifiers include: DOI, Handle, ARK, PURL, ISSN, ISBN, PubMed ID, PubMed Central ID, ADS Bibliographic Code, arXiv, Life Science Identifiers (LSID), EAN-13, ISTC, URNs and URLs.

Related identifiers   10.5281/zenodo.3558173   cites this upload ⌄   Project deliverable ⌄   ⇕ ✕

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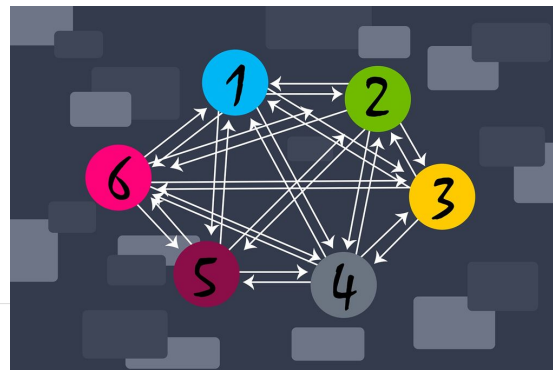
Add related identifiers

Leads to a citable output!

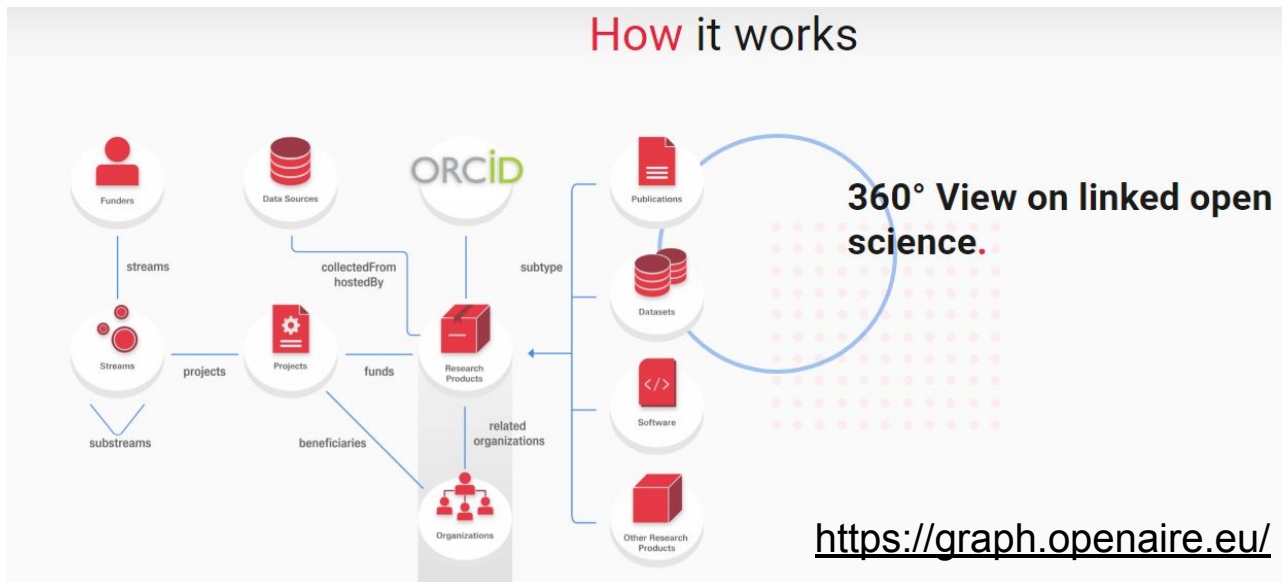# Metadata makes even closed data findable!

Even if your data is too sensitive to share, a good metadata description means others can find out about it and request legitimate access.

Extra metadata leads to more links!

https://graph.openaire.eu/

OpenAIRE Research Graph

For more on FAIR, check out the FAIR-Aware tool

- For researchers and data stewards

- An online tool to raise awareness and educate on data FAIRness

- 10 simple questions with practical tips to improve data FAIRness before deposit

https://fairaware.dans.knaw.nl/

Helpful tips presented with each question

https://fairaware.dans.knaw.nl/

Summing up

- To improve the FAIRness of your data, upload it to a discipline-specific repository whenever possible

- Provide at least the basic metadata required to get a citable way to share your data – even for those data that can't be openly shared

- There are benefits to be gained from spending a bit more time to add additional metadata and make links

- FAIR data leads to better researcher, greater visibility of your work, more citations and greater collaboration opportunities!

Thank you!