



Evaluating FAIRness

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History



- After the principles were formulated, a parcel of the authors reunited and defined objective measures for FAIRness
- These became later known as “FAIR Maturity Indicators”
- First, 17 “default” indicators
- Now, 22 2nd generation indicators
- FAIRness of digital resources.
 - But what is a digital resource?
 - Databases, standards, policies, datasets, variables, ontologies, data models, etc



1st Generation Maturity Indicators: Findability

FM_F1A	Whether there is a scheme to uniquely identify the digital resource.
FM_F1B	Whether there is a policy that describes what the provider will do in the event an identifier scheme becomes deprecated.
FM_F2	The availability of machine-readable metadata that describes a digital resource.
FM_F3	Whether the metadata document contains the globally unique and persistent identifier for the digital resource.
FM_F4	The degree to which the digital resource can be found using web-based search engines.



1st Generation Maturity Indicators: Accessibility

FM_A1.1	The nature and use limitations of the access protocol.
FM_A1.2	Specification of a protocol to access restricted content.
FM_A2	The existence of metadata even in the absence/removal of data

HARVARD DATAVERSE REPOSITORY POLICIES

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Preservation Policy

Data Backup & Preservation Terms

Harvard Library Technical Services (LTS), in collaboration with Harvard University Information Technology (HUIT) and the Institute for Quantitative Social Science (IQSS), hosts the Harvard's Dataverse repository using Amazon Web Services and S3, and maintains a full backup of all data and directories using Amazon Glacier. Additionally, FAS Research Computing at Harvard University keeps a backup of all Harvard Dataverse data and directories. This means that there are always full, recent copies of the Harvard Dataverse repository at multiple locations.

Backup Schedule

All research data files in the Harvard Dataverse repository are stored in an Amazon S3 bucket. All content placed in that bucket is immediately replicated to a second S3 bucket in a different, isolated availability zone. After seven days in this second bucket, all files are moved into Glacier, Amazon's cloud data archiving service for long-term backup storage.

Additionally, all of Harvard Dataverse's application/system files and databases are automatically backed up daily to a data center run by FAS Research Computing at Harvard University.

Policy and Procedures for Digital Archiving

Harvard University's policy for digital archiving is part of the institution's general mission to preserve all of its archival collections and to ensure their availability for current and future use. More specifically, this policy for preserving our digital data collections is meant to ensure continued access to born digital and digitized data, to ensure their authenticity, and to maintain data quality using the best digital archival practices.

Harvard University (in particular with support from IQSS) commits to best archival practice to ensure that all materials deposited in the archive remain available and usable. This includes: preserving previously deposited versions of materials; deaccessioning (removal) of datasets only when legally compelled; maintaining public access to the materials; regularly reviewing risks to materials; and reformatting materials as necessary and if



1st Generation Maturity Indicators: Interoperability









FM_I1	Use of a formal, accessible, shared, and broadly applicable language for knowledge representation.
FM_I2	The metadata values and qualified relations should themselves be FAIR
FM_I3	Relationships within (meta)data, and between local and third-party data, have explicit and 'useful' semantic meaning



1st Generation Maturity Indicators: Reusability

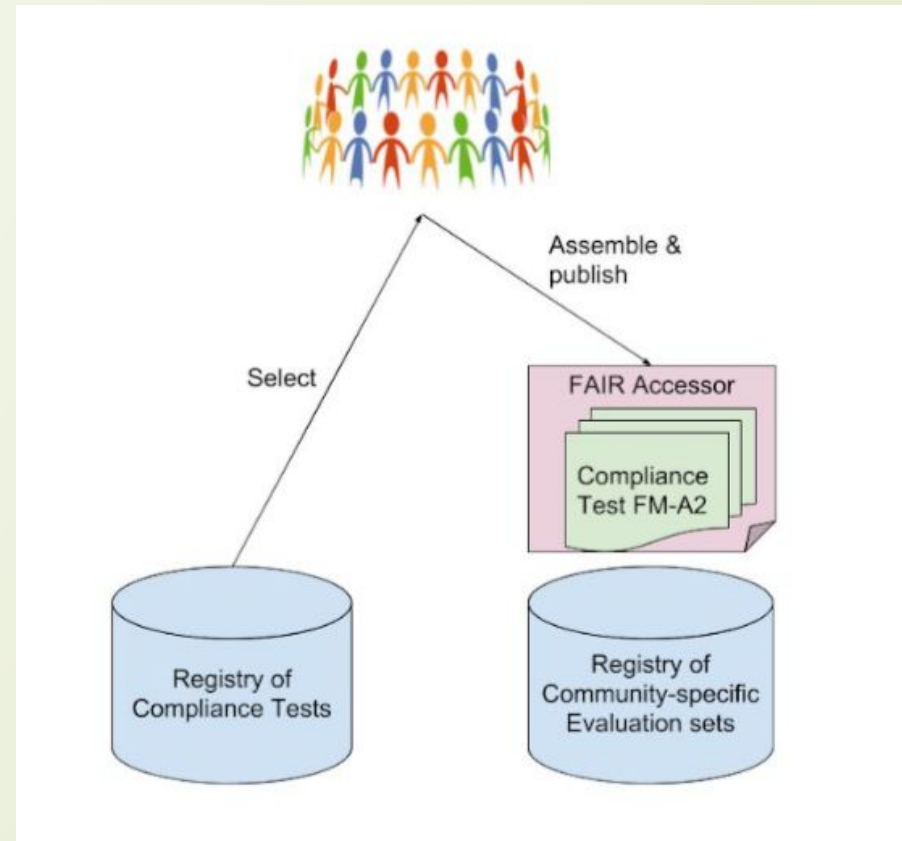
FM_R1.1	The existence of a license document, for BOTH (independently) the data and its associated metadata, and the ability to retrieve those documents
FM_R1.2	That there is provenance information associated with the data,
FM_R1.3	Certification, from a recognized body, of the resource meeting community standards.

Maturity Indicators 2nd Generation

Name	Creator	Email	Principle	Test of	Interface	View
FAIR Metrics Gen2- Unique Identifier	Mark D Wilkinson	markw@illuminae.com	F1	Gen2_FM_F1A	gen2_unique_identifier	
FAIR Metrics Gen2 - Identifier Persistence	Mark D Wilkinson	markw@illuminae.com	F1	Gen2_FM_F1B	gen2_metadata_identifier_persis	
FAIR Metrics Gen2 - Data Identifier Persistence	Mark D Wilkinson	markw@illuminae.com	F1	Gen2_FM_F1B	gen2_data_identifier_persistenc	
FAIR Metrics Gen2 - Structured Metadata	Mark D Wilkinson	markw@illuminae.com	F2	Gen2_FM_F2A	gen2_structured_metadata	
FAIR Metrics Gen2 - Grounded Metadata	Mark D Wilkinson	markw@illuminae.com	F2	Gen2_FM_F2B	gen2_grounded_metadata	
FAIR Metrics Gen2 - Data Identifier Explicitly In Metadata	Mark D Wilkinson	markw@illuminae.com	F3	Gen2_FM_F3	gen2_data_identifier_in_metadat	
FAIR Metrics Gen2- Metadata Identifier Explicitly In Metadata	Mark D Wilkinson	markw@illuminae.com	F3	Gen2_FM_F3	gen2_metadata_identifier_in_me	
FAIR Metrics Gen2 - Searchable in major search engine	Mark D Wilkinson	markw@illuminae.com	F4	Gen2_FM_F4	gen2_searchable	

Automated FAIRness assessment

□ Community-driven



Example evaluation

Summary:

Description: FAIR Metrics Evaluation: InnateDB FAIRsharing record; Tested identifier: <https://doi.org/10.25504/FAIRsharing.rb2drw>; generated by <https://orcid.org/0000-0002-7641-6446>

Resource: <https://doi.org/10.25504/FAIRsharing.rb2drw>

Collection: 6

Observations: Ran 22 tests (11 succeeded, 11 failed).

JSON response: https://w3id.org/FAIR_Evaluator/evaluations/5073.json

Tests passing and failing



FAIR METRICS GEN2- UNIQUE IDENTIFIER



FAIR METRICS GEN2 - IDENTIFIER PERSISTENCE



FAIR METRICS GEN2 - DATA IDENTIFIER PERSISTENCE



FAIR METRICS GEN2 - STRUCTURED METADATA



FAIR METRICS GEN2 - GROUNDED METADATA



FAIR METRICS GEN2 - DATA IDENTIFIER EXPLICITLY IN METADATA



Example evaluation

-  FAIR METRICS GEN2 - USES OPEN FREE PROTOCOL FOR DATA RETRIEVAL 
-  FAIR METRICS GEN2 - USES OPEN FREE PROTOCOL FOR METADATA RETRIEVAL 
-  FAIR METRICS GEN2 - DATA AUTHENTICATION AND AUTHORIZATION 
-  FAIR METRICS GEN2 - METADATA AUTHENTICATION AND AUTHORIZATION 
-  FAIR METRICS GEN2 - METADATA PERSISTENCE 
-  FAIR METRICS GEN2 - METADATA KNOWLEDGE REPRESENTATION LANGUAGE (WEAK) 
-  FAIR METRICS GEN2 - METADATA KNOWLEDGE REPRESENTATION LANGUAGE (STRONG) 
-  FAIR METRICS GEN2 - DATA KNOWLEDGE REPRESENTATION LANGUAGE (WEAK) 
-  FAIR METRICS GEN2 - DATA KNOWLEDGE REPRESENTATION LANGUAGE (STRONG) 
-  FAIR METRICS GEN2 - METADATA USES FAIR VOCABULARIES (WEAK) 
-  FAIR METRICS GEN2 - METADATA USES FAIR VOCABULARIES (STRONG) 

Example evaluation



FAIR METRICS GEN2 - DATA IDENTIFIER EXPLICITLY IN METADATA



Status: Failure

Principle tested: F3

Description: Metric to test if the metadata contains the unique identifier to the data. This is done by searching for a variety of properties, including foaf:primaryTopic, schema:mainEntity, schema:distribution, sio:is-about, and iao:is-about. schema codeRepository is used for software releases.

Metric test created on: May 8, 2019 by [Mark D Wilkinson](#) (updated on Feb 10, 2020).

Test executed on: Jan 28, 2021

Test results

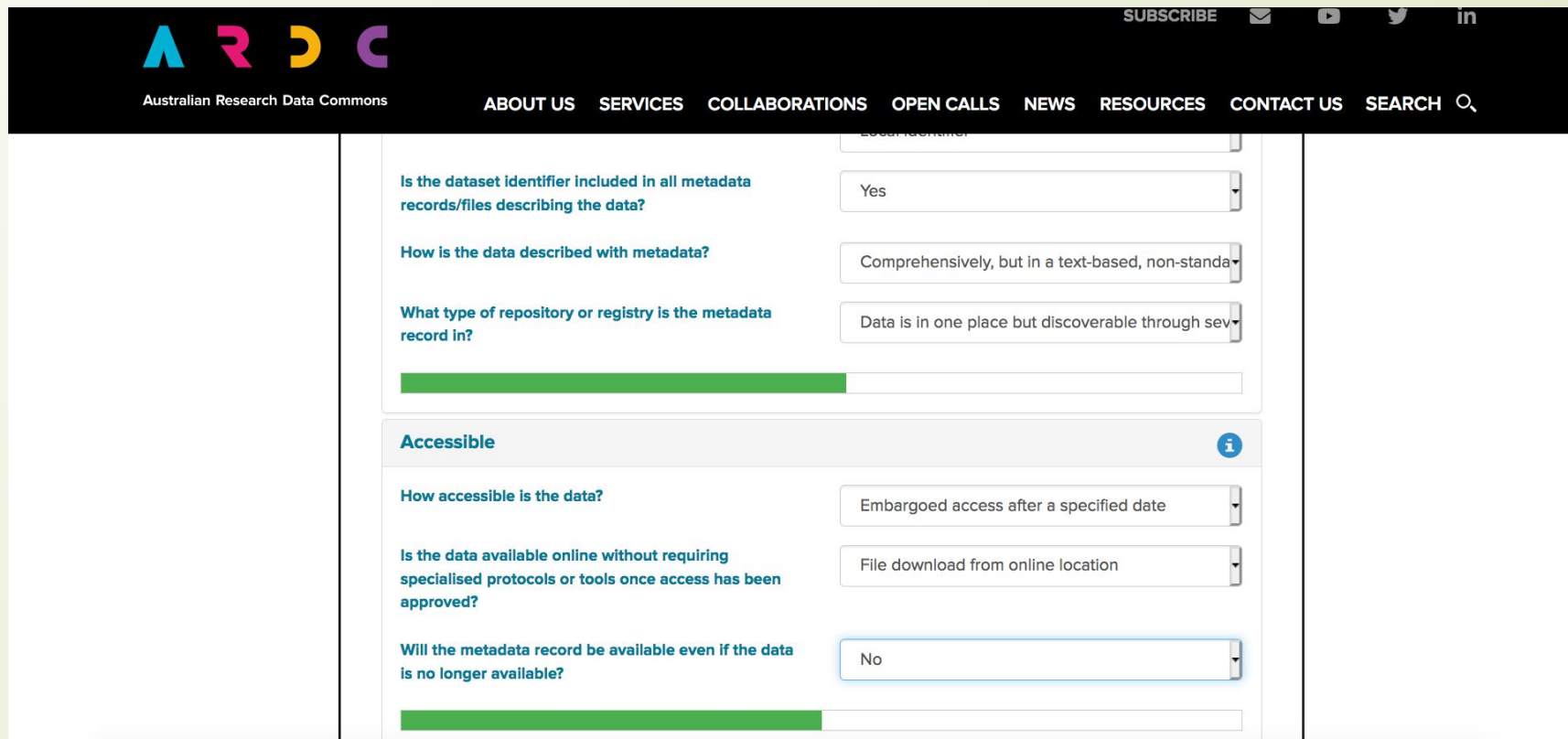
```
INFO: TEST VERSION 'Hvst-1.3.3:Tst-0.2.1'
INFO: Found a URI.
INFO: Attempting to resolve https://doi.org/10.25504/FAIRsharing.rb2drw using HTTP Headers {"Accept"=>"text/turtle, application/ld+json, application/rdf+xml, text/xhtml+xml, application/n3, application/rdf+n3, application/turtle, application/x-turtle, text/n3, text/turtle, text/rdf+n3, text/rdf+turtle, application/n-triples"}.
INFO: following redirection using this header led to the following URL: https://data.crosscite.org/10.25504%2FFAIRsharing.rb2drw. Using the output from this URL for the next few tests...
INFO: Link Header and Meta Link parsing complete. Back in main thread.
INFO: Found jsonld application/vnd.schemaorg.ld+json type of content when resolving https://doi.org/10.25504/FAIRsharing.rb2drw using HTTP Accept header {"Accept"=>"text/turtle, application/ld+json, application/rdf+xml, text/xhtml+xml, application/n3, application/rdf+n3, application/turtle, application/x-turtle, text/n3, text/turtle, text/rdf+n3, text/rdf+turtle, application/n-triples"}.
INFO: parsing as linked data.
INFO: The response message body component appears to contain JSON::LD::Format.
INFO: Attempting to resolve https://doi.org/10.25504/FAIRsharing.rb2drw using HTTP Headers text/xhtml+xml,text/xml.
INFO: following redirection using this header led to the following URL: https://fairsharing.org/FAIRsharing.rb2drw. Using the output from this URL for the next few tests...
INFO: Link Header and Meta Link parsing complete. Back in main thread.
INFO: Found html text/html type of content when resolving https://doi.org/10.25504/FAIRsharing.rb2drw using HTTP Accept header {"Accept"=>"text/xhtml+xml,text/xml"}.
INFO: parsing as HTML.
INFO: Now attempting to use the extract parser.
INFO: Using 'extract' to try to extract metadata from return value (message body) of https://fairsharing.org/FAIRsharing.rb2drw.
INFO: the extract tool found parseable data at https://fairsharing.org/FAIRsharing.rb2drw
INFO: The response message body component appears to contain JSON::LD::Format.
```


Example evaluation

```
INFO: SPARQLing for http://semanticscience.org/resource/is-about.
INFO: SPARQLing for https://semanticscience.org/resource/SIO_000332.
INFO: SPARQLing for https://semanticscience.org/resource/is-about.
INFO: SPARQLing for https://purl.obolibrary.org/obo/IAO_0000136.
INFO: No data identifier found in this chunk of metadata.
FAILURE: Was unable to locate the data identifier in the metadata using any (common) property/predicate reserved for
this purpose.
Tested the following ["http://www.w3.org/ns/ldp#contains", "http://xmlns.com/foaf/0.1/primaryTopic",
"http://purl.obolibrary.org/obo/IAO_0000136", "http://purl.obolibrary.org/obo/IAO:0000136", "https://www.w3.org
/ns/ldp#contains", "https://xmlns.com/foaf/0.1/primaryTopic", "http://schema.org/mainEntity", "http://schema.org
/codeRepository", "http://schema.org/distribution", "https://schema.org/mainEntity", "https://schema.org
/codeRepository", "https://schema.org/distribution", "http://www.w3.org/ns/dcat#distribution", "https://www.w3.org
/ns/dcat#distribution", "http://www.w3.org/ns/dcat#dataset", "https://www.w3.org/ns/dcat#dataset", "http://www.w3.org
/ns/dcat#downloadURL", "https://www.w3.org/ns/dcat#downloadURL", "http://www.w3.org/ns/dcat#accessURL",
"https://www.w3.org/ns/dcat#accessURL", "http://semanticscience.org/resource/SIO_000332", "http://semanticscience.org
/resource/is-about", "https://semanticscience.org/resource/SIO_000332", "https://semanticscience.org/resource/is-
about", "https://purl.obolibrary.org/obo/IAO_0000136"] (or their plain JSON hash-key equivalents)
```

Other FAIRness assessment tools

□ FAIR Data self-assessment tool



The screenshot displays the FAIR Data self-assessment tool interface. At the top, the ARDC (Australian Research Data Commons) logo is visible on the left, and navigation links for SUBSCRIBE, ABOUT US, SERVICES, COLLABORATIONS, OPEN CALLS, NEWS, RESOURCES, CONTACT US, and SEARCH are on the right. The main content area is divided into two sections. The first section contains three questions with dropdown menus: 'Is the dataset identifier included in all metadata records/files describing the data?' (selected 'Yes'), 'How is the data described with metadata?' (selected 'Comprehensively, but in a text-based, non-standa'), and 'What type of repository or registry is the metadata record in?' (selected 'Data is in one place but discoverable through sev'). Below these is a green progress bar. The second section, titled 'Accessible', contains three questions with dropdown menus: 'How accessible is the data?' (selected 'Embargoed access after a specified date'), 'Is the data available online without requiring specialised protocols or tools once access has been approved?' (selected 'File download from online location'), and 'Will the metadata record be available even if the data is no longer available?' (selected 'No'). This section also features a green progress bar.

ARDC
Australian Research Data Commons

SUBSCRIBE

ABOUT US SERVICES COLLABORATIONS OPEN CALLS NEWS RESOURCES CONTACT US SEARCH

Is the dataset identifier included in all metadata records/files describing the data?

Yes

How is the data described with metadata?

Comprehensively, but in a text-based, non-standa

What type of repository or registry is the metadata record in?

Data is in one place but discoverable through sev

Accessible

How accessible is the data?

Embargoed access after a specified date

Is the data available online without requiring specialised protocols or tools once access has been approved?

File download from online location

Will the metadata record be available even if the data is no longer available?

No

Other FAIRness assessment tools

□ FAIR enough?

Will your dataset have a Persistent Identifier after deposit?

A persistent identifier (PID) is a long-lasting reference to a single file or set of files. The DOI (Digital Object Identifier) is an example of a commonly used PID for publications and data. Repositories with a CoreTrustSeal certification assign a PID to each dataset. You can therefore answer yes if you answered the previous question with yes, too. (Note: even though this question is listed under the letter F (findable), it also relates to A (accessible).)

*

1 point

☐ Yes

☐ No

Did you provide enough information (metadata) about your data for others to understand and reuse your data?

Metadata is the data that describes an object such as a dataset. It gives context to the research data, providing information about the creator, provenance, purpose, time, geographic locations, access conditions, and terms of use of a data collection.

*


1 point

☐ Yes

☐ No

Other FAIRness assessment tools

□ FAIR Aware



FAIR questions 👁️

FINDABLE

1. Are you aware that a dataset should be assigned a globally unique and persistent identifier when deposited with a data repository? ⓘ ☐ Yes ☐ No

2. Are you aware that when you deposit a dataset with a repository, you will need to provide some details (known as discovery metadata) in order to make the data findable, understandable and reusable to others? ⓘ ☐ Yes ☐ No

3. Are you aware that the repository providing access to your dataset should make the metadata describing your datasets available in a format readable by machines as well as humans? ⓘ ☐ Yes ☐ No

ACCESSIBLE

4. Are you aware that access to your dataset may need to be controlled and that metadata should include licence information under which the data can be reused? ⓘ ☐ Yes ☐ No

5. Are you aware that metadata should remain available over time, even if the data is no longer accessible? ⓘ ☐ Yes ☐ No

INTEROPERABLE

6. Are you aware that the metadata describing your datasets should use controlled vocabularies? ⓘ ☐ Yes ☐ No

Other FAIRness assessment tools

□ FAIR Checker

Select the metrics you want to test

<input type="checkbox"/> F - All	<input type="checkbox"/> A - All	<input type="checkbox"/> I - All	<input type="checkbox"/> R - All
<input checked="" type="checkbox"/> F1 - Unique Identifier	<input type="checkbox"/> A1.1 - Uses open free protocol for data retrieval	<input checked="" type="checkbox"/> I1 - Metadata Knowledge Representation Language (weak)	<input type="checkbox"/> R1.1 - Metadata Inclusion
<input checked="" type="checkbox"/> F1 - Identifier Persistence	<input checked="" type="checkbox"/> A1.1 - Uses open free protocol for metadata retrieval	<input checked="" type="checkbox"/> I1 - Metadata Knowledge Representation Language (strong)	<input type="checkbox"/> R1.1 - Metadata Inclusion
<input type="checkbox"/> F1 - Data Identifier Persistence	<input type="checkbox"/> A1.2 - Data authentication and authorization	<input type="checkbox"/> I1 - Data Knowledge Representation Language (weak)	
<input checked="" type="checkbox"/> F2 - Structured Metadata	<input checked="" type="checkbox"/> A1.2 - Metadata authentication and authorization	<input type="checkbox"/> I1 - Data Knowledge Representation Language (strong)	
<input checked="" type="checkbox"/> F2 - Grounded Metadata	<input type="checkbox"/> A2 - Metadata Persistence	<input checked="" type="checkbox"/> I2 - Metadata uses FAIR vocabularies (weak)	
<input type="checkbox"/> F3 - Data Identifier Explicitly In Metadata		<input checked="" type="checkbox"/> I2 - Metadata uses FAIR vocabularies (strong)	
<input type="checkbox"/> F3 - Metadata Identifier Explicitly In Metadata		<input checked="" type="checkbox"/> I3 - Metadata contains qualified outward references	
<input type="checkbox"/> F4 - Searchable in major search engine			

Other FAIRness assessment tools

□ FAIR Dat

User license

Does the dataset have a user license?

☐ Yes

☐ No

A user licence is a mechanism that explains the extent to which people and organisations have permission to reuse the dataset and other material which is protected by copyright or database right. For example, CreativeCommons (CC0) license describes that there are no restrictions for access so is completely open. The access rights should therefore be clearly specified or described.

Click [here](#) for additional guidance on how to answer this question.


Any remarks about scoring the dataset at this level:

Prev

Next

Other FAIRness assessment tools

□ FAIRShake



View Associations

Digital Object Assessments (2)

Globally unique identifier	Persistent identifier	Machine-readable metadata	Standardized metadata	Resource identifier in metadata	Resource discovery through web search	Open, Free, Standardized Access protocol	Protocol to access restricted content	Persistence of resource and metadata	Resource uses formal language	FAIR vocabulary	Linked	Digital resource license
yes (1.0)	no (0.0)	yes (1.0)	yes (1.0)	yes (1.0)	yes (1.0)	yes (1.0)	yes (1.0)	no (0.0)	yes (1.0)	yes (1.0)	no (0.0)	yes (1.0)

Other FAIRness assessment tools

□ GARDIAN

Findable ?

In our case, FINDABLE is defined by identifier, metadata and/or documentation, as follows:

- Level 0: No PID, no metadata and/or documentation (FAIR Points = 0)
- Level 1: No PID and insufficient metadata and/or documentation (FAIR Points = 1)
- Level 2: No PID but sufficient Metadata and/or documentation (FAIR Points = 2)
- Level 3: No PID but extensive metadata and/or documentation (FAIR Points = 4)
- Level 4: PID with extensive metadata and/or documentation (FAIR Points = 4.5)
- Level 5: (Meta)data are registered or indexed in a searchable resource (FAIR Points = 5)

How we measure Findability

Accessible ?

In our case, ACCESSIBLE is defined by presence of user license and access to metadata and physical files, as follows:

- Level 0: No user license / unclear conditions of reuse (FAIR Points = 0)
- Level 1: Limited access (FAIR Points = 1)
- Level 2: Open Access (with restrictions) (FAIR Points = 2)
- Level 3: Open Access (unrestricted) (FAIR Points = 3.5)
- Level 4: Access to physical files is provided (FAIR Points = 4.5)
- Level 5: Metadata are accessible (even when the data are not or no longer available) (FAIR Points = 5)

How we measure Accessibility

Interoperable ?

In our case, INTEROPERABLE is defined by the data format (a modified version of [Tim Berners-Lee's 5-star open data plan](#)), contextual information and knowledge representation language, as follows:

- Level 0: Proprietary, non-open format data (FAIR Points = 0)
- Level 1: Proprietary format, accepted by Certified Trusted Data Repository (FAIR Points = 1)
- Level 2: Non-proprietary, open format (FAIR Points = 2.5)
- Level 3: Data is additionally harmonized, using standard vocabularies (FAIR Points = 3.5)
- Level 4: (Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation (FAIR Points = 4.5)
- Level 5: Data is additionally linked to other data to provide context (FAIR Points = 5)

How we measure Interoperability

Reusable ?

We consider reusability as the result of the other three FAIR dimensions, that is, $R=(F+A+I)/3$.

Other FAIRness assessment tools

□ RDA Maturity Model

ID		PRINCIPLE	INDICATOR ID	INDICATORS	PRIORITY	METRIC	VIZ	⚙
1	F	F1	RDA-F1-01M	Metadata is identified by a persistent identifier	Essential	4 – fully implemented	4	1
2		F1	RDA-F1-01D	Data is identified by a persistent identifier	Essential	4 – fully implemented	4	1
3		F1	RDA-F1-02M	Metadata is identified by a globally unique identifier	Essential	0 – not applicable	0	0
4		F1	RDA-F1-02D	Data is identified by a globally unique identifier	Essential	4 – fully implemented	4	1
5		F2	RDA-F2-01M	Rich metadata is provided to allow discovery	Essential	4 – fully implemented	4	1
6		F3	RDA-F3-01M	Metadata includes the identifier for the data	Essential	4 – fully implemented	4	1
7		F4	RDA-F4-01M	Metadata is offered in such a way that it can be harvested and indexed	Essential	4 – fully implemented	4	1
8	A	A1	RDA-A1-01M	Metadata contains information to enable the user to get access to the data	Important	4 – fully implemented	4	1
9		A1	RDA-A1-02M	Metadata can be accessed manually (i.e. with human intervention)	Essential	4 – fully implemented	4	1
10		A1	RDA-A1-02D	Data can be accessed manually (i.e. with human intervention)	Essential	3 – in implementation phase	3	0
11		A1	RDA-A1-03M	Metadata identifier resolves to a metadata record	Essential	4 – fully implemented	4	1
12		A1	RDA-A1-03D	Data identifier resolves to a digital object	Essential	4 – fully implemented	4	1
13		A1	RDA-A1-04M	Metadata is accessed through standardised protocol	Essential	4 – fully implemented	4	1
14		A1	RDA-A1-04D	Data is accessible through standardised protocol	Essential	4 – fully implemented	4	1
15		A1	RDA-A1-05D	Data can be accessed automatically (i.e. by a computer program)	Important	4 – fully implemented	4	1
16		A1.1	RDA-A1.1-01M	Metadata is accessible through a free access protocol	Essential	4 – fully implemented	4	1
17		A1.1	RDA-A1.1-01D	Data is accessible through a free access protocol	Important	4 – fully implemented	4	1
18		A1.2	RDA-A1.2-01D	Data is accessible through an access protocol that supports authentication and authorisation	Useful	4 – fully implemented	4	1
19	I	A2	RDA-A2-01M	Metadata is guaranteed to remain available after data is no longer available	Essential	4 – fully implemented	4	1
20		I1	RDA-I1-01M	Metadata uses knowledge representation expressed in standardised format	Important	4 – fully implemented	4	1
21		I1	RDA-I1-01D	Data uses knowledge representation expressed in standardised format	Important	4 – fully implemented	4	1
22		I1	RDA-I1-02M	Metadata uses machine-understandable knowledge representation	Important	4 – fully implemented	4	1
23		I1	RDA-I1-02D	Data uses machine-understandable knowledge representation	Important	4 – fully implemented	4	1
24		I2	RDA-I2-01M	Metadata uses FAIR-compliant vocabularies	Important	4 – fully implemented	4	1
25		I2	RDA-I2-01D	Data uses FAIR-compliant vocabularies	Useful	4 – fully implemented	4	1
26		I3	RDA-I3-01M	Metadata includes references to other metadata	Important	4 – fully implemented	4	1
27		I3	RDA-I3-01D	Data includes references to other data	Useful	3 – in implementation phase	3	0
28		I3	RDA-I3-02M	Metadata includes references to other data	Useful	4 – fully implemented	4	1
29		I3	RDA-I3-02D	Data includes qualified references to other data	Useful	3 – in implementation phase	3	0
30	R	I3	RDA-I3-03M	Metadata includes qualified references to other metadata	Important	4 – fully implemented	4	1
31		I3	RDA-I3-04M	Metadata include qualified references to other data	Useful	3 – in implementation phase	3	0
32		R1	RDA-R1-01M	Plurality of accurate and relevant attributes are provided to allow reuse	Essential	4 – fully implemented	4	1
33		R1.1	RDA-R1.1-01M	Metadata includes information about the licence under which the data can be reused	Essential	3 – in implementation phase	3	0
34		R1.1	RDA-R1.1-02M	Metadata refers to a standard reuse licence	Important	4 – fully implemented	4	1
35		R1.1	RDA-R1.1-03M	Metadata refers to a machine-understandable reuse licence	Important	3 – in implementation phase	3	0
36		R1.2	RDA-R1.2-01M	Metadata includes provenance information according to community-specific standards	Important	4 – fully implemented	4	1
37		R1.2	RDA-R1.2-02M	Metadata includes provenance information according to a cross-community language	Useful	3 – in implementation phase	3	0
38		R1.3	RDA-R1.3-01M	Metadata complies with a community standard	Essential	4 – fully implemented	4	1
39		R1.3	RDA-R1.3-01D	Data complies with a community standard	Essential	4 – fully implemented	4	1
40		R1.3	RDA-R1.3-02M	Metadata is expressed in compliance with a machine-understandable community standard	Essential	4 – fully implemented	4	1
41		R1.3	RDA-R1.3-02D	Data is expressed in compliance with a machine-understandable community standard	Important	2 – under consideration or in planning phase	2	0



Conclusion



- There are many ways to assess FAIRness
- Some are subjective, some are objective
- Automated: the golden standard; however, under development
- Often, fails tests not because the principle has not been addressed; but because it misses metadata
- When writing a report, make sure to double check whether the maturity indicator is being met by manually inspecting
- At this stage, the key is combining automated and manual approaches



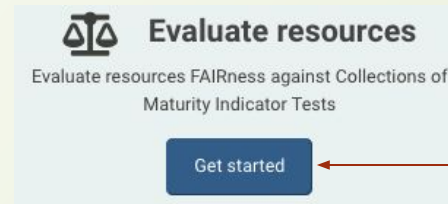
Assignment



- ❑ Select a database on <https://fairsharing.org>
- ❑ Find its DOI (“How to cite record” at the bottom of the page)
- ❑ Perform an automated evaluation on <https://fairsharing.github.io/FAIR-Evaluator-FrontEnd/#!/>
- ❑ Summarize the results of the evaluation (failed/passed tests)
- ❑ Choose one failed test. What would you suggest to pass this test?
(Tip: check the “black screen” viewable after you click each of the tests).

Instructions

- Go to: <https://fairsharing.github.io/FAIR-Evaluator-FrontEnd/#!/>
- Click on:



Instructions

- ❑ **Collection:** “Test of all Mis for CABI CKAN instance” <- Select this one
- ❑ **GUID:** Paste the DOI there
- ❑ **Title:** Give a meaningful title (e.g. Harvard Dataverse; FAIRsharing record)
- ❑ **ORCID:** You must have one.
- ❑ **Run Evaluation** (After you filled all the fields)

Run evaluation

Globally Unique Identifier (GUID) to be Evaluated: *This is the GUID for the metadata (!) of your data record*

Hints: We currently recognize INCHI Keys, DOIs, Handles and URLs. Contact the developer to add new GUID types to this list - for example, we plan to support LSIDs soon, and others.

If you have a DOI for your data deposit, a DOI returns metadata to our system, so please use your DOI unless you have specifically created a better metadata record.

For DOIs, enter the DOI **without the 'doi:' prefix** (e.g. just '10.1002/abd.123')

For InCHI keys, enter the key **with no prefix** (e.g xxxxxxxxxxxxxxxx.xxxxxxxxxx.xxxxx)

Select a collection to evaluate the resource

✕ Test of all Mis for CABI CKAN instance

GUID *

Title of this evaluation *

Your ORCID *

⚠ By submitting, you give us permission to associate your ORCID with this data, and to make this association publicly available. You may [contact the maintainers](#) at any time to have your ORCID deleted from this record

RUN EVALUATION

CLEAR FIELDS



Results?





Thank you!

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