FAIR Metric FM-I3

Mark D. Wilkinson, Susanna-Assunta Sansone,
Erik Schultes, Peter Doorn,
Luiz Olavo Bonino da Silva Santos, Michel Dumontier

November 21, 2017

FIELD	DESCRIPTION
Metric Identifier	FM-I3: https://purl.org/fair-metrics/FM_I3
Metric Name	Use Qualified References
To which principle does it apply?	I3 - (meta)data include qualified references to other (meta)data
What is being measured?	Relationships within (meta)data, and between local and third-party data, have explicit and 'useful' semantic meaning
Why should we measure it?	One of the reasons that HTML is not suitable for machine-readable knowledge representation is that the hyperlinks between one document and another do not explain the nature of the relationship - it is "unqualified". For Interoperability, the relationships within and between data must be more semantically rich than "is (somehow) related to".
	Numerous ontologies include richer relationships that can be used for this purpose, at various levels of domain-specificity. For example, the use of skos for terminologies (e.g. exact matches), or the use of SIO for genomics (e.g. "has phenotype" for the relationship between a variant and its phenotypic consequences).
	Similarly, dbxrefs must be predicated with a meaningful relationship what is the nature of the cross-reference?
	Finally, data silos thwart interoperability. Thus, we should reasonably expect that some of the references/relations point outwards to other resources, owned by third-parties; this is one of the requirements for 5 star linked data.
What must be provided?	Linksets (in the formal sense) representing part or all of your resource
How do we measure it?	The linksets must have qualified references At least one of the links must be in a different Web domain (or the equivalent of a different namespace for non-URI identifiers)

What is a valid result?	- References are qualified - Qualities are beyond "Xref" or "is related to" - One of the cross-references points outwards to a distinct namespace
For which digital resource(s) is this relevant?	All
Examples of their application across types of digital resource	None
Comments	