F1: (meta)data are assigned a globally unique	/   	Identifier Service		Metadata schema: A specification (schema) that specifies
and persistent identifier	achieved	Minter: A service that provides algorithms guaranteeing global	requires	metadata fields describing attributes of data or other digital objects.
<b>F2</b> : data are described with rich metadata (defined by R1 below)	with	uniqueness of the identifier  Dindon: A convice that that guarantees persistent binding of the		objects.
F3: metadata clearly and explicitly include the identifier of the data it describes		Binder: A service that that guarantees persistent binding of the identifier to machine-actionable metadata describing the object and its location  Resolver: A service that guarantees resolution of the identifier to machine-actionable metadata describing the object and its location		Metadata-data linking schema: A specification (schema) that provides a unique, persistent, (ideally) bi-directional, machineactionable link between metadata and the data they describe.
F4: (meta)data are registered or indexed in a searchable resource				
A1: (meta)data are retrievable by their identifier using a standardized		Dogioto		Communication protocol: A specification how messages are structured and exchanged.
communications protocol		Registry		
A1.1: the protocol is open, free, and universally implementable		Index: A service that indexes metadata and data		Metadata preservation policy: A document that describes the conditions under which metadata are to be provisioned in the
A1.2: the protocol allows for an authentication and authorization procedure, where necessary		Search Engine: A service that provides search over the index		future (maybe part of a data management plan).
A2: metadata are accessible, even when the data are no longer available				Knowledge representation language: A language
	/   	Repository		specification whereby knowledge can be made processible by machines.
I1: (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation		Authentication and authorization service: A service that mediates access to digital objects according to specifed conditions.		Structured vocabulary: A controlled list of uniquely identified and unambigous concepts with their definitions represented
I2: (meta)data use vocabularies that follow FAIR principles		Object store: A service that stores and serves digital objects.		preferably using web standards.
I3: (meta)data include qualified references to other (meta)data				Semantic model: A specification that defines qualified relations between entities describing data or other digital objects using structured vocabularies.
		<b>Transactor</b> : A service that performs validation and persists valid transactions to (meta)data storage.		
R1: meta(data) are richly described with a plurality of accurate and relevant attributes		Harmonizer: A service that mediates among multiple schema/ viewpoints and orchestrates extract-transform-load (ETL) processes to import (meta)data		
R1.1: (meta)data are released with a clear and accessible data usage license				Data usage license: A document that describes the conditions under which a digital object can be legally used.
R1.2: (meta)data are associated with detailed provenance		<b>Tracker</b> : A service that tracks modifications to (meta)data in alignment with a provenance model and supports revision/version control.		Provenance model: A specification (schema) that specifies metadata fields describing the origin and lineage of data or

R1.3: (meta)data meet domain-relevant

community standards

other digital objects.

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