DCAP Framework

- **Community Domain Model**: A domain model which can be used in a community, such as the Functional Requirements for Bibliographic Records (FRBR) model for the library community.
- **Metadata Vocabularies**: One or more standard vocabularies that are used in the AP.
- **DCMI Abstract Model**: Specifies the components and constructs used in Dublin Core metadata, and defines the nature of those components and how they are combined to create information structures.
- **Usage Guidelines**: Provides instructions to create values for metadata terms.
- **DCMI Syntax Guidelines**: Provide instructions on implementation syntax for developers to turn APs into software applications. DCMI provides various encoding guidelines for processing metadata RDF/S.

**Usage Guidelines**

- Use Case Modeling Example

**Apiary Domain Model**

The Apiary Domain Model defines four objects within the workflow that require metadata and shows the relationships/derivations of the separate objects. For example, technical and administrative metadata may be needed to manage the objects in the workflow. The Specimen Object will have DwC metadata that is a result of the entire Apiary workflow. The Specimen Image Object is a scan of the herbarium specimen sheet and the source from which the Region of Interest (ROI) Objects are derived; ROIs may include the primary label, first annotation, and other textual or graphical information on the herbarium sheet. The Digital Text Object results from OCR on the ROI or manual transcription of data from an ROI. Relationships between these objects can be one to one to one (1…1) or one to many (1…n) as indicated.

**Apiary Metadata Vocabulary Terms**

The Domain Model Objects have associated metadata properties (terms) from multiple namespaces. DwC serves as the primary source of terms (addressing the requirement for interoperability/sharability). Objects may also have associated technical, preservation, and administrative metadata to serve the needs of the Apiary system at every phase. Where essential to the Apiary application and specimen data, locally-defined elements in an Apiary namespace are being developed.

**The Utility of Application Profiles Rendered in DCAP**

"An application profile describes the set of guidelines, description rules, and constraints used in creating a specific set of metadata records... application profiles are about providing high-level syntactic or structural interoperability in addition to the semantic interoperability." By developing an Apiary AP, and especially the DSP, it can support one or more of the following purposes:

- as a formal representation of the constraints of a Dublin Core Application Profile
- as configuration for databases
- as configuration for metadata editing tools.

DCMI has also issued a document, Interoperability Levels for Dublin Core Metadata (http://dublincore.org/documents/interoperability-levels/), that assists developers in indicating conformance to specifications resulting in likely interoperability. The Apiary AP efforts target Level 4 Description Set Profile Interoperability. This should enable the production of shareable and interoperable metadata records, as well as a basis for the validation of such records. Implementations of DCAPs in the biodiversity community should offer new and interesting opportunities for data integration.

**References**

- DAVIS Abstract Model (http://dublincore.org/documents/scientific-names/)
- Singapore Framework for Dublin Core Application Profile (http://dublincore.org/documents/singapore-framework/)
- Interoperability Levels for Dublin Core Metadata (http://dublincore.org/documents/interoperability-levels/)
- Description Set Profile: A constraint language for Dublin Core Application Profiles (http://dublincore.org/documents/dsp/)
- Guidelines for Dublin Core Application Profiles (http://dublincore.org/documents/guidelines/)

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