

Provenance Capsule Specification

Purpose

This Capsule provides a template for applications, such as an Electronic Record Management System, that need to track the origin, history and quality of a document or electronic record.

Background

There are many domains where the origins, quality, trustworthiness and history of all or a part of a physical document or electronic record must be tracked, including science, engineering, law, financial and contractual records and the Intelligence Community. Provenance is a term used to describe this aspect of a system.

The object classes used in this document are defined in the MoReq Specification¹, which originated within the European Economic Community. However, the capsule is designed to be modifiable for a wide variety of domains and enhances the standard MoReq relationships.

A File may be a hybrid of electronic and physical volumes. Actual files may be referenced with a pathname and filename or URI, or they may be imported into the database.

Functionality

The Provenance capsule supports the object model depicted in Appendix A. Note that it incorporates the Team Modeler capsule in order to model Persons, Organizations, Roles, Administrators and constraints. The Author class also uses the Team Modeler capsule. The Chronology class will use the Time-Series capsule.

The provenance capsule provides tools or methods for:

- Installing a federated database with a preloaded schema and at least one template database.
- Creating, updating and deleting (optionally) named, hashable and/or indexed instances of each of the object classes and the ability to link instances to other instances.
- Adjusting the placement model (segmentation into databases, containers and object clusters).
- Finding instances by name or key and querying or iterating over all instances of a class. The latter methods are automatically generated during schema definition.
- Traversing relationships between objects, including multi-hop traversals to implode or explode tree or network structures.
- Importing and exporting actual document files and querying the imported text.

¹ Model Requirements for the Management of Electronic Records - <http://bit.ly/c6TM1z>

Platforms and Languages

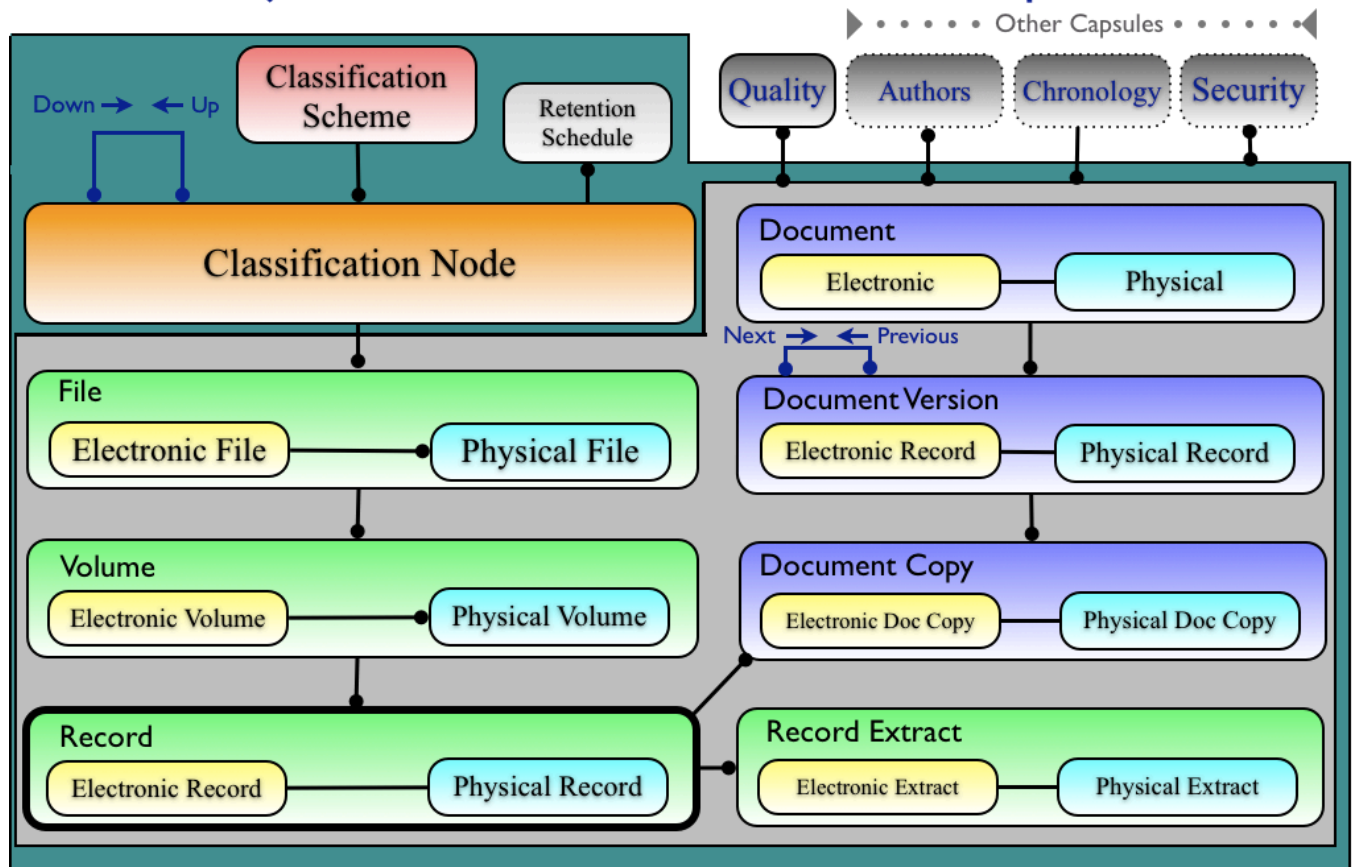
- C++, Java and C# (later) on Windows and Linux.

Suggested Pricing

- 60-day trial, then a one-time license fee of \$200 per developer.
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Note: Appendix A follows...

Appendix A – Object Model for the Provenance Capsule



Electronic* and Physical* are classes because they have widely different attributes