

Achieving interoperability in digital libraries through open standards and FLOSS

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Interoperability of digital libraries is a problem of great complexity but also of immense – and increasing – significance. Huge investments in digitizing legacy cultural heritage material and organising new digital born content can be exploited in more efficient ways through interoperable, open systems.

This presentation concerns pragmatic approaches on achieving interoperability in digital libraries and repositories based on relevant experiences of the authors in real-life, large scale, successful use cases such as: (a) the establishment – within the EuropeanaLocal project – of a national aggregator, harvesting digital content (more than 170000 records) from various repositories across the country to incorporate it into Europeana, the single portal / gateway to distributed European cultural heritage resources developed as an initiative of the European Commission, (b) the development and operation of openarchives.gr, a single, unified search engine over Greek digital libraries and repositories that currently indexes metadata from 39 systems (more than 340000 records) and (c) the inclusion of content (roughly 40000 items) from disparate data sources to Pandektis, a thematic repository of cultural heritage and humanities material and Helios – the institutional repository of the National Hellenic Research Foundation.

Experiences from the aforementioned case studies will be presented. Among others, these concern the successful utilisation of FLOSS platforms as well as the creation of new FLOSS software, such as the DSpace plugin for Europeana Semantic Elements (<http://vbanos.gr/?p=189>), whose development and enhancement has experienced the benefits of collaborative contributions within the Greek digital library community, something that would have been almost impossible if it had not been for FLOSS.

Furthermore, the support of open standards and protocols will be elaborated as a crucial aspect of accomplishing interoperability. Relevant standards concern knowledge and metadata representation in different environments (e.g., Dublin Core, Europeana Semantic Elements, MODS, MARC, RDF, OWL) as well as protocols and approaches for content search and retrieval (e.g., OAI-PMH, SRU/W, Z39.50, OpenSearch, OAI-ORE, Linked Data). Besides allowing applications like content aggregation and unified search, supporting open standards and protocols enables the availability of material in digital libraries as re-usable open data that can be freely utilised by developer communities for the creation of advanced, cross-system value-added services, mash-ups and for exploitation in many other types of applications. Approaches and methods for developers to re-use freely available digital libraries content will be also described.