

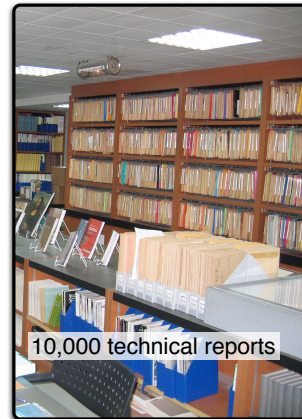
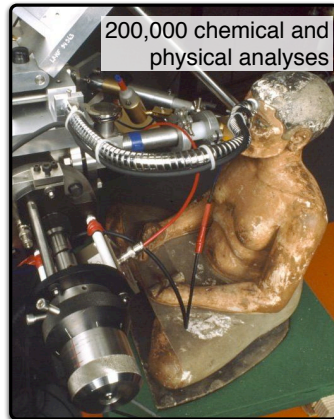
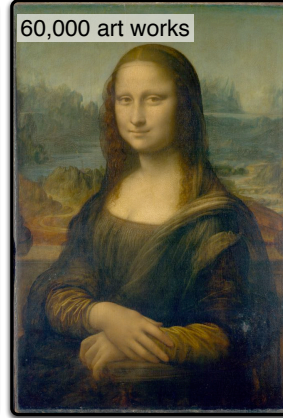
Semantically Exposing Existing Knowledge Repositories: a Case Study in Cultural Heritage

The Centre de Recherche et de Restauration des Musées de France (C2RMF) was created in 1931 with a mission to study, catalogue and help preserve works of art kept within all of the museums of France.

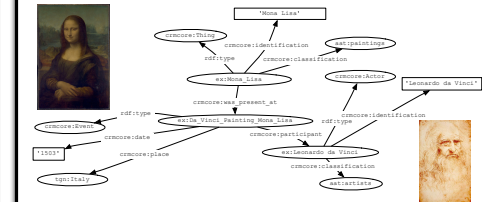


C2RMF has developed EROS (European Research Open System), a database for managing the huge scientific archive of photographs and reports describing the museum objects catalogued by the C2RMF.

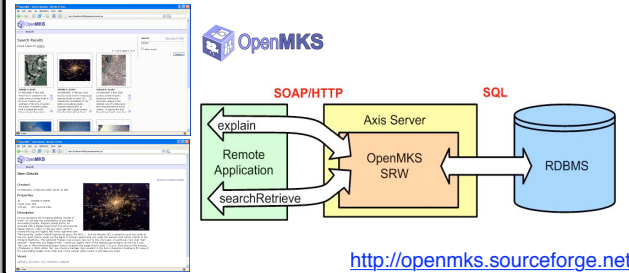
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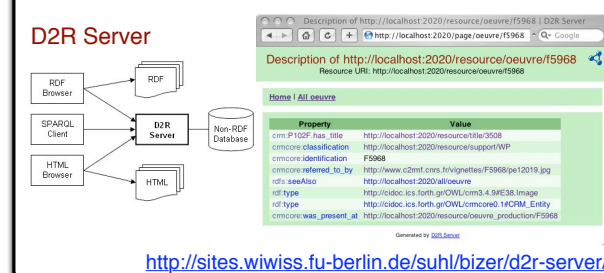
In collaboration with researchers from the University of Southampton, we have been working on exposing this information using semantic web technologies. We have taken two approaches: OpenMKS Search Retrieve Web Service and D2R-Server.



OpenMKS, from the University of Southampton, is a search and navigation tool for large multimedia collections supporting the z39.50 ZING Community Search and Retrieval Web Service specification (SRW). The SRW exposes the EROS database as XML through mappings to an ontology.

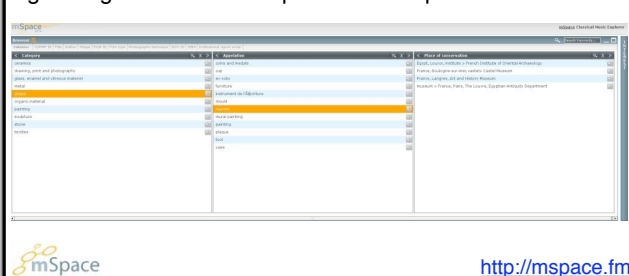


D2R Server, from the Freie Universität Berlin, is a tool for publishing relational databases on the Semantic Web. The server enables RDF and HTML browsers to navigate the content of non-RDF databases, and allows applications to query the database using the SPARQL query language.



With the EROS database semantically exposed through OpenMKS or D2R-Server, the information can be presented using semantic web visualisation frameworks, such as mSpace.

mSpace is an interaction model and software framework to help people access and explore information. mSpace helps people build knowledge from exploring relationships in data. mSpace does this by offering several powerful tools for organising an information space to suit a persons interest.



Approaches such as OpenMKS SRW and D2R-Server allow us to semantically expose the EROS data whilst still supporting the existing infrastructure.

The integration of EROS with semantic web interface frameworks such as mSpace provides rich browsing and navigation facilities, showcasing the benefits of semantically marked up information.

Advanced data integration scenarios, involving EROS and the bibliographic records in the C2RMF library, are being investigated using these techniques.

However, performance and scalability are an issue due to the size of the EROS data set, and we are studying possible optimisations to the EROS database schema. Some of the data modelling approaches in EROS require data processing that are not supported by OpenMKS SRW or D2R-Server.