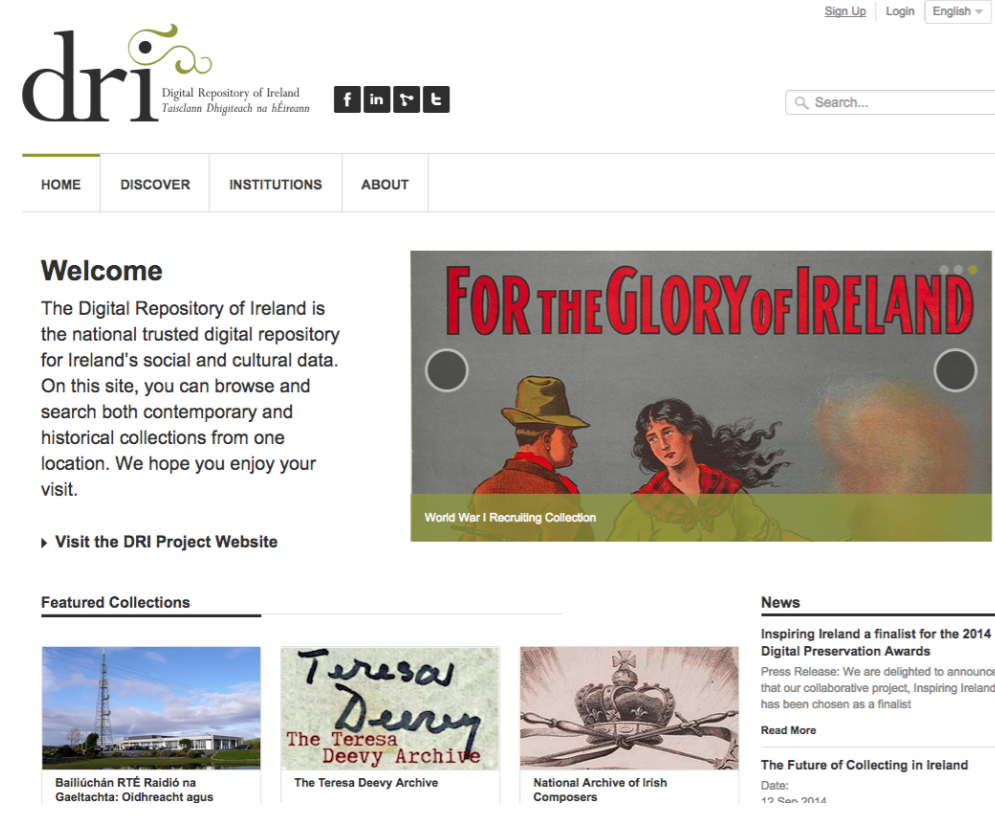


Hydra at Trinity College Dublin



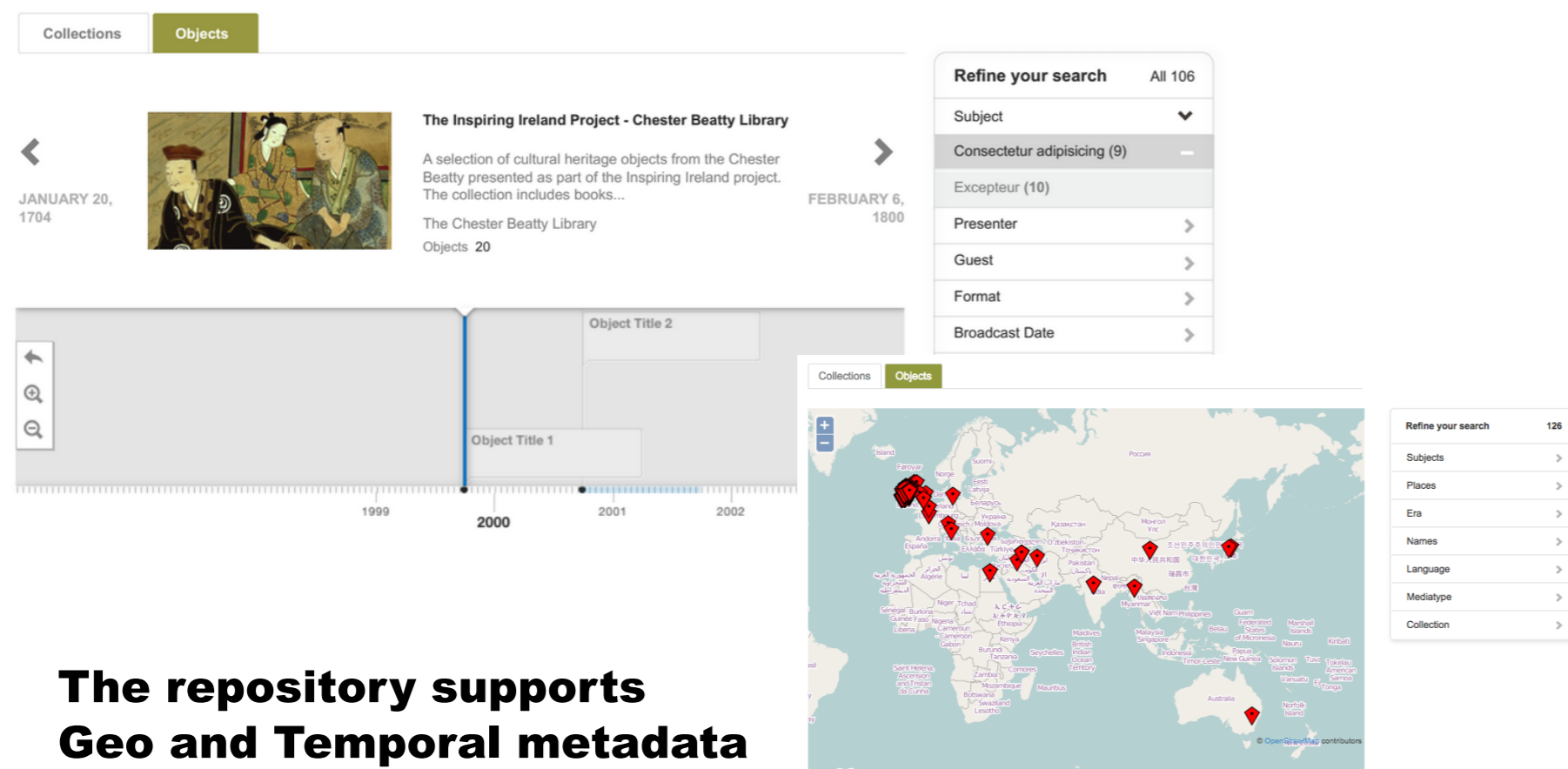
The Digital Repository of Ireland is a national trusted digital repository for Ireland's social and cultural data. The repository will link together and preserve both historical and contemporary data held by Irish institutions, providing a central internet access point and interactive multimedia tools. As a national e-infrastructure for the future of education and research in the humanities and social sciences, DRI will be available for use by the public, students and scholars.

Trinity College Dublin is the partner responsible for the overall architecture and deployment of the repository application within the DRI project.

DRI aims to be a Trusted Digital Repository following the Data Seal of Approval and TRAC Guidelines. As a result the project is committed to providing both Preservation features and access tools. The repository will support format migrations, preservation packages using the BagIt format, and preservation metadata and auditing.

It also provides a range of tools for accessing and analysing the metadata and data to encourage access and re-use by researchers and members of the public. Objects will be assigned a persistent DOI identifier to aid finding, citation and access, and several different visualisation tools will be provided.

Geo and Temporal Metadata & Visualisations

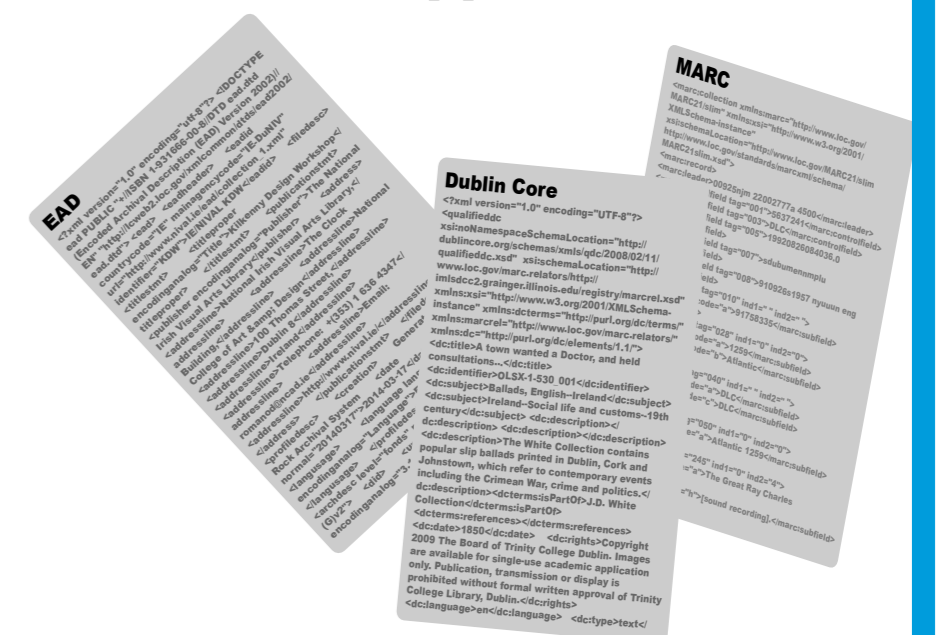


The repository supports Geo and Temporal metadata and allows for visualisations of these via timeline and mapping views

Support for Multiple Metadata Standards

The DRI repository supports multiple metadata Standards, Dublin Core was the first to be implemented because of its simplicity. EAD and MARC development is currently underway, while METS and MODS support is planned for the future.

Each of these metadata standards is supported by a common object model enabling objects with different underlying metadata to be manipulated in similar ways within the repository.



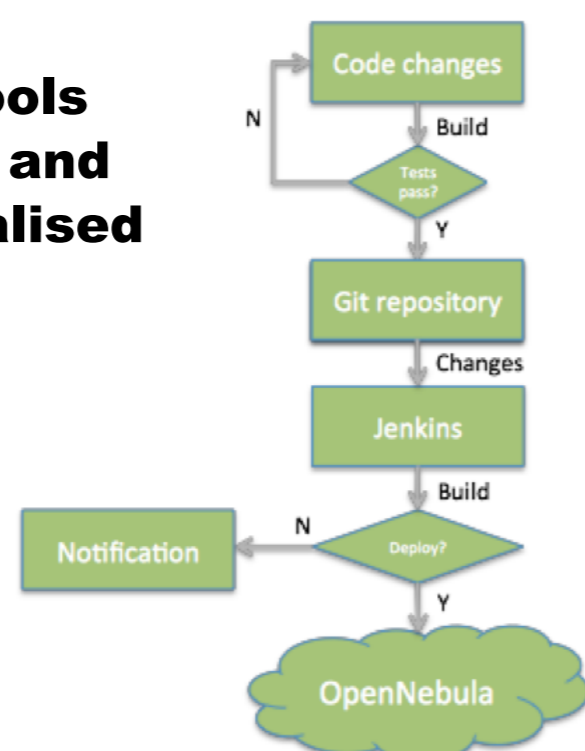
This enables searching across very disparate collections and adds value by allowing objects to be combined in new and interesting ways.

Development & Deployment

The project uses an Agile Development Methodology with daily stand-up calls to coordinate the distributed team.

Automated test and deployment tools are used to deploy the application and associated components to a virtualised production environment hosted on OpenNebula.

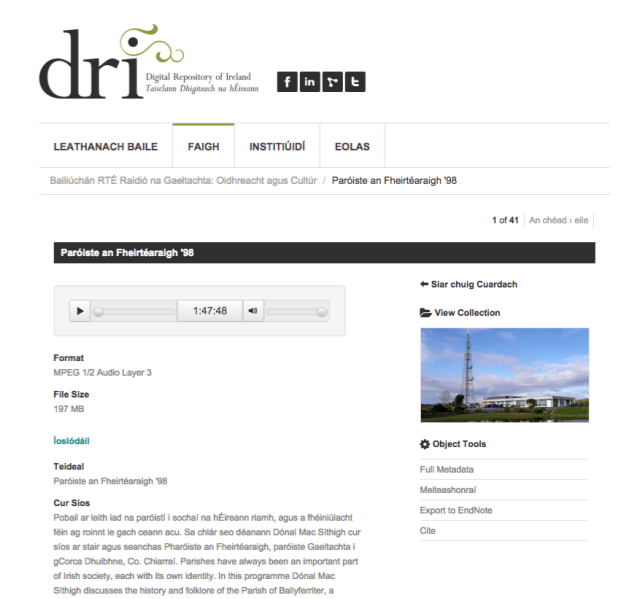
The storage component is based on a federated Ceph cluster with both POSIX and AWS interfaces. Asset data files and their web-renderable surrogate versions are stored on this distributed cluster.



Bilingual Data and Metadata

The repository has support for both the Irish and English languages. This includes localisation of the interface, support for multi-lingual data files, and also bilingual metadata support.

The language of metadata terms can be distinguished at ingest time if the xml:lang attribute is set. These terms are then indexed separately into Solr and separate facets are available to search the metadata in Irish or English.



Choosing Hydra has allowed the DRI to quickly develop much of this functionality. Its sophisticated data modelling framework based on Opinionated Metadata has simplified adding support for multiple metadata formats. The Blacklight search interface is easily customised to provide additional views and visualisations of metadata and data. Multilingual support is easily added to the application using a combination of standard Ruby on Rails localisation tools, and modifications to the Object Model.

