View from Around the Globe and Across Sectors

Donatella Castelli
CNR-ISTI
Pisa, Italy
“The potential exists for digital libraries to become the universal knowledge repositories and communication conduits for the future, a common vehicle by which everyone will access, discuss, evaluate, and enhance information of all forms”
Global: lesson learned

• **Sharing of resources**
  – metatada and information objects + ontologies, thesauri, services, computing and storage capabilities

• **Interoperability**
  – metadata + content, functionality, user, quality, policy and architecture

• **Quality issues**
  – scalability, availability, performance …
Research: lesson learned

- a fixed text
- a pollution map
- a table summarizing data from millions of observed satellite measures
- a graph reporting an analytical trend of certain information extracted from a great amount of observed data
Research: lesson learned (cont.)

- Functionality re-thinking
  - creation, access, visualization, search, preservation, etc.

- Sustainability
  - Operational cost
- Virtual Research Communities

- GRL as a basic enabling framework for Virtual Research Environments
CNR – some of our project

- DRIVER (2006-2007) and DRIVER II (2008-2009)  
  http://www.driver-repository.eu/


- D4Science (2008-2009)

• To develop a test-bed for integrating existing national, regional and thematic repositories in order to create a European Repository Infrastructure. This infrastructure will make accessible worldwide, through an initial set of advanced services, these repositories virtually organised and structured according to the needs of different user communities.

• To identify and promote the use of a relevant set of standards

• To prepare the future expansion and upgrade of a Digital Repository Infrastructure across Europe and to ensure widest possible user involvement
**DRIVER II**

- **Organization**
  - Building a Confederation of European Digital Repositories
- **Data**
  - Extending the virtual Information Space over multiple and heterogeneous repositories
- **Software**
  - Consolodating and enhancing the Infrastructure to operate a production quality system with advanced user functionalities
  - Built a repository sw capable to manage compound objects linked to data
DILIGENT Objective

Create a Digital Library Test-bed Infrastructure that allows members of dynamic virtual research communities to create on-demand transient virtual digital libraries based on shared computing and storage capabilities, multimedia, multi-type content and application resources.
Consumers

Providers

DILIGENT DL infrastructure

Infrastructure enabling services

DLMS services

3D processing

Simulation

Feature extraction

Speech recognition
DILIGENT Infrastructure
DILIGENT – research communities

- Earth Observation: Production of periodic reports

- Humanities: Teaching and e-Learning
D4Science objective

The project will deploy, progressively consolidate and expand the e-Infrastructures built so far by the EGEE and DILIGENT projects so that they address the needs of two major target disciplines: **Environmental Monitoring** and **Fishery Resources Management**

As a result, thousands of scientists will obtain increasingly more facilities for creating **Virtual Research Environments** based on shared computation, storage, and generic service resources offered by EGEE and DILIGENT at a European level, as well as on data and domain-specific service resources offered by large international organizations, such as the **European Space Agency**, the **Food and Agriculture Organization of the United Nations**, and the **Consultative Group on International Agriculture Research**.
DELOS – Reference Model for DLs

Formal and conceptual framework describing the characteristics of digital library systems by exploiting the understanding of them concretely acquired by a number of research groups active in the digital library field

http://www.delos.info/ReferenceModel