EUNIS 2013- RIGA

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Meital-
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ISRAEL

http://meital.iucc.ac.il

OER-TERENA
About TERENA

› TERENA offers a forum to collaborate, innovate and share knowledge in order to foster the development of Internet technology, infrastructure and services to be used by the research and education community.

› TERENA is first and foremost a collaborative organisation.

› Its core business is to bring together managers, technical specialists and other people in the research networking community with their counterparts from other countries in Europe, mobilising the expertise and experience of hundreds of professionals in the research and education networking area.
TERENA TF-Media Task Force

2010-2011: Media Management and Distribution
2012-2013: Applied Media in Teaching and Learning

Learning environment
pedagogic support, classes, courses, student groups

Production
Lecture recording
Video conference
Capturing TV content
Pre-produced content

Media Management Platform
Editing, conversion
Metadata markup
Storage and archive
Licensing
Support for search
Standards, data formats
Support, work flow

Distribution
Podcast
Streaming
Mobile
Embedding
iTunes
YouTube

Organisational fundation
ownership and usage, access from everywhere

http://www.terena.org/activities/media
TERENA Community

Trans-European Research and Education Networking Association

Abbreviation: TERENA
Motto: networking the networkers
Formation: 13 June 1986 as Réseaux Associés pour la Recherche Européenne (RARE)
Legal status: Association
Purpose/focus: To promote and participate in the development of a high-quality international information and telecommunications infrastructure for the benefit of research and education
Headquarters: Amsterdam, Netherlands
Region served: Europe
President: Pierre Biyière
Main organ: TERENA General Assembly
Website: www.terena.org
TERENA Activities

- TERENA Compendium
  - Printed
  - On-line: http://www.terena.org/activities/compendium/
- TERENA Networking Conference
  - Seminars
  - Technical workshops
  - Trainings
- Task Forces
  - Meetings
  - Small projects
  - EC funded projects
- Services
  - Pilots
    - OER-Terena

Slide 5
About Meital

- Inter-University Center for e-Learning (IUCEL)
- Part of the Israeli IUCC – The Inter-University Computation Center
- Assists Israeli institutions of higher education (universities and academic colleges) in advancing the use of e-learning technologies
  - Organizes an annual national e-learning conference
  - Research fund
  - Newsletter & social media
  - National & International connection and cooperation
Meital’s workgroups

- Learning environments
- New technologies
- Methodologies and staff development
- Specific content areas
- Intellectual property rights
- Common standards
Partnerships

- MERLOT
- GLOBE
- Creative Commons Israel
- Open Courseware Consortium
- EDEN
- Sloan-C
“Open Educational Resources are digitized materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research” (Hylén, 2005).
OER development cycle

In order to learn/teach something

FIND

COMPOSE

MODIFY

BUILD

SHARE

EVALUATE

USE

OER

Slide 10
Foster awareness and use of OER
Facilitate enabling environments for use of ICT
Reinforce the development of strategies and policies on OER
Promote the understanding and use of open licensing frameworks
Support capacity building for the sustainable development of quality learning materials
Foster strategic alliances for OER
Encourage the development and adaptation of OER in a variety of languages and cultural contexts
Encourage research on OER
Facilitate finding, retrieving and sharing of OER
Encourage the open licensing of educational materials produced with public funds

Material distribution and sharing levels

1. International Repository Consortium
   - GLOBE
2. International Metadata Repository
   - MERLOT, MAOR, OCWC
3. Institutional Collection
   - MIT OCW
4. Object+ Metadata
   - MIT OCW
TERENA OER Pilot
Pan-European Metadata Repository

Institutional referatory
- Links to content from people in an institution or organization
- Content hosted anywhere online

Global referatory
- Aggregates content listings from global referatories and repositories
- Links and provides traffic to global referatories and repositories
  Content hosted anywhere online

Institutional remixing platforms
- Allows remixing and editing of content on site
- Content typically created locally but enables global edits and unique version creation

Institutional repository
- Allows upload and hosts resources from local content providers
- Traditionally ‘closed’ but opening gradually

Global repository
- Allows upload and hosts resources from global content providers
The TERENA Open Educational Resource pilot

- OER-Terena project aims to create a European-wide federated repository.

- OER-Terena initiative for higher education institutions and NERNs around the world in general, and in Europe in particular.
Objectives

- Enable lecturers, teachers and students easier access and search of relevant LO
- Encouraging the remixing, use and reuse of digital learning objects
- Promoting peer review as well as colleague and user comments
- Public, widespread use
- Promoting lifelong learning, Anytime Anywhere, and Openness
Step #1 - Mapping national repositories (survey)

› Defining metadata aggregation element set
› Defining the type of services that can be provided by the TERENA OER portal
› Defining the common learning objects

Kostas Vogias1, Ilias Hatzakis1, Nikos Manouselis2, Peter Szegedi3
1 Greek Research and Technology Network
2 Agro-Know Technologies
3 TERENA TF-media
### Element usage

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Average Element Usage

Define the mandatory elements for the schema of metadata aggregator
What type of digital objects

Of interest for TERENA OER

We need a filtering mechanism to keep only the LO that are suitable for TERENA
The pilot project milestones

- A European level metadata aggregation portal for Open Educational Resources, specially focused on audiovisual learning objects

- TF-Media defines the minimum requirements for a common metadata schema (e.g., 8 LOM fields) and the way how metadata can be harvested (e.g., OAI-PMH protocol)

- Start collecting metadata from the national repositories and make them available via the TERENA portal.
  - Bridge the gap between the national repositories
TERENA OER: Architecture DRAFT

- TERENA-OER aggregator (Ariadne based) (metadata)
  - TERENA-OER Portal (PuMuKIT based)
  - OAI-PMH + REST API

  - National Aggregator 1 (metadata)
  - National Aggregator 3 (metadata)
  - Institutional Repository 3 (metadata)
  - Institutional Repository 1 (metadata)
  - Institutional Repository 2 (metadata)

  - "metadata"
  - "essence (video)"

Essence = videos (or audios)
Implementation option
1,000,000 Learning resources
1,000,000 Learning Resources

- ARIADNE (513,703)
- European Schoolnet (185,940)
- LACLO (40,957)
- MERLOT (32,735)
- OERcommons (30,903)
- KERIS (7,439)
- LORNET (2,295)
- MEITAL (5,000)
- OU Japan (1,761)
- OERAfrica (1,703)
The Integration Plan

Reaching a common definition of the metadata fields for the Terena-OER for all NRENs, Universities and content-provider involved, based on the LOM, the Dublin core, or similar standards. This will help us to create a common language for the metadata. This effort can be led by both ARIADNE and MAOR.

To promote the development of the European educational portal for learning objects repository, Terena-OER portal. This portal will be one step above the national repository (NREN’s or University), and will be able to pull the Metadata to the central Terena-OER by harvesting, web services, OAI repository or batch upload. This will enable us to create the repository that suits the academic user with relevant learning object. The MAOR system can help to promote that stage, with a little modification and development, that can serve as an independent Terena-OER portal.

After we will have the Terena-OER Portal, with a significant number of our learning objects (recording courses, simulation, animation etc.), we will connect to the GLOBE/ARIADNE/OCW-C or to any global metadata repository. We can connect to those repositories by harvesting, federated search or SQI. It is also worth noting that today, repository such as GLOBE functions as federate of federations. I think that Terena-OER can, and should be a federation.
Step #1: Defining Metadata Standard

- **ISRACore** - Israeli standard for learning object metadata
- Common language for the entire Israeli e-learning community (academia, schools, government, industry)
- Compatibility and interoperability in sharing, retrieving, reusing, remixing, and reviewing learning objects
- Defines 16 required core elements and 13 optional elements
- The ISRACore parameters assist the user in locating, assessing and sharing learning objects
- Core elements include ID number, language, educational purpose, author, technical format, etc
Metadata

- IEEE standard for Learning Object Metadata (LOM)
- More than 70 metadata elements
- Not all of them are used
Maor is consisted from three different elements

› Local databases containing LOM in various forms: full course to a blog post
› Central database containing metadata about the different LO
› Free submission and peer review
Key to success

- Trust of our members and
- Unconditioned dedicated effort from community members
- These core values have remained at the heart of TERENA's activities since the beginning and still work well.

"With TERENA’s demonstrated core values of openness, collaboration and responsiveness, considerable trust in the association has developed within the community. This trust is the foundation upon which TERENA must build, guided by a clear strategic vision."
Literature review

Ochoa, Xavier, Klerkx, Joris, Vandeputte, Bram, and Duval, Erik. *On the Use of Learning Object Metadata: The GLOBE Experience*. Made the first fully quantitative study in a large number of Learning Repositories that belongs to a large organization like Globe.

Neven, Filip and Duval, Erik. *Reusable Learning Objects: a Survey of LOM-Based Repositories*.

Zschocke, Thomas and Beniest, Jan and Paisley, Courtney and Najjar, Jehad and Duval, Erik. *The LOM application profile for agricultural learning resources of the CGIAR* studied the use of LOM for the indexing of learning resources.

**Expected benefits for the end-users:**

- More effective and motivating learning scenarios (learners & trainees).
- Better productivity and new philosophy of collaboration (authors of pedagogical material).
- Better communication and co-working schemes (researchers).
- Possible factor for harmonizing education & training policies throughout Europe.
- Spare public money by re-using open learning resources.
Create a one-stop-shop (broker) for national learning resource organizations, each of them managing and/or federating one or more learning object repositories within the country.

**The expected benefits for the users are as follows:**
- More effective and motivating learning scenarios (learners & trainees).
- Better productivity and new philosophy of collaboration (authors of pedagogical material).
- Better communication and co-working schemes (researchers).
- Possible factor for harmonizing education & training policies throughout Europe.
- Spare public money by re-using open learning resources.
The pilot project milestones

- TERENA creates a European level, open source, metadata aggregation broker/portal that leaves the content (i.e. the objects) in its source domain and harvest the metadata from the national level up to the pan-European level. The portal might be hosted and operated by one or more TERENA member organizations.

- TF-Media defines the minimum requirements for a common metadata schema (e.g., 8 LOM fields) and the way how metadata can be harvested (e.g., OAI-PMH protocol).

- Start collecting metadata from the national repositories and make them available via the TERENA portal.

- TERENA OER applies for the GLOBE membership.

- Potential service enhancements (e.g., Creative Common licensing), and value added components (e.g., integrated player, better user interface, representation of search targets).
TERENA OER Pilot
Pan-European Metadata Repository