Canadian Metadata Forum Ottawa - September 19-20, 2003

Implementing e-Learning Standards in Explor@ and eduSource

by Dr Gilbert Paquette

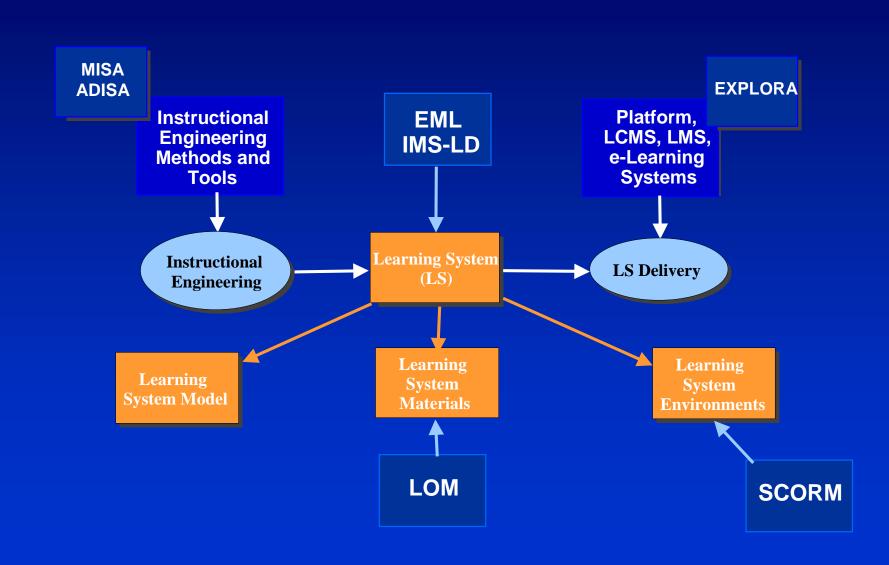
Centre de recherche CIRTA (LICEF) and Cogigraph Technologies Télé-université, Montréal

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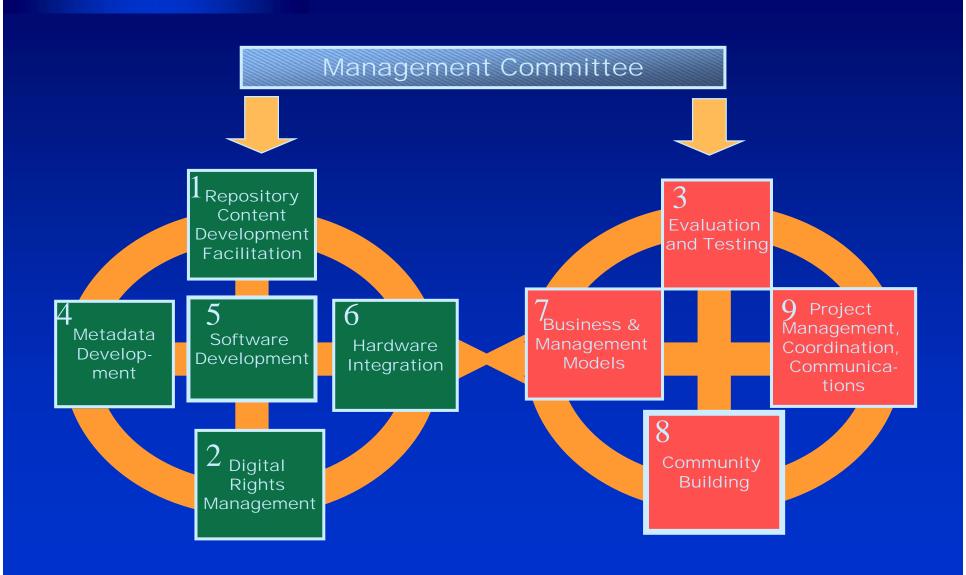
Road Map

- Organizations
 - 1972 TELUQ—Québec's Distance University
 - 1984 Canal Savoir Broadcasting Consortium
 - 1992 LICEF TELUQ's Research Centre
 - 1999 Cogigraph Transfer Company of LICEF
 - 2000 CIRTA LICEF Based Research Network
- R&D Projects
 - 1992-1995 AGD and Telecom multimédia
 - 1995-1998 HyperGuide. TL-NCE, Advisor Systems
 - 1999-2001 Explor@-1 and ADISA
 - 2001-2003 SavoirNet and Explor@-2
 - 2002-2004 eduSource Canada
 - 2003-2008 LORNET NSERC Research Network
- Main Focus on Instructional Engineering
- Tech Transfert to Universities and Organizations

Positioning our Work



eduSource Deliverables



Exciting Megatrends

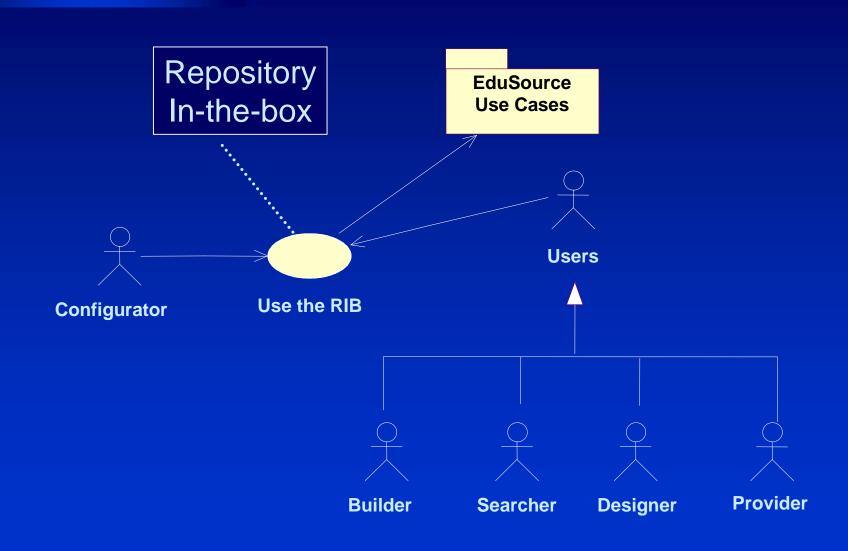
- 1. Third Wave, Semantic, Progammable Web
- 2. Knowledge Management
- 3. Object-based Learning Environments
- 4. Interoperability Standards

New Potential To Renew Pedagogy?
What are the conditions?

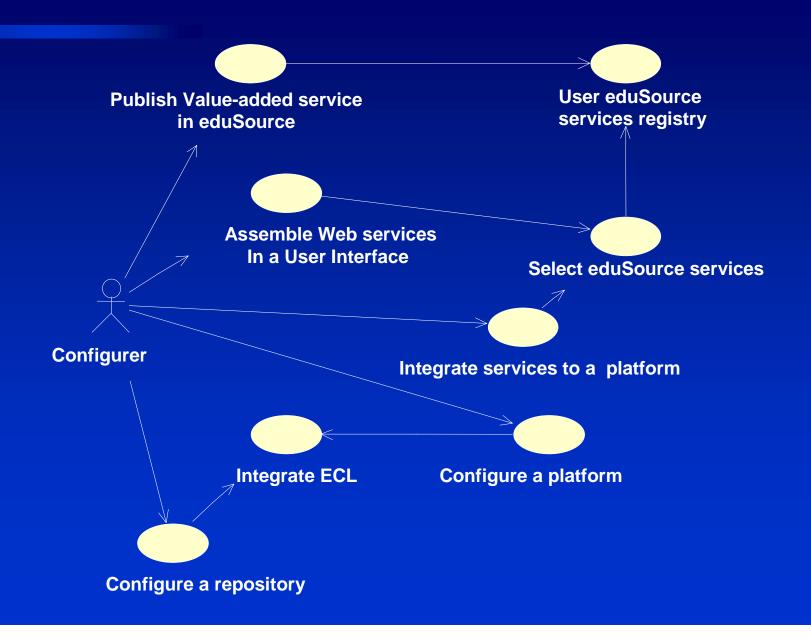
Internet's Third Wave

- First wave: STATIC TEXT and DATA EXCHANGE
 - Primarily static HTML pages: text and data services
 - E-mail, FTP, forum (asychronous communication)
- Second wave: DYNAMIC MULTIMEDIA
 - Dynamic pages, ASP, JSP
 - Facilitated transfer of images, sound and video
 - Desktop audio/video conference
- Third wave: SEMANTIC and PROGRAMMABLE
 - Integration of applications, API enabled by web services
 - Ex: Google Alerts, Amazon's API
 - Distributed computing, P2P, and mobile networking
 - Semantic web and knowledge-based technologies
 - Open source, sharing of objects and applications
 - New generation of Distributed Learning Environments

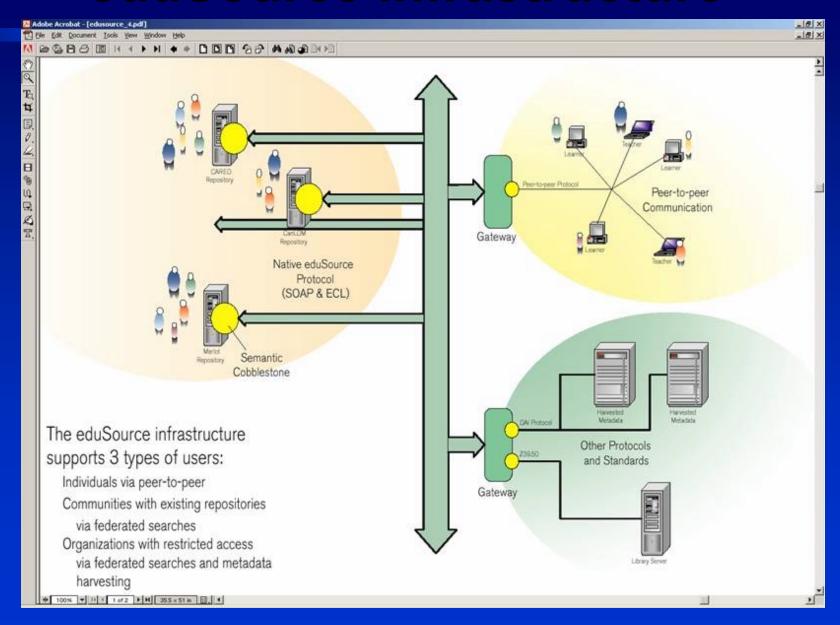
Use Cases



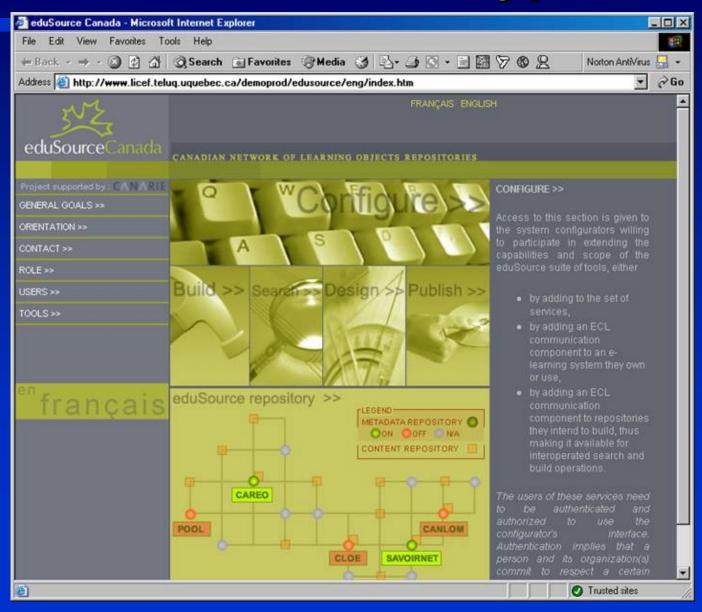
Use Cases



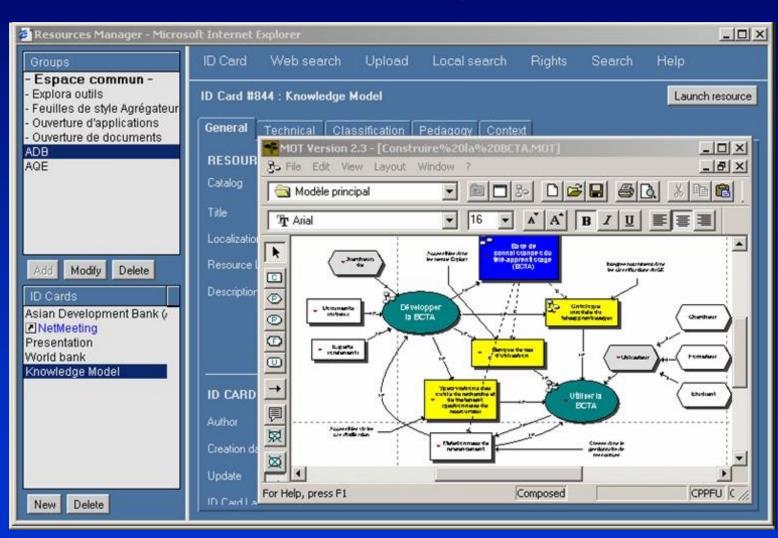
eduSource Infrastructure



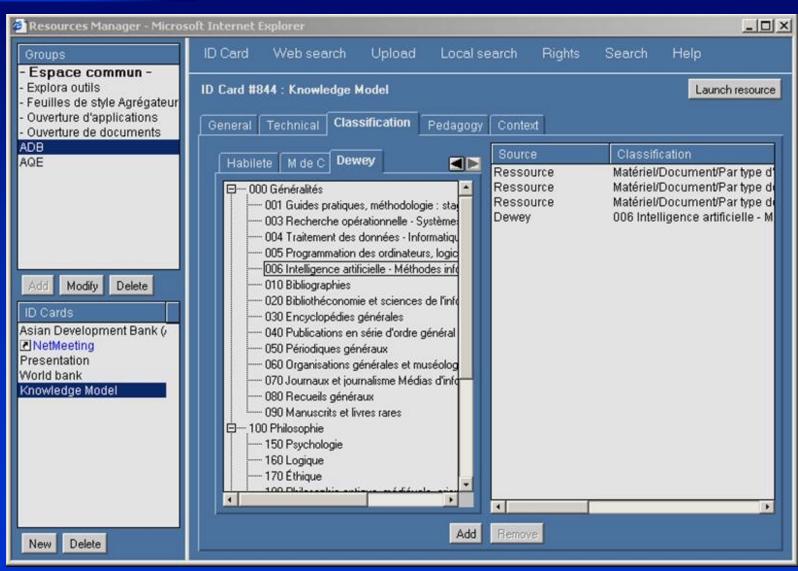
eduSource Prototype



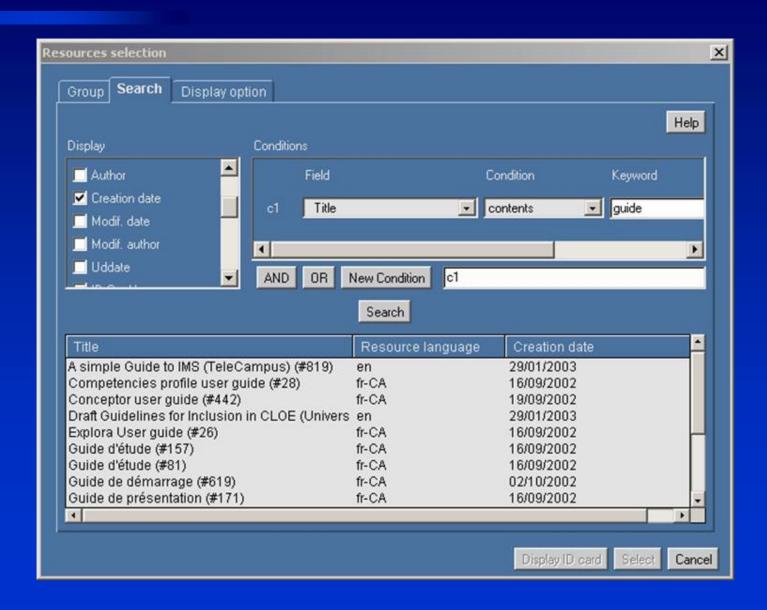
Building LO Repositories in Explor@



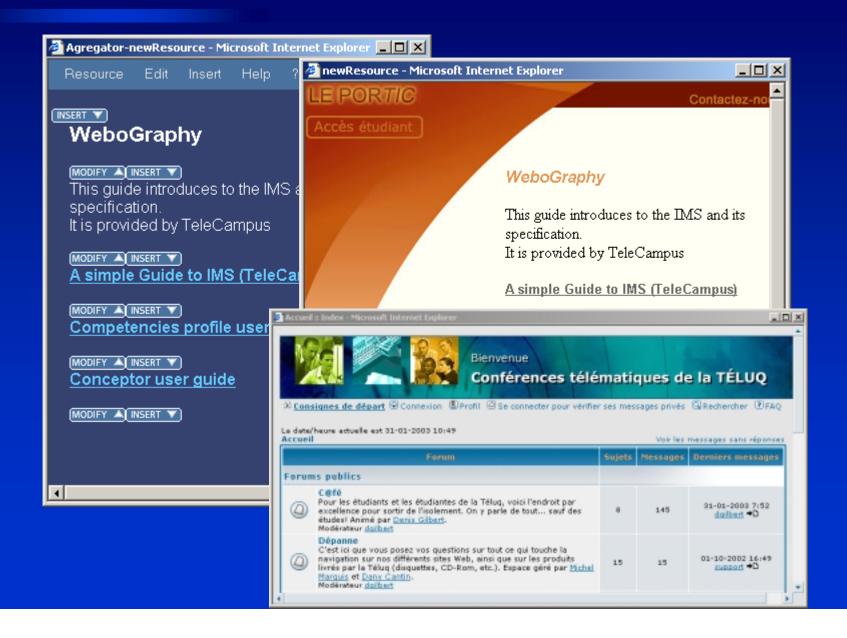
Referencing Learning Objects: describing properties and types



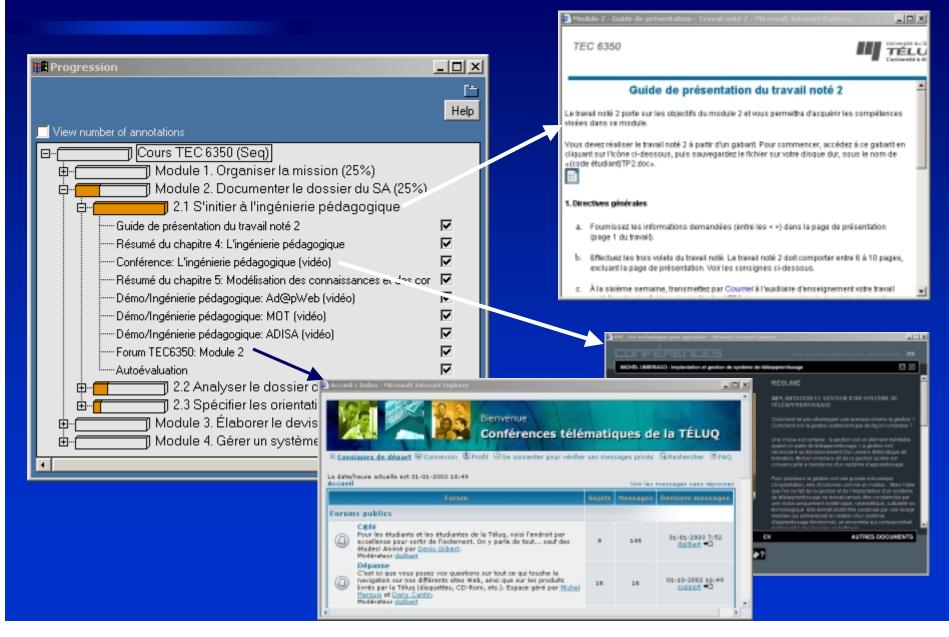
Searching for Objects



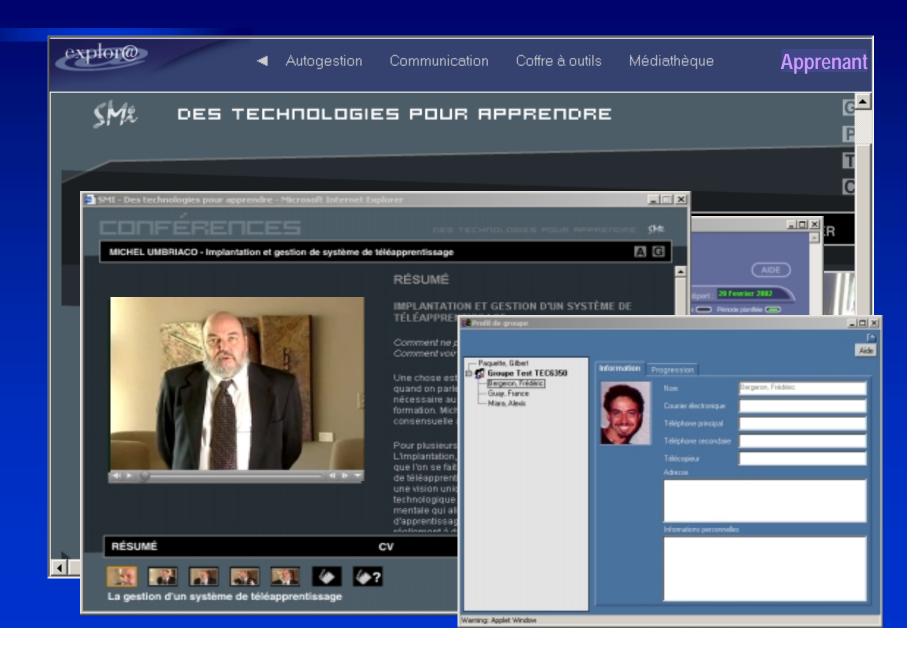
Value-added Service: Aggregation



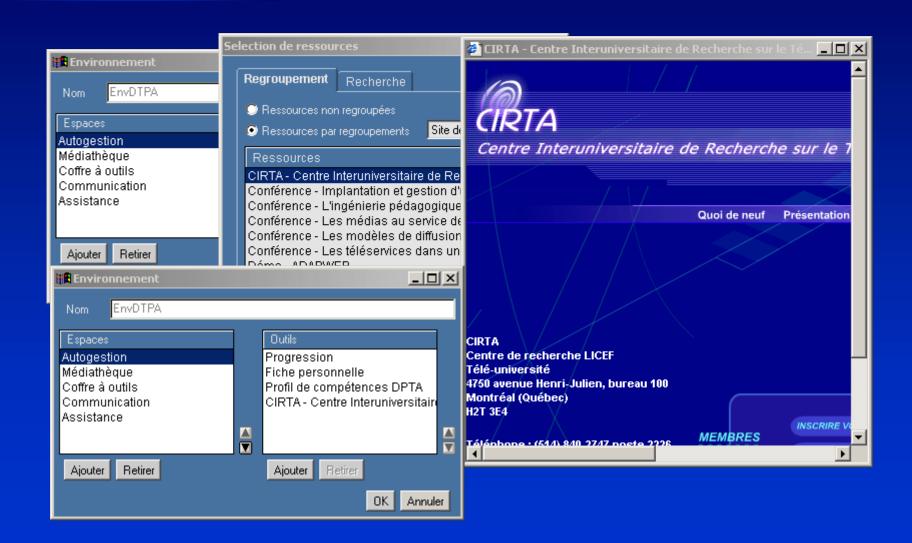
Learning Design Aggregation



Environment Aggregation



Environment Construction



Obstacles and Challenges

Technical Challenges

- Generic Software
 - Separated tools
 - Integrated Suite
 - Interoperability at the OS level

- DL System
 - Separated Tools
 - LMS, LCMS
 - Web services interoperability

Pedagogical Challenges

- The object paradigm is economical, flexible and forces pedagogical re-evaluation
- Attach more importance to communication and learning activities than medias, documents or content
- Separate content object from use scenarios and learning environments
- Reusability must protect good quality learning scenarios
- Reuse of learning models can bring more than just recycling content.

Cultural Obstacles

- Lecturing instead of facilitating learning
- The library « course »
- Lack of pedagogical training of the majority of teachers
- Reproduce the way we have been taught
- IP vs Open Source
- Collaboration between content creator and institutions

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