

Standardization activities and research projects

Two different perspectives towards
standardization benefits:

- driving adoption
- adoption and standardization

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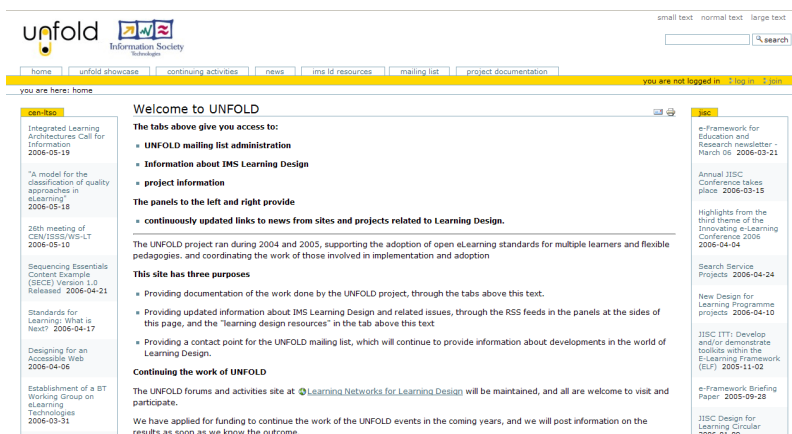
Outline

- **Introduction:** a wide variety of projects
- **UNFOLD:** the experience of a project supporting an emerging standard
- **Several projects:** benefiting from standards, promoting standards

A wide variety of projects,
mainly

- e-learning
- media

UNFOLD <http://www.unfold-project.net/>



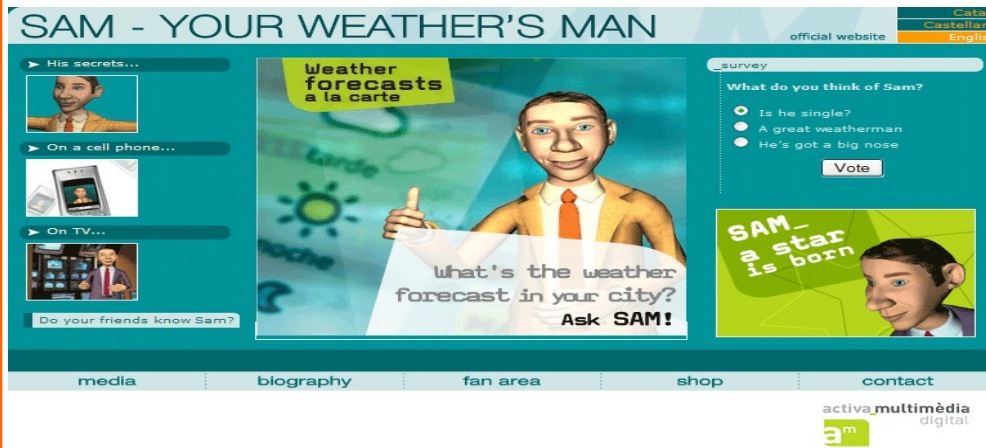
UNFOLD Stimulating e-learning standards adoption

SIGOSSEE <http://www.ossite.org/>



SIGOSSEE Diffusion of Open Source Software in Education

Personatges Virtuals <http://www.meteosam.com/>



VIRTUAL CHARACTERS Automatic TV production (weather forecasts)

IP-RACINE <http://www.ipracine.org/>



IP-RACINE New workflow for digital cinema

Some terminology clarifications

- **Interoperability**: being able to work across computers, applications, ...
- **Specifications**: technical definitions (allowing interoperability)
- **Standards**: specifications accepted by appropriate international bodies
- **Remarks**:
 - Free/open source software does not imply interoperability; it is an added quality on top of Free/Open
 - Proprietary strategies can have benefits

Specifications / standards deployment

- **Official vs *de facto* standards:**
 - **pdf** is an example of a de facto standard: a proprietary format which everybody uses
 - **MHEG** is a standard which you probably haven't heard of ...
- **Official bodies:** ISO, CEN/ISS, ...
- **Nonofficial bodies:** professional associations, groupings, ...
- **Deployment:** standards/specs aim at being widely accepted, but some of them never reach that stage

UNFOLD: Promoting an (e-learning) specification

The background ...

- **IMS**: a professional body promoting e-learning interoperability specifications with most main key players
- **A myriad of emerging IMS specifications**: but not quite able to describe core teaching activities (for instance, SCORM, a profile, more precisely)
- **SCORM heavily supported**: by the US DoD – in the range of \$80 m
- ***EML***: *able to describe in computer terms a wide range of teaching activities (OUNL)*

... the background

- **EML towards IMS-Learning Design:** CETIS (and OUNL) work towards getting EML accepted by IMS as IMS-LD; compromises and breaking down into three levels, A, B, C for ease of implementation.
- **Learning Design specification released** as v1.0 in February 2003; UNFOLD begins in January 2004
- **Key LD innovation:** connecting the environment (content, services, tools) with people (learners, teachers) in a coordinated *workflow* of activities

The initial context ...

- **Lack of tools:** work in progress towards a reference implementation (on a quite complex specification)
- **Lack of awareness:** of the need of a specification for good description of teaching activities
- **Dominance of proprietary Learning Management Systems:** with some SCORM support for content interoperability

... barriers to adoption

- **Immature tooling** preventing all but the most technically-capable to engage with the technology
- **Lack of a community** of practitioners for mutual support
- **Lack of real-world examples** from which to build a local case for adoption, and of information at a range of levels for different audiences

The UNFOLD goals

- **A two year project (from Jan 04) to promote IMS Learning Design adoption** through support of Communities of Practice
- **Partners:** UPF, OUNL, CETIS, EUCEN
- **A web community:** with resources, exchanges, ...
- **Face to face activities:** seminars / workshops, ...
- Focused on promoting tools use, and promoting interoperability

UNFOLD in a changing context

- **SCORM** progress, supported by commercial LMS
- **Quick development and deployment of FLOSS LMS**: mainly in higher education, ...
- **Continuous progress of the web**: maybe modifying the e-learning landscape ...
- **Delay in reference implementations**
- **Other tools supporting IMS-LD appearing**

... changing strategy ...

- **Keeping the line of supporting tools development** (and supporting interoperability); supporting hands-on workshops – although tools still rough ...
- **Centered** on awareness of the need of good description of teaching, probably reflecting immaturity of e-learning (or f2f combined with e-learning), stimulating discussions of models of teaching practice

... changing strategy

- **Creating good examples** (good practice), examples of Units of Learning, examples of templates of teaching practice
- **Discussion with FLOSS LMS**: mainly centered in interoperability of “good teaching descriptions” as having real pedagogic value (added to the FLOSS approach)
- **A Community of Practice** built

Results: support for IMS-LD ...

- an active Community sharing resources (units of learning, documents, courses ...)
- a range of tools developed, demonstrated, and refined with the community interacting (ASK-LDT, Collage, RELOAD, CopperCore, LAMS, COSMOS, MOT+)
- awareness for teaching modeling (patterns and design principles identified), and connection made between technology and pedagogy concerns
- LD interoperability awareness increased (Moodle, dotLRN, ...)

... Results: support for IMS-LD

- Workflow technologies have gained rapidly in maturity and adoption across a range of sectors
- Some aspects described in LD, such as services, have become of much greater interest
- UNFOLD activity has been good value for money (compared with SCORM support)
- **Wide acceptance of IMS-LD not achieved**
 - Need of a longer period? Too research yet? E-learning still quite immature? Overambitious? Appropriate for the different target groups? ...

Beyond UNFOLD

- Standards adoption is a complex process. Lots of effort required at different levels: community exchanges, tools, exemplary models, ...
- Interplay of research and adoption (stability). Changing landscape.
- Research and standards continued in the TenCompetence project (competences new strategy)

Media related projects: adopting standards, promoting some ...

Virtual characters: PVML from SMIL

- **Automatic TV production:** the project goal is the generation of weather forecasts for hundreds of cities every hour
- **Standards “inspiration”:** the core of the production is PVML, which is 'our' version of W3C SMIL specification
 - Aims at capturing state of the art
 - Aims at taking advantages of interoperability and future proof reuse
 - Highly modified to achieve appropriate performance and media quality

IP-RACINE: Digital Cinema from scene to screen ...

- **IP-RACINE**: a large project aiming to drive cinema from film to digital, in a workflow from scene to screen, that is, from capture, through postproduction, towards exhibition
- **Partners**
 - **Industry**: Thomson (Grass Valley and Deutsche), Barco, XDC, Brainstorm, Pandora, FilmLight, DVS, MediaPro
 - **Research**: UPF, HU, GU, JRS, FSSG

Different requirements from scene to screen

- **Exhibition:** clearly needing standardisation (all movies in all theaters); driven by Hollywood majors – with conflicts with European orientations; MXF, DCI (compliance tests by Barco and XDC)
- **Capture and postproduction:** “small” market and relatively large budgets, driven by demand of higher and higher quality; proprietary systems
- **BUT:** integrated workflow demands interoperability; and interoperability enhances the value chain for industrial partners

Standardisation

- **Capture:** Thomson proposals for better (and unique) definition of metadata at the time of capture – SMPTE proposals; need of gathering requirements also from postproduction (and exhibition)
- **Postproduction:** JRS – a specific “high quality” audiovisual profile proposal in MPEG7 (DAVP); work on AAF
- **Colour preservation:** the key added value in the Digital Cinema chain; ICC/Academy standards proposal for new colour model which can be transmitted along the DC chain

Provisional summary

- **Promoting standards adoption:** requires time, effort, budget in large amounts (and success, i.e. wide acceptance, is not guaranteed); worth anyway for stimulating research
- **Media related standardisation:** it involves a lot of names (fragmented areas); but key to interoperability, and new workflow; and captures state of the art. A lot of effort required
- **Future proof strategies:** ensure standards portability; they might not be widely adopted and migration might be needed at some stage



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