Introduction into the TENCompetence Project

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Kick-Off TENCompetence Project
7,8 & 9 December 2005
Valkenburg a/d Geul, The Netherlands
Aim (and name)... 

We will build The European Network for Lifelong Competence Development

i.e.

Provide a technical and organisational Infrastructure that can be used by any citizen, team or organisation to develop competences
Why TENCompetence?

Why an infrastructure for Lifelong Competence Development?
Things we have agreed upon in Europe ...

• Knowledge Society: knowledge and innovation
• Lifelong Learning is a necessity
• Learning must be directed at the attainment of interoperable, accredited competences
• Learning must be adapted to individual and local characteristics (preferences, needs, language, etc.)
• Use of ICT/the Internet is of crucial importance
However

- Current **Pedagogical & Organisational Models** for learning *do not meet the demands* and possibilities of lifelong competence development and the new learning technologies that are available.

- For individuals, groups and organisations it is hard to get **an overview** of all the possible formal and informal learning opportunities that are available, and to identify the most appropriate ones.

- For an organisation it is hard to **assess the competencies** of applicants, employees and learners who have studied and worked in a variety of settings or multiple countries.

- The availability of **support** is crucial for effective task performance. Current e-learning environments provide too little effective and efficient support to the users.

- Worlds of knowledge management, education, training and informal learning are **not integrated well enough**: many fragmented methods & tools.
TENCompetence Project

• Development of an European 'Infrastructure' for lifelong competence development

• Develops and integrates new pedagogical & organisational models for lifelong competence development

• Infrastructure is based on integrated open source components, integrated into a SOA

• To be used by any individual, school, team or organisation to develop competences

• We don't start from scratch, but build on existing methods, open standards & open source tools
TENCompetence data

- EU IST–Technology Enhanced Learning Integrated Project
- 4 years: December 2005 – December 2009
- Budget 13.8 million euro (8.8 EU contribution)
- Substantial Pilots:
  - training for digital movie production
  - continues training for health care workers
  - UNESCO-IHE water management Nile region
  - Antwerp lifelong learning city
- Building a growing network of associated partners
Partners

• Open Universiteit Nederland (co-ordinator)
• ALTRAN (Software de Base, S.A. Madrid)
• LogicaCMG
• Universitat Pompeu Fabra Barcelona
• GIUNTI Interactive Labs
• Centre for Research and Technology - Hellas
• L3S (Universität Hannover)
• INSEAD (Institut Europeen d'Administration Des Affaires)
• The University of Bolton, representing The JISC
• Universiteit van Amsterdam
• Sofia University "St. Kliment Ohridski"
• SURF
• Synergetics
Basic Concepts in the Project:

- Competence
- Competence Development
- Infrastructure for Competence Development
Key role for 'competences'

• The concept of competence can bridge the world of education, training, knowledge management, human resource management & informal learning

• Many definitions, problem for system development

• Difference:
  - Competence: Effective performance in a domain at different levels of proficiency
  - Competency: Skill (synonym)

• Initial definition of 'competence' and 'competence development' in the project (next slides…)
actor

role

analyses

event

ecological niche

problem

task

objective

trigger
Where are the Competences?
Cheetham & Chivers (2005)
Further elaboration of the Infrastructure for Competence Development...
Requirements for the infrastructure

- Based on **new pedagogical & organisational models**
- Supports users to **find** adequate learning resources to develop their competence
- Support to facilitate the **pro-active sharing** of resources
- Support for competence **assessment**
- Support agents to **help users**
- Includes principles and policies of **self-organisation**
- **Integrate** isolated open source tools
Integration of Four 'Worlds'
How will it work?

• One learning network per occupation/domain of expertise

• A competence framework for each learning network that specifies effective performance in the field for different proficiency levels

• Formal or Informal Competence Development Programmes (including dynamically created learning routes) that are aimed at the attainment of proficiency for one or more competences in the competence framework

• Learning activities or units of learning that are available/shared in the network and are the building blocks of the programmes

• Knowledge resources that are available/shared in the network and are used in the learning activities and units of learning
How will it work? <continued>

• Members of the learning network:
  - People in the profession (from very beginners to experts)
  - Suppliers of formal and informal programmes/courses
  - Suppliers of materials, tools, etc. needed in the profession
  - Employers and professional associations

• Functions to be performed by the members:
  - find & perform knowledge/learning activities/programmes
  - share & discuss knowledge/learning activities/programmes
  - support trainees in the profession
  - provide feedback on quality of programmes/courses
  - provide feedback on quality of tools from suppliers
  - define professional competences at different proficiency levels

• Facilitated by: Social Exchange Mechanisms; Support Agents
Technologies

• Add & edit new knowledge/activities/programmes
• Search suitable knowledge/activities/programmes
• Exchange personal data
• Policy mechanisms to support social exchange
• Support agents for users in all their functions
• Use of open standards and service based architectures
Service Oriented Architecture
To Summarize. What we will get is:

• New innovative **methods** to support lifelong competence development

• An integrated set of **open source software** to create, store, use and exchange:
  - knowledge resources,
  - learning activities, units of learning and
  - competence development programmes within learning networks for a profession/domain

• **Web services** that can be accessed and used by every person, team and organisation in Europe to develop their competences

• New possibilities to **provide commercial and non-commercial services** using this infrastructure
Project Structure
Advisory Committee

- Project Standards and Quality Assurance Subcommittee
- Technical standards and Architecture Subcommittee
- Scientific Subcommittee
- Valorisation Subcommittee
- Individual Experts
- Any other needed (to be initiated by the Exec. Committee)
Work Packages

WP1 Consortium Management

Aspect RTD activities
- WP5 Knowledge Resource Sharing & Management
- WP6 Learning Activities & Units of Learning
- WP7 Competence Development Programmes
- WP8 Networks for Lifelong Competence Development

Integration RTD activities
- WP2 Requirements & Analysis of the Integrated System
- WP3 Technical Design & Implementation of the Integrated System
- WP4 Pilots with & Validation of the Integrated System

Valorisation activities
- WP9 Training
- WP10 Dissemination & Exploitation
3 Cycles in the project

- **First 18 Month (renewal plan after 12 Month)**
  System Developed: December 2006
  Pilot Period: January 2007 – June 2007 (digital cinema)

- **Second 18 Month (renewal plan after 30 Month)**
  New System Developed: June 2008
  3 Pilots: July 2008 – December 2008 (health care, Nile, Antwerp)

- **Third 12 Month**
  Beta Release: appr. May 2009
  4 Pilots: appr. June – October 2009
  Final System Released: December 2009

- Reviews every year (first December 2006)
Integration

**Integration RTD activities**

- **Requirements & Analysis of the Integrated System**
- **Technical Design & Implementation of the Integrated System**
- **Pilots with & Validation of the Integrated System**

**Feedback of results to RTD community:**
- academic papers
- books, chapters
- workshops
- conferences
- proceedings
- prototypes
- specifications
- feedback to standards bodies
- etc.

**Feedback of results to users:**
- awareness raising
- provision of tools
- provision of infra
- training
- websites
- workshops
- conferences
- professional papers
- etc.

**Inception/Elaboration Phase**
- Pilot in first 18 month period: Proof of Concept

**Construction Phase**
- Pilot in second 18 month period: Usability Pilots

**Transition Phase**
- Third 18 month period: Business Models Demonstrators

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**Aspects RTD**
- current state-of-the-art

**Valorisation**
- Users

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**Integration RTD activities**

- time (changes in state-of-the-art)
Integration Methodology: Unified Process

Core Workflows

- Requirements
- Analysis
- Design
- Implementation
- Test

Phases

- Inception
- Elaboration
- Construction
- Transition

Iterations

First Cycle

Project Plan Phase

Second Cycle

Third Cycle
Relations between WPs in the three cycles

Aspect RTD

WP5 Knowledge Sharing & Management

WP6 Learning Activities & Units of Learning

WP7 Competence Dev. Programmes

WP8 Networks for Lifelong Comp.Dev.

WP2 Requirements & Analysis

WP3 Technical Design & Integration

WP4 Pilots & Validation

see fig. 5 to read details
Services to be developed

• Common Services (authorisation, archiving, presence, etc)
• Knowledge Resource Sharing
  - Develop, Share, Setup, Deploy, etc.
• Learning Activities & Units of Learning
  - Develop, Share, Setup, Deploy, etc.
• Competence Development Programmes
  - Navigation Service, User Support Service, Positioning Service, etc.
• Networks for Lifelong Competence Development
  - Discovery Service, Competence Monitor, Network policies/models for social exchange, quality service, etc.
Associated Partners

• Input use cases & test early versions
• Set-up pilots in collaboration with project (e.g. with additional funding from national funding agencies)
• Deliver commercial or non-commercial services using the TENCompetence infra (SMEs)
• Are working on a related project and want to establish a formal link with TENCompetence (e.g. an MOU)
• Foundation to sustain the network after the 4 years
• Every partner will actively promote the expansion of this network
Results of the project

• All software developed in the project will be provided as Open Source Software with an OSI approved licence.

• All content developed with project resources will be provided as Open Content with an Creative Commons Licence that allows the content to be redistributed and changed (with credits).

• All core functionalities are covered by OSS, which are sufficient to set up the entire system. This restriction does not apply to optional components which may enhance the system but can be left out without compromising its basic functionality.
Development of 3 new Specifications

• **Competence Assessment Specification** as an extension of IMS QTI for lifelong competence assessment

• **Learning Path Specification** to describe the structure of programmes (e.g. curricula, training programmes, personal development programmes, etc.) in an interoperable way.

• **Learning Services Connector Specification** that enables the runtime connection between communication and collaborative services (forums, chats, shared whiteboard, etc.) to learning design engines.
Output Assessment Protocol

• RTD project: 2 types of output
  a) technologies
  b) publications

• Standard Evaluation Protocol for Public Research Organisations

• Criteria:
  - Quality & Productivity of the output
  - Scientific and socio-economic Impact

• Will be applied on output of RTD WPs (WP2-WP8)
Quality & Productivity

• Publications output: 2.1 publications per year per staff member (1.05 for PhD and 1.4 for postdocs)
Criteria: SSCI, Extension list (see DoW), some conferences (see DoW).

• Technologies: 2.1 output points per year for staff member (1.4 for junior staff)
Criteria: peer-reviewed, publically available (OSS), replication is possible, further elaboration is possible
Norm for software productivity: 10 lines of efficient code per day, including design, coding, testing & documentation

• In project: 40 points per year (20 points in the first year)

• Further details: see DoW page 44
Impact

• Impact is reviewed by the yearly EU review board
• We will provide evidence: impact indicators, e.g.:
  - number of training sessions/workshops, number of attendees
  - number of participants in the networks that we have setup (e.g. Associated partners, PhD network), proof of active participation, etc. (via evaluation forms)
  - number of organisations that (plan to) use the software
  - number of news items posted/visits to the website, etc.
  - ..
• Specifically applies to WP9 & WP10 (training, dissemination & exploitation)
Further Activities

• Technical Standards & Architecture
• Quality Assurance
• Gender Issues
Communication Means in the Project

• All External & Internal Communication: www.tencompetence.org (including forums/groups per project; use of email within the project will be discouraged)

• Synchronous Communication within project SURF infrastructure (Breeze, etc.)

• Archive & Publication of Results (also used for output justification to the commission): dspace.tencompetence.org

• Mail adres for information about the project: info@tencompetence.org

• Note: Infrastructure will be extended & changed during the project when necessary (e.g. document management)
Challenges, Risks

• Common Ground, understanding the project plan
• Underestimation of the size of the project (between 47 fte (between all senior) and 97 fte (when all junior) in the project. Is 100 persons or more.
• Underestimation of the expected impact (build a European Infrastructure which effects at least the 9 countries of the partnership)
• Getting the right people involved: Designers, Programmers (Java, J2EE, Webservices), Scientific exp. (journal art.)
• Manage & coordinate the activities in the project so that:
  - every fte knows what to do at all times (no capacity loss)
  - every fte contributes directly to the defined objectives
  - every fte has enough support/guidance within
• Communication in the project: one contact point per partner to coordinate and follow-up messages
References

• www.tencompetence.org (project)
• email: ten.competence@ou.nl
• Download these slides at:
  http://hdl.handle.net/1820/???

Thanks!