TENCompetence: Building the European Network for Lifelong Competence Development

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In this keynote

Focus on the ambitions of the TENCompetence project:

- Aim: The development of an open source infrastructure for lifelong competence development
- 13 core partners and a network of associated partners
- 4 major experimental areas:
  1. Digital Cinema
  2. Health Care
  3. UNESCO-IHE Water Management (Nile Region)
  4. Lifelong Learning City (Antwerp)
- Additional pilots from associated partners
The challenge

Individuals are permanently triggered to further develop their abilities (competences):

• Worldwide competitive economy places new demands on individual workers and organisations: new activities, new technologies, new markets, changing jobs, etc.

• Social and personal triggers to develop new competences related to personal growth, family, leisure time, etc.

Question: How can we support individuals in lifelong competence development, using new technologies?
Some of the trends in learning

Shift towards
- more integration between living, learning and working
- lifelong learning
- Self-directed learning and self-organisation
- Production of knowledge instead of consumption
- Learning activities instead of learning objects
- Knowledge sharing in communities
- More attention for informal learning
- Assessment of prior learning and competence assessment
- More attention on personal and social factors
- ...
Three Core Issues

1. How can I get an overview?

• When I have a need to learn something, to solve a problem or to get a degree:

How do I get a quick overview of all the relevant learning resources (persons, files, courses, etc.)?
Issues

• Stimulating people to make their learning needs explicit and to use certain tools to help the learning

• Stimulate to share resources

• Availability and Accessibility of resources

• Search facilities filtering on learning needs

• Persons as a resource (not only files)

• Multimedia files (not only texts, not only formally published resources, but also user generated content)

• Quality, Language, Metadata...

• ...
2. What is the most suitable solution?

• When you are provided with large lists of all possible options a new problem comes in:

• How do I know what is the best possible resource for me given my background knowledge, preferences and situational and financial circumstances?

• =&gt; there is a need for support!
Issues

• How do we provide sufficient and affordable support? Limited amount of expert time available.
• Automation: collaborative filtering, peer support, ...
• Assessment of preferences, prior knowledge, personal situation
• What algorithms provide the 'best' advise?
• Protection of personal data
• ...
3. How do I know that I am able to perform a certain task, to meet some job requirements or to cope with a situation?

- Learning from many formal and informal resources leaves us with the problem that it is hard to provide some evidence for the different competences I have:
  - when applying for a new job
  - when you are confronted with a new challenge (next week TENC winterschool: do you risk to go off a slope on skies?)
  - to assess whether I am suitable for a job
  - etc.
Issues

• Assessment of informally acquired knowledge, skills, experience,... (APL)
• Availability of valid competence profiles that describe and organise the personal abilities in a uniform way
• Ownership of the data (ePortfolios)
• Matching of competences on job profiles
• ...

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To summarize the core issues

1. How do I get an overview of the learning resources connected to my learning goals?

2. How do I know which learning resources are the most appropriate for me?

3. How do I know that I am able to perform a certain task, solve a problem or cope with a challenge in advance?
The solution we are developing...

_Personal Competence Manager_
Personal

• **NOT** personal in the sense of 'alone, individual'
• **Owned** by a person (compare: Personal Computer), not by an organisation (company, school, university, etc.) to manage your personal competences during lifetime in many different institutions and informal learning events.
• Can be used **in conjunction** with organisational systems (eg the LMS of a university, HRM system of a company, knowledge management systems).
• The PCM can be downloaded and used by anyone to develop their competences. When used they can share and connect to all others using the TENCompetence infrastructure
Competence Development

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

• Many definitions and approaches ... (and different from 'compen\textsc{cy}\textsuperscript{cy}')

• Definition of 'competence' and 'competence development' in the project (next slides...)
Definition of Competence

- **Competences** are bound to the different living, learning and working environments a person comes across during lifetime ('ecological niches').

We see a *competence* as the **estimated ability** of an actor to deal with some classes of **critical events, problems or tasks** that can occur in a certain situation/ecological niche.

This estimation can be based on:
- self assessment
- informal assessments by others
- formal assessments by others
Essential aspects of the definition

• Competences are *estimated abilities* of an actor, they are not observable

• Competences are *abstractions* of effective and efficient actions that describe <situation - events – actions – results>

• A competence has a *predictive value* only for comparable situations with similar types of events

• The abstraction process to create competence descriptions is similar to any *modelling process*:  
  - same details can be abstracted differently
  - same competences can be grouped and named differently

• Situations, events and results criteria change, so do the competence descriptions
Personal Competence Manager

• Use it to support the development of your competences by managing personal action plans
• The personal action plans can use learning facilities from multiple sources: informal and formal learning activities, courses, study programmes, workshops, meetings, communities, working groups, ...
• Persons can share the action plans and underlying resources with others
• It integrates various systems for knowledge management, learning design, learner support, assessment, ...
What it supports...

- You can create, share, select and manage various **competence profiles** to support the formulation of your learning goals.

- You can **assess your personal competences**, compare it with others and reflect on it.

- You can create, share, select and manage **personal action plans** to attain the learning goals.

- You can create, share and select learning activities, courses, study programmes, learning services and knowledge resources in your action plan.

- You can ask for **advice** in any situation (from peers, agents, etc.)
High level overview of connected services

- Portfolio Services
- Learning Design & Assessment Services
- Learning path & Navigational support Services
- Community Services, Learning Support Services
- Knowledge Resource Sharing & Management Services
- Competence Observatory
- Personal Competence Manager
Where are we in this agenda?

• Different parties developed a series of **grounding models, standards and tools** (knowledge sharing, learning design, social interaction, navigation, assessment).

• Identified some major **Use Cases**

• Developed an **Integrated Domain Model** of the Infrastructure that has to serve some critical Use Cases.

• Created some very **initial prototypes** to explore parts of the technology and are currently developing the first version of the personal competence manager.
First version

• Core Use Cases
• Domain Model (base for the data model in the system)
• Demonstration User Interface (in construction)
Core Use Cases

1. Want to keep up-to-date in current job (or function)
2. Want to improve a specific competence
3. Want to study for a new job (or function)

Supporting Use Cases

• Want to explore the learning resources, courses, people, etc. in a new field
• Want to assess my competences for a certain job/function
• Want to reflect on my competences
Integrated Domain Model
Plan for Basic Guitar Skills

Description
I have used these actions to learn basic guitar skills. I started with the interactive lessons. Maybe you can also start with the small self test I have made in basic guitar skills to see where you are.

Route
Show me what to do next

Options
- Create new plan
- Select plan
- Edit description
- Break synchronization
- View rights

Rating | Support | General forum
--- | --- | ---
Community | 🌟🌟🌟🌟 | Add your own comment

Rating | Name | Comment
--- | --- | ---
🌟🌟🌟 | Scott | I don’t think this action plan was very u...
🌟🌟🌟 | Phil | I don’t agree with Scott. Although prob...
🌟🌟🌟🌟 | Gizmo | For me it was very useful. I am new an...
🌟🌟🌟🌟 | Ruud | I do not like to play the guitar anymore
Planning

• In the second year of the process....

• When you are interested to participate in development or in pilots, please contact any of the partners

• The first release is planned before summer this year (Meeting in Barcelona, June 2006)

• The final release is planned for December 2009, also the experiments and pilots in the other sectors will be finalized by then.

Next event: Winterschool January 2006; Innsbruck (in two weeks).
Thanks!

References:
www.tencompetence.org