TENCompetence: Building the European Network for Lifelong Competence Development

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In this keynote

Focus on the ambitions of the TENCompetence project:

- IST/TEL Integrated Project Dec. 2005 – Dec. 2009

- 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

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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?

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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
- ...

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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.)?

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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...

- ...

Continued ...

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?

- => there is a need for support!

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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

- ...

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Continued ...

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.

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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

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Personal

- **NOT** personal in de 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

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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 'competen**cy**')

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

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Definition of Competence

- **Competences** are bound to the different living, learning and working environments a persons 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
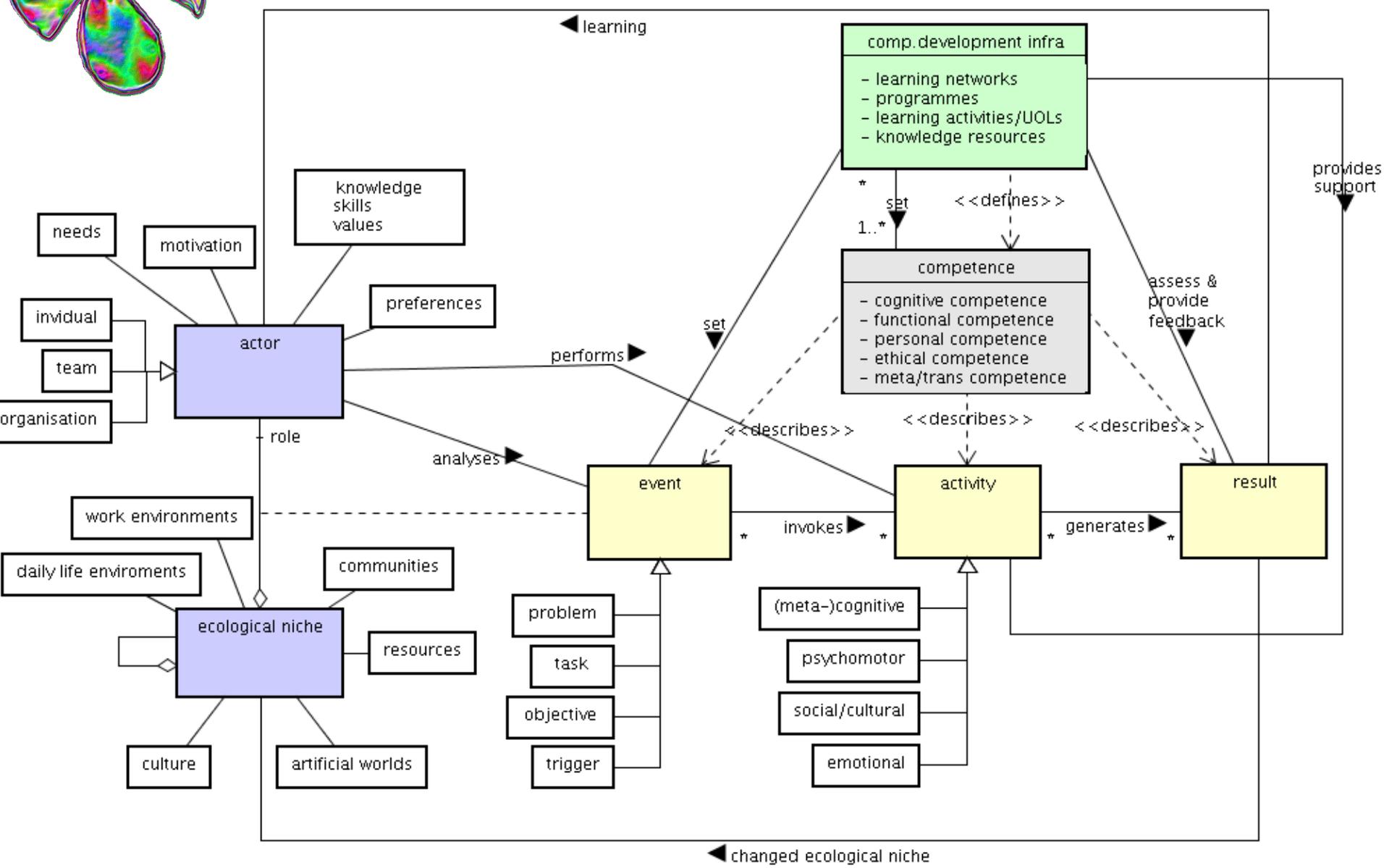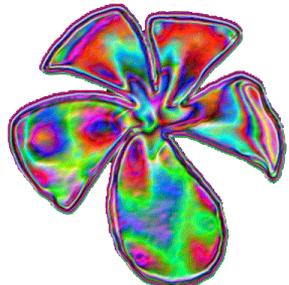
  This estimation can be based on:
  - self assessment
  - informal assessments by others
  - formal assessments by others

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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

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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, ...

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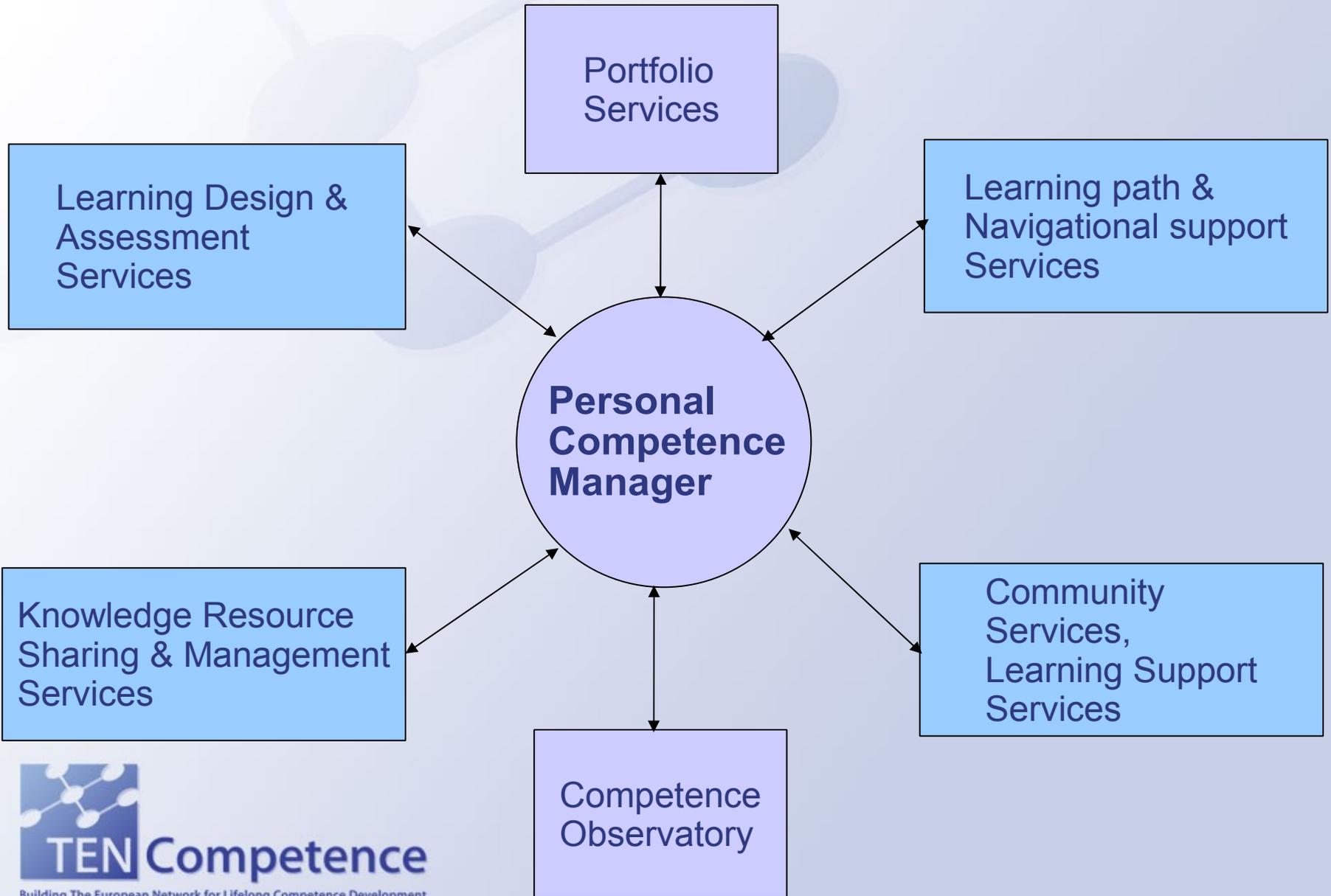
What it supports...

- 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.)

![TENCompetence logo — Building The European Network for Lifelong Competence Development]

High level overview of connected services

Portfolio Services

Learning Design & Assessment Services

Learning path & Navigational support Services

Personal Competence Manager

Knowledge Resource Sharing & Management Services

Community Services, Learning Support Services

Competence Observatory

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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)
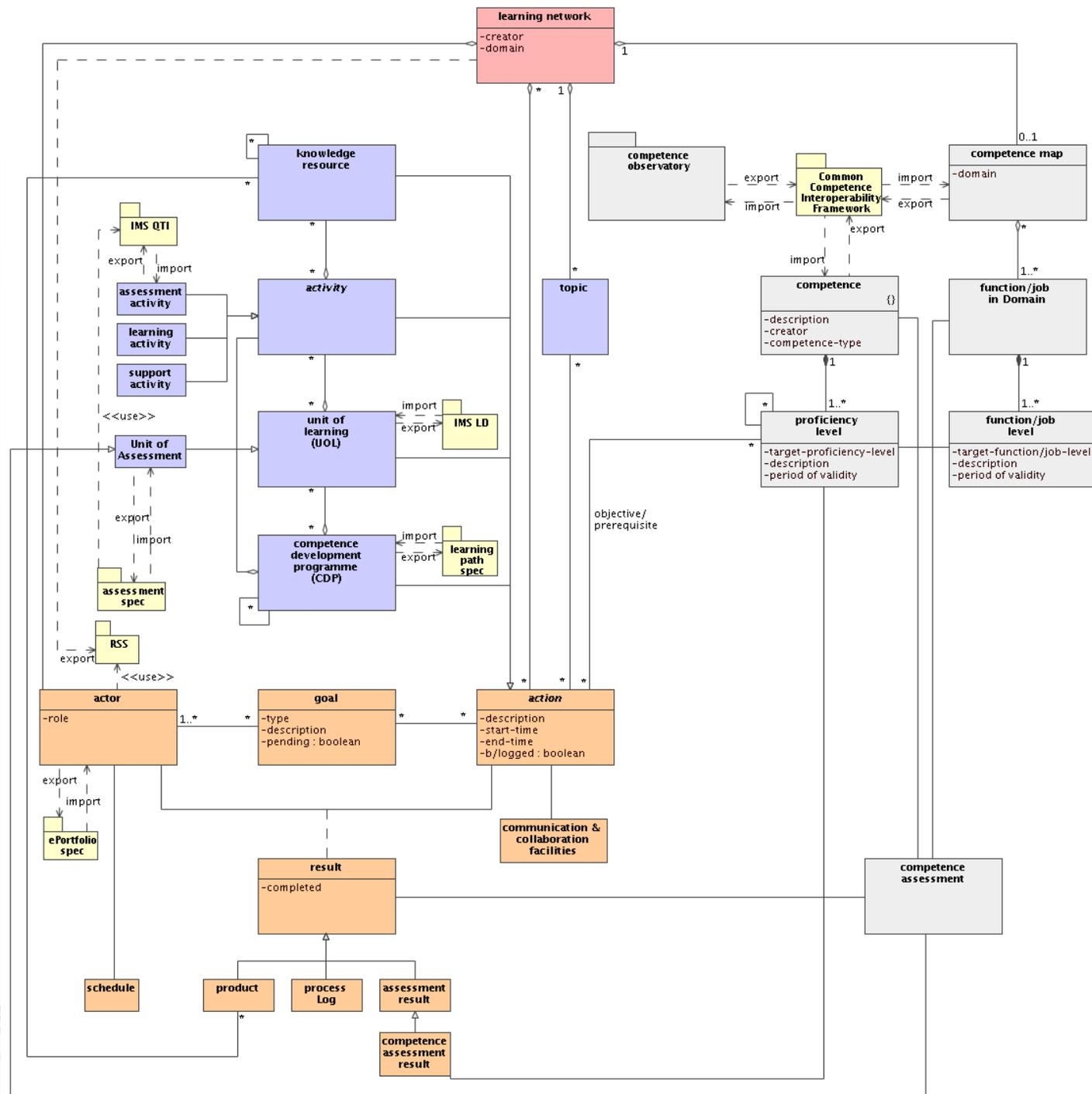
Supporting Use Cases

- 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

- ...

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Integrated Domain Model

guitarists - TENCompetence (Personal Competence Manager)

File   Edit   View   Window   Help

Selected Competence Profile

☐ Playing Pop Songs on the G
  ☐ Basic Guitar Skills
  ☐ Basic Chords
  ☐ Chord schemas for blues & po

Playing Pop Songs on the Guit | Guess the Chords Test

Plan for Basic Guitar Skills

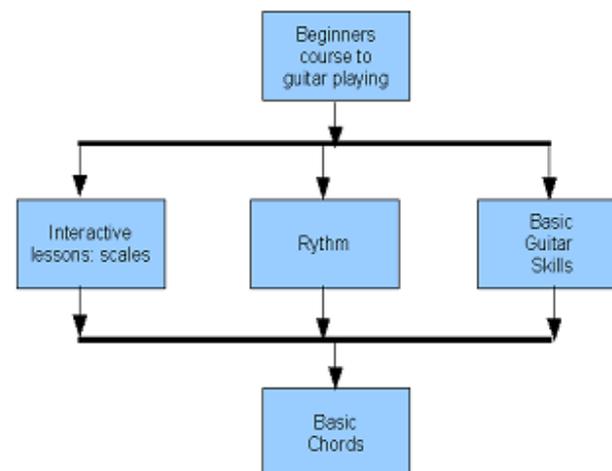Mark competence as attained

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 plan

Show me what to do next   ━ ✚ ✕

continue when minimal 1 is completed

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

Synchronised Plan (Bas may change)

Agent

What to do now?
Create an action

New competence "basic ..." added

User "Colin" requests access to "Guitars" community

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 usefull. I am new an...
☆☆☆☆☆	Ruud	I do not like to play the guitar anymore ...

People   Friends

Name	Available
Peter	●
Alex	●
Condol...	●
Ayman	●

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).

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Thanks!

References:
www.tencompetence.org

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