

# The development of an infrastructure to support Lifelong Competence Development

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# The challenge

- Worldwide competitive economy places new demands on individual workers and organisations
- Furthermore, (many, not all!) people in our modern society want to develop themselves: find new opportunities, take care of personal growth, but don't like the rigorous traditional schooling systems
- There is a need to continuously update our competences:
  - in professions
  - in daily life
- Question: How can we use the possibilities of the new technologies to support lifelong competence development?



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# Three Core Issues

- A person learns from many formal and informal sources during lifetime: formal education, training courses, knowledge exchange with colleagues/experts, learning from experience, reading, sources on the Internet, etc.
- Question: How does a learner know what learning resources **are available** from different formal and informal sources?



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# Continued ...

- When we are able to create lists of all the possible learning resources, a new problem comes in:
- How do you know what learning resources **best fits** your goals, background knowledge, preferences and local circumstances?



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# Continued ...

- Learning from many formal and informal resources leaves us with the problem that we cannot provide **evidence** for (all) our competences (eg, when applying for a new job or when you want to reflect on your current competences), so:
- How do we assess the competences of persons who have acquired competences through a combination of formal and informal learning during lifetime?



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# To summarize the core issues

1. How to get an overview?
2. How to know which learning facilities are most suitable?
3. How do you assess the competences acquired from multiple sources?



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## Need for:

# Personal Competence Development Systems (PCDSS)

- A PCDS is “owned” by a person to support his/her development of competences
- It uses learning facilities from multiple sources providing:
  - the formulation of personal learning goals
  - overviews of all the learning facilities connected to the goals
  - advise about the best solution to take
  - the planning and management of learning activities
  - assessment of competences



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# Technical Info about PCDS

- Based on principles of Service Oriented Architectures
- Open Source and Open Standards based
- The PCDS will connect to an unlimited number of Services and specifically will connect to:
  - Learning Object Repositories and other Knowledge Sharing Services
  - Formal and informal Learning activities and Units of Learning
  - Formal and Informal Competence Development programmes
  - Agents that provide specific services for the user like: navigation support, assessment support, learner support, etc.



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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 (Hecate, Plex) and are currently developing the TENCompetence client that is a more elaborated version
- We will be **piloting** in some dedicated areas (digital cinema; health care; water management; city employment)



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# Some supporting Technologies & Models

- IMS Learning Design + Tools
- Various Internet services that stimulate the production and sharing of knowledge, including syndication and reward mechanisms (Blogs, wiki's, RSS, etc.)
- Navigation tools based on collaborative filtering and case-based reasoning
- A formal assessment model integrating new and classical forms of assessment
- Competence and competency descriptions in various fields + various open specs
- ...



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# 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

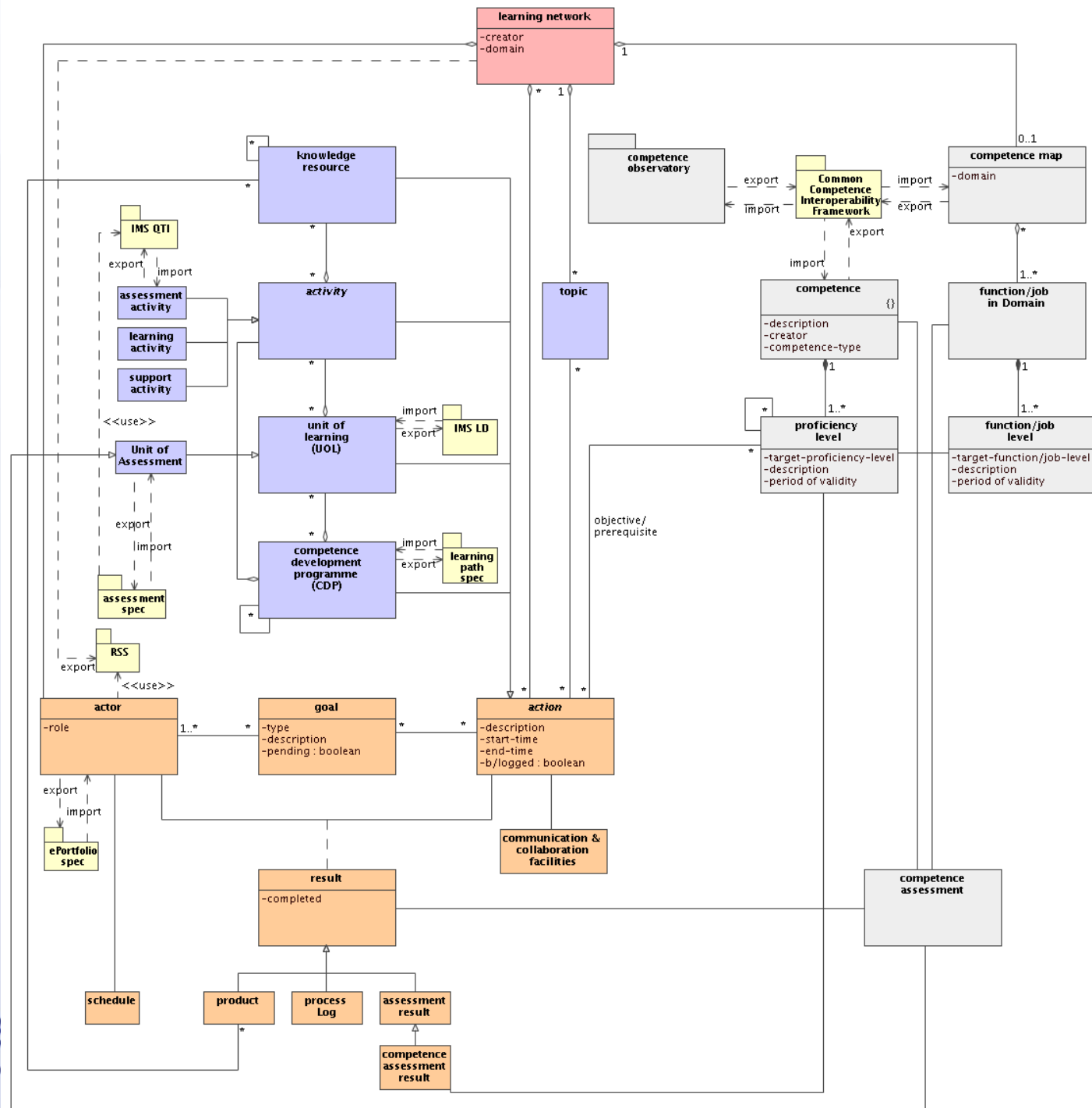
- Want to explore the learning resources, courses, people, etc. in a new field
- Want to assess my competences for a certain job/function
- Want to reflect on my competences



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# Integrated Domain Model



# TENCC user-interface design

The screenshot shows the TENCC user interface for guitarists.net. The main window has a menu bar (File, Edit, View, Window, Help) and a title bar (guitarists.net - TENCC). The interface is divided into several panels:

- Goal Panel:** Contains a checklist with items like "Improve my Guitar playing" and "update web skills".
- Action Plan Panel:** Contains a table of activities with columns for Action, Status, and Rating.
- Agent Panel:** Displays a user avatar and news items, such as "A new competence was added for role Intermediate Guitar Player." and "User Scott joined the 'Guitar Playing Network'".
- Communities Panel:** Shows a list of participants with their avatars and names.
- Forum Panel:** Displays a table of forum topics with columns for Topic, Author, and Date.

Action	Status	Rating
Interactive Lesson: scales	In Progress	☆☆☆☆☆
Activity 3: Slide technique	Completed	★★★★☆
Activity 4: Rhythm	In Progress	★★★★★
Basic chords	Not Started	
Beginner scales and chords	Not Started	

Topic	Author	Date
Request for new Action Plan	scott	9/11/2006

**Participants:**

- Scott
- Ame
- Ruud
- Gizmo
- Phil

# Planning

- In the beginning of the process....
- When you are interested to **participate** in development or in pilots, please contact me ([rob.koper@ou.nl](mailto:rob.koper@ou.nl))
- The **first release** is planned for beginning of next year (also the digital cinema pilot will start then in Barcelona)
- The **final release** is planned for December 2009, also the experiments and pilots in the other sectors will be finalized by then.
- When you are doing **Ph.D. research** that is related to this agenda: please participate in the Ph.D. network ([www.tencompetence.org](http://www.tencompetence.org)). Next event: Winterschool January 2006; Innsbruck.



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# Thanks!



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