



# TEN Competence

Building The European Network for Lifelong Competence Development

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Open Universiteit Nederlands  
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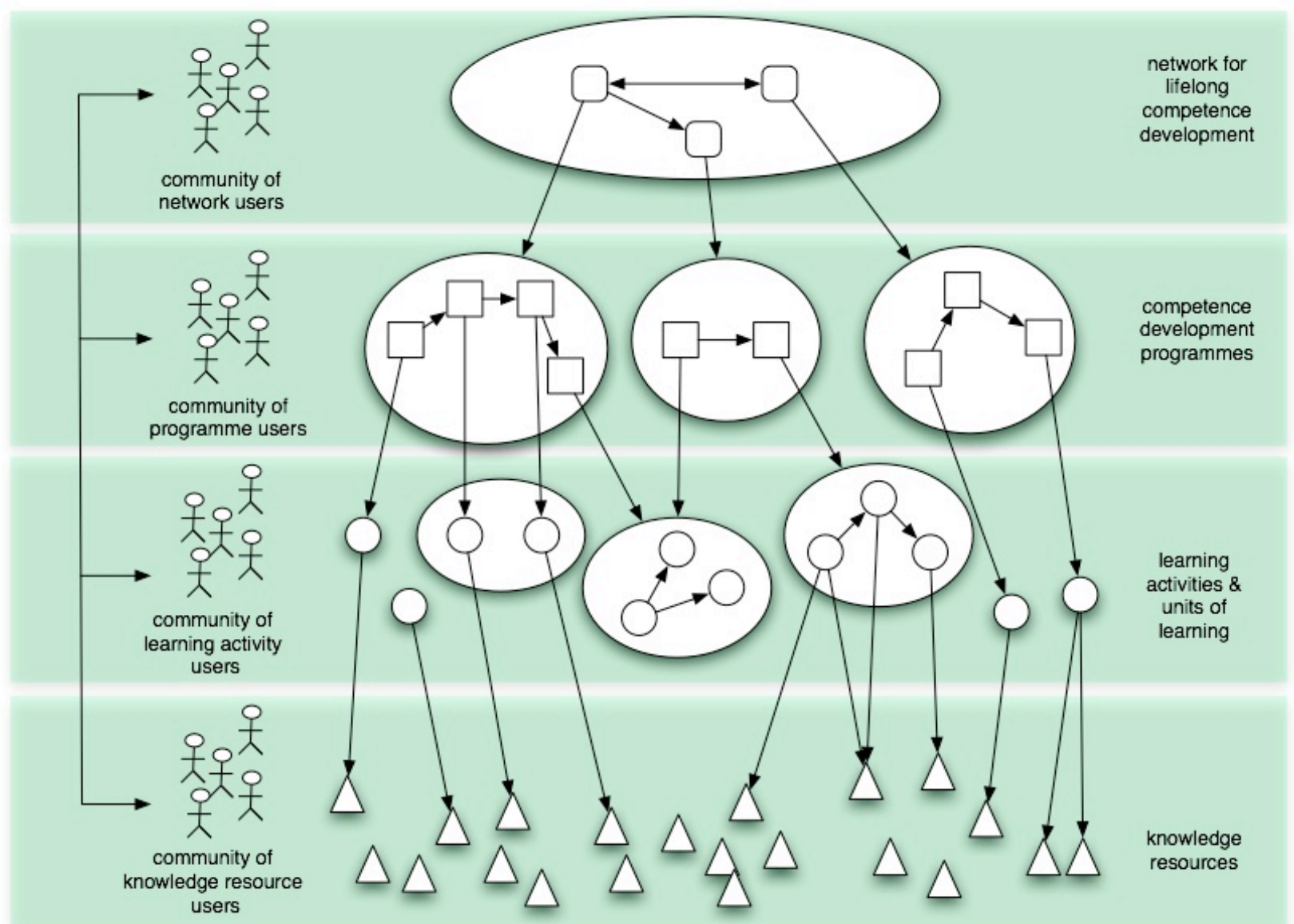
# Central problems

- The knowledge society demands continuous competence development and management at the individual-, group- and organizational level
- Those levels have their their own approaches and tooling
- Integrated support for informal and formal learning is missing
- Self-Organisation, Social Exchange Policies, and the role of communities are often not focused in organizational perspectives

# TENCompetence proposal

- To support individuals, groups and organizations in Europe
- in lifelong competence development
- by establishing the most appropriate technical and organizational infrastructure,
- using open-source, standards-based, sustainable and extensible technology.

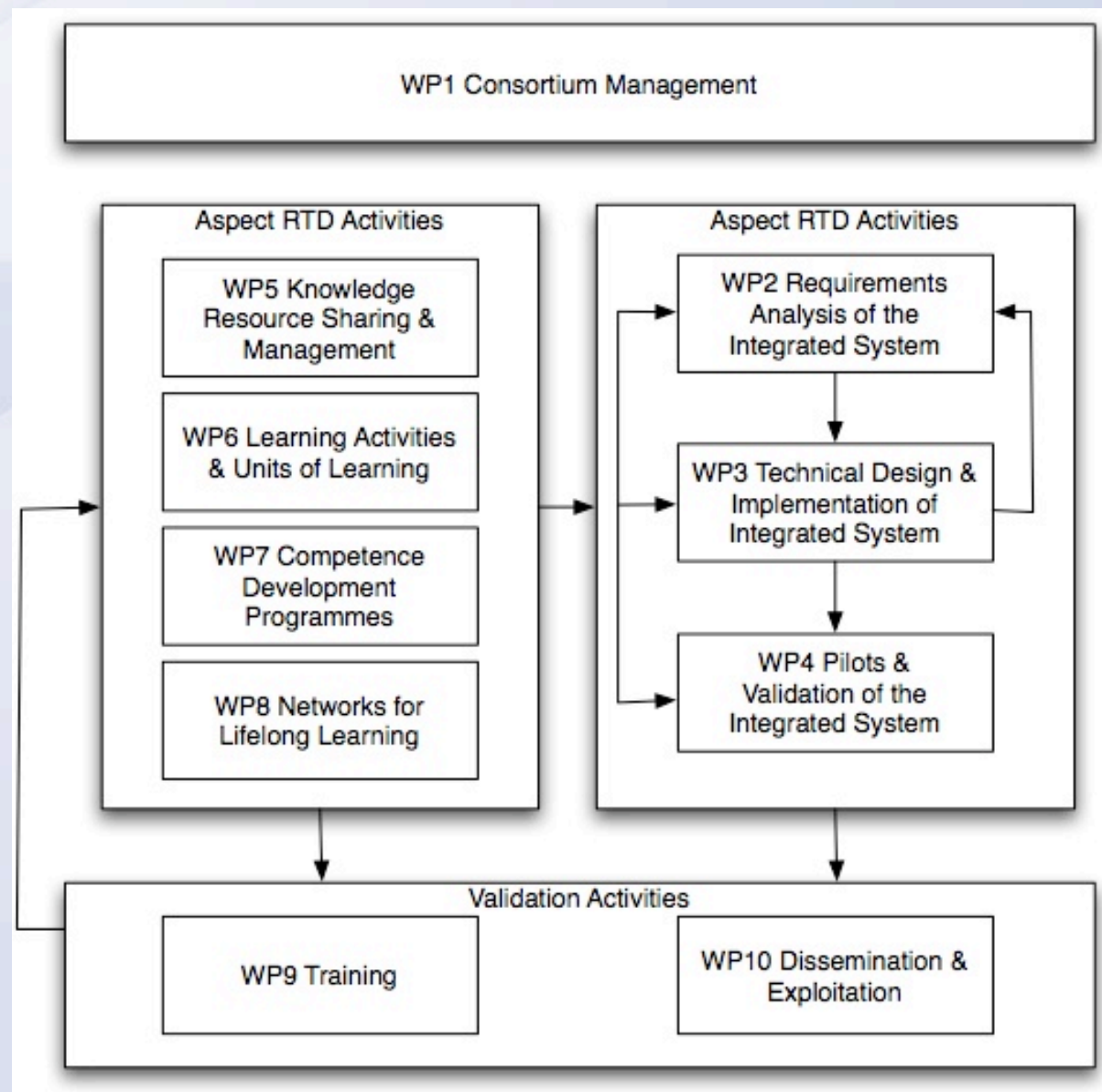
# Integration Levels



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# Workplan Structure



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# Partners

- Open Universiteit Nederland
- Software de Base
- LogicaCMG
- Universitat Pompeu Fabra
- GIUNTI
- CERTH
- Universitat Hannover
- INSEAD
- University of Bolton
- Universiteit van Amsterdam
- Sofia University
- Stichting SURF
- Synergetics



# Requirements and Domain Model



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## 7 Core Requirements (solve problems:)

1. Implement New Pedagogical & Organisational Models for Lifelong Compt Development
2. Support the Discovery of Best Solutions
3. Stimulate Pro-active Sharing of resources
4. Support Competence Assessment
5. Provide Effective & Efficient User Support
6. Provide Decentralized, Self-org. Management
7. Integrate Isolated Models & Tools from four 'worlds': knowledge sharing (WP5); learning activities (WP6); programmes (WP7); learning networks (WP8)

## Non-functional Requirements:

1. Open Source Only (OSI)
2. Use of Open Standards
3. Service Oriented Architecture
4. Extensible
5. OSS services can be replaced by commercial services

# Use Cases

# & Domain Model

ENC-Infrastructure  
- technical (= the system)  
- organisational (manuals, workflow, paid services, etc.)

## Organised Pilots in Project Plan:

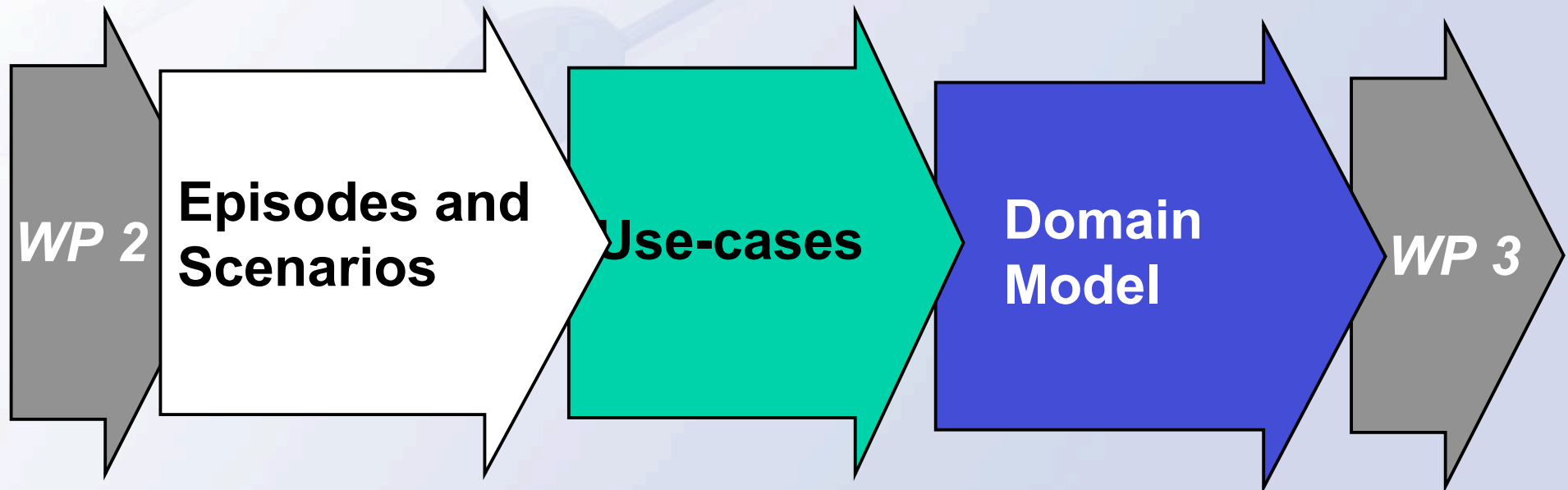
1. Digital Cinema (first 18 month)
2. Health Care (after 18 month)
3. Indonesia Water Mng (after 18 month)
4. Antwerp Lifelong Learning City (after 18 month)

## Additional Pilots:

1. Small pilots by Partners
  2. Pilots by Ass. Partners
  3. Pilots by others
- At any time!



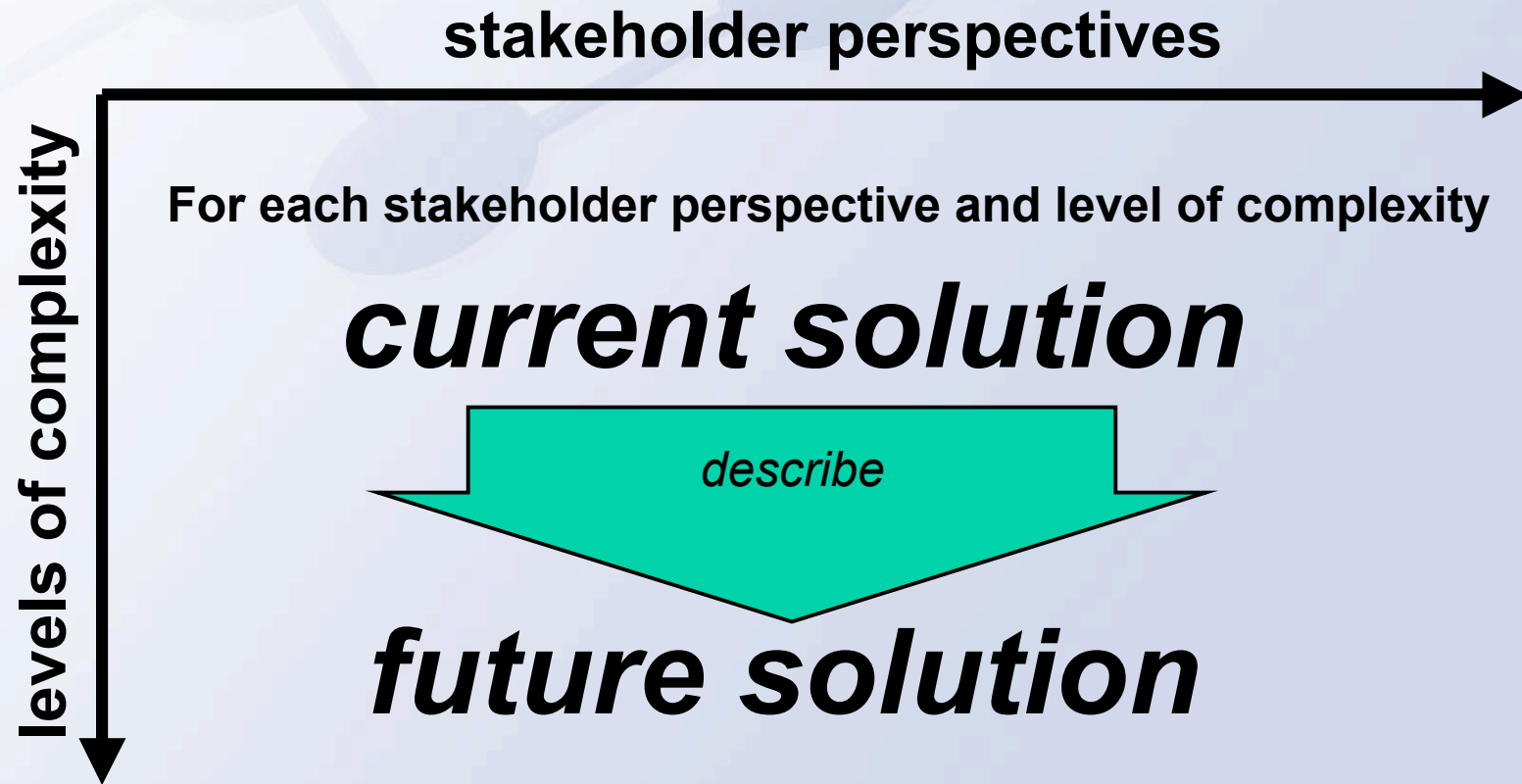
# The Domain Modelling Process



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# Episodes and Scenarios



# Analysis Matrix

	Trainers	Tutors	Learners	HR Manager	Instructional Designer	...
Knowledge Resources	<i>current</i> - <i>future</i>	<i>current</i> - <i>future</i>	<i>missing</i>	<i>missing</i>	<i>current</i> - <i>future</i>	
Learning Activities	<i>current</i> - <i>future</i>	<i>current</i> - <i>future</i>	<i>current</i> - <i>future</i>	<i>missing</i>	<i>current</i> - <i>future</i>	
Competence Development Programmes	<i>missing</i>	<i>current</i> - <i>future</i>	<i>missing</i>	<i>current</i> - <i>future</i>	<i>current</i> - <i>future</i>	
Learning Networks	<i>current</i> - <i>future</i>	<i>missing</i>	<i>current</i> - <i>future</i>	<i>current</i> - <i>future</i>	<i>missing</i>	



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# From Scenarios ...

## Selma

Selma was trained to be an optician and works in an optician for a pleasant boss. She was trained for the trade in the classic way, which is by measuring eyesight using a phoropter, measuring spectacles and fitting them, cut glasses manually, drawing glasses and cutting them using a machine, etcetera. She has worked for a number of different opticians and is toying for a few years with the idea to start her own business. At a certain point in time she takes a decision. She can take over a nice shop for a good price, in a village that doesn't have other opticians. The shop runs well and the village grows and grows, because it's near to a big town. She can't handle the work, so she buys a bigger building, hires personnel and so it goes on for years until a competitor comes to the villages. A shop of a recently graduated optician, thinking there's a market in a growing village with a somewhat out of date optician. He handles thoroughly: offers free eyesight measurement, has lower prices and has the disposal of the most modern computerdirected measurement equipment. Besides he doesn't cut the glasses himself, but uses the services of a large cutting factory. As a result he can deliver glasses a few days sooner than usual and is cheaper off. He also starts a department for contact lenses, which immediately attracts a large number of customers, previously going to the big town.

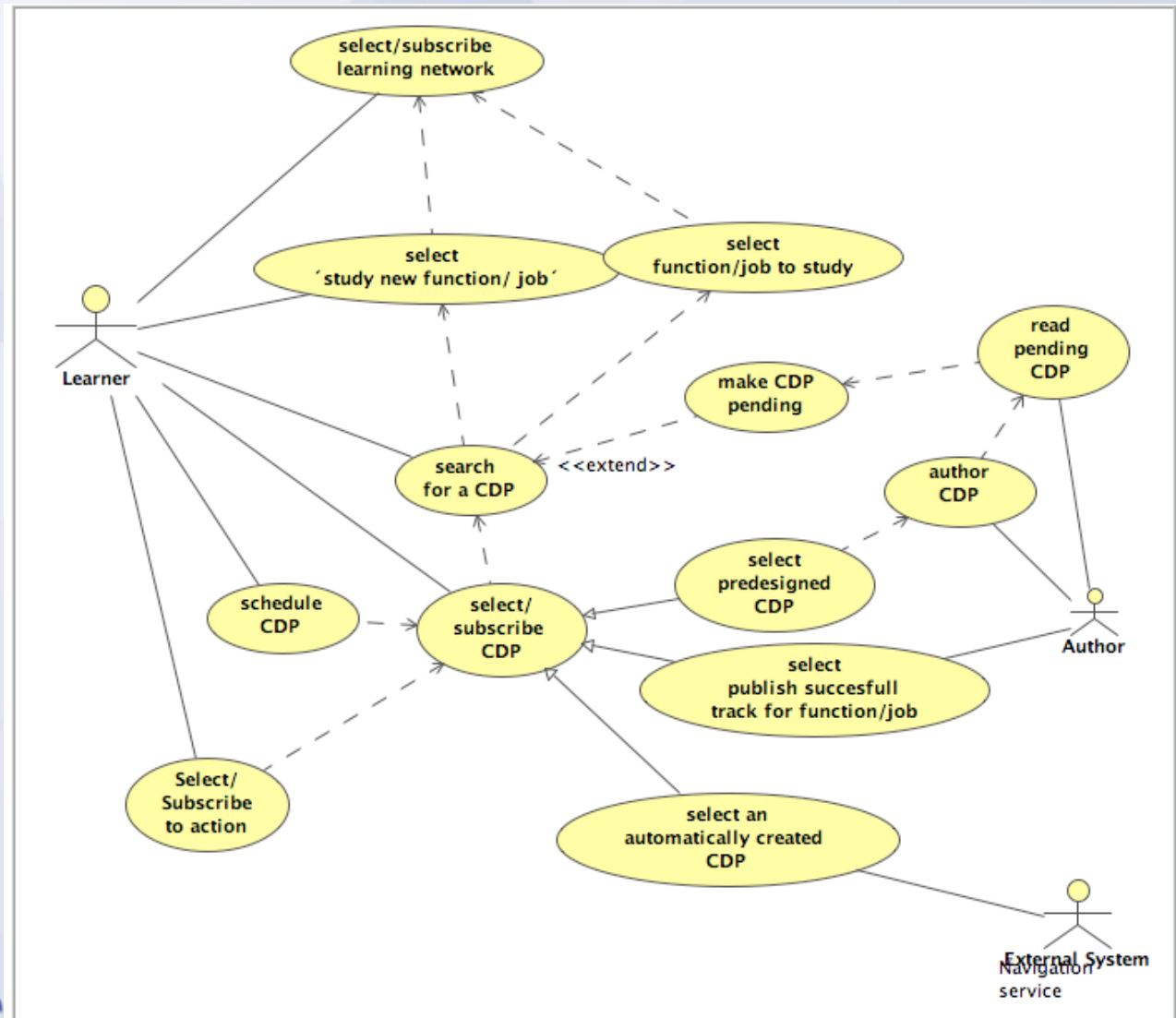
Selma never acquired the diploma for contactlensspecialist and hiring a specialist is too expensive. She also can't handle the new electronic equipment. She discovers she's trailing in the developments and that she has found this out rather late. Her purchases are too expensive, her way of working is too expensive, she doesn't have an electronic file of customer registrations and logistics, preventing her to send brochures to customers to bind them. Within two years she notices her revenues are 40% down and more and more of her customers going to the other shop and being satisfied there. What to do?

Selma is dealing with fast technological and business developments in her speciality, which she didn't notice in time. She learned the trade well, but what she can do manually can be done much faster and better by a machine. It essentially has become a superfluous competence. She finds it a petty herself: the trade lose its romance. Being able to cut glasses manually, that's fun, that's the difficult part, but it's superfluous... We see this happening in many trades and it will happen faster nowadays than ever before. If Selma would have stayed an active member of the community of colleagues and because of it had been updated about the latest developments regularly and was trained in them permanently (e.g. operating new eyemeasurement equipment), then she too could have invested and changed in time.

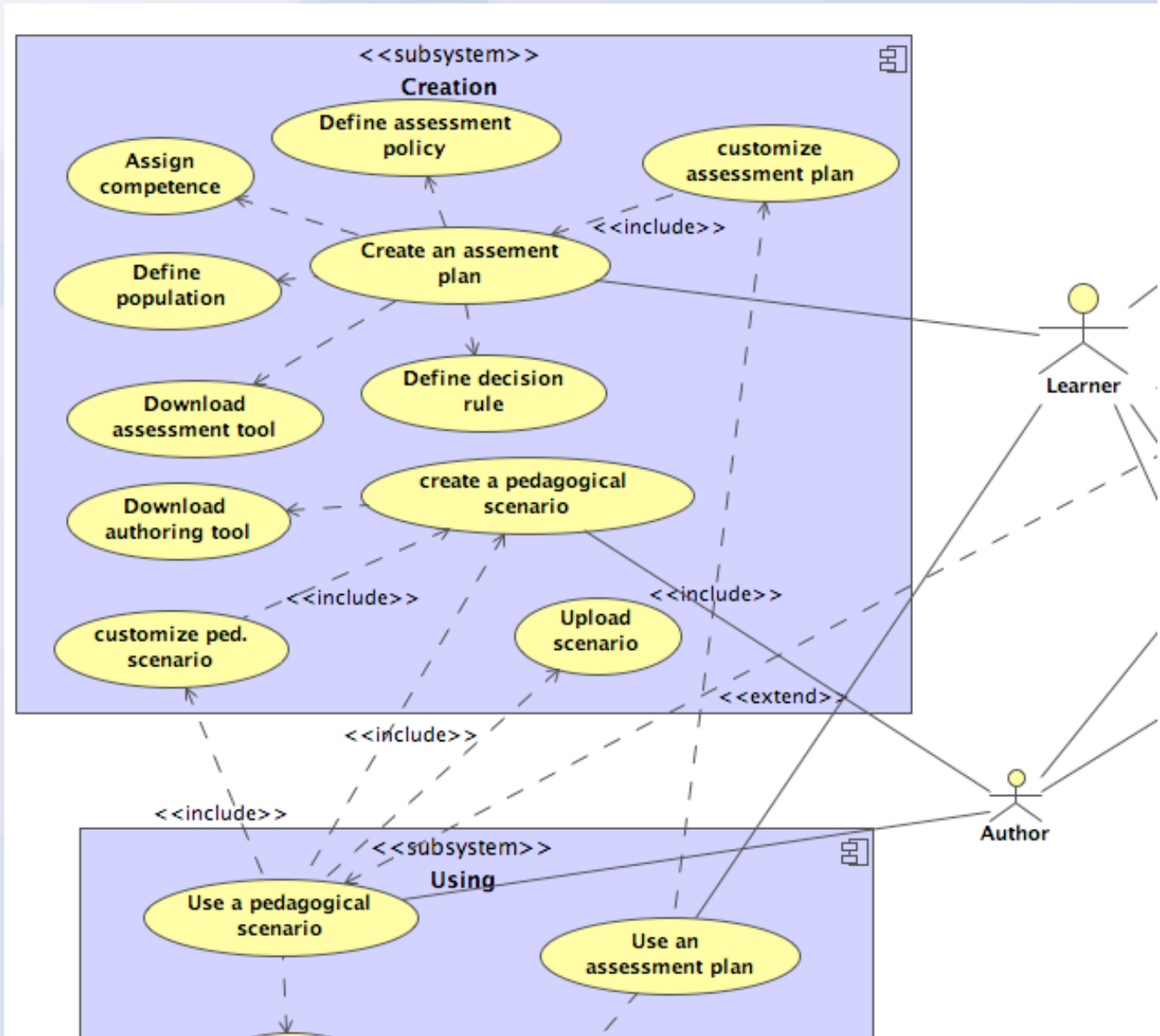
This last example is an example from small and medium businesses. Small and medium businesses form the heart of our economy, but they are often too small to realise new developments on their own, to actively acquire knowledge and as a result they are often threatened to be overtaken by fast developments. This problem also is a problem which can be picked up by realising an infrastructure for lifelong competence development.

*written by: Rob Koper (<http://hdl.handle.net/1820/438>)*

# From abstract use cases ....



# From levels of integration ...





# The Domain Model



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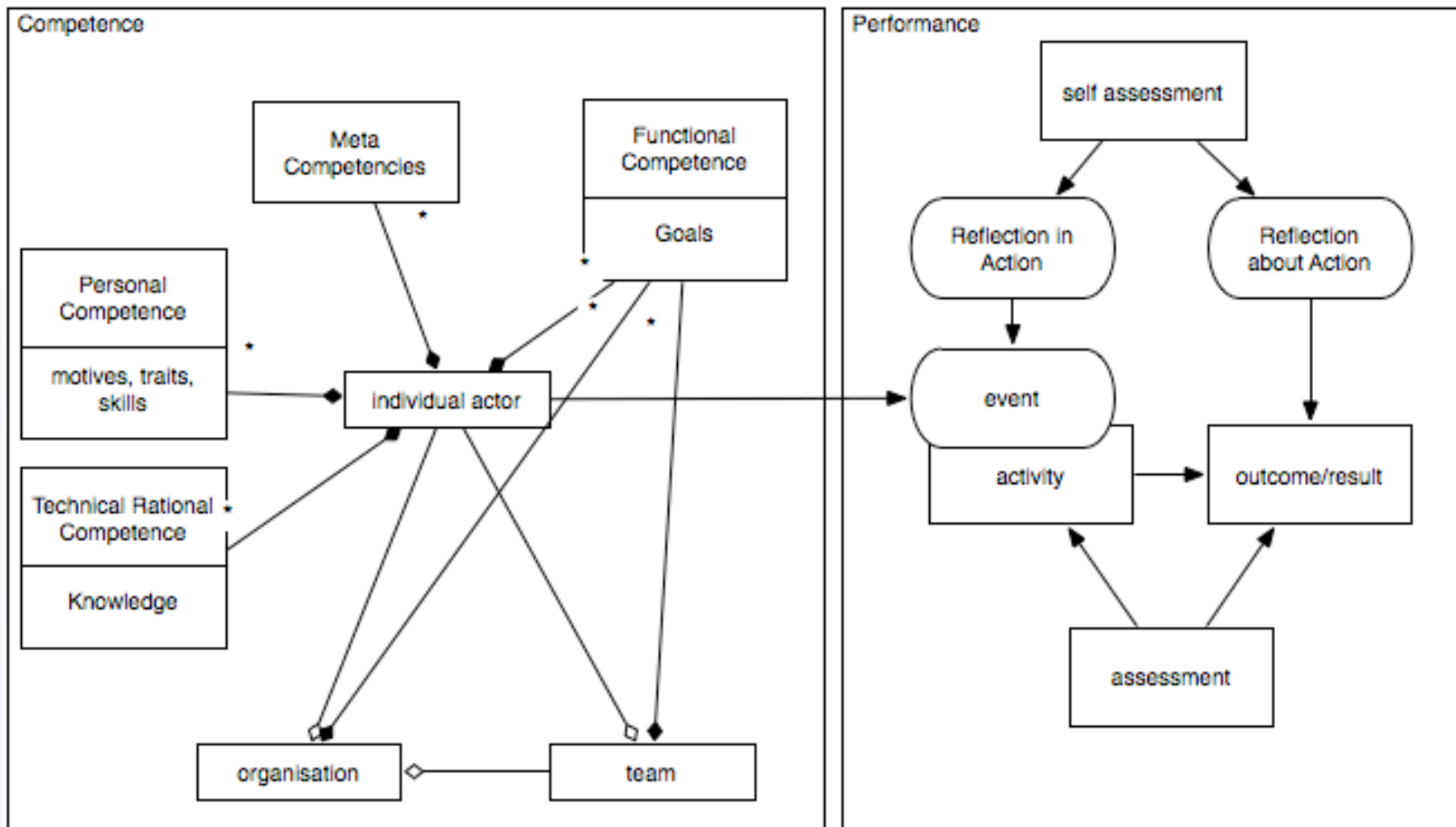


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Visualization for competence awareness



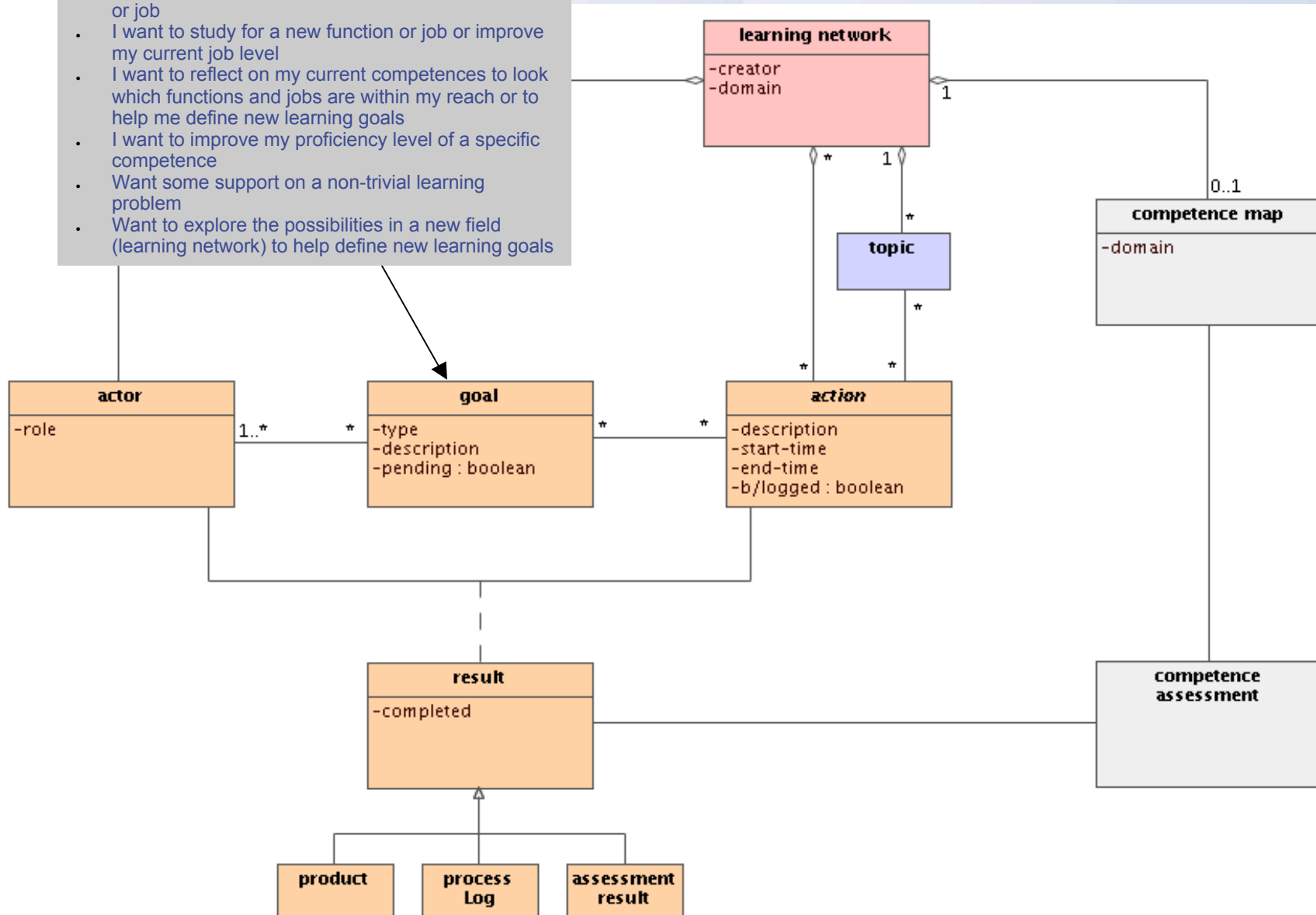
ecological niche, organisational environment



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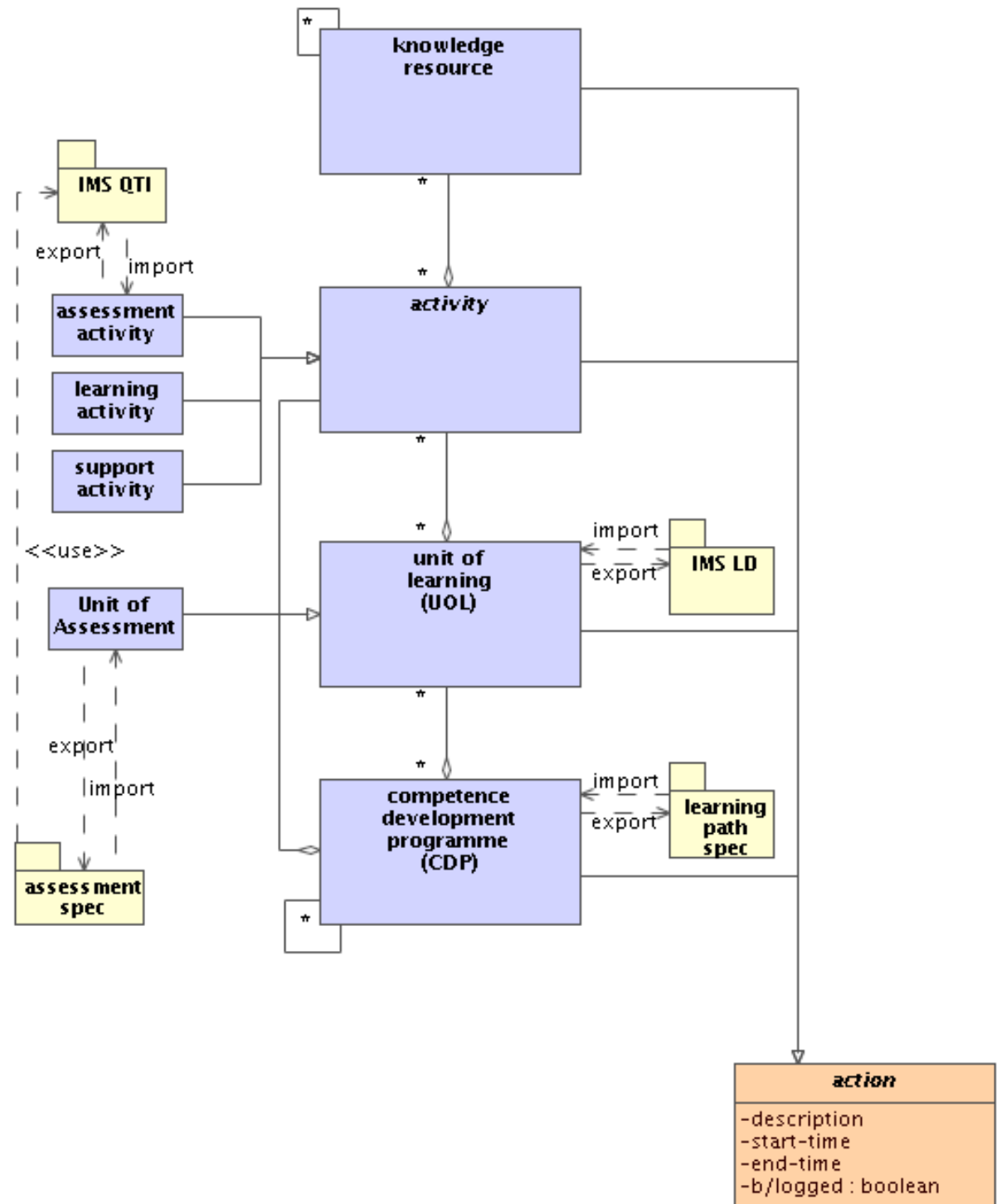
- I want to keep up to date within my existing function or job
- I want to study for a new function or job or improve my current job level
- I want to reflect on my current competences to look which functions and jobs are within my reach or to help me define new learning goals
- I want to improve my proficiency level of a specific competence
- Want some support on a non-trivial learning problem
- Want to explore the possibilities in a new field (learning network) to help define new learning goals

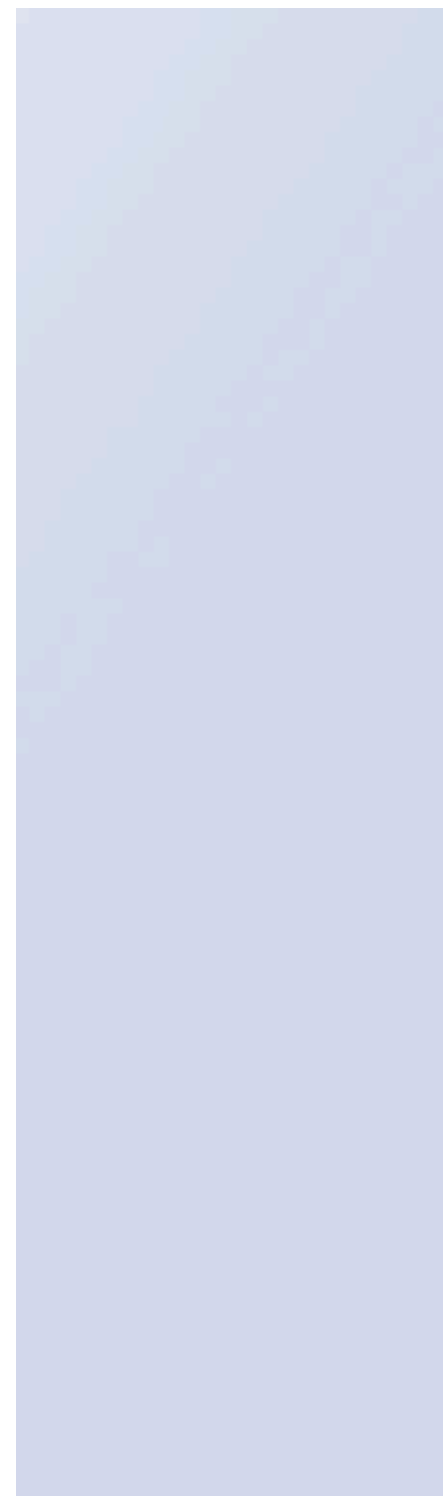
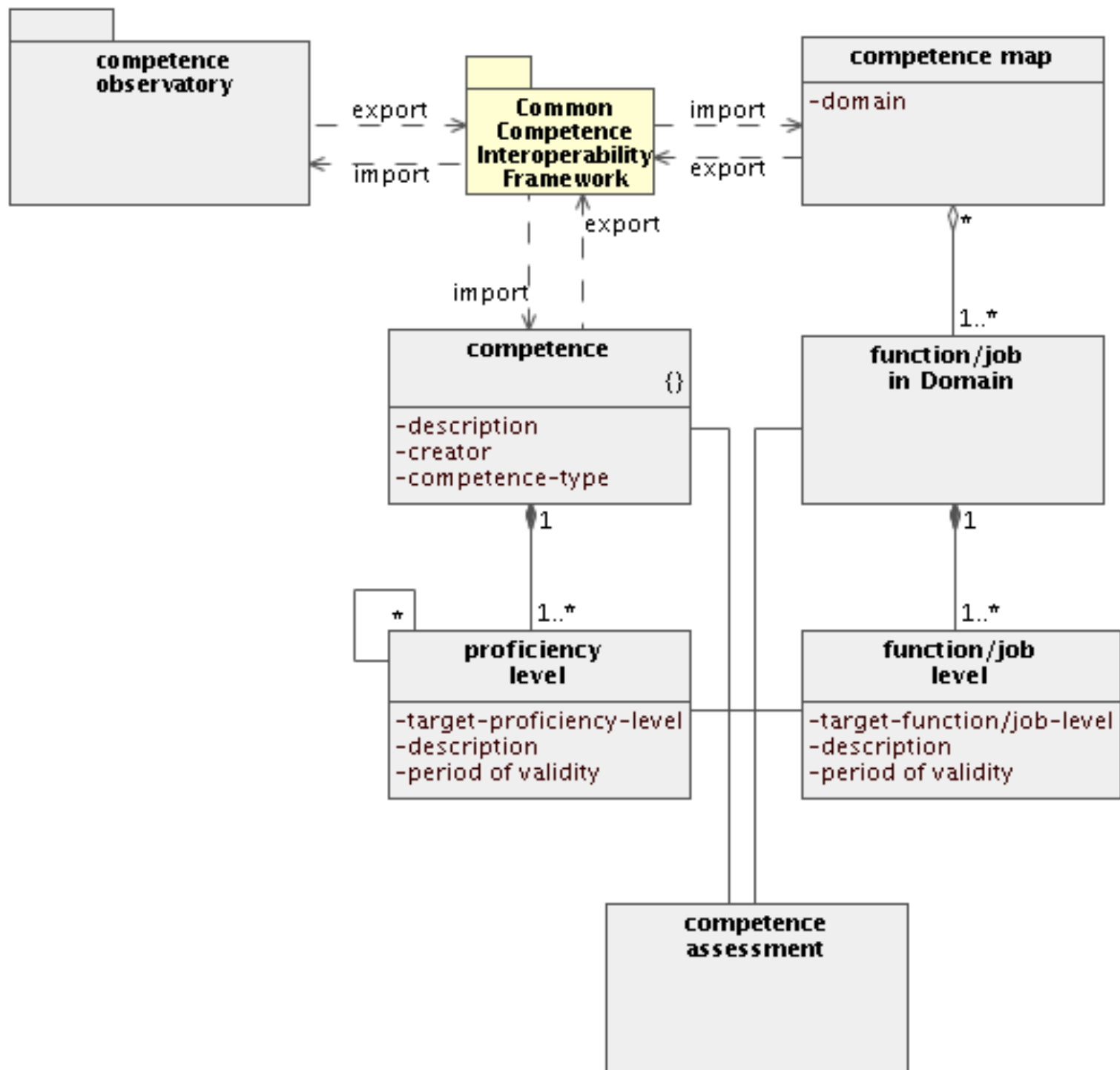


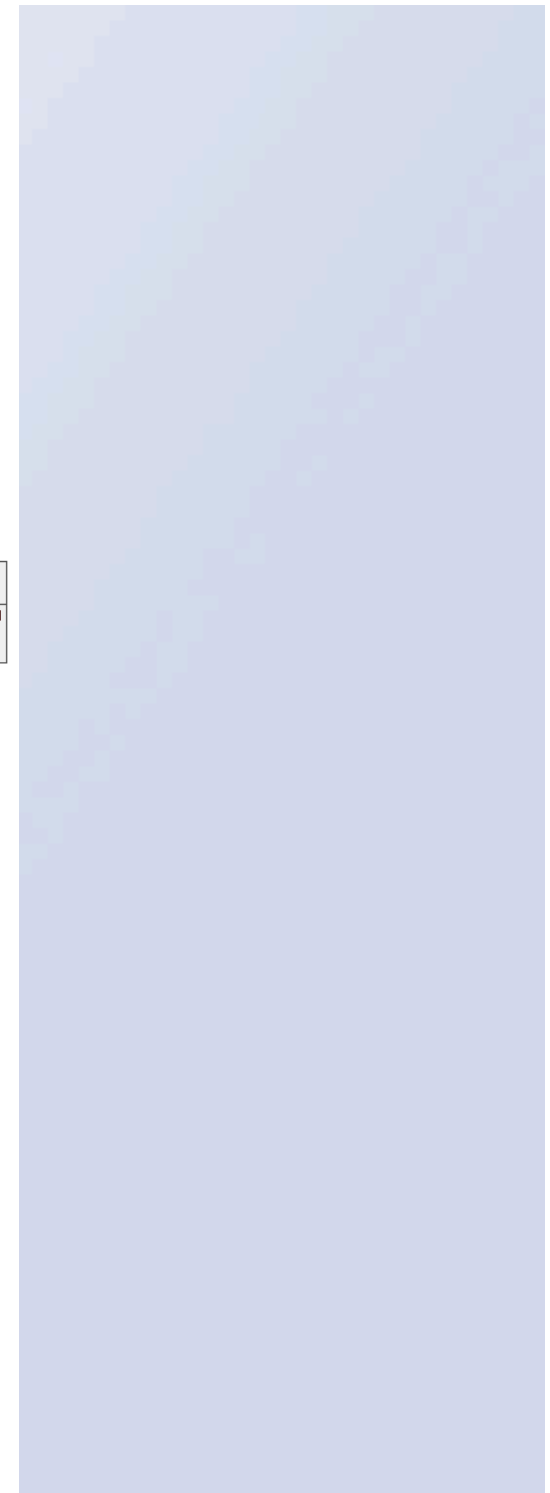
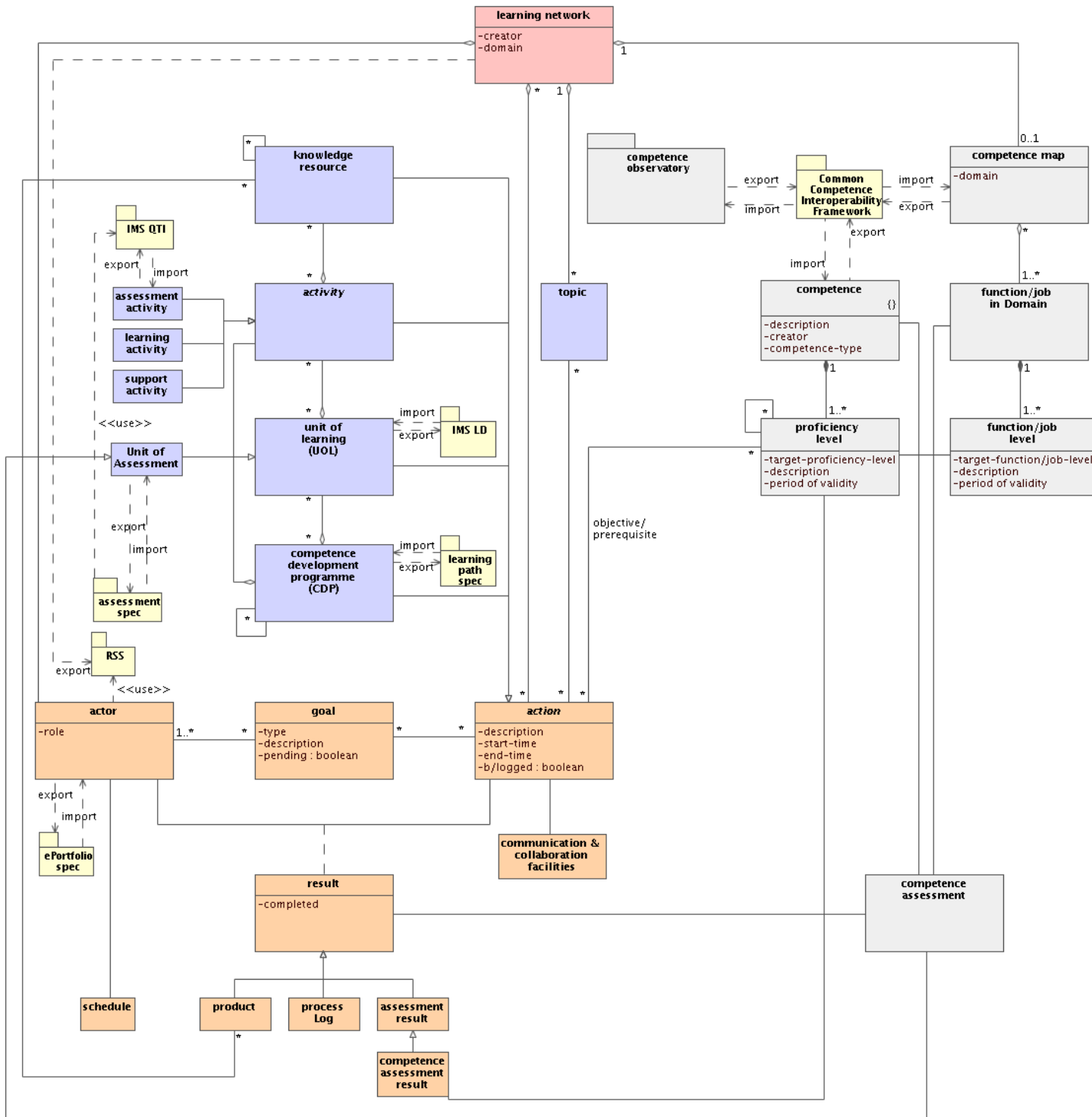


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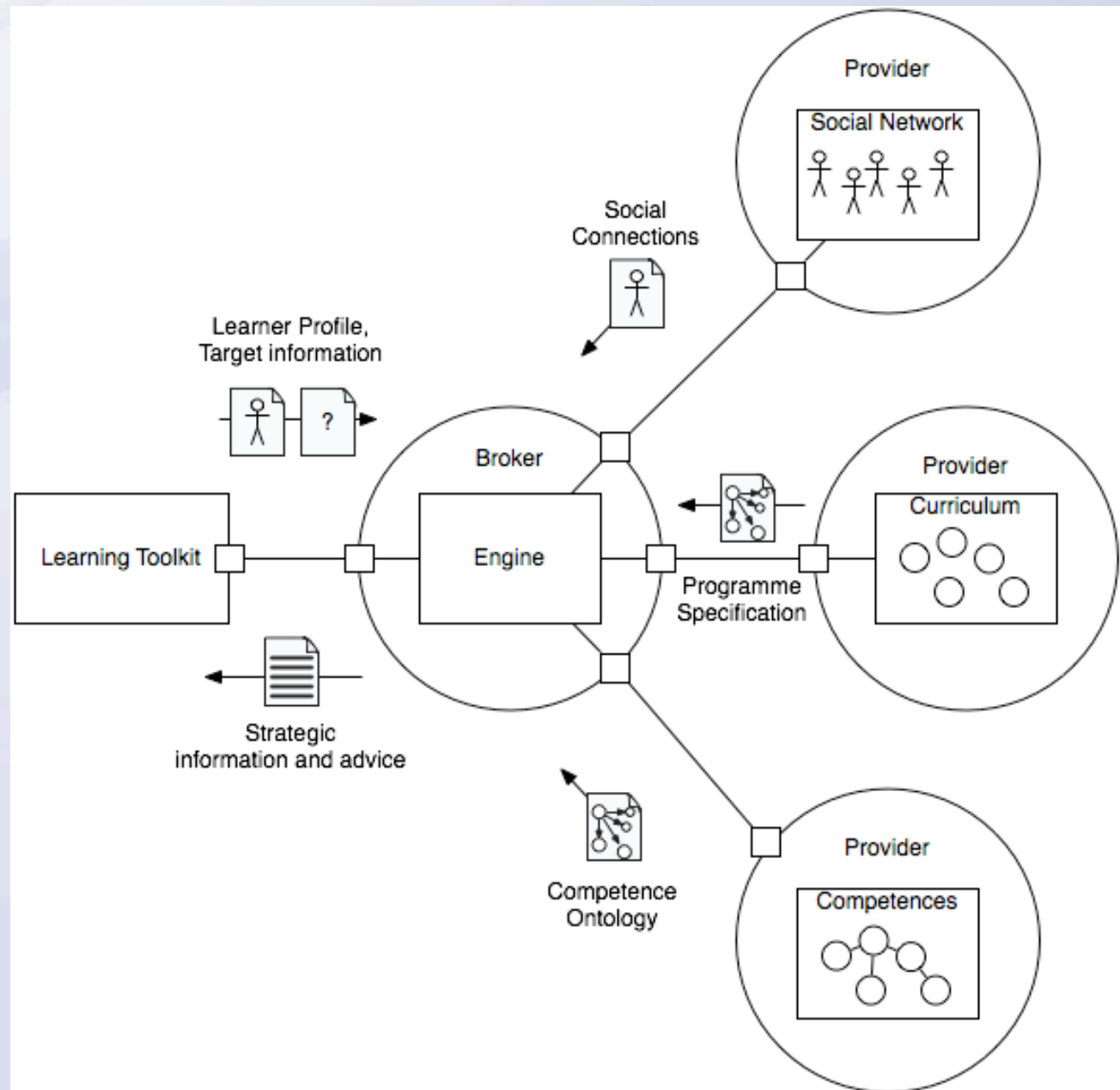
# Technical Design and Implementation

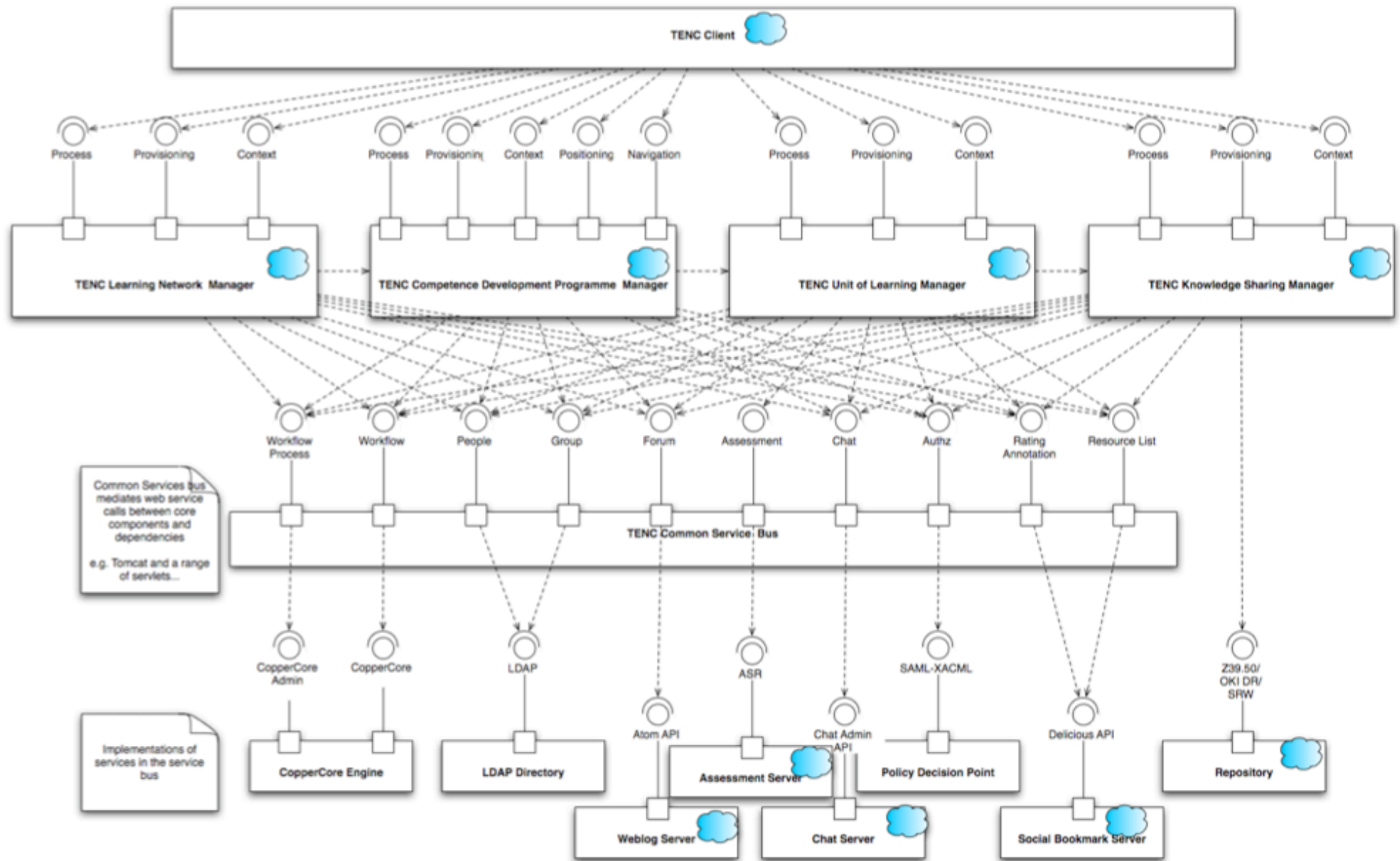


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# SOA for Learning Networks





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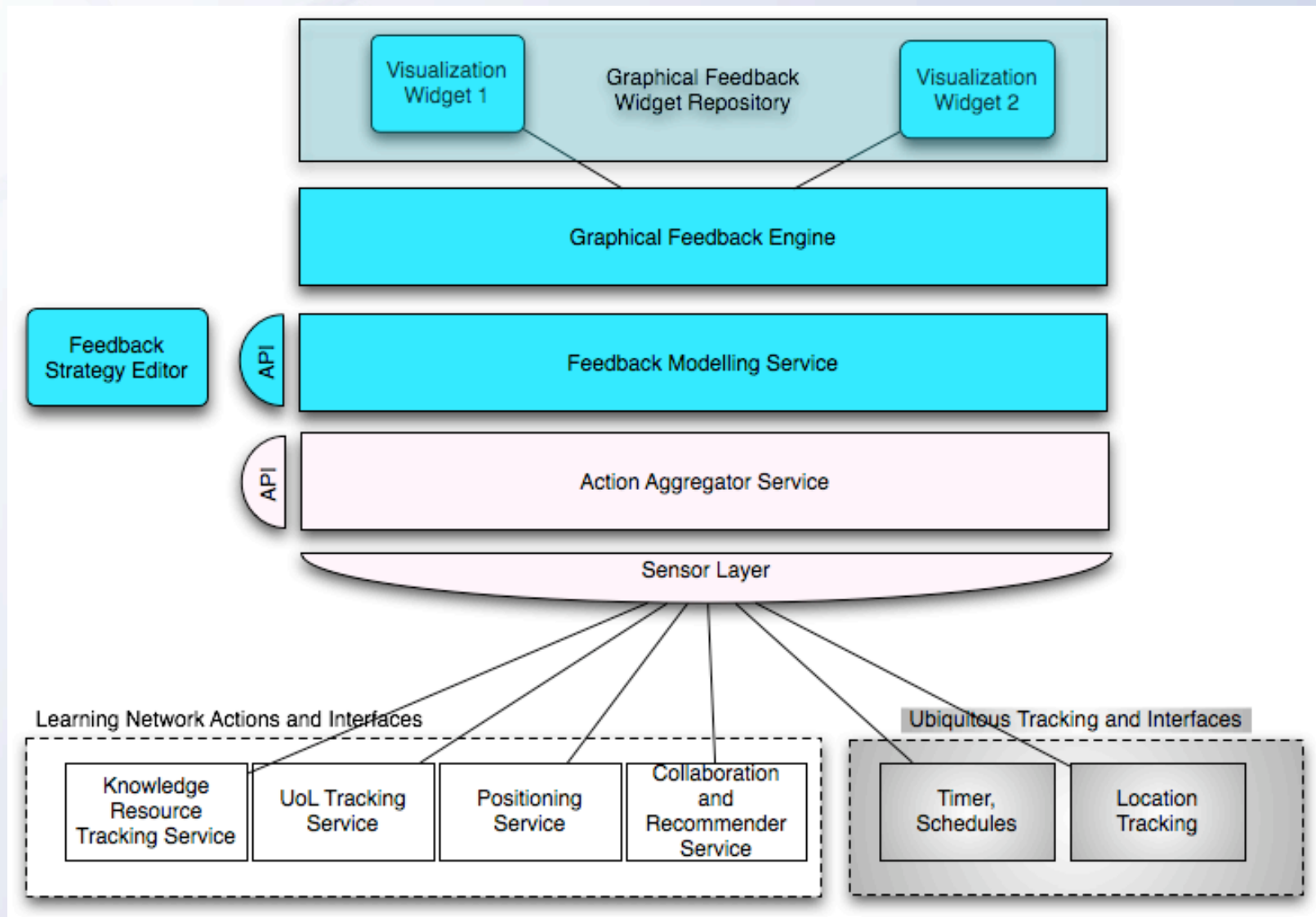
# Some integrating perspectives ...



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# Visual Feedback in Learning Networks



# Mobile and Ubiquitous Support for LN ...

- Mobile media injection and delivery: *adding contextualised resources to the learning network and finding the appropriate knowledge resources or learning activities for a specific learning situation*
- Ubiquitous notifications for learning support: *this part will focus on fostering awareness with the possibilities of nomadic learning support for continuous learning activities*

# Game Design Patterns for LN ...

- How to apply game design patterns for community building in learning networks

Alarms, Immediate Feedback, Goal Management, Flexible Quest Sequencing, High Score Lists, Third Person Views, Shared Penalties

- Game Based Competence Assessment