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Introduction

This paper is situated within the framework of the 3-Lensus project concerning "Learning for sustainable regional development". Within that project CELSTEC was asked to draft a short paper about the differences – mainly from a functional perspective – between a portal, as it is being used by the RCE Rhein-Meuse, and an (online) learning network.

This paper presents a short conceptual characterisation of both portals and learning networks and compares both entities. On the basis of this characterisation and comparison, the website of RCE Rhein-Meuse has been globally characterised and analysed according to the different characteristics of our concept of learning networks.

Portals

A portal is a website that – after identification / authentication - provides users uniform access to a *preselected* set of specific services, sources of information and/or websites. It is sufficient to log in once to get access to this set.

As opposed to websites of the so-called *Web1.0* period, portals have become more advanced. Nowadays, portals are based on content management systems instead of static web pages, and their goal is *personalisation*, i.e. to deliver specific services and information to distinguished groups of users characterised on the basis of knowledge about the users / user groups. In order to build up this user knowledge, all kinds of digital use traces are stored, collected and analysed, often supported by a dedicated customer relationship management (CRM) system. Such traces include users' previous search terms, orders, clicks, et cetera. Personalisation further entails that users are able to set their personal preferences through a personal profile, and have some degree of control over the content, structure and form / layout of their personal page(s) in the portal.

On average, portals are supply-driven, i.e. the owner of the website decides about the nature and type of services offered to the different user groups. The owner of a portal is typically an (educational) institution, a company or community.

The structure of the portal is determined by *logic* and is generally *hierarchical* in nature. The owner decides (1) which roles and customer groups are to be distinguished and supported, (2) which system(s) or taxonomies are used to describe and characterise services and information, (3) which services and information are made available to the separate roles and user groups.

Learning networks

A learning network is a network of people who are connected to each other through Internet-based systems: an online social network. A network of people who share knowledge and information in order to learn with and from each other, in continuously changing groups in changing compositions (ad hoc – transient communities).

The existence of learning networks hinges on the interaction between people. Without people there is no interaction, and therefore no learning network. Learning networks are dynamic. People come and go. Communities within the network will mostly be topic-oriented and will grow more or less organically in the course of time, as long as there is a common goal and as long as new insights and knowledge are produced and shared.

In a learning network each person is both a *provider* and *consumer* of 'knowledge'. The exchange of knowledge happens on the basis of demand and supply. Depending on the topic at hand, an individual's role switches between 'expert' and 'novice'. There is no (fixed) hierarchical relation between individuals in the learning network, as in the traditional teacher-student relation.

Learning networks are in essence *self organising*. It is the individuals themselves who take the initiative to learn. In order to achieve their learning goal, they can participate in an existing community or initiate a new community. Heterogeneity – as regards background, knowledge and competences – and a common goal are important conditions for a learning network to function well.

Knowledge in a learning network is available through individuals ('profile') and through content (documents, links, embedded materials) that is made available by individuals in the network. This knowledge needs to be maximally accessible. The most appropriate method of making knowledge accessible is to 'BRATS' people, content and communities, where 'BRATS' stands for Bookmarking, Rating, Annotating, Tagging and Sharing. By tagging knowledge (items) a semantic knowledge network arises with its own individual taxonomy. Individuals in the network are free to decide which tags they want to use.

Implementing a learning network places specific demands on the technological platform that is to be used. It must be (extremely) easy for users to add knowledge, to describe knowledge through techniques such as tagging, rating and annotation, and to share this knowledge within community or network. It must be possible to identify individuals on the basis of relevant, shared profile information.

It is recommended that the platform supports the effective and efficient matching of demand and supply of knowledge through intelligent recommendation systems, for instance based on intelligent language-based technologies such as LSA[1].

Subsequently, the use of *RSS* or other syndication technologies enables a consolidation of the match between demand and supply. RSS allows individuals to *subscribe* to knowledge in the network (for instance, knowledge originating in a particular individual, or knowledge with a particular tag). Syndication prevents people from repeatedly having to look for newly available 'expert knowledge'.

For the design of learning networks the following five propositions hold:
1. Not the content, but the individual person is at the centre of a learning network.
2. Knowledge is made accessible through BRATSing
3. Tagging is the main organising principle in the structuring of knowledge.
4. Demand and supply are matched through intelligent recommendation systems.
5. Knowledge sharing is consolidated through the use of syndication technology (e.g. RSS)

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[1] LSA stands for Latent Semantic Analysis.
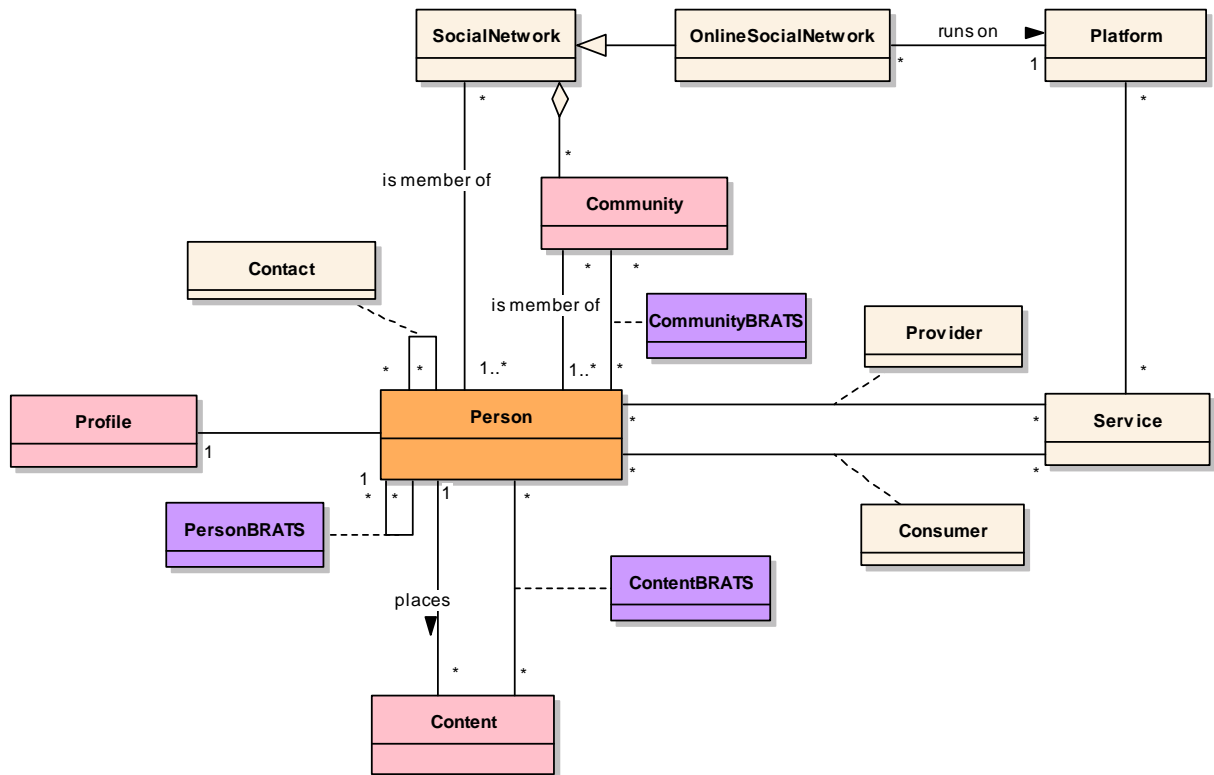
Portals versus learning networks

A conceptual comparison of portals and learning networks leads to the following picture:

- Portals and learning networks can co-exist. Mixed technologies also exist.
- In general, portal systems are NOT suitable for implementing learning networks. They are build on different design paradigms: 'content centred' versus 'people centred'.
- Portals are supply driven; learning networks are demand driven.
- Knowledge in portals is structured hierarchically and logically, encyclopaedic, most often according to the paradigm of a knowledge domain; knowledge in a learning network is structured by a semantic network on the basis of user semantics.
- The arrangement and structure of a portal are fixed; the arrangement and structure of a learning network develops in an organic way.
- Portals support homogeneous audiences, whereas learning networks assume a heterogeneous population.
- In a portal, users are mainly consumers of information and services; in a learning network users alternate between the roles of producer and consumer.

Quickscan portal 'Euregio Office'

- The website mainly presents information that is logically and hierarchically organised.
- The information structure of the website is fixed: "Apart from that, knowledge – that is being used by or has been created in the course of this type of projects – has been collected in a structured way." (Welcome page)
- There is no bottom up – user generated – increase of new content.
- The site has a strong institutional and formal character; it is clearly institutionally 'owned'.
- Individuals and personal profiles are not or hardly present; the creation of communities appears impossible. In short, there is no 'community awareness', or hint that this is a networking site intended for and populated by individual people. Moreover, no communication tools are available that support interaction between users.
- It is not possible to 'BRATS' people, content or communities; most importantly the option to tag – and thus create one's own taxonomy – is an essential characteristic of learning networks.
- The site is supply oriented; users are mainly content consumers (instead of content producers).
- The site has a very static feel: there does not appear to be dynamic exchange of information (e.g. "What's new?", "Recent additions")
- No RSS or other syndication is available, that would allow users to subscribe to new information or 'knowledge updates'.