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TENCompetence

Building the European Network for Lifelong Competence Development

Project acronym: Integrated Project TENCompetence

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D2.4 Updated Use Case models based on ID2.11 and Advice on Configuration Management based on ID2.17

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D2.4 – Updated use case models based on ID2.11 and Advice on Configuration Management based on ID2.17

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Contributors	ALTRAN, LOGICA, OUNL
Authors (Partner)	Carlos Méndez, Miguel Arjona, Ruud Lemmers, Eric Kluijfhout
Contact Person	Miguel Arjona
WP/Task responsible	Miguel Arjona
EC Project Officer	Mr. M. Májek
Abstract (for dissemination)	This deliverable contains a) configuration guidelines for the implementation of the PCM for the domains of Personal Competence Management, eLearning, and Knowledge Management, and b) work done on the interaction design of the PCM from the perspective of distinct usage profiles.
Keywords List	WP2, TENCompetence, PCM, configuration, interaction design

TENCompetence Project Coordination at: Open University of the Netherlands

Valkenburgerweg 177, 6419 AT Heerlen, The Netherlands

Tel: +31 45 5762605

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1. EXECUTIVE SUMMARY

The following document is composed by the following internal deliverables:
- ID 2.11: Series of documents reporting on vision sessions
- ID 2.17: Updated interaction design and advice on configuration management.

This document has two sections. The **first section** is oriented to the **definition of the domains of TENCompetence**[1] and the configuration of them to be performed in organizations and institutions. Additionally, this section contains a mapping among domains and the usage profiles used in the third year. Then, the integrated environment and the tools developed from the Aspect WPs have been matched with one or more of these domains.

The **second section** contains the work done in **Interaction Design**, as is described in the DIP4[i], This section concludes the work done in this field within DIP-3. It represents the flow of the information from the point of view of the user within a certain Usage Profile. Then, an analysis of the gaps and the overlaps among usage profiles was performed. The work done in this section was communicated to the WPs responsible for the analyzed tools, and reflects on the firsts release (Milestone M6) of this year. Feedback for the proper behavior and understandability of the tools was given by Taskforce-15 (TF15) and is collected in the internal deliverables **D2.18[ii] (Testing of the tools) and D2.19[iii] (Testing of the integrated environment.**

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[1] Personal Competence Development, eLearning and Knowledge Management

D2.4: Updated use case models based on
ID2.11 and Advice on Configuration
Management based on ID2.17

2. Methodology

This document reflects the work done in WP2 during this fourth year of the project as the consolidation of the objectives of the TENCompetence and shows the evolution of the requirements during the last four years.
The next graphic summarizes the methodology followed to capture TENCompetence Requirements.
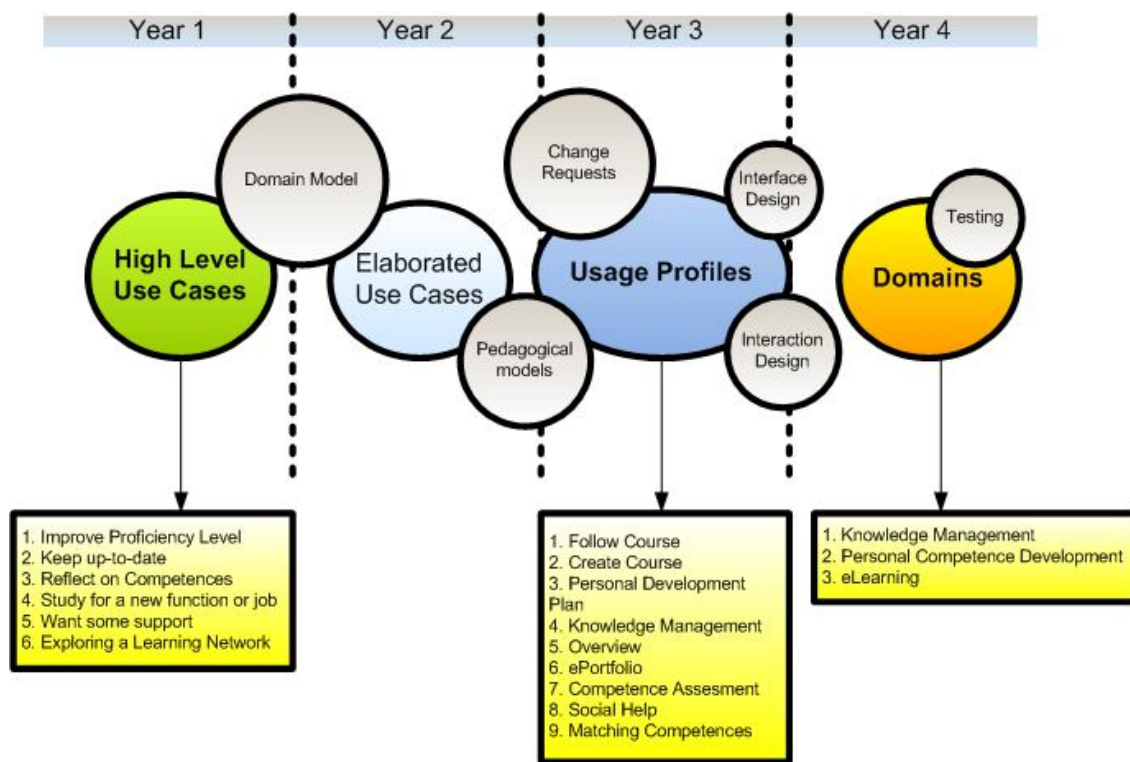
Image 1

As is shown in the graph above, during the two first years of TENCompetence, the Vision Group defined the **high-level use cases** based on the objectives of the project (D 2.1). These use cases were **extended and elaborated** by WP2 within this period (D2.2); as a consequence, the **pedagogical models** of TENCompetence were defined. The evolution of these use-cases and based on the pedagogical models was reflected in the **usage profiles**; these Usage Profiles define the different points of view of the system depending of the motivation of the user to use the system.

On the other hand, WP2 created **Interaction Design** diagrams to ease the development of the tools that implements these use profiles. During the fourth year, analyzing those profiles, the **Vision Group** decided to use the underlying domains identified in the initial Description of Work (DoW), specifically in problem #7 of the DoW[2]: **Knowledge Management**, **Personal Competence Development** and **eLearning**. To this end TENCompetence integrates isolated tools that are available in the fields of Knowledge Management, Human Resource Management and e-Learning. The integrated tools are flexible, support a range of pedagogies, incorporate the more innovative aspects of the web, be open standards compliant, and plug-and-play.

The Consortium Board decided that these three domains will be used to structure and harmonize: a) dissemination activities by WP10 (how to focus, define audiences, and present our tool set conceptually); b) Liferay demo configurations by WP2 and WP10 (create three integrated Liferay configurations illustrating an application for each domain), and c) the creation of business models by WP10 (apply Ostwalder's business model design template for the TENC infrastructure to each of these 3 domains).

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[2] Problem #7 defined in the DoW: *Although the three areas of Knowledge Management, Human Resource Management and e-Learning share many common themes (e.g. the need for a holistic view of individuals' formally and informally developed competencies, the benefits to be gained from social approaches to competence development), there has been little unifying work which integrates models and tools for competence development during learning and working and across a lifetime.*

3. Configuration Assessment of the domains

This section explains the three Domains, defined in TENCompetence as an evolution of the usage profiles, and also the configuration of these domains to be deployed in organizations and institutions.

This section is subdivided in three sub-sections: The **first subsection** defines the domains from a theoretical point of view. The **second subsection** describes the evolution of the usage profiles to domains making a mapping of these profiles-domains. The **third one** explains what tools are needed in each domain to have it available for use.

3.1. High level description of the domains

Since the start of TENCompetence until now, three domains have been identified and harmonized into a common infrastructure. That infrastructure, as the core of TENCompetence, has to be flexible enough to integrate these three perspectives, but also allowing the configuration of any of these separately. These three domains are: a) **eLearning**, b) **Knowledge Management** and c) **Personal Competence Development**[3]. In that way, depending of the individuals or institutional needs and motivations, the integrated toolset may be configured in such a way that each role can access to the system in his/her particular domain/goal, as is shown in the image below.

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[3] Previously known as Human Resource Management (HRM)

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Management based on ID2.17
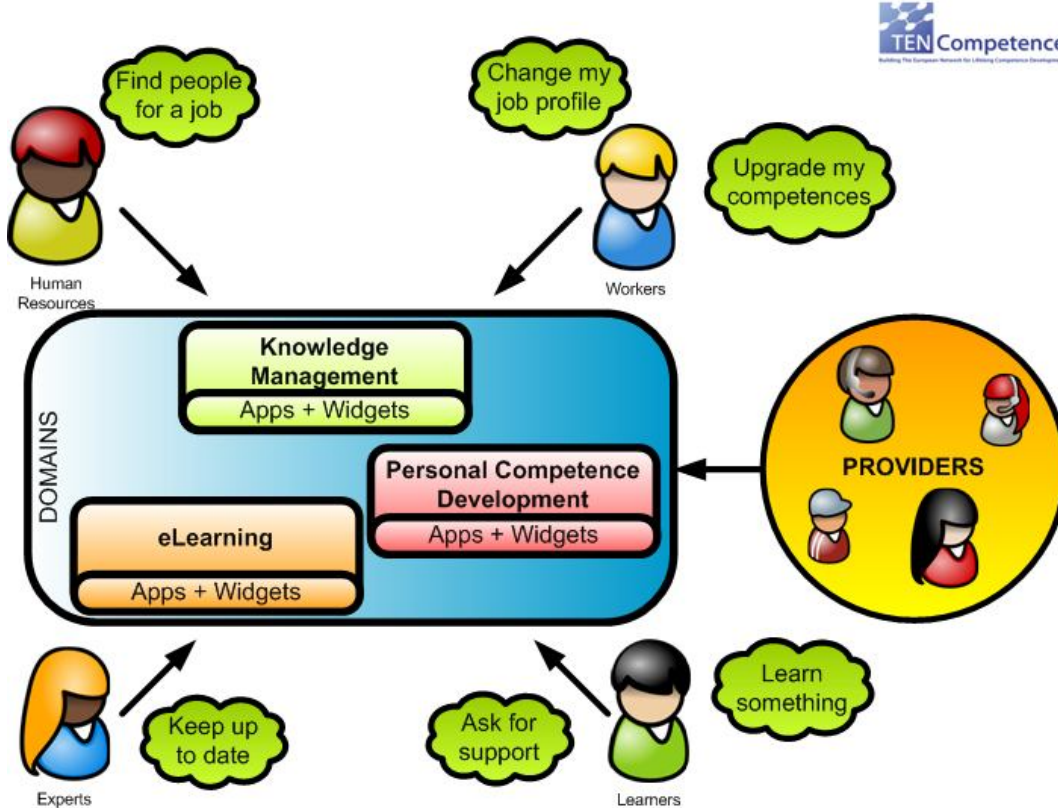
Image 2

Although **these domains share most of the internal services and the same infrastructure**, from the point of view of the final users, the changes are considerable; basically, each domain has to show only the needs of the final user and hide the rest of the features of the other domains to **ease the usability**.

It is important to highlight that **Knowledge Management** is **highly embedded into eLearning and Personal Competence Development**, but as a separate domain isolates the features of content management from the other domains; As an example, *a teacher collecting a large amount of educational videos and documentation for his/her courses uses the Learnweb Knowledge Management tool to link, upload, tag and share those resources.*

3.1.1. eLearning Domain

The eLearning perspective assumes a formal learning setting, with an institutional education provider, programme structure, and distinct roles of teachers/tutors and learners. The dominant use cases here are 'study for a new job' and 'developing specific competences'. Though the learner may initially have selected the programme and/or courses from the course catalogue, from there on personal flexibility is limited. In terms of TENCompetence the emphasis here is on the tools developed by WP6, which are

based on the implementation of IMS Learning Design (IMS-LD). The WP5 tool-set to manage learning resources also plays an important part in this scenario. The IMS-LD toolset developed under TENCompetence allows for considerable flexibility and personalization, even within a formal eLearning setting.

On one hand it has to provide information about the activities and the plans that are available based on the profile of the learner. On the other hand the domain has to provide the interfaces needed to **let learners communicate with experts**. These **experts** provide assessment, help and orientation but also contents for the whole domain.
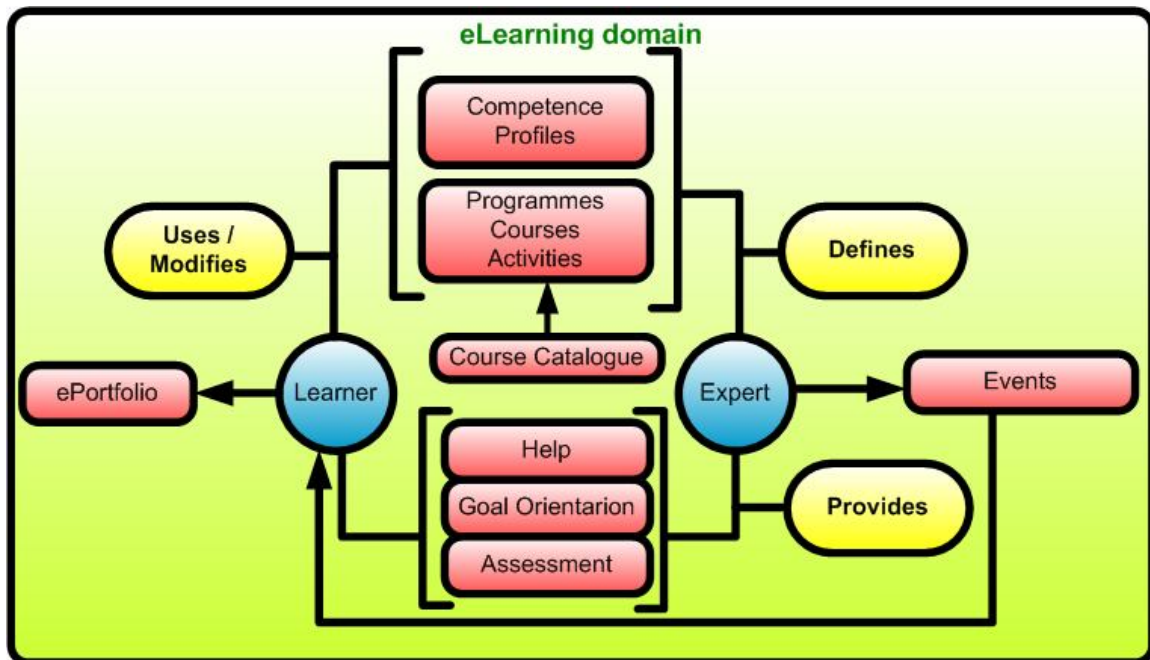
Image 3

As the starting point, the learner should have available the mechanisms to define in a formal way his/her competences in an **ePortfolio** document.
Once the ePorfolio of the user is defined and a learning goal is selected (e.g. I want to become a guitarist), the domain will be able to provide activities to the learner as long as he/she can define his/her own **activities and learning plans** or modify the existent ones.

From a social point of view, the learner can **ask for help and receive assessment** from experts, although self-assessment has to be available.

Switching to the point of view of an expert, he/she can be able to **manage activities**, **courses, competence profiles and learning paths**, making them available for the learners. Also he/she can manage the events of the system that can be visualized by the learners. Of course, to have a bidirectional communication available the experts should

have enough **communication mechanisms to provide help, orientation and assessment** to the learners.

3.1.2. Personal Competences Development Domain

The Personal Competence Management perspective emphasizes continuous professional development, largely self-directed, within a larger professional community. The dominant use case therefore is 'keeping up to date in my field/profession'. In terms of TENCompetence this perspective emphasizes the types of tools developed by WP7 and WP8, while shared (community-based) resources management also requires WP5 tools.
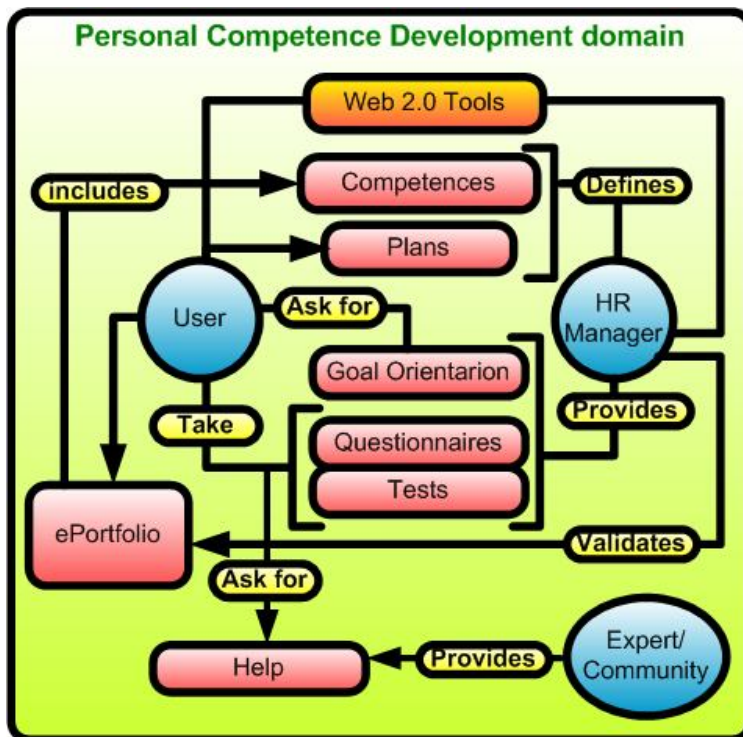
Image 4

From **the user (learner, employee…) point of view**, a user can define his/her ePortfolio based on the competences defined by the Human Resources Manager or create new ones. Anyway, HRM/organizational perspective is one possibility. Others are where a professional community offers all sorts of Continuous Professional Development (CPD) tools and opportunities. Such a community may be hosted by a labor union, professional organization, education provider, etc.

In any case, once this ePortfolio is available, a user can **ask for orientation** about his/her learning or professional goals helping to select the most efficient learning plan or **ask for help within the community**. This **orientation can be provided by and expert but also for the system** itself.

An **Expert** is another user of the system that has enough knowledge in a certain area to provide help about it (e.g. How to search the best plan, feedback about the selected goal…). A user can play the role of an expert in some areas and a 'normal' role in other ones.

From the **Human Resources manager** perspective, additionally to describe the competence map of the company or institution, he/she can create questionnaires for the learners to get feedback (e.g. Valorization of a course, improvements and suggestions…).

The whole domain has to provide enough **communication channels** to ease the interaction between Learner/Worker and the Human Resources Manager, not only in the traditional point of view of the communication but also using **2.0 techniques** as social networks, chats, blogs, forums, etc… In that way, the persistence of that information makes the common questions and solutions available for other learners, providing a knowledge base about keeping up to date in a given field or profession.

3.1.3. Knowledge Management Domain

The Knowledge Management Domain provides to the learners, knowledge managers (KM) and providers an interface to register, validate, modify, comment, rate, tag and search knowledge resources within the system.
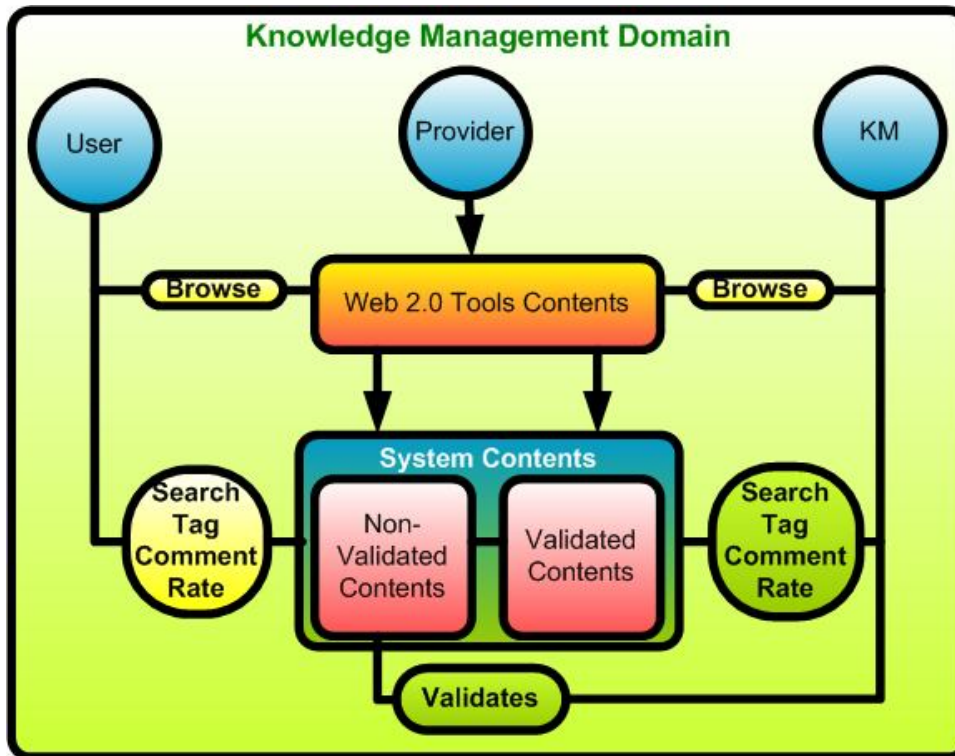
Image 5

From the user point this domains allows to upload contents, browse the system to discover contents or search for an specific one. Additionally to have access to the recourse itself, once the content is located a registered user can tag, comment and rate the resource making that information available for all the users.

From the point of view of a **Knowledge Manager**, additionaly to the user's features, he/she can validate contents that came from external providers or from the learners.

A **provider is an external <u>user or service</u>** that makes available to the system their resources.

3.2. *Mapping Usage Profiles – Domains*

In the previous phases of this Project the usage profiles were defined (see D2.3[iv]); in this section WP2 make the work of analyze these Usage Profiles in comparison with domains and make the proper mapping among Usage Profiles and Domain. A Usage Profile defines a User Perspective to access the system. In the same way, **a domain defines one or more perspectives of usage**.

The next graph shows a mapping among usage profiles and domains; some of them are highly **related to a specific domain** and another one are **common to two or all domains**.
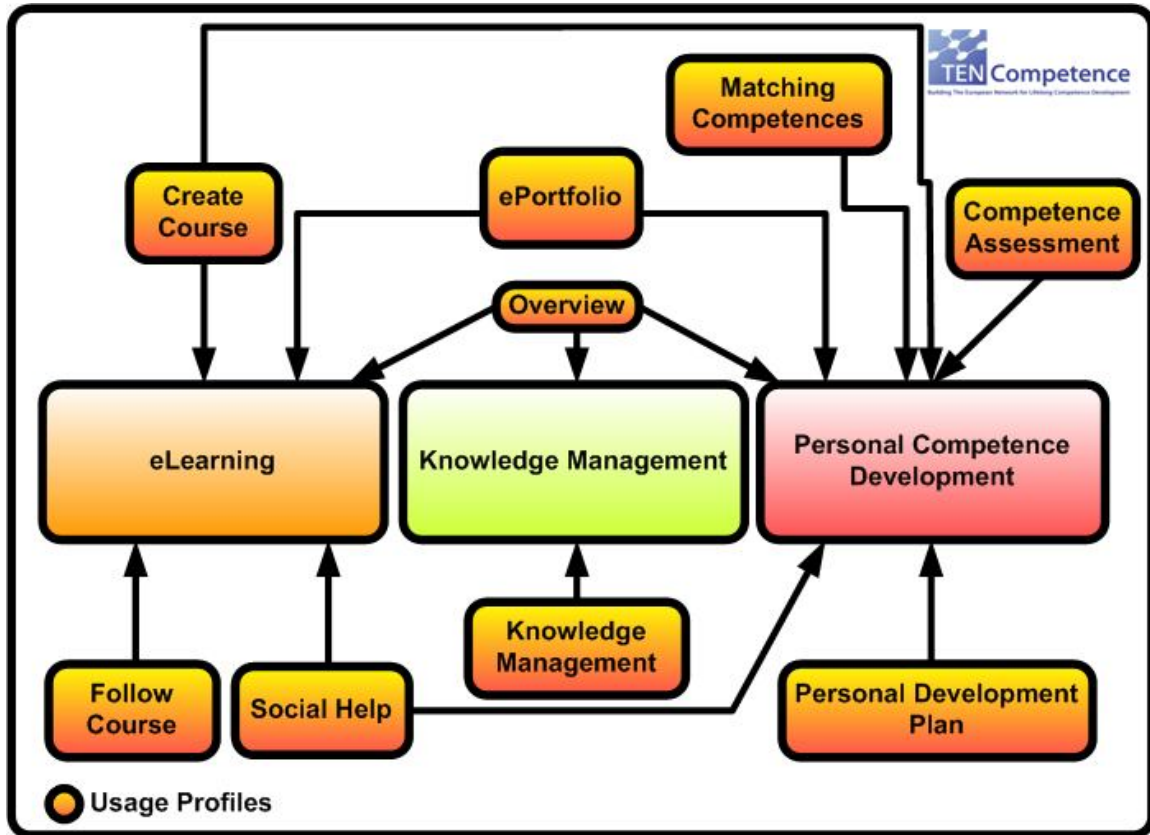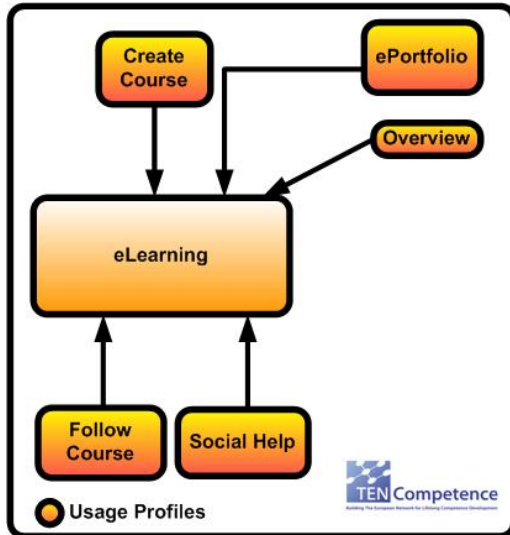

Image 6

3.2.1. eLearning Domain

As is explained in the section 'eLearning Domain', this domain focuses on the **learner perspective** and his/her motivation to acquire some competences. To do that, additionally of his/her competences starting point, the role of an **expert** is essential to provide contents, assessment and help.
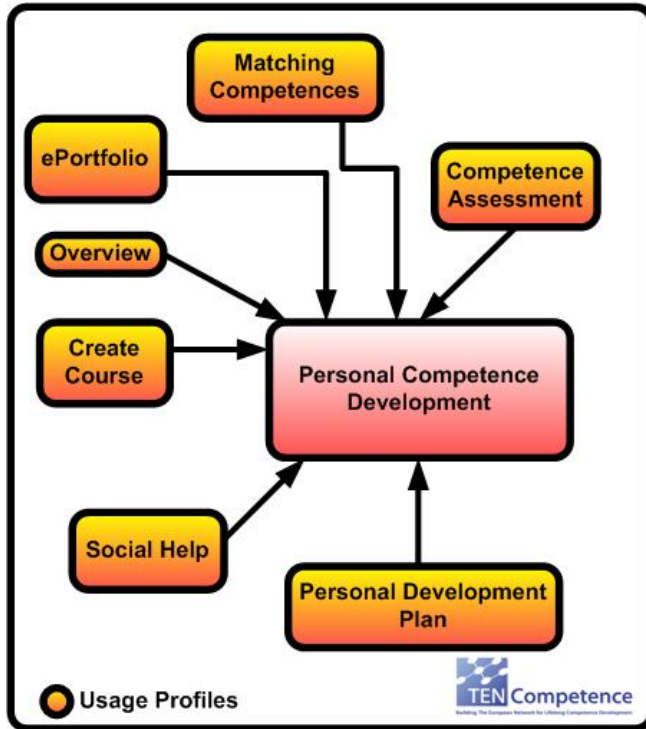
Image 7

Within this domain has been identified the following Usage Profiles:

- **Create Course**: This Usage Profiles allows a learner or an administrator to define a Course to cover one or more competences. It is possible to use this profile in Personal Competence Development Domain.
- **ePortfolio:** This usage profile allows a learner to create/modify/update his/her competences and group them in presentations. Additionally it's possible to access to this data from another users with the proper permissions.
- **Overview:** This usage profile is common to all the domains. Defines the point of entry to the system where the status of the users and the system is shown.
- **Social Help:** This usage profile gives to the user a communication interface among other learners, experts and departments to solve doubts and questions. This usage profile is present in Personal Competence Development Domain.
- **Follow Course:** This usage profile gives the necessary tools to follow a certain course (documentation, activities…) until complete it.

3.2.2. Personal Competence Development Domain

The Personal Competences Development (PCD) describes a context where a Human Resources Manager (or department) **defines a set of competences** (e.g. the competence map of a company), **advises about learning and professional goals** and **provides tests and questionnaires** to collect feedback. Although this is the traditional HRM perspective, it's important to emphasize the **personal responsibility of the professional on defining competences** for his/her own continuous professional development.

Image 8

Within this domain has been identified the following Usage Profiles:

ePortfolio: ePortfolio is a common element among PCD and eLearning domain. It allows the learner to define his/her competences and the Human Resource manager to analyze the competences within an organization or institution.

- **Overview**: This usage profile is common to all the domains. Defines the point of entry to the system where the status of the users and the system is shown.
- **Create course**: This Usage Profiles allows a learner or an administrator to define a Course to cover one or more competences. It is possible to use this profile in eLearning Domain.
- **Social Help:** This usage profile gives to the user a communication interface among other learners, experts and departments to solve doubts and questions. This usage profile is present in eLearning Domain.
- **Competence Assessment:** Gives an interface to the learner to evaluate his/her competences.
- **Personal Development Plan:** It allows the learners to define a plan to acquire or improve his /her competence level based on his /her objectives.
- **Matching Competences:** Allows a learner/employee or a Human Resources Manager locate opportunities (Courses, Jobs, Offers…) based on the ePortfolio and the needed competences for the opportunities.

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3.2.3. Knowledge Management Domain

This domain matches completely with the usage profile Knowledge Management. It provides to the users, administrators and content providers an interface to register, modify, comment and evaluate educational contents. By the other hand involves the overview Usage Profile providing information about the status of the contents (highest rated, most commented, new contents…).
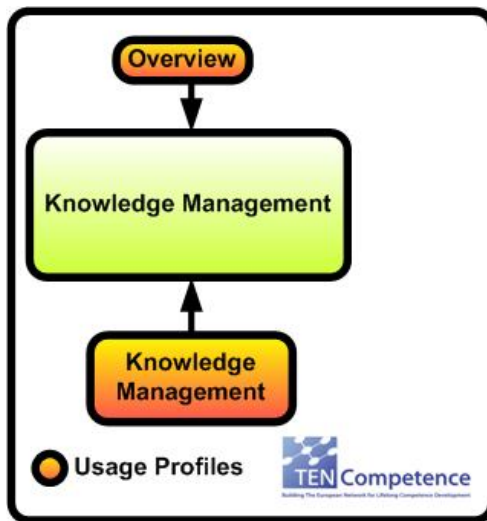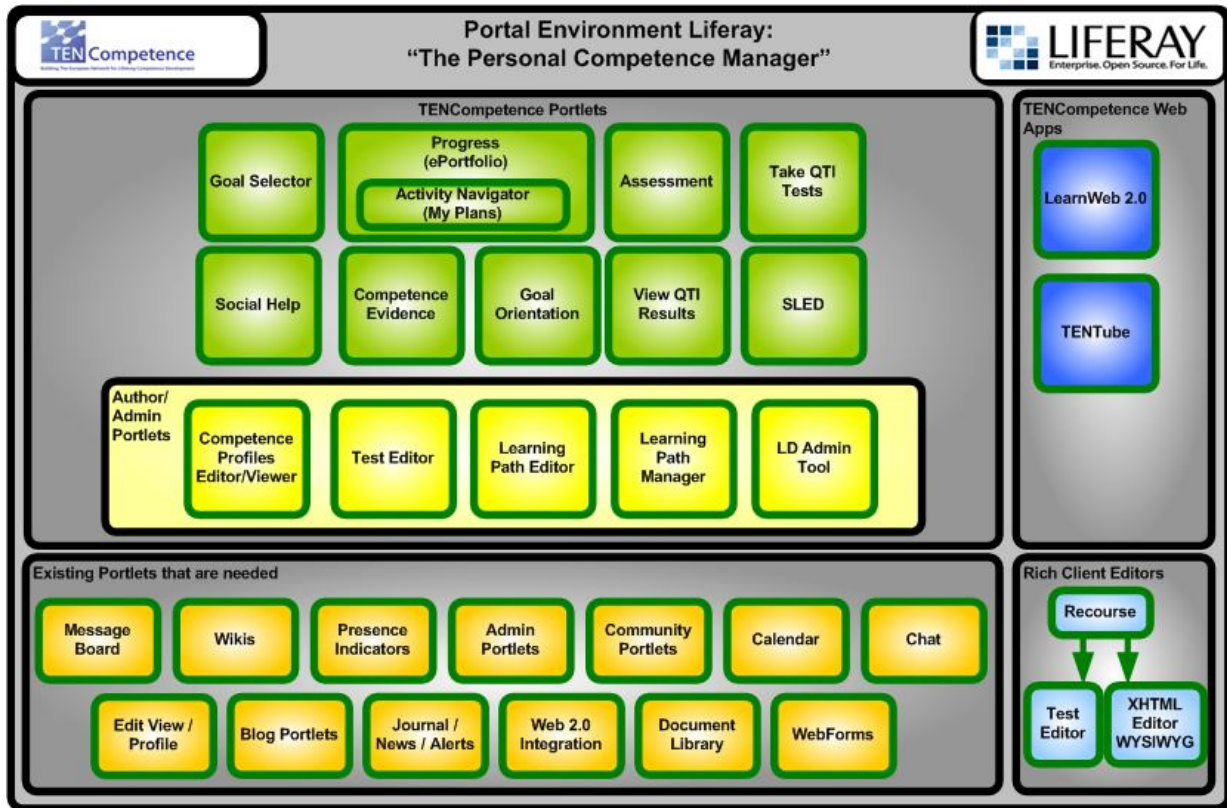

Image 9

3.3. *Configuration of the system*

This section explains how can setup an environment to **run a specific domain** of the three existing domains in TENCompetence. In the graph below is shown the available Portlets and tools (See DIP-4 and ID3.18).

D2.4: Updated use case models based on
ID2.11 and Advice on Configuration
Management based on ID2.17

Image 10

The next section describes the purpose of the TENCompetence Portlets and applications.

3.3.1. Description of Tools and Portlets

Integrated System

The Personal Competence Manager (PCM) is built using the Open Source Liferay Portal. This system provides substantial built-in support for community based applications, and can be integrated into enterprise systems. To this TENCompetence adds the functionality required to manage competence development.

TEN Competence

TENCompetence Tools

Learnweb

Produced as part of the Personal Competence Management System (PCM 2.0), LearnWeb2.0 is a tool for the management and sharing of knowledge resources. More specifically, it provides users with the convenience of a single environment from which to access Web 2.0 tools best suited to the competence development process. It enables access to a wide array of resources from all over the web which can then be exclusively tagged, rated and commented on by TENCompetence users for TENCompetence users. This is achieved by isolating competence focused feedback from that of standard Web 2.0 users. In this way, members of a TENCompetence community are better able to make informed opinions on the value of resources for the purposes of competence development.

Recourse

It is a system that targets educational practitioners and instructional designers with little experience with the technical specification of IMS-LD [IMSLD 2003]. Recourse supports modeling and arranging of learning activities graphically and to store them in IMS-LD. This enables teachers and trainers to specify the process metadata for using MACE objects and services based on instructional design. Recourse allows to integrate external resources (objects, links, etc.) and services (search & browse etc.) in the planning of the educational process. It is a key feature of Recourse to model the learning process in detail, and to store the resulting units of learning (UoL) in the standardized format of IMS-LD. Furthermore, Recourse allows templating of UoL, which can be reused in different settings.

TenTube

Social tool oriented to multimedia that allows the user to watch videos and reflect that in the community with valorizations, comments, tags. This won't be available for integration on DIP-4.

TENCompetence Portlets

Goal Selector

Anonymous analysis of the competence development paths and activities of the members of the community is used to support users to identify goals in terms of competence profiles. Access to individuals in the network can also be enabled.

Goal Orientation

Provides information about the activities useful for achieving a certain goal.

Progress

Supports reflection on the competences and competence profiles acquired using the PCM. Evidence for achievement (even if from outside the system) can be published as a CV. It also gives the possibility of identifying the competences which they would like to achieve, and to managing their plans for attaining them.

Take QTI Tests & View QTI Results

Competence development plans can reference any learning opportunity, but courses can also be provided from within the system. Units of Learning defined with IMS Learning Design can be created with the Recourse stand alone editor and run in the PCM. Assessments defined in IMS QTI 2.1 can be included.

Assessment

A means of defining and running simple tests and questionnaires for use in gap assessments of existing competences.

SLeD

The SLeD player is a JSP web-application (Portlet) which "plays" content provided by the Coppercore runtime engine. The application is designed to be re-used and integrated with other systems to provide plug-in learning design functionality.

Social Help

It provides an interface to communicate with other individuals, mainly experts, that can provide answers to the given questions and doubts.

Competence Profiles

As a part of the ePorfolio provides an interface to see one of the Competence Profiles (presentations) existing within the whole ePorfolio of a learner/worker.

Competence Evidence

As a part of the ePorfolio provides the proper interface to include evidences to the competences described on it.

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Test editor

Powered by the IMS Question and Test Interoperability (QTI) specification, the
TENCompetence QTI editor aims to provide lifelong learners with the opportunity to
evaluate their proficiency in a given competence. Tests created in the editor can be
run through a QTI compliant runtime environment and results and feedback are provided
automatically to the user. Moreover, the integration of the QTI editor with the IMS
Learning Design authoring tool and the Personal Development Planner
enables creation of an integrated learning, teaching, and assessment process (e.g.,
formative assessment). In addition, it allows users to create many emerging forms of
assessment (e.g., peer assessment and 360 degree feedback) in an interoperable
and reusable manner.

Learning path editor

A tool for identifying actions which will help attain a particular competence profile.
These may be formal (i.e. certified), non-formal (e.g. creative course, sports club
training), or informal (e.g. ask a colleague). Lifelong learning paths often contain a
mixture of these types.

LD Admin Tool

TENCompetence is committed to the use of interoperability specifications, and the
systems it provides for the delivery of courses are based on IMS Learning Design (IMS-
LD). This provides a highly flexible environment with which collaborative and adaptive
Units of Learning (UOLs) can be authored and run. The TENCompetence foundation
offers a set of free open source tools which provide dramatically enhanced functionality
for running an administering Units of Learning tools which
make the authoring of sophisticated Units of Learning much easier with smooth
integration between components, with QTI assessments and within the Personal
Competence Manager, based on Liferay.

3.3.2. ELearning Domain

Within an eLearning domain a Learner/Worker will have available an environment that
**supports following the activities required to acquire a certain competence/s and the
assessment needed to certified that they are really acquired**. The environment will
provide also the tools needed to manage his/her profiles.

Once the user access to the system he/she will see his/her actual status (**Overview**), other
people connected (**Presence Indicators and Chat**) and related events and news
(**Journal/News/Alerts/Calendar**). Of course the learner can change his/her personal data
(**Edit/View Profile**) and the ePortfolio (**Progress**).

Also, the learner could check his/her competence level taking self assessment (**Assessment**, **Take QTI Tests/View QTI Results**) of a previously defined test (**Test Editor**) or play a UoL (**SLED**).
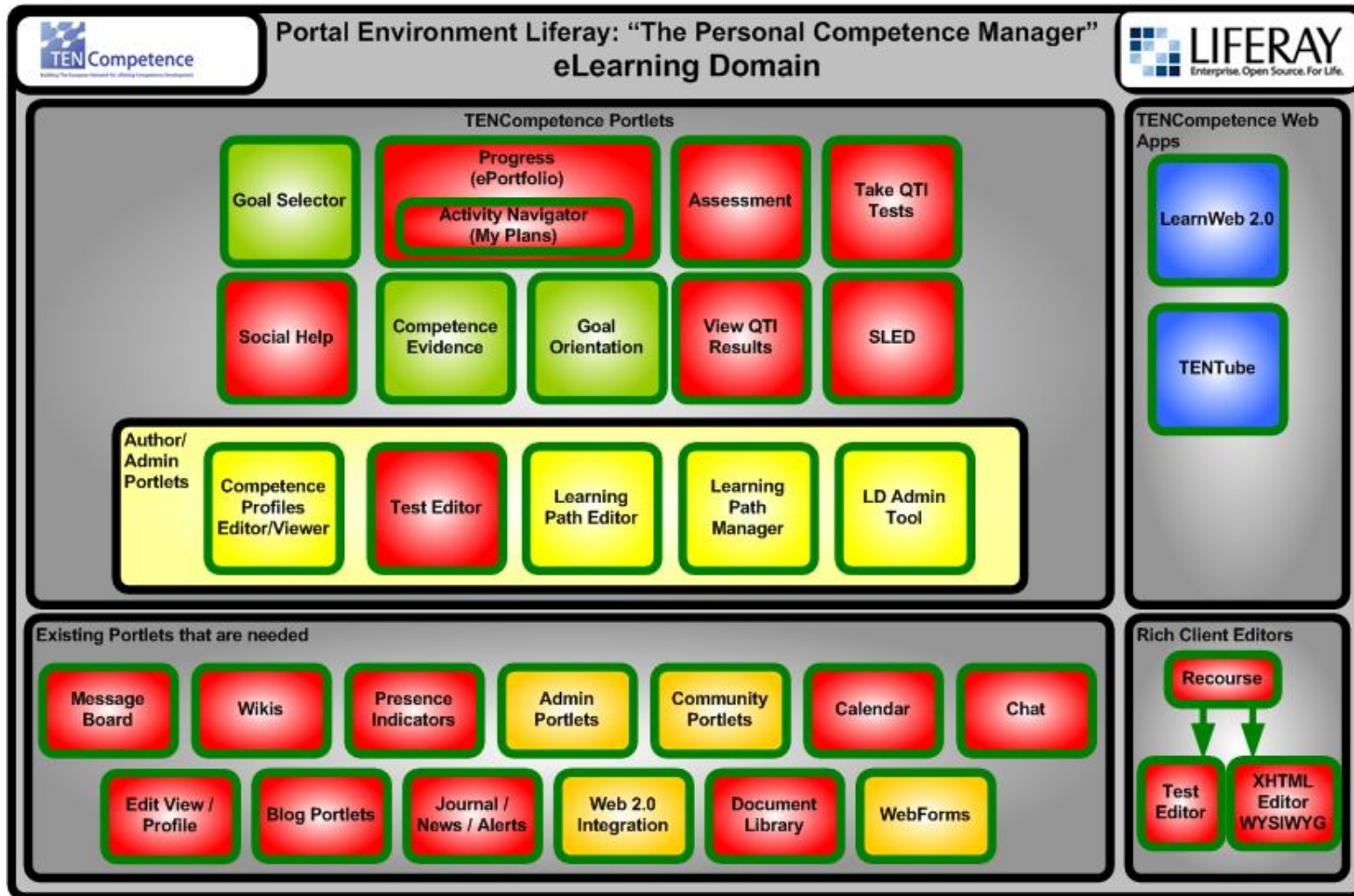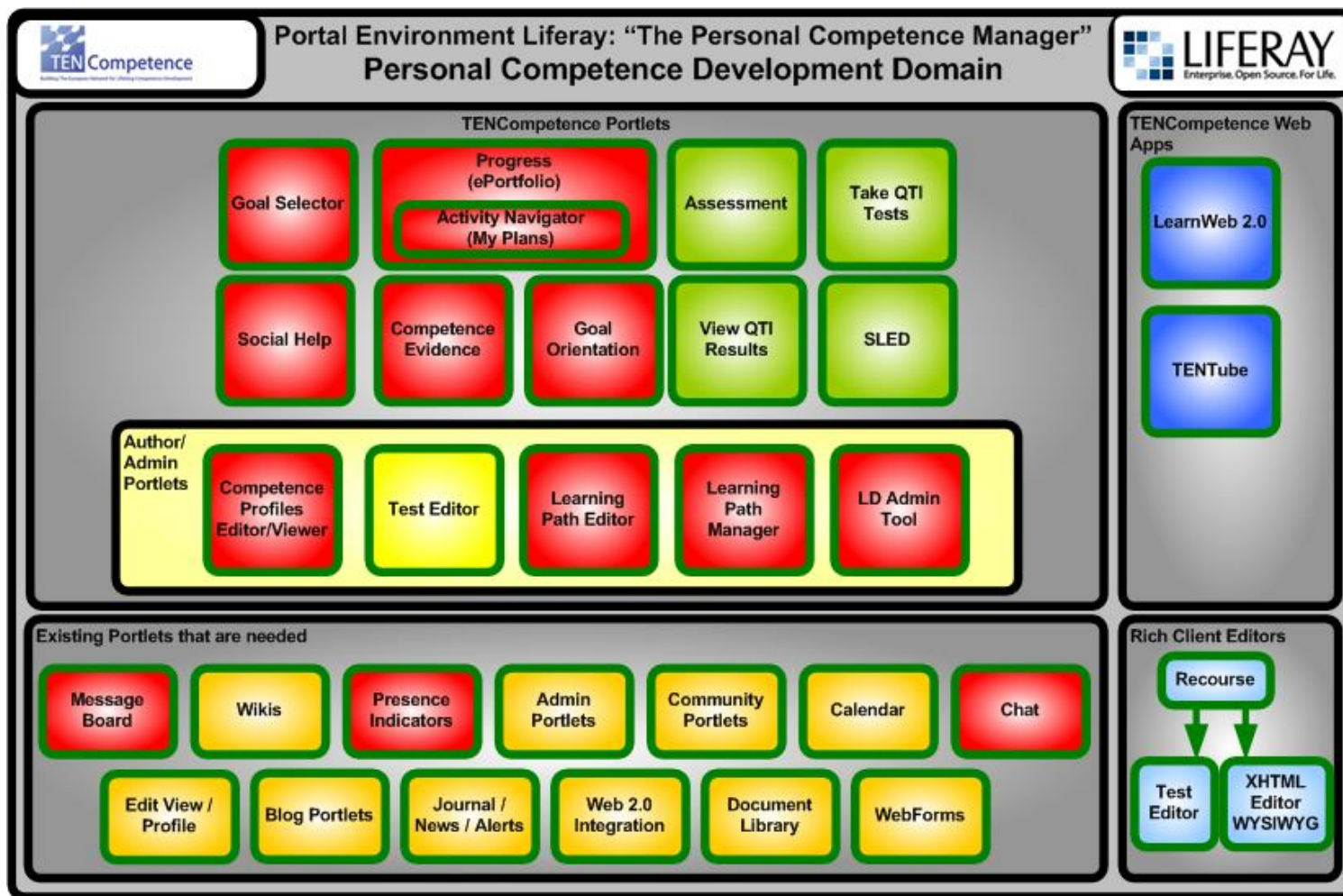
Image 11

3.3.3. Personal Competence Development Domain

Within a Personal Competence Development domain a Learner/Worker will have available an environment that **supports select a goal and define a plan to acquire a certain competence/s**. The environment will provide also the tools needed to manage his/her profiles.

Once the user access to the system he/she will see his/her actual status and other people connected (**Presence Indicators and Chat**). Of course the learner can change his/her personal data (**Edit/View Profile**) and the ePortfolio (**Progress**), if needed, the learner should support evidences for the competences declared (**Competence Evidence**).

If it is not defined yet the learner can select a goal using the **goal selector** and define his/her plans (**Progress, Activity Navigator**) to achieve that goal. During this process the system should recommend the best options based on his/her profile (**Goal Orientation**). Al this process will be supported via Portlets or using the **PDP**. Finally the learner could also define his/her learning path (**Learning Path Manager/editor**) for the selected goal.

Image 12

3.3.4. Knowledge Management Domain

Within the Knowledge Management domain a user has arrange the mechanisms to **allow share information and files** in general and allocate them into the systems (using folders or tags); additionally the system should permit the **social collaboration** among users using the resources as a collaboration point providing **versioning, comments, rating** in an easy way.

Once a user is logged into the system he/she will see an overview of the actual status of it. In this point the user will see valuable information of the status like 'my community', 'top resources', 'my resources', 'tag clouds', 'most valuable resources', 'most active users', 'last resources added'… Clicking on the resources the user will be redirected to the proper application (**blog, wiki, document library, Learnweb**…).

Depending of the Portlet chosen for provide knowledge the paradigm of doing that should change:
1) In a **blog** Portlet the user can add or modify a new entry and tag it, usually this knowledge tends to be more personal.
2) In a **wiki** Portlet the user can create a new page or modify an existent one, usually discussed by the community in the comments before approval.
3) In **Learnweb** and in the **document library** a user can upload or provide a link to a resource, tag it, and put it available to the community: so another user can download, comment and tag this resource.

Summarizing, in every Portlet someone in the system can provide feedback rating the resource, tagging or commenting it.

Depending on the configuration of the system the availability of the resources for the community can be assessed by a **content administrator**.

Image 13

TEN Competence
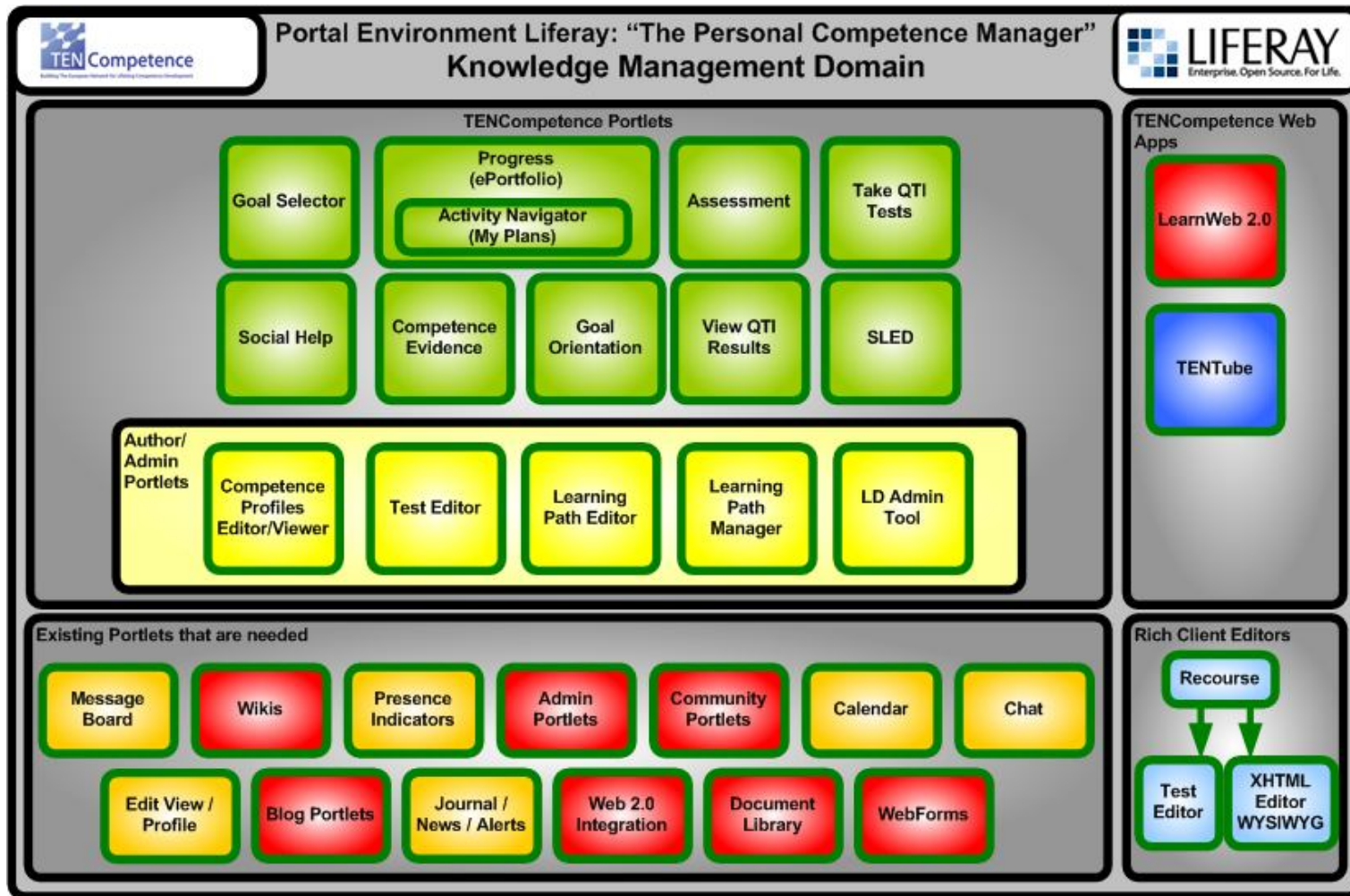
4. Interaction Design

Interaction Design (IxD) focuses on the user and its mechanisms for understand the system; in that way, the user and its motivations, as the central point of the system, are analyzed, easing the development of the system oriented to him/her.

In the first phase of Interaction Design (D2.3) the usage profiles were described by the Vision Group; those are the central axis of the application. These usage profiles have been implemented in the Integrated Environment or/and in the Individual Tools. The work of IxD in this process has focused on analyze and represent, in terms of interaction, these usage profiles. Later to that, the work focused on the overlaps of the usability and recommendations to complement the system.

The work presented in this section corresponds to the ID2.17 section 'Interaction Design' and shows the work done during this last year to finalize the Interaction Design task started the third year, there is the IxD for the **usage profiles before the Portlet specifications**.

4.1. Usage Profiles

A usage profile represents an environment where a user access with a certain motivation to reach a personal objective. The usage profiles focuses on the user instead of the functionality. This Interaction Design was a help for the developers of the tools designed cover that usage profiles during the year three and the beginning of the year four.

The Usage Profiles analyzed in this section are:
- ePortfolio
- Matching Competences (Learner and Organization roles)
- Overview
- Social Help usage profile.

4.1.1. ePortfolio

ePortfolios are about presenting acquired competences and experiences that the learner feels confident about and that may hold relevant information to a specific audience, for example customers or potential employers. ePortfolios increase the employability of learners, but also serve as showcases, and are part of a person's digital identity.

To create an ePorfolio a uses has to be logged in. Once the user is logged he/she will be able to create one or more Presentations (point 6): a presentation is a set of competences designed for a certain kind of domain (e.g. Programmer, Guitarist…). Within a

presentation the user will include his/her competences, searching for the existent ones (created by him/her or created by other users) or creating a new competence if required.

If the competence needs evidences (e.g. a certificate) the user can provide one or more per competence.

This profile will be used in most of the next profiles as the digital identity of the user. In fact, without an ePorfolio defined it's impossible to allocate the user into the system.
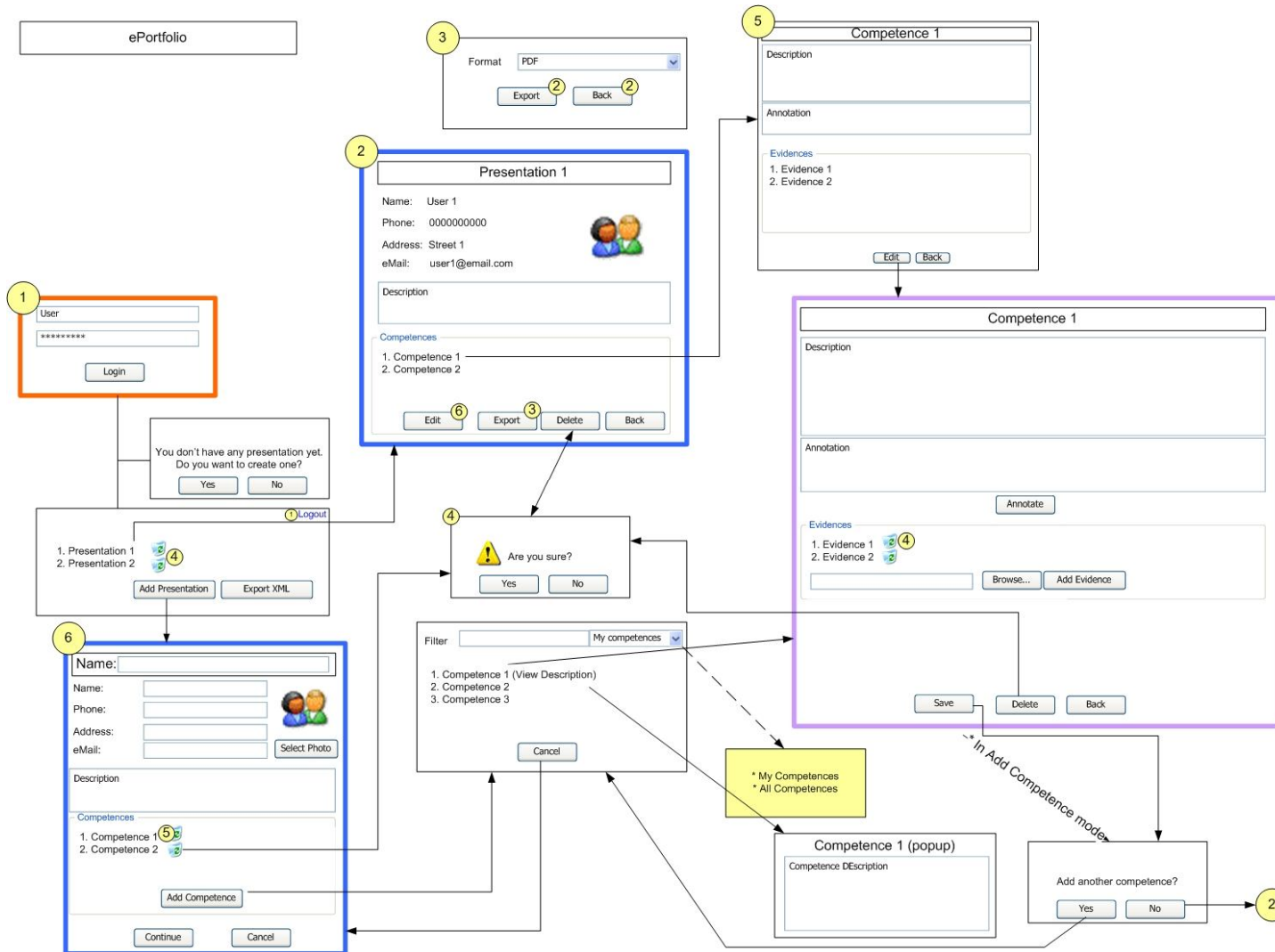
Image 14

4.1.2. Matching Competences

This usage profile is divided in two perspectives depending of the motivation of the user. The Learner perspective is focused on finding opportunities based on the actual competences of the learner and the required competences for some job or course. The Organization Perspective provides a system that, once an opportunity is defined, allows the Organization to find individuals that matches with the competences defined in the opportunity.

Learner Perspective

To access this usage profile the user has to be logged in. Once the user is logged the user needs an ePorfolio to declare his/her competences (point 5). For more information about defining competences see *4.1.1* ePorfolio Profile. With the ePorfolio defined a Learner can search for a Job Profile or check the Job Profiles previously requested.

As is explained in the last paragraph, a Learner can search for a specific profile that matches with his/her criteria. Selecting a Job Profiles of the results view (point 4) he/she will see extended information about the Job Profile (competences needed, details, and contact information). Eventually, he/she can send a request for that specific Job. This request will remain in his/her inbox (see point 7) with the actual status of this request.
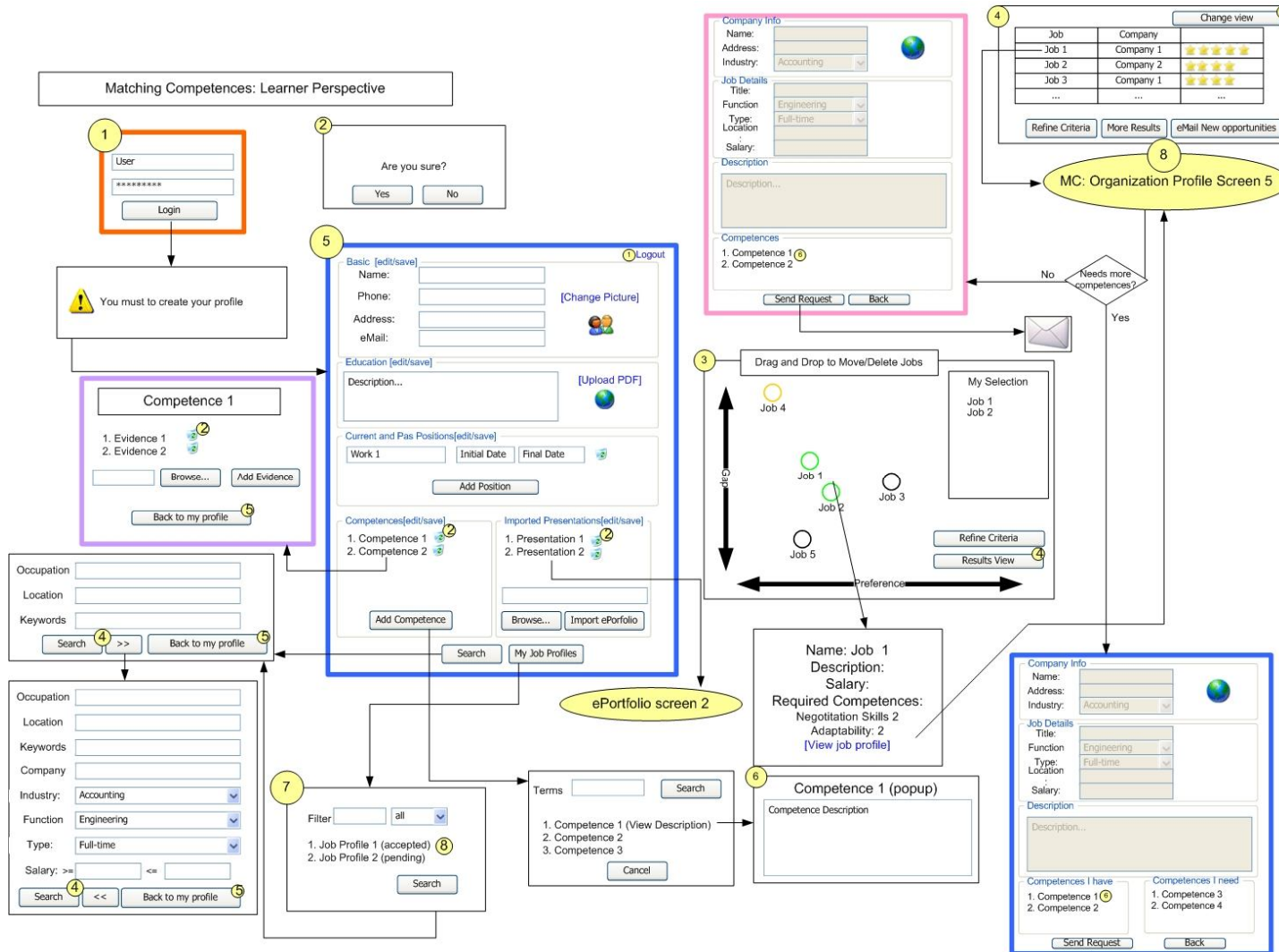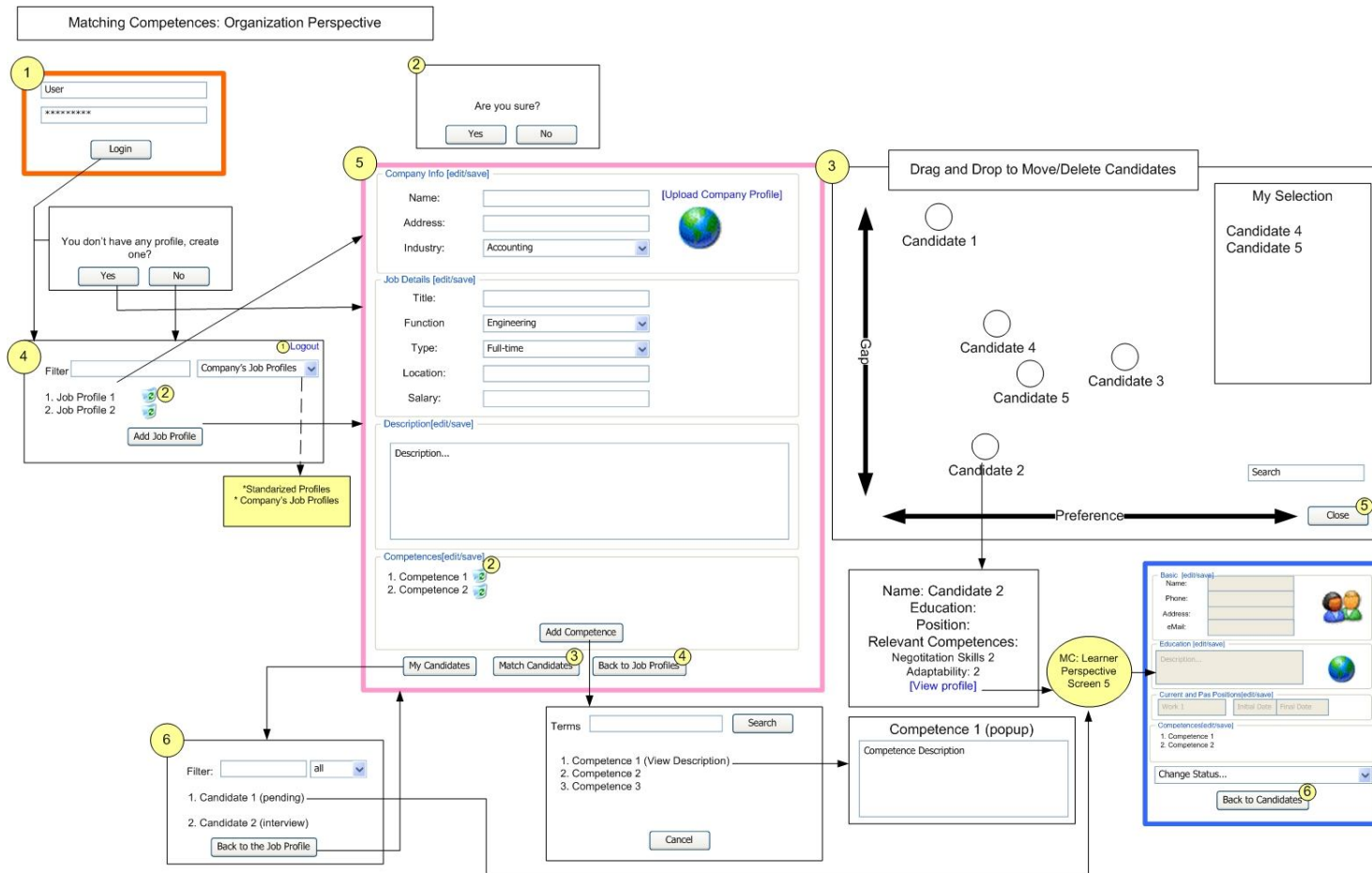
Image 15

Organization Perspective

To access this usage profile the user has to be logged in. Once the user is logged in he/she can check the Job Profiles created (point 4) or create/modify a Job Profile (point 5). For create a Job Profile is important to define the competences involved in that profile to ease the matching. From this screen (point 5) it's possible to check the status of the candidates that requested for that usage profile (see Point 6), check the profile of them and changes the status of the request (see Learner Perspective Point 5).

Image 16

4.1.3. Overview

This usage profile provides an interface to visualize the status of the learner and his/her position within a social network based on his/her competences.

Once the user is logged in and has his/her ePorfolio defined he/she will be allocated into a social network (point 3). In that way, the user can browse his/her colleagues/users, UOLS, Resources by a global interface. Depending of the selected resource, the system will provide links to the different actions available or to the relevant tool.

Anyway, the described in this section **can be improved with Liferay Portlets functionality** (recent activities, alerts, announcements) that can help to give a better overview (more flexible).
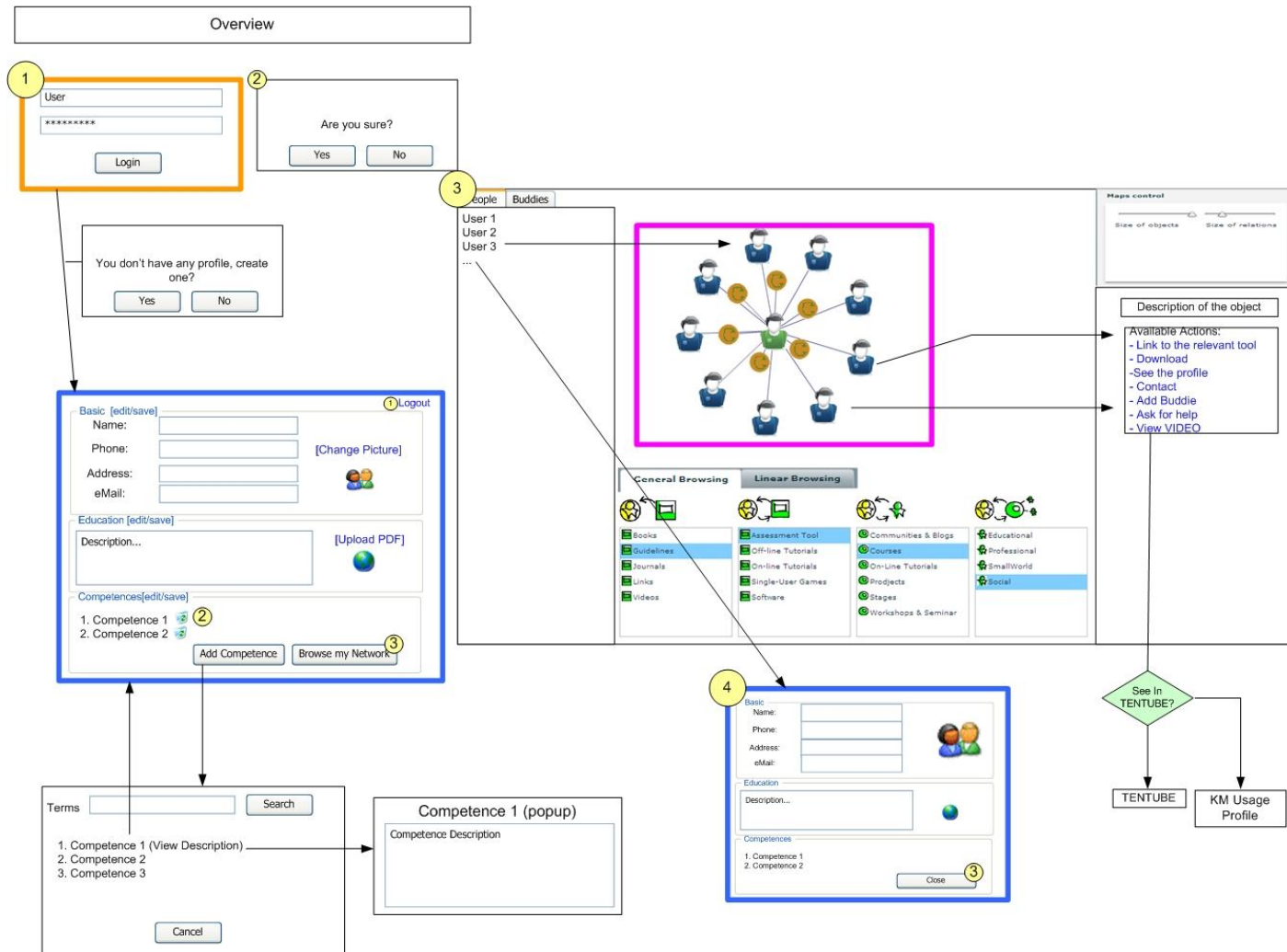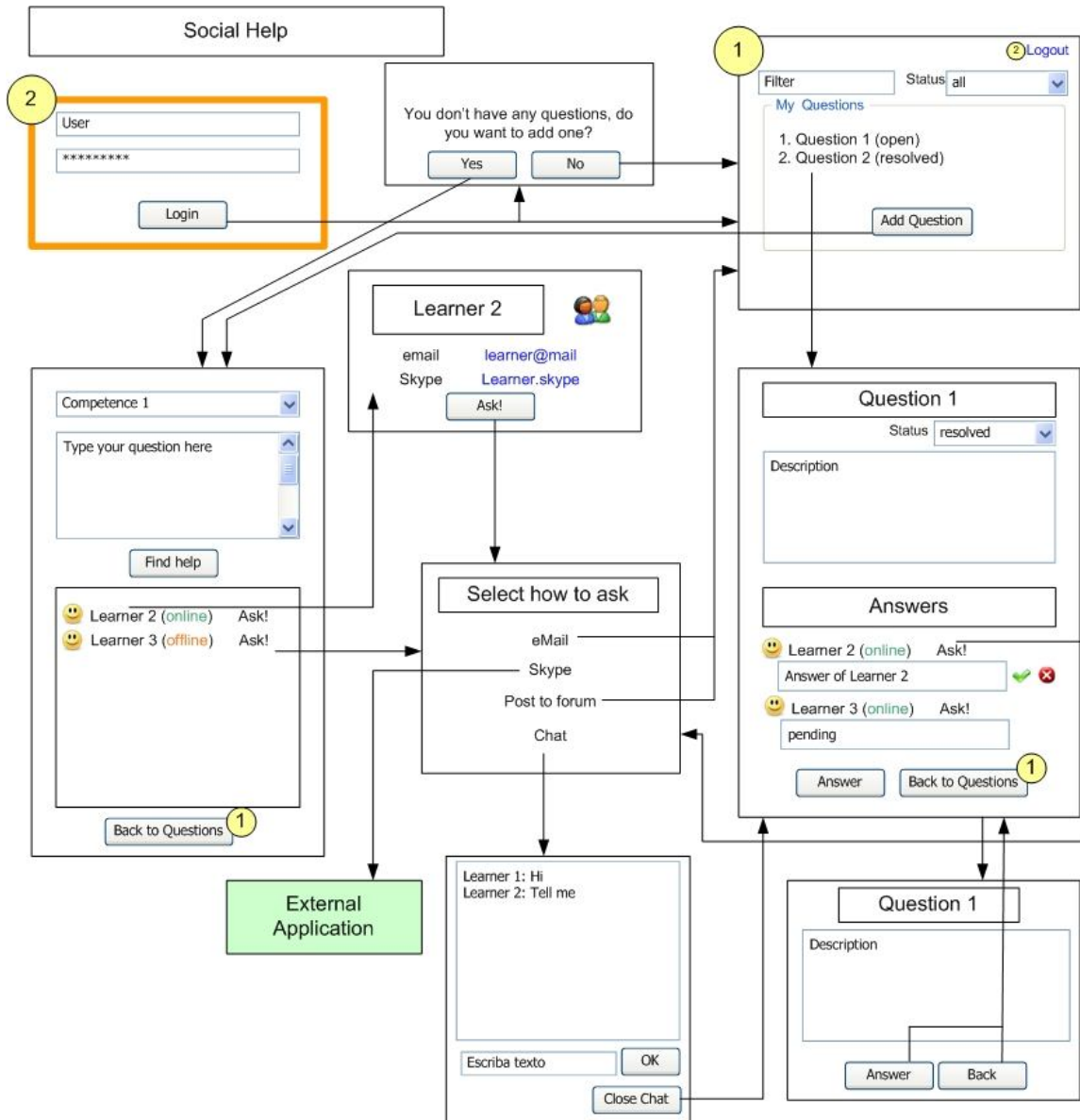
Image 17

4.1.4. Social Help

Social help is oriented to provide answers to the users given the appropriate expert for a given question. Once the user is logged he/she will be able to check the status of his/her previous questions (point 1) and the answers for that.

Image 18

D2.4: Updated use case models based on
ID2.11 and Advice on Configuration
Management based on ID2.17

4.2. Overlap and Recommendations based on Interaction Design

4.2.1. Login (Using Single Sign On)

In terms of usability, a common login for all the usage profiles is quite relevant. Without this feature the user loses the traceability of his/her session given the impression of working isolated in each tool.

Moreover, a common login is fundamental for the whole system. In the same way, a centralized interface in needed to allow the user to change easily among profiles. That should be a relevant improvement for usability. The next graph shows in terms of interaction (not interface) how it could be implemented.

It represents the top-level point of entry for a user who hasn't chosen a profile before. In this point the user logs into the application if has a username and a password. Otherwise, he/she has the possibility of registering into the system before the login. Already logged, a user can move among the different available profiles.
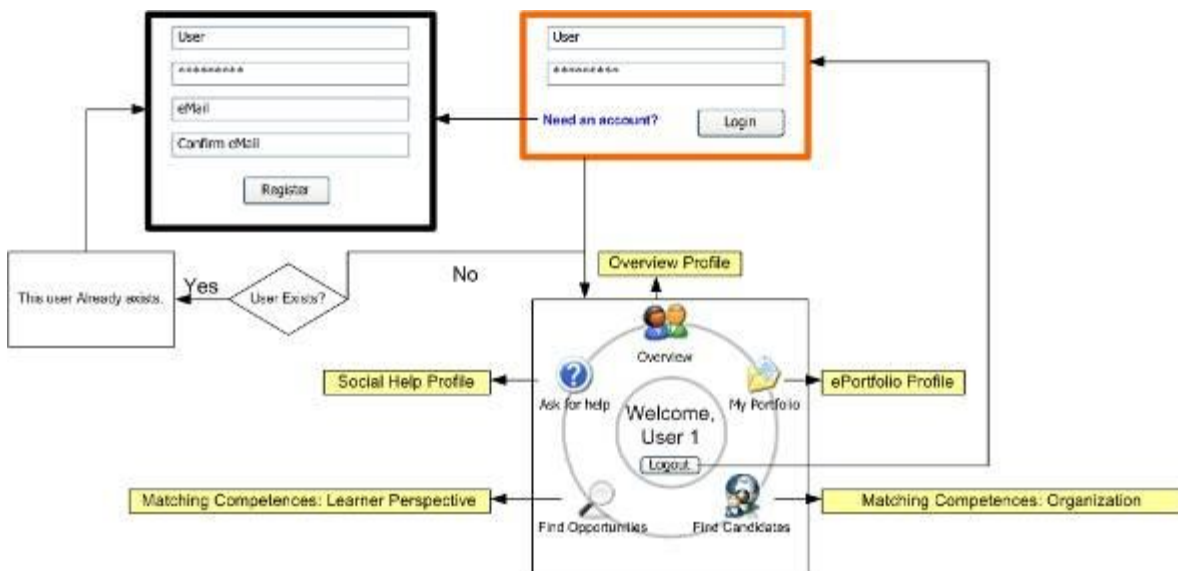
Image 19

4.2.2. ePortfolio

One of the most important features of the system is a common ePorfolio. This is described in the ePorfolio Profile; it is enough to cover the needs of the user in every usage profile for defining competences. The interface to manage the ePorfolio and the competences should be the same in the whole system; in fact, these competences are common for all the usage profiles.
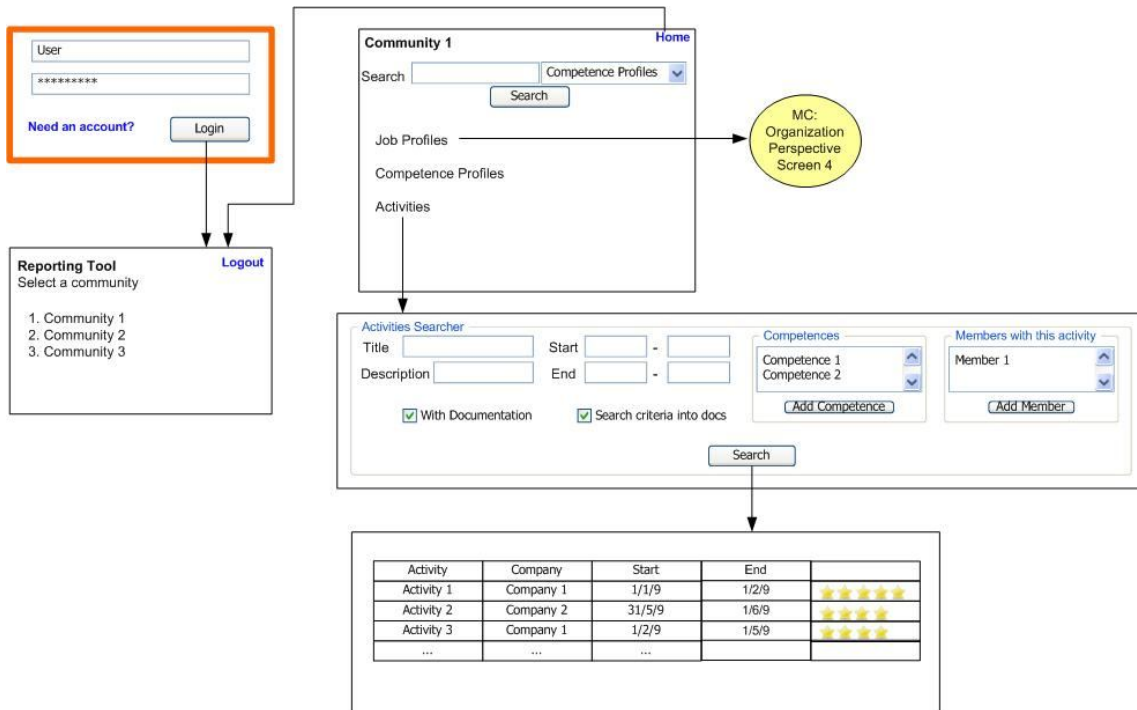
Although the ePorfolio is a personal identity for a digital world, in the real world sometimes the ePorfolio is created by other users/departments instead of the owner of the ePorfolio.

As a recommendation, this usage profile should **support a system of roles** to allow, for example, to create/modify/update an ePorfolio for some user from the Human Resource Department.

4.2.3. Reports

The concept of reports, although could not be quite important for a normal user, should be critical for an expert one or even for a department (management, marketing, human resources…). In terms of interaction, the reports section should **focus on the flexibility** more that in the interaction, taking account that the users that search for a specific report has a formation and the knowledge to do that.

The next example shows a system where a user with the proper permissions logs into the system and searches within a community activities based on a certain set of competences, the members involved on that, the dates, the title, description…

Image 20

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i DIP-4: http://dspace.ou.nl/handle/1820/1733

ii ID2.18: http://hdl.handle.net/1820/2275

iii ID2.19: http://hdl.handle.net/1820/2276

iv D2.3: http://dspace.ou.nl/handle/1820/1507