



Project no. FP6-028038

Palette

Pedagogically sustained Adaptive LEarning Through the exploitation of Tacit and
Explicit knowledge

Instrument: Integrated Project

Thematic Priority: Technology-enhanced learning

PALETTE final exploitation plan

Due date of deliverable: 30th of November 2008

First submission date: 30th of January 2009

Re submission date: 31 of May 2009

Start date of project: 1 February 2006

Duration: 36 months

Organisation name of lead contractor for this report: EPFL

Project co-funded by the European Commission within the Sixth Framework Programme		
Dissemination Level		
R	Public	PU

Keyword List: exploitation, services, showroom, deliverables

Author: Bertrand Grégoire - CRP-HT

MODIFICATION CONTROL			
Version	Date	Status	Modifications made by
1	01-12-2008	Draft	Bertrand Grégoire
2	13-01-2009	Draft	Bertrand Grégoire
3	14-01-2009	Draft	Amaury Daele
4	14-01-2009	Draft	Bertrand Grégoire
5	22-01-2009	Final	Bertrand Grégoire – after SC review
6	18-04-2009	Draft	C. Vanoirbeek
7	30-04-2009	Draft	B.Charlier, C. Vanoirbeek, B. Denis, Nikos.Karacapilidis, D.Gillet, E.Primo, N. Vandewielde, L.Esnault
8	6-05-2009	Draft	B.Charlier
9	06-05-09	Draft	N. Van de Wiele
10	18-05-09	Draft	Léa Belloulou
11	26-05-09	Draft	Céline Bitoune
12	29-05-09	Final	Christine Vanoirbeek, Céline Bitoune

Deliverable manager

- Bertrand Grégoire, CRP-HT

List of Contributors

- Amaury Daele, UNIFR
- Bernadette Charlier, UNIFR
- Liliane Esnault, EM-Lyon
- France Henri, Télug-UQAM
- Pamela Küng, UNIFR
- Elodie Primo, MOS
- Dhruv Patel , Nisai
- Nathalie Van de Wiele, ePrep
- WP7 members
- C. Vanoirbeek
- B. Denis
- D. Gillet
- N. Karacapilidis

List of Evaluators

- PALETTE Steering Committee

Summary

The deliverable presents the exploitation plan for the PALETTE results; it builds upon the first exploitation work described in deliverable D.DIS.08.

It summarizes the main steps conducting to the elaboration of a strategy for the exploitation of outcomes issued from a multidisciplinary project promoting both open content and open source software. It details the adopted policies to impact Communities of Practice, researchers, developers and companies beyond the life of the project. The document addresses the following issues: models for software adoption and evolution, strategies to support the exploitation of tacit and explicit knowledge developed by CoPs - paying a particular attention to emerging ones - and support to evolution of learning resources. It presents the roadmap of actions that will be realised to exploit the outcomes of the project.

The content of this deliverable is related to deliverable D.MAN.12 Open Source Strategy, which presents juridical and legal recommendations in terms of licensing for PALETTE software.

Table of Contents

1.	Introduction.....	6
2.	Elaboration of the exploitation plan.....	8
3.	Setting-up strategies of software exploitation	11
4.	Setting-up strategies for the exploitation of knowledge about CoPs development	18
	ePrep CoP	18
	InCorPorate.....	21
4.1.	CoPs common conditions for emergence and emergence of a PALETTE users' COP.....	22
4.2.	Exploitation of ontologies	23
5.	Setting-up a strategy for the exploitation of learning resources	24
6.	Exploitation actions and roadmap	27
6.1.	Exploitation actions.....	27
	PALETTE website transfer	27
	Setting up of an ERCIM Working Group in the Technology Enhanced Learning domain.....	27
	CoPs event: realization of a major dissemination event towards CoPs.....	28
	Research network: Stellar (in collaboration with Prolearn).....	30
	Services exploitation by commercial partners	30
	CoPs development	32
	<i>New CoPe-it communities of users</i>	35
6.2.	Roadmap.....	37
7.	Appendix 1: exploitation survey results	41

Index of Tables

Table 1: CoP interests for the PALETTE services..... 7
Table 2: Services accessibility schemes 7
Table 3: Services availability 7
Table 4: Services income expectations 7
Table 5: Summary of the typical possible revenue streams 15
Table 6: OpenBRR software maturity assessment categories..... 16
Table 7: Exploitation scenarios options summary 31

Illustration Index

Illustration 1: Branching- logic based question display: before/after 11
Illustration 2: Potential demand & offer view - LimSee3 sample..... 11
Illustration 3: Interest in other PALETTE results 32

1. Introduction

This document describes the activities related to the definition of the final exploitation plan of the PALETTE results and presents this plan.

The outcomes of the PALETTE project reflect researches conducted in a collaborative way by specialists of the “Communities of Practice” (CoPs) domain and IT specialists, including strong involvement of final users. As a consequence, at the term of the project, the tangible outputs are:

- the implementation of a Palette of interoperable services sustained by scenarios of use
- the description of a participatory design methodology to address technological design, implementation and evolution of services supporting the activities of CoPs
- the production of learning resources providing awareness about Technology Enhanced practices in CoPs

The consortium of PALETTE has, since the beginning of the project, decided to follow an “Open Strategy” to impact a wide audience; concretely it means providing Open Source software and “open contents”. Learning resources (Learning organizational resources – LORs , training resources) are available under Common Creative licence (CC BY 3.0 unported license, available at <http://creativecommons.org/licenses/by/3.0/>) and most of the PALETTE deliverables have a *public* status¹.

The exploitation plan targets several audiences:

- Companies willing to enhance their commercial offer by integrating results of the PALETTE project
- CoPs willing to emerge or grow, taking benefits from the proposed methodological approach of PALETTE and the use of services
- Trainers willing to develop pedagogical content addressing the general topic of CoPs (under various angles such as organizational aspects, impact of technologies, evolution towards a Web 2.0 perspective, relations with social networks, etc.)
- Researchers willing to build upon the PALETTE results; it addresses both pedagogical and technological issues.

In this document, we use the terms *Commercial Partners* to depict both MOS and NISAI, whenever their concerns match; *Academic Partners* to designate all partners pertaining to the academia, including UNIFR, EPFL, ERCIM, INRIA, CSET, UT, ULg and EM-LYON; *Users Partners* to encompass all CoPs and other organisation providing insights in the users of our services (including CSET, ULg, EM-LYON, UNIFR, ePrep and all CoPs) and *Technology Transfer Partners* to designate CRP-HT and CTI, referring to their role of intermediary between the fundamental research and the market.

This exploitation plan relies on a strong dissemination policy in order to guarantee the sustainability of results beyond the end of the project.

¹ Refers to the dissemination level of the deliverable as requested by the European Commission; PU means “public”.

The document is organized as follows. After an introduction describing the different stakeholders of the PALETTE results, the section 2 describes the methodological approach to prepare this final exploitation plan. Following a description of the sequential process that have been carried out to propose this plan, the section 3 discusses typical exploitation strategies and presents the option chosen by the consortium. The section 4 focuses more on the strategies to support the exploitation of knowledge developed by PALETTE by CoPs paying a particular attention to emerging CoPs. The section 5 presents the setting up of a strategy for the exploitation of learning resources. Finally, the section 6, turning the discussion in section 3 to 5 into practical exploitation activities, details the roadmap of actions that will be realised to exploit the outcomes of the project.

2. Elaboration of the exploitation plan

The initial investigation work on exploitation has been conducted by EPFL. Then, the CRP-Henri Tudor, along with all partners involved in the WP7, undertook to precise the stakes of the exploitation activities. This section describes the methodological approach adopted to provide the final exploitation plan.

Elaboration of the draft exploitation plan

The EPFL conducted in February 2008 a first survey to gather the strategic intents and orientations of the PALETTE services providers, CoPs and commercial partners. The aims, method and results of this survey have been described in [D.DIS.07], we quickly recall below major collected figures and information.

CoP users – With respects to the CoP, the questions aimed at listing the Services every CoP was using, both within the Palette portfolio and out of it, and intended to use in the near future. A quick overview of the results of this section is provided in Table 1 that details the use of the PALETTE tools & services in the beginning of 2008 by CoPs, along with their interest for using other ones. These figures do not display the amount of users in the respective CoPs.

CoPs \ tools	SweetWiki	Cope_it!	BayFac	Palette Portal	Amaya	DocReuse	e-Logbook	LimSee3	SemanticFAQ
current users	9	4	2	0	3	1	1	1	1
potential additional future users	1	2	1	1	2	2	2	1	0
#	10	6	3	1	5	3	3	2	1

Table 1: CoP interests for the PALETTE services

Services developers – Relating to the services, a few multiple choices questions enquired, for each service, about the ways the service is and would be available, accessible to different types of users intended to use these service and the expected pricing schemes. Overviews of the results of answers to these questions are provided respectively in Table 2, Table 3 and Table 4 below. They concern the 8 services for which answers where gathered, consisting of Amaya, BayFac, CoPe-it!, Corese, DocReuse, LimSee3, the Palette Portal and SweetWiki.

More open questions then covered the expression of a sustainable business plan in terms of general strategy, target customers and business model and a quick risk analysis for which no relevant answer elements had been provided at that time, clearly stating a need for support in the definition of a strategy for each service.

user \ service_accessibility	to PALETTE members	to CoP members	to external users	to guests
for free:	9	8	8	7
for a subscription:	0	0	0	0

Table 2: Services accessibility schemes

services availability
as download: 8
as service: 6

Table 3: Services availability

expecting other incomes
yes: 2
no: 2

Table 4: Services income expectations

Commercial Partners – Pertaining to the commercial partners, the questions of this first survey aimed at identifying the services of the Palette project the partners would plan to integrate in its product/services portfolio, along with the relating decisions factors and a description of the related business plan, again in terms of general strategy, business model (incl. customers) and a quick risk analysis.

MindOnSite, on the one hand, stated its interest in any additional service to integrate in its learning content management system.

Nisai, on the other hand, would integrate in its products or service portfolio any KMS, Authoring tools. These tools need to be web based with no download applications.

Elaboration of the final exploitation plan

The strategic questions investigated around the PALETTE services were the same as in the first strategic survey namely the size of potential users base for a particular service and workable pricing scheme.

This information was nevertheless updated with more recent information due to the latest evolution in the services development and refined (through an open set of answer proposals) to some extent to clarify both the expectations of potential users, the wishes of potential service exploiters, and the plans of service developers.

For the sake of collecting comparable questions and supporting the respondent public in expressing strategic concepts which (s)he might not have been immensely familiar with, we preferred to ask closed questions (eventually with multiple choices or preferences scales) rather than allowing for open answers. Nevertheless most questions were finally left open with a possible “other” answer, an option that has actually never been used by the respondents.

This choice of guided answers was reinforced by the foreseen opportunity to meet with all respondents in the workshop held on September 2008 during the plenary meeting, thereby providing a place for more free discussions.

The whole survey was made available in English and French, these one being the two main languages spoken in the consortium.

The survey has been opened end of October 2008, and finalized in the beginning of December when 22 individual answers had been submitted, covering 71% of the project partners that answered (10 out of 14) and 55% of the CoP (6 out of 11). The questionnaire used – including comments - is copied below.

A first question enabled a declaration of interest (or not) about each service:

Are you interested in any use of this tool?

1. I'm interested in *providing* the tool or related service.
2. I'm interested in *using* the tool.
3. I'm interested in *modifying* the tool (incl. bug fixing)

The questions geared towards the provisioning of services then included:

What kind of service would you be provisioning for this particular tool?

1. software hosting; to enable the download of the software package from my servers.
2. developer support; to support their installing, configuring and administrating the software.
3. online working; to enable using the platform directly from your server (may not apply to this tool)
4. final user support; to support CoP and users in their daily use of the software.
5. Other:

What kind of income do you expect for providing the above services, freely or not?

1. for free; - please give your incentives on the right (audience, brand, code contributed by community...)
2. small price; to cover expenses - please tell us more!
3. market price; to make financial profit - please tell us more!

The potential service users were then asked (in case of a positive answer to the first question):

What kind of service would you like to get with this software?

1. downloadable package; get the software package ready to install

2. admin support; get support in installing, configuring and administrating the tool
3. online working; be able to use the platform directly (no install; may not apply to this tool)
4. user's support; get support in using the tool daily (training, helpdesk...)
5. Other:

What kind of price would you be ready to give against the above services, whether money or not?

1. no money; - please give your counter-part on the right (none, feed-back, audience, brand, code contribution,...)
2. small price; to cover expenses - please tell us more!
3. market price; a normal commercial price for that kind of service - please tell us more!

And finally the plans of further service development where inquired, to get a first feeling of the existing community of developers:

What kind of modifications would you like to bring to the tool?

1. to provide continued bug fixing development.
2. enhance; to develop additional features for the intended users.
3. integrate; to integrate the tool in a(nother) suite.
4. customize; to bring (important) changes for your clients/users, cosmetic or functional.
5. Other:

To what extent would your modifications be usable by and provided to the initial author of the software and the rest of the community of users?

1. direct reuse; Your modifications would fit straightforwardly in the main tool and be available.
2. paid reuse; You wish to get compensations to share your modifications, financially or with any other relevant counter-part (please explain).
3. no reuse; Your modifications don't fit well with the initial tool intent, you see it more like another tool or a fork, unless the original tools drops dead and yours doesn't. (please explain)
4. private only; Your modifications will never be distributed. (please explain)
5. Other:

A detailed per-service overview of this complementary exploitation survey results is available in appendix 1 (exploitation survey results).

3. Setting-up strategies of software exploitation

The PALETTE results, in terms of software, are detailed in [D.DIS.04] and [D.DIS.07], they include a range of user-oriented services, grouped in 3 main categories: Collaboration Services, Knowledge Management Services and Information Services.

Following an Open Source licensing strategy for the various software services opened the floor for many business opportunities and simultaneously requires a good understanding of the legal/juridical position of each service. These elements are detailed in the revised deliverable [D.MAN.12] Open Source Strategy that presents juridical and legal recommendations in terms of licensing for the PALETTE services.

A sequential process has been carried out to progressively improve the business and IPR awareness of all project partners, to gather the relevant information and ensure the relevance of the work performed:

1. Assess the information relating to the business strategies of all partners that had been collected in [D.DIS.07]
2. Support the project partners in understanding & providing missing information
3. From the completed information, draft a series of possible scenarios for the exploitation and sustainability of the PALETTE outcomes.
4. Discuss and improve these scenarios with all involved partners during a dedicated workshop, held in September 2008, during the third PALETTE Scientific Advisory Board meeting [Grégoire, 2008].
5. Propose final versions of the selected exploitation and sustainability scenarios in the current deliverable.

Typical exploitation strategies

The CRP-HT proposed a few classical exploitation schemes to the partners developing the services; they are discussed below.

As a preliminary remark, it is important to mention the fact that it is fundamental to take into account the legal status of each stakeholder. *Academic partners* are forbidden to provide a service in exchange of money and need to set up new collaborations (e.g. funded research) for any further contribution. To that extent, the status of the *transfer technology partners* is somewhat more permissive and *commercial partners* are free to define any commercial agreement in line with their strategy.

A business challenge behind the exploitation of the PALETTE services is to find adequate models that fit the particular status of each project partner.

Typical business models & related revenues

Many ways of developing a sustainable business around software and open source software more specifically have been proposed for years, and classified for instance in [Rajala et al., 2001] or [FaberNovel, 2007]. We describe below the most important business models and describe how they can (or cannot) be used to exploit the PALETTE services.

A few business models exploiting open source software have proven their sustainability and profitability over time. These include pure service models, distributing the software with a high added value, dual licensing and shared development.

Services models – The recent highlight on the provisioning of services rather than selling a software product is nothing but the last evolution of the software industry [Cusumano, 2008], as observed by many major software vendors seeing their revenue in services and maintenance exceed that of the product itself.

A vast amount of web-based enterprise software vendors resolutely shifted their pricing model from a (more traditional) up-front license fee to a monthly fee, typical of the so-called *software as a service* (SaaS) model. Some companies also deliver what used to be commodities software (email, basic desktop functionality) in a *free, but not free* model where the advertisers pay a software service provider for its users to watch the advertisements while using the service. For the sake of readability we will include in this *services models* vocable

any other indirect pricing scheme where the free distribution of the software aims at extending the community of users, while related services provide revenue.

Services typically proposed include training, technical assistance tests, monitoring and other quality insurance. A services-based business generally evolves either in breadth (increasing the variety of its services and target markets) or depth (specializing in some highly profitable services), depending on its context and strategy.

Most services models however render difficult if not impossible the opportunity of maintenance-related (direct) revenue streams, that accounts nowadays for up to 60 percent of services revenues in the area of software exploitation, and would potentially be interesting to PALETTE partners, whether covering corrective maintenance (debugging) or evolution maintenance (adding features).

Exploiting *training opportunities* is an example of relevant service model to the PALETTE commercial, innovation and users partners, while *software quality insurance related research* could potentially be set up between most academic partners and interested third-parties.

Paid *maintenance* is generally an important business, revenue-wise, but is hindered by the public status of the academic service providing partners, and current lack of expertise of other stakeholders.

Distribution with a high added value – Another successful business model based on open source software is the bundling of (pre-existing open source) components in a standardised distribution, whether available on-line, as OEM, or physically provide with some hardware.

The added value to the customer of these distributions typically encompasses an economy of time and less risks in using the distributed software with its added quality insurance, technical support and frequent updates. Numerous documents can be found that describe, for instance, the business model of Red Hat that belongs to this type of business models, packaging, supporting, certifying and distributing Linux-based exploitation systems.

Since no PALETTE partner showed a strong interest in the business model of *distribution with a high added value*, it won't be discussed in more details in this document.

Dual/multi licensing – The dual licensing model inherently differentiates (commercial) customers and (community) IT-skilled users (or developers). This licensing policy makes the software available under two distinct licenses: on the one hand an open source copy left license that serves the general public with a standard version of the product and enables the company to create a community of developers and enjoy network effects in sharing its software. On the other hand a proprietary commercial license provides the customers with an enhanced version, stripped of the constraints of a copy left.

The interested reader will refer to [Ghosh, 2003] for more information on the legal aspects of the dual (&multi) licensing options, that details the license combination introduced above (copyleft + proprietary), even though other combinations exist relying on more liberal licenses. From a business perspective, the dual licensing model is particularly well suited to a company developing reusable/integrable components, but requires important means to sustain the developers community and develop the market if that company wishes to provide finished products.

Dual licensing shortcomings are obvious from its rationales: contributions from the community require their authors to hand over their copyrights to the software owner to be

integrated in the main application. This forced assigning of copyright over to a company is often presented as a problematic factor to attract developers.

The dual licensing business model is only an option in those cases where a single company owns (i.e. has developed) the whole software, or can at least ensure a compatibility of this practice with the licenses of the components it reuses. A thorough analysis of the IPR status of every PALETTE service has therefore been proposed.

From this analysis we *cannot guarantee* that any of the software of the PALETTE project may legally be licensed simultaneously under a copy left open source license and a proprietary commercial one at the time of writing this report. The dual licensing nevertheless remains an option for many partners developing a PALETTE services, provided they clarify their IP rights on the software and ensure the compatibility of the used sub-components licences with this policy.

No other stakeholder other than the software owner is eligible to enter this business model.

A variant of this business models only commercialises additional modules to an open source core application.

Shared development – A final sustainable business model exploiting open source software extends a basic and simple version of a core product by developing on-demand particular modules, in exchange for a payment. The different modules developed for different customers are then integrated in the (shared) core product. This business model is complementary with that of business software integrator, a.o.

Relying on the pooling of similar needs and development costs, this business model is specifically relevant when numerous additional modules can be designed and provided solutions quickly become obsoletes. Its main advantages for the user/customer with respect to the other business models are the possibility to benefit of tailored developments (i.e. a proprietary module) at a very low price.

Similarly to the services models, shared developments cannot easily be contracted by any PALETTE academic partners, for statutory reasons. This business model remains an option for commercial and innovation partners, though.

The pooling of needs and costs seems particularly interesting for services provided to small CoP, with few financial means, that could gather in more important community of users to get sufficient funding to pay for some interesting development.

Forge hosting – An additional business model was discussed ensuring nothing but the sole availability of the software at the end of project, actually required by CE. Such a model enables simultaneously to support development activity provided means are allocated to continuing development and answering questions. It does not support end-users by itself, and has no inherent revenue stream, and requires a clarified OpenSource policy and licenses.

All partners agreed to provide forge-like hosting for each PALETTE service, eventually hosted on different forges (due to technical requirements such as different underlying technologies), but accessible from a single place.

The classical revenues induced by the above business models have been described in each of the above section, Table 5 recalls the information in a succinct form, where a (✓) denotes that the relating revenue type is at the heart of the business model, a (?) characterises a revenue type that might eventually be exploited, while a (✗) marks a revenue stream that is fundamentally incompatible with the business model and should probably not be considered at all.

It is typically the user (either the CoP as a whole or the individual users on their own) that pay for the product and services & maintenance, depending on the adopted pricing scheme, while indirect revenues are provided by a third party (generally the advertisers).

A few key factors are generally mentioned to argue the success of a business based on open source software:

- a lively *community of users*, that includes early adopters who will further the adoption of the product and lead users who will drive the evolution of the software in a relevant direction
- a good *knowledge of the market*, ideally pre-existing as to clarify the customers needs
- the provisioning of a stable *commercial service*, in order to satisfy the customer and build its trust.

Software maturity & development of the PALETTE Services from a business perspective

Before thinking of exploiting the PALETTE software as business services, we need to state how ready they are to be proposed to their respective market.

The Open Business Readiness Rating [OpenBRR, 2005] is one initiative amongst others (see [SQO-OSS, 2008] for others) that proposes a framework for assessing Free/Libre and Open Source Software (Floss) with particular emphasis on attributes interesting to the business.

Therefore, OpenBRR uses a variety of high-level criteria for evaluation, such as functionality, operational software characteristics, support and service and adoption and development process. It then proposes an assessment process involving the definition of a reference application enabling the selection of a set of characteristics (and respective weights) that are desirable in the evaluated applications. The evaluation result is computed by asking different evaluators to score each characteristic and by averaging their grades.

While we didn't apply the whole process assessment of OpenBRR to the PALETTE services, for its definition of a reference application was not practically feasible in our context, we nevertheless used its set of characteristics (namely *assessment categories*) of an open source software to get inspiration in the possible strengths of such a software component from a business perspective. The Table 6 recalls the assessment categories description of [OpenBRR, 2005].

Assessment Category	Description
Functionality	How well will the software meet the average user's requirements?
Usability	How good is the UI? How easy to use is the software for end-users? How easy is the software to install, configure, deploy, and maintain?
Quality	Of what quality are the design, the code, and the tests? How complete and error-free are they?
Security	How well does the software handle security issues? How secure is it?
Performance	How well does the software perform?

Assessment Category	Description
Scalability	How well does the software scale to a large environment?
Architecture	How well is the software architected? How modular, portable, flexible, extensible, open, and easy to integrate is it?
Support	How well is the software component supported?
Documentation	Of what quality is any documentation for the software?
Adoption	How well is the component adopted by community, market, and industry?
Community	How active and lively is the community for the software?
Professionalism	What is the level of the professionalism of the development process and of the project organization as a whole?

Table 5: OpenBRR software maturity assessment categories

OpenBRR recommends focusing on 7 of these 12 categories at most in any assessment. We arbitrarily selected, out of these 12 categories, the ones that relate the most to the user experience and community support. To abandon the categories closer to the development stakes such as integration ease or design quality was justified by the fact the developer-oriented PALETTE services have been less targeted by the early dissemination and exploitation work. This puts forward the main business priorities as

- Functionality
- Usability
- Performance
- Support
- Documentation
- Adoption
- Community

They were proposed at the PALETTE partners for further development during the remainder of the project at the last plenary meeting [Grégoire, 2008].

Some of these business stakes, such as improving documentation and adoption, have been tackled both individually by the services developers and in collective PALETTE tasks such as Task 1.8 (see section 4. below), that discusses the feasibility study for a PALETTE services users' community or both the Online Training modules of Task 8.3 and [D.PAR.04] that provided an harmonised and coherent description and user-focused documentation of the PALETTE tools and services.

Further improvements can always be brought to any of these stakes, accordingly to every partner's priorities, means and opportunities.

The legal validity and juridical security of business assets often comes second to the mind of the software developer, but is crucial as an enabler or blocking factors when it turns to going to market.

Actually, small businesses rarely get troubled for IP infringement, but when the business evolves and becomes more profitable more attention is to be paid to those aspects, as the competitors probably will. We recommend fixing these issues upfront, as delaying them rarely eases their correction.

Regarding open source licenses schemes, that have been chosen by the PALETTE consortium at the very beginning of the project, some less known issues arise when integrating components distributed under different (but not always compatible) licenses, or when a business relies on restricted features of the licenses (such as the dual licensing business model introduced in section 0).

The report [D.MAN.12], and the related IP awareness work amongst the PALETTE partners have highlighted a few issues, stakes and best practices to be taken into account to lower the legal risk of developing and exploiting PALETTE services. The revised [D.MAN.12] integrates information about risk analysis.

4. Setting-up strategies for the exploitation of knowledge about CoPs development

Alongside the software services, considerable work was done in the field of supporting CoPs emergence and development by providing mediators and CoPs members with a methodology, support services and associated learning resources.

To guarantee the sustainability of PALETTE outcomes, a fundamental issue to be addressed, in terms of exploitation of acquired knowledge, concerns the emergence of new CoPs. A thorough reflection has been conducted in WP1 about the conditions of emergence of CoPs and their development; it contributes to the transferability of the PALETTE Services, Generic Scenarios and uses of Services in order to enhance know-how beyond the end of the project.

It results in a synthesis about CoPs emergence conditions; the analysis is based on the process of emergence of two CoPs in two different domains: teaching in Higher Education (ePrep CoP) and elearning in large companies (InCorPorate).

According to [Wenger, 1998], CoPs emerge in any situation of life because people need to negotiate their ways to consider and experience life. In professional contexts, such discussions have to be structured and framed by specific processes. Even if many CoPs emerge “naturally”, it is however possible to create and cultivate them [Wenger et al., 2002]. These authors for example suggest to plan and launch new CoPs through different actions such as determining the primary intent of the community, defining its domain, identifying engaging issues, identifying potential coordinators leaders, contacting potential members, connecting community members, etc. In the short monographs we provide below, we highlight the conditions in which CoPs emerge or intent to emerge.

ePrep CoP

We present here the genesis and development of the CoP ePrep CoP. Through the five stages of a CoP life [Wenger et al., 2002], we aim at showing how the ePrep association developed the concept of CoP and in which conditions this community emerged throughout years. In order to present its emergence, we interviewed the coordinator Nathalie Van de Wiele, and circulated a questionnaire to 6 members of the ePrep CoP.

ePrep is a French association. Its purpose is “to define and lead non-profitmaking actions to contribute to the development and influence of the ‘Classes Préparatoires aux Grandes Écoles’ (CPGE), through the use of Information and Communication Technologies (ICT), in France and at an international level” (excerpt from the declaration in the French Official Journal). Created as an association in 2001, ePrep became a real community of interest in 2006. Currently, its more active members form a developing Community of Practice. In addition, from May 2006, ePrep could count on the help of two committees: the Steering Committee and the Development Committee. These committees have been formed in order to reinforce the orientation and development of the ePrep actions and its community in line with what has been initiated in 2001.

Stage 1: Potential – The development of a community generally begins on the basis of an existing social network that shares a common interest [Wenger et al., 2002]. The ePrep case is specific as the association has not initially been formed as a CoP. Its genesis originates from a personal website developed by Nathalie Van de Wiele in 2000. When the content of her courses has been published online, teachers, students, as well as professors of ‘classes préparatoires’ in France and abroad expressed their interest in the site and pedagogical issues that it tackled. A virtual network was born based on the same geographical disparities than today.

The enthusiasm and search for valorisation of the professional identity of the professors of ‘classes préparatoires’ related to the ICT domain lead Nathalie Van de Wiele to organise a first international conference in May 2002. The purpose of this conference was to share the experiences and ideas of the professors. ICT become more and more important in all professional activity and ePrep implicitly tries to develop this new reality and culture of sharing among the professors through the organisation of activities, projects, conferences, workshops, etc.

The ePrep community of interest is currently composed of more than 1000 members, 150-200 of whom frequently participate in the activities and 30-40 are active members of the ePrep CoP. Regarding the diversity of the CoP members, Nathalie Van de Wiele suggests that they are divided into three categories: the professors of CPGE, the teachers-researchers in Grandes Ecoles or Universities, and representatives of institutional partners of ePrep (for example CNED², INRIA³, French Ministry of National Education, etc.). This association of individuals coming from a personal social network of the coordinator, and representatives of the institutions allows ePrep having got a specific configuration. It is through Nathalie Van de Wiele and the support of partners (European Commission, French Ministry of Education, Conference of Grandes Ecoles, Le Monde de l’Education, learned societies, etc.) that those persons coming from different contexts and who did not necessarily know each other before met, wanted to collaborate, and currently form a community.

Stage 2: Coalescing – The willingness to collaborate is also related to the sense of belonging mentioned by the participants. Indeed the interviewed members told us how they feel involved in this community because they are directly concerned and easily find their place. In general, they committed in the community for very concrete and personal reasons and interests. They mainly felt concerned by the opportunity to share their professional experiences in order to benefit from new tools to be implemented in their daily practice, and lead projects for the CoP. Of course these projects subsequently allow each participating professor to learn and develop his/her professional practices.

Nathalie Van de Wiele, as the coordinator, leads the community by supporting it from the operational and organisational (conferences, workshops, etc.) points of view, fostering communication and collaboration (e.g. through teams-projects), and ensuring the coordination of new members (she plays a facilitation role through the organisation of meetings focused on learning and professional development).

The birth of the CoP can be understood as a maturation step throughout which ePrep appropriates tools in order to develop projects: Wikiprepas, Francophone platform,

² Centre National d’Enseignement à Distance (France)

³ Institut National de Recherche en Informatique et en Automatique (France)

pedagogical innovation project, international cooperation between schools. At the end of the 2006 ePrep International Workshop, Christine Vanoirbeek suggested to Nathalie Van de Wiele to create a CoP within ePrep. This workshop has been revealing; three important decisions have been made: the organisation of annual ePrep thematic seminars, the creation of the ePrep Steering Committee and Development Committee, and the creation of a CoP in order to form a core group of members to develop new projects. From the requests of participants in the workshop to share precise projects and following the proposal of the coordinators of PALETTE and ePrep, the CoP has been formed during the first thematic seminar at the end of 2006.

Stage 3: Maturing – At the beginning, ePrep intended to focus on the tools developed by PALETTE. This has been done tool by tool associating projects with specific tools. But at the moment, the CoP begins to use interoperable tools: for example a platform with Amaya, Amaya with Limsee3, etc. All the activities have been easily implemented on the basis of the participation and interests of the members.

In order to face the possible difficulties that the members could meet with ICT, Nathalie Van de Wiele defines ePrep as based on two "legs": one leg is related to research developing innovative practices (the CoP composed of specialists) and one leg related to the dissemination of the practices (the ePrep workshops).

Stage 4: Stewardship – After the stage of maturing, the community can go through cycles of high or low activity level. The thematic seminars are an important way for allowing the members to know each other, share issues, present various projects, and mainly experience what being a member of a community is. For example, at the second ePrep thematic seminar (INSA Lyon on the 5th and 6th of November 2007), the participants had the opportunity to meet in order to take stock of the progress of the projects lead during the last year with PALETTE.

Despite the opportunities to share, the feeling of mutual recognition is weak because of the little number of active participants and relatively rare face-to-face meetings. Even if the participants do not meet outside the ePrep meetings, the projects develop anyway in a harmonious climate. The good relations are thus essential because their discussions lead the emergence of the projects and choices of tools.

Through the ePrep activities, the participants (a.o. the professors of CPGE) can explore new practices and cooperative tools as well as integrating them into their practice. The participants do not only acquire knowledge but they also participate in the CoP projects, lead activities, and experiment new practices.

Following [Wenger et al., 2002], learning leads practice and practice is the memory of learning. In this connection, Nathalie Van de Wiele thinks that inside the CoP, the activities allow changing participants practice by fostering reflections about possible pedagogical practices integrating innovative tools and experiencing activities and projects in which these new tools are implemented.

Stage 5: Transformation – A first transformation related to the members' training, the autonomy of the teams-projects and the development of a consortium "Digital space of classes préparatoires" is currently in process from several months in order to develop the ePrep CoP.

Conclusion and perspectives – Through the five stages of development of a CoP, we could situate the ePrep CoP between the stages “Maturing” and “Stewardship” while having strong basis for the next stage “Transformation”. It looks sufficiently strong and structured to continue but have not yet the energy and potential visibility that it could develop. Following the coordinator: “In the future, if we can keep the same dynamics with a bit more professors of CPGE involved in the CoP, it would be excellent. At the moment the CoP is composed of only 18 professors of CPGE out of 38 members. The other members are there for sharing their expertise and learning from them”.

InCorPorate

The presentation of InCorPorate is partly based on a paper presented at CSCW08 conference [El Helou et al., 2008].

On May 15, 2008, a group of e-Learning experts from large enterprises and academic research institutes organized a meeting in Rolle, Switzerland, in order to discuss their experiences with the use of e-Learning in training employees. The meeting involved participants from Nestlé, Sanofi Aventis, France Télécom, MindOnSite, the University of Fribourg as well as the Swiss Federal Institute of Technology (EPFL). The meeting was a first step in enabling e-Learning experts to establish communication across their enterprise boundaries, and discuss good e-Learning practices and suitable platforms for coaching employees. Participants agreed that forming a CoP (community of practice) would constitute the best way for experts belonging to different corporations, but facing the same challenges, to collaborate with each other, reify their knowledge and improve their practices. This is how the InCorPorate CoP was created.

As a very young CoP, InCorPorate and its members have specific needs:

- to identify objectives and short activities in order to define its ‘raison d’être’;
- to create a feeling of belonging and make the members aware of the presence of other participants interested in common issues;
- to set up interactions between the members in order to introduce themselves and their personal objectives and competences;
- to share interesting documents and members’ practices regarding the CoP domain of interest [El Helou et al., 2008].

Two meetings have been organised with InCorPorate and PALETTE members: the first one in May 2008 and the second one in October 2008. The first one was organised with trainers from different companies and was dedicated to sharing practices about various key issues in elearning. The second meeting was organised only with PALETTE members and the coordinator and was dedicated to the elaboration of a strategy for developing the CoP. Then a third meeting by videoconference has been organised in November 2008 aiming at planning a programme of activities.

In order to address the specific needs identified here above, several reflections and actions have been discussed with the coordinator:

- First of all, the domain has been precisely defined: InCorPorate is about the use of elearning in vocational and continuing education in companies for prerequisite testing, complementary training before training course, etc. It is about sharing ‘good’ practices in this domain. The target audience has also been precised: trainers in companies.
- The question of the tools has been discussed but at the very beginning of the CoP, the question of how to reach potential new members and recruit them. This has been discussed as the most important question. A strategy in two steps has been set up:
 1. To create the CoP and its main assets: a coordinator, a group of core-members (the participants in the first meeting), a platform, a set of interesting documents about the domain, a programme of activities (workshops based on sharing practices about different key issues), a clear definition of the domain, and traces of the first meeting.
 2. To contact key persons in the top management of the companies in order to ‘sell’ the CoP and be supported for advertising into the companies. New members could then be interested and the CoP could grow.
- The question of the platform and the tools has been discussed afterwards. It appeared in the discussion that a platform gives an identity to the CoP, a common bond to the members, a location where people meet. As customers of MindOnSite (MoS), they agreed to use the MoS platform.
- At the third virtual meeting, several actions have been decided:
 - To set up a space for InCorPorate in the MoS platform with different tools: blog, glossary, etc.
 - To organise concrete short activities with a little group of members. These activities will be based on the Learning and Organisational Resources (see D.PAR.06) developed by PALETTE.

In conclusion, the CoP is just emerging. It is interested in a simple question: “Shall we begin? And how?” For answering this question, it will begin with little activities with members who well know and trust each other and. They do not take too much risk at the beginning in order to present a little but strong CoP to the top managers of their companies who will then support the CoP and foster the engagement of new members.

4.1. CoPs common conditions for emergence and emergence of a PALETTE users’COP

As a synthesis, we highlight several common conditions met in the two described cases. These conditions, from the members’ point of view, seem to be important for the CoP to emerge and the members to feel to belong to the group. It is not surprising to notice that these conditions are in line with the literature about the emergence of CoPs [CEFRIIO, 2005]; [Lesser et al., 2000]; [Wenger et al., 2002] and learning networks [Bottino, 2007].

1. First, the CoPs have precisely defined their **purpose and domain**. They know what they are about and what the concrete objectives of their members are. In the ePrep CoP, in order to propose activities that are in close relation with the members’ objectives, a dedicated committee has been created. In InCorPorate, it was the first question that has been asked: what do we want to do together and for what purpose?
2. Second, the first **activities are short**, i.e. with objectives, scenario and scope that the coordinator can easily control. The activities also lead to concrete outcomes that are

directly related to daily practices of members. In the ePrep CoP, course contents have been shared through online platforms. In InCorPorate, short discussions on concrete elearning issues have been organised and then formalised.

3. Third, tools seem to be secondary. In the three observed communities, the **tools only serve concrete objectives and activities**. In other words, they are chosen once the objectives have been defined. The members take care to choose tools that are either already used by most of them or easy to integrate in their usual technical environment. In addition, their use is directly integrated into activities, i.e. appropriated by the members in order to support tasks. In a sense, the members like to not care about the tools; a good tool could be viewed as an “invisible” tool.
4. Fourth, the roles of the **coordinators are crucial** for launching the first activities and make the community growing: they synthesize discussions, propose objectives and activities, test different tools, communicate with external environment and partners, make connection between the members, foster participation, etc.

In a sense, we here come across the generic scenarios again (see D.IMP.08 and D.PAR.08). At its very beginning, a CoP needs to ‘*Debate & Decide*’ about its purpose and domain through negotiation and ‘*Reification*’ of concrete outcomes. This contributes to the definition and development of the ‘*Identity of the CoP*’.

An open event to be held in September 2009 will present the services and scenarios to CoPs. Short activities and appropriation of tools will be supported by the Learning and Organisational Resources, as well as training resources available on the new PALETTE Website <http://palette.tudor.lu/servicegallery>

4.2. *Exploitation of ontologies*

As mentioned in the D.KNO.08 (chapter 8), ontologies have mainly been used as a basis to define concepts useful to classify and retrieve documents.

On the one hand, that was the case for the following specific CoPs ontologies that were used to select facets to use with the BayFac service:

- O’ ICTE Ontology (TICEFand TIC-FA CoPs)
- DocHETICE Ontology (Form@HETICE CoP)
- O’Learn-Nett Ontology (Learn-Nett CoP)
- “Pedagogical Resource Management” Ontology (CoP CoPe-L)

On the other hand, ontologies or folksonomies such as the “WikiPrépas” ontology (specific to the CoP ePreP) and the “TFT” one (specific to the CoP “Transition-Formation-Travail”) were built through the use of SweetWiki and were mainly used to manage the information in the CoPs’ Wiki pages. In addition, the coordinator of the ePrep CoP, for highlighting the added value of semantics in Wikis to CoP members, exploited the WikiPrépas ontology in order to represent the social structure of the CoP: CoP members were invited to take “A little semantic walk” through their home pages edited on the Wiki. This exercise, allowing CoP members to better understand the use of pertinent tags on the Wiki pages and to better know themselves thanks to the tag search, should be relevant for CoPs of any domain.

All these ontologies could also be used with other services such as SemanticFAQ like the @pretic CoP did with its three specific ontologies.

The extended O'CoP ontology should be a good basis to inspire the CoPs' animators and members when they define their own ontology since many categories (or at least parts of them) are probably relevant for their CoP. This could help not only to feed different services based on the exploitation of ontologies, but also to reflect upon the identity of the CoP (who are the members, how they are organised, which types of documents do they manage, which strategies do they develop to communicate, collaborate, etc.).

Even when the CoP dedicated ontologies are available (see <http://crifaweb.fapse.ulg.ac.be/palette/ontologies/>), the members have to appropriate their exploitation. Some recommendations coming from observation of positive points and difficulties observed when defining ontologies and using them are provided in D.KNO.08 (pp. 114-115)

5. Setting-up a strategy for the exploitation of learning resources

The PALETTE project produced a number of learning resources aimed at sharing and promoting a multidisciplinary understanding about embedded use of technologies in CoPs practices.

Some of those resources are explicit and were "expected": they are outputs of the WP8 dedicated to training activities. Other ones are more implicit and issuing from the multidisciplinary research work performed during the life of the project. Those resources include:

- **The Learning Organizational Resources** that have been produced to provide comprehensive information about the use of PALETTE services; they are intended to CoPs members and mediators and issuing from activities performed in WP1
- **The information provided through the Palette Gallery**, including advices for the choose of services, teasers and testimonies; it is issuing from the WP7 dedicated to dissemination activities
- **The information contained in PALETTE deliverables** – most of them are public and available for download from the project website - ; it is the result of the participatory design methodology (WP1) and the integration work (WP5)

Additionally, we present a reflection led at the PROLEARN/PALETTE Summer School organised in Ohrid in June 2008, in the spirit of the PALETTE project aiming at sustaining the CoP concept and its benefits in terms of learning. It is related to the creation of a PhD students' community in the domain of Technology-Enhanced Learning (TEL).

At the Summer School⁴, Liliane Esnault (EM.Lyon) and Amaury Daele (UNIFR) organised a workshop about the conditions of emergence of CoPs. We proposed a reflective exercise to the ten PhD students who attended. After having presented the theoretical background of the concept of CoPs in a plenary session, we went further with a little group of students in order to answer one general question: why and how to launch a CoP of PhD students in Technology-Enhanced Learning (TEL) domain? For this purpose, we presented the potential issues the group could try to take up from a PhD student's point of view:

⁴ <http://www.prolearn-academy.org/Events/summer-school-2008>

- Why could it be interesting to collaborate for enhancing one’s practice?
- How to identify and formalize professional practice?
- To what extent does sharing support practice improvement?
- What kind of collaborative activities could be interesting for PhD students in TEL?
- What kind of tools could support these activities?

In order to question these issues, we organised a face-to-face group discussion aiming at elaborating a scenario of activities to organise after the Summer School in order to share “PhD students practices” and support each other. This scenario could be supported by uses of tools. In order to frame the discussion, we proposed five main questions:

1. What are the typical issues that a PhD student in TEL faces every day (scientific, administrative, communication with supervisors, etc.)?
2. What are the different ways to cope with these issues?
3. How to write/depict/formalize an experience in dealing with an issue to make it sharable and reusable by others? Which techniques of KM could enable practice sharing?
4. Which (web-based) tools could support such sharing and reusing?
5. How to organise a distributed CoP to share practices in a sustainable way?

We here summarize the answers of the group to these questions.

For the questions 1 and 2, we present the answers in the table below. The first column lists specific issues and practices of PhD students. The second column lists possible ways to deal with the issues, with recourse to (web-based) tools or not.

Typical issues faced by PhD students	Ways to cope with these issues (with tools or not)
<i>Scientific issues</i>	
Literature reviews Questions about what should a good literature review be	Do a literature map, draw a concept map (with MOT, Bubbl.us, etc.)
Find references Other references to find: technology, people, etc.	Subscribe to specialized blogs
Writing papers Try to write joint papers	Getting feed back from others Define a strategy for publishing in Journals, Conferences, On line journals, Book chapters, etc.
Taking notes	Find question of research that are already written by others
<i>Communication issues</i>	

With peers	It is useful to present to someone else and discuss Use every opportunity to find a few “good links”
With supervisor With other professors, experts	Review paper we are working together By email or video conference Role of a Summer school : to try to establish European standards for a PhD in TEL so that it gives argument to students to discuss with their supervisors Think you must have something "nice" before presenting it Need to schedule the meetings (with common agenda for example)
How to share tips with other colleagues	Have a “common” environment
<i>Efficiency</i>	
When to stop? How long should it be?	Focus the curiosity Define what is the scope of the PhD
<i>Personal management</i>	
How to manage my time and my workplan	Make a list of all tasks Find out how long should each last Necessity of organization in order to anticipate
Socio emotional support	Sharing with peers

For the questions 3 and 4, participants proposed different ways to go further after the Summer School by using some tools already used by most of them:

- Have some on line seminars to develop skills related to the different issues mentioned here above (tools: Flashmeeting, Podcasts, a platform to promote outside, etc.).
- Have a visibility outside the community. Already existing communities generally have only one place to be. The problem is about the multiplicity of environments (tools: ask for PROLEARN to help. The PROLEARN academy already exists; they have different tools; it can be used as a start). Participants did not want to have another system, just to use the tools they daily use.
- Take care about the design: plan activities, see who is going to be the moderator, etc. otherwise it will not last. The tool is not enough.
- Make a connection beforehand by sharing information. “We need interaction, not only aggregation” (tools: common platform with dedicated modules).

Regarding the question 5, the participants proposed to follow three steps:

1. To define the purposes of the community;
2. To launch short activities and a schedule;
3. To list possible tools to use and choose one that is well known by everybody.

6. Exploitation actions and roadmap

Turning the information provided in sections 3 to 5 into practical exploitation activities is the purpose of this section. It details the actions targeting the exploitation of the outcomes of the PALETTE project and presents a roadmap for their implementation.

6.1. Exploitation actions

As mentioned in the introduction, the exploitation plan targets several audiences: companies, CoPs, trainers and researchers. It aims at the promotion and evolution of the PALETTE productions (services, methodology and learning resources). The following actions participate in the exploitation of results at short, middle and long terms.

PALETTE website transfer

The first action is the transfer of the PALETTE website, hosted by ERCIM during the live of the project, to CRP-HT. This action has been decided in order to stimulate and integrate new activities arising in the future, grounded on the PALETTE project results. The new address of the site is <http://palette.tudor.lu/servicegallery>.

In the short term, the site aims at

- Attracting new CoPs
- Updating information about the use of PALETTE services in companies (currently MindOnSite and Nisai) and attracting new companies
- Sustaining evolution of learning resources
- Providing opportunities of collaborations through future research projects or organization of events
- Integrating the further versions of services (some of the services will evolve due to the fact that some partners continue the development within their team but it also address developments brought by 3rd parties).

In the middle term, it is planned to integrate the new PALETTE website activities in a more general framework. It is in relation with a submission proposal of an ERCIM Working Group in the domain of Technology Enhanced Learning (see below).

Setting up of an ERCIM Working Group in the Technology Enhanced Learning domain

In order to build upon PALETTE results and open new perspectives, it has been decided to propose the setting up of an ERCIM working group in the domain of Technology Enhanced Learning. The purpose of an ERCIM Working Group is to build and maintain a network of researchers in a particular scientific field. It is an appropriate instrument to provide opportunities of exchange between researchers, through the organisations of workshops at an

international level, as well as to create the conditions for elaboration of new research project proposals.

A specific action planned in this framework is the creation of a community of interest about “services for CoPs”.

The specific domain of this community will be the use of (Web) tools and services by CoPs.

The target audience will be composed of persons interested in CoPs and their tools:

- CoP members or coordinators, KM managers in organisations, trainers of professionals, etc.
- Developers and researchers interested in the functionalities and interoperability of open source services.
- Persons interested in CoPs and looking for appropriate tools and activities for developing groups of professionals in a wide sense.

Anchoring a community of interest as an activity of the Working Group presents a number of advantages: (i) participation of users/stakeholders in CoPs allows to identify expectations, (ii) exchange between researchers with various background contributes to create the conditions to setup multidisciplinary research projects and (iii) opinions progressively brought by new incomers in the community of interest opens perspectives, new aspects to be investigated about services for CoPs.

At the beginning, the target audience will be composed of people who already know PALETTE and its outcomes. Little by little, through the dissemination of the outcomes, other interested people may be reached. The PALETTE website itself will remain important and act as a window of the services and other outcomes directly issuing from the PALETTE project per se.

CoPs event: realization of a major dissemination event towards CoPs

The objective of such an event is to gather a large number of Communities of Practice members and to provide them with a practical view of the diversity of findings and outcomes of the PALETTE project. We target an international audience, attracted by the high quality of the organization, the attractiveness of the content presented and the fully participative atmosphere of the event, which will foster and sustain a warm and productive exchange among the participants.

For those who were associated to the project, it is the opportunity to comment on the last version of the outcomes and ensure the final transfer of knowledge. For those who were not associated, it is a unique opportunity to offer them a broad, but also precise and efficient presentation of PALETTE outcomes and also a chance to experiment by themselves, and share with peers from other communities and the project researchers community.

The targeted audience is about 10-15 CoPs, including communities from different domains (NGOs, ONU, HCR, i.e. large companies).

This event is forecasted in 11-12 September 2009, in Switzerland (Lausanne EPFL). It will last two days (from 1st day noon to 2nd day mid-afternoon), thus permitting a large access to PALETTE outcomes, thematic workshops, hands on experimentation and large spaces for exchanging and sharing experience. It could also be a privileged moment to launch "in practice" the CoP of PALETTE services users.

The event will take the form of several workshops, gathering CoP members and PALETTE researchers. Each workshop will be based upon one or several activities related to the generic scenarios (knowledge reification, document creation and reuse, collaborative editing, graphical supported debate and decision making, animation of the community, etc.). Participants will be able to experiment up to three different workshops during the two days. At the beginning of each workshop, a time could be devoted to gathering examples of situations taking place in the different CoPs, in order for the participants to anchor the work into their own real practice. The workshop will also give large space for exchanges and sharing among the participants.

The outcomes provided to the participants are organized around the generic scenarios and include all the PALETTE services as well as LORs, learning resources and the aspects of methodological resources interesting to implement participative activities in CoPs.

The participation is submitted to a formal inscription and a participation fee.

Exploitation of the scientific results of the research on the portal

The PALETTE portal continues its development under a new name: myWiWall (aka. "my widget wall"). It is currently available in source code form, with a software installer program, on a public Google code repository (<http://code.google.com/p/myWiWall/>), under a GPL2 code license. We have created different channels to advertise it and to support its evolution.

First, as a follow-up to the presentation of one of its main innovations, its inter-widgets communication API, as a poster to the WWW 2009 conference in Madrid on 23 April 2009, a 2 pages article is available on the WWW 2009 Web site (<http://www2009.eprints.org/138/>). The article, also published on the ACM digital library Web site (<http://doi.acm.org/10.1145/1526709.1526884>) contains links to the other channels. This presentation has been preceded by a presentation of "myWiWall" at a W3C Web Applications Working Group, face to face meeting on 26 February 2009 in Paris (<http://www.w3.org/2008/webapps/wiki/WidgetsParisAgenda>) on the invitation of the working group. We will continue in the future to respond positively to invitations to present "myWiWall" to other communities.

Second, we have set up and we animate a public Google discussion group, "Talk about widgets" (<http://groups.google.fr/group/talk-about-widgets>) to discuss the evolution of "myWiWall" and by extension to discuss the evolution of widgets on the Web. External people to the PALETTE project regularly contribute to this forum, such as Scott Wilson, who is a well known leader in the domain of Personal Learning Environments, and who also did research on widget containers / widget engines in the TENCompetence IST EU project. Through the "Talk about widgets" group, an institute, a company or an individual that would install "myWiWall" would get support.

Third, we encourage some spin-offs projects that would extend and adapt "myWiWall" to other contexts. For instance, we have launched a new project at EPFL, "myWiWallxml", to propose another back-end to "myWiWall" based on an XML database instead of MySQL. The purpose is to attract attention from the XML community and to experiment with new extensions to widget engines / widget containers implementations that we aim to publish too in scientific conferences.

At that point nothing prevents anyone to create a commercial offer around support, installation and/or maintenance of a portal solution based on "myWiWall", or to sell the development of widgets that could be run on "myWiWall".

Finally, two former members of the PALETTE project are committee members of the MUPPLE-09 - 2nd Workshop on Mash-UP Personal Learning Environments – addressed topics are: “Interoperable Widgets, Services, and Microformats to facilitate Competence Development” - (http://www.role-project.eu/?page_id=117). The workshop will be held at the 4th European Conference on Technology Enhanced Learning (EC-TEL09), Nice, France, September 29 - October 2, 2009.

Research network: Stellar (in collaboration with Prolearn)

Starting February 1st, 2009, the European Union is supporting a new Network of Excellence in Technology Enhanced Learning called STELLAR (Sustaining Technology Enhanced Learning Large-scale multidisciplinary Research). STELLAR represents the effort of the leading European institutions and projects in Technology-Enhanced Learning (TEL) to unify their diverse community. This Network of Excellence is motivated by the need for European research on TEL to build upon, synergize and extend the valuable work we have started by significantly building capacity in TEL research within Europe, which is required to allow the European Union to achieve its goals via the Bologna Agreement and the execution of the Lisbon Agenda. TEL agenda has been set for the last 4 years by the Kaleidoscope network – with a huge strength in pedagogy and scientific excellence, and the ProLEARN network – with a complimentary strength in technical and professional excellence. The Network is executed via a series of integration instruments designed to increase the research capacity of European TEL at all levels. STELLAR's instruments act upon the backbone of an interlocking set of three Grand Research Challenge actions, themed as Connecting Learners, Orchestrating Learning, and Contextualizing Environments & Instrumentalizing Contexts.

PALETTE legacy has been instrumental in shaping STELLAR, thanks to its deliverables, its scientific output, and the executive role that EPFL is playing the new network. As a matter of fact, the Grand Research Challenge action on “Connecting People” strongly relies on social learning with communities of practice as an important interaction artefact, while the action on “Contextualizing Environments” inherits from the PALETTE integration and mashup approaches. Last but not least, the successful joint ProLEARN-PALETTE 2008 summer school has inspired the STELLAR Doctoral School Instrument and a new **Doctoral Community of Practice** will be established to bring together the stakeholders of PhD studies in TEL within Europe. This TEL DoCoP will be the place where standard for high-quality interdisciplinary TEL dissertations will be consolidated, where PhD students will be able to interact with peers and where they will find guidance from experienced PhD advisors in TEL.

Services exploitation by commercial partners

As planned from the beginning of the project, the open source services developed in the framework of the PALETTE project are intended to be used either directly by CoPs stakeholders or to be integrated in the commercial offer of a company in agreement with the terms of associated licence. The section 3 describes the business models that are suggested to enterprises willing to incorporate or make evolve the tools produced the project.

As an illustration of this strategy, the commercial partners of the project will integrate the results of the project in the following way.

MindOnSite (MOS)

MOS is willing to enhance their commercial offer by integrating results of the PALETTE project.

The exploitation plan targets companies that are MOS customers or potential customers.

MOS will integrate additional services like eLogbook and Cope_it! in its learning content management system.

The InCorPorate platform, which integrates eLogbook and Cope_it!, is like a virtual storefront for future Palette services.customers.

Services could be provided in exchange for a payment from the customer:

- Standard versions (**Forge hosting**) hosted by developers like EPFL and CTI .
- Tailored version (**Shared development**)if available

MOS will develop pedagogical content addressing the general topic of CoPs (under various angles such as organizational aspects, impact of technologies, evolution towards a Web 2.0 perspective, relations with social networks)

NISAI :strategies for the exploitation of knowledge about CoPs development

Nisai Connect is a community based learning platform that allows learners, teaching professionals and other stake holders to access, participate and collaborate in a range of learning activities, access and share information and engage in live lessons, conferences and meetings using Nisai Connect Live.

In seeking to develop its own practice, and to support those of its partners, Nisai recognises the benefits of adopting and nurturing CoP methodologies and models to enhance the effectiveness of collaborative learning processes, communication frameworks and knowledge management. The development of these methodologies will be an iterative process and may offer a structured development model to the wider educational and corporate communities. In the first instance Nisai has identified a number of projects where they intend to exploit its knowledge about CoPs development.

In 2003 Nisai launched the Nisai Virtual Academy (NVA) for young people unable to attend school or college, and for those who's progress is impeded by lack of access to positive, collaborative learning experiences. The NVA works closely with Local Authorities and students support networks so that learners receive continuity of support and co-ordinated services. The NVA also works with a wider community of members including businesses, charities and parents, The success of the NVA has prompted educational and corporate organisations to emulate and adapt the NVA model. However Nisai has identified some difficulties for such organisations in terms of development and sustainability. Nisai wishes to use the knowledge it has gained from its involvement with PALETTE by initiating four specific scenarios connected with the Academy.

1. Pedagogical

In association with Staffordshire University the Academy has designed a Masters level course for e-teachers exploring communalities of joint interests in e-learning, exploiting tacit and explicit knowledge, and focusing on phenomenology, variation theory and Learning

study/learning outcome cycles. It is hoped that this will act as springboard to a community of practice who's members will participate in the design of new activities and services.

2. Partnership for Learning

In developing methodologies for its Virtual Academy, Nisai adopts the UK government's 'Every Child Matters', which sets out a national framework to support the 'joining up' of children's services and promotes five outcomes for education, culture, social care and justice. These outcomes provide Nisai with a common focus shared by children's services in the UK and enables the Academy to work in partnership with local children's services towards a common set of goals for young people. The 'Every Child Matters' framework contributes to the ontology of the CoP and defines the properties of this domain. By adopting sustainable models demonstrating participatory design, shared knowledge management and interoperability or services the Academy seeks to work with its members to initiate a community of practice around the child.

3. Development of e-Learning Communities

Nisai wishes to initiate a community of practice with its staff and partners to define a specific scenario involving a multidisciplinary team focused on the development of e-learning communities. This will involve actors from different cultures (education, technology and social services) and adopt a socio-technical orientation.

4. Non-Formal Learning

The fourth scenario for initiating a community of practice will be within the Virtual Academy itself. It will revolve around extra curricular activities proposed and sustained by students of the NVA. It will also attempt to identify opportunities for accreditation of informal learning.

As a conclusion, Nisai has exploited knowledge about community of practices (CoPs) so that stakeholders may benefit from methodologies that enable launching, defining and nurturing communities of practice. Nisai selects and modifies technologies that ensure the best opportunities for sustain CoPs and managing knowledge assets.

CoPs development

Exploitation will also be realized by each CoPs who have participated in the design of the services and scenarios and by new ones who were attracted at the very end of the project. In the following table we summarize the data concerning the specific exploitations that will be realised by the CoPs involved in the project.

CoPs involved in Palette					
Name of the CoP	Number of part at the beginning	Number at the end of the project	Perspectives of development	Uses of Palette services	Relation with Palette partners for which type of services.

Form@HETICE	+150 (nb: +-20 to 25 core members)	237 (nb: +-20 to 25 core members)	continues to use BayFac inside the network	- BayFac	Design Training
TIC-EF	14	14	Transfert of CoP concept and use of semantic tools in future professional life	-SweetWiki - Amaya - BayFac - DocReuse	Design Training
TIC-FA	11	11	Transfert of CoP concept and use of semantic tools in future professional life	-SweetWiki - Amaya - BayFac - CoPe_It! - DocReuse	Design Training
Learn-Nett	12	20	use of BayFac and SweetWiki	- SweetWiki - BayFac - Cope_It!	Design
TFT	18	45	Reinforcement of the CoP	- SweetWiki - (Amaya)	Design Training
@PRETIC	134 (+-) (3 core members mainly participated to the PALETTE research)	134	Use of the diffusion list CoP-PR-TIC	- SemFAQ Tried other services, but gave up (e.g. Amaya, SweetWiki)	Design
Did@cTIC	20	30	Start to develop new CoPs with other teachers inside and outside the institution Develop training offers	- Sweetwiki - Amaya - DocReuse	Design Training

			for CoPs		
ePrep	0	40	Development of the ePrep Francophone Platform	- Amaya - LimSee3	Design Training
CoPe-L	15 participants in January 2008, when the Cop joined the project	10	The introduction of Palette tools have had an influence on the practice exchanged within the CoP. It is not only e-learning practices that are exchanged but also knowledge management practices. At the end of the project, the CoP is in a transformation phase.	During the project, BayFac and the Palette Web portal were used by CoP's members.	Relation with CRP Henri Tudor service moderators for the use of BayFac and the Web Portal; training on how to use the services (as user and as administrator), and on how to define CoPe-L's ontology, Relation with CTI service moderators for CoPe-it!: training on the use of the service. Relation with INRIA service moderators for

					SweetWiki: training on the use of the service.
ADIRA	>800	steady	"Seeing itself" as a network of CoPs. Reengineering of communication and web site on the basis of generic scenarios Nursing of two new CoPs: one in the Consultancy job, another in the Tierce Maintenance area	Generic Scenarios Participatory design	Methodology

New CoPe-it communities of users

During the last year of the project, various communities have carried out diverse experiments with CoPe_it!. Among the communities created, were the following:

- "copeit evaluation" (with 117 members): this community mainly served the tool's evaluation purposes; valuable feedback was obtained, which was used for the final tuning of the tool's features and functionalities
- "Usability" (with 52 members): this community was set up in the context of an HCI event that took place in Athens, Greece; the community comprised experts on various HCI issues from whom valuable feedback concerning the usability of CoPe_it! was obtained
- "Εργαστήριο Επικοινωνίας Ανθρώπου-Μηχανής (HumanComputerInteractionLab)" (with 44 members): this community comprised undergraduate students from the Dept. of Electrical & Computer Engineering, University of Patras, Greece; the community used CoPe_it!
- "Renewable Energy" (with 19 members): this community mostly comprises PhD students from the Dept. of Mechanical Engineering & Aeronautics, University of Patras, Greece; various issues related to renewable energy have been discussed with the use of CoPe_it!

- "EUROAVIA" (with 13 members): this community consists of EUROAVIA (European Association of Aerospace Students) members – see <http://www.mech.upatras.gr/~euroavia/general.htm>

Interest in using CoPe_it! in the future has been also expressed by various communities, including:

- ENISA (European Network and Information Security Agency): they have expressed interest in using the tool for experts collaboration (emphasis on using argumentation features; handling of issues related to safety and privacy; life-cycle support of their communities)
- University of Patras and Western Greece municipalities and organizations: interest in integrating CoPe_it! with Moodle to build a new e-learning platform (fostering collaboration)

Diplomatic Academy, Ministry of Foreign Affairs, Greece: use of CoPe_it! for the semantic-based production and management of international conventions (emphasis on the collaboration component)

Creation of Health CoP

Health CoP deals with the share and capitalization of knowledge among professionals of the health domain. It aims at creating and developing Communities of Practice (CoP) whose members are isolated in their line of work. Five CoPs will be animated and supported by the use of ICT tools. Among these CoPs, one is already existing: the TFT one that gathers nurses in charge of the welcome and follow up of new incomers in the different hospitals departments.

This project will integrate a process of creation, follow up, training and autonomy of CoP's activities. Creation of the CoP's identity members, share and production of resources, animation at a distance and meeting will be the core activities of the project. The experiences and the process will be formalized in a compendium of « good practices » illustrated by concrete cases.

This project sustained by the European Social Funds (2009-2013) will take advantage of lessons learnt during the PALETTE project (about the methodology to use to develop CoPs and types of tools or services useful for them).

6.2. Roadmap

The following table provides a roadmap for the actions described in section 6.1.

2009			2010				> 2010
Q2	Q3		Q4	Q1	Q2	Q3	Q4
Palette website transfer (1)		Palette website evolution (2)		Palette website integration in ERCIM WG website (3)			
	ERCIM WG submission	ERCIM WG activities (4)					
		CoPs event					
		Exploitation of PALETTE results by MoS					
		Exploitation of PALETTE results by Nisai					
R&D activities on Portal							
			STELLAR DoCoP creation and development				

(1) The static version of the PALETTE website (i.e. the website as it was at the end of the project) remains available at ERCIM. The new “evolving” website is now available from CRP-HT.

(2) The new website targets the following audiences: researchers, developers, companies and CoPs. The Palette of services is accessible from a single access point in the site; it includes documentation and demos as well as links for download.

The website is progressively integrating any information in relation with actions arising since the end of the PALETTE project. It will act as an important dissemination tool for the CoPs event planned on September, 11-12, 2009 in Lausanne.

(3) At middle term, it is planned to integrate the PALETTE website information into the site dedicated to the ERCIM WG on TEL.

(4) The proposal of the ERCIM WG will be sent to ERCIM by the end of June. Activities of the working group are expected to start by September 2009. It will federate a number of actions and initiatives in TEL domain, some of them initially anchored on the PALETTE project results. The purpose of the working group is also to act as a relay to sustain activities initiated between PALETTE and other European projects (specially, STELLAR, BELIEF, ROLE, TEN COMPETENCES).

References

- [Boettcher, 2007] Ten Core Principles for Designing Effective Learning Environments: Insights from Brain Research and Pedagogical Theory. *Innovate*, 3(3), 2007.
- [Bos-Ciussi et al., 2008] Bos-Ciussi, M., Augier, M., & Rosner, G., Learning communities are not mushrooms - or - How to cultivate learning communities in higher education. In C. Kimble, P. Hildreth, & I. Bourdon (Eds.), *Communities of Practice. Creating learning environments for educators* (Vol. 2, pp. 287-308). Charlotte, NC: Information Age Publishing, 2008.
- [Bottino, 2007] Bottino, R. M. (2007). On-line learning networks: Framework and scenarios. *Education and Information Technologies*, 12(2), 93-105.
- [CEFRIQ, 2005] *Travailler, apprendre et collaborer en réseau*. Québec: CEFRIQ. Retrieved from <http://www.cefrio.qc.ca/fr/documents/publications/Travailler-apprendre-et-collaborer-en-reseau.html>, 2005.
- [Cusumano, 2008] Michael A. Cusumano, *The Changing Software Business: Moving from Products to Services*, Computer, vol. 41, no. 1, pp. 20-27, Jan., 2008.
- [D.DIS.04] *PALETTE Updated Brochure*, Pedagogically sustained Adaptive LEarning Through the exploitation of Tacit and Explicit knowledge (PALETTE), FP6-028038, March 2007.
- [D.DIS.07] Denis Gillet et al., *PALETTE Draft Exploitation Plan*, Pedagogically sustained Adaptive LEarning Through the exploitation of Tacit and Explicit knowledge (PALETTE), FP6-028038, April 2008.
- [D.MAN.12] Karen Marache et al., *Updated version of PALETTE Open Source Strategy Report*, Pedagogically sustained Adaptive LEarning Through the exploitation of Tacit and Explicit knowledge (PALETTE), FP6-028038, January 2009.
- [D.PAR.04] «User centred» description of the PALETTE tools and services, and first analysis of their usability, Pedagogically sustained Adaptive LEarning Through the exploitation of Tacit and Explicit knowledge (PALETTE), FP6-028038, 2008.
- [El Helou et al., 2008] El Helou, S., Raffier, M., Daele, A., & Gillet, D. Social software for supporting interaction in a Community of Practice dedicated to e-learning. In *Workshop on social networking in organisations, CSCW08, November 2008*. San Diego, CA, USA.
- [FaberNovel, 2007] FaberNovel Consulting, *Modèles économiques des logiciels open source et logiciels libres: quelques points de repère*, September 2007.
- [Ghosh, 2003] Rishab Aiyer Ghosh, *Copyleft and dual licensing for publicly funded software development*, July 2003, draft available at <http://www.flossproject.org/>
- [Grégoire, 2008] Bertrand Grégoire, *T7.5: Exploitation Plan*, status report at PALETTE SAB meeting, September 2008, slides available at <https://bscw.ercim.org/>
- [Henri et al., 2003] Henri, F., & Pudelko, B. (2003). Understanding and analysing activity and learning in virtual communities. *Journal of Computer Assisted Learning*, 19(4), 474-487.doi: 10.1046/j.0266-4909.2003.00051.x.

- [Hewitt et al., 1998] Hewitt, J., & Scardamalia, M. Design Principles for Distributed Knowledge Building Processes. *Educational Psychology Review*, 10(1), 75-96.doi: 10.1023/A:1022810231840, 1998.
- [Hoadley et al., 2005] Hoadley, C., & Kilner, P. (2005). Using technology to transform communities of practice into knowledge-building communities. *SIGGROUP Bull.*,25(1), 31-40.
- [Lesser et al., 2000] Lesser, E. L., Fontaine, M. A., & Slusher, J. A. (Eds.). (2000). *Knowledge and Communities*. Woburn, MA: Butterworth-Heinemann.
- [OpenBRR, 2005] SkipeSource, Carnegie Mellon West, and Intel, *Business Readiness Rating for Open Source*, 2005, White paper available at <http://www.openbrr.org>
- [Rajala et al., 2001] Rajala, R., Rossi, M., Tuunainen, V.K., and Korri, S., *Software Business Models: A Framework for Analyzing Software Industry*, Technology Review 108/2001
- [SQA-OSS, 2008] Maria Halkidi, *Novel Quality Assessment Techniques*, Software Quality Observatory for Open Source Software (SQA-OSS), IST-2005-33331, D7, February 2008.
- [Wenger, 1998] Wenger, E. (1998). *Communities of practice : learning, meaning, and identity*. Cambridge, Mass.: Cambridge University Press.
- [Wenger et al., 2002] Wenger, E., McDermott, R. A., & Snyder, W. (2002). *Cultivating communities of practice : a guide to managing knowledge*. Boston MA: Harvard Business School Press.

7. Appendix 1: exploitation survey results

The complete results of the additional exploitation survey can be found online at https://bscw.ercim.org/bscw/bscw.cgi/d564137/exploitation_survey_palette_views-only.pdf

The data tables and graphs are copied below.

Results: online survey PALETTE services exploitation

LimSee3

last update: 3. déc.. 2008

Service provisioning offers & expected inco # 2

	host	devel	online	User	free	cost	profi
offer	1	2	1	0	1	1	0

10/14
6/11
22

Service demand & reservation price # 6

	download	admin	online	User	free	cost	profi
demand	4	3	3	4	5	1	0

Service evolutions & integration of modificati # 1

	correct	enhance	integrate	customize	direct reuse	paid reuse	no reuse	private
	1	1	0	1	1	0	0	0

LimSee3

potential demand & offer

Amaya

DocReuse



Service provisioning offers & expected inco # 2

	free	cost	profi
	0	0	0

Service demand & reservation price # 5

	free	cost	profi
	1	0	0

Service evolutions & integration of modificati # 2

	correct	enhance	integrate	customize	direct reuse	paid reuse	no reuse	private
	1	1	0	1	1	0	0	0

BayFac

Service provisioning offers & expected inco # 0

offer	host	devel	online	user	free	cost	profi
	0	0	0	0	0	0	0

Service demand & reservation price # 4

demand	download	admin	online	user	free	cost	profi
	1	2	4	1	4	0	0

Service evolutions & integration of modificati # 1

	correct	enhance	integrate	customize	direct reuse	paid reuse	no reuse	private
	1	1	0	0	1	0	0	0

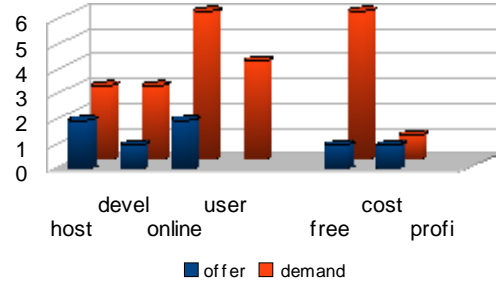
BayFac

potential demand & offer



SweetWiki

potential demand & offer



& expected inco # 2

free	cost	profi
1	1	0

on price # 7

free	cost	profi
6	1	0

ition of modificati # 2

correct	enhance	integrate	custo	direct reuse	paid reuse	no reuse	private
1	1	0	1	1	1	0	0

CoPe it!

Service provisioning offers & expected inco # 2

offer	host	devel	online	user	free	cost	profi
	1	1	1	1	0	1	0

Service demand & reservation price # 4

demand	download	admin	online	user	free	cost	profi
	2	2	4	2	1	1	0

Service evolutions & integration of modificati # 1

	correct	enhance	integrate	customize	direct reuse	paid reuse	no reuse	private
	1	1	1	1	1	0	0	0

CoPe_it!

potential demand & offer

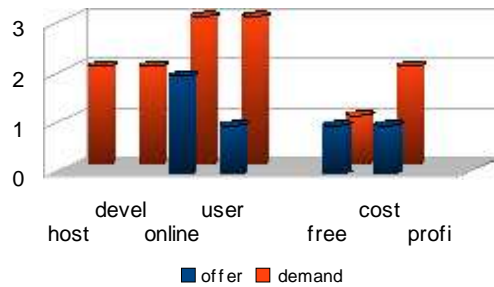
eLogBook

Service provisioning offers & expected inco # 2

free	cost	profi
1	1	0

eLogBook

potential demand & offer



on price # 4

free	cost	profi
1	2	0

ition of modificati # 1

correct	enhance	integrate	custo	direct reuse	paid reuse	no reuse	private
1	1	0	1	1	0	0	0

PALETTE Portal

Service provisioning offers & expected inco # 2

offer	host	devel	online	user	free	cost	profi
	1	2	1	2	0	0	1

Service demand & reservation price # 4

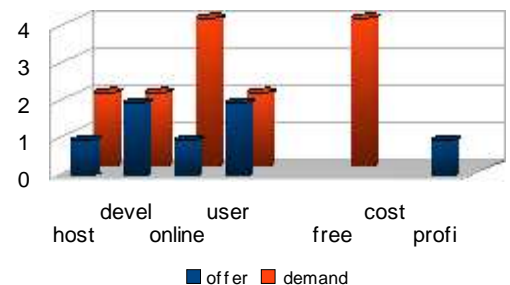
demand	download	admin	online	user	free	cost	profi
	2	2	4	2	4	0	0

Service evolutions & integration of modificati # 2

	correct	enhance	integrate	customize	direct reuse	paid reuse	no reuse	private
	2	2	1	0	1	1	0	0

PALETTE Portal

potential demand & offer



SemanticFAQ

Service provisioning offers & expected inco # 0

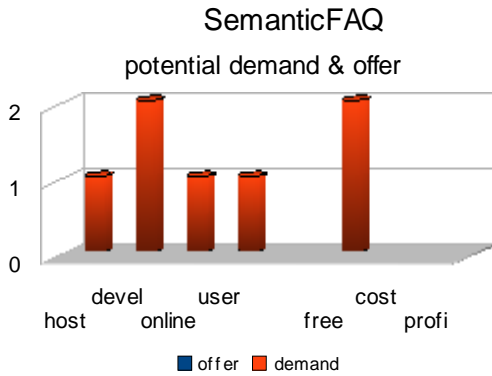
	host	devel	online	User	free	cost	profi
offer	0	0	0	0	0	0	0

Service demand & reservation price # 2

	download	admin	online	User	free	cost	profi
demand	1	2	1	1	2	0	0

Service evolutions & integration of modificati # 0

	correct	enhance	integrate	customize	direct reuse	paid reuse	no reuse	private
	0	0	0	0	0	0	0	0



SeWeSe

Service provisioning offers & expected inco # 1

	host	devel	online	User	free	cost	profi
offer	1	1	0	0	1	0	0

Service demand & reservation price # 1

	download	admin	online	User	free	cost	profi
demand	1	1	1	0	1	0	0

Service evolutions & integration of modificati # 0

	correct	enhance	integrate	customize	direct reuse	paid reuse	no reuse	private
	0	0	0	0	0	0	0	0

SeWeSe

potential demand & offer

Corese

Service provisioning offers & expected inco # 1

	host	devel	online	User	free	cost	profi
Cooffer	1	1	0	0	1	0	0

Service demand & reservation price # 1



Service evolutions & integration of modificati # 0

	correct	enhance	integrate	customize	direct reuse	paid reuse	no reuse	private
	0	0	0	0	0	0	0	0

Generis

Service provisioning offers & expected inco # 0

	host	devel	online	User	free	cost	profi
offer	0	0	0	0	0	0	0

Service demand & reservation price # 3

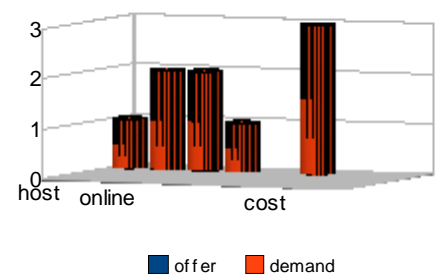
	download	admin	online	User	free	cost	profi
demand	1	2	2	1	3	0	0

Service evolutions & integration of modificati # 0

	correct	enhance	integrate	customize	direct reuse	paid reuse	no reuse	private
	0	0	0	0	0	0	0	0

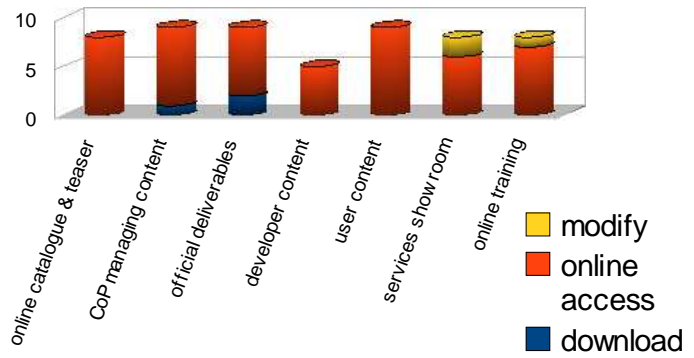
Generis

potential demand & offer



Other results

potential interest from partners



Interest in other results	no interest	download	online access	modify	host
online catalogue & teaser	2	0	8	0	TRUE
CoP managing content	1	1	8	0	FALSE
official deliverables	1	2	7	0	TRUE
developer content	5	0	5	0	TRUE
user content	1	0	9	0	TRUE
services showroom	2	0	6	2	TRUE
online training	2	0	7	1	TRUE