Portals and VLE: how are they related and what are they for?

Yves Epelboin[1], Paulo Alves[2], Paul Held[3], José Antonio Palma[4], James Uhomoibhi[5]

[1]SG TICE, University P.M. Curie - Paris 6, 75252 Paris Cedex 05, France, Yves.Epelboin@upmc.fr, [2]School of Technology and Management, university of Applied Sciences of Bragança, 5301-857 Bragança, Portugal, [3] ISS, Universität Erlangen-Nürnberg, D-91052 Erlangen, Germany, [4] Escola Superior de Tecnologia /Politécnico de Setúbal, 2910-761 Setúbal – Portugal,[5] Faculty of Computing and Engineering, University of Ulster, Newtownabbey, BT37 0QB, Northern Ireland, UK

SUMMARY

Portals and VLE (Virtual Learning Environment) are increasingly being deployed for use in most universities. At a recent meeting of the eLearning Task Force held in Paris, January 29th 2009, the need for clarification of what they are and how they are related was highlighted. This presentation results from exchanges among participants during this meeting.

1.1. VLE and Portals

VLE describes the new generation of LMS (Learning Management of Tools) designed as a structured collection of pedagogical and collaborative tools. Both VLE and portals exist in many universities. Some have decided to implement either a portal or a VLE but not both since many tools coexist in both frameworks. A portal is always seen from the university perspective, governed by the main bodies of the organization when a VLE is seen from the personal perspective of the teacher.

A portal can be best described as the virtual entrance into the university. It is a one stop shop where students and staff, when identified, find information and tools pertinent with their profile. The organization and the offered services are decided at the higher level of the university according to the political context, the management and strategy. Since a portal is designed for the students as well as for any category of the staff, its design and presentation is a compromise between conflicting demands.

A VLE is the virtual entrance into a classroom. A pedagogical scenario can be build. Activities are interlinked: for instance adding a new assignment may automatically create a new announcement. Rights and roles are locally defined and may vary from a class to another according to the needs of the teachers and students. It is there that the teachers and the students "meet".

Another way of presenting portals and VLE is to see a portal as a horizontal portal where a variety of services are plugged, one of them being the VLE seen as a vertical portal where a number of tools can be connected. But when seen as a collection of tools, it is obvious that portals and VLEs share a large number of equivalent tools such as communication tools (mail, chat, discussion forums…), storage systems for courses and personal needs, private and community agendas… The added complexity of having to choose which one to use must not be underestimated.

1.2. Conclusion

Choosing to implement a portal or/and a VLE is thus a strategic decision. These points will be highlighted and the speakers will present their different points of view.

EUNIS-200-paper-template.doc

ABOUT THE PAPER

2.1 Portals and VLE

The integration of Information and Communication Technologies (ICTs) in several areas of the university, like virtual learning environments, course management systems, content management systems, Intranets, portals, blogs and wikis, creates a variety of services available for supporting learning, teaching, management and collaboration.

This variety of services is a challenge to universities in order to provide a user centered approach, based on the activities or in the user context, providing the quality, security and the reliance of the information. Two approaches are possible:

- Some universities follow the approach of creating several thematic portals as an integrator of several services, based on a specific area or service. This approach is based on vertical portals, covering only one topic or one type of topic. For instance, one of these portals may be a course repository; another one will integrate the communication tools (e-mail, exchange lists, blogs and forums...). VLE, in some of their realizations, are a good example of vertical portals: they provide a variety of tools all related to teaching and learning and define an environment by themselves.

- Other universities adopt an approach to implement the portal as a university directory, integrating all the services in the hierarchical perspective, based on the user context and provide the same look and fell for all the applications. This kind of integration is sometimes compared to horizontal portals, where the user has the same interface for all the services, covering a wide range of topics.

One of the difficulties, when providing only a variety of vertical thematic portals is that the user has to choose among many services, some of them not being of interest for him and, worse, sometimes the access being restricted to some categories of people. Moreover when the access is permitted it would be annoying to oblige the users to identify themselves successively in the different vertical portals. A single sign-on mechanism (SSO) is thus mandatory. Since the authentication mechanism requires to maintain authorization lists for each vertical portal the conclusion is obvious: maintaining a variety of independent vertical portals is only feasible when no access restriction exists. Otherwise the need for a university directory means to add an horizontal portal to integrate all the services. The offered services depend on the user profile as stored in the directory. One of the challenges is to maintain an up-to-date directory with the right profile for all actors in the university, students as well as staff. This is more a question of organization than a technical problem. In practice the universities who did not introduce a horizontal portal possess only one restricted vertical portal, the access to all others being free.

The main challenge of university portals is the effective integration with all the campus services, providing a single point of view of the university based on the user context. A Gartner study (Gartner, 2009) indicates that one of the most important issues for IT corporate planers in the period of 2007-2012 are 'User Centric Era', where IT users will have integrated home/work environments, or "software bubbles", that follow them around. "Users will move seamlessly among the devices carrying their settings, as well as transferring the state of their session as they move. This 'User Personality Portability' will also mean that IT departments will struggle to stay ahead of user requirements and to dictate technology decisions. The IT organization's role will, therefore, shift to facilitation and enablement.

A portal can be best described as the virtual entrance into the university. It is a one stop shop where students and staff, when identified, find information and tools pertinent with their profile. The organization and the offered services are decided at the higher level of the university according to the political context, the management and strategy. Since a portal is designed for the students as well as for any category of the staff, its design and presentation is a compromise between conflicting demands.

A VLE is the virtual entrance into a classroom. A pedagogical scenario can be build. Activities are interlinked: for instance adding a new assignment may automatically create a new announcement. Rights and roles are locally defined and may vary from a class to another according to the needs of the teachers and students. It is there that the teachers and the students "meet". The VLE controls

access to curriculum units, and the roles assigned to each participant, teacher or student. Support of online learning, including access to learning resources, assessment and guidance also track student activity and achievement against these elements. The VLE provides a set of tools and resources that allow teachers to not only provide materials and activities but also facilitates the communication between the learner and teacher to provide direct support and feedback for learners, as well as peer-group communications that build a sense of group identity and community of interest. The abundance for the choice of VLEs is explained by the fact that there is not only one way of teaching and no one is flexible enough to accommodate all the wishes of all the teachers. At the same time a confusion arises since all provide a number of facilities which also exist in a portal such a as communication tools and repository.

2.2   The user perspective

Students and teachers do not mind about terminology, but about functionality. They do not mind if they enter a portal or a VLE as long as they know, what they can find where. They want to enter one single environment or, at least, a transparently interlinked set of coherent and integrated environments.

Every password related login action is seen as a harmful activity and to log into different tools with different passwords every day will not be accepted for long. At the same time, data should be entered only once by users and then be handed over to related systems. Therefore, integration and single sign on have to be aimed at, when thinking about the implementation of new IT systems, being a portal or a VLE.

Integration sounds easy, but is difficult to achieve, since all data needs and flows of all interlinked systems have to be thought about from the beginning. A university knows very well how to categorize the various users of its systems: a student may be categorized through the courses he/she follows and going deeper in the categorization through the training classes, experimental classes or any teaching subunit he/she belongs. The same applies to the staff. Each individual is characterized by a profile and the whole population is made of groups, each group having an identical profile. The question is not to know how to categorize the various users but to be able to do this in time. The profile of each user must be known as soon as the beginning of the semester and procedures must exist to update them in "real time". This is together a question of:

- Organization and definition of the processes: who has the rights to maintain the information and when?
- Facilities: do the IS systems provide the right interfaces to maintain the user information and do they support different levels of authorizations for the different categories of actors?

To give one example: The inscription to courses, shall it be handled in the 'portal' or in the VLE?

In the portal, all students' related data are entered and kept, so it sounds normal, that also the inscription to courses should be handled there. On the other hand, course inscription is very closely linked to the course itself and course owners want allow entrance, to attribute or reattribute students, to remove students from the course, to form subgroups … If, to carry out these actions, they have always to leave the VLE and to enter the portal which is, may be, even differently shaped or structured, they will be annoyed quickly. Moreover it has to be assured that all data is correctly transferred to the right place, so that the teacher can always act with the correct set of students during the life of his course.

In this case, probably the most effective and user friendly way of operation would be, to handle all inscription related activities in the VLE and to handle over to the portal only the 'essence data': Who, at the end of the course, is still inscribed, what tasks where achieved, with which marks.

In order to support these emerging "User Centric Era", there are some key issues that universities pretend to address:

- How to identify users and roles in all the university life cycle, including stakeholders?
- How to integrate university services, maintaining the same look and feel in all applications?
- How to provide user centric environments, based on user context, in order to provide the information that the user needs?

Some of these issues are already addressed by the adoption of standards in order to provide interoperability between systems, which are:

- Identity and access management

- Service oriented architectures
- Portlets and RSS
- Standards for course description, contents… (LOM, CDM…)

2.3 Life cycles

The University IT infrastructure has to mirror the entire students' life cycle, from the first contact to the University, may be already at school, to post University contacts as alumni. This is a very complex task, since roles and rights are likely to change many times during this cycle. The student starts as an applicant, to be an ordinary student, he may become tutor or administrator, can become researcher or post graduate student, or may even take a continuing education course when being employed.

In all these phases, the student can expect to have his data correctly kept, to have the appropriate rights, to have access to relevant data and to provide others with data, to have the necessary communication and collaboration tools, all in a transparent way.

The University perspective and the student's perspective have to be merged in a fruitful way. The University has an interest to have complete and reliable data, to keep track of assignments and marks, to have a collective view on the students, to assure data protection, to provide an interesting teaching offer and to produce excellent research results …

The student wants to know, what he can find where, have access to all documents, to get feedback, to communicate and to collaborate with peers and teachers, to keep track of his acquired competences …

This means that the overall IT environment has to cover both perspectives. Traditionally, the institutional perspective was overemphasized and covered by all kinds of portals. VLEs are already a good step towards student's interests, but may be, not enough. Personal Learning Environments (PLEs) or respective functionalities in VLEs which include WEB2.0 functionalities are a further step forward. ePortfolios may be the brace for the students perspective. New versions of the most popular VLE go in this direction.

2.4 Integration of university services

In many Universities, there is a problem to homogenize fragmented structures. Especially in eLearning, innovative individuals started new attempts as early adopters and built up or even programmed individual environments, before the institution as collectivity was ready for change. When now, with the mainstream, the universities start their centralized, top down strategies, reluctance emerges at many places and hinders a coherent offer for the sake of the learners and the teachers.

A fruitful strategy may be, to include the 'pioneers' in decision making and to present the new eLearning structures as an offer and not as a restriction or constraint. Technology and pedagogy is very much interlinked in VLE and pedagogic freedom shall not be hindered through a technical system. On the contrary, the technical system should provide new opportunities.

Different systems may have different valuable functionalities, e.g. language learning has specific didactic exigencies which are mirrored in the respective VLEs. Sometimes it may be more appropriate to look for additional layers which allow the interlinked coexistence of different systems instead of forcing all users in an unloved standard system. However lack of appropriate funding and of skilled manpower is a severe limitation to this purpose.

The integration of the various services has to be built as a service by itself. To meet a changing culture, a new software design paradigm has emerged that will replace the model in which the Universities make large and monolithic application systems. This new approach is primarily concerned with the development and interaction on IT services.

Portals and VLE still remain as separate systems. They could basically work independently. Problem arises at level of registration, authentication, user's access to similar information about themselves, or other sort of information or services replicated in both systems such as communication tools, storage space….

To avoid these problems is required for systems interoperation (interconnection of systems), and integration (establishment of connections between systems to allow interworking). The service approach will help institutions deal with the increasing number of applications by re-factoring

redundancy out of the institutional code-base. In doing so, programmers will reduce the total amount of code that has to be maintained. A service-oriented approach offers better opportunities to reduce costs while increasing performance and control. It promises a more positive future strategy for dealing with the complex demands of higher education software maintenance challenges. For example, authentication and authorization are functions that can be provided as separate services. When used by other services with an open interface, they can be implemented once and then accessed by different applications, portals or VLE, when they needed.

In this approach Portals can serve multiple systems (VLE, e-library, pedagogical administration), with a common interface for authentication, registration, or users access of similar information about themselves in different systems.

In this matter the e-framework (www.e-framework.org), an initiative by JISC and Australia's DEST, is very important. The initiative has been established to help the education community to take advantage of the opportunities offered by the service-oriented approach. Similar initiatives exist in many countries such as the "Guide méthodologique de l'université numérique" by the Association of Universities Presidents (CPU) in France.

2.5   Conclusion

Choosing to implement a portal or/and a VLE is a strategic decision. To achieve an efficient system the choice must be made with respect to the existing structures and systems and must be built as a service. This decision is not only technical but will impact the organization itself and attention should be devoted to conduct the swing.

 Whatever IT infrastructure we build in a University context it has to respect the user's perspective and to mirror the student life cycle and be as intuitive as possible

REFERENCES

Gartner (2009) xxxxxxxxxxxxxxxxxxxx ????????????????

http://www.cpu.fr Guide Méthodologique de l'université numérique, Methodological guide for the digital university (2009)

http://en.wikipedia.org/wiki/Virtual_learning_environment Definition of VLE

http://www.e-framework.org Stiles, M., Death of the VLE?: A challenge to a new orthodoxy, March 2007, Serials – 20(1).