Integration between systems in the higher education area

Jonas Brorsson [1],Ulrika Ringeborn[2]

[1] Ladok Consortium, KTH/Ladokkonsortiet, SE-100 44 Stockholm, jbror@kth.se [2] Ladok Consortium and Växjö University, Växjö Universitet/IT-strategi, SE-351 95 Växjö, ulrika.ringeborn@vxu.se

Keywords
Integration, data exchange, standards,

1.   EXECUTIVE SUMMARY

Integration between different institutions student systems will become more urgent in the near future. Following the adoption of the Bologna process more students will move within the European community to get the education of their desire. This will imply integration solutions to student systems vendors. To make this happen, defining and deploying standards is the big issue. The technical solutions will come if there is a standard framework to build on when developing new functionality for exchanging data between systems in different countries.

1.1. Background

Earlier on there were no or few systems which wanted or were able to integrate on a standardized way with the Ladok system. Nowadays there's pressure from both students who wants information about their educational career and from other administrative functions both within and outside the institutions, to get information about both student curriculum data and course description data to various systems without any delay. Ladok is the national system used for documentation of academic information at higher education institutions in Sweden. It is jointly owned by these through a consortium. There are 34 higher education institutions and the national agency for study financing who collaborates within the consortium. The Ladok connector is an independent part of the Ladok system. Its main purpose is to provide information about changes in the Ladok database to other application or systems that needs this information whit a short notice

1.2. Conclusions

The maturity level of implementing various IT-systems to support the business processes in the Higher Education area is growing. Systems that have been around for some time like the student records system in Sweden by the Ladok Consortium, find themselves more and more obliged to share their information with surrounding support systems and if possible with other student systems within the same country or even with student systems from other countries. Technical solutions which address this matter are rather straight forward and not to difficult to accomplish. The issue to address first is to define and deploy a standard that easily can be adopted by vendors and institutions trough out Europe. When the standards issue is in place we can begin to develop applications that provide data in correct format and presented according to specifications. Foreseeing the upcoming standards and Ladok connector plug-ins according to standards the obvious would be to focus on a Ladok collector that can verify data fetched from other systems to assure the same quality of data as if it was entered in the Ladok systems expert interface. The major driver for this is the defining of standards and adoption of the same trough out Europe.

2. Background

The maturity level of implementing various IT-systems to support the business processes in the Higher Education area is growing. Systems that have been around for some time like the student records system in Sweden by the Ladok Consortium, find themselves more and more obliged to share their information with surrounding support systems, and if possible with other student systems within the same country or even with student systems from other countries. Earlier on there were no pressure for that. There were no or few systems which wanted or were able to integrate on a standardized way with the Ladok system. Nowadays there's pressure from both students who wants information about their educational career and from other administrative functions both within and outside the institutions, to get information about both student curriculum data and course description data to various systems without any delay.

3. The Ladok consortium and the Ladok system

Ladok is the national system used for documentation of academic information at higher education institutions in Sweden. It is jointly owned by these through a consortium. There are 34 higher education institutions and the national agency for study financing who collaborates within the consortium. The Ladok system is in fact the higher education industry standard in Sweden; the system is used at 34 of the universities and university colleges– which means practically all. The same application is shared by all institutions involved, allowing the individual institutions to use identically designed databases to store academic documentation. Every institution, however, uses its own local Ladok register and is responsible for the quality of their data. Local functions can be added, beyond the commitments of the Ladok Consortium.

4. Ladok connector

The Ladok connector is an independent part of the Ladok system. Its main purpose is to provide information about changes in the Ladok database to other application or systems that needs this information whit a short notice (within 5 minutes from actual change in the database).

4.1. Technical description

The Ladok connector as a technical concept was presented at the EUNIS-conference in 2007. For more information regarding technical matters please read last year's EUNIS-paper of [Bergström, Foroutan-Rad and Berglund 2007].

4.2. Ongoing Development of Plug-Ins

The Ladok Connector application was first released in February 2007 but when trying to implement it at one of the consortiums members, they realized that there wasn't enough plug-ins developed to cover all their needs for data. During first half of 2008 a project runs which aims to fulfil the gap and make it possible to have a up-and-running implementation of Ladok connector in the third quarter of 2008. In close cooperation whit the higher education institutions in Sweden we will continue to develop plug-ins to fulfil the needs of information delivered by Ladok connector. On a longer term we also want to assure plug-ins to match the needs of data when we begin to share data between countries.

5. The need for standards

As emphasized in last year's presentation about Ladok connector, the technical solutions are rather straight forward and not to difficult to accomplish. But were the effort has to be put is in the development of a European standard for exchange of course description- and student curriculum data. Today there are some initiatives going on in this area. Among others the MLO-project (Metadata for Learning Opportunities) try to define and describe what is needed to eventually build a standard. The MLO-projects main objective is to describe a standard for learning opportunities, which covers most part of course description data. When the presentation that matches this paper is held, the first part of the MLO-project has been sent to formal standardization. Hopefully the MLO-

project continues to cover the whole subject area that's needed to be defined as standards to make it possible to exchange student curriculum data as well. There's a group of vendors in the higher education systems area that has tried to describe what they should need in terms of standards to begin exchanging data between countries and student information systems. The group calls themselves RS3G (Rome Student Systems and Standards Group). As the group consists of vendors they don't intend to set a standard but they will describe what they need from an official standard to make their systems exchange information and interact with each other.

6.   Next step: Exchanging information with systems from other Countries

When the standards issue is in place we can begin to develop plug-ins for Ladok connector that provides data in correct format and presented according to specifications. Today we have some discussion with a vendor in Norway to begin some limited tests on exchanging data. A possible angle could be to focus on a finite subset of functions i.e. data needed to administer the exchange program NordPlus. If we succeed with that it would be natural to follow up with the same type of data for Erasmus exchange programs.

6.1. Ladok Collector?

When having an application that can deliver information to other systems, it would be a good idea to develop an application which can collect data in a controlled way too. Foreseeing the upcoming standards and Ladok connector plug-ins according to standards the obvious would be to focus on a Ladok collector that can verify data fetched from other systems to assure the same quality of data as if it was entered in the Ladok systems expert interface. This application should verify each set of data that is collected and if it doesn't comply with the rules for that data set it should be moved to an error list. Only data that comply with the rules is updated in the tables. Having all this in place then we can begin to exchange data with other systems from various countries that have resembling functionalities. The major driver for this is the defining of standards and adoption of the same trough out Europe.

7.   REFERENCES

Bergström Johan, Forutan-Rad Ali and Berglund Mikael (2007) *NATIONAL AND LOCAL INTEGRATION IN THE SWEDISH LADOK SYSTEM USING OPEN STANDARDS*. Retrieved May 15, 2008 from:
http://www.eunis.org/events/congresses/eunis2007/CD/pdf/papers/p164.pdf