Testing the XCRI-CAP Standard on Course Advertising Information at the University of Worcester

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1. EXECUTIVE SUMMARY

Our project aimed to develop a course catalogue that could export data in the XCRI-CAP (eXchange of Course-Related Information - Course Advertising Profile) specification format. The catalogue would be based on course advertising information extracted from two existing databases at the University of Worcester. We hoped to combine course advertising information from a partner college into our catalogue. The resulting XCRI-CAP feed would be published via a public url on the Herefordshire and Worcestershire LLN website Wider Horizons and include a search facility for users.

The project began by testing the XCRI-CAP readiness of the course advertising information at the University of Worcester. The team examined how this information was currently managed, and an "XCRI Readiness" report was prepared. The University scored quite strongly on the XCRI readiness scale although there were some weaknesses.

The main sources of the data were extracted from two existing databases: the outward facing University Website which was controlled by a content management system (CMS) Red Dot, and the SITS system that stores and manages pathway and module data. We extracted the information from these two databases and mapped it to the XCRI schema.

As a result of the implementation it was envisaged that the resulting XCRI-CAP feed would be of greater value to the student than the current course catalogue, (an online search tool would be developed to interrogate it). We also hoped that the University, the Lifelong Learning Network and any other agencies interested in collecting it would find the service valuable as the interoperable nature of the feed would make it easy to harvest by any number of agencies.

An output of the project includes a search facility for users which can be accessed via the Lifelong Learning Network web environment Wider Horizons (www.widerhorizons.org.uk) The XCRI-CAP .xml file is also available as a download via this website.

The conclusions of the project indicate that XCRI-CAP is not difficult to implement and that the advantages of using a common standard may have many benefits for end users and agencies such as the Universities & Colleges Admissions Service (UCAS) who already share this information.

The project concludes that key agencies need to work together to identify where duplication of data and lack of standards exist, and we would encourage them to consider adopting XCRI-CAP or a similar standard to ensure interoperability. Our research has shown that if UCAS were to become an early adopter of XCRI, other organisations would quickly follow. For our own institution, a commitment by the EU to adopt the standard would also be a further major driver.

1.1. Background

Herefordshire and Worcestershire Lifelong Learning Network was launched in the Autumn of 2006 with funding from the Higher Education Funding Council (HEFCE). The Network consists of 9 partner institutions, which include one University and 8 Further Education (FE) colleges. These two rural counties have a diverse range of learners who often travel some distance to attend college or university. The aim of the LLN is to serve these learners, or potential learners, and to ensure that they have access to Higher Education whether studying at university, college, the workplace or at home. One of the ways in which the LLN helps learners to succeed is to fund new curriculum developments – often these are new Foundation Degree (FD) courses with a widening participation brief.

In April 2007 Herefordshire and Worcestershire LLN employed a learning technology coordinator to oversee the development of a web environment (Wider Horizons). The website contains information and advice on a range of topics and includes a suite of online taster courses which are designed to introduce the learner to aspects of the "real" course. The website includes a self-registration facility which gives users access to an e-portfolio and social networking area. Course finders are included as resources on the website, and users can access a keyword search area - which is based on a Google custom search – to find information about courses. This is a temporary solution as it is not a truly interoperable combined search facility and has short-comings. Users using the keyword search are sent to multiple websites to locate their chosen course.

The LLN team wanted to generate an advice and guidance service which returned current courses and progression opportunities from the entire region. The team were frustrated when they realised that there was no definitive central repository of current courses, especially part-time courses. There were a number of local initiatives, including the14-19 Area Prospectus - Hot Courses - but so far none had encompassed one single interoperable standard. A quick test showed that searching the available databases often returned different results.

XCRI-CAP was still in the early days, but offered a potential solution. The LLN are based at the University of Worcester so were in a good place to test the emerging standard using course advertising data from that institution. A funding application was made to JISC (Joint Information Systems Committee) under its e-learning capital programme, which built on previous JISC funded work on supporting lifelong learners and facilitating progression into higher education. This funding strand seemed to directly relate to the work of HWLLN, especially in the area of developing technical solutions to personal learner journeys. It also allowed us to explore technical solutions to administrative and cultural challenges.

The mini-project would test the success of XCRI-CAP and lay the foundations of further work which would endeavour to include a wider range of Network partners in the future. If successful it could initiate a regional wide change. A dissemination event would be organised which would give partners the opportunity to discuss the findings and draw up guidelines on how best to take the initiative forward.

The mini project is only the beginning of a much larger initiative to collate, manage and publish course advertising information from providers throughout the region. Some of the work of HWLLN will be continued beyond the end of their funding in March 2010 - Wider Horizons will continue to be developed and sustained by the University of Worcester. It is important that the information published by the LLN is to a large extent self-sustaining and is continually updated. An XCRI-CAP course search tool that interrogates data from ALL the partner colleges in the region would be a valuable service for students and any agencies who have an interest in sharing it.

1.2. Project Aims

- Create a course catalogue able to export data in the XCRI-CAP (eXchange of Course-Related Information - Course Advertising Profile) specification format based on the course advertising output at the University of Worcester and Kidderminster College.

- The system would include a public URL to an XCRI-CAP feed.

At the start of the project we wanted to create a "live" XCRI-CAP feed that would be updated at regular intervals and would be available for interested parties to harvest. Currently the XCRI feed is a snapshot of the data as at May 2009, but it would be fairly easy to update this regularly. If XCRI becomes the format used by UCAS the University is in a good position to generate the feed regularly. We are awaiting a decision by UCAS.

The XCRI-CAP file has been made available via a public url on the Wider Horizons website.

At Kidderminster College the range and breadth of their output was rather limited and not compatible with the data from the University of Worcester, so we decided not to include it at this stage.

- The system would include a course search facility.

The search facility has been created in-house using PURL programming language. The xml::dom package which is a freely available PURL module was used alongside the code to speed up the process. This package makes creating a search of the .xml file easier. The search facility will be made available to students via the Wider Horizons website.

- The courses would be linked to module and progression information.

At the start of the project there was no link between course/route information stored within the University course template and the module information stored in SITS. We redesigned the course template to include a code for course/route/pathway and this in turn allowed us to extract module information once we mapped the results to the XCRI schema.

The system is currently organised:

➔ AWARD➔➔ COURSE/ROUTE ➔ ➔ ➔➔ Pathway ➔➔➔➔➔➔ Module

The current course template needed to be re-designed so that the pathway codes were easier to enter. Originally the template contained multiple pages for every course (using a sidebar to navigate). The new template has been designed using tabs so that each course is displayed as one page within the cms. This meant the pathway codes only needed to be entered once, although there are sometimes multiple pathways for each course only one page had to edited. **(See figures 1, 2 and 3)**.

```
<div id="contentleft">
        <!--<div id="coursecodes"></div>-->
        <div id="breadcrumb">
          <a  href="/index.html">Home</a>  |  <a  href="/courses/384.html">Course  Finder</a>  |
Archaeology

and Heritage Studies BA (Hons)
        </div>
```

Figure 1: Snapshot of Red Dot revised template html showing the addition of pathway code
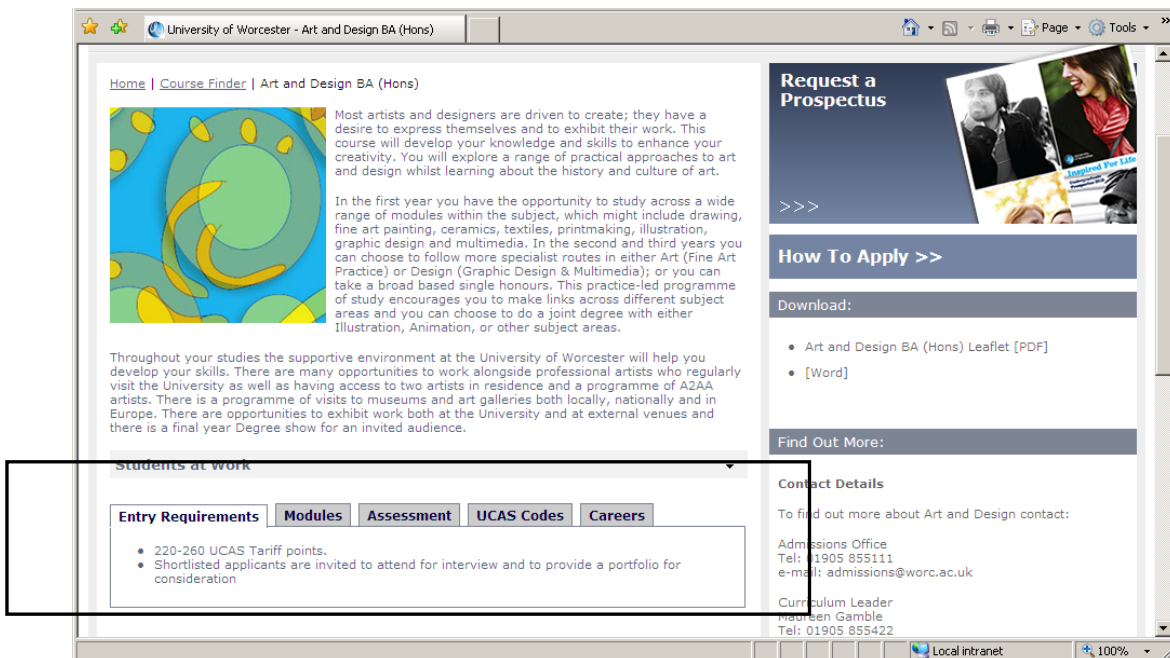

Figure 2: Redesigned module template after XCRI-CAP implementation – note the addition of "tabs" on page rather than sidebar links to multiple pages
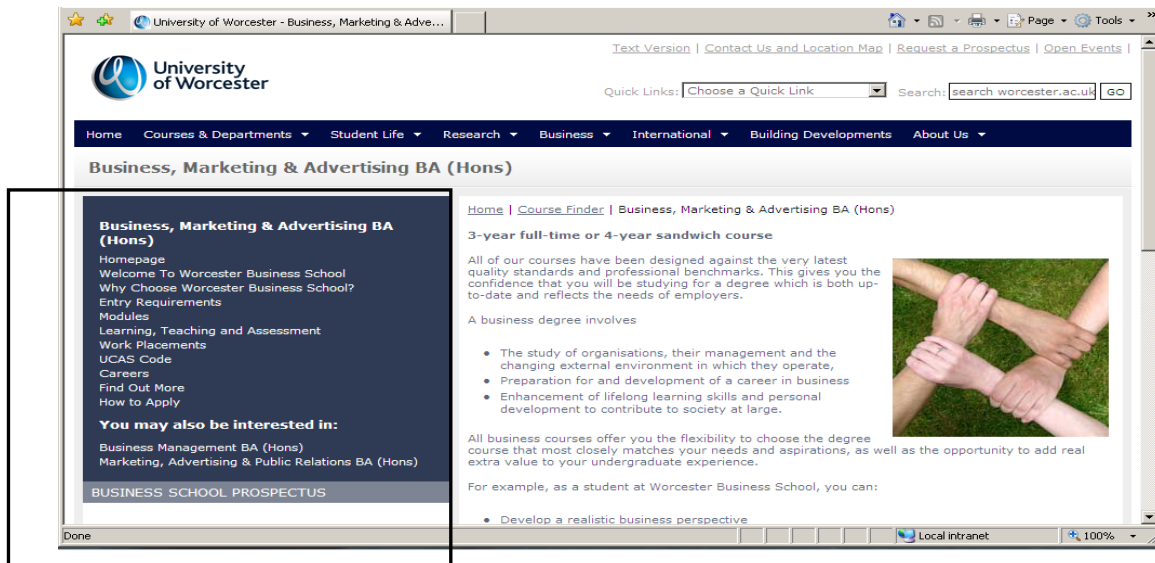
Figure 3: Template before XCR-CAP implementation which shows sidebar to multiple pages

Project Objectives:

The project team identified a number of objectives over the course of 3 project meetings and devised a work-plan:

- Employ a consultant to test for institutional XCRI readiness both at University of Worcester and Kidderminster College. Alan Paull was consulted at the start of the project and remained consultant until completion. He has extensive knowledge of XCRI and was invaluable.

- Investigate the range and depth of existing online course information provision at the University of Worcester and Kidderminster College. This was done at the initial project meeting by Alan Paull using a questionnaire. Team members supplied this information. Kidderminster College could not attend the early meeting due to Graham Mason attending jury service.

- Identify electronic definitive sources within both institutions capable of supplying this course information. This was done in consultation with Alan Paull and resulted in an XCRI readiness report. This report was based on meetings and interviews with members of the project team and investigated the XCRI readiness of the institution based on a number of categories. **(See figure 4 below)**. The team consisted of representatives from registry services, communications, information and learning services and the lifelong learning network at the University of Worcester.

- Review the XCRI schema and document the transformation mapping of XCRI elements to the course information data items above. This took a little longer than expected due to the complexities of linking the pathway and module information from SITS. It was felt that this information would greatly enrich the output so we decided to proceed. Alan Paull did the original mapping to the schema.

- Create a web based search facility based on the results of the XCRI-CAP feed so that users could interrogate the course catalogue.
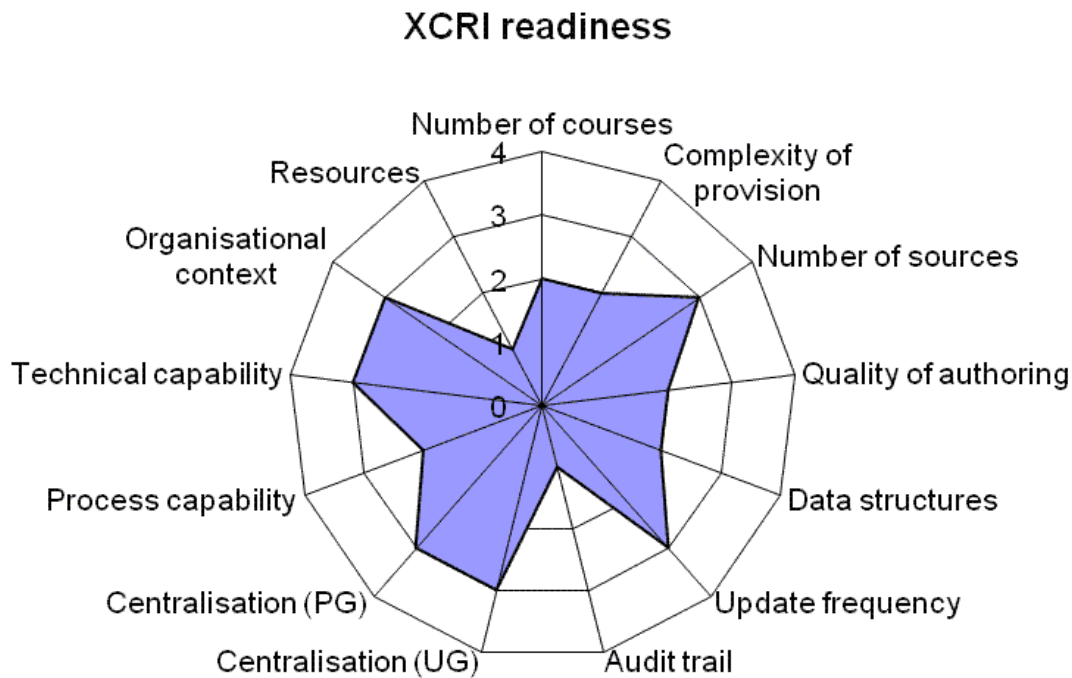
XCRI readiness

Figure 4: XCRI Readiness Graph, University of Worcester, May 2009

1.3. Implementation

This was a practical project that consisted of a number of implementation tasks:

- XCRI readiness report at both institutions.
- Identify where the data was currently held and in what format.
- Extract data from Red Dot cms as an XML file
- Extract data from SITS as XML file
- Redesign course template to include Pathway code.
- Link the two data sets together (using Pathway code)
- Map results to XCRI-CAP schema.
- Design and develop course search tool using PURL. (**See Figure** 5)
- Publish XCRI-CAP data file as public url
  http://llnmoodle.worc.ac.uk/portalmoodle/course/view.php?id=51

1.4. Constraints/Limitations

Full implementation was not achieved as the data received from Kidderminster College could not be used as it was not compatible with the data extracted from the University of Worcester.

At the outset of the project we hoped that the XCRI-CAP feed would include progression data, not all the courses have this data included but it could easily be added in the future.

The XCRI-CAP file has been published but it static and will not be updated regularly. If we attract further funding for our work with XCRI arrangements will be made to regularly update this file.
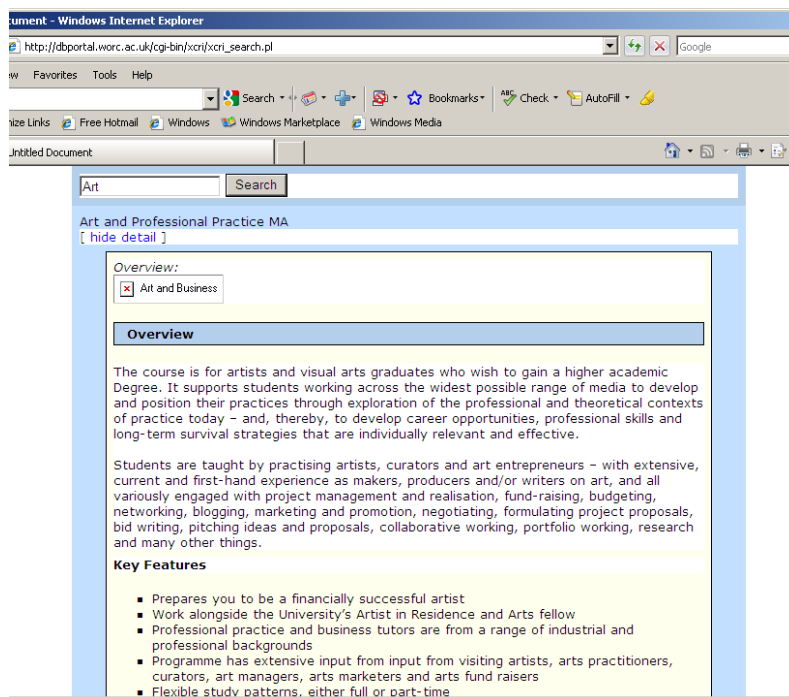

Figure 5: Snapshot of Course Search Facility

1.5. Conclusions

Although we have completed our mini-project at the University of Worcester we are very much at the beginning of our experiments with XCRI. The project has been useful and allowed us to investigate how XCRI could potentially help to make the transfer of our course information more efficient for example, to UCAS and hotcourses.com. The short time-scale of the project has meant we have not been able to evaluate its long term impact but we are confident that further investigation would be worthwhile.

One of the key challenges was to bring together a project team of key individuals and inspire them to take on the challenge of changing workflow patterns and adopting XCRI. Although XCRI cuts down duplication of effort once implemented it does take some time to bring all the elements together and relies on a team approach.

The CEN (Comite Europeen de Normalisation - European Committee for Standardization) have endorsed both a Workshop Agreement and a commitment to develop XCRI-CAP into a European Norm (EN) for Metadata for Learning Opportunities (MLO). An EN is a formal European Standard, whereas the CEN Workshop Agreement (CWA) agreed on 13th October 2008 represents an interim specification that can be referenced immediately by implementers while the formal standardisation process - which may take up to two years - goes ahead. Once a European Norm (EN) is agreed, it becomes a de jure standard throughout the community, replacing any similar standards in place in member states. Should the European Norm (EN) be agreed in the near future, we feel that we could persuade our partners to become more fully involved, especially if UCAS also endorse the standard.

The XCRI schema offers the opportunity for institutions to populate course template information with valuable content. It could, for example, include: progression information, duration of

course/module, part-time information, route information, diet of modules, location etc. This gives the lifelong learner substantial knowledge about the courses on offer and will assist them when making appropriate study choices.

The funding received from JISC to support this project was very valuable, and the project team hope that by experimenting with the implementation and disseminating our findings we can share our new expertise in the area of developing technical solutions to personal learner journeys. It also allowed us to explore technical solutions to administrative and cultural challenges.

1.6. Useful links

www.xcri.org
www.widerhorizons.org.uk
www.jisc.ac.uk

With thanks to Alan Paull at: alan@alanpaull.co.uk