

RECENT DEVELOPMENTS FOR A DISTRIBUTED NATIONAL ELECTRONIC RESOURCE FOR LEARNING AND TEACHING IN THE UK

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Abstract

This paper describes the current JISC funded development programmes for a distributed national electronic resource for learning teaching and research in the UK. It also provides some early evidence for the implications of non-traditional approaches to Higher Education and the ways in which new resources may enhance the learning experience. It demonstrates one particular product currently in development, Virtual Norfolk, which is creating a portal web-site providing full-text access to original historical documentary and image material, plus commentary, directed toward learning and teaching in the higher education sector.

Keywords

learning, teaching, development, online, Norfolk, higher education, UK

The Joint Information Systems Committee (JISC, Online) has responsibility for the provision of network and data services to the whole of the UK's higher and further education communities (JISC – Distributed National Electronic Resource, Online). The JISC aims to bring together much of its service provision in a managed information environment allowing learners and teachers in higher and further education in the UK to access quality assured learning and teaching resources through the Internet. These resources are very rich and include textbooks, journals, monographs, theses, abstracts, manuscripts, maps, music scores, still images, geospatial images and other kinds of primary research data, as well as moving picture and sound collections.

The JISC funded two development programmes in 2000. In total, £13 million was distributed to 44 projects across the UK for the development of an information environment for learning and teaching. The majority of funding (about £9 million) was allocated to projects for the enhancement and development of materials for learning and teaching. Thirty-three projects were funded in this programme area. They are concerned with the generation of a range of new digital content including still images, moving pictures and sound, multimedia, electronic catalogues and finding aids, as well as specific tailored learning materials. Some projects are enhancing existing JISC service provision of learning and teaching materials. Projects have been clustered to reflect these themes for the purposes of programme and project steering and management and for sharing learning between projects as they progress.

A formative evaluation of the programme has also been commissioned. This is aimed at informing the development of the programme through assessment of the impacts being made by the individual projects on learning and teaching. The project team will also assess the viability and effectiveness of hardware, software and data standards, determine the extent to which the

development programme addresses the needs of end users and test user acceptance of the platform on which the resources are made available.

Network technology has made it possible for electronic resources to be provided and accessed throughout the UK. It enables the exploitation of the rich diversity of resources available in the higher and further education community and the development of various delivery modes; interfaces and accompanying support services. JISC's resources have been used heavily in research for a number of years. Increasingly students are able to turn to the Internet and digital resources when seeking material to support their studies. Networked access to digital resources greatly expands the amount of material open to them and can do much to reduce inequalities in resource provision between institutions. Teaching and research staff, apart from being heavy users of digital resources, are also creators. A flexible information environment should allow them not only to create resources that are accessible within their own institution but also to allow them to contribute to and manipulate electronic resources to enhance their learning, teaching and research.

The Virtual Norfolk project (Online) is creating a portal web-site providing full-text access to original historical documentary and image material, plus commentary, directed toward learning and teaching in the higher education sector, in close collaboration with the Norwich and Norfolk Record Office (NRO). The overall aim of the project is to create a web based L&T resource for the discipline of History that can expand its provision to other areas, export its structure to other future projects and encourage collaboration between HE institutions and regional record offices. Moreover, hyper-links will be created between Virtual Norfolk and other useful sites. For example, educational portals such as the UK's National Grid for Learning, archival services such as the British Library, the Public Record Office and the Historical Manuscripts Commission, and other relevant history sites. To this end, and to aid accessibility to all end-users, it is intended that the VN site will be both Dublin Core and Z39.50 compliant. Furthermore, VN is developing collaborative links with many other institutions and projects within the United Kingdom and, to a lesser extent, abroad. For example, the FenPast project which is seeking to digitise the history of the Fenland region of Cambridgeshire, the venerable Victoria County History of England, the National Churches Conservation Trust, Norwich Cathedral; the Dean and Chapter of which are allowing us to digitise and model the interior of the Cathedral for teaching purposes.

The importance of using historical documents as a core element in teaching History has long been recognised. However, research and development are needed to address problems of providing wide student access to such materials, and to investigate the potentials for learning and teaching in light of recent educational and technological change. Within the English context previous experiments with putting the past onto the web for learning purposes have not fully realised their objectives, and many simply failed to engage both the tutors in higher education and their students. An example here would be the Teaching and Learning Tutorial Projects (TLTP). Many of these adopted a presentational approach akin to the old fashioned essay; historians expert in a particular field wrote a paper on that field and the essay was placed on the web. Very little attempt was made to utilise the strengths of medium and the technology, and students voted with a yawn. The Virtual Norfolk project builds upon this earlier work and seeks to provide students and tutors with access to primary source material, or more simply historical documents, instead of just a learned essay. The content of Virtual Norfolk's web site therefore, will differ from similar sites in two main areas. First, the content of Virtual Norfolk will focus upon the Mediaeval and Early Modern periods of Norfolk's past, circa 1200-1850AD, whereas similar sites deal with late nineteenth and twentieth-century material. Second, unlike the overwhelming majority of mediaeval sites that do exist, which deliver their material from edited, mainly published and largely narrative, sources, Virtual Norfolk will be delivering direct archival access to documents unavailable elsewhere other than the Norfolk Record Office. The intention is to embed the primary material within a series of learning and teaching aids to ensure that the site is a flexible and easy to use resource. The inspiration for the approach adopted and developed by VN came primarily from the USA of which two sites in particular spring to mind, the Virginia Centre for Digital History's Valley of the Shadow site, and the Fort Sumter site. Closer to home we drew stimulation from the Birmingham University (UK) Citysite electronic book project and the Wilfred Owen Interactive site among many others.

The County of Norfolk was selected because until the end of the eighteenth century Norwich was one of the pre-eminent cities in England, and for much of that period was the 'second city' after London. What is more, the region of East Anglia, of which Norfolk is a part, was one of the most densely populated, and therefore closely governed, in the British Isles. Thus, the resources for this period archived at the NRO are unparalleled outside the capital, and permit student exploration of the major themes of historical study. Furthermore, the documents housed in the NRO are a resource of interest to scholars both nationally and internationally. The problems in utilising these rich materials are exacerbated by Norwich's comparative geographical isolation therefore, electronic access is ideally suited to the project's purpose.

The core of the Virtual Norfolk web site will be an Extensible Mark-up Language (XML) database consisting of transcriptions and digitised images of original documents (c.1200-1850), and other relevant images (tithe maps, estate maps, wood-cuts, engravings etc), music and video footage. The database will also include reference maps, a bibliography, a timeline, a glossary; a biographical section devoted to notable characters from the source material, and, will be indexed and fully searchable by keyword, date, place etc. The content of the XML database will be researched and produced by the project's team of historians in collaboration with pilot tutors and the project's independent evaluator.

Constructed around this XML database in the first phase of development, and providing organisational pathways through the material, will be learning and teaching packs. Each pack will focus upon a theme, issue or topic from the current historiography and will be suitable for use as either an individual seminar or as the foundation for a complete module. A library of such packs is envisaged, which will allow some limited flexibility for end users. For example, individual packs may be combined to create ready made module pathways for pilot tutors. Alternatively, students and tutors will be able to create their own pathways through the teaching packs to suit their individual learning or teaching requirements on a pick and mix basis from the library of discrete topic packs.

The second phase of development will ensure that the database is fully searchable and that the individual object files can be tagged for complete flexibility of use. The metadata is a vital element of the structure of each object file/document; it will ensure the flexibility required of the site and must be built into the creation of the original document. It reflects individual tutor needs, requirements, and usage thus can only be ascertained in consultation with the pilot tutors and other prospective end-users. The inclusion of well-researched metadata however, will enable the site to attain its goal of providing flexible learning and teaching resource capable of delivering primary materials to students and teachers of history across a broad spectrum of the educational sector.

In the third development phase it is intended to use Scalable Vector Graphics (SVG), a sub-set of XML, to create inter-active historical mapping of Norfolk. The aim is to link as many geographically determined object files to their locations as is possible. In the long term, it is hoped that users will be able to click on to a village and receive a menu of object files associated with that village, and links to related material.

Within each individual learning and teaching pack the user will find links to relevant documentary material and bibliographies contained within the site, contextual commentaries and other useful explanatory guides (for example, biographies of individuals). Links will also be included within the text to other relevant sources or material. It is also intended to include task boxes which could present the user with either suggestions of other documents, tasks or questions, all designed to prompt reflection and thought in the learning process. The intention of the task boxes is to encourage students to think through the material offered, enable them to create their own pathways, and construct their own evidence base to support their interpretations. Thus, Virtual Norfolk ceases to be merely another method of providing (imposing) historical narratives upon the material and student. Instead it will seek to facilitate the development of individual interpretation and understanding of raw documentary material, thereby encouraging a critical awareness of the past and the historian's skills in accessing and representing the past.

To enhance the overall aims of the Virtual Norfolk site and to encourage students to critically reflect upon the process of creating History, it is also intended to include learning pathways that facilitate their acquisition of the basic skills of the historian. For example, it will be relatively easy to construct three Palaeography modules (beginners, intermediate and advanced) from the digitised documents. Thus, students will be able to begin to grasp the complexities of translating the raw material of academic history into contemporary English. Also under development is a module examining the complexities of document interpretation and linkage underpinning the creation of analytic history, and another module using primary sources to examine the historical development and use of descriptive and analytic concepts frequently deployed by historians within their histories. Thus, Virtual Norfolk's use of learning pathways, searchability, and the inclusion of skills based tutorial packs, will allow tutors to impress upon students the *fragility of representations of the past* and historical *narratives*. Whether this is perceived to be a good thing or not depends upon the personal views and position of the historian. But Virtual Norfolk is seeking to offer a contribution to a history degree that can be shown to ensure that its graduates can handle and synthesise a wide assortment of material and information into coherent and critically aware argument.

The Project will be using XML for database content management. Using this language will ensure long-term life, technology permitting, to the core material up-loaded onto the project's web site. Moreover, using XML will provide multiple platform compatibility with current technologies and will be capable of incorporating foreseeable developments in end-user interface technology (for example, the WAP phone). The Virtual Norfolk project database will be Z39.50 compliant and readily convertible for use by non-XML browsers. Thus, the project's core deliverables will be accessible to any end-user as the technology now stands, thereby ensuring interoperability across a range of systems. The use of XML also encourages the sustainability of the project's deliverables by ensuring that they are positioned within the foreseeable trajectory of technological development in web design. Moreover, by ensuring the Virtual Norfolk database is fully searchable, and by ensuring that end-users can create their own pathways through the database, the Virtual Norfolk database should prove to be a flexible and responsive learning and teaching tool within a fluid academic learning and teaching environment. It is to be hoped that the example of Virtual Norfolk will encourage other History Departments within Higher Education to explore relationships with local archives and Record Offices with a view to similar collaborations. Part of the dissemination strategy of the project will be to actively encourage similar initiatives with the intention of creating a network of similar Learning and Teaching sites. Moreover, the record and reports, which will be included within the web site for ready public access, charting our procedures and progress will provide an invaluable guide to future work. The use of XML furthers the scalability of both this and similar projects. The use of a central XML database provides an easily managed and expandable format in which to continue to up-load relevant material and continues to respond to individual pathway creation. What is more, the topic format of the teaching packs can be readily customised to respond to end-user requirements as learning and teaching demands change. Thus the Virtual Norfolk web site will provide a flexible resource for the teaching of history which is capable of responding to multiple end-user demands in a variety of educational environments.

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