A new project makes medical journals open to all.

Accessing your institution’s network on the move.

Building a virtual heart to probe disease.

Working together
Promoting collaboration through technology.
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www.jisc.ac.uk

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The views expressed by contributors are not necessarily those of JISC.

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The Integrative Biology project is searching for clues in the most sophisticated computer models of the heart and cancer ever created. The task is beyond the capabilities of even the largest supercomputer.

So this major e-Science project, funded by the Engineering and Physical Sciences Research Council, is harnessing the services of the JISC-funded National Grid Service (NGS) which pools the resources of many computers at many different sites, including the UK’s two academic supercomputers. By building a suitable computing infrastructure, Integrative Biology (IB) is enabling heart and cancer researchers to access this vast wealth of computing power as though it were held on their own PCs.

Groups throughout the world are joining in, drawn to the capabilities provided by the computer infrastructure IB is developing. In the case of the heart, this is enabling them to do far more than build static models. By having almost instantaneous access to data, computing and visualisation software held on the NGS, the IB project allows researchers to change conditions in the heart and see how the model reacts in almost real time – the nearest thing to experimenting with a live heart.

By virtue of working on the project and using the IB infrastructure, the researchers have joined an international virtual community. The IB Virtual Research Environment (IBVRE) project, funded by JISC, is building a web portal where the members can come together and communicate.

‘As IB is globally distributed, there are time differences and clashes of technical language to overcome,’ says Matthew Mascord, IBVRE project manager at Oxford University. ‘We’re building a visual portal where members can gain a sense of community and that enables discovery.’

A surprise emerged when the project was gathering user requirements.

‘Some of the cancer modellers are mathematicians and they do most of their work with pencil and paper. We needed a way of capturing it for sharing among collaborators,’ says Matthew, ‘so we’re developing “digital paper”.’

The IBVRE team is working closely with two IB groups in the USA to develop and test two prototype versions of the portal. The response of these and the other IB groups will determine which version is eventually adopted.

Judy Redfearn
JISC/EPSRC

What causes heart disease or cancer – and how can they be prevented or cured? A JISC-funded service is helping an international team of researchers to find the answers – and the team’s work, in turn, is inspiring a JISC-funded project, writes Judy Redfearn

Modelling the heart

University of Auckland

For further information, please go to: www.integrativebiology.ac.uk/
First national e-theses system launched in Wales

Electronic theses held at Welsh universities can now be automatically deposited at the National Library of Wales thanks to a JISC project – the Repository Bridge – which has successfully completed its work.

As one of the UK’s legal deposit libraries, the National Library of Wales receives copies of all doctoral and research masters level theses produced at Welsh universities. Providing a system which continued this but which exploited the potential for electronic deposit and access was central to the work of the project. Based at the University of Wales Aberystwyth and the University of Wales Swansea, the Repository Bridge is now able to add the theses of other higher education institutions in Wales to the digital repository at the National Library.

For further information, please go to: www.inf.aber.ac.uk/bridge

JISC programme gives boost to authors and publishers

JISC’s open access funding initiative – which provided £384,500 over three years to publishers to explore open access models of publishing for their journals – has given ‘valuable impetus’ to thinking around open access and ‘has had the effect of raising awareness among the UK author community,’ said a report published in May.

Provided as ‘seed money’ to publishers to experiment with alternative publishing models, the funding has also, says the report, provided publishers with ‘a timely opportunity to develop and experiment’ with open access publishing, with all participating publishers remaining committed to their open access projects after funding has ceased.

Fred Friend, JISC Scholarly Communication Consultant, said: ‘We have been delighted to work with publishers under this programme and we hope for further collaboration as the benefits from open access publication are realised’.

For further information, please go to: www.jisc.ac.uk/index.cfm?name=jcie_scg

Major journals archive made available free to UK universities

An archive totaling over 3 million pages from 300,000 journal articles and encompassing over 135 years of human knowledge is being made available free of charge to the UK academic community in perpetuity.

JISC and Oxford Journals, a division of Oxford University Press, today announced an agreement that will see major collections of journal articles in the humanities, sciences, medicine, law and the social sciences made available to all higher education institutions, collections including many of the leading titles in their fields over the last two centuries. The archive, if purchased individually, would cost in the region of £80,000 per institution.

For further details of the JISC/OUP agreement, please go to: www.jisc.ac.uk/collections
JISC and ALT sign partnership agreement

JISC and ALT (Association for Learning Technology) have signed an agreement that will lead to a significant increase in the already close level of cooperation between the two organisations.

The development of a community of researchers and practitioners with appropriate learning technology skills will be central to the agreement and its implementation.

Among the main areas of collaboration will therefore be support of community-strengthening initiatives such as UK Lab Group and ALT’s certified membership scheme, CMALT. The partners will be particularly active in supporting events of interest to the UK e-learning community.

Mutual sponsorship arrangements, communication activities and regular and ongoing information exchange are other areas in which ALT and JISC have committed themselves to support their mutual aims and objectives.

For further information, please go to:  
www.jisc.ac.uk/index.cfm?name=partner_alt

Time management resource launched

A new resource on effective time management has been launched by JISC infoNet. Designed to help users, whatever their roles, manage their time more effectively, ‘Time Management’ covers a wide range of subjects, including using planning software, managing meetings, organising emails and backing up information.

The new good practice guide complements the existing Project Management infoKit, although it can also be used in standalone form to provide hints, tips and techniques to anyone interested in managing their time effectively.

To access the new JISC infoNet resource, please go to:  
www.jiscinfonet.ac.uk

New film of JISC model licence

A short film has just been launched which explains the JISC model licence, highlighting its value to teaching, research and learning.

Through its model licence, JISC makes available high-quality e-resources on terms more favourable than any standard commercial licence. It contains provisions that allow students and staff to make effective use of online resources for learning, teaching and research.

‘The film is a very exciting development for us,’ says JISC’s Lorraine Estelle. ‘It describes in an accessible way the value of the licence in education and research. Providing different perspectives means it’s extremely relevant to a range of users. We have already heard from one librarian that he plans to use the film in training sessions for new staff.’

Further information can be found at:  
www.jisc.ac.uk/coll_guide_jiscmodel.html

An updated print guide (left) has also been launched to explain the JISC Model Licence

For further information please go to:  
www.jisc.ac.uk
The first resources to emerge from JISC’s Digitisation programme were launched in May. Developed in partnership with the Wellcome Trust, the US National Library of Medicine and participating publishers, the Medical Journals Backfile project aims to digitise some 3 million pages from almost 200 years of historically significant US and UK medical journals. Project manager Robert Kiley gives the details.

Free online access to nearly 200 years of medical research

What do Alexander Fleming’s discovery of penicillin, Sir Richard Doll’s groundbreaking study that confirmed the link between smoking and lung cancer, and Walter Reed’s 1902 paper that proved that yellow fever is caused by mosquitoes, have in common?

All will be part of a newly-launched archive bringing together nearly two centuries of medical history, one which will be freely and openly available to everyone through search engines such as Google and PubMed Central.

Tilli Tansey is Historian of Modern Medical Sciences at the Wellcome Trust. She says that it is the immediate accessibility of a vast wealth of peer-reviewed resources that is the most remarkable aspect of this project. ‘Libraries are no longer able to keep more than about five or ten years of printed journals due to a lack of space,’ she says. ‘So people are losing touch with the ideas that formed their discipline. But now they can access whole decades of invaluable resources on their desktops where before the printed journals would have been in basements, off site, or in very poor condition.’

Students too are finding the archive of enormous benefit. ‘It’s great for projects,’ says Tilli Tansey. ‘I ask my students to go and look at resources from 20 or 50 years ago and ask them: “What were the current ideas? What were people saying? How do things change and develop?” The resource allows them to look at these questions with ease, flicking between sources, linking through references to other articles where they’re available.’

Such functionality adds another dimension to the archive, she continues, not only the full search facilities, but also the high-resolution images for all illustrations, context-sensitive linking from articles to related resources, such as chemical compound and protein sequences, and the linking of errata, or

‘it gives us a unique insight into where our ideas come from, and perhaps what we should be revisiting’

Digitzation – in short

The Medical Journals Backfile project is one of six digitisation projects being managed by JISC with funding from HEFCE (Higher Education Funding Council for England). The JISC programme represents a total investment of some £10m in the digitisation of high-quality online content, including sound, moving pictures, newspapers, census data, journals and parliamentary papers for use by the UK further and higher education communities.

Consultation on projects involving the further investment of £6m is currently being undertaken. For further information on the consultation and the JISC Digitisation programme as a whole, please go to: www.jisc.ac.uk/digitisation_home.html
corrections, to original papers, things which would not be possible with the printed resources.

But the archive will not be simply a static collection. Through agreement with participating publishers new issues of the 18 journals currently included in the archive will be added after an embargo period of six months, ensuring that the collection develops and grows.

With one of the 18 journals already reporting more than 1.5 million article downloads since it became available (see right hand box), the resource is set to become a major asset to students, teachers and researchers in the UK and across the world.

As Tilli Tansey says: ‘It gives us a unique insight into where our ideas come from, and perhaps what we should be revisiting. It’s a wonderful resource and enormously powerful tool.’

Robert Kiley
Wellcome Trust

Digitised journal already attracting ‘extraordinary demand’

One of the journals digitised and made available in the archive is the Biochemical Journal. The digital archive of the journal was launched at an event at the British Library in February as part of the centenary celebrations of the Biochemical Society.

At the event the society’s President, Professor Sir Philip Cohen, thanked the Wellcome Trust and JISC for their funding, which has not only paid for digitisation of the journal but will also ensure that the archive, hosted by PubMedCentral, will be openly available to all in perpetuity.

Some facts and figures illustrate the extraordinary demand that digitisation of this journal – one of 18 so far to become involved in the project – is already generating:

- In a single month (April 2006) a massive 87% of 53,150 articles in the archive were downloaded at least once
- In April 2006 146,507 unique users (IP addresses) made use of the Biochemical Journal archive. As NCBI estimates that there are two users for every IP address, we can speculate that the total number of people who made use of the Biochemical Journal archive in the month of April 2006 was around 300,000.

- Between September 2005 and April 2006 over 1.5 million full articles of the Biochemical Journal were downloaded
- Including downloads of tables of contents, abstracts etc, this figure rises to over 2.2 million

For further information, please go to: http://library.wellcome.ac.uk/backfiles
While the World Wide Web has rapidly grown to transform our lives in ways unimaginable 15 years ago, continued research and development mean that new possibilities are constantly opening up. Philip Pothen asks the experts what effects these changes will have on the education community and how JISC’s work is helping to ensure that UK education and research are well-placed to take advantage of further far-reaching changes.

The future of the web

The invention of the World Wide Web – as recently as 1991 – meant, among other things, that anyone could potentially become an author. With new, more collaborative technologies such as blogs and wikis becoming increasingly familiar in education and research as much as in our everyday lives, it’s easy to forget how revolutionary such an idea was just 15 years ago.

The web emerged out of work by academics and researchers at the beginning of the 1990s, and its continued development means that new possibilities are opening up which offer still further revolutions in our ways of understanding – and using – the web.

David De Roure is one of the academics at the forefront of these developments. Professor at the School of Electronics and Computer Science at the University of Southampton and a member of JISC’s Support of Research committee, he suggests that the new opportunities opened up by the web represent the second major step-change in our use of it.

‘New developments over the last few years – blogs and wikis, for example – mean that the web has become a medium in which people now participate,’ he says. ‘People are now part of the web. This has become profoundly important. The original conception of the web made readers first-class citizens in that if you were a reader you could become an author too. What you see now is much more participation. It’s giving everyone first-class status. That’s as it should be.’

In line with the original conception of the web, such a notion of participation is rapidly becoming mainstream in education and research too. Brian Kelly, who leads the UK Web Focus at UKOLN, says that the collaborative possibilities of the web are only now being truly realised.

‘People are now putting their own content up on the web,’ he says, ‘in blogs, in conference wikis, for example, when they attend events, as well as onto general interest web sites like Flickr [a web site for images] and YouTube [videos], adding their own tags to help others find them. At UKOLN we’re increasingly using these emerging technologies to support our events. At one of our recent workshops wikis were used to support the discussion groups, instant messaging tools enabled delegates to discuss the plenary talks and use of Access Grid and video streaming technologies allowed remote participants to listen in and watch a number of the plenary talks.’

While opening up participation and involving people in ways in which the original developers conceived of the web, this interactive web – or, as some have called it, Web 2.0 – will soon, however, be supplanted, or possibly supplanted, by further developments which could eclipse such technologies and herald entirely new ways of using the web.

Developers have been talking for some years of an ‘intelligent’ web, one which could ‘understand’ information rather than merely display it, one which could personalise our experience such that it would ‘know’ to buy items on our behalf, for example, rather than merely find them for us online. However, it’s only now that these technologies are being spoken about in terms beyond the merely theoretical.
But what are these new technologies and what difference will they make to education and research? Professor De Roure suggests that this intelligent, or Semantic, web should be thought of as ‘the web of data’. ‘We know what data is,’ he says, ‘it’s what’s in databases. Data could be calendars, photographs, pictures, scientific data, experimental data. The Semantic Web allows data to be searched and browsed in ways in which they couldn’t be searched and browsed before, enabling those resources to come together, enabling you to ask questions that you couldn’t ask before.’

Where data can now only be interpreted by humans, a Semantic Web links data with other data, enabling a level of interpretation not currently possible. ‘The vision of the Semantic Web’, says Matthew Dovey, the JISC programme director responsible for this area of work, ‘is about computers extracting the meaning of data on the web through the labelling of data and through links in a way that can be understood and acted upon by computers by themselves. This enables semantic tools to locate relevant information, manipulate data and, for example, compile reports’.

‘The Semantic Web will have the potential to provide a more personalised experience for all Internet and mobile users,’ he continues, ‘such as the tracking of information items that a searcher is interested in. So it could enable us to compare features, costs and reviews of goods and services, picking the most appropriate vendors and placing orders on our behalf – like finding the nearest certified organic grocer in your neighbourhood and scheduling deliveries, or locating the best hotel to budget, locale and time of year for a holiday.’

Inventor of the web Sir Tim Berners-Lee believes that the implications of the Semantic Web are most exciting in education and research. ‘If you go to weather web sites,’ he says, ‘most of them are database-backed, with huge tables of data behind them telling you what the weather is like in London or Edinburgh. Now suppose you’re a scientist and you want to look at the weather across the country and you want to compare that with outbreaks of asthma. You don’t want to go round with a pencil and paper and record all of those data. You want to be able to put all that into a spreadsheet. The Semantic Web is about getting the data into spreadsheets and pulling it into a data handling application to process it in intelligent ways.

‘There are a few Semantic Web applications which people have been building,’ he continues, ‘but we’re really at the beginning. Can you imagine a

‘the Semantic Web will have the potential to provide a more personalised experience for all Internet and mobile users’
spreadsheet which doesn’t only have the data you have typed in but which can pull in any other data that anyone has put on the Semantic Web? Not only can you pull them in, you can join them, you can connect them, you can look for correlations between all the things you have access to. Connecting it all is very exciting. It’s a huge project.’

Matthew Dovey agrees, suggesting that JISC’s own work in this field has an important role to play. ‘JISC initiatives like the National Centre for Text Mining are looking to next generation semantic search capabilities to retrieve highly specific information contained within written text,’ he says. ‘This is particularly crucial for scientists trying to find scientific data embedded in electronic publications.

But questions arise, not least those concerning trust and security. Could technological advances make such already-pressing issues still more acute? David De Roure suggests that technology, while possibly opening us up to greater risk, can also provide the means of overcoming risk and indeed strengthening security. ‘There are risks involved, of course,’ he warns, ‘and there are questions of trust. But these are questions that come up in other areas of life too. [But] the Semantic Web, for example, gives us a way of looking at the provenance of information. Part of the activity of the World Wide Web Consortium – the body responsible for web standards – is the creation of a rules language which gives us a way of expressing in a machine-processor way various policies which will also help with these issues. There is a raft of possible technologies that present possible solutions. JISC itself is in a position to do a great deal towards enhancing trust and security, and is doing so’ [see *Inform* 13].

Alongsode these developments is the continued development of the mobile web, the web that’s all around us, that doesn’t have to be accessed through a PC or browser. While web access has become standard for PDAs (personal digital assistants), mobile phones and other devices, there remain issues of quality of access, usefulness, accessibility, and most importantly the adoption of open standards which would make online content accessible across all devices.

But related to this is perhaps the most pressing challenge of all – the openness of the web. Precisely at a time when people are beginning to exploit its collaborative potential, there are rumblings from commercial interests in the USA that could compromise the web’s openness or, as it is known, ‘net neutrality’. In stark contrast, the original protocols upon which the development of the web was based were declared open standards by its academic and research developers at the very outset, thus ensuring the web was to be a medium open to all.

Tim Berners-Lee, whose pioneering work ensured this openness, believes strongly that the continued development of the web, including its next-generation, Semantic stage, depends upon its continued neutrality. Its role as an unbiased medium and as a diverse space is, he says, ‘very important for society.’

But, with major developments such as the Semantic Web around the corner, there is considerable cause for optimism. ‘The wonder, power and diversity of the web,’ says its inventor, ‘will always beat any attempt to fragment it.’
Providing ‘a map of the world’

With universities and colleges spending millions of pounds on commercially available IT packages, the question of ‘monolithic’ IT systems unmatched to the precise needs of educational institutions is a significant one. In response to this major challenge, an international initiative – called the ‘e-Framework’ – is looking to establish new and more flexible ways in which IT systems can be deployed and used.

The initiative begins from the premise that what is wanted from IT systems is not ‘packages’ but ‘services’ – such as email, library catalogues and circulation systems, management information, registries, calendars, access management and a host of other specialist functions. The e-Framework is attempting to define these components and explain how they might be bought, developed and deployed separately – and yet fit together, or ‘interoperate’.

Sarah Porter is JISC’s head of development and is responsible for the UK’s involvement in the international initiative. ‘Flexibility is a major driver for this programme,’ she says, ‘but so is value for money. Universities and colleges have for years been spending huge amounts of money running parallel systems, paying licences for separate systems which they’ve already paid for in another package, whether they be library portal or student record or any other systems.’

Leading to a mismatch between what institutions have and what they need, unwanted ‘bundles of packages’ give institutions little room to cater for changing priorities, says Sarah Porter. ‘Each institution has its own particular needs,’ she continues, ‘a large proportion of distance learners, perhaps, or medical students, or researchers. So each institution needs IT systems which reflect its strategic needs, systems which allow it to adapt, to change its infrastructure according to priorities and to plan properly.’

From the institutional perspective, such a ‘service-oriented’ approach makes sense, says Ian Dolphin, head of e-strategy and e-services integration at the University of Hull. He says the tendency in business is increasingly to move from ‘larger monolithic packaged software to smaller, more granular systems with open interfaces. The e-Framework will hopefully provide a coherent set of standards,’ he continues, ‘which will enable both open source and commercial systems to fit together. Institutions will have less work to do themselves in terms of integration.’

Delivering ‘a rough map of a complex world’ is one of the main goals of the initiative, says JISC’s Sarah Porter, a map she suggests will not only support universities and colleges, but have uses even further. With the Department for Education and Skills (DfES) implementing its e-strategy published last year [see Inform 13], the e-Framework is feeding into its cross-sectoral work, providing high-level advice, influencing standards, but also ‘providing the ground work,’ says Porter, ‘the supporting infrastructure upon which the service is built.’

continued on page 14

International collaboration
JISC and international partners are pooling their knowledge and expertise to come up with worldwide solutions to common challenges.
The e-Framework is a service-oriented approach to developing and delivering IT systems that support education and research. Such an approach maximises the flexibility and cost effectiveness with which systems can be deployed, in an institutional context, and at national and international levels.

**INTERNATIONAL COLLABORATION**
The development of common standards is an international issue. JISC and international partners are pooling their knowledge and expertise to come up with worldwide solutions to common challenges.

**COMMUNITY INVOLVEMENT**
Community involvement is crucial to the development of the e-Framework. The e-Framework allows the community to document its requirements and processes, and to use these to derive a set of interoperable network services that conform to appropriate open standards.

**COMMERCIAL PROVIDERS ENGAGEMENT**
The commercial sector provides valuable ICT products and services to education and research. The e-Framework, through its Service Usage Models, offers them the opportunity to partner with user communities to understand their needs and to innovate new, interoperable products and services.

**SERVICE USAGE MODELS**
Sets of Services Usage Models will be supported by materials in the form of guides, methodologies and analysis, and the e-Framework will provide a map of development against which specific standards, software tools, applications and services can be aligned.
The e-Framework is a service-oriented approach to developing and delivering IT systems that support education and research. Such an approach maximises the flexibility and cost effectiveness with which systems can be deployed, in an institutional context, and at national and international levels.

**Head of IT Services**

‘I need to be able to plan strategically but implement in piecemeal fashion. My current monolithic IT systems are expensive to change and integrate with other systems. I need to develop an infrastructure that’s easier, quicker and less costly to change.’

**Head of Library and Learning Resources**

‘I need to be able to choose from a wide range of suppliers, and not be constrained by systems which don’t interoperate with other institution-wide systems’

**e-Researcher**

‘My colleagues and I are increasingly working across departmental, institutional and even national boundaries. I need to be able to work effectively in a range of contexts and to have the relevant online resources and tools available wherever I am’

**Commercial Software Developer or Supplier**

‘I have to clearly understand my users, their problems and needs, and how these map onto available services. I need to know how to be able to find and use the service specifications, the available support tools and the systems that implement them, both commercial and open source’

**Vice Chancellor**

‘Too often in the past IT systems have been barriers to strategic change. I want IT systems which will deliver value for money and which will support my institution to realise its goals’

**International Collaboration**

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**Commercial Providers Engagement**

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The recent agreement in support of the e-Framework between JISC and New Zealand’s Ministry of Education might bear this out, building as it does on the joint work already undertaken in this area by JISC and Australia’s Department for Education, Science and Technology (DEST).

Work began because there was the realisation some two years ago, says DEST’s Neil McLean, that Australian and UK education communities were facing similar challenges. ‘We all agreed’, he recalls, ‘that the issues were global in nature so an international collaborative effort had the potential to enhance the existing work.’

Early work by JISC on the e-Learning Framework was then augmented by collaboration on the extension of the work to e-Research. ‘The emergence of a series of documents which are nearly finished,’ continues McLean, ‘explaining how the e-Framework can be deployed is a major milestone for our partnership.’

But challenges remain, not least producing a ‘map’ that can help institutions chart their way through a period of unprecedented technical and organisational change. Drawing up such a ‘rough map of a complex world’ was never going to be easy, it seems, but the rewards will be immense, suggests Sarah Porter. ‘There are a number of questions which institutions will need to ask themselves in the coming years,’ she says; ‘how they are using IT, how they can maximize their investments, how they can develop the skills they will need in a fast-changing world. But the e-Framework will help, and progress is encouraging.’

More than this, she suggests, there might otherwise be the danger that the UK higher education sector could lag behind wider developments. Hull’s Ian Dolphin agrees, claiming that UK universities’ increasing adoption of service-oriented approaches is timely. ‘There’s a natural affinity’, he says, ‘between what’s happening in the university sector, not just with industry but also in terms of the direction higher education internationally is taking.’

The initiative has far-reaching implications, it seems, not only across sectors but also for the commercial sector, with considerable interest already being expressed by major players in the IT industry. But are there not conflicts here, between the demands of value for money from hard-pressed educational institutions on the one hand and commercial interests on the other?

‘We can learn from each other,’ Sarah Porter suggests. ‘In the past there’s not been enough of a conversation at the right points in the system. JISC works as an enabler, representing the requirements of the education and research community, while the commercial sector struggles sometimes to understand education’s needs. We can have a conversation based on requirements. It’s a relationship that’s got to benefit both sides.’

Community involvement is crucial to the development of the e-Framework

For further information, please go to: www.e-framework.org

A Briefing Paper on the e-Framework is now available. For further details please contact: info@jisc.ac.uk

Philip Pothen
JISC

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Freedom to roam

Over 40 institutions have already signed up to a new service which allows roaming network access between JANET-connected sites for students and staff across the UK.

With demand for visitor access to network services at colleges and universities growing in recent years, and with local IT staff keen to reduce administrative burdens, the JANET Roaming Service offers free, secure and easy network connection to all who might need to access their own network from another institution’s premises.

Mark Tysom is a technical specialist at UKERNA, and one of those who helped to develop the service. He says that the demand for ‘anytime, anywhere computing’ led to the establishment of the service.

‘It’s about people having the freedom to move around with their laptops without having to trouble local IT staff,’ he says, ‘There is increased collaboration between individuals at different institutions who need to maintain access to their own network. Services like this support the kind of mobility and flexibility that people increasingly need.’

Judy Angel of the University of Hertfordshire first linked her institution to the roaming network when UKERNA held their annual ‘Networkshop’ there.

‘We had 350 delegates come to the event’, she says, ‘and we wanted to provide this facility for our guests. Those whose institutions had also linked to the service were able to open a wireless connection and use their home institution’s authentication credentials. It made life so much easier for them and for us.’

Previously guests of the university needed to inform staff beforehand, Judy continues. ‘They would have to ask before their visit while host IT staff would also have to prepare in advance,’ she says. ‘The roaming service now makes all this unnecessary.’

Institutions using the service provide a web site which gives instructions both to their own users and to guests from other institutions. There are also different tiers or levels of connection. ‘Getting connected to the service and getting it established at the university was certainly a learning curve for local IT staff,’ says Judy Angel. ‘But it has been worth it and there has been plenty of support available from UKERNA.’

Not only does the JANET Roaming Service allow access at JANET-connected organisations in the UK, however. As part of the eduroam federation, it also allows access from organisations across Europe, Australia and Taiwan.

But whether in the UK or abroad, both the guest user’s institution and the host institution need to be linked to the service for the connection to be made.

‘It’s like a lot of things with technology,’ Judy Angel suggests, ‘the more people who use it, the more useful it is. To roam like this across institutions is a really good facility to have. Word of mouth and further dissemination will make it even more useful.’

Edward Wincott
UKERNA

For further information, please go to: www.ja.net/roaming
The need for colleges and universities to support all students and staff, as well as the impact of disability legislation, means that the question of the accessibility and usability of learning technologies is a vital one for all education sectors. Dicky Maidment-Otlet looks at how JISC services TechDis and the Regional Support Centres are working together to support further education and specialist colleges in the use of assistive technologies.

Working together

Education institutions are increasingly aware of the need to deliver education to students on a consistent, fair and equal basis. They are also aware that they need specialist advice on how to achieve this and to cope with the requirements of disability legislation. With further legal requirements coming into force later this year (see inset box), the need for continued support in this area is vital.

The JISC-funded service TechDis, based in York, has gained a reputation over many years for the excellence of its work. As national experts in issues of accessibility, inclusion and in supporting learning and teaching, TechDis staff have been in the forefront of supporting UK education during a time of considerable technical, legislative and cultural change.

But John Sewell knows better than most that the service cannot work alone. As a senior adviser at TechDis, he works alongside colleagues to ensure that educational institutions are receiving all the support and advice they need. ‘TechDis is a small team,’ he says. ‘So we need to work through intermediaries to reach as many institutions as we can.’

Key among these intermediaries for the further education sector – and specialist colleges in England – are JISC’s Regional Support Centres. ‘The RSCs have regional knowledge,’ says John Sewell, ‘as well as close contacts with colleges. So they act as our critical eyes and ears in colleges and with learners. Getting feedback from trusted advisors on the ground is invaluable when we come to looking at what we do, how we develop and be proactive.’

An important initiative which began in 2005 demonstrates this partnership best of all. John Sewell explains: ‘We decided to source a “Box of Kit” containing a wide range of assistive technology, and we provided training to each RSC in its use. The awareness raising generated through the technology boxes and through our working closely with the RSCs has put dozens of people on the ground who are able to go out there to assist other people in exploring the technologies.’

Angela Harvey of RSC South West is one of those trained in the use of these technologies and who has subsequently trained others. ‘We use the box of kit in a variety of ways at the RSC,’ she says, ‘at accessibility-focused staff development events, in-house training days, and by loaning providers either specific pieces of kit or the whole box. It’s important to remember that items in the box are not necessarily solutions in themselves as each user will have specific requirements and preferences. This is something the TechDis training teaches us and which we can pass on to others.’

While she is enthusiastic about the benefits of such a ‘cascading’ model of...
training. Angela notes that it can also support the RSCs’ work in other areas too. ‘Using sound and video is important,’ she says, ‘but not only in terms of accessibility. It’s important across the board, for recording achievement, for example, and for engaging as many students as possible. This complements the work of the RSCs in other areas of e-learning.’

A special interest in accessibility drew Dave Trevena, an e-learning champion at Cornwall College, to two RSC South West training courses held last year. ‘I was absolutely impressed with the courses,’ he says, ‘and with the technologies demonstrated. Not only software, but a whole range of available technologies, which you could borrow. There were large keyboards for students with major learning difficulties, keyboards with guards which had holes in them so that you couldn’t press more than one key at a time, for people suffering from Parkinson’s. There was a pen for dyslexic students, which had a tiny scanner attached which let you run a pen across a word, spelling the word and giving you its thesaurus entry and a dictionary definition.’

Such technologies have proved valuable at Cornwall College, which has 58,000 students, a significant proportion of whom, says Dave Trevena, have dyslexic tendencies, aural or visual impairments, or learning difficulties. But, echoing Angela Harvey’s words, he says it’s important to remember that all students can benefit from assistive technologies.

‘We make sure staff are aware of responsibilities under disability legislation,’ he says, ‘so we make sure software is loaded on all PCs so that it’s readily available and so that anyone can use it. ReadWrite Gold – a dyslexic program which reads documents on PCs and texts on mobiles – and Mind Genius – a mind-mapping tool which allows you to drag and drop keywords – are important technologies for disabled students, but others find them useful too. It’s been found that eight out of ten students benefit from ‘sticky keys’, bigger fonts and slower mouse movements.’

For Dave Trevena, the combination of the specialist knowledge and expertise of TechDis and the regional contacts and local support of RSC South West have provided the basis for this ‘mainstreaming’ of assistive technologies. ‘Thanks to them,’ he says, ‘and to a lot of hard work in the college, our institutional responsibilities are being met and our students are receiving the support they need.’

Dicky Maidment-Otlet
JISC

For further information, please go to:
www.jisc.ac.uk/rsc
www.techdis.ac.uk
We hear a lot about blended learning. Lecturer Mark Russell asks what blended learning actually is, while opposite, Professor Gilly Salmon looks at how podcasting is being used to blend technology with traditional forms of teaching to help engage students.

What is blended learning?

A few years ago all I had to worry about was Teaching and Learning, a big enough worry in its own right. But now I have to worry about something called ‘blended learning’.

So what exactly is blended learning? How is it different from plain old Teaching and Learning? And what do I have to do differently? If I’m honest, I also want to know if it’s simply education’s equivalent of the emperor’s new clothes.

Although many definitions exist for blended learning, they seem to converge around the idea of synthesising online, or e-, learning with the more traditional forms of teaching and learning, that is to say, drawing together the ‘e’ with the classroom, the laboratory, the seminar and the tutorial setting.

But since I believe that learning is a conversation between learner and teacher (and learner and learner) and also that learning is not a spectator sport, blended learning requires us to think past merely dumping Powerpoint slides to our Virtual Learning Environments. For me this is not blended learning. Of course, the students can download the notes before the lecture, but a better way to think about the synthesis or the blend is to ask what should I really do in the lecture and what should I really do with the ‘e’? What is it that the lecture brings and what is it that the ‘e’ brings to the blend?

So blended learning requires an analysis of why you might do stuff as well as how you might do it. The lecture is too precious to waste time, in say, collecting the students’ previous experiences to a topic area. Especially if you have 200 students in front of you. But if you take that activity to the online discussion forum, asking students to contribute, and then provide the summary, that can then be used to guide the lecture and hence form the starting point for the topic.

Such an approach leads me to my growing interest in Just-In-Time Teaching, a teaching strategy that actively seeks out the students’ conceptions and understandings of the current topic area by providing out-of-class, web-based activities. These activities are not simply provided to engage the students, a useful activity in its own right, but rather to gather their conceptions and performance to help shape the upcoming lecture.

Typically the out-of-class activities can be thought of as preparatory work such as pre-readings, assessment tasks, questions asking them to describe in their words the meaning of theory X, or perhaps a question or two asking them to tell you what they understood from last week’s lecture and what they didn’t.

These are then taken to the next class for further work, dissection and re-alignment of any misconceptions. This approach invites – or, rather perhaps, forces – the teacher to remember there is more to teaching than booking lecture theatres and using whitboards.

Students are an important ingredient in the lecture experience too and this approach stops teachers thinking too much about the content and more about the students and their current knowledge of the subject.

As such, Just-In-Time Teaching is beautifully aligned with my teaching philosophy – the learning-conversation – and also my belief in learning by doing. I now get to see what my students know and what they don’t, such that I can help correct and encourage at the right time. No longer do I have to wait until week ten to see they did not understand the theme of the lecture at week two.

Blended learning, by definition, relies on the ‘e-activities’ to help create the blend, but it also relies on the ‘non-e’ too. Talk to a few people about blended learning and I expect many will focus on the technology: the wiki, the blog, the podcast, the e-assessment and the virtual lecture. Blended learning is not these things. It simply draws on them to add, enhance and support the ‘non-e’. This, for me, is really important, as is the articulation of how the blog, the wiki and the podcast support the lecture experience.
And so before we simply digitise our lectures and bolt blogs to our modules, can we first ask ourselves why, or better still, to what is the problem that these technologies are the solution?

Good teachers have, of course, done this throughout the ages and have always stood back and asked themselves why they do what they do. Of course, technology is attractive. But it does have to be considered in terms of what it is really adding to the students’ learning experience.

Technology-rich modules are not necessarily blended learning modules. The notion of blended learning must surely be reserved for those modules that have a rationale for the use of the classroom and the technology and that bring both together in a way that enhances the students’ learning experience.

Blending with podcasting

At the University of Leicester our interest in short podcasts integrated into blended learning arose from our interest in digital audio loaded onto students’ own mobile devices, especially MP3 players such as iPods.

Podcasting is new to higher education, yet these devices are widely used by our students. We saw them everywhere on campus. Others have music players on their phones, PDAs (Personal Digital Assistants) and of course on their computers. We needed to see whether they could be used to enhance engagement and motivation.

We wished to enhance their learning rather than reproduce lectures. We undertook a pilot study with 30 students and one module on Blackboard (our VLE) and our weekly 10-minute podcasts have three parts:

1. The lecturer talking about an item or two from the news relevant to the course
2. Brief ‘discussion’ and advice on work this week and next week, feedback from previous week
3. A fun part – joke or rap

The students were enthusiastic. One said: ‘This is actual e-learning … not just some pdf to print off. The podcasts helped me pace my work. I could listen again any time, anywhere.’

Now our Higher Education Academy funded research project plans to deliver a transferable, testable model of enhancing learning through the integration of podcasting with online student collaboration.

Gilly Salmon
Professor of e-Learning & Learning Technologies
University of Leicester

For further information, see: www.impala.ac.uk

‘blended learning requires us to think past merely dumping Powerpoint slides to our Virtual Learning Environments’

′We wished to enhance their learning rather than reproduce lectures′
When search engines return thousands and sometimes millions of hits, how do we know which resources are useful and trustworthy? A JISC service – the Resource Discovery Network – that has been providing a solution to this challenge for some years is undergoing some major changes. Mark Williams reports on what these changes will mean and (opposite) asks a lecturer why the service will remain important to his students.

**Accessing the best of the web**

Google is not the only search engine developing its service and gaining in popularity in further and higher education. From July, and after extensive consultation, the JISC-funded Resource Discovery Network (RDN) will be relaunched as intute. More than merely cosmetic, however, the move represents a major technical and strategic development for the service which for many years has delivered the best of the web to further and higher education.

While users will still be able to cross-search and locate online resources of all descriptions, each hand-picked by subject specialists in FE and HE, new subject groupings for arts and humanities, science engineering and technology, health and life sciences, and social sciences will make navigation much easier. intute will offer increased personalisation of data searches across all subjects, all to the latest standards. And it remains a free, open access service.

intute’s director Caroline Williams is excited about the possibilities the changes open up. ‘Our mission is to deliver to researchers and students the best of the web as judged by subject specialists,’ she says. ‘The core of what we do remains the same. We identify the best resources on the Internet for education but in intute we have created more value added services and built a solid foundation to deliver even more for our subject communities’.

For all the changes, the new and upgraded service will, however, continue to deliver the familiar range of offerings for which it has become well known. The Virtual Training Suite, a set of around 60 online tutorials designed to help students and lecturers improve their research skills, will remain a cornerstone of the new service. Caroline Williams comments: ‘The tutorials fit a real need on the part of students and teachers to improve and develop subject based research skills. We see ourselves as providing that tutoring role to everyone in FE and HE who uses Internet resources. Our new name emphasises that renewed commitment.’
intute can be embedded in virtual learning environments (VLEs) and virtual research environments (VREs). In addition, a number of innovations developed by the RDN’s subject-based hubs are being rolled out across all subject areas, in particular its personalisation services which will allow users to receive alerts about new resources in their chosen fields and to include chosen resources in their own web pages, course materials and reading lists.

In a world in which the proliferation of web resources continues to grow exponentially, the question of the quality of those resources becomes ever more crucial. For Caroline Williams, this remains the basis for intute’s work and its commitment to quality. ‘There’s a greater need than ever for a service like ours,’ she says. ‘Separating the wheat from the chaff in the ever growing Internet information environment is as valuable to FE and HE as it has ever been. Our vision is ambitious but simple: to create knowledge from Internet resources, and in doing so enable people to fulfil their potential.’

Mark Williams
intute

For further information, please go to: www.intute.ac.uk/

‘everything you access on it has been through a process of assessment by academics and subject specialists. That’s invaluable’

intute – a lecturer’s view

Helping students to develop a critical understanding of the resources they use is a major challenge for teachers and lecturers. Dave Edye is a senior lecturer in European Studies at London Metropolitan University. For long a user of SOSIG, the Social Science Gateway of the former RDN – now intute – he claims its greatest value lies in its commitment to quality control.

‘I recommend it to students as being the best,’ he says. ‘Everything you access on it has been through a process of assessment by academics and subject specialists. That’s invaluable.’

A lecturer who specialises in migration and ethnic studies, Edye says that a wide variety of resources are available through the service, from official reports, journals, information about centres of research, legal cases, online newsletters, images and much more.

He says: ‘I teach MA students in both European Studies and International Relations. The breadth of the coverage on SOSIG means it can be especially useful for dissertation supervision where students will need to read around a subject – on refugee studies, for example.’

But it’s in his teaching on introductory first-year courses where the need for services like SOSIG and the RDN makes itself felt most clearly. ‘An important aspect of these courses,’ he says, ‘is helping students to filter out the resources they need to use from the ones which are not trusted or useful. We look at web resources and tell them that just because they’re on the web doesn’t mean the resources are any good.

SOSIG is an important part of that process of filtering.

‘Students find the service extremely useful,’ he continues. ‘They like best of all that there has been a process, that the web’s not a free-for-all.’

And what of the changes the RDN and its hubs – like SOSIG – are undergoing? Will he and his students continue to use them without their now-familiar names and interfaces? What difference to their use will the move to intute have?

‘If the commitment to quality remains the same,’ he replies, ‘then I’m sure we’ll continue to find them invaluable. But some of the new features mean that they could become even more useful in the future, especially the alerting features and the way I’ll be able to include records of resources in course web pages. All our courses are now on WebCT (the University’s VLE), so this could be especially useful. I look forward to telling my students all about intute in the coming year!’
The online provision of classical music for educational use is still in its infancy. Complex copyright frameworks and uncertain business models make its delivery challenging and sometimes impossible. John Riley of the BUFVC looks at how a new and groundbreaking collection is set to make a big difference.

Online overtures

If you need the first minute of Brahms’ First Symphony, you may be able to find it. But what if you want to show how the finale develops? Will it be streamed or available for download? And if the recording is deleted, will the online version also disappear?

A new collection – the Culverhouse Collection – answers these needs and many more. Delivering around 50 hours of classical music, core repertoire and rarer pieces from the 17th to the 20th centuries, the collection was made by record producer Brian Culverhouse at EMI over a period of 30 years. Now, through agreement between JISC and Brian Culverhouse, and in collaboration with EDINA and the BUFVC, the collection is available through the Educational Media Online (EMOL) service free of charge to FE and HE.

Recalling the years he made these historic recordings, Brian Culverhouse says that he was fortunate to have been working when some of the giants of the musical world were recording with EMI. ‘I took every opportunity to attend recording sessions,’ he remembers, ‘and observe how musicians, producers and technicians worked together, which stood me in good stead for when I commenced producing recordings. The great English conductors Sir Thomas Beecham, Sir Adrian Boult, Sir Malcolm Sargent, Sir Charles Groves, Sir Charles Mackerras, famous pianists such as Alfred Cortot, Dame Myra Hess, Gina Bachauer, John Ogdon, the cellist Paul Tortelier and Yehudi Menuhin, to name just a few, were all there.’

Along with the historic recordings made by Brian Culverhouse, the online resource will in future deliver access to the digitised scores used in the recordings, with comments from the performers and Brian Culverhouse himself. Uniquely, users will also be permitted to manipulate the recordings, speed them up, slow them down and even alter the music for study purposes.

But is this a case of doing something simply because you can rather than because there’s a need? Not at all: there are strong pedagogical reasons for employing the kinds of manipulations that the Culverhouse Collection will allow. Music students will be able to vary the speed of the music, the better to study it, while film students will be able to use the recordings as soundtracks, and if necessary adapt the music to their precise requirements.

The Culverhouse Collection is a unique resource, providing free access to the core classical music repertoire and scores free at the point of access. It will open up new ways of studying music and for use in other disciplines. It stands as testament to a unique career in music recording, but one that is set to inspire a new generation of students. ‘I assembled this record music collection over many years,’ says Brian Culverhouse, ‘and am pleased to know that it is being made available for study purposes.’

John Riley
British Universities Film and Video Council

For further information on the Culverhouse Collection, please go to: www.emol.ac.uk/collections/culverhouse.shtml
Events conferences, workshops and seminars

Access Management Showcase
18 July 2006
One Great George Street
London

ALT-C 2006
5–7 September 2006
Heriot-Watt University, Edinburgh

All Hands Meeting
18–21 September 2006
East Midlands Conference Centre, Nottingham

Open Access Conference
27–28 September 2006
Keble College, Oxford

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