espida, (2005) Sustainable Preservation of Digital Assets in a University. Project Report. University of Glasgow.
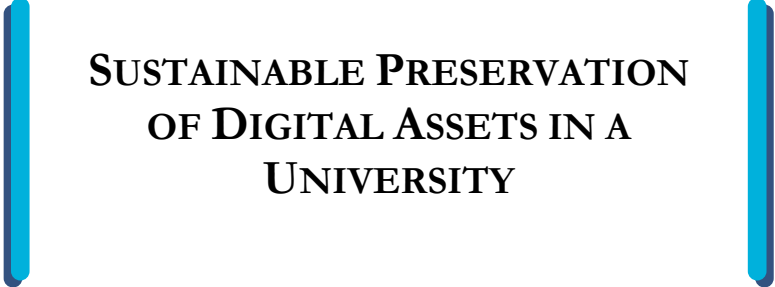
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SUSTAINABLE PRESERVATION OF DIGITAL ASSETS IN A UNIVERSITY

Friday 11 February 2005
Hugh Fraser Seminar Room
Wolfson Medical Building
University of Glasgow

http://www.gla.ac.uk/espida

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Session 1

Introduction

The workshop was opened by Professor Malcolm McLeod, Vice-Principal for Advancement at the University of Glasgow. He extended a warm welcome to the participants, particularly those who were from outwith the University. Professor McLeod spoke of his previous experience as a museum curator and the scale of traditional information that was held, often precariously, throughout the museum he worked in. This could only be a significant warning for institutions working with digital information.

He pointed to 'disposal' as a key term in the work of *espida*. There had to be an understanding, he argued, of destroying redundant information. The digital world should not be one where selection and retention (including disposal) did not play an important role. This theme was later to be picked up in the discussion session.

He urged the participants to use this event to their benefit and hoped that it was of value to them.

Idle Thoughts

James Currall classed his paper as 'some idle thoughts'. These idle thoughts were musings on key issues surrounding sustainable preservation of institutional digital assets. He began with the premise that it was time to take focus away from technology and technological solutions. Technology can for the most part cope with the pressures of preserving digital materials. The engagement of decision-makers in order to bring digital assets and their preservation into mainstream institutional thought and planning is where attention must be placed. The digital preservation community has become adept at talking to the digital community, but now it was time to approach other communities.

The linchpin of Currall's argument was that funding for digital preservation is a fixed-sum game. A University will not receive additional funds to cope with digital preservation. This means that resources will have to be diverted from existing areas. He offered an equation to expand on this:

$$t = o + a$$

Where:
t = total
o = overheads of the University
a = spending on the real business of the university

Currall's contention is that 'o' and 'a' will stay at the same proportion to each other whether 't' increases or decreases. This means that there will be no new funding for digital preservation, and *espida*, at the most basic level, must convince budget holders to part with some of their resources. The fundamental question that will face senior management is whether it is better to fund less research in order to ensure the survival of existing research. This may be seen as a retrograde step by a research driven and cutting-edge institution.

He completed his thoughts by offering the vision that if sustainable models for digital preservation are not accepted then digital assets will be lost and institutions will suffer for it.

Some Economic Reflections

Professor Sir Laurie Hunter's background is in Applied Economics. This offers him a perspective on digital preservation that is compelling and fresh. The valuing of intangible assets, he argues, is key to the creation of a sustainable model for digital preservation. Intangible assets play an increasing role in the modern economy which is based on information and technology.

With the growth of intangibles such as knowledge, customer supply relationships, procedures, routines and intellectual property the accounts of businesses have become less clear and helpful to managers and shareholders. Where before tangible assets were seen as the only way to value a company, intangible assets are now acknowledged as giving competitive advantage to companies. However, a major problem arises when confidence declines in a company that deals predominantly with intangibles. There are no solid assets which to fall back upon and the fall is faster and harder than if there were.

Intangibles are not a homogenous block. They have different life-cycles and values. Human capital is a major intangible, there are also procedures and routines, relationships with customers and intellectual property. The question of ownership and management of them is a complex one. Intellectual Property Rights are owned by the company, however the human capital is not. Employees will take their knowledge with them when they leave. This can be accounted for within contractual obligations, but only to a degree.

Professor Hunter's discussion paralleled companies' use and experience of patents with digital preservation. Companies hold many different patents and pay for that privilege, yet they not know which patents will prove to be successful. They therefore keep many, taking a calculated gamble that one or more will be profitable for the company. Similarly he sees the retention of digital assets as an investment. Not all of the assets preserved will prove useful or profitable to the Institution, but some of them will.

The roles and responsibilities towards assets are affected by how they are to be exploited. If they are sold for profit then there is a clear case of who shall pay for their creation and maintenance. But who will pay for creation and more importantly, management if the assets are to be given away? To illustrate this point he used street lighting as an example. Although a necessity, there is no buyer's market for it. However, someone does pay for it for the common good. In this case, it is the government. He finds it very doubtful though, that public funds will cover large-scale preservation.

It is difficult to measure intangibles even if their importance is acknowledged. Some of this is due to old ways of accounting still being employed. An asset for an accountant is only there if it has a cost or value that can be accounted and if it has a foreseeable value. He warned that progress is likely to be difficult as working in standard ways with intangibles is virtually impossible. However, it was certain that the common unit of measurement, where it could be found, must be monetary. Only with this method could a model be produced that would allow for meaningful engagement with senior management.

On reflection, Professor Hunter felt that a 'balanced score-card' approach would perhaps be the most viable tool for the *espida* project. The balance-scorecard utilises both financial measurement and criteria that allowed factors such as knowledge, employees and processes to be taken account of.

There were four conclusions that were drawn from the talk:

1. *espida* needs to think within the same terminological framework as financial managers.
2. A case study of loss, or of an asset that saved costs could be a fruitful exercise.
3. Quantitative measurement is fundamental to the modelling, but qualitative methods will also be needed.
4. The average cost per preserved item may be very low, but the actual pay back may be from only a few assets.

Open Discussion

Professor Seamus Ross began the discussion by offering some thoughts on the pharmaceutical company Pfizer that could be instructive for *espida*. The company have successfully made the transition into the digital realm with all of the preservation issues which that entailed. Their decision to do so was based solely on a business case. They found that with the new digital system they could get the product onto the shelf much more quickly.

The session was centred on four questions that Professor Ross posed:

1. Why might we want to retain digital products for the long-term?
2. What are the obstacles to digital preservation in institutions?
3. What are the obstacles to the Principal of an institution giving resources to digital preservation?
4. What are the risks of not undertaking digital preservation?

The first question he posed was 'why might we want to retain digital products for the long term'?

Value was at the crux of most of the discussion. Value seems to be an easy term to conceptualise, but it has varying degrees of complexity. Who decides the value of assets? Is it the creator, the user, or the manager? If it is the creator, does the value decline when they no longer have a need for it? If the user, then should it be destroyed when no longer used? What is the manager's role? Are they able to foresee a value different than that of immediate use?

In addition to the 'who' in attributing value, there are other factors; statutory requirements, institutional need and operational value. To measure value a multitude of metrics must be used. Most importantly though, they must be consistent and allow truly comparative working and decision making.

Value also carries with it risk. Risk is two-fold; there is the risk of not having an asset and the risk of keeping an asset. An asset can be a liability if kept, but there is a risk of legal proceedings and loss of reputation if they are not retained. Most private sector companies take calculated risks to dispose of assets (records in particular). In these cases the value of an asset is deemed to be less than that of the risk of keeping it. Or conversely, in the case of records, the risk of disposal is deemed lower than the risk of retention. The cost of retaining assets plays an important role in these

equations. Do the resources that have been saved through the disposal of assets counter any liability that may occur?[1]

Digital assets have different values over time. There is re-use value and the synthetic value which enables new questions to be asked of it. The assets offer evidence of output, they can be part of an institution's traditions and processes and indeed evidence of change. They offer benefits of reputation, of being seen to be trustworthy and sharing. They can improve productivity and help avoid risks. In general, assets are critical in strategic planning.

This led to some thoughts on whether digital assets are cheaper to preserve than physical assets. First instinct would suggest that they are. In the library world, computer mediation and management could take the role of subject librarians, there would be no binding costs and no large storage costs. Yet it had been seen recently that the introduction of digital resources actually meant that new staff had to be utilised to understand the assets, manage them and make sure users got the most from them. Not enough is known about costs to answer this with any degree of certainty.

The participants were then asked to focus on the second question: what are the obstacles to digital preservation in institutions?

For academics the major problems are: the time and effort required; a willingness to share the assets must be in place; the common refrain of 'this is someone else's problem'; lack of perception of risk; they do not like technology; and complex copyright issues. There has to be a direct benefit that is immediately visible to the acadmic before they will play a role in the preservation of their digital assets. In essence, practices that are conducive to the preservation of their assets are not at the moment within their workflow.[2]

The issue of selection was brought up in this context. Should everything be kept? There were various examples that were offered to suggest that selection was not needed.[3] Google is digitising vast amount of books from the Bodleian Library (among others) and will have no selection policy as they argue it is more expensive to select materials than to digitise them all. Perhaps though, this example is slightly off point. Google are digitising materials, *espida* are looking at materials that are already in digital form and for the most part are only in digital form. Selection as a policy to reduce storage costs is not really an issue. Storage is cheap and readily available. But selection as a strategy employed by archivists is crucial to the retention of vital assets and the disposal of assets that for various reasons are no longer required to be kept.

The question was then augmented by Ross to become 'what are the obstacles to Principal of an institution giving resources to digital preservation?'

Cost. Simply this was the first and most powerful obstacle. Other obstacles include: perceived value of the assets; no recognised concept of a methodology (or

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[1] Of course, the term 'asset' becomes unstable if it used in the same sentence as 'disposal' and 'liability'.

[2] Many of these issues are faced by the Daedalus project at the University of Glasgow which has put in place a digital repository for academic research. http://www.lib.gla.ac.uk/daedalus/index.html.

[3] It must be borne in mind that this discussion was predominantly concerned with assets that were not records.

confidence in a methodology) exists; there is a lack of context with which to make the case; and again, 'it will be someone else's problem'. In many ways it requires a leap of faith to invest in the future. We need to make that leap one not of faith but of a determination to leave a legacy. In the background of this discussion was the knowledge that preservation never has been a 'sexy' area to be involved with. Could this be changed?

The questions were then turned on their head. Rather than focussing on the reasons of undertaking digital preservation, what were the risks of not undertaking it?

In addition to legal liability placed on certain assets including records and project materials, long-term decision making would be problematic without the preservation of assets. Without the retention of records it becomes very hard to continue a successful business. Indeed, cultural and institutional identity would suffer if the assets of the University were lost.

Firm conclusions from the morning session were hard to tease out. Initial thoughts can be made however. Digital assets are diverse, and within HE/FE institutions this is intensified. There is a lack of awareness of the value of digital assets. Surprisingly for such an institution, there is degree of parochiality towards digital assets. Their immediate personal value can be easily identified, but there is less concern about the role they have in institutional value. The creators and users do not for the most part consider the management of the assets and this will prove to be a challenge for *espida*.

Session 2

Supporting Digital Preservation

The morning session's papers and discussion had focussed on issues surrounding the preservation of institutional digital assets. The second session introduced actions that were being taken to address some of the problems.

Leona Carpenter (Programme Manager at the Joint Information Systems Committee) introduced the work of the JISC and in particular the new programme under which *espida* and others are being funded. The JISC supports a number of major initiatives that are trying to surmount the challenges that the digital world is creating. Among these they have commissioned a technical appraisal of LOCKSS[4] and fund the Digital Curation Centre[5] which has as its aim the preservation of scientific data.

The programme 'Supporting Digital Preservation and Asset Management in Institutions' involves eleven projects based at nineteen institutions exploring different facets of preserving digital assets at Higher Education and Further Education Institutions.[6] There are three themes running across the programme: institutional management support, assessment tools and institutional repository development.

The projects funded under the programme are designed to complement each other and bring different areas together to create a coherent whole. The projects range from developing a toolkit for digital asset management (Mandate project at the John Wheatley College) to exploring the management of risk within business strategies (Kings College). The Digital Asset Assessment Tool being developed at University of London Computer Centre will be of interest to many. The tool will help the identification of preservation requirements of digital assets.

The Meaning of LIFE

The LIFE project (Life-cycle Information for E-literature) is using life-cycle management to preserve eJournals that are based, predominantly, at the University College London (UCL). The life-cycle defines the relationship between different stages of an item's existence over time and has been developed with traditional assets in mind. The project hopes to take this approach into the digital world and at the same time determine costs for each stage of the life-cycle.

James Watson's paper outlined the position of both UCL and the British Library to electronic resources. A recent study undertaken at UCL found that there were potentially cost savings to be made in using e-journals over their print counterparts. This result is compelling for UCL. As with all research libraries it is running out of space. It also has a commitment to utilise more digital resources. These factors mean there is a need to explore management issues for digital resources such as e-journals.

The British Library has been working with digital materials for a number of years and is trying to isolate the life-cycle model for digital collections. It has already explored in depth life-cycle management for traditional materials and begun to address the digital

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[4] Lots of Copies Keeps Stuff Safe. http://lockss.stanford.edu/.
[5] http://www.dcc.ac.uk.
[6] More information from the programme of work can be found here: http://www.jisc.ac.uk/index.cfm?name=programme_404.

life-cycle. This collaboration is a direct result of their work so far. The challenges that the Library are facing are massive. The Legal Deposit Libraries Act 2003[7] requires the British Library to accept electronic materials, and over the next five years they forecast holding around 300 terabytes of data.

The key questions that Watson highlighted are when will there be sufficient confidence in digital preservation to switch entirely to the digital, and how is that confidence measured? The hybrid approach that is utilised at the moment by many cannot be sustained and there needs to be a point of cessation. The outcomes of the LIFE project will hopefully help HE/FE institutions make the decision to turn to more digital resources with greater confidence in their ability to ensure continued accessibility.

espida and Effective Preservation

The presentation on *espida* concluded the day's event. Peter McKinney offered a brief synopsis of the current state of digital preservation. Echoing the thoughts of James Currall he suggested that there was a large amount of information available on digital preservation and awareness of the issues was relatively widespread. This did not mean however, that practice was widespread. Many reports, projects and articles were pointing to work that should be done and research which was to be undertaken. Now was the time to begin practical efforts. Problematically, the culture of digital preservation has predominantly been that of short-term funding, but this went against the very nature of the problem. The successful outcome of *espida* would ensure that funding became long-term and consistent.

The University of Glasgow has a great deal of expertise in digital preservation with international projects such as ERPANET[8] and national and institutional projects such as Daedalus and CdocS[9]. *espida* (an Effective Strategic model for the Preservation and disposal of Institutional Digital Assets) is hoping to utilise this experience and bring to the University a coherent view of the importance of digital assets.

McKinney explained that *espida*'s tagline 'Making it Happen, by Getting Real' referred to the need to practically preserve digital assets through bringing digital issues to everyday life. By creating a cultural shift it would be easier to preserve the assets. This is the bottom line of *espida*; the preservation of the University of Glasgow's digital assets. It will be done through the development of a sustainable business model which will detail the digital assets the University has, outline requirements for the retention of assets and convey the concerns that stakeholders across the Institution have. It will model costs and responsibilities and translate the issues into the language of senior management. The information for the model will be gathered through a number of events, meetings and interviews, and a questionnaire has been created from which they will be able to collate information about types of assets and identify possible '*espida* Champions' that can help the project.[10]

Beyond Glasgow, the model that *espida* is creating will be applicable to HE/FE institutions in the UK. A case study of the creation and implementation of the model will allow similar institutions to engage with their staff and senior management to implement sustainable preservation of digital assets. The basic tenet for *espida*'s

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[7] http://www.legislation.hmso.gov.uk/acts/acts2003/20030028.htm.
[8] http://www.erpanet.org.
[9] http://www.lib.gla.ac.uk/daedalus/index.html, http://committees.gla.ac.uk/cdocs/.
[10] The Questionnaire has been included as an appendix in this report.

work is that this is a problem that all institutions have and short-term funding will not suffice.

Next Steps

The event's initial aim was as to launch *espida* and create a level of awareness about the project and the potential risks inherent within the digital order. It certainly achieved this aim, the fifty-five participants readily engaged in lively discussions about digital assets, roles and responsibilities within an Institution towards them, drivers for preserving them and a whole manner of associated topics.

The speakers, particularly in the morning session, opened up new lines of enquiry for digital preservation. The economic considerations offered by Professor Hunter resonated strongly; this was a new way of thinking to many of the participants and they were challenged by his thoughts. All of the papers had allowed time for questions and comments to be made which added to the success of the sessions. To hear the participant's views and opinions was the real purpose of the event and the enthusiasm to discuss points displayed a real engagement with the topic.

From the event *espida* have collected a great deal of information about concerns, the value that is placed on digital assets, requirements and needs, and avenues to explore. The next steps of *espida* are to follow these avenues and to engage with record creators, users and managers to fill the emerging picture at the University of Glasgow. Collaboration with other projects within the programme is also on the agenda. The real work for *espida* is now only just beginning.

List of Participants

First Name	Surname	Institute
Arthur	Allison	HATII, University of Glasgow
Gordon	Anderson	Library, University of Glasgow
Theo	Andrew	Digital Library Division, Edinburgh University
Susan	Ashworth	espida, University of Glasgow
Helen	Bell	HATII, University of Glasgow
Christine	Bowden	HATII, University of Glasgow
Kristina	Brown	Department of Computer and Information Sciences, University of Strathclyde
Nicola	Cameron	Department of Computer and Information Sciences, University of Strathclyde
Leona	Carpenter	JISC
James	Currall	espida, University of Glasgow
Joy	Davidson	HATII, University of Glasgow
Peter V.	Davies	French, University of Glasgow
Lesley	Drysdale	Computing Services/DAEDALUS Project, University of Glasgow
Alex	Du Toit	HATII, University of Glasgow
Stephen	Gallacher	Computing Services/DAEDALUS Project, University of Glasgow
Colin	Galloway	Library, University of Glasgow
Craig	Gauld	HATII, University of Glasgow
Craig	Green	John Wheatley College
Monica	Greenan	Glasgow University Archive Services
Morag	Greig	espida, University of Glasgow
Laurie	Hunter	Glasgow Business School, University of Glasgow
Srikant	Jakilinki	Department of Computing, University of Glasgow
Claire	Johnson	espida, University of Glasgow
Joan	Keenan	espida, University of Glasgow
Julie	Kennedy	HATII, University of Glasgow
Kiara	King	Edinburgh University
Gareth	Knight	Arts and Humanities Data Service
Vikki	Laidlaw	HATII, University of Glasgow
Jonathan	Lewin	SCRE, University of Glasgow
Vincent	Macaulay	Department of Statistics, University of Glasgow
John	MacColl	Edinburgh University Library
Oliver	Mahony	HATII, University of Glasgow
Lauren	Mason	HATII, University of Glasgow
Asman	Mat Isa	HATII, University of Glasgow
Kathy	McFall	Gartnavel General Hospital, University of Glasgow
Ann	McGeachy	HATII, University of Glasgow
Andrew	McHugh	HATII, University of Glasgow
Angela	McKane	Glasgow University Archive Services
Peter	McKinney	espida, University of Glasgow
Malcolm	McLeod	University of Glasgow
Jenny	Middleton	HATII, University of Glasgow
John	Moore	Library, University of Glasgow
Michael	Moss	HATII, University of Glasgow

William	Nixon	espida, University of Glasgow
R. John	Robertson	Dept. of Computer and Information Sciences, University of Strathclyde
Seamus	Ross	HATII, University of Glasgow
Chris	Rusbridge	Information Services, University of Glasgow
Adam	Rusbridge	HATII, University of Glasgow
David	Sanderson	S.U.E.R.C., University of Glasgow
Francesca	Sanniti	HATII, University of Glasgow
David	Steel	University of Stirling
Anthony	Troman	British Library
Lisa	Wallace	Glasgow University Archive Services
James	Watson	LIFE, British Library
David	Weston	Library, University of Glasgow
Graham	Whitaker	Library/Cassirer Project, University of Glasgow

SUSTAINABLE PRESERVATION OF DIGITAL ASSETS IN A UNIVERSITY

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Programme

Session 1: Institutional Digital Preservation. The problem.

10.00	Coffee
10.30	Welcome/Introduction
	Professor Malcolm McLeod, Vice-Principal for Advancement

Chair: Professor Seamus Ross
10.35	James Currall (Information Services)
11.05	Professor Laurie Hunter (Glasgow Business School)
11.35	Discussion

13.00 *Lunch*

Chair: James Currall
14.00	Leona Carpenter, JISC
14.30	James Watson, LIFE
15.00	Peter McKinney, *espida*
15.30	Discussion

16.15 Final Points and Summation

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http://www.gla.ac.uk/espida

Project Director: James Currall
espida@gla.ac.uk

Appendix 2: Questionnaire

Asset Questionnaire

By returning this questionnaire you will be helping to develop a sustainable model for the preservation of digital assets within the context of a University. We would be grateful if you could complete the form and return it to the address below.

Your Digital Assets

For the purpose of this questionnaire 'digital assets' can be broadly defined as research materials, teaching materials, grey literature and working papers, project records and outputs, datasets, websites, etc.

What sort of digital assets does your department have?

Where are they kept (they may include, for example: personal or shared disk space on a server, disk drives on individual computers, CD-Rom, web server, etc.)?

In what ways are the assets important to your department (these may include, for example: value in current or future research, or legal requirements)?

What might be the impact on the department if you could no longer access some of these assets (this may include complete loss of work with attendant consequences)?

Who has the responsibility for managing the assets?

Have you lost assets (or perhaps there are assets which are no longer accessible/available)? If so what was the impact of that?

Your Actions

Are there any departmental or institutional strategies in place for managing your assets? (preservation policy, disposal strategy, records management policy, etc.)

Do you offer access to the assets? (to other people in your department/university/ public?)

What access issues are of concern to you (copyright, privacy, etc.)?

Do you currently receive any guidance on digital preservation (if 'yes' where do you receive this guidance from)?

How often (if at all) do you check that your digital assets are still accessible?

How often (if at all) do you deliberately dispose of your assets?

Comments?

Your Details (this information may be used for contact, you may leave this blank)

Name:
Position:
Institution/Department:
Email address:
Phone: