

Aligning National Approaches to Digital Preservation: May 2011

1. Introduction

On 23rd-25th May 2011 the Estonian National Library, Library of Congress and the Educopia Institute hosted a conference to discuss alignment of digital preservation strategies. 120 delegates attended from Europe, North America, Australia and various parts of Asia. WK attended on behalf of the DPC and various DPC members and allies were present in their own right – ARA, BL, DCC, ICPSR, JISC, LoC, UK Data Archive, UK LOCKSS Alliance.

These unofficial notes are partial and have not been reviewed or checked by those presenting their ideas. They are simply designed to give DPC members a **rapid and informal briefing** about the event. They should not be read as an official or sanctioned record of the meeting. An authoritative report will be published in due course.

2. Welcome

Toomas Hendrik Ilves, President of Estonia, introduced the conference by reflecting on the accomplishments and innovations of Estonian information technology, especially in banking. Concerns in digital preservation represent a mix of the modern development of IT and a deep historical root in the Estonian culture of storytelling and tradition. Grass roots appreciation of story-telling and language had a significant impact on the independence of Estonia in 1918 and subsequently through occupation in spite of efforts to erase cultural memory. The Soviet regime destroyed something in the region of 10million books to inhibit Estonian culture and language while archives were raided and destroyed to erase and distort the memory of the Soviet administration – including the files of the KGB. Memory is essential for the establishment of what really happened in the history of Estonia, both good and bad. Memory helps communities stand up against totalitarianism and is corner stone of part of democracy and liberty. Digitisation will allow the modern story of Estonia to be shared and protected.

3. Key note – Laura Campbell ‘Exploring what we can do together: strategic alignments for international collaboration’

Martin Halbert of Educopia Institute introduced the programme which was based around constructive discussion and alignment of digital preservation initiatives which recognised the need to do more than simply discuss or present outcomes from research and development projects. Break out and feedback was central to the programme which will touch on core themes of technical, organisational, educational, legal and economic alignment.

Laura Campbell gave an introductory presentation reflecting on the Library of Congress’s work since the Congress mandated that LoC take leadership on this field in 2000 under the National Digital Information Infrastructure and Preservation Programme. \$100million was allocated to this work and took a very distributed approach with many participants to achieve widespread impact and ‘learn by doing’, making adjustments as appropriate as they learned. Many stakeholders in the public and private sector, as well as researchers, state and federal administrators, and legal advisors were brought on board. Copyright was designated as a problem from the outset. 8 projects were funded in the first pass in 2003 with a deliberately consortial approach and a special attention to user needs. There were four strategic goals within NDIIPP – collaborative networking, creating a national digital collection, developing practical technical architectures, developing public policy and outreach. Collaboration was critical as it recognised the diversity of the digital preservation challenge and that establishing a capacity and appreciation for collaboration was critical to the wider goals. This way we cover more ground than any one of us could cover on our own and embed flexibility into the workflows at the start of a new set of responsibilities, especially when participants are forced early on to talk to organisations and people that are not like each other.

Issues that NDIIPP has learned:

- Managing ‘bits’ is hard but managing ‘atoms’ is more problematic than had been realised
- There’s a tension between high levels of curation versus bulk
- Consumers don’t care who owns content so long as they can get access

- Consumers don't want just to discover data, they want to use it, add to it and process it
- Consumers now spend more time on the Internet than watching television
- Institutional identity is changing and loose collaboration seems more likely to work
- Fluid co-operation has been better than systematic planning – over planning constrains genuine progress
- Closed systems do not provide the basis for genuine innovation
- Experts are good but there is a massive cognitive surplus which can be used to develop solutions from the 'crowd'

Scenario planning has allowed LoC to examine what possible futures there may be for digital collections and libraries. Shared learning has changed the way that research is done; innovation happens at the margins and diversity of creativity. For example, Goldcorp – a gold mining company put all its proprietary data online with a money prize for people who could help them grow their business – this has increased the size of the company 5 times over. Everyone is a creator and consumer of content now and mobile phones are now the most used devices which means that ubiquitous computing has now arrived. Storage continues to reduce in costs and it's reasonable to discuss collecting everything. Security and energy consumption are a growing concern however and may become some of our biggest strategic concerns in the next decade. Economic development through shared infrastructure is beginning to show results. Public policy still lags behind the digital revolution in terms of facilities and practices for digital preservation. These are likely to be themes for the next decade.

Some intractable problems are familiar and not yet solved. Sustainability of institutions still needs to be addressed and senior managers are not yet sufficiently engaged around the world. Data continues to grow in scale and complexity – a race we're likely to lose if we're not able to prioritise. An international digital preservation body would help to co-ordinate policy and practice internationally, ensuring trends and indexing properly preserved content.

Comments from the floor and discussion after the presentation:

- Discussion about an international organisation that could help with policy and research without becoming a hindrance or constraint to innovation. IIPC an example because it started with outcomes rather than debate about by-laws and administration. A loosely based organisation at first with immediate impact, becoming more solid through time.
- Learn by doing is a great slogan that others can benefit from
- Need to engage with much more than hitherto with young people and the next generation on whose behalf this work will be done. There also needs to be much more than library or academics and LOC has done some interesting work with classroom teachers and encouraged them to use and connect with the idea of a national digital memory. There was a lot of similarity in responses and some very thoughtful analysis. This allows us to test the relevance of content and introduce new thinking

4. Technical Alignment

The first session was introduced by Michael Seadle of Berlin University who introduced how components and infrastructure were critical to scaling up and efficient deployment at all levels. Key issue is testing and reporting back on the challenges which are sometimes not thoroughly explored.

Sabine Schrimpf, Deutsche Nationalbibliothek

- Infrastructure is like railways or pallets – taken for granted and almost invisible but understood by all people involved without question
- We have a lot of components already but there is a need for more. A lot of the tools we have are still stand alone and it's an effort to put them together. Still too much work to put these tools in practice and a lot of fragmentation.
- DNB addresses this fragmentation through a network of excellence called Nestor. This has any number of working parties and groups focussing on needs that are identified by institutions as their own needs.
- A good example of outcomes from this work includes the 'Kopal' architecture which simplifies the relationship between digital libraries and OAIS. Various linking bits of software act as intermediaries in the process and enable a degree of collaboration on things like validation and storage.

- LUKI is also interesting, providing a LOCKSS network for Germany connecting to shared software between the partners.
- International work like 'SHAMAN' and 'APARSEN' also provides a forum for shared ideas and technological developments
- So trend in DNB seems to be towards modular components based on well understood standards and delivered using distributed service architectures.

Adam Rusbridge, UK LOCKSS Alliance

- DP problems are well understood but the HE and library sector has additional challenges associated with licensing and viability of published content. UK LOCKSS Alliance provides a solution to this by encouraging institutions to get involved in their own digital preservation policy and infrastructure.
- LOCKSS mimics in many sense the print world in which numerous and distributed copies of print material reduces the risk to published collection
- UKLA is a highly distributed model which is good for any number of reasons but it needs a core co-ordination to ensure engagement over time and to help the network work towards common goals.
- Experience shows that content ingest is expensive, and therefore there is a need to focus on at risk material. Identifying 'at risk' content is hard. Large publishers are unlikely to benefit from the UKLA architecture, but low use content and small scale publishers are recognised as being at greater risk so are prioritised.
- LOCKSS provides a good testbed for all sorts of challenges to digital preservation
- E-journal preservation registry is helpful in advising on at-risk content, example of this is PEPRS

Michael Seadle: Berlin School of Library and Information Science

- Fukushima Reactor was subject to extensive rigorous testing against standards and yet there was failure. Long term preservation needs testing against standards but the results of those tests need also to be available. Need to see under the bonnet of the car if we genuinely want to establish trust
- Trust - not distrust - needs to be the basis of digital archiving. Testing plays a role. We can't trust a single server or a single institution.
- Tests will allow us to check functionality, to reveal weaknesses and to provide data for planned improvement. But no organization likes to reveal weaknesses but every organization needs to know about the weaknesses of the systems that they use.
- Tests typically will examine integrity, authenticity, usability, access and financial integrity. None of these is simple and all of them need to be tested on an ongoing basis.
- Example – bitstream testing is arguably the primary basis of all testing. If we don't have a bitstream then we don't have a digital object to preserve. Bit rot can be simulated in a number of ways – mathematically, physically and with high density magnetic fields. 'Petabyte for a century' is hard to achieve without rigorous examination of storage systems and how many copies are needed. But we really don't have any metrics or benchmarks to know when a system has failed, when it has succeeded and when it has 'done okay' against different types of failure.
- Usability testing is more difficult because we all read differently at this time, and will process data very differently in the future.
- In conclusion we can't purchase systems on faith alone – it's a poor investment for the future.

Andi Rauber, Technical University of Vienna

- Three types of assessment of digital preservation systems – Evaluation, Testing against specific requirements, and Benchmarking which drives up standards across the board
- Comparison against weak benchmarks is not really impressive – need to test against increasingly challenging benchmarks
- Too little serious effort on benchmarking – some testing and evaluation but it's seldom possible to get the details of any test or analysis and generally speaking we can't repeat experiments. We see lots of tests on the same things (profiling TIFF files for example) with too little testing of more complex or exotic data types
- PLANETS and others point us in the right direction but too slowly. We can't test everything solidly but it's better to test some parts of a system than no parts of it.
- Comparative and competitive evaluation of systems is needed a clearer understanding of what it is we want to measure and scenarios which focus our minds and approaches which are properly grounded

and well-focussed. On that basis we can start a proper dialogue about which metrics are important and develop testing tools and processes which will in turn provide a knowledge base for this.

Points made in the debate on the technical alignment:

- Little or no mention of TRAC and DRAMBORA in presentation – can the outcomes and inputs of these be more public? TRAC is set at a very high level and there are too few examples and too little specific guidance to be implemented. Entire systems – including organisational setting – needs to be assessed. Some components in TRAC can be assessed automatically and others will be purely organisational: some need testing on an ongoing basis, some need testing periodically.
- Bit stream preservation remains a lot harder than we have discussed. Some bits are certain to flip unless we take a much more rigorous approach.
- How much interoperability do we need and is there a risk of over-standardisation?
- All digital preservation services could be outsourced (yes / no)
- Joint testing on focused sub-tasks could advance digital preservation research and development even at the cost of limiting the extent of the topics addressed
- Stress testing of security is critical and well developed and we don't even know much about the security services around our architectures. Context is important and if institutions specify generic systems they shouldn't be surprised if they get only simplistic solutions

5. Organisational alignment: refining the innovation and research agenda for DP

Inge Angevaere from NCDD set the scene and introduced the panel. Long term preservation needs a long term commitment and this goes against the grain of short term engagements and short term funding common with our experience of digital resources which tends to be ad hoc and transient. Scalability is an issue, especially when examined from the cost-efficiency of systems. It requires new kinds of relationships between producers and archivists to ensure preservation at the outset and also an international and inter-disciplinary and inter-institutional approach because boundaries and borders and divisions of labour don't map easily. The case for funding is tough when we can only posit deferred value of data and

David Giaretta – European Research Data and the Alliance for Permanent Access

- EU funds a lot of research in digital preservation and infrastructure so alignment in Europe has at least a sensible financial and policy basis expressed as a digital agenda for Europe. Digital preservation infrastructure is part of this integration alongside EGEE, EGI and GEANT. In this sense digital preservation in Europe can be based on an existing infrastructure and we need to understand the underlying infrastructure if we are to work most effectively.
- Funding of EU projects has a clear direction of travel, from awareness raising towards tools production to engagement with industry and commerce. There's a high-level expert group on preservation which points to the need for an e-infrastructure that supports seamless access and processing
- Alliance for Permanent Access has organised itself around projects to achieve things as well as an annual conference. It recognises the need to act internationally and it's a way to get 'added value' benefits from work at home. (DPC is a member of the Alliance so DPC members can participate directly in APA activities)

Michelle Gallinger – NDIIPP into NDSA

- We need social as well as technical infrastructure and this has been key to the structure of the NDIIPP funding over the last decade which has deliberately caused people and organisations to work together across organisational and technical boundaries that had not previously been crossed.
- The result of this has been a National Digital Stewardship Alliance which NDIIPP members can join for a fixed but renewing commitment through time. This sustains the relationships established during the funded phases of the programme and they provide a new kind of forum. Organisations don't support the network without a clear local benefit also. Working groups are no longer directly funded in the way that NDIIPP was established, but the benefits are different.

Martin Halbert - Observations from the MetaArchive Cooperative

- Scribal models of preservation are the origins of the modern library and provide a thoughtful metaphor for understanding how modern repositories copy, share and circulate information. Distributed approaches to preservation that replicate content in distributed but defined locations and based on trusted networks rather than centralised controlling management.
- Distributed digital preservation efforts assumes that new collaborative relationships across boundaries of sectors provide important and promising ways to deal with the preservation challenge with economies of scale and expertise.
- Private LOCKSS Networks are an example of this is practice – a new implementation of LOCKSS that concerns itself with wider types and formats of data rather than just e-print collections.
- MetaArchive is a functioning DDP network based on a Private LOCKSS Network originally funded under NDIIPP and has helped set up other private LOCKSS networks. Functional digital preservation sites within the network also include co-operative networks and that are themselves nodes of other networks
- MetaArchive is a co-operative not a vendor in the strict sense. There are legal and organisational instruments that hold it together and it has a membership fee that is set by members. MetaArchive operates at cost to help members support their costs, grants have also helped with the revenue and research. There was a three year standing organisation before there was any legal document and foundation to put it together. The documents are explicit about roles and responsibilities, including how to join and how to leave, intellectual property rights and the like and all of this has ensured better leadership, research and learning in digital preservation. Members are motivated to join for each of these reasons. This has provoked a research programme to support emerging and changing needs of organisations.

Inge Angevaere – NCDD

- NCDD exists to establish a national infrastructure for long term access to all digital objects in the Dutch public domain within five years. This mission is more bold and over a fixed duration, different to other coalitions like the DPC which tend to be about awareness raising training and expertise.
- Inge presented a short evaluation of how far she thought that the Netherlands had got in terms of digital preservation mission stated at the start of NCDD. There are some good examples – good commitments and all the major players, a good grasp of the basics of the needs and division of labour between sectors. But it's been harder to exploit commonalities rather than focus on the differences between sectors.
- But most of these are still only 'words' and promises rather than actual deliverables. They have the scale but not yet made the efficiencies; they have the buy in for investment but not yet case studies of impact and savings; better relationships between organisations but there's much more to do; we have agreement in principle to share labour but not yet examples of how it has worked.
- This is considerable progress over three years since NCDD was established but it's hard to see how it will move on beyond words into action. The 'urgent drives out the important'.

Martin Halbert – International Internet Preservation Consortium

- This organisation walks the walk AND talks the talk. Mix of national libraries with a smallish number of research agencies and institutions.

Topics in debate

- An international agency to coordinate activities in digital preservation? Alliance for Permanent Access has some role here but in a very broad sense.
- The community has become more diverse and more mixed as it has grown.

6. Keynote 2: Gunnar Sahlin, National Library of Sweden

General views today from a library perspective and with a European feel. The challenges faced by libraries are similar to those faced by archives and museums and they cross borders. Digitisation has developed really rapidly and this has made a huge difference to users as well as the internal processes of the institution, but there remains an enormous volume of material in analogue form. This pace of change has been remarkable and has been associated with the emergence of new ways to collaborate and new ways to deliver content to and meet the user community. Interaction within and across the ALM sector has been more substantial than hitherto and the shared endeavours to meet shared concerns and consensus around them are more possible and more productive than before. It seems that we are only at the start of

this process and collaboration will lead to closer relationships in the future. For example university research libraries are recognising their growing importance and role within research processes and the economic impact they can have. National boundaries really don't matter at all in many practical ways. We must not lose sight of the user community, both now and in the future and must find new ways of working to the public good. The national libraries in the Baltic are particularly close because of their bilateral relationships but agencies like LIBER and IFLA play a role in extending that reach. There are no two national libraries which are the same – each have their own special requirements in the regulatory environment and traditional values.

National Library of Sweden has a new mission to collect and preserve sound and vision as well as the traditional collecting of books. This has meant merger with existing audio-visual archives and this change has enabled new ways of working. The Audio Visual archives depend more on electronic processes and so have had a larger need for infrastructure in digital preservation – investment in this has been good news for the whole library because it brings greater and more nuanced expertise for all collections management functions. Various other examples of collaboration within Sweden are relevant – for example closer working with research libraries, cross searching of catalogues, shared licensing of e-journals, shared policy positions on open access linked data and e-publishing. These latter points are interesting because the libraries at national and international levels need to negotiate with multi-nationals as equals. National Library now also has a regulatory role for the whole library sector in Sweden such as public library services and needs to respond to the rapidly changing needs and expectations of this large and diverse community. Although challenging, this concentration of responsibilities means it is possible to develop a high level of competence and excellence to different and emerging challenges. The national library cannot be despotic however and it is critical that it can provide real support rather than simply handing down instructions. The financial resources are not so great as the opportunity or the ambition of the institution. This points to the need for co-operation.

The national library has been working with the whole archive, library and museum sector on a common system for the preservation of digital materials. In this matter, collaboration with the research institute at Lulea Technical University is critical. (LTU is described in more detail in the What's New 36.) Digitisation of sound and vision – television and radio programmes - has entailed massive volumes of digital data in the last while meaning a complete transformation in the way that collections are managed and preserved. It has been hard to provide leadership in this field because you need to understand the technology but not be so completely engrossed by it to lose sight of the strategic goals. There are different standards for preservation of collections: these variations in standards are not cost efficient but it's hard to resolve for senior managers because of the need for highly specialised advice and one can't really refer these decisions to government or ministers.

Nordic collaboration has been an exception and not the norm for the rest of the world – there is a genuine sense of a Nordic national library system. They have moved from exchange of experience to common projects, and perhaps even shared services in the future. PLANETS, other projects show that there's a way to align not just policy but also in practice.

The pace of development in libraries will not subside and new technical tools which we today are unable to envisage will be conceived. We will be facing great challenges in the coming years. In this context it is of the utmost important not to lose sight of the benefits of collaboration.

7. Standards Alignment

Raivo Ruusalepp of Tallinn University

Raivo introduced the panel on standards alignment – perhaps should be termed interoperability alignment. Standards enable shared understandings of quality. On one hand there are probably too many standards and it can be very confusing to make sense of them. There is something like 400 discrete standards which are specified or adapted for use by the digital preservation community and most entrants into the community bring some of their own standards too from their own background. He then moved on to discuss the adoption of security standards in digital preservation.

- Data security standards are now a light industry based on standards like ISO 27000-5. It's easy to engage with these standards because there are well known tests and audits which can be bought in.

- Estonia came under a serious cyber attack in the recent past which included an attack on the national library and therefore there has been a lot of research and development in Estonia and also a significant cranking up of approaches which has tested whether the standards are really any good. Tallinn university has therefore conducted a survey of approaches
- There's a universal lack of provision for the long term preservation of data in any of the new legislation, even though all the agencies are required to step up. Half of the agencies surveyed had no explicit use of standards. In house competence on security standards is weak and only a few external audits have in fact been carried out. Memory institutions are good at preparing for disaster but not so good at testing disaster plans – the same is true with security standards.
- Perceived risks are recognised as obsolescence and its development while security and cyber-attack are not rated as being particularly high. Scalability, trust and authenticity are seen as the future problems rather than cyber-attack which suggests that we feel safe even though memory institutions don't really understand or implement data security standards.
- So there's an opportunity for alignment here in the adoption and use of these standards.

Matthew Woollard – UK Data Archive

- There are 28 different definitions of standard in the OED and even something as simple as the standard for a 'gallon' differs from the UK and the USA because they are defined differently.
- There is some confusion about how and who is able to define standards – some are legal, some de facto, some are proprietary, some are very locally based.
- We should be able to codify these and know which ones are relevant and beneficial, and actually improve service provision for each of our institutions
- UKDA has recently been through an audit to prove that it was able to cross the BS27001 standard so that they can receive disclosive government data. The audit cost something in the region of £100k – a massive undertaking. Some tidying up of processes and paperwork came along with it. This was a critical element for them and much more important than the trust metrics from digital preservation.
- UKDA has been through the DANS seal of approval which is simple and achievable. Nestor criteria and TRAC have produced a three tier approach of proto-standards, with a three stage approach. This is all in order to develop a 'network of trust'
- UKDA engages with standards for reasons of interoperability, pragmatism, efficiency, trust and to help engage users more effectively

Cal Lee, University of North Carolina

- Any given metadata standard has instrumental value to the extent that it helps us achieve the goals of preservation. The greater the difference between contexts the greater is the work needed to make a document or object useful to that new context.
- Contextual information has to be somehow represented as a digital object creating a recursive relationship to preservation ... so preservation information needs preservation information of its own. Contextual information needs to be ingested in order to be preserved
- The information model of the OAIS has metadata all the way through it at different levels of representation – aggregation of objects, file structures, objects and packages, files, sub-file structures, bitstreams and so on. None of these is canonical or privileged in OAIS because they need to be structured depending on the setting, and objects can be interacted with in any number of ways depending on the contexts.
- The top layers are the only ones that matter to the vast majority of users, but for digital preservation you may need to examine objects at different levels – bit streams for example, or file level as well as the interaction.
- Alignment surely means common priorities and common metadata (or other standards) will be driven by those priorities rather than the other way round: we won't align around standard for their own sake.

Bram van der Werf, Open Planets Foundation

- You get the standards you deserve. Libraries and archives should be distrusted and need to prove that they can be trusted in some way. Libraries and archives tend to be mature

organisations which have been around for a long time, but adaptability and flexibility are the real signs of maturity and trust in library in an environment which is changing rapidly.

- The awareness of processes and experience in practice can be used to develop and recognise best practice (learn by doing?) which in turn leads to evidence of best practice which can be presented and assessed by peers.
- Quality control is associated with products and control standards to check specific requirements – like the USB stick. Quality assurance is more associated with processes and requires an on-going evaluation of systems maintenance; quality management focuses on services and therefore relates to people and how the people in an organisation learn. Digital preservation needs each of these but emphasis on people is particularly important in a rapidly changing environment.
- Standards are good at assessing static challenges. The problem is that digital preservation is not a static domain. Best practice improve and sustain management processes of known challenges and standards provide reference and metric but long term access is a moving target and most technology standards are de-facto rather than controlled by us.

Debate and comments from the floor after the presentations:

- OAIS and TRAC are about 10 years old, though the processes continue to develop.
- The word 'trust' is sometimes misleading – it's a term we're stuck with for historic reasons. It's not trust so much as capability that's in question

8. Legal Alignment panel

Adrienne Muir from Loughborough University introduced the legal alignment panel. Issues with copyright and how IPR can inhibit reasonable DP actions, and what do people do with them. There have been a number of developments lately. Adrienne then gave a short presentation on Legal deposit and web archiving in the UK and understanding the law as it was implemented in the UK.

- Real disagreement on these issues between parties including publishers and libraries each trying to influence government and at times only an indirect understanding of the underlying technology and a rapidly changing set of content and use.
- UK legal deposit makes a legal obligation on the libraries and publishers to ensure preservation of the national memory and ensures access in a regulated way. The purposes transfer almost exactly into the digital domain for web harvesting. The purpose of web archiving is clear and generally shared internationally but the scope and mechanisms are not aligned. There are trends that can be identified.
- Implementation of web archiving throws up specific issues of scope, territoriality, voluntary versus regulated deposit, and there are a host of sub-issues and related legal challenges associated with intellectual property rights, unlawful material, defamation and privacy. Preservation and access are connected and tangled in different legislation.
- Some countries have moved easily through the scope issues and there are some good examples, while for others it has been a lot harder to define scope and exceptions and exemptions to copyright.

Willma Mossink from the SURF Foundation

- Various acts of copying, migration and reproduction infringe copyright. There's been a determined effort to harmonise the law in Europe and the exceptions to copyright laying out what libraries and archives could do. This has had an impact on DP in practice, though the directives need local implementation.
- 2006 the EC established a high level expert group to discuss specific issues for digital libraries. This made progress on copyright issues for digital preservation, orphan works and out of print works. These recommendations were good in their own right but they were designed really for occasional digitisation of specialised work not mass digitisation. The model licences were very complicated and off-putting for most small or even medium sized organisations.
- A new proposal on orphan works from the Directorate for the Internal Market made new proposals and recommendations that supported efforts for digitisation. The Comité des Sages report on the 'New Renaissance' made specific requirements on the sustainability of digitised resources. Preservation is a key aspect in digitisation and for born digital content; preservation is the responsibility of cultural institutions, and to guarantee the European cultural heritage, a copy

should be archived at Europeana (a dark archive for protected works). They called for de-duplication to ensure that content is not proliferate in the archives, made specific recommendations about persistent identifiers.

Dwayne Buttler, University of Louisville Kentucky

- It's a big world after all ... legal and contract law is a big topic and even more so when you try to align these things international.
- Copyright is intended to develop creativity; contract is intended to ensure consideration. Managing copyright is about managing risk and possibility. It's almost impossible to stick to the letter of copyright law in the digital age, at least without creative use of the exceptions in ways that the law was never originally envisaged to cope with. So managing copyright risk is core to our operations and possibilities.
- Reproduction, distribution, preparation of derivatives, public performance and public display can be prevented in the US – and the long periods of copyright are being extended. Anything after around 1923 is basically not in the public domain. So we have inadvertently created a nation of law breakers, or at least citizens and organisations which have a creative relationship with exceptions which exist for fair use, libraries and archives, nature of the copyrighted work and the effect on potential market. There is a real stack of litigation and judicial opinions currently in the legal process.
- Copyright restrictions can be overcome where there is a contract (licence) between parties. A contract is intended to reflect a meeting of minds and express a licence to do something. But not everyone has a freedom to contract and too much licencing is quite possibly going to be a problem for digital preservation in the future.
- MetaArchive was in existence for three years before it actually had an agreement in place.

9. Further discussions

The conference continued for two more days but WK was not present. Discussions on these days included a session on the harmonisation of curricula and training and a follow on session on the Blue Ribbon Task Force 'Towards a Sustainable Digital Planet'. An official report of the event will be presented in due course by the organisers.

10. About this document

Version 1	Document initiated	23/05/2011	WK
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