



Early Lessons and Getting Started: Digital Preservation at the National Library of New Zealand

SUN Preservation and Archiving Special Interest
Group

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What we think we're doing 1

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Components of digital preservation:

- Storage
- Psychology of digital preservation
- Digital preservation processes/strategies
- This is only the beginning

Partnership 1

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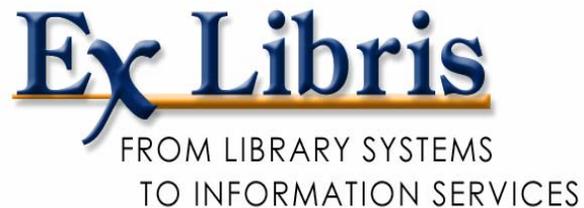
Partnership

We cannot do this
alone



Design & Build

Sun Centre
of Excellence



Partnership 2

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Peer review Group

What to do when
the business
(NLNZ) and the
vendor (Ex Libris)
can't agree on an
issue



Cornell University
Library



UNIVERSITY OF HELSINKI

University of Helsinki Libraries

Koninklijke Bibliotheek
Nationale bibliotheek van Nederland



National Library Board
Singapore



Scottish University of the
Year.



It's not just hardware and software

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Organisational readiness

Legislation and
strategies are not
sufficient

'No job will be
unchanged'

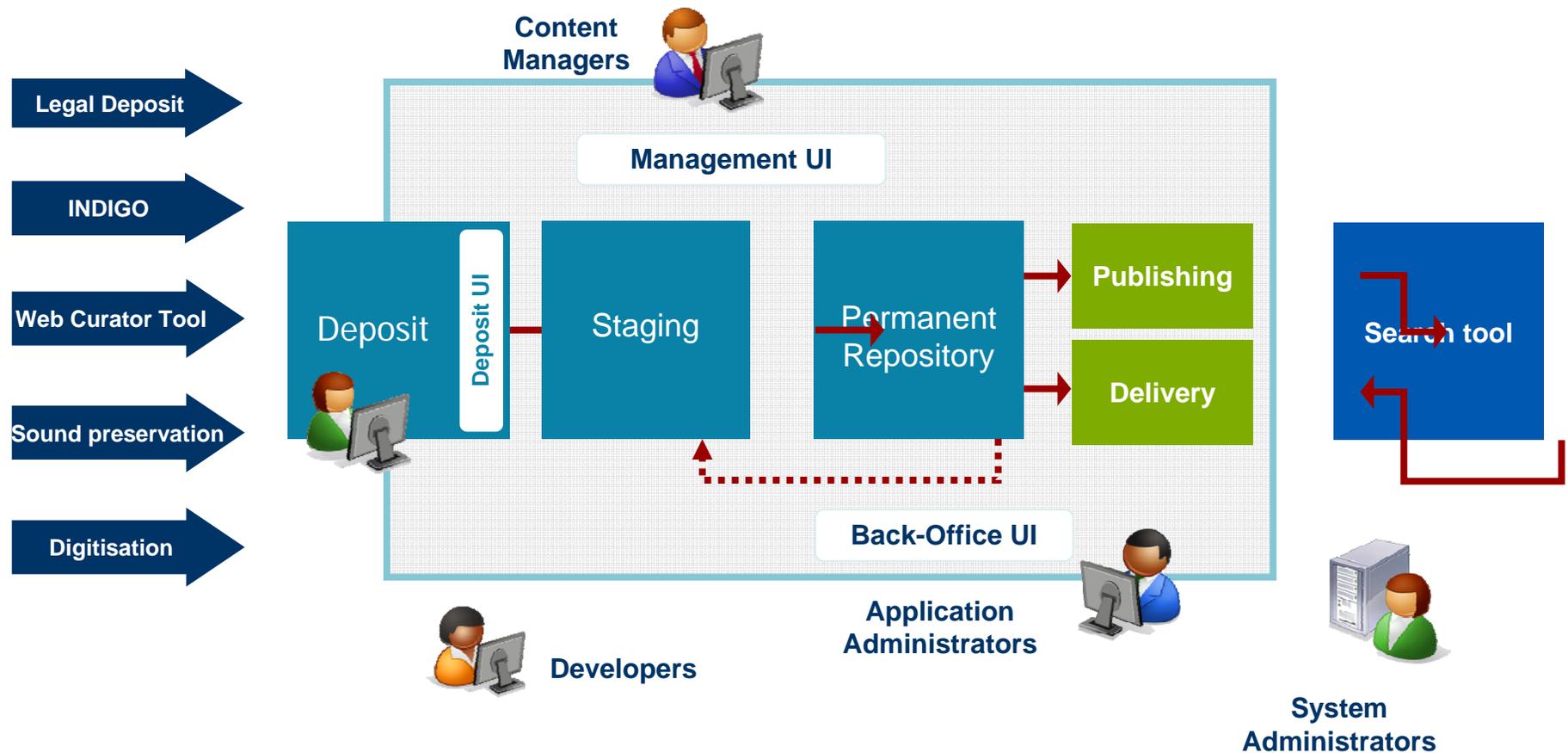
Chief Executive/
National Librarian
October 2007

Digital preservation requires interaction with all the organisation's processes and procedures -

- Business Processes
 - workflows, procedures and policies
- Capacity & Capability
 - resources and skills
- Performance Measures
 - reporting and measuring
- Internal Training
 - system & staff training
- Producer Management
 - service, marketing & training
- Business & Technical Support
 - between departments
- Communication
 - a constant

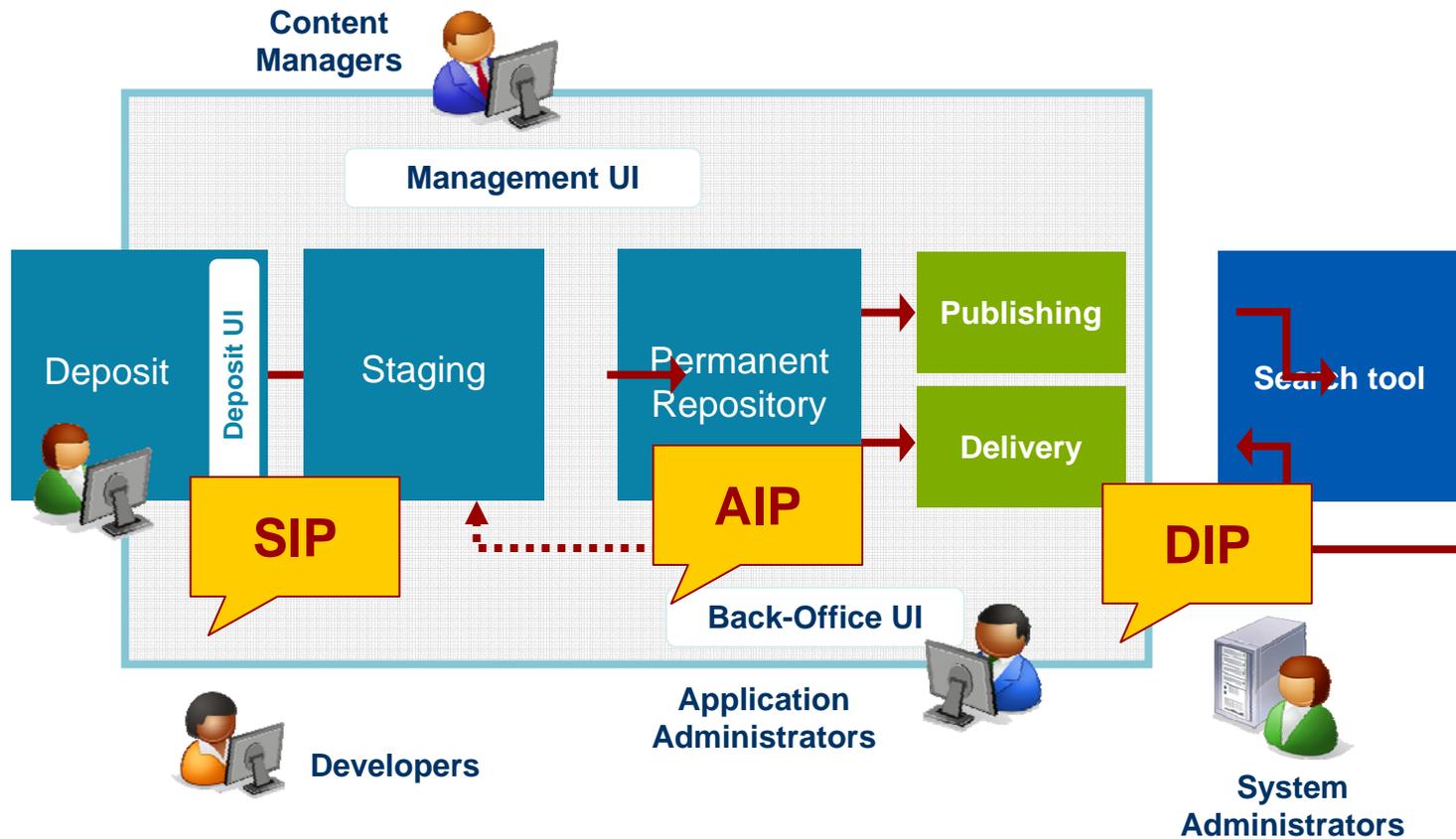
Digital Preservation System

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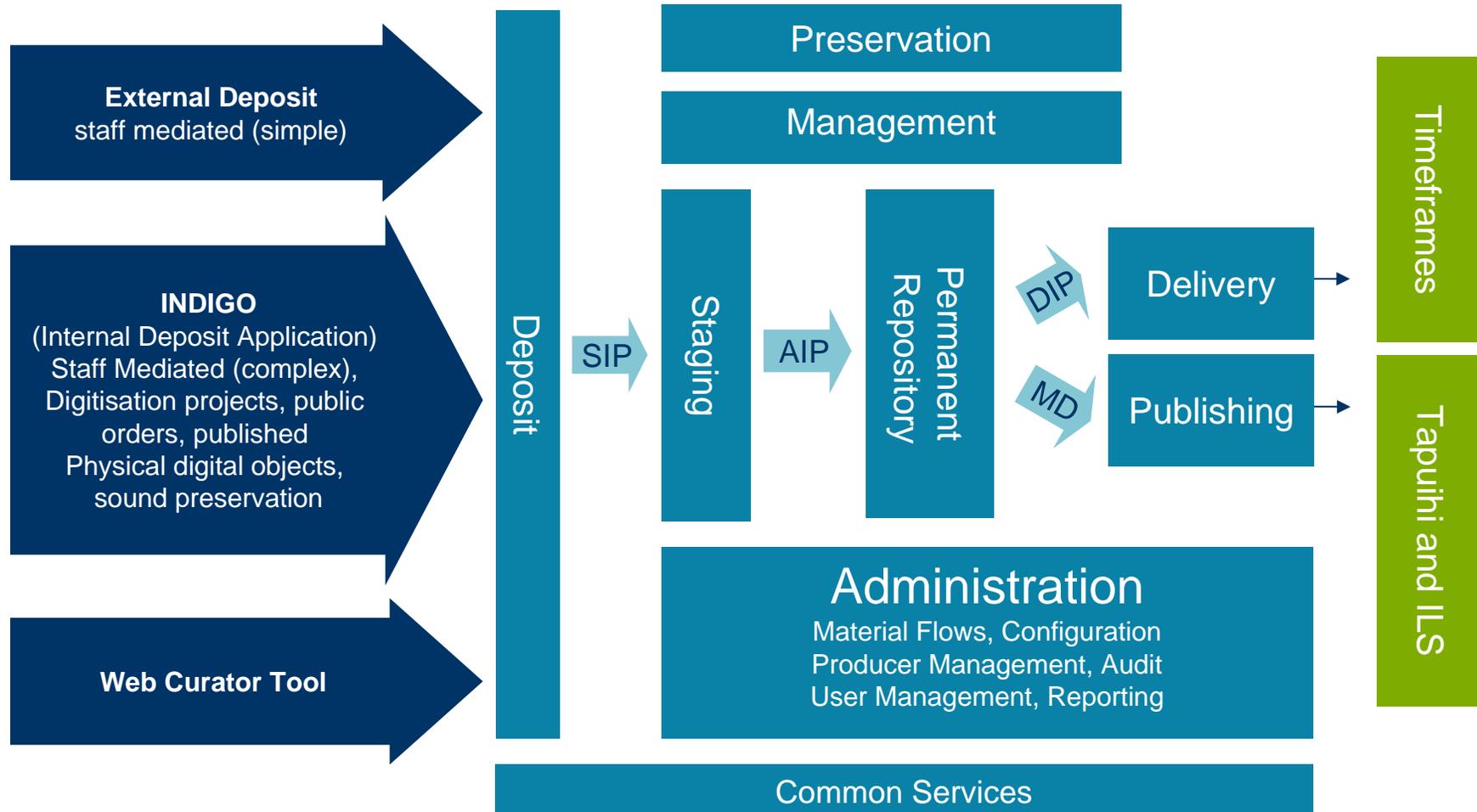
SIPs, AIPs & DIPs

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The NDHA

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NLNZ Approach (and everybody else's):

1. Identify formats
2. Characterize significant properties
3. Quantify risks
4. Take appropriate actions
5. Verify quality and authenticity of resulting objects

Risk assessment: Information resources

- Format registries
- Tools
- NLNZ format library
- Community consensus
- Institutional capabilities

Where's the risk work?

Proposed Solution:

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An Institutional Technology Profile (ITP)
containing:

- A Local Format Library
(for formats that are not in Pronom)
- An Application Library
(that records the Library's available tools)
- A Characteristics Library
(that documents the significant attributes that
can affect our ability to render digital objects)

The ITP Will Document:

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- Formats that can be rendered;
- Versions of formats that can be rendered;
- The particular characteristics within these versions that are supported (for example compression and colour encoding).
- Applications that can render variations of formats, version and characteristics.
- The sustainability of applications and formats.
- A timetable of anticipated obsolescence.

The logo for the National Digital Heritage Archive (NDHA) is located in the top left corner. It consists of the letters "NDHA" in a large, bold, white sans-serif font, enclosed within a white rectangular border. Below the letters, the full name "NATIONAL DIGITAL HERITAGE ARCHIVE" is written in a smaller, white, all-caps sans-serif font. The background of the logo area is a dark red color with a subtle, lighter red circular pattern.

NDHA

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Some introductory comments
on getting started in digital
preservation?

Strategic drivers

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What are the key drivers for your institution to look at a digital preservation programme?

It is important to have a clear discussion of the strategic drivers for digital preservation including:

- does your organisation have a long term preservation mandate?
- what is the nature of your digital collections?
- what is the extent/size of your digital collections now and in the future?
- what are your institutional policy requirements for digital preservation?
- what is the status of digital preservation within your institution?
- What is your available resourcing/staffing to implement/support digital preservation?
- what is your funding environment for digital preservation?

Business models

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What are the options available to you in determining an appropriate business model for digital preservation?

Business models and therefore costs may vary from institution to institution and may significantly influence the nature of a digital preservation programme:

- does your institution have a national/regional mandate?
- is there potential for a consortial arrangement?
- is there potential for revenue generation, eg for 3rd party hosting?

Defining and deciding

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When beginning a digital preservation programme it is important to understand what you want to achieve.

However:

- it is important to get started
- it is important not to allow what you don't know to dictate your approach to digital preservation
- it is not necessary to feel that you have to do everything at once, in fact it is not possible to do everything at once.

What we think we're doing

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Components of digital preservation

Storage
psychology
Processes/strategies

This is only the
beginning



Each of these is a substantial and necessary aspect of the overall digital preservation puzzle. However, NLNZ has concentrated primarily on issues related to provenance, context, authenticity and integrity. Phase 2 will develop and implement our thinking regarding risk management and preservation planning.

We have taken components of the digital preservation continuum and not attempted to implement a big bang system, which has allowed us to progress at a pace that suits our overall capability and capacity.

We also need to be mindful that what we do now may not necessarily have any longevity in the context of a sustainable digital preservation programme, ie today's solutions for digital preservation undoubtedly will not be tomorrow's solutions.

Deployment and implementation

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Deployment and implementation need to be undertaken with a view to available funding and staffing resources.

Critical project staffing includes:

- Project Manager (preferably high quality to manage overall implementation)
- Technical Lead (preferably internal resource with good knowledge of the infrastructure)
- Business Lead (preferably a champion from the business)
- Each of these should be supported by an appropriately resourced and sized team.

Deployment and implementation

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Deployment and implementation also need to take into account the materials to be preserved.

Determining which materials to be preserved in the first instance should begin with:

- A resource type where the parameters of the objects are well understood, eg the results of an internal digitisation program where all the specifications have been set by the institution.
- New resource types being added depending on need, learning complexity, internal capability/capacity etc.

Ongoing staffing

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It is not yet clear what ongoing resourcing will be required for digital preservation.

However, it is likely to vary from institution to institution.

NLNZ has created a new NDHA business unit comprising:

- Manager NDHA
- Preservation Policy Analyst
- Preservation Technical Analyst
- Rosetta Configuration Analyst
- Preservation Ingest Analyst

Because of the current emphasis on Phase 2 planning and execution we do not yet know whether this will be sufficient staffing for a digital preservation programme.

NDHA and Rosetta

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Rosetta is the engine
of our digital
preservation
programme.

The NDHA programme has been running since 2004.

For the first two years the project concentrated on developing business and functional requirements which were used to define what we thought digital preservation was.

These specifications are freely available to organisations interested in developing such documentation for their own purposes.

Rosetta is the central software component of the NDHA which we have been working with Ex Libris to develop since 2007.

This equates to over four years of requirements specification, technical specification and development behind the current status of Rosetta.

This is a substantial amount of sunk cost which does not need to be undertaken again.

Getting started

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So, getting started is
the key.

Given the newness of digital preservation as a discipline a combination of the above approaches would allow an institution to implement at their own speed and according to the funding and human resources available.

And it would provide the time window to undertake the strategic and policy planning to support the funding and resourcing of a sustainable digital preservation programme.



NDHA

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Some comments on business change and embedding digital preservation in the organisation

Business Change - Strategy

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The actual implementation successfully delivered a repository application capable of providing bit preservation for deposited items. It brought to light the deficiencies that exist in community format registries, identification, and validation utilities.

- Digital preservation will be at the centre of our organisation going forwards
- Need as high a level of staff buy-in as possible
- Worked with staff across the Library
- A particular focus on staff who would use the system as part of their daily work.

Business Change - Engagement

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The one thing all SMEs added was the knowledge of the need to build a collection as opposed to acquiring material. The knowledge of the need to interact with the CMSs and the knowledge of producer behaviour.

Very much enjoyed the opportunity to work with a different group of people, especially the contractors who brought a new dimension to NLNZ in terms of urgency and focus.

- Specialist 'subject matter experts' formally seconded to the project for up to 100% of their time for the duration of the project
- Business representatives engaged with the project to leverage specialist knowledge, eg mapping of current and design of future business processes
- Managers, Curators and Team Leaders engaged as managers of seconded staff and as key operational managers able to assess the level of buy-in to the project's objectives
- Library Review Group was set up to ensure an overall management perspective of the business impacts of the project.

Business Change - Deliverables

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In some cases it wasn't that a new process was required ... but rather that the NDHA uncovered basic flaws in operating procedures.

Basic methodologies have been extended to include digital material rather than completely new procedures developed. To a very large extent ... digital material is "just another format".

It has taught me that Testers ... have few tools available to them to do their job. Functional testing, as a discipline, lags far behind development in terms of tools / resources available.

- Input into requirements gathering and documentation
- Input into design, development and testing phases of the project
- Current and future process design
- Training and documentation design and delivery (using a 'Train-the-Trainers methodology)
- Producer management including training for some producers and usability review
- Identification, trial and implementation of performance measures
- Identification of capacity and capability issues and suggestions for their resolution.

Business Change – Organisational Structure

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It has articulated the need for a coherent and defined world view of digital content in the Library. I'm thinking here in terms of a collections policy overhaul. What stuff do we collect, why, when, etc.

- Some structural change to support a digital preservation programme, eg creation of NDHA business unit
- Management of the system and activation of digital preservation processes happens within the NDHA business unit
- Processing of digital material, eg ingest, processing, loading to the permanent repository etc occur in the responsible business units.

Business Change - Outcomes

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We have noticed that ..
e-material is resource
hungry; we are not
“acquiring” this material
as much as
“harvesting” material.

There is also a need
for a generally higher
level of skill in dealing
with this material as
opposed to analogue
material.

- A ‘no surprises’ policy kept the business apprised throughout four years of the project and managers were able to successfully manage business unit representation in the project.
- This has lead to a level of ownership and buy-in into the project that might not otherwise have eventuated.

Business Change - Benefits

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I am able to learn, understand and appreciate quite a lot about various aspects of digital preservation ... which I might not have even thought about 2 years ago ... why provenance events, why the use of descriptive data to “decorate” the entities being preserved ... why the “bit stream” analysis...

- Greater organisational capability
- Staff involvement in testing increased their expertise and ability to champion the system back in the business
- Business experts were able to ease the broader roll-out of the system allowing greater concentration on bug identification, workflow inconsistencies, format problems, types of content we need to address rather than training, getting to grips with a new system etc
- Indirect benefit of staff from different units working together and understanding the other’s way of working.

Business Change – This is Still just the beginning

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It wasn't until we had access to the websites in the NDHA that we realised we had to refine our quality checks ... we discovered some content we thought was archived wasn't necessarily archived after all ... so the actual end-to-end process in production has improved the quality of our archived websites.

The greatest strength of the project is that it provided a clear objective ... along with a definition of what preservation means.

Participation in the NDHA project has caused me to re-evaluate previously held notions and interpretations of preservation concepts.

As one of the few working preservation repositories we are in the position of using community tools “in anger” and so are exposed to their deficiencies in a way that is not obvious when playing with them in an ad-hoc manner.

The actual implementation successfully delivered a repository application capable of providing bit preservation for deposited items. It brought to light the deficiencies that exist in community format registries, identification, and validation utilities.

Securing the Future

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Thank you

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