Preservation Assessment Readiness

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About me

- Ed Pinsent, Digital Archivist at ULCC since 2004
- Teaches the DPTP
- Offers consultancy in digital preservation
- Background as archivist / records manager
- Experience in web-archiving, repository management, metadata projects, migration, digitisation, project management etc.
- See more at digital archives blog http://dablog.ulcc.ac.uk/

Plan

- What is Assessment Readiness?
- Using the DPCMM
- Other assessment models / toolkits / standards
- How to pick the best one for your organisation and needs
- Next steps…towards embedding
- Advertisement for the DPTP

What is Assessment Readiness?

- Way of measuring your organisation's **capability** to do digital preservation
- Often measured using a benchmark / framework
- Helps you:
  - Determine where you are, and where you want to be
  - Identify where you are strong / weak
  - Get to your desired optimal position
  - Identify things you could do, and in which areas
  - Begin a programme of incremental improvements
  - Chart progress and measure continual improvement

Using DPCMM

- Digital Preservation Capability Maturity Model (DPCMM), Dollar & Ashley 2013 (http://www.savingthedigitalworld.com/)
- DPCMM assesses your *capability* for supporting digital preservation…
- And measures how *mature* that capability is
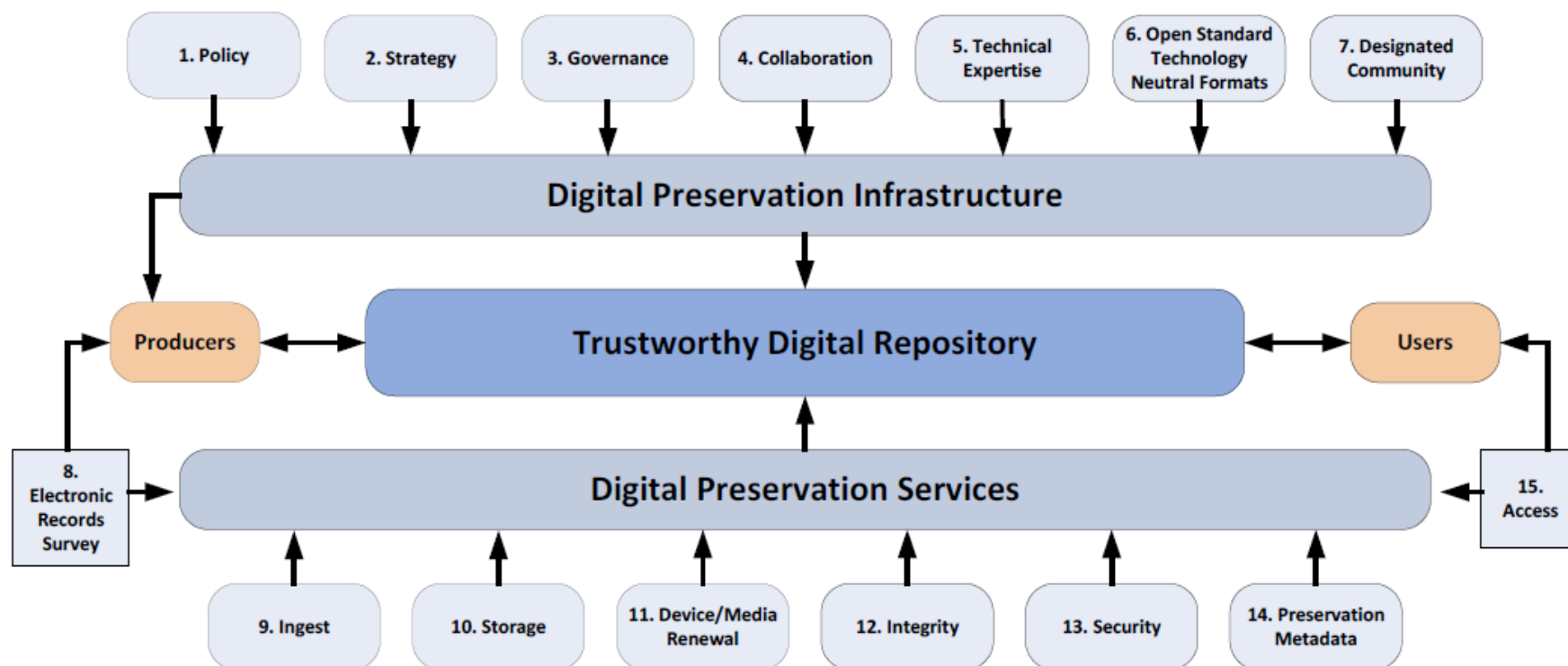
Assess 15 core areas of preservation work

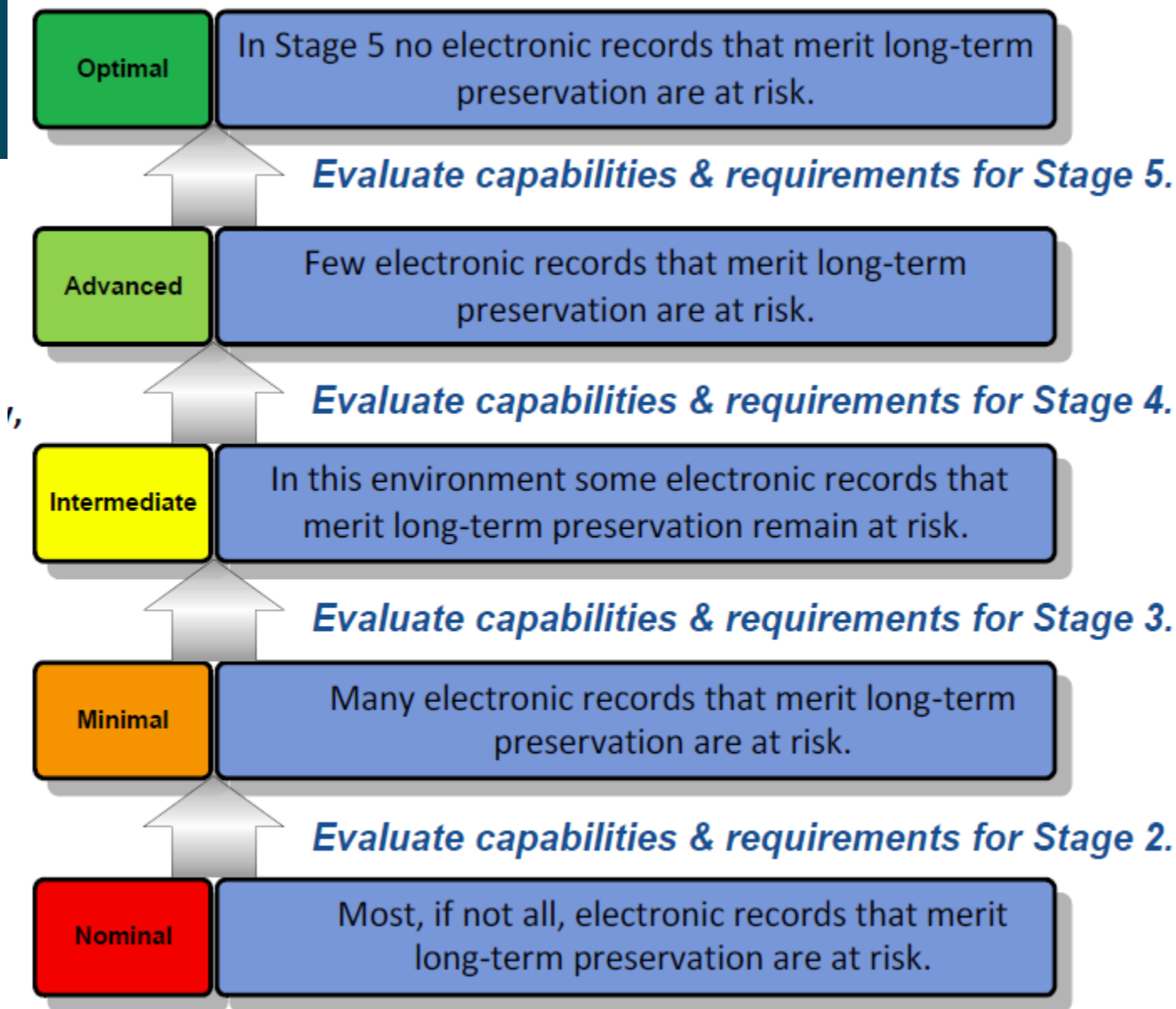Figure 2. Digital Preservation Capability Maturity Model

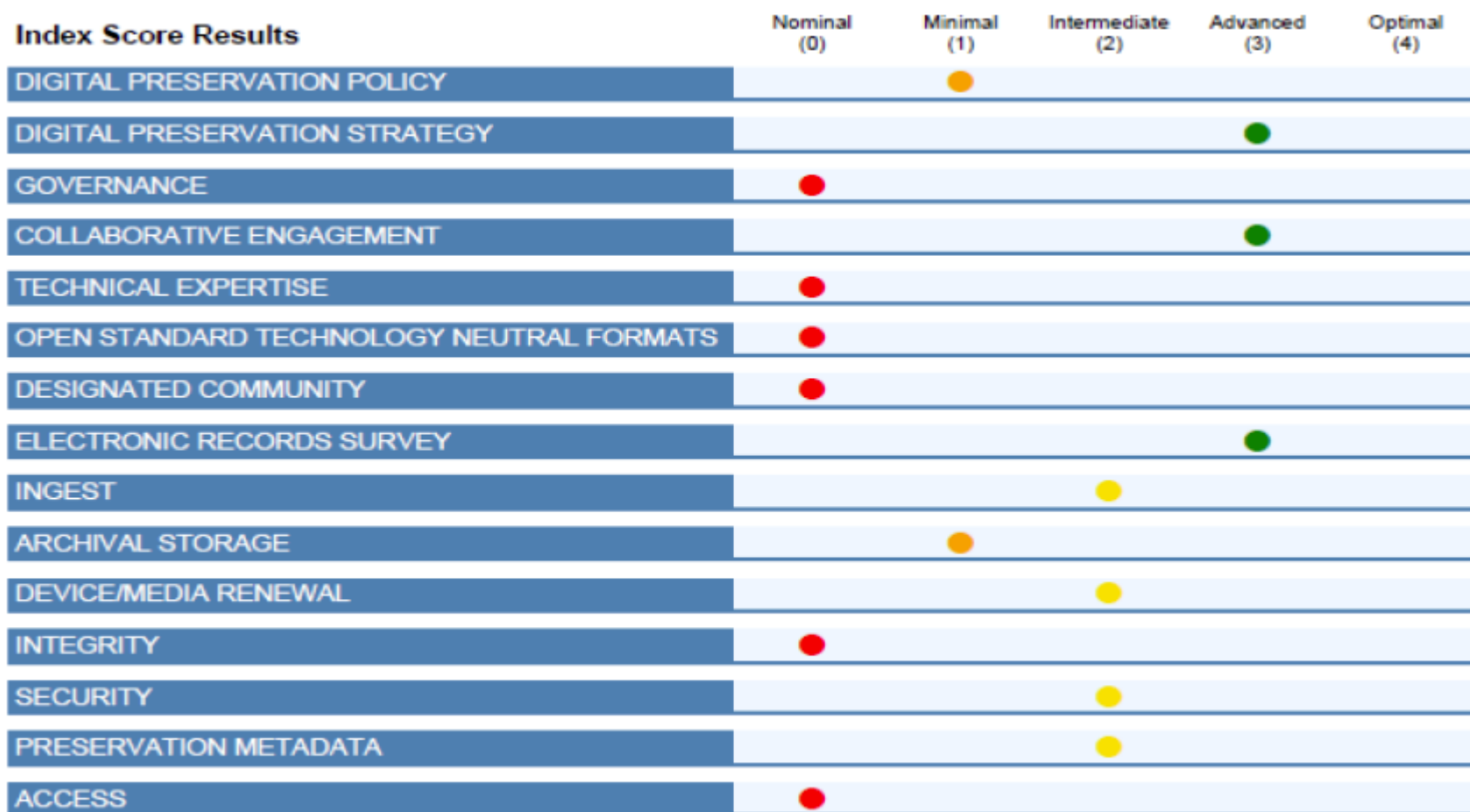Figure 1. Stages of Digital Preservation Capability Maturity

Score Example

Index Score Results	Nominal (0)	Minimal (1)	Intermediate (2)	Advanced (3)	Optimal (4)
DIGITAL PRESERVATION POLICY		🟠			
DIGITAL PRESERVATION STRATEGY				🟢	
GOVERNANCE	🔴				
COLLABORATIVE ENGAGEMENT				🟢	
TECHNICAL EXPERTISE	🔴				
OPEN STANDARD TECHNOLOGY NEUTRAL FORMATS	🔴				
DESIGNATED COMMUNITY	🔴				
ELECTRONIC RECORDS SURVEY				🟢	
INGEST			🟡		
ARCHIVAL STORAGE		🟠			
DEVICE/MEDIA RENEWAL			🟡		
INTEGRITY	🔴				
SECURITY			🟡		
PRESERVATION METADATA			🟡		
ACCESS	🔴				

Figure 4. Aggregated Digital Preservation Index Score for a U.S. State Archives

6. Formats

Level	Capability Description
0	The RM/Archives unit has not yet adopted any open standard technology (OS/TN) file format as a digital preservation format.
1	The RM/Archives unit has adopted at least one OS/TN file format as a digital preservation format.
2	The RM/Archives unit has adopted at least three OS/TN formats as digital preservation formats.
3	The RM/Archives unit has adopted at least five open standard technology neutral formats as digital preservation formats for text, spreadsheets, scanned images, vector graphics, digital photos, audio, video, and web pages and and conducts an annual review of the sustainability of OS/TN file formats for possible future use.
4	The RM/Archives unit has adopted at least ten OS/TN neutral formats as digital preservation formats and continuously monitors the emergence of new OS/TN file formats and adopts them as appropriate for use as digital preservation formats.

Other Maturity Models

- Library of Congress Levels
- Cornell's 3 legs / 5 stages
- AIDA and CARDIO
- DRAMBORA
- Adrian Brown's maturity model
- TRAC / TDR and other audit standards (see William's module)
- Pardo, Becker, Tessella…

Library of Congress Levels

Table 1: Version 1 of the Levels of Digital Preservation

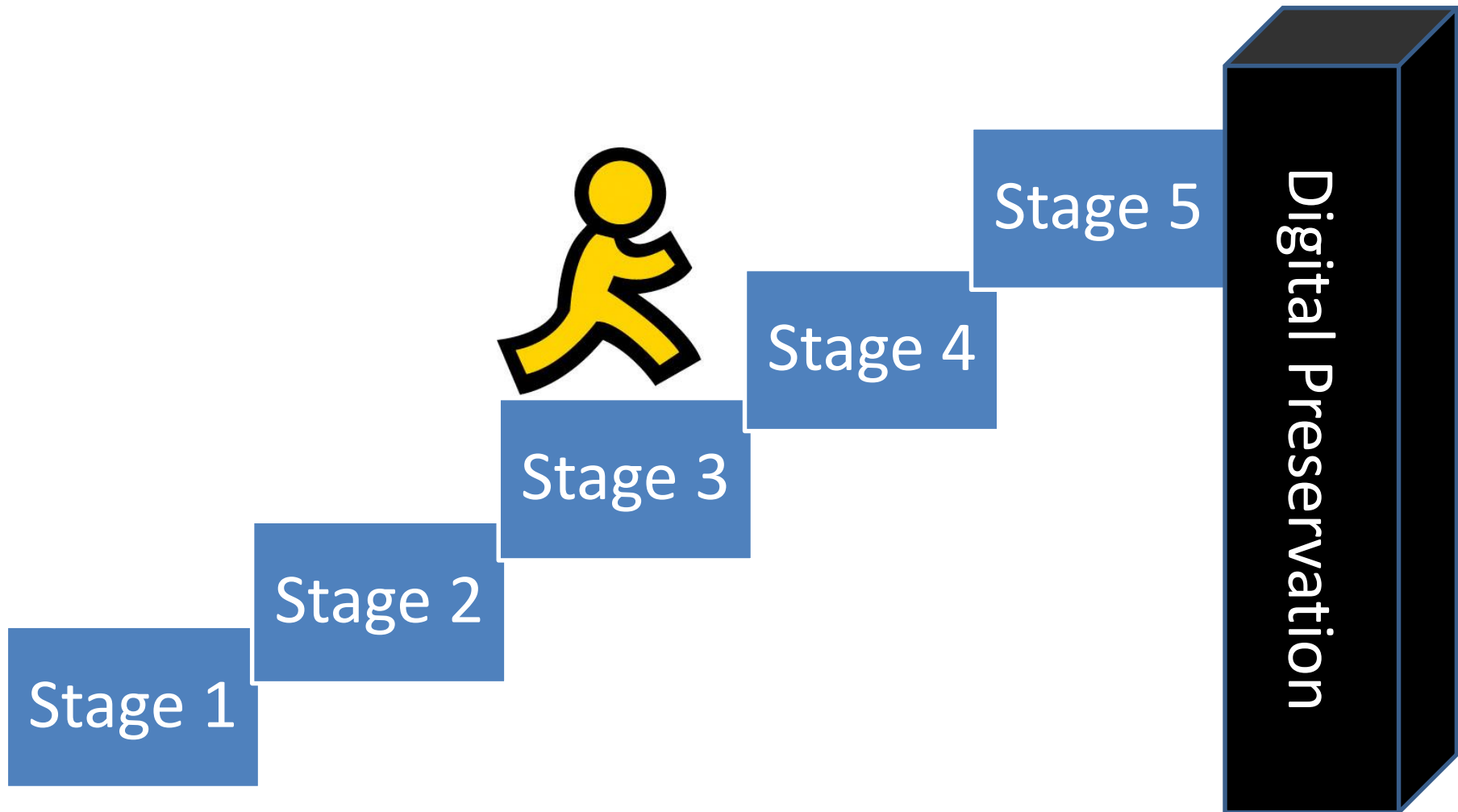|	Level 1 (Protect your data)	Level 2 (Know your data)	Level 3 (Monitor your data)	Level 4 (Repair your data)
Storage and Geographic Location	- Two complete copies that are not collocated - For data on heterogeneous media (optical discs, hard drives, etc.) get the content off the medium and into your storage system	- At least three complete copies - At least one copy in a different geographic location - Document your storage system(s) and storage media and what you need to use them	- At least one copy in a geographic location with a different disaster threat - Obsolescence monitoring process for your storage system(s) and media	- At least three copies in geographic locations with different disaster threats - Have a comprehensive plan in place that will keep files and metadata on currently accessible media or systems
File Fixity and Data Integrity	- Check file fixity on ingest if it has been provided with the content - Create fixity info if it wasn't provided with the content	- Check fixity on all ingests - Use write-blockers when working with original media - Virus-check high risk content	- Check fixity of content at fixed intervals - Maintain logs of fixity info; supply audit on demand - Ability to detect corrupt data - Virus-check all content	- Check fixity of all content in response to specific events or activities - Ability to replace/repair corrupted data - Ensure no one person has write access to all copies

Cornell's five stages

1. **Acknowledge**: Understanding that digital preservation is a local concern;

2. **Act**: Initiating digital preservation projects;

3. **Consolidate**: Seguing from projects to programs;

4. **Institutionalize**: Incorporating the larger environment; and

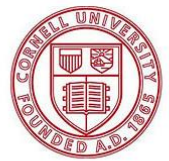5. **Externalize**: Embracing inter-institutional collaboration and dependency.
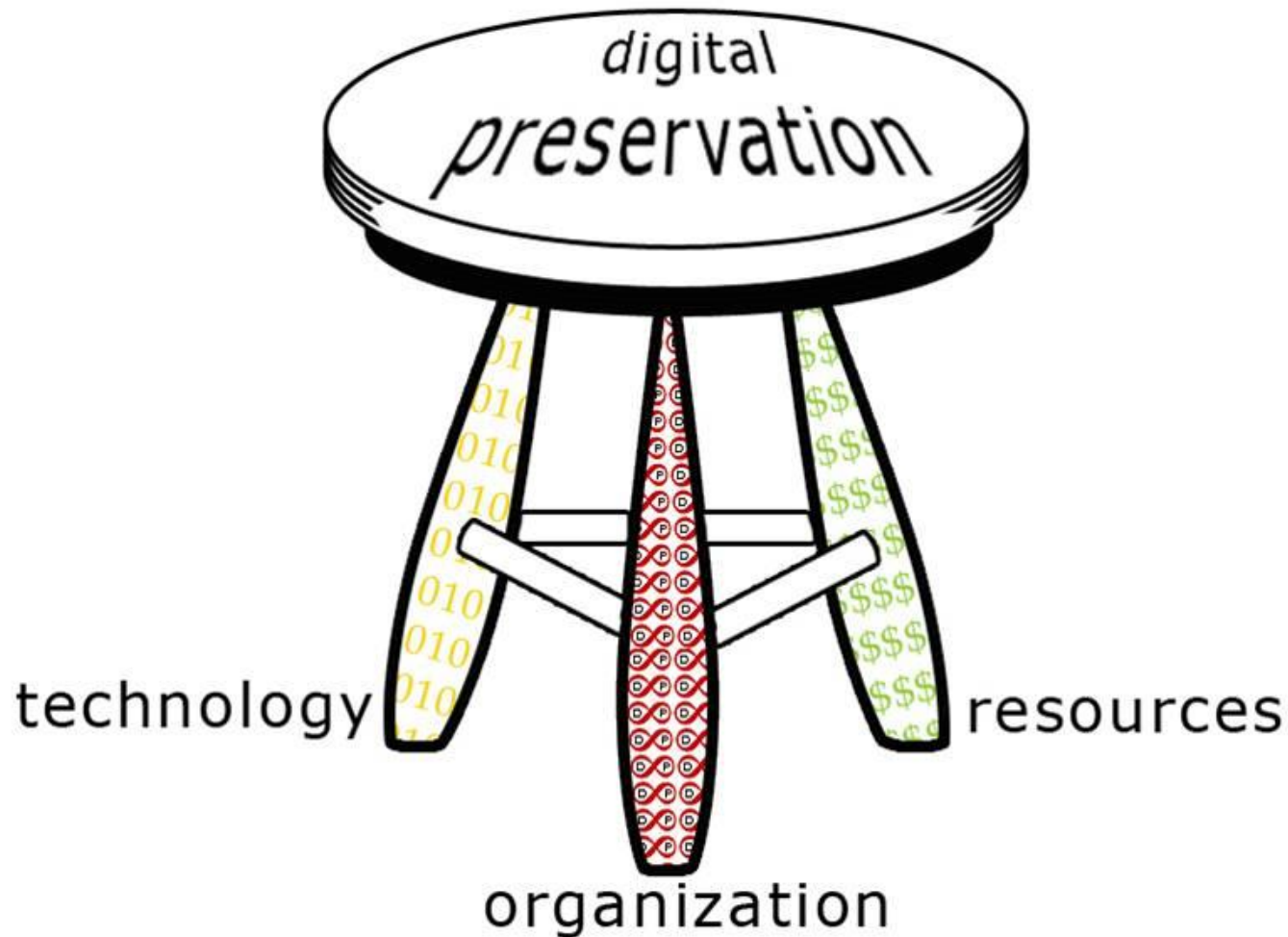
"A staircase, not an unassailable wall"

Stage 1

Stage 2

Stage 3

Stage 4

Stage 5

Digital Preservation

Cornell's three legs

digital *preservation*

technology

organization

resources

Cornell University

AIDA

Assessment 1: Organisation Leg

	Level of implementation				
	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Organisation Element 01: Mission statement	No mission statement relating to the management / creation of digital assets.	Digital asset management is on the agenda.	A mission statement is in development.	Mission statement is written and fully reflects institutional commitment to ownership of digital assets, their management and their creation.	Mission statement is published, accessible to others, and externally recognised.
INSTITUTION: Indicators / exemplars	Institution relies on departments to identify and manage their own digital assets. "If a mission statement is confirmed not to exist, then it is something we would press for."	Issues are discussed at senior management level, recognising issues that will arise as a result of changing practice. Staff are being consulted and options explored. "We have a variety of policies relating to aspects of digital asset management but no unified policy or mission statement on digital asset management." "There is a recognition of the importance of informational assets but a lack of a coordinated response to managing them."	Mission statement exists, but is not widely communicated within the institution. "There are various policies (e.g. records management, intellectual property, information strategy, institutional repository) but they are not always disseminated or enforced."	Statement is communicated internally.	Mission statement is used and copied as an exemplar of good practice nationally or internationally.
DEPARTMENT / COLLECTION: Indicators / exemplars	Departments identify and manage their own digital assets. Low awareness amongst staff and misunderstandings are common.	"Departmental and individual freedom is high, especially in academic departments, so things are dependent on local practice, individual effort and research funding requirements."	"There is an awareness of the value of certain sets of data (e.g. student and staff records) which have strict policies dealing with creation, access and retention."	Mission statement is written and fully reflects a departmental commitment to ownership of digital assets, their management and their creation.	

http://aida.jiscinvolve.org/wp/

DRAMBORA

1. Mandate & Commitment to Digital Object Maintenance

2. Organisational Fitness

3. Legal & Regulatory Legitimacy

4. Efficient & Effective Policies

5. Adequate Technical Infrastructure

6. Acquisition & Ingest

7. Preservation of Digital Object Integrity, Authenticity & Usability

8. Metadata Management & Audit Trails

9. Dissemination

10. Preservation Planning & Action
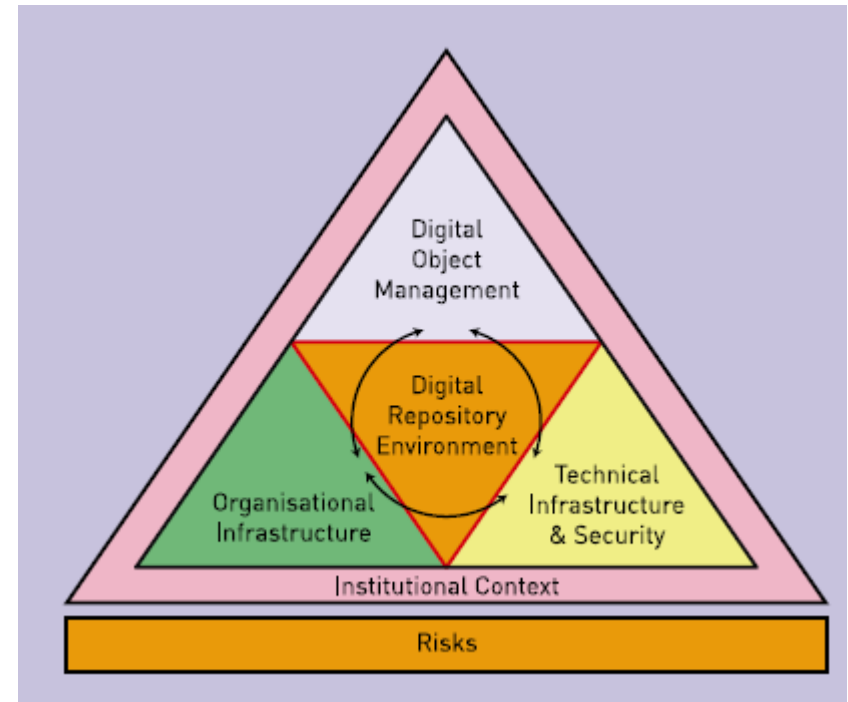
Process Perspectives

Process Perspective	Definition
A - Organisational viability	Governance, organisational structure and resourcing of the repository, including financial and staff management.
B - Stakeholder engagement	Processes to engage with stakeholders within and external to the repository, including content depositors and users.
C - Legal basis	Management of privacy, FOI, contractual, licensing, and other legal rights and responsibilities.
D - Policy framework	Policies, strategies, and procedures which govern the operation and management of the repository.
E - Acquisition and ingest	Processes to acquire and ingest content into a repository.
F - Bitstream preservation	Processes to ensure preservation at the bitstream level of all stored content over time.
G - Logical preservation	Processes to ensure the continued accessibility of the logical content over time.
H - Metadata management	Processes to create, manage and update all metadata required to support management and use of the repository.
I - Dissemination	Processes to enable discovery and dissemination of stored content within the designated user community.
J - Infrastructure	Physical and technical infrastructure, including security, required to support the repository.

HOUSES OF PARLIAMENT
PARLIAMENTARY ARCHIVES

- **Why** do you want to assess your capability?
  - What sort of benchmark do you intend to measure yourself against?
  - Do you want peer-reviewed assurance that you're doing a good job?
  - Do you want certification?
  - Are you only interested in risks?

- **How much** of the organisation will you assess?
  - Just the IT? The entire organisation?
- What do you expect to **gain** from it?
  - Leverage for business case?
  - Strategic planning?
  - Action plan for improvement?
- What will you do **next**?

How assessment can help you move forward

- Make internal improvements in your team
- Make improvements in the organisation
- Identify quick wins / changes you can make easily
- Improve services for users
- Use results to help spend money wisely / make targeted improvements
- Use results as leverage for a business case

- Use assessment readiness as one part of your strategy

Use cases   +   business case   +   maturity assessment >   **preservation plan**

Conclusion

- There are many models (with some common ground)
- An assessment takes effort, time and money, SO:
  - Plan for assessment / audit
  - Pick approach / benchmark / standard that's right for you
  - Use the results, in conjunction with other strategies

Advertisement

- The award-winning Digital Preservation Training Programme now offers two levels of learning
  - Beginner Course (2 days) "An Introduction to Digital Preservation"
  - Intermediate Course (3 days) "The Practice of Digital Preservation"
- Aligned with DigCurv principles
- Next courses
  - 24-25 Nov 2014
  - 9-11 Dec 2014

http://www.dptp.org

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Citations / references

- DPCMM: http://www.savingthedigitalworld.com/
- Library of Congress NDSA Levels: http://www.digitalpreservation.gov/ndsa/activities/levels.html
- Cornell University 5 Stages: http://bit.ly/1xVeFMu
- AIDA: http://aida.jiscinvolve.org/wp/
- CARDIO: http://cardio.dcc.ac.uk/
- DRAMBORA: http://www.repositoryaudit.eu/
- Adrian Brown's model: http://web.stanford.edu/group/dlss/pasig/PASIG_April2011/Day2/0900-adrian-brown-362563.pdf
- Jefferson Bailey: http://www.jeffersonbailey.com/i-review-6-digital-preservation-models-so-you-dont-have-to/