



**From parchment to podcasts:
developing digital preservation
services at three UK national bodies**

Adrian Brown

Director of the Parliamentary Archives, UK

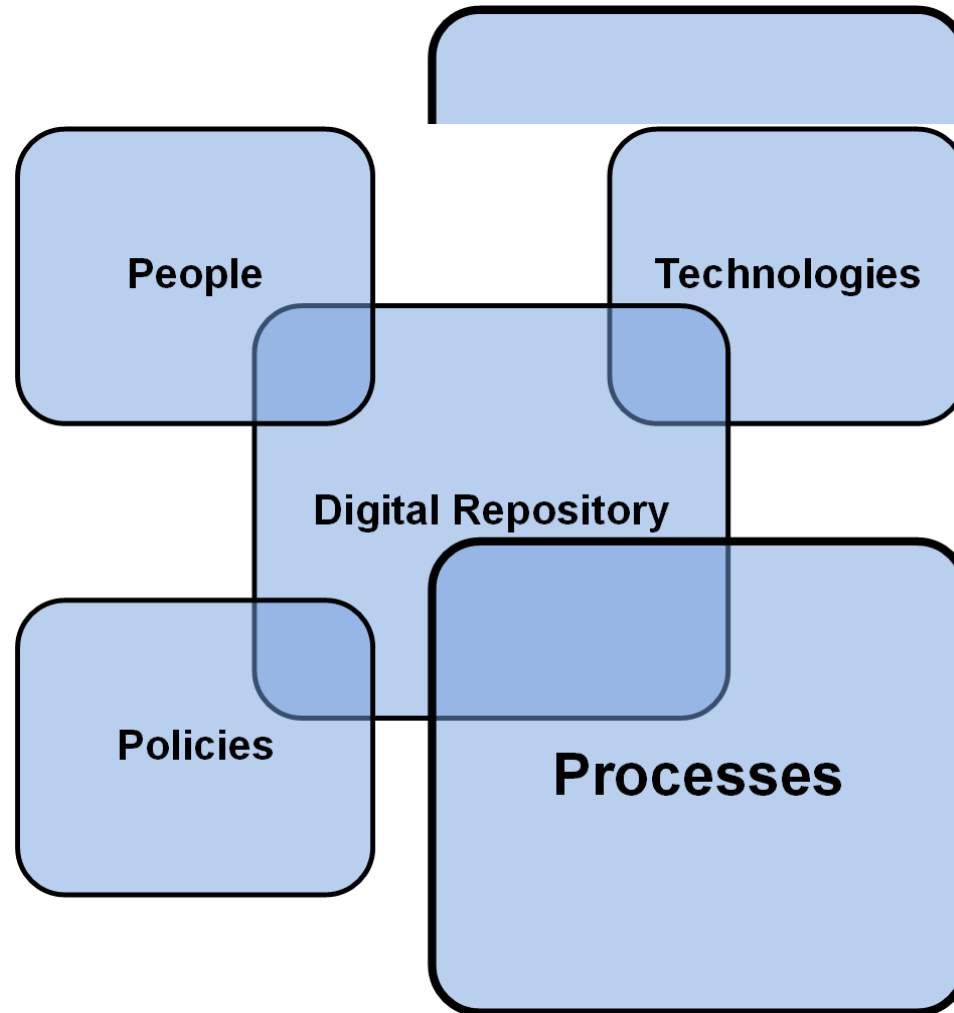
Graz 2023

A Tale of Four Repositories

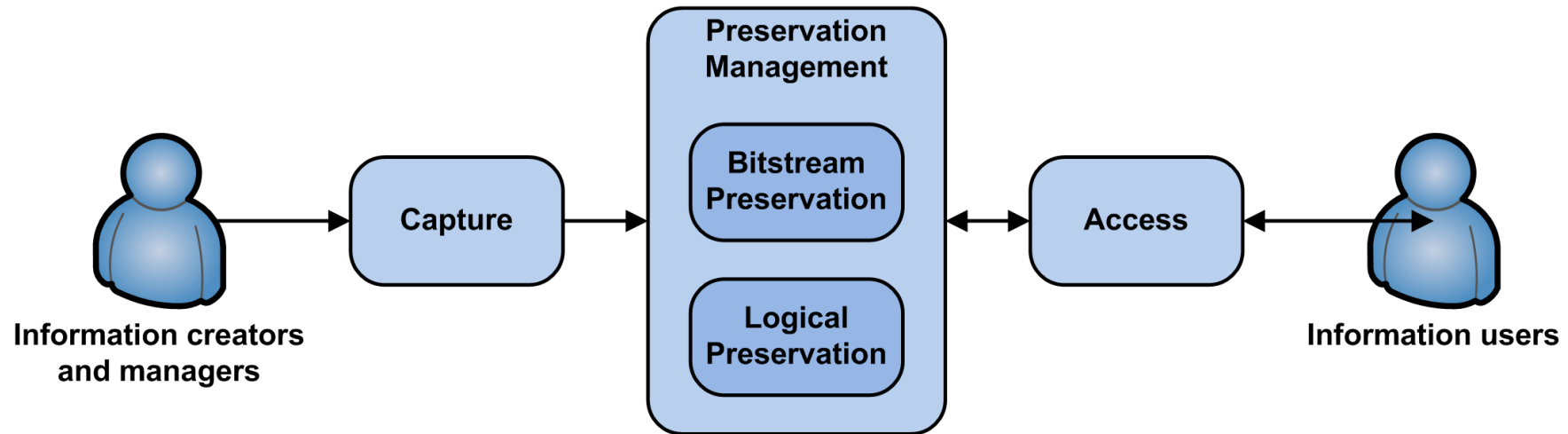
- Repositories past, present and future
- Getting started – first steps
- Key lessons

The set of actions required to maintain digital information in an accessible and authentic form, for as long as required for business purposes and across changing technical environments

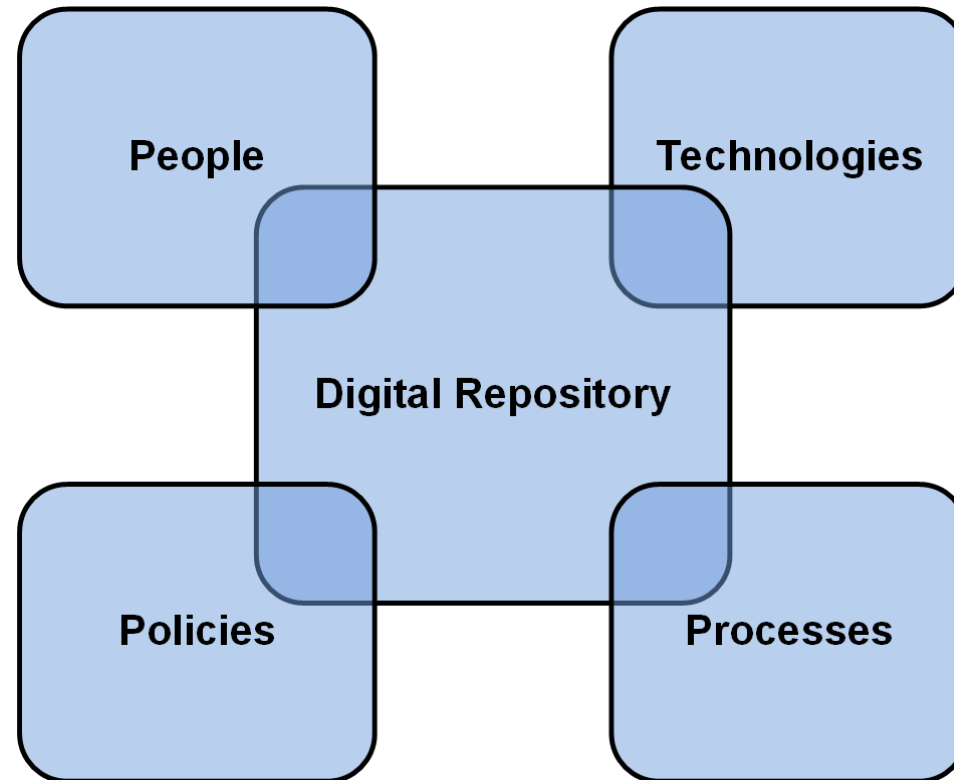
Digital preservation: the components



Processes

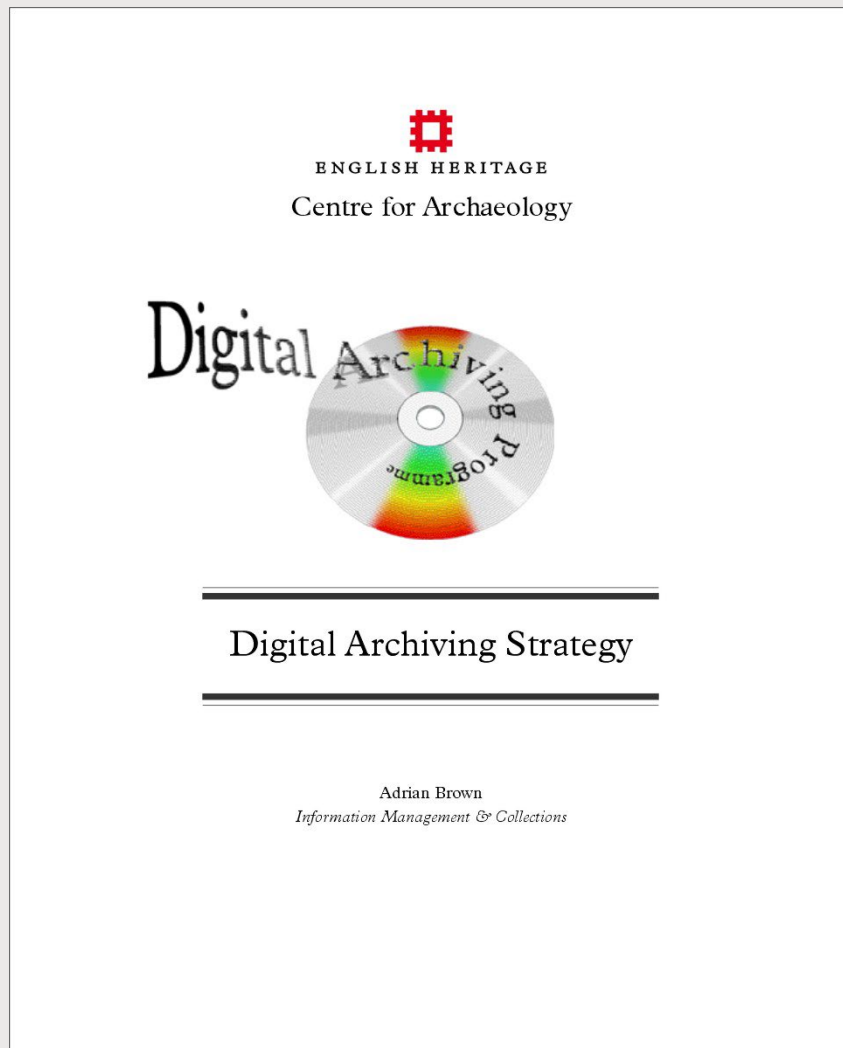


Digital preservation: the components



Repositories past

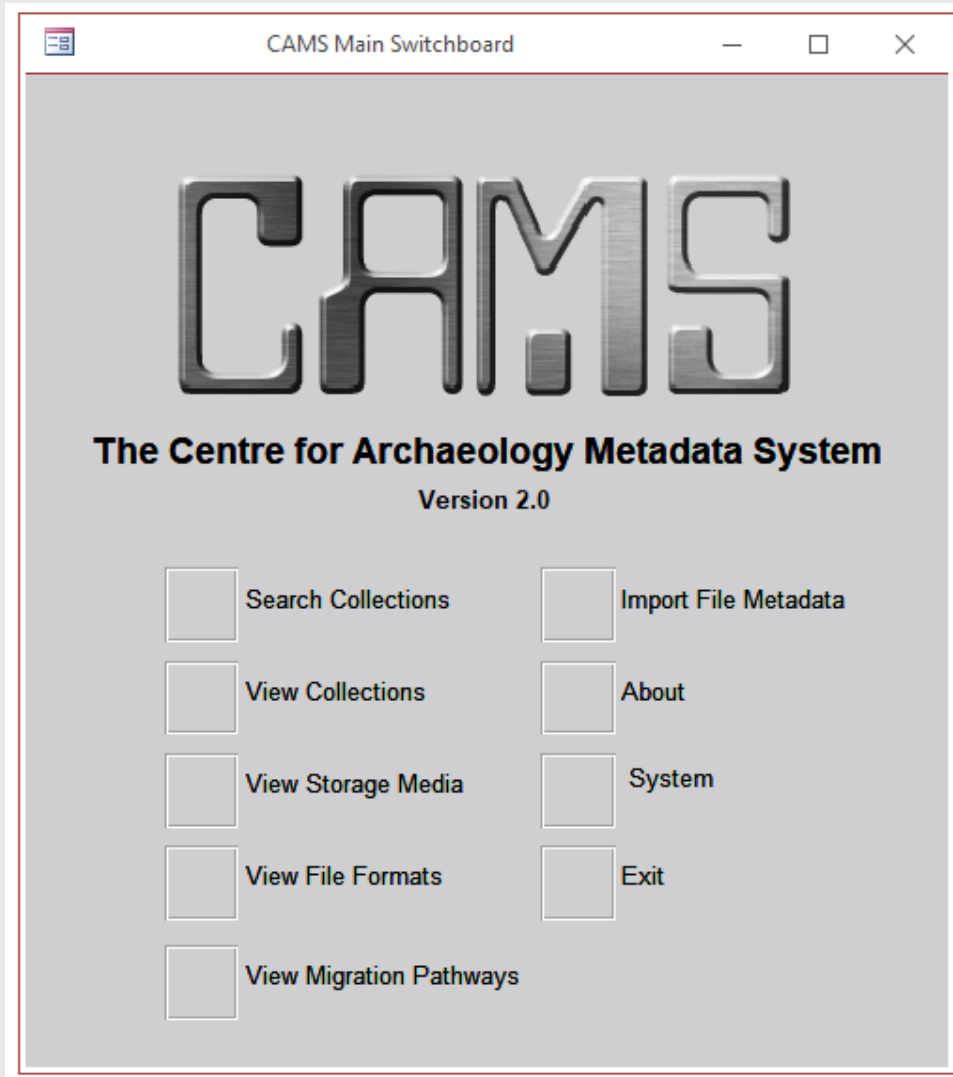
Centre for Archaeology (CAMS)



Context

- Developed in 2000
- English Heritage's first digital repository
- Managing digital archaeological archives

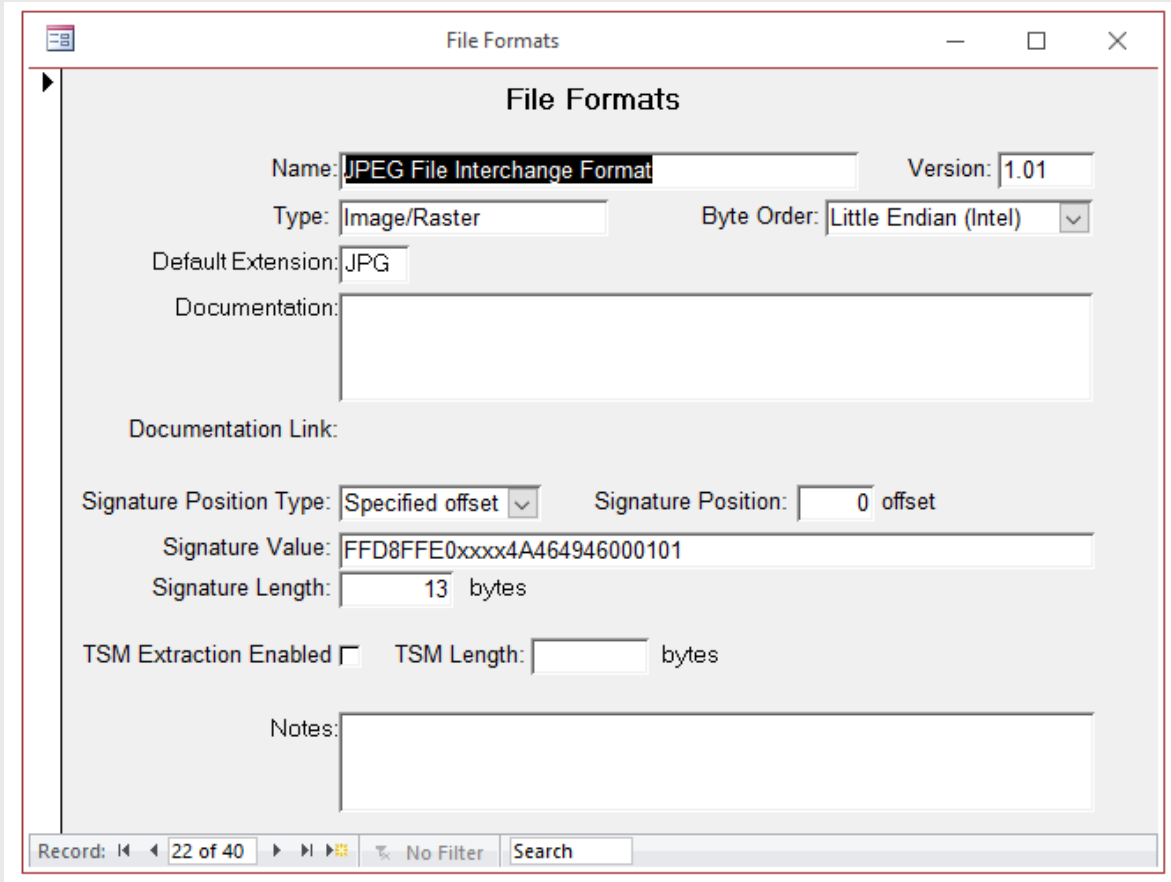
Centre for Archaeology (CAMS)



Development and resources

- One-person team (me!)
- No budget
- Minimal IT support
- Bespoke in-house

Centre for Archaeology (CAMS)



The screenshot shows a window titled "File Formats" with a search bar at the top. The main content area displays the configuration for the "JPEG File Interchange Format". The fields are as follows:

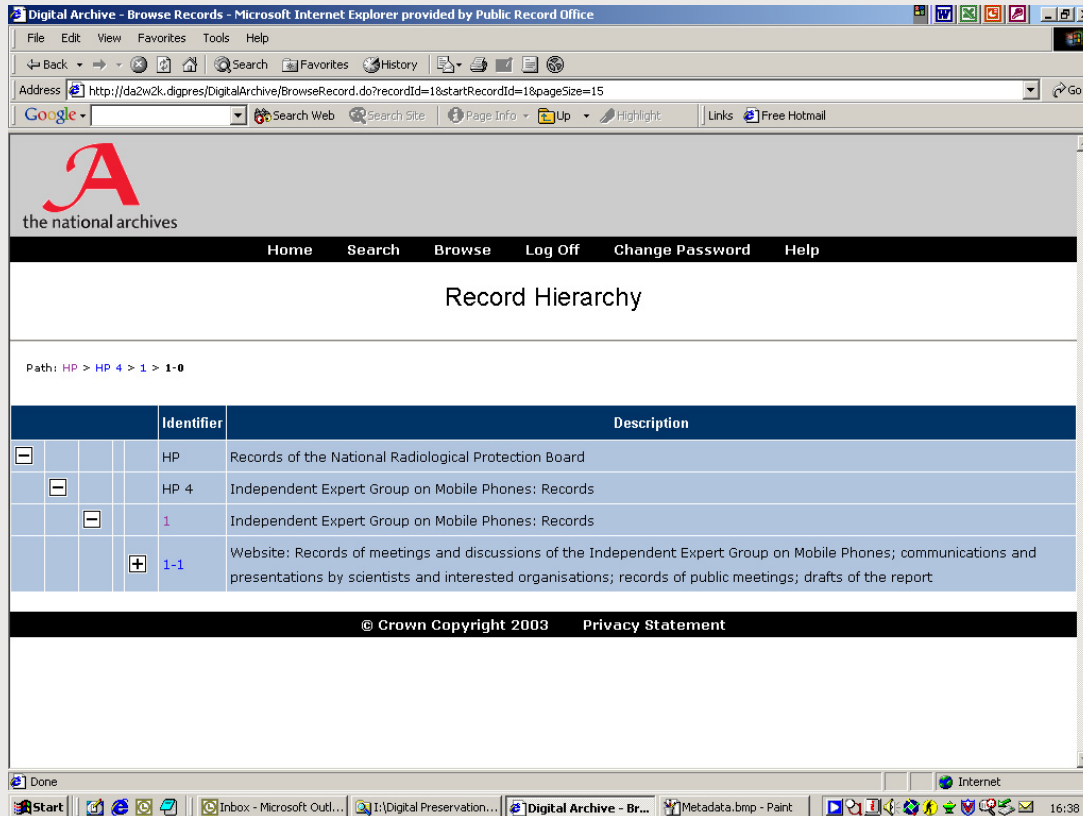
- Name: JPEG File Interchange Format
- Version: 1.01
- Type: Image/Raster
- Byte Order: Little Endian (Intel)
- Default Extension: JPG
- Documentation: (empty text area)
- Documentation Link: (empty text area)
- Signature Position Type: Specified offset
- Signature Position: 0 offset
- Signature Value: FFD8FFE0xxxx4A464946000101
- Signature Length: 13 bytes
- TSM Extraction Enabled:
- TSM Length: (empty text box) bytes
- Notes: (empty text area)

At the bottom of the window, there is a status bar with the text "Record: 22 of 40", a "No Filter" button, and a search input field.

Approach

- Some automation
- Included prototype format registry and characterization tools
- Service model - focused on ingest
- Assumed technology obsolescence as key risk and migration as key solution
- Minimal end-user access
- Dedicated offline storage: CD and DLT tape
- Based on mainstream IT infrastructure: MS Access database

The National Archives (SDB)



the national archives

Home Search Browse Log Off Change Password Help

Record Hierarchy

Path: HP > HP 4 > 1 > 1-1

	Identifier	Description
<input type="checkbox"/>	HP	Records of the National Radiological Protection Board
<input type="checkbox"/>	HP 4	Independent Expert Group on Mobile Phones: Records
<input type="checkbox"/>	1	Independent Expert Group on Mobile Phones: Records
<input checked="" type="checkbox"/>	1-1	Website: Records of meetings and discussions of the Independent Expert Group on Mobile Phones; communications and presentations by scientists and interested organisations; records of public meetings; drafts of the report

© Crown Copyright 2003 Privacy Statement

Context

- Developed in 2003
- The UK National Archives' first digital repository
- Managing digital public records

The National Archives (SDB)



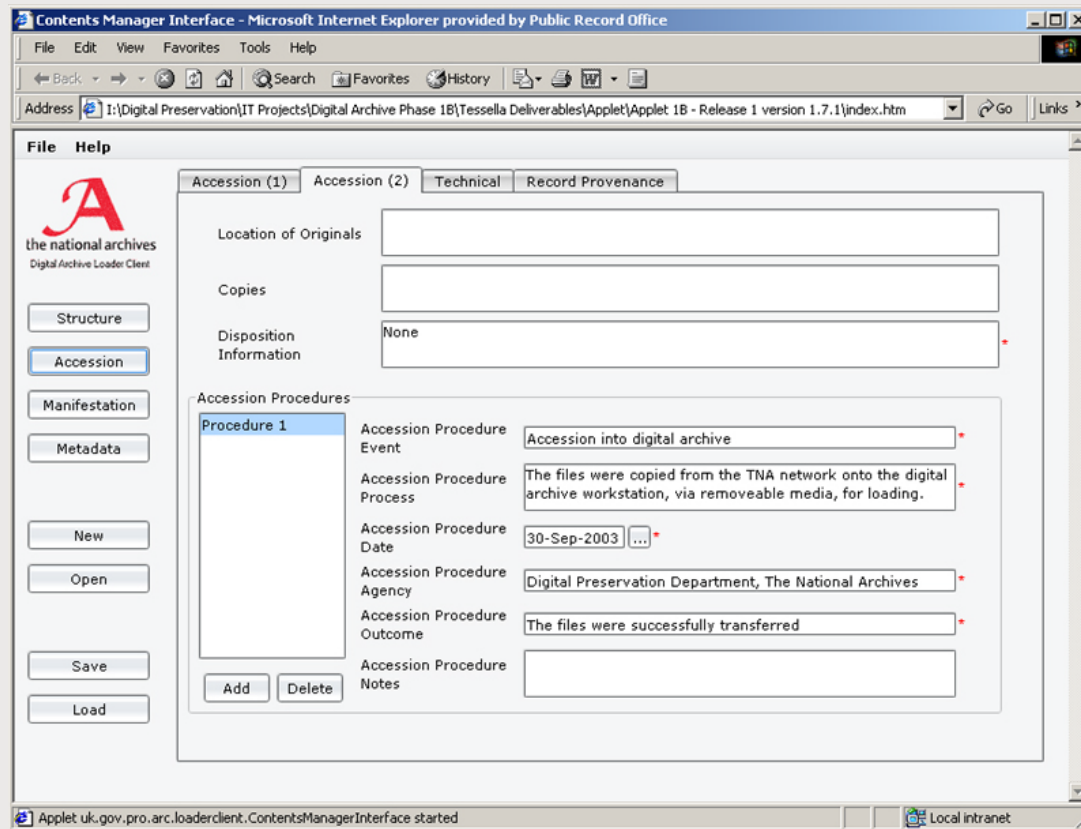
The screenshot shows the 'Digital Archive' interface for 'the national archives'. The page title is 'Record Reference JS 5/12 (System ID 69-4)'. Below the title are navigation links: 'Browse record hierarchy', 'Edit accession', 'Download current record', and 'Parent accession JS 5 [Browse hierarchy]'. A secondary navigation bar includes 'Record', 'Manifestations', 'Associated Files', and 'Accession'. The main content area is titled 'Record metadata' and contains a table of fields:

Record metadata	
Record Release Date	01-Apr-2003
Record Opening Date	25-Mar-2003
Closure Status	0 - Open Record, Open Description
Closure Type	1 - Open Immediately
Security Category	Open
Record Type	Text Document
Language	English
Record Declaration Date	25-Mar-2003
Scope and Content	Agenda for the fourth meeting
Former Reference - External	floppy_95a\CMITT95WPCAG95.4
PROCAT Reference	JS 5/12
Piece	12
Record Series	JS 5 - Further Education Funding Council: Widening Participation Committee (Kennedy Committee): Agenda, Minutes and Papers

Development and resources

- Dedicated specialist team
- Significant budget
- In-house IT support
- SDB - bespoke commercial, then licensed for resale
- PRONOM/DROID – open source, community services

The National Archives (SDB)



Approach

- Maximum automation
- Included full technical registry (PRONOM) and characterization tools (inc DROID)
- Holistic solution – ingest to access
- Assumed technology obsolescence as key risk and migration as key solution
- Internal public access only initially, then web-based access
- Dedicated storage – robotic tape libraries
- Isolated from corporate infrastructure
- Significant innovation but over-engineered

Repositories present

The Parliamentary Archives

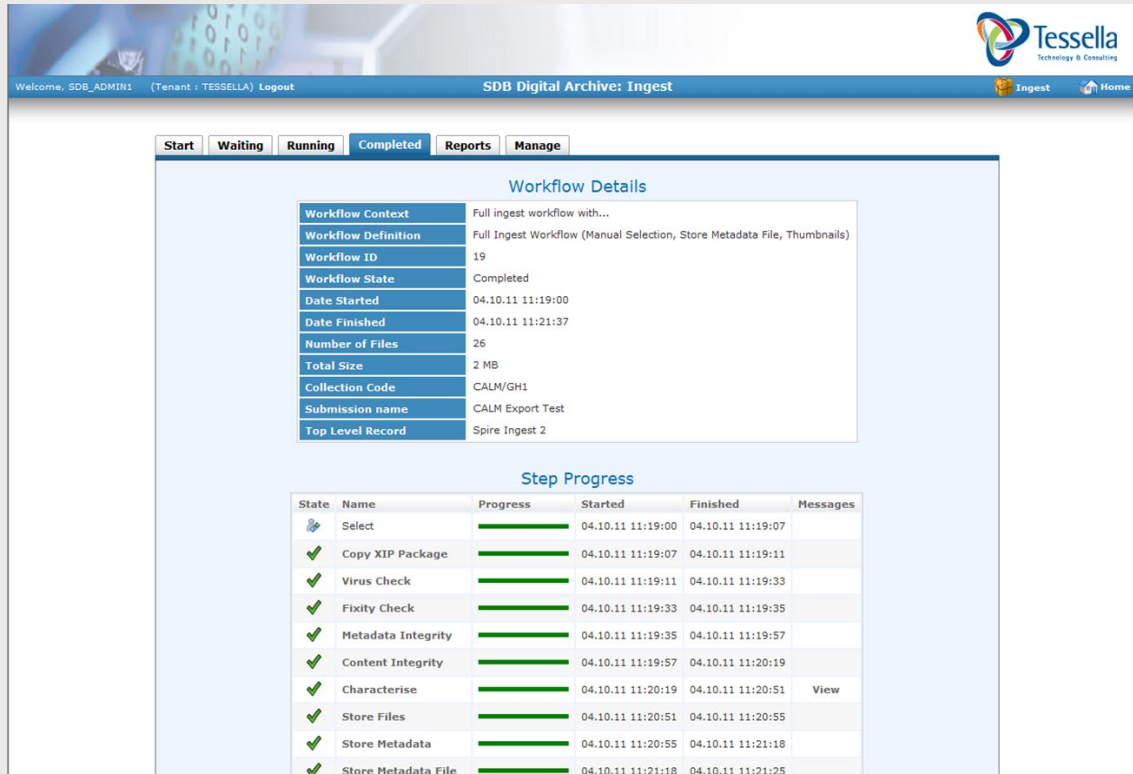


Context

- Developed in 2011 onwards
- The UK Parliament's first digital repository
- Managing digital parliamentary records and publications
 - Born digital and digitized
 - Web archive, inc. social media
 - Audio-visual



repository@parliament



The screenshot displays the Tessella SDB Digital Archive: Ingest interface. The top navigation bar includes the Tessella logo, user information (Welcome, SDB_ADMIN1, Tenant: TESSELLA, Logout), and the page title (SDB Digital Archive: Ingest). Below the navigation bar, there are tabs for workflow status: Start, Waiting, Running, Completed, Reports, and Manage. The 'Completed' tab is selected, showing 'Workflow Details' and 'Step Progress'.

Workflow Details

Workflow Context	Full ingest workflow with...
Workflow Definition	Full Ingest Workflow (Manual Selection, Store Metadata File, Thumbnails)
Workflow ID	19
Workflow State	Completed
Date Started	04.10.11 11:19:00
Date Finished	04.10.11 11:21:37
Number of Files	26
Total Size	2 MB
Collection Code	CALM/GH1
Submission name	CALM Export Test
Top Level Record	Spire Ingest 2

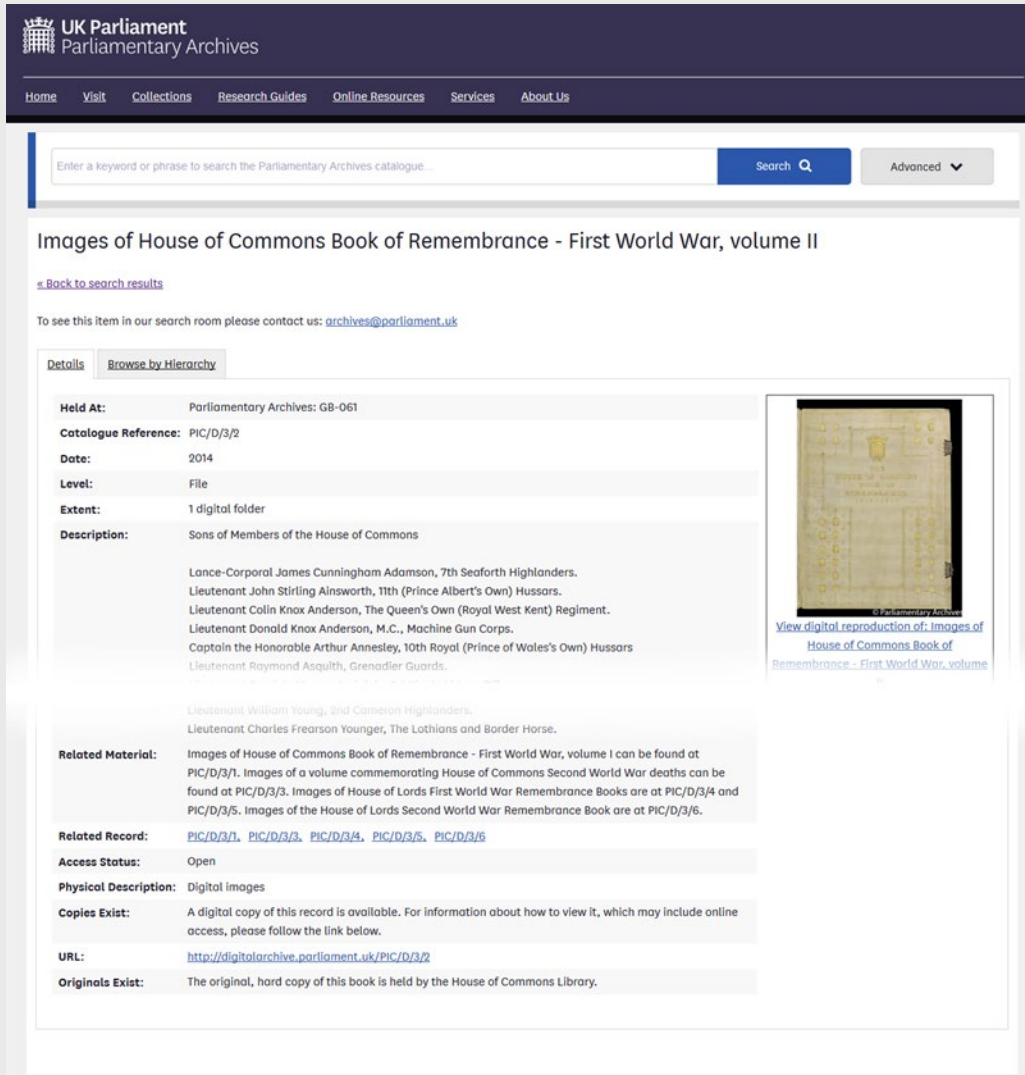
Step Progress

State	Name	Progress	Started	Finished	Messages
🔗	Select	██████████	04.10.11 11:19:00	04.10.11 11:19:07	
✅	Copy XIP Package	██████████	04.10.11 11:19:07	04.10.11 11:19:11	
✅	Virus Check	██████████	04.10.11 11:19:11	04.10.11 11:19:33	
✅	Fixity Check	██████████	04.10.11 11:19:33	04.10.11 11:19:35	
✅	Metadata Integrity	██████████	04.10.11 11:19:35	04.10.11 11:19:57	
✅	Content Integrity	██████████	04.10.11 11:19:57	04.10.11 11:20:19	
✅	Characterise	██████████	04.10.11 11:20:19	04.10.11 11:20:51	View
✅	Store Files	██████████	04.10.11 11:20:51	04.10.11 11:20:55	
✅	Store Metadata	██████████	04.10.11 11:20:55	04.10.11 11:21:18	
✅	Store Metadata File	██████████	04.10.11 11:21:18	04.10.11 11:21:25	

Development and resources

- Small, multi-disciplinary team
- Significant budget
- In-house IT support
- Commercial off-the-shelf

repository@parliament



UK Parliament
Parliamentary Archives

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Enter a keyword or phrase to search the Parliamentary Archives catalogue... Search Q Advanced v

Images of House of Commons Book of Remembrance - First World War, volume II

[Back to search results](#)

To see this item in our search room please contact us: archives@parliament.uk

Details Browse by Hierarchy

Held At: Parliamentary Archives: GB-061

Catalogue Reference: PIC/D/3/2

Date: 2014

Level: File

Extent: 1 digital folder

Description: Sons of Members of the House of Commons

Lance-Corporal James Cunningham Adamson, 7th Seaforth Highlanders.
Lieutenant John Stirling Ainsworth, 11th (Prince Albert's Own) Hussars.
Lieutenant Colin Knox Anderson, The Queen's Own (Royal West Kent) Regiment.
Lieutenant Donald Knox Anderson, M.C., Machine Gun Corps.
Captain the Honorable Arthur Annesley, 10th Royal (Prince of Wales's Own) Hussars
Lieutenant Raymond Asquith, Grenadier Guards.

Lieutenant William Young, 2nd Cameron Highlanders.
Lieutenant Charles Frearson Younger, The Lothians and Border Horse.

Related Material: Images of House of Commons Book of Remembrance - First World War, volume I can be found at PIC/D/3/1. Images of a volume commemorating House of Commons Second World War deaths can be found at PIC/D/3/3. Images of House of Lords First World War Remembrance Books are at PIC/D/3/4 and PIC/D/3/5. Images of the House of Lords Second World War Remembrance Book are at PIC/D/3/6.

Related Record: [PIC/D/3/1](#), [PIC/D/3/3](#), [PIC/D/3/4](#), [PIC/D/3/5](#), [PIC/D/3/6](#)


Access Status: Open

Physical Description: Digital images

Copies Exist: A digital copy of this record is available. For information about how to view it, which may include online access, please follow the link below.

URL: <http://digitalarchive.parliament.uk/PIC/D/3/2>

Originals Exist: The original, hard copy of this book is held by the House of Commons Library.



[View digital reproduction of: Images of House of Commons Book of Remembrance - First World War, volume II](#)

Approach

- Pragmatic approach to automation
- Holistic solution – ingest to access
- Preservation strategy agnostic
- Fully integrated with archive catalogue
- Online public access from outset
- Standard storage – network and cloud
- Integrated with corporate infrastructure


Online catalogue

<https://archives.parliament.uk/>



Enter a keyword or phrase to search the Parliamentary Archives catalogue...

Search 

Advanced 

The Parliamentary Archives

Explore over 500 years of Parliament in the UK



Visit



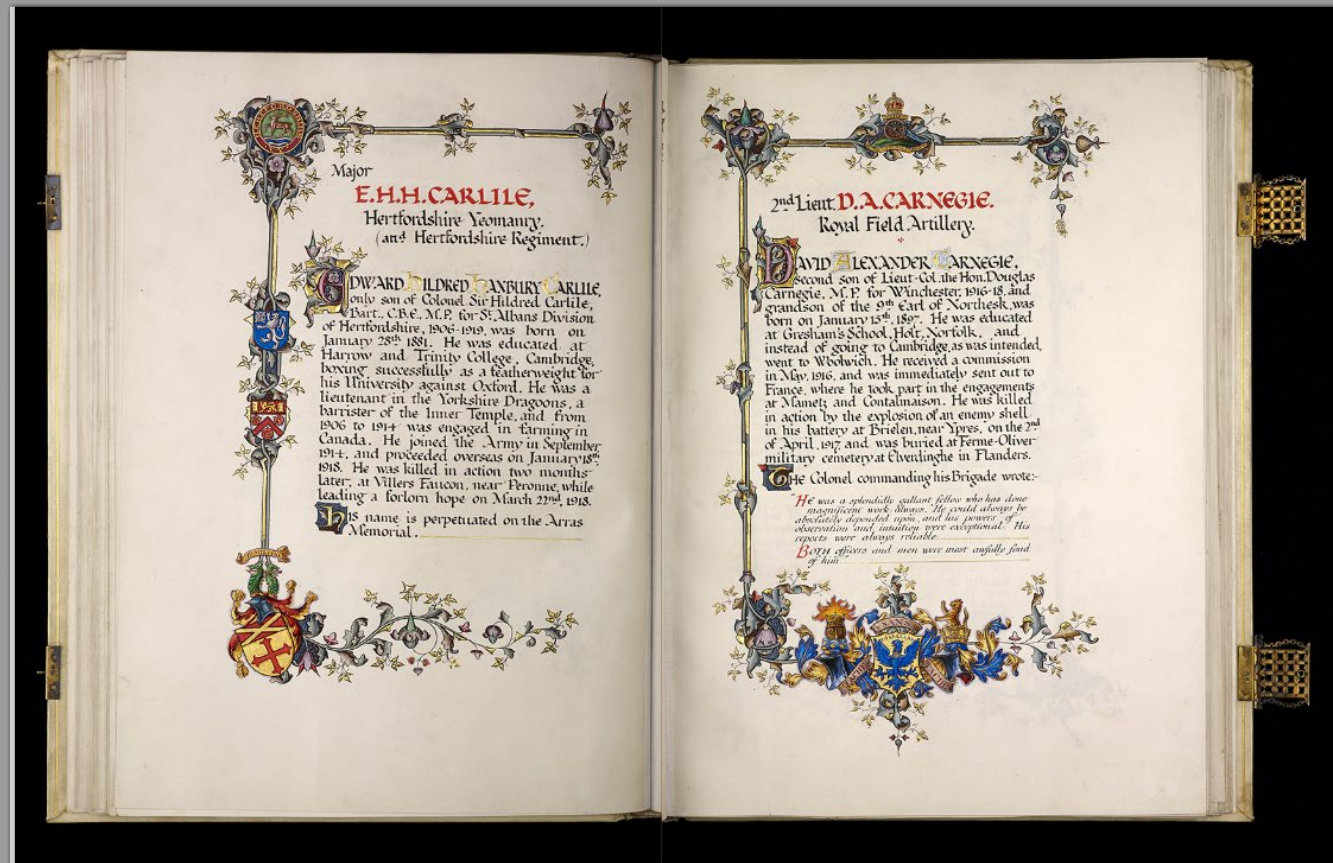
Start Your Research



Our Collections

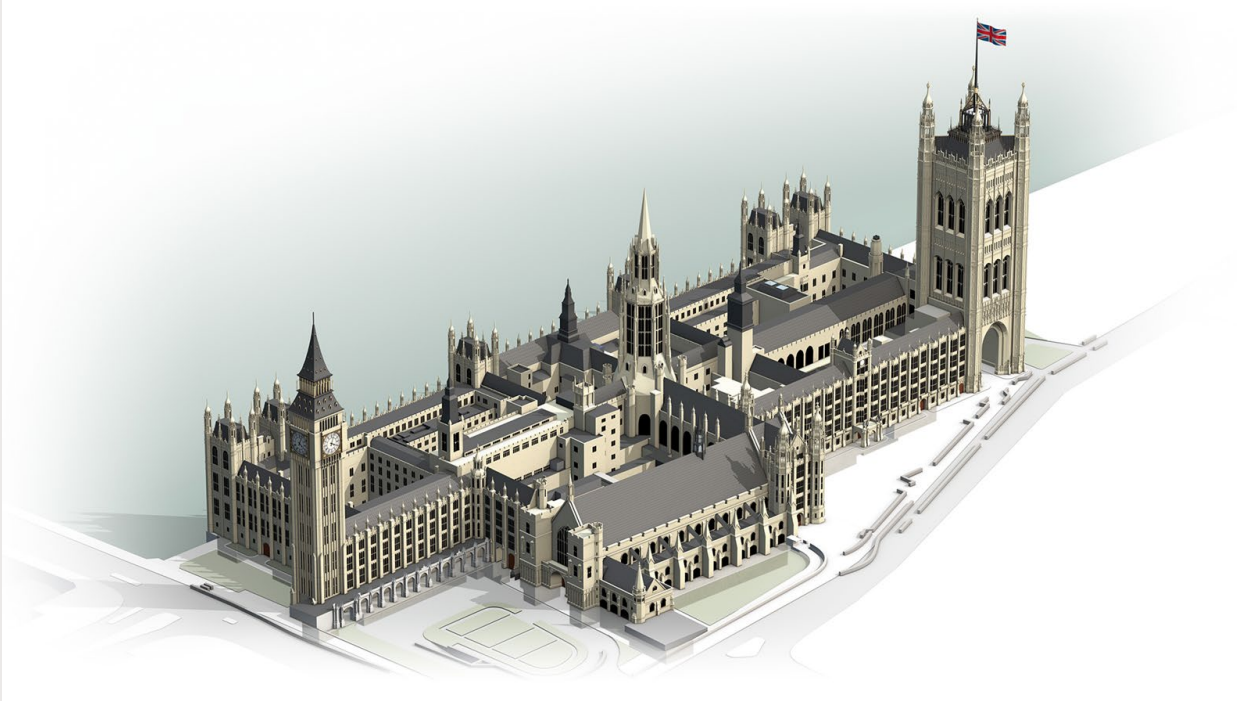


Online access



Repositories yet to come

Challenges

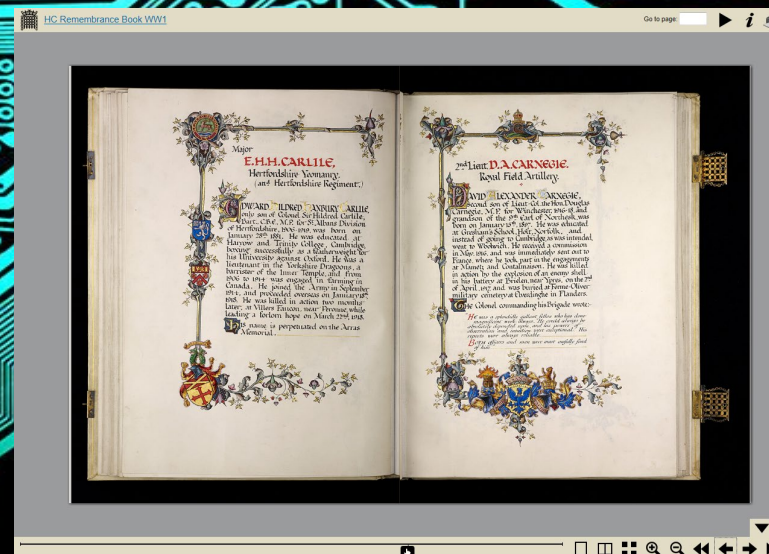
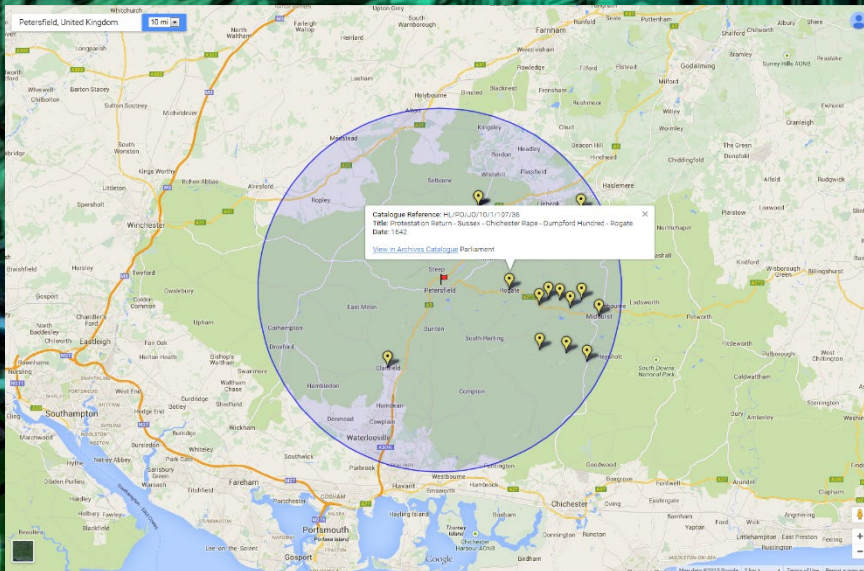


- Evergreen technologies
- Pace of change
- Diversity of content sources
- Processing at scale
 - Audio-visual collections
 - Web archives
 - Cloud storage
 - Sensitivity review
 - Cataloguing
 - Integrity checking
 - Ingest

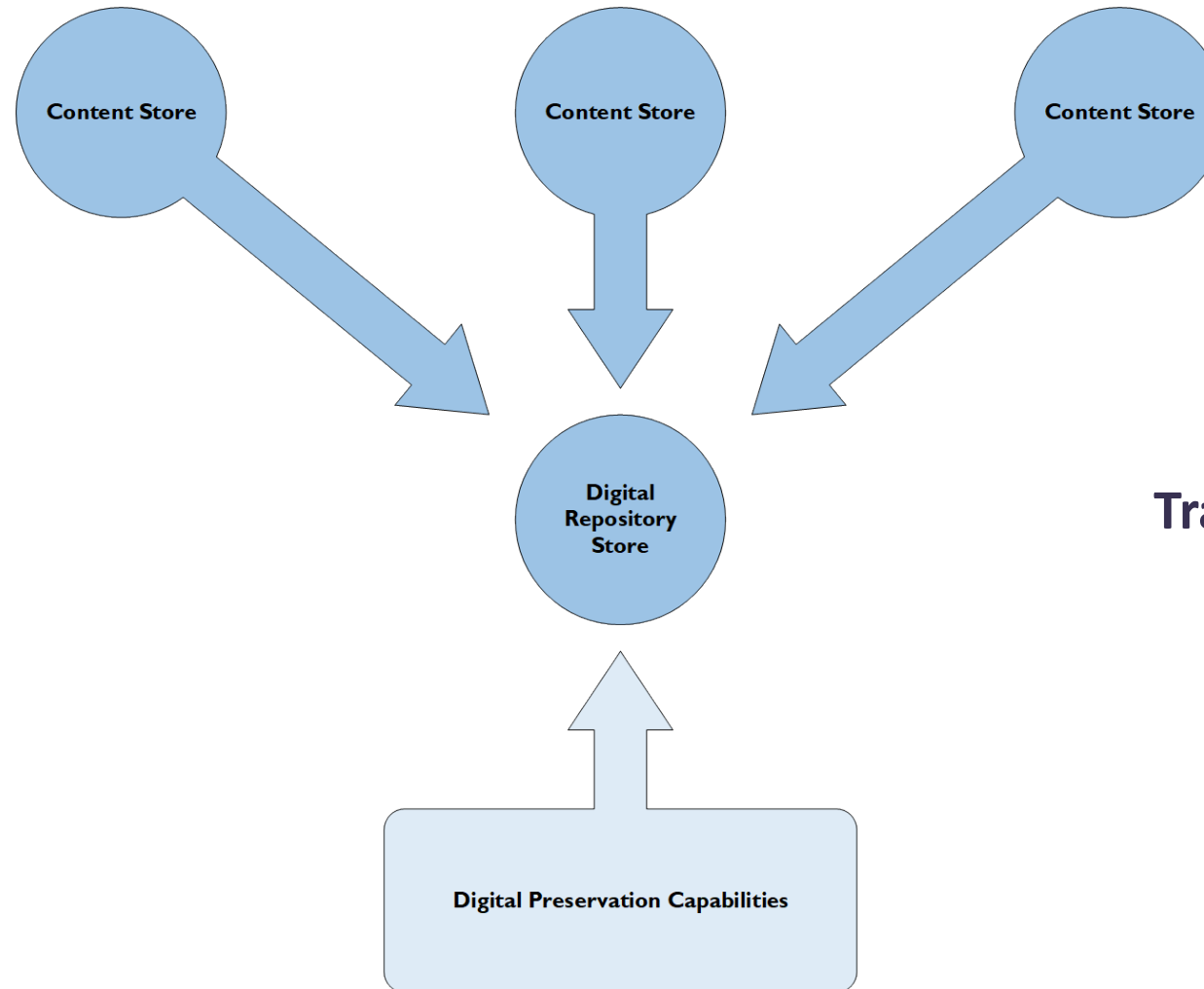
Hybrid archives



Understanding what users need

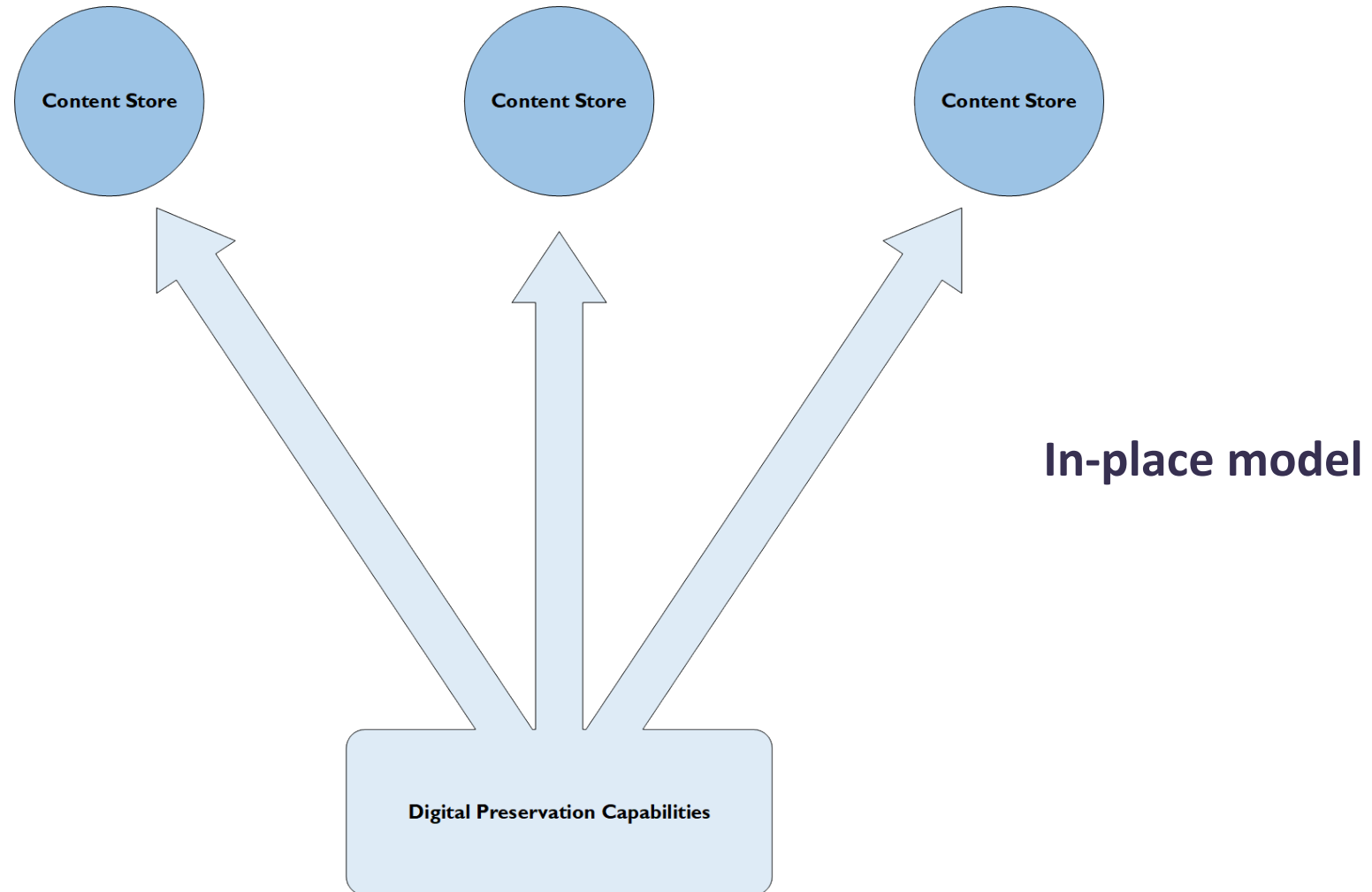


Re-defining the digital repository

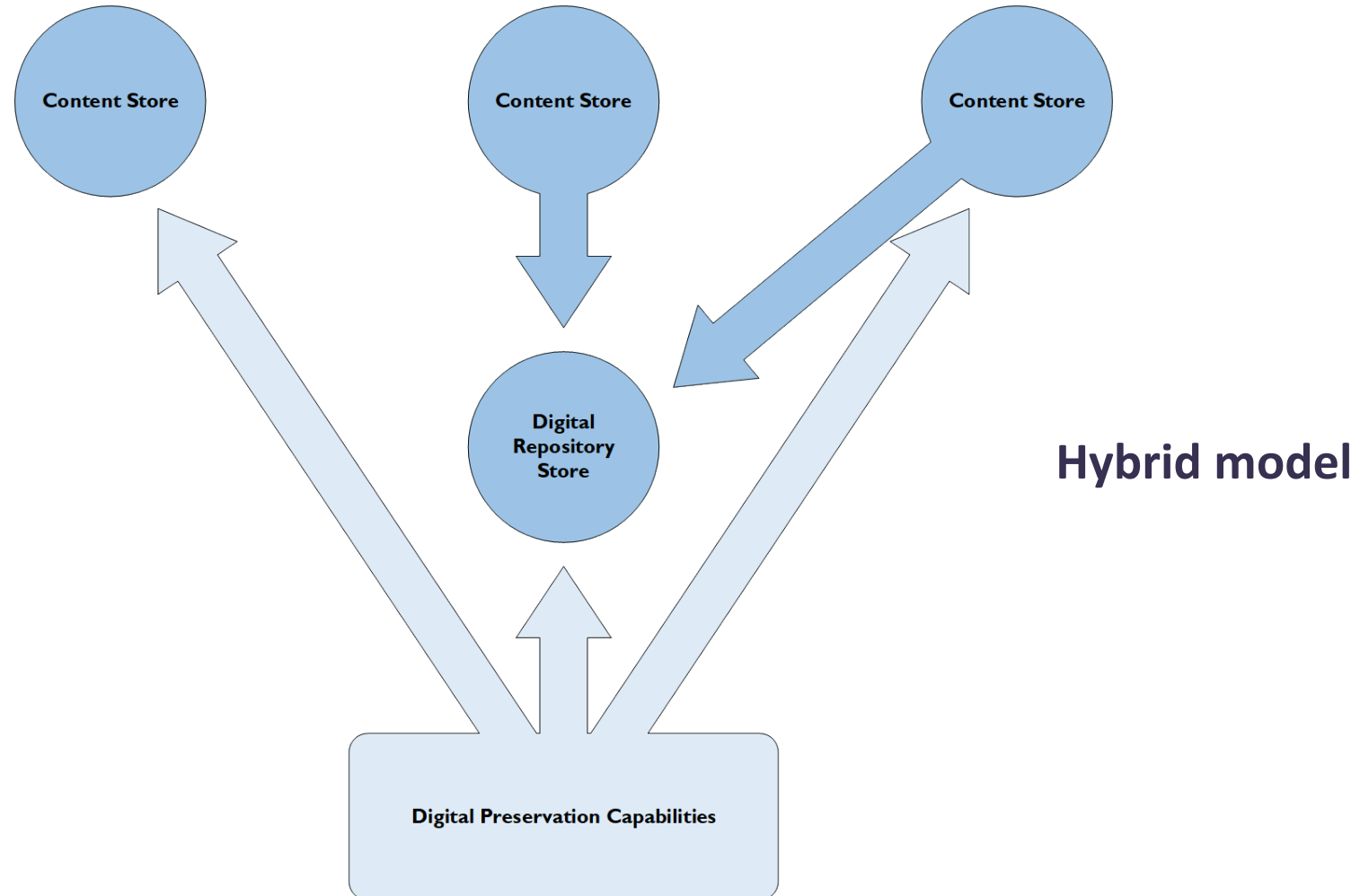


Traditional model

Re-defining the digital repository



Re-defining the digital repository



Repositories yet to come



Summary

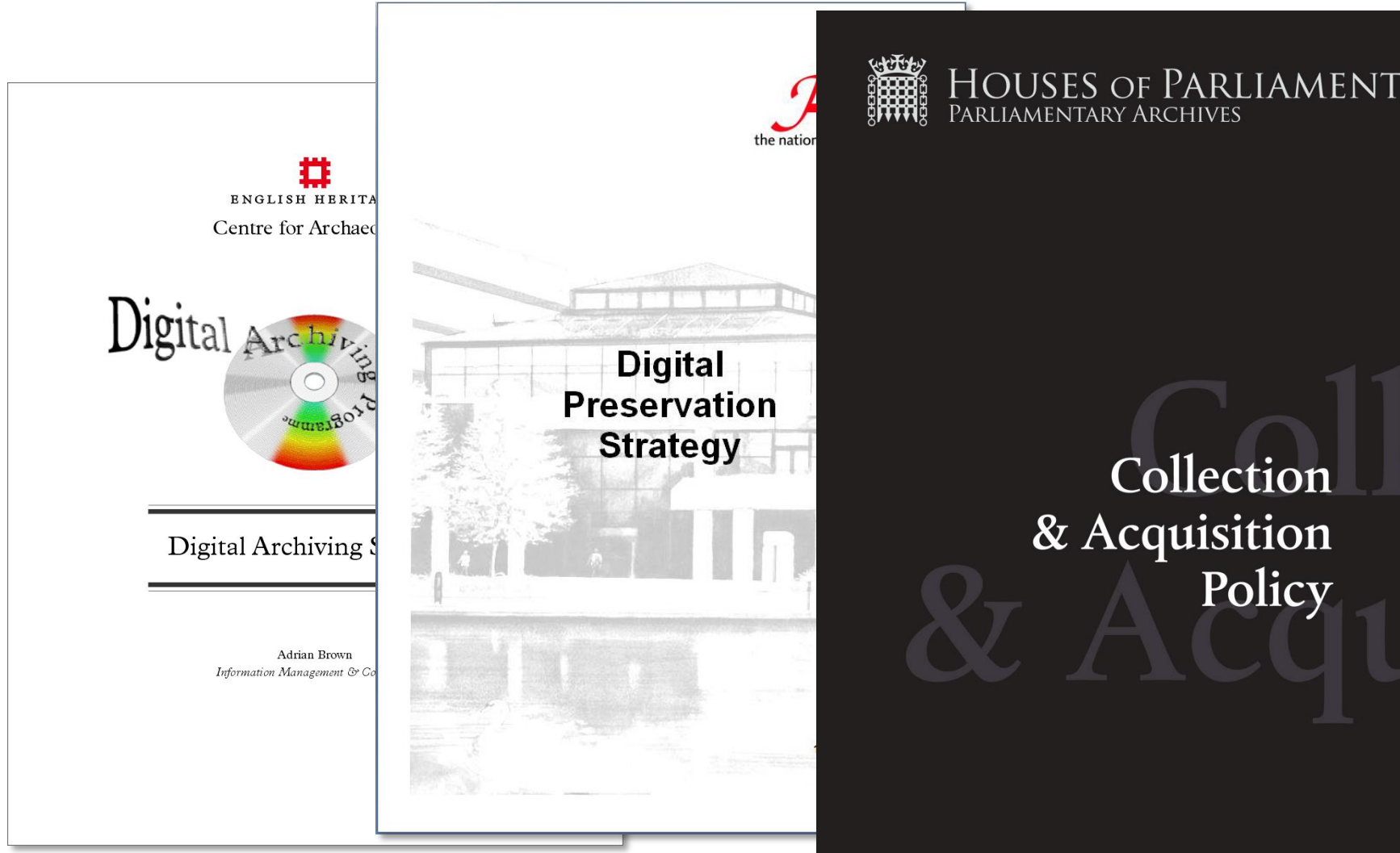
- Agnostic about threats and solutions
- Capabilities not systems
- Modular services
- Highly scalable
- Use techniques such as machine-learning to automate key processes
- Flexible to deliver different levels of capability
- Prioritise limited resources to achieve greatest benefit
- Preservation-as-a-service

Getting started – first steps

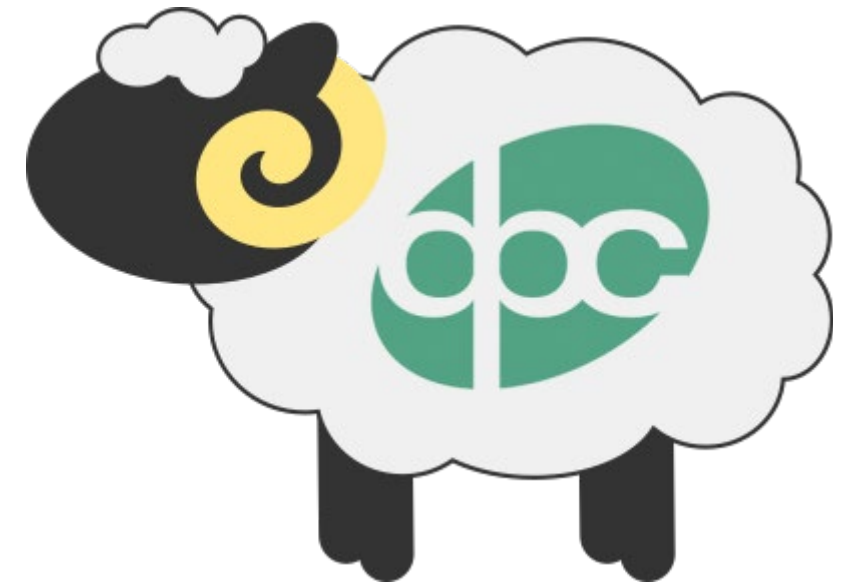
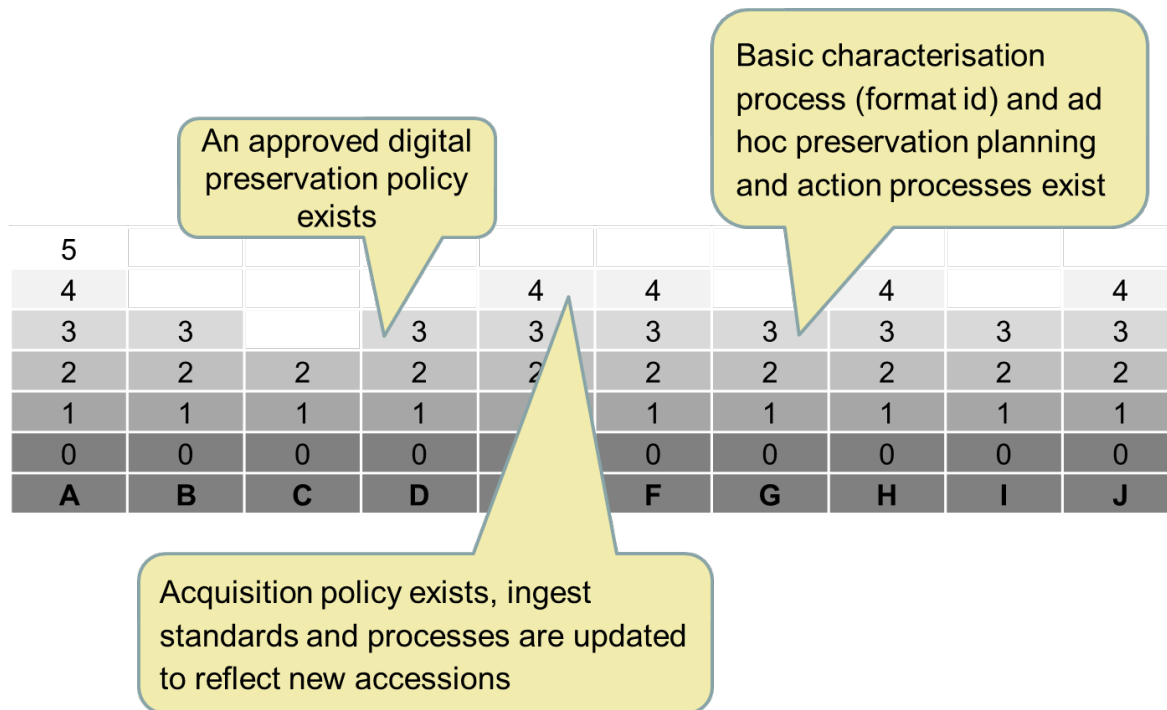
Step #1: make connections with your community



Step #2: secure a mandate



Step #3: assess where you are and where you want to be (and how to get there)



<https://www.dpconline.org/digipres/implement-digipres/dpc-ram>

Step #4: make the business case

Identifying the challenges



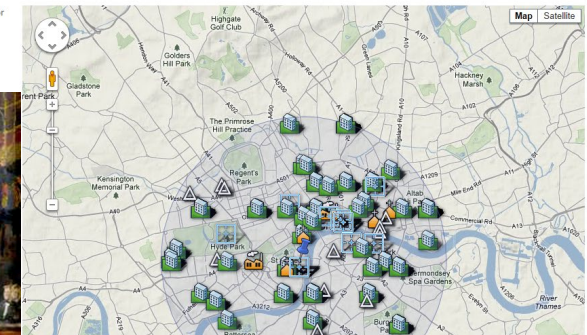
Step #4: make the business case Realising the benefits



Collections on a Map

Search a handful of series at The National Archives for geo-referenced material...

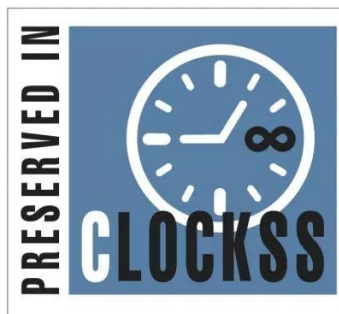
INF 9
The Dixon Scott Collection:
Photographs, 1926-1948



Step #5: understand your requirements

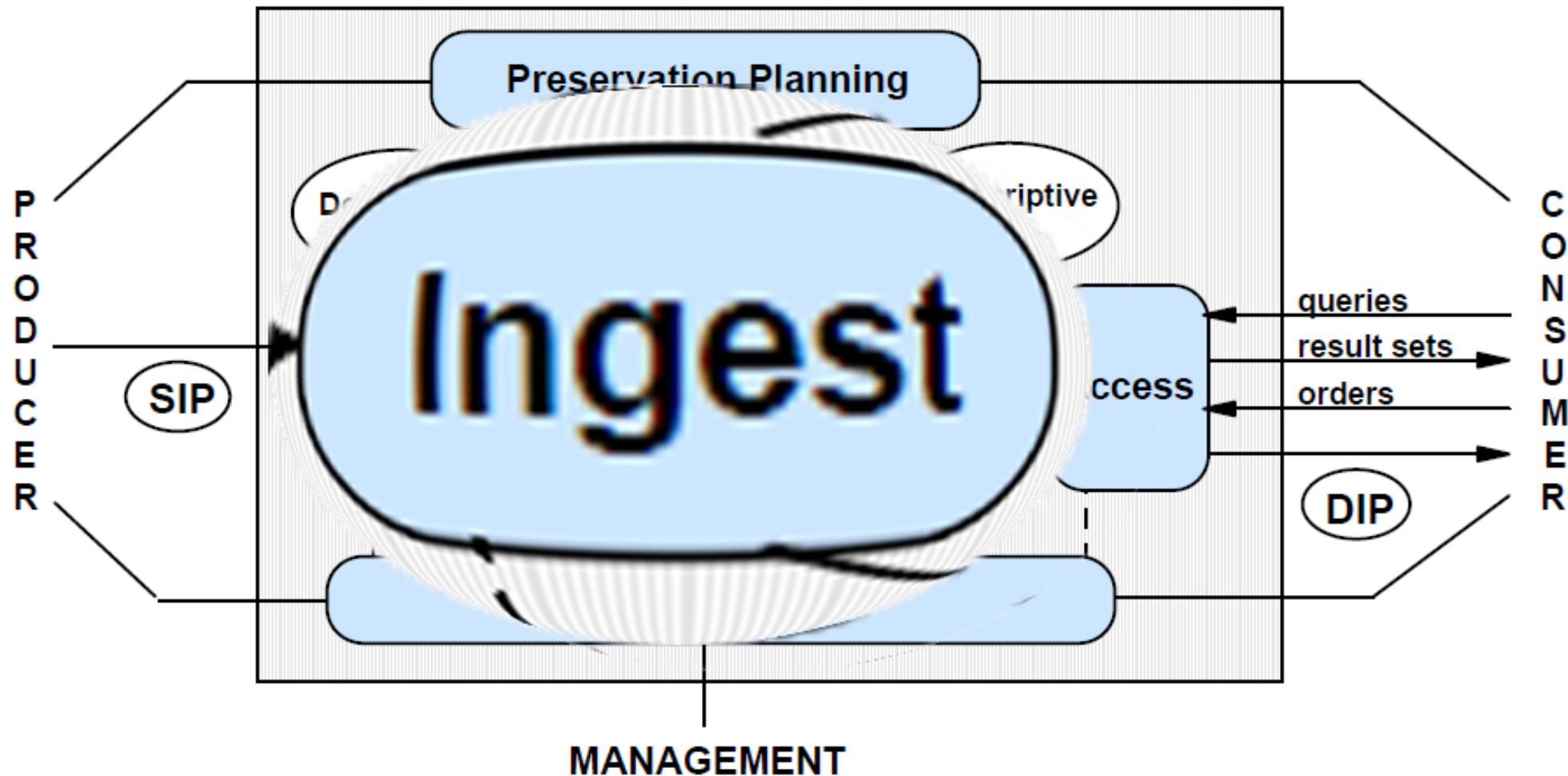


Step #6: choose and implement a solution



Key lessons

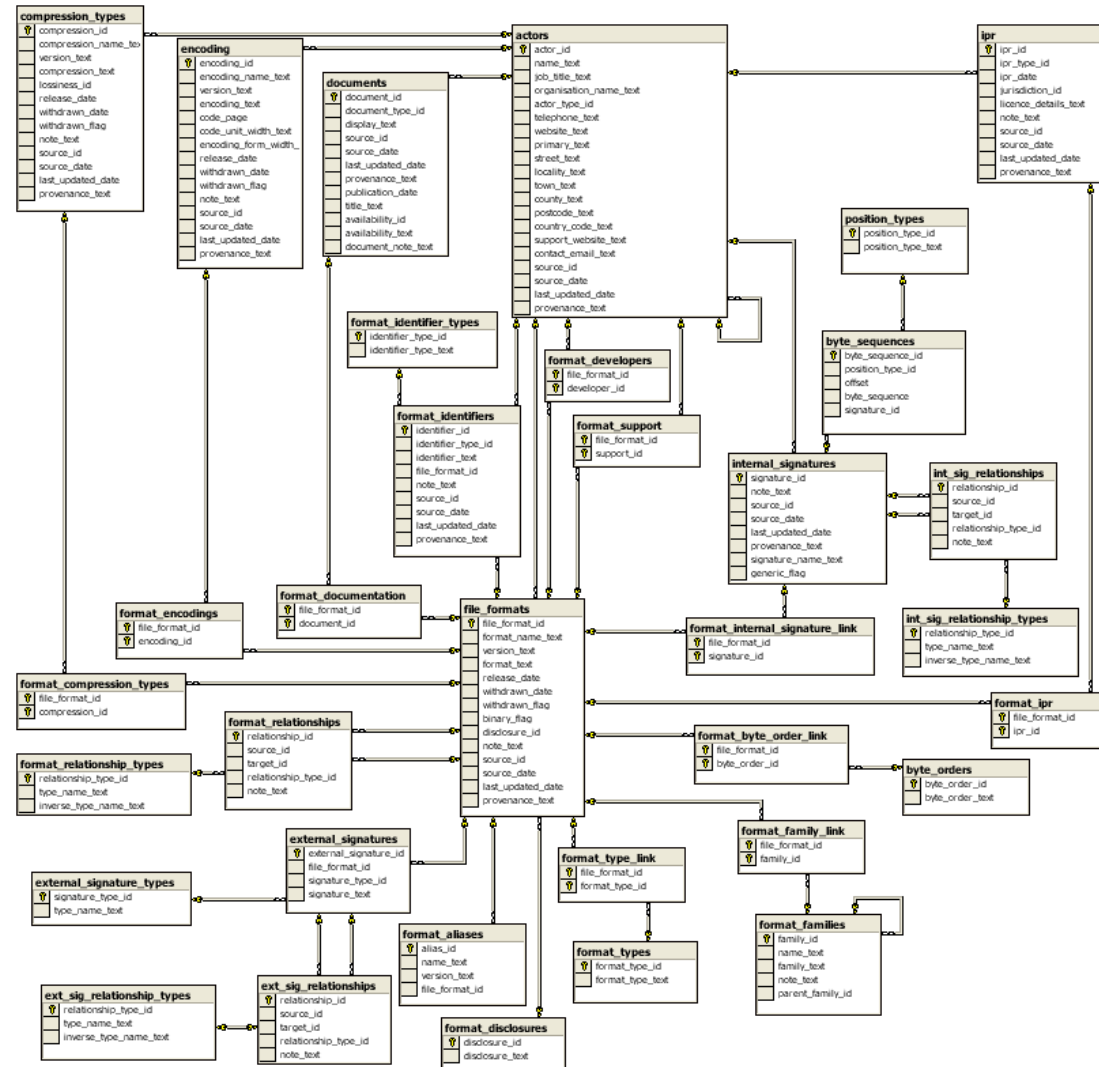
Ingest accounts for up to 90% of digital preservation activity...



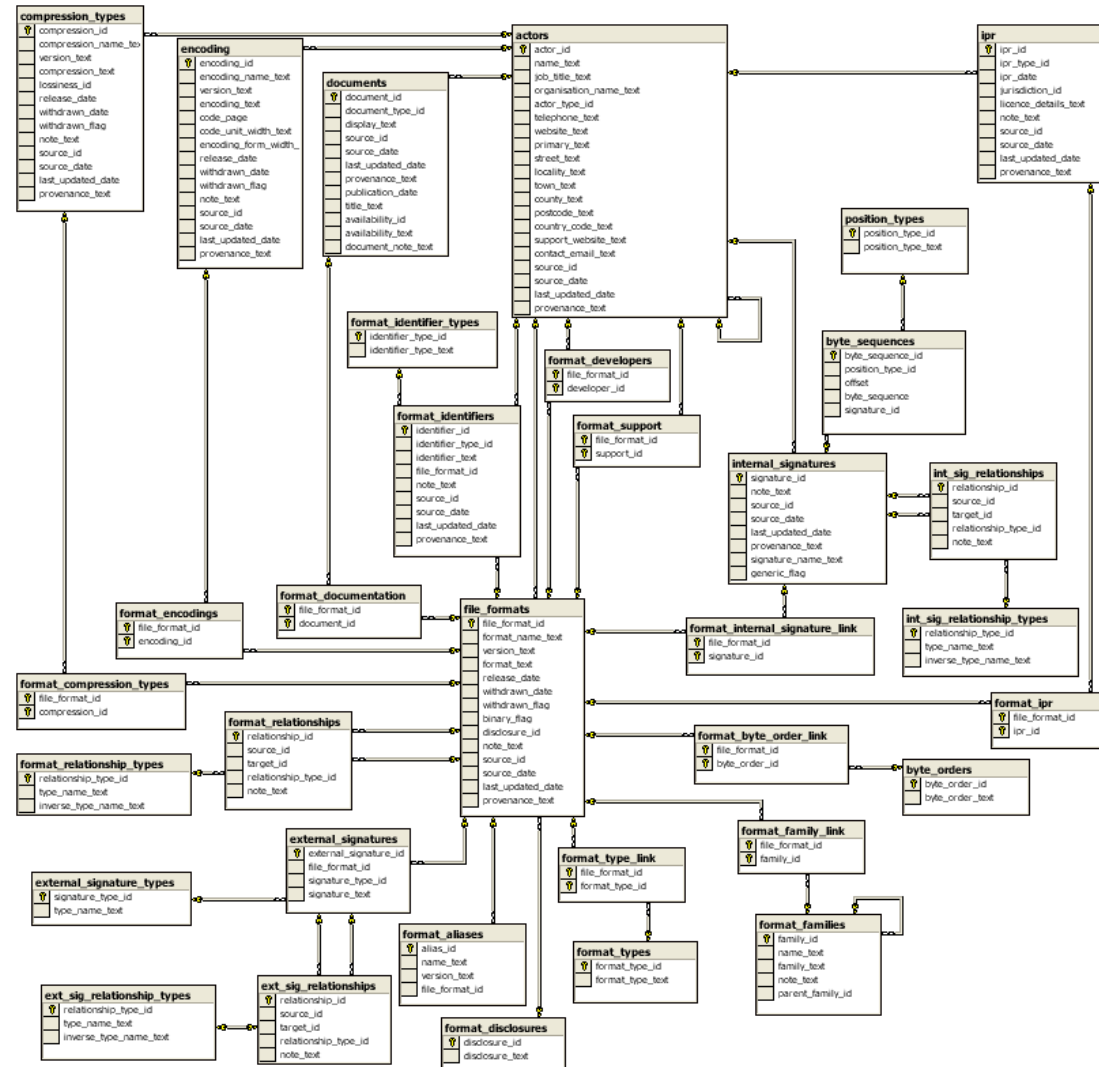
...and the other 10%...



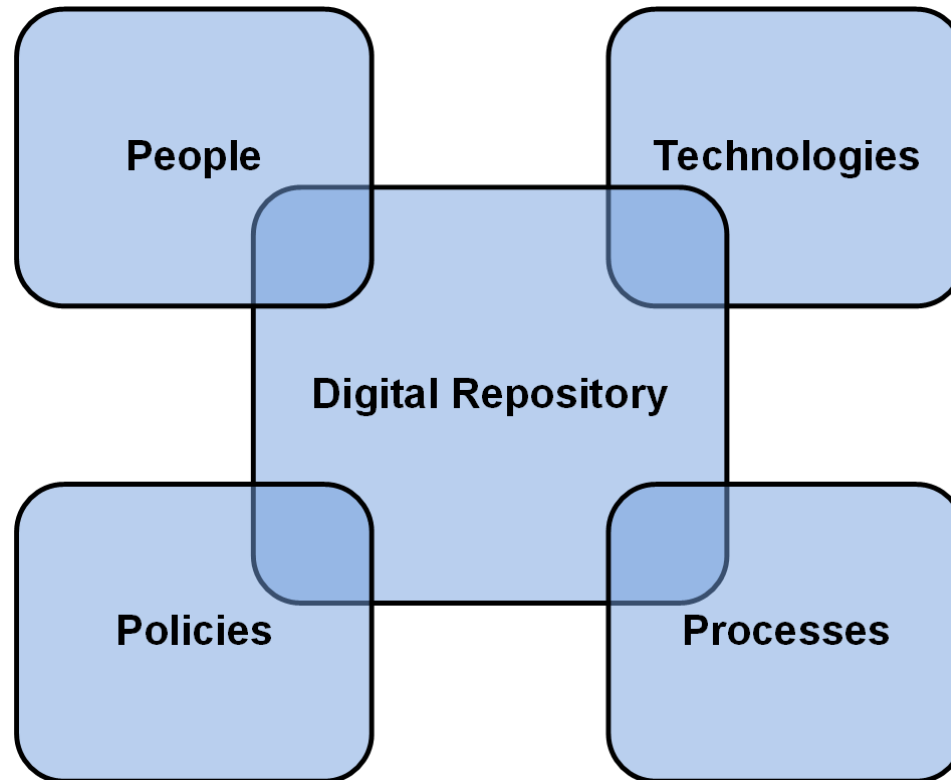
Metadata is a means to an end...



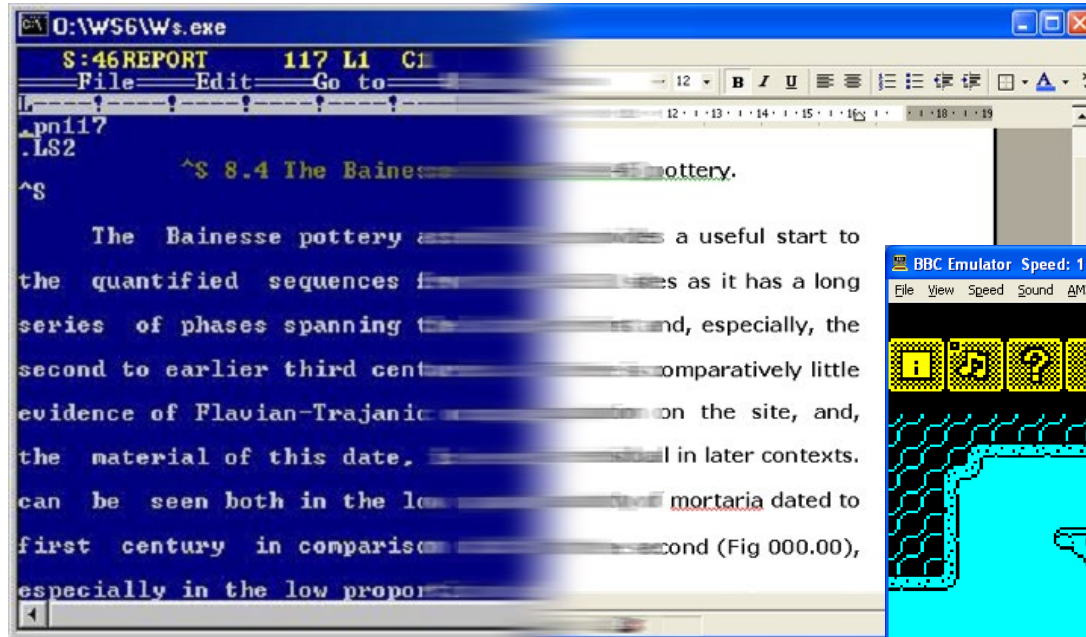
...so keep it as simple as possible



It isn't just (or mainly) about technology

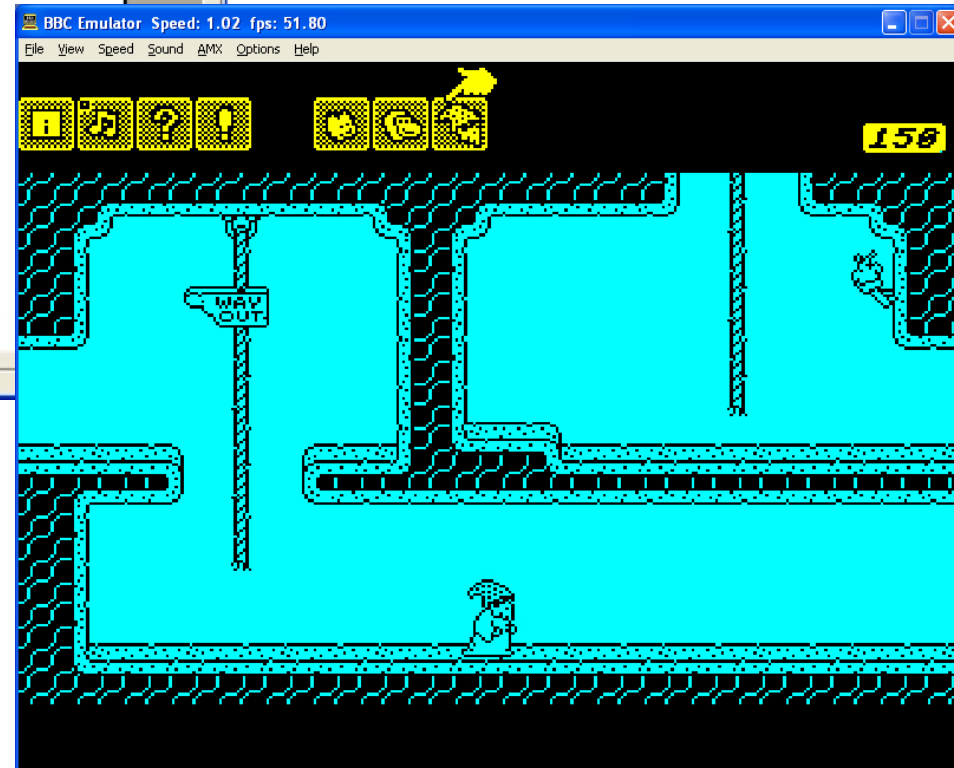


There is no one right way to do digital preservation...

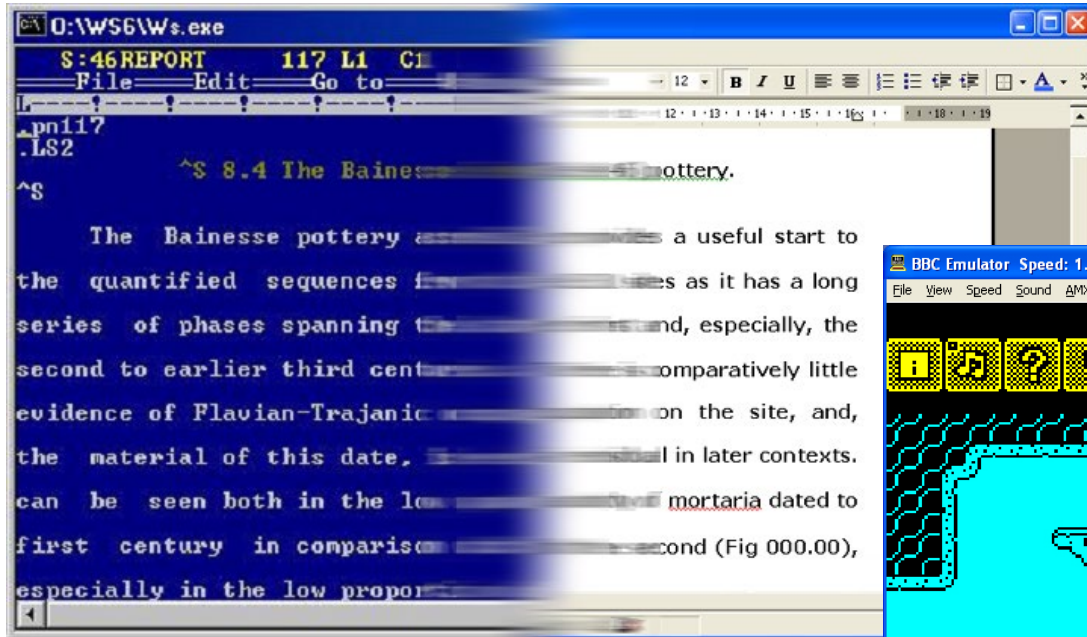


Migration

Emulation

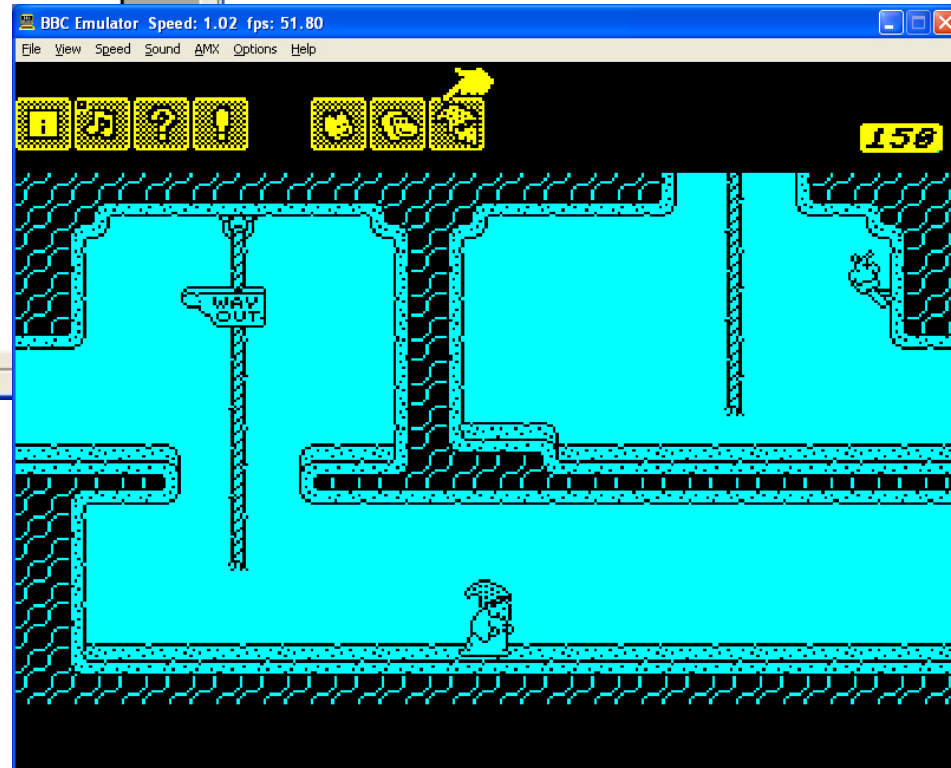


...the right way is the one that works



Migration

Emulation



Be wary of 'paper thinking'



Digital preservation skills are archival skills



A word cloud of archival and digital preservation terms. The words are arranged in a vertical stack, with 'access' at the top and 'context' at the bottom. The words are in various colors: red, blue, yellow, green, and orange. The words are: access, provenance, interpretation, cataloguing, appraisal, selection, evidential value, and context. Smaller words like 'accession', 'risk management', 'disposal', and 'public engagement' are also present.

access
provenance
interpretation
cataloguing
appraisal
selection
evidential value
context

accession
risk management
disposal
public engagement

Digital archives matter



https://www.epa.gov/climate change

We've made some changes to EPA.gov. If the information you are looking for is not here, you may be able to find it on the EPA Web Archive or the January 19, 2017 Web Snapshot.

https://web.archive.org/web/20170701000000*/epa.gov/climatechange

ABOUT CONTACT BLOG PROJECTS HELP DONATE JOBS VOLUNTEER PEOPLE

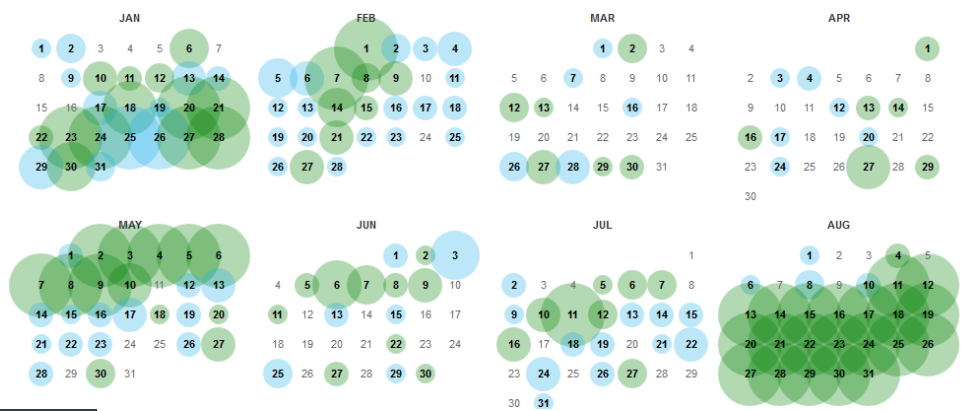
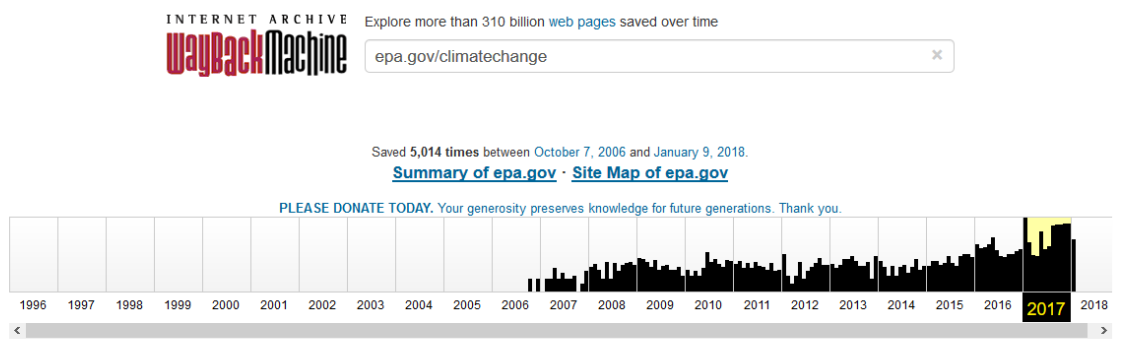
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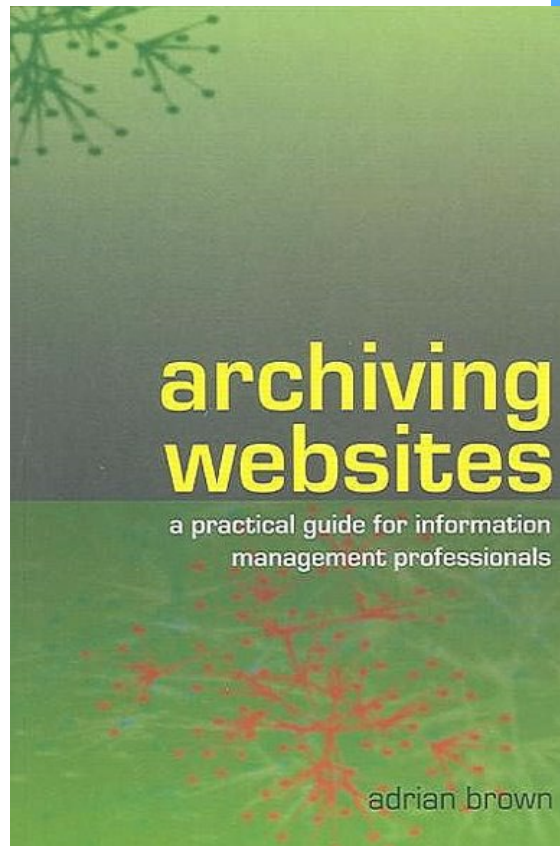
Digital archives matter



Useful sources



Digital **Preservation** Coalition



Questions?

E: archives@parliament.uk

T: @UKParlArchives, @realAdrianBrown

W: <https://archives.parliament.uk/>



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