Data Management for Archaeologists

CIFA CPD Workshop
27th April 2018

Historic England

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PROGRAMME

FRIDAY 27th April 2018

9.30am	**Introduction**
9.40am	**Digital data and the archaeological record** **KATIE GREEN ADS**
10.00am	**Metadata Activity**
10.20am	**Discussion**
10.30am	**Current guidelines and professional standards** **TIM EVANS ADS**
10.50am	**Discussion**
11.00am	**Break**
11.30am	**Archaeological digital archiving protocol** **CLAIRE TSANG HE**
11.50am	**Discussion**
12.00am	**Data Management Planning Activity**
12.30am	**Review of Data Management Plans and discussion**

CPD LEARNING OBJECTIVES

By the end of the course participants will be expected to:

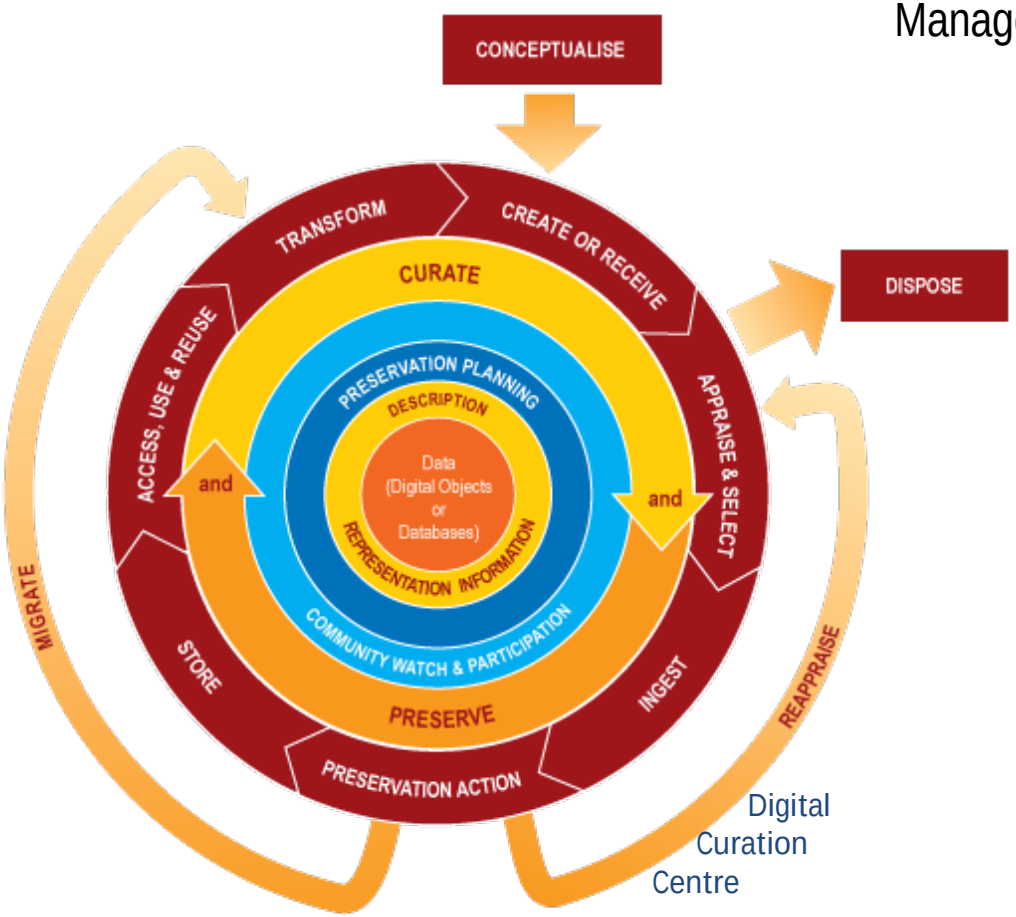
- understand the importance of good data management practices;
- understand the importance of digital preservation for the long-term safety of archaeological data;
- understand the principles of best practice in data management;
- have a working knowledge of current data management guidance and standards for archaeology;
- understand the application of digital preservation and data management for their own work;
- be able to prepare data management plans.

Data Lifecycle

Management throughout!

Reuse

Publishing



Digital Curation Centre

Preservation

INTRODUCTIONS

Who you are?

Where you come from?

What do you hope to gain from the course?

WEB PAGE

http://archaeologydataservice.ac.uk/learning/CIFAWorkshop2018.xhtml

Advancement of Digital Data

- The use of computers in archaeological fieldwork recording and research has become routine

Digital Data

Born Digital

Data created in digital format

Image © Oxford Archaeology (North)

Digitised Data

Hardcopy converted to digital format

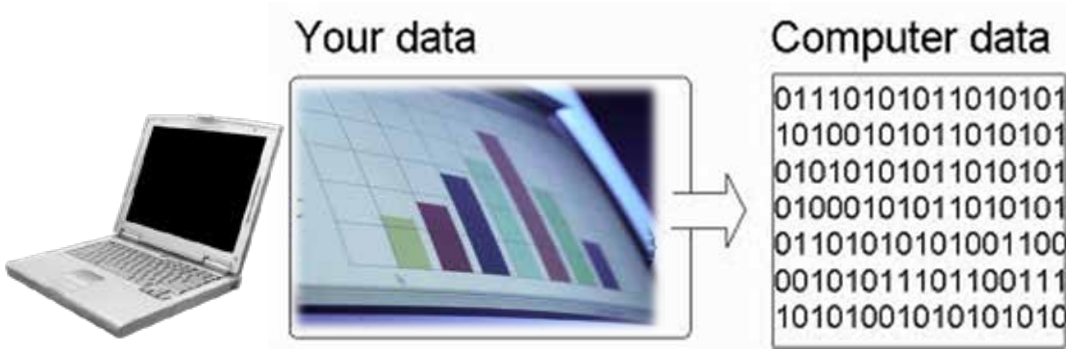
Image © State Library of New South Wales 2015

Digital Data

- Easier to create
- Easier to update
- Easier to access

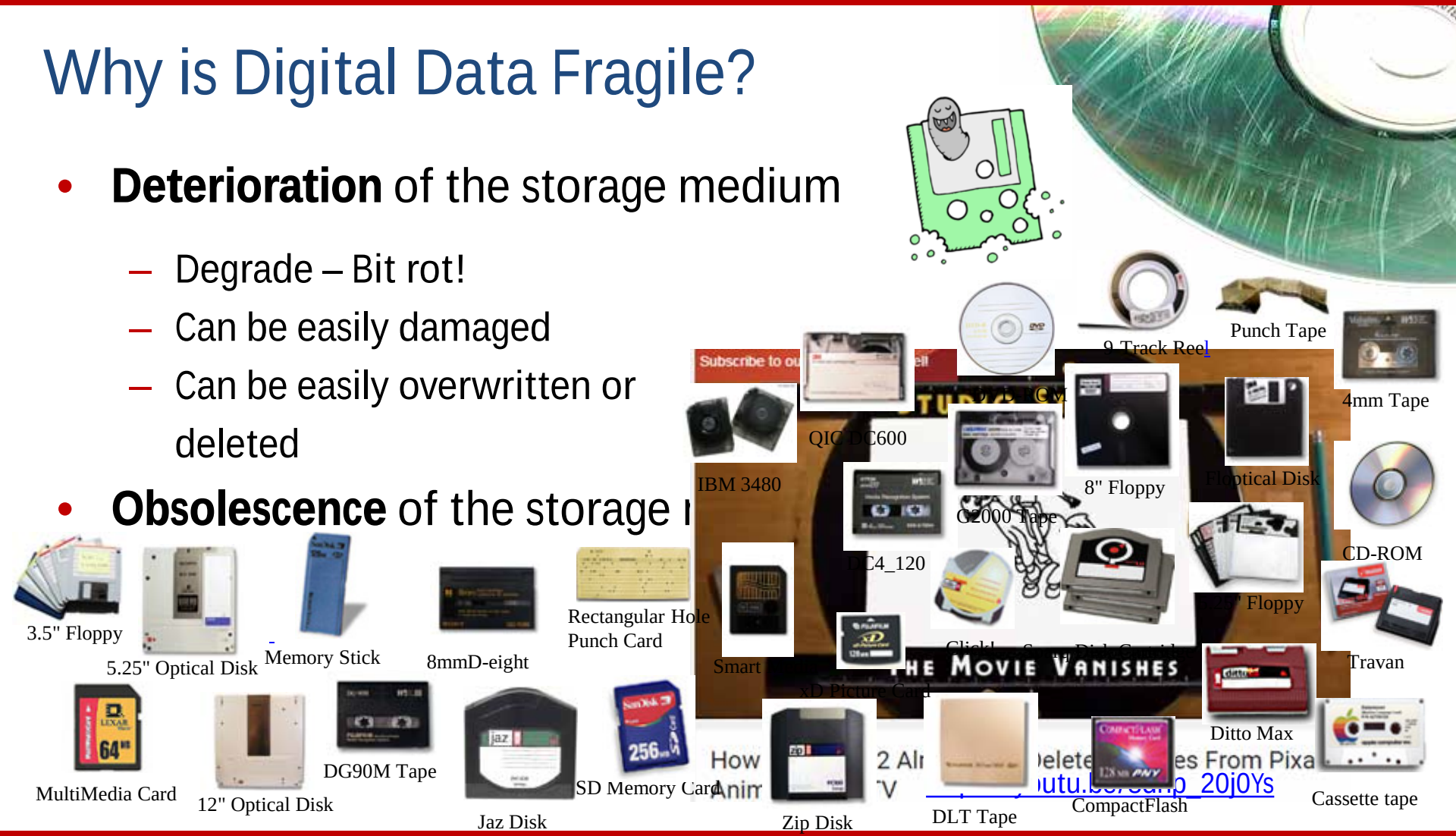
But Fragile!

- Digital data is encoded
- Digital data requires software and technology to present content

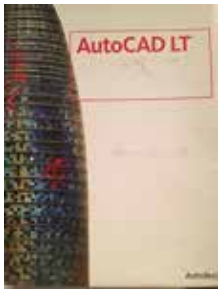


Why is Digital Data Fragile?

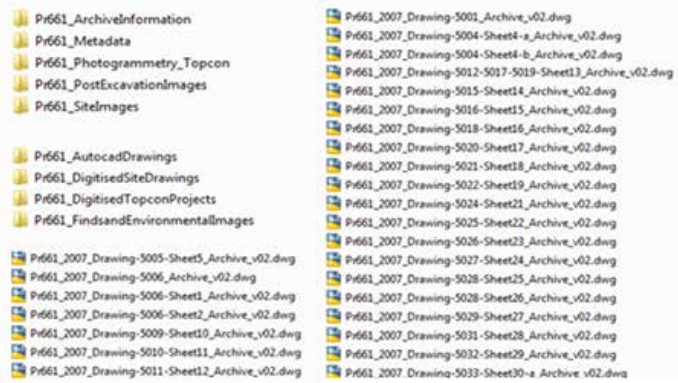
- **Deterioration** of the storage medium
  - Degrade – Bit rot!
  - Can be easily damaged
  - Can be easily overwritten or deleted
- **Obsolescence** of the storage



Why is Digital Data Fragile?



- Obsolescence of the **software**
- Obsolescence of the **hardware**
- Failure to **document** data adequately



Case Study: Newham Museum Archaeological Service

Archive:

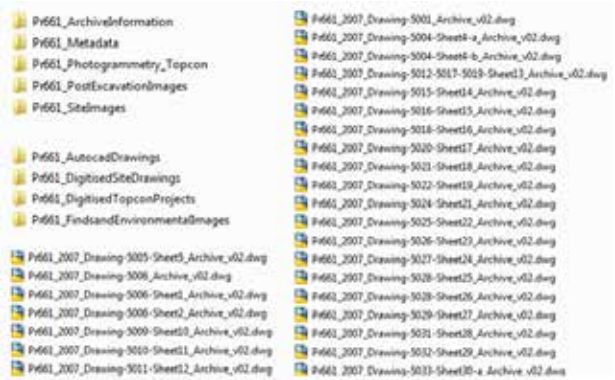
- approx. 150 excavations
- 6432 individual files
- 1500 excavation reports
- 700 database files
- 1200 geophysics files
- 200 separate projects

Image © www.digitalbevaring.dk

Case Study: Newham Museum Archaeological Service

Problems:

- No data structure
- No file naming standards
- No metadata
- No data documentation at all

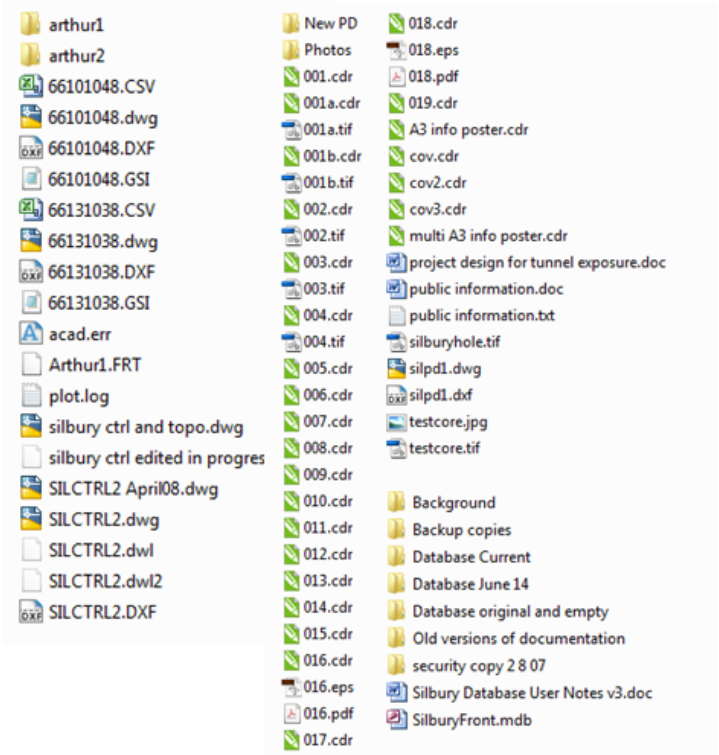


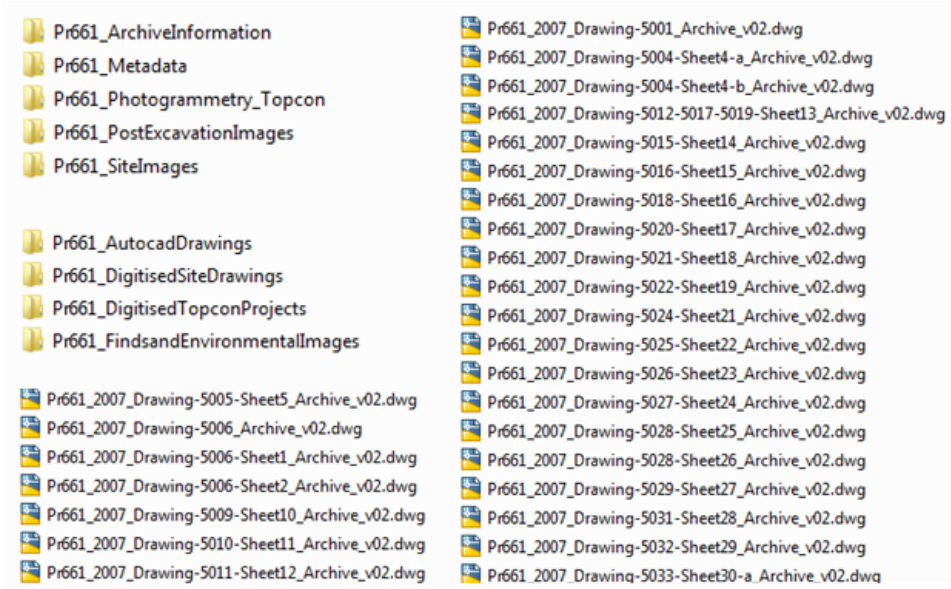
Digital Data and the Archaeological Record

728		122/508	120/500	162	992	15
1131		118/497	100/480	239	665	15
658		102/502	100/500	141	659	16
685		122/518	120/500	144	986	16
1075		111/498	100/480	248	661	16
1131		118/497	100/4			
1357	1076	113/496	100/4			
	1359	110/497	100/4			
	1158	113/496	100/4			
1158	1360	110/497	100/4			
1359	1159	113/496	100/4			
1158	1361	110/497	100/4			
1359	1160	113/496	100/4			
5290						
		122.5/52(	120/5			
3		122/526	120/5			
3	5	123/531	120/5			
3	4	122.5/52(	120/5			
		153/512	140/5			
		150/502	140/5			
	181, 206, 2	148/489	140/4			
	181; 206; 1	143/476	140/4			
	1330	141/486	140/4			
	1314	146/487	140/4			
	1313, 133(	146/487	140/480		896	23

146	4	90	94
154	2	205	207
154	0	4	4
164	0	1	1
1498	0	2	2

Case Study: Silbury Hill





http://archaeologydataservice.ac.uk/blog/2013/08/jenny-ryders-day-of-archaeology-at-the-ads-a-silbury-hill-update/

Case Study: Newham Museum Archaeological Service

Image © www.digitalbevaring.dk

Lessons Learnt:

- Regular software migration needed
- Robust data documentation down to file level needed
- Need to plan for re-use
- Forward planning is much cheaper
- Data management strategy required

Protecting Digital Data

- Recognise data is as fragile as the archaeological record we excavate
- Recognise the challenges of digital data
- Create **Data Management Plans**
- Stop archiving data as objects rather than computerised information
- Professionally archive digital material with an accredited digital archive
- Follow **current guidelines** and **professional standards**

Why bother?

- provides a **practical starting point** to help structure thoughts on your research/project
- **improves efficiency**
- help others understand the **research process** and how it developed
- helps plan for data **reuse** by others, so the full potential of a research can be realised. Its lifecycle doesn't end here!
- shows we take **research integrity** seriously and therefore increases trust in the archaeological community
- **it is good practice**
- **funding bodies** require it!
- So we don't end up with examples like this!

- Cats-in-a-tent photos….and more

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- Oral history project with no consent forms and therefore no audio files!

Downloads

We regret that we are unable to offer the archived audio files for this project at present due to copyright restrictions.

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Downloads

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- Project in the red sea with videos of the rock of Gibraltar
- **Recently** an archive with the wrong archaeological site name in all the metadata

Odd one out – which image was included in a deposit but is not on the ADS web site?

Metadata Activity

Try to find the metadata that match your ‘digital object’.

- **Filename**
- **File extension**
- **File size**
- **Data Collection**
- **Data Type**
- **Software**
- **Supporting Documentation**
- **Copyright holder**
- **Description**
- **Subject Keyword**
- **Period Keyword**
- **Location Keyword**

Not all digital objects will have metadata for all the categories

Metadata Activity Answers

	Object 1	Object 2	Object 3	Object 4	Object 5
Archive	ACCORD with the Access Archaeology Group in the Uists	Brixworth Church Survey	English Heritage unpublished report, (archived via the Roman Rural Settlement Project)	Finsbury Circus, Liverpool Street (Crossrail XRZ10)	Star Carr and Lake Flixton archives
DOI	https://doi.org/10.5284/1042725	https://doi.org/10.5284/1035165	https://doi.org/10.5284/1027408	Coming soon!	https://doi.org/10.5284/1041580
Filename	Uists_AccArch_PG_GrimsayWheelhouse	Interactive_layered_elevations	GL9083	XRZ10_ctp_data01	sc14_photos_1656
File extension	.obj	.ai	.pdf	.csv	.tiff
File size	204.732 KB	5.6 MB	155 KB	0.99 KB	2.34 MB
Data Collection	Photogrammetry	Digitisation	Scanned Digitisation	Born digital data collection	Digital Photograph
Data Type	3D	Vector Image	Text	Spreadsheet	Raster Image
Software	Agisoft Photoscan, Professional Edition. Version 1.0.2.1824	Adobe Illustrator, Creative Cloud 2014	Acrobat PDF 1.6 - Portable Document Format	MS Excel 2010 v.14	
Supporting Documentation		colour_codes_key.tif		MOLA_spreadsheet_conventions.rtf	
Copyright holder	Access Archaeology, ACCORD project	Christina Unwin	English Heritage	MOLA, Crossrail Ltd	POSTGLACIAL project
Description	3D photogrammetic model of the Grimsay Wheelhouse.	Fig.5.10. Brixworth Church, Tower west interior	Multi-technique Geophysical Survey at Lullingstone Roman Villa in Kent	Tobacco Pipe data	PTGV western timber platform
Subject Keyword	Wheelhouse	Religious ritual and funerary	Geophysical Survey.	Clay Pipe	Structure
Period	Iron Age	Multi-period	Roman	Multi-period	Mesolithic
Location	Grimsay	Brixworth	Kent	London	Star Carr

Data Management Plan Activity