Archaeology Data Service

ARIADNE Plus Transnational Access Scheme (TNA)

ARIADNE plus

Introduction to Digital Preservation

Olivia Foster

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Introduction to Digital Preservation

- Why is digital data at risk?
- What is digital preservation?
- Why is digital preservation important in archaeology?
- A Case Study of the Loss of Digital Data

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Why is Digital Data at Risk?

- Depends on technology to access
- Inadequate documentation
- Obsolescence of:
  - Media
  - Hardware
  - Software

https://angrysysops.com/2022/02/25/do-not-erase/

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Obsolesce of Storage Media, Software and Formats

- Technology changes over time, creating barriers to access and reuse.
- Accessibility of software or file formats often require documentation to use and understand them.

https://www.123rf.com/photo_91808895_illustration-of-various-electric-appliances-storage-media.html

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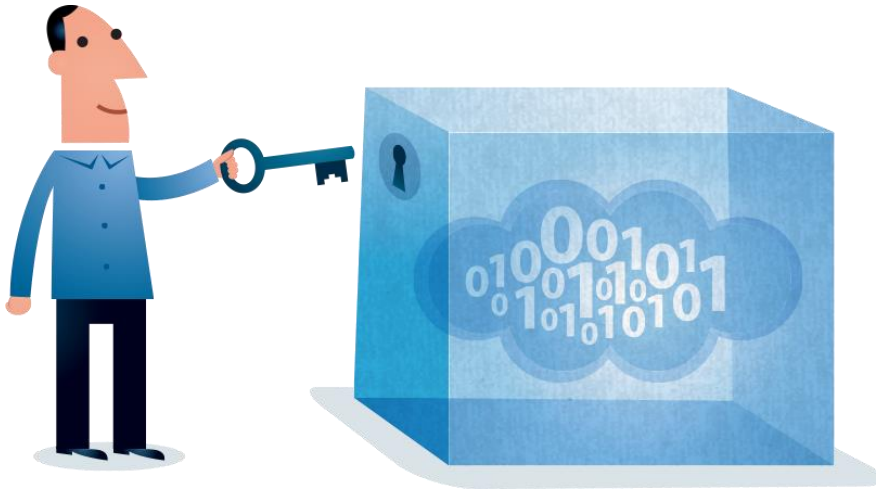
If it is adequately preserved, there are many benefits to digital data, in particular the ability to make content more accessible to users.



https://digitalbevaring.dk/

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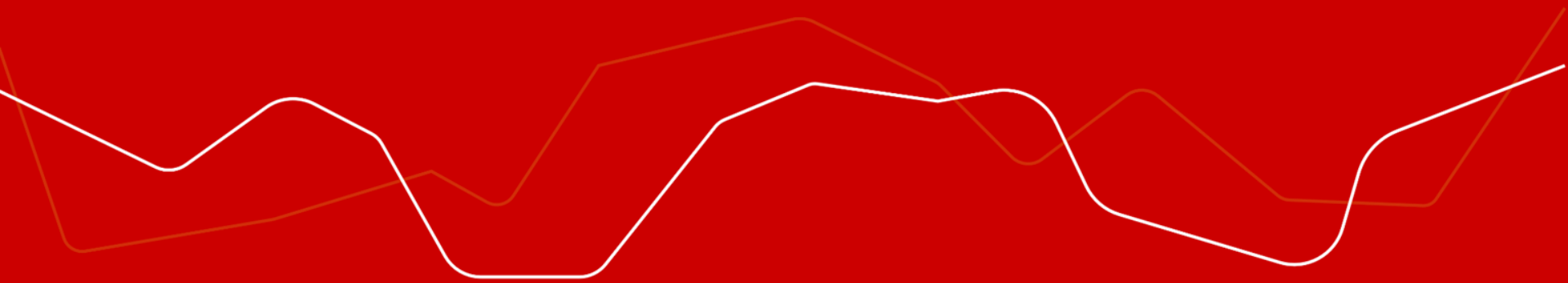
Digitisation

Digital Preservation

Digital preservation is an **active process** of data management, appraisal and curation.



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Digital Preservation Activities

- Maintaining a catalogue that records what data is and where it is stored
- Developing policy and process for the acquisition, preservation and access to digital content
- Examining digital content to understand it's characteristics, assessing it for preservation risks and taking action to mitigate those risks
- Maintaining multiple copies of digital content (in multiple locations)
- Frequently checking the integrity of digital content

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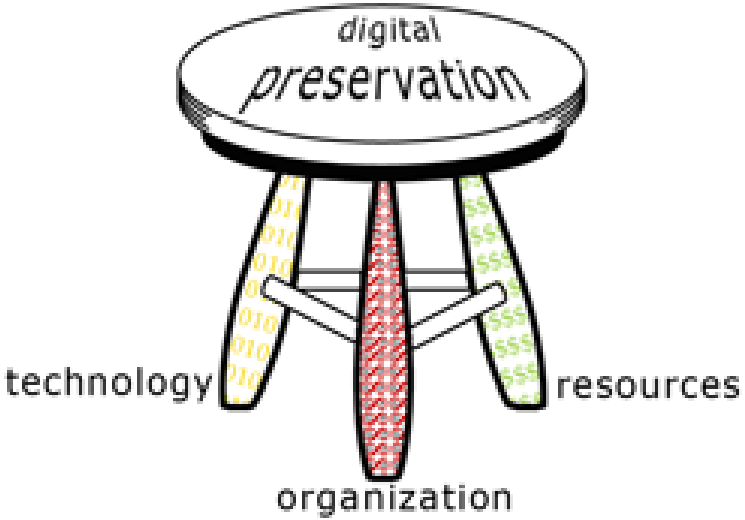
Digital Preservation Models

Three Legged Stool:

- Technology (tools, security, storage and Back-Up
- Organisation (policy, strategy, procedures, staffing)
- Resources (business planning, cost modelling and funding)



http://dpworkshop.org/dpm-eng/conclusion.html

https://www.dpconline.org/docs/technology-watch-reports/1359-dpctw14-02/file

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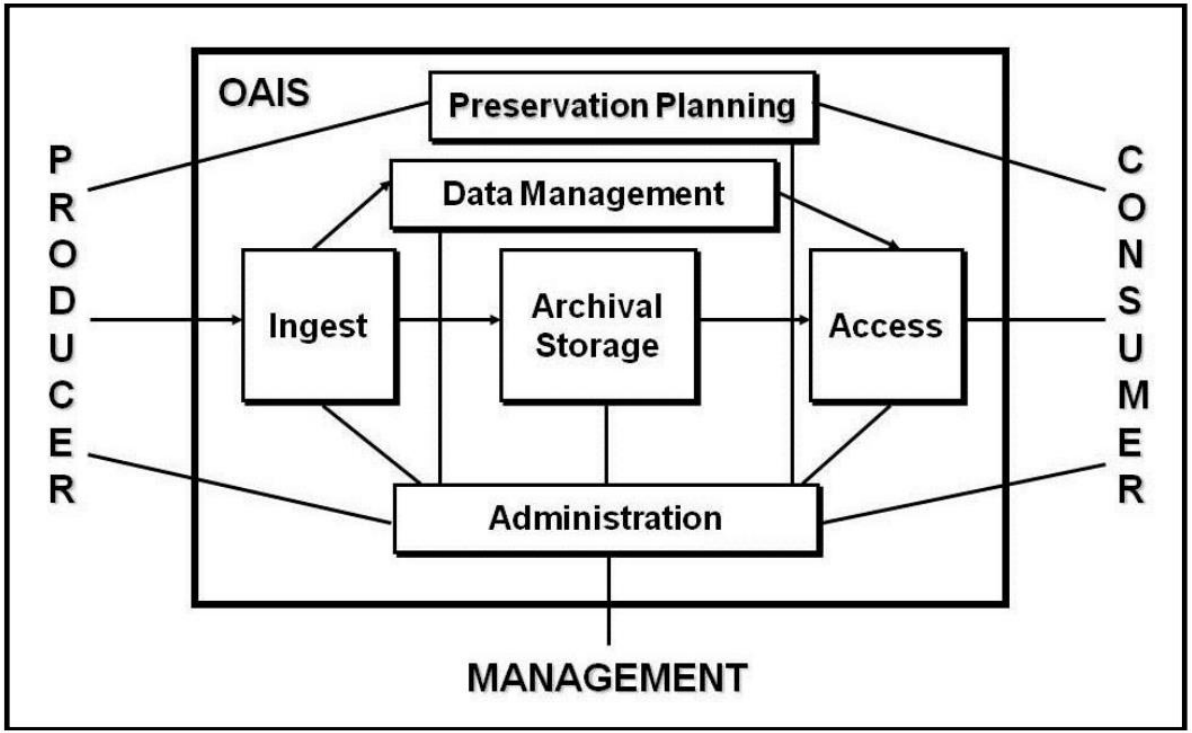

Open Archival Information System (OAIS) Model

https://www.dcc.ac.uk/guidance/curation-lifecycle-model

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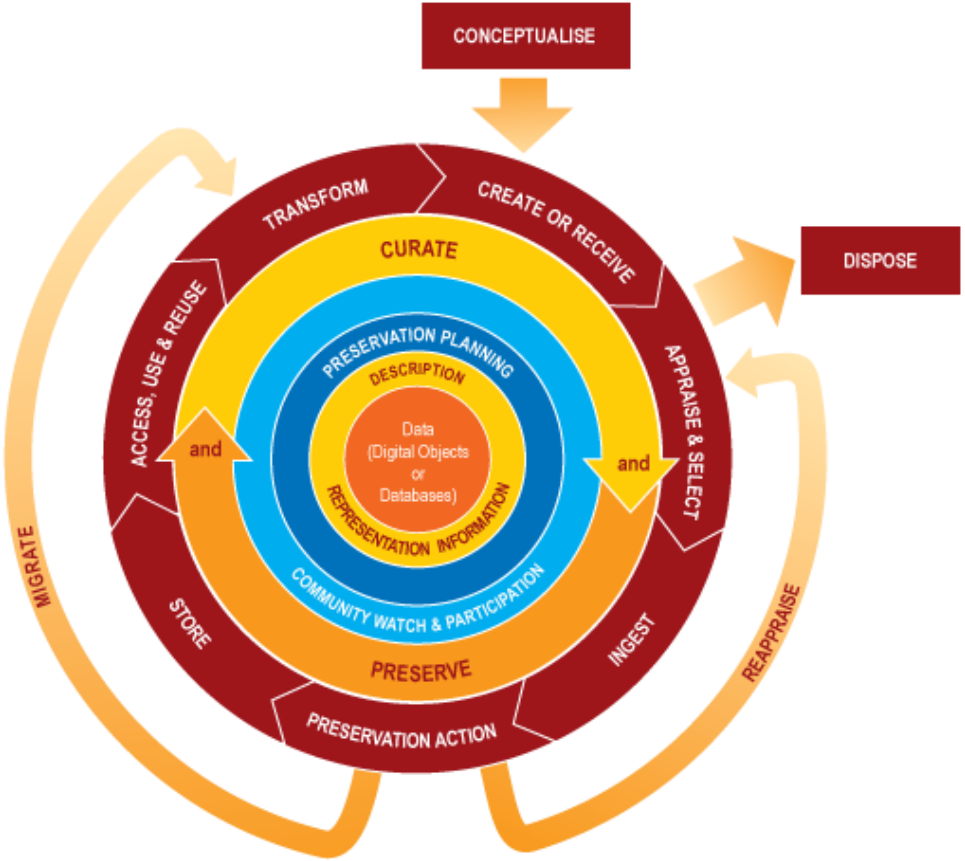

The DCC Curation Lifecycle Model

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Digital Preservation in Archaeology

- Destruction of in-situ material during archaeological fieldwork – essential that preservation and access ensured
- Creation of unpublished fieldwork reports and post-excavation data archives by archaeologists ('grey literature')
- 'Big data' in archaeology – ARIADNEplus
- Use of specialist tools and software (e.g. CAD, GIS, geophysics, LiDAR, 3D models)

https://archaeologydataservice.ac.uk/advice/DataManagementPlans.xhtml

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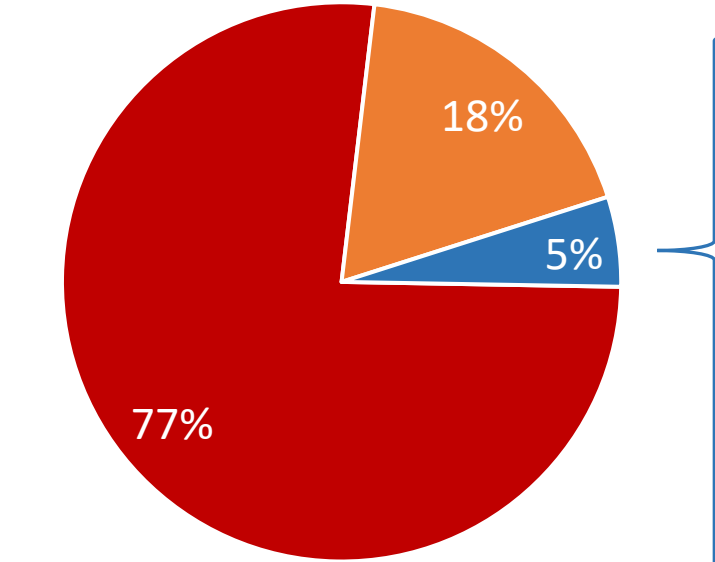
Contents of the ADS Archive



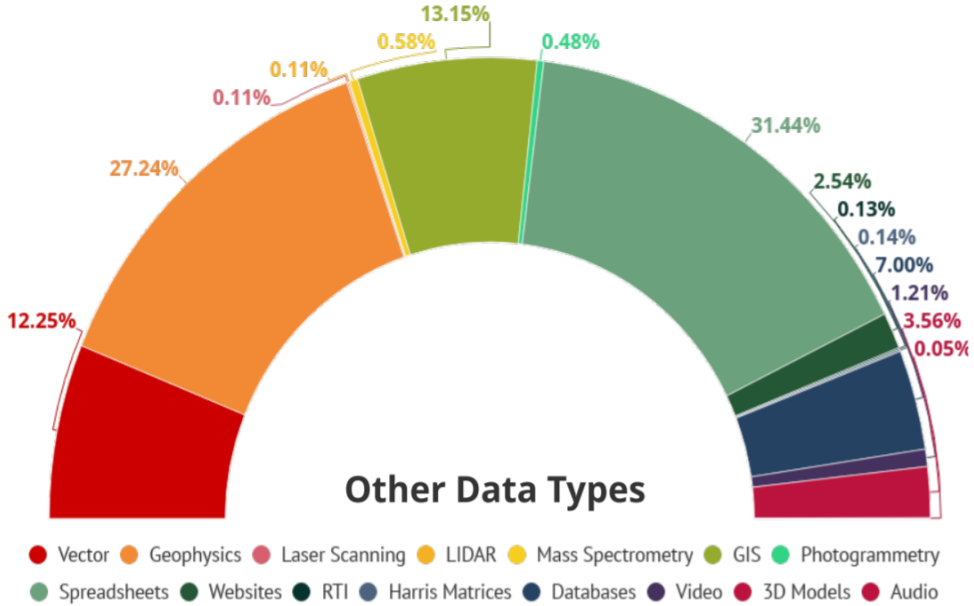


Image Text Other data types

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The Newham Archive: A Case Study of the Loss of Digital Data

The Archaeological Service was closed down in 1998 and the digital archive was passed to the ADS. The digital archive represented all the work that was digitised during Newham Archaeological Service fieldwork and post-excavation analysis, along with project designs over a period of about ten years.

This archive was delivered to the ADS on 230 floppy disks containing over 6000 files and totalling over 130Mb of data.

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The Newham Archive: A Case Study of the Loss of Digital Data

Issues with data:

- Data in proprietary file formats that have gone out of use
- Non-existent data or project documentation.

Resulting in:

- 10-15% of the files are inaccessible and the data the floppy disks contain are effectively lost
- A number of 'orphaned' datasets, including a large cemetery database, which have been rescued but have little reuse potential.

Although the data was considered 'archived', much of it was inaccessible

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Resources:

- Introduction to digital preservation handbook by the Digital Preservation Coalition (DPC)- https://www.dpconline.org/handbook/introduction
- Archaeology Data Service / Digital Antiquity Guides to Good Practice - https://guides.archaeologydataservice.ac.uk/g2gpwiki/
- The Digital Curation Centre (DCC) Curation Lifecycle Model - https://www.dcc.ac.uk/guidance/curation-lifecycle-model