Digital Preservation at the Archaeology Data Service

Dr Tim Evans
Deputy Director
Archaeology Data Service

Background

- Accredited digital archive for heritage data in the UK.
- Founded in 1996
- Based at the University of York
- Predominantly England (work with national agencies)
- Data from Industry and Higher Education

For more information
seehttps://archaeologydataservice.ac.uk/about/annualReports.xhtml

Background

- Archaeology generates a lot of data
- Excavation *is* destructive
- Preservation by Record is at the heart of most work
- Moral – and increasingly legal – obligation to ensure data is preserved

For more information
seehttps://archaeologydataservice.ac.uk/about/annualReports.xhtml

Archaeology can produce…

Data from scientific analysis

```
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dvdrental-#   where length > 120 and replacement_cost > 19.50
dvdrental-#   order by title desc;
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------------------------+--------------+--------+------------------
 West Lion              |         2006 |    159 |            29.99
 Virgin Daisy           |         2006 |    179 |            29.99
 Uncut Suicides         |         2006 |    172 |            29.99
 Tracy Cider            |         2006 |    142 |            29.99
 Song Hedwig            |         2006 |    163 |            29.99
 Slacker Liaisons       |         2006 |    179 |            29.99
 Sassy Packer           |         2006 |    154 |            29.99
 River Outlaw           |         2006 |    140 |            29.99
 Right Cranes           |         2006 |    153 |            29.99
 Quest Mussolini        |         2006 |    177 |            29.99
 Poseidon Forever       |         2006 |    159 |            29.99
 Loathing Legally       |         2006 |    140 |            29.99
 Lawless Vision         |         2006 |    181 |            29.99
 Jingle Sagebrush       |         2006 |    124 |            29.99
 Jericho Mulan          |         2006 |    171 |            29.99
 Japanese Run           |         2006 |    135 |            29.99
 Gilbert Pelican        |         2006 |    163 |            29.99
 Floats Garden          |         2006 |    146 |            29.99
 Fantasia Park          |         2006 |    131 |            29.99
 Extraordinary Conquerer|         2006 |    122 |            29.99
 Everyone Craft         |         2006 |    163 |            29.99
 Dirty Ace              |         2006 |    147 |            29.99
 Clyde Theory           |         2006 |    139 |            29.99
 Clockwork Paradise     |         2006 |    143 |            29.99
 Ballroom Mockingbird   |         2006 |    173 |            29.99
(15 rows)
```
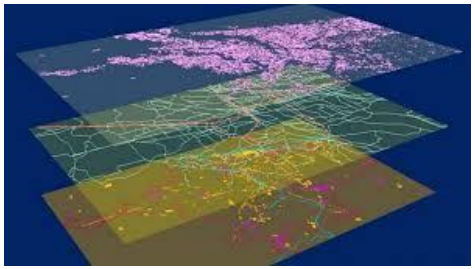
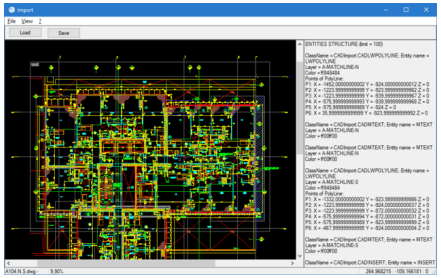

Databases





CAD + GIS

Background

- ADS archive over 3 million digital objects…
- …In 299 unique formats
- ‘Bespoke’ systems stack not tied to any proprietary or open source preservation system

For more information
seehttps://archaeologydataservice.ac.uk/about/annualReports.xhtml

Background

- Entirely project funded.
- Maintain a core staff of 12.
- Of which 5 are directly/predominantly focussed on Digital Preservation.
- “Curatorial And Technical Staff” or CATs.

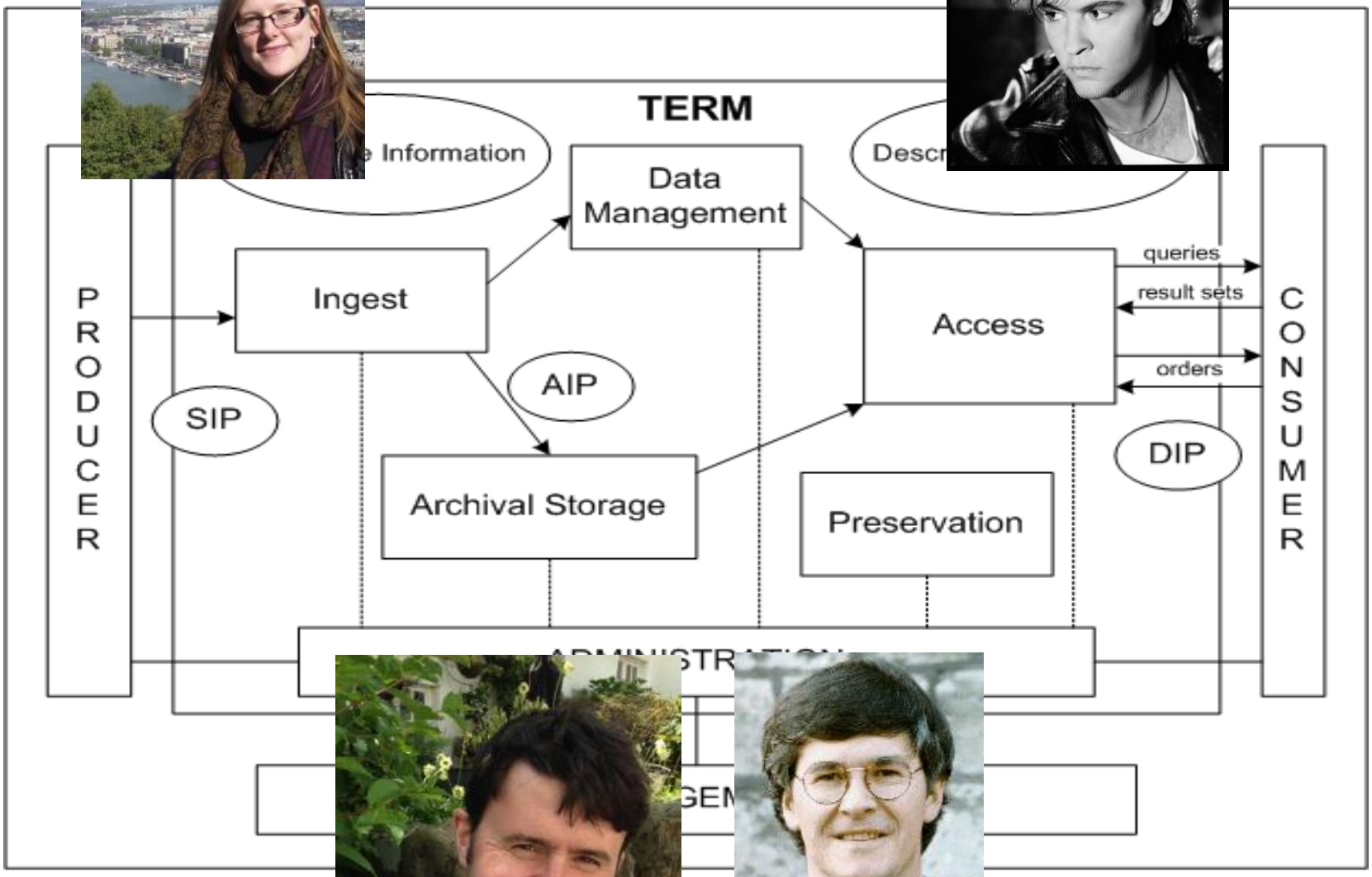


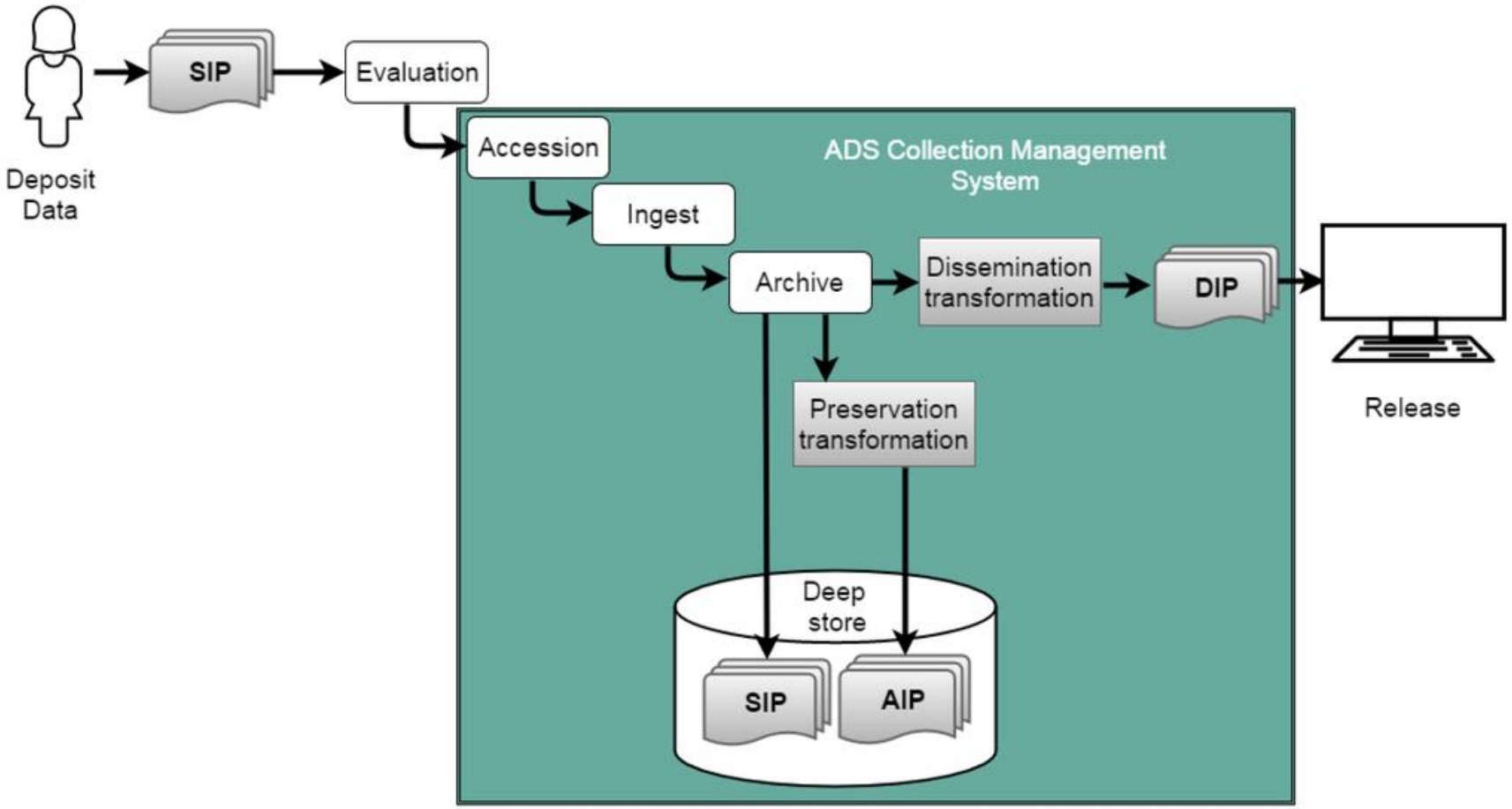
Fig. 1. Major function ode Committee for Space Data Systems (CCSDS), C r-Ar nodology Abstract Standard. (OAIS). Wh com e Data System Standards.

Preservation via migration

- Every file accessioned preserved as a standardised format e.g. all raster images as uncompressed TIFF, databases as delimited text…
- This is called “normalisation”
- Formats used based on a mixture of technical consideration (e.g. compression = data loss), but also judgements on longevity of format and ease of establishing future migrations.

ARCHAEOLOGY DATA SERVICE

Operational workflow



- Increasingly, our work is focussed on understanding what we have, where it is, actively managing risks to that content
  - Checksums: is it the same?
  - Obsolescence: do we need to migrate
  - = understanding what we've done and what we need to do

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Exchangeable Image File Format (Compressed)	2.1	x-fmt/390
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Exchangeable Image File Format (Compressed)	2.1	x-fmt/390
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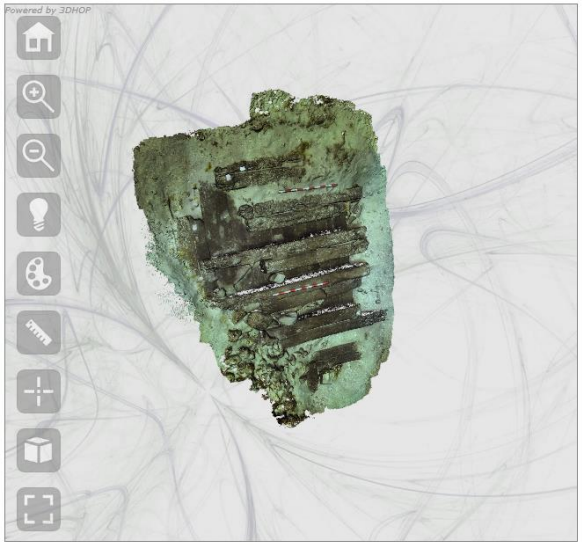
JPEG File Interchange Format	1.02	fmt/44
Exchangeable Image File Format (Compressed)	2.1	x-fmt/390

PREMIS

- ADS are increasingly using the PREservation Metadata: Implementation Strategies
  - Objects: levels of information that have relationships to one another
  - Preservation Events: The things we do
  - Actors (us, the tools we use)



AIP DIP SIP

AIP DIP SIP

AIP DIP SIP

Metadata

OBJ + MTL +Textures

Source images (lots of raw)

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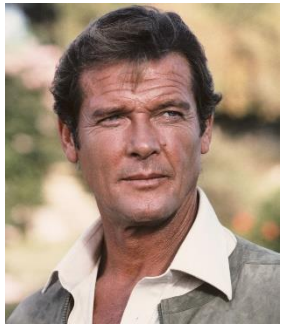
process.validation

process.virus check

Is Documented In

process.normalization

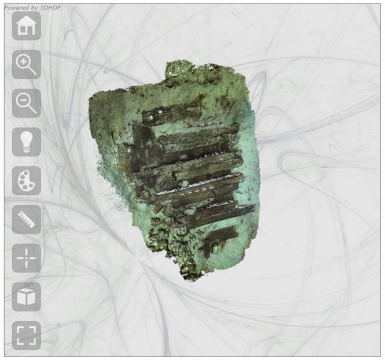
process.migration



agent.actor.r_moore

agent.software.xnview

Is Source of



PREMIS

- Ensuring the ‘complexity’ of objects and their metadata is retained
- Supporting ongoing repository management activities
- Retaining the history of digital object

Internal + External Assessment

- DPC RAM
- CoreTrustSeal (CTS)
- Encourage reflection, and assessment of where we can improve
- Often feed into developing Policy and ensuring workflows are documented

DigitalPreservationCoalition

Collaboration (1)

- With the DPC – training for staff, being part of a community and sharing best practice
- National Heritage agencies – giving the same message!

DigitalPreservationCoalition

ads ARCHAEOLOGY DATA SERVICE

100 CBHC RCAHMW

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

Historic England

Collaboration (2)

- Internationally!
- Sharing metadata: Ariadne https://t.co/Ri32qb8sjq?amp=1

- Working to establish best practice: SEADDA https://www.seadda.eu/

SEADDA
Saving European Archaeology from the Digital Dark Age

ARIADNE plus

ads ARCHAEOLOGY DATA SERVICE

Thanks!

tim.evans@york.ac.uk

http://archaeologydataservice.ac.uk/blog/

https://twitter.com/ADS_Update

help@archaeologydataservice.ac.uk