Storing and disseminating the data for maximum impact

Burial Grounds of England
Waterloo St John, London
13 June 2017

Julian Richards
with Gareth Beale, Jo Gilham,
Katie Green & Nicole Smith

http://archaeologydataservice.ac.uk
• Challenges:
  • Storing data – which data and how?
  • Finding data & joining up fragmented and diverse data sets
• Opportunities:
  • Digital dissemination
  • Open data
  • Citizen Science – community-driven research
• Introducing *DEBS: Discovering England’s Burial Spaces*
Storing Data
Information Entropy

Digital Data Challenges

• Digital data are fragile
• They are still archived as objects rather than computerised information
• Digital data standards
• Big Data – 3D point clouds
• What are significant properties?
• Data licensing – Creative Commons framework
Media Types

- Experience rapid change
Trusted Digital Repositories: NASA - Open Archival Information System

OAIS

Research

SIP

Accession

Preservation

Delivery preparation

Interface

Release

Publish

Deep Storage

Nearline backup

Delivery system

DIP

Picture from DLib
This new and revised series of Guides to Good Practice have been produced as the result of a two-year collaborative project between the UK Archaeology Data Service and Digital Antiquity in the US. The project has encompassed important revisions of the existing six ADS Guides as well as the development of entirely new documents covering areas such as marine survey, laser scanning, close-range photogrammetry, digital audio and digital video. The project has involved previous Guides authors revising existing content alongside new authors, from both Europe and the US, also contributing to the development of the guides into new themes and areas.

The project has been undertaken in collaboration with the Digital Antiquity initiative, a US-based project with the aim of enhancing the preservation of and access to digital records of archaeological investigations. A major aim of the Guides is to provide the basis for archaeological project workflows that will create digital datasets that can be archived and shared effectively by Digital Antiquity’s tDAR archive and repository in the US and by the Archaeology Data Service in the UK. The development of the Guides involves close collaboration with teams in the US at both the University of Arkansas and Arizona State University.

Other ADS projects have also fed into the revision and development of the Guides. ADS involvement in the European VENUS project has formed the basis of a guide focussed on marine survey. In addition, the incorporation of findings from the ADS Big Data project, together with the revision of the existing guide on aerial photography and remote sensing data, has seen a significant contribution to the guides from English Heritage funded projects.

Previous versions of the ADS/AHDS Guides to Good Practice have been archived and are still available on the old Guides to Good Practice page.

View the full new Guides to Good Practice Table of Contents

Two new hard copy Guides to Good Practice, “Caring for Digital Data in Archaeology” and “Geophysical Data in Archaeology” are also now available to purchase from Oxbow Books.
Finding things: Resource Discovery

My gravestones database here, on floppy disc
What is OASIS/HERALD?

**OASIS** is a data collection form for historic environment investigations – above and below ground. **HERALD** is the project to redevelop OASIS.
The OASIS project brings together a number of strategic partners: the Archaeology Data Service, Historic England, Historic Environment Scotland and the Royal Commission on the Ancient and Historical Monuments of Wales under the umbrella of the University of York.

<table>
<thead>
<tr>
<th>Partners</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="#">Archaeology Data Service</a></td>
<td>The Archaeology Data Service supports research, learning and teaching with freely available, high quality and dependable digital resources. It does this by preserving digital data in the long term, and by promoting and disseminating a broad range of data in archaeology. The ADS promotes good practice in the use of digital data in archaeology, it provides technical advice to the research community, and supports the deployment of digital technologies.</td>
</tr>
<tr>
<td><a href="#">Historic England</a></td>
<td>Historic England is the Government's statutory adviser on the historic environment. Officially known as the Historic Buildings and Monuments Commission for England, we are an executive Non-Departmental Public Body sponsored by the Department for Culture, Media and Sport.</td>
</tr>
<tr>
<td><a href="#">Historic Environment Scotland</a></td>
<td>Historic Environment Scotland is the lead public body set up to investigate, care for and promote Scotland's historic environment.</td>
</tr>
<tr>
<td><a href="#">Royal Commission on the Ancient and Historical Monuments of Wales</a></td>
<td>The Royal Commission is the investigation body and national archive for the historic environment of Wales. It has the lead role in ensuring that Wales’s archaeological, built and maritime heritage is authoritatively recorded, and seeks to promote the understanding and appreciation of this heritage nationally and internationally.</td>
</tr>
<tr>
<td><a href="#">Association of Local Government Archaeological Officers (ALGAO)</a></td>
<td>The Association of Local Government Archaeological Officers (ALGAO) was originally formed in 1996 (through merger of the Association of County Archaeological Officers and Council of District Archaeological Officers) to represent all archaeologists working for local authorities and national parks.</td>
</tr>
</tbody>
</table>
Post-excavation specialists

Community groups
  e.g. cemetery recording

Archaeological contractors

Historic building specialists

Academics

OASIS

More projects from more widespread sources

Church Heritage Record?

Museums/Archives

HERs
Levels of OASIS data collection

- **OASIS LITE**
  - Bibliographic record & Report uploaded by HERs or contractors

- **OASIS BASIC**
  - Constitutes a basic HER record

- **OASIS PLUS**
  - Creates a rich metadata record for specialist / project specific recording

- **Environmental**
- **Human Bones**
- **Geophysics**
- **Graveyards**
- **C14**
HIAS: Heritage Information Access Strategy

Business Process Mapping - Draft Model

Local & Regional
- LA HERs (Local Authorities)
- Greater London HER (Historic England)
- HE Maritime HER

National
- Expanded Heritage Gateway National portal
- HERALD / OASIS

Local & Regional Planning consultation

SMA Workshop

Cross area analysis

Inter-Regional

Separate & Secure

Academic access
Public access
National security copy (Historic England)
The Library of Unpublished Fieldwork Reports

- Currently 42000+ reports in the library.
- They are linked to by HERs and libraries.
- Every report has a DOI.
- Available via ADS Library.
ACCORD with the Ardnamurchan Community Archaeology Group

ACCORD was an AHRC funded research project that took place from October 2013 to March 2015 and was a collaboration between the Digital Design Studio at the Glasgow School of Art, the University of Manchester, the Royal Commission on the Ancient and Historical Monuments of Scotland and Archaeology Scotland. In the summer of 2014 the ACCORD project worked together with communities across Scotland to co-design and co-produce 3-Dimensional digital models of heritage places and monuments. We explored how forms of community-based social value associated with sites and places can be addressed and transformed through engagement with 3D digital technologies. The ...

ALL SAINTS CHURCH WILLIAN

Historic England NRHE Excavation Index for England

Radar survey carried out in advance of proposed graveyard extension works. Information from OASIS Online Form.

HERTFORDSHIRE

BETHEL CHAPEL ROBINSON ROAD

Historic England NRHE Excavation Index for England

Project No: 1112. Archaeological interpretative survey of the post-medieval chapel and graveyard in advance of proposed works.

WEST SUSSEX

BURGHBYSANDS GRAVEYARD

Historic England NRHE Excavation Index for England

Geophysical survey took place to the north & east of the graveyard & confirmed the position of the northern defences & much extra-mural activity.

CUMBRIA
ACCORD with the Kirkcudbright History Society

ACCORD project, 2017

Introduction

ACCORD was an AHRC funded research project that took place from October 2013 to March 2015 and was a collaboration between the Digital Design Studio at the Glasgow School of Art, the University of Manchester, the Royal Commission on the Ancient and Historical Monuments of Scotland and Archaeology Scotland. In the summer of 2014 the ACCORD project worked together with communities across Scotland to co-design and co-produce 3-Dimensional digital models of heritage places and monuments. We explored how forms of community-based social value associated with sites and places can be addressed and transformed through engagement with 3D digital technologies. The project worked together with 10 community groups across Scotland that have ongoing relationships to heritage places.

Full project details including references to methodology are available from the main ACCORD programme pages.

This archive contains the outputs from the eighth co-production project. The ACCORD team worked with The Kirkcudbright History Society on the 4th and 5th of October 2014. Together in the Kirkcudbright Kirkyard we modelled and recorded the inscriptions of two grave monuments using photogrammetry and the technique of Reflectance Transformation Imaging (RTI). The three grave monuments included one dedicated to the traveller Billy Marshall who died in 1792; an 18th Century gravestone with one face completely occupied by raised lettering; and an ornate tablestone grave dedicated to Samuel Herries who died in 1793. For more information on this technology please see the ACCORD project overview page.
ACCORD with the Kirkcudbright History Society
ACCORD project, 2017

Introduction
Overview
Downloads
Metadata
Usage Statistics

ACCORD: Archaeology Community
Co-production of Research Data

Data copyright © Kirkcudbright History Society, ACCORD project unless otherwise stated

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Send e-mail enquiry

Downloads
Documents | Production Images | Photogrammetry | RTI | Additional Files

Documentation (all files)
Kirkcudbright Metadata

RTI Files
Please select an RTI file from the table below.

<table>
<thead>
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<tr>
<td>RobertMclellan</td>
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XLSX
60 Kb
ACCord with the Kirkcudbright History Society

ACCord project, 2017

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G51 1EA
Scotland
Tel: +44 (0) 141 566 1465

Send e-mail enquiry

Resourse identifiers

ADS Collection: 2153
DOI: https://doi.org/10.5284/1042730
How to cite using this DOI

Downloads
Documents | Production Images | Photogrammetry | RTI | Additional Files

Documentation (all files)

Kirkcudbright Metadata

Downloads - Kirkcud RTI SamuelHerries
Select another RTI file

RTI files
(Using multi-volume ZIP files)

Kirkcud RTI SamuelHerries

ZIP 001 100 Mb
ZIP 002 29 Mb
Overview

The ACCORD team worked with The Kirkcudbright History Society on the 4th and 5th of October 2014. The project was based in Kirkcudbright Kirkyard, Dumfriesshire. Together in the Kirkcudbright Kirkyard we modelled three grave monuments using photogrammetry (two are archived here with the ADS) and recorded the inscriptions on two of these using the technique of Reflectance Transformation Imaging (RTI) (both of which are archived with the ADS). The three grave monuments included one dedicated to the traveller Billy Marshall who died in 1792; an 18th Century gravestone with one face completely occupied by raised lettering; and an ornate tablestone grave dedicated to Samuel Herries who died in 1793.

Five members of the Kirkcudbright History Society (one of whom is also a member of the local camera club) and a member of the Wigtownshire Antiquarians, took part in this ACCORD project. The Kirkcudbright History Society was primarily set-up in 2001 as a lecture society, meeting monthly from October to March, and run entirely by a volunteer committee. It is one of the youngest societies in Dumfries and Galloway. It currently has around 80 members. The aims of the society are to encourage and conduct research into local history topics, arrange and organise lectures on local history themes, organise outings to places of interest, publish or assist in the publication of notes, papers, transcripts and web pages (relating to local history), liaise with holders of source material, and arrange local history exhibitions. They have their own website at http://www.kirkcudbrighthistorysociety.org.uk/.

List of Participants in the ACCORD project:

- Jennifer Roberts (Kirkcudbright History Society)
- William Gardner (Kirkcudbright History Society)
- John Pickin (Kirkcudbright History Society)
- David F. Devereux (Kirkcudbright History Society)
- Helen Bowick (Kirkcudbright History Society)
- George Wishart (Kirkcudbright History Society and Camera Club)
- Stuart Jeffrey (Digital Design Studio, Glasgow School of Art)
- Mhairi Maxwell (Digital Design Studio, Glasgow School of Art)
- Clara Molina-Sanchez (Digital Design Studio, Glasgow School of Art)

Description of Data-Capture Process:

For photogrammetry, in all cases, data collection consisted of digital images captured with varying cameras. Before any images were taken, the camera and lens settings were set to automatic, with no flash and images captured at JPG fine quality (metadata for each image is provided in the accompanying Excel spreadsheet). A total of 193 digital images were captured in order to create a photogrammetric model of the headstone dedicated to traveller Billy Marshall (1672-1792), and 108 of the headstone dedicated to Robert McLellan (1711).
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<thead>
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<td></td>
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<td></td>
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<th>PHOTOGRAHAMMETRIC SURVEY</th>
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<td>Archaeology</td>
</tr>
<tr>
<td>Period</td>
<td>Monument Type (Scotland)</td>
<td>BURIAL GROUND</td>
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<tr>
<td>Period</td>
<td>MIDAS</td>
<td>Medieval</td>
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If a visitor comes to the website for the first time, or if they visit a page (or download a file) more than 30 minutes after their last page view, this will be recorded as a new visit. A unique visitor making multiple visits per day will register as several visits.

A download is a click on a link to something other than a web page, file extensions include: csv, doc, docx, gif, jar, jpg, jpeg, mp3, mp4, mov, odb, odt, pdf, png, ppt, pptx, txt, wav, wma, wmv, wpd, xis, xlsx, xml, zip but this is not an exhaustive list.

Pages viewed is the number of HTML pages or scripts that visitors have looked at. A "page" is a hit that is not an image, JavaScript or CSS file and which was not loaded by a search engine robot.
Who is Using the ADS?

- Commercial: 29%
- Nat/Local Gov: 12%
- Independent: 9%
- Metal Detector: 5%
- Museums: 3%
- Education: 42%
Research Value

ADS: % respondents

- 84% - ADS has had an impact on data sharing
- 79% - reduced time required for data access and processing
- 51% - New intellectual opportunities
- 56% - Permitted new types of research
- 94% - Data very or quite important for their research

Figure 16: Impact on culture of data sharing, by data centre

<table>
<thead>
<tr>
<th></th>
<th>ADS</th>
<th>BADC</th>
<th>CDS</th>
<th>ESDS</th>
<th>NGDC</th>
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<tr>
<td>To a large extent</td>
<td>84%</td>
<td>69%</td>
<td>72%</td>
<td>54%</td>
<td>68%</td>
</tr>
<tr>
<td>To a small extent</td>
<td>16%</td>
<td>29%</td>
<td>27%</td>
<td>40%</td>
<td>30%</td>
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<tr>
<td>Not at all</td>
<td>0%</td>
<td>2%</td>
<td>1%</td>
<td>7%</td>
<td>3%</td>
</tr>
</tbody>
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Source: Technopolis ranking based on survey of data centre users, January 2010
7533: Discovering England’s Burial Spaces (DEBS)

Project Name: Discovering England’s Burial Spaces (DEBS): Enabling new forms of community engagement through digital experience

- OASIS+ Graveyard recording module
- Mobile grave memorial recording application
  - Digital Supplement to CBA Practical Handbook
- Pilot case studies - community engagement
- Burial Space Research database
- Legacy digitisation project

- Interchange of data with Church Heritage record?
DEBS: Discovering England’s Burial Spaces

User

Download DEBS toolkit (product 5)

New Recording Project

Legacy Digitisation Project

Structured Data

Unstructured Data/Reports

Desktop Application

Mobile Application

OASIS+ Form

Burial Space Research Database

ADS Archive

ADS Library
Thank-you for listening

Follow us on Twitter:
@ADS_Update

Follow us on Facebook:
http://www.facebook.com/archaeology.data.service

E-mail: julian.richards@york.ac.uk
Website: http://archaeologydataservice.ac.uk/