



## Portable Antiquities Scheme – Heritage Management System

Dan Pett/ Tyler Bell Tuesday 17<sup>th</sup> June 2003

<http://pas.toadhms.com> <http://www.finds.org.uk>

### Brief history of the PAS:

The Portable Antiquities Scheme is a voluntary scheme for the recording of archaeological objects found by members of the public. The Scheme was established to promote the recording of chance finds and broaden public awareness of the importance of such objects for understanding our past.

The government recognised that there was an urgent need to improve arrangements for recording all 'portable antiquities' which fell outside the scope of the Treasure Act 1996, and as a result the Portable Antiquities Scheme was established. In 1997 the Department of Culture, Media and Sport provided funding to institute pilot schemes for the voluntary recording of archaeological objects in six regions. Another five pilot schemes were established five years later, funded by the Heritage Lottery Fund.

The scheme is now expanding to accommodate the remaining areas of the country.

### Key Points:

The portable antiquities community can now be involved in the **creation** of a heritage resource, rather than merely the **recipients**. This is achieved in several ways:

- a) The Portable Antiquities Scheme (**PAS**) is web based (no per-seat licenses)
- b) The public can enter data into the system. This is a **new** feature, and allows the scheme to innovate with regard to other similar data exercises.
- c) It has integrated Workflow and data Quarantine, thus ensuring that the data quality is monitored effectively.
- d) The user is met with a data driven front end, allowing multiple search queries to be formed at the user's request.
- e) Supersedes the old access database that was not connected to the web. If we wanted to update our online databases, we had to send updates to an external company. The new system allows the record set to be current at all times.
- f) The system will be available in the public domain from July 1<sup>st</sup> with a friendly URL.

### General Approach:

The PAS site is a living resource.

This means that the contents of the site will never be the same two days in a row.

The database is constantly being updated by a network of over 30 Finds Liaison Officers (FLO), Finds Specialists and shortly members of the public. All new records are available immediately over the web, although some may be quarantined if data is not yet validated.

It has been developed as a public resource as well as research tool.

All data entry and system configuration is performed via a web browser (no firewall problems).

### Security:

User- and group-level access control is configured using a hierarchical structure, thus ensuring that not all users can access all of the data on the system. This is especially important when it comes to grid reference sampling. The scheme has agreed to publish 4 figure grid references from 1<sup>st</sup> May 2003. The actual grid references can be made less accurate depending on the end user. For example, FLO's, Finds Advisers and the system administrator can see all details entered. The public user will only see limited information.

**Mapping:**

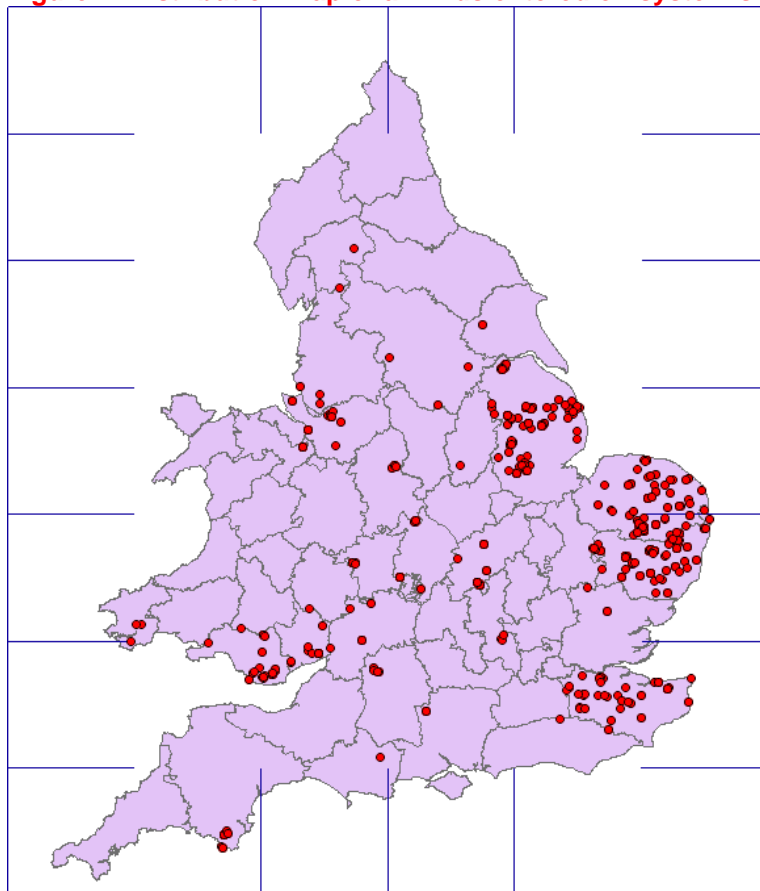
Distribution maps online using vector and raster data. FLO's can use their own maps. No server side GIS required, saving the scheme **£15-30k**. An example distribution map is given below. This demonstrates all finds entered onto the system since April 22<sup>nd</sup> 2003, which as of last night stood at the figure of 1632 finds.

The scheme has just purchased an ordnance survey data set that will validate our data against National Grid references, thus ensuring that the right parish in the right county comes up in our data set.

The system has been set up so that spatial information relating to sensitive finds is suppressed to people with low access rights.

For all finds entered before 1<sup>st</sup> May 2003, public users will only be able to see the parish displayed in the information field. The scheme has made a commitment to publish 4 figure grid references from May 2003 onwards.

**Figure 1: Distribution map of all finds entered on system since 22<sup>nd</sup> April 2003.**



Please note that this is not the map that will be used by PAS, it is an interim map. It also reflective of how much of the country is covered by the PAS scheme. For example, the South West and the North East show very little activity.

**Thesauri:**

Integrated thesauri. This occurs on search expansion and data validation on input. We are working towards INSCRIPTION compliance.

**Images:**

Integrated image database (a managed data resource rather than simply files connected to an HTML page). The system protects images and delivers re sampled versions depending on the end user.

The system accommodates 13 different image types e.g. TIFF, GIF, JPEG, BMP etc

The system generates a proxy image to be delivered over the web which can be configured by the FLO using security, which will watermark and/or resample depending on privileges of end user.

**Workflow:**

Integrated and web-configurable workflow paths for any data object.

Data quarantine that allows interested parties to enter data directly as required. Please see slide for details. The inclusion of workflow, means that the accuracy of the data entered on the system, is checked for validity by the Finds advisers who specialise in that field. If they do not know enough about a find, it can be held for checking.

There are 4 Finds advisers that will oversee the data entered onto the system, at the time of writing, only the Prehistoric & Roman Adviser has been appointed. The other three will be appointed by December 2003.

**Synchronisation:**

The program can run on a workstation (laptop) as well as a server. A web browser is used to interface the system on both.

Subsets of the data can be taken offline, added, edited and synchronised with the server at a later date. This allows people to either work in the field, or in locations with especially slow internet access.

**SMR data transfer:**

The PAS website will allow SMR officers to download at frequent (according to their needs) intervals, the data that has been entered onto our database. This can be retrieved in either XML or CSV files in a zipped or unzipped container. We can also allow SQL searches to be made for advanced users, by giving them a username and password for the system.

If an SMR officer wants to download the data, they contact the PAS ICT officer, who will set up an account on the system that will accord them the rights to access the data.

**Records included:**

The PAS database now has approximately 49,000 records on the system, which are all available for the public to browse through. This is a great improvement on the old database, and for the period 1/10/2001 – 31/03/2003 we have added 16913 records from the access database. These records were all checked for consistency prior to uploading to the web, and are being checked again now, for data errors.

**Future developments:**

- i) Concentration on making raw data available to all. Initially this will only be of interest to specialists.
- ii) Aim to make the website a powerful research tool for the wider audience, this is known to be very large, as demonstrated by the success of TV programmes (Time Team, Wreck Detectives, etc.) The database will also feature in a forthcoming BBC series entitled Hidden Treasures.
- iii) Development of the database as an educational tool. This will be facilitated by the appointment of an education officer in August 2003.
- iv) Development of a visual interface for the database. (Who, what, where.)

**How does the new site differ from what we used to offer?**

The old database was a static Microsoft Access driven database. This was a pretty inflexible tool, and was not set up to dynamically deliver data via the web.

As the database was held locally on the pilot schemes office computers, it was a logistical nightmare for the data to be gathered together.

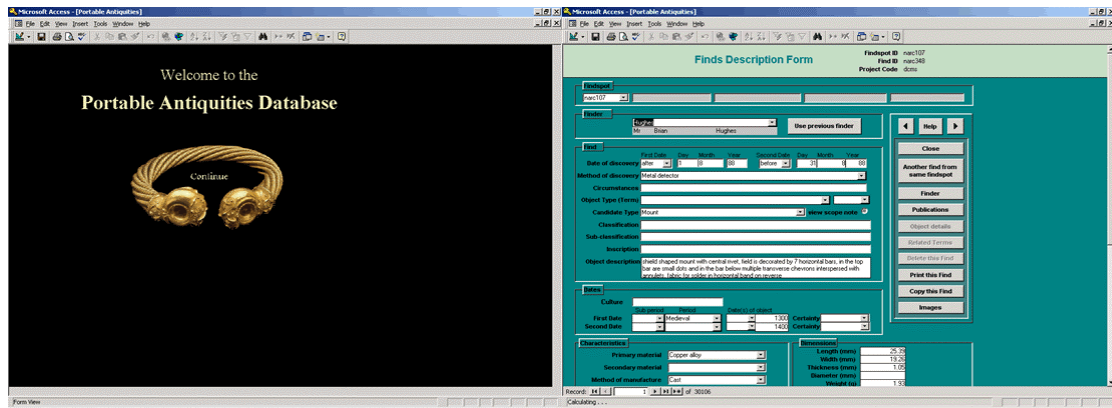


Fig. 2: The old MS Access Database.

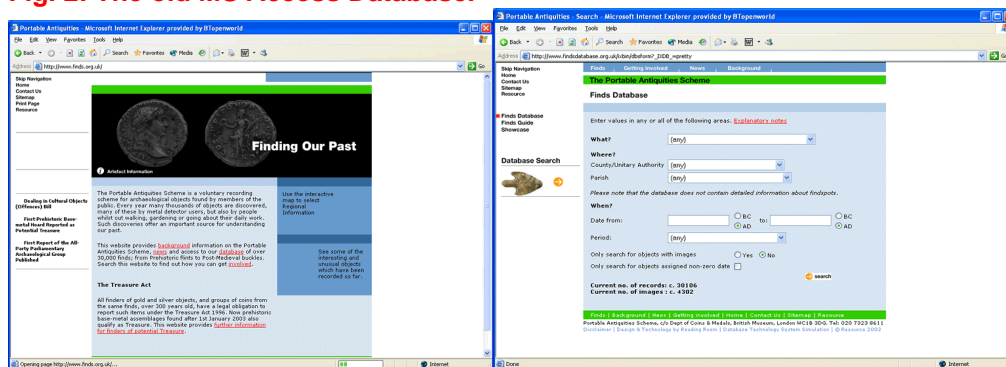


Fig 3: Database linked to web.

The old database was linked to the web, via the INDEX + system, a proprietary database developed by SSL. However, this needed a third party to be able to add the data to the web. Gathering the data from standalone copies proved to be a logistical problem. Prior to the development of the database, no data had been transferred to the system since 31 October 2001. This was a total of 16913 finds.

Searching the SSL developed database was extremely limited, with not much flexibility held within the search criteria.

The Portable Antiquities Scheme's vision was to change this and deliver all our data instantly to the world at large. To achieve this, the scheme contracted Oxford ArchDigital (after a tendering period) to develop a system that would utilise the web, therefore allowing data to be entered at any terminal with an internet connection.

The new database runs on all commercial web browser packages, and can be seen in Figure 4 below. This shows the logged in user page, which displays user pertinent facts, figures and systems status messages. This page is currently under extensive development and the final facets are yet to be put into place.



Fig 4: The new PAS scheme website. Logged in user homepage.

The OAD developed database, is now much more user enabled. It is fully customised on a variety of levels.

- a) Finds Liaison Officers
- b) General public user
- c) Researchers
- d) Administrators
- e) Trusted public users

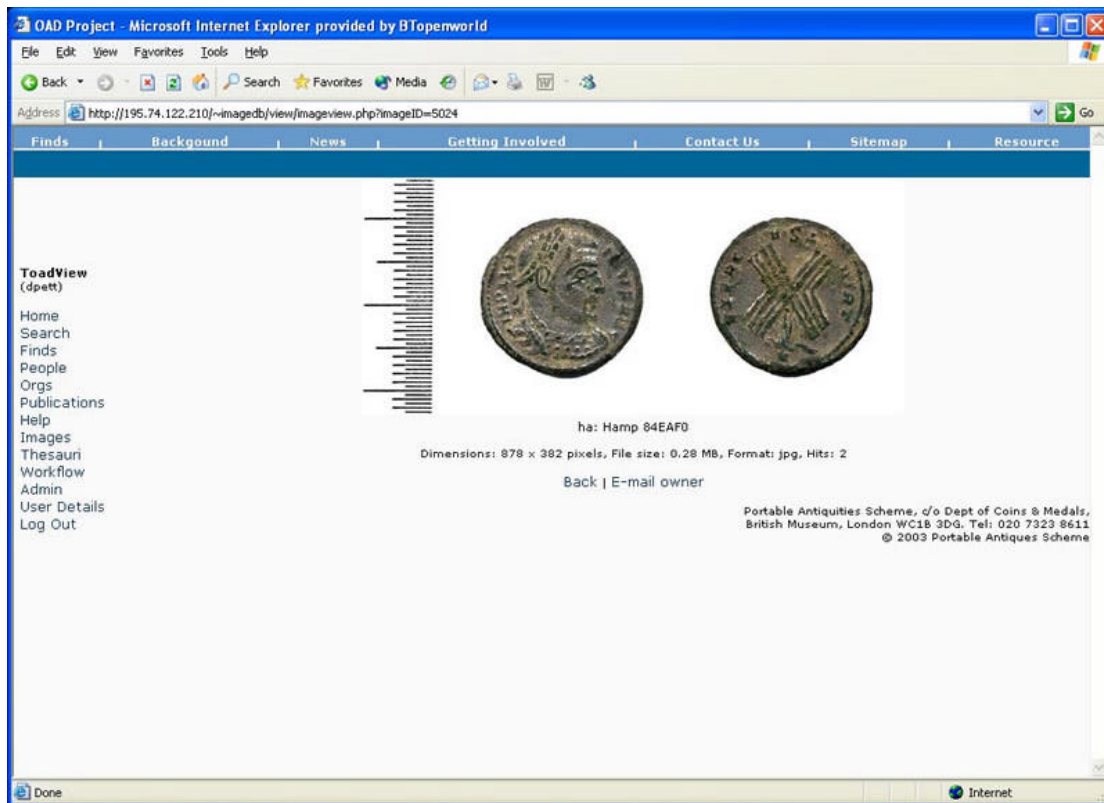
These different groups are given different levels of access. Groups a,d & e can input data to the system, and the validity of their data is checked by specialists as and when it filters into the database. Groups b & c have browse facilities, but are unable to add data of their own.

The database now holds and displays on line various details of the finds and their actual findspot (cross referenced against an Ordnance Survey dataset), with all entries being fully searchable. Each individual record is capable of multiple images being attached, which makes the value of the data displayed increase.

The new database is therefore a much more powerful research tool (and indeed an archive) than the previous database. Figures 5 & 6 below, display information relating to a find. Figure 5 displays the record for a coin, whilst Figure 6 displays the accompanying image.

The screenshot shows a web browser window titled "OAD Project - Microsoft Internet Explorer provided by BTopenworld". The address bar shows the URL: [http://195.74.122.210/~imagedb/fms/pas\\_obj.php?type=finds&id=48727](http://195.74.122.210/~imagedb/fms/pas_obj.php?type=finds&id=48727). The page content is titled "The Portable Antiquities Scheme" and "Find information (Back)". The find ID is "HAMP-84EAF0". The object type is "Coin". The findspot is "OS Grid ref: SU 276 359, 10k Map: SU23SW, 25k Map: SU2735, Parish: NETHER WALLOP, County: HAMPSHIRE". The date is "ROMAN, 319". The further information section includes: Method of Manufacture: Struck or hammered; Material: Copper alloy; Weight: 2.19 grams; Length: 0; Width: 0; Thickness: 0; Diameter: 19; Quantity: 1; Wear: 0; Preservation: 0; Completeness: 0. The discovery information section includes: Found by: Mr Peter Barker, After 02.2003 and Before 04.2003; Method of Discovery: Metal detector. The additional information section includes: Primary Identifier: Sally Worrell. The coin-specific information section includes: Ruler: Licinius I. There are two small images of the coin in the top right corner.

Figure 6: Find data as displayed over the web.



**Figure 6: Image of the coin for the data displayed in Fig. 5**

As mentioned above, the new database has revolutionised the way in which interested parties can interrogate our dataset. This can be done via several methods within the new system.

These are:

- a) simple search
- b) Advanced search
- c) Who, What, Where interface

Of these, the most in depth facility is provided by the advanced search, which will allow a fully customised search string to be developed. These searches can also be saved under user profiles, which will allow them to be dynamically updated as time progresses and the database fills with more information. For example, you could search on all Roman Brooches recorded in Lincolnshire. As more gets added to the database, the saved search will dynamically update the result set.