The Archwilio mobile application

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Gwynedd Archaeological Trust

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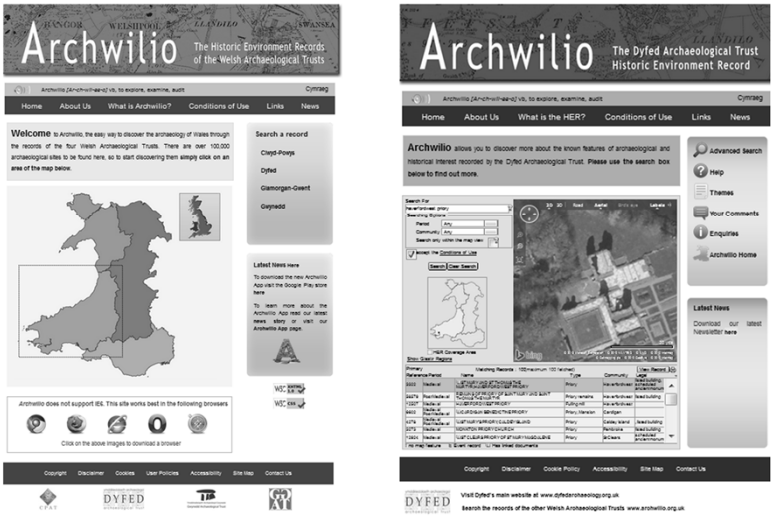
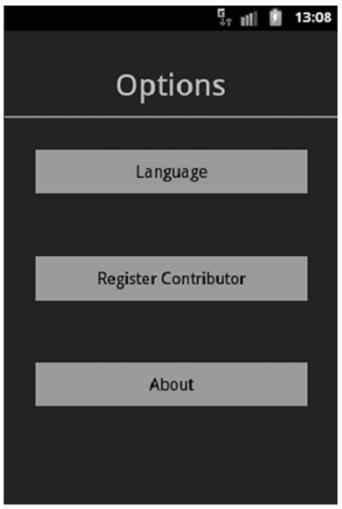
Welsh Historic Environment Records online: www.archwilio.org.uk



Building on the success of the Archwilio website which gives public access to core data from the Welsh Historic Environment Records along with images and grey literature reports.



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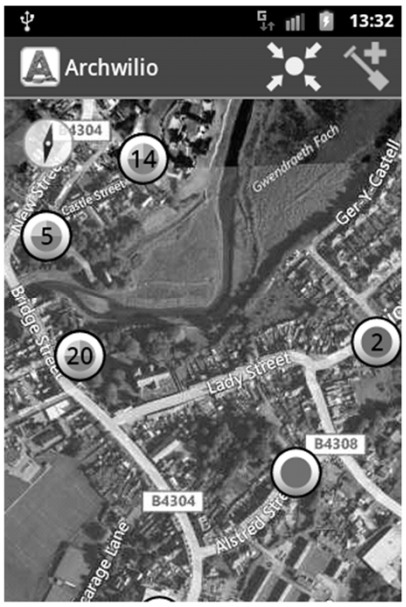
On start up the app performs several system checks related to the availability of GPS and WiFi or Mobile Data. If any of the tests fail then the implications for this are presented to the user. They can then choose to quit or to continue using the app with reduced functionality.
A back end service keeps track of the device's location via GPS. If GPS is not available the service listens for when it is enabled and resumes tracking GPS location. During use the screen indicates when GPS and Data become unavailable via a dialogue.

On first time use the option to select a language preference is offered. Archwillio is a bi-lingual application in Welsh and English although HER site data remains in English, as this is the language in which the data was originally recorded.



The application uses the open source OSM droid library for mapping. This was chosen because it supports offline caching and a variety of map providers - one of which is Bing, the mapping provider now used for both Archwilio and the Archwilio app.

On start up the user's location is indicated. Since 3G availability is patchy over much of Wales the app allows the user to view information while a WiFi or 3G signal is available; this is cached on the device and can be retrieved for access to HER information when out in an area with no access.

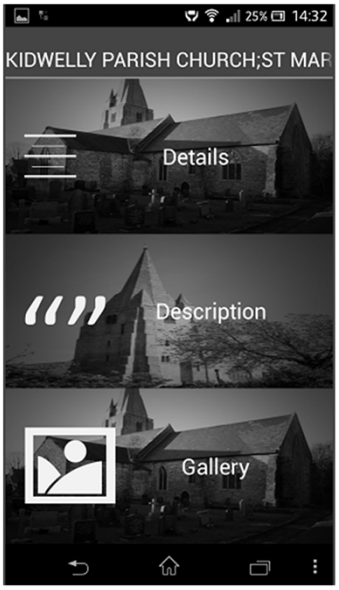
If a connection to the internet is possible the date of the last HER update will be retrieved. The app then inspects the phone's storage to see if this record has been downloaded. If it has then the date of the more recent HER update will be compared with the local copy. If the online HER record is newer than the one on the phone new data will be downloaded. This all happens in the background when this screen (right) is displayed.

The user zooms in on the area they wish to investigate, or where they are currently located.

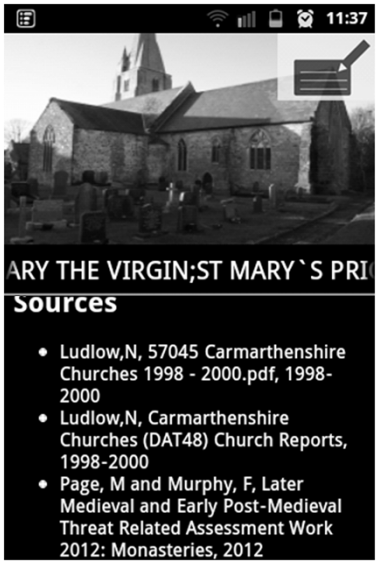
Each archaeological site is indicated by a map marker that is either blank or contains a number when there is more than one site in the vicinity. This clustering prevents the map being obscured by hundreds of markers.

Tapping a blank map marker causes a balloon to appear with basic site information. The user can then decide whether or not to progress to more detailed information and images.

If a map marker indicates more than one site, then tapping it causes a list of those sites to appear. The user then selects a site to access more detailed information and images. Different colours indicate different periods.



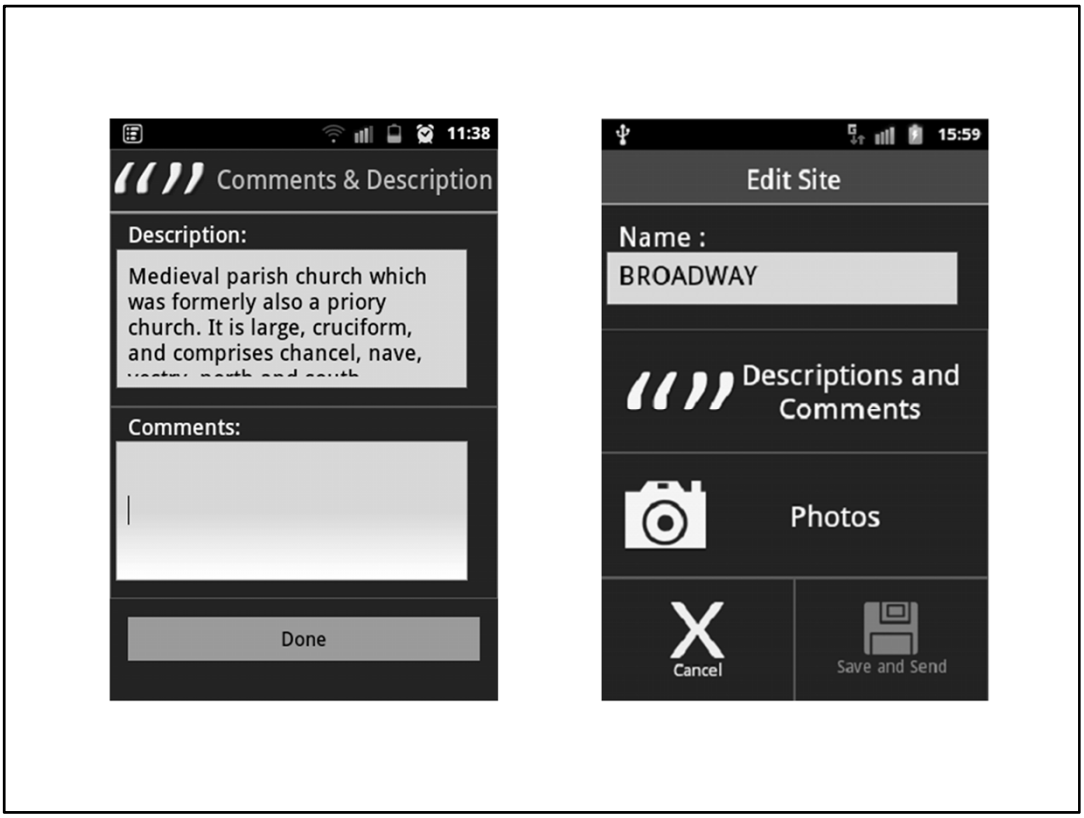
Tapping on ‘Details’ provides basic information – UID, type and period of site etc.



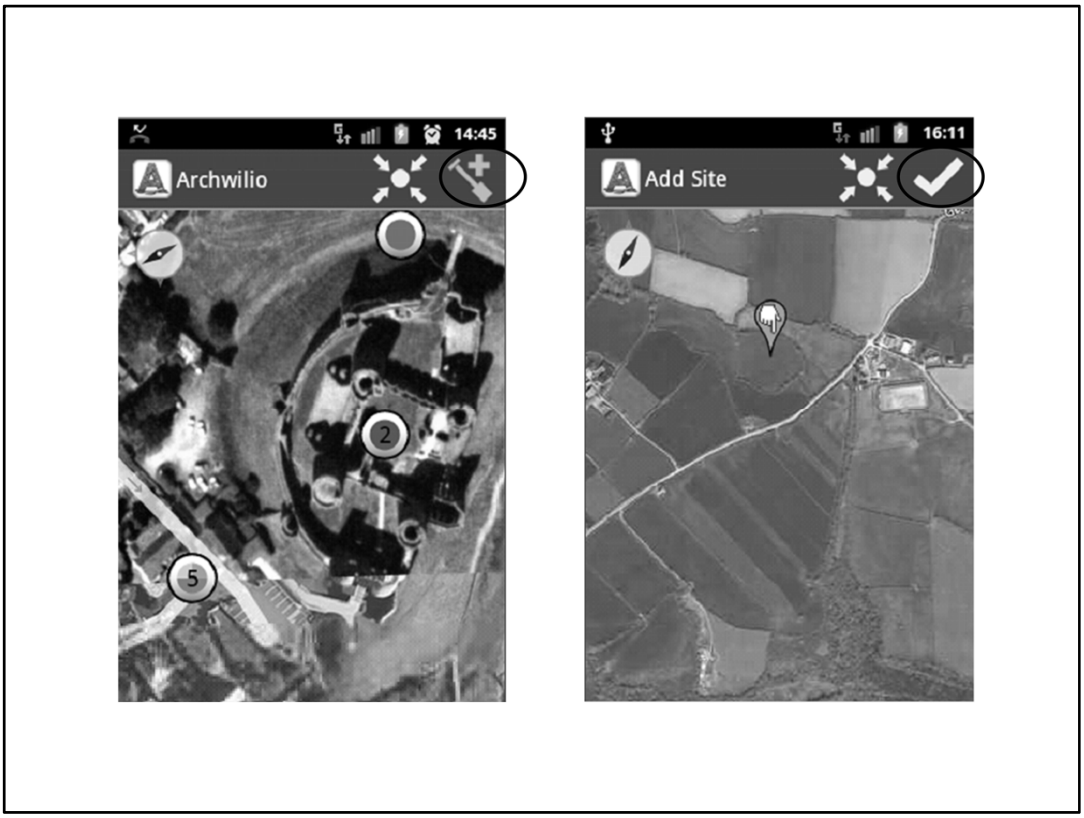
Tapping on ‘Description’ provides the site description (if there is one) and bibliographic information.

Tapping on ‘Images’ provides the user with any available images of a site.

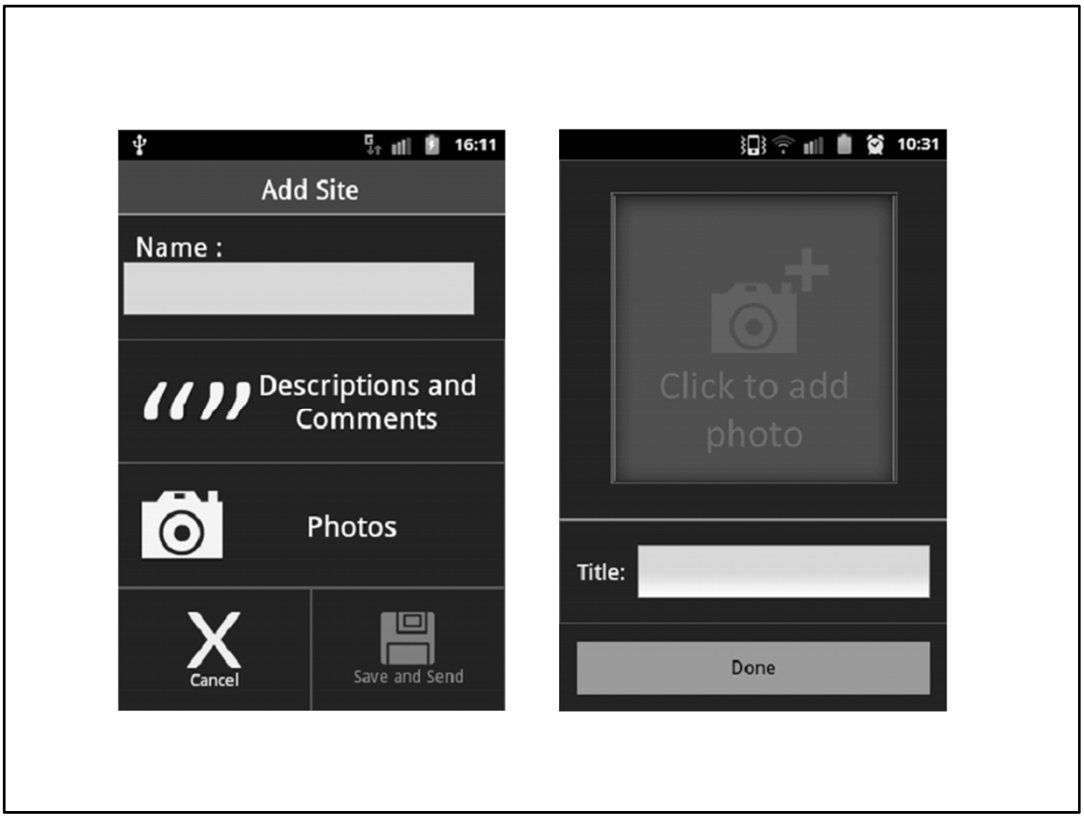
Users can send the HERs additional information or corrections for existing site records, along with images. They begin this by tapping on the ‘edit’ tool.



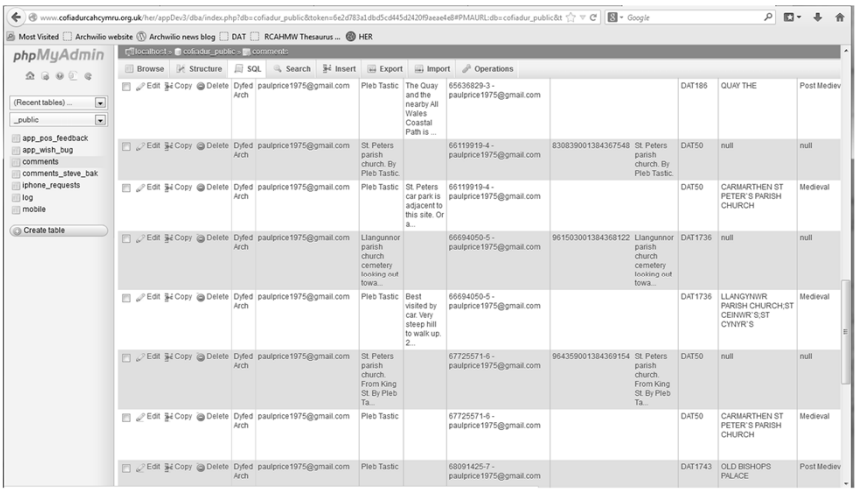
The ‘Edit Site’ screen



To begin recording a new archaeological site the user taps the ‘New site’ tool. They then press the map to locate the new site geographically, and save that location using the Tick. GPS on the phone or tablet records the easting and northing for the site’s location and these are sent to the HER along with the rest of the information recorded by the user.

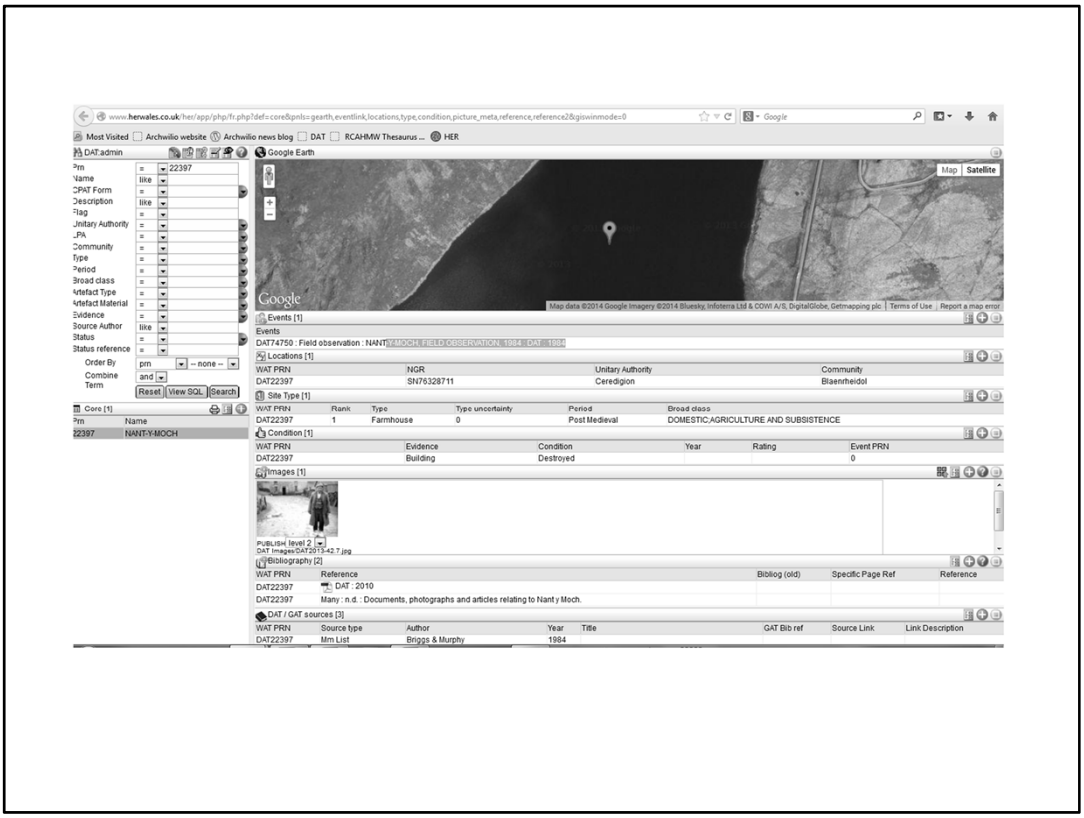


This screen displays once the site location has been saved using the Tick on the previous screen. Here the user can add a description and photographs for the new site.



The WATs have been sent almost 1000 entries into this database since the app was launched.

A mixture of images, information on sites and some duplication.



DAT were sent the image in the thumbnail on this record (seen on the WATs internal data management system) via the app. It is an image of a farmhouse (PRN 22397) that is now submerged beneath Nant y Moch reservoir. During dialogue with the sender of the image it emerged that further documents, photos and articles relating to the farmhouse are held in the Ceredigion Record Office. This extra source information has also been added to the record and is displayed alongside the image on Archwilio and the app.

PRN 22397 on Archwilio html

Image for PRN 22397 full size

A youth volunteering project in Blaenau Gwent is using the app to update records of existing sites and to record new sites like this hut and enclosure.

The app is ideal for getting information into the public domain without having to go through the sometimes lengthy process of updating the HER from project reports. The user can see their efforts rewarded reasonably quickly, especially when uploading images.

Initially the project was intended to have its own data entry volunteer, but use of the app means that all the volunteers can be engaged in fieldwork.

In Gwynedd, Archaeolegwyr Anturus Eryri is an HLF-funded club for young people aged 14-21 that has been using the App out in the field. The app is allowing the WATs to engage with younger audiences using technology they are familiar with.

The app will be a useful and important tool for rapidly recording sites not previously seen, or not seen for several generations, such as the trackway at Llanrhystud and the submerged forest on Newgale beach, revealed by the recent storms.

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