Case Study

Digimap – Landmark Solutions and EDINA make Historical Maps available on-line

Students at Higher and Further Education institutions can now have 24/7 on-line access to Landmark's historical maps through a subscription based service developed by EDINA.

Landmark's extensive and unique digital archive of historical maps covers the whole of Great Britain and gives a complete step-by-step picture of the land use changes that have taken place between the 1840s and the 1990s.

The archive was created as a joint venture between Landmark and Ordnance Survey, by digitising Ordnance Survey's entire archive of paper maps, and now contains one million maps.

400,000 of these maps, covering the whole of Great Britain, are available, both as on-line mapping and for download, through EDINA's Digimap service. These include:

- all available County Series maps at 1:2,500 and 1:10560 scales published between 1843 and 1939; and
- all available National Grid maps at 1:1,250, 1:2,500 and 1:10560/10,000 scales published from 1945 and before the introduction of the Ordnance Survey's digital Land-Line® product.

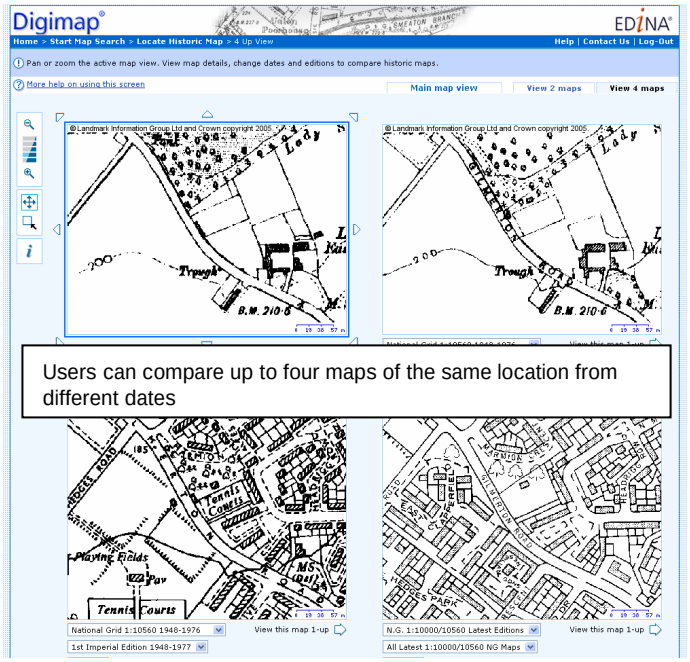
This is the first time that such an extensive number of maps have been delivered to one customer and the first time that such a large collection of georeferenced historical map images have been put together into a single service and delivered as searchable, seamless (where the data allows) web mapping.

Ordnance Survey contemporary vector and raster data are also included in the system.

The challenge to EDINA, was to provide an easy to use web based interface which could be used by novices and experts alike, to locate, browse, view, and download the historical maps, as seamlessly as possible. The historical map dataset, by its nature, is only "seamless" in places, and coverage varies between map editions, which can be problematic when delivering to non-expert users who are used to modern seamless OS mapping.

It was also essential that users could easily compare maps from different dates, but of the same location on-line, to assess the changing landscape without needing skills in the use of geographical information systems.

The challenge was met, on time and on budget, using open source software and Open Geospatial Consortium (OGC) interoperability standards. Development started in October 2004 and a pilot service was launched on 12th April 2005. The pilot service ran for 4 months and was improved in response to user feedback in time for entering full service on 1st August 2005.

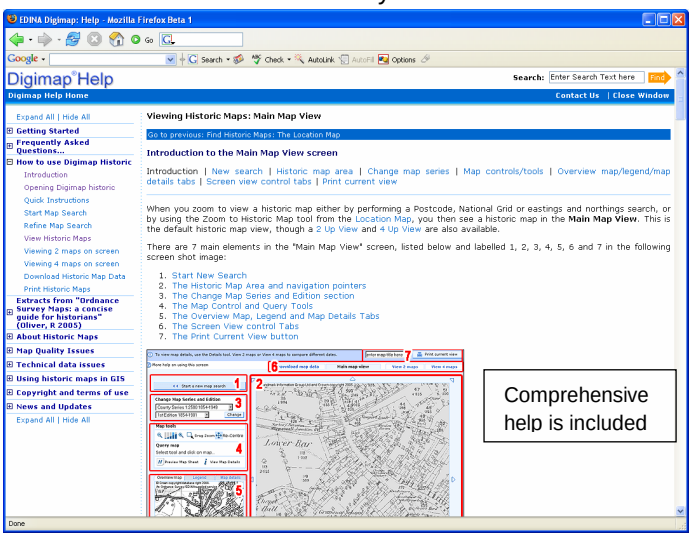


Users can compare up to four maps of the same location from different dates

By the time of the full service launch, 32 Higher or Further Education institutions had subscribed to access the service. A total of 40 have now subscribed.

The functionality of the service:

- allows users to explore historic maps based on a single map series/edition date and/or scale and/or area of interest
- allows users multiple views of the same area at different map series/edition dates and scales
- allows users to compose printable maps on-line.
- allows users to download data for a chosen map series/edition, scale and area of interest in compressed TIFF format with associated world files and metadata.
- provides users with relevant contextual help, training and support and a series of product guides. This should help with:
    - using the service interface
    - using the data in GIS
    - understanding the historical OS maps and their history

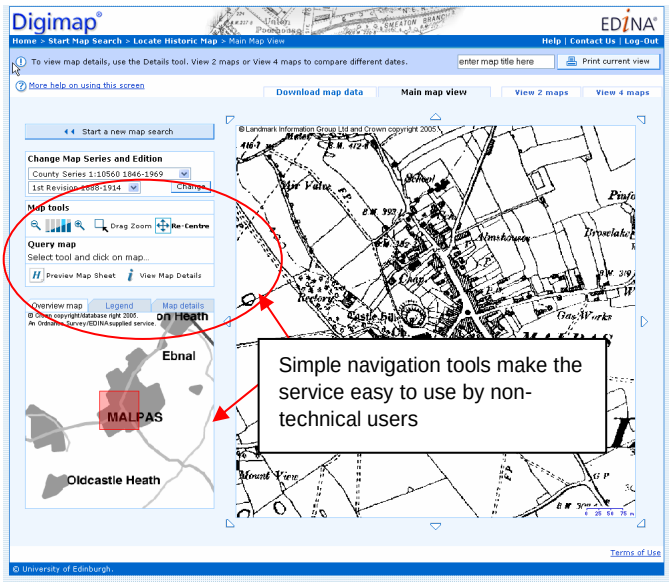


- provides metadata for each map image to users to enable them to better interpret the data (including information on Map Series, Edition, source scale, publishing date).

William Kilbride, Assistant Director of the Archaeological Data Service said the following with regard to the benefits of making the collection available for teaching, learning and research:

"Historical maps put time and place together: they have enormous potential for research and teaching in many different forms. Early Ordnance Survey maps were created during the industrial revolution, so successive editions show radical transformations in the landscape, which are relevant to geography, cultural heritage disciplines, economics and demography.

The earliest maps describe the shape of our medieval cities and successive ones show the impact of Victorian and twentieth century expansion. They show the extent of urban encroachment on rural landscapes, and sustained processes of change in population and economy. Their slowly changing symbology is a narrative on the subtle aesthetics of cartography. There is nowhere in Britain that cannot be better understood by analysis of historical maps, and no university or college that will not benefit from enhanced access to them."



For further details about Landmark's Historical Map Data please contact Rick Crowhurst on 01392 441738, email info@ligsolutions.co.uk or visit the website: www.ligsolutions.co.uk.

For more details about the Digimap Historical Map Collection, and how to institutions can subscribe, please contact: edina@ed.ac.uk, call 0131 650 3302 or view the website: www.edina.ac.uk.