arches

An Open Source Cultural Heritage Data Management Platform

Arches is an open source software platform freely available for cultural heritage organizations to inventory and help manage their heritage resource data.

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Developed jointly by the Getty Conservation Institute (GCI) and World Monuments Fund (WMF) for independent deployment by any cultural heritage institution, Arches combines state-of-the-art software development with the insights and perspectives of heritage professionals from around the world. Institutions that deploy Arches can create digital inventories that describe types, locations, extent, cultural periods, materials, and conditions of heritage resources and establish the numerous and complex relationships between those resources.

Arches is a powerful enterprise-level platform designed to be used at an organization or project level and not as an individual desktop application. As a result, adopters will need to identify a server to host the Arches platform and as with any enterprise-level system, should expect to engage the services of an appropriate IT professional to set up and maintain it.

Arches has been designed with the following overriding principles:

Purpose built: Arches has been specifically designed for the international cultural heritage field and can be used to inventory and manage all types of heritage resources.

Economical: As open source software, Arches is free and there are no licensing fees. Costs associated with Arches can include IT support for setup, hosting and maintenance. Arches allows adopters to share resources for enhancements and maintenance.

Customizable: The software code is open, and the platform can be readily extended and configured to local requirements by an experienced IT professional.

Standards based: Arches incorporates internationally adopted standards for heritage inventory, semantic data modeling, and software security, leading to better practices in the creation and management of heritage data and facilitation of data exchange and longevity in spite of advances in technology.

Arches has been designed to serve a number of purposes fundamental to the protection, understanding, appreciation, and management of heritage resources. These include:

- identification and inventory
- research and analysis
- monitoring and risk mapping
- planning for investigation and research, conservation and management
- raising awareness among the public, governmental authorities, and decision makers

The Arches open source community can share new functionality to meet additional needs of the heritage field, and in addition, community members provide support in the installation and use of Arches via the Arches Community Forum.

Visit the Arches Project website **(archesproject.org)** to interact with an online demo, access the Arches software code and related technical documenation, review the project roadmap, sign up to receive announcements, participate in the community forum, and much more.
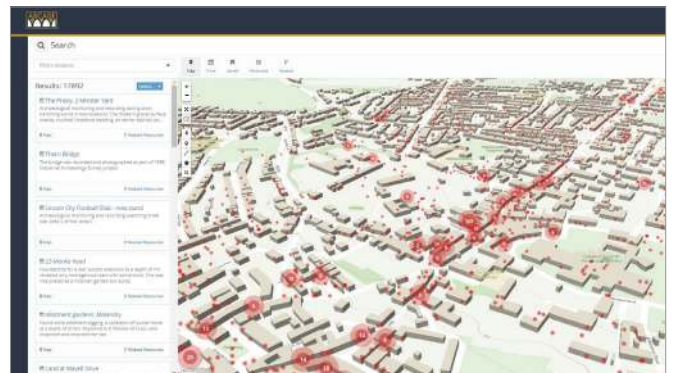
Oblique **Map View** in ARCADE (arcade.lincoln.gov.uk), powered by Arches v4, showing points and clusters that represent heritage resources in the City of Lincoln, England.
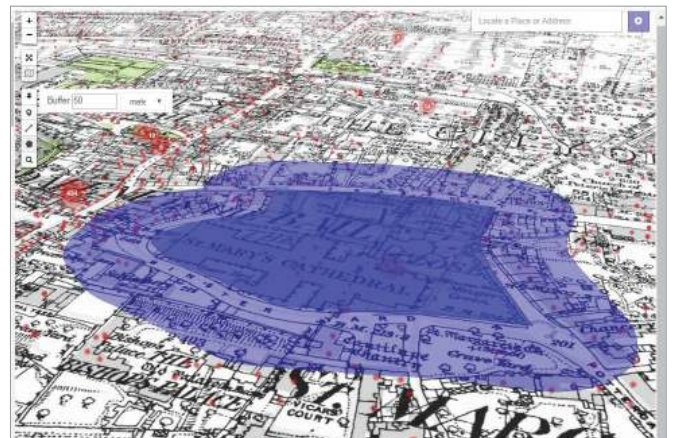
Using the **Location Filter** in Search to spatially query data by drawing an area on the map and specifying a buffer size. This may be used, for example, to identify heritage resources that would be impacted by proposed development projects. This map view also features a historic map overlay.
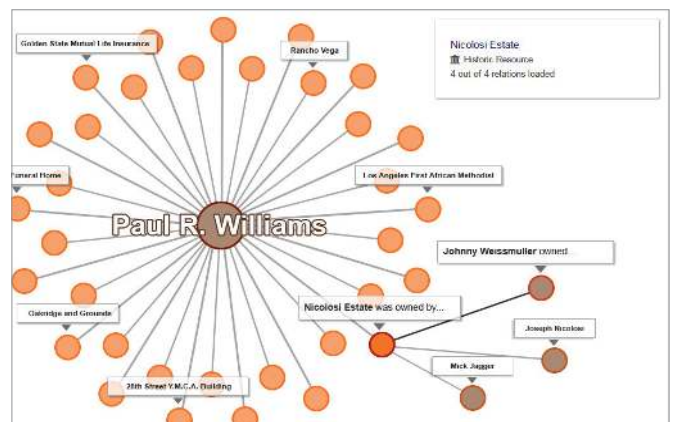
Related Resources graph from HistoricPlacesLA (historicplacesla.org), which reveals relationships between Arches resources, in this instance between an architect and heritage resources, as well as other persons related to those heritage resources (such as owners and occupants).

Visit: **archesproject.org**

Arches features...

...a modern software platform with an easy-to-use web-based interface.

Once Arches is set up for an organization, it is designed to be intuitive so that authorized users can input, edit, and search data with basic or no technical training.

...robust geospatial mapping and processing.

Arches features the ability to draw, import, and edit resource geometries directly within the platform and provide for comprehensive spatial queries.

Arches includes a tile server to manage geospatial imagery, such as basemaps, satellite images, aerial photos, and historic maps. Alternatively, Arches can incorporate maps from external map services such as Google, OpenStreetMap, and Microsoft.

Arches accesses and processes geospatial data based on the standards and specifications of the Open Geospatial Consortium (OGC). Compliance with the OGC standards will ensure that the platform is compatible with desktop GIS applications (such as Quantum GIS [QGIS], ESRI's ArcGIS, or Google Earth), modern web browsers, and online mapping services.

...highly customizable options for fine tuning access and providing security controls according to individual implementation requirements.

Arches gives organizations the ability to limit access to data based on individual or group permissions. For example, an instance of Arches can specify which particular users can edit which particular data fields or what visitors (if public access is allowed) can see what types of data.

...a standards- and semantic-based data architecture to promote data exchange and to ensure data longevity.

Arches uses the CIDOC Conceptual Reference Model (CRM) to structure relationships between data fields. Use of the CRM contributes to the independence of data from the Arches software, which will facilitate data migration to other systems in the future, and aid in the preservation of data over time. It also facilitates powerful and efficient searching within, as well as across, data sets.

The Arches community has developed a growing library of ready-made and logically structured resource models (i.e. data models or graphs) suitable for the heritage field that can be customized to meet the specific data-field requirements of any organization. The Arches Designer facilitates the creation of new resource models and/or the addition of new data fields to existing resource models while automatically updating the data entry interface using a streamlined process.

...an open, flexible, customizable platform.

Institutions adopting Arches can configure the software to address their specific geographic, cultural, and administrative contexts. More in-depth customization is possible with the appropriate expertise in the various open source technologies that have been used to build the platform. This expertise may be found within the deploying organization or supplied by experienced IT service providers.

Arches Collector
Data collection app for Arches

Arches Collector is the mobile data collection companion app for the Arches cultural heritage data management platform. Arches Collector is a powerful app for data collection projects, such as field surveys, and can be used to enter or edit cultural heritage data in the field.

Compatibility:

• iOS and Android devices

• Arches version 4.4.2 or later

Features and capabilities:

• Online and offline access. Data collected is synced to your existing Arches v4 instance when a cellular or network connection is available.

• Options to flag data as "provisional" for review, or automatically publish data, are managed by the Arches administrator, which can help facilitate crowdsourcing.

• Project parameters, such as specific users, project start and end dates, geographic area and relevant data entry fields, are defined by the Arches administrator.

• Options for users to collect data by pinpointing map locations, taking photos, selecting from customizable lists, or entering free text.

*Visit **archesproject.org/collector** for more information.*
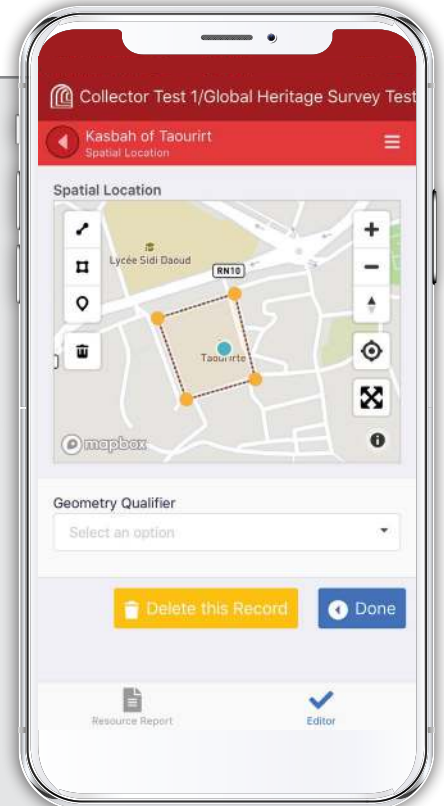
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