# The Cutting Edge: Discoverability for Historical Artifacts

Digital Institute

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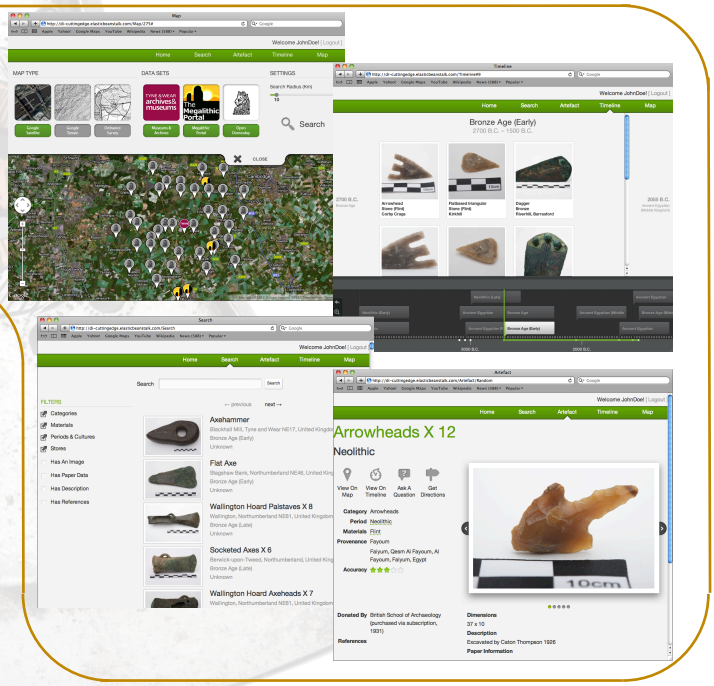
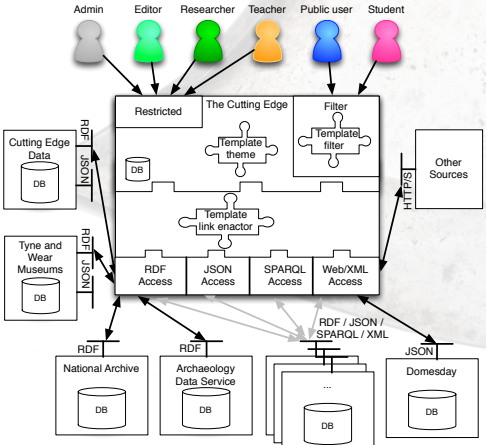
## User Interface

The user interface offers different contexts in which to view collections: A geo-locational view plots artefact find locations onto different map styles, incorporating different third party data sets. A timeline view allows the users to see where an artefact sits in human history alongside other artefacts. Along with conventional searches.




## Architecture




Our generic architecture is independent of the underlying data set, or the types of filters and themes. We separate our own data store from the user interface presenting it through an API.

**Abstraction:** Separate development & security concerns

**Scalability:** through multiple (caching) interfaces.

**API:** for other developers, which we both provide and consume. REST based.

**Web portal:** Users authenticate, validating their role and determining their view. Filters and themes are applied to views, tailoring the results and their display to specific requests.

**External Data Stores:** User accounts, links, filters, themes and comments, stored in our repository, are exposed as JSON and accessed as any other source. HTTP(S) is used to access other data as web pages, SPARQL or XML.

**Template link enactors:** are tailored with data held in our store. Link enactors can be used to format and make links between data or to link in comments. More complex templates include code to manipulate data before performing queries – identifying keywords to search in other repositories, conversion of location formats.

## The Cutting Edge Project

Creating an online (discoverable) resource supporting teaching & research into the analysis of use-wear patterns on over 1,000 ancient & historical artifacts with cutting edges. Mostly stone & copper alloys from various periods.

**Collaboration:** Tyne & Wear Museums, the Faculty of Humanities & Social Sciences, & the Digital Institute.

**Meta-data:** being digitised with high-res photographs and 3D models for viewing cutting edge wear patterns. Quality and quantity of meta-data vairys dramatically.

**Exposing:** data through open APIs. Allows open access to our meta-data, facilitating integration by third parties.

**Aim:** User-submitted comments and links to external references and media facilitate collaboration without incurring unnecessary storage requirements.

## Roles

| User | Create Links | Approve Links | Add Data | Add Filters | Add Themes | Add Comments | Access |
|---|---|---|---|---|---|---|---|
| Section Editor | ✔ section | ✔ section | ✔ section | ✔ section | ✔ section | ✔ section | Web |
| Researcher | ✔ private | ✗ | ✗ | ✔ private | ✔ private | ✔ private | Web |
| Teacher | ✔ for students | ✗ | ✗ | ✔ for students | ✔ for students | ✔ for students | Web |
| Student | ✗ | ✗ | ✗ | ✔ for teacher | ✔ for teacher | ✔ for teacher | Web |
| Public | ✔ for approval | ✗ | ✗ | ✗ | ✗ | ✔ for approval | Web |
| Administrator | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | Web |
| Developer | ✔ for approval | ✗ | ✗ | ✔ private | ✔ private | ✔ private | API |

## Data Structures

**Simple:** presented in JSON, stored in museum databases.

**Searching:** on various criteria (e.g., location, category, material, period or free text) allowing the easy retrieval.

**Aggregation:** of related third party data (e.g., find artefacts from other data sets near a specific location).

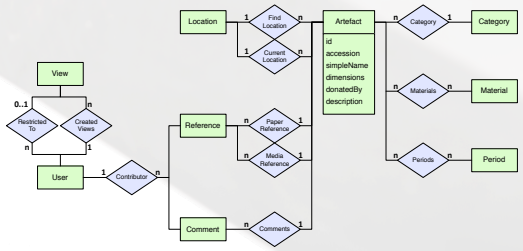
**Links:** Between items in (different) data stores.

**Comment:** Short text description.

**Theme:** used to promote data with some common characteristic – e.g. bronze-age axes.

**Filter:** used to prevent access to specific contents – e.g. filtering out results on daggers, unsuitable for the young.

**Collaboration:** User-submitted links to related external resources (e.g., videos, images) and comments.





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TYNE & WEAR archives & museums