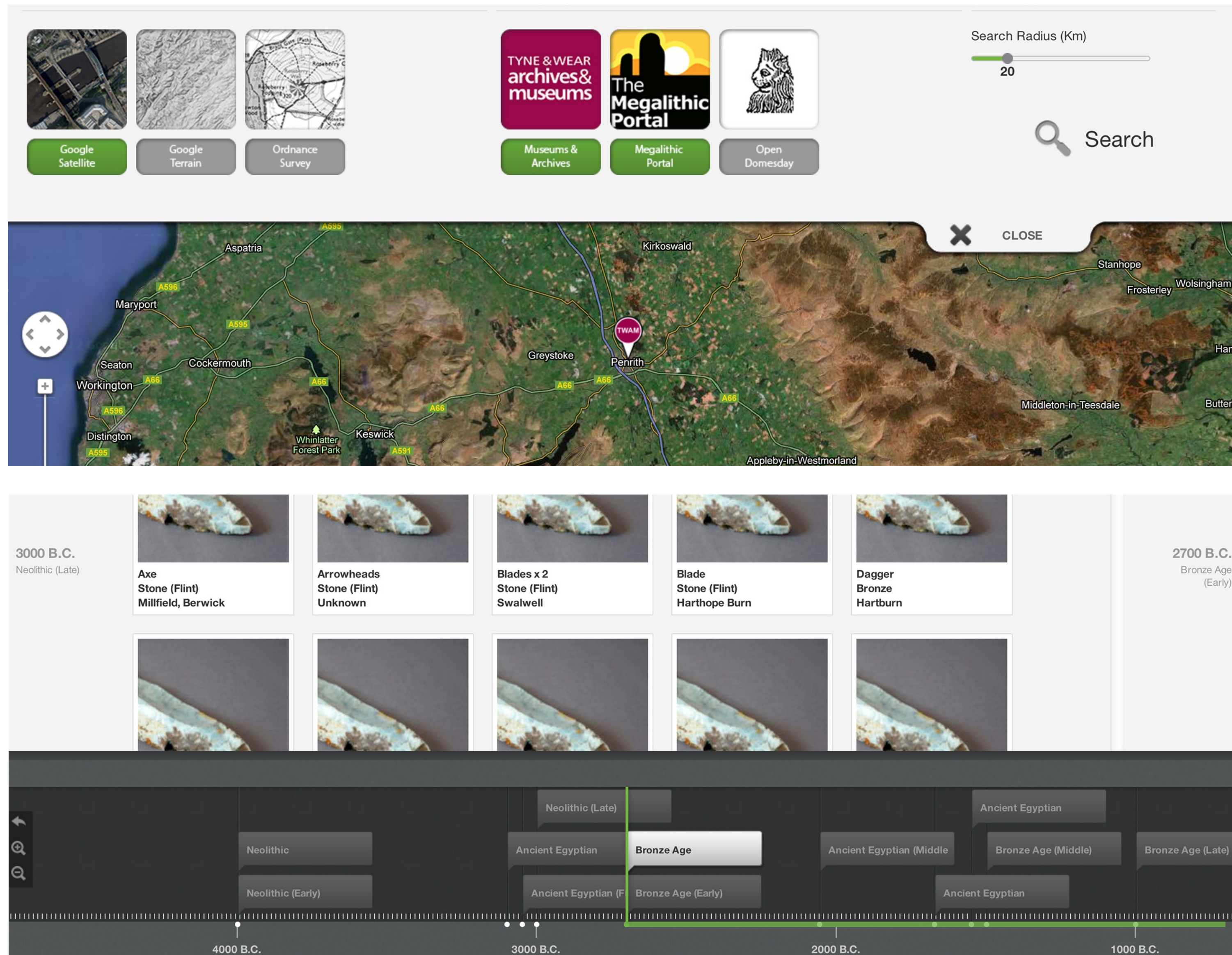


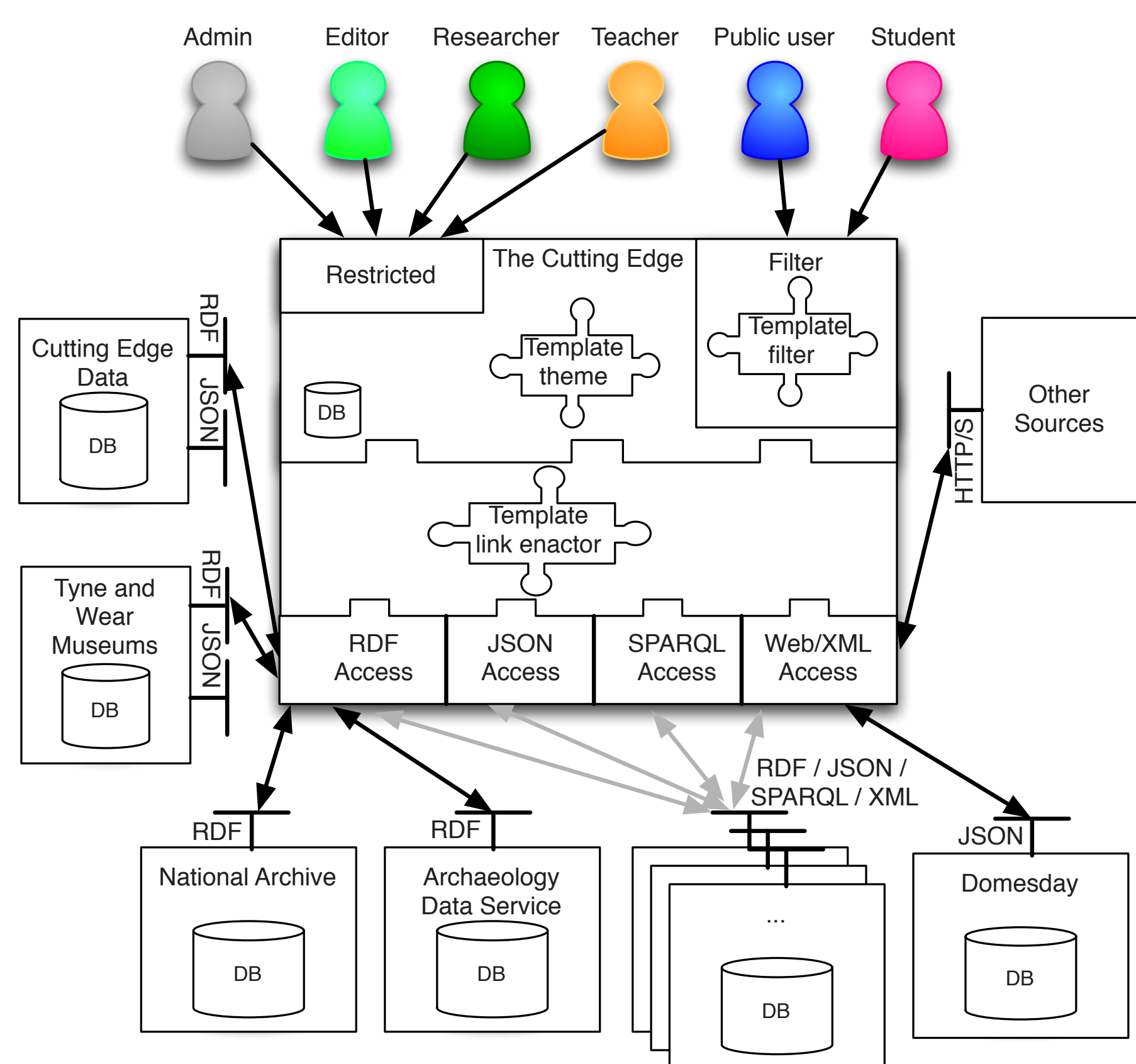
User Interface

The user interface offers different contexts in which to view collections. A geolocal view that can plot artefact find locations onto different map styles and incorporate different third party datasets. A timeline view allowing the user to see where an artefact sits in human history alongside other artefacts.



System 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 of concerns independent development and security

Scalability through multiple (caching) interfaces

API for other developers, which we both provide and consume.

Web portal

Users authenticate, validating their role, determining their view. Filters and themes are applied to views and are based on template code within the business logic, tailored to the specific request.

External Data Stores

User accounts, Links, filters, themes and comments, stored in our repository, are exposed as RDF/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 link direct data or to link comments. More complex templates include code to manipulate data before performing queries – identifying keywords to search in other repositories, conversion of location formats.

Data Deluge



In 2010 the amount of digitised information exceeded 1000 exabytes, growing by 15 petabytes per day.



Facebook has 845 million active users, making over 2.7 billion comments, and upload over 250 million photo every day.



YouTube adds an hour of video footage every second. Every 10 days a century of video has been added.

User Roles

| User | Create Links | Approve Links | Add Data | Add Filters | Add Themes | Add Comments | Private Comments | Access |
|---------------------------|--------------|---------------|----------|--------------|--------------|--------------|------------------|--------|
| Editor (section wide) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | x | Web |
| Researcher | private | x | x | private | private | private | private | Web |
| Teacher | for students | x | x | for students | for students | for students | x | Web |
| Students | x | x | x | for teacher | for teacher | for teacher | x | Web |
| Public | for approval | x | x | x | x | for approval | x | Web |
| Administrator (site wide) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | x | Web |
| Developer | for approval | x | x | private | private | private | x | API |

Data Structures

Links

Between items in our data store and items outside of the data store

Filters

To hide inappropriate material

Themes

To highlight specific material

Comment

Short textual description (all other contents is through a link)

Project Background

The project seeks to create a new online resource that will support teaching and research into the analysis of use-wear patterns on historical artefacts with cutting edges. The collection includes stone and metal axes, knives and weapons from various periods in human history.

The collection is held mainly within Newcastle University's Great North Museum, but also includes artefacts from wider collections within Tyne & Wear. This innovative project will allow the comprehensive study of 1000 objects, in particular their use-wear patterns, by scholars and members of the public worldwide.