MUSE

Smart Federated Search for Egyptian Knowledge Bank

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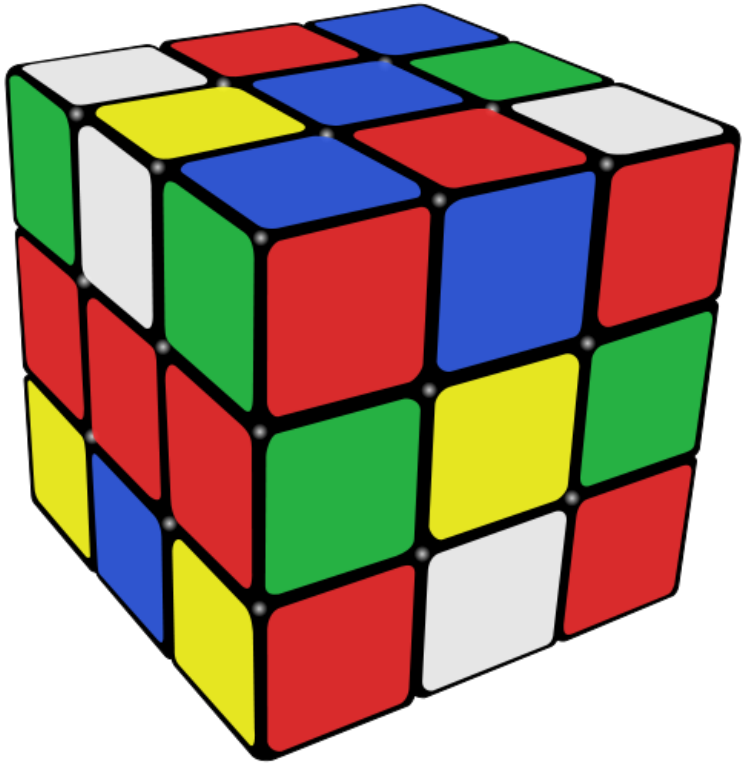
Federated Search – Why, and What

25 years ago, online research was still a novel concept. Most people went about online resource-based learning in the same manner that they used for print-based resources.



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Federated Search – Why, and What

Over the past two decades, there has been a total shift to the way in which authoritative information makes its way into the hands of an audience -- it is all delivered in digital form.

People have been truly excited about the prospect of 'all the information in the world available at their fingertips'. Often though, in the vast sea of data, they find that they easily lose their way.

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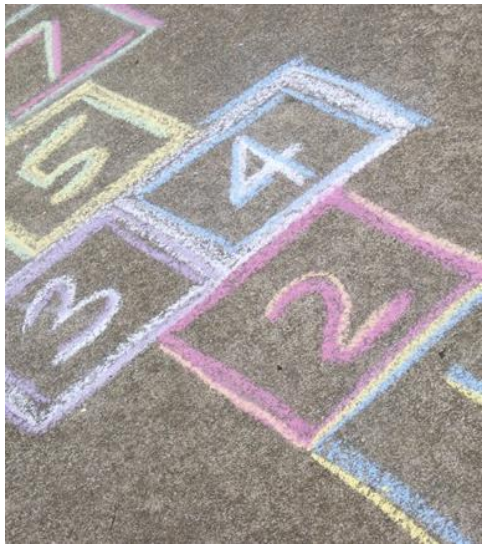
Federated Search – Why, and What



The research process that emerged during this time began to become cumbersome, as users would move from one online resource to another.

Each resource could have a unique means of authentication - something as simple as 'open access' within the physical buildings of public libraries or college/university campuses, to requirements for users to input generic login/password strings, or sometimes their own individual library card / identification number.

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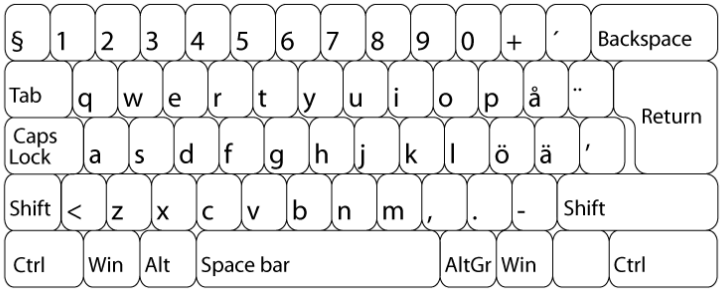
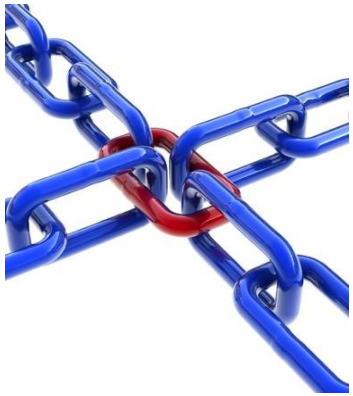
Federated Search – Why, and What

Once a user had successfully given the appropriate handshake, they would find that each source would present a different, proprietary interface for inputting search / lookup terms & concepts, and each would have a unique method for displaying the information.

Many times, the user would be able to find citation information, but access to the article in electronic form could be difficult to obtain.





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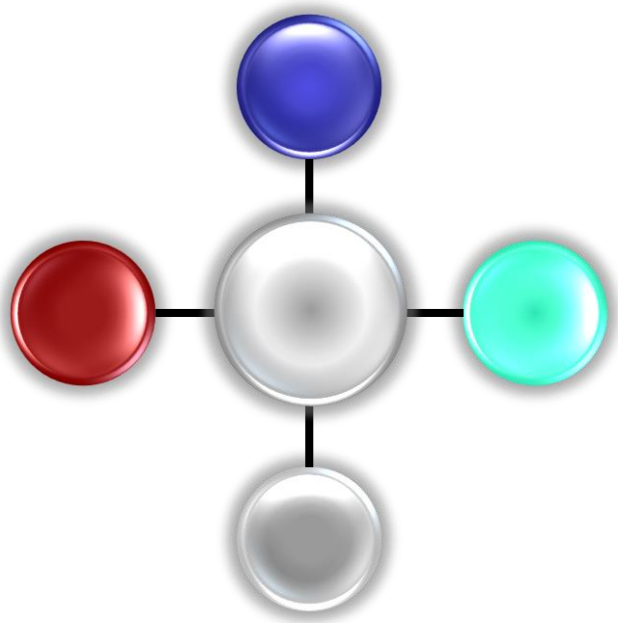
Federated Search – Why, and What

During this same time, a different idea was born -- the notion of Federated Search -- creating a central hub from which to reach out to established and emerging sources of content.

Federated Search allows issues of authentication, methods of inquiry, display of results, and tracking / managing individual found items to be addressed in a uniform manner, for all sources of interest to users.



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Muse Federated Search Platform

Delivering content integration technology since 1998

- Building and delivering the widest range of federated content through the industry's most flexible content integration platform
- Seamlessly integrate limitless content sources into applications and services
- Experienced and proven technology powering scaled applications
- 15 years of continuous development and integrations

Muse is the only product of comprehensive, plug & play content integration technology

Muse Smart Connectors (Source Packages) repository of more than 6,000

Multiple domains of applicability: Library, University, Hospitals, Legal, Police

Various types of sources: Search, Writer, Enrichment, Content Mining, Inter Library Loan, Hold, Patron, DeDupe, Ranking, Shopping Cart

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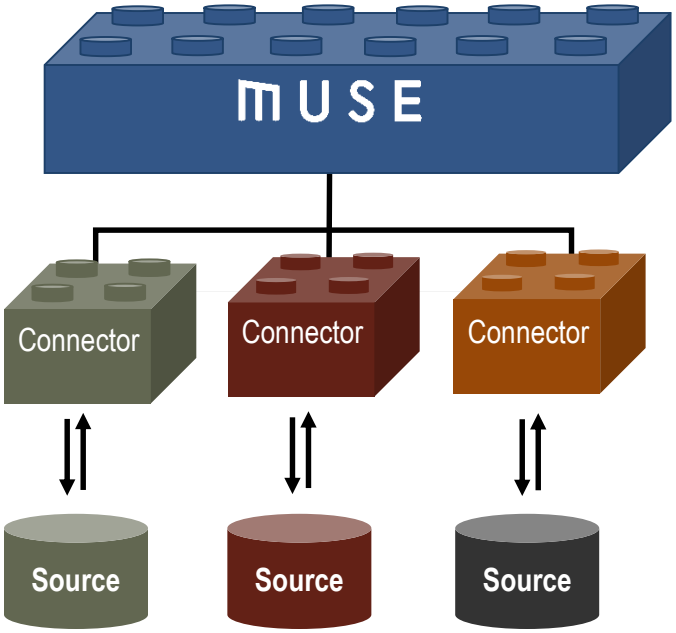
Muse Federated Search Platform



Muse is a powerful content integration and processing engine built to work with customizable content connectors. It is designed to allow access to many different information services at the same time, normalizing the interchange among them into a uniform structure.

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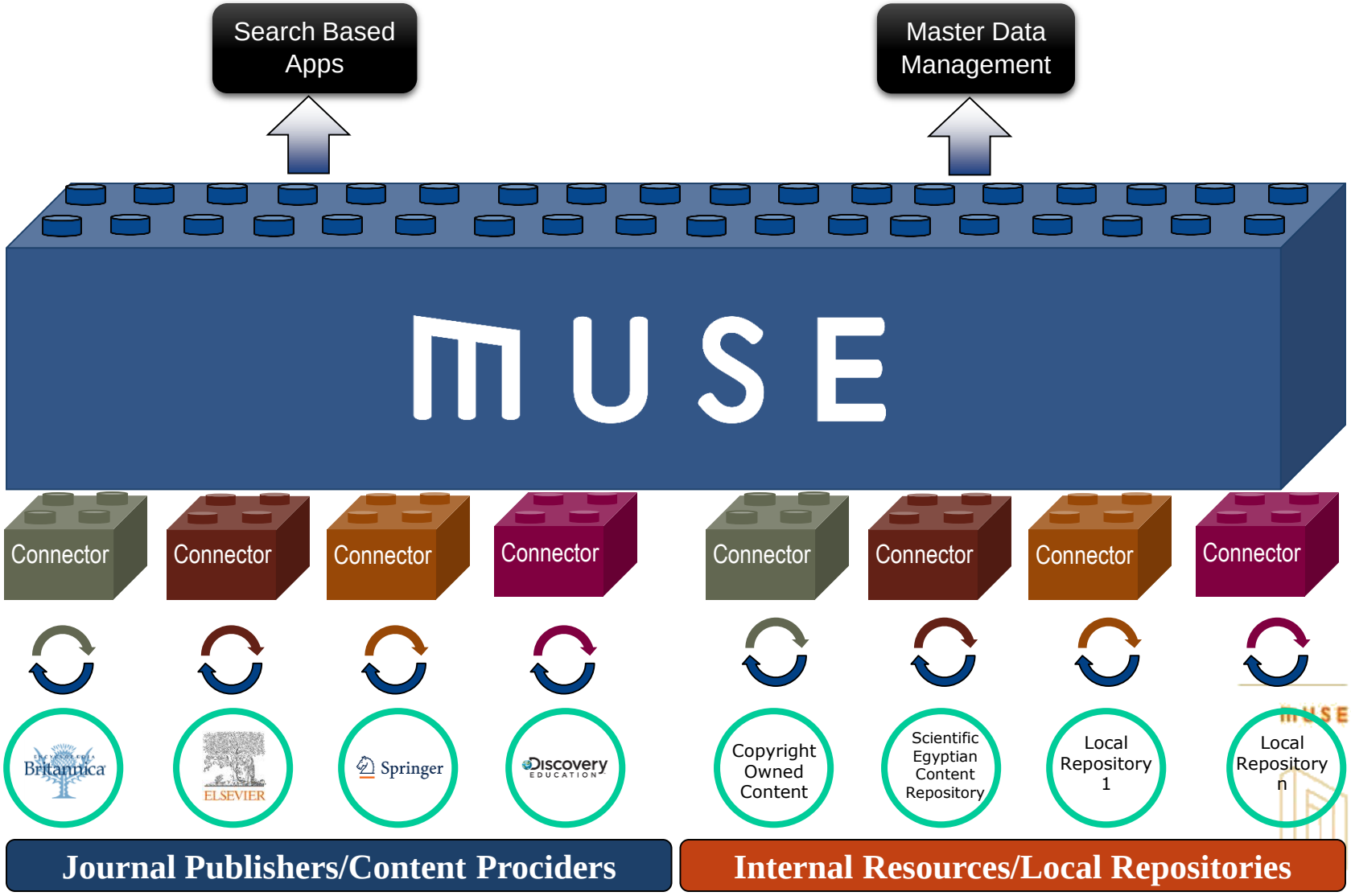
Muse Federated Search Platform



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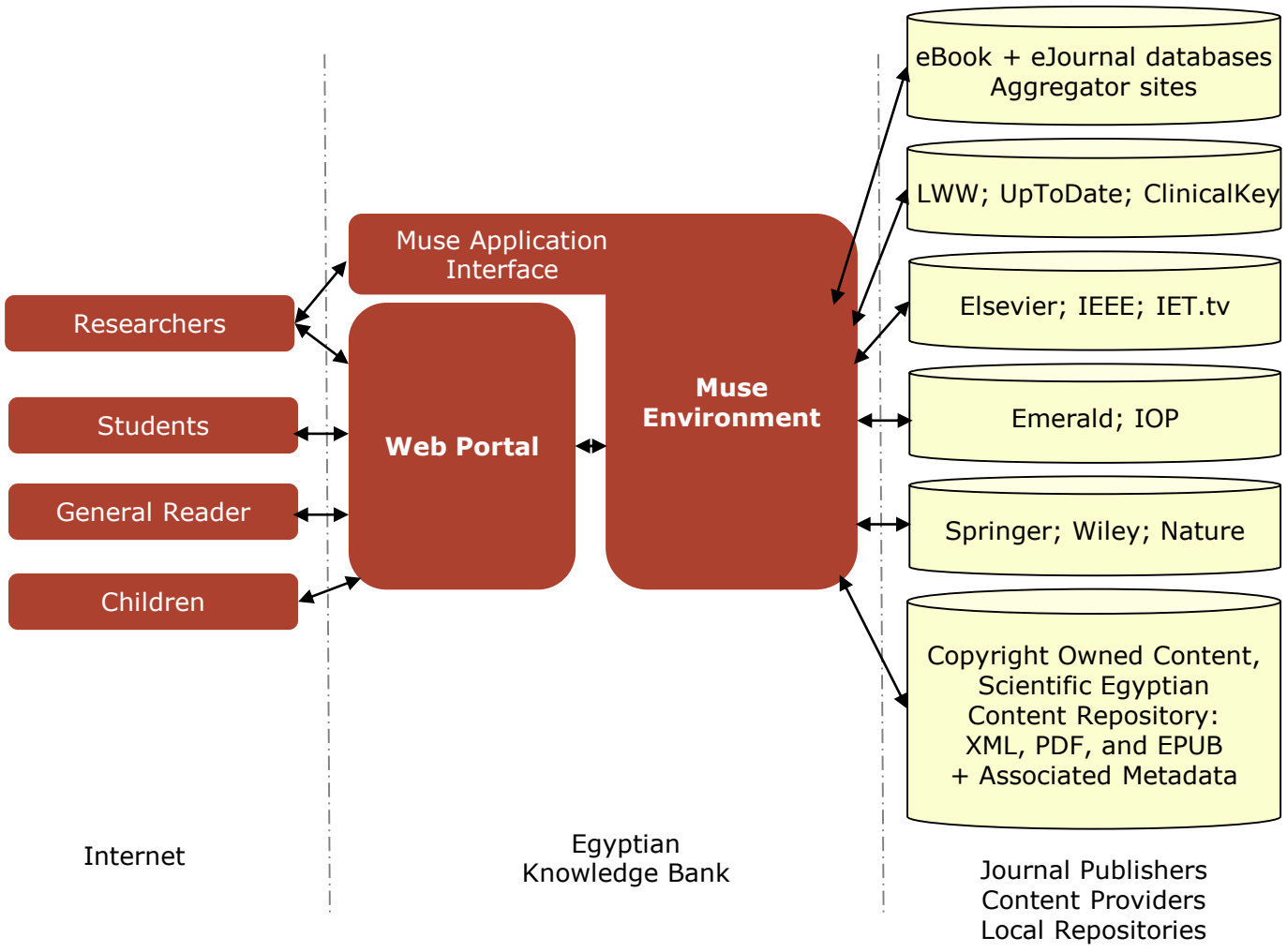
Egyptian Knowledge Bank Integration



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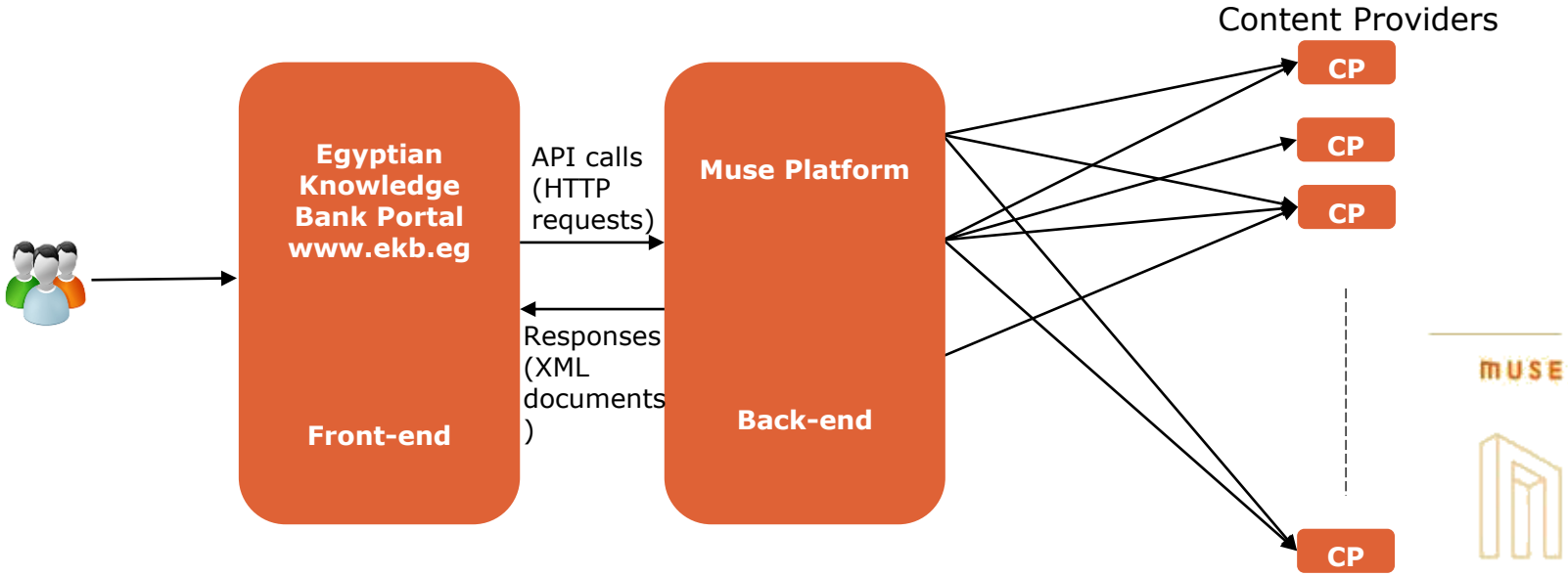
Egyptian Knowledge Bank Integration

Two types of integration of Muse with the Egyptian Knowledge Bank

- Backend integration via the Muse API: Children, Students, General Reader sub portals and simple search Researchers sub portal;
  - End-user accesses only the portal interface, the search query is submitted via the portal search form;
  - Behind the scene the portal sends the query to Muse and receives the records in XML format;
  - The portal renders the XML records and presents them into its interface.



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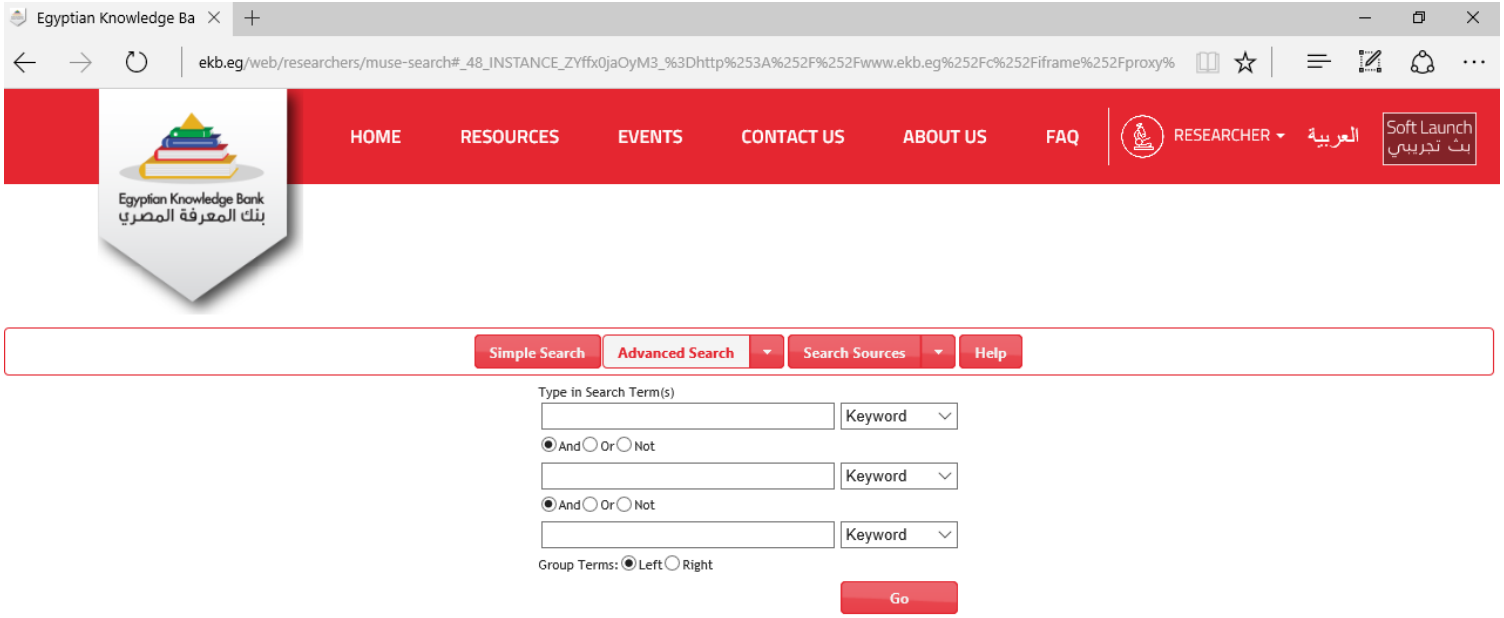
Egyptian Knowledge Bank Integration

- Muse GUI Application embedded in the Egyptian Knowledge Bank Researchers sub portal, Advanced Search section;
  - The Muse Application interface is embedded into the portal Advanced Search page;
  - Search forms and post processing features are entirely Muse Application Interface.



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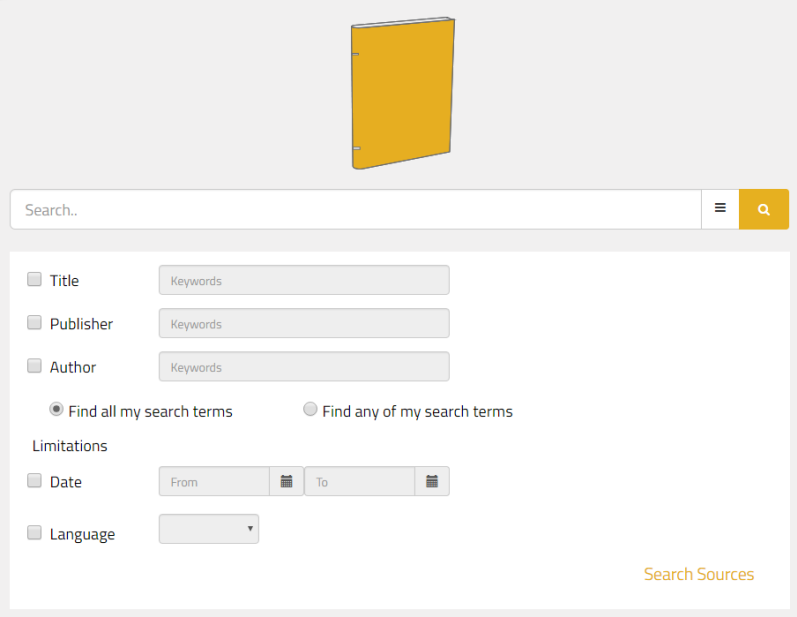
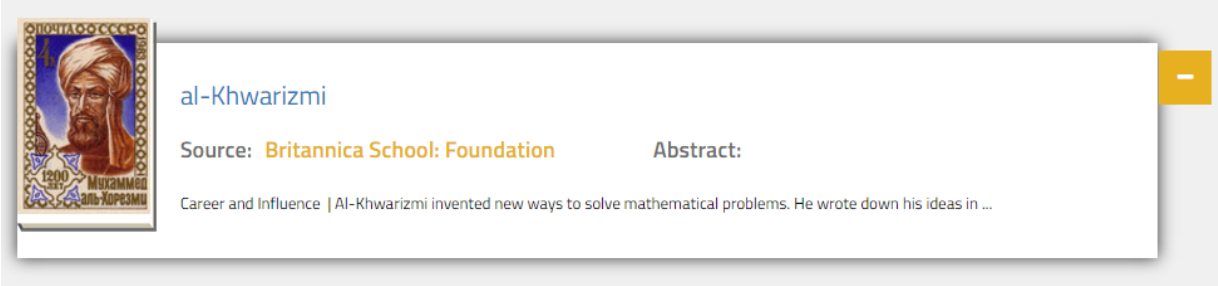
Egyptian Knowledge Bank Backend Integration

- Simple and Advanced Search forms customized per each sub portal;



- Result records rendered according to portal look and feel;



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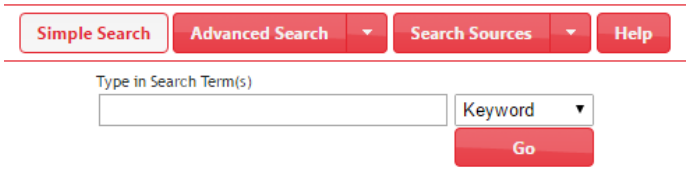
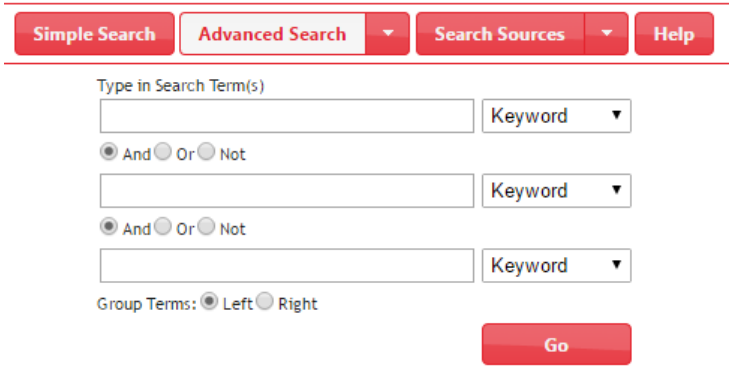
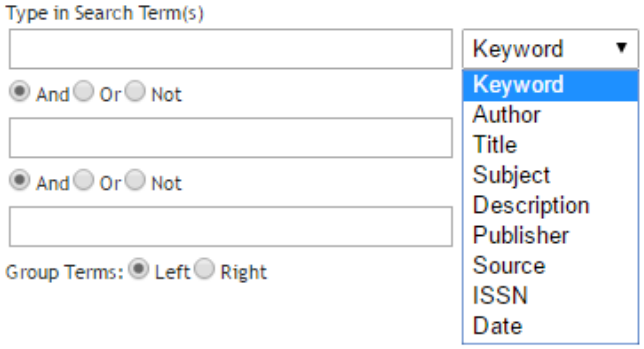
Egyptian Knowledge Bank Muse Application Interface

- Simple and Advanced Search forms;





- Search attributes: Keyword (default), Author, Title, Subject, Description, Publisher, Source, ISSN, Date



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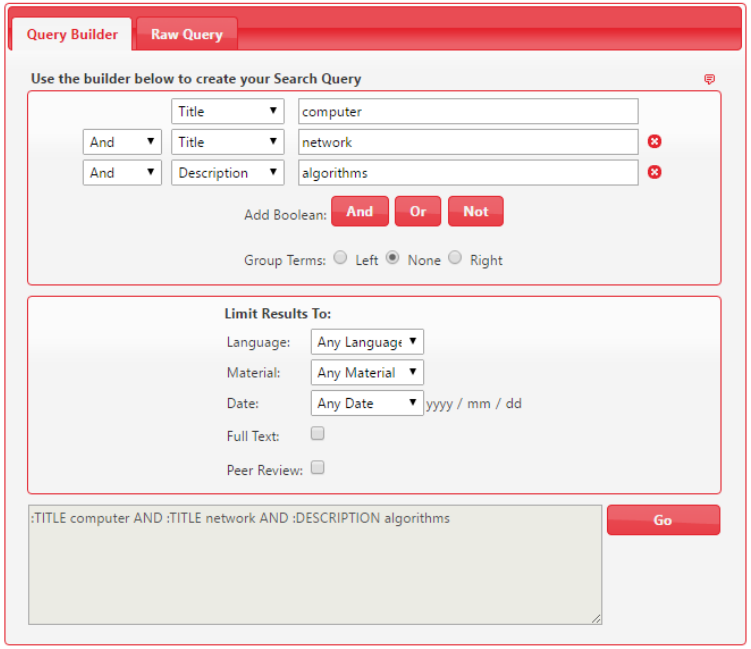
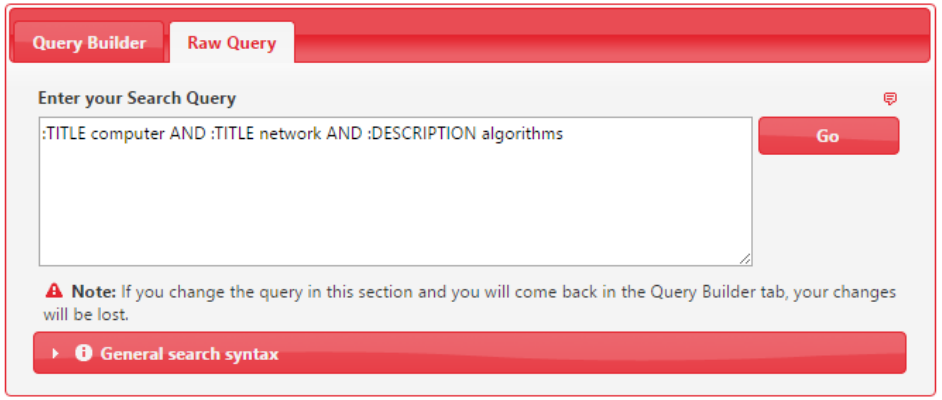
Egyptian Knowledge Bank
Muse Application Interface

- Expert Search form;
- Limiters Support;

Query Builder





Command Line Interface

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Egyptian Knowledge Bank
Muse Application Interface

Muse Query Syntax

- Parenthesized query grammar;
- Based on Dublin Core Metadata Element Set attributes, Version 1.1;
- Prefixed search attributes: :TITLE, :CREATOR, :DESCRIPTION, etc.; they are reserved words;
- Phrase search using the quotes;
- Special characters: {'"', ':', ')', '(', '[', ']', '#', '\'};
- Use special grammar characters by escaping them: \:TITLE would search for the :TITLE term as a word and not be interpreted as search attribute;
- Limiters support: Date, Language, Type, Format (FullText, PeerReview);
- Truncation via the wildcard characters * and ? ;
- Help available on the Muse Query Syntax via the contextual help or the Help menu item.

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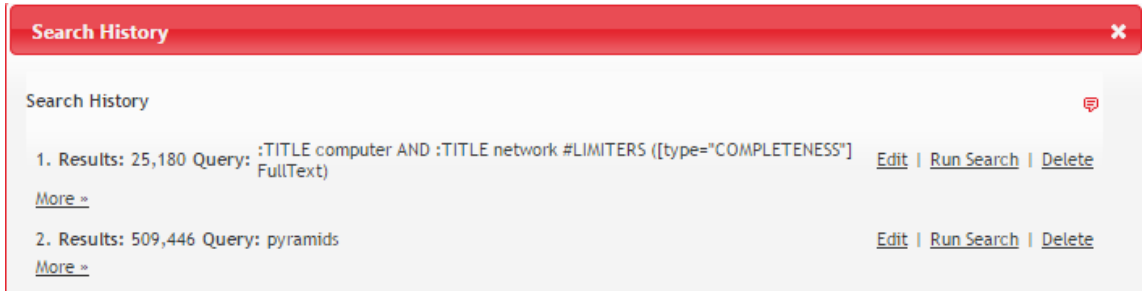
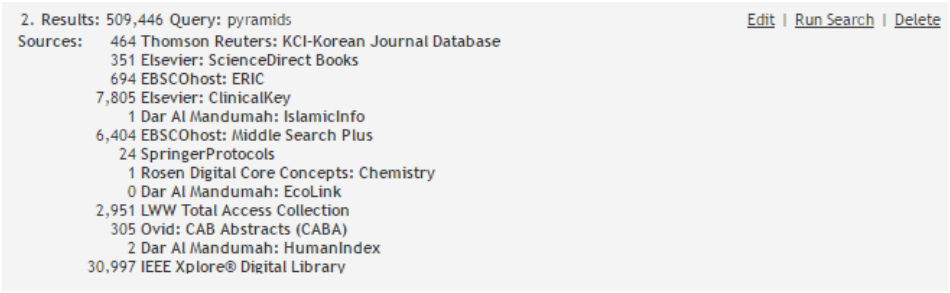
Search History

- Presents the search history, number of retrieved records, the query;
- Possibility to edit a search and/or run it again;
- Delete from the search history;
- Complete search report per searched source.





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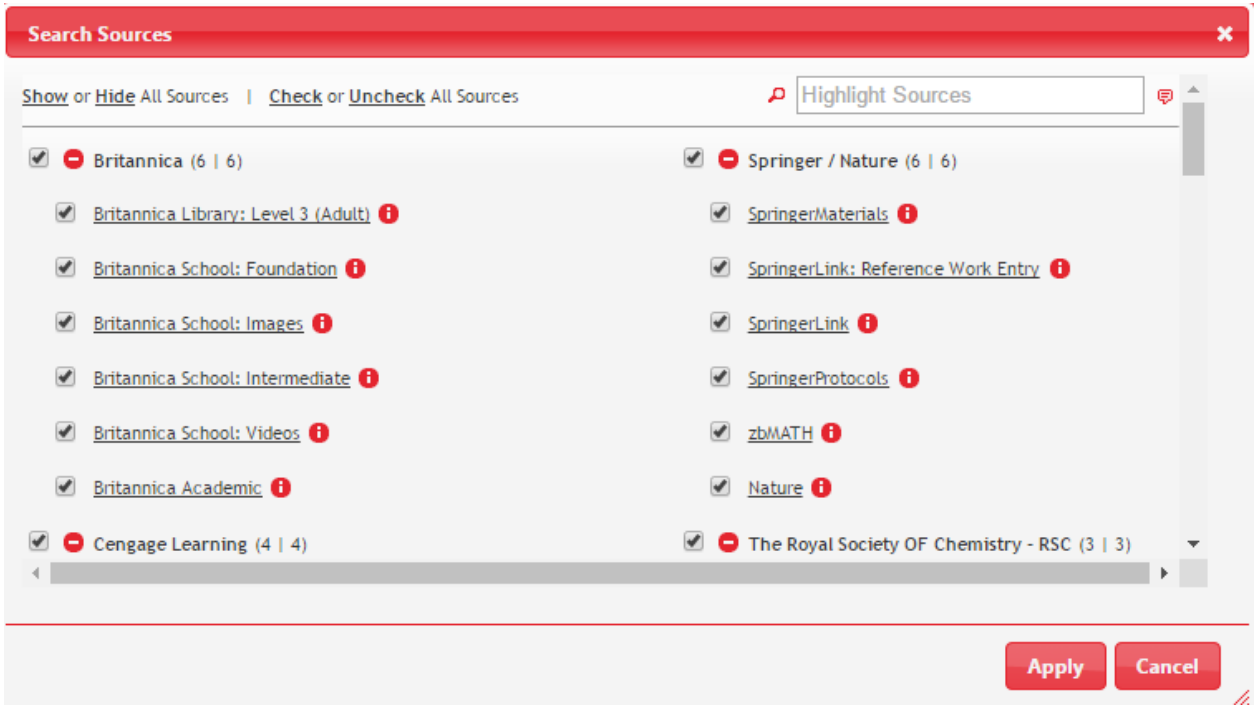
Muse Application Interface

Search Sources

- Select All, de-select All, select/de-select entire group, expand/collapse groups;
- Highlight sources for easier identification;
- Possibility to navigate to the content provider page;
- View description of the sources.



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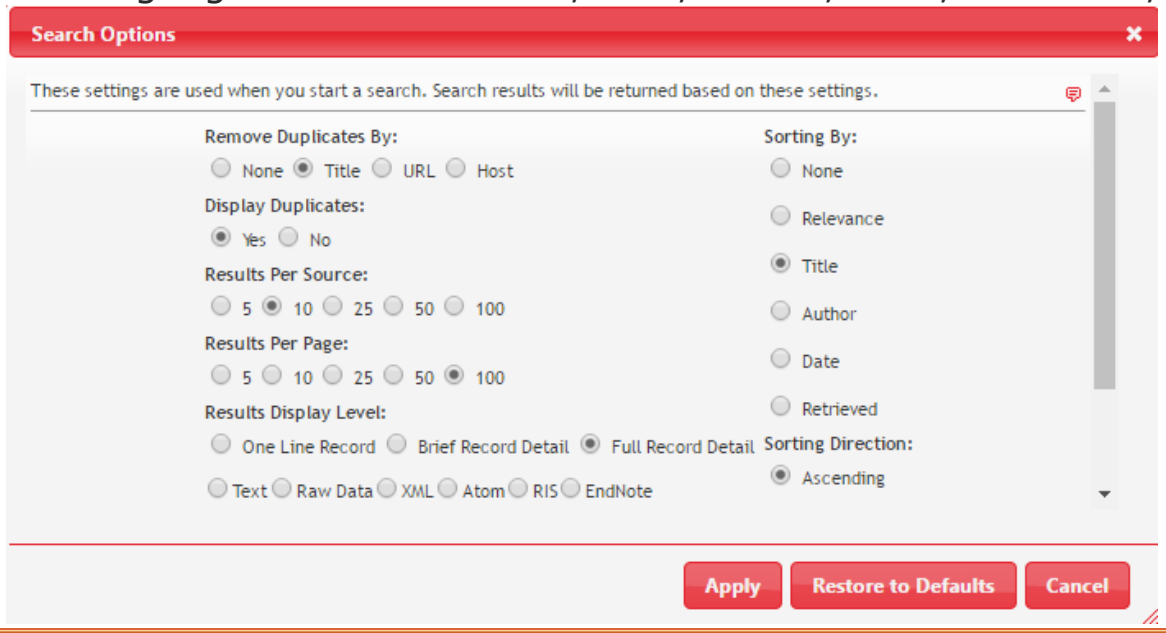
Search Options

- Remove duplicates by: Title, URL, Host;
- Number of results to retrieve per source: 5, 10, 25, 50, 100;
- Number of results to display per page: 5, 10, 25, 50, 100;
- Results display level: One line, Brief Record Detail, Full, Text, Raw Data, XML, Atom, RIS, EndNote;
- Sorting algorithm: Relevance, Title, Author, Date, Retrieved;



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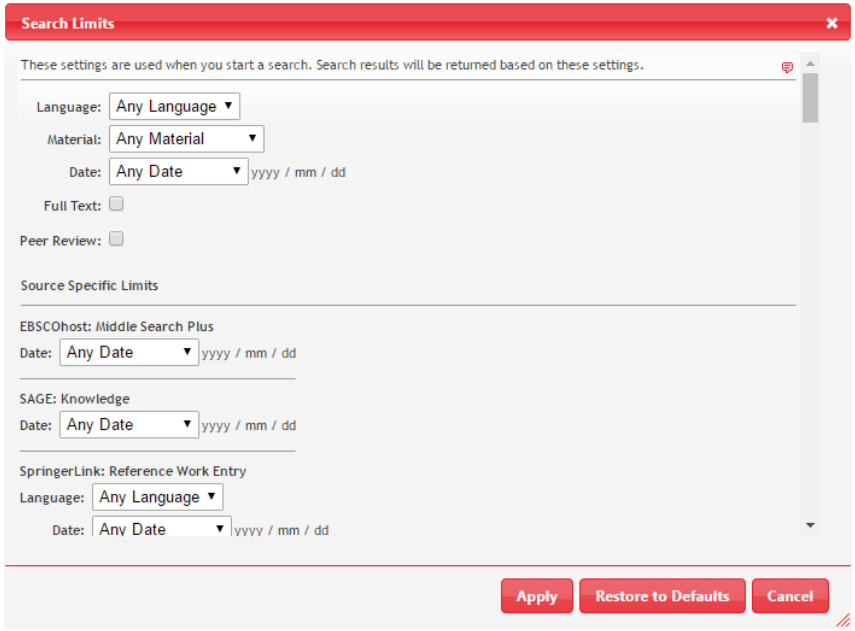
Search Limits

- Specify global search limiters: Language, Material (Type), Date, Full Text, Peer Review;
- Specify per source limiters;
- Limiters specified are translated to the matching native limiter;
- Unsupported limiters are ignored;



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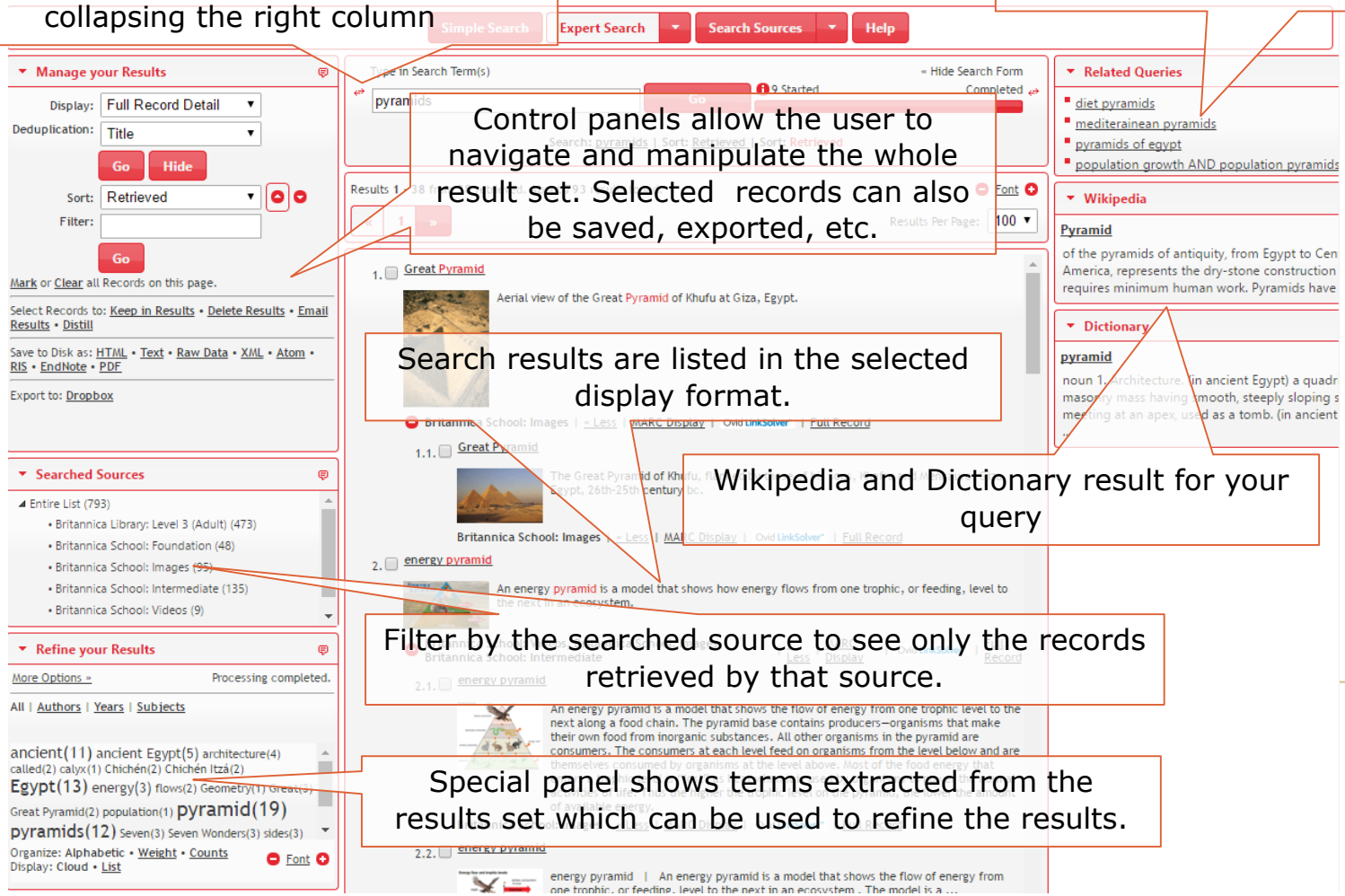
Egyptian Knowledge Bank Muse Application Interface



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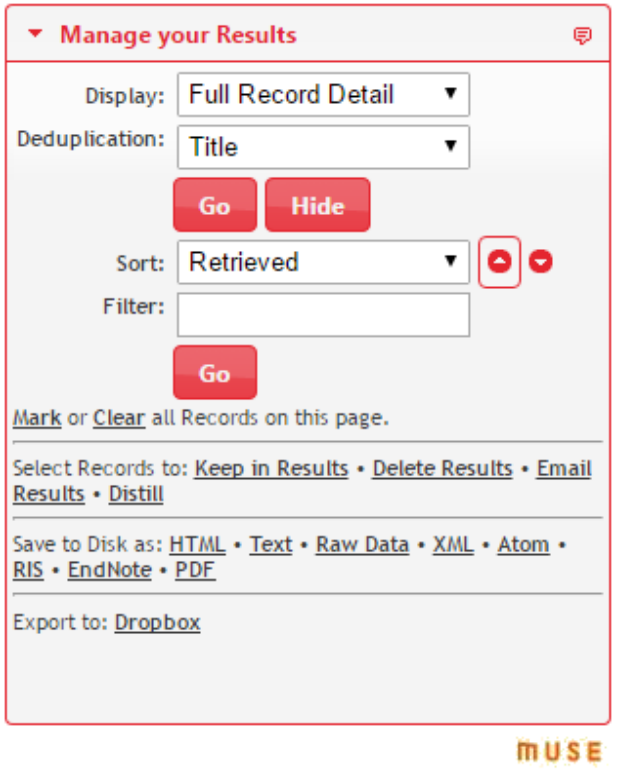
Post Search

- Manage the display level of the Muse record: One Line, Brief, Full, Text, Raw Data, XML, Atom, RIS, EndNote;
- Deduplication: Title, URL, Host;
- Sort: Relevance, Title, Author, Date, Retrieved;
- Filter the records by searching in the result set; Muse Query syntax is used;
- Handle the Records: Keep, Delete, Email, Distill;
- Save Records to Disk as: HTML, Text, RAW, XML, Atom, RIS, EndNote, PDF
- Export to Dropbox



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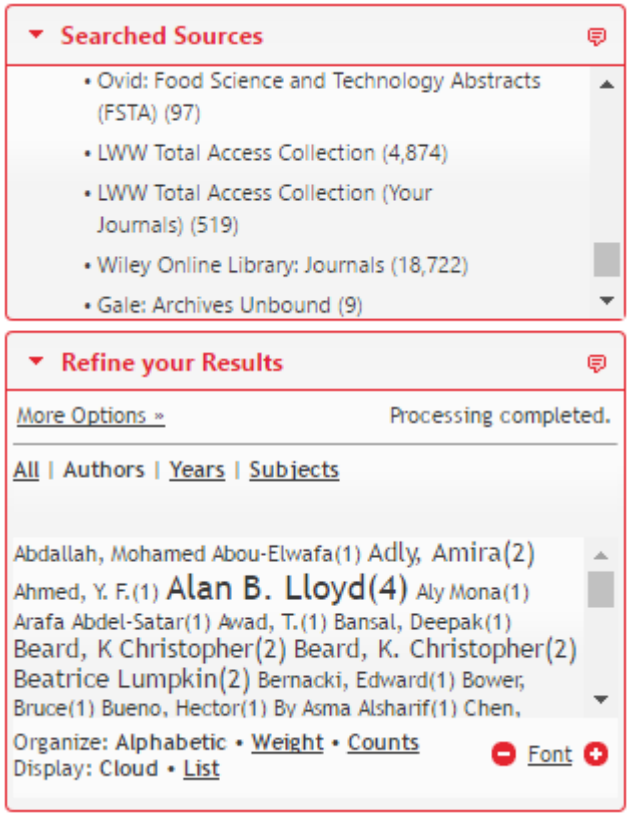
Egyptian Knowledge Bank Muse Application Interface

Facets

- Searched Sources;
- Authors;
- Years;
- Subjects;
- Cloud or List display;
- Number of records containing the term;



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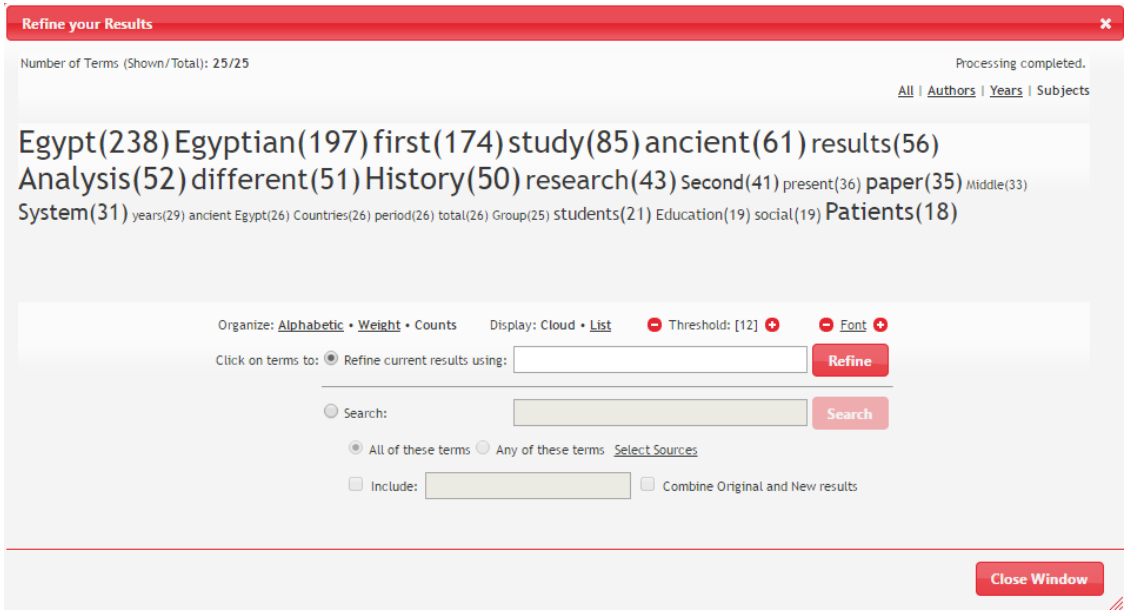
Refine your Results

- Display extracted terms, filter them by facets (Authors, Years, Subjects);
- Sort terms by weight or counts;
- Display the terms as Cloud or List;
- Modify threshold;
- Refine current results or launch new searches with the selected terms.



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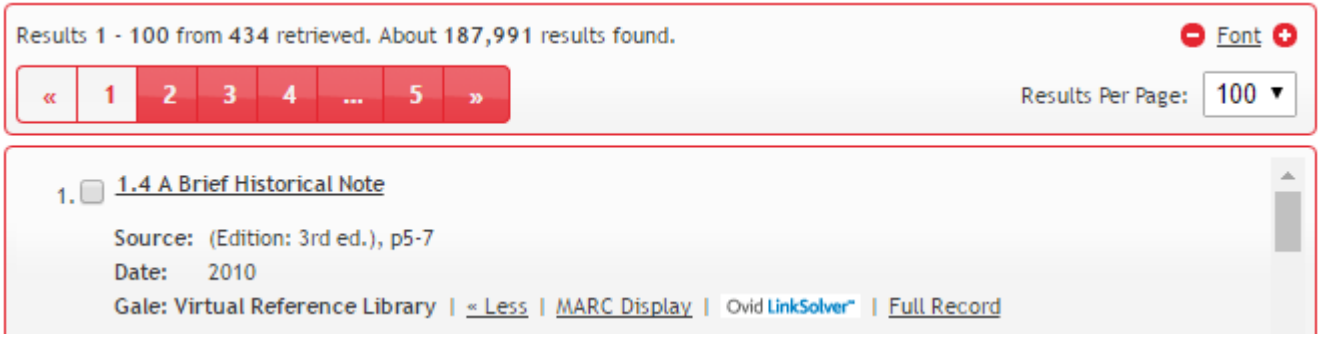
Result set manipulation

- Number of retrieved records is displayed;
- Number of records estimated by each source is displayed. The total is also displayed;
- Via pages (next/previous or jump to exact page number);
- Select the number of results to show per page;



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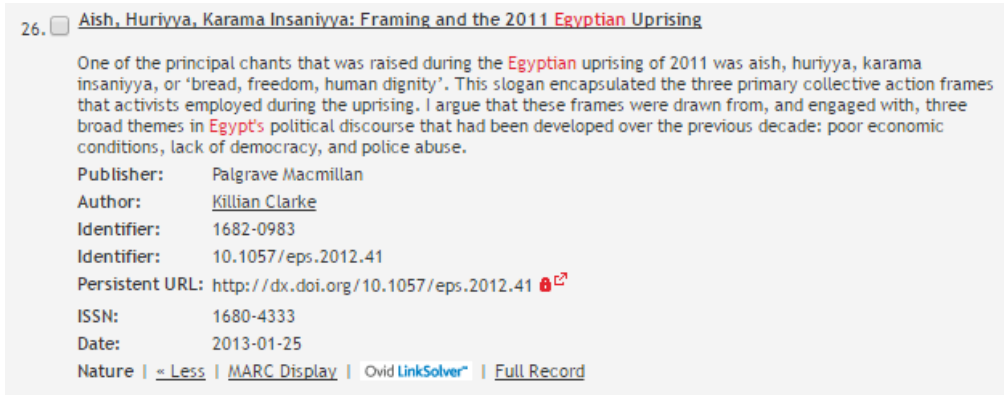
Record display elements

- Depending on the selected display level;
- Highlight functionality, depending on the search query;
- Author tokenization and search ready;
- Subjects tokenization;
- Date ISO8601 formatting;
- MARC display functionality;
- OpenURL resolver - Ovid LinkSolver;
- Link to native record via the Muse Proxy rewriting capabilities.



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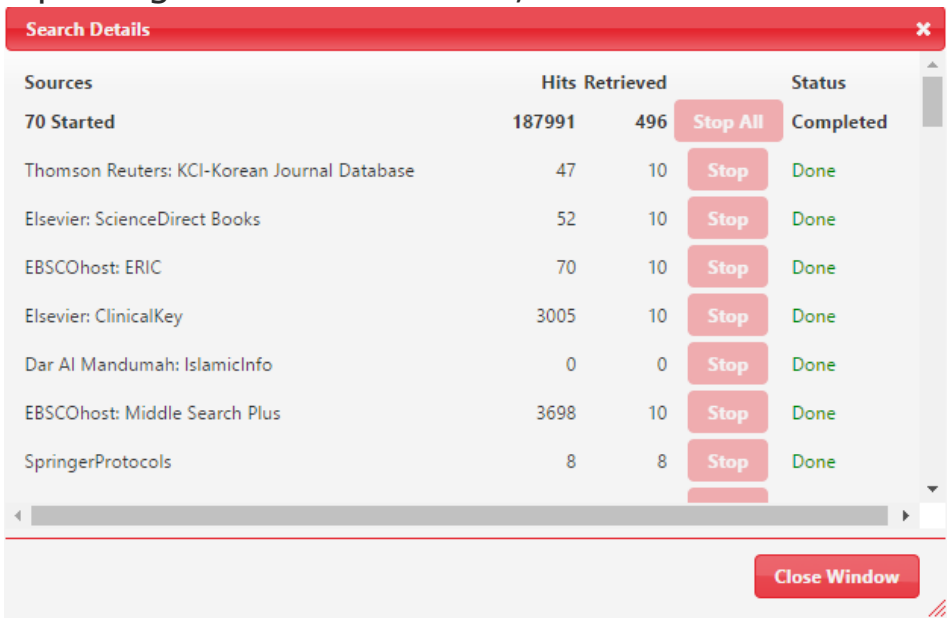
Search Progress and Status

- Visual progress of the search;
- Detailed report on the searched sources: number of records retrieved and estimated;
- Report status in real time;
- Stop the execution of a single source or all;
- Error reporting in case of failures, reason of failure is displayed;



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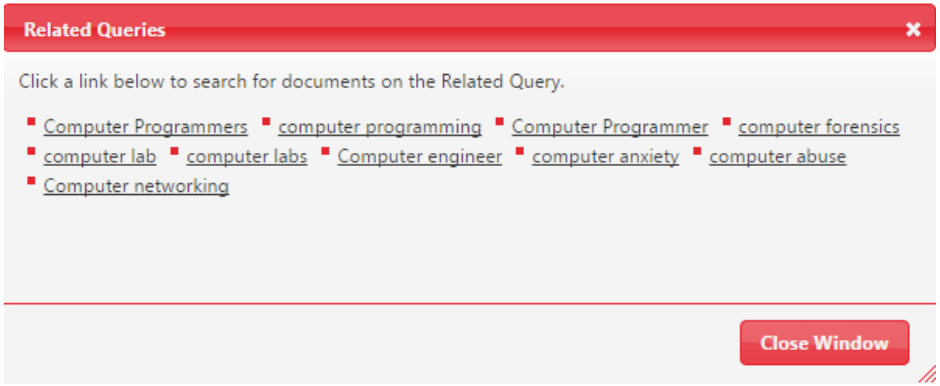
Related Queries

- Return queries relevant to the searched query that were used by others;
- Only queries who's records were navigated are considered relevant and indexed;
- Search ready;
- More option to see all found related queries;
- Daily indexing of the queries;



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