

Hyperrealised Semantic Search

Use Cases

Introduction

This document outlines how our semantic search software operates from the user's perspective. It gives example scenarios where our search solution is more useful than traditional search engines, how user accounts are set up and managed, and how the search index is established. It is written in the user's language and therefore can be understood by the majority of people with some computing experience.

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Use Cases

Use Case 1: *Finding information involving Ambiguous Keywords*

- 1) User enters the ambiguous search term (e.g. 'Jaguar') into the search engine, which returns an initial results page containing documents related to the word 'Jaguar'.
- 2) The first result on the page is related to the vehicle, so the user clicks a 'no' button, which eliminates that page, and all results related to it.
- 3) The next set of results (refined) now contains the Atari Jaguar console as the first result. The user clicks a 'yes' button, so the ranking of all results related to it have their relevance raised.
- 4) Now, the first page is dominated by results related to the Atari Jaguar console.

Use Case 2: *Using search to diagnose a problem.*

-The user has a faulty car - this user is by no means mechanically minded.

-The car does not start, however the engine does turn over at a normal speed.

- 1) User enters 'car problem' as a keyword.
- 2) The first result is about car finance troubles - user clicks no.
- 2) The next result is about vehicles not starting (because of a flat battery) - user clicks yes (since the problem is related).
- 3) The next result is a webpage selling car batteries - user clicks no.
- 4) The next result is a webpage listing common breakdown causes - user clicks yes.
- 5) The next result describes common breakdown causes with their symptoms - user clicks yes.
- 6) The results page now has many results very closely related to the problem, without any keyword more specific than 'car problem'.

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Use Case 3: *Finding related documents*

- 1) The user wishes to find all documents related to a given document, so searches it by its filename.
- 2) The first result is the document in question, and the user has an option to see all related documents.
- 3) All nodes linked to the given entity (by 1-3 links) are displayed.

Use Case 4: *Setting up a User Account*

- 1) User wishes to create an account so that they can track their own user history.
- 2) The user fills in a form requesting an email address and a password (at least 6 characters long.)
- 3) If the email address has not been registered previously, the account will be created; otherwise an error message will be displayed.

Use Case 5: *Viewing Search History / previously visited documents*

- 1) After logging in, a user may navigate to a history page.
- 2) The history page contains two sections: previous searches and previously visited documents.
- 3) Under the 'previous searches' section, the search keywords previously entered by the user are available as hyperlinks to resubmit the search query. Note that the results may differ if the search index has changed since the original search. These queries are sorted by date.
- 4) Under the 'previously visited documents' section, there is a list (sorted by date) of documents which have been visited from a results page. These are presented as hyperlinks which link to the document in question.

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Use Case 6: *Clearing History*

- 1) The user must be logged in to clear their history.
- 2) From the history page, the user identifies the history item they want to remove.
- 3) There is a 'remove' widget associated with that item, which the user may click to remove that particular item permanently.
- 4) Alternatively, the user may clear all of their history by selecting the 'clear all history' link on the history page.

Use Case 7: *Resetting a password*

- 1) The user has previously registered an account, but has forgotten the password.
- 2) The user tries to log in, and does not succeed, and a 'forgot your password?' link will appear.
- 3) The user follows this link, and a reset code is sent via email to the user at the supplied address.
- 4) The user checks their email address, follows the link sent by the system and enters a new password. They can now log in with their new password.

Use Case 8: *Closing a User Account*

- 1) If the user no longer wants an account with the 'Hyperrealised' semantic search service, they may close their account.
- 2) The user selects the 'My Account' link from the main page.
- 3) On the resulting page, the user selects the 'close my account' link.
- 4) The user will be asked to confirm their decision, before closing the account. All information related to that account will be removed from the system.

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Use Case 9: *Refining a Search*

- 1) Once a keyword is entered and results are given, user can refine they search by actively clicking on results they does not need.
- 2) E.g. If they searches 'Book' with the intention of finding the First Hard-Cover book ever created he can omit those search results not related to 'Hard-Cover' by clicking on the first of those particular search results.
- 3) Also, the system will present the user with options for trying other related keywords. E.g. continuing the previous example, the user will be presented with a list of similar keywords such as "also try publication, written text, book binding methods, ..." The user may click on any of the suggested words or phrases to perform that search.

Use Case 10: *Searching by URI*

- 1) Instead of providing keywords to find results, the user may supply a URI of a document related to the result which the user is after.
- 2) The user clicks the 'search by document' link which takes the user to the document search page. The user enters the URI into the URI field, and clicks the search button.
- 3) The user is presented with an initial page of results related to the given document, and is then able to narrow the results down by following through the same procedure as normal keyword based searching (by providing feedback of the relevance of the results.)

Use Case 11: *Searching by document upload*

- 1) Instead of providing keywords to find results, the user may upload a document related to the result which the user is after.
- 2) The user clicks the 'search by document' link which takes the user to the document search page. The user enters the file to upload into the file upload field and clicks upload.
- 3) The user is presented with an initial page of results related to the given document, and is then able to narrow the results down by following through the same procedure as normal keyword based searching (by providing feedback of the relevance of the results.)

Use Case 12: *Viewing the log file*

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- 1) The user navigates to the logs directory within the directory in which the program was installed.
- 2) The user then uses their favourite XML viewing program to read the log file, and use the search features of that program to find items of interest in the log file.

Use Case 13: *Indexing Web-based Documents*

- 1) To build the search index, the user must direct the web crawler at an initial starting point.
- 2) The user navigates to the bin directory of the project, and executes a command-line tool specifying the URI of the webpage to begin crawling from.
- 3) The crawler then begins indexing pages starting from the provided URI.

Use Case 14: *Indexing local documents*

- 1) The user specifies which directory/directories should be indexed.
- 2) The program then indexes all documents contained in the specified directories, including all subfolders.
- 3) The search interface is usable while indexing documents; however complete results are only available once indexing is complete.