



Information Skills in Information Technologies

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4. More on search strategy

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Search Strategy

→ We call **search strategy** to the query we submit to the retrieval tool to obtain results.

→ To **build a search strategy** you need to identify the terms and the operators to combine them.

Some problems in information retrieval

NOISE: Obtaining non-relevant information

For example: if we use words with different meanings

cloud

1. In meteorology ,a cloud is an aerosol comprising a visible mass of minute liquid droplets or frozen crystals, both of which are made of water or various chemicals
(Source: Wikipedia)
2. type of Internet-based computing that provides shared computer processing resources and data to computers and other devices on demand. (Source: Wikipedia)



Some problems in information retrieval

- **SILENCE:** We are unable to get all the relevant information from the database

If there are several synonyms to describe a concept, and we only use one of them in our search:

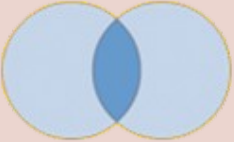
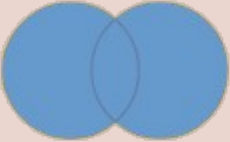
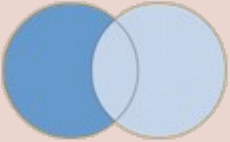
- *FOOTBALL is common in Europe*
- *SOCCKER is used in USA*

If there are several ways to write a word, and we only use one of them in our search:

- *COLOUR, TUMOUR, AEROPLANE, RAILWAY ... (British English)*
- *COLOR, TUMOR, AIRPLANE, RAILROAD ... (American English)*



Boolean search

A N D	<p>Intersection *</p> 	<p>Selects records with all the combined keywords within. It operates in many databases and search engines in default.</p>	<p>Photonics AND Health Retrieves all the records containing both words.</p>
O R	<p>Union (Addition) +</p> 	<p>Selects records with any of the words requested.</p> <p>It is useful, using synonyms</p>	<p>Illness OR Disease Retrieves all the records containing, at least, one of the words.</p>
N O T	<p>Negation -</p> 	<p>Selects records including word A, but excluding word B.</p>	<p>Nanotechnology NOT Photonics Retrieves all the records containing Nanotechnology, but not those containing Photonics.</p>

Truncation

- Adding a wildcard symbol (* ? \$) to retrieve one or more different characters of a word

Examples:

Coll* = colle^{league}, colle^{agues}, colle^{ge}, colle^{ction}, collar...

Col?r = color, colour, collar..

(antenna* OR aerial*) AND design* NOT (dish* or parabolic*)

Search Strategy

Using Quotes

- Search an exact phrase (as a character series):
“smart television”

We will retrieve articles like:

Title: Privacy-preserving television audience measurement using **smart TVs**

And we will avoid noise like:

Title: Design of **smart** antenna in Mobile Digital **Television**

Title: Design of **smart** volume controller for **televisions**

Search Strategy

OTHER LIMITS

According to the results, we can set limits to obtain more pertinent results.

Some common database limits:

- *date*
- *language*
- *document type*
- *words in specific field: i.e. title*



Search Strategy

CONTROLLED/NATURAL LANGUAGE

a) Keyword search: **alarm* and (fire* or burn*)**

b) Natural language search: *How to install a fire alarm*

c) Thesaurus search:

		W05-B ALARMS
		W05-B01 BURGLAR/INTRUDER ALARMS; SCARING THIEVES
		W05-B02 FIRE ALARMS
		W05-B03 ALARMS RESPONSIVE TO TWO OR MORE DIFFERENT CONDITIONS
		W05-B04 ALARMS RESPONSIVE TO UNSPECIFIED CONDITION
		W05-B05 WITH SIGNALLING TO CENTRAL STATION
		W05-B08 DISASTER WARNING/ALARM SYSTEMS W05-B04 (1997-)
		W05-B09 ALARMS - OTHER

Mind this too...

Attention!

- Take into account abbreviations, acronyms
- Stopwords: common words are not indexed
- Most content is in English. Depending on your search need you will have to add synonyms in different languages

Keep a note

Note all references in full as you find them, even if you are not sure how useful they might be:

- Keep a note of where you find your references - you may need this if you apply for an inter-library loan
- Make sure that you keep a note of the publication details (journal title, issue and volume number) from which an article is taken, in case you have to cite it. It can be very difficult to check back later
- Some resources offer a 'download' facility, which allows you to export selected references either as .txt files, or to various reference management softwares (i.e. Mendeley)

4. More on search strategy

Questions?

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