

# How Search Works

## User search process (front-end)

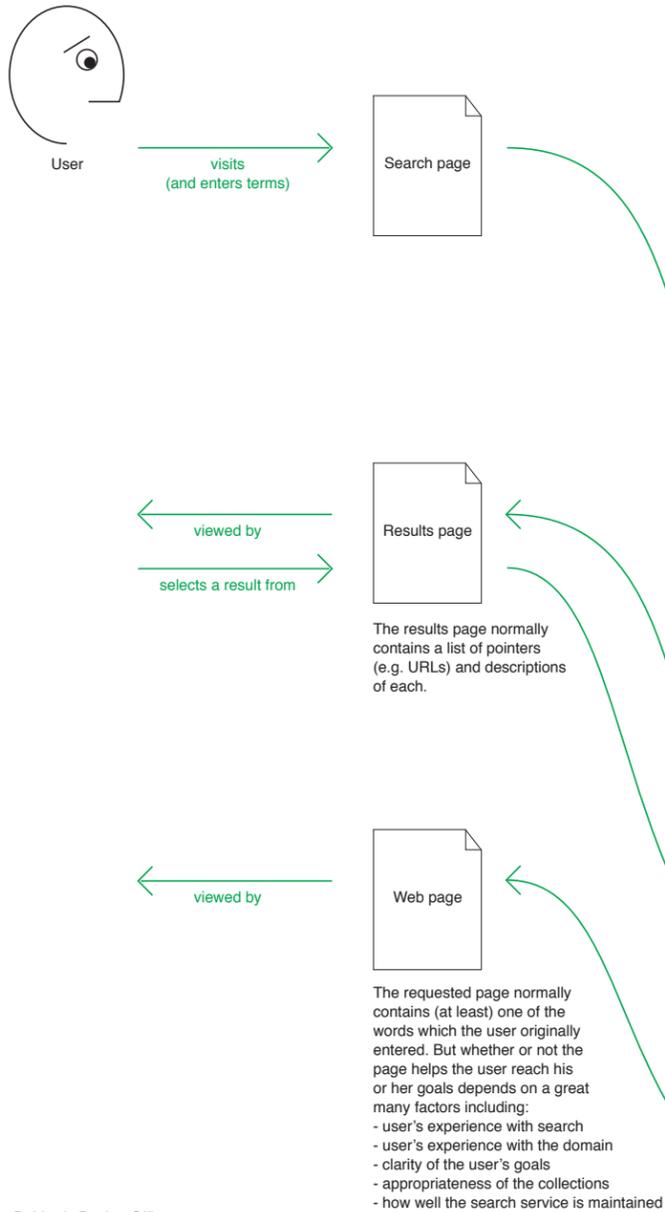
Users visiting a typical search service enter terms in a search form (on the search page in this diagram). Clicking on an ok button in the search form sends a request to the search engine.

The search engine compares the requested term with entries in an index. In the index, each entry is associated with one or more pointers (usually a URL). If a requested term matches an entry, the search engine returns the associated pointers (a list often called the search results).

If the search engine finds multiple pointers associated with a requested term, it ranks them according to various algorithms. It may also consult a lexicon file which forces some pointers to the top of the list. The rules by which a service ranks results are often unavailable to users.

Depending on the search service, users may constrain their searches in several ways including:

- by using Boolean operators to add or exclude terms
- by limiting the range: collection, domain, or language
- by specifying date, author, region of origin, or other metadata
- by specifying media type



## Index building process (back-end)

Search engines rely on indices built by a series of back-end processes. Software programs known as spiders periodically crawl through collections of documents building a list of URLs which another set of programs known as index builders (or indexers) use to find the pages they should index. Indexing is a process of parsing the text and code within a series of pages and then building a table (or index) linking keywords to the URLs in which they appear. When a user searches for a word, the search engine looks up the word in the index and returns a list of URLs in which the word appears.

