



A more empowered and productive model for conducting online research

According to some recent research I've done, the typical web searcher isn't very effective at shaping the topic of their search and translating that into effective search terms. Mind maps can help you to become better informed and more empowered when you conduct online research. This report explains how.

The typical web search process

What does the typical web search process look like? You simply start out with a general idea of what you're looking for, type it into the main search page at Google (or your other favorite search engine). You then do your best to view and evaluate the search results. [According to a paper](#) published by Sheila Webber from the Department of Information Studies at the University of Sheffield UK, this tried and true method isn't nearly as effective as it ought to be.

"Even though search algorithms and interfaces are improving, people are more empowered if they know what to do if their Google searches do not magically turn up the results they want," she explains.

Ms. Webber's research shows that web searchers are notoriously bad at formulating effective search terms. One source she cited says that the average online search only contained an average of 2.2 search terms.

"A small percentage of users used modifiers: for example 6% used the plus sign, fewer used Boolean Operators, and, when further examined, mistakes in use of operators emerged (e.g. 38% of users making mistakes with the minus sign, such as putting it in the wrong place)."

In other words, most web searchers operate in a rudimentary "access and locate" mode, but don't spend enough time understanding their information needs and then formulating effective strategies to meet them.

A more empowered and productive approach

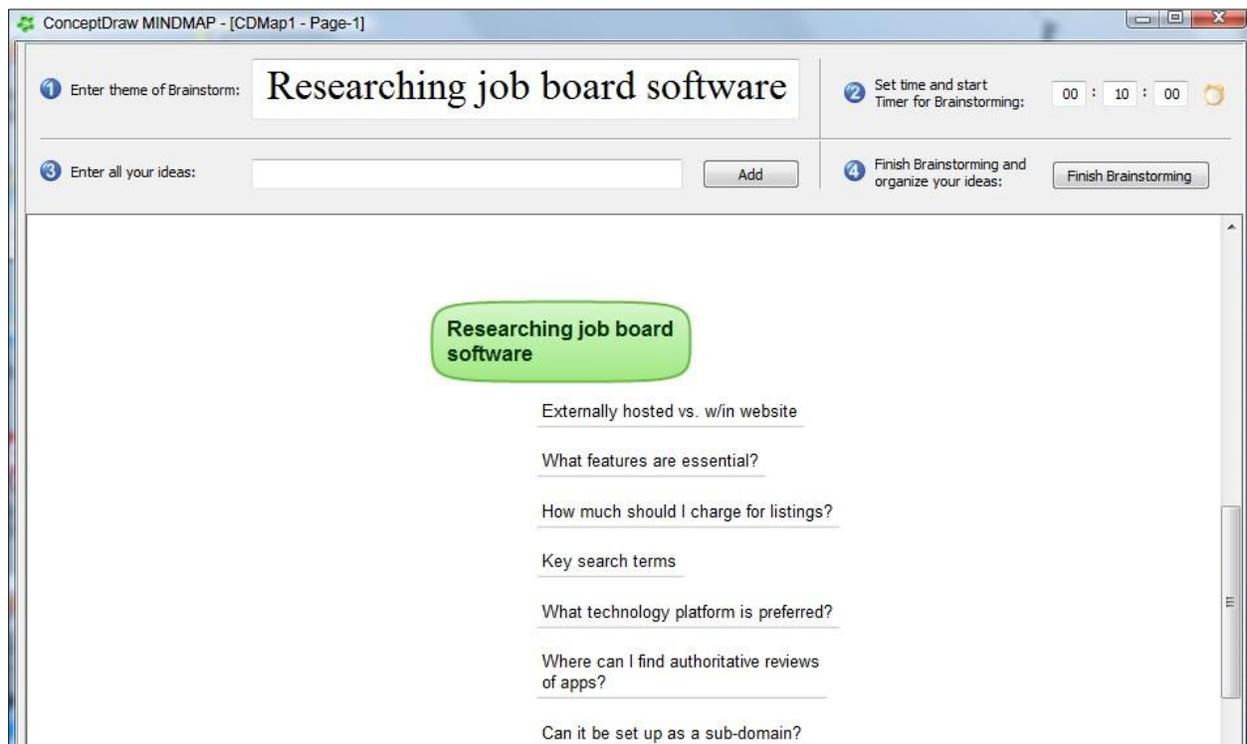
Ms. Webber suggests that mind mapping is a key tool in a more empowered and productive approach to conducting web research. Simply put, visual mapping is an excellent “front end” tool for brainstorming potential search terms, generating synonyms and variations of basic word forms, and getting a more accurate understanding of your real information needs.

Here is a simple 6-step process you can use to improve your online research process, utilizing mind mapping software as both the engine for formulating more effective searches, as well as the tool for gathering, organizing and evaluating the information you have collected:

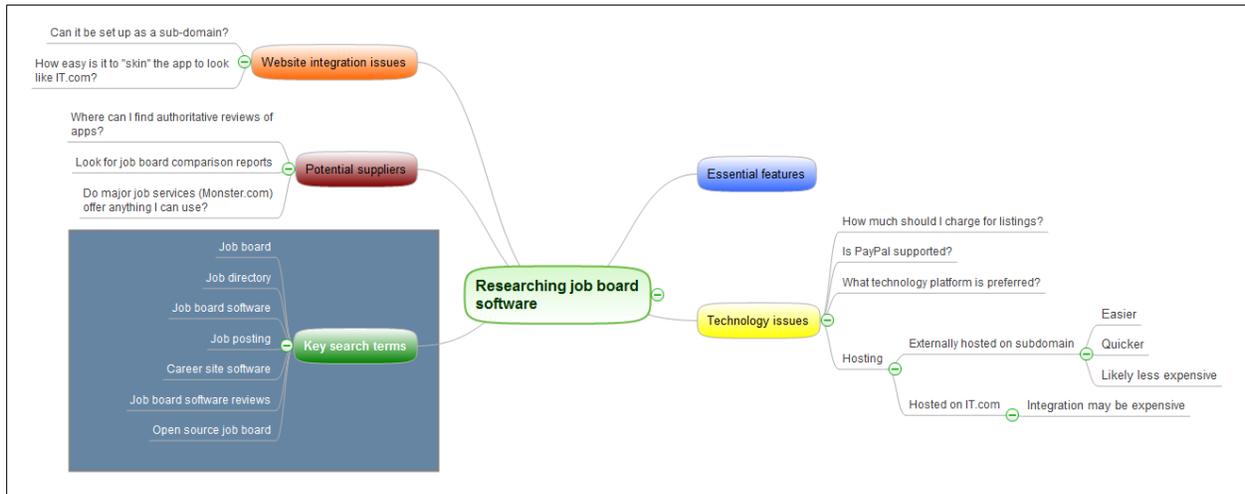
1. Define your topic

Brainstorm potential search keywords and phrases, as well as their variations. Use the mind map to refine the topic your research will focus upon. At this early stage, simply focus on the free-form capture of ideas. Don't get hung up on the structure of your mind map yet. Just capture everything you know and everything you need to know about the topic, and then organize your ideas later. Make a list of items that interest you about the topic and questions you have.

If your program has a brainstorming mode, you can use it to quickly capture your ideas, questions and information needs (as shown using ConceptDraw MINDMAP 6, below).



2. Determine what fields of study your research will address, which will help you to narrow the range of potential sources you will search. These sources could include web pages, blogs, discussion forums and reference sites (such as Wikipedia, Yahoo Answers). Do a preliminary organization of your questions, topics and potential search terms, as shown below.



3. Gather material from web searches

Use the search terms, variations and questions you generated in Step 1 to conduct your web research. Use your mind mapping program to capture article titles and URLs, and use its topic notes feature to capture relevant snippets from each article, as well as to record your own thoughts and observations about the material.

As you conduct searches and gather potential sources, continue to steadily refine the structure of your mind map. Patterns in the information will suggest how it should be structured. Expect this to be an emergent, iterative process – not something that will become clear to you all at once. Remember, mind mapping software enables you to easily do “what ifs” in terms of trying different arrangements of topics and sub-topics. Each time you rearrange topics, you change their context, which often leads to further insights and ideas.

If a piece of information doesn't seem to fit anywhere, create a "to be classified" topic and come back to it later. You may want to make this a floating topic or color it differently, so you remember to deal with it later in your searching and sense-making process.

If you're conducting research for a college paper or other education-related project, you'll need to provide an annotated bibliography along with your paper. Capture publication, author and URL information along with the information you're capturing, and save it in your mind map.

Be sure to take full advantage of your mind mapping program's ability to attach information assets to topics. If you have a number of documents or other electronic resources on your computer that are relevant to the project at hand, you can easily attach them to topics within your mind map. The same goes for any PDF files you encounter during your web search. You can easily save them locally and connect them to your mind map as attachments. If some information resides in books, you can scan their pages and attach the scans to your map as image files or PDFs.

4. Evaluate the information you have gathered.

There are several criteria you may want to consider when evaluating the information you have gathered:

1. The degree of fit with the main objective of the project you're working on, and
2. The level of authority of the source of each piece of information. Is the source a reputable one? Does the information appear to be factual, or someone's opinion on the topic? Obviously, an article from the Wall Street Journal online carries a lot more credibility and authority than one person's blog post or someone's opinion in an online forum does.

Use your mind map program's icons or symbols (numbers, preferably) to assign weights to each piece of information you have gathered. For example, attaching a "1" icon to a topic would imply that it comes from a source with the highest level of credibility and authority. A "2" icon could designate a source with moderate credibility and authority, and a "3" would mean that these qualities may be questionable.

5. Finish the process of organizing your sources, articles, and notes into a visual outline.

As I indicated, this should be an iterative process, with structure suggesting itself as you gather information. When you're done with your online research, do a final sweep of the mind map and do your best to finalize its structure. Be sure to highlight any explicit or implied relationships between pieces of information. Relationship lines are a terrific tool for doing this.

6. Fill in the gaps.

A mind map is a powerful tool for helping you to evaluate what you have, and what you may be missing. When you identify such gaps, conduct additional, focused online research to fill them, and place your findings in the proper places within your mind map.

The bottom line

What's critically important in conducting effective and productive online research isn't the process that I've laid out in this report. Rather, the key message is that you need to invest more time up front to better understand your information needs – before you begin the research process.

Resist the temptation to jump right into conducting online searches. Remember the analogies, “garbage in, garbage out” and “If you don't know where you're going, any road will take you there.”? They apply abundantly to online research: If your understanding of your real information needs is fuzzy, then your searches and the information you collect is bound to be haphazard at best.

Instead, take your time. Create a mind map in your favorite visual mapping application and invest at least 20-30 minutes clearly defining the objectives of your search and brainstorming questions and keywords. Your efforts will pay off by leading you to higher-quality information that will do a much better job of meeting your needs.

Questions?

Please contact Chuck Frey at chuck@innovationtools.com.

Please [visit the Mind Mapping Software Blog](#) for all of the latest news, trends and resources related to visual mapping.

You can also [follow Chuck Frey on Twitter](#) for even more insights and ideas.