

Get the Picture

RON MILLER

Traditionally, Internet searching has been a two-dimensional process. You enter a couple of search terms in your favorite search tool and get a text list of results. You then try and find a useful site by clicking results in the first page or two. While this may work for some searches, it fails to take into account the complexity of many queries, in part because it gives equal weight to all results. Search engine users rarely venture into the Advanced Search features of the search engine and few know how to put together a Boolean query to hone search criteria that will then produce a few meaningful results.

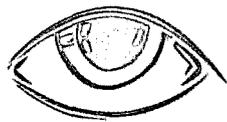
In an effort to simplify the searching process and bring more meaning and context to the results, a number of search engines and tools have been developed over the last several years that present a visual map of the results, rather than a text list. By using a picture, these solutions offer a way for searchers to see the larger view of the results and get a sense of where the information fits in the context of a variety of results. While this may seem like an attractive alternative, search engines such as Yahoo! and Google are probably not going to be changing any time soon. But experts in the search engine field agree that visual searching has a place, especially in information-intensive markets such as finance, pharmaceutical, and law where information comes at a premium and where transforming ever-shifting data into actions is part of a day's work.

This article explores the current visual search market and looks at where the market may lead in the future.

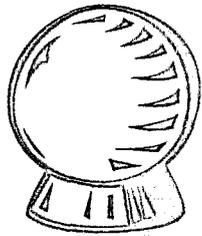
WHAT'S WRONG WITH A LIST?

There's nothing inherently wrong with a list of results, but the more complex the search, the more difficult it becomes to manage the list and find the result you need. Alexander Dos Santos, marketing manager at visual search engine KartOO, asks, "If a user types the word 'car', what kind of site do we have to offer?" He points out that a traditional search engine returns a linear list with manufacturers, rental agents, mechanics, collectors, and so forth with little context. "If I'm looking for rental car, I will be very disappointed to find a list of manufacturers and collectors," Dos Santos says.

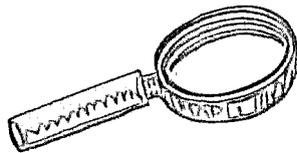
He theorizes that the text list stems from the fact that most developers tend to have left-brain (logical spirit, direction of the organization, preference



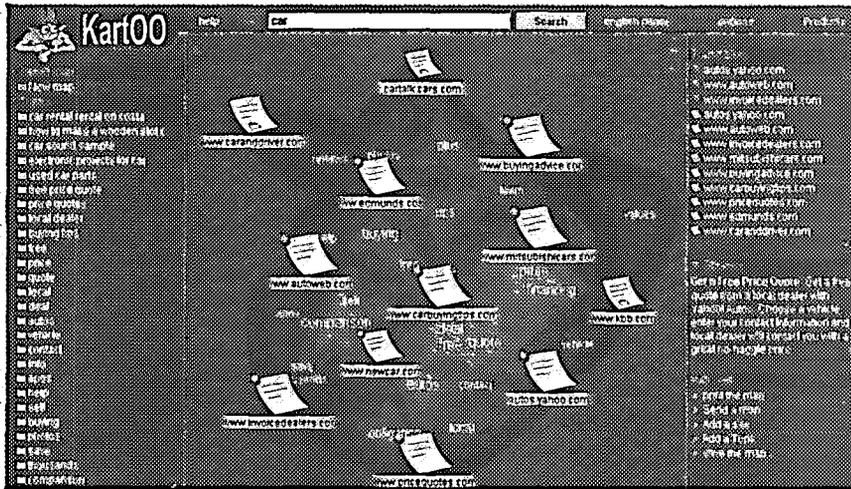
visualizing



the future



of SEARCH



Kartoo provides a way to conduct graphical searches making it easier to see relationships between results.

for text) orientation. As a result, as search engines evolved, they followed this path. "We believe that data processing specialists were especially left-brain oriented, and that database software was mostly text, mathematical logic

everywhere, and, well not too imaginative," Dos Santos says.

Instead of pages of results listing sites, Dos Santos says his company pictured more of a road map so they could help users navigate the results. "We imagined

cities instead of Web sites and instead of roads, common words linking destination sites. The user could zoom into thematic areas to improve the search," he says. Using the car example, the search engine divides the results into logical categories, making it easier for the user to zoom into the set of results that makes the most sense. "KartOO helps companies that need to see visual relationships between results," Dos Santos says.

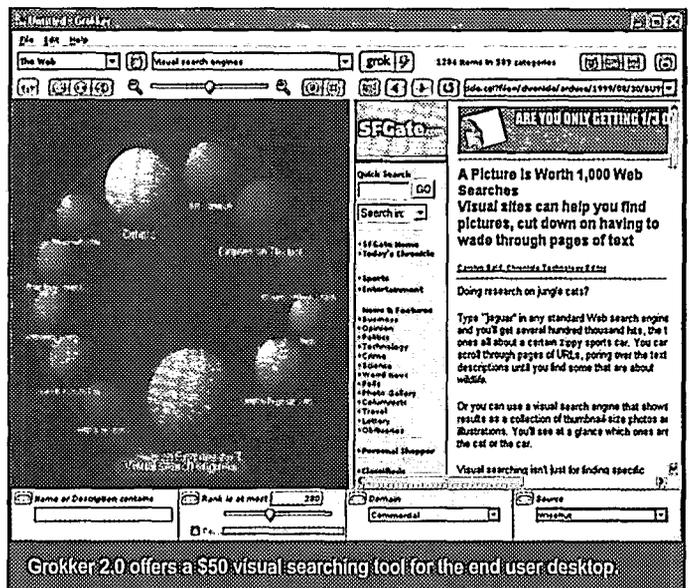
Yet Search Engine expert Greg Notess, who runs Notess.com, a Web site devoted to search engine research, doesn't see visual search tools making a significant impact on generalized search. In fact, he sees a movement on the Web away from graphics and towards text, as has happened with banner ads. "The growing ad movement is text-based ads because they are less in your face," Notess says. He also points out that visual search engines still face bandwidth issues. "I don't see visual

Groxis—Visualizing on the Desktop

One company trying to buck the enterprise trend is Groxis, which is selling a \$50 desktop visual search product called Grokker 2.0. Like the other tools in this market, it presents a visual map of the results by creating categories of results on the fly based on the query. Each circle on the graphical map (you can change the shape if you like) represents a different category. The tool even allows users to search locally on an individual computer hard drive, providing desktop visual search. "Grokker is a framework for information management," says Jean-Michel Decombe, co-founder and CTO at Groxis. Decombe sees Groxis as a way to augment information retrieval by adding a layer of intelligence that breaks down the information into more logical categories and presents it graphically to see the relationships between the categories better.

In addition, you can save your searches, and Grokker provides a whole level of customization with tools to change the look of the map, as well as filter, to show certain information such as only .org domains. Right now, Groxis supplies the filters, but they see the product as a framework for future development. Because they have built Groxis using plug-in technology, other developers can customize the product. "Groxis has lots of possibilities, but so far, we have unlocked only a few. There will be Grokker Pro within a year, which will allow you to build much larger representations. Grokker Pro will be more appropriate for business intelligence," Decombe says.

In the mean time, they are concentrating on the education market, where they see Grokker as a tool for aiding in research, while working toward more widespread use of the product. "We want the product to be liked and accepted and found useful, and then we will percolate throughout organizations," Decombe says.



Grokker 2.0 offers a \$50 visual searching tool for the end user desktop.



displays of search results that are highly graphical taking over in the general Web search space," he says.

Danny Sullivan, editor of Search Engine Watch, agrees. He thinks broadband could help, but cautions that just because visual search engines have a wow-factor it doesn't mean they are going to replace mainstream search engines anytime soon. "Just because it looks cool doesn't mean it's useable," he says. Sullivan also wonders if the current generation of visual search tools actually does a good enough job of making the results clearer for users. "A lot of people are used to getting search results in a certain way. When you start changing that, it can throw them off," Sullivan says.

That said, both Sullivan and Notess believe that visual search engines have a place outside of the mainstream searching world in business intelligence scenarios, and that seems to be where the push for business in visual search is moving. "The area where I've heard of successful use of visual searching is people who are doing in-depth data mining or competitive intelligence," Notess says.

VISUAL SEARCH IN THE ENTERPRISE

Most search companies have recognized that in order to make money in the search business, they need to move into the

enterprise and help companies get on top of the mountains of available information; visually-based search tools are no different. "That's where I suspect these companies have the most traction is when they find the right niche. We have this kind of data that we need to plot a certain way, so let's make it come up graphically," Sullivan says.

David Spenhoff, VP of marketing at Inxight, an enterprise information retrieval company that provides results in a visual format, says, "We're seeing interest in enterprise search due to a recognition that unstructured source is without a doubt growing exponentially." In addition, Spenhoff points to government regulations such as Sarbanes-Oxley and a growing regulatory burden in Europe and the United States. "Being able to identify and categorize information and have it available for sharing, collaboration, and re-use, along with the drive for compliance, means a lot of companies are recognizing that this is a key to the business," Spenhoff says.

Matt Turck, president and chief operating officer at TripleHop, makers of the MatchPoint visual search tool, also sees it this way. "The problem we address is very much a pain point felt throughout a lot of different companies that are information intensive," Turck says. He says the typical TripleHop customer is a vertical such as

Companies Featured in This Article

Antarctica Systems
www.antarctica.net

Notess.com
www.notess.com

Groxis, Inc.
www.groxis.com

Search Engine Watch
www.searchenginewatch.com

Inxight
www.inxight.com

TripleHop Technologies
www.triplehop.com

KartOO Technologies
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media, finance, professional services such as law firms, or any Fortune 500 company looking at competitive intelligence.

These organizations need to be able to run searches against a variety of information repositories, including intranets, document management systems, email servers, external online subscription services such as Westlaw, and public search engines, yet they need to be able to get a handle on this vast supply of data in a way that Turck says is difficult to achieve with a text list of results. "Our approach to this is to add a level of intelligence and a form of visualization and clustering technology that is looking at results (summary, title, and other elements). Then we extract from this information, in real time, a taxonomy of results," says Turck.

MatchPoint generates a two-pane results window that has an Explorer-like view of the information on the left and a list of results on the right. The left view takes the information and places it into meaningful categories (folders) on the fly. When a user selects a result and the "article" appears in the right, the program highlights any words that match the search query.

Inxight takes a similar approach with their SmartDiscovery search system. Instead of a group of folders, they offer a cluster graphic, with each node representing a different piece of the taxonomy. Like MatchPoint, Inxight builds this graphic and taxonomy on-the-fly based on the individual query.

Tim Bray, CTO at Antarctica Systems, a software company that applies a graphical

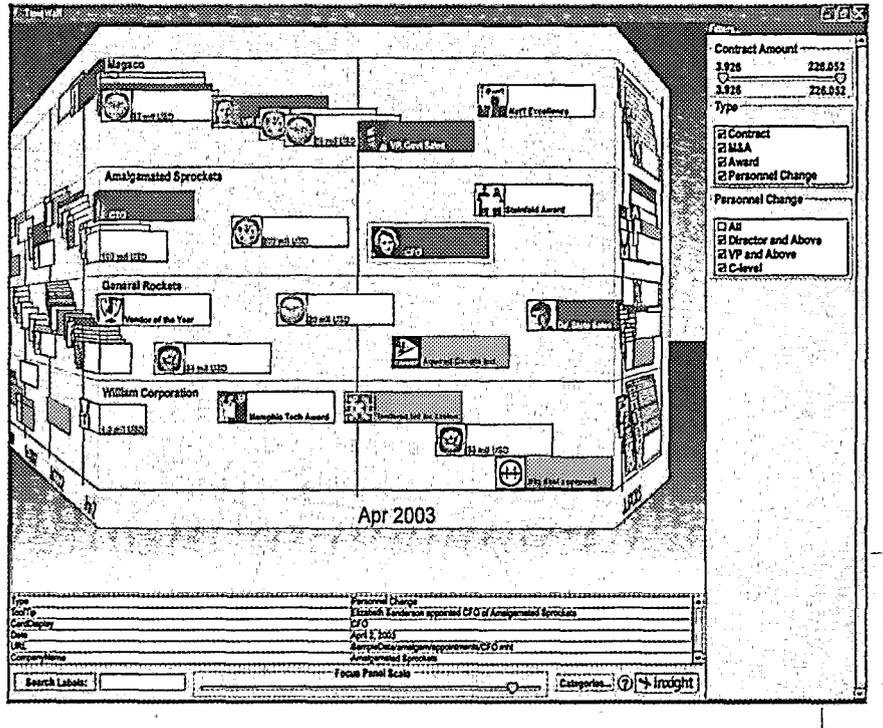
The screenshot shows the MatchPoint search interface. On the left is a navigation pane with a tree view of folders. The main area displays a list of search results. The first result is titled "1. 10720324773 - AMOVEX EFFECTIVE, WELL TOLERATED FOR MULTIPLE...". Below the title is a snippet of text: "AMOVEX EFFECTIVE, WELL TOLERATED FOR MULTIPLE SCLEROSIS AMOVEX EFFECTIVE, WELL TOLERATED FOR MULTIPLE SCLEROSIS Biogen announced that its multiple sclerosis drug Avonex (interferon beta-1) was well tolerated and produced low levels of neutralizing antibodies in patients treated for up to eight years. Only 5 percent of patients developed neutralizing antibodies to Avonex. Results of the..."

Other results include "2. 10720319375 - DENIALS ADVANCE BILMS BATTLE", "3. 10720322 - Biogen 20...emission fa...", and "4. 10720322934 - Drugs, medical devices & biologics news and...".

A watermark "Your Search Engine" is overlaid on the screenshot. A callout box labeled "MP Clustering" points to the left navigation pane.

Inight has just released its futuristic-looking 3D Time Wall that presents the data on three panels.

view of business intelligence information, started Antarctica based on the idea that, while we have a graphical user interface for the desktop, as soon as we turn to search we essentially return to a command line interface. Bray thinks that it only makes sense to add a graphical layer to search results as well, and he sees business intelligence as an area where visual search companies can make a mark. "The idea was to remove barriers, by providing point-and-click access to information," Bray says. Antarctica does this by building custom maps for each client, rather than working with an out-of-the-box product.



TAKING VISUAL SEARCH TO THE NEXT DIMENSION

Inight is taking the graphical view of data to a new level with their Time Wall product, a futuristic looking 3D-graphical representation of data displayed on three panels. You can drag your mouse along the wall to move through time, or focus on a particular item. The tool includes a series of filters in the form of sliders and check boxes to provide a way to focus the graphical view to suit individual needs. It also

uses colors to provide a way to recognize different types of information at a glance.

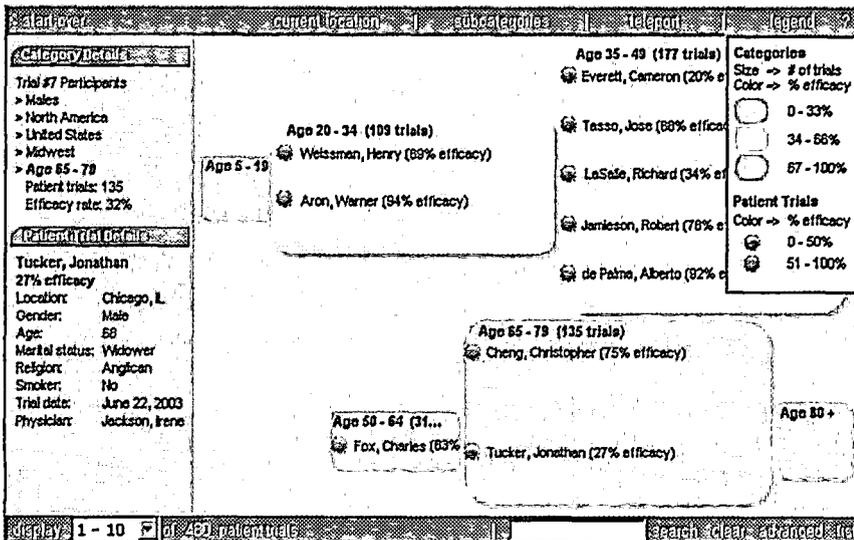
KartOO, meanwhile, has also developed an enterprise product after receiving requests from business customers to provide a graphical view of internal documents. In response to this, they developed several products, including a personalization module that monitors a user's searches and adjusts the results according to previous searches, and a monitoring tool that

sends an email whenever a site you have been monitoring changes or new sites appear related to your area of interest.

SEARCHING FOR THE FUTURE

Visual search engines certainly have a lot of pizzazz, but visual search tools need to be more than pretty interfaces to gain a real foothold alongside more traditional text search engines. Of course, they have to provide an easier way to view and access information. But they also need to provide reliable results while either becoming more familiar to end users or finding markets in which the end users are more visually-oriented. In the emerging visual search market, players are still finding their way. Currently, their strengths lie in the research tool market as opposed to pure-play, search-and-find tools, and, as such, they have the best chance to succeed in enterprises dealing with large amounts of information. As Antarctica's Bray says, "Generalized Web search is a very tough row to hoe." ☐

Antarctica works with each company to build a custom map based on their information needs. In this case, they break down drug trial information.



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