



# DIGITAL DISCOVERY & E-EVIDENCE



**VOL. 8, NO. 3** 68-69

**REPORT**

**MARCH 1, 2008**

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## TRENDS

### Visual Review: The Newest Advancement in Litigation Technology

By KEVIN CARR

**V**isual strategies in discovery search and review are among the newest technology advancements capturing the attention of litigators. Technology is available today that leverages the visual nature of the human mind to improve several stages of the discovery life cycle, specifically the document search and review process.

**Genesis.** In a wide range of disciplines including education and marketing, ongoing research is conducted in an effort to identify effective methods of communication. Experts have determined that a majority of the population are “visual learners,” meaning they tend to process new concepts and information most effectively when the material is presented to them in a visual for-

mat. Research also indicates most people are more likely to remember information that is presented using images or by graphical representation.

Because the general population is overwhelmingly visual in nature, visual presentations remain among the most effective means of reaching audiences of all kinds. In the field of education, visual learning techniques are used widely in schools across the country to improve student performance. As another example, consider the impact of print or broadcast advertising campaigns where the images often remain in the minds of the readers or viewers long after the ad copy is forgotten.

Lawyers have long understood the visual nature of the human mind. Trial presentations, for instance, are used effectively to convey the most important points counsel wishes to leave with a jury because jury members are often more likely to remember what they see with their own eyes than what they only hear. Predictably, trial presentation technology continually evolves to better leverage the human tendency for effectively processing information presented visually.

**Visual models v. Flat Lists of Search Results.** There are a number of reasons a visual method is more powerful than simply working off of a “flat list,” or a basic text listing of search results that promote linear review. Visual review help users to identify relevant documents, trends, and time lines by providing an illustration of document relationships with one another and spikes in activity that would be impossible to see in a flat list. By categorically marking groups or clusters of documents

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based on what can be seen in these trends without actually reading through each individual document, the overall review process takes significantly less time.

Flat lists are commonly used in many popular search tools, not only those specific to litigation.

Google and Yahoo are two good examples of search engines that return both a linear listing of “hits,” or items that may reflect the information being sought. While Google and Yahoo quickly provide results to the searcher, their delivery is often far too numerous to ensure the best or most relevant information is located.

For instance, a basic Google search on “contract negotiations” returns more than 1.7 million results, each of which is included in a simple, linear list. Certainly a more advanced search could be performed, where the results are narrowed based on author, date, or any number of other criteria. But even if 99 percent of the original results were eliminated, the remaining flat list of more than 17,000 items would require significant review time.

Another limitation that should be noted is that flat list environments make it nearly impossible to quickly uncover relationships between the documents contained within the search results. Inevitably, some documents will have the same author, recipient, date, concepts, etc. But determining these connections and important similarities within the content itself still requires an individual review of each item.

But what if those results could be visualized in another format? How would viewing search results presented in a graphical or illustrative format, instead of only in a linear listing, offer a useful perspective of the data?

**Visual Review Strategies at Work.** Any collection of documents may include a wide variety of file types and formats, and each of those individual documents will include a vast array of attributes, some unique and some shared with other documents in the data set. Simply put, these “moving parts” in a document collection can tell the complete story contained in the database.

Maximizing the effectiveness of visual review strategies requires the use of an application that offers access to all distinct attributes in a collection: date created, author, custodian, file type, concepts, communication threads, a wide range of metadata, and more. This allows users to define, refine and visually plot a search using any attribute or combination of attributes chosen at any time.

The newest technology in discovery review leverages the tendency of most people to process information that is presented in a visual format more effectively by offering graphical illustrations of search results in addition to the linear listing of the documents. The images may display the data in a variety of models, including:

- simple plotted charts or colorful data bursts that illustrate occurrences of specific elements within the data,
- time lines that identify spikes in activity at specific periods of time,
- clusters that show groups of documents with common features or content, or
- graphs depicting interconnected relationships or correspondence among various parties.

Rather than using only one graphical representation, there is substantial benefit in the reviewer having the flexibility to choose which graphical model is most use-

ful for the search at hand. In fact, looking at multiple types of graphs of the same data at the same time can uncover key relationships among documents that may otherwise stay forever hidden. Due to the dynamic nature of data collections in discovery databases, a single illustrative view of the data may not uncover the documents that are most relevant to any given search.

For example, in a sample review a search may be performed using such attributes as: (a) all documents belonging to a certain custodian, (b) specific types of documents only, and (c) documents created during a specific date range. With almost any discovery review tool, a precise search of this nature will yield a smaller subset of data. However, when presented in a flat list, the reviewer is required to look at each document in the subset to determine relevance, responsiveness, etc.

By contrast, when the results of a search are presented using visual strategies, they may be depicted as a data burst, which reveals all information about the subset (such as document recipients, specific keywords or concepts, file types, etc.): information over and above just the criteria used in the initial search.

In addition, the results could be viewed simultaneously as a time line, allowing the user to see a shorter temporal window in which there may have been a dramatic increase in activity; or perhaps as a relationship graph that would identify commonly occurring recipients or additional custodians of the documents.

**Additional Benefits.** The user can further refine the search by visually clustering the results and by adding new criteria on the fly, which might include any number of attribute combinations. By viewing the search results represented in an illustrative format, as opposed to a basic text listing, the data becomes more dynamic, allowing the reviewer to uncover much more, often critical, information about the documents. Equally important, the reviewer also will see significant relationships between documents that might otherwise have been concealed.

Visual review technologies will cluster similar documents together and visually map document relationships using any combination of information or attributes. This not only provides the ability to instantly view activity trends or spikes in communication, but also offers the ability to discover unique patterns based on connections among documents. As a result, the user can dynamically refocus the analysis based on emerging, unique patterns.

Illustrative review techniques also promote the ability to make decisions on clusters of documents in a single step. Once the user maps and relates any set of important attributes using one of numerous graphical tools, it’s easy to code categorically any relevant cluster combination. Certain programs offering visual review capabilities also are flexible enough to chart whatever relationships are chosen in the blink of an eye.

Using visual strategies typically minimizes the need for linear review, thus shortening overall review time dramatically because the reviewers are able to make decisions about multiple documents simultaneously.

**A More Engaging Experience.** An important element of visual review that cannot be overstated is its inherent aesthetic appeal. Almost anyone who has spent countless hours performing discovery review will agree the activity is typically quite mundane, and not particularly

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engaging, even when the issues in the case itself might be rather interesting.

Traditional review from a flat list of documents can be tedious, and the monotony alone can lead a reviewer to skim the data quickly or look for other shortcuts during the review process in an effort to finish and move on to something else. The unfortunate result, of course, can be devastating if in the rush to complete the boring task of document review a critical piece of information is overlooked.

When looking at the same information in the form of simple graphics instead of a basic list, the review process actually may be enjoyable. When a reviewer is more engaged in a task, he or she is far more likely to complete it in a more thorough manner.

**Further Applications.** Looking at a collection of documents from a graphical perspective is beneficial not only during discovery review, however. Because illustrations have the ability to show relationships between documents that are not as easily identifiable in a linear listing, using visual analysis during the pre-culling

stage of the discovery life cycle can be quite useful as well.

Given the skyrocketing costs of the entire litigation process, legal teams are finding it useful to cull the data set earlier in an effort to reduce the amount of documents needing to go through e-discovery processing. While processing a smaller collection of documents will save tremendous time and money, the inherent risk is that a piece of critical information potentially may be missed. By looking at the original data set using visual tools, a more thorough analysis is completed to ensure no potentially relevant documents are lost.

As the old saying goes, “a picture is worth a thousand words.” This can be especially true for legal teams facing terabytes or even petabytes of data that require review. Viewing the documents in an illustrative format helps to analyze what is there quickly and thoroughly. Not only does this save money by speeding the overall review process, but visual analytics provides a fresh and engaging perspective to make for a more interesting activity.