Chapter 15
Visualizing Information–Triage:
A Speculative and Metaphoric Interface for Making Sense of Online Searching

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ABSTRACT

In many ways, the promise of the Internet has been overshadowed by a sense of information overload and anxiety for many users. The production and publication of online material has become increasingly accessible and affordable, creating a confusing glut of information users must sift through to locate exactly what they want or need. Even a fundamental Google search can often prove paralyzing. In this chapter, the author examines the points at which design plays a role in the online search process, reconciles those points with the nature of sensemaking and the limitations of working memory, and suggests ways to support users with an information-triage system. The author then describes a speculative online searching prototype that explores these issues and the possibilities for information-triage.

INTRODUCTION

The Complications of Complexity

Search engines like Google allow users access to unimaginable amounts and types of complex information, but the ways in which search results are visualized often makes comparing and contrasting these results difficult. In many ways, the promise of the Internet—easily sharing information via a network of globally connected hyperlinks—has been overshadowed for many users by a sense of information overload and anxiety. The production and publication of online material has become increasingly accessible and affordable, creating a confusing glut of information users must sift through to locate exactly what they want or need. Moreover, the visual display of this information has remained woefully un-designed, under-designed, and/or unconsidered.

Generations of people who have been trained to passively accept information from sources of vetted authority are now interacting with a dynamic system of globally linked information, raising slip-

pery questions that are no longer easy to answer. Is an article in the Encyclopedia Britannica on augmented reality equal to an entry in Wikipedia? Can a blog posting about diabetes be more informative than an appointment with your doctor? In the shifting context of the Internet, credibility and authority should never be assumed, but often are.

Information overload is not a new problem. People have been inundated with increasing levels of information since the Industrial Revolution and the explosion of printed material and resulting mass-media that came along with it (Wright, 2007). What *has* changed in the last twenty years is the ease of access to an unchecked flood of information. According to Clay Shirky (2008), Internet technology writer and academic, what we are experiencing today is not really information overload—it is filter failure. Filters that developed over the last few hundred years to deal with large amounts of information have started to break down as the Internet has moved society from a process of top-down edited publication to one of bottom-up open-source dissemination. Design can (and should) engage with this issue to develop better tools and systems, helping users understand and filter the information they encounter online. One method, which has yet to be fully explored, is information-triage.

The concept of information-triage is derived from the medical process of sorting through and prioritizing patients for care. The word originates from the old French verb *trier*, and means to sift, separate, or select; traditionally, three discrete categories for sorting were used (Merriam-Webster, 2012). A medical triage practitioner must quickly recognize, sort, categorize, and prioritize the status of a given patient—usually in a hierarchically driven and methodical way. Each new case is moved through a system following scripted sets of criteria, allowing less critical cases to be dealt with as time allows, and the most critical cases to be dealt with immediately (O'Meara, 2007).

The concept of triage migrated to the computing and business world as tasks and jobs became increasingly complex, and the amounts of available and accessible data grew exponentially. Other HCI (Human Computer Interaction) and Information Science researchers have begun investigating a related concept known as *document triage*, the manual process of briefly reading through multiple source documents, and quickly making decisions regarding relevance and saliency. These quick decisions allow a user to sort through large quantities of initial documents, which are then explored in more detail depending on user goals and needs (Geng, Laramee, Loizides, & Buchanan, 2011).

However, researchers have found that the document triage process is imperfect, and many users miss relevant sources and connections when using current document search and display technology (Buchanan & Owen, 2008). Information-triage is the selecting, sorting and categorizing of different kinds of information, while document triage is the process of selecting, sorting and categorizing sets of whole documents. These concepts are certainly related, and many aspects of the search process in general are affected by a user's ability to successfully conduct triage.

Part of the anxiety Internet users feel has to do with the shifting nature of the human attention span and the limits of working memory. As users engage with data and information online, they are bombarded with multiple levels of layered material and alternate avenues of discovery. The user encounters countless screens, ads, and links, which are all competing for attention. These short bursts of disjointed data are distracting for even the most focused user, and over time users often forget what they were searching for in the first place. When attempting to gather information to aid an important decision—especially when a search yields conflicting opinions—this chaotic atmosphere can prove paralyzing.

However, users are not without some inherent tools—one human ability being investigated and incorporated into interfaces is *sensemaking*. Studies related to this concept are currently being conducted in many different disciplines

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