

QuikScan: An Innovative Approach to Support Document Use in Meetings

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QuikScan is a set of summarizing and highlighting techniques that enable readers to quickly find information in documents. The foremost goal of the QuikScan Project is to improve the quality of business meetings by supporting attendees who must deliberate over documents they may not have carefully read. We envision QuikScan as a new career path for professional editors.

INTRODUCTION

QuikScan is an editorial practice in which the format of a document is modified so that readers can quickly find and read the key ideas. QuikScan employs within-document summaries and highlighting, applied according to carefully formulated rules and guidelines. We believe that QuikScan has multiple uses, but our current focus is the support of small-group meetings in business, government, and other areas of life. We will use the term “business meetings” to designate a very broad range of small-group meetings in which deliberation and decision-making take place.

A frequent activity during business meetings is the examination and discussion of documents. When attendees have not carefully read the document being discussed, they will likely have trouble following the discussion and participating effectively. As the discussion turns from topic to topic, they will flip pages scanning for key ideas. Document features such as executive summaries and headings are helpful but generally insufficient. The end result may well be unproductive meetings and poor decision-making. Previous research shows that many people do not prepare adequately for business meetings (1). Hence, it is even more likely that people will be poorly prepared for meetings that require them to read a medium-to-long document.

Although the QuikScan concept is simple, the goal of improving decision-making in organizations is ambitious and far-reaching. Given the costs associated with business meetings and the consequences of the decisions, we believe there will often be a compelling case for QuikScan editing. If QuikScan succeeds, an important consequence will be to open up a new career path for professional editors. Although our current focus is print, QuikScan should be equally useful when attendees take a laptop into a meeting.

QuikScan may also be desirable for private reading. Even those who are free from the pressure of keeping up with a discussion may value a format that enables them to read in a highly selective manner. We are also investigating the possible value of QuikScan to low-vision readers and those who employ text-to-speech software such as Jaws® (from Freedom Scientific). These individuals have a strong need to bypass content they are not interested in.

QuikScan is Quan Zhou’s dissertation topic in the Department of Technical Communication at the University of Washington. Dave Farkas is Quan’s committee chair. Quan plans to finish his doctoral work and begin an academic career teaching technical communication in Spring of 2007. In this paper we (1) provide examples of the QuikScan techniques, (2) explain the challenges QuikScan must surmount, (3) discuss when QuikScan may not be useful, (4) explain the professional context in which QuikScan editing may be carried out, and (5) discuss the research activities we are pursuing to validate and refine QuikScan.

THE QUIKSCAN TECHNIQUES

The QuikScan editing techniques are still being refined, but these are the five main techniques we now use:

- **Basic highlighting.** Highlighting of main ideas that appear in the body of a document.
- **Interrupted highlighting.** The use of ellipses to invite readers to skip unimportant phrases within highlighted text (Figure 1).
- **Basic summaries.** Simple boxed summaries in paragraph form.
- **Keyed summaries.** Boxed summaries consisting of numbered list items that correspond to numbers in the body of the document indicating where these ideas are discussed (Figure 2). Because curly brackets appear infrequently, they facilitate the use of the Find feature during on-screen reading.
- **Keyed previewing.** Highlights added to a document’s preview statement that correspond to highlights placed where the previewed ideas are discussed in detail (Figure 3).

Three eastern redcedar trees . . . with an average of 10.3-inch diameter at breast height (DBH) . . . were harvested in Goldsby, Oklahoma.

Figure 1. Interrupted highlighting.

Economic Feasibility of Supplying Redcedar to Manufacturers

- 1} The government funds extraction.
- 2} Therefore the cost to landowners is almost entirely transportation.
- 3} Transportation costs should typically be \$9.25/ton.
- 4} But the plan only works if redcedar is a suitable raw material for particleboard.

1} Currently landowners can make use of state and federal programs that fully subsidize the cost of extracting or otherwise removing redcedar from their property. 2} Therefore, the cost to landowners of supplying redcedar to manufacturers consists almost entirely of transportation costs. 3} Transportation costs will vary for each landowner depending upon the vehicle load, distance to the manufacturer, and the costs of gasoline. Our estimate, however, is that most landowners can deliver round wood or whole-tree redcedar to a manufacturer for approximately \$9.25/ton, assuming a 100-mile delivery trip and a no-cargo return trip. Table 1 shows the specific assumptions that comprise this estimate.

Oklahoma particleboard manufacturers use various kinds of furnish, primarily lumber mill byproducts, and other kinds of wood waste. They pay between \$12.50 and \$15.00 per ton

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Figure 2. Keyed summaries.

Attempts to Control Redcedar

Landowners try to control redcedar on their land using removal methods such as controlled burns, spraying with chemicals, cutting, and chaining. All of these methods present problems.

Controlled burns are used to clear the redcedar infestation in large open areas. However, population growth and land development have decreased the frequency of this method. Chemical application is a common method for managing areas of small and young tree growth, but it is not practical for large trees

Figure 3. Keyed previewing.

Basic summaries, keyed summaries, and keyed previewing usually appear directly after a heading. Collectively these techniques provide readers with very brief statements of the specific ideas in a section of a document and direct readers to the places in the document where the ideas are treated in more detail. In some cases, a meeting attendee will read nothing more than the brief QuikScan content. QuikScan, then, “predigests” documents and thereby serves as a means of survival when attendees have not carefully read the document under discussion.

CHALLENGES TO USING QUIKSCAN

Below we describe challenges that must be met if QuikScan is to be effective.

Maintaining the integrity of the document

QuikScan must not alter the meaning of a document or otherwise impair its integrity. Therefore, readers must be able to distinguish the QuikScan modifications from the original document. In some instances steps may be necessary to avoid changing the document’s original pagination. This can be done through careful reformatting. An alternative is to print the document on larger paper, perhaps 8-1/2 x 14 inches, to provide extra space to accommodate QuikScan expansion.

QuikScan skill and knowledge

We have QuikScanned enough documents to know that QuikScanning is not a cut-and-dried process. Rather, effective QuikScanning requires considerable rhetorical skill and some training. Some of the rhetorical challenges pertain to the nature of the particular document, including the genre, the organization of the document (well structured or poorly structured), and the prevalence and characteristics of headings and other document features. Other variables pertain to the circumstances of the business meeting, including the goals and plans, and the background and intentions of the attendees. In some cases, it may be desirable or necessary for the QuikScan editor or a supervisory editor to confer with the client. In some cases, it may be desirable or necessary for QuikScan editors to possess or acquire subject matter expertise.

Emphasizing ideas that are not superordinate

Although the basic idea behind QuikScan editing is to emphasize the most important (superordinate) ideas, there may be instances in which the client wishes the QuikScan editor to call attention to ideas that are important for the meeting but that the author did not make superordinate when writing the document. For example, the client might say, “The document emphasizes marketing, but the meeting will focus on both marketing and scheduling for manufacturing. When possible, adjust your QuikScan efforts to accommodate our agenda.” A skilled QuikScan editor will be able to do this.

QuikScan editors may also face ethical dilemmas, such as being asked to ignore parts of a document in which, for example, the author calls attention to product defects. If so, QuikScan editors, like all professional communicators, should maintain high standards of professionalism and ethical behavior.

There is also the prospect that individual attendees will have special concerns that are not the superordinate ideas in the document and that have not been identified as key ideas by the client. For example, the quality assurance specialist may be looking for very particular kinds of manufacturing information. Our assumption is that all attendees will care about the ideas that are important to the group as a whole, even when they have special concerns.

Rules to ensure placefinding

Because some of the QuikScan techniques direct readers from one location in the document to another location, we must be sure that readers are not misdirected or confused. We have developed rules to address the placefinding problem; for example, QuikScan summaries must only summarize content that appears within the same section of the document as the summary.

Applying the techniques efficiently

The QuikScan techniques can be added using the standard features of Microsoft Word; however, the feasibility of QuikScan depends on cost, which is tied in part to the speed with which the editor can use MS Word to implement the techniques. Therefore, we hope to create an MS Word plug-in that will provide a custom QuikScan toolbar. We have already created a simple proof-of-concept toolbar, but we are seeking

funding to pay for a programmer who will develop a full-featured, robust toolbar.

WHEN QUIKSCAN MAY NOT BE USEFUL

We do not suppose that QuikScan will prove useful for every document. For example, QuikScan is probably unnecessary when a document is brief or when meeting attendees know it intimately. Moreover, it is impossible to usefully QuikScan a document or part of a document in which there are no superordinate ideas—for example, brief summaries of 30 products all of which are of equal importance. Also, in some situations readers must be left to make their own decisions about what is important. For example, in the US legal system QuikScanning a document for the benefit of a jury constitutes “illustrative evidence” and is impermissible. Finally, there may be documents for which QuikScan is superfluous because they are so well written and designed that readers can easily find and read the key ideas—a possibility we now consider in more detail.

Let’s envision a document that has been organized in a highly schematic manner. That is, the author has taken pains to strongly emphasize key points. Furthermore, the document employs an extensive set of access and summarizing features: an executive summary, a table of contents, frequent preview statements, and ample headings. There is even an index. What role would these features play when the document is used in a meeting, and how much added value could QuikScan contribute?

Executive summaries (and similar features such as abstracts) provide an overview of the document’s content and improve reading comprehension when and if the document is read. More important for our purposes, an executive summary, if its organization maps the organization of the document, serves as an access feature. It does so, however, only at a very coarse level of granularity. That is, the reader cannot rely on the executive summary for finding specific information.

A table of contents (TOC) directs readers to more specific information than an executive summary, and it directs readers to specific locations in the document. But a TOC still does not have the level of granularity of the QuikScan techniques. Also, TOC entries are often too terse to be highly meaningful. Finally, whereas the QuikScan techniques are distributed throughout the document, the TOC—if present at all—is located in the front matter.

Indexes provide very fine-grained information access that could prove very helpful in a meeting. Indexes, however, are rare in unpublished documents and are unlikely to appear in documents deliberated upon during business meetings. We should also note that if meeting attendees are reading documents on the computer, they can use the Find feature in much the same way as an index. Indeed, the Find feature may prove more useful.

Headings are an important means of locating information within documents. As explained above, the QuikScan techniques often appear directly after headings and augment headings by revealing in more detail the key ideas in an upcoming section of a document.

Many documents, especially when they are well written, include preview statements that indicate the topics that will be covered in the document as a whole or a section of the document. As can be seen above in the keyed previewing technique, QuikScan is designed to augment preview statements.

It is possible that QuikScan may not be worthwhile for a document that is schematically organized and endowed with a full set of summary and access features. Even so, there is an enormous universe of documents for which QuikScan will prove valuable as a supplement to the summary and access features provided by the author.

THE QUIKSCAN PROCESS

Here is our idea of the process through which professional QuikScan editing might be carried out. We envision that QuikScan editing can be performed both in-house and by contractors.

Training QuikScan editors

We believe that a good prospect can become an entry-level QuikScan editor with about one day of instruction and practice. The training should cover using the techniques for different kinds of documents and different kinds of meetings. Entry-level editors should work under the supervision of experts.

Planning a project

In most cases, clients will require a short turn-around time, and so QuikScan editing must be planned and scheduled carefully. It may be necessary for multiple editors to work on a single document, although quality will necessarily degrade somewhat because every editor

will inevitably develop a somewhat individual QuikScan style. When possible, one of the editors or the QuikScan supervisor should confer with the client to learn as much as possible about the attendees and the meeting and to receive any special directives. As in all kinds of editing and other professional work, there will be trade-offs and negotiation regarding quality and cost.

Teaching QuikScan to attendees

QuikScan will not be useful unless attendees can quickly learn the meaning of the QuikScan techniques. The techniques are, to a large degree, self-explanatory, but first-time users will be expected to read a brief crib sheet. We project that reading it will take less than three minutes.

RESEARCH PLAN

We are designing and studying QuikScan in the context of various research areas including group dynamics, reading and text processing, and technical communication (2). Among the insights we draw from group dynamics is that the use and effectiveness of QuikScan will depend in part on the nature of the meeting (3).

We regard QuikScan as a form of signaling, and the extensive research on signaling and advance organizers informs this work and supports our research hypotheses (4–6). This literature, however, is largely concerned with reading comprehension, especially for students. While we believe that QuikScan does improve reading comprehension, our main concern is information seeking. Meeting attendees may complete their deliberations and never read the complete document. Therefore, we are directly interested in a smaller body of literature that focuses on information seeking as a goal (7). These studies, however, focus on students and children, whereas we are concerned with well-educated professionals in the workplace. For this reason, some of the most relevant sources for the QuikScan Project come from the field of technical communication. Technical communicators are centrally concerned with the skillful application of techniques to improve documents (8, 9) and the creation of innovative techniques (10–12).

In part, QuikScan has its origins with the innovative STOP (Sequential Thematic Organization of Publications) format (13). A key feature of STOP is the use of within-document summaries. STOP, however, is a rigid, all-encompassing format whereas QuikScan is a highly flexible editorial practice that can be applied to a wide range of documents without drastically changing

how they were written and formatted. Because there are significant resemblances between QuikScan and the practice of document annotation, we draw upon the comprehensive examination of document annotation by Wolfe and Neuwirth (14).

We plan three studies that will both further our work on QuikScan and contribute to the literature on information seeking in documents. The studies are briefly explained below. For a detailed description, see Zhou (2).

- **Study 1.** Participants working individually will perform timed information-seeking tasks on QuikScanned and conventional documents. We will test for two levels of familiarity with the document and for locating information directly contained, pointed to, and not contained in the QuikScan modifications.
- **Study 2.** Participants will take part in actual meetings in which either a conventional or a QuikScanned document will be the basis of decision-making. Trained scorers will holistically assess the productivity of the meetings.
- **Study 3.** We will observe business professionals as they use QuikScan documents in their usual meetings, and we will gather their perspectives on the QuikScan techniques.

We also plan to study the use of QuikScan on the computer screen and explore the possibility of employing software tools for automatic summarization and sentence extraction as a first stage in QuikScan editing.

CONCLUSION: AN INVITATION TO USE QUIKSCAN

The QuikScan Project is being conducted on the basis of Open Source principles, and the QuikScan materials will be made available without cost. We invite you to adopt and adapt QuikScan, and we request that you share your QuikScan experiences with us. The QuikScan Project website is located at <http://students.washington.edu/qzhou/quikscan>.

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