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ELECTRONIC AUTHORING TOOLS

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ABSTRACT

More than a decade ago, word processing software revolutionized the way documents were prepared. That was great! It was fun, and productivity was increased. But the editing and formatting capabilities of most word processors did very little to prevent errors in spelling, typing, grammar, diction, style, or organization from slipping through to the final document. In the past few years, the number of software tools that aid the author has increased substantially. They now vary in scope from simple spelling checkers to sophisticated diction analyzers and idea processors. Moreover, this writing-aid software is now available for many types of computing systems, including personal computers, scientific workstations, and mainframes. The various pieces of software can be used in interactive or non-interactive (batch) modes.

INTRODUCTION

Electronic authoring tools include outline processors, spelling and grammar checkers, and prose and logic analyzers. While relatively unheard of just a few years ago, they are already enjoying widespread use. The market offers a wide variety of software to aid writers, and each year new features add more sophistication to the software.

COMPUTER-AIDED WRITING

Authoring tools can be used in several stages of the writing process: outline processors in the planning stage, spelling and grammar checkers in the early review stage, and prose and logic analyzers in the final review stage.

Outline Processors

Outline or idea-processing software recycles the time-honored concept of a paper outline into a fast, flexible vehicle for ideas in the pre-writing stage. Most outliners allow users to collapse or expand an outline to show only headlined topics, zoom in and expand any one of those topics to show all the connected subtopics, or show the entire outline. Reorganization of an outline is easily accomplished by selecting a headline topic and moving it to a different location--all of the selected topic's subtopics move with it.

Spelling Checkers

Spell checking software alerts the author to possible spelling errors by comparing each word in the document to an on-line dictionary. The words selected by the software can be simple typos or actual spelling errors. Frequently, this software can also locate double words or incorrect capitalization and homonyms. Sophisticated checkers have a look-up feature that suggests the correct spelling for each word.

Grammar Checkers

Grammar and style analyzing software flags possible errors in punctuation by alerting the author to incorrect, extra, or missing punctuation; missing or extra space between punctuation; incorrectly spaced ellipsis; unbalanced quotes, parenthesis, and brackets; incorrect form for numbers; and other, similar problems. In addition, the software can alert the writer to cliches and awkward, erroneous, folksy, muddy, pompous, redundant, or wordy phrases. The phrase dictionaries of more sophisticated analyzers can be edited to include phrases specific to the author's type of work.

Prose and Logic Analyzers

This smaller category of authoring software uses artificial intelligence techniques to analyze documents. In addition to flagging potential grammar, style, usage, spelling, and punctuation errors, this software produces a summary showing such things as reading grade level, the use of jargon, the strength of delivery, and comments on readability, sentence structure, and tone.

Other Writing Aids

Software that provides additional computer-aided writing capabilities to authors includes

- expanders, which cause the system to convert the short string of pre-defined characters keyed by the writer into a complete phrase (e.g., 'wp' expands to 'word processing');
- phrasers, or language parsers, which break text into smaller meaningful units to help the writer evaluate sentence complexity;
- revision marking, which provides the writer with a record of editing activities;
- on-line dictionaries and thesauruses, which permit the writer to browse through the electronic counterparts of the reference books;
- on-line information retrieval, which allows the writer to simultaneously open several windows on the screen, peruse data, and copy selected portions into the working document;
- speech input/output, which could aid the writer as an input device for text editing commands and formatting controls, and as an output device for hearing the paper to determine the logical flow of thoughts, etc.

A HELP OR A HINDRANCE?

Computer-aided writing tools are exactly what the author makes of them. They are not a do-all, not a cure-all, not a solution to perfect documentation; they are an aid. Although power tools can be an asset to a home builder, they can't replace the exacting planning and meticulous construction that a qualified craftsman puts into a new home. Equally, electronic writing aids can't replace the concentrated scrutiny of human eyes and minds.

Using these tools, an author may not have to consult a dictionary, a thesaurus, or a style guide as frequently and may be relieved of part of the arduous task of proofreading, but good writing and editing skills are still essential. The authoring aids are *not* decision makers--the writer/editor must decide what action to take about the potential trouble spot flagged by the software. Some software, however, provides suggested fixes.

SUMMARY

The wide range of computer-aided writing software available today provides a literary tool box that helps the author work more efficiently by making that first pass through the document and tagging the offending words and phrases. With the mechanics of this vital first pass made so quickly, the author can immediately focus on the content of the document, not worrying about spelling or such things as whether each right parenthesis has a matching left parenthesis.

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BIOGRAPHY

Jeanne M. Hurford has worked in the Computing and Communications Division of the Los Alamos National Laboratory since 1975. For the past several years, she has been a member of the Computer Documentation Group where she manages the Computing Information Center. The CIC distributes documentation and software to the more than 8,000 users of the Los Alamos Integrated Computing Network.

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