Software design, then, defines the structure as a representation of the programs ultimately to be implemented. It determines precisely what is to be done and specifies interfaces between parts of the system as well as between the system and other systems. …"

GOVERNMENT CONTRACT WORK (p. 86) “Rational development depends upon a comprehensive examination of intent, which typically never takes place. Without such an examination, intentions cannot be defined or subjected to rigorous tests. As a result, engineering plans are subjected to repeated revision because too much time is spent dealing with ambiguous notions and specious objectives. Expectations change as government and contractor management redirect the course of development, and more often than not, the final product definition is very different from the original.”

SPELLING CHECKER (p. 91) “Compucorp’s International Unabridged Dictionary is a multilingual computerized dictionary that allows users of the firm’s word-processing systems to verify and correct the spelling of up to a million English and foreign language words, including specialized terms employed by scientists, attorneys, engineers, government employees, and other specialists.”

AUTOMATIC TELLERS (p. 101) “Tymshare’s Option network links multiple shared automatic teller machines located in diverse public places to host computers at participating financial institutions, using the Tymshare computer switching system located in Irvine, California, as the traffic manager.

The first 11 teller kiosks in the network—called Option neighborhood tellers—were formally opened December 3 at shopping center and supermarket locations throughout the San Fernando Valley area of Los Angeles. …”
CACHE BENCHMARKING (p. 10) “A suite of benchmarks must include both programs that will fit into the cache and programs that will not. As caches have become larger, it has become more difficult to design a benchmark that is small in size and yet generates a working set that will not fit into the first or second level cache of a high-performance system. In this and other ways, the benchmark designer has the difficult task of defeating the ingenuity of processor chip designers, who naturally take benchmark characteristics into account when they develop their chips.”

TERAFLOPPING (p. 12) “At its supercomputer works in Beaverton, Oregon, Intel tested 7,000 of the 9,624 Pentium Pro microprocessor chips that will be linked when assembly of the world’s fastest computer is completed later this year at Sandia. The test indicated that the $50-million, massively-parallel-processor (MPP) computer, which will have 500 gigabytes of memory, will perform up to 1.8 teraflops.”

SATELLITE INTERNET (p. 15) “If satellite services have their way, users will no longer have to wait to enjoy multi-megabit Internet data connections until the telephone company provides them with fiber-optic cable. However, space-based Internet service must overcome a fundamental problem before it can realize its full potential.”

DIGITAL TELEVISION (p. 18) “Thanks to a key compromise by the broadcasting and PC industries, the US government has adopted technical standards that will permit the introduction of a new and improved generation of television—digital TV. Now that the Federal Communications Commission has adopted these standards, after nine years of study, vendors can begin the manufacturing process. …”

COBOL (p. 19) “There is a resurgence in popularity for Cobol programmers, thanks to the Year 2000 problem. Most of the programs that will have to be changed to solve the problem were written in Cobol.

“However, many colleges no longer graduate Cobol programmers, and many experienced programmers have retired.”

FORMAL METHODS (p. 33) “Practitioners and researchers continue to seek methods and tools for improving software development processes and products. … We tend to consider evaluation only after using the technology, which makes careful, quantitative analysis difficult if not impossible. However, when an evaluation is designed as part of overall project planning, and then carried out as software development progresses, the result can be a rich record of a tool’s or technique’s effectiveness.”

GLOBAL TELEPORTING (p. 53) “… Web browsers are available in a dramatically growing range of locations, including corporate, personal, and even public-access sites. The ability to call up any personal computing environment on any such browser will enable nomadic computing on a truly global scale.”

TRUSTWORTHINESS (p. 61) “While new technology has simplified many business and personal transactions, it has also opened the door to high-tech crime. In this article, we investigate design options for mobile user devices that are used in legally significant applications. Such applications authorize transactions: mobile phone calls, access to an office or car, electronic payment in stores, retrieval of stored medical data, and access to information on portable computers. …”

OBJECT ORIENTATION (p. 69) “Today’s applications have exploded in their diversity, but most operating systems are still general-purpose and inefficient. One of the benefits of using an OO approach is the ability to modify very small details of an operating system, which makes it easy to tailor the system to the application.”

NEURAL AND FUZZY METHODS (p. 79) “Handwriting recognition has challenged computer scientists for years. To succeed, a computing solution must ably recognize complex character patterns and represent imprecise, commonsense knowledge about the general appearance of characters, words, and phrases.”

AN INTERACTIVE WORLD (p. 92) “Information appliances, enabled by networked embedded systems, are destined to become an indispensable part of your life. Potential benefits include the ability to enjoy a guilt-free business trip knowing that you can attend your scheduled parent-teacher meeting by videoconference or view your daughter’s dance recital live on your handheld wireless terminal. …”

WINDOWS CE (p. 134) “If there was any one mind-numbing revolutionary, trend-setting announcement at the 1996 Fall Comdex, it was made, not surprisingly, by Microsoft. Aside from its Office 97 suite, much of Microsoft’s 40,000-square-foot booth was dedicated to Windows CE, the HPC (handheld portable computer), not to be confused with the PDA (personal digital assistant). …”