Artificial Intelligence: Humanizing a "dumb" program

Ever since I can remember, we have had two complaints about computer programs. First, they were unfriendly, and second, they were mechanical; some people characterized the programs' mechanical nature as "dumbness." Both these qualities distinguished computer programs from humans.

Recently, CAD developers have given much attention to the human factors in their programs to make them user-friendly. Removing the "dumbness" should be on their list of priorities now.

Why does a program appear dumb? In the design process, which the program tries to automate, all decisions are not scientific. In fact, computers can be programmed to make scientific decisions very effectively. It is the human decisions dealing with such practical aspects as engineering and aesthetics that make the programs look dumb. As the system complexity increases, the influence of such decisions becomes dominant.

If you want a program to play a game of tic-tac-toe, then you will be satisfied with a programmed algorithm and a friendly human interface. A similar program for playing chess, however, will be quite inadequate and will appear either too slow or dumb. So, in addition to the algorithms and user-friendliness, some human-like intelligence must be added. What is missing are the "rules of thumb" that a good player learns or formulates through experience.

All current projections indicate that VLSI complexity will continue to grow. So when the going gets tough, (artificial) intelligence will keep us going. Don't stop now. Turn the pages and see the excellent work of Don Thomas, our guest editor for this special issue on AI.

Also, starting with this issue, Roy Russo relinquishes his duties as editor-in-chief to concentrate on other responsibilities at the IEEE Computer Society, where he is a presidential candidate. Our former editor for Design Scene, Steve Kang, is taking the responsibility of a new technical category, Physical Design. Gordon Padwick, editor for Test Scene, will be responsible for Design Scene as well. Some of you may have noticed that, starting with the June issue, Mickey Schach became our managing editor. Having already seen the excellent work that Mickey and her staff did on the June issue and in this issue, we enthusiastically welcome her to the family.

Vishwani D. Agrawal
Editor-in-chief