INTRODUCTION

The real world of design automation is overflowing with innovative ideas, challenges, and accomplishments. In this fast-moving world, however, there are also many frustrations, tedious tasks, limitations of machines, inadequacy of languages, and scarcity of human resources. This panel session has been designed to bring into focus some of the key issues which we face today as managers, software designers, and system users.

At the 1978 Design Automation Conference, there was a panel discussion entitled "The Real World of Design Automation or A Funny Thing Happened on the Way to Implementation." In that session we brought to light several topics covering various phases of implementation in the system design process. Some of the areas discussed were: Justification vs Reality, Batch vs Interaction, Design of a DA System, User-Oriented Systems, Database Management, and Portability.

This year in Part II we have planned to expose to critical discussion several other areas of interest in which we all have questions. Position papers have been included from the panel members to cover one or more of the subjects listed in the next section. We realize, of course, that these problems cannot be solved in a couple of hours. Our hope, however, is that the exchange of ideas and experiences is stimulating, provocative, and entertaining.

The range of topics covers a broad spectrum. Along with our serious discussion of these topics we also hope to appeal to your sense of humor which, as we all know, is a prerequisite for existing in the mad world of DA. From the enthusiasm and excitement of success to the frenzied behavior that often accompanies the many frustrations (bugs, deadlines, missing files, etc.), one can oftentimes find much joy and delight in this most challenging field.

TOPICS FOR DISCUSSION

The position papers provide interesting reading material with several provocative thoughts on the general topics listed here.

- Attracting Qualified People

How do you attract people to the field of Design Automation? What background and skills do you feel are important for various levels of personnel on a design project? Are the universities providing the appropriate environment for developing these skills? What types of on-the-job training sessions are helpful? Are you finding enough qualified persons to fill your job openings? If not, how are you getting the job done?

- Management Expectations

First of all, what are management's expectations? Are they realistic? Can a DA system ever be completed? Does management ever really obtain the goal of cost reduction and standardization?

- The Reluctant Manager

Does your engineering manager say: "Why should I spend more money to make manufacturing easier? Why should I make them look better and blow my budget?"

- Not Invented Here

How do you get support and cooperation from competing departments? How much resistance can be tolerated due to this NIH syndrome? Do you find that this problem is seriously impeding your progress or causing much duplication of effort? What has been your most effective way of handling NIH?

- Reducing Design Schedules and Costs

How do you plan and manage long-term goals? What short-term measures can be used effectively? How much emphasis do you place on good initial design? What areas of the design cycle can be improved most easily and significantly to increase profits?
Communications

What methods do you use to ensure good communication among designers? What communication links are necessary to move a DA system from development to production? What are the most effective communication techniques for releasing the current system status and obtaining constructive feedback? Is user feedback ever not constructive or useful?

System Maintenance

How can a software package be maintained effectively as it grows? Who makes changes to the source code when it is a team project? Have you found an optimum number of versions (current, development, etc.) which must be necessarily in existence at a given time? At what point is it reasonable to allow "friendly users" on a new system?

Future of Design Automation Systems

What does the future hold concerning new software, technology and applications? What are the future challenges in the field of DA?

SUMMARY

It is certainly impossible to report in advance on the panel discussion. The position papers cover in more detail the different aspects of the issues. Audience participation is certainly a determining factor in giving the panel some direction. Our main intention is to expand on those topics which seem to hold the greatest interest.

We recognize that this type of session may raise as many questions as it answers, but we hope that it may serve as a stimulus to further discussion of these everyday problems. Moreover, it is somehow heartwarming and gratifying to know that our problems are not unique but are being tackled in every corner of "The Real World of Design Automation."