Product Design Technical Group

The Product Design Technical Group is dedicated to developing consumer products that are useful, usable, safe, and desirable. By applying the principles and methods of human factors, consumer research, and industrial design, the group works to ensure the success of products sold in the marketplace.

TECHNICAL FOCUS

PDTG members focus on the design of commercial products (both hardware and software) and the product design process. They work in design teams including market researchers, industrial designers, and engineers. They can play three key roles in the design of products:

- *Concept development* through the creative combination of the subjective qualities that make products attractive, interesting, and evocative with the practical demands of function, ease of use, and safety.
- *Investigate competitive products* to make appropriate trade-offs. Each product must meet the demands of a volatile and competitive marketplace where consumers compare functionality, design, and price.
- *Translate information* across the different disciplines. Designers create visual, spatial, and aesthetic concepts.

Engineers deal with specifications and measurements. The PDTG member aids in communication among these diverse groups.

These three roles are accomplished within a multistage process. A general outline of the design process would include:

- *Concept phase.* The product concept is explored. Market research data and competitive data are often collected in this phase.
- *Prototype phase.* Alternative designs are often developed and compared via laboratory testing and market research. The alternatives are studied using various types of prototypes ranging in sophistication from pencil sketches to hardware models run by computers.
- *Engineering phase.* The product is designed and engineered. Prototypes are developed and tested to ensure the final product is usable and safe. This phase is often iterative, requiring the development and testing of multiple versions of the product.
- *Market introduction (Beta-test).* The product is delivered to cooperative users who report problems directly to engineering and marketing groups.
- *Product sales.* The product is sold in the open market. Research during this phase often identifies areas for improvement in the next version of the product, or its replacement.

WORK ENVIRONMENTS

PDTG members work in diverse environments. Some belong to corporations where they may be part of a human factors or engineering department. A few large corporations combine human factors and industrial design in a single department. Small companies often rely on consulting firms to supply human factors and design expertise.

MEMBERSHIP

The PDTG consists of more than 500 individuals who work for governments, industries, the service sector, and many universities. The membership is distributed across many different countries. PDTG includes industrial designers, behavioral psychologists, engineers, safety specialists, market researchers, and product manufacturers. Most PDTG members are also members of the Human Factors and Ergonomics Society.

BENEFITS OF MEMBERSHIP

Members regularly exchange information through a quarterly newsletter, professional journals, the Human Factors and Ergonomics Society Annual Meetings. A quarterly newsletter is sent to all members. Annual dues are $6.00. Additional information on the PDTG is available in the HFES Web site http://hfes.org.

It is not necessary to be a member of HFES to join the Product Design Technical Group.

SUCCESS STORIES

PDTG members have contributed to the success of diverse products. The list includes cameras from both Kodak and Polaroid; banking machines from NCR; xerographic copiers from Xerox and Kodak; office furniture from Steelcase; power tools from Black and Decker; and labeling equipment such as Monarch, to mention a few.