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# What You See, Some of What's in the Future, And How We Go About Doing It: HI at Apple Computer

**Don Norman**  
Apple Computer, Inc.  
1 Infinite Loop  
Cupertino, CA 95014 USA  
E-mail: [dnorman@apple.com](mailto:dnorman@apple.com)

**Jim Miller**  
Apple Computer, Inc.  
1 Infinite Loop  
Cupertino, CA 95014 USA  
E-mail: [jmiller@apple.com](mailto:jmiller@apple.com)

**Austin Henderson**  
Apple Computer, Inc.  
1 Infinite Loop  
Cupertino, CA 95014 USA  
E-mail: [henderson@apple.com](mailto:henderson@apple.com)

## ABSTRACT

In this organizational overview we cover some of the critical aspects of human interface research and application at Apple or, as we prefer to call it, the "User Experience." We cover what we do, where we are going (as much as we are permitted to say in public), and how we are organized. Some of our innovations in the product process and in the transfer of research from the laboratories to product should be of special interest to the HCI community.

**KEYWORDS:** Organizational overview, organizational structure, technology transfer

## THE PRESENTATION

Apple Computer is known for its innovation in the field of human interface. This is a result of considerable research effort and attention to detail in the execution of products. In addition, Apple's HI groups play a prominent role in product development. In this organizational overview, we cover some of the critical aspects of human interface research and application at Apple or, as we prefer to call it, the "User Experience." Much of the success and failures of HI at Apple — as elsewhere — depend upon organizational factors, so we discuss the structure of HI at Apple and its role in the product process. Some of our innovations in the product process and in the transfer of research from the laboratories to product should be of special interest to the HCI community.

The role of HI within the product process is certainly not perfect within Apple, and the quality varies within divisions and from product to product. But the company is sensitive to and supportive of the needs of human interface work, and continual changes are being made in the product process. The structure will probably never be perfect, but it will be instructive to review Apple's process and some of its major successes and failures.

We show examples of the role of HI in research and product, including *QuickTime VR* and the *Star Trek: The Next Generation Interactive Technical Manual*, and Kid Sim, a visual programming language for young children.

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Two products that had considerable user experience emphasis from the very product conception — *OpenDoc* and *Apple Guide* — will be discussed and demonstrated, with an emphasis on the impact that HI had on the product cycle. If possible, we will discuss some of the new innovations soon to come from Apple.

We demonstrate the complexity of the product design process by discussing illustrative examples, including a rather trivial, but incredibly complex issue: determining the location and function of the on-off switch for Apple's computers. We describe the role of the "User Experience Architect's Office", which works across the divisions, helping to harmonize the human interface and industrial design process across the divisions of Apple and ATG. This office has introduced a new procedure for products, which starts with the creation of a "User Experience Requirements Document" (UERD). We discuss the UERD's impact on the product cycle and, most importantly, the positive attitude it has created within the engineering and marketing community toward human interface.

## APPLE'S ORGANIZATIONAL STRUCTURE

Apple is made up of four different product divisions, Claris, and the Advanced Technology Group (ATG), which is the research arm. The largest human interface group working in the product groups is within AppleSoft, the software arm of Apple. This group, the Human Interface Design Center, also provides HI support for Apple PC, the home of the hardware side of Apple — the desktop Macs, entry-level Macs, portables, and imaging (printers, displays, and cameras). Apple's industrial design group is organizationally located within Apple PC, and it works closely with the HI groups throughout the company. In addition, there are HI groups in Apple Business Systems, Personal Interactive Electronics, and Claris.

Considerable research on HCI-related topics takes place within ATG, some of which will be discussed in the presentation. And, finally, there is considerable cross-fertilization between ATG and the product side of the company: the best technology transfer takes place when ideas are jointly developed and by transferring people, not just ideas.