

Associates with Etiquette;  
An Approach to Designing Agents We Can Live With

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After more than 12 years working to develop intelligent, collaborative agents (called “associate systems”) for information, display and automation management in such high-criticality domains as military and commercial aviation, oil refining, and home care for the elderly, I have become convinced the biggest issues are no longer how to build such systems in an architectural sense, but rather how we want to live with them once built. As we come to rely on the increasing capabilities of computers, it becomes critical to define roles and relationships that both human and computer can live with. The rules governing such relationships are, I claim, etiquette rules. By ‘etiquette’, I mean the defined roles, acceptable behaviors and interaction ‘moves’ of human and intelligent agent participants in a common setting. Etiquette creates an informal ‘social’ contract, allowing expectations to be formed about the behavior of other parties. Etiquette is not (just) about politeness and nicety; it is also about expectations, efficiency, safety and trust.

My talk will provide a brief synopsis of prior work on adaptive automation and information management system with emphasis on a recent system, the Rotorcraft Pilot’s Associate, where attention to the ‘etiquette’ of existing human crew members contributed to improved user acceptance and overall system performance. More generally, this work sparked an interest in the topic of etiquette for human-computer interactions and has led to recent workshops sponsored by the Human Factors and Ergonomics Society and the American Association for Artificial Intelligence. A brief account of the highlights of those sessions (and of the work of others in the area of HCI Etiquette) will also be provided.

Biography:

Dr. Miller graduated from the Committee on Cognition and Communication in the Psychology Department of the University of Chicago in 1991. He held various positions at the Honeywell Laboratories from 1989 to 2001 culminating at the rank of Fellow for User-Centered Design. While at Honeywell, he managed research and development projects totaling more than \$US 13M in adaptive automation and information management systems in domains described above. In 2001, Dr. Miller left Honeywell to become co-owner and Chief Scientist at Smart Information Flow Technologies (SIFT), a small research and development business specializing in intelligent interface and automation technologies.