Keynote:
Revisiting the Human as an Information Processor

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Abstract

In their seminal 1983 book ´The Psychology of Human–Computer Interaction´, Card, Newell and Moran (ACM Fellows and Turing Award winners) introduced 'the model human information-processor'. This model equipped interface designers with strong theoretical tools to predict human interface performance without the demands of implementation and evaluation.

In the quarter century since then, human–computer interaction research has been extremely successful in transitioning research ideas to commercial deployment, yet interface design remains something of an art that is dependent on time–consuming iterations of design, implement, and evaluate. Theoretical models of human performance are rarely used despite their potential.

In this presentation I will describe several of our recent projects seeking to improve the efficiency of everyday activities in computer use, including scrolling, text messaging, window switching, and navigating through menu and file structures. The overriding theme, however, is on using theoretical human performance models to inform design, explain and predict performance, and to generalise results obtained. Ultimately, the objective is to give all computer science graduates the equivalent of a ´Big O´ complexity theory for user interfaces that allows them to design with assurance.