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Authors

Remington, Roger
John, Bonnie
Matessa, Michael
et al.

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APEX/CPM-GOMS: Modeling Human Performance in Applied HCI Domains

Half-day tutorial (morning)

Johnson Center/Enterprise

Roger Remington

NASA Ames Research Center

Moffett Field, CA 94035

mfreed@arc.nasa.gov

Bonnie John - Carnegie Mellon University

Michael Matessa - NASA Ames Research Center

Alonso Vera - NASA Ames Research Center

Michael Freed- NASA Ames Research Center

This tutorial introduces participants to CPM-GOMS modeling using APEX, a tool for applied human performance modeling. APEX-CPM is intended to be of value to both cognitive science researchers and HCI professionals. It is also valuable for teaching students about task-analysis, user-modeling, and computational cognitive modeling in general. The tutorial will teach participants how to represent GOMS, KLM, and CPM-GOMS task analyses in APEX-CPM, and to refine models based on output in the form of automatically generated PERT charts. We will also discuss recent improvements aimed at making it practical to model in more complex HCI domains. These include capabilities that (a) facilitate representation of simulation environments and (b) allow modelers to draw on a set of reusable building blocks both for cognitive/task modeling and for physical environment modeling. The tutorial will primarily consist of a guided tour through activities supplemented with presentations. Participants will work in pairs, supervised by at least four presenters, on applied modeling problems. This tutorial should be of particular value to people interested in developing, using, and/or teaching engineering models of human performance in HCI contexts. Some background in cognitive modeling and computer programming is recommended. Tutorial participants will be given a CD containing the APEX-CPM code, a world-building tool-kit, and a number worked example models.

Roger Remington is a Senior Research Psychologist at NASA Ames Research Center. He holds a Ph.D. in Psychology from the University of Oregon.

Bonnie John is an Associate Professor in the Institute of Human-Computer Interaction and Carnegie-Mellon University. She holds a Ph.D. in Psychology from Carnegie Mellon University.

Michael Matessa is a Research Psychologist at NASA Ames Research Center. He holds a Ph.D. in Cognitive Psychology from Carnegie Mellon University.

Alonso Vera is a Research Scientist at NASA Ames Research Center. He holds a Ph.D. in Experimental Psychology from Cornell University.

Michael Freed is a Research Scientist at NASA Ames Research Center. He holds a Ph.D. in Computer Science from Northwestern University.