Making Assistive Technology and Rehabilitation Engineering a Sure Bet

On-screen Target Acquisition through Mouse Movement Recognition

Hyun W. Ka, M.S; Richard C. Simpson, PhD; Vinod K. Sharma, PhD
Department of Rehabilitation Sciences and Technologies, University of Pittsburgh

ABSTRACT

In this paper we present a new design idea as an alternative to improve on-screen target acquisition for individuals who have difficulty pointing by inferring the user's intended target from the user's mouse movements. The intended target is inferred based on real-time mouse movement information and the properties of all user interface elements currently displayed on the computer screen. During preliminary testing of the prototype application, the software reduced pointing errors and the physical effort needed to operate a pointing device. The software is compatible with a range of existing pointing technologies.

Keywords:

pointing; on-screen target acquisition; computer access; mouse movement recognition; intent recognition

Author Contact:

Hyun W. Ka

Department of Rehabilitation Sciences and Technologies, University of Pittsburgh

853 Bakery Square, 6465 Penn Avenue, Suite 401 Pittsburgh, PA, 15206

Hyk21@pitt.edu

(412) 390-8241