World Academy of Science, Engineering and Technology
International Journal of Electronics and Communication Engineering
Vol:14, No:10, 2020

Comparison of Interactive Performance of Clicking Tasks Using Cursor Control Devices under Different Feedback Modes

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Abstract : In order to select the optimal interaction method for common computer click tasks, the click experiment test adopts the ISO 9241-9 task paradigm, using four common operations: mouse, trackball, touch, and eye control under visual feedback, auditory feedback, and no feedback. Through data analysis of various parameters of movement time, throughput, and accuracy, it is found that the movement time of touch-control is the shortest, the operation accuracy and throughput are higher than others, and the overall operation performance is the best. In addition, the motion time of the click operation with auditory feedback is significantly lower than the other two feedback methods in each operation mode experiment. In terms of the size of the click target, it is found that when the target is too small (less than 14px), the click performance of all aspects is reduced, so it is proposed that the design of the interface button should not be less than 28px. In this article, we discussed in detail the advantages and disadvantages of the operation and feedback methods, and the results of the discussion of the click operation can be applied to the design of the buttons in the interactive interface.

Keywords : cursor control performance, feedback, human computer interaction, throughput
Conference Title : ICIEA 2020 : International Conference on Industrial Electronics and Applications
Conference Location : Athens, Greece
Conference Dates : October 22-23, 2020