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Abstract
Nowadays, the computer processor and the storage abilities grow remarkably, and many input devices also improve coordinately. Mouse is the most common pointing input device for computer users, and also gradually becomes one risk factor to the human musculoskeletal and health injuries. This research designed two experiments (stripping scroll bar and pointing target button) to compare the effects of pointing input device, operation direction, and target sizes on operation complete time, operation mistake, and subjective rating for graphical user interface.
The study discovered that the best strip size should be greater than 500×15 pixels for stripping scroll bar operation. The big mouse could reduce by 56% error rates as compared with the trackball mouse. The study further discovered that the best target button size should be above 110×40 pixels for pointing target button operation. The 110×40 pixels size could remarkably reduce the operation complete time and operation mistake. For subjective rating, the most favorable input device was the small mouse. The trackball mouse was the most inefficient input device for both indices of operation complete time and operation mistake. No significant performance difference was found between big mouse and small mouse.
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