Name(s)	Project Number
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Project Title

Which Is the Fastest Human Interface when Interacting with Information Technology?

Abstract

Objectives/Goals
The objective was to find the fastest human interface device among a computer mouse, a computer keyboard, a microphone for speech, and a multi-touch touch screen used when interacting with information technology.

Methods/Materials
Users (volunteers) between the ages of 14 and 40 were tested. Each user tested each of the four selected interfaces (computer mouse, computer keyboard, microphone for speech, multi-touch touch screen)while performing 6 tasks (one such task was go to www.google.com) on each interface. Each user was timed while performing each task. In order to test all the users fairly, I had to create a computer program written in HTML (a programming language). The computer program allowed users to be tested accurately and efficiently.

Results
The mouse interface performed the fastest; this contradicted my hypothesis which had stated that the multi-touch touch screen interface would be the fastest. To try and prove my hypothesis, I reevaluated my data and performed my data analysis in a different way. The outliers were taken out of the data and then the data was analyzed. Even after analyzing the data without the outliers, the computer mouse interface was still the fastest interface. From these two data analyses I can fairly conclude that the computer mouse is the fastest interface device.

Conclusions/Discussion
While performing my tests, I noticed that the speech recognition functionality of the software using the microphone interface device did not seem very efficient. To present an alternative to the microphone interface (speech recognition software), I came up with a new approach and developed an algorithm for the speech interface functionality: the sound activated interface. It works by the user firstly entering in several sounds (not speech) and allotting the appropriate tasks. Then the user makes the correct sound for the desired action. For example: a clapping noise could open an internet explorer window.

Summary Statement

The objective was to find the fastest human interface device among a computer mouse, a computer keyboard, a microphone for speech, and a multi-touch touch screen used when interacting with information technology.

Help Received

Mrs. Arati Patel helped me overcome some of the difficulties that occurred while writing my HTML program.