

Preliminary Investigation of Tapping Force on Pressure-Sensitive Touchscreen for Expanding Input Vocabulary on Smartphone

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ABSTRACT

We propose a method of expanding the input vocabulary of a smartphone by using tapping force on its pressure-sensitive touchscreen. In our method, the input mode is switched by users controlling multiple levels of tapping force. To design our method, we conducted a preliminary user study to investigate the maximum number of levels in which users can control their tapping force. We found the thresholds for distinguishing the tapping force that users exert. The results showed that the accuracy of the 3 and 4 levels of tapping force without feedback were 84.9% and 77.7%, respectively, and that the thresholds should be calibrated per user.

Author Keywords

One-handed; Mobile devices; Force input

CCS Concepts

•Human-centered computing → Human computer interaction (HCI); *Interaction techniques; Gestural input;*

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