# Expanding Input Vocabulary Using Index Finger on and Above Back of Smartphone

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### ABSTRACT

This paper presents a method to expand input vocabulary for smartphones. To this end, our method uses index finger gestures on and above the back of a smartphone. The input vocabulary of our method is in accordance with index finger gestures such as touching and bending/stretching. To enable the detection of these gestures, we built a system composed of the smartphone and ring-like device. In pilot studies using our system, the touching of the back of a smartphone was detected with an accuracy of 94.3% on average.

#### **Author Keywords**

Mobile device; Smartphone; Touchscreen; Back-of-device interaction; Ring-like device

#### **CCS Concepts**

•Human-centered computing  $\rightarrow$  Gestural input; Interactive systems and tools;

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