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Standing at a kiosk: Effects of key size and spacing on touch screen numeric keypad performance and user preference

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Abstract

Touch screen input keys compete with other information for limited screen space. The present study estimated the smallest key size that would not degrade performance or user satisfaction. Twenty participants used finger touches to enter one, four or 10 digits in a numeric keypad displayed on a capacitive touch screen, while standing in front of a touch screen kiosk. Key size (10, 15, 20, 25 mm square) and edge-to-edge key spacing (1, 3 mm) were factorially combined. Performance was evaluated with response time and errors, and user preferences were obtained. Spacing had no measurable effects. Entry times were longer and errors were higher for smaller key sizes, but no significant differences were found between key sizes of 20 and 25 mm. Participants also preferred 20 mm keys to smaller keys, and they were indifferent between 20 and 25 mm keys. Therefore, a key size of 20 mm was found to be sufficiently large for land-on key entry.

Keywords:

- Touch screens
- Keypads
- Key size
- Key spacing
- Kiosks
- Keyboards
- Human-computer interaction

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