

Haptic Numbers Three Haptic Representation Models for Numbers on a Touch Screen Phone

【Summary】:

In this study we compared three haptic representation models with two representation rates for the numbers used in the phone number keypad layout.

【Important】 There is some research regarding which parameters can be used for creating recognizable haptic stimuli. In the recognition of tactile stimuli the best parameters were rhythm, spatial location [3] and waveform modulation [4][6] as compared to speed of the moving stimulus [6], amplitude [4][6], duration [6], and frequency [4]. Amplitude was the best parameter for representing size [2].

【Apparatus】:

Nokia 5800 Express

【Three representation models】:

There were three representation models for the numbers. These representation models were based on Arabic numbers, Roman numbers and the Location of the number key in the keypad grid.

【Two Velocity】:

Two demonstration speeds were tested: the basic pause time between pulses was 100 milliseconds fast, and the basic pause time was 200 milliseconds slow.

【Experiment Design】:

Detail in 2.4 Procedure

【Conclusion】:

Our results support the earlier research where it has been shown that existing literal coding, like Braille [10] can be represented with haptics. Also, our results support the results reported earlier that in the recognition of tactile stimuli, rhythm [3] and waveform modulation [4][6] would be good parameters.