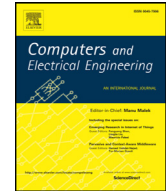




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## VAP code: A secure graphical password for smart devices<sup>☆</sup>



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### ABSTRACT

In parallel to the increasing purchase rate of the smart devices, attacks on these devices are also increasing in an alarming rate. To prevent these attacks, many password-based authentication schemes are proposed. Among them, graphical password schemes are preferred on these devices due to their limited screen size and a lack of full sized keyboard. Again, existing graphical password schemes are susceptible to various attacks, among which shoulder surfing, smudge attack, and brute force attack are the most prominent. Hence, in this paper, we propose *Vibration-And-Pattern (VAP)* code, a new graphical password scheme that is resilient against these three major attacks. To evaluate the usability of our proposed scheme, a usability study has been conducted on 122 participants of various age groups from different demographics.