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A Framework Assessing the Effect of User Emotions on Touch Gesture Behavioural Biometric Authentication (Conference Paper)

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Abstract

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Smartphone security constitutes a necessary requirement due to the sensitive information they contain and the important tasks they perform. Behavioral biometric technology such as touch gesture authentication is being increasingly researched covering a wide range of privacy and security systems. However, several behavior factors such as emotions and their influence on touch gesture user authentication performance has remained unaddressed. In this paper, we examine the effect of emotions on user behavior that in turn influences the performance of the touch gesture authentication system. To achieve this, we have designed an implicit touch gesture behavioral biometric authentication approach and suitable experiment procedures that will allow us to collect data in different user emotion states (emotional and natural) and conduct a comparative experiment for examining the influence of emotion factor. Android application has been developed to collect data from user input on touchscreen smartphones. The different emotion user data will be induced using film clips emotion elicitation method and categorized based on the discrete emotion dimension. © 2019 IEEE.

SciVal Topic Prominence ⓘ

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Prominence percentile: 96.404 ⓘ

Author keywords

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Indexed keywords

Engineering controlled terms: Behavioral research Biometrics Data acquisition Mobile security Smartphones

Engineering uncontrolled terms: Android applications Authentication systems Behavioural Biometric Biometric authentication Comparative experiments Privacy and security Sensitive informations Smartphone securities

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