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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.

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Indexed keywords

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References (43)

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1 Shafique, U.
Modern authentication techniques in smart phones: Security and usability perspective
(2017) *Int. J. Adv. Comput. Sci. Appl.*, 8 (1). Cited 7 times.

2 Miqdad, A., Kadir, K., Ahmed, S.F., Janin, Z., Khan, S.
Space Cooling Load Monitoring System with IoT

(2019) *2018 IEEE 5th International Conference on Smart Instrumentation, Measurement and Application, ICSIMA 2018*, art. no. 8688751. Cited 12 times.
http://ieeexplore.ieee.org.ezproxy.um.edu.my/xpl/mostRecentIssue.jsp?punumber=8681526
ISBN: 978-153866288-5
doi: 10.1109/ICSIMA.2018.8688751

View at Publisher

3 Yampolskiy, R.V., Govindaraju, V.
Taxonomy of behavioural biometrics (Open Access)

(2009) *Behavioral Biometrics for Human Identification: Intelligent Applications*, pp. 1-43. Cited 18 times.
http://www.igi-global.com/book/behavioral-biometrics-human-identification/99
ISBN: 978-160566725-6
doi: 10.4018/978-1-60566-725-6.ch001

View at Publisher

4 Yampolskiy, R.V., Govindaraju, V.
Behavioural biometrics: a survey and classification (Open Access)

(2008) *International Journal of Biometrics*, 1 (1), pp. 81-113. Cited 206 times.
doi: 10.1504/IJBM.2008.018665

View at Publisher

5 De Luca, A., Hang, A., Brudy, F., Lindner, C., Hussmann, H.
Touch me once and i know it's you! Implicit authentication based on touch screen patterns

(2012) *Conference on Human Factors in Computing Systems - Proceedings*, pp. 987-996. Cited 320 times.
ISBN: 978-145031015-4
doi: 10.1145/2207676.2208544

View at Publisher

6 Beton, M., Marie, V., Rosenberger, C.
Biometric secret path for mobile user authentication: A preliminary study (Open Access)

(2013) *2013 World Congress on Computer and Information Technology, WCCIT 2013*, art. no. 6618670. Cited 10 times.
ISBN: 978-147990460-0
doi: 10.1109/WCCIT.2013.6618670

View at Publisher

7 Shahzad, M., Liu, A.X., Samuel, A.
Secure unlocking of mobile touch screen devices by simple gestures - You can see it but you can not do it

(2013) *Proceedings of the Annual International Conference on Mobile Computing and Networking, MOBICOM*, pp. 39-50. Cited 157 times.
ISBN: 978-145031999-7
doi: 10.1145/2500423.2500434

View at Publisher