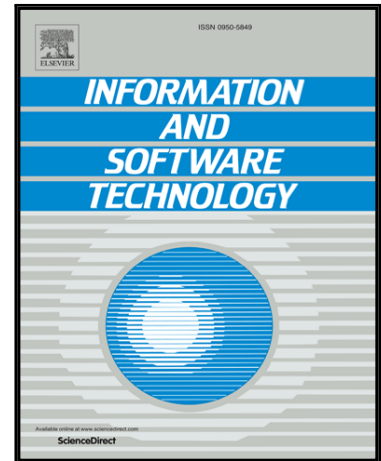


Accepted Manuscript

Authentication Schemes and Methods: a Systematic Literature Review

Ignacio Velásquez , Angélica Caro , Alfonso Rodríguez

PII: S0950-5849(16)30150-1
DOI: [10.1016/j.infsof.2017.09.012](https://doi.org/10.1016/j.infsof.2017.09.012)
Reference: INFSOF 5885



To appear in: *Information and Software Technology*

Received date: 14 September 2016
Revised date: 5 July 2017
Accepted date: 25 September 2017

Please cite this article as: Ignacio Velásquez , Angélica Caro , Alfonso Rodríguez , Authentication Schemes and Methods: a Systematic Literature Review, *Information and Software Technology* (2017), doi: [10.1016/j.infsof.2017.09.012](https://doi.org/10.1016/j.infsof.2017.09.012)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Authentication Schemes and Methods: a Systematic Literature Review

Ignacio Velásquez, Angélica Caro, Alfonso Rodríguez,

Computer Science and Information Technologies Department,
University of Bío-Bío, Chillán, Chile
ivelasqu@alumnos.ubiobio.cl, {mcaro, alfonso}@ubiobio.cl

Abstract. *Context:* There is a great variety of techniques for performing authentication, like the use of text passwords or smart cards. Some techniques combine others into one, which is known as multi-factor authentication. There is an interest in knowing existing authentication techniques, including those aimed at multi-factor authentication, and the frameworks that can be found in literature that are used to compare and select these techniques according to different criteria.

Objective: This article aims to gather the existing knowledge on authentication techniques and ways to discern the most effective ones for different contexts.

Method: A systematic literature review is performed in order to gather existing authentication techniques proposed in literature and ways to compare and select them in different contexts. A total of 515 single-factor and 442 multi-factor authentication techniques have been found. Furthermore, 17 articles regarding comparison and selection criteria for authentication techniques and 8 frameworks that help in such a task are discussed.

Results: A great variety of single-factor techniques has been found and smart card-based authentication was shown to be the most researched technique. Similarly, multi-factor techniques combine the different single-factor techniques found and the combination of text-passwords and smart cards is the most researched technique. Usability, security and costs are the most used criteria for comparing and selecting authentication schemes, whereas the context is given an important remark as well. No framework among the ones found analyzed in detail both single-factor and multi-factor authentication techniques for the decision-making process.

Conclusion: The review shows that a vast research has been done for authentication techniques, although its use in some contexts has not been researched as much. The lack of works regarding the comparison and selection of authentication techniques is observed.

Keywords: Security, Authentication Scheme, Multi-Factor Authentication Method, Systematic Literature Review.

Download English Version:

<https://daneshyari.com/en/article/6948146>

Download Persian Version:

<https://daneshyari.com/article/6948146>

[Daneshyari.com](https://daneshyari.com)