

# Document details

< Back to results | 1 of 1

Export Download Print E-mail Save to PDF Add to List More... >

[Full Text](#) View at Publisher

2018 IEEE Conference on e-Learning, e-Management and e-Services, IC3e 2018  
21 November 2018, Article number 8632643, Pages 167-172

2018 IEEE Conference on e-Learning, e-Management and e-Services, IC3e 2018; Holiday Villa Beach Resort and Spa LangkawiLangkawi; Malaysia; 21 November 2018 through 22 November 2018; Category numberCFP18IS3-ART; Code 144763

## Offline OTP Based Solution for Secure Internet Banking Access

(Conference Paper)

Khan, B.U.I. ✉, Olanrewaju, R.F. ✉, Anwar, F. ✉, Yaacob, M. ✉

Department of Elec. Comp Engineering, Kulliyyah of Engineering, IIUM, Malaysia

### Abstract

View references (26)

Numerous applications are available on the Internet for the exchange of personal information and money. All these applications need to authenticate the users to confirm their legitimacy. Currently, the most commonly employed credentials include static passwords. But people tend to behave carelessly in choosing their passwords to avoid the burden of memorizing complex passwords. Such frail password habits are a severe threat to the various services available online especially electronic banking or e-banking. For eradicating the necessity of creating and managing passwords, a variety of solutions are prevalent, the traditional ones being the usage of One-Time-Password (OTP) that refers to a single session/transaction password. However, a majority of the OTP-based security solutions fail to satisfy the usability or scalability requirements and are quite vulnerable owing to their reliance on multiple communication channels. In this study, the most reliable and adoptable solution which provides better security in online banking transactions is proposed. This is an initiative to eradicate the dependency on Global System for Mobile communication (GSM) that is the most popular means of sending the One-Time-Passwords to the users availing e-banking facilities. © 2018 IEEE.

### Author keywords

Authentication E-banking OTP Security SMS

### Indexed keywords

Engineering controlled terms: Chaos theory E-learning Electronic commerce Global system for mobile communications Samarium

Engineering uncontrolled terms: E-banking Electronic banking Global system for mobile communications (GSM) Internet banking One time passwords Personal information Security Security solutions

Engineering main heading: Authentication

### Funding details

Funding sponsor Funding number Acronym

### Metrics

0 Citations in Scopus  
0 Field-Weighted Citation Impact



PlumX Metrics Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

### Cited by 0 documents

Inform me when this document is cited in Scopus:

Set citation alert >

Set citation feed >

### Related documents

Securely eradicating cellular dependency for e-banking applications  
Pampori, B.R. , Mehraj, T. , Khan, B.I.  
(2018) *International Journal of Advanced Computer Science and Applications*

S-DILS: Framework for secured digital interaction learning system using keccak  
Pratiba, D. , Shobha, G.  
(2015) *Advances in Intelligent Systems and Computing*

A critical insight into the identity authentication systems on smartphones

Mehraj, T. , Sheheryar, M.A. , Lone, S.A.  
(2019) *Indonesian Journal of Electrical Engineering and Computer Science*

View all related documents based on references

Find more related documents in Scopus based on:

Ministry of Higher Education, Malaysia

RIGS-16-067-0231



MOHE

## Funding text

This work was partially supported by Ministry of Higher Education Malaysia (Kementerian Pendidikan Tinggi) under Research Initiative Grant Scheme number: RIGS-16-067-0231

**ISBN:** 978-153867263-1**Source Type:** Conference Proceeding**Original language:** English**DOI:** 10.1109/IC3e.2018.8632643**Document Type:** Conference Paper**Publisher:** Institute of Electrical and Electronics Engineers Inc.

## References (26)

[View in search results format >](#) All | [Export](#)  [Print](#)  [E-mail](#) [Save to PDF](#) [Create bibliography](#)

- 1 (2012) *Two-Factor Authentication for Banking - Cryptomathic*, pp. 4-16. Cited 2 times.  
1st ed. Jægergårdsgade 118, DK-8000 Aarhus C, Denmark: Two-Factor Authentication for Banking-Building the Business Case
- 2 Olanrewaju, R.F., Khan, B.U.I., Najeeb, A.R., Zahir, K.N.A.K., Hussain, S.  
Snort-based smart and swift intrusion detection system  
(2018) *Indian Journal of Science and Technology*, 8 (1), pp. 1-9. Cited 2 times.
- 3 Khan, B.U.I., Olanrewaju, R., Mehraj, A., Ahmad, A., Assad, S.  
A compendious study of online payment systems: Past developments, present impact, and future considerations  
(2017) *International Journal of Advanced Computer Science and Applications*, 8 (5), pp. 256-271. Cited 6 times.
- 4 Choudhary, S., Temkar, R., Bhatta, N.  
Qr code based secure otp distribution scheme for authentication in net-banking  
(2013) *International Journal of Information Science and Intelligent System*, 2 (4), pp. 115-121. Cited 5 times.
- 5 Olanrewaju, R.F., Ul Islam Khan, B., Ul Islam Mattoo, M.M., Anwar, F., Bt. Nordin, A.N., Mir, R.N.  
Securing electronic transactions via payment gateways – a systematic review  
(2017) *International Journal of Internet Technology and Secured Transactions*, 7 (3), pp. 245-269. Cited 3 times.  
<http://www.inderscience.com/ijitst>  
doi: 10.1504/IJITST.2017.089781  
[View at Publisher](#)
- 6 Masihuddin, M., Khan, B.U.I., Mattoo, M.M.U.I., Olanrewaju, R.F.  
A survey on e-payment systems: Elements, adoption, architecture, challenges and security concepts  
(2017) *Indian Journal of Science and Technology*, 10 (20), pp. 1-19. Cited 5 times.