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A refuse management system and blockchain : A practical view (Article)

(Open Access)

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Abstract

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The refuse management in Malaysia had experienced high degradation, and this had caused a massive loss of ecosystem services due to significant pollution. Added with low community engagement to clean the environment, a lot of refuse management system being developed through apps is left unattended by them. One of the significant drawbacks of today refuses management system are still lacking in terms of the identity protocol for identifying individual especially those who have signed up for the app's usage. Apart from that, leakage of user identity has become a critical issue affecting users' certain level to use the app as main tools under a refuse management system. As a result, most of the service providers need to build and maintain their own databases of user information for all kind of system they developed. Therefore, the objective of the study is to identify major security issue and inadequacy of the current blockchain mechanism in the refuse management system and to explore why blockchain mechanism should be used as a mechanism for higher authentication security in refuse management system. Thus, this project will demonstrate the potential of why blockchain should be used as a mechanism for in cleaning up the environment. The ultimate outcome looks at the potential blockchain application in refuse management system for the utilizing of the surrounding committee to clean the environment. © 2020, World Academy of Research in Science and Engineering. All rights reserved.

SciVal Topic Prominence ⓘ

Topic: Bitcoin | Ethereum | Blockchain

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Authentication Blockchain Refuse Management Security

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-
- 1 Joshi, A. P., Han, M., Wang, Y.
A survey on security and privacy issues of blockchain technology
(2018) *Mathematical Foundations of Computing*, 1 (2), pp. 121-147. Cited 36 times.
-
- 2 Agbo, C. C., Mahmoud, Q. H., Eklund, J. M.
Blockchain Technology in Healthcare: A Systematic Review
(2019) *Healthcare*, 7 (2), pp. 1-30. Cited 43 times.
-
- 3 Li, X., Jiang, P., Chen, T., Luo, X., Wen, Q.
A survey on the security of blockchain systems
(2017) *Future Generation Computer Systems*. Cited 161 times.
-
- 4 Borhan, H., Ahmed, E.M.
Green Environment: Assessment of Income and Water Pollution in Malaysia
(2010) *Procedia-Social and Behavioral Sciences*, 42, pp. 66-174. Cited 8 times.
July 2012
-
- 5 Kshetri, N.
Blockchain's roles in strengthening cybersecurity and protecting privacy
(2017) *Telecommunications Policy*, 41 (10), pp. 1027-1038. Cited 124 times.
http://www.elsevier.com/wps/find/journaldescription.cws_home/30471/description#description
doi: 10.1016/j.telpol.2017.09.003

View at Publisher
-
- 6 Reyna, A., Martín, C., Chen, J., Soler, E., Díaz, M.
On blockchain and its integration with IoT. Challenges and opportunities (Open Access)
(2018) *Future Generation Computer Systems*, 88, pp. 173-190. Cited 252 times.
doi: 10.1016/j.future.2018.05.046

View at Publisher
-
- 7 Safa, N.S., Maple, C., Watson, T., Von Solms, R.
Motivation and opportunity based model to reduce information security insider threats in organisations
(2018) *Journal of Information Security and Applications*, 40, pp. 247-257. Cited 14 times.
<http://www.journals.elsevier.com/journal-of-information-security-and-applications/>
doi: 10.1016/j.jisa.2017.11.001

View at Publisher
-
- 8 Bélanger, F., Collignon, S., Enget, K., Negangard, E.
Determinants of early conformance with information security policies
(2017) *Information and Management*, 54 (7), pp. 887-901. Cited 19 times.
doi: 10.1016/j.im.2017.01.003

View at Publisher
-

- 9 Hong, S., Park, S., Park, L.W., Jeon, M., Chang, H.
An analysis of security systems for electronic information for establishing secure internet of things environments: Focusing on research trends in the security field in South Korea

(2018) *Future Generation Computer Systems*, 82, pp. 769-782. Cited 4 times.
doi: 10.1016/j.future.2017.10.019

[View at Publisher](#)

- 10 O'Gorman, L.
Comparing passwords, tokens, and biometrics for user authentication

(2003) *Proceedings of the IEEE*, 91 (12), pp. 2021-2040. Cited 380 times.
<http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=5>
doi: 10.1109/JPROC.2003.819611

[View at Publisher](#)

- 11 McMillan, R.
The World's first computer password, it was useless too
(2012) *Wired.com*, pp. 1-27.

- 12 Bellare, M., Hoang, V.T.
Adaptive witness encryption and asymmetric password-based cryptography

(2015) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 9020, pp. 308-331. Cited 10 times.
<http://springerlink.com/content/0302-9743/copyright/2005/>
ISBN: 978-366246446-5
doi: 10.1007/978-3-662-46447-2_14

[View at Publisher](#)

- 13 Zhang-Kennedy, L., Chiasson, S., Van Oorschot, P.
Revisiting password rules: facilitating human management of passwords
(2016) *2016 APWG symposium on electronic crime research (eCrime)*, pp. 1-10. Cited 5 times.
IEEE, June

- 14 Abdou, A., Barrera, D., Van Oorschot, P. C.
What lies beneath? Analyzing automated SSH bruteforce attacks
(2015) *International Conference on Passwords*, pp. 72-91. Cited 5 times.
Springer, Cham, December

- 15 Tirado, E., Turpin, B., Beltz, C., Roshon, P., Judge, R., Gagneja, K.
A new distributed brute-force password cracking technique
(2018) *Communications in Computer and Information Science*, 878, pp. 117-127. Cited 7 times.
<http://www.springer.com/series/7899>
ISBN: 978-331994420-3
doi: 10.1007/978-3-319-94421-0_9

[View at Publisher](#)

- 16 Luevanos, C., Elizarraras, J., Hirschi, K., Yeh, J.-H.
Analysis on the security and use of password managers

(2018) *Parallel and Distributed Computing, Applications and Technologies, PDCAT Proceedings, 2017-December*, pp. 17-24. Cited 3 times.
ISBN: 978-153863151-5
doi: 10.1109/PDCAT.2017.00013

[View at Publisher](#)

□ 17 Woodside, J.M., Augustine, F.K., Giberson, W.
Blockchain technology adoption status and strategies
(2017) *Journal of International Technology and Information Management*, 26 (2), pp. 65-93. Cited 24 times.

□ 18 Garcia, P.
Biometrics on the blockchain

(2018) *Biometric Technology Today*, 2018 (5), pp. 5-7. Cited 10 times.
<http://www.elsevier.com/locate/biotod>
doi: 10.1016/S0969-4765(18)30067-5

View at Publisher

□ 19 (2018) *ROL Citizen's Eye (1.0.7) [Mobile application software]*
Cornerstone Corporation Sdn Bhd. Available
<http://www.klriver.org/>

□ 20 Zulhuda, S., Ibrahim, A.
The state of e-government security in Malaysia: reassessing the legal and regulatory framework on the threat of information theft
(2012) *1st Taibah University International Conference on Computing and Information Technology (ICCIT 2012)*, pp. 812-817. Cited 9 times.
March

□ 21 Miraz, H., Ali, M.
Blockchain Enable Enhance IoT Ecosystem Security
(2018) *International Conference on Emerging Technologies in Computing 2018 August*, pp. 1-9.
August

□ 22 Ouaddah, A.
A blockchain based access control framework for the security and privacy of IoT with strong anonymity unlinkability and intractability guarantees
(2018) *Advances in Computers*

□ 23 Ouaddah, A., Mousannif, H., Abou Elkalam, A., Ait Ouahman, A.
Access control in the Internet of Things: Big challenges and new opportunities

(2017) *Computer Networks*, 112, pp. 237-262. Cited 140 times.
<http://www.journals.elsevier.com/computer-networks/>
doi: 10.1016/j.comnet.2016.11.007

View at Publisher

□ 24 Kewell, B., Adams, R., Parry, G.
Blockchain for good?

(2017) *Strategic Change*, 26 (5), pp. 429-437. Cited 37 times.
[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1099-1697](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1099-1697)
doi: 10.1002/jsc.2143

View at Publisher

- 25 Sun, J., Yan, J., Zhang, K.Z.K.
Blockchain-based sharing services: What blockchain technology can contribute to smart cities (Open Access)
(2016) *Financial Innovation*, 2 (1), art. no. 26. Cited 145 times.
jfin-swufe.springeropen.com/
doi: 10.1186/s40854-016-0040-y
View at Publisher
-
- 26 Schöner, M. M., Kourouklis, D., Sandner, P., Gonzalez, E., Förster, J.
(2017) *Blockchain technology in the pharmaceutical industry*. Cited 14 times.
Frankfurt, Germany: Frankfurt School Blockchain Center
-
- 27 Wolfond, G.
A blockchain ecosystem for digital identity: improving service delivery in Canada's public and private sectors
(2017) *Technology Innovation Management Review*, 7 (10). Cited 16 times.
-
- 28 Kshetri, N., Voas, J.
Blockchain-Enabled E-Voting
(2018) *IEEE Software*, 35 (4), pp. 95-99. Cited 59 times.
<http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=52>
doi: 10.1109/MS.2018.2801546
View at Publisher
-
- 29 Habibi, M.R., Laroche, M., Richard, M.-O.
The roles of brand community and community engagement in building brand trust on social media
(2014) *Computers in Human Behavior*, 37, pp. 152-161. Cited 173 times.
doi: 10.1016/j.chb.2014.04.016
View at Publisher
-
- 30 Hsu, C.-P., Chiang, Y.-F., Huang, H.-C.
How experience-driven community identification generates trust and engagement
(2012) *Online Information Review*, 36 (1), pp. 72-88. Cited 44 times.
doi: 10.1108/14684521211206971
View at Publisher
-
- 31 Francisco, K., Swanson, D.
The Supply Chain Has No Clothes: Technology Adoption of Blockchain for Supply Chain Transparency
(2018) *Logistics*, 2 (1), p. 2. Cited 100 times.
-
- 32 Helo, P., Hao, Y.
Blockchains in operations and supply chains – a review and reference implementation
(2018) *Proceedings of International Conference on Computers and Industrial Engineering, CIE, 2018-December*.
<http://conferences.sun.ac.za/index.php/cie/cie-42>
-
- 33 Korpela, K., Hallikas, J., Dahlberg, T.
Digital Supply Chain Transformation toward Blockchain Integration
(2017) *Proceedings of the 50th Hawaii International Conference on System Sciences*, pp. 4182-4191. Cited 176 times.

□ 34 Abeyratne, S. A., Monfared, R. P.
Blockchain Ready Manufacturing Supply Chain Using Distributed Ledger
(2016) *International Journal of Research in Engineering and Technology*, pp. 1-10. Cited 161 times.
05 09

□ 35 Tian, F.
An agri-food supply chain traceability system for China based on RFID & blockchain technology

(2016) *2016 13th International Conference on Service Systems and Service Management, ICSSSM 2016*, art. no. 7538424. Cited 301 times.
ISBN: 978-150902842-9
doi: 10.1109/ICSSSM.2016.7538424

View at Publisher

□ 36 Casado-Vara, R., Prieto, J., La Prieta, F.D., Corchado, J.M.
How blockchain improves the supply chain: Case study alimentary supply chain
(Open Access)

(2018) *Procedia Computer Science*, 134, pp. 393-398. Cited 65 times.
<http://www.sciencedirect.com/science/journal/18770509>
doi: 10.1016/j.procs.2018.07.193

View at Publisher

□ 37 Mire, S.
(2018) *Blockchain in Supply Chain Management: 13 Possible use Cases*
DMCA Report

□ 38 Bardhan, I.R., Thouin, M.F.
Health information technology and its impact on the quality and cost of healthcare delivery

(2013) *Decision Support Systems*, 55 (2), pp. 438-449. Cited 66 times.
doi: 10.1016/j.dss.2012.10.003

View at Publisher

□ 39 Gupta, A., Sharda, R.
Improving the science of healthcare delivery and informatics using modeling approaches

(2013) *Decision Support Systems*, 55 (2), pp. 423-427. Cited 17 times.
doi: 10.1016/j.dss.2012.10.001

View at Publisher

□ 40 Johnson, M.P., Zheng, K., Padman, R.
Modeling the longitudinality of user acceptance of technology with an evidence-adaptive clinical decision support system

(2014) *Decision Support Systems*, 57 (1), pp. 444-453. Cited 37 times.
doi: 10.1016/j.dss.2012.10.049

View at Publisher

□ 41 Van Valkenhoef, G., Tervonen, T., Zwinkels, T., De Brock, B., Hillege, H.
ADDIS: A decision support system for evidence-based medicine

(2013) *Decision Support Systems*, 55 (2), pp. 459-475. Cited 109 times.
doi: 10.1016/j.dss.2012.10.005

View at Publisher

□ 42 Beaulieu-Jones, B. K., Lavage, D. R., Snyder, J. W., Moore, J.H., Pendergrass, S. A., Bauer, C.R. Characterizing and Managing Missing Structured Data in Electronic Health Records: Data Analysis (2018) *JMIR Medical Informatics*, 6 (1). Cited 20 times.
<https://doi.org/10.2196/medinform.8960>

□ 43 Jetley, G., Zhang, H.
Electronic health records in IS research: Quality issues, essential thresholds and remedial actions

(2019) *Decision Support Systems*, 126, art. no. 113137. Cited 4 times.
<https://www.journals.elsevier.com/decision-support-systems>
doi: 10.1016/j.dss.2019.113137

[View at Publisher](#)

□ 44 Dhagarra, D., Goswami, M., Sarma, P.R.S., Choudhury, A.
Big Data and blockchain supported conceptual model for enhanced healthcare coverage: The Indian context

(2019) *Business Process Management Journal*, 25 (7), pp. 1612-1632. Cited 2 times.
<http://www.emeraldinsight.com/info/journals/bpmj/bpmj.jsp>
doi: 10.1108/BPMJ-06-2018-0164

[View at Publisher](#)

□ 45 Wood, G.
Ethereum: A Secure Decentralised Generalised Transaction Ledger
(2017) *Ethereum Project Yellow Paper*, pp. 1-32. Cited 1369 times.
(August 1), (2014)
<https://gawwood.com/paper.pdf>

□ 46 Yang, G., Li, C., Marstein, K.E.
A blockchain-based architecture for securing electronic health record systems
(Open Access)

(2019) *Concurrency Computation*, art. no. e5479.
[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1532-0634](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1532-0634)
doi: 10.1002/cpe.5479

[View at Publisher](#)

□ 47 Yue, X., Wang, H., Jin, D., Li, M., Jiang, W.
Healthcare Data Gateways: Found Healthcare Intelligence on Blockchain with Novel Privacy Risk Control

(2016) *Journal of Medical Systems*, 40 (10), art. no. 218. Cited 305 times.
www.wkap.nl/journalhome.htm/0148-5598
doi: 10.1007/s10916-016-0574-6

[View at Publisher](#)

□ 48 Rosati, P., Tilen, Č.
Blockchain Beyond Cryptocurrencies
(2019) *Disrupting Finance*, pp. 149-170. Cited 3 times.

□ 49 Henry, S., Brantly, A. F.
Countering the Cyber Threat
(2018) *The Cyber Defense Review*, 3, pp. 47-56.
Spring 2018

□ 50 Crosby, M., Pattanayak, P., Verma, S., Kalyanaraman, V.
Blockchain technology: beyond Bitcoin
(2016) *Applied Innovation Review*, 2, p. 71. Cited 402 times.

□ 51 Smith, K.J., Dhillon, G.
Assessing blockchain potential for improving the cybersecurity of financial transactions

(2019) *Managerial Finance*
<http://www.emeraldgroupublishing.com/mf.htm>
doi: 10.1108/MF-06-2019-0314

[View at Publisher](#)

□ 52 Mwanza, B.G., Mbohwa, C., Telukdarie, A.
Municipal solid waste management in Kitwe City: An engineering management perspective

(2018) *Management of Environmental Quality: An International Journal*, 29 (6), pp. 1075-1092.
<http://www.emeraldinsight.com/info/journals/meq/meq.jsp>
doi: 10.1108/MEQ-10-2017-0120

[View at Publisher](#)

□ 53 Chaudhary, K., Vrat, P.
Case study analysis of e-waste management systems in Germany, Switzerland, Japan and India: A RADAR chart approach

(2018) *Benchmarking*, 25 (9), pp. 3519-3540. Cited 5 times.
<http://www.emeraldinsight.com/info/journals/bij/bij.jsp>
doi: 10.1108/BIJ-07-2017-0168

[View at Publisher](#)

□ 54 Rohana, S., Amir Hussin, A.H., Noranita, A., Marhani, M.M.
Developing a Pollution Free Environment Framework through Technology Integration(e-HailingApp)
(2019) *Environment-Behaviour Proceedings Journal*, 4 (10), pp. 161-167.

□ 55 Tirkolaei, E.B., Mahdavi, I., Esfahani, M.M.S., Weber, G.-W.
A robust green location-allocation-inventory problem to design an urban waste management system under uncertainty

(2020) *Waste Management*, 102, pp. 340-350. Cited 9 times.
www.elsevier.com/locate/wasman
doi: 10.1016/j.wasman.2019.10.038

[View at Publisher](#)

□ 56 Zhang, D.
Application of blockchain technology in incentivizing efficient use of rural wastes: A case study on Yitong System ([Open Access](#))

(2019) *Energy Procedia*, 158, pp. 6707-6714. Cited 3 times.
<http://www.sciencedirect.com/science/journal/18766102>
doi: 10.1016/j.egypro.2019.01.018

[View at Publisher](#)

- 57 Howell, J.P., Schmidt, K., Iacone, B., Rizzo, G., Parrilla, C.
New Jersey's waste management data: retrospect and prospect (Open Access)

(2019) *Heliyon*, 5 (8), art. no. e02313.
<http://www.journals.elsevier.com/heliyon/>
doi: 10.1016/j.heliyon.2019.e02313

[View at Publisher](#)

- 58 Gopalakrishnan, P., Ramaguru, R.
Blockchain based waste management

(2019) *International Journal of Engineering and Advanced Technology*, 8 (5), pp. 2632-2635.
<https://www.ijeat.org/wp-content/uploads/papers/v8i5/E7828068519.pdf>

- 59 Ongena, G., Smit, K., Boksebeld, J., Adams, G., Roelofs, Y., Ravesteijn, P.
Blockchain-based smart contracts in waste management: A silver bullet? (Open Access)

(2018) *31st Bled eConference: Digital Transformation: Meeting the Challenges, BLED 2018*, pp. 345-356. Cited 2 times.
<https://dblp.org/db/conf/bled/bled2018.html>
ISBN: 978-961286170-4
doi: 10.18690/978-961-286-170-4.23

[View at Publisher](#)

- 60 Qu, Q., Nurgaliev, I., Muzammal, M., Jensen, C.S., Fan, J.
On spatio-temporal blockchain query processing

(2019) *Future Generation Computer Systems*, 98, pp. 208-218. Cited 8 times.
doi: 10.1016/j.future.2019.03.038

[View at Publisher](#)

- 61 Joshi, A. P., Han, M., Wang, Y.
A survey on security and privacy issues of blockchain technology
(2018) *Mathematical Foundations of Computing*, 1 (2), pp. 121-147. Cited 36 times.

- 62 Khan, M.A., Salah, K.
IoT security: Review, blockchain solutions, and open challenges

(2018) *Future Generation Computer Systems*, 82, pp. 395-411. Cited 420 times.
doi: 10.1016/j.future.2017.11.022

[View at Publisher](#)

- 63 Lee, H., Ma, M.
Blockchain-based mobility management for 5G

(2019) *Future Generation Computer Systems*. Cited 2 times.
<https://www.journals.elsevier.com/future-generation-computer-systems>
doi: 10.1016/j.future.2019.08.008

[View at Publisher](#)

- 64 Panarello, A., Tapas, N., Merlino, G., Longo, F., Puliafito, A.
Blockchain and iot integration: A systematic survey (Open Access)

(2018) *Sensors (Switzerland)*, 18 (8), art. no. 2575. Cited 125 times.
<http://www.mdpi.com/1424-8220/18/8/2575/pdf>
doi: 10.3390/s18082575

[View at Publisher](#)

- 65 Thio-Ac, A., Serut, A.K., Torrejos, R.L., Rivo, K.D., Velasco, J.
Blockchain-based system evaluation: The effectiveness of blockchain on E-procurements (Open Access)

(2019) *International Journal of Advanced Trends in Computer Science and Engineering*, 8 (5), art. no. 122, pp. 2673-2676. Cited 6 times.
<http://www.warse.org/IJATCSE/static/pdf/file/ijatcse122852019.pdf>
doi: 10.30534/ijatcse/2019/122852019

[View at Publisher](#)

- 66 Thio-Ac, A., Domingo, E.J., Reyes, R.M., Arago, N., Jorda, R., Velasco, J.
Development of a secure and private electronic procurement system based on blockchain implementation (Open Access)

(2019) *International Journal of Advanced Trends in Computer Science and Engineering*, 8 (5), pp. 2626-2631. Cited 5 times.
<http://www.warse.org/IJATCSE/static/pdf/file/ijatcse115852019.pdf>
doi: 10.30534/ijatcse/2019/115852019

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