Accepted Manuscript

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PII: S1084-8045(18)30146-2

DOI: 10.1016/j.jnca.2018.04.015

Reference: YJNCA 2129

To appear in: *Journal of Network and Computer Applications*

Received Date: 21 December 2017

Revised Date: 31 March 2018

Accepted Date: 24 April 2018

Please cite this article as: Rawashdeh, M., Zamil, M.G.A., Hossain, M.S., Samarah, S., Amin, S.U., Muhammad, G., Reliable service delivery in Tele-health care systems, *Journal of Network and Computer Applications* (2018), doi: 10.1016/j.jnca.2018.04.015.

Reliable Service Delivery in Tele-healthCare Systems

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Abstract

Modern ICT Applications on Tele-health focuses on providing the smart infrastructure that facilitates the delivery of health services. While Internet-of-Things (IoT) and cloud-computing platforms assist the implementation of such architecture, the reliability of service delivery during network disconnection is still an open issue in this domain. This paper proposes a prediction methodology that is able to deliver reliable services with acceptable accuracy by incorporating domain-specific knowledge into exchanged data. The proposed service will be of a great value in a situation where the network availability is not reliable. The contributions of this work are to 1) measure the impact of ontology enrichment on classifying the health data, 2) develop a prediction model that is able to predict patients' readings with an acceptable accuracy, and 3) minimize communicating messages among the network components. Three experiments have been conducted on a real health dataset to measure the performance of the proposed methodology. The results showed that our proposed methodology improved the reliability of the Tele-health services implemented on the top of IoT and cloud-computing platforms.

Keywords: Tele-Health; IoT; Cloud Computing; Network Applications; Data Mining.

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