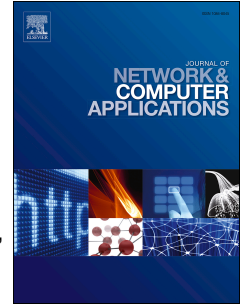


# Accepted Manuscript

Reliable service delivery in Tele-health care systems

Majdi Rawashdeh, Mohammed GH.AL. Zamil, M. Shamim Hossain, Samer Samarah, Syed Umar Amin, Ghulam Muhammad



PII: S1084-8045(18)30146-2

DOI: [10.1016/j.jnca.2018.04.015](https://doi.org/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.

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.

# Reliable Service Delivery in Tele-healthCare Systems

Majdi Rawashdeh<sup>a</sup>, Mohammed GH. AL Zamil<sup>b</sup>, M. Shamim Hossain<sup>c,\*</sup>, Samer Samarah<sup>b</sup>, Syed Umar Amin<sup>d</sup>, Ghulam Muhammad<sup>d</sup>

<sup>a</sup> Department of Business Information Technology, Princess Sumaya University for Technology, Jordan

<sup>b</sup> Department of Computer Information Systems, Yarmouk University, Jordan,

<sup>c</sup> Department of Software Engineering, College of Computer and Information Sciences, King Saud University, Riyadh 11543, Saudi Arabia

<sup>d</sup> Department of Computer Engineering, College of Computer and Information Sciences, King Saud University, Riyadh 11543, Saudi Arabia

## 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.

- Corresponding author.

E-mail addresses: m.rawashdeh@psut.edu.jo (M. Rawashdeh), Mohammedz@yu.edu.jo (M. GH. AL Zamilb), mshossain@ksu.edu.sa (\*M. Shamim Hossain), samers@yu.edu.jo (S. Samarah), syed.umar.amin@gmail.com (S. U. Amin), ghulam@ksu.edu.sa (G. Muhammad)

Download English Version:

<https://daneshyari.com/en/article/6884705>

Download Persian Version:

<https://daneshyari.com/article/6884705>

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