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Dilip Ballal, Kalpit; Dittmann, Lars; Ruepp, Sarah; Dinesen, Birthe

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Abstract

Reliable Internet of Things for Health Care Technologies

Kalpiti Dilip Ballal¹; Lars Dittmann²; Sarah Ruepp²; Birthe Dinesen³

¹Department of Electronics and Photonics Engineering, Technical University of Denmark, Kgs Lyngby, Denmark

²Technical University of Denmark, Kgs Lyngby, Denmark

³Laboratory for Welfare Technology – Digital Health & Rehabilitation, Sport Sciences - Performance and Technology, Department of Health Science and Technology, Aalborg University, Aalborg, Denmark

Corresponding Author:

Kalpiti Dilip Ballal
Department of Electronics and Photonics Engineering
Technical University of Denmark
Ørstedes Plads
Bygning 343
Kgs Lyngby, 2800
Denmark
Phone: 45 4525 6352
Email: kdiba@dtu.dk

Abstract

Background: Several at-home monitoring devices are being introduced in the market, which can help individuals, fitness enthusiasts, etc, monitor their health anytime they want. This allows individuals to monitor and collect their health data, reflect upon it, and take necessary action. Such technologies can help enhance the user's quality of life by motivating and empowering them to improve their health actively. Unfortunately, there are still several challenges to making this transition from in-hospital monitoring to home monitoring smoother. Some of these challenges may include technology readiness and acceptance by patients and their family members, lack of proper privacy measures, security, and lack of reliable internet and communication technology infrastructure.

Objective: The objective of this study is to use wireless communication networks to remotely transfer data from various body sensors measuring different vital parameters. Wireless sensors (electrocardiogram monitors, sleep sensors, etc) and Internet of Things devices can allow real-time and relatively cheap at-home health monitoring to provide critical health updates over the internet.

Methods: The study will be conducted by means of designing multiple experiments in which data from different sensors will be collected, packaged, and sent to a remote server using the internet. Along with the patient data, different network performance parameters such as delay, information loss, etc, will be calculated to understand and evaluate network performance.

Results: The results from the experiment will focus on evaluating network performance parameters such as latency, delay, packet drop, etc, in various indoor as well as outdoor environments.

Conclusions: We hope the results obtained from these experiment can be used for making various technological design choices and serve as a good starting point while building Internet of Things health care technologies.

Conflicts of Interest: None declared.

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KEYWORDS

Internet of Things; remote health care; digital health

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