Chapter 14
Enhancement of IoT-Based Smart Hospital System Survey Paper: Research Article

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ABSTRACT

In an IoT environment, smart object, an ultimate building block, enables the thing-to-thing communication in a smooth way. Huge numbers of heterogeneous objects are connected with each other for sharing data and resources with less human intervention. Sensor data can be used to provide different features by automation, which causes less manpower and less disturbances to human life. Integrating IoT technologies into healthcare domain is major research area, which provides continuous monitoring of human health condition without any interruption and provides optimal services in emergency cases. The proposed system is embedded with enhanced innovative method to predict future events based on its observations. In this chapter, a new framework for smart healthcare systems is introduced by adding intelligent decision making, data fusion, and prediction algorithms using machine learning concepts.

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INTRODUCTION

In the recent Information Communication Technology (ICT) Thing-to-Thing Communication is mostly popular due to its various benefits. In Conceptual point of view, IoT means interconnecting various objects such as Smart Phones, Laptop, PCs, Tablets, PDAs, and other hand-held embedded devices. These devices now communicate smartly to each other. (Riazul Islam S.M., Daehan Kwak., MD Humaun Kabir., Mahmud Hossain., & Kyung-Sup Kwak (2015)). These Sensor, Actuator and connected devices perceive their context and get new idea about what is happening and how to react accordingly etc. These type of interconnected devices leads an Intelligent and Autonomous applications and Services mainly used for Industry, Hospitals, Economics and Emergency Environment also. (Islam S.M.R., Kwak D., Kabir H., Hossain M., & Kwak K.S., (2015))

In IoT Healthcare Domain Multiple similar works related to these problems are already surveyed. An enhanced concept is presented in (Dimitrov D.V (2016, July)), which mainly focus on commercially available problems in real time and its solutions in clear manner. These type of research problems not yet addressed in any of the paper.

Recently, IoT has attractiveness in its features and this is the most research topics for Research Scholars and Industry peoples. Its involvement into Healthcare Domain is numerous. Mainly used for Continues monitoring of services in emergency cases. Apart from this, same technology used for Industrial Automation, Business-Consumers Environment, Pollution Monitoring such as Smart City and Individual monitoring and Smart Society etc. The motivation behind IoT based Smart Healthcare Frame work is to gather huge data which are collected from multiple sensors that are attached to the human body. In order to gather, analyze, extract and process useful information about patient current healthcare condition for maintenance and prediction of future health condition well in advance in emergency cases also studied properly to provide suitable treatment in right time. (Samuel S.J., RVP K., Sashidhar K., & Bharathi C.R. (2015)). In addition to this, the amount of huge datas are not processed by traditional Data management Systems, hence the emergence of Big Data Concept also introduced and used for collecting and analyzing heterogeneous datas. (Iniewski K., (2008)).
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