

ISSN: 2508-7894 © 2014 KAIA. <http://www.kjai.or.kr>

Doi: <http://dx.doi.org/10.24225/kjai.2014.2.1.4>

# Monitoring system technology of patients' lifestyles

<sup>1</sup> James Hahn

<sup>1</sup>, First Author Adjunct Faculty, Attorney, SUNY Empire State College, USA, Tel: +1-315-406-3534. E-mail: Hahn233@esc.edu.

Received: January 23, 2014. Revised: February 10, 2014. Accepted: March 15, 2014.

## Abstract

These days, aging, the aged and patients rapidly increased to produce problems, for instance, rapid increase of demand on medical service, higher medical expenses, low quality of the elderly's lives, shortage of physicians and nurses, and others [1]. These days, not only IT technology but also medical technology has taken the lead in settlement of the problems. Patients see a doctor to be given medical treatment and service when they are sick to have difficulty. The study investigated lifestyle monitoring system of chronic disease patients to indicate variation depending upon time. The health care is likely to solve problems of the elderly and chronic disease patients and to satisfy desire of better life quality by living healthy life and to diagnose diseases and give medical treatment and to give solutions in accordance with changes of paradigm of medical services.

**Keywords:** Monitoring system, technology, patients' lifestyles.

## 1. Introduction

These days, aging, the aged and patients rapidly increased to produce problems, for instance, rapid increase of demand on medical service, higher medical expenses, low quality of the elderly's lives, shortage of physicians and nurses, and others. These days, not only IT technology but also medical technology has taken the lead in settlement of the problems. Patients see a doctor to be given medical treatment and service when they are sick to have difficulty. Medical service type has made change in

accordance with technical development. Patients who want to verify their health status are short of systems of emergency aid and rescue at occurrence of risks. In this study, we measured body temperature and cardiac rate of chronic patients to verify abnormality and to investigate transfer process of information to physicians, family member and 119.

## **2. Associated Studies**

### **2.1. ECG Sensor**

ECG sensor can interpret electrical activity of the heart at specific time. Not only electrode on the skin but also device out of the body can keep record of ECG. The record has been made by device that is not put into human body. In other words, ECG sensor can record electrical activity of the heart. ECG can measure ratio and consistency of cardiac rate to check damage of the heart and to create effect of device and/or medicine of heart control like cardiac pacemaker.

### **2.2. Infrared ray array sensor**

Infrared ray array sensor can measure a patient's temperature. The sensor can receive minute infrared ray made by object of human body to measure thermal picture. The sensor makes use of infrared array sensor for measurement of thermal picture of the object to measure temperature of local area and/or all of the object by using temperature measuring device.

## **3. Remote Diagnosis**

Remote diagnosis system has applied remote measuring technology to the medicine. Remote diagnosis is said to give medical information and service by information and communication technology and to make use of medical information from one place to another place by electronic communication network that educates patients and health and medicine provider to improve patient diagnosis [2].

## **4. System**

Health care band was used to measure a patient's temperature and heart rate. Investigate whether or not measuring value is in the scope of normal value. Inform hospital, 119 and/or family of investigation result out of normal range. This study collected data of chronic disease patients by time frequency.

Two or more of electrography cardiac testers were used. The electrodes were made in pair. For instance, lefthand arm (LA), righthand arm (RA) and lefthand leg (LL) were made in 3 pairs. The outcome of LA+RA, LA+LL and RA+LL is said to be lead. Each lead has different angle. Different kinds of the lead have

different number of lead, for instance, 3-lead, 5-lead and 12-lead ECG. 12-lead ECG has recorded twelve of different signals at the same time.

The temperature sensor (TS) produces electrical signal of inner module, and thermo file sensors of array sensor (30) receive infrared rays of each area of the measurement in the unit of pixel and to produce electrical signals.

Each patient has different outcome depending upon health care band. The sensor informs heart rate on average, temperature and heart rate on average of a patient to take actions.

## 5. Conclusion

The study investigated lifestyle monitoring system of chronic disease patients to indicate variation depending upon time. The health care is likely to solve problems of the elderly and chronic disease patients and to satisfy desire of better life quality by living healthy life and to diagnose diseases and give medical treatment and to give solutions in accordance with changes of paradigm of medical services.

## References

- Beacon controller (2012). Retrieved Sept. 30, 2014, from <https://openflow.stanford.edu/display/Beacon/Home>
- Bray, Jennifer (2001). *Bluetooth*. HONG LONG SCIENCE PRESS
- Floodlight Project (2011). Retrieved Aug. 26, 2011, from [www.projectfloodlight.org/floodlight](http://www.projectfloodlight.org/floodlight)
- Daiko Industry Research Institute (2010). *Rapid Growing Location Based Services (LBS) and Augmented Reality Technology, Market and Business Trends*. Saint Deiko Publishing Co.
- Jo, J., and Kim, J. (2013). A centralized network policy controller for SDN-Based service overlay networking. *J. KICS*, 38(4), 266-278.
- Lee, G., Jang, I. W., and Kang, C. (2014). SDN-Based middlebox management framework in integrated wired and wireless networks. *J. KICS*, 39B(6), pp. 379-386.
- NOX Open Flow controller (2011). Retrieved Aug. 26, 2016, from [www.noxrepo.org](http://www.noxrepo.org)
- Ryu controller (2013). Retrieved Aug. 26, 2016, from [osrg.github.io/ryu](https://osrg.github.io/ryu)
- Seo, Min Woo (2013). *Create 45 projects with Android*. Anthurbook
- Wikipedia (2011). *Android*. Retrieved May 22, 2011, from [Https://en.wikipedia.org/wiki/ Android](https://en.wikipedia.org/wiki/Android),