

## Bluetooth Low Energy (BLE 4.0) Host Controller for Managing Healthcare Monitoring Devices

Ajay Dhillon

BSc Computer Science

### ABSTRACT

Monitoring sensor information provided from wearable devices provides many benefits to the healthcare industry. This data can be used in various ways to treat patients and help nurses and doctors make a better prognosis. The aim of this project has been to research and implement a suitable host controller to be able to manage connectivity between these devices and managing the data that they advertise. The devices have been made already using Bluetooth Low Energy for its energy efficient connectivity, this allows for unobtrusive wearables that can last months with low maintenance. As this architecture will be used in residential healthcare this is an important factor, the host will need to be easy to use and maintain. Various solutions have been considered and a final selection has been made based on Android because of its overall practicality which will be explained more through this paper.

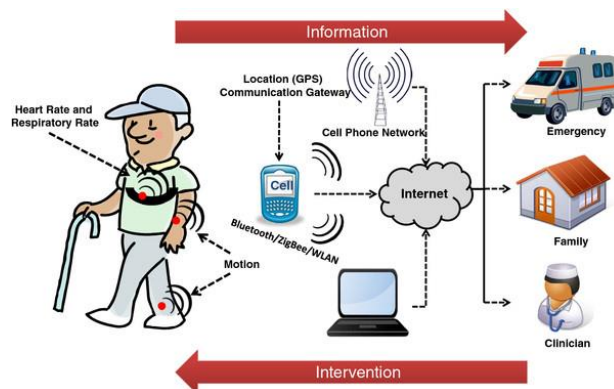


Figure 2. Illustration of a health monitoring system using connected sensors

A Dhillon, Bluetooth Low Energy (BLE 4.0) Host Controller for Managing Healthcare Monitoring Devices,  
*Proc. 13<sup>th</sup> School Conf. for Annual Research Projects*, V F Ruiz (Ed), pp. xx–yy, University of Reading, April 2016.