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Smart BMI Machine

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Abstract: *Obesity, which refers to excess body fat in the body, has become a popular and important public health problem. Body mass index (BMI) is metric currently in use for defining obesity or anthropometric height/weight characteristics in adults and for classifying them in groups. It is unarguable that rather than error-prone manual BMI calculations, an automatic BMI computation is a preferred option. This paper presents the design and development of a low-cost automatic BMI machine for indoor and out-door use. The proposed automatic BMI machine consists of 7 main sections, namely: 1). Half bridge load-cell arranged in Wheatstone bridge configuration which incorporates internally mounted SR-120 foil-type strain gauges; 2). load-cell HX711 amplifier module; 3). HC-SR04 ultrasonic sensor module; 4).Arduino UNO development board; 5). A liquid crystal display (LCD) module; 6). DHT22 Temperature sensor; and 7). A WiFi module ESP8266. The proposed automatic BMI machine have been designed, constructed and deployed for automatic BMI measurements, and the results have been compared with manual measurements. The performance of the proposed low-cost automatic BMI machine shows that it can be used in homes, hospitals, companies as well as in any environments where routine BMI monitoring may be desired.*

Keywords: Body Mass Index; Weighing machine; Internet of Things; Obesity

REFERENCES

[1]. Akpan, V. A. and Ewetumo, T. (2010): Design, development and construction of a low cost automatic BMI Machine. Global Journal of Pure and Applied Sciences, 16(1): 141 – 149. [Unical, Nigeria, 80%]
[2]. Available: http://www.globaljournalseries.com/index/index.ph p/gjpas/article/view/19.
[3]. Arduino Ultrasonic Range Detection Sensor HC-SR04. Retrieved June 21, 2018, from https://optimusdigital.ro/
[4]. Centers for Disease control and prevention (2009). “Adult BMI retrieved”.
[5]. World Health Organization, 2016. Obesity and Overweight.
[6]. http://www.who.int/mediacentre/factsheets/fs311/e n/accessed 2016.