Development of Brady-Tachy heart automotive monitoring (*BT-Heartomotive*) device to prevent motor-vehicle accident

Mohd Azrul Hisham Mohd Adib^{1,*}, Muhamad Hazim Khalili¹, Nur Hazreen Mohd Hasni²

¹Medical Engineering & Health Intervention Team (MedEHiT), Human Engineering Group, Faculty of Mechanical Engineering, Universiti Malaysia Pahang, 26600 Pekan, Pahang, Malaysia ²Family Health Unit, Pahang State Health Department, Jalan IM 4, 25582 Bandar Indera Mahkota, Kuantan, Pahang, Malaysia

*Corresponding e-mail: azrul@ump.edu.my

ABSTRACT

The rate of car accidents is worrying nowadays. Other than problems in driving attitudes and skills, road accidents are also caused by uncontrollable factors such as medical conditions and drowsiness. These factors can be avoided by having early detection. *The BT-Heartomotive* device is a device that can detect early signs of drowsiness and health problems by measuring the heart rate of the drivers. Heart rate measurement can reveal a lot about the physical conditions of an individual. *BT-Heartomotive* device consists of three main components: the sensor, microcontroller, and heart rate monitor.

KEYWORDS

Brady-Tachy; heart rate; automotive; device; driving

ACKNOWLEDGMENT

A big thank you dedicated to University Malaysia Pahang (UMP) for providing us with a good environment, facilities and funding under research grant RDU 180330 in order to complete this research. By this opportunity, we would like to thank Dr. Zakri Ghazalli and Mr. Idris Mat Sahat from Human Engineering Group, Universiti Malaysia Pahang for sharing valuable information in accordance with our research interest. We would face many difficulties without their assistance.