ABSTRACT

Online motorcycle taxi, or "ojek online," is a transportation service that allows users to book a motorcycle taxi through an online application and make electronic payments. This has led to the increasing use of online motorcycle taxi services due to the convenience and speed in booking a ride. However, with the growing usage of this service, motorcycle taxi drivers often face high health risks due to fatigue from long working hours.

In this context, the smart jacket serves as a solution to help online motorcycle taxi drivers mitigate these risks. The smart jacket is a device that can detect the driver's health while driving and prevent accidents caused by fatigue or poor health conditions. The device will provide alerts through notifications on the driver's smartphone as an outcome of this design. The smart jacket uses the MLX90614 sensor to measure body temperature and a pulse sensor to detect heart rate. Thus, the use of the smart jacket is expected to enhance the safety and health of online motorcycle taxi drivers while they work.

This research involved testing the data detection of the MLX90614 sensor 9 times and the pulse sensor 14 times. The test results indicated that both sensors were successfully integrated by Blynk. The Blynk application could display the data and send notifications to the smartphone. During the device testing, a comparison was made between the data generated by the MLX90614 sensor and a body temperature thermometer. An error rate of approximately 0.81% and an accuracy rate of about 99.16% were found. Additionally, a comparison was conducted between the pulse sensor results and manual per-minute calculations. The results showed an error rate of about 3.35% and an accuracy rate of approximately 96.64%.

Keywords: *Online motorcycle taxi, monitoring, sensor, smart jacket*