ABSTRACT

potentially life-threatening conditions. Despite widespread belief that the normal human body temperature is 37°C, the fact is that normal body temperature varies between 36.5°C to 37.2°C. Currently, many healthcare professionals still rely on thermometers that can only measure temperature at specific parts of the human body. This project aims to assist healthcare professionals in conducting accurate and detailed human body temperature checks. In this project, we use the FLIR ONE thermal camera integrated with Android-based smartphones. The detected temperature data is then transmitted via wireless to a laptop, allowing users to monitor body temperature in real-time. The project also involves a verification process of data accuracy using histograms on each image captured by the thermal camera, processed using a Python-based program. Through a series of conducted tests, it was found that the FLIR ONE thermal camera can detect the highest body temperature with an accuracy rate between 96%-98%, depending on the target's distance from the thermal camera. However, the accuracy of the thermal camera can decrease by 2%-6% from the initial accuracy level when the target and distance increase.

Keyword : Body Temperature, Thermal camera, Histogram