ABSTRACT

World Health Organization (WHO) urges governments in every country to implement health protocols during the COVID-19 pandemic, one of which is social distancing to prevent the spread of the COVID-19 virus. During a pandemic, it is expected that someone will pay attention to health conditions by checking oxygen saturation levels and heart rate.

To overcome these problems, an application is needed that can display the value of oxygen saturation levels, heart rate, and measure the distance between users of the application. Values of oxygen saturation levels and heart rate are obtained from a wearable pulse oximeter that is sent via bluetooth communication. Distance measurement is obtained by converting the Receive Signal Strength Indicator (RSSI) value obtained by scanning bluetooth on nearby smartphones.

Distance testing is carried out indoors at various positions with obstacles in the range of 0 – 3 meters, the average accuracy of testing between androids is 91.37% and android with iOS is 90.8%. Distance testing carried out outdoors within a distance of 100 meters obtained an average test accuracy between Android peers of 85.59% and Android with iOS of 78.14%. The oxygen saturation and heart rate values sent by the wearable pulse oximeter have been successfully displayed on the application accurately.

Keyword: *Receive Signal Strength Indicator, android, iOS, bluetooth.*