

Abstract

In this study, we tried to make a Blood measurement wearable sensors. Based on red and infrared-ray are used as light sources through the artery, utilizing different absorption between oxyhemoglobin and deoxyhemoglobin to detect blood oxygen saturation.

We used Arduino microcontroller to control LEDs of different wavelength of lights. Through light sensor detected reflected ray energy and read the value from the specified analog input pin on an Arduino chip, calculating the values by blood oxygen equation. Using bluetooth technology to display information about blood oxygenation on smartphone screen.

The study consisted of six experimenter. The results show consistency value between the proposed system and standard oximeter and the possibilities for application in the future.