POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

College of Engineering

Computer Engineering Department

CMPE 30193

Methods of Research

TITLE PROPOSAL

Members:

Castillo, Alexandre Joshua R.

Manuzon, Mark Glen T.

Patangan, Jan Marvin A.

Tubianosa, Uriel G.

Section:

BSCpE 3-6

April 23, 2022

Title:

Measure Heart Rate/BPM and SpO2 with MAX30102 + Arduino

Rationale:

The reason behind this project is to help the people be able to track their heart/pulse rate and oxygen level. This works like an oximeter device measuring BPM. BPM(beats per minute) are around 65-75 while resting for a normal person, athletics may be lower than that, and the Sp02 is the Oxygen saturation level, and for a normal person it is above 95%. This project consists of MAX30102, a pulse oximetry and heart-rate monitor module with Arduino UNO, OLED display, and a buzzer.

Statement of the Problem:

As people age, different health problems one might encounter that is why one should monitor their health. People have maintenance medicine and have different devices for monitoring. 20% of deaths among Filipinos came from cardiovascular disease, which is why it is very important to have an oximeter available in your pocket or bag. The problem with oximeters is that one might have a skin irritation from adhesive on the probe, incorrect readings, and relies on the battery. Due to this, this project is a solution where an oximeter like device does not only rely on the battery itself and does not give skin irritations from adhesive on the probe.

Scope and Limitations:

This project is creating a device that monitors one heart rate, pulse rate, and oxygen level in order to maintain its health. The only problem with this device is that, like an oximeter, it is not accurate or may have a false reading.