Faculty of Information Technology
Brno University of Technology

SEN
Intelligent Sensors

Commissioning Heartbeat Sensor and Comparison Against Oximeter

Jiří Záleský (xzales12)
Adrián Tóth (xtotha01)

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Contents

1   Abstract

The goal of this project is to demonstrate a method of heart beat measurement via infrared light. The next sections below, will describe further details, which were required to be done to the right functionality. The results of measurement were compared with a valid heart beat sensor, which measured heart beat in other way than the infrared method.

2   Introduction

The necessary facilities for the implementation of the project were:

- Device shown in Figure 1.

Figure 1: STM32 Nucleo board [2].

- Sensor shown in Figure 2.

Figure 2: Keyes KY-039 Finger Heartbeat Detection Sensor [1].

- Three female–to–female jumper wires

The device shown in Figure 1 - NUCLEO-F030R8 [4], was the main platform for the project. The device was equipped with a STM32F030R8 [5] microcontroller unit (MCU), which was designed and made to be suitable for a wide range of applications. MCU includes a set of peripherals through which it communicates with other devices such as the sensor shown in Figure 2. To create a communication pipeline, these units must be connected to each other via jumper wires. Wires provide a connection between the pins of units and so the pins have to be configured correctly.

3   Setup

...

4   Implementation

...sensor code[3]...

5   Conclusion

...

6 Appendix

... measurement table ...

7 References

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