Day 4 Requirements 2

Sunday, July 16, 2023 3:59 PM

Goals:

- Aid with the Requirements documents
- Begin testing the microcontroller setup with Eunice
- Continue researching cutoff values
- Continue developing the app and arduino code
- See missing items to consider purchasing

So far, good start with the app with fake data, need to work on developing the BLE transfer protocol. Also, start writing the code for the Arduino DAQing and file transfer as well. DAQ should be the easiest part and can be worked on first:

Pseudo code:
In setup:

Take an initial time as the start time
Set up all the sensor information

In the code loop:

Check if 5 mins have passed, if so, record the current value for HRV and reset the start time

If there is a peak, calculate the new HRV

(Combining these bits of code: https://emersonkeenan.net/arduino-hrv/#softwaresetup and example PulseSensor library code [https://lastminuteengineers.com/pulse-sensor-arduino-tutorial/])

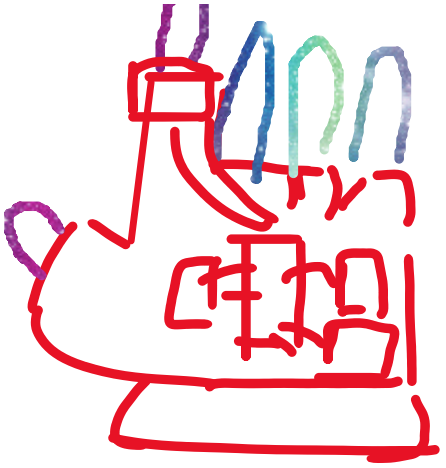
Other important code segments and schematics:
Arduino RTC: https://lastminuteengineers.com/ds1307-rtc-arduino-tutorial/
Arduino nano SD: https://lastminuteengineers.com/arduino-micro-sd-card-module-tutorial/
Arduino BLE file transfer: https://github.com/petewarden/ble_file_transfer
App BLE: https://github.com/capacitor-community/bluetooth-le

Accomplishments:
Worked on requirements (software part mostly done).
Tested Arduino functioning and downloaded necessary libraries to the arduino ide

Setbacks:
Parts are still coming, still couldn't edit the sensor code together, push this back tomorrow

Software Expectations:
Arduino DAQ: end of this week
File transfer (BLE?): end of next week
App final touches: end of week after

In the meanwhile:
Figuring out BLE protocol (might have to switch to Bluetooth Classic?)
Nonblocking operations? (How to not interrupt heart rate readings?)



physical
possible?
we'll
see.

Day 5 Requirements 3

Monday, July 17, 2023 5:04 PM

Goals:

- Continue with the Requirement Spec document and RTM
- Continue researching cutoff values w/ Diego
- Continue developing the app and arduino code
    - Work mostly on DAQ code (if the parts arrive)
- See missing items to consider purchasing
    - Small Breadboard so far
- Schematic for Arduino/Solder header pins w/ Eunice
    - Arduino RTC: https://lastminuteengineers.com/ds1307-rtc-arduino-tutorial/
    - Arduino nano SD: https://lastminuteengineers.com/arduino-micro-sd-card-module-tutorial/