Meeting Minutes

**Date:** Thursday, June 20, 2019

**In Attendance:** Brittany Hewitson, Corey Myrdal, Wenpei Li, Winsey Chui, HuyThong Bui

**Start Time:** 10:35AM

**Purpose of Meeting:**

* Hardware team progress update
* Go over assigned hardware, and software design specifications
* Talk about design specifications document
* Begin setting up software implementation
* Assign deadlines for the next meeting

**Discussion:**

* Hardware specifications:
  + Raspberry Pi received and set up
  + For phase 1, the user will check the result through a monitor screen; phase 2: haven’t decided yet (Web app or mobile app?)
  + Optics specification
    - need to double check with the lab about the safety of illumination
      * Winsey responsible
  + Circuit specifications
    - Still considering about circuit board (PCB? Small breadboard?)
    - Battery: may using battery for phase 2 -> do more research about battery safety
* Software specifications:
  + Development process will be represented using flowchart
  + Face recognition:
    - The face recognition algorithm was upload on Gitlab using Python
  + Region of interest:
    - Discussing which face landmarks and the area will be used.
    - So far choosing forehead for testing
  + Heart rate measurement:
    - Calculate the average of pixels change to compute heart rate
    - Also pass the result to Corey for respiratory rate computation
  + Respiratory rate:
    - The basic principle use the average calculation of pixels range, but still need to do some more research to find the more accurate method
    - The Raspberry Pi will compute heart rate and respiratory rate concurrently
      * overload for it?
  + Data transmission:
    - Create a database (MySQL or Postgres?) for storing data (for phase 2: may using cloud service )
    - Wenpei suggested socket programming for transmitting data from microcontroller to database
    - File format: JSON?
  + User interface:
    - Direct user: can see only their heart rate and respiratory rate.
    - Caregiver: can see data of different patients.
    - User can check their current data, and history as well. Data also can be represent in graph, so user can know the trend

**Action Plan for Future:**

- Deadline for documents: July 3, so members can have time for final review

- Intermediate deadline: June 27, for 1st review

**Next Meeting Date:** June 25

**End Time:** 11:25AM