**Hardware Research**

**Batteries:**

* 140 mAh: [Link](https://tinycircuits.com/products/lithium-ion-polymer-battery-3-7v-140mah)
* 380 mAh: [Link](https://www.amazon.com/Smart-watch-Lithium-battery-380MAH/dp/B071NPMFKN/ref=sr_1_6?keywords=smart+watch+battery&qid=1557368026&s=gateway&sr=8-6)
* 400 mAh (LiPo): [Link](https://www.sparkfun.com/products/13851)

**Adafruit Batteries and Charger (probably best choice):**

We will probably have to make a request to them to make the battery wire shorter (its kinda long).

Charger: [Link](https://www.adafruit.com/product/1904) - $9.37

Battery (150 mAh): [Link](https://www.adafruit.com/product/1317) - $8.02

Battery (350 mAh): [Link](https://www.adafruit.com/product/2750) - $9.37

**Microprocessor:**

* Arduino Pro Mini: [Link](https://www.amazon.ca/Aukru-Atmega328p-Micro-controller-5V-Compatible/dp/B019SX75HU/ref=sr_1_50?keywords=arduino+pro+mini&qid=1557785864&s=gateway&sr=8-50) - $9.99
  + Need programming chip with it: [Link](https://www.amazon.ca/FT232RL-Adapter-Arduino-Compatibility-Download/dp/B07QMBM6DS/ref=sr_1_12?keywords=FT232RL+FTDI+USB+to+TTL&qid=1557799774&s=gateway&sr=8-12) - $3.59
* nRF52832: [Link](https://www.nordicsemi.com/Products/Low-power-short-range-wireless/nRF52832) - $3.82
  + Dev Board: [Link](https://www.nordicsemi.com/Software-and-Tools/Development-Kits/nRF52-DK) - $44.41
* MAX32630: [Link](https://www.maximintegrated.com/en/products/microcontrollers/MAX32630.html) - $29.20

**Heartbeat Sensor/Oximeter:**

* MAX30102: [Link](https://www.maximintegrated.com/en/products/sensors/MAX30102.html) - $11.34
* MAX86141: [Link](https://www.maximintegrated.com/en/products/sensors/MAX86141.html) - $10.85

**Temperature Sensor:**

* MAX30205: [Link](https://www.maximintegrated.com/en/products/sensors/MAX30205.html) - $2.77
* LM35: [Link](http://www.ti.com/product/LM35) - $14.02
* DS18B20: [Link](https://www.maximintegrated.com/en/products/sensors/DS18B20.html) - $4.73

**Bluetooth Module:**

* PAN1326: [Link](https://www.mouser.ca/new/panasonicec/panasonicPAN1326/) - $20.09

<https://www.maximintegrated.com/content/dam/files/design/technical-documents/design-solutions/DS147-Take-a-Weight-Off-Your-Chest-with-a-Wrist-Worn-ECG-Monitor.pdf>

Any other parts?

* Proximity sensor (when not wearing band to turn off components).
* Respiratory sensor (to track the rate at which they breathe)

<https://www.caringseniorservice.com/blog/normal-vital-signs>

ADS1292R ECG/RESPIRATION SHIELD FOR ARDUINO- V2:

[Link](https://www.protocentral.com/biomedical-shields/818-ads1292r-ecgrespiration-shield-v2.html): $47.90

<https://create.arduino.cc/projecthub/protocentral/monitor-ecg-and-respiration-using-your-arduino-e6c43f>

* On/Off switches