

Context:

Ever wonder when to stop and start your sets while weight lifting? I know I have. So naturally I searched up how much rest you need, and the recommended rest is about 60-90 seconds. Now even despite me knowing that information I can never stay in between that sweet spot of rest time. I always either start my sets too early causing fatigue and not letting me perform at my best, or I would start my sets too late causing stiffness and tightness. In order to combat this I decided to make a wristband that uses your heartrate in order to properly time your sets thus optimising your workout. Also alternatively if you are overdoing your workout and your heart rate spikes a significant amount, to a point where it is unhealthy, my wristband will notify the user as well. I also plan to have an app extension that will provide the amount of calories burned and more information about your workout.

Why is my device innovative:

Existing solutions:

- Use a stopwatch
- Apps on your phone
- An apple watch that tracks your heart rate, to let you know that you are overdoing it.

My own twist on these solutions:

The whole act of using a stopwatch is quite annoying and impractical, and frankly I just forget to use one. Most of the apps on your phone have the same grievances with stop watches. The apple watch can know that you are overdoing your workout, but it won't help you space out your workouts.

How is it going to work:

A rectangular band with a LCD screen on the front, with one button that when pressed makes the device go into “workout mode”. Thus making it start to measure your heartrate in order to figure out when you should start and stop your sets.

What will it need:

4 total sensors, heart rate, rechargeable battery, LCD/LED Sensor, microcontroller.

Heart rate: Crowtail-pulse sensor

LED: Sunfounder

Battery: 3S 12.6V Lithium Battery - Rechargeable

Microcontroller: Raspberry pi-pico/Arduino Nano ESP32

-- Raspberry pi

-- LED

-- Breadboard

-- Jumper Cables (Male to female), (female to female), (male to male)

--heart rate sensor

-- Rechargeable battery

-- Micro USB cable

-- Vibration Motor

-- Temperature sensor

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