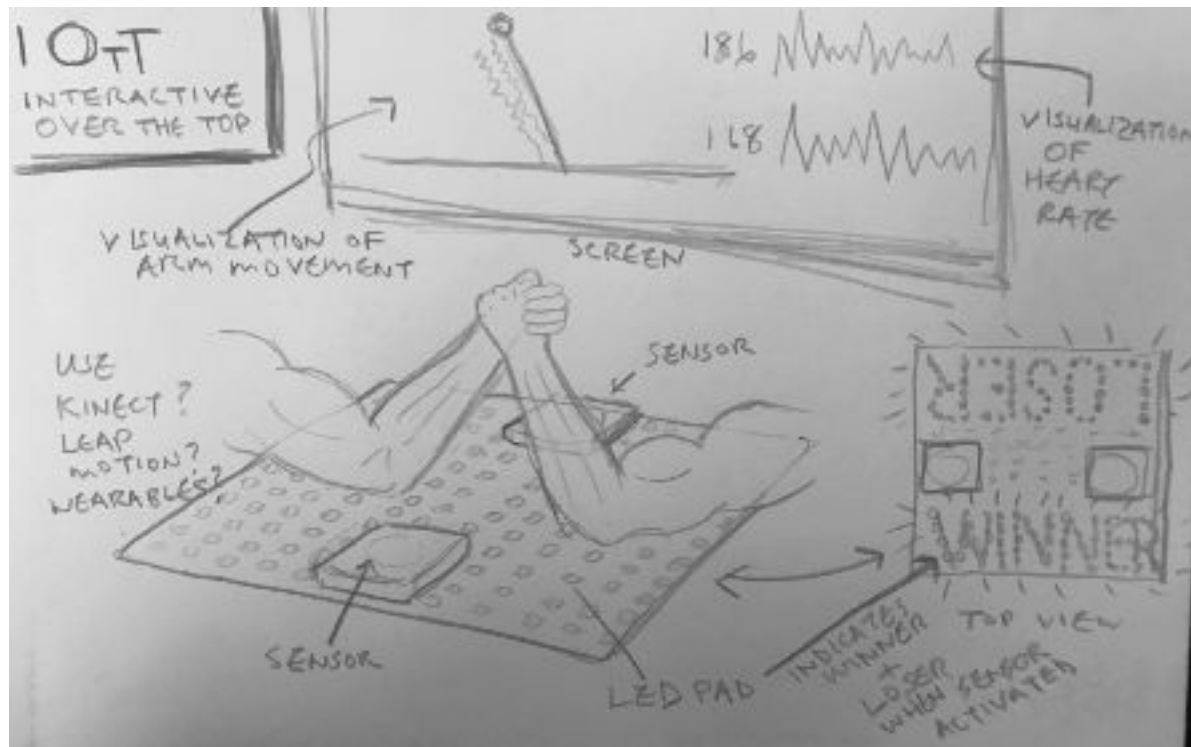


# HANDS DOWN!



[https://www.youtube.com/watch?v=bDK-\\_jU\\_KzI](https://www.youtube.com/watch?v=bDK-_jU_KzI)



## Game rules

1. The Virtual "Match" money for the Ultimate Match will be set at an arbitrary number like \$1000, which will also be displayed
2. 60 seconds total for competitors
3. Free hand must be in contact with the peg at all times. Perhaps peg can read the heart rate.
4. Competing elbow must be placed on the elbow pad at all times.
5. Competing elbow must not extend beyond any side of the elbow pad, if the competitor is riding on their triceps or forearm.
6. Audible signal given by referee shall be "DON'T MOVE.....GO"

## Visualization Data

1. Heart rate
2. Struggle of wrestlers on screen using a simple visualization like a clock hand that sways from one side to the other based on arm angle
3. Countdown timer for 60-second time limit
4. 3-2-1 Timer for when match begins
5. When there is winner, the sensor will trigger the screen to show WINNER or LOSER very loud and obnoxiously so that the crowd can cheer and jeer. Perhaps sound can be incorporated.
6. MONEY PURSE / WINS & LOSSES

## Constraints we have to face:

1. Consider right & left hand contestants when programming the sensor for winner and loser.
2. Accurate visualization of arm angles and heart rate
3. How to code this!

## MATERIALS

- Silicone translucent mat
- Elbow pad support
- Accelerometer (read movement of arms)
- LCD displays to display winner and loser
- Speaker (to prompt WINNER WINNER! LOSER! LOSER!)
- 3D printed or wooden handgrips w heart rate monitor connected
- Proximity Sensor to win game
- Apple Watch
- **Myoflex**
  - **Measures the strength?**

Keep data to show to friends and show off :)

Create an environment

Relaxation competition? Non-competitive relaxing game.

Pinky or thumb wrestling?

## Plan: Using Existing Apple watch and Android Watches



<https://developer.apple.com/documentation/coremotion/cmmotionmanager>

<https://developer.apple.com/documentation/healthkit/hkworkout>

Its video game might be giving it a bit too much credit. It's more of an interactive soundboard that reacts to a real-life arm-wrestling match, using the iPhone (or watch)

accelerometer to detect when one player or the other is victorious. Humanity seemed to do just fine figuring out arm wrestling's winners before iDevices existed, but with the app, you get a nice audio reward when you pin the opponent's arm. Apple Watch and Android watch can make sounds and make all the sensing and commentary

This is the kind of non-traditional game that's probably going to be prevalent on devices like the Apple Watch, Android watches. The accelerometer/GPS/altitude sensors, voice commands, or even the heartbeat monitor. Similarly, the "haptic" feedback motor inside may end up providing more useful gaming output than the watch face itself.

We can sense everything from this watch and publish in the website. Everyone can see that in a big display with sound.

<https://developer.apple.com/watchos/>

### **Additional Features**

- a.) Soft pad / mat with LED Table with correct marking for the hand rest, so that we can make sure they are playing fair.
- b.) USB camera on a table to monitor the kinetic energy

### **Benefits:**

- a). We can make an app, everyone can be seen in mobile app it can published
- b). It's kind of a leaderboard (using timing, pressure)

<https://www.myo.com/techspecs>

<https://www.youtube.com/watch?v=CZtqlvxcVCo>



