

**Need:**

Physical therapy patients find it difficult to commute to therapy and to safely carry out exercise routines remotely with minimal supervision.

**Goal:**

Circumvent the cost and time commitment posed to physical therapy patients by visiting a therapist in person and helping them focus on healing in a safe and convenient environment.

**Design Objectives:**

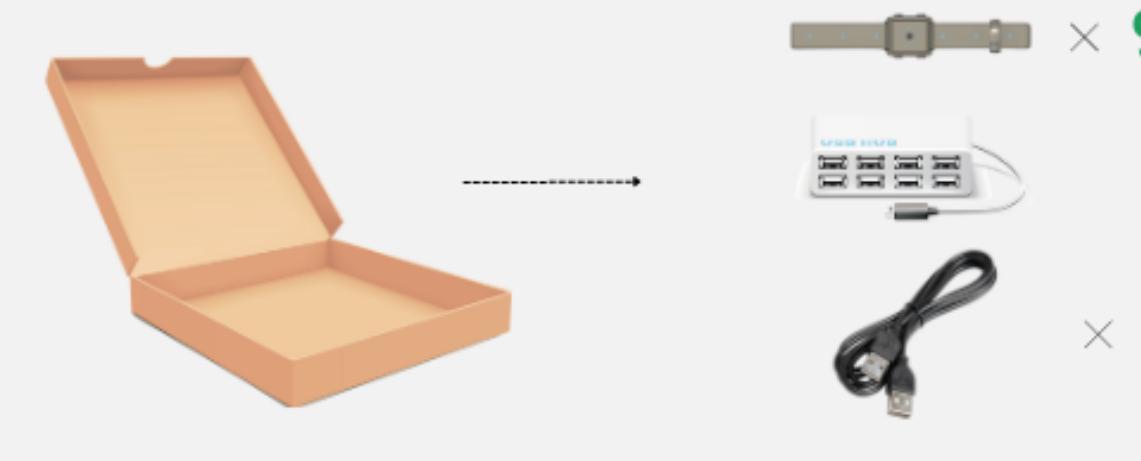
Design a long-lasting and easy-to-set-up consumer device that allows physical therapy patients to perform their exercises without the need of a physical therapist present.

**Personas:**

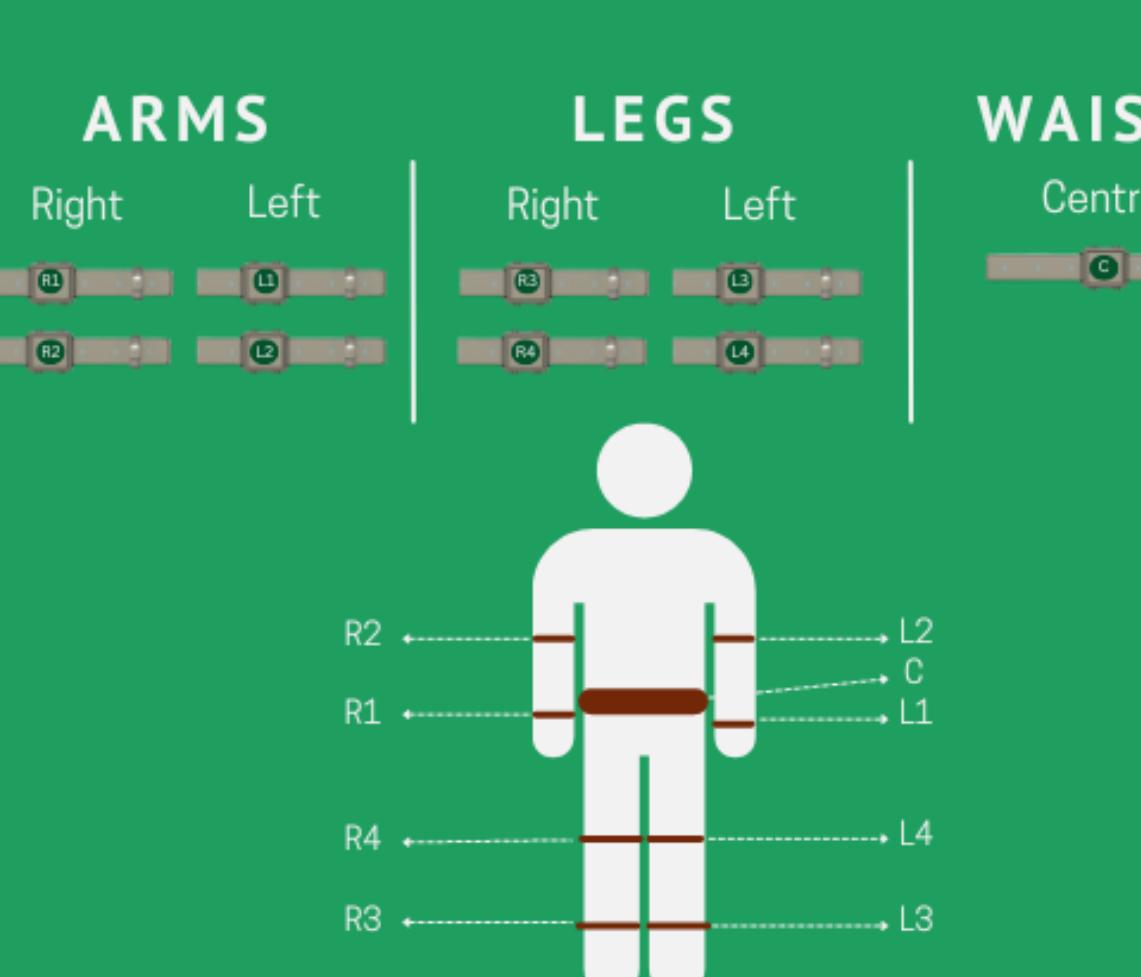
		
<b>Carl</b> Retired senior who wants to carry out at-home exercises safely without supervision	<b>Elliot</b> Student who broke their collarbone during sports and wants to do a simple routine to help heal faster	<b>Nancy</b> Director of a hospital who wants to have group sessions instead of one-on-one physical therapy with patients

## MOCOPI QUICK SETUP GUIDE

### WHAT'S IN THE BOX



### HOW TO WEAR



### DOWNLOAD APP



### CALIBRATE THE BANDS



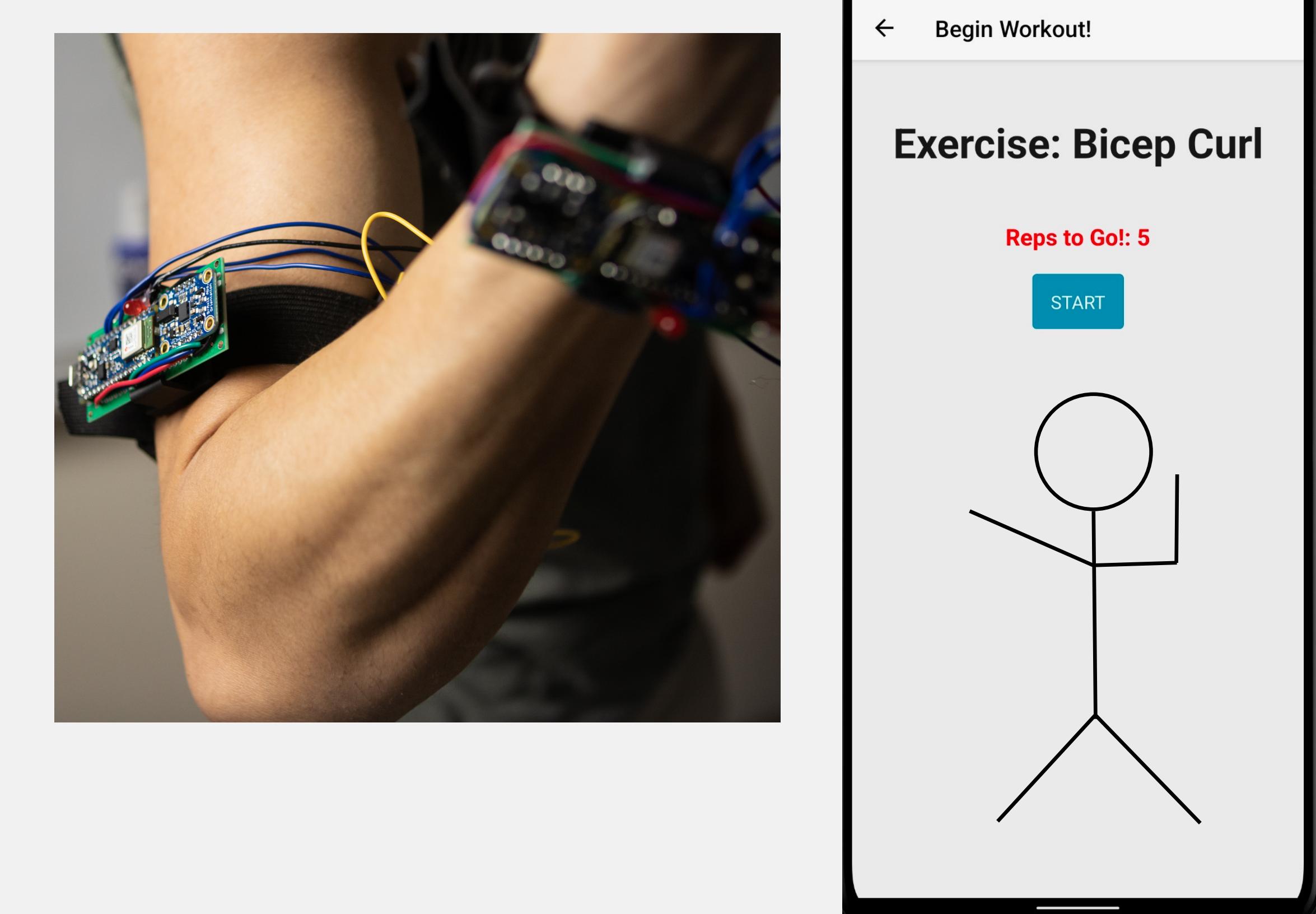
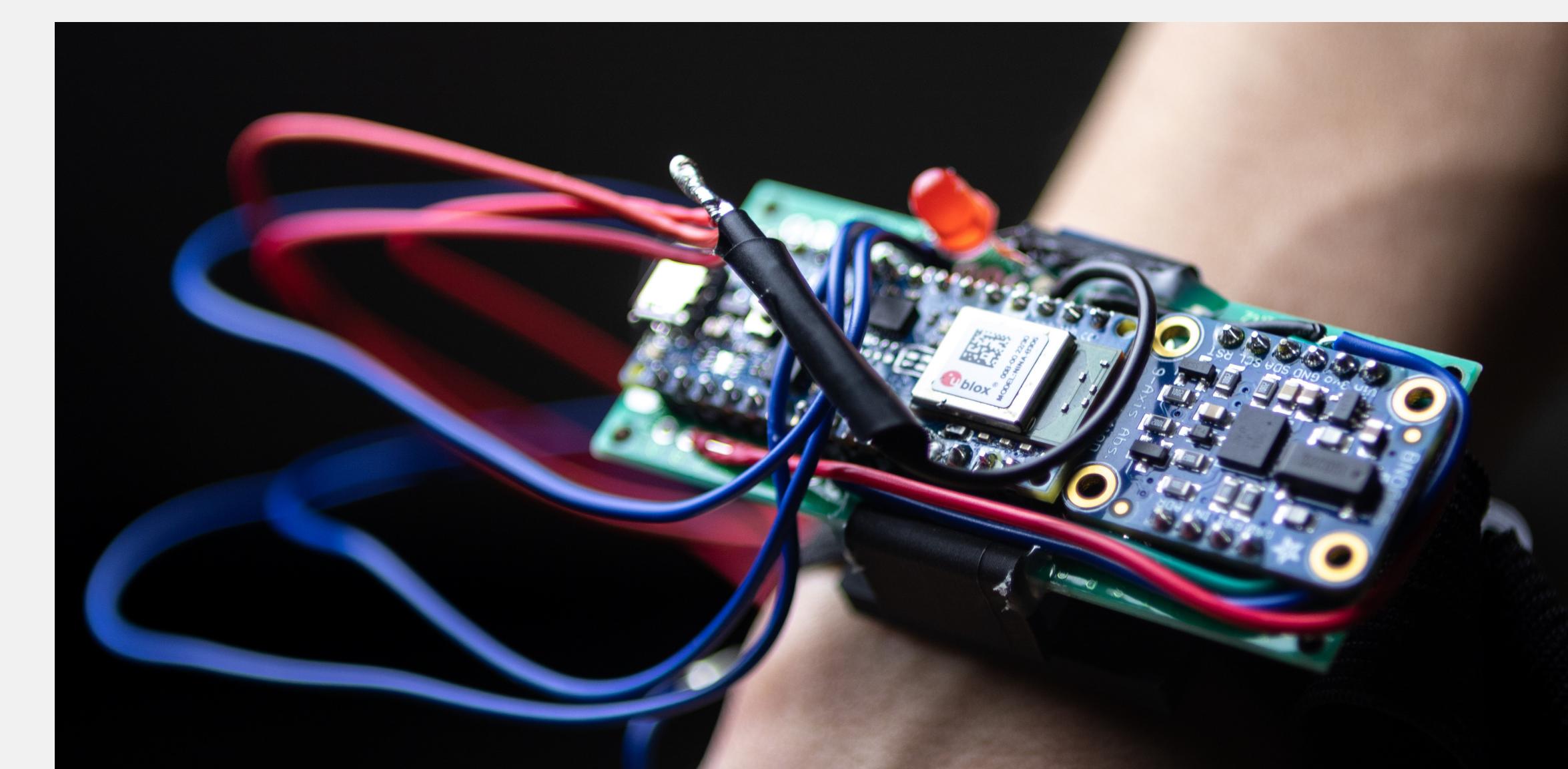
Follow the pictures and instructions on the app to calibrate the bands used for the exercise.

### MOTOR BEHAVIORS

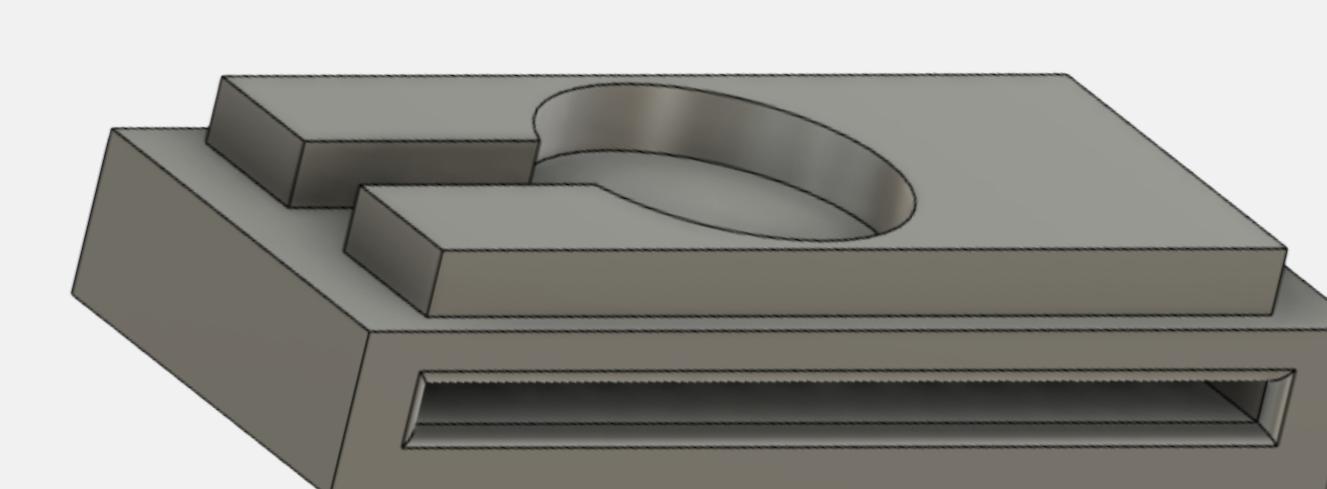
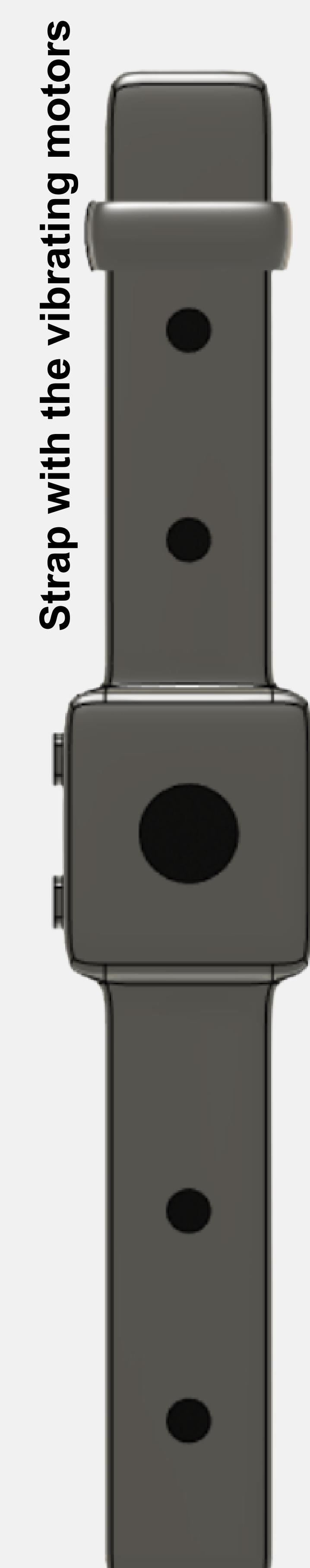


Each motor works independently of each other. If patient starts straying from the path of the right exercise the motors vibrate to direct the patient back to the right path.

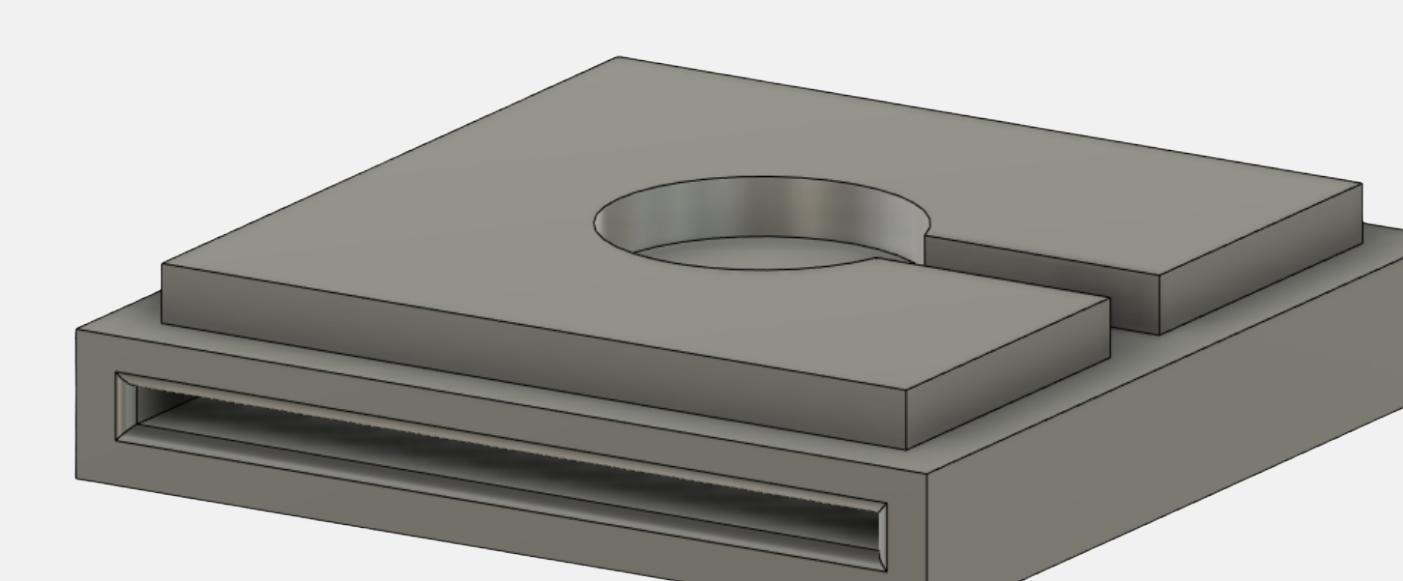
## FUNCTIONAL PROTOTYPE MOCOPI APP



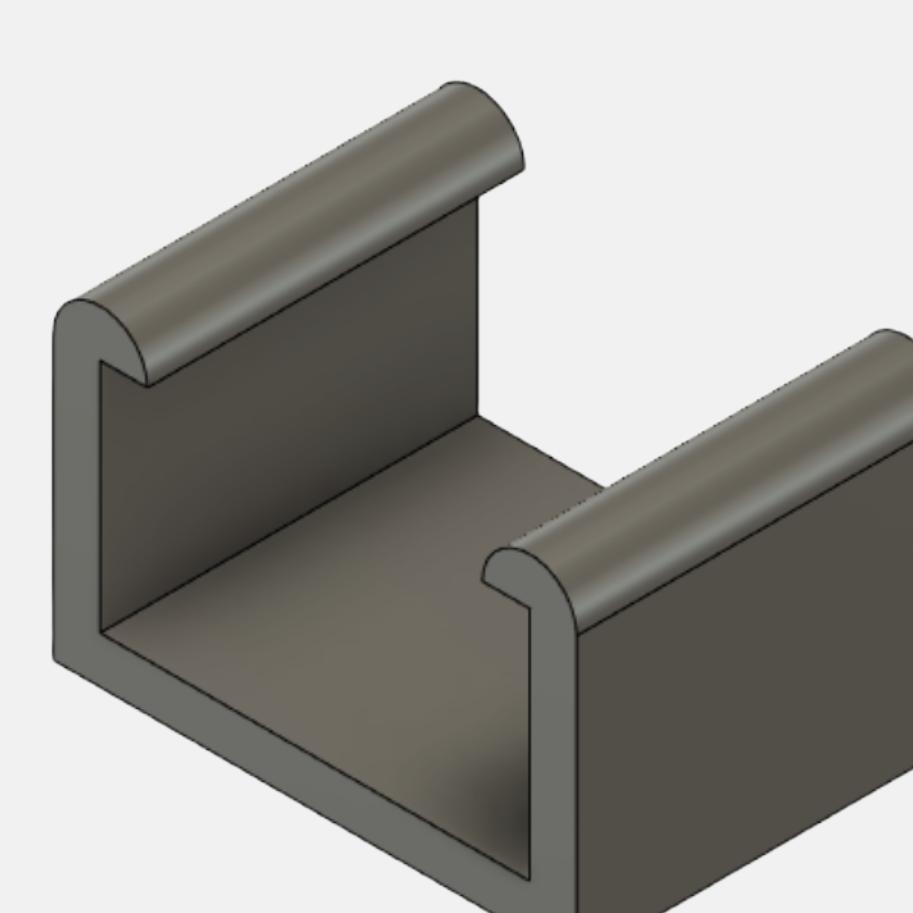
## CAD DESIGN ELEMENTS



Thin Housing for a vibrating motor

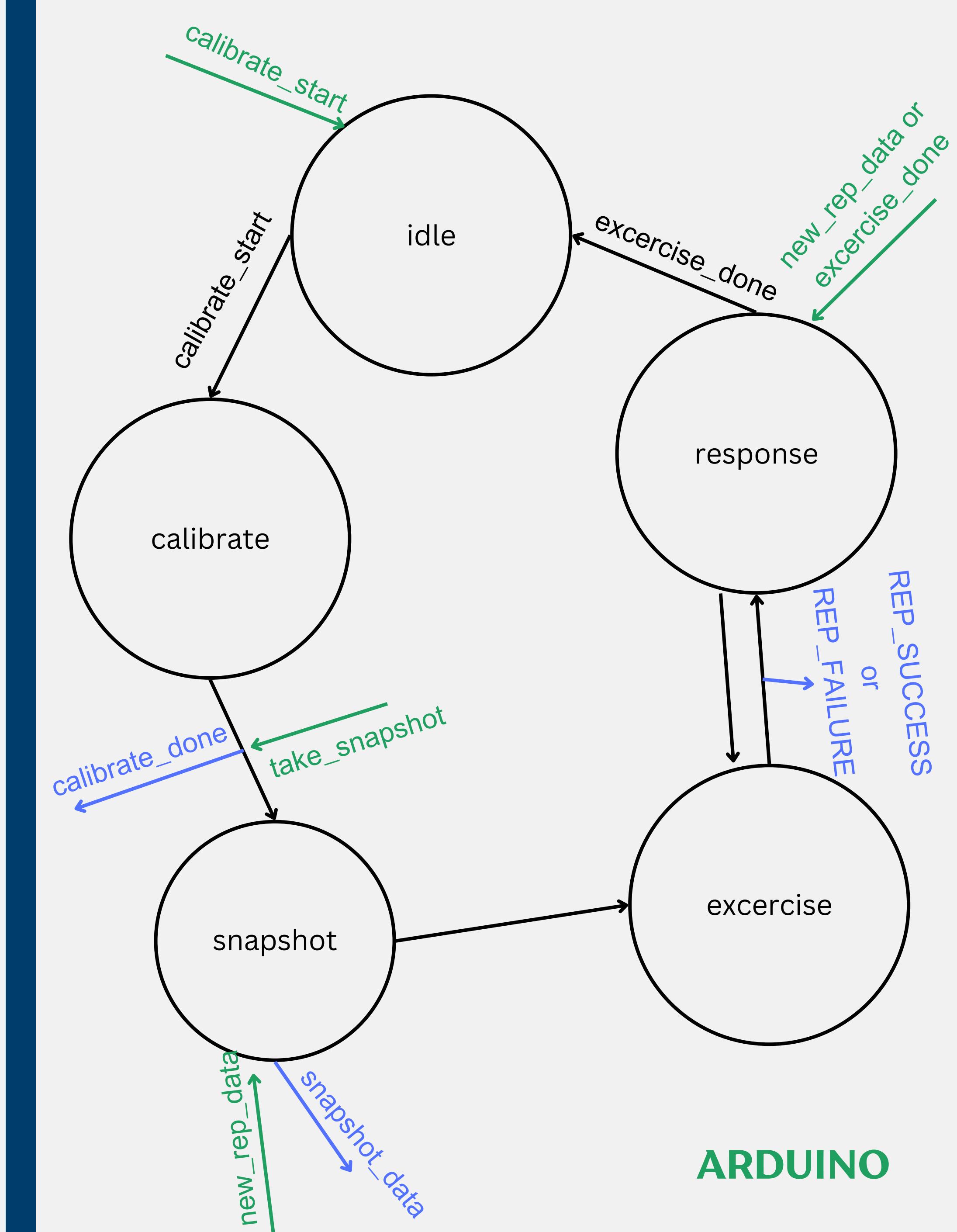


Wide Housing for a vibrating motor

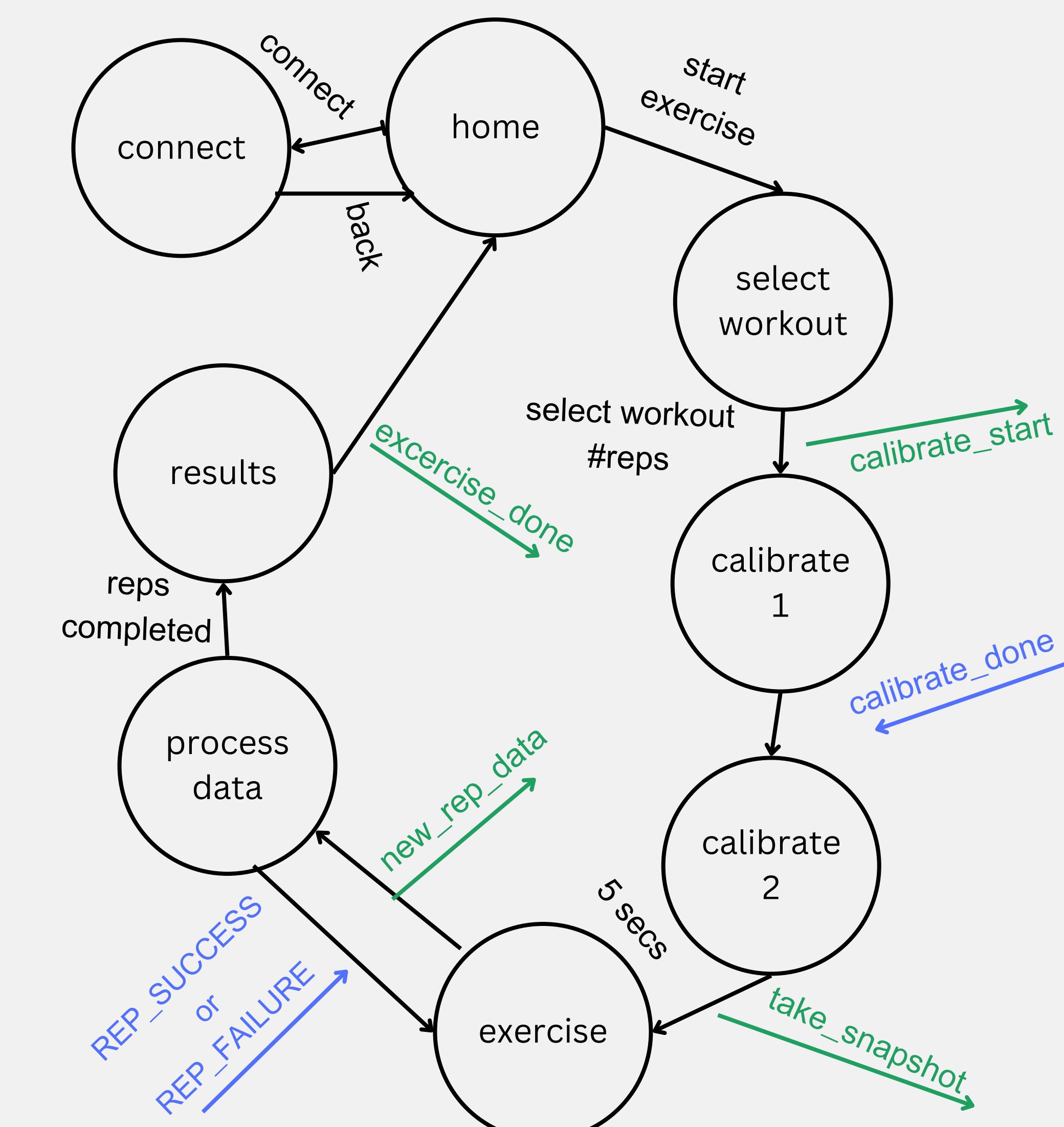


Clip to hold the IMU

## STATE MACHINES



**APP**



## FUTURE PLANS

 Implement the option to help patients perform adequate calibrations for their session before equipping the bands.

 Provide a rechargeable and portable power source for the bands.

 Implement a web portal for health professionals to review exercise results and modify exercise definitions.

 Give health professionals the ability to prescribe and add exercises for each patient.