Group 20 Practicum Ideas

Tuesday, October 13, 2020   8:39 AM

☑ Mask to Actively Shield from COVID (M.A.S.C.):

A face shield of some type (either head or collar mounted) that exposes the face by default, but should the wearer start to walk, or should someone approach the user, then the face shield moves to cover the wearers face.

Controller:	Arduino bootloader-programmed chip (Atmega328P)
Sensors:	Passive IR sensor, MPU-6050 3 Axis Gyro With Accelerometer Sensor Module
Actuator:	DC motor supported by H-bridge circuit

☐ LazerBlast!

A wrist-mounted optical gun and attached head piece for a laser tag games. The controller manages hits on the user, tactically and audibly alerting positive hits. It would have to have buttons to start, end and reset games and LEDs to show remaining hits.

Controller:	Arduino bootloader-programmed chip (Atmega328P)
Sensors:	A means to read the hits of the regime of the blast unit
Actuator:	Lights, vibration motors and speakers

☐ Draco Eye Tracking E-Reader

A handheld unit with a screen that very quickly scrolls through text, a word at a time, with a camera that monitors the users eye to ensure that the words do not scroll when they blink, close their eyes or look away from the unit.

Controller:	Arduino bootloader-programmed chip (Atmega328P)
Sensors:	Camera capable of monitoring eye movement
Actuator:	LED screen for word display.