ECE 411 Current Project Proposals - Team 20

- 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, the face shield moves to cover the wearer's face. The sensors will include a passive IR sensor and MPU-6050 3 Axis Gyro with Accelerometer Sensor Module. Actuator will be a DC motor supported by an H-bridge circuit. The brains behind the project will be an Arduino bootloader-programmed chip (Atmega328P).

- LazerBlast!
  - A wrist-mounted optical gun and attached head piece for 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. Sensor(s) should provide a means to read the hits of the regime of the blast unit. Actuators will include LEDs, vibration motors and speakers. Controller will be an Arduino bootloader-programmed chip (Atmega328P).

- 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 user's eyes to ensure that the words do not scroll when they blink, close their eyes or look away from the unit. Sensor would be a camera capable of monitoring eye movement. Actuator would be an LED screen for word display. Controller would be an Arduino bootloader-programmed chip (Atmega328P)