**Aerial Imaging Team B - Descent System**

Purpose: In order to descend efficiently and accurately, the descent team compiled a circuit along with the code to ensure the circuit works. When completed, the RangeFinder would detect the ground at a designated height, which varied throughout the project. The system has to descend at a slow enough speed that the system is able to take clear images of a potential disaster zone.

Requirements: For this system to be successful, the descent system needed to calibrate at 10cm. Once calibrated, the RangeFinder would sense anything below 2 meters. This all required the correct code and proper circuit construction.

- Mini Breadboard
- Pushbutton
- 10k and 330k Ohm Resistors
- 9V Battery Connector
- Piezoelectric Buzzer
- LED
- Arduino Uno
- Ultrasonic Range Finder Sensor
- Male-to-Male Jumper Wires
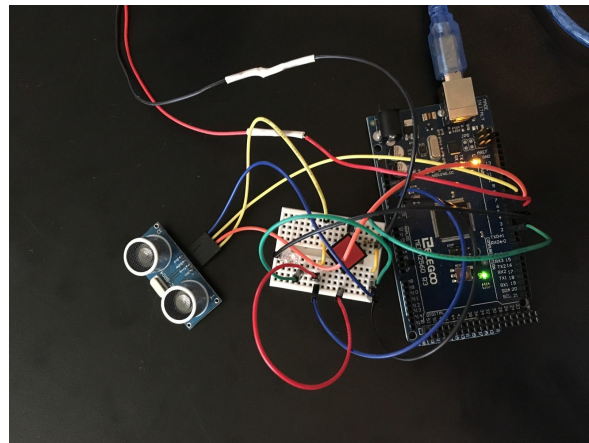
Key Features: This system would eventually include a parachute attached to a box to descend slowly enough to capture images. This parachute is 32" in diameter and 16" radius. The structure also included foam landing protection padding to ensure the system descended safely.

Failure Summary: Throughout the project, the subsystem struggled with multiple issues. A key problem was the circuit. In order to get a successful and working system, the team had to troubleshoot several times because the RangeFinder would not calibrate and the LED would not turn on. A specific issue of the circuit was mixing up ECHO and TRIG wires on the RangeFinder resulting in an inability to calibrate. Last, decisions on parachutes varied and we decided on the one shown in the image above, which was successful. The previous parachutes were 30" alone, 30" and 18" together, and 18" by itself. These were unsuccessful so we determined that 32" with a hole in the top which was successful and efficient.