

Trey and Justice

Decent-ish

Purpose of subsystem: The purpose of this subsystem was to prototype different codes to activate the rangefinder, altimeter, and the servo. The rangefinder was made to detect and sound an alarm when the bottom of the chassis was within a specified distance. The altimeter was to work in coherence with the servo and set the servo off at a specified height to have it activate the camera which would take pictures of the target prior to the launch of our device and after the device was deployed.

Key Specifications and requirements: The Requirement of our group was bothe to come up with a circuit that would connect all of the components, excluding the camera, and have them work together to get a picture of the "site".

Note Key Features:

Rangefinder goes off at 4 meters, altimeter goes off at 75 and triggers the servo, and then takes pictures. Each operation sounds an alarm, each alarm is different per system.

Summary of failed attempts with sketches or pictures of failed prototypes

The first combined circuit that may subsystem team built was very large it used four different breadboards which would have taken up too much space and weighed to much. The circuit did work but we decided to try to combine the circuits into one breadboard. Our first attempt at combining the circuits ended up with us fying one of our breadboards since we plugged a ground wire into the wrong input on the arduino. This was a big failure so we got a different arduino and rebuilt our circuit. Once the circuit was rebuilt the whole circuit system worked very well. After a while of testing and trial and error the range finder started to not work very well. The range finder started to take a long time to calibrate and it would not sense objects in front of it. As we continued to work on getting the range finder we could not figure out what was wrong with the range finder we asked Mr. Neill to look at our code and make sure that the rangefinder was actually getting power. After Mr. Neill looked at the code and we switched the range finder the system started to work very well. On the final drop day of the project the range finder would not work and we could not figure out why. We looked over the code changed the rangefinder again but nothing was working. The code was fine and the rangefinder was getting power. Finally we figured out that the trigger and echo was switched. After we switched the wires to the right positions the rangefinder was working perfect and our system was working great.

Photograph if available



