

## DR1 Overview

### Transmitter

- Testing successful at a range of about 45 ft
  - In a good spot for both range and beam width
- Both seem to work pretty well, should do some more testing on which to use
- Might have an intensity that is different? - Schafer
- Smaller angle seems to work better

### Receiver

- Both seem to work well

### User Interface

- Button is triggering IR emitter
- Receiver is triggering interrupt
- Buzzer is working well
- Have yet to work on programmable LED
- Some indicator of when we can fire again after a shot might be nice

### Sound (I guess kinda UI)

- Can only do one thing at once
- People have had trouble in the past with a single core when trying to play music
  - But a sound effect could be ok
  - Dual core would likely solve problems
- SPIFFS for storing sound on the ESP?
- More trials to be done with SD card and using PWM for sound

### Microcontroller

- One of them is going away, but we should have already seen it and are getting one that is still supported

### Bluetooth

- More testing,

### Power

- Should I have just used a buck converter?
- Use the 0805 resistor kits in 205 for our voltage divider instead of using a frankenstein
- Don't necessarily need to prototype — although that is scary because what if it doesn't work
  - I might just do some really janky stuff

## Aiming laser

- Cleared customs

## Future Plans

- Separate power boards?
- PCB
  - Don't forget solder screen
    - Don't order it default size
      - 180mm x 180mm should work
  - We need to think about physical shape of our gun before designing PCB
  - Going before spring break should definitely give us time for a second pass
  - PCB Manufacturers
  - OshPark
    - Can be slower
  - JLC
    - About a week and a half turnaround
- How do we want to program it?
  - USB, or we could add some uart header pins on the board that we can connect a USB-UART adapter to for programming