**Block Diagram Test Review**

(Tuesday October 13th)

Ben:

**PIC Management**

* Choosing PIC
* Ensuring that it runs with the necessary hardware peripheral components
  + Ex. ICSP header, reset button
* Pin assignment to coincide with surrounding blocks

**Master Control Program**

* Main logic that manages other methods
* Oscillator control
* Pin initialization (in code)

Christian:

**ISR Packet Processing**

* Receiving demodulated IR input and converting it to the corresponding number of data bursts received
* Setting up a timer register to measure length of data envelope.

**ISR Status Management**

Based on the data received…

* Modify health counter
* Modify stun counter

**Board Layout**

* Schematic design for PCB boards

Derrian:

**Accelerometer**

* Selecting accelerometer
* Reading measurements to determine whether blade was swung based on set threshold.

**Blade Locking**

* Circuit design for inter-blade connection
* Adjusting register values to control whether blade is in Omega mode
* Determining the packets to send based on Omega mode and which blade it is.

Blake:

**Blade and Grip Design**

* Creation and direction of blade design concept
* Ensure compatibility of mechanical blade components

**USB Charger**

* Selection and hardware integration

**Battery**

* Selection and hardware integration

**DC-DC Switching Boost Regulator**

* Selection and hardware integration

Austin:

**Physical Blade Locking**

* Design and CAD modeling

**3D Printing**

* 3D printing (duh)

**LED Driver**

* Select LED strip
* Configure SPI communication to light LEDs

**Health LED**

* Determine color based on health
* Output PWM to control color

Brandon:

**IR Receiver**

* IR receiver/demodulator selection
* Circuit design for demodulating IR signal

**IR Transmitter (Short)**

* IR emitter selection
* Circuit design to emit IR light
* Code for 56kHz PWM
* MIRP packet output

**IR Transmitter (Long)**

* IR emitter selection
* Circuit design to emit IR light
* Code for 56kHz PWM
* MIRP packet output

**Audio**

* Audio board selection
* Creating sound files
* Code to play sounds