Gesture Controlled Drone
Project Checklist
Ben Schreck and Lee Gross

The commitment

- Kinect Input:
  - Feeding raw Kinect data to a PC
  - Using open source tools to convert those values to hand coordinates
  - Sending the hand coordinates to the USB port
- USB Adapter
  - Receive data from USB, alter format to be readable by Gesture Recognition State Machine
- Gesture Recognition State Machines
  - Receive data from USB Adapter module
  - On gesture - circle gesture
  - Off gesture - hands going in an outward motion and back in
  - Hover gesture - height on screen
  - Pitch gesture - depth in space
  - Roll gesture - difference in vertical distance between hands
  - Send data to outputs
- Analog conversion
  - Transform gesture data to analog voltages
- Interfacing with the controller
  - Connect analog voltages to remote control
- basic feedback from PC

Expected

- integrate all parts mention in minimum section

If time permits - stretch goals

- Feedback display
  - Vertical and horizontal lines corresponding to “buckets” used in gesture recognition
  - Colored circles to represent hands, with color representing depth
  - Feedback about which gesture is currently tracking
- Video streaming
- Control logic to prevent quadcopter from crashing (e.g. integrate with Greg Kravit’s project)
- Add to display
  - bars displaying value for each gesture
(e.g. which gesture, what value for that gesture is being output)