**4.2 Arduino (Jeff F.)**

The programming of the robotic arm's movement comes from the Arduino Uno microcontroller. With the Arduino IDE, we compiled and uploaded C code from the computer to the Arduino microcontroller using a USB cable. Fore wireless capability, the Arduino microcontroller uses the Xbee wireless module to communicate with the other Xbee connected to the SSC-32 microcontroller. With Arduino code, the SSC-32 servo controller will receive commands for changing servo positions. To determine which servo position to send to the SSC-32, it reads the xyz coordinates received from the Kinect, and converts them into servo positions with the line regression equation determined from correlating the ideal minimum and maximum range of both the Kinect coordinates and the servo positons of the SSC-32.

**4.3 Xbee (Jeff F.)**

The Xbee radio frequency module manages the wireless communication from the computer to the robotic arm. It operates on a 2.4GHz frequency to transmit data to a receiver. To connect the transmitter to the Arduino, it must attach to an Xbee adapter, and then connected to an Arduino shield stacked on top of the Arduino Uno microcontroller. The receiver mounts on the SSC-32 microcontroller to communicate with the Arduino without needing to wire the two boards together.