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Breadboard Prototype

For the breadboard prototype currently, we are testing the IR sensors to make sure that they work properly and that they can output power to send a “high” input to the microcontroller.

The images shown give an idea of what we are looking for in our final product before the controller. The board with the 2 IR LEDs is meant to represent the “key” of our product. When aligned and the button is pressed the IR LEDs light and send IR to the phototransistors.

On the second board, it shows a line of phototransistors that can align with the IR LEDs. when aligned it will allow current to flow and in this case light the LEDs. this will send a digital word to the controller. The controller will be looking for a specific digital word. So when the LEDs line up with the correct transistor then send the correct digital word to the controller, it will output a PWM signal to a motor that will open a deadbolt of a door. This test was also meant to show that the phototransistors are not too sensitive to ambient light and that the alignment of the LEDs matters to allow enough current to the controller.

The next test will be to add the controller to the mix and test that it can accept digital words, and that it can control a motor in the way that we need