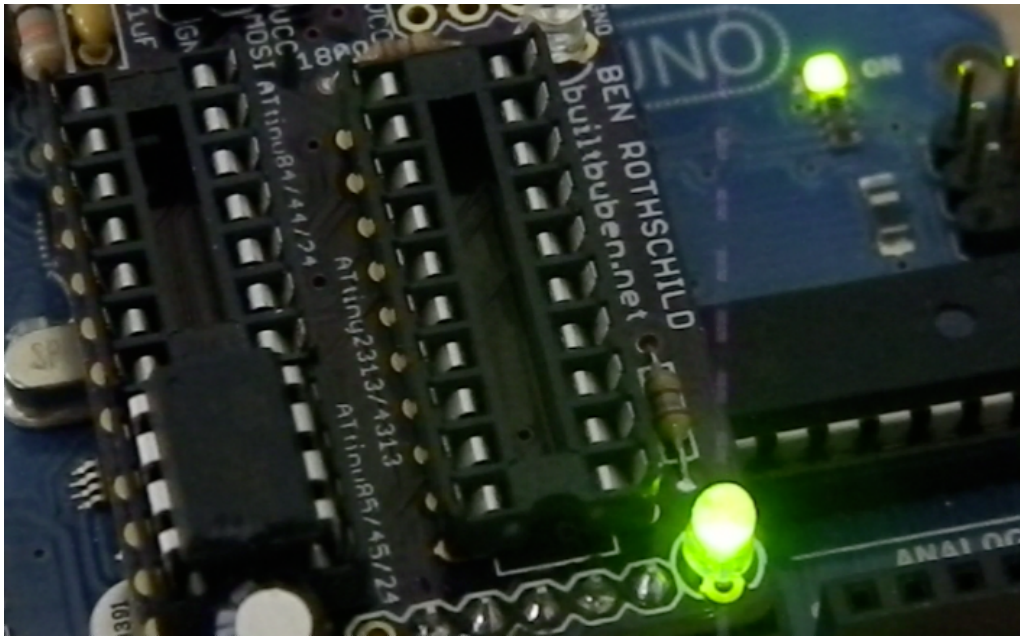
ATtiny Projects

Breathing LED

This is an example of how to use the analogWrite function on an ATtiny to control the brightness of an LED. The sketch is a slightly modified version of the example Arduino Fading sketch that can be found under Examples>Analog>Fading. It causes the led to increase in brightness until it is all the way on and then it diminishes in brightness. Here is the sketch:

```
int ledPin = 4;    // LED connected to digital pin 9

void setup()  {
  // nothing happens in setup
}

void loop()  {
  // fade in from min to max in increments of 5 points:
  for(int fadeValue = 0 ; fadeValue <= 255; fadeValue +=2) {
    // sets the value (range from 0 to 255):
    analogWrite(ledPin, fadeValue);
    // wait for 30 milliseconds to see the dimming effect
    delay(30);
  }

  // fade out from max to min in increments of 5 points:
  for(int fadeValue = 255 ; fadeValue >= 0; fadeValue -=2) {
    // sets the value (range from 0 to 255):
    analogWrite(ledPin, fadeValue);
    // wait for 30 milliseconds to see the dimming effect
    delay(30);
  }
}
```

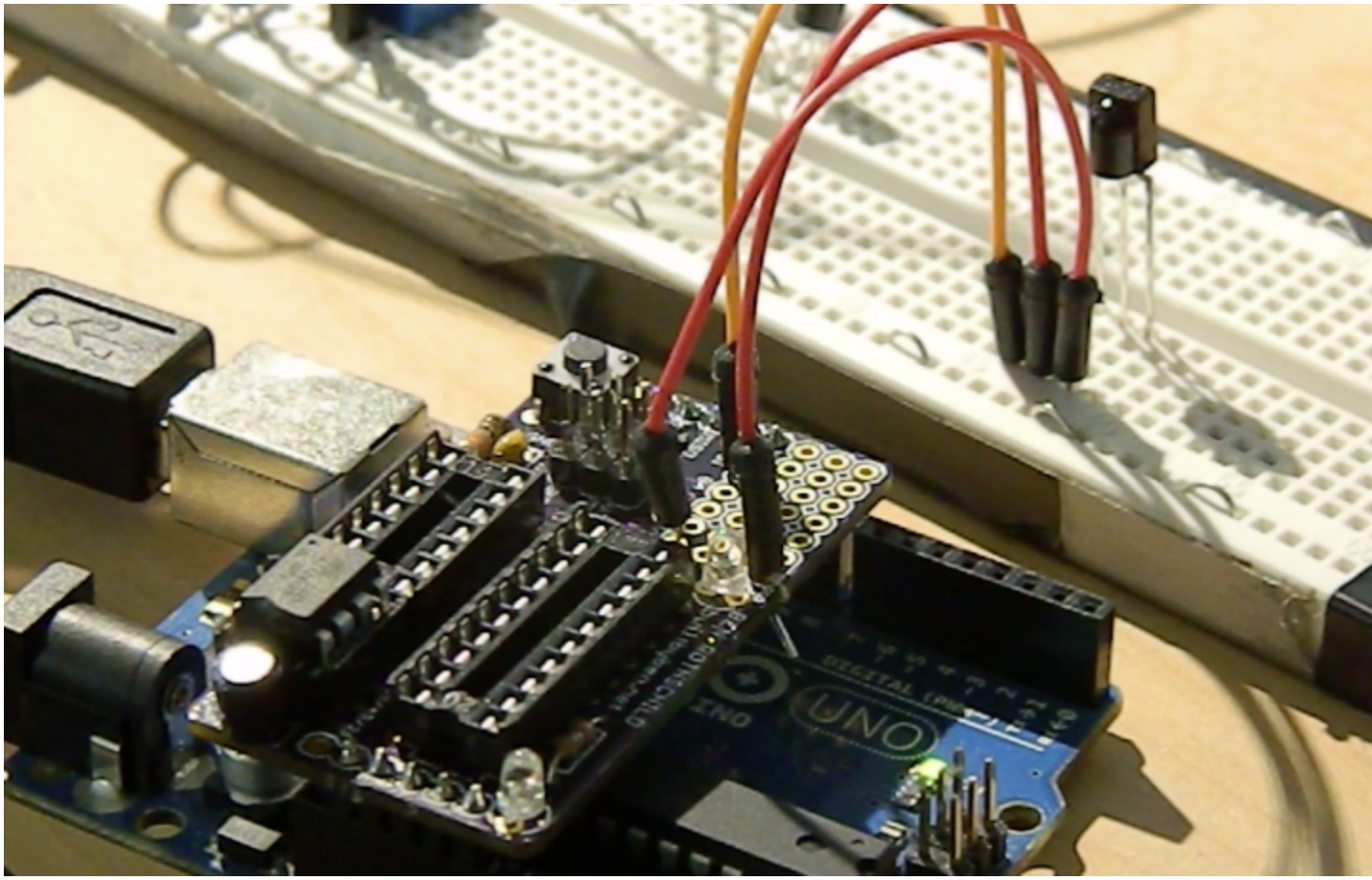


LED Controlled by Infrared Sensor

Here is an example of using the broken out sensor on the Chipper Board. We have an IR Receiver Diode connected to the sensor port, 5V and GND on the Chipper Board. Whenever the IR Receiver Diode sense IR light (emitted by TV remotes) it sends a signal to the ATtiny85 which turn the LED on for 1 second and then turns it off. Here is the sketch:

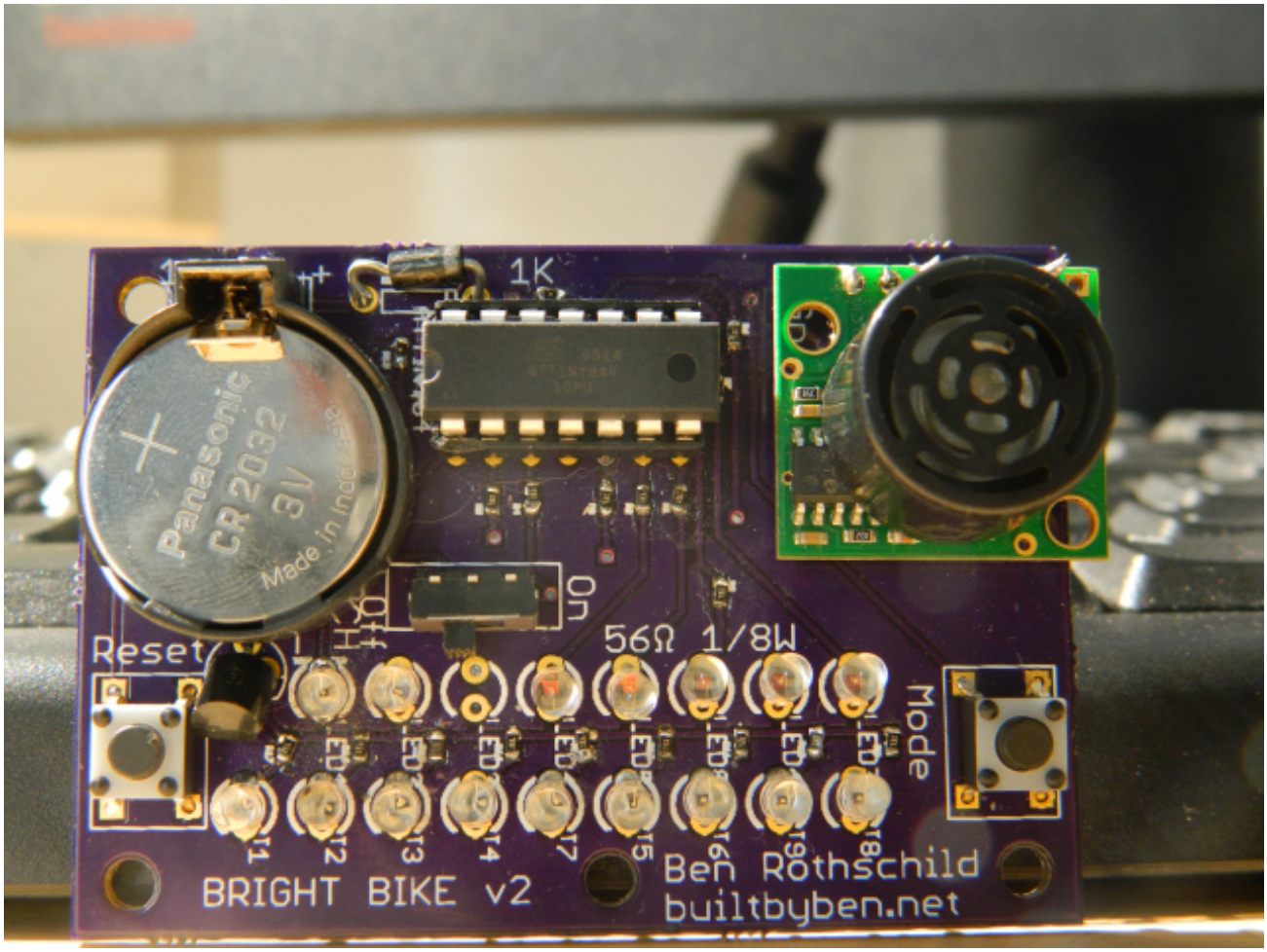
```
int led = 4;
int ir = 3;
int sensor_value = 0;

void setup()
{
  pinMode(ir,INPUT);
  pinMode(led,OUTPUT);
}

void loop() {
  sensor_value = digitalRead(ir);
  if (sensor_value == LOW){
    digitalWrite(led,HIGH);
```

```
    delay(1000);
  }
  else{
    digitalWrite(led,LOW);
  }
}
```



Bright Bike v2

This is an example of how an ATtiny can be just as effective as an Arduino. Bright Bike v1 was a project I made using a $30 Arduino Uno which controlled 16 leds and one ultrasonic sensor. This same project could have been done with a $2 ATtiny85 by multiplexing and converting the reset pin to an I/O pin. I added a few features to Bright Bike v2 so I needed an ATtiny84, but you can see the difference in quality and how an ATtiny can accomplish everything that an Arduino can do.


1K
Panasonic
CR2032
3V
Made in Indonesia
ON
OFF
Reset
56Ω 1/8W
Mode
BRIGHT BIKE v2
Ben Rothschild
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