



# IDEA

## Plush for Autistic Children //

We designed a Cloud shaped plushie names *Hue* for autistic children. To start off, what is autism? Autism is a neurobehavioral condition that impairs social skills, speech and nonverbal communication combined with repetitive behaviors. Children diagnosed with autism often experience explosive behaviors since they are unable to handle their frustration or anger in a more effective way. Therefore, we have designed *Hue* a cloud plush which allows children to learn how to control their anger.

But how does it work? *Hue* is controlled with pulsing lights which change color depending on how tight it helps. If a child is feeling distressed, we encourage them to squeeze *Hue* as hard as they need to let out

the anger. Depending on how hard *Hue* is held, the lights will change. If the lights pulse orange, it means the child is holding him just fine, however, if the lights begin to pulse red, it means the child is holding it too tight and needs to manage their frustration. When *Hue* is not being held, it will pulse blue. After 10 seconds of not being held, it will begin to blink symbolizing that it wants to help. After another 10 seconds, it will shut off. Not only will this help children understand when they need to relax but its also a great way for parents to notice when their child is in distress.

In addition, *Hue*'s plush interior helps to relieve tension when squeezed. Interaction with this pillow is a physical and symbolic expression of stress or anger.



# SENSOR

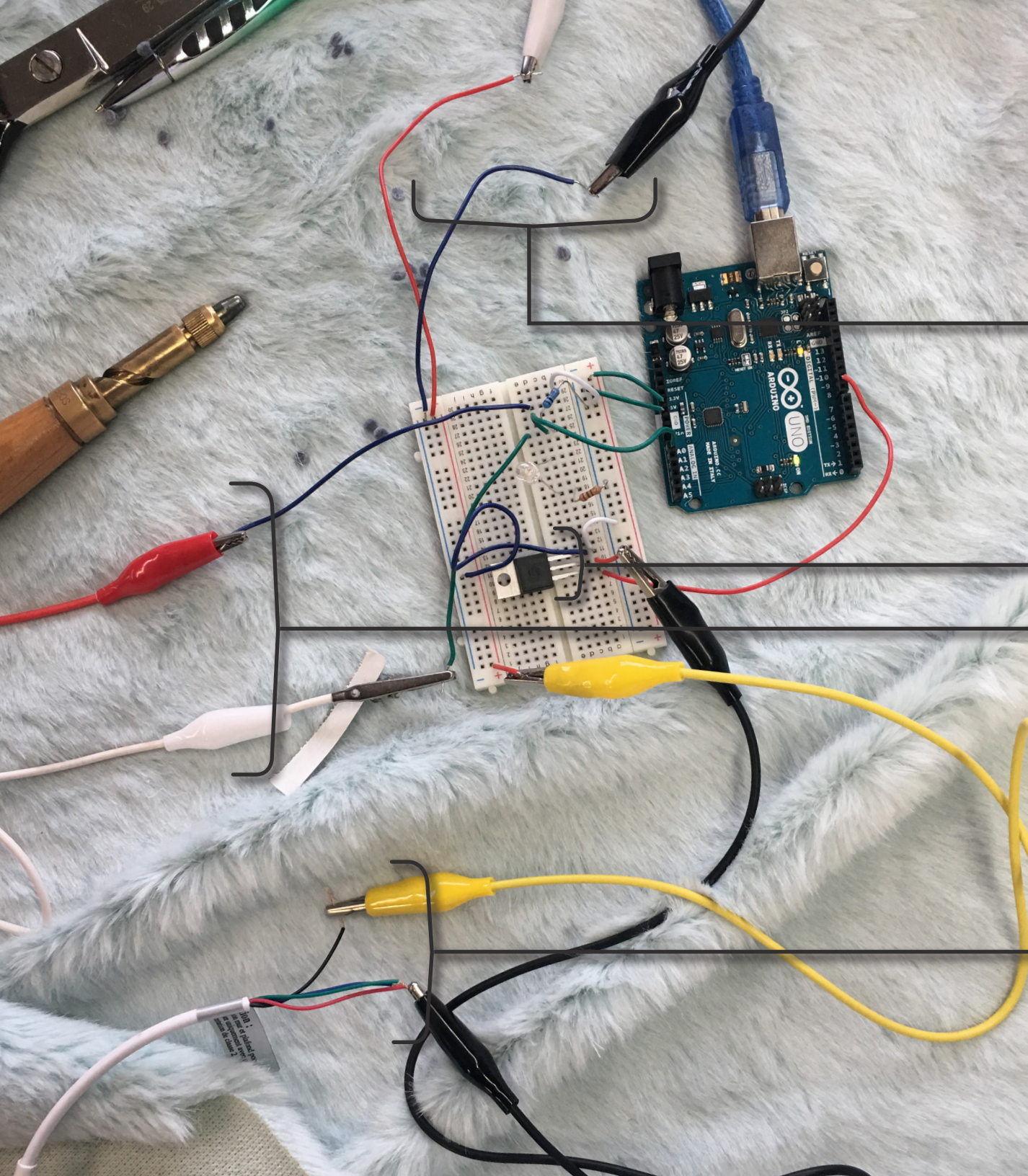
## Homemade Pressure Sensor //

*Hue* is affected by a homemade pressure sensor which we created. We decided to use a pressure sensor since we felt inspired by Thierry's demonstration in class. The pressure sensor is constructed with a conductive fabric and some Velostat. The two pieces of conductive fabric create an interactive switch simply by pressing. When building *Hue*, we realized that the sensor was easily triggered therefore, we added a piece of felt with large holes in between the conductive fabric and the Velostat to make it more resilient. This allows us to see have more space between each threshold.



**PROTO  
TYPE**





// Test we preformed to understand the relationship between the pres-  
sure sensor and LED strip.

Connected to 12V  
power supply

Mosfet test

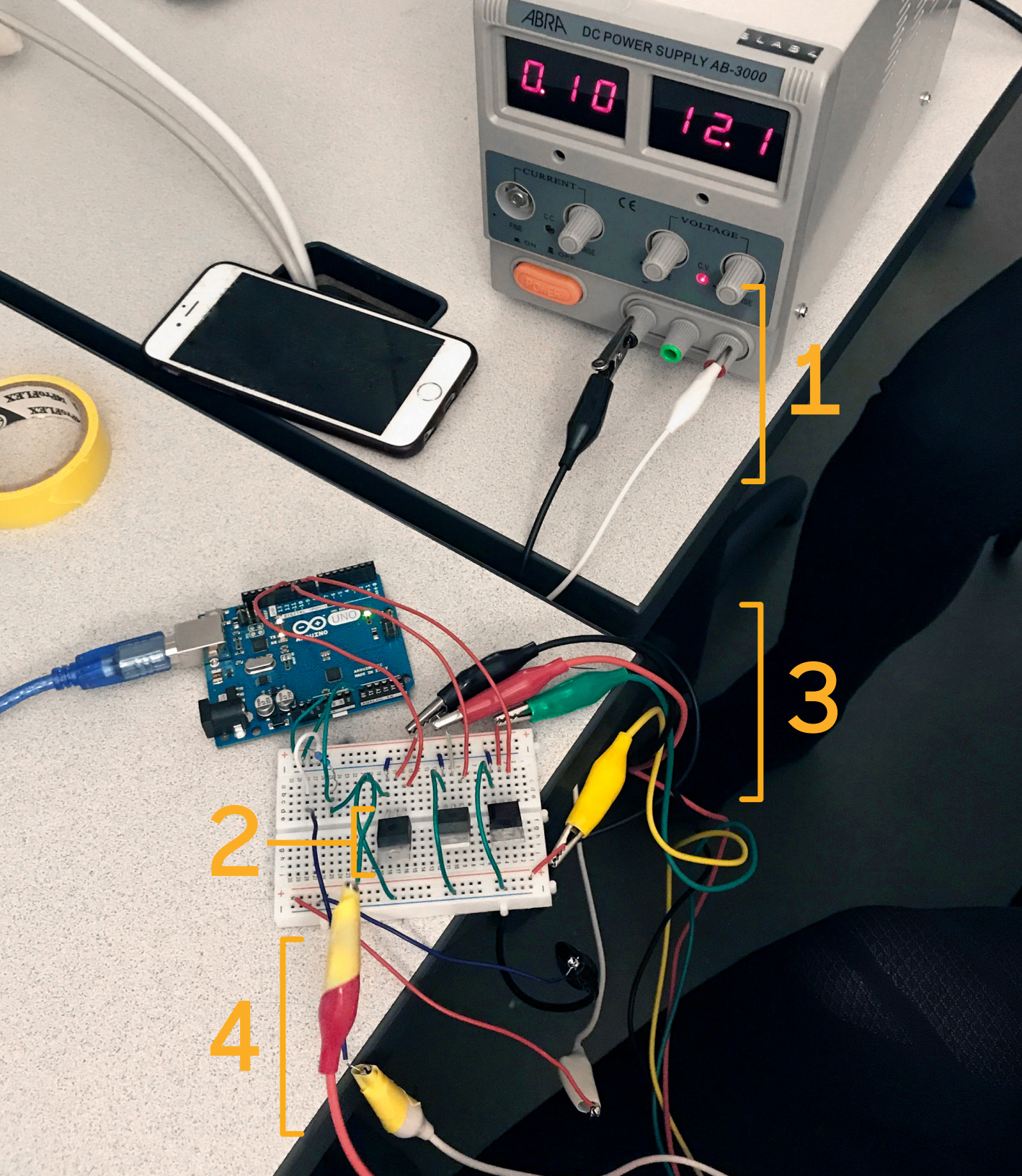
Connected to handmade  
pressure sensor

Connected to LED strip

# FINAL







## Circuit explanation //

The power supply is connected to one side of the bread board which is what is giving 12V power to the mosfets and the LED strip. | 1

The mosfets are voltage-controlled switches and they are connected to the LED strips. without the mosfets, the LED strip would burn out if connected directly to the microcontroller. | 2

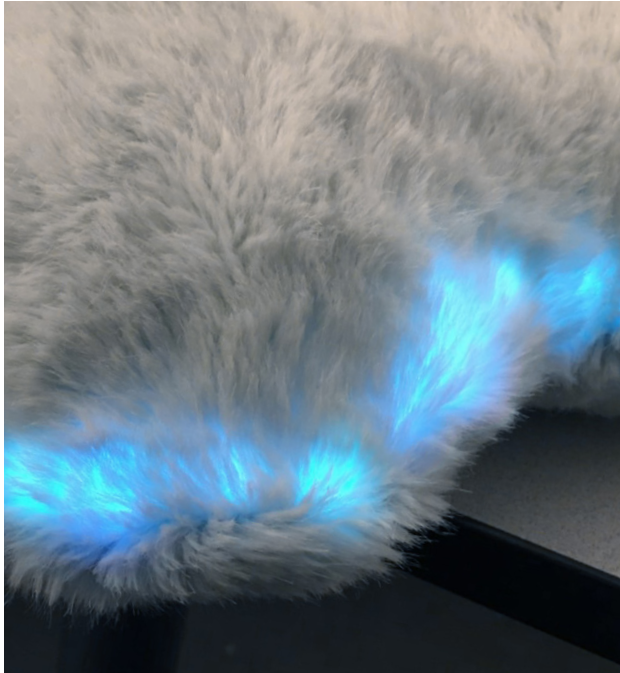
Each wire of the LED strip is individually connected to the board so each color can be controlled individually and to a mosfet. Each wire of the LED is then connected to a different input on the microcontroller. (Pins 9, 10 and 11). Black, red, green aligator wires are connected to color. Yellow aligator wire connected to power. | 3

The homemade pressure sensor (out of screen) connected to power and to pin A0 on the micro controller. | 4

# MODEL







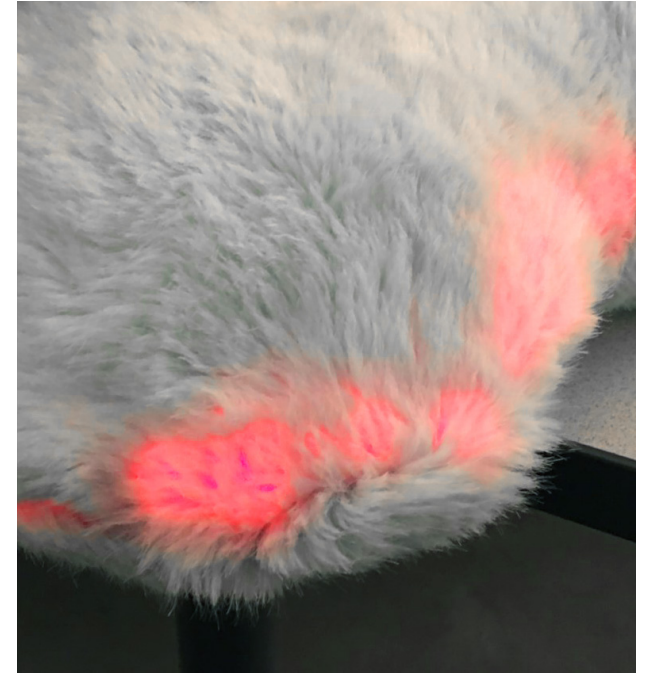
### No pressure //

The first state is colored blue since blue inspires calmness and happiness. Blue is also the universal color which refers to Autism and is the color of the Autism Awareness Ribbon. Blue also doesn't negatively trigger autistic children.



### Slight pressure //

The second state is colored orange since this color is a very popular color in autistic children. Autistic children are drawn to warm and neutral colors. Therefore, the "perfect hug" state has to be one of the favorite colors.



### Hard pressure //

The third state is colored red given love and anger, two emotions which are present when holding *Hue*. When being squeezed out of anger, *Hue* gives love in return. Red is also one of autistic children's favorite colors since it is a warm color and also a primary color.

# BIBLO

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