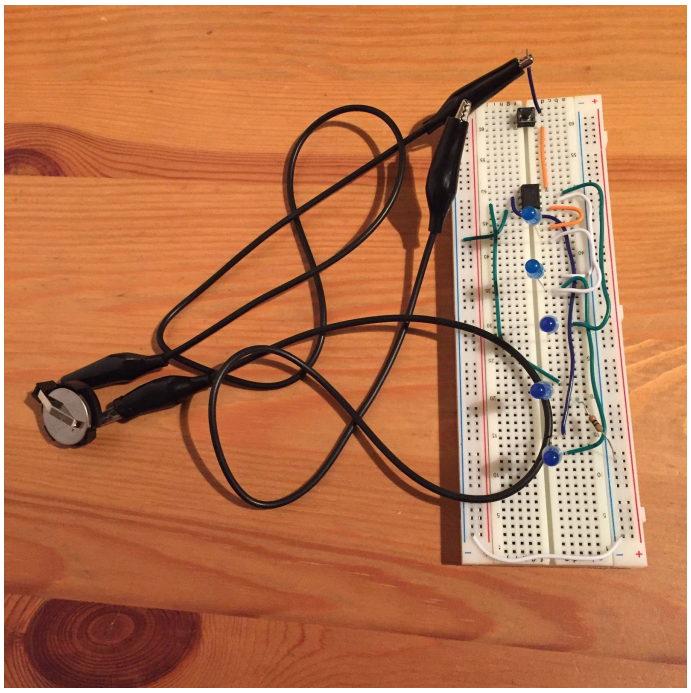
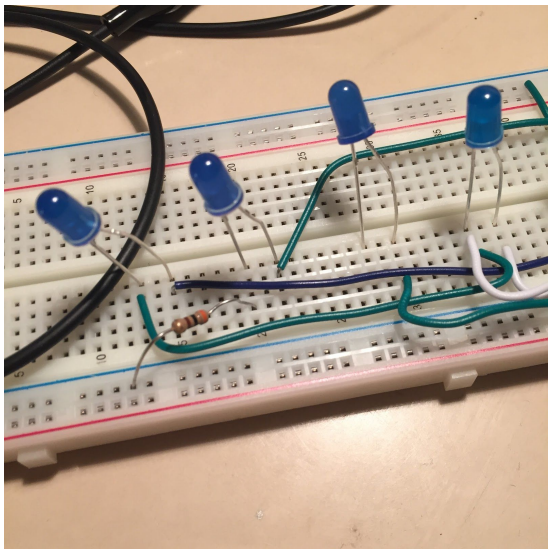
Etude 2

Perceptron-P
CART 360 - Tangible Media and Physical Computing

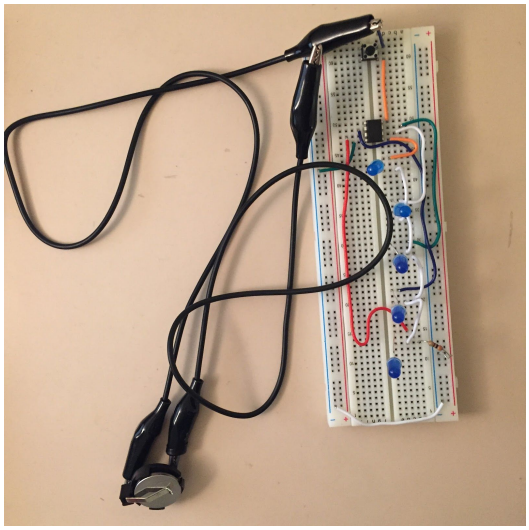
September 27th, 2019

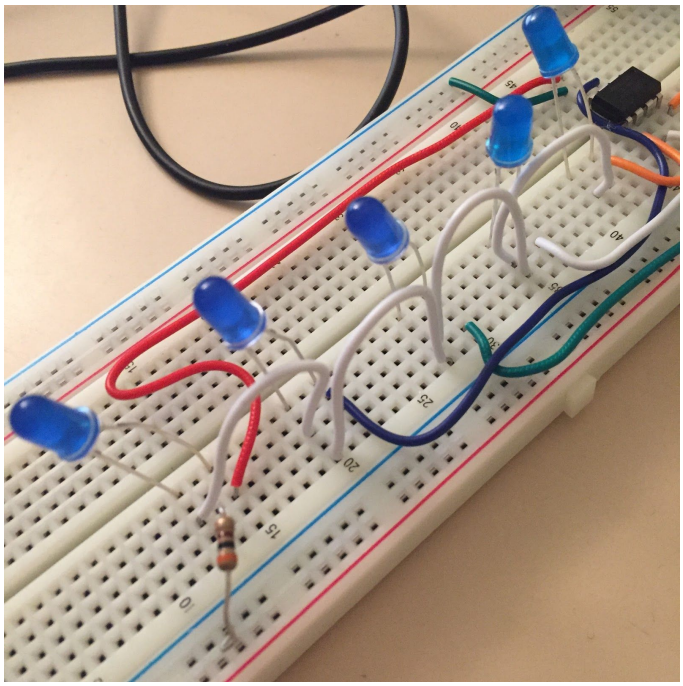
PART ONE



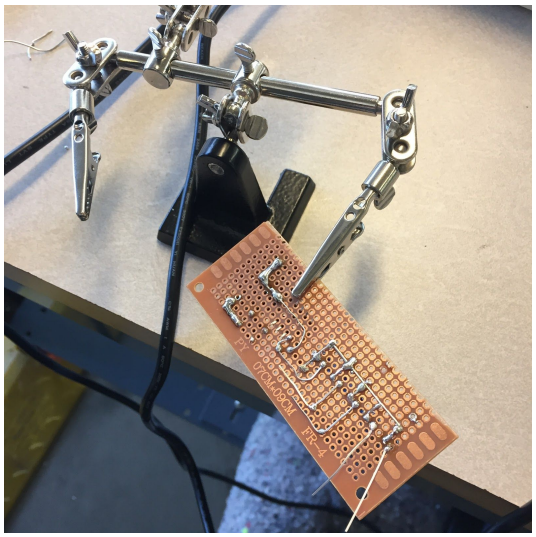


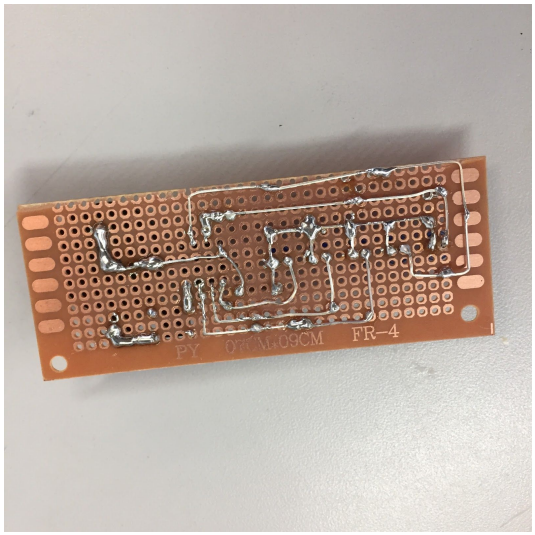
The photos above show the circuit built based on the Fritzing image included in the Étude 2 instructions. Only one light was flashing with this circuit.

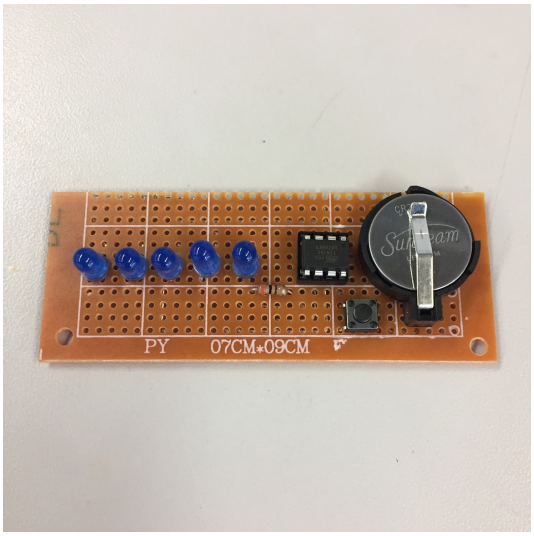




The photos above show the circuit I made based solely off the electronic schematic drawing. In this version all the LEDs work, because all the LEDs are connected to ground (as opposed to the Fritzing drawing where one of the LEDs is not connected to ground).





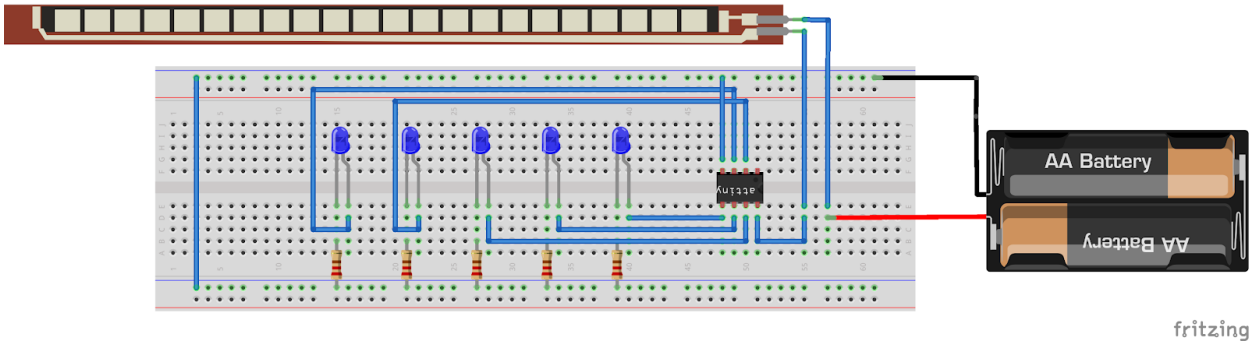


The photos above show my completed soldered circuit.

PART TWO

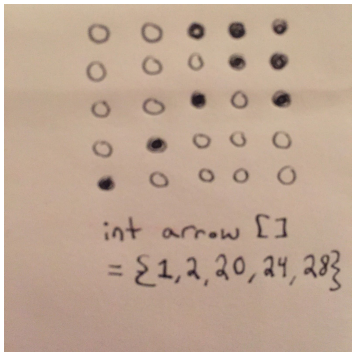
The Built Circuit only has one resistor for the whole circuit. The Alternative Circuit has multiple resistors, one for each LED. The Alternative Circuit would be a more reliable circuit due to the multiple resistors. The Alternative Circuit is also a parallel circuit as opposed to a series circuit. This means that if one LED stops working the other LEDs will still be able to function. This contrasts to the Built Circuit in which all the LEDs are connected to each other, meaning that if one LED goes out, they all go down.

Furthermore due to the multiple resistors, the current (measured in amps) in the Alternative Circuit is evenly distributed between the different LEDs (⅕ of the current goes to each LED). This means that the LEDs will have the same amount of brightness. In the Build Circuit, the first LED in the circuit will be brighter than the last LED because there is only one resistor and all the LEDs are connected to each other.

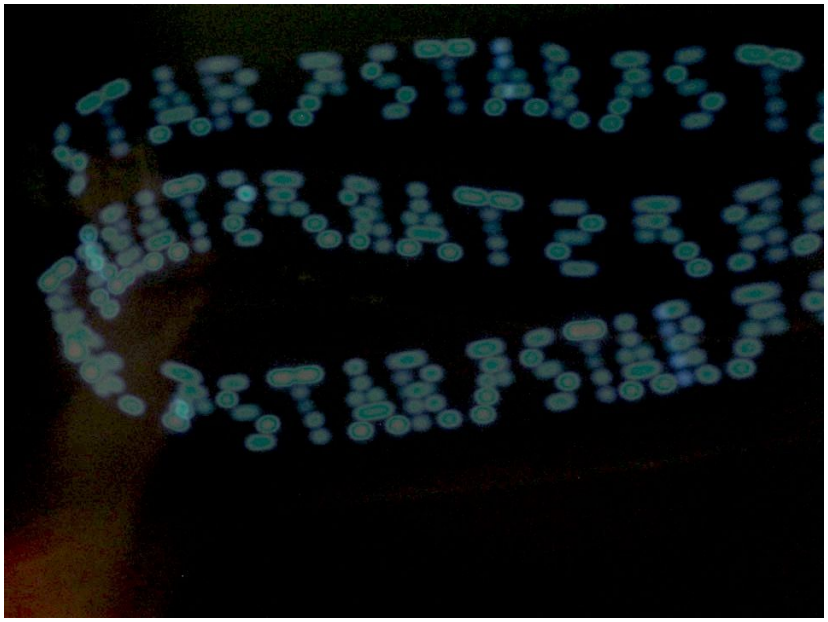
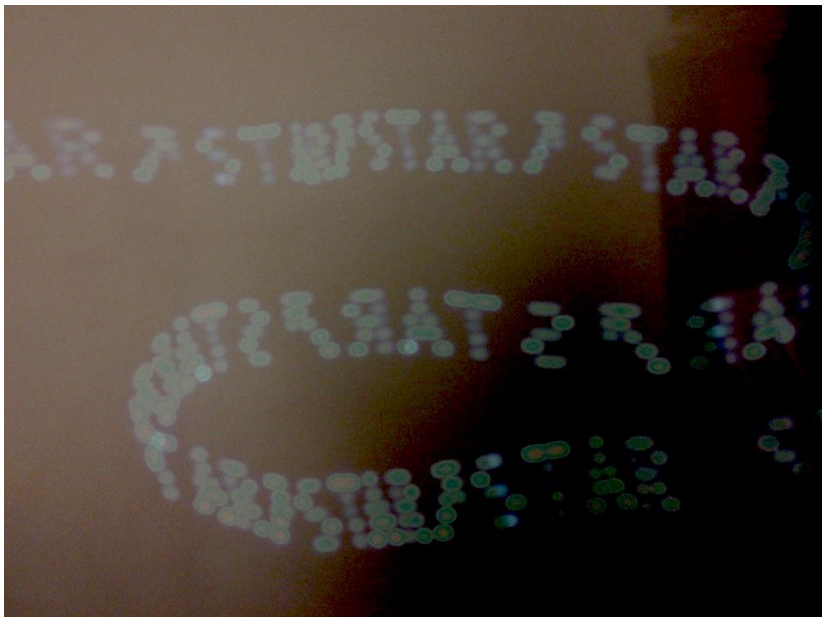
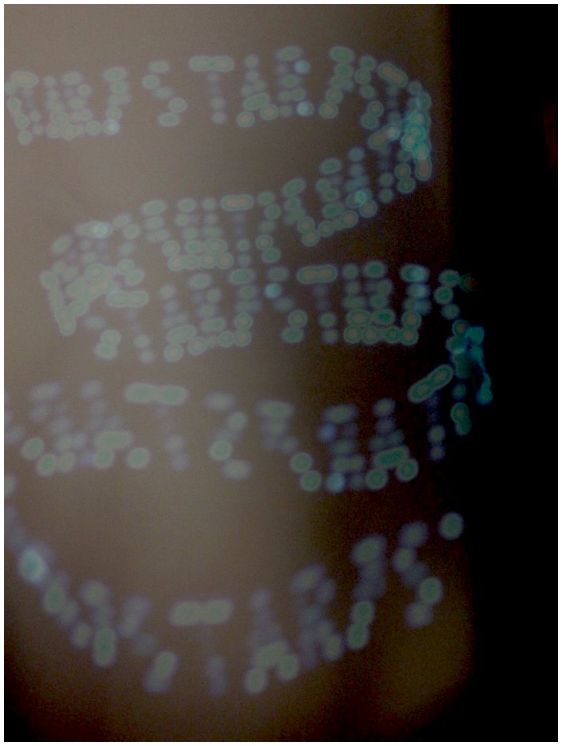
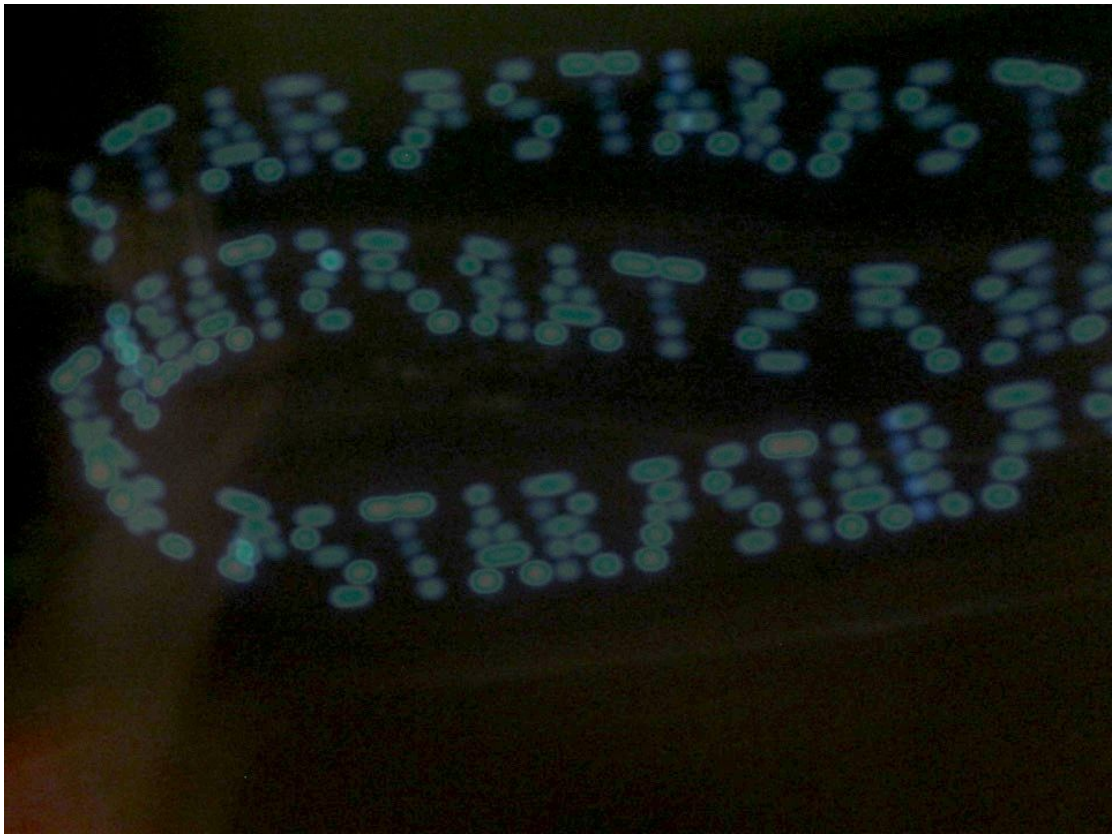


I would extend the Perception-P by embedding it into a textile and adding a Flex resistor. The lights would turn on if the textile is bent. For example, if circuit is part of a shirt the lights would turn on if the user bends their elbow.

PART THREE



The code I will be adding to the Perception-P is an upward diagonal arrow. The code will be:

int arrow [] = {1, 2, 20, 24, 28}

The int array arrow will be represented by the character “>”. An if statement will be added in the displayChar function to link the character “>” to the int array arrow.