Jerry N, Liam B, and Casey B
Learning Module #1

Final Writeup

- Topics Covered
    - Jerry, Liam, and Casey learned the basics of Arduino. They first learned how to make a standard led blink. After that they learned some of the Arduino programming, then finally they learned how to use the ultrasonic sensor and a rgb led and make them work together.
- What did you learn from this activity?
    - Jerry, Liam, and Casey learned the basics of the Arduinos and circuits. They watched some videos and looked at some example code to make a led blink. To build on this they learned how to use a rgb led fade between colors using the same methods. At the same time they learned how the ultrasonic sensor works and what values it returns. Then, they combined the circuit and code for the ultrasonic sensor and the rgb led along with the addition of a button to make the led change color depending on the distance of an object from the sensor.
- What problems did you encounter and how did you deal with them?
    - Most often, Jerry, Liam and Casey had bugs in their code that were relatively easy to fix. However, they also ran into a problem with the ultrasonic sensor. Occasionally it would return an extremely high value, and this would briefly make the led the wrong color. To solve this problem they simply added a max distance in the code when it changes the color of the led, so when an extreme value is returned the led would stay the same color.
- What suggestions do you have for others who might pursue this activity?
    - A suggestion that Liam, Casey and Jerry would make for others is to look at the example code. The example code is extremely helpful when learning the basics of the Arduino programming language. It makes learning it so much easier. Also, to try and change the example code when you think you understand it. This helps let you understand what you know and allows you to learn more.
- Summary of experience
    - Overall, Casey, Liam and Jerry had fun learning the Arduino and circuits. Beginning with the basic blinking of an led, then after that changing the color of a rgb led. Finally, they learned how to use the ultrasonic sensor and get distances. With this they put it together to change the color of the rgb led depending on the distance from the ultrasonic sensor.