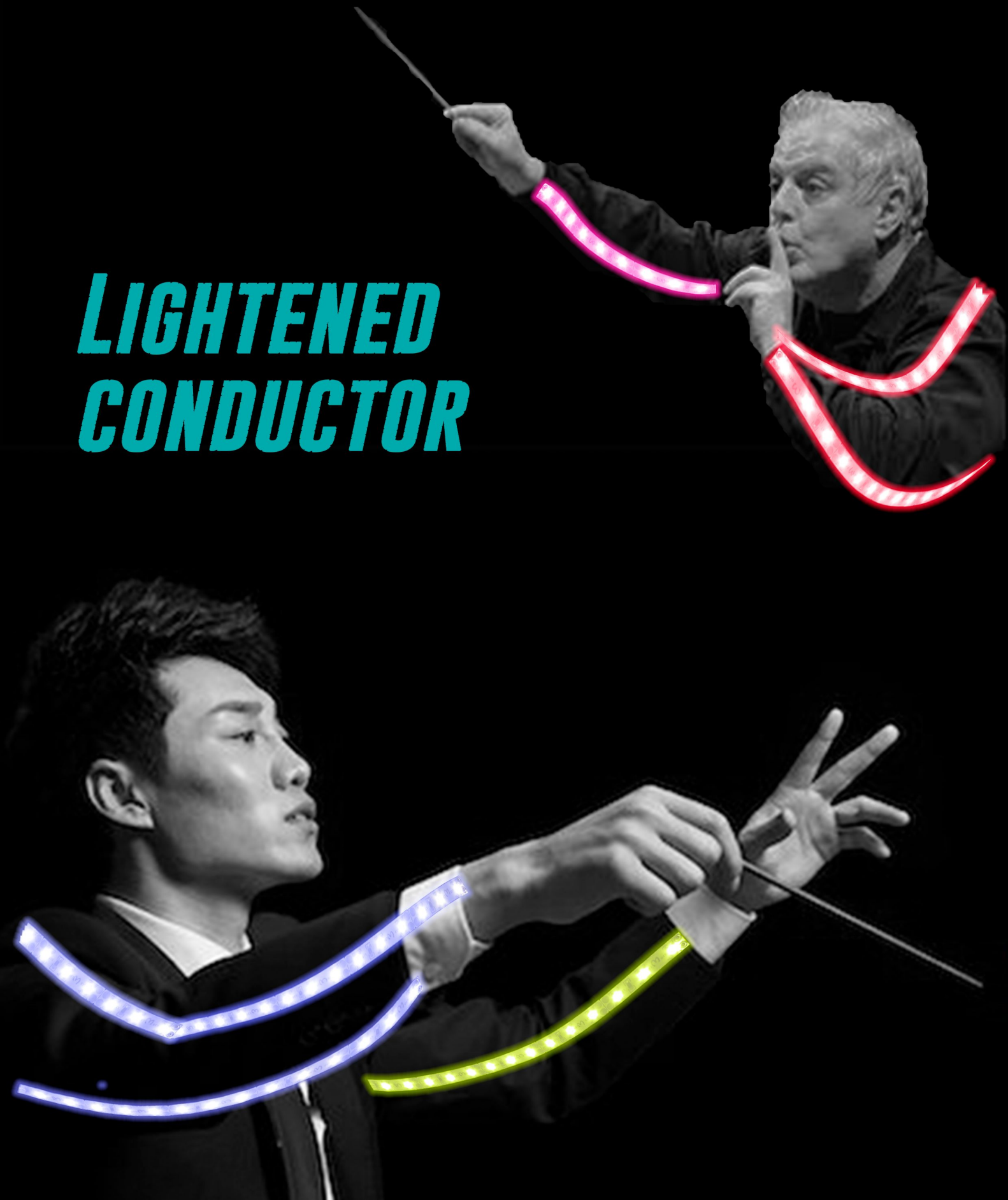


DESIGNED BY:  
RICARDO AREVALO

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# ***LIGHTENED CONDUCTOR***



# VISION

THIS IS A PIECE OF GARMENT THAT AIMS TO VISUALLY HIGHLIGHT THE PERFORMANCE OF A CONDUCTOR DURING A MUSICAL EVENT.

THIS DESIGN ATTEMPTS TO BE BOTH FUNCTIONAL AND PERFORMATIVE. THESE SLEEVES WILL HELP THE CONDUCTOR TO COMMUNICATE THEIR INTENTIONS TO THE MUSICIANS IN A DIFFERENT WAY WHILE THE AUDIENCE WILL BE ABLE TO ENGAGE VISUALLY WITH THE CONDUCTOR'S ACTIONS DURING THEIR PERFORMANCE THROUGH A SPECTACLE OF LIGHTS.



THE AIM IS TO CREATE TWO ARM SLEEVES THAT WILL LIGHT UP IN DIFFERENT COLOURS. FURTHERMORE, THESE COLOURS WILL CHANGE ACCORDING TO THE CONDUCTOR'S PERFORMANCE.

THE RIGHT ARM'S LIGHTS WILL CHANGE COLOURS ACCORDING TO THE RHYTHM OF THE PIECE, WHILE THE LEFT ARM'S LIGHTS WILL CHANGE COLOURS DEPENDING ON THE EMOTION THAT THE CONDUCTOR IS PUTTING INTO THE PIECE.

THE RIGHT ARM SLEEVE WILL BE CONNECTED TO A BUTTON. THE CONDUCTOR WILL PRESS THIS BUTTON TO CHANGE THE COLOURS OF THE LIGHTS IN THE RIGHT ARM SLEEVE TO INDICATE THE TEMPO. SIMULTANEOUSLY, THE LEFT ARM SLEEVE WILL BE CONNECTED TO AN ACCELEROMETER. THIS ACCELEROMETER WILL MEASURE THE MOVEMENTS OF THE LEFT HAND, CHANGING THE COLOURS OF THE LIGHTS ON THE LEFT ARM SLEEVE TO INDICATE THE FEELING OF THE PIECE.

# ITERATIONS



THIS ITERATION OF THE CONCEPT IS BASED ON FUNCTIONALITY. THE DISTRIBUTION OF THE LED STRIPS IS ADEQUATE FOR BOTH MUSICIANS AND AUDIENCE TO BE ABLE TO SEE THE CONDUCTOR.

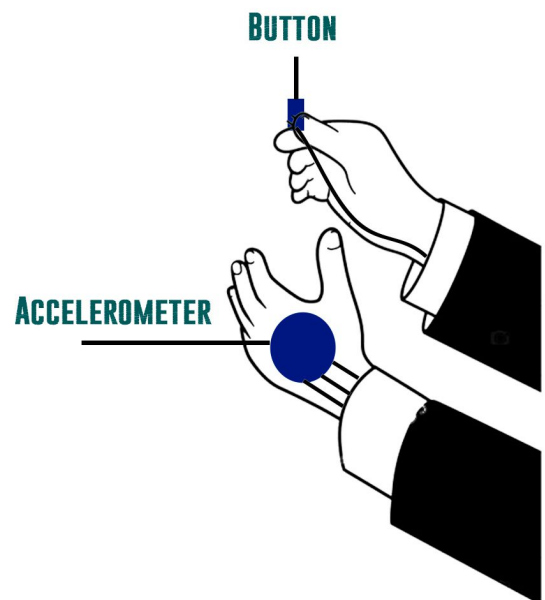
1.



THIS ITERATION OF THE CONCEPT IS BASED ON VISUALISATION. IN THIS DESIGN, THE VISUALISATION OF THE LIGHTS WILL BE MORE OBVIOUS. HOWEVER, I THINK IT WILL TAKE MORE TIME TO MAKE THIS VERSION OF THE GARMENT.

2.

THE WIRES THAT CONNECT BOTH THE BUTTON AND THE ACCELEROMETER TO THE ARDUINO WILL BE HIDDEN UNDER THE SLEEVES.



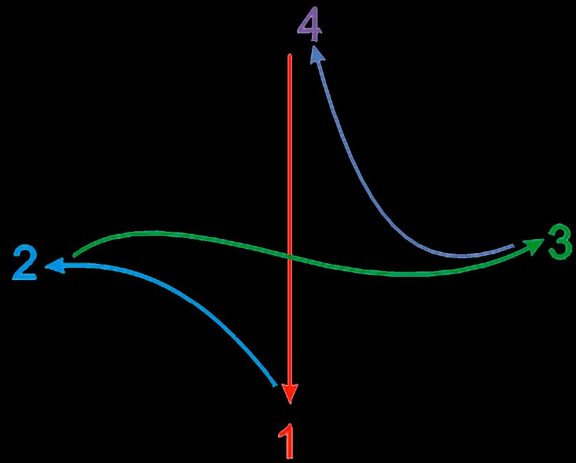


# FUNCTIONING



## LEFT HAND:

ELEVATING THE LEFT HAND WILL MAKE THE COLOURS ON THE LEFT ARMSLEEVE CHANGE. RETURNING THE HAND TO ITS ORIGINAL POSITION WILL MAKE THE LIGHTS ON THE LEFT ARM SLEEVE CHANGE TO ANOTHER COLOUR.

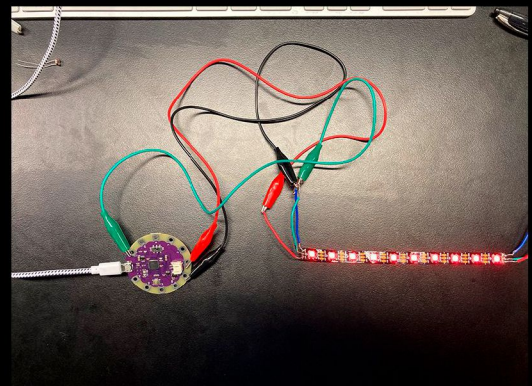


## RIGHT HAND:

THE RIGHT HAND IS SUPPOSED TO FOLLOW THE CLASSIC PATTERN OF CONDUCTING MUSIC. THE CONDUCTOR IS EXPECTED TO PRESS THE BUTTON ON THE RIGHT HAND EACH TIME THEY REACH ONE OF THE POINTS THAT SET THE TEMPO (MARKED WITH NUMBERS). EACH TIME THE BUTTON IS PRESSED, THE LIGHTS ON THE RIGHT ARMSLEEVE WILL CHANGE THEIR COLOUR.

# TECHNOLOGY REQUIRED

- 1 ARDUINO LILYPAD
- 1 ACCELEROMETER
- 1 BUTTON
- WIRES (AT LEAST 70CM)
- 2 ARM SLEEVES
- LED STRIPS (NEOPIXEL)
- 9V BATTERY



# REFERENCES



I DID NOT FIND ANY SIMILAR TECHNICAL CONCEPTS TO WHAT I WANTED TO CREATE. HOWEVER, I FOUND THE COMBINATION OF LIGHTS AND MUSIC DURING A PERFORMANCE ESPECIALLY INTERESTING.

ONE IDEA THAT CALLED MY ATTENTION WAS GUIDO'S ORCHESTRA. THIS MUSICAL ASSEMBLE HAS A STAGE THAT LIGHTS UP DIFFERENTLY DEPENDING ON THE MOOD OF THE MUSICAL PIECE.



I ALSO LIKED THE AESTHETIC OF UV REACTIVE STRINGS AVAILABLE FOR INSTRUMENTS LIKE GUITARS OR BASSES. THESE STRINGS LET THE AUDIENCE PERCEIVE THE VIBRATION OF THE STRINGS ON A CLEARER WAY.

BASICALLY, MY REFERENCES WERE METHODS TO COMBINE LIGHTS WITH MUSIC.

# TIMELINE

**26TH JULY:** STARTING TO THINKABOUT BUILDING THE CIRCUIT

**28TH JULY:** TRYING TO INCORPORATE THE BUTTON AND THE ACCELEROMETER

**30TH JULY:** ASKING FOR ASSISTANCE TO BUILD UP A PROTOTYPE OF THE CIRCUIT

**4TH - 8TH AUGUST:** TRYING TO INTEGRATE THE CIRCUIT WITH THE ARM SLEEVES

**8TH AUGUST:** WORKING ON THE CODE AND FINAL RETOUCHES

**12TH AUGUST:** SUBMISSION

# ***FINAL REFLECTION***



DUE TO TIME LIMITATIONS, I HAD TO ADJUST THE FINAL PROTOTYPE TO SOMETHING MORE MANAGEABLE TO. THE IDEA OF IMPLEMENTING A BUTTON ON THE RIGHT HAND WAS DISCARDED, AS WELL AS THE CURVATURE OF LIGHTS WRAPPING THE LEFT ARM.

HOWEVER, I IMPROVED THE CODE OF THE ACCELEROMETER TO WORK ACCORDING TO THE DIRECTION AND HAND GESTURES OF THE LEFT ARM. THIS CODE GAVE THE DESIGN A WIDER RANGE OF COLOURS TO DISPLAY, MAKING IT MORE DYNAMIC.

ALTHOUGH THE FINAL AESTHETIC OF THE SUIT WAS NOT THE BEST, I THINK THAT WITH A BIT OF MORE TIME AND IMPROVED SOWING SKILLS, THE DESIGN COULD GET A BETTER LOOK.

AFTER ALL, I ACHIEVED THE MAIN IDEA THAT I PROPOSED AND I AM VERY PLEASED WITH THE RESULT.