

PROJECT CORD

Jordan Schilling • Textile Design

INTENT

This jacket allows creatives who use Adobe Photoshop to collaborate and edit in a more natural and effective way.

DISCRIPTION

•I have been working with other people on creative projects for about 5 years now. That being said, I know what it is like to feel cramped and limited to create because of the space I was in. The jacket enables the user to back up and use their sleeve to control their screen. This means you no longer have to be cramped and cluttered while creating.

•What makes my project unique is how it uses actual hardware to have a very specific outcome in Adobe Photoshop. Whether its creating a new layer or changing the hue of an image, it can all be done by a gesture on your sleeve.

• This project could be used in a variety of ways. The user will be able to control Photoshop, but also be able to control the music on his or her computer. This allows your creative world to not be interrupted by having to touch the keyboard. One thing that users will be able to do in the future, if the technology is open sourced, is to be able to customize the sensor outputs and be connected to more devices.

• This Project in the future could be bluetooth and work seamlessly with all the Adobe products. This technology can also go anywhere on the garment. It can go in pockets or on waistbands. The applications are endless, but will only be successful applications if the sensors are made out of conductive thread so there are less hard materials and more seamless implementation.

TECHNOLOGY

The project uses the Adafruit Circuit Playground Express as the brain behind the machine. The Circuit Express is the attached to the fabric using conductive thread. The conductive thread runs along the sleeve and connects to each other sensors. There is a mode changing sensor, a mouse click, four buttons, and a volume slider. All of these sensors are covered because they are based off of pressure. The four buttons are hand sewn with conductive thread, on top of a specific design. Their is a mouse cursor that is not connected to the Playground Express but rather to a different board that connects right into the computer through USB. The buttons are linked to specific actions in Photoshop that are keyed to a function key so that when F1 is pressed, the image will change color. The mode changer has four modes, one general for music, and three for photoshop. The other sensors are self explanatory as the touch screen is my computer mouse and the button is a mouse click. With open sourced technology and Adafruit evolving, the possibilities for this technology are endless. I am very excited to see people experience and use Project Cord as I truly believe this will help people create in a more fluid way as well as inspire others to create.

MATERIALS

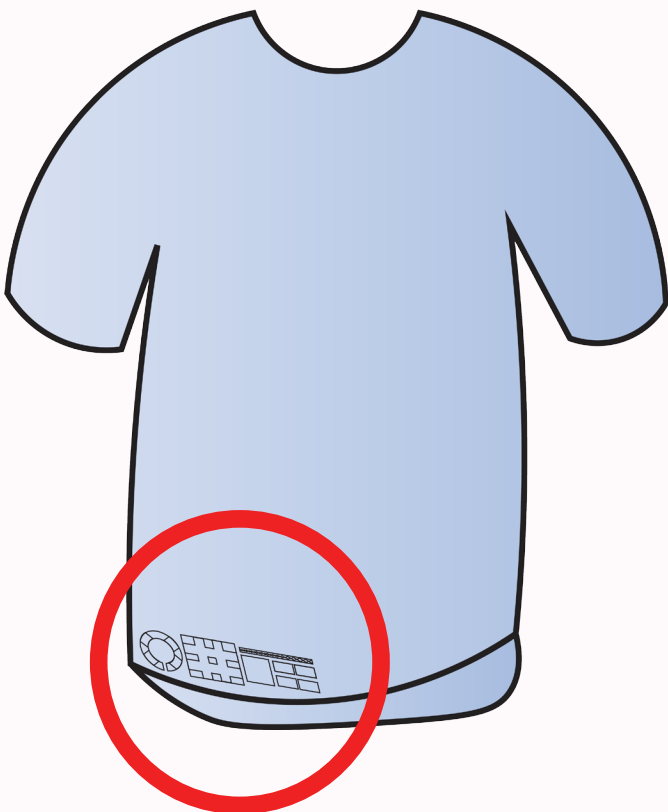
- TouchScreen
- Soft Ribbon Potetiometer
- Linear Potetiometer
- Square FSR
- USB Mouse Controller
- Circuit Playground Express
- Conductive Thread
- Regular Thread
- Cordoroy Jacket

PROTOTYPES

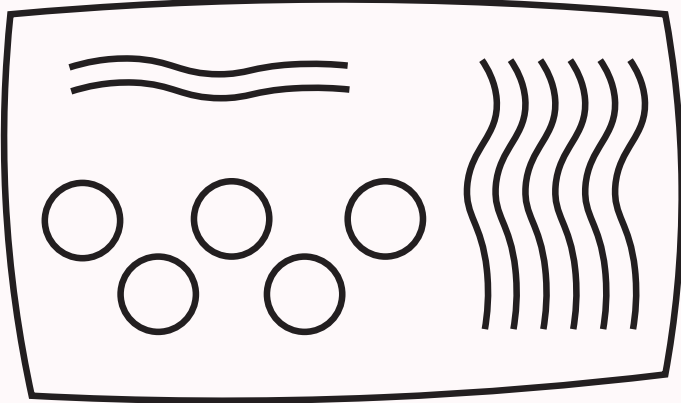
FINAL DESIGN

TECH IN FASHION

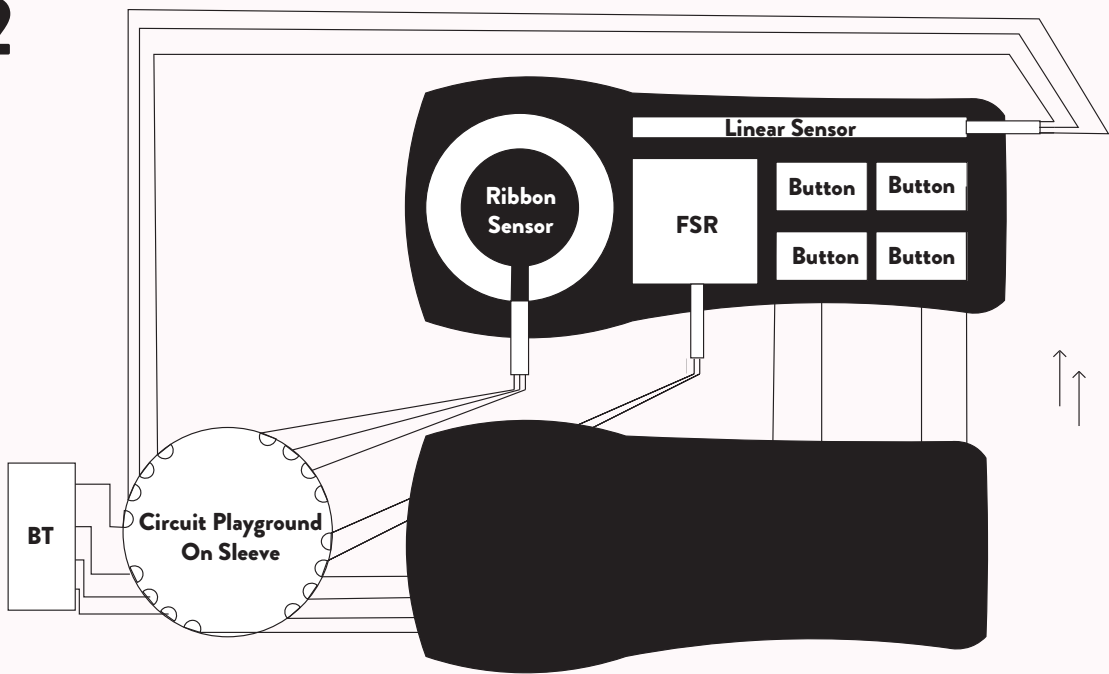
With conductive thead and capacitive tocuh sensors, this type of technology can be implemented into any garment. In addition, it can also be implemented anywhere on the garment and in any pattern. Google Jacquard is one of the first seamless wearable devices on the market. Here are some concept drawings I came up with for my design.



1



2



Prototypes:

1 - 5 buttom arm sleeve that has a computer trackpad and a vol-ume slider

2 - 4 button arm sleeve that has a computer trackpad, a volume slider, and a mode changer

Key:

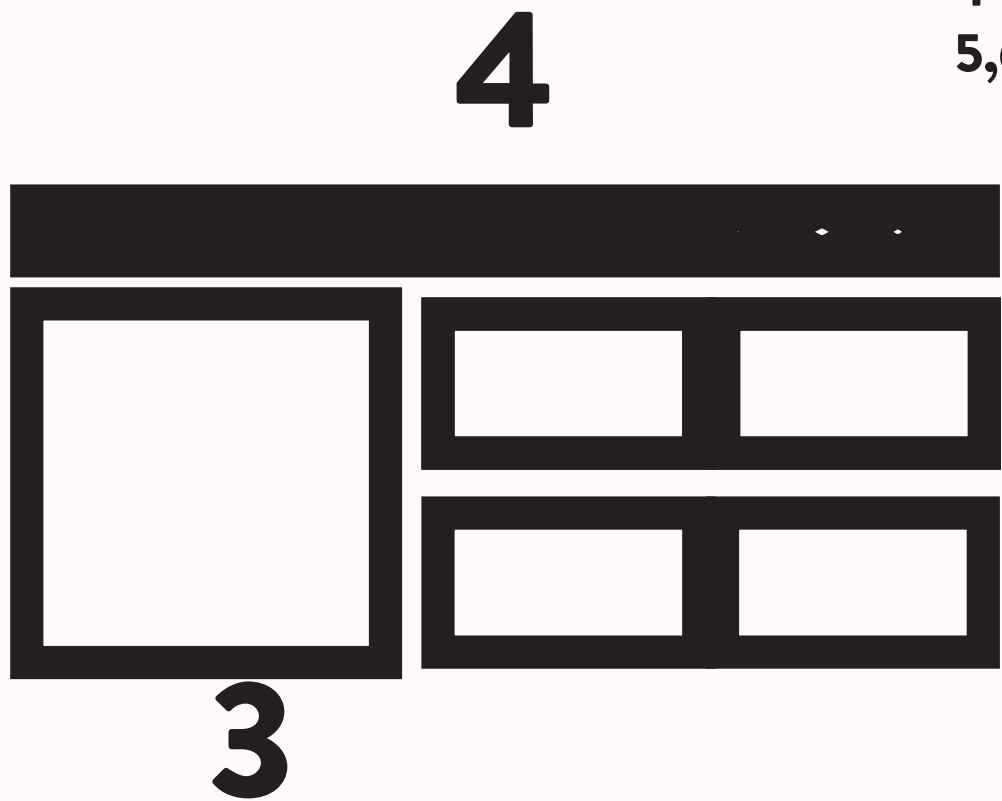
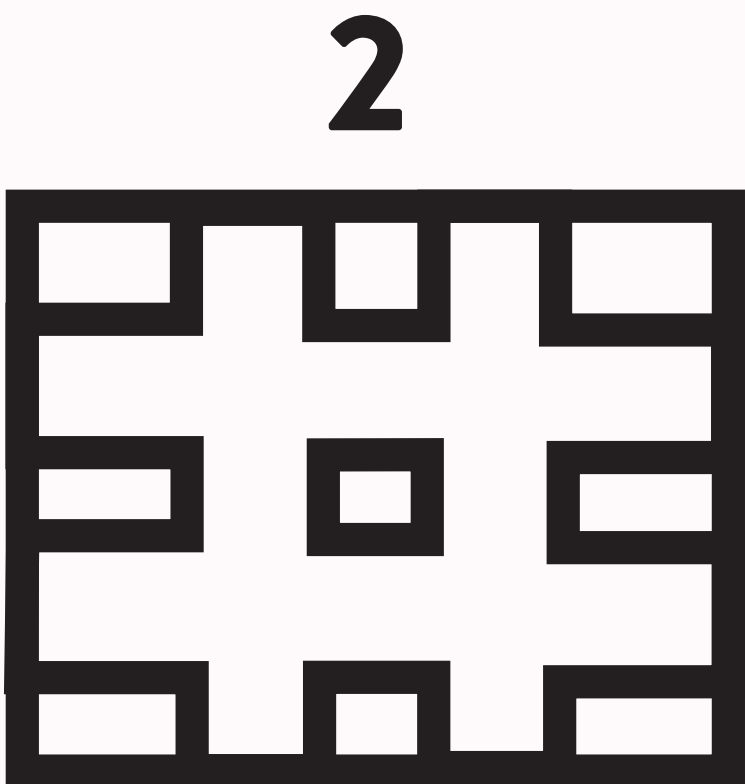
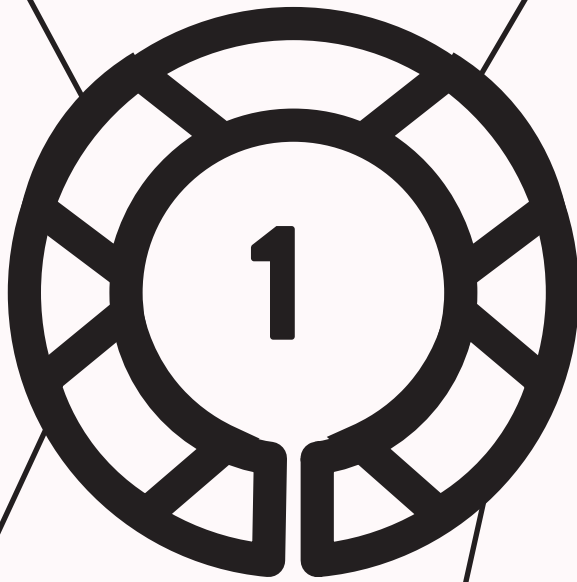
- 1 - Mode Changer (Soft Potetiometer)
- 2 - Trackpad (USB Touch Screen)
- 3 - Mouse Click (Square Force Resistor)
- 4 - Volume slider (Linear Potetiometer)
- 5,6,7,8 - Buttons (Conductive Thread)

Mode 4: Same as M2, M3 except the buttons are now used for F9, F0, F11, F12

Mode 1: Trackpad simulated, mouse click simulated, volume slider simulated. Buttons are paus/play, next track, previous track, and stop

Mode 3: Same as M2 except the buttons are now used for F1, F2, F3, F4

Mode 2: Same as M1, except the buttons are now used for F7, F8, F1, F2



5,6  
7,8