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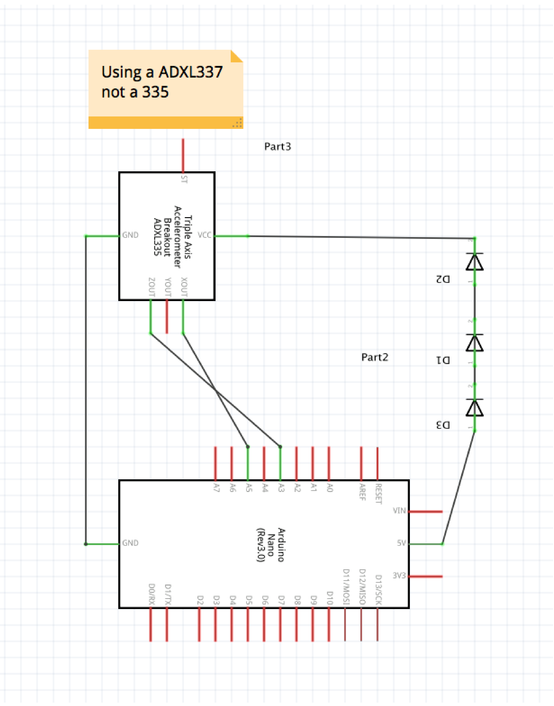
CLEAVER

Cleaver is an examination of material, function, purpose, and agency. It's objective is to make us question the relationship between function, form, and the entrenched emotional connotations instilled in *all* the objects around us. The cleaver's original purpose is transformed by giving it the ability to control music with the use of an accelerometer and Arduino micro controller. When picked up, Processing outputs a random selection of music from a playlist that the user is able to manipulate with gestural interaction. As an audience, we question the object's origin, and the seemingly random and untethered bond between its form as a recognizable object (cleaver) and its function as a controller of sound. Through this, we find the cleaver locating an uncanny and uncertain combination of materials and function. It builds a personality through the established connotations of a cleaver's purpose alongside it's heavy rusted metal material and the loud booming output of audio. Visually we can see the hard metal surface enchanted with technological components that look out of place on such a stark naturally formed object. Tactilely, the heaviness of the cleaver paired with the fast responsiveness of the audio output from kinetic input amplifies the sense of power and control felt by the user who wields it. When in use, we can observe the object being manipulated in strange abstract ways that once again defy the original purpose the cleaver. Tilting, moving slowly versus quickly, up, and sideways will all provide different audible returns. The cleaver, which once was used simply to cut, now has qualities of an instrument where one's personal interaction creates a different result.

This project is making use of the ADXL337 accelerometer. It is taking input from this sensor and relaying to Processing using serial. The serial data is converted into a readable format. In Processing there is a playlist of .mp3 files, and one gets randomly selected when the accelerometer detects motion (when the cleaver is picked up) If it is laying flat, the cleaver emits a low frequency buzz. From there, the pitch and playback rate of the music is manipulated based on the detected values from the accelerometer.

The final prototype is making use of the Arduino nano. The Arduino Nano has a 5 volt output and the accelerometer uses a maximum of 3.3 volts, therefore there are 3 diodes being used which work together to reduced the output to 3.3 V.



(Low fidelity prototype)