GLOVE MOUSE

Submitted By:

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Objective

To develop the prototype of a wearable glove mouse which can work mid air without any support of hard base unlike a conventional mouse with Bluetooth connectivity.
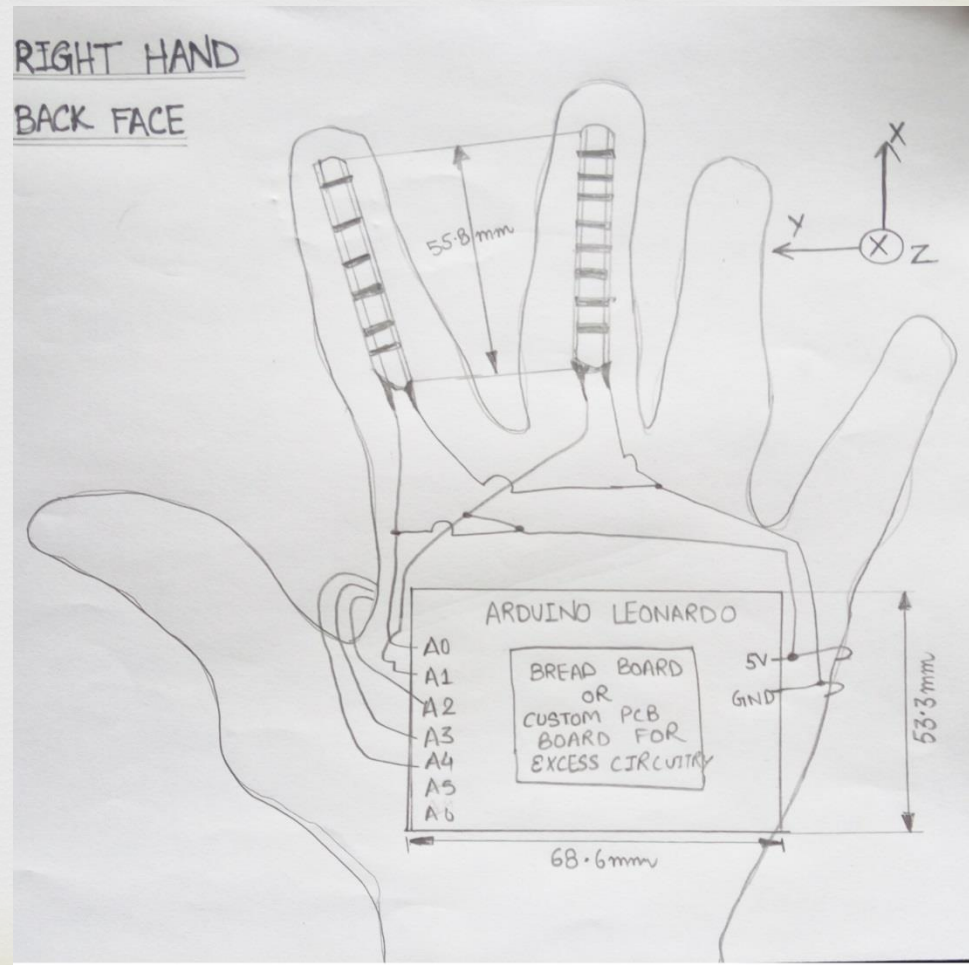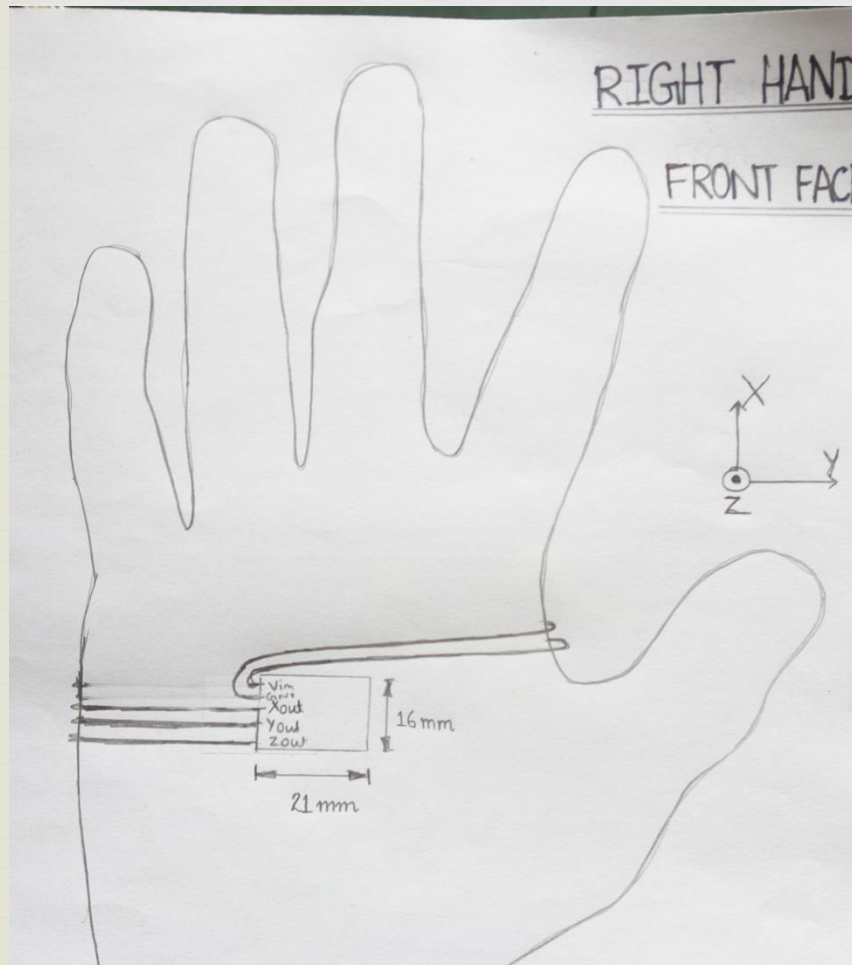
Hardware Used

- Arduino LEONARDO
- Accelerometer (3 axial) ADXL335
- Bluetooth HC-05 module
- Flex Sensors 2.2'' inch (Quantity = 2)
- USB Cable
- Jumper Wires
- Resistors and Capacitors Of varied Values
- A Glove

Rough Sketch

Arduino LEONARDO

The Arduino Leonardo is a microcontroller board based on the ATmega32u4

With USB HID capabilities

Accelerometer

 Used to detect and map user hand motions to the mouse cursor movements to measure hand tilt and orientations.

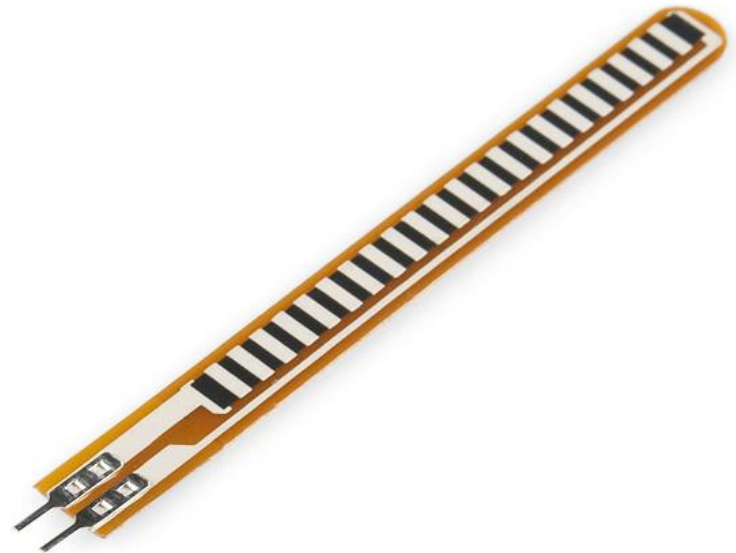 The accelerometer reads the tilt of each axis (3 axis) and outputs each as an analog voltage.

3 Axis output

Sensitivity Jumpers
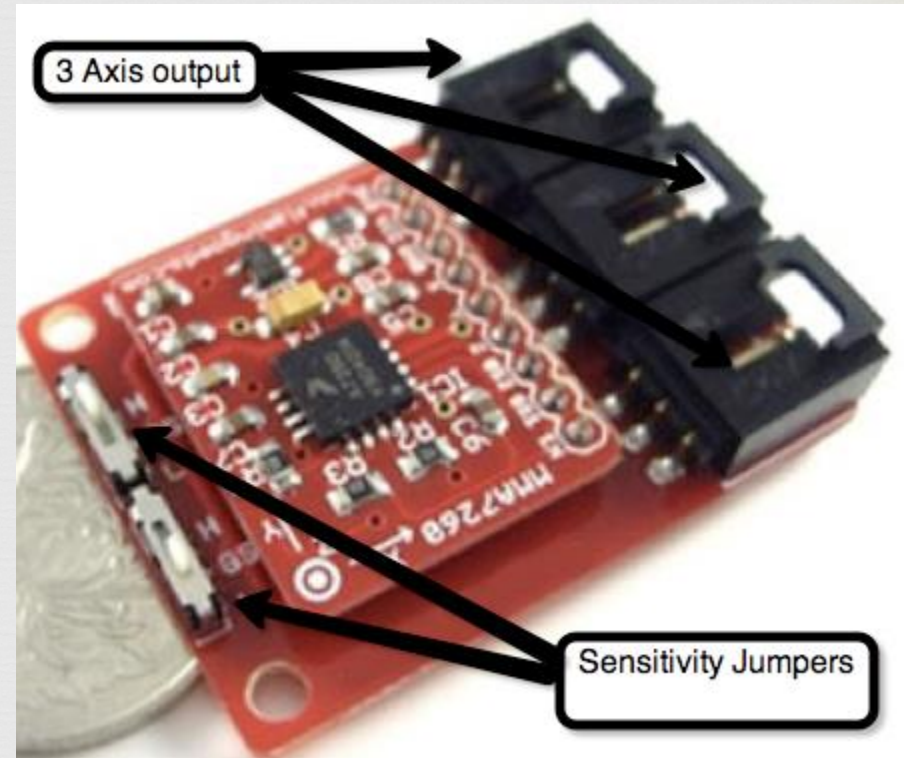
Flex Sensor

 Used to detect pointing device button commands by sensing if there is flexing of the fingers

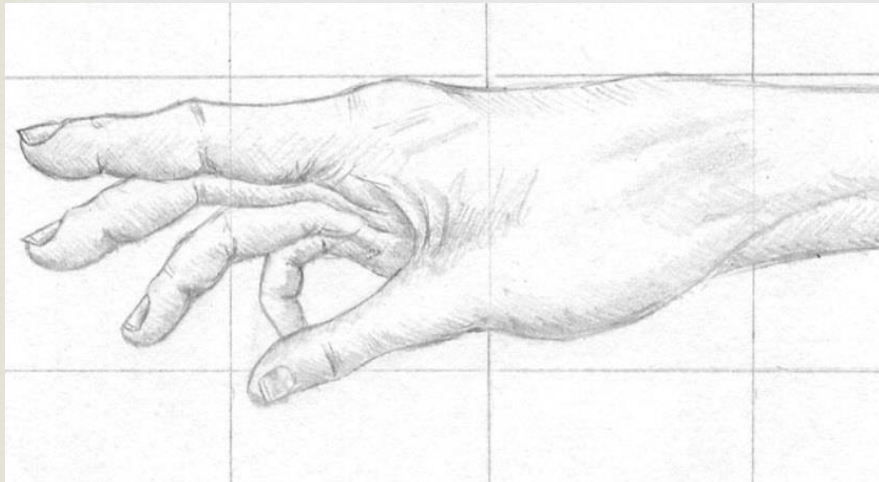 Two flex sensors for two button commands left and right click

Software Used

Arduino Software IDE (contains a text editor for writing code, a message area, a text console, a toolbar with buttons for common functions and a series of menus. It connects to the Arduino hardware to upload programs and communicate with them.)
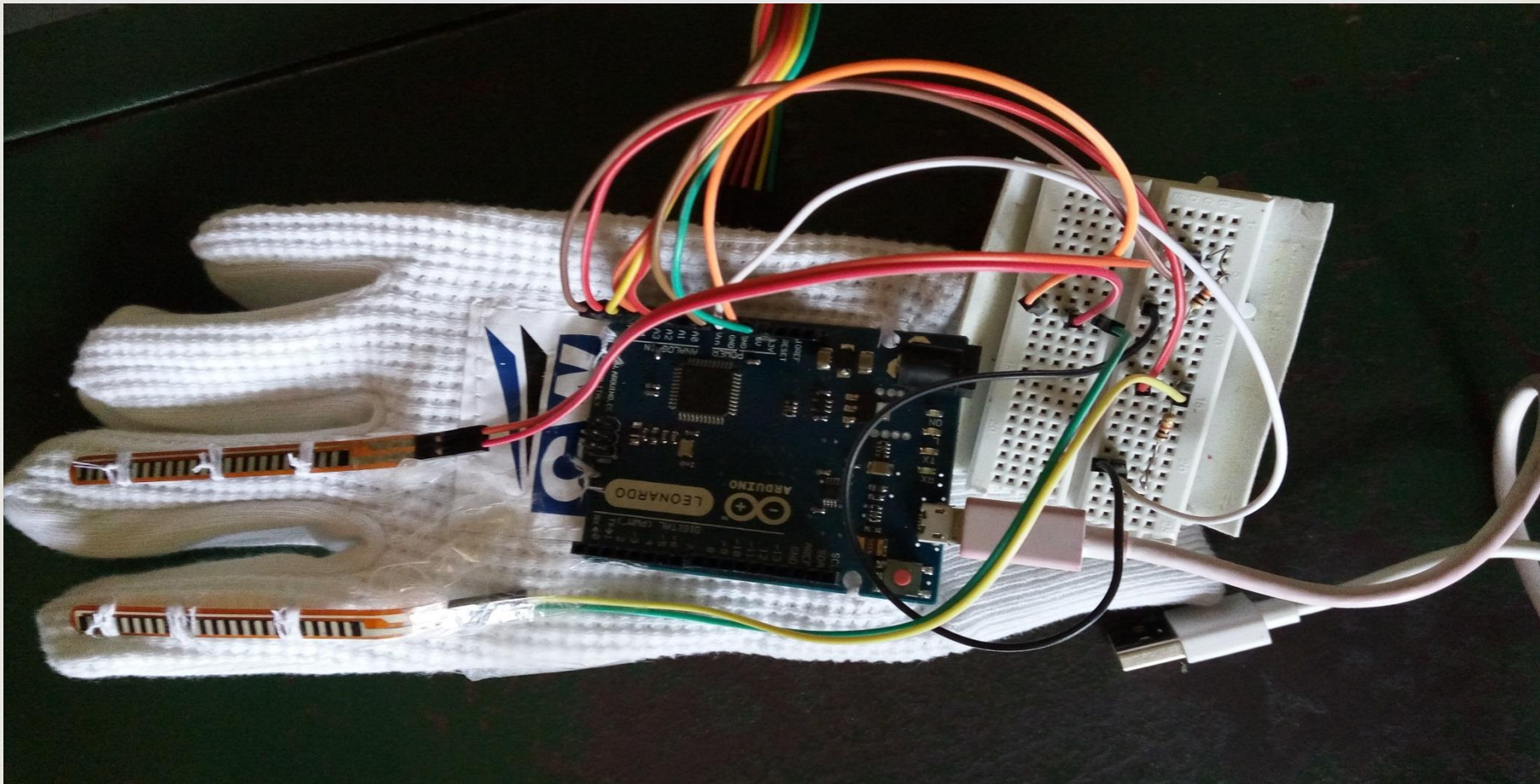
Modes Of Working

NORMAL MODE

❖ Conventional style i.e. no change in z direction

❖ Suitable for working

HANDSHAKE MODE

❖ Vertical Mode i.e. no change in y direction

❖ Suitable for gaming (especially point and shoot games)

Prototype Circuit

Applications

- Can help prevent **Carpal Tunnel Syndrome** (numbness, tingling, weakness in your hand because of pressure on the median nerve in your wrist)
- Can be used for **Point and shoot games** exclusively like Virtual Cop 2
- Allowing mouse to work in mid air gives it a good edge in **presentations**
- The circuitry can be fixed on Goggles **(Mouse Goggles)** or headphones and can be used amputees to control mouse pointer by tilting their head in x and y direction

Thank You