Hardware and Software Interfaces, CSCI 3511
Final Project Title:
Arduino Controlled Piano

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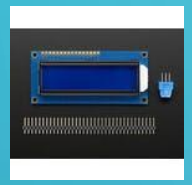
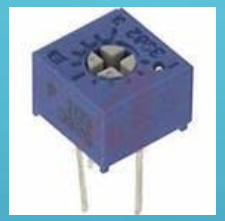
Components and Supplies



Adafruit Standard LCD – 16x2 White on blue

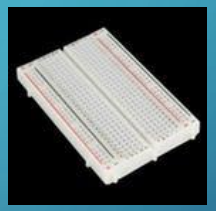
Arduino UNO & Genuino UNO

Push Button x8



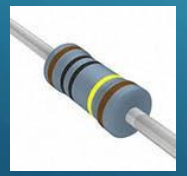
Single Turn Potentiometer – 10k ohms

Jumper wires

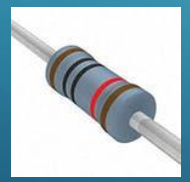


Breadboard

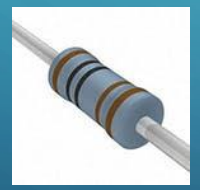
Resistor



1M ohm



10k ohm x3



1k ohm

220 ohm x4
560 ohm
4.7k ohm

Buzzer

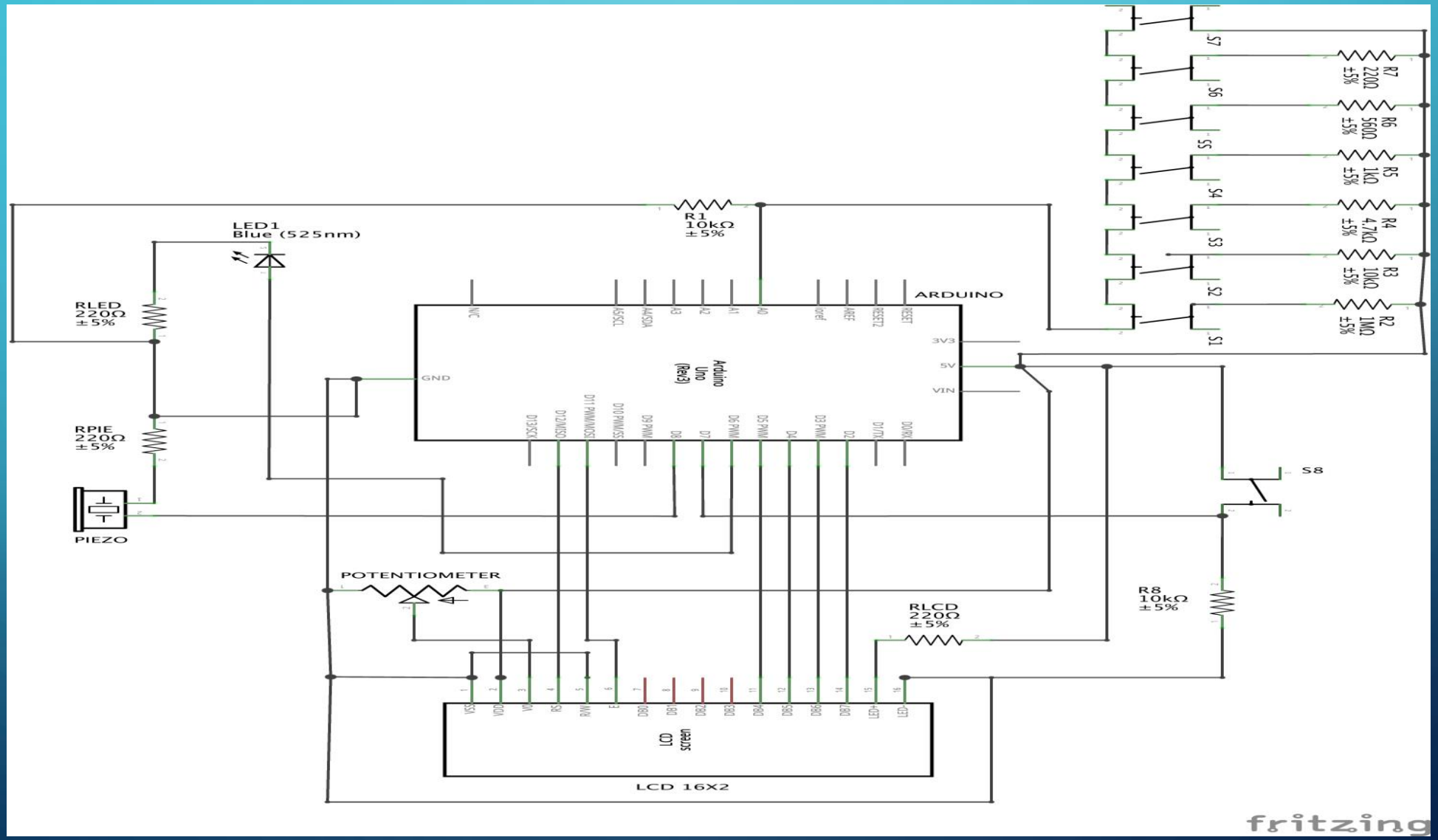
LED

About the Project

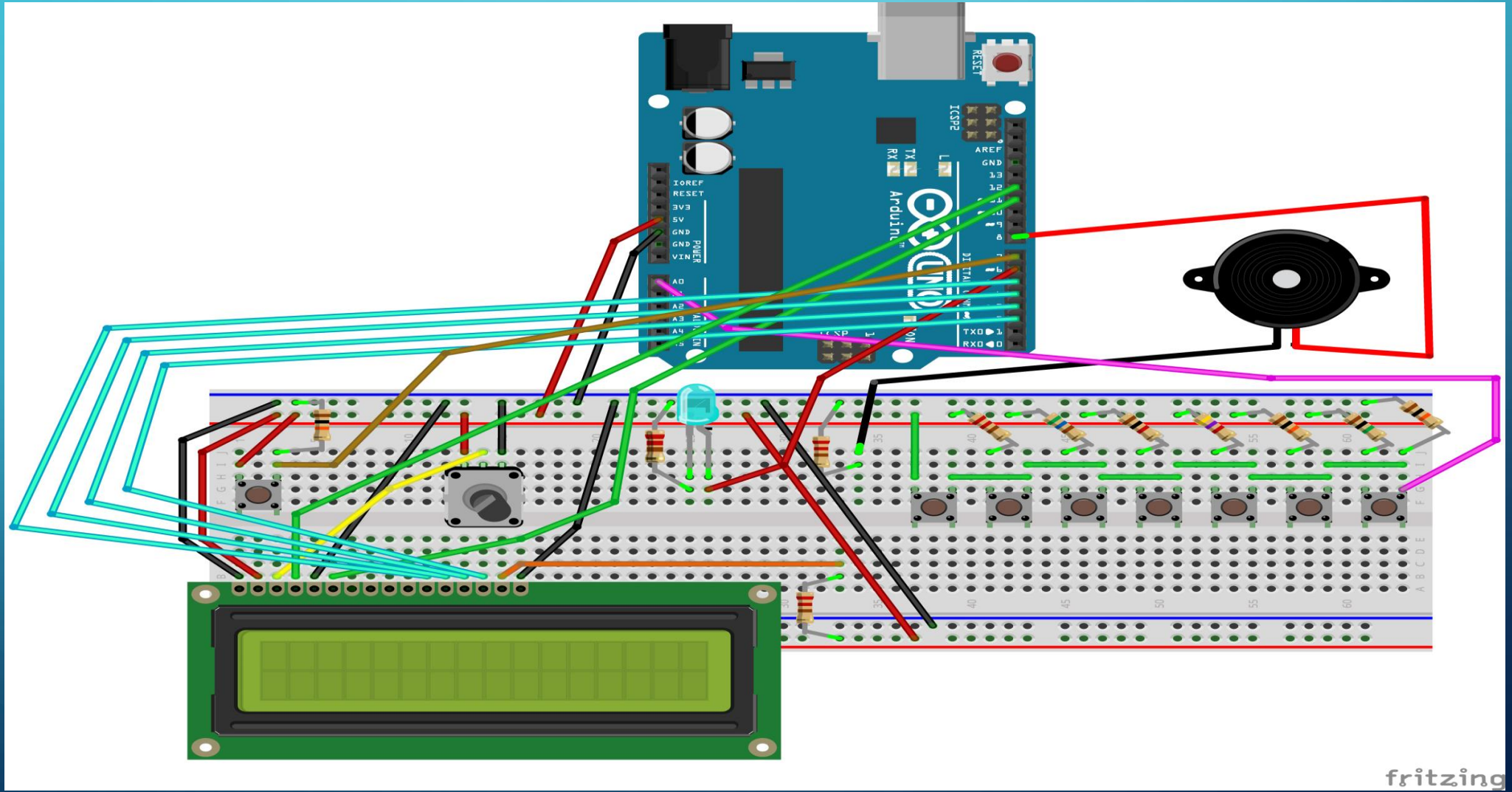
(7/8) press button represents a piano key
The resistors (1M, 10k, 4.7K, 1K, 560, and 220) change the pitch
Last press button (8/8) grounds and connects all 7 switches using a 10k ohm resistor
LED is used to indicate “menu mode”, LED lights on when menu is on

Program begins with LED off and keyboard active
Once in menu, LED will be turned on and piano keys disabled
Double click to restart menu

Schematics


LED1
Blue (525nm)
RLED
220Ω
±5%
RPIE
220Ω
±5%
PIEZO
R1
10kΩ
±5%
ARDUINO
Arduino
Uno
(Rev3)
GND
3V3
5V
VIN
S7
S6
S5
S4
S3
S2
S1
R7
220Ω
±5%
R6
560Ω
±5%
R5
1kΩ
±5%
R4
4.7kΩ
±5%
R3
10kΩ
±5%
R2
1MΩ
±5%
S8
POTENTIOMETER
RLCD
220Ω
±5%
R8
10kΩ
±5%
LCD 16X2
fritzing

Circuit Diagram



SOURCE:

- All the pictures credit goes to Lindsay Fox, an author on Arduino Project Hub, where you will find her awesome Arduino projects on the following website:
- https://create.arduino.cc/projecthub/lindsi8784/electronic-piano-keyboard-with-preset-songs-74ee7c?ref=tag&ref_id=piano&offset=0
- Even though we have used her work as an initial idea, there will be a completely different source code and some added features – hopefully ☺