**ARDUINO**

**MINI**

**PIANO**

**TECHNICAL PROJECT REPORT**

TITLE OF PROJECT: ARDUINO MINI PIANO

TEAM MEMBERS/INVENTORS:

|  |  |  |  |  |  |
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**SECTION 1 (IPR RELATED)**

BRIEF ABSTRACT (500 WORDS)

* Problem your project is solving

This piano will help to work as a stress reliever for children as an entertainment purpose. It may be used for recreational purposes as well. It has enhanced portability as compared to other pianos as it is light weight. Also, its cheap and we can also record our tone and listen to it.

* How are you solving the problem

The piano we have created will help as recreational purposes as it acts a toy or fun activity tool for the children. Also, it has enhanced portability because we have used light weight materials for the paper piano. Adding to the light weight, we have used graphite pencil which can be rubbed again and again hence decreasing and increasing the intensity of the pencil which will facilitate the working of paper piano.

* Additional modifications that can cater to improved solution :-

We have added a feature that will record our tone and then play it . The recorded tone will be overwrite after every use .

**EXISTING STATE OF THE ART**

**AND DRAWBACKS IN THE**

**EXISTING STATE OF ART**

(Brief background of the existing knowledge)

|  |  |  |
| --- | --- | --- |
| **S.No** | **Existing state of art** | **Drawbacks in existing state of art** |
| 1 | https://create.arduino.cc/projecthub/rahulkhanna/arduino-tutorial-mini-piano-08f8b8 | 1. The tone generated by the user   is not Recorded .   1. It was looking messy |

**ADDITIONAL MODIFICATIONS THAT YOU CAN PROPOSE TO IMPROVE UPON DRAWBACKS**

* Components can be properly arranged so the product does not look messy
* We can paint it .
* There should be some pre saved tones in the piano

**ADVANTAGES IF EACH FEATURE IS INCORPORATED**

* Product can be sold at a good cost
* It will look attractive and innovative
* Due to recorded tones people will enjoy more

**BLOCK DIAGRAM**

LCD

Arduino UNO

ADC

Push Button

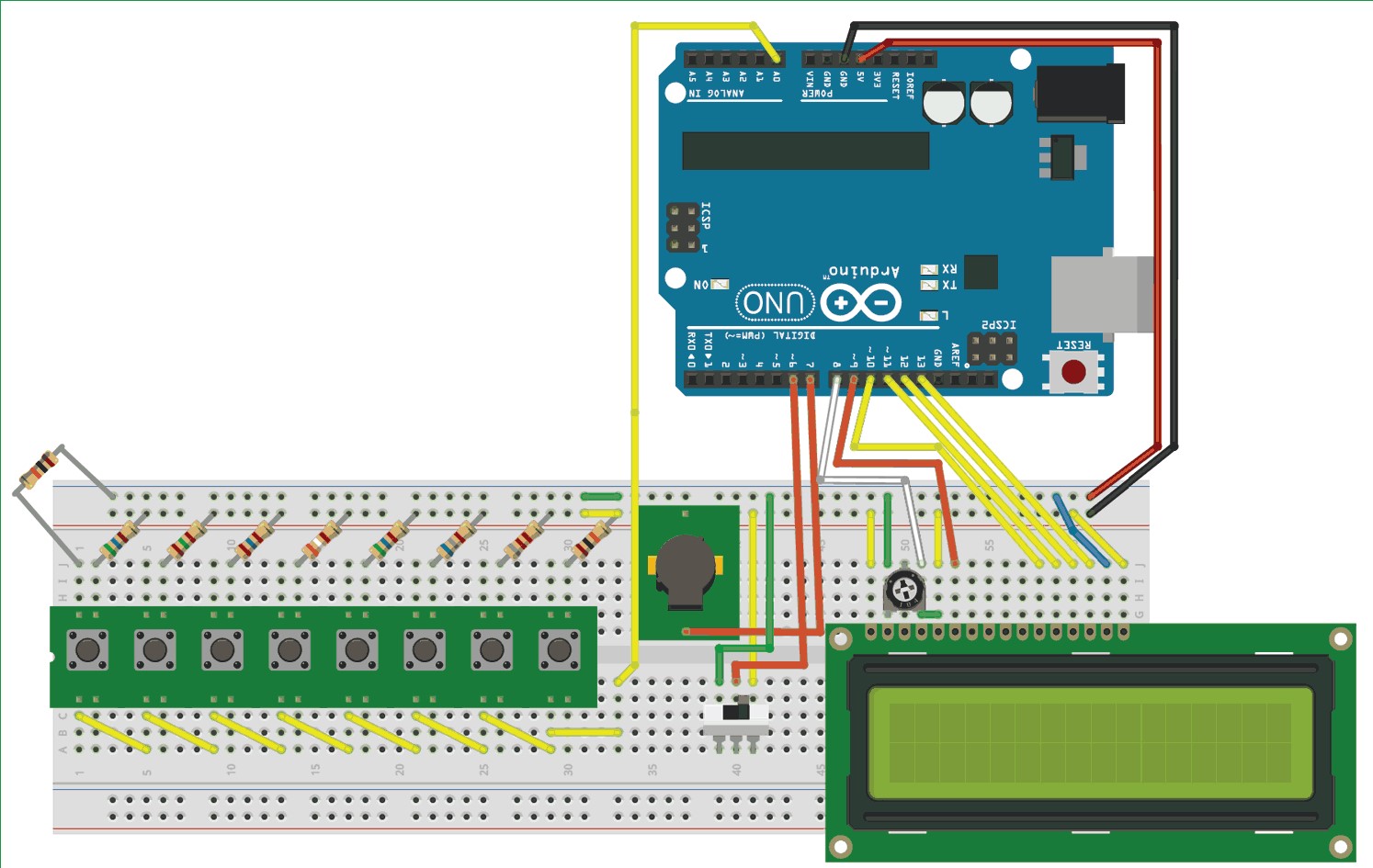
Speaker

**SECTION 2 (REAL PROJECT)**

**Materials:**

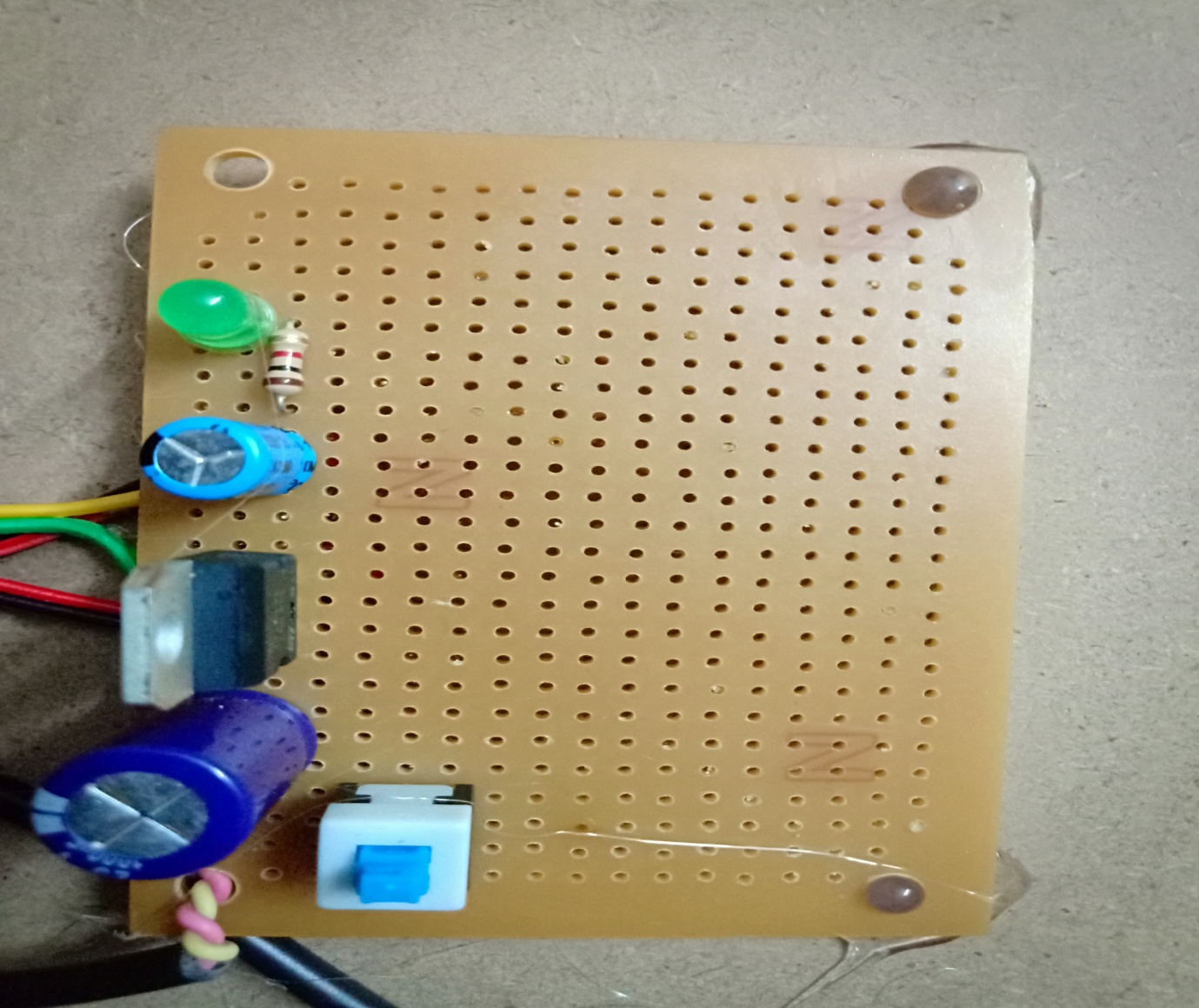
* Push Buttons (Rs. 80/-) (\*10)
* Arduino UNO (Rs. 300/-) (\*1)
* Speaker (Rs. 90/-) (\*1)
* Wires (Rs. 240/-)
* Printed Circuit Board (Rs. 100/-) (\*2)
* LCD ( 150/-) (\*1)
* Resistors (30/-) (\*10)
* DPST Switch (80/-) (\*1)

**Circuit Diagram:**

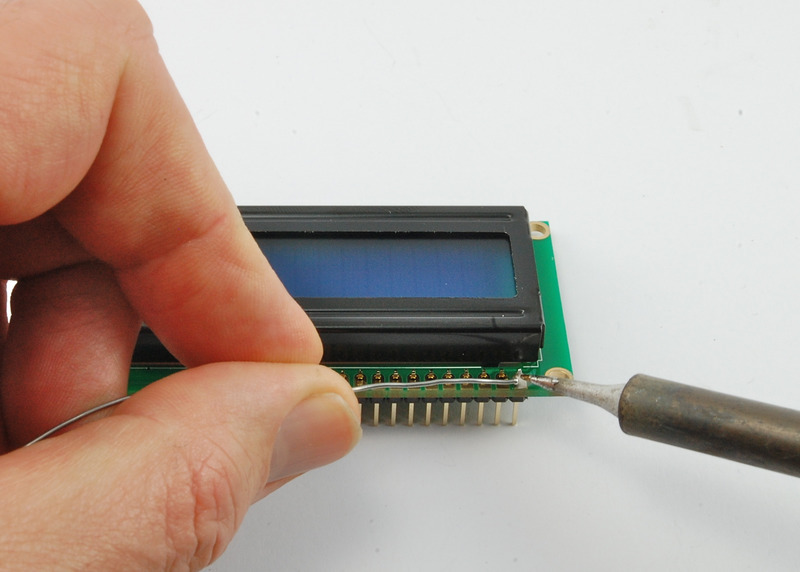
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**Steps of circuit completion:**

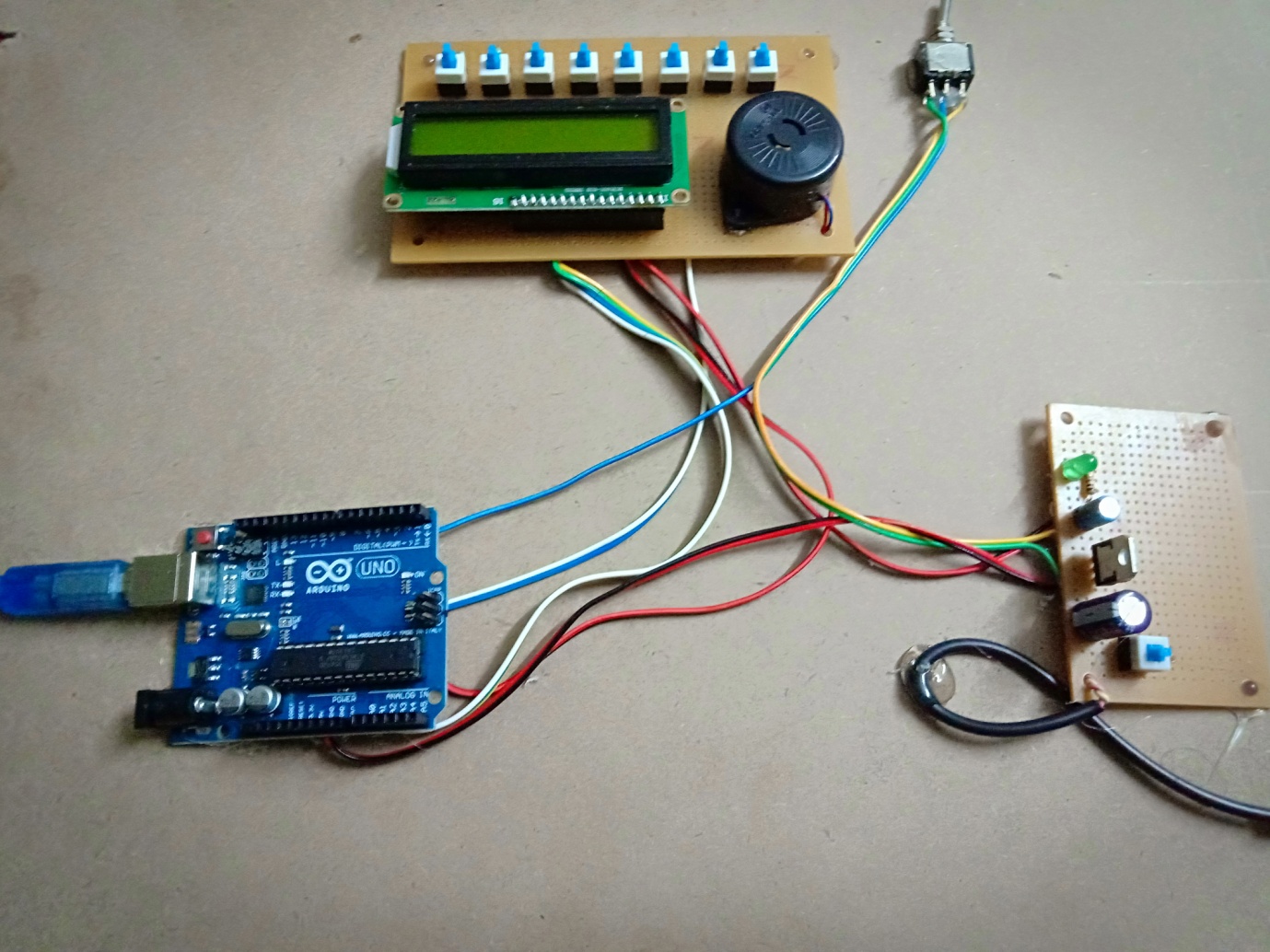
1. Design the power supply circuit with capacitors and transistors .



1. Solder the LCD and speaker



1. Arrange the components and solder it on the printed circuit board



**Program code:**

**https://github.com/rsinghal57/solid-memory**