HURT LOCKER KIT

USER MANUAL

Phoebe@DFRobot

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WHATS INCLUDED?

PARTS NEEDED

- DFRduino UNO Board

- IO Expansion Shield

- LCD1602 Display

- Adapter Board

- Buzzer

- LED Light Module (R / W / B / G)

- 9g Servo

- Jumper Cable

- USB Power Cable

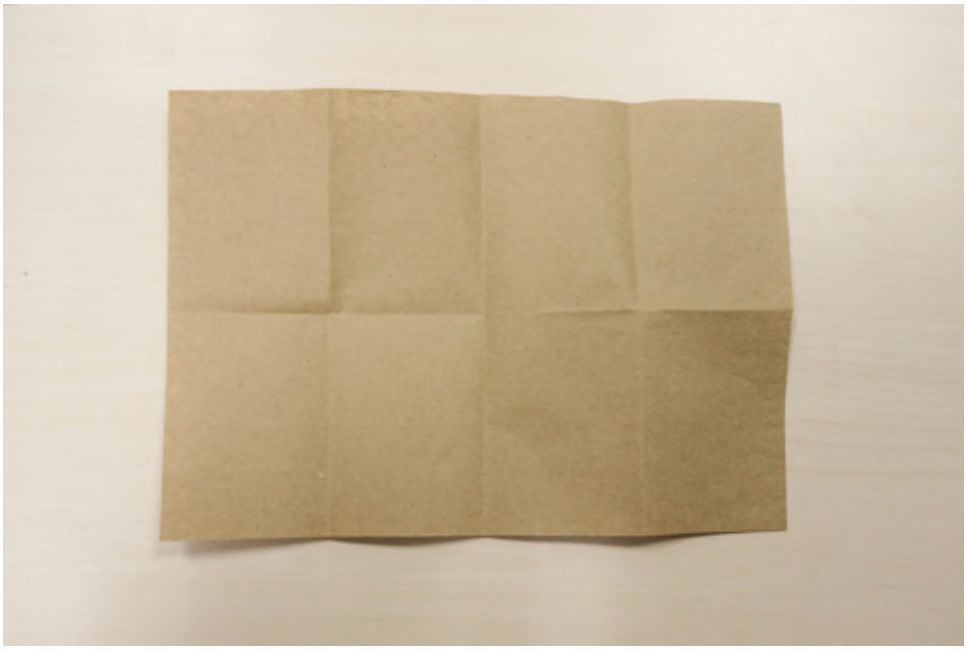
TOOLS NEEDED

- Screw Driver
- Utility Knife
- Gel Pen
- Glue
- Scissor

TUTORIAL

I. CROP KRAFT PAPER

First, fold the kraft paper three times.



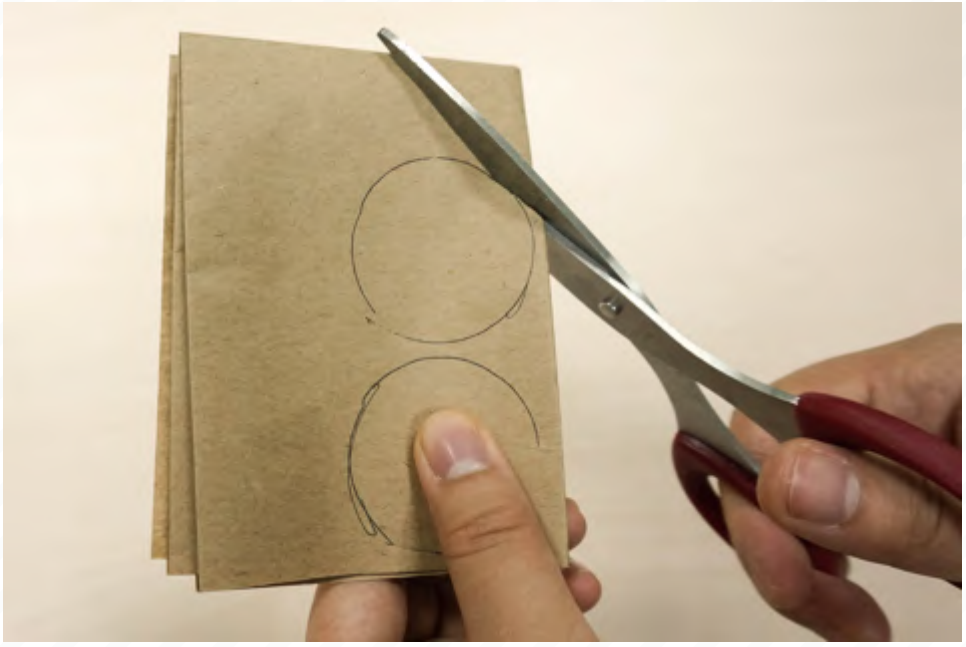
TUTORIAL

I. CROP KRAFT PAPER

Take out a paper tube and draw the outline of it on kraft paper.

TUTORIAL

I. CROP KRAFT PAPER



Cut the Kraft paper according to the outline. We need the small round paper later.
(Guess what they can do)

TUTORIAL

II. SET THE PAPER TUBES

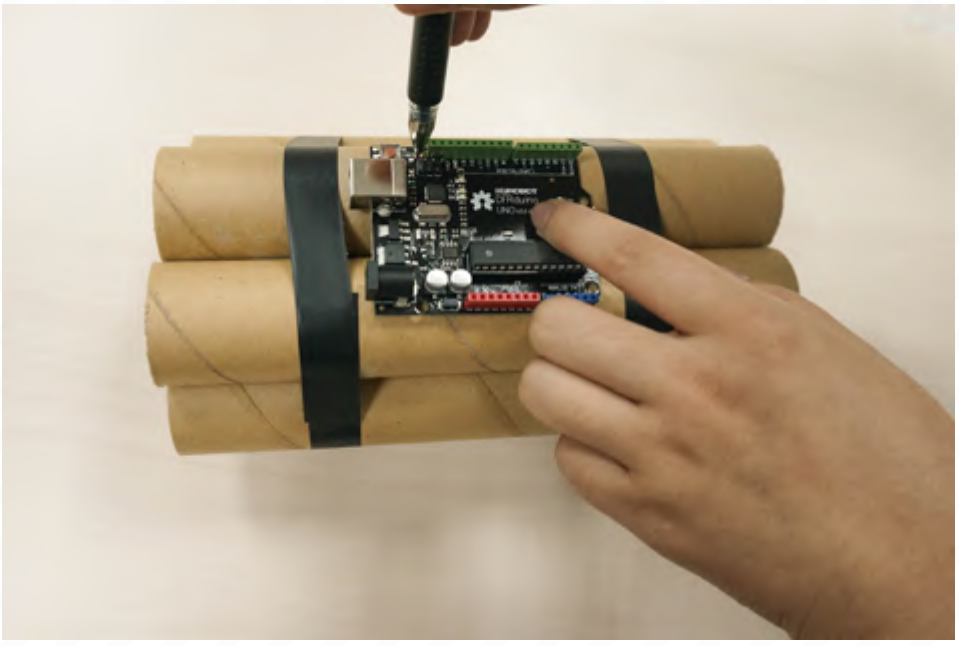
Pile 7 paper tubes together with the shortest one in the middle, make sure one side of the tubes match, as shown in the picture.

TUTORIAL

II. SET THE PAPER TUBES

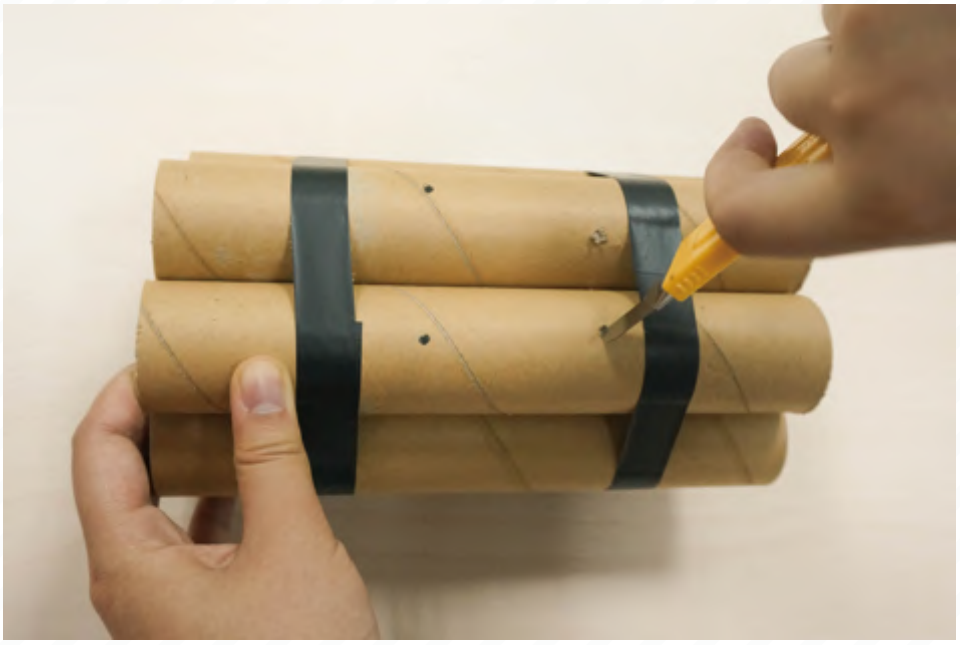
Use black tape to fasten them.

III. FIX MICROCONTROLLER



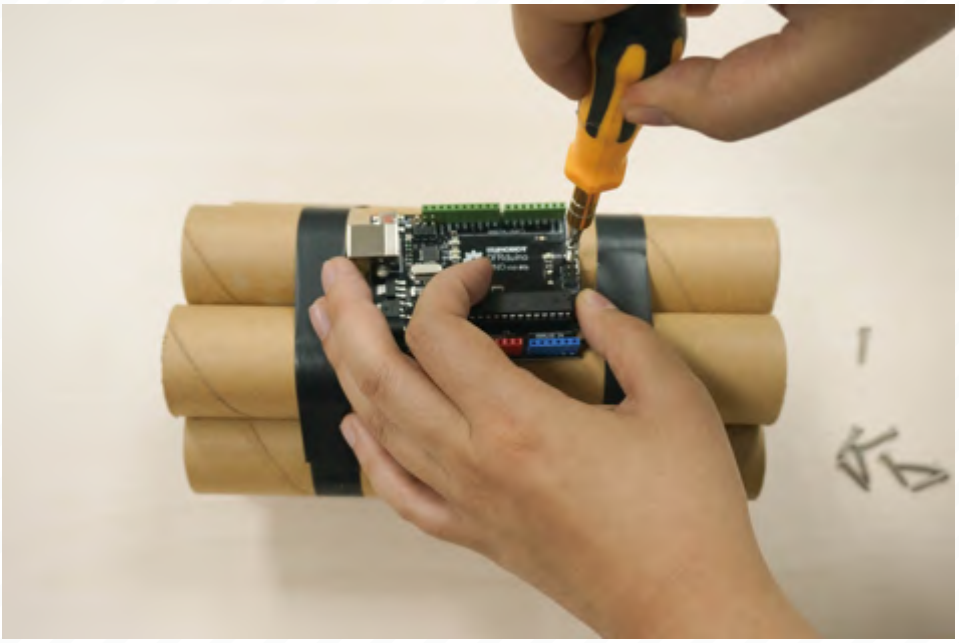
Mark the mounting hole of DFRduino UNO on the bomb in the position as shown in the picture.

III. FIX MICROCONTROLLER

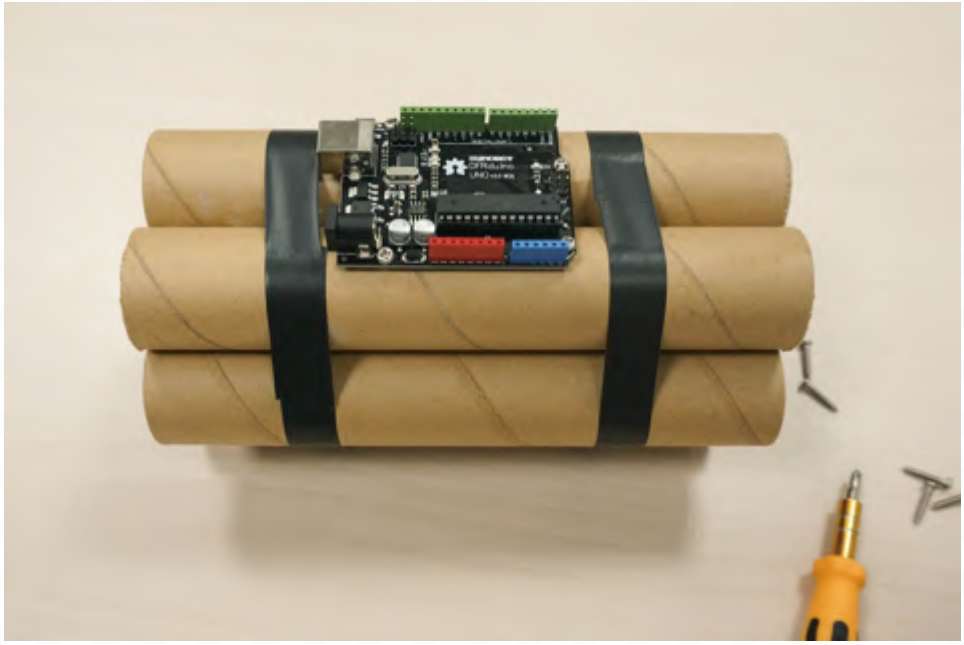


Drill holes with utility knife on the mark,
so that we can easily fix the board with screws.

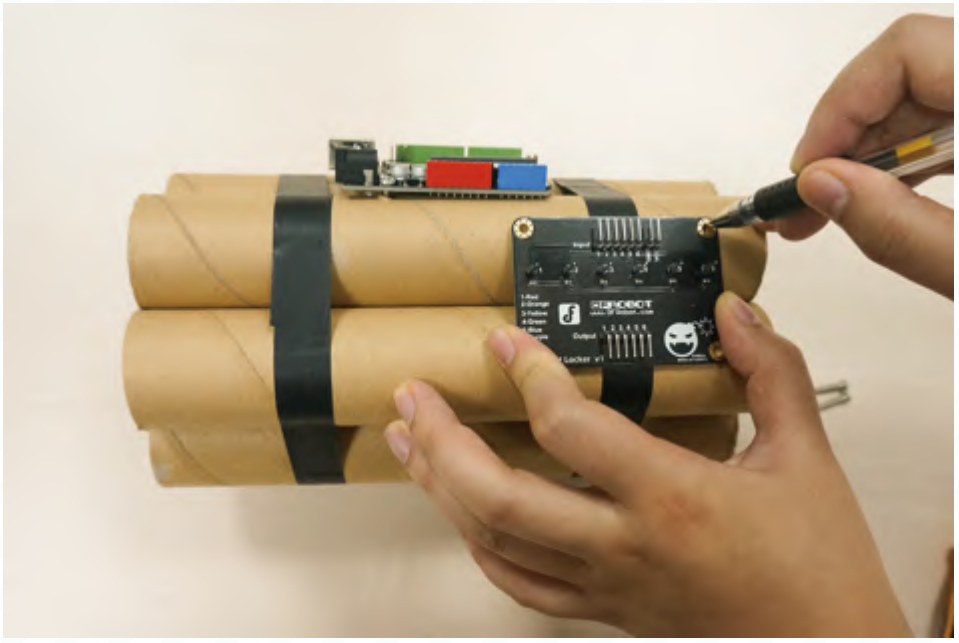
III. FIX MICROCONTROLLER



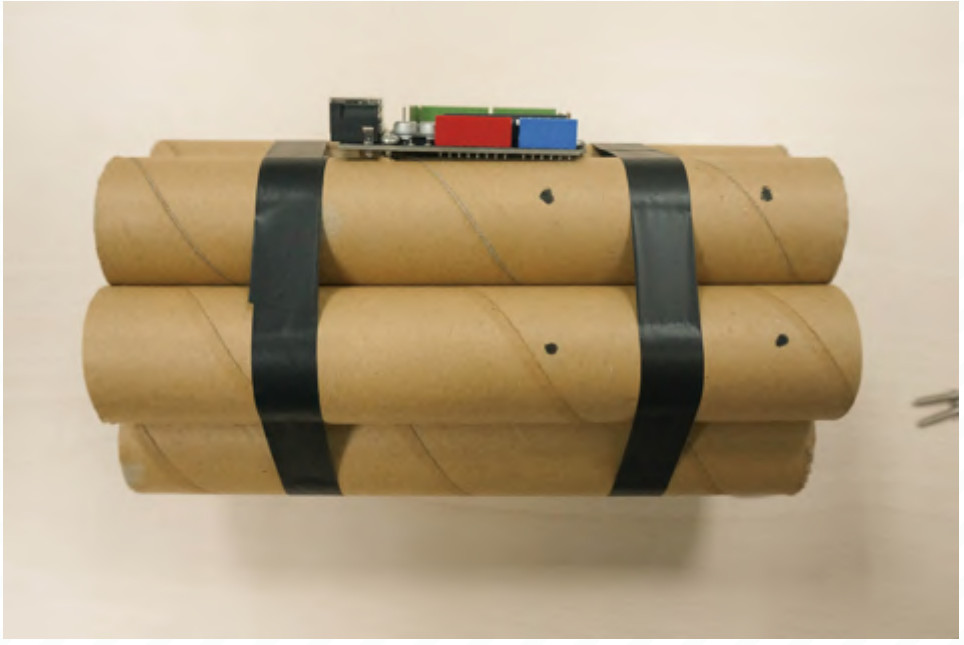
Screw DFRduino UNO onto the bomb with the self-tapping screws.



IV. FIX THE ADAPTER BOARD



Attach the adapter board to the bomb in the same way.



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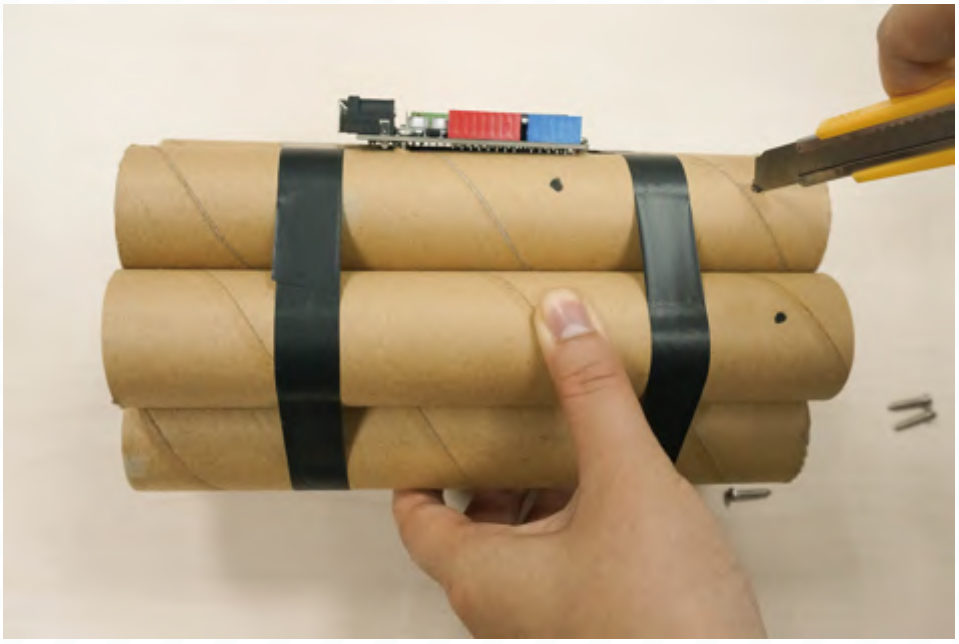
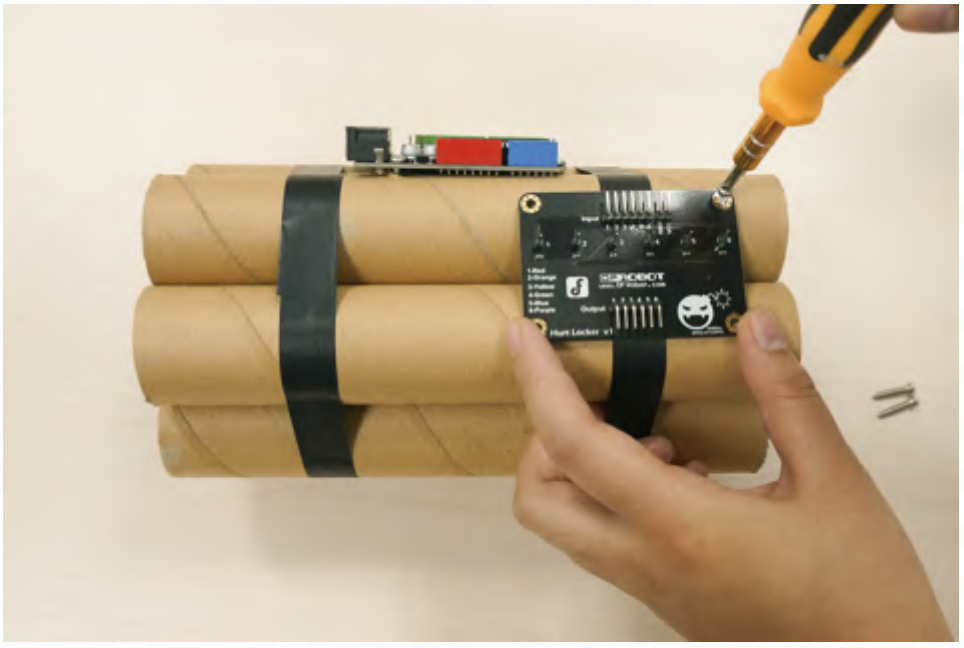
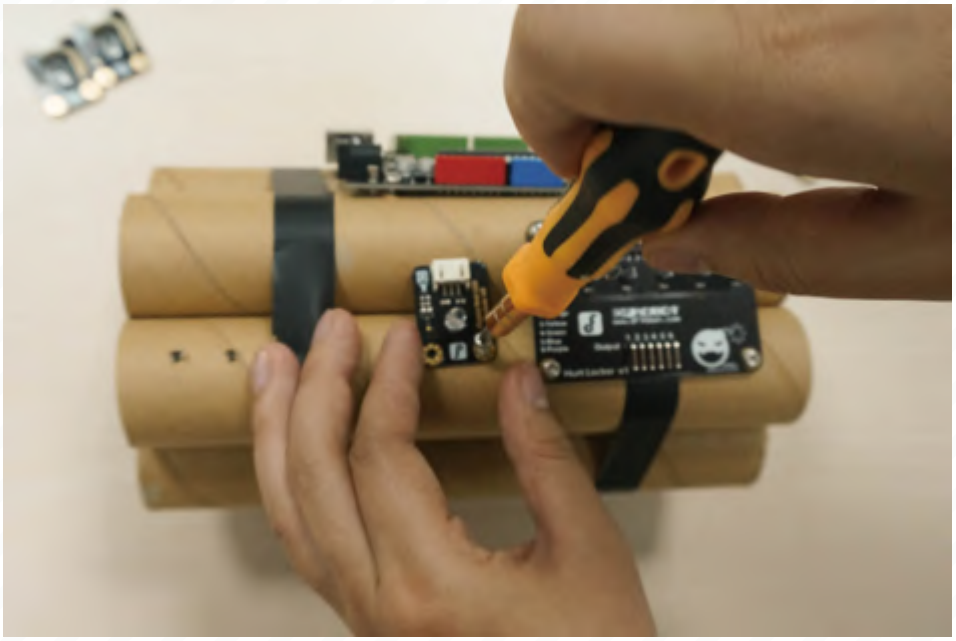
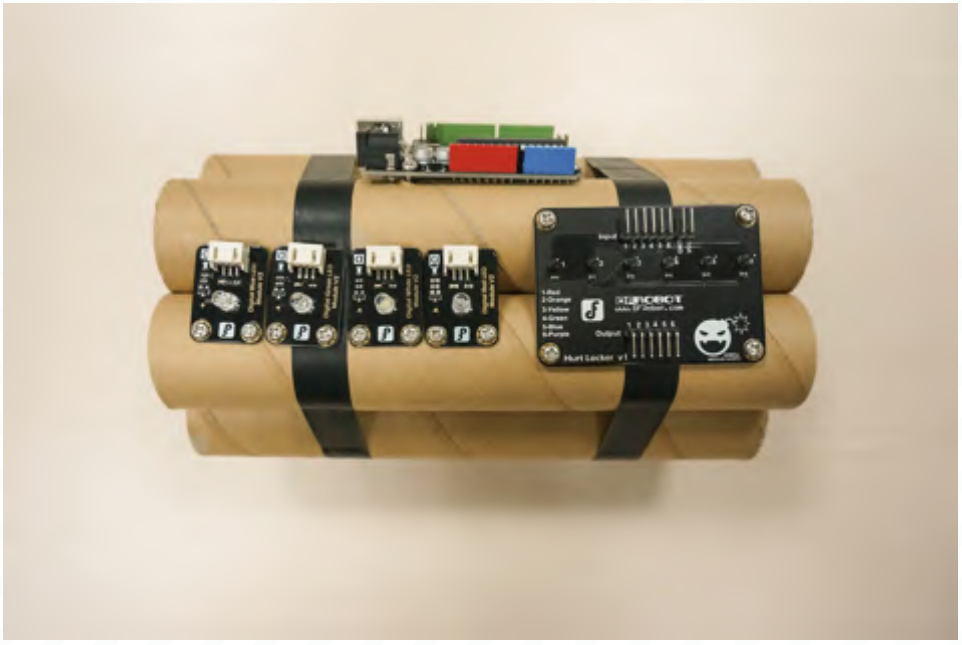




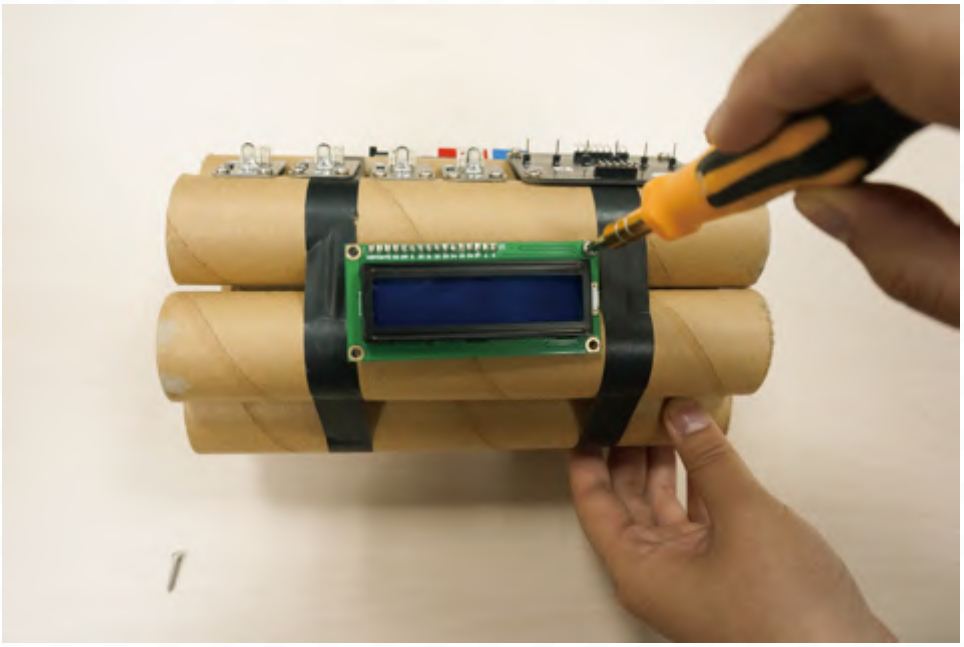
V. FIX THE LED MODULES

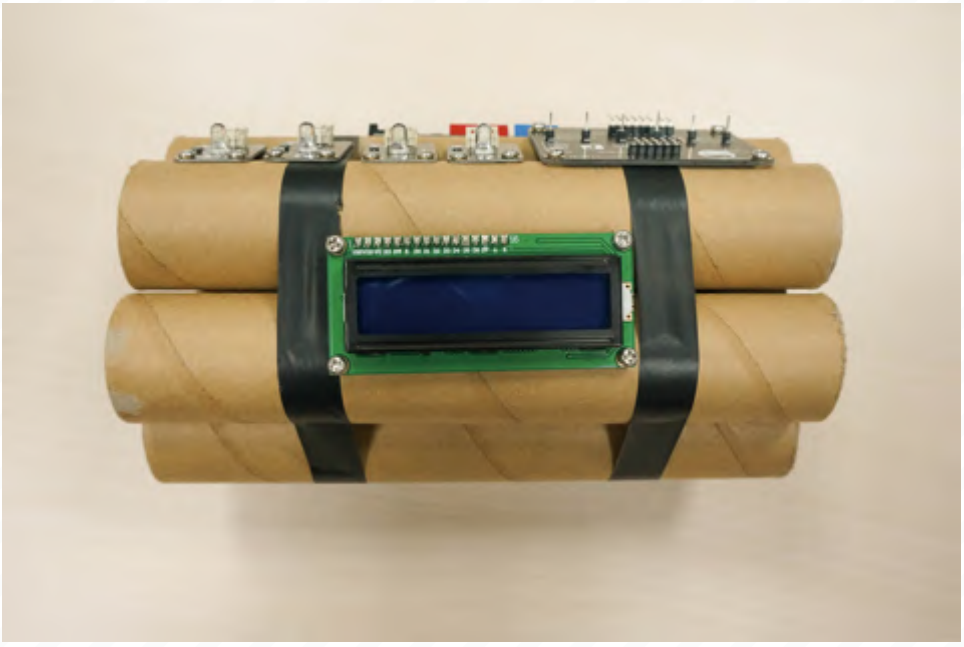


Attach the LED modules to the bomb in the same way.



VI. FIX THE LCD MODULE





VII. MAKING THE DETONATING DEVICES

Take out the horn
as shown

Fix the servo horn
in the position as shown

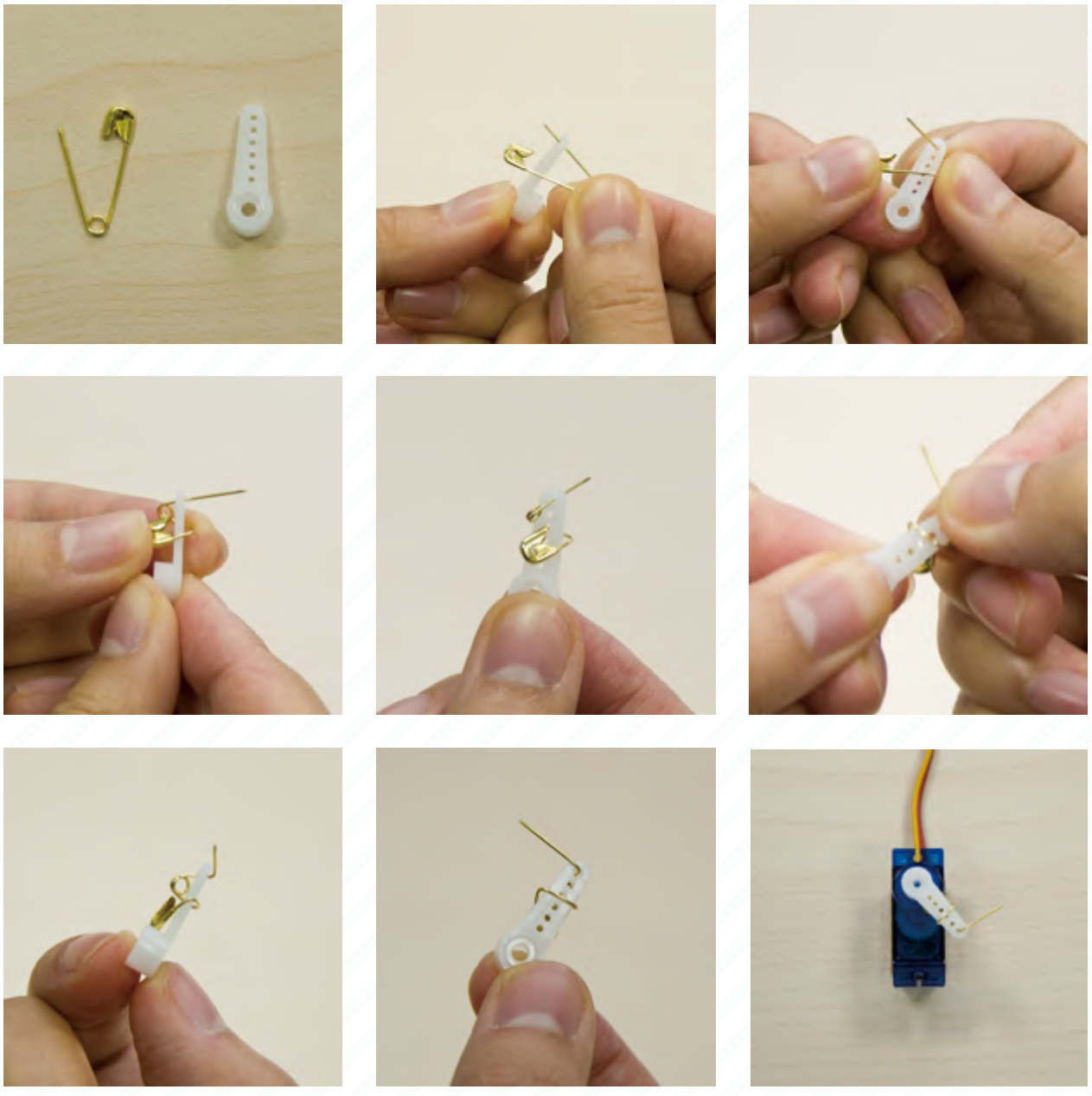
Rotate the horn
clockwise

Until the end

Remove the horn
from the servo

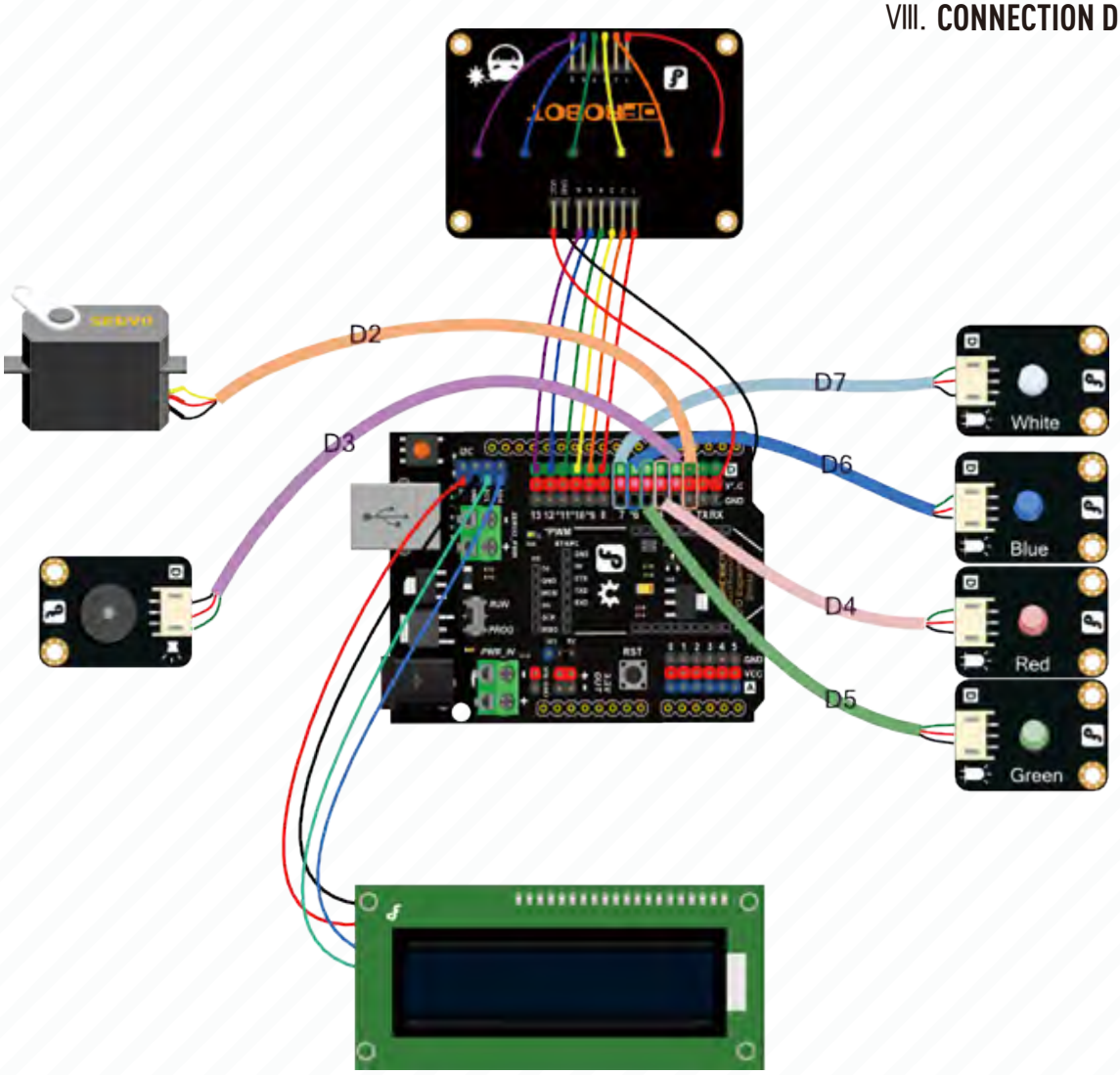
Take out the safe pin

VII. MAKING THE DETONATING DEVICES



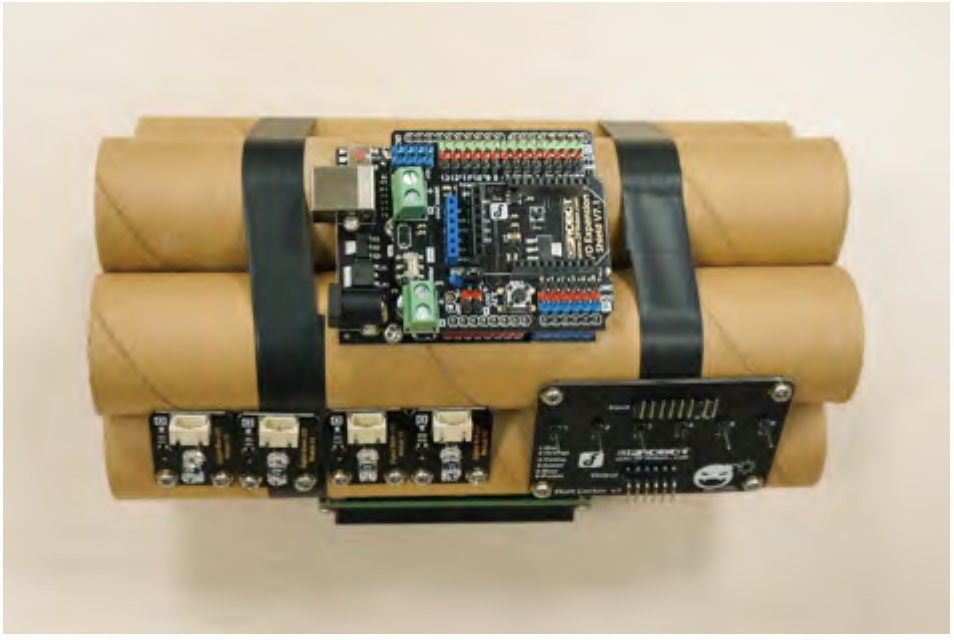
Fix the horn on the servo again. Keep them in the position as shown.

VIII. CONNECTION DIAGRAM

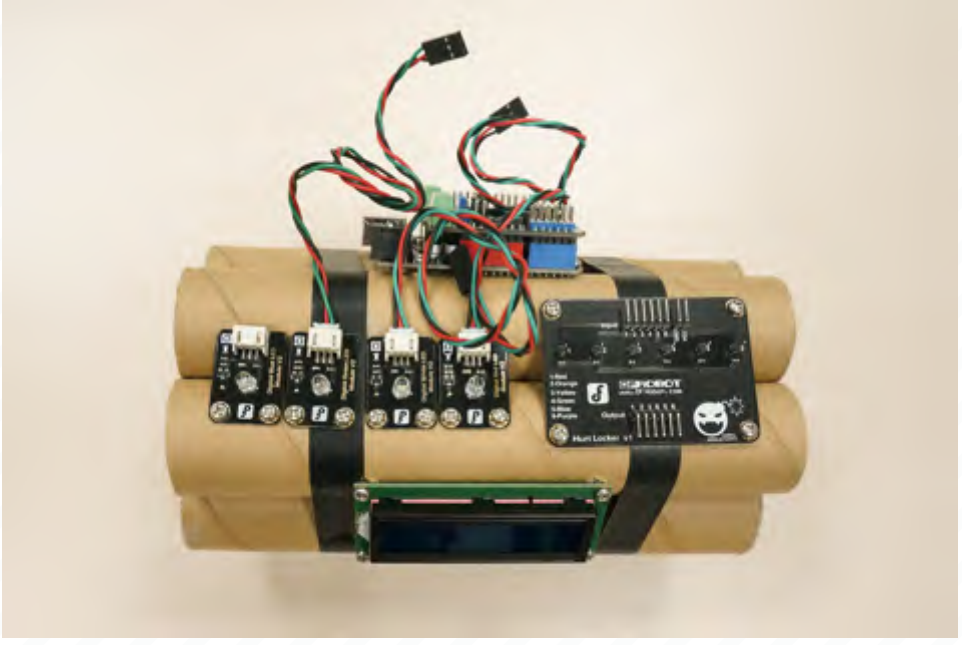


- Adapter board Red wire——VCC
- Adapter board Black wire——GND
- Adapter board Red cable 1——Digital 8
- Adapter board Orange cable 2——Digital 9
- Adapter board Yellow cable 3——Digital 10
- Adapter board Green cable 4——Digital 11
- Adapter board Blue cable 5——Digital 12
- Adapter board Purple cable 6——Digital 13
- Red LED module——Digital 4
- Green LED module——Digital 5
- Blue LED module——Digital 6
- White LED module——Digital 7
- Buzzer Module——Digital 3
- 9g Servo——Digital 2
- LCD1602 module——SDA, SCL, 5V, GND

VIII. CONNECTION DIAGRAM

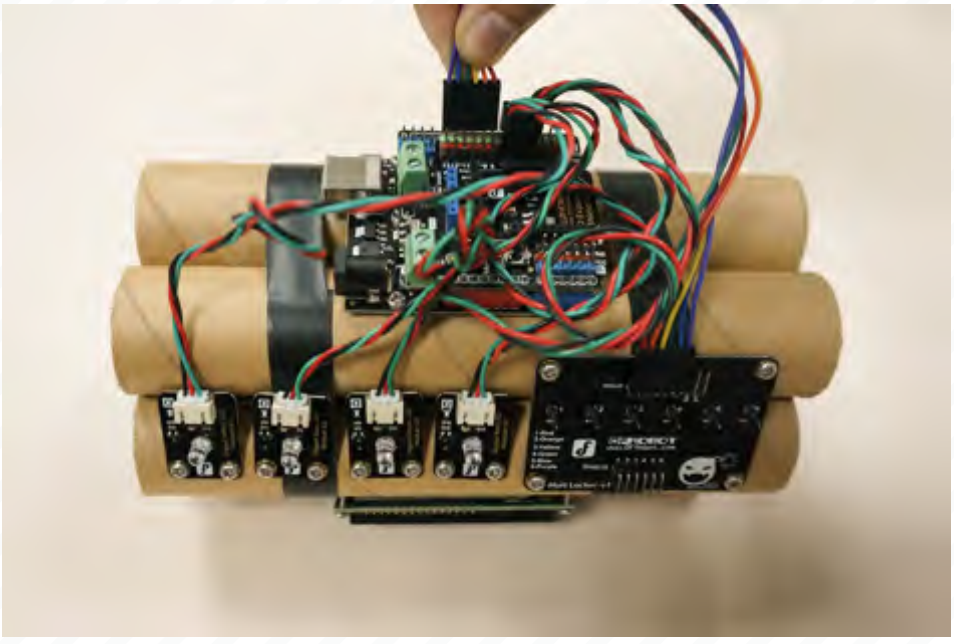


Plug IO Expansion Shield onto DFRduino UNO board.

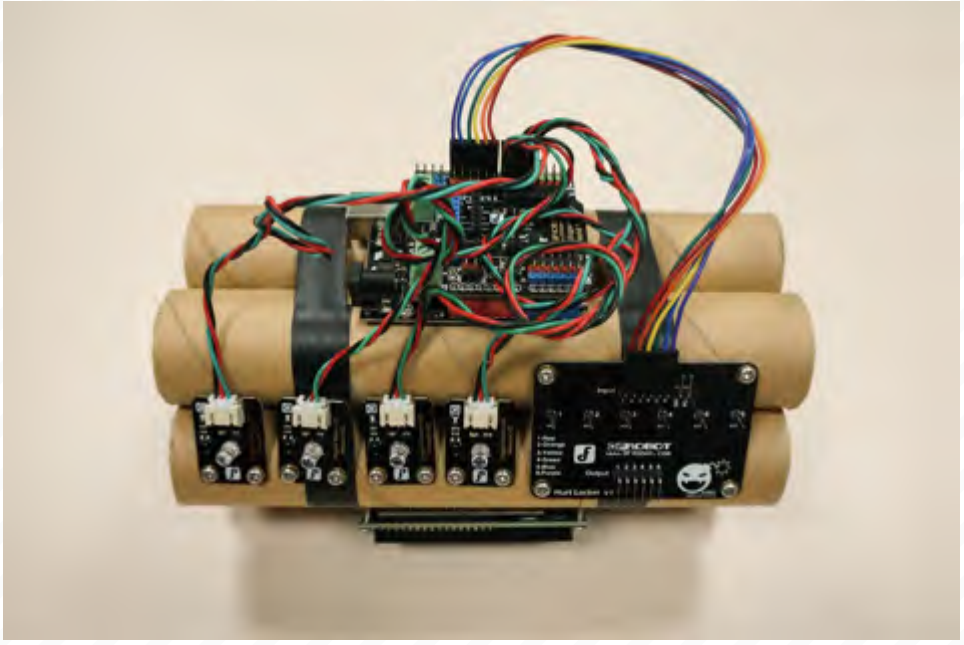


Connect the LED modules to DFRduino UNO board.

VIII. CONNECTION DIAGRAM



Attach the Adapter board to the DFRduino UNO board.



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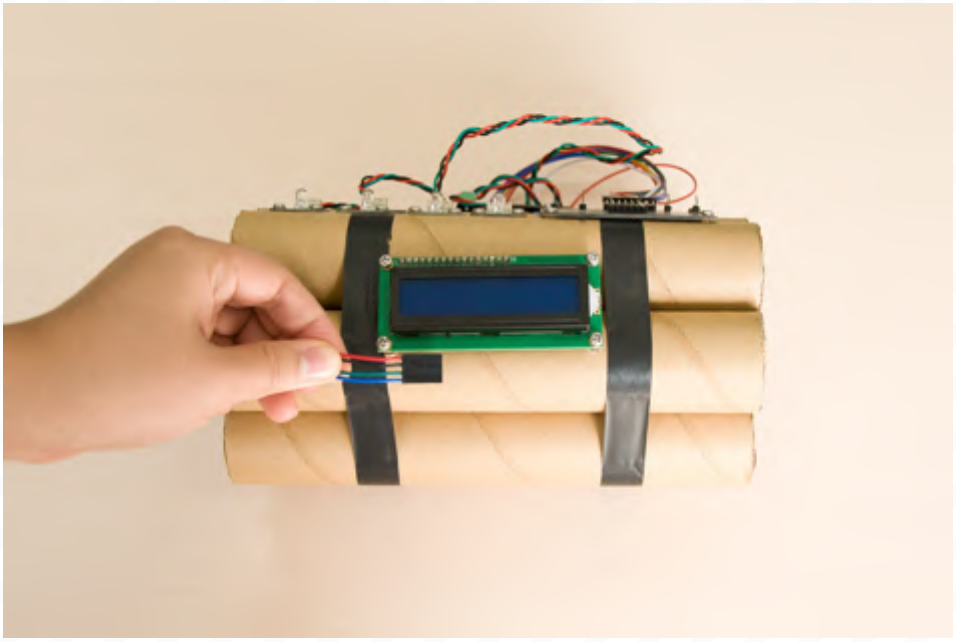
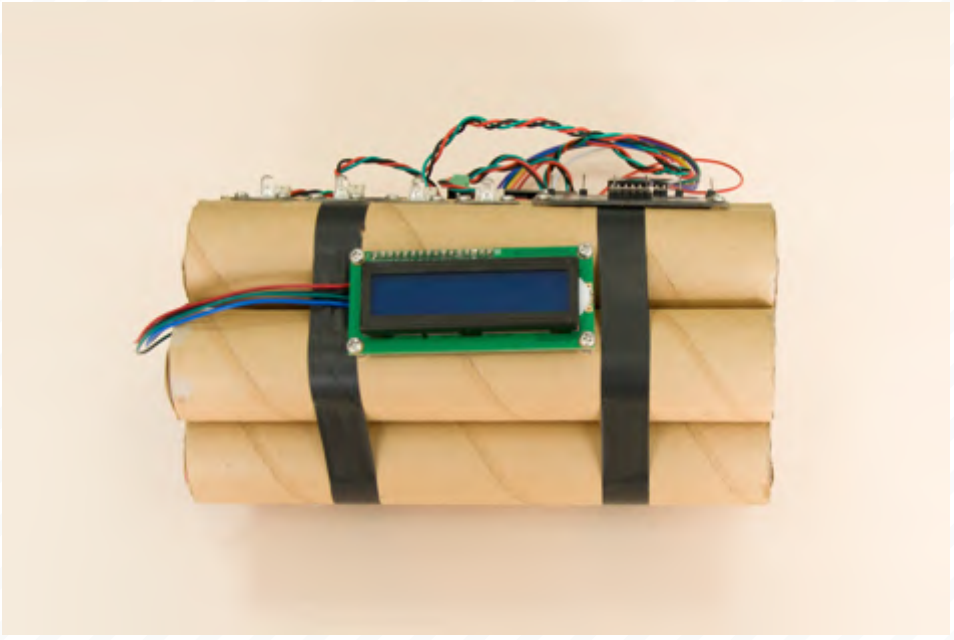


Connect the LCD to DFRduino UNO board
(pay attention to the pin order, Red wire is VCC)



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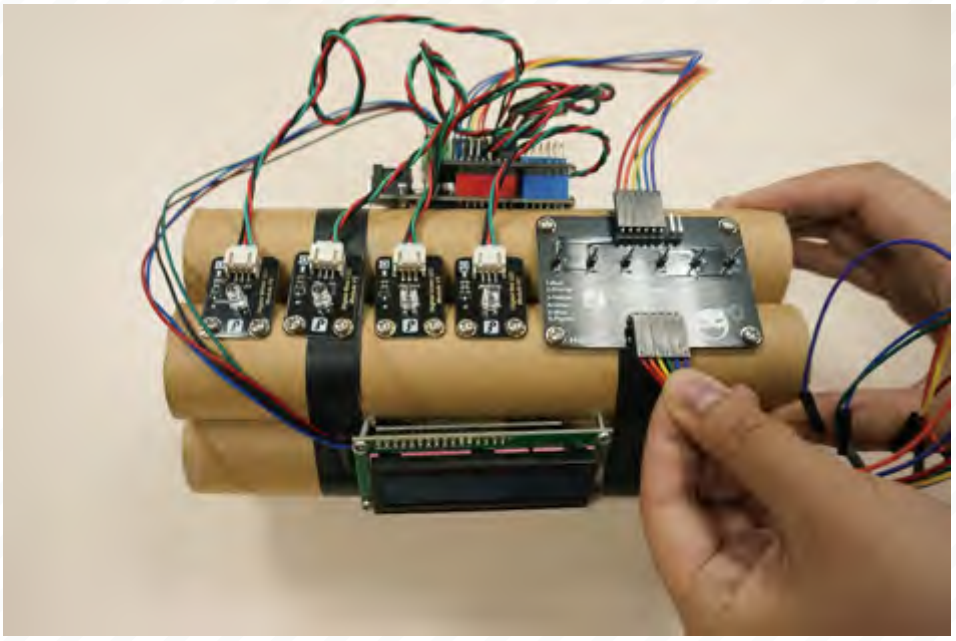
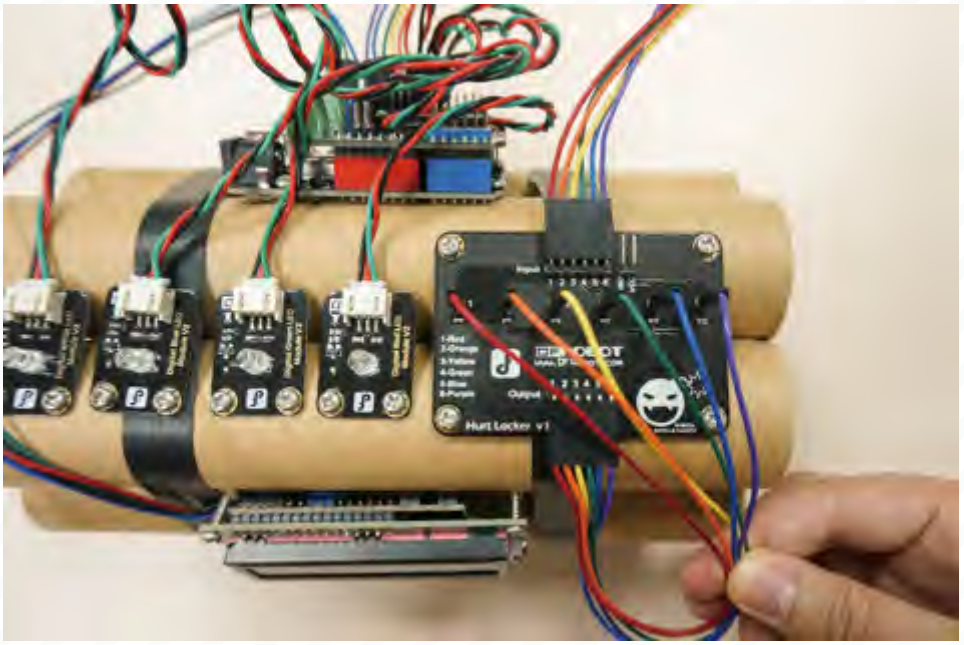


Connected the other wire to the adapter board.



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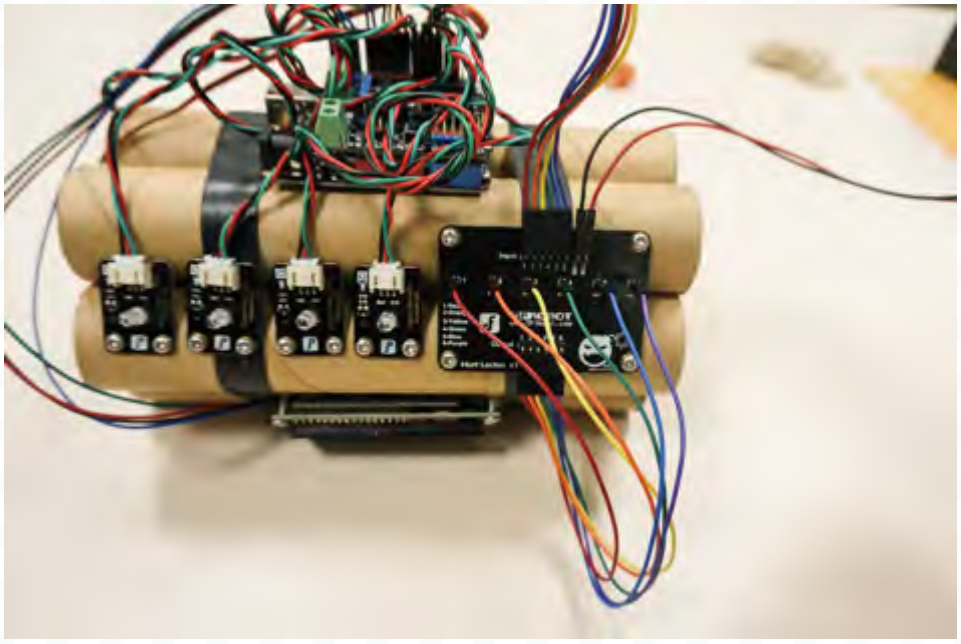
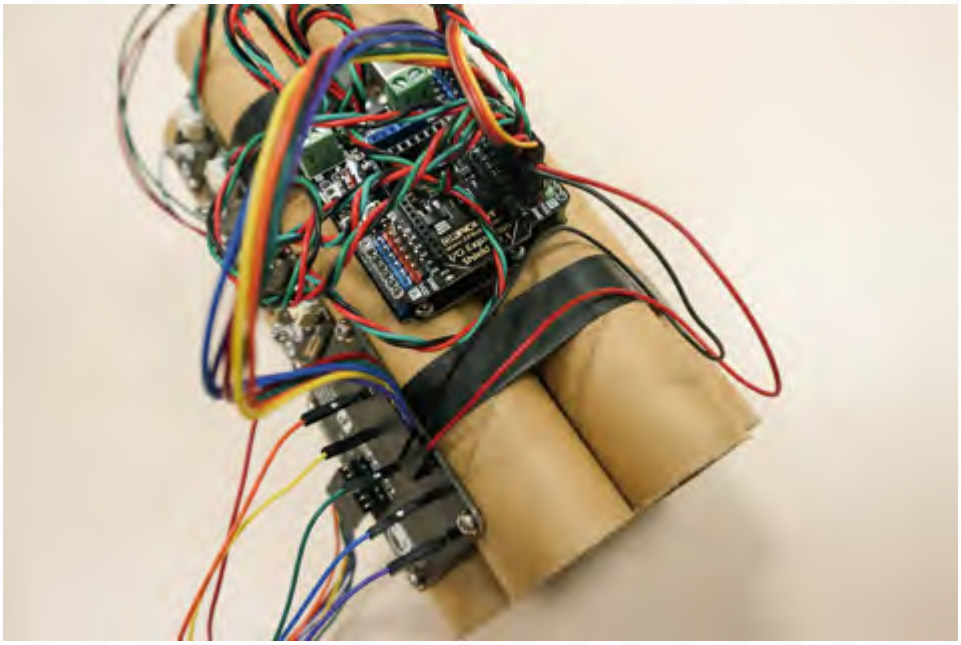
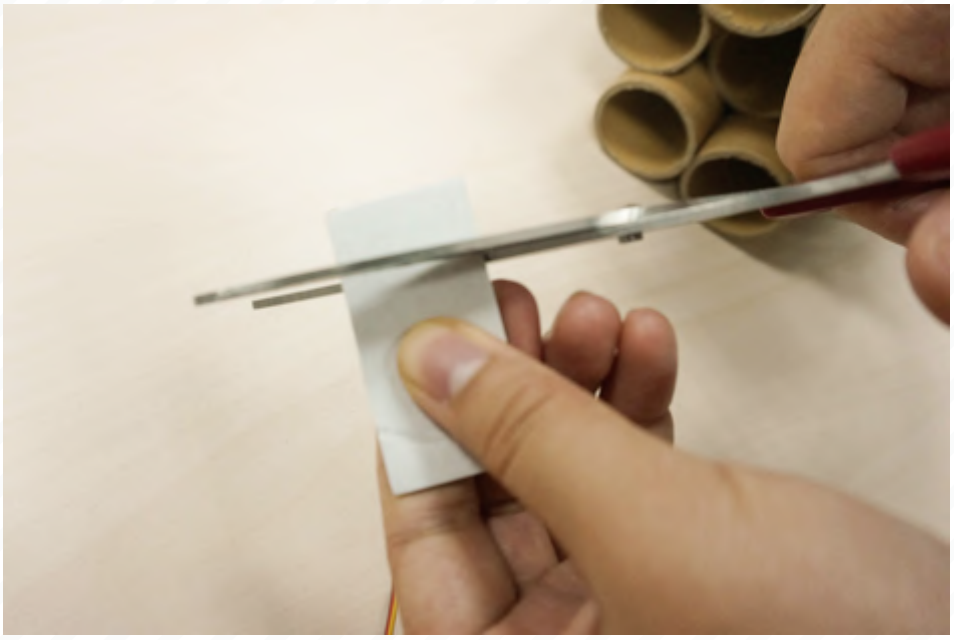


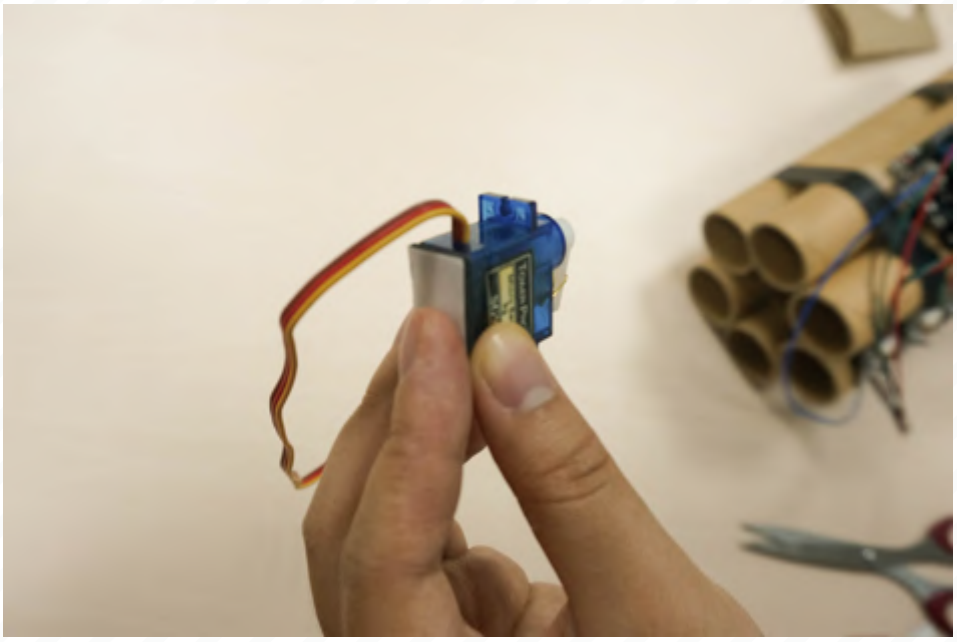
Connect the Adapter board VCC and GND to DFRduino UNO board VCC and GND.



IX. FIX THE 9G SERVO



Cut a small piece of double-sided adhesive and tape it at the bottom of the servo.



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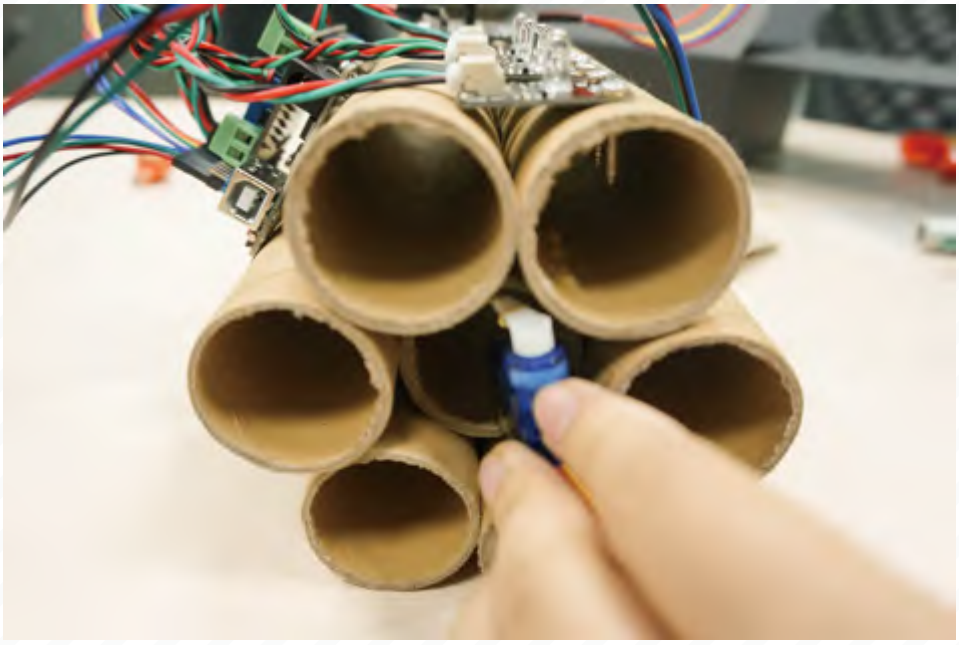
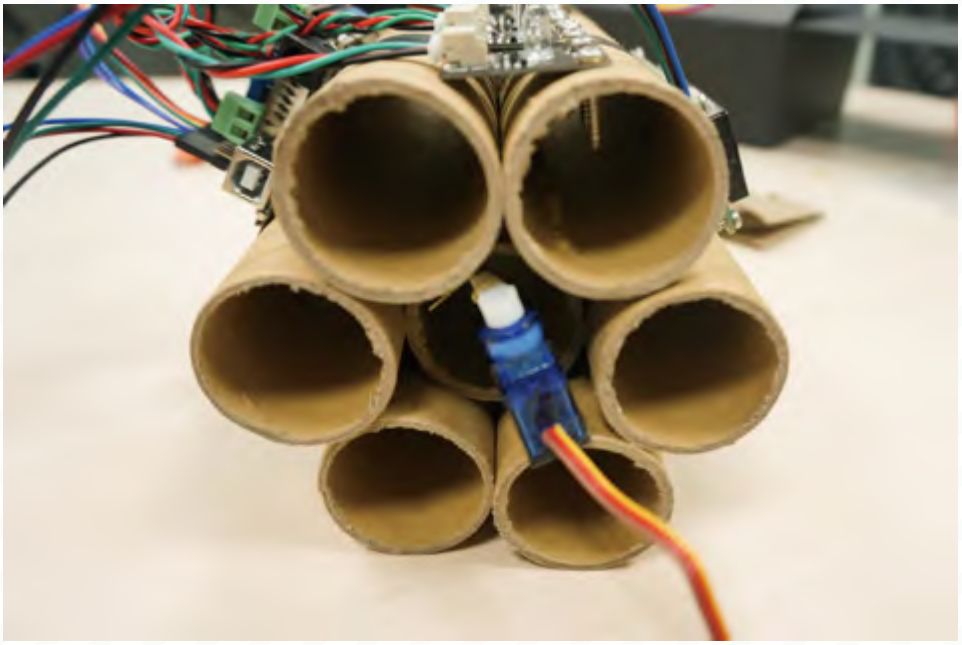
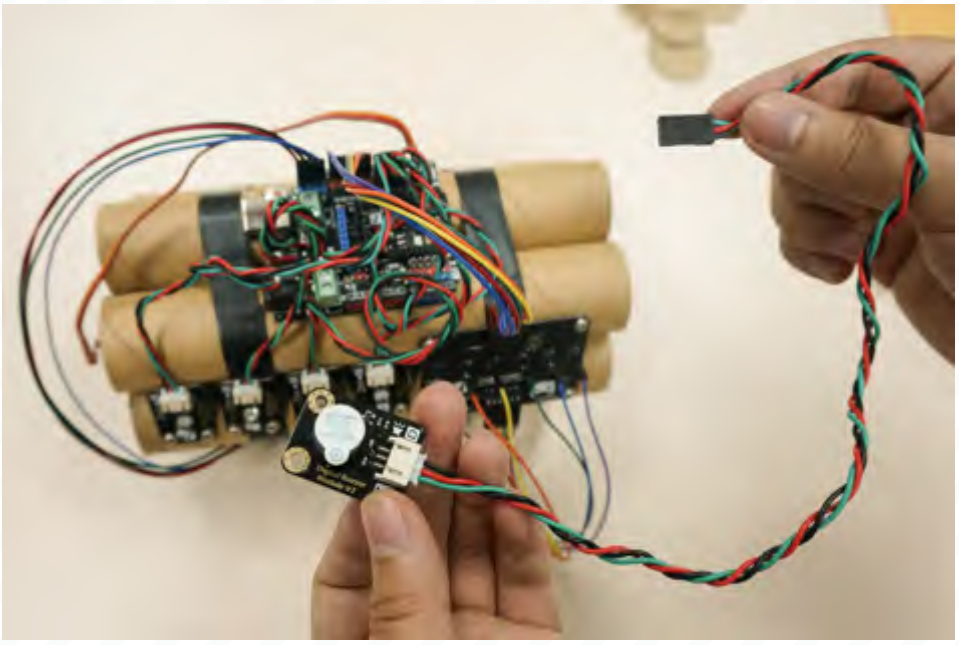


Hid the servo in a paper tube recess. (Be careful to the sharp pin!)



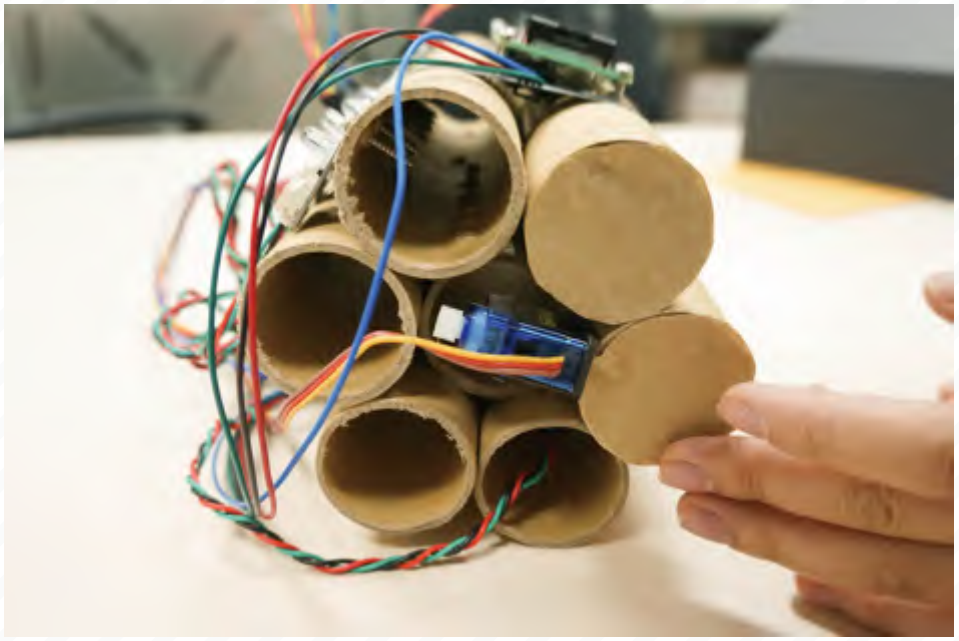
IX. FIX THE 9G SERVO



Connect the buzzer module to digital 3 and hide it in the paper tube.
Ps: If you consider the sound of the buzzer is not loud enough, you can tear up the paper on the buzzer.

X. SEAL THE PAPER TUBES

Glue the round pieces of paper and seal the paper tubes with it.



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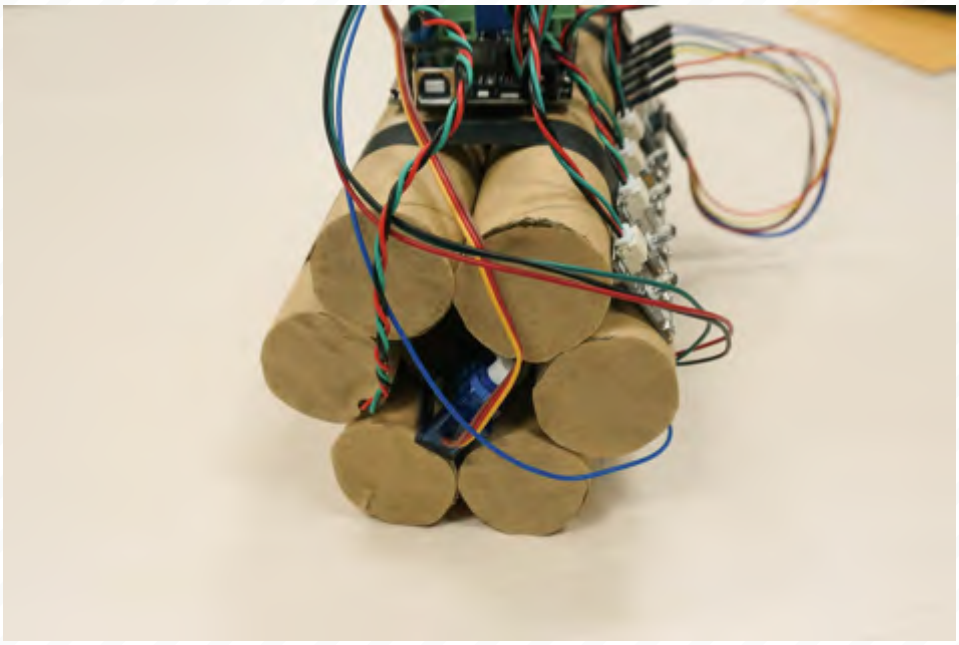
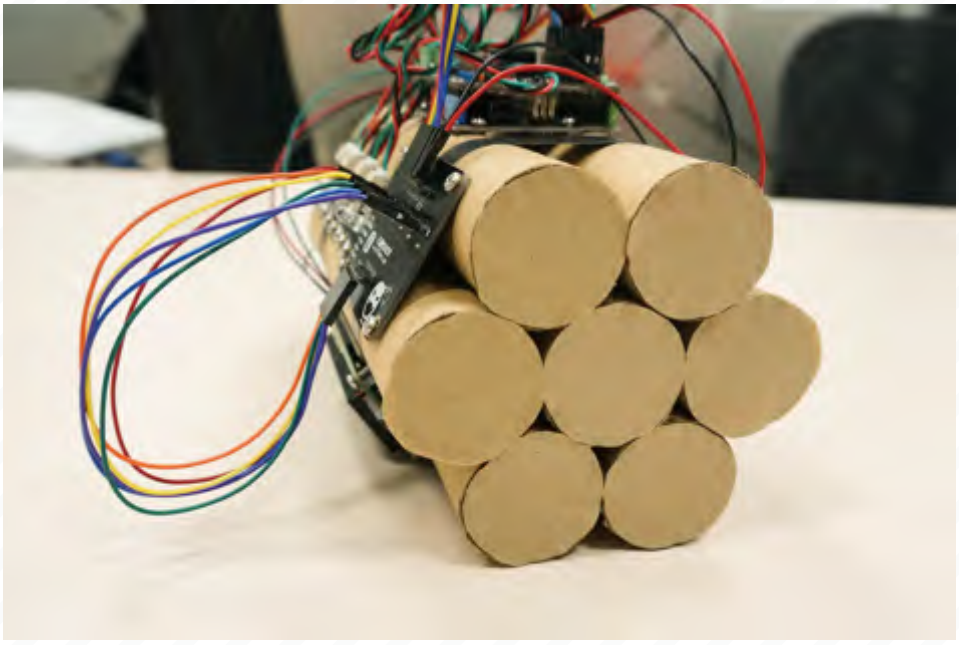
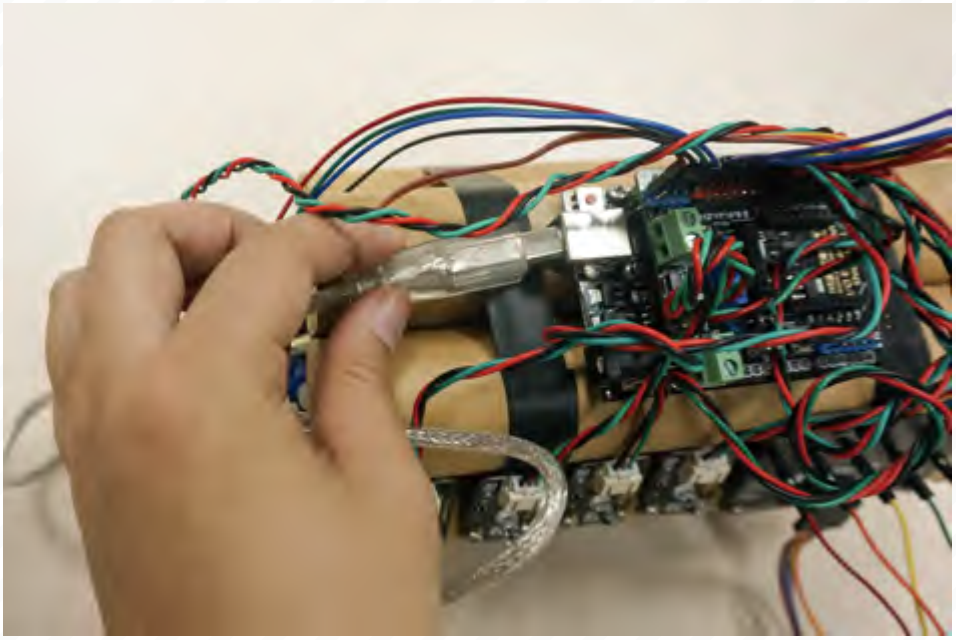




Glue the round pieces of paper and seal the paper tubes with it.

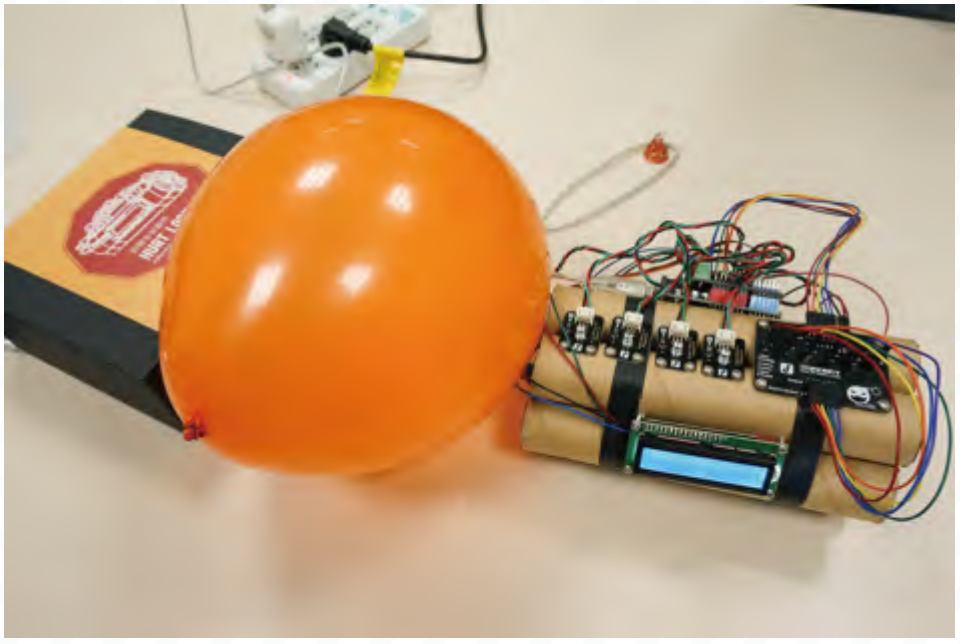
XI. POWER THE MICROCONTROLLER



Connect the USB cable to the phone charger
(or 5V adapter) and power the microcontroller.

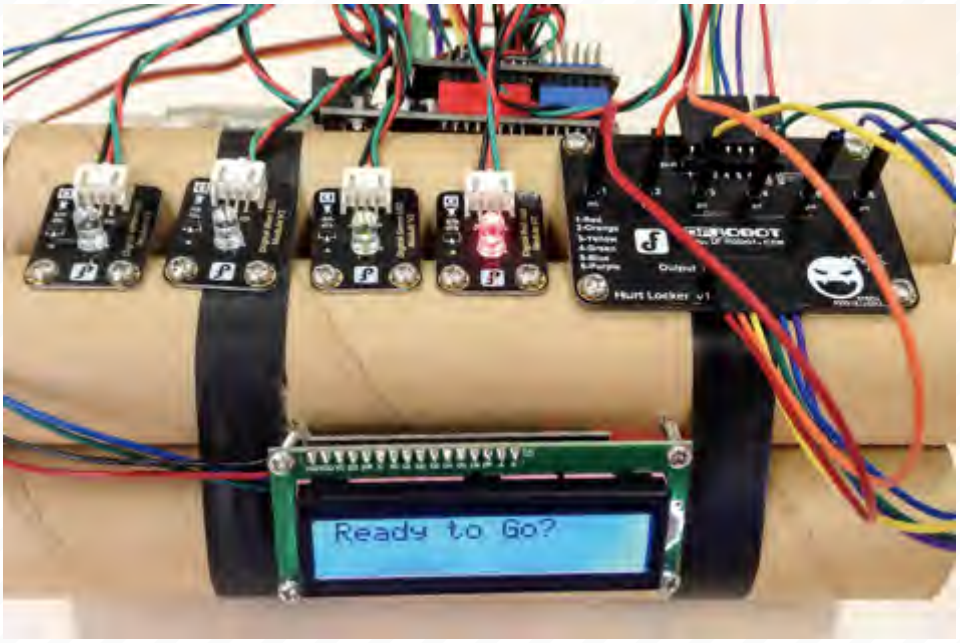
XI. POWER THE MICROCONTROLLER

Blow a balloon and make it to lean against the bomb by a box or something else.

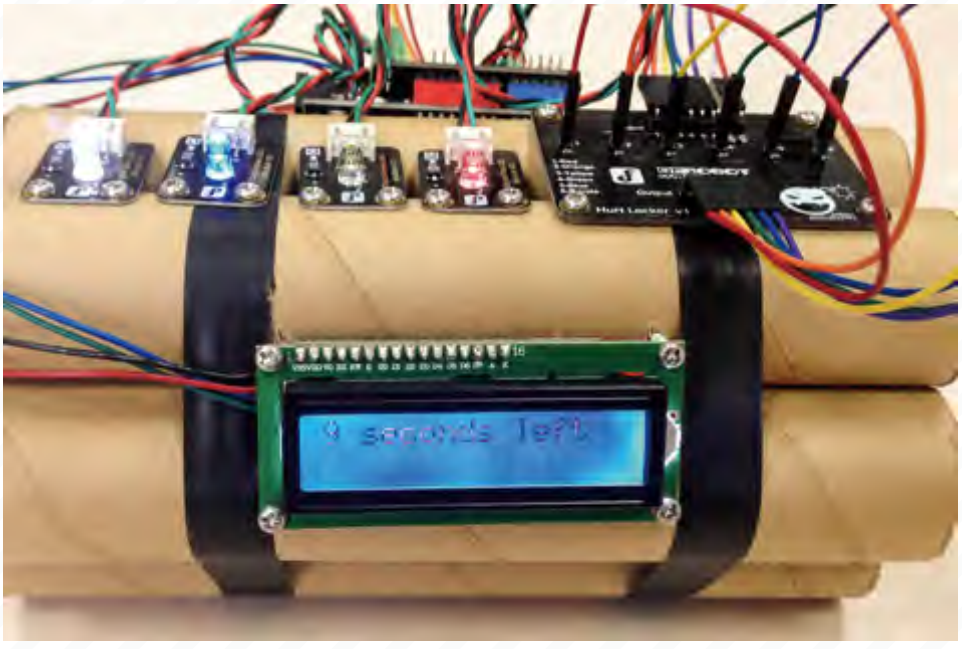


Ready to go ! Wanna have a try ?

GAME RULES

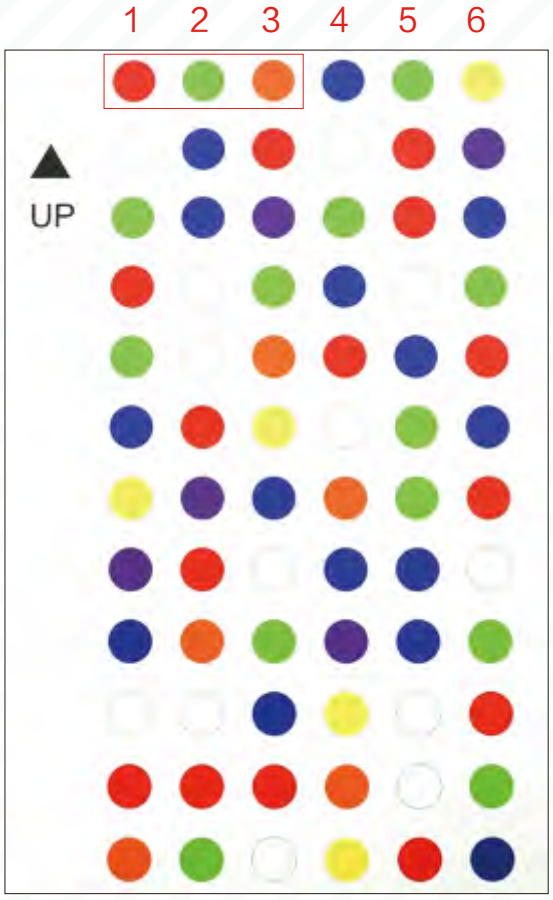


Turn on the power and get ready for the game.



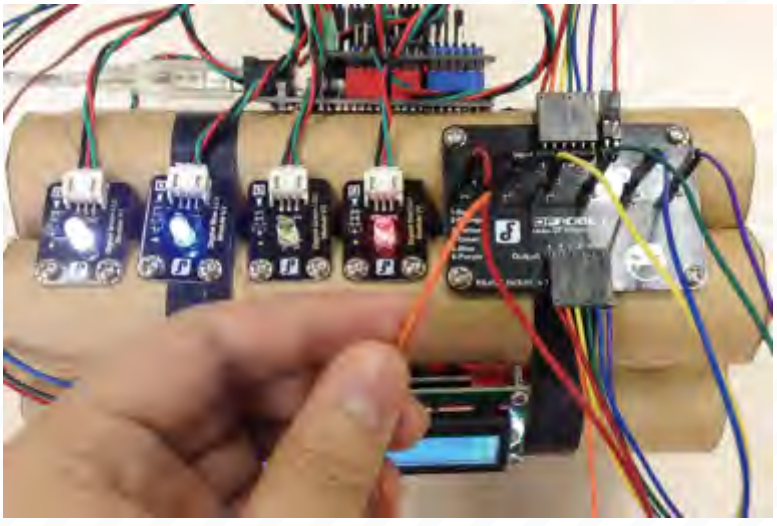
After the “beep” sound, two of the LED will blink at one time (note order).
At the same time, the “bomb” goes into the 15 seconds countdown.

THE COLOR SHEET

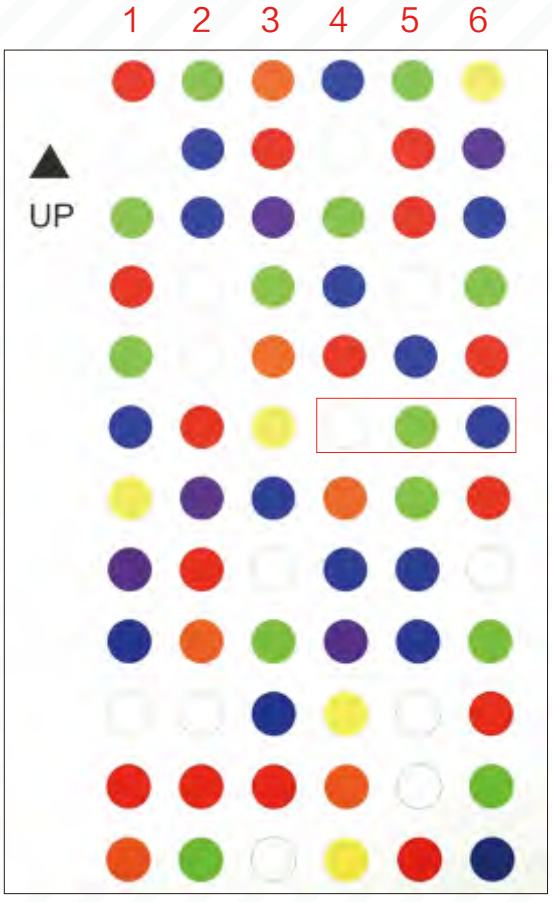


Check the colors of the two LEDs and find their corresponding colors on the color sheet. The colors in Column 1 and 2 will lead to the 3rd one. Same as colors in Column 4, 5 and 6.

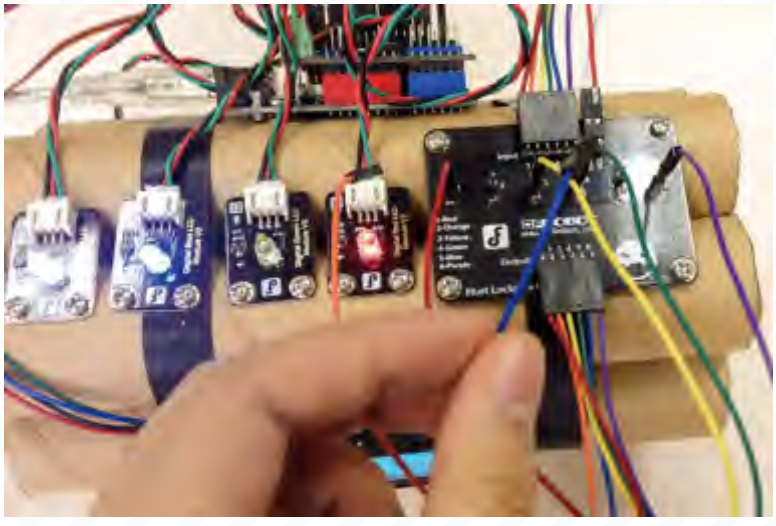
For example, after the “beep” sound, the LED module successively bright red and green. From Column 1 and 2, you can find these two colors correspond to the orange in Column 3. Then pulling up the orange wire cable.



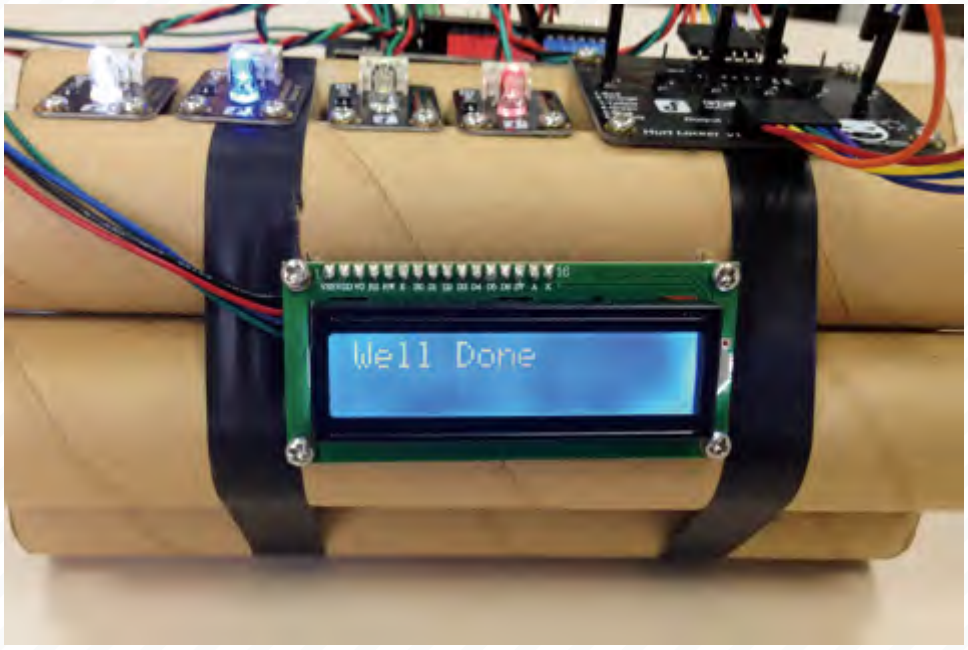
THE COLOR SHEET



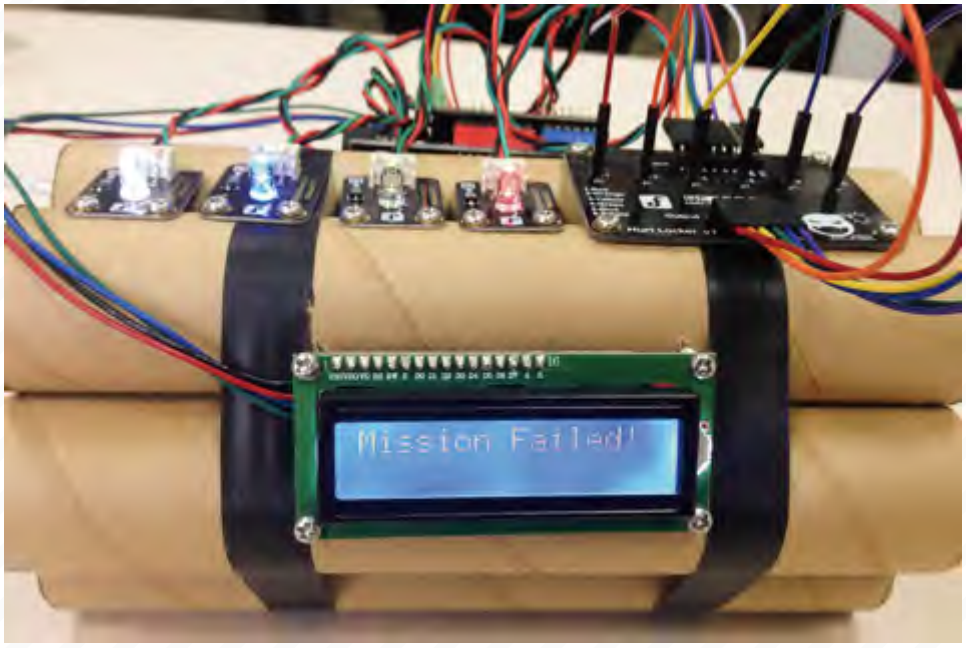
If you pull out the correct wire, you will have another challenge.
Find the correct wire and remove it after the "beep" sound.
For example, the second time you see the white and green,
which corresponds to the blue, just pull up the blue wire.



GAME RULES



Successfully dismantled, "bomb" rings out some congratulations music and the LCD displays "Well Done".

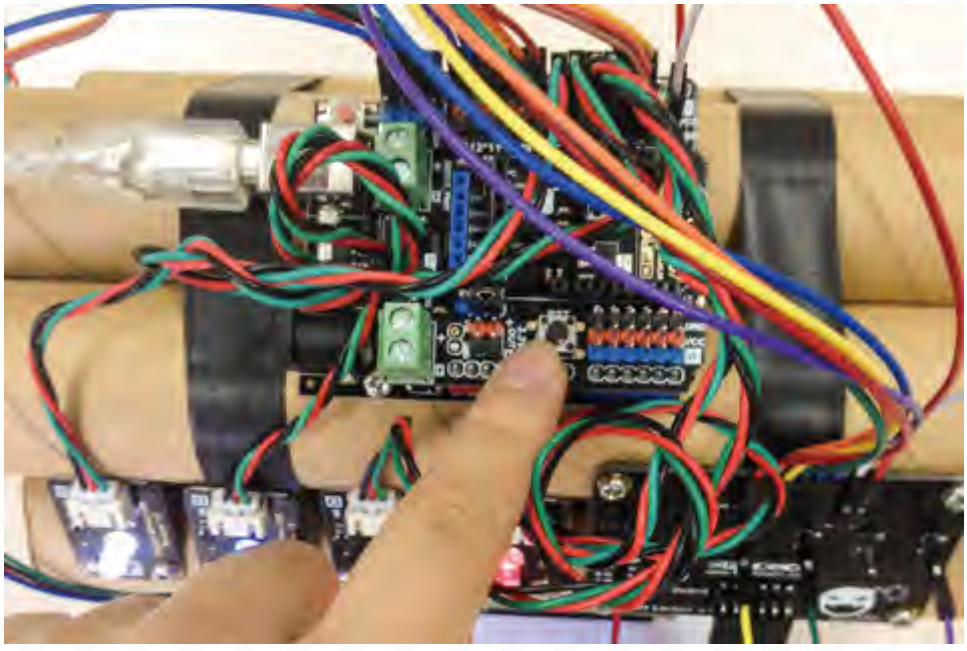


Conversely, if mistake occurs, "bomb" detonates the balloon next to it immediately. At the same time, LCD displays "Mission Failed".

Notice: "bomb" dismantling lasts only for 15 seconds. Good luck!

RESTART A GAME

Press the “RST” button of the IO Expansion board and restart the game.

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