How to Make DDR

By Using Arduino Leonardo

HEEJUN YOON

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1 Dance Dance Revolution?

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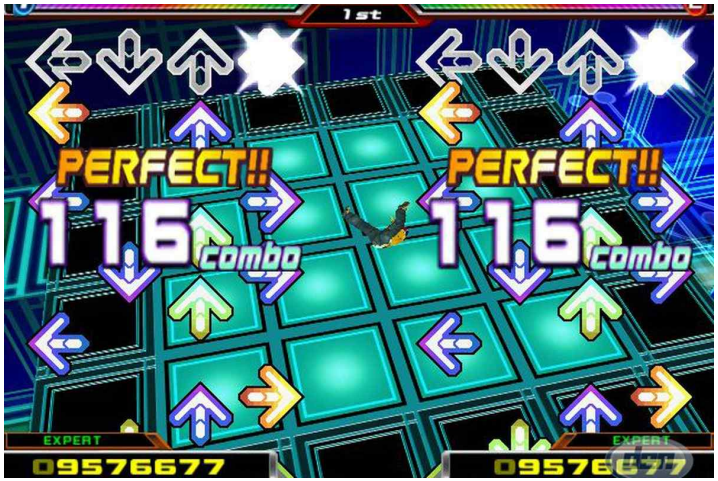

Dance Dance Revolution
(a.k.a DDR)

Arrow Appears

⇒ Step the Pad Corresponding to Beat

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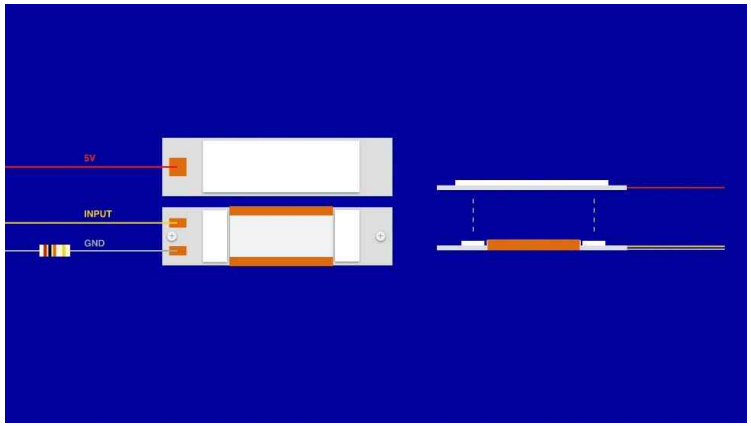
- Pad - Sensor
- Codes
- Game program



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2 WHAT DID WE NEED?

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Ingredients

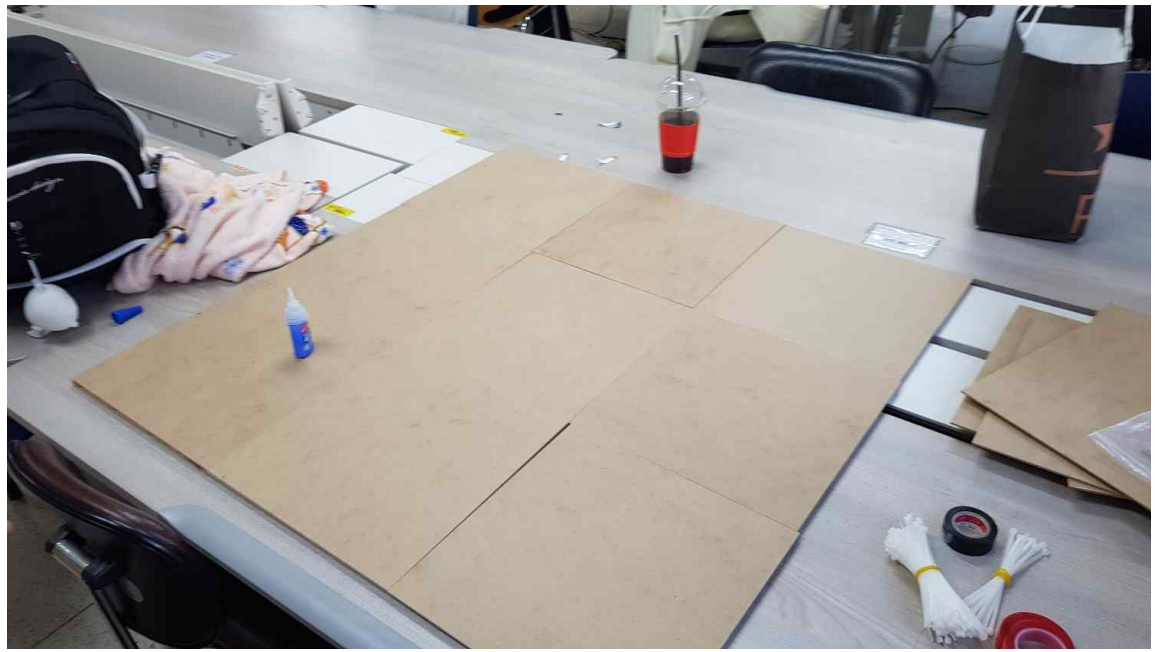
Arduino Leonardo	Aluminum Bar	Cooper Tape
		
Electrical Wire	**Plug Set**	**MDF Veneer Board**
		

+ bond, tape, scissor etc..

1. 〈Making Pad Structure〉

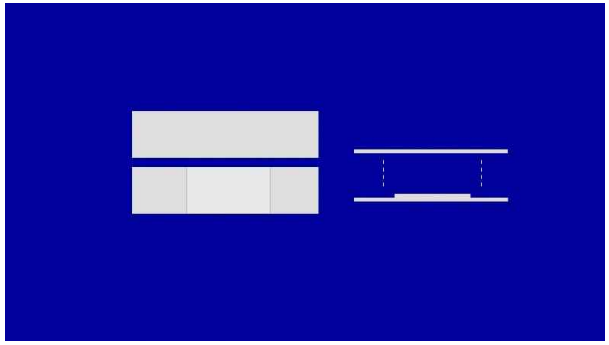
Attach 30 X 30 boards

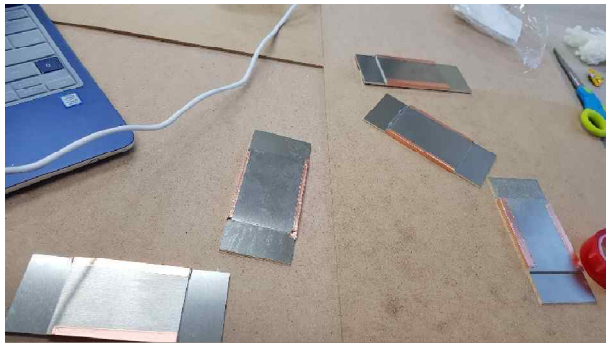
on 90 X 90 board



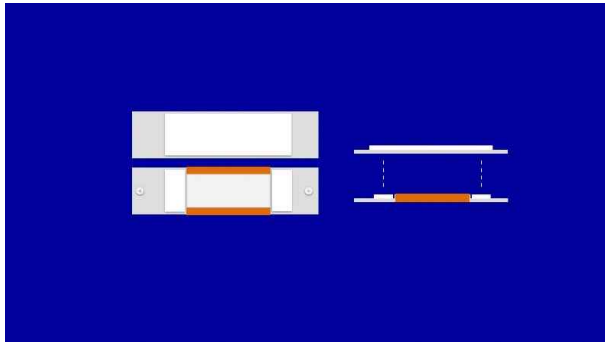
2. <Making Sensor>

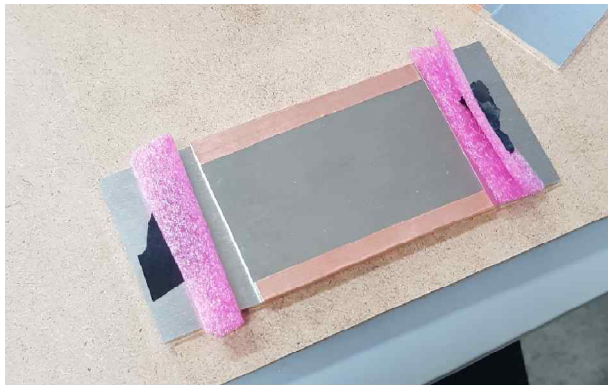
1. Attach two aluminum bar



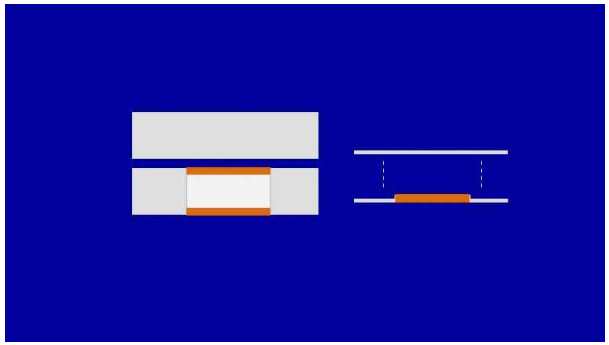


2. Attach Cooper Tape
(for conductivity)



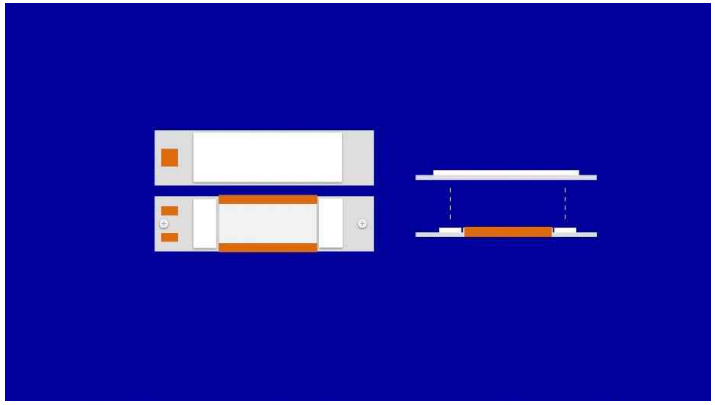


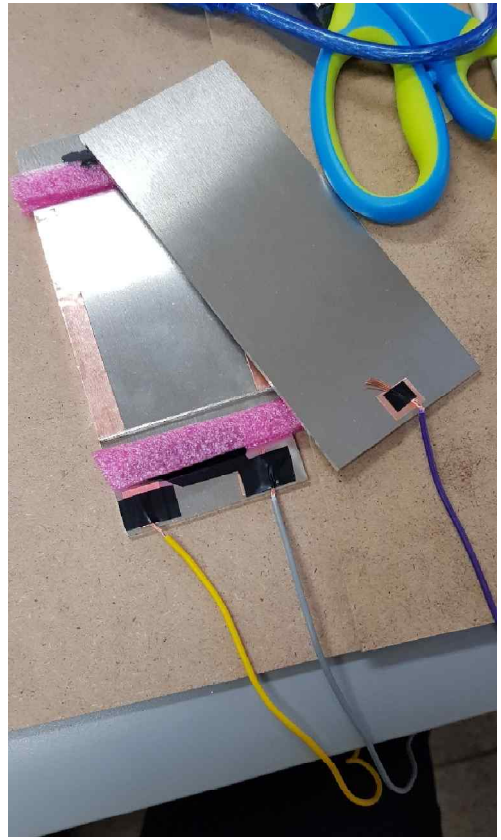
3. Tape Foam tape



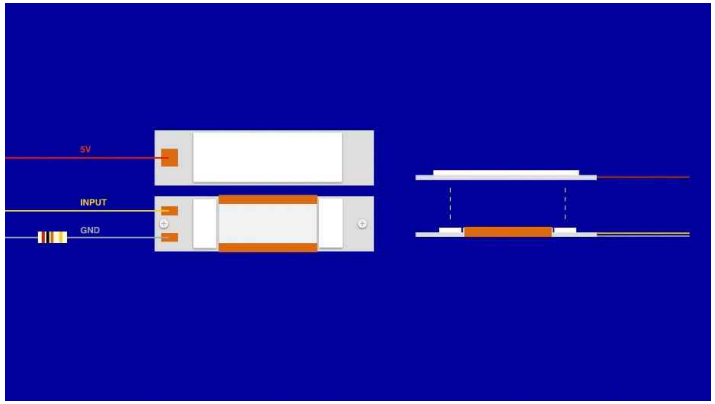
2. 〈Making Sensor〉

4. Solder the wire





5. Connect the Wires to Circuit



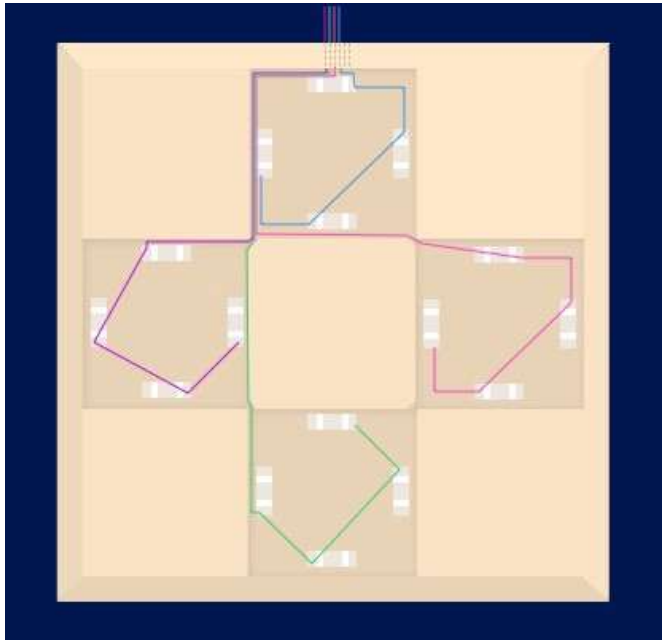
3. <ATTATCH WHOLE WIRE & SENSORS>

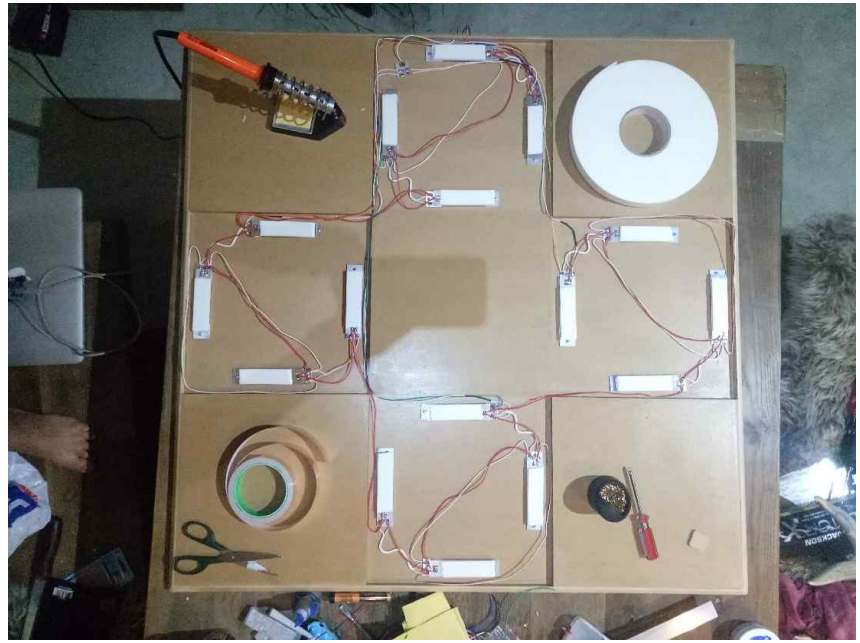
1. Put Sensors on Board

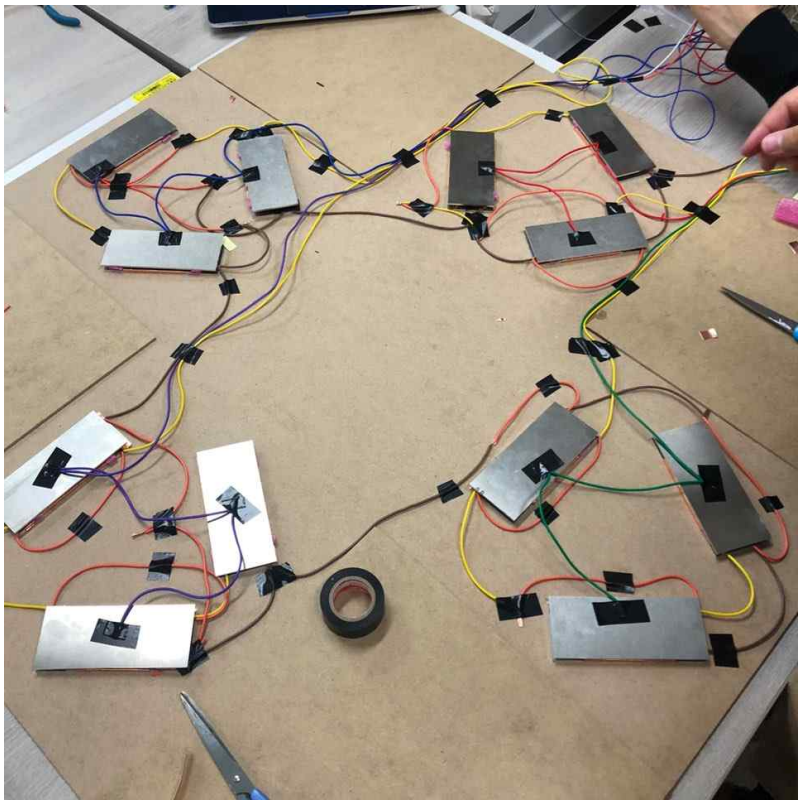
3. <ATTATCH WHOLE WIRE & SENSORS>

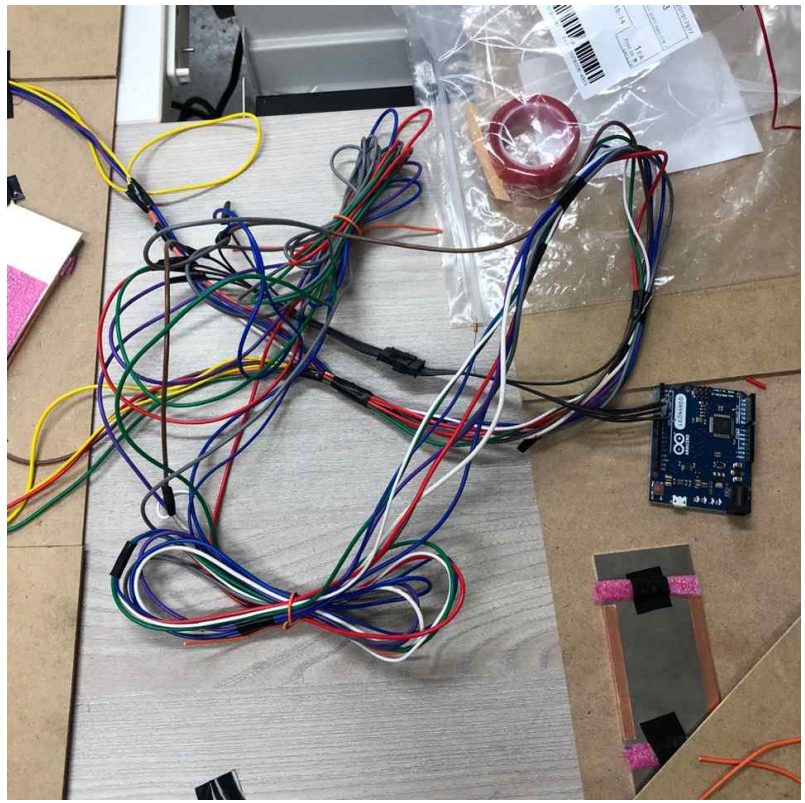
2. Gather Wires

& Put them in Arduino









INSIDE FINISHED PAD

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3 MAKING PAD
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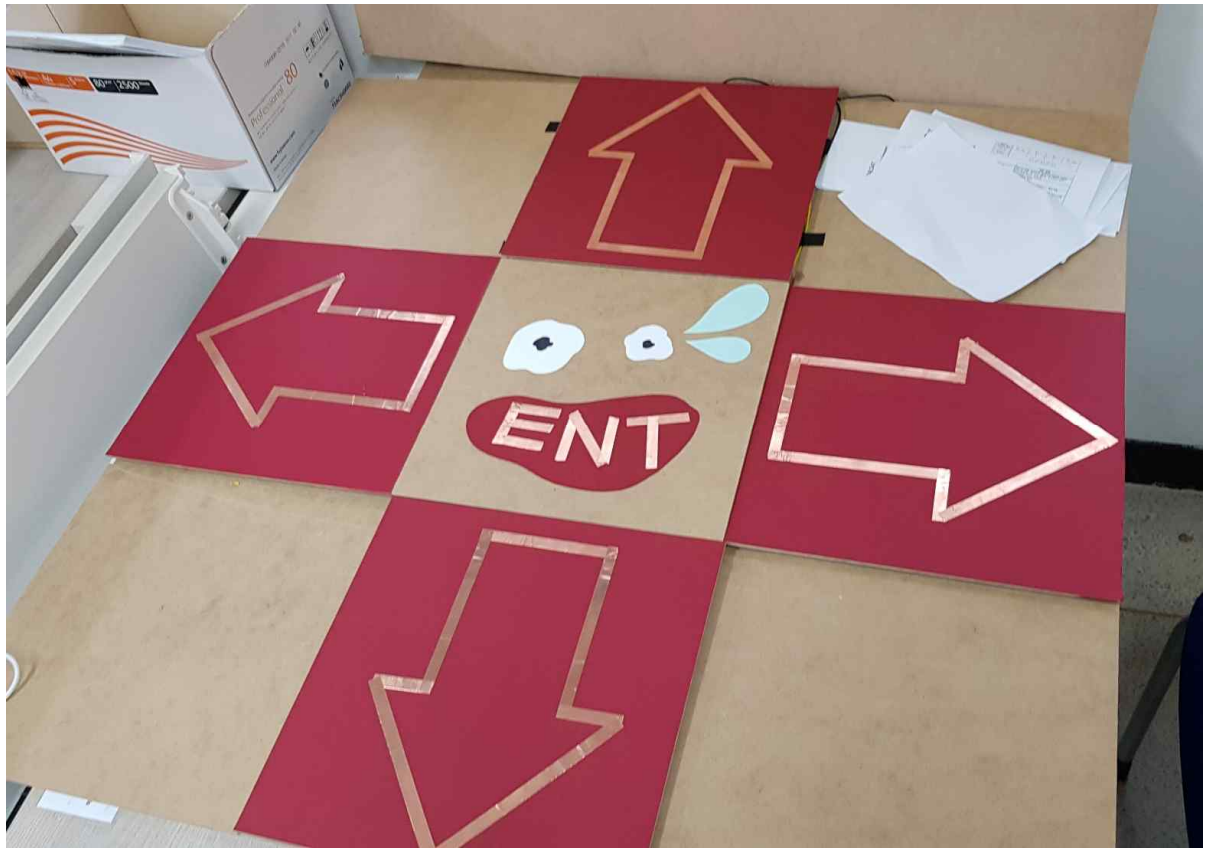

FINISHED PAD MAKING!

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WHY ARDUINO LEONARDO?

Specialized for using as Keyboard

Push Arrow - Input Alphabet -
Manufacture Game Setup

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```
#include <Keyboard.h>

int upStatus=1;
int upStatusPrev=1;
int leftStatus=1;
int leftStatusPrev=1;
int downStatus=1;
int downStatusPrev=1;
int rightStatus=1;
int rightStatusPrev=1;
int enterStatus=1;
int enterStatusPrev=1;

void setup()
{
  pinMode(0,INPUT_PULLUP);
  pinMode(2,INPUT_PULLUP);
  pinMode(4,INPUT_PULLUP);
  pinMode(6,INPUT_PULLUP);
  pinMode(8,INPUT_PULLUP);
  Keyboard.begin();
}
```

```
void loop()
{

 upStatus=digitalRead(0);
 leftStatus=digitalRead(2);
 downStatus=digitalRead(4);
 rightStatus=digitalRead(6);
 enterStatus=digitalRead(8);

 //UP ARROW PRESSED
 if (upStatus!=upStatusPrev &&
upStatus==LOW)
 {
    Keyboard.press('a');
    upStatusPrev=upStatus;
 }
 //UP ARROW RELEASED
 if (upStatus!=upStatusPrev &&
upStatus==HIGH)
 {
    Keyboard.release('a');
    upStatusPrev=upStatus;
 }
```

```
 //LEFT ARROW PRESSED
 if
(leftStatus!=leftStatusPrev
&& leftStatus==LOW)
 {
    Keyboard.press('x');
    leftStatusPrev=leftStatus;
 }

 //LEFT ARROW RELEASED
 if
(leftStatus!=leftStatusPrev
&& leftStatus==HIGH)
 {
    Keyboard.release('x');
    leftStatusPrev=leftStatus;
 }
.
.
.
```

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5 FINAL OUTCOME
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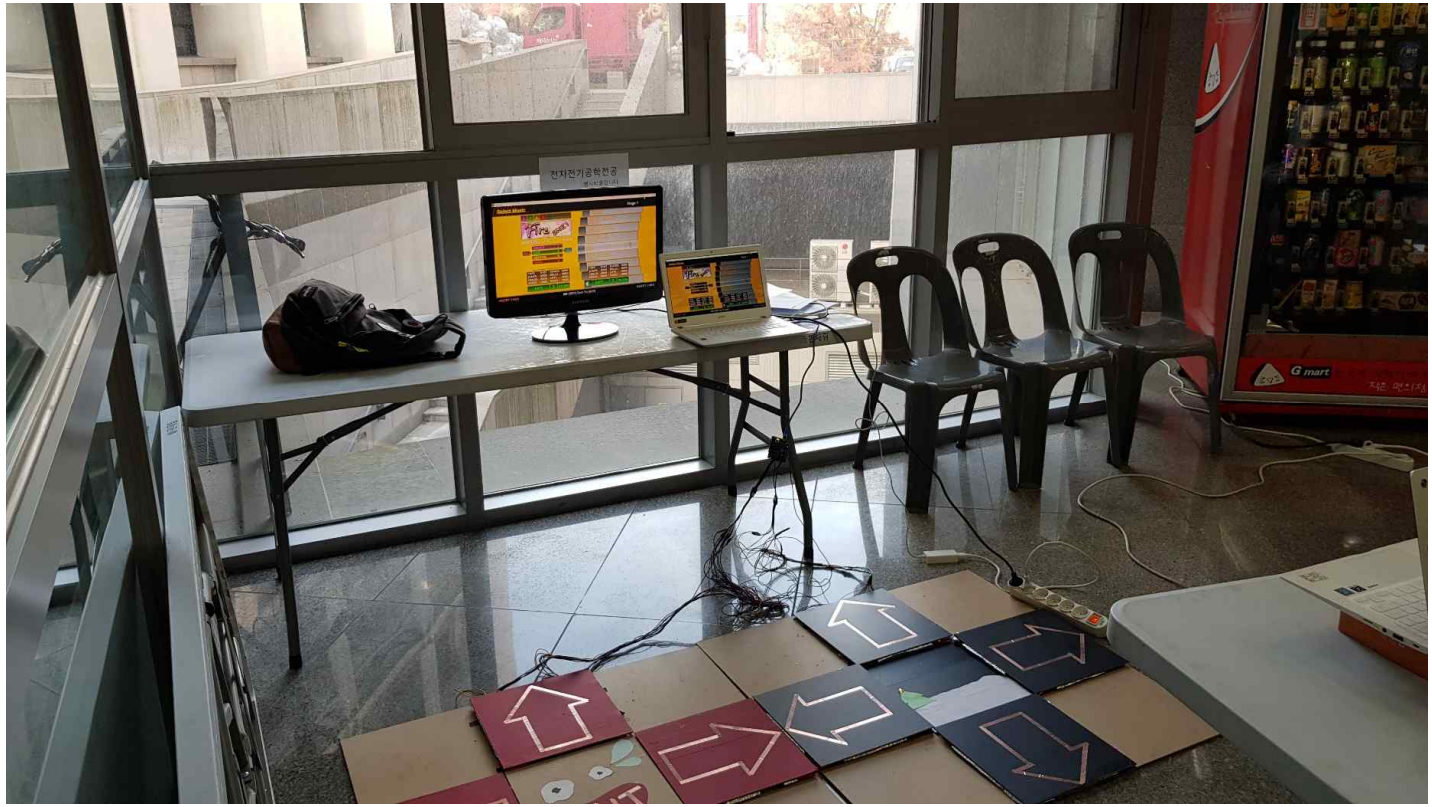

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6 OPERATING VIDEO
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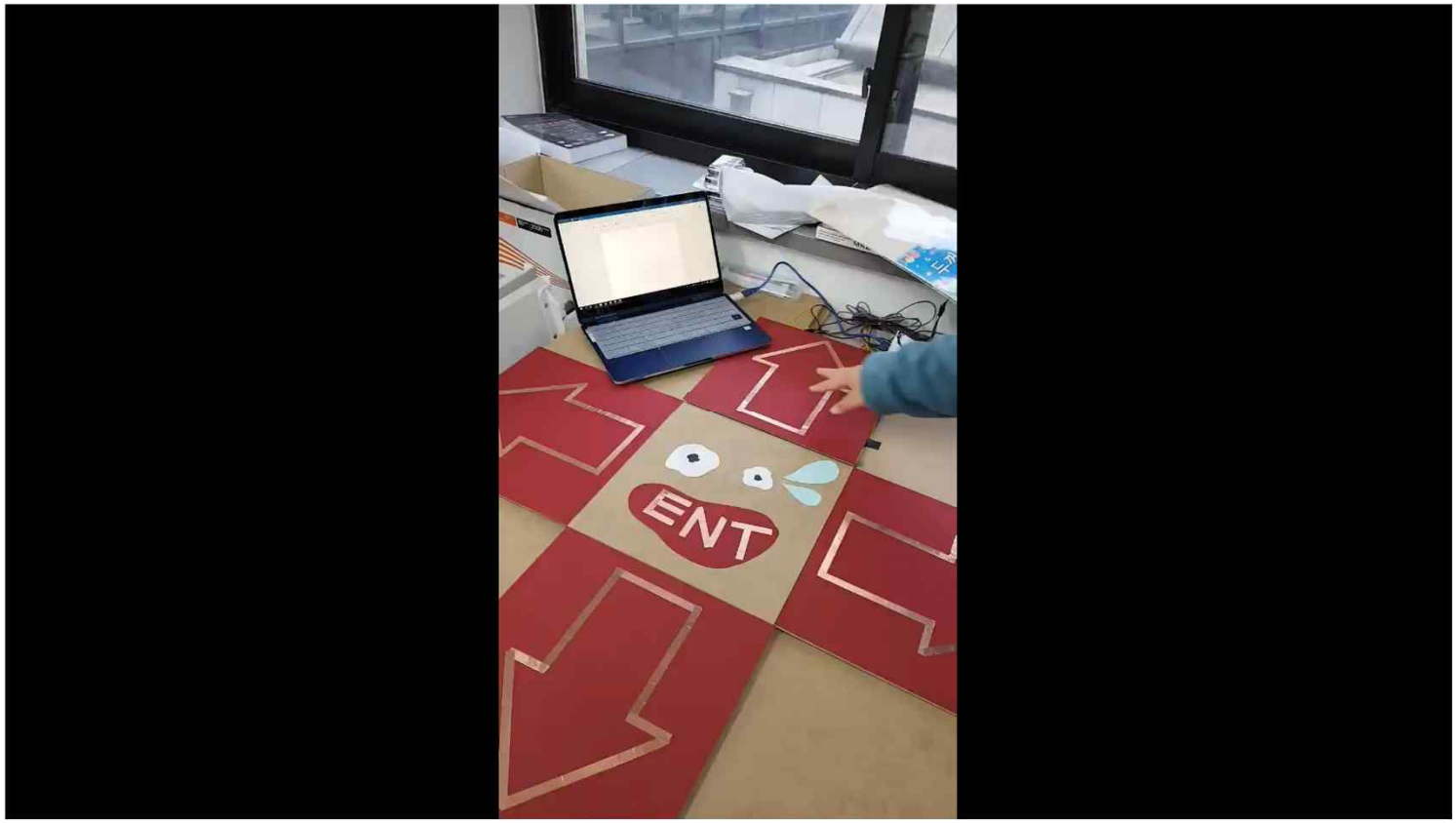

TESTING FOR KEYBOARD FUNCTION

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6 OPERATING VIDEO
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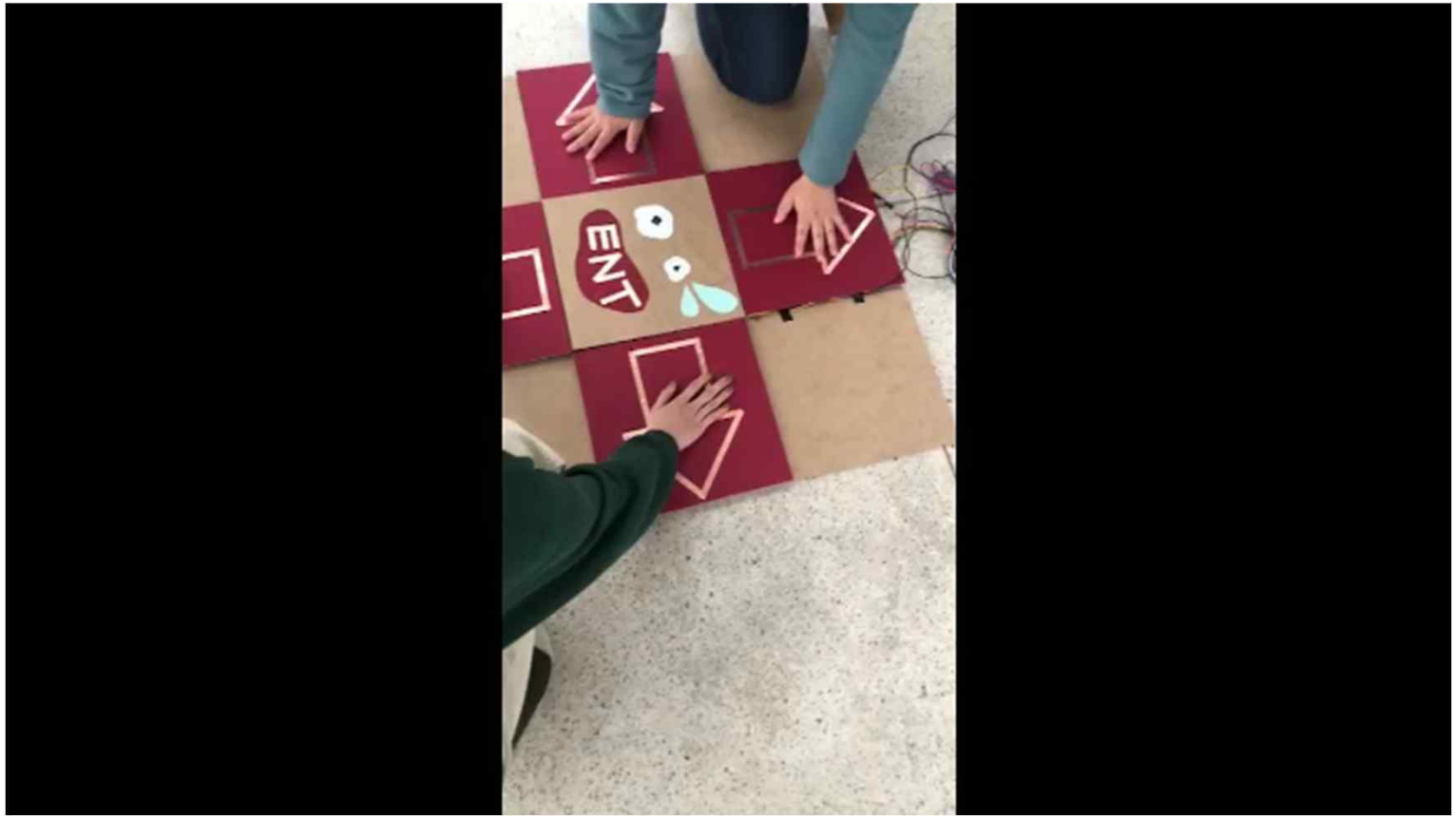

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6 OPERATING VIDEO
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3 STEPS FOR MAIKING DDR

1. MAKING STRUCTURE
2. MAKING SENSORS
3. PROGRAMMING

THANK YOU
FOR LISTENING