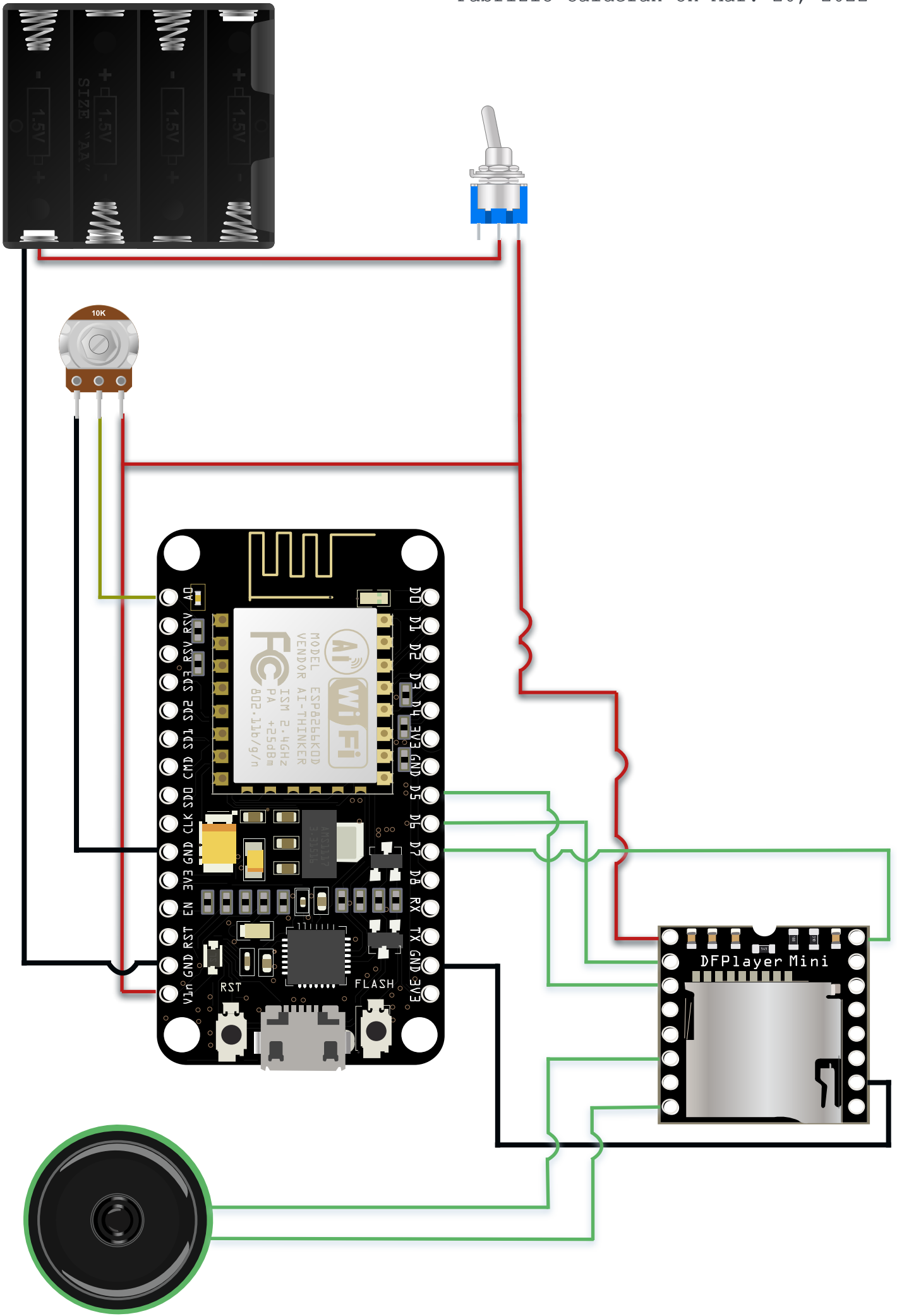




Rond-on-Air

An environmental project for makers
made by Fabrizio Calderan
on January 2020 — March 2022

Connections schema created by
Fabrizio Calderan on Mar. 20, 2022



```

/*
 * Call for swallows and swifts
 * Arduino Code by Fabrizio Calderan, 2022.03.20
 *
 * Requirements:
 *
 * - 1x ESP8266/12E
 * - 1x DFPlayer Mini
 * - 1x 3W/4Ω Speaker
 * - 1x On-Off switch
 * - 1x 10KΩ Trimmer
 * - 1x 120x80x50 IP56 enclosure box for outdoor usage.
 */

#include "SoftwareSerial.h"
#include "DFRobotDFPlayerMini.h"

// MP3 Serial communication
SoftwareSerial mySoftwareSerial(14, 12); //12, 13?
DFRobotDFPlayerMini myDFPlayer;

// Variables
int volume;
bool IDLE = true;

// Playback state get information through the BUSY pin
bool playbackState = digitalRead(13);

void setup() {

    mySoftwareSerial.begin(9600);
    // Start serial connection
    Serial.begin(115200);
    delay(500);
    Serial.println("Init MP3 module");
    // Use softwareSerial to begin communication with the MP3 module
    if (!myDFPlayer.begin(mySoftwareSerial, false)) {
        while(true) {
            delay(0); // ESP8266 watchdog needs this
        }
    }

    /*
     * Set the volume
     */
    setVolume();
    Serial.println("----- /setup -----");
}

void loop() {

    setVolume();

```

```

    playbackState = digitalRead(13);

    /*
     * LOW = The MP3 module is busy
     * HIGH = The MP3 module is available
     */

    if (playbackState == HIGH) {
        IDLE = true;
        myDFPlayer.stop();
        myDFPlayer.play(1);
    }
    else {
        if (IDLE == false) {
            myDFPlayer.pause();
            myDFPlayer.stop();
            Serial.println("End of playback");
        }

        IDLE = true;
        delay(200);
    }

    Serial.println("----- /loop -----");
}

```

```

void setVolume() {


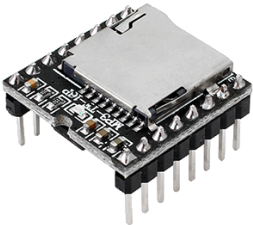


    // Get the value of potentiometer in the range of [-1..30]
    volume = map(analogRead(A0), 0, 1023, -1, 30);
    volume = constrain(volume, -1, 30);
    if (volume < 0) {
        volume = 25;
    }


    // Set the player volume
    myDFPlayer.volume(volume);
    Serial.print("Volume level: ");
    Serial.println(String(volume));
}

```

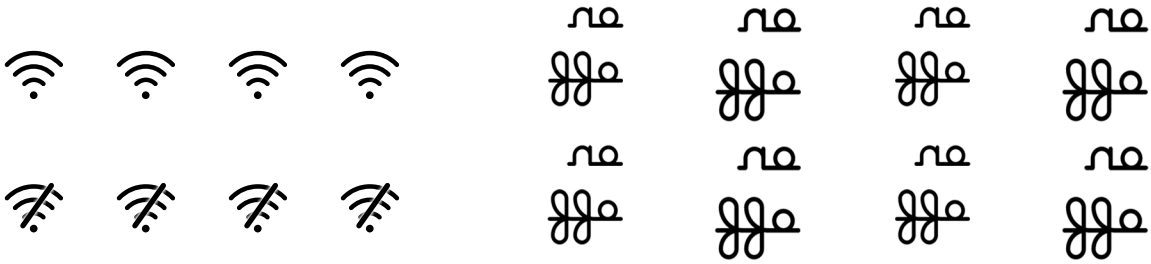
Components

Components needed for a single caller. The cost for a single component is referred to batches of 3-5 items (10 items for the switch)

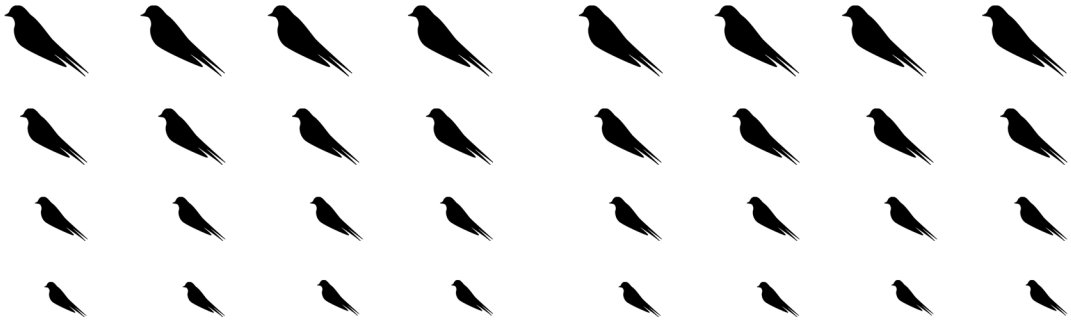
Item	Description	cost/item
	ESP8266/12E Microcontroller https://www.amazon.it/dp/B0754HWZSQ	6,33€
	DFPlayer Mini https://www.amazon.it/dp/B07Z5D7T63	3,33€
	3W/4Ohm Speakers https://www.amazon.it/dp/B07LGHZD9R	4,75€
	2-way switch https://www.amazon.it/dp/B077D9FRGL	0,99€

Item	Description	cost/item
	Battery holder https://www.amazon.it/dp/B00QLQQI58	2,15€
	Cables, wires, 10KOhm trimmer, PCB	5,00€
	Enclosure Box 120x80x50 (IP56)	3,20€
	Total cost	25,75€

Labels for Acetone transfer



Random-Air Random-Air
Random-Air Random-Air
Random-Air Random-Air



Random-Air

<https://github.com/fcalderan/rond-on-air>

<https://twitter.com/fcalderan>

<https://fabrizio.dev>

