

Experimenting with DFRobot's Gravity speech synthesis module and Arduino Due

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We are going to use DFRobot's Gravity: Speech Synthesis Module(Support English and Chinese) <https://www.dfrobot.com/product-2234.html> and Arduino Due to do speech synthesis in english.

this module supports operations from 5v/3v power ,it also it has built in speaker and can be operated with i2c and UART interface , we are going to use UART interface.

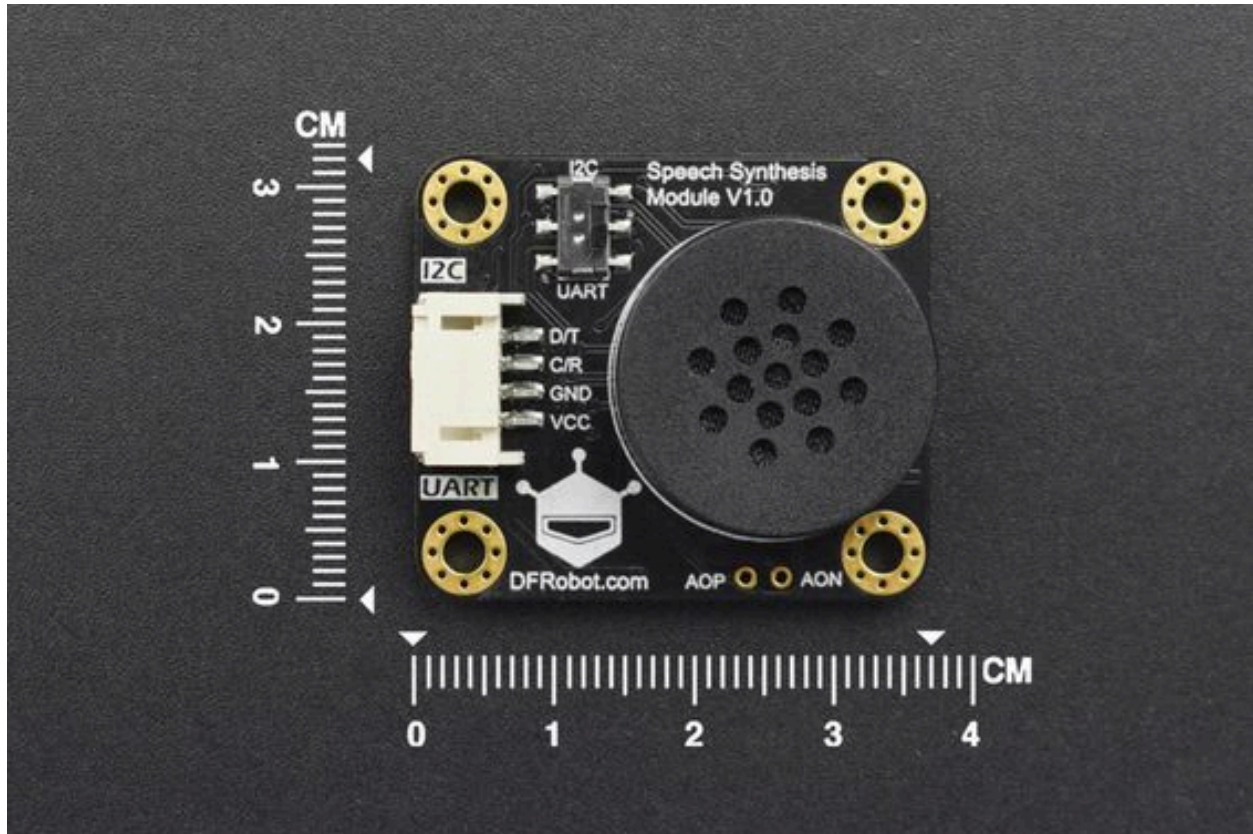


Figure 1 DFRobot's gravity speech synthesis module

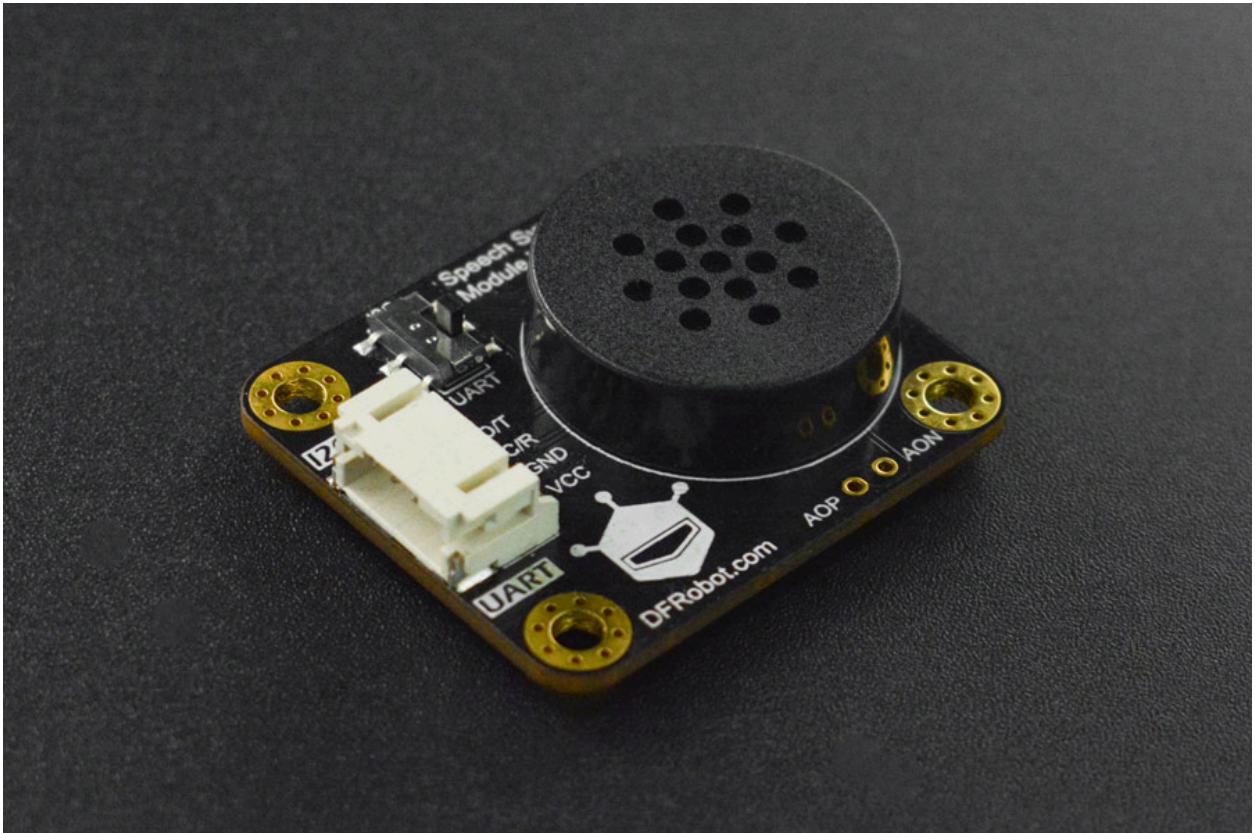


FIGURE 2 :- DFRobot's GRAVITY SPEECH SYNTHESIS MODULE

here is Arduino Due's connection to DFRobot's Gravity Speech Synthesis module



Figure 3:- Arduino Due and DFRobots speech synthesis module connections

install DFRobot's library for speech synthesis library from (https://github.com/DFRobot/DFRobot_SpeechSynthesis)

for detailed information about this module visit

https://wiki.dfrobot.com/Gravity_Speech_Synthesis_Module_SKU_DFR0760

here is Arduino sketch , this example is modified version of examples which comes with DFRobot's speech synthesis library (uart)

```

/*!
 * @file uart.ino
 * @brief Control speech synthesis sensor via UART, and synthetise speech
 * @copyright Copyright (c) 2010 DFRobot Co.Ltd (http://www.dfrobot.com)
 * @licence The MIT License (MIT)
 * @author [fengli](li.feng@dfrobot.com)
 * @version V1.0
 * @date 2020-11-6
 * @get from https://www.dfrobot.com
 * @url https://github.com/DFRobot/DFRobot\_SpeechSynthesis
 * Modified By Alok Kumar Mishra
 */
#include "DFRobot_SpeechSynthesis.h"
#if defined (_VARIANT_ARDUINO_DUE_X_)

#define ssSerial1 Serial1
#else
#include <SoftwareSerial.h>
SoftwareSerial ssSerial1(2, 3); //RX, TX
#endif
DFRobot_SpeechSynthesis_UART ss;

void setup() {
  ssSerial1.begin(115200);
  //Init speech synthesis sensor
  ss.begin(ssSerial1);

  //Set voice volume to 5
  //ss.setVolume(5);
  //Set playback speed to 5
  //ss.setSpeed(5);
  //Set speaker to female
  //ss.setSoundType(ss.FEMALE1);
  //Set tone to 5
  //ss.setTone(5);
  //For English, speak word
  //ss.setEnglishPron(ss.WORD);
}

void loop() {
  ss.speak(F("She sells seashells by the seashore"));
  ss.speak(F("Hello, I'm Speech Synthesis module"));
  ss.speak(F("a b c d e f g"));

  /*Use text control identifier*/
  //Voice volume identifier
  //ss.speak(F("[v3]Hello [v8]world"));
  //Word Pronounce mode identifier
  //ss.speak(F("[h1]Hello [h2]world"));
}

```

connect Arduino Due and DFRobot's speech synthesis module as shown in Figure 3.

I have modified original sketch to use hardware serial port 1 of Arduino Due
compile and download sketch to Arduion Due and you'll hear audio.

here is complete picture of connections

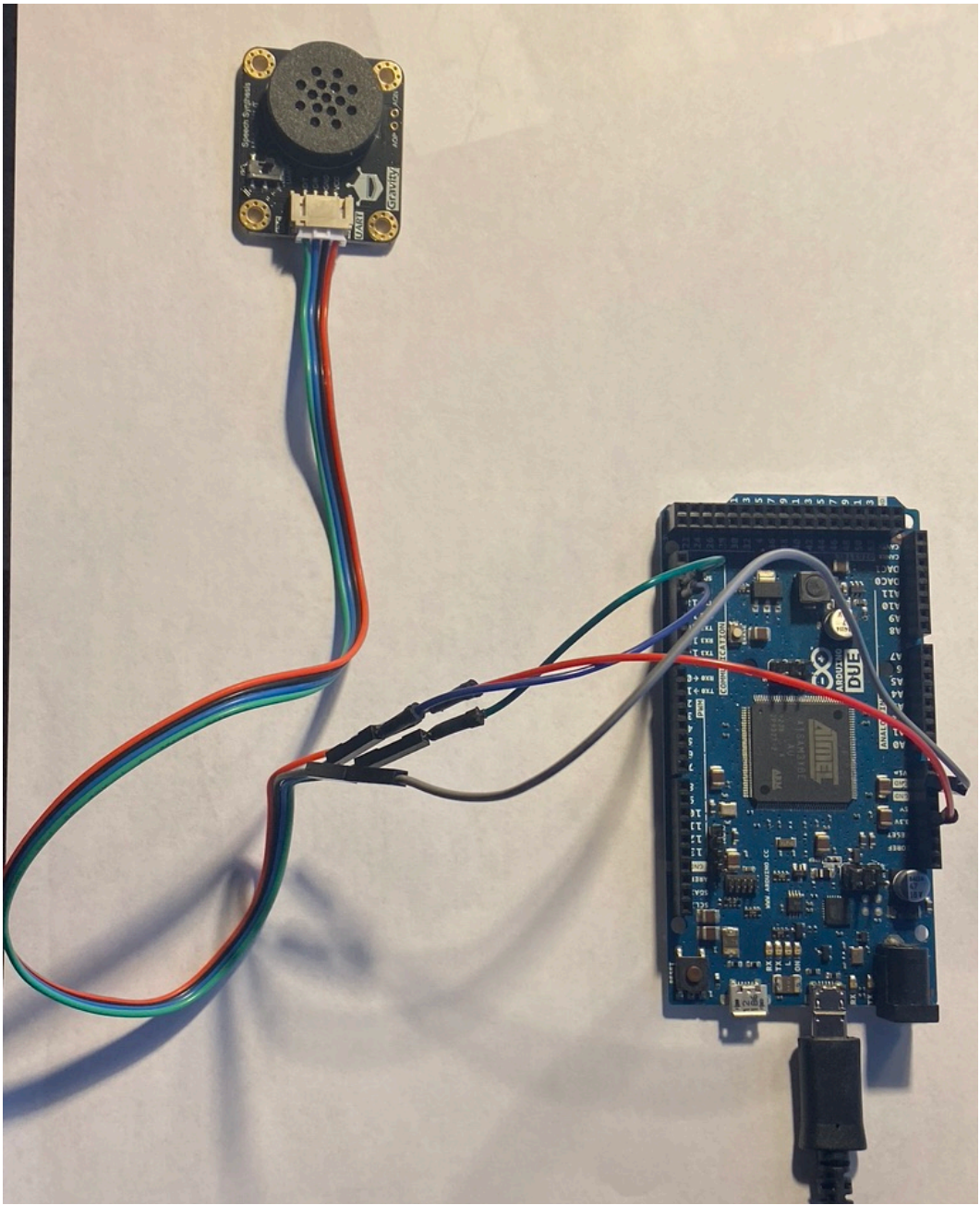


Figure 4 :- complete setup of experiment