Display control over Bluetooth using ESP32

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Abstract—This document shows how to implement a decade counter using the Arduino framework on ESP32.

1 Software

All codes used in this document are available at the following link.

https://github.com/gadepall/ugv/tree/main/codes/sevenseg

Install "Arduino & ESP32 Bluetooth Controller App - Dabble" from

https://play.google.com/store/apps/details?id=io.dabbleapp

2 Setup

2.1. Fig.2.1.2 shows all the pins of the ESP32. Connect the pins of the display in Fig. 2.1.1 to the ESP32 using Table 2.1.1. The COM pin should be connected to 3.3V through a resistor.

Display	ESP32
a	32
b	33
c	25
d	26
e	27
f	14
g	12
COM	3.3 V

TABLE 2.1.1: Display-ESP32 connection.

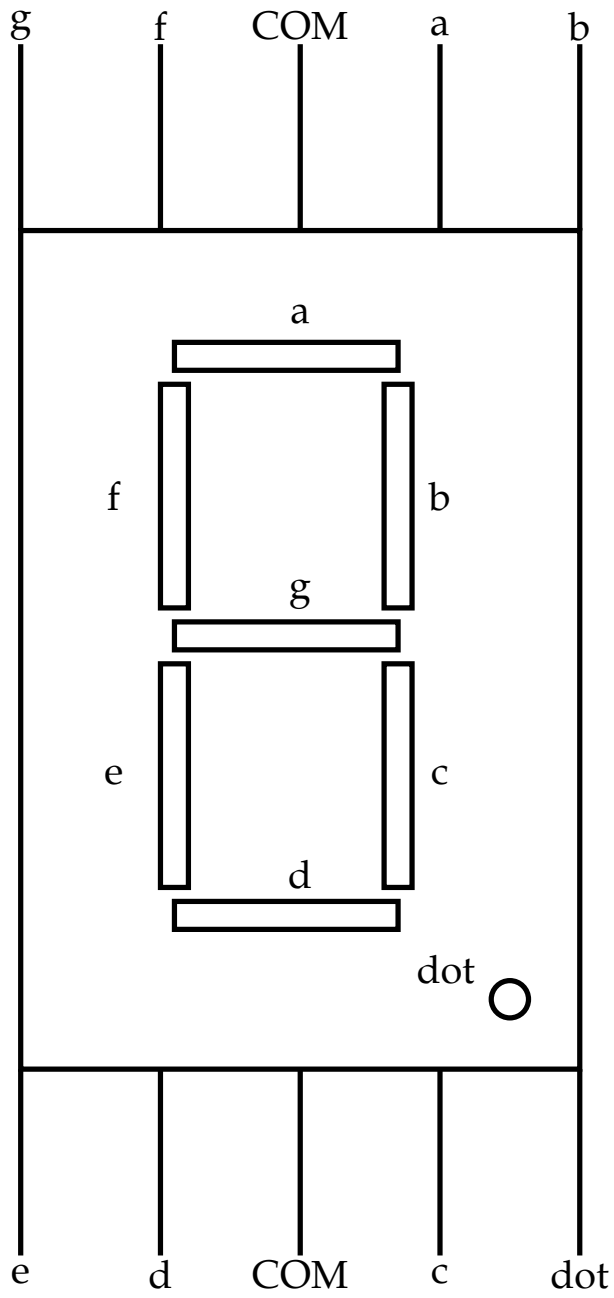

Fig. 2.1.1: Seven Segment Display

2.2. Now execute the following code using platformio

codes/ble-dabble/src/main.cpp

Flash firmware.bin obtained upon execution of the above code to the ESP32.

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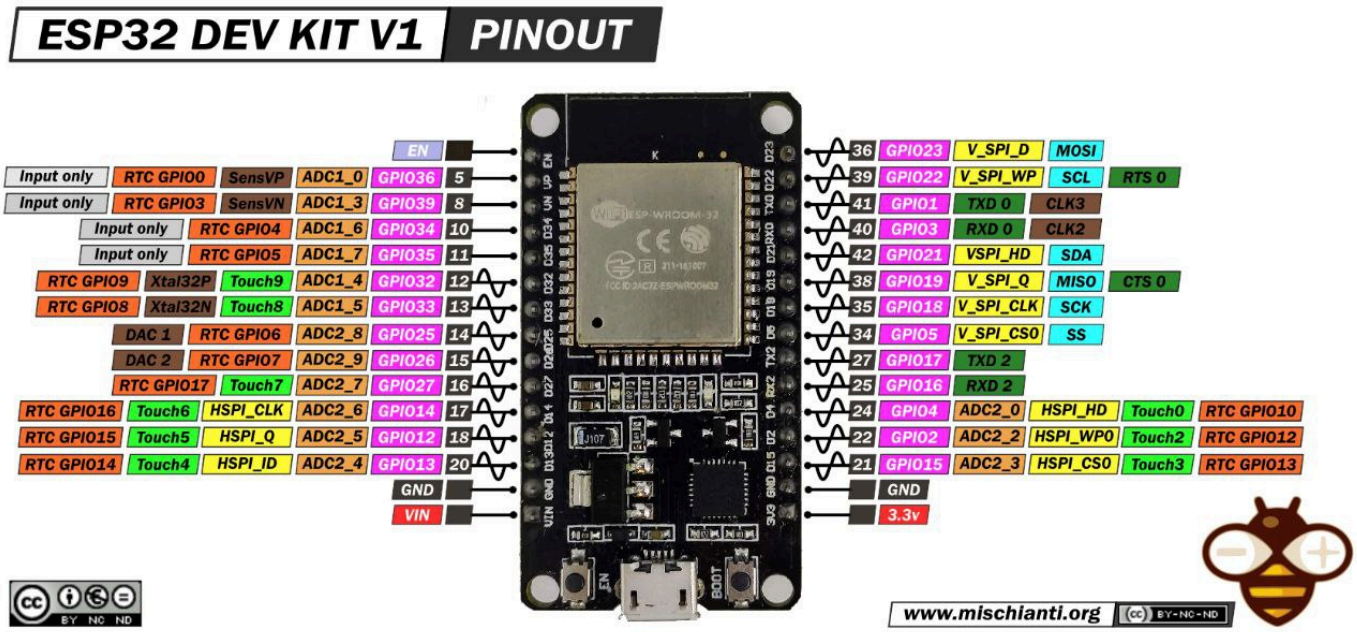

Fig. 2.1.2: Pin Diagram. Note that the pin diagram may vary depending upon the ESP32 variant.

2.3.

2.4. Now display the numbers 0-4 on the seven segment display using the dabble app as shown in Fig. 2.4.1

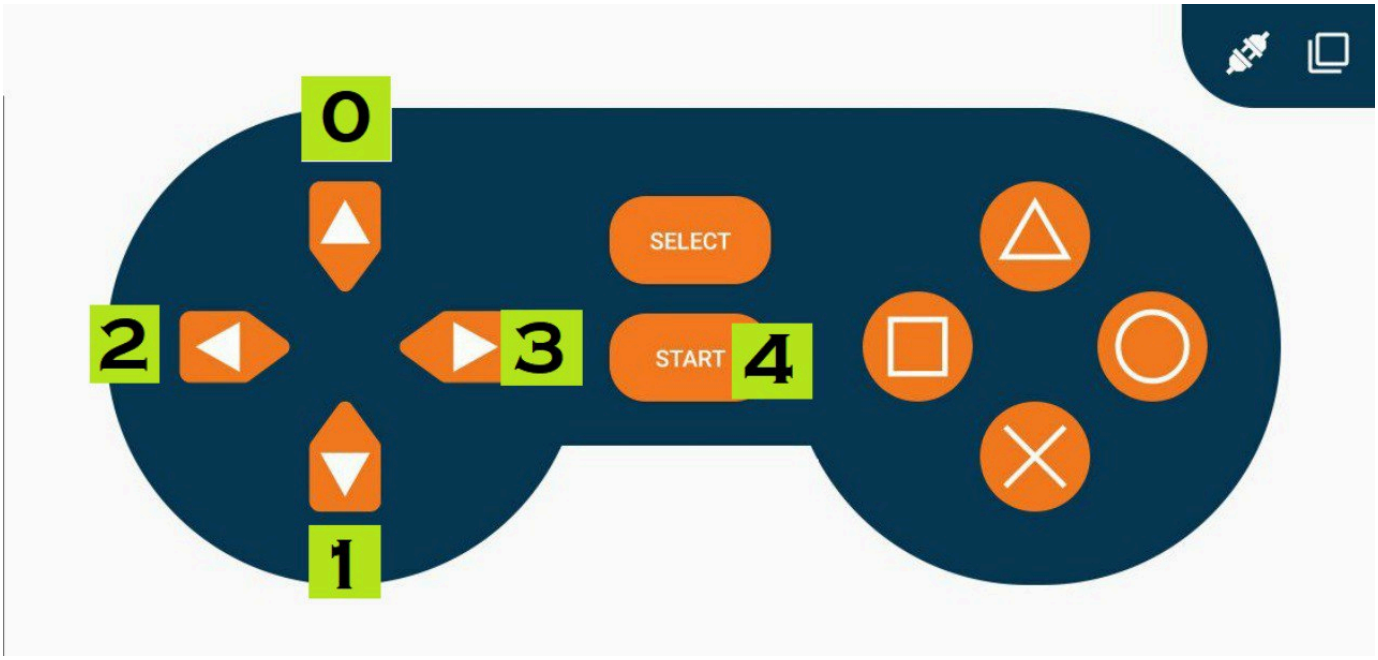

Fig. 2.4.1: Dabble app to control the display over bluetooth