

# Display control over Bluetooth using ESP32

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**Abstract**—This document shows how to drive a seven segment display over bluetooth using the ESP32 and the Dabble app.

## 1 Software

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

<https://github.com/gadepall/ugv/tree/main/codes/ble-dabble>

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.

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.

2.3. Now display the numbers 0-4 on the seven segment display using the dabble app as shown in Fig. 2.3.1

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.

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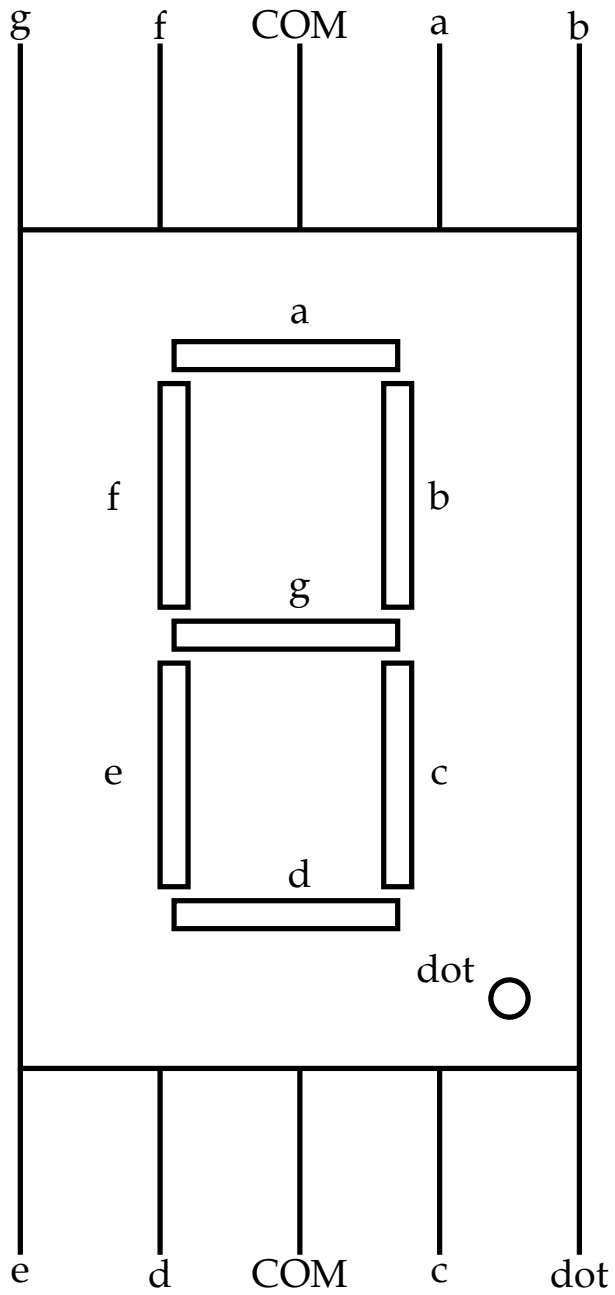


Fig. 2.1.1: Seven Segment Display

## ESP32 DEV KIT V1 PINOUT

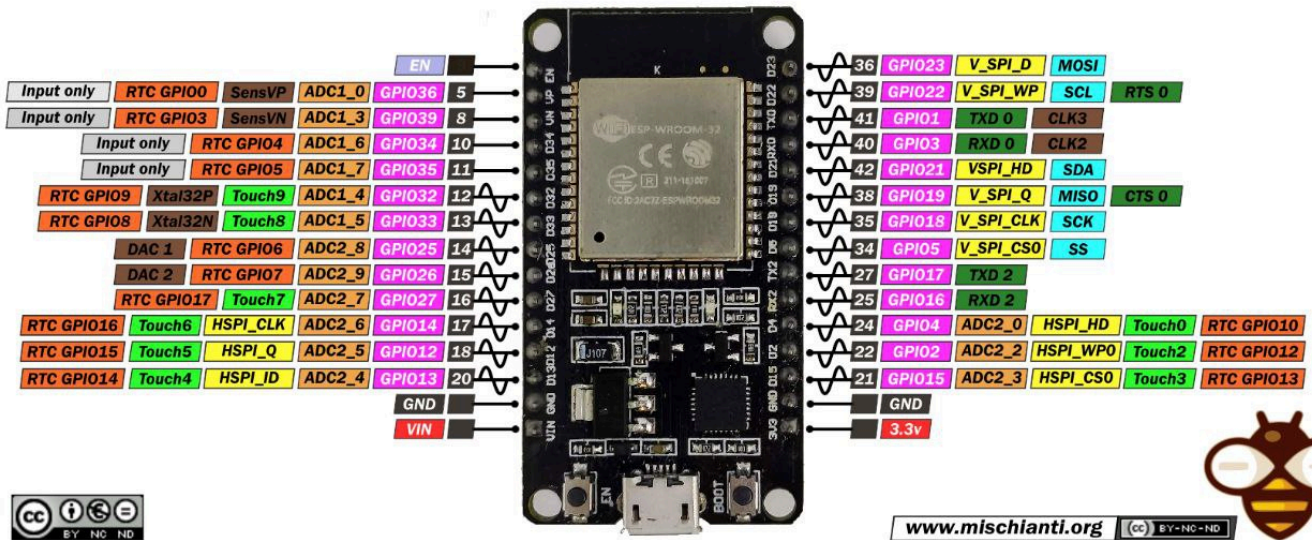


Fig. 2.1.2: Pin Diagram. Note that the pin diagram may vary depending upon the ESP32 variant.

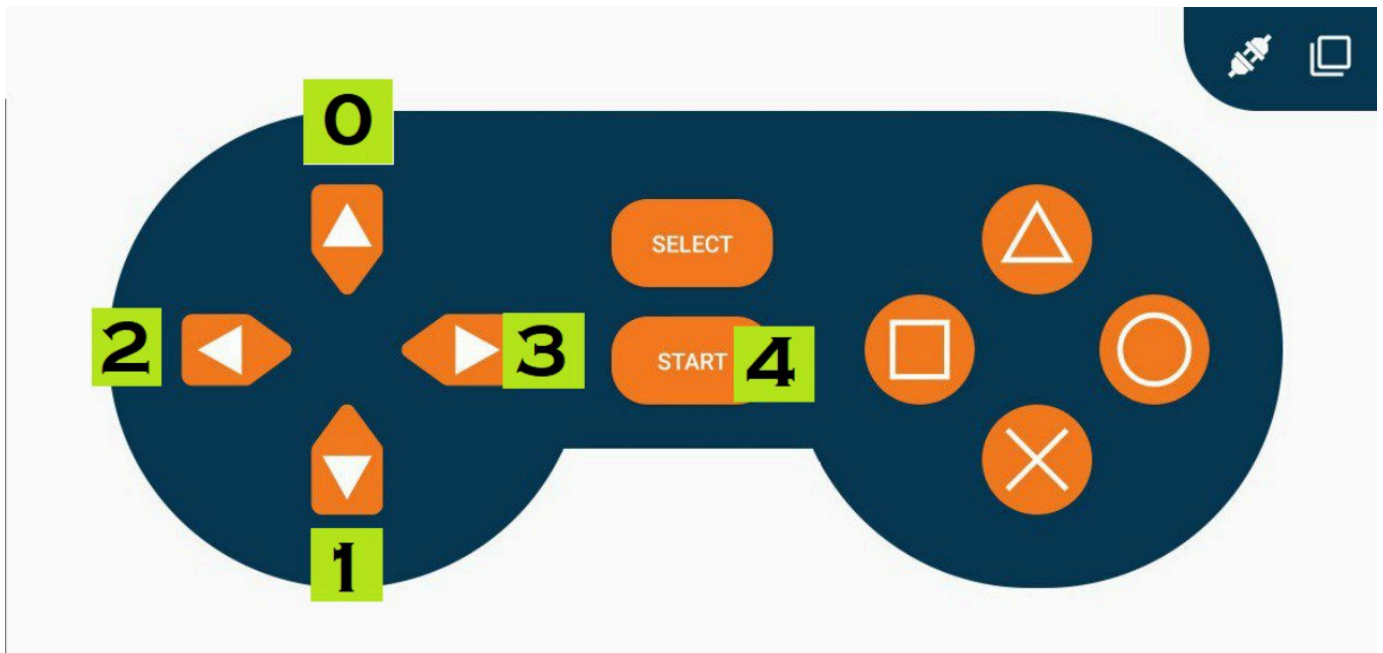


Fig. 2.3.1: Dabble app to control the display over bluetooth