I2C Communication Between ESP32 and Arduino

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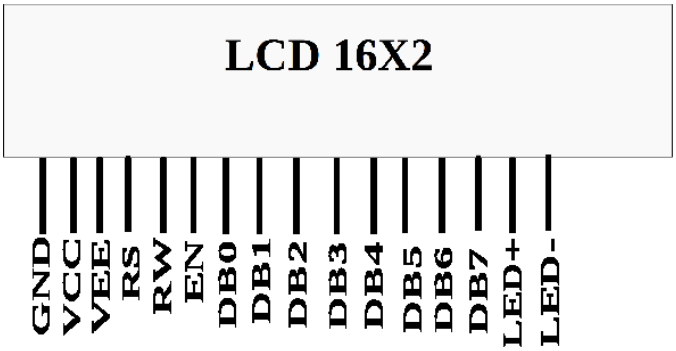

Fig. 2.0.1: lcd

***Abstract*—Through this manual, we will learn how to setting up the ESP32 as a Master and Arduino as a Slave using I2C protocol.**

1 Components

Component	Value	Quantity
ESP32	Devkit V1	1
Arduino	UNO	1
Connecting Wires		30
LCD	16 X 2	1

TABLE 1.1

2 Setting up the Master and Slave

2.1. Connect the ESP32 pins to Arduino pins as per Table 2.1.1.

2.2. Connect the ESP32 pins to LCD pins as per Table 2.2.1.

2.3. Configure Arduino Uno as a Slave using the following code.
https://github.com/Nagarajunaddi/esp32/blob/main/I2C/I2C/I2C_Sender_Arduino/src/main.cpp

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I2C	ESP32	Arduino
SDA	GPIO 21	A4
SDC	GPIO 22	A5
	VCC	VCC
	GND	GND

TABLE 2.1.1

ESP32	LCD Pins	LCD Pin Label	LCD Pin Description
GND	1	GND	
5V	2	Vcc	
GND	3	Vee	Contrast
GPIO 19	4	RS	Register Select
GND	5	R/W	Read/Write
GPIO 23	6	EN	Enable
GPIO 18	11	DB4	Serial Connection
GPIO 17	12	DB5	Serial Connection
GPIO 16	13	DB6	Serial Connection
GPIO 15	14	DB7	Serial Connection
5V	15	LED+	Backlight
GND	16	LED-	Backlight

TABLE 2.2.1

2.4. Now configure ESP32 as a Master using the following code.
https://github.com/Nagarajunaddi/esp32/blob/main/I2C/I2C/I2C_Reciever_ESP32/src/main.cpp