Report on

‘LED Matrix’

By

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Table of Contents:

Objective:

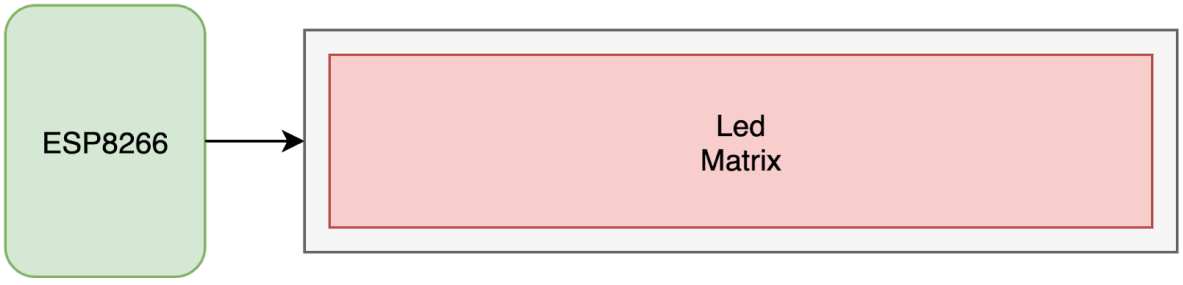
To construct a LED Matrix device that can display text that is entered using the website using an IP address.

Description:

This is a project to display text that is entered using a website using IP address wirelessly. This text in the Led matrix will be stored in EEPROM of the ESP until it is erased electronically. The website has the ability to move the text fast, slow, right to left, left to right and inverse.

Website:

Block Diagram:



System Requirement Specification

Hardware Requirement:

- LED matrix x 2
- ESP8266

Software Requirement:

- Arduino IDE
    - Library: 1.EEPROM.h
    - 2. ESP8266WiFi.h
    - 3. MD_Parola.h
    - 4. MD_MAX72xx.h
    - 5. SPI.h

Working Principle:

First, we open the website by typing the IP address assigned with the ESP. The website contains a text box to input our text and ‘send data’ button to send it to ESP. The ESP module receives the data and sends it to the LED matrix. The LED matrix scrolls the text in a default way. The default display of the text in the LED matrix can be changed trying other options in the website like inverse, right scroll, left scroll, fast scroll, slow scroll etc.

Circuit Connections:

- Connection of ESP8266 to LED matrix:
    - 3v3 - Vcc
    - D7 - DIN
    - D8 - CS
    - D5 - CLK
    - Gnd - Gnd

Result:

The result of the project LED matrix is verified and it satisfied all my requirements without any exceptions.