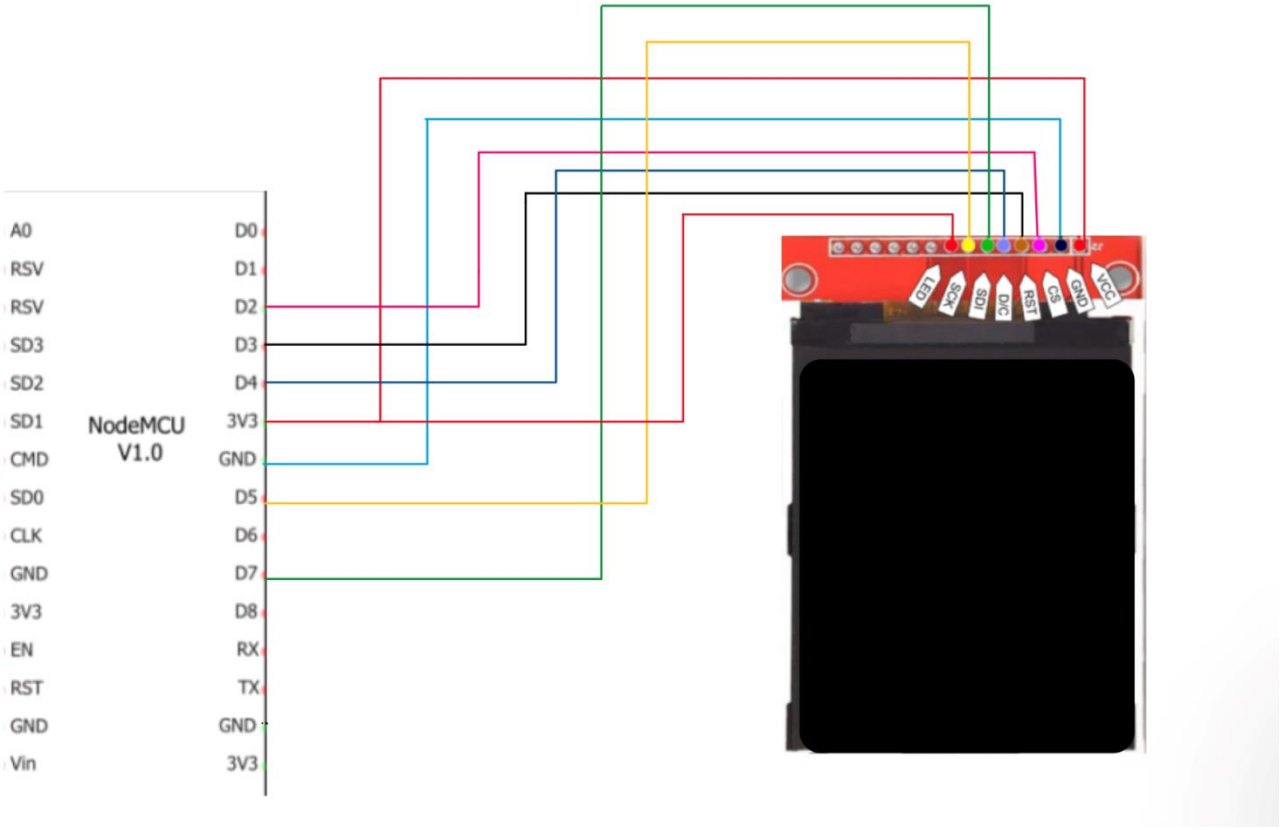
Components used

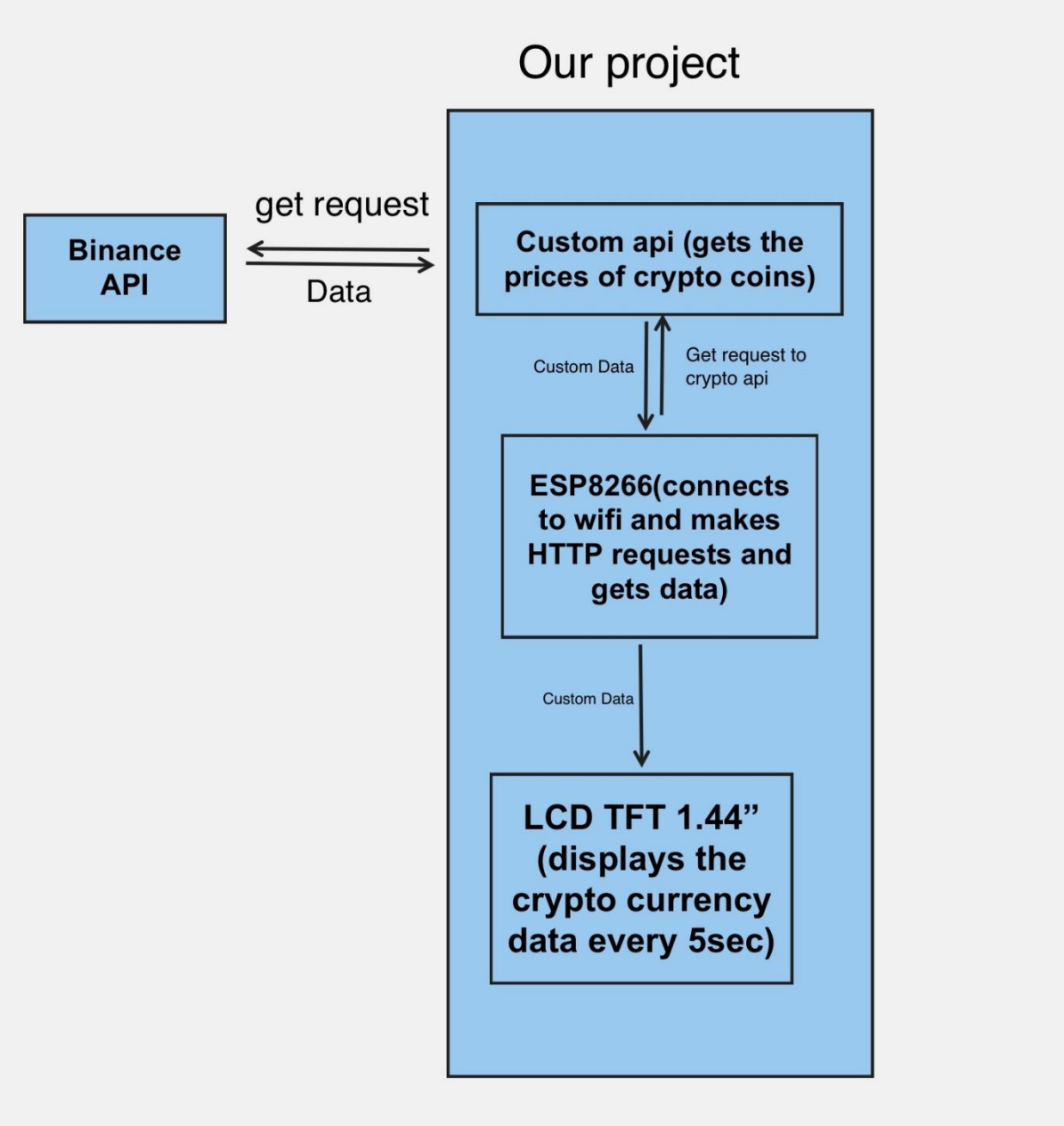
1. ESP8266 NodeMCU module
2. TFT LCD 1.44'' display (128x128 pixels)
3. Connecting wires

Circuit Diagram



ESP8266 needs to be connected to laptop (using USB to micro USB type-B cable) and the required Arduino(.ino) file is needed to be run on Arduino IDE in laptop.

Block Diagram of Working:



Connections:

TFT LCD display ESP8266 NodeMCU

VCC----------3V3

GND----------GND

CS----------D2

RST----------D3

AO----------D4

SDA----------D7

SCK----------D5

LED----------3V3

Structure of the files

CryptoAPI folder- an API made in Nodejs to get the statistics of crypto currencies from Binance using Customized API calls

ui_design.ino (IDE used-Arduino IDE)- code file written in Arduino for displaying CRYPTO TRACKER.

Overview of how the code works

A custom API is deployed with the name "http://cryptodosth.com/api/statistics?symbol=ETHUSDT" which is made to get particular details about crypto currencies (in this example Etherum value is being fetched) from Binance API.

When the arduino file is run, ESP8266 nodemcu module connects with wifi and makes a get request to this custom API. Further this data is updated and displayed on LCD TFT display for every 1 second.

Instructions to run the code

1. Installation: Make the connections shown above. Install Arduino IDE in your laptop.
2. Changes in code required to connect wifi : Change the SSID and password of your wifi network to connect with the particular wifi and run the code.

Libraries used

1. Adafruit ST7735: used to control the tft display.
2. ESP8266WiFi - a library that can give any microcontroller access to your WiFi network.
3. ESP8266HTTPClient - a library used to make HHTP requests.
4. WifiClientSecure-It is a library that extends WiFiClient which can be used with minimal changes to code that does unsecured communications.
5. WiFiClient
6. ArduinoJson
7. WiFiClientSecure