Application Note ArduiTouch ESP 8266 Social Tracker
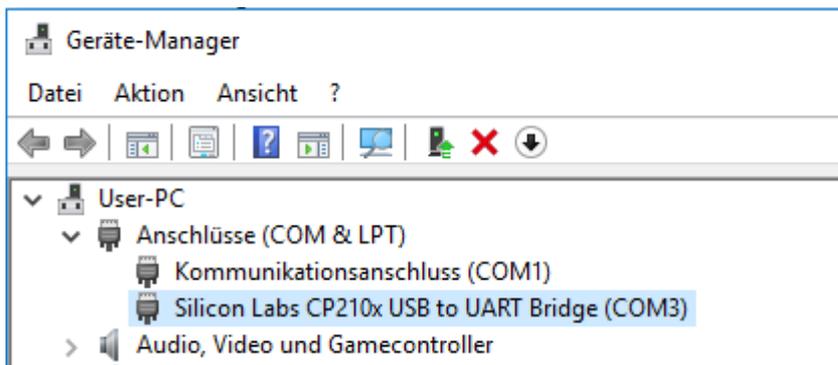
Rev.	Date	Description
A	2018-12-30	First release

1. Install the USB drivers for NodeMCU or Wemos D1

The NodeMCU module includes a CP2102 chip for the USB interface. Usually the driver will be installed automaticaly if the NodeMCU is connected the first time with the PC. Sometimes this procedure failed. In this case you have to install the driver

http://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers

manually in the Windows device manager.

If you want to use the Wemos D1 you have to install the drivers for the CH340 USB interface instead:
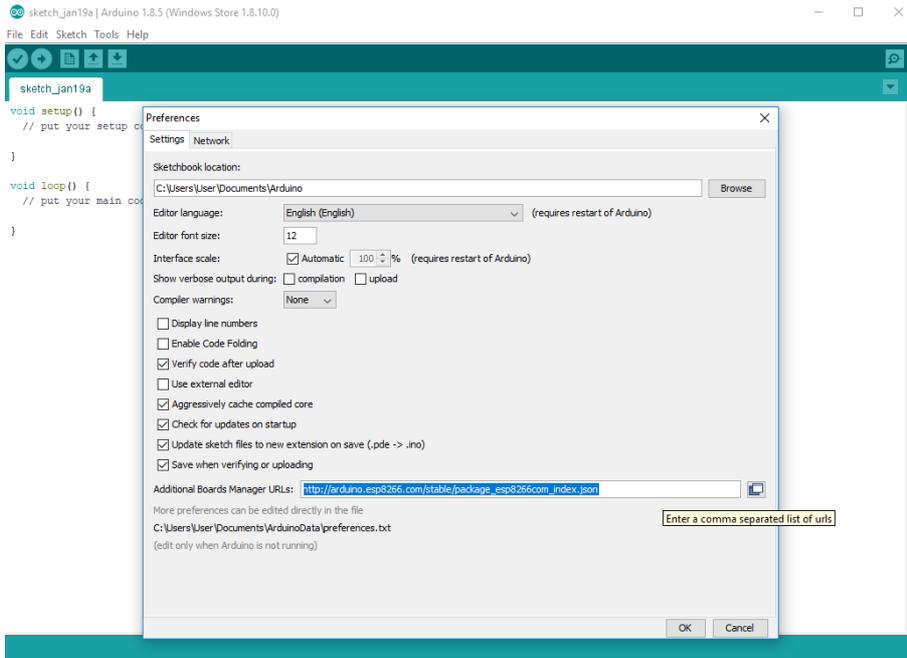
http://www.wch.cn/download/CH341SER_ZIP.html

2. Preparation of Arduino IDE for ESP8266

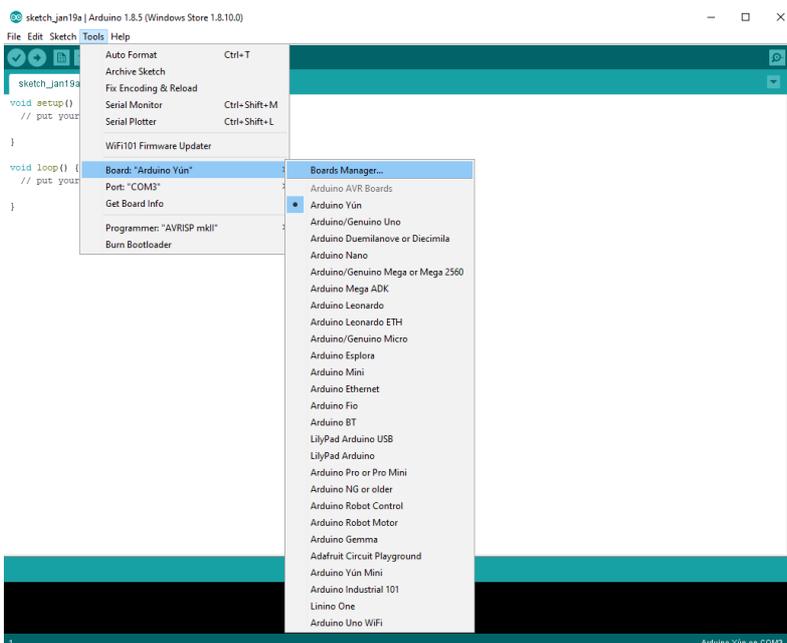*The ESP8266 module isn't part of the Arduino-IDE. We have to install it first.*

*Open **file / preferences** in the Aduino-IDE and insert the following link in the **Additional Boards Manager URLs field**:*
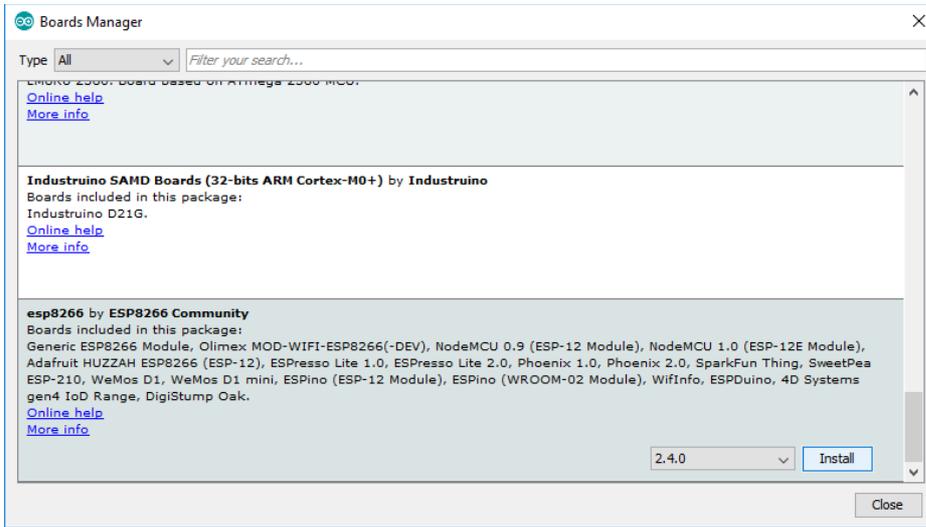*http://arduino.esp8266.com/stable/package_esp8266com_index.json*

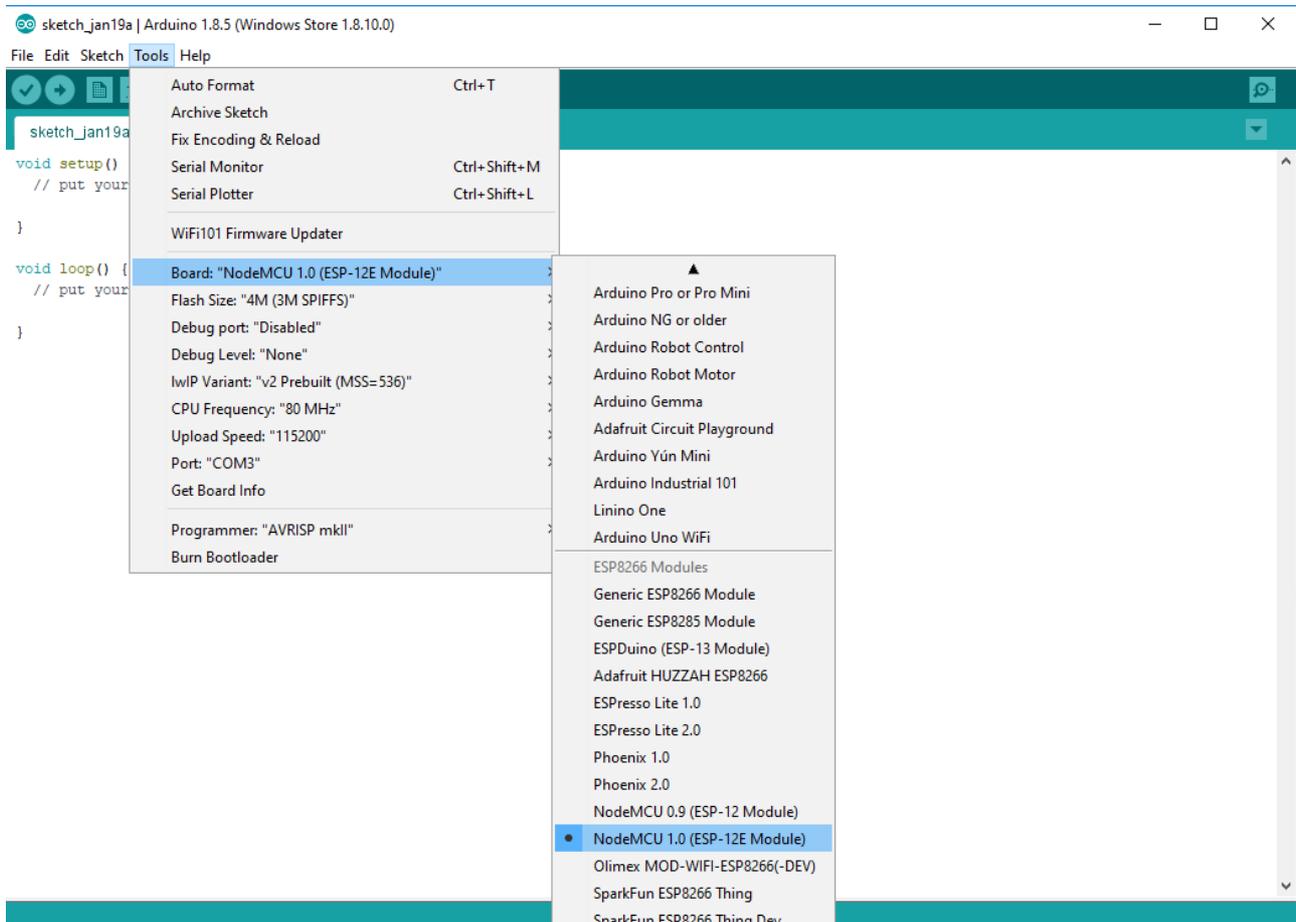*Close this window with the OK Button.*
*Open now the board manager: **Tools / Board / Board Manager***
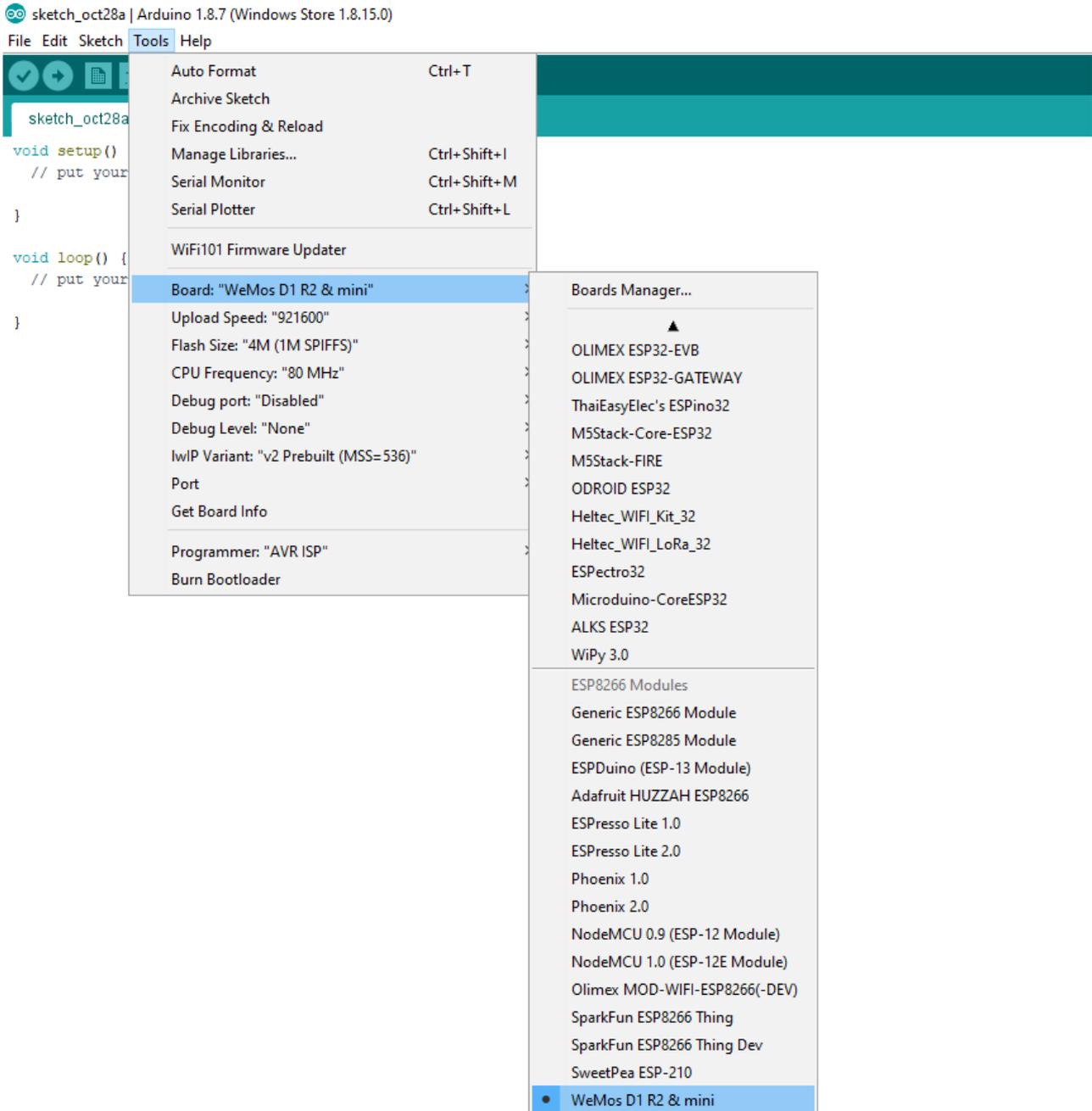
Go to the ESP8266 entry and install it:

*Now you can choose **NodeMCU 1.0 (ESP-12E Module)**. Set the CPU frequency to 80MHz, Flash Size to „4M (3M SPIFFS)" , the baud rate of your choice and the COM port.*

*For the Wemos D1 Mini you have to choose **WeMos D1 R2 & mini.** Set the CPU frequency to 80MHz, Flash Size to „4M (3M SPIFFS)" , the baud rate of your choice and the COM port.*

3. Programming

3.1 Installation of additional libraries

You will need some additional libraries. Install the following libraries through Arduino Library Manager:

Adafruit GFX Library
https://github.com/adafruit/Adafruit-GFX-Library/archive/master.zip

Adafruit ILI9341 Library
https://github.com/adafruit/Adafruit_ILI9341

XPT2046_Touchscreen by Paul Stoffregen
https://github.com/PaulStoffregen/XPT2046_Touchscreen/blob/master/XPT2046_Touchscreen.h

ArduinoJson by Benoît Blanchon
https://github.com/bblanchon/ArduinoJson

JsonStreamingParser by Daniel Eichhorn
https://github.com/squix78/json-streaming-parser

InstagramStats by Brian Lough
https://github.com/witnessmenow/arduino-instagram-stats

YoutubeAPI by Brian Lough
https://github.com/witnessmenow/arduino-youtube-api/

You can also download the library also directly as ZIP file and uncompress the folder under

yourarduinosketchfolder/libraries/

After installing the Adafruit libraries, restart the Arduino IDE.

3.2 Source Code

You will find the source code on our website.
https://www.hwhardsoft.de/english/projects/arduitouch-esp/

3.3 WiFi settings

Enter your WiFi SSID & password in the fields in the WiFi section:

```
/*_____Define WiFi_____*/
#define WIFI_SSID "xxxxxx"         // Enter your SSID here
#define WIFI_PASS "xxxxx"      // Enter your WiFi password here
#define WIFI_HOSTNAME "Social_Counter"
#define PORT 5444
#define WIFICLIENT_MAX_PACKET_SIZE 100
/*_____End of WiFi definitions_____*/
```

3.4 Preparation for Facebook

Enter the Facebook Page ID, Access Token and Fingerprint in the Facebook section:

```
/*_____Define Facebook config_____*/

#define FACEBOOK_HOST "graph.facebook.com"
#define FACEBOOK_PORT 443
#define PAGE_ID "YOUR_PAGE_ID"
#define ACCESS_TOKEN "YOUR_ACCESS_TOKEN"
// graph.facebook.com SHA1 fingerprint
const char* facebookGraphFingerPrint = "YOUR_FINGER_PRINT";
/*_____End of Facebook config_____*/
```

How to get the Page ID, Access Token and Fingerprint:

- Follow the steps on *https://developers.facebook.com/docs/pages/getting-started* to create an APP
- After the app is created, go to the graph explorer.
- Up the top right change the application to the new one that you created
- Click "Get Token" and then click "Get User Access Token"
- Check the "User_Friends" option, click get access token and authenticated the applicaiton with your account.
- The key that appears the in the bar can be used with the library.
- Click on [this link](https://developers.facebook.com/apps),
- click on the app you created. Your consumer ID and consumer secret are available on this page. You will need to this to extend your API key, which you can do using the library

3.5 Preparation for Youtube

Enter the Youtube API Key and Channel ID in the Youtube section:

```
/*_____Define Youtube config_____*/
#define API_KEY "YOUR_API_KEY"  // your google apps API Token
#define CHANNEL_ID "YOUR_CHANNEL_ID" // makes up the url of channel
/*_____End of Youtube config_____*/
```

It's necessary needed to create a Google Apps API key:

- Create an application (https://console.developers.google.com
- On the API Manager section, go to "Credentials" and create a new API key
- Enable your application to communicate the YouTube Api [here] (https://console.developers.google.com/apis/api/youtube)
- Make sure the following URL works for you in your browser (Change the key at the end!):
  https://www.googleapis.com/youtube/v3/channels?part=statistics&id=UCu7_D0o48KbfhpEohoP7YSQ&key=PutYourNewlyGeneratedKeyHere

3.6 Preparation for Instagram

You have only to enter your Instagram name in the field below:

```
/*_____Define Instagram config_____*/
String Instagram_userName = "YOUR_USERNAME";
/*_____End of Youtube config_____*/
```

3.7 Run the demo

After compilation and upload you will see your Youtube, Facebook and Instagram stats continuously in succession on the TFT. The touch has no function in this demo.