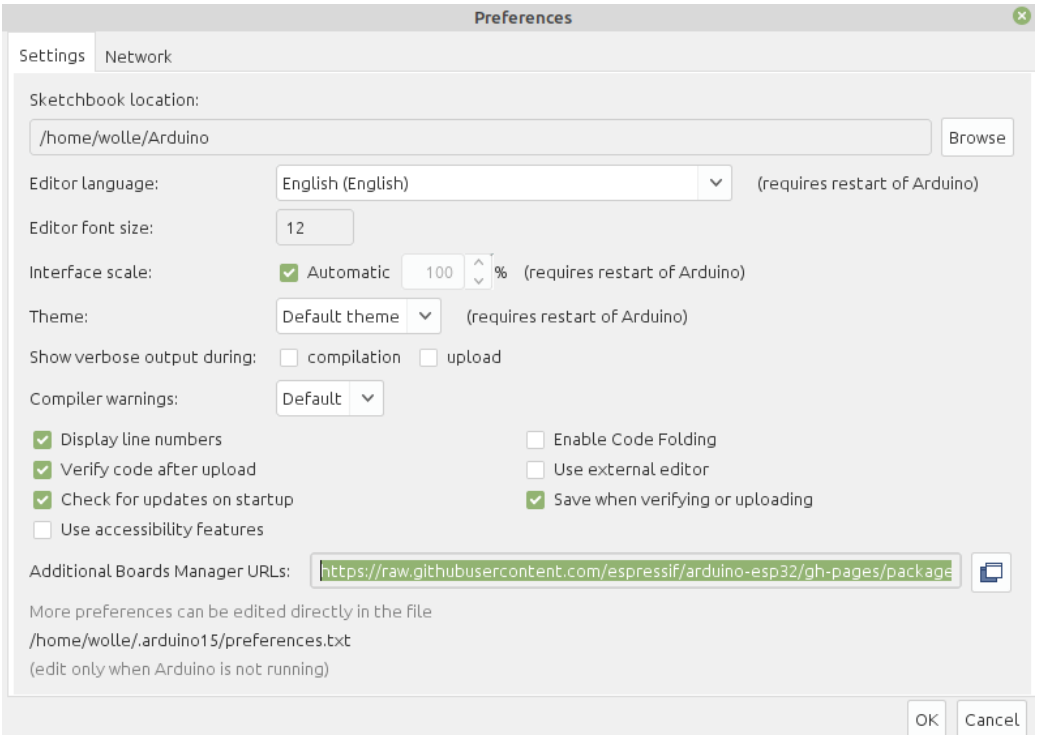
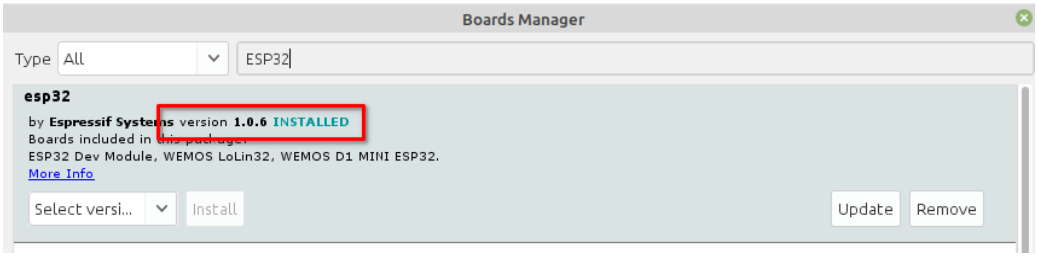
Notes on programming with the Arduino IDE

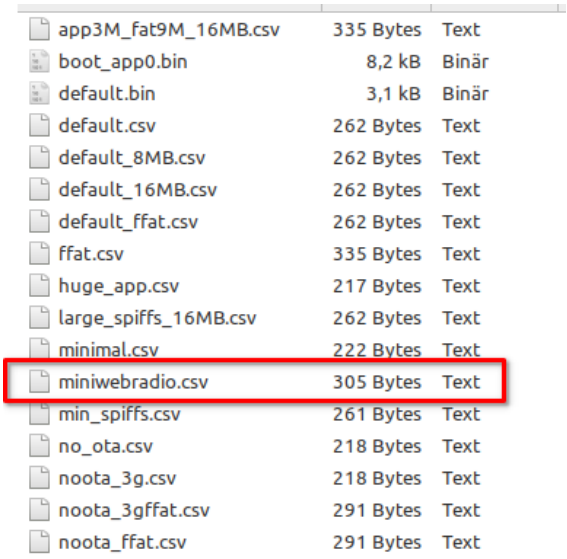
In Preferences:
Additional Boards Manager URLs:
https://raw.githubusercontent.com/espressif/arduino-esp32/gh-pages/package_esp32_dev_index.json



Install V1.0.6 via Boards Manager



In (user) AppData\Local\Arduino15\packages\esp32\hardware\esp32\1.0.6\tools\partitions
copy the partition table miniwebradio.csv

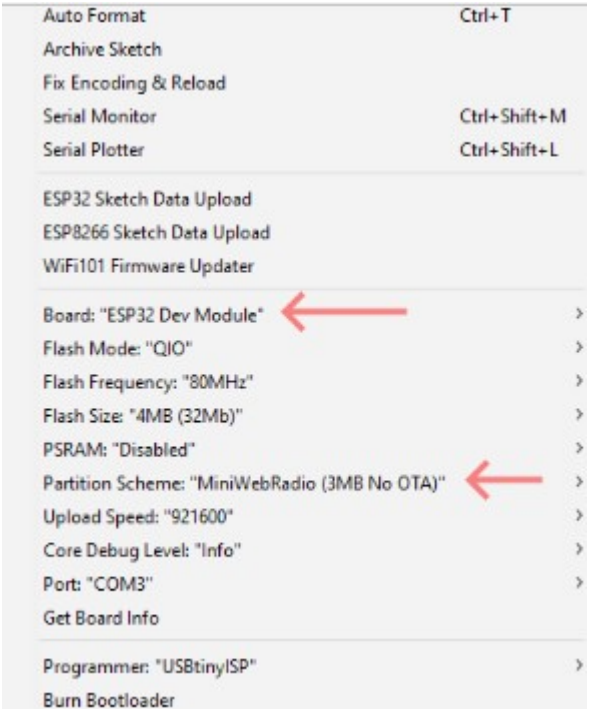


Then add in boards.txt (section ESP32 Dev Module):

esp32.menu.PartitionScheme.miniwebradio=MiniWebRadio (3MB No OTA)
esp32.menu.PartitionScheme.miniwebradio.build.partitions=miniwebradio
esp32.menu.PartitionScheme.miniwebradio.upload.maximum_size=3145728

```
esp32.menu.PartitionScheme.default=Default
esp32.menu.PartitionScheme.default.build.partitions=default
esp32.menu.PartitionScheme.minimal=Minimal (2MB FLASH)
esp32.menu.PartitionScheme.minimal.build.partitions=minimal
esp32.menu.PartitionScheme.no_ota=No OTA (Large APP)
esp32.menu.PartitionScheme.no_ota.build.partitions=no_ota
esp32.menu.PartitionScheme.no_ota.upload.maximum_size=2097152
esp32.menu.PartitionScheme.min_spiffs=Minimal SPIFFS (Large APPS with OTA)
esp32.menu.PartitionScheme.min_spiffs.build.partitions=min_spiffs
esp32.menu.PartitionScheme.min_spiffs.upload.maximum_size=1966080
esp32.menu.PartitionScheme.miniwebradio=MiniWebRadio (3MB No OTA)
esp32.menu.PartitionScheme.miniwebradio.build.partitions=miniwebradio
esp32.menu.PartitionScheme.miniwebradio.upload.maximum_size=3145728
```

Select Board and Partition Scheme

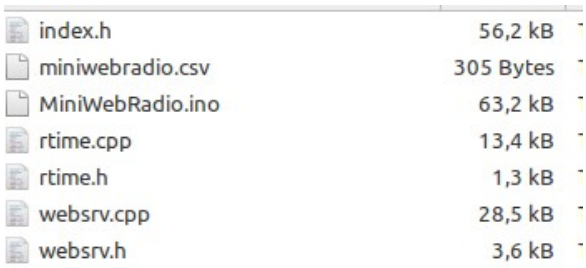


Install libraries
Sketch/Include Library/Add .Zip Library

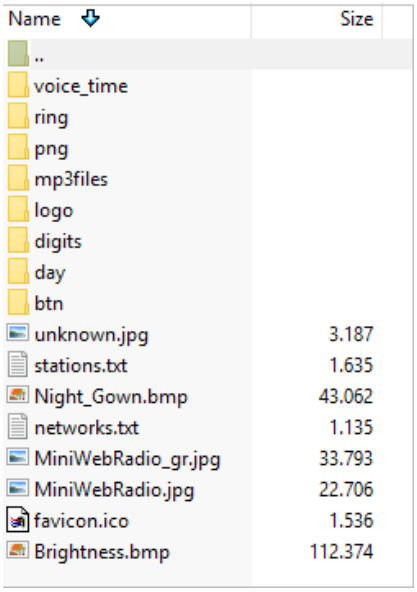
https://github.com/schreibfaul1/ESP32-vs1053_ext
Https://github.com/schreibfaul1/ESP32-IR-Remote-Control Optional, for a IR Remote Control)
https://github.com/schreibfaul1/ESP32-TFT-Library-ILI9431-HX8347D

Create the new project “MiniWebRadio”
and copy the files into the project folder, rename main.cpp to MiniWebRadio.ino

If everything is included, the contents of the folder will look like this:



The contents of the archive „Content_on_SD_Card. zip "
https://github.com/schreibfaul1/ESP32-MiniWebRadio/blob/master/Content_on_SD_Card.zip
will be unzipped to the SD card.



voice_time	Language files for the time (can be played at any hour)
ring	MP3 file for the alarm tone
pictures	Bitmaps to test the display (not strictly required)
mp3files	Music files etc. for the MP3 player
logo	Sender logos as bitmap (96x96 pixels in size)
digits	Alarm clock and time bitmaps
day	Bitmaps for the day (alarm on/off)
btn	Bitmaps for the buttons
stations.txt	The channel list
networks.txt	If more than one WiFi network exists, the access data can be entered here
favicon.ico	is displayed by the browser on the Web portal.
miniwebradio.jpg	The Home screen
Brightness.bmp	Display Brightness menu graphic

Choose the tft controller

```
//objects
TFT tft(1);                     // parameter:  (0)ILI9341, (1)HX8347D
VS1053 mp3(VS1053_CS, VS1053_DCS, VS1053_DREQ);
hw_timer_t* timer=NULL;         // instance of the timer
```

And the timezone

```
// Timezone
#define TZName  "CET-1CEST,M3.5.0,M10.5.0/3"
```

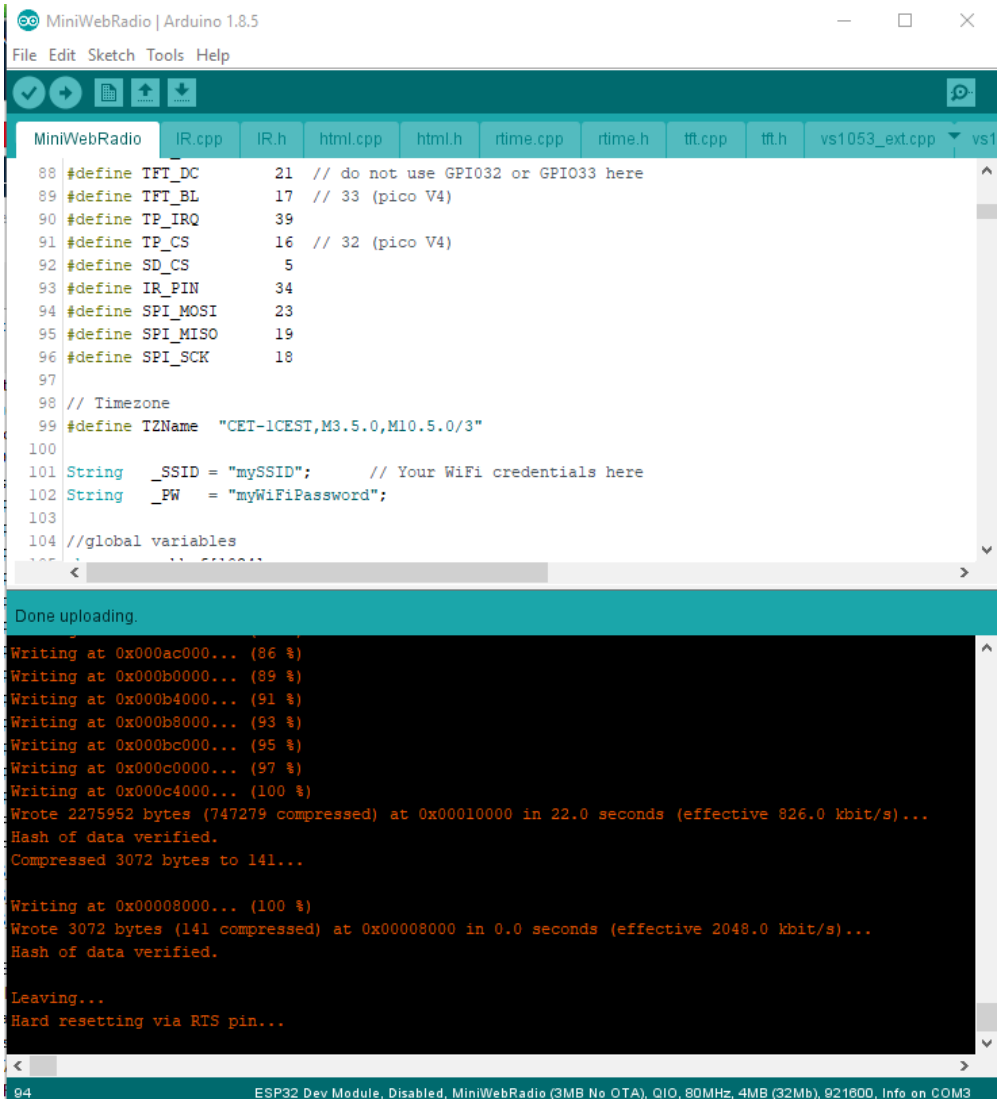
Goto tft.h and include (uncomment) the font Times_New_Roman

```
// this font needs a bigger partition change from "default" to "NO OTA (large app)"
#include "fonts/Times_New_Roman.h"        // latin, greek, cyrillic with all extensions
```

Set Your credentials in the code or in networks.txt

```
String   _SSID = "mySSID";      // Your WiFi credentials here
String   _PW   = "myWiFiPassword";
```

After that, the sketch can be compiled and uploaded.



Sincerely,

Wolle