7" HMI ESP32 Touch Screen Display (800x480 RGB TFT) Setup Guide
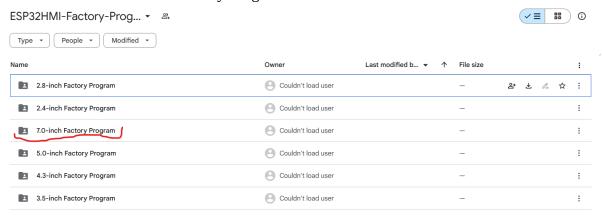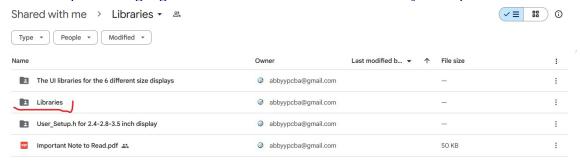
The complete installation process is explained in the video tutorial [Ref 4]

1. Follow the Arduino Setup guide in [Ref 3] to install Arduino IDE and the ESP32 Libraries.
   1. Install ESP32 2.0.3 version of the library
2. Download the Factory program
   1. https://drive.google.com/drive/folders/1csAHy6yGEJooUBU4CS6zFEW1mrDFeCTc
   2. Download the 7inch Factory Program

3. Download the commonly used libraries
   1. https://drive.google.com/drive/folders/1StdAWhXHArhyw5HFpCY-xulWdZYrFAGz

   2. Copy all the files/folders from the downloaded and extracted Library folder in to Arduino's libraries folder. (Usually located in C:\Users*yourUserName*\Documents\Arduino\libraries). This path can be found from Arduino IDE by clicking on File → Preferences → Sketchbook location.
   3. You also need "ui.h" for 7-inch display. Download the "The UI libraries for the 6 different size displays" from step 3.1.
   4. After extracting the zip file from step 3.3, copy the UI folder from "UI-7.0-BLUE" subfolder extracted from the previous step 3.3 and paste it in the Arduino library folder (from step 3.2). IF THERE IS A "UI" FOLDER ALREADY IN THE ARDUINO LIBRARY FOLDER DELETE IT BEFORE COPYING THIS FOLDER.

4. Configure compilation environment in Arduino
   1. Tools → Board → esp32 → ESP32S3 Dev Module
   2. Tools → Flash → QIO 80MHz
   3. Tools → Partition Scheme → Huge App
   4. Tools → PSRAM → OPI PSRAM

5. Compile and upload the Factory program
   1. From the Arduino IDE open <mark>"LvglWidgets-LVGL-7.0-NOSPEAK-2.ino"</mark> from the 7.0-inch Factory Program downloaded in Step 2.2
   2. Connect the display to the computer with a USB cable and choose the port number in Arduino by going to Tools → Port.
   3. Put the board into download mode. Press and hold "Boot" button and click the "Reset" button and release the "Boot" button.
   4. Once the code is uploaded click on the "Reset" button once.

References:
1. Product page: https://www.elecrow.com/esp32-display-7-inch-hmi-display-rgb-tft-lcd-touch-screen-support-lvgl.html
2. WiKi page: https://www.elecrow.com/wiki/index.php?title=ESP32_Display_7.0%27%27_Intelligent_Touch_Screen_Wi-Fi%26BLE_800*480_HMI_Display
3. Arduino IDE Setup guide: https://www.elecrow.com/wiki/index.php?title=ESP32_Display_7.0-inch_HMI_Arduino_Tutorial
4. Video Tutorial page to setup Arduino libraries for the display (This needs be completed after finishing the previous Step 3). https://www.youtube.com/watch?v=iKJesBu_cg4