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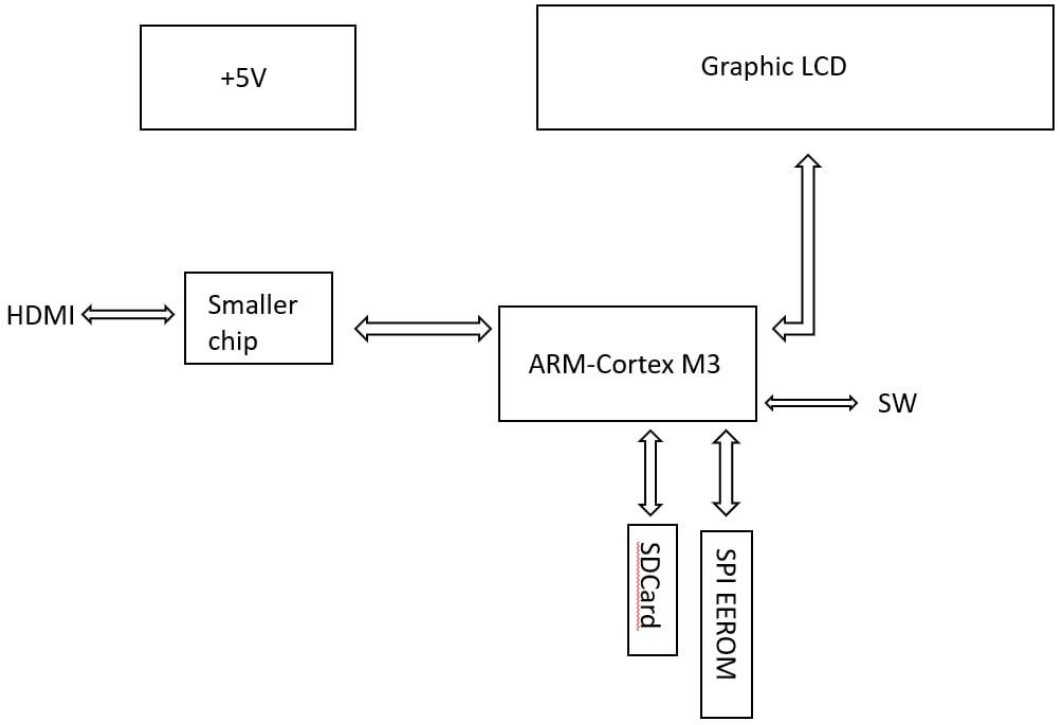
Topic: display the video on TFT LCD with STM32f103

General idea: the device will take the video data from the SD card with SD card reader then transfer it to the processor, which is stm32. The solution to complete is to use the SPI to transfer data between the master and devices. The video will be transferred directly to the graphical LCD and being displayed.

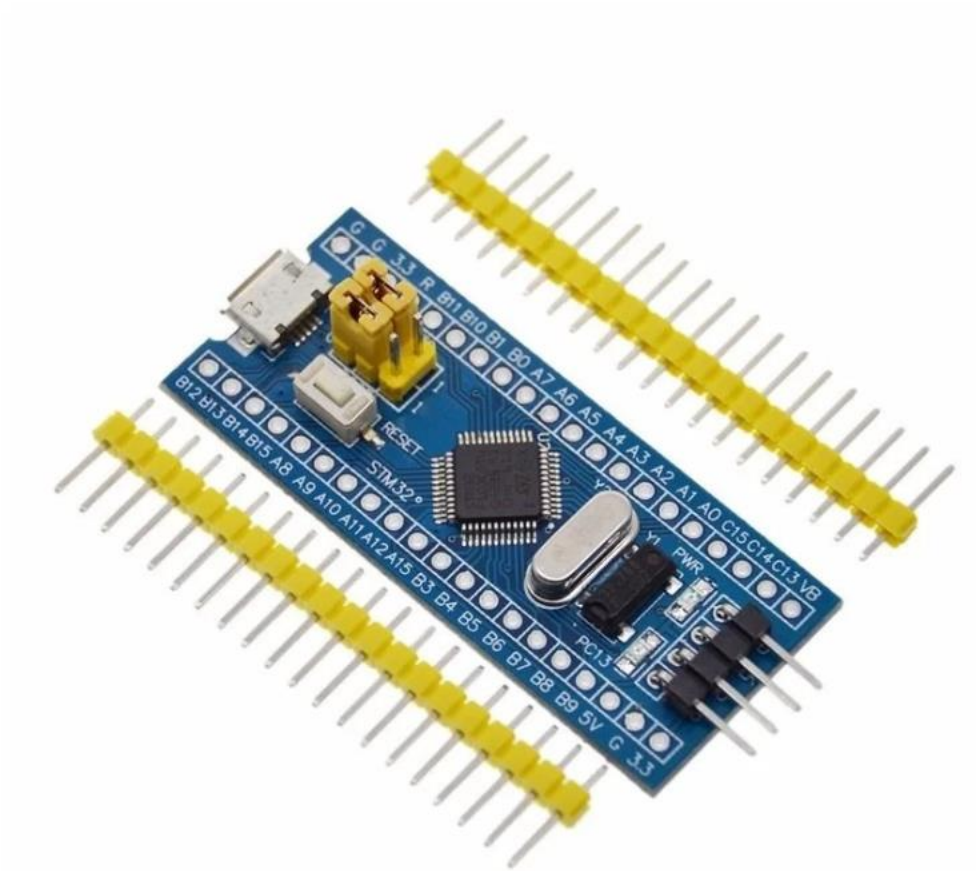
Block diagram for the idea



Hardware selection:

- Microchip: STM32F103C8T6
  Using 5V source connected to micro usb port and convert to 3.3v DC

ARM cortex-M3

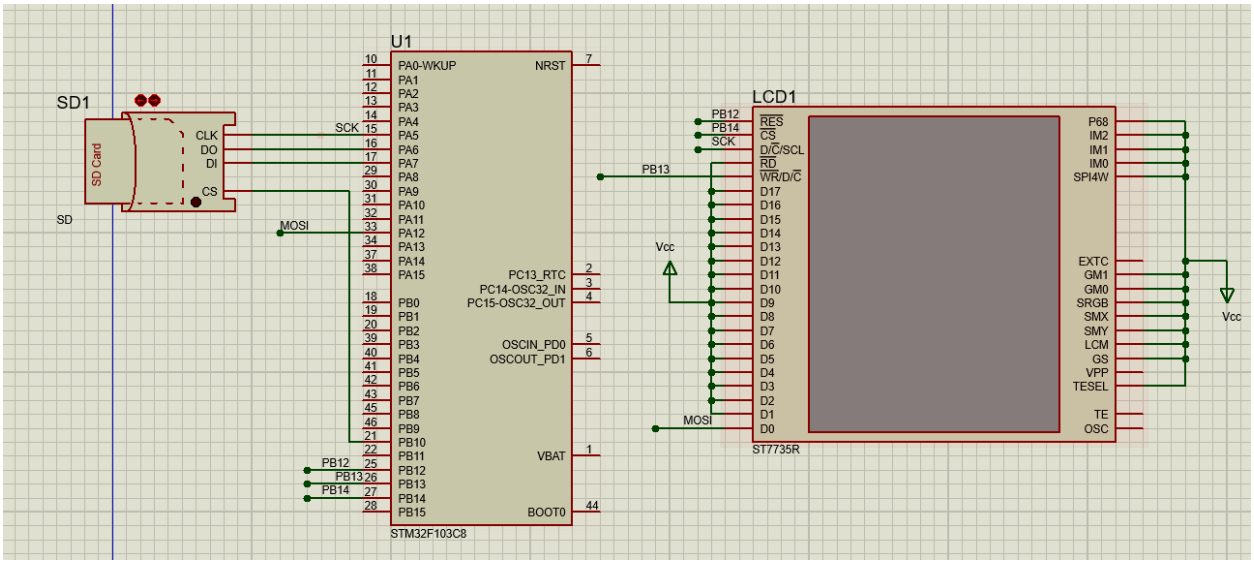


- Monitor screen: ST7735S
  Source 3.3v
  Using SPI to communicate
  1,8 inch
  128x160 mega pixel
  Display size: 28.03x35.04mm

- SD card reader circuit
  Using both 5v and 3,3v DC
  Available MOSI, MISO , SCK and CS
  Using SPI to communicate

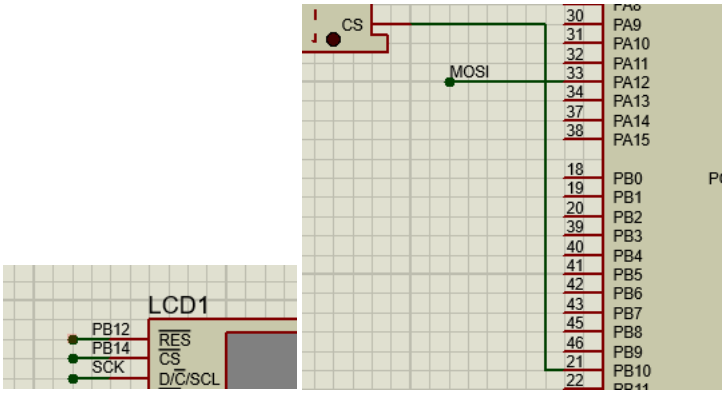
- SD card:

Schematic connection

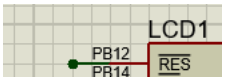


Explanation:

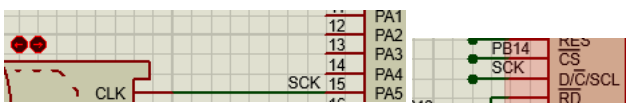
CS: the CS of SD and LCD is connected to PB14 and PB10 to serve for the chosen of the process import or export the video



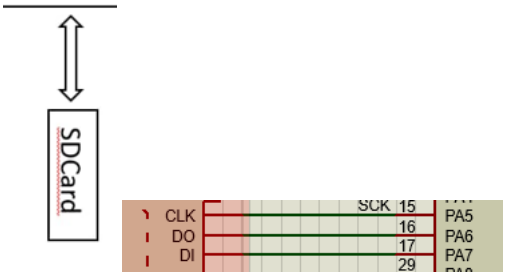
RES: we set PB12 is the pin to reset the LCD



SCK: The pin PA5 is chosen to be the master clock for 2 slaves SD reader and LCD TFT



DO, DI: the SD card is the 2 ways device so it need 2 pins PA6 and PA7 to import and export the data from the SD card



MOSI: D0 is connect to PA12 to receive the signal from the STM32. STM32 control the device