

3/31/2025

processing for class understanding data to LEDs

TBD: professor sets the class size or determined by # of connected devices

5 sets of 2 LEDs per array

0% : 0 sets lit
1-25% : 1 set lit
26-50% : 2 sets lit
51-75% : 3 sets lit
76-99% : 4 sets lit
100% : 5 sets lit

↓

0 : 0 sets lit
0.01-0.25 : 1 set lit
0.26-0.50 : 2 sets lit
0.51-0.75 : 3 sets lit
0.76-0.99 : 4 sets lit
1 : 5 sets lit

calculated as:

$$p_{un} = \frac{\# \text{ of understand}}{\text{class size}}$$

or

$$p_{dun} = \frac{\# \text{ of don't understand}}{\text{class size}}$$

or

$$p_{bet} = \frac{\# \text{ of inbetween}}{\text{class size}}$$

4/1/2025

testing microcontroller on PCB V1

we successfully communicated with the chip
used the programming buttons

attempted to run code used for Breadboard Demo
X did not work

issue: can't drive GPIOs

4/5/2025

testing w/ PCB V1

resolved GPIO driving issue:

enable button must be pressed after programming to take chip out of programming mode

used a blink program to confirm ability to drive GPIOs
(GPIO3: indicator LED)

used a "question indicator" program to confirm signal were received from GPIOs (GPIO6: clear button)

PCB V2 screen:

SPI pin configuration

IO9: MISO
IO10: SCK
IO11: MOSI
IO12: DC/RS
IO13: RST
IO14: CS

under User_Setup.h, define...

TFT_MISO 9
TFT_MOSI 11
TFT_SCLK 10
TFT_CS 14
TFT_DC 12
TFT_RST 13

PCB V1 screen test:

★ following V2 definitions for consistency

SPI pin configuration

IO9: HD using as MISO
IO10: CS0 using as SCK
IO11: D using as MOSI
IO12: CLK using as DC/RS
IO13: Q using as RST
IO14: WP using as CS

under User_Setup.h, #define...

TFT_MISO 9
TFT_MOSI 11
TFT_SCLK 10
TFT_CS 14
TFT_DC 12
TFT_RST 13

X still can't display on screen when running the Breadboard Demo code