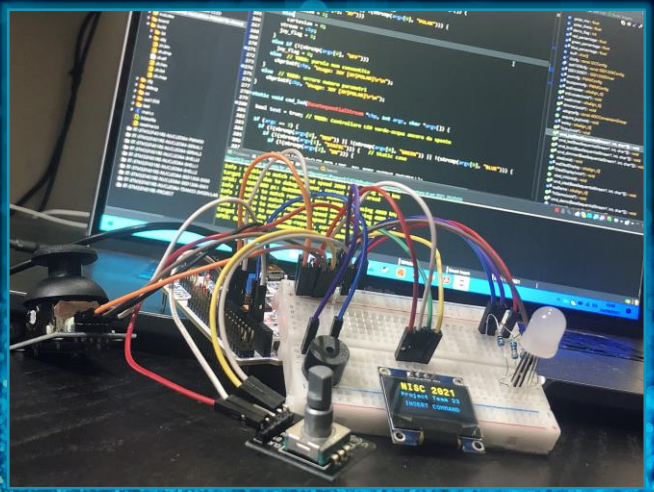
TEAM #23

Project : TEST SUITE



TEAM PRESENTATION

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Bachelor's Student in Computer Engineering

TEAM WORK

TS-REQ01-1
Anna

TS-REQ01-2
Diego

Shell
Giuseppe

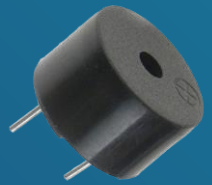
TS-REQ01-3
Leonardo

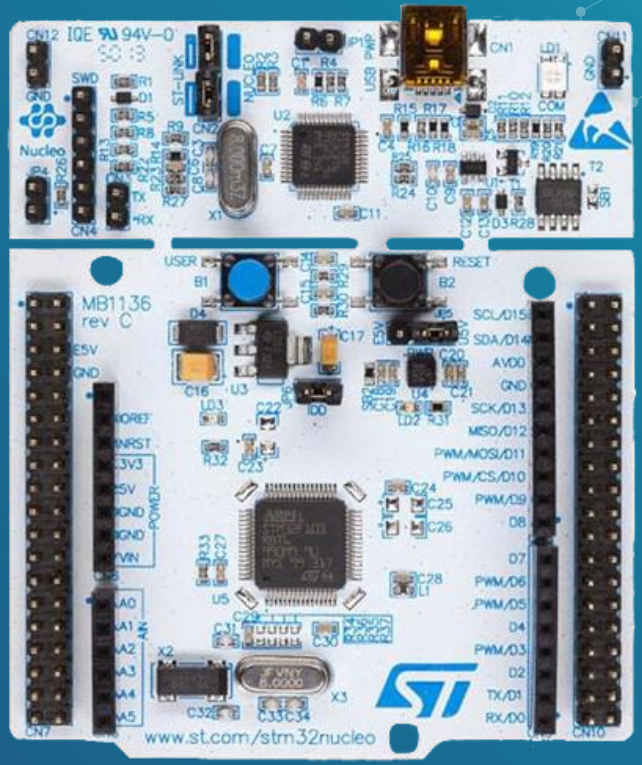
TS-REQ 1-5
Simone

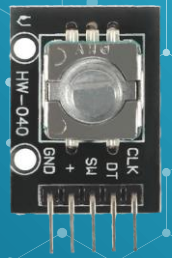
TS-REQ01-4
Daniele

TS-REQ02-1

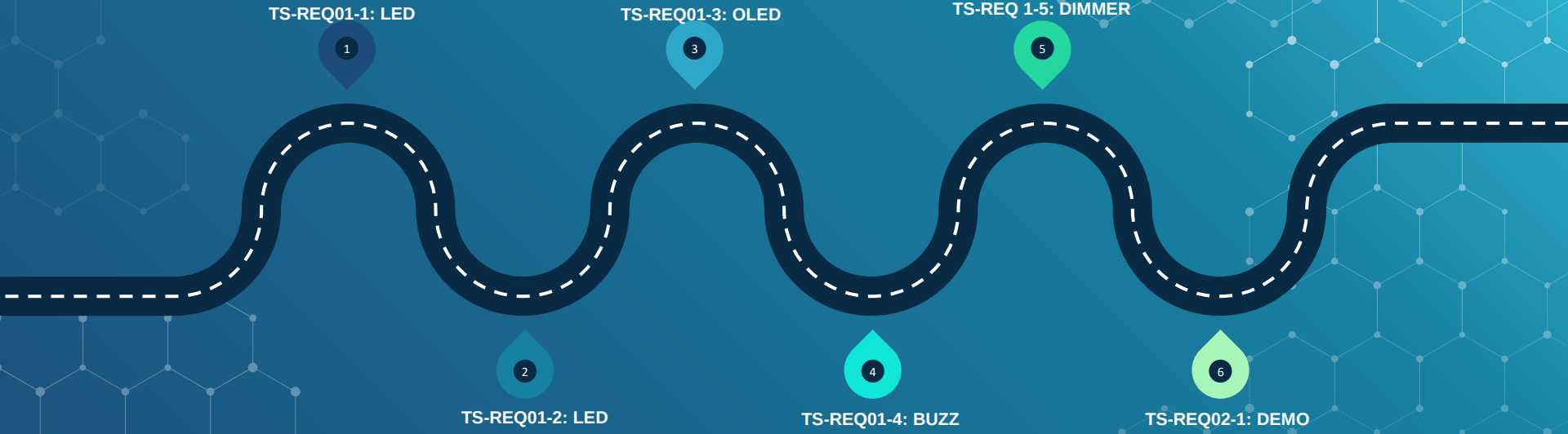
ELEMENTS FOR USE







ROADMAP


TS-REQ01-1: LED
1
TS-REQ01-3: OLED
3
TS-REQ 1-5: DIMMER
5
2
TS-REQ01-2: LED
4
TS-REQ01-4: BUZZ
6
TS-REQ02-1: DEMO

1

TS-REQ01-1: LED [RED|GREEN|BLUE] [STATIC|DYNAMIC]
If STATIC then [ON|OFF] else DYNAMIC [100÷1000] (ms)

- STATIC: We set the pal mode as PAL_MODE_OUTPUT_PUSHPULL. We used the SET and CLEAR API.
- DYNAMIC: We set the pal mode as PAL_MODE_ALTERNATE(2). We use the PWM mode

2

TS-REQ01-2: JOY [XY|POLAR]
Once activated, until the escape sequence is activated, the following are shown:
- if in XY: the Cartesian coordinates relative to the joypad position
- if in POLAR: the polar coordinates relative to the joypad position

We create a thread that managed the joypad:
- Samples acquisition using ADC (acquire_joy() function)
- Printing values on serial device

3

TS-REQ01-3: OLED [LED|JOY]
Once activated, the status of the LED or the JOYPAD is printed on the OLED-display (previous commands)

We create a thread that managed the OLED device. If LED:
- Hardware PIN status check

If JOY:
- Samples acquisition using ADC (acquire_joy() function)
- Printing values on OLED device

4

TS-REQ01-4: BUZZ [ON|OFF] [PERIOD]

A buzzer tone is reproduced, with the period expressed in whole multiples of the second

We set the pal mode as PAL_MODE_ALTERNATE(2). We use the PWM mode that can change the period runtime.

5

TS-REQ 1-5: DIMMER [ON|OFF] [RED|GREEN|BLUE]

Once activated, the led is activated with the color indicated in the command:
The light intensity must be controlled by encoder.

We create a thread that:

- Sets the PWM state of the RGB led throught the RGBCOLOUR flag

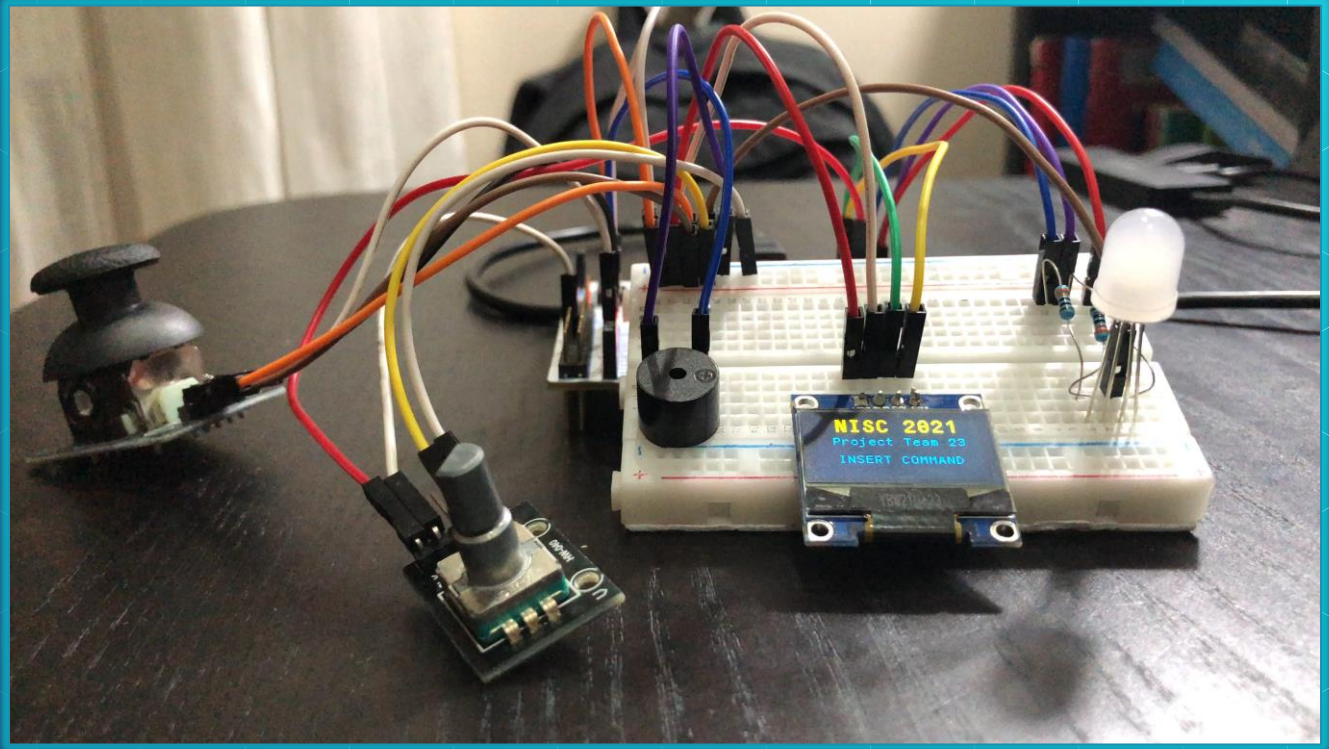
6

TS-REQ02-1: DEMO

Implement a color wheel with OLED-display and buzzer. The buzzer emits a tone when one of the three primary colors is reached and the percentage of the single dominant colors (simultaneously) is shown on the display.

We create a thread that :

- Samples acquisition using ADC (acquire_joy() function)
- Compute percentage of the dominant colors
- Buzz sounds when one of three colors is reached


NISC 2021
Project Team 23
INSERT COMMAND

EXPERIENCE

«I learn how to work with threads and microprocessor »

«I will certainly continue to practice with nucleo board»

«I improved teamwork, time management, cooperation and communication skills»