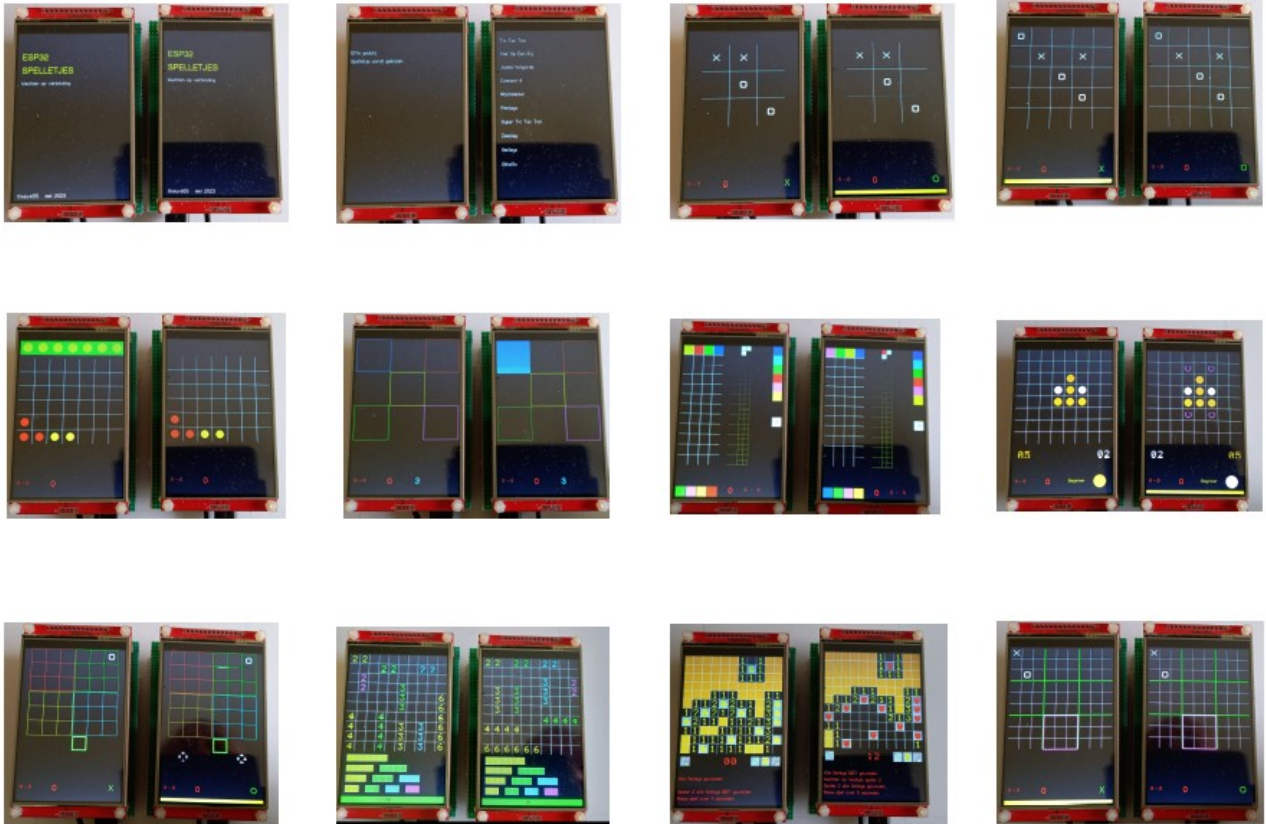


ESP32 wireless game console (MESH network).



Github : <https://github.com/thieu-b55/ESP32-wireless-game-console-MESH-network>

Play 10 multiplayer (2 people) games without WiFi network.

Easy to build.

Economically responsible (the bank account will not notice).

Hours of fun

Play :

Tic-Tac-Toe

<https://en.wikipedia.org/wiki/Tic-tac-toe>

Vier op een rij (Four in a row)

The name says it all.

Juiste volgorde (Correct sequence)

Repeat the colors shown.

Connect 4

https://en.wikipedia.org/wiki/Connect_Four

Mastermind

[https://en.wikipedia.org/wiki/Mastermind_\(board_game\)](https://en.wikipedia.org/wiki/Mastermind_(board_game))

Pentago

<https://en.wikipedia.org/wiki/Pentago>

Super Tic Tac Toe

https://en.wikipedia.org/wiki/Ultimate_tic-tac-toe

Zeeslag (Battleship)

[https://en.wikipedia.org/wiki/Battleship_\(game\)](https://en.wikipedia.org/wiki/Battleship_(game))

Smileys 11x11 (minesweeper without mines)

https://en.wikipedia.org/wiki/Microsoft_Minesweeper

Othello (beginner / pro)

<https://en.wikipedia.org/wiki/Reversi>

Further extensions are no longer possible with DRAM overflow

```
/home/gebruiker/arduino15/packages/esp32/tools/xtensa-esp32-elf-gcc/esp-2021r2-patch5-8.4.0/bin/./lib/gcc/xtensa-esp32-elf/8.4.0/././././xtensa-esp32-elf/bin/ld:
ESP32_spelletjes_480_dammen.ino.elf section `.dram0.bss' will not fit in region `dram0_0_seg'
/home/gebruiker/arduino15/packages/esp32/tools/xtensa-esp32-elf-gcc/esp-2021r2-patch5-8.4.0/bin/./lib/gcc/xtensa-esp32-elf/8.4.0/././././xtensa-esp32-elf/bin/ld: DRAM segment data does not fit.
/home/gebruiker/arduino15/packages/esp32/tools/xtensa-esp32-elf-gcc/esp-2021r2-patch5-8.4.0/bin/./lib/gcc/xtensa-esp32-elf/8.4.0/././././xtensa-esp32-elf/bin/ld: DRAM segment data does not fit.
/home/gebruiker/arduino15/packages/esp32/tools/xtensa-esp32-elf-gcc/esp-2021r2-patch5-8.4.0/bin/./lib/gcc/xtensa-esp32-elf/8.4.0/././././xtensa-esp32-elf/bin/ld: region `dram0_0_seg' overflowed
by 1720 bytes
collect2: error: ld returned 1 exit status
exit status 1
Fout bij het compileren voor board ESP32 Dev Module
```

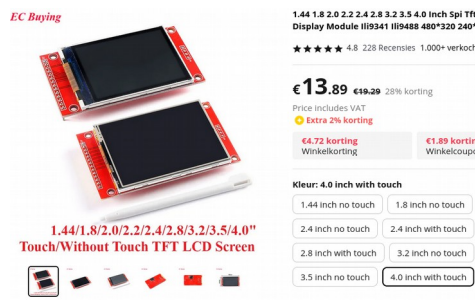
Components

2x ESP32 WROOM Devkit module



https://nl.aliexpress.com/item/1005001922031045.html?spm=a2g0o.store_pc_allProduct.8148356.2.412a6214vp4xsj&pdp_npi=3%40dis%21EUR%21%E2%82%AC%206%2C99%21%E2%82%AC%204%2C20%21%21%21%21%21%40210318cf16936797717075729e0c13%2112000020641291381%21sh%21BE%21924161374

2x 4.0 TFT SPI 480X320 TFT **TOUCH** SCREEN



https://nl.aliexpress.com/item/33015586094.html?spm=a2g0o.store_pc_allProduct.0.0.7ab67b75RlqYTy&pdp_ext_f=%7B%22sku_id%22%3A%2212000026583382486%22%2C%22ship_from%22%3A%22%22%7D&gps-id=pcStoreJustForYou&scm=1007.23125.137358.0&scm_id=1007.23125.137358.0&scm-url=1007.23125.137358.0&pvid=b8844f5d-991b-4f4c-a44c-1b103186f201&gatewayAdapt=glo2nld

2x 5V battery

Connections

ESP32

ESP32	5V	>>	+5V batterij
GND(3x)		>>	GND batterij
ESP32	EN(Reset)	>>	TFT RESET
ESP32	2	>>	TFT DC
ESP32	4	>>	T_CS
ESP32	12	>>	TFT SDO(MISO) T_DO
ESP32	13	>>	TFT SDI(MOSI) T_DIN
ESP32	14	>>	TFT_SCK T_CLK
ESP32	15	>>	TFT CS
ESP32	25	>>	T_IRQ
ESP32	3.3V	>>	TFT LED

LCD screen

VCC	>>	+5V batterij	(J1 boven U1 NIET sluiten)
GND	>>	GND batterij	
CS	>>	ESP32	15
RESET	>>	ESP32	EN
DC	>>	ESP32	2
SDI(MOSI)	>>	ESP32	13
SCK	>>	ESP32	14
LED	>>	ESP32	+3.3V
SDO(MISO)	>>	ESP32	12
T_CLK	>>	ESP32	14
T_CS	>>	ESP32	15
T_DIN	>>	ESP32	13
T_DO	>>	ESP32	12
T_IRQ	>>	ESP32	25

User_Setup.h (TFT_eSPI-master)

```
// Only define one driver, the other ones must be commented out
#define ILI9341_DRIVER // Generic driver for common displays
#define ILI9341_2_DRIVER // Alternative ILI9341 driver, see https://github.com/Bodmer/TFT_eSPI/issues/1172
#define ST7735_DRIVER // Define additional parameters below for this display
#define ILI9163_DRIVER // Define additional parameters below for this display
#define S6D02A1_DRIVER
#define RPI_ILI9486_DRIVER // 20MHz maximum SPI
#define HX8357D_DRIVER
#define ILI9481_DRIVER
#define ILI9486_DRIVER
#define ILI9488_DRIVER // WARNING: Do not connect ILI9488 display SDO to MISO if other devices share the SPI bus (TFT SDO does NOT tristate when CS is high)
#define ST7789_DRIVER // Full configuration option, define additional parameters below for this display
#define ST7789_2_DRIVER // Minimal configuration option, define additional parameters below for this display
#define R61581_DRIVER
#define RM68140_DRIVER
#define ST7796_DRIVER
#define SSD1351_DRIVER
#define SSD1963_480_DRIVER
#define SSD1963_800_DRIVER
#define SSD1963_800ALT_DRIVER
#define ILI9225_DRIVER
#define GC9A01_DRIVER

// ##### EDIT THE PIN NUMBERS IN THE LINES FOLLOWING TO SUIT YOUR ESP32 SETUP #####

// For ESP32 Dev board (only tested with ILI9341 display)
// The hardware SPI can be mapped to any pins

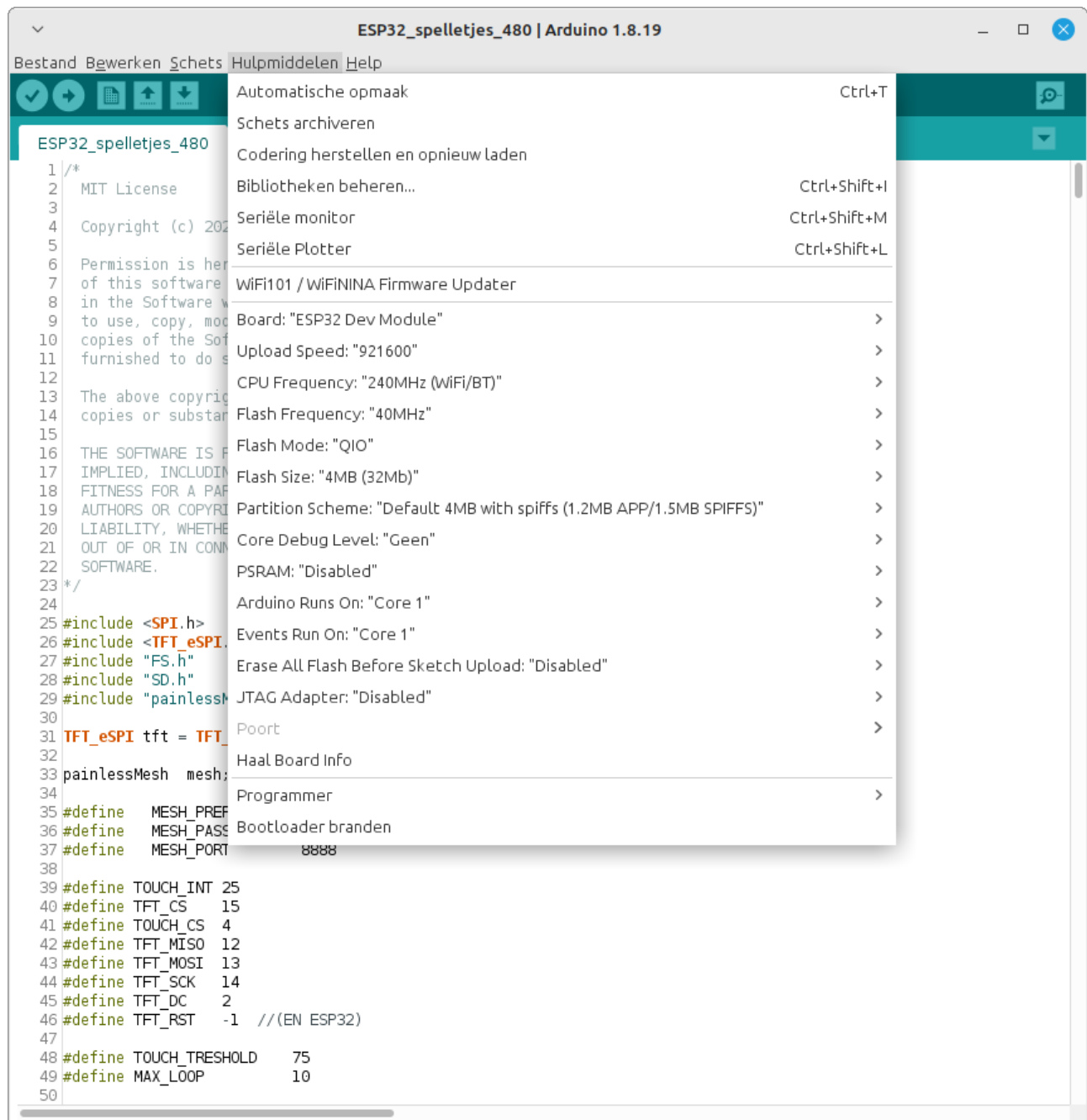
#define TFT_MISO 12
#define TFT_MOSI 13
#define TFT_SCLK 14
#define TFT_CS 15 // Chip select control pin
#define TFT_DC 2 // Data Command control pin
#define TFT_RST 4 // Reset pin (could connect to RST pin)
#define TFT_RST -1 // Set TFT_RST to -1 if display RESET is connected to ESP32 board RST

// For ESP32 Dev board (only tested with GC9A01 display)
// The hardware SPI can be mapped to any pins

#define TFT_MOSI 15 // In some display driver board, it might be written as "SDA" and so on.
#define TFT_SCLK 14
#define TFT_CS 5 // Chip select control pin
#define TFT_DC 27 // Data Command control pin
#define TFT_RST 33 // Reset pin (could connect to Arduino RESET pin)
#define TFT_BL 22 // LED back-light

#define TOUCH_CS 4 // Chip select pin (T_CS) of touch screen
```

Settings Arduino IDE



Load the program ESP32_spepjes_480.ino into both ESP32 modules.

If necessary, adjust the MESH_PORT if you want to use more than 1 set simultaneously.

```
painlessMesh mesh;  
  
#define MESH_PREFIX "ESP32"  
#define MESH_PASSWORD "ESP32_pswd"  
#define MESH_PORT 7777
```

2 matching modules must have the same MESH_.... have dates.

Startup screen



ESP32 waiting for them to build a mesh network

Press to continue



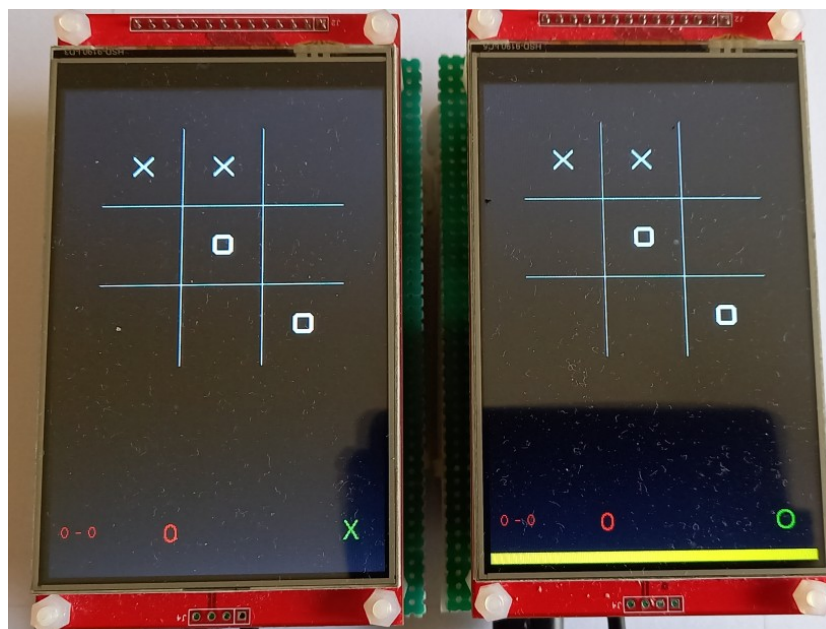
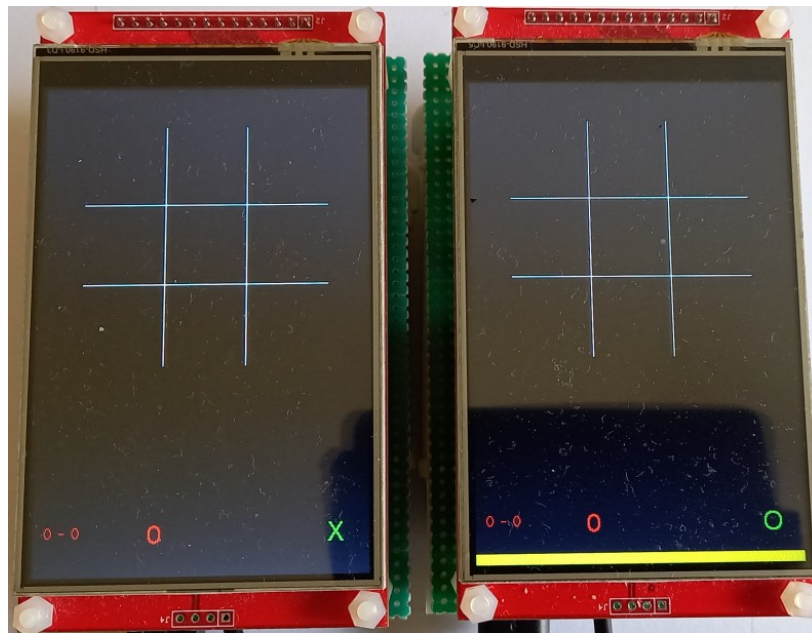
A player presses to continue. Which player stays the same.
Both ESP32s choose a random number, the ESP32 with the highest number may choose which game will be played and may also start.

Game selection



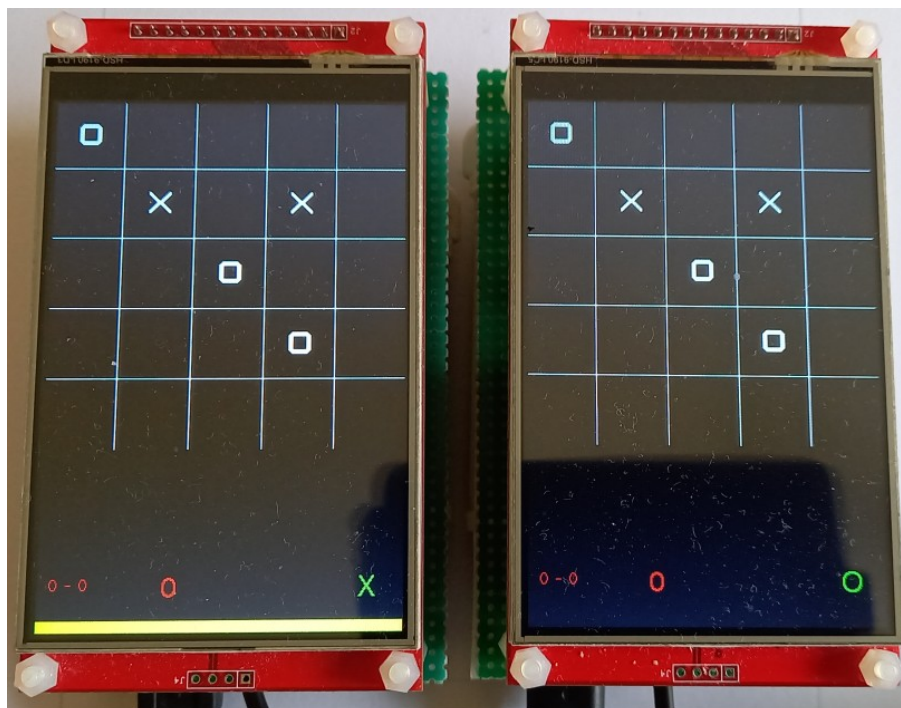
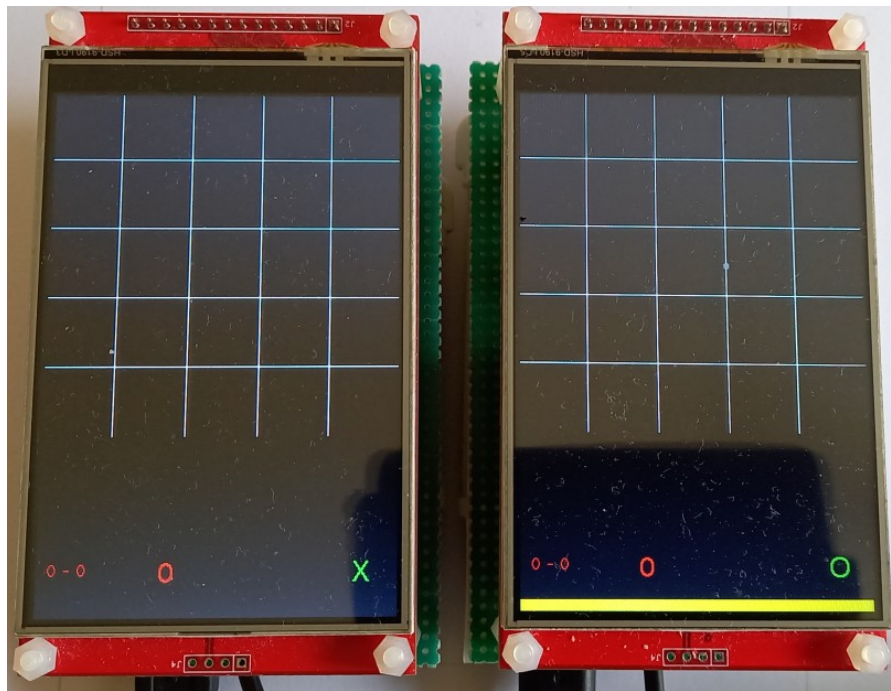
Choose the desired game

Tic-Tac-Toe



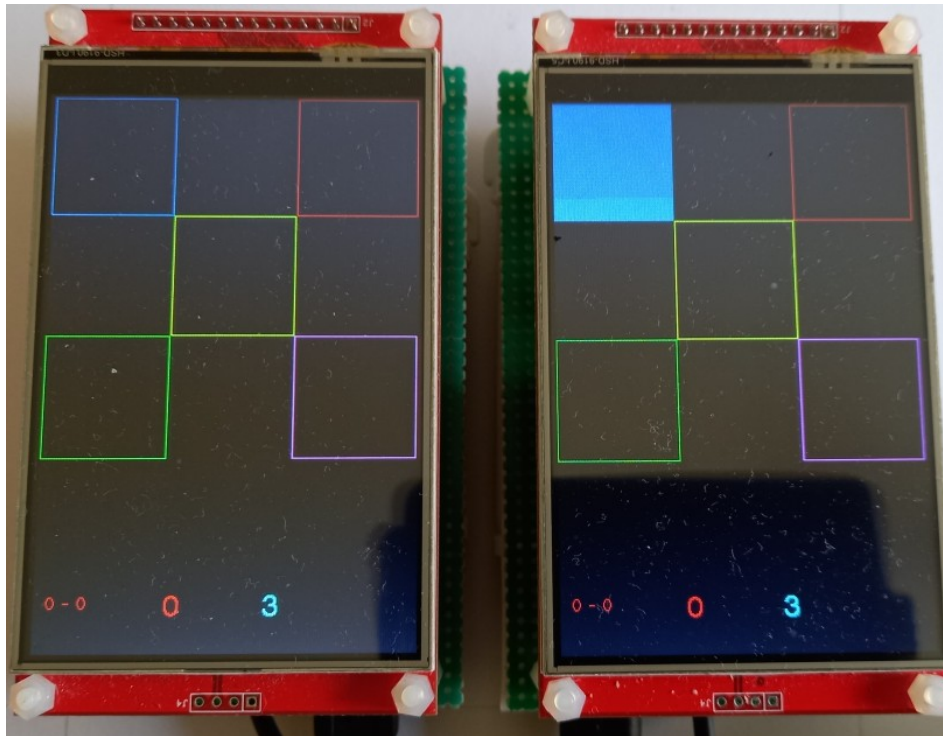
At the bottom right of the screen what do you put X or O
The player with the yellow bar at the bottom of the screen has his move.
Bottom left score with next to it again your own points.

Vier op een rij



At the bottom right of the screen what do you put X or O
The player with the yellow bar at the bottom of the screen has his move.
Bottom left score with next to it again your own points.

Juiste volgorde



Both players are shown the same color sequence

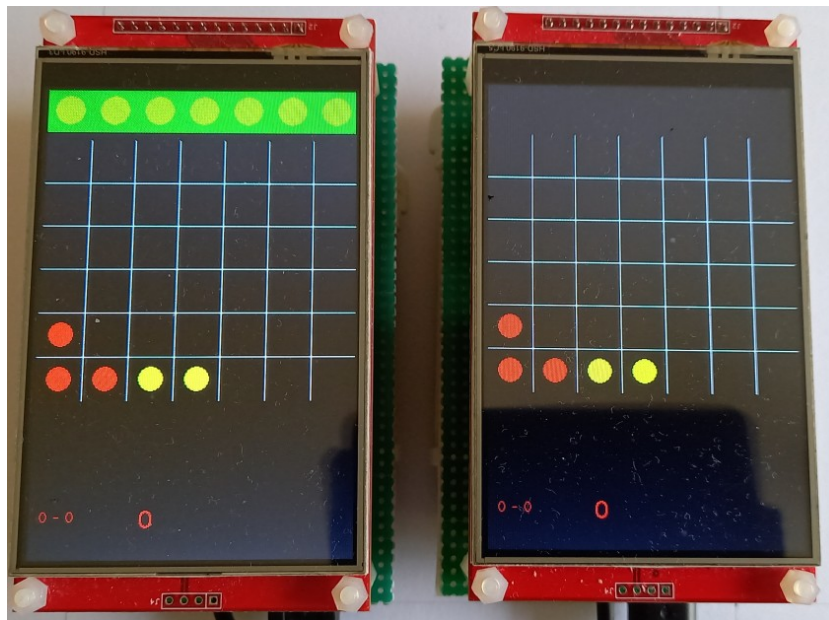
Bottom right of center, number of colors shown.

Every time BOTH players score 5 points or a multiple of 5 points, 1 color is added.

Maximum is 15 (success).

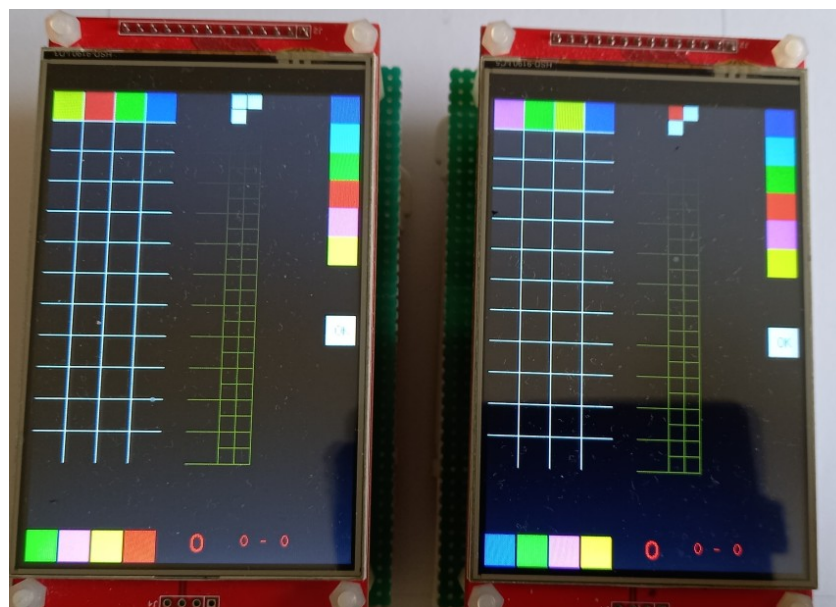
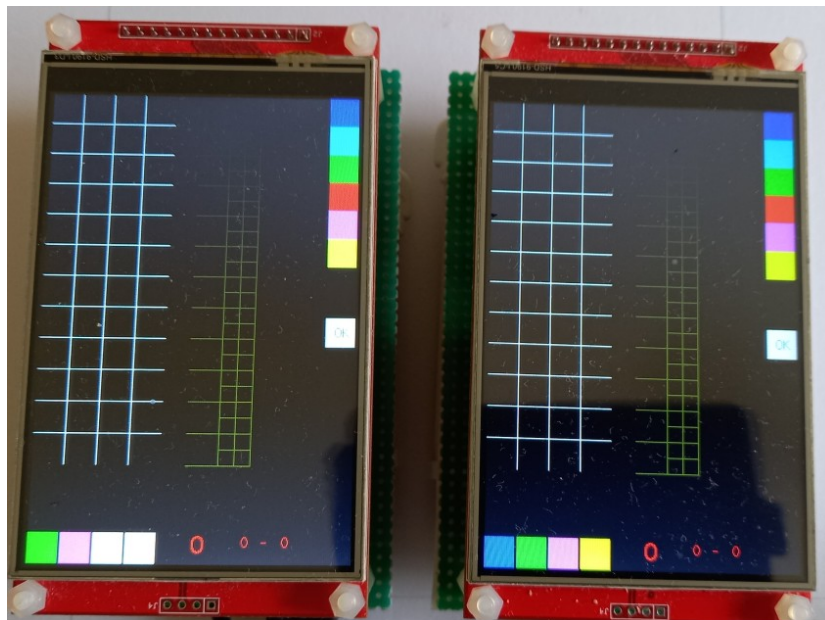
Bottom left score with next to it again your own points.

Connect 4



It is the turn of the player with the checkers above the playing field.
Press a disc above the row where you want to drop a disc.
Bottom left score with next to it again your own points.

Mastermind



First choose your own colors, 1 color may appear several times.

In the vertical bar on the right choose a color and place it in the horizontal bar at the bottom left.

A chosen color can still be changed.

If colors are as desired, press <OK>.

When both players have chosen their colors, the game can begin.

Choose a color and place it in the 1st empty horizontal row in the playing field.

Press <OK> again if filled in.

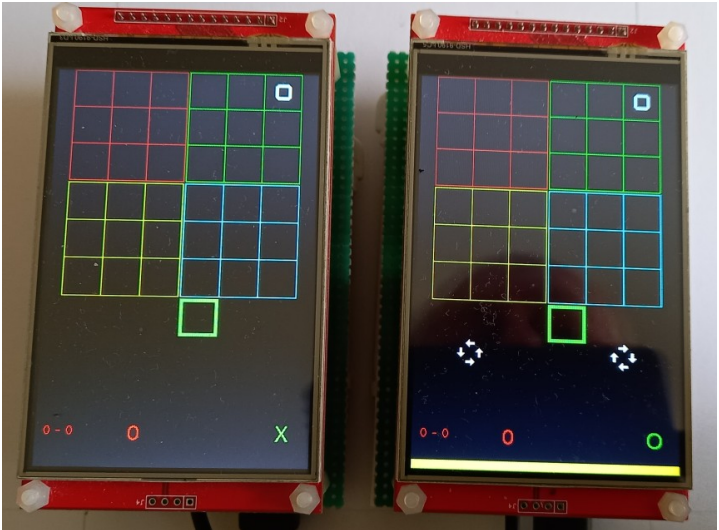
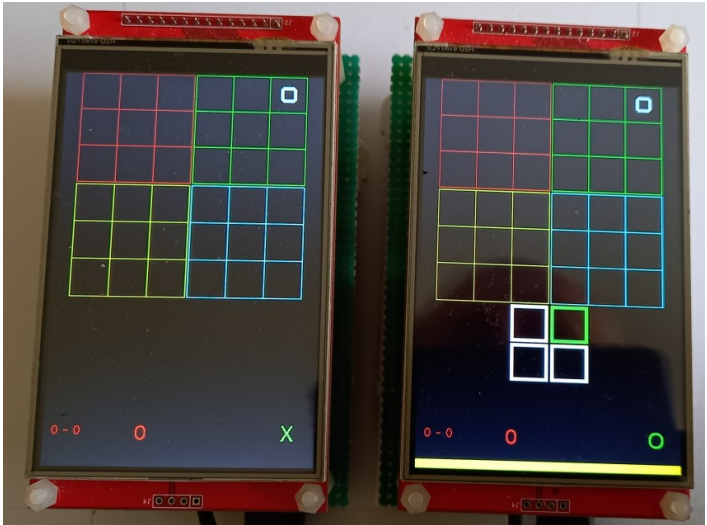
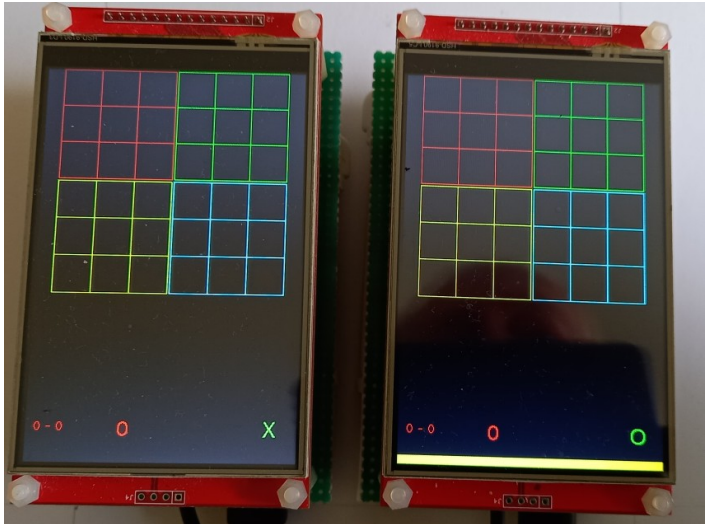
When BOTH players have chosen their colors, the result appears in the squares next to the row just played.

WHITE : correct color but wrong place

RED : right color and in the right place.

Display in the squares has no relation to the placement of the colors.

Pentago



The playing field consists of 6 x 6 squares.

Goal is to reach 5 in a row.

After each move, a box must be rotated a quarter turn.

If a box does not yet have an X or O in the outer 8 boxes, the option square to turn remains white.

This box may be chosen, this corresponds to no turning.

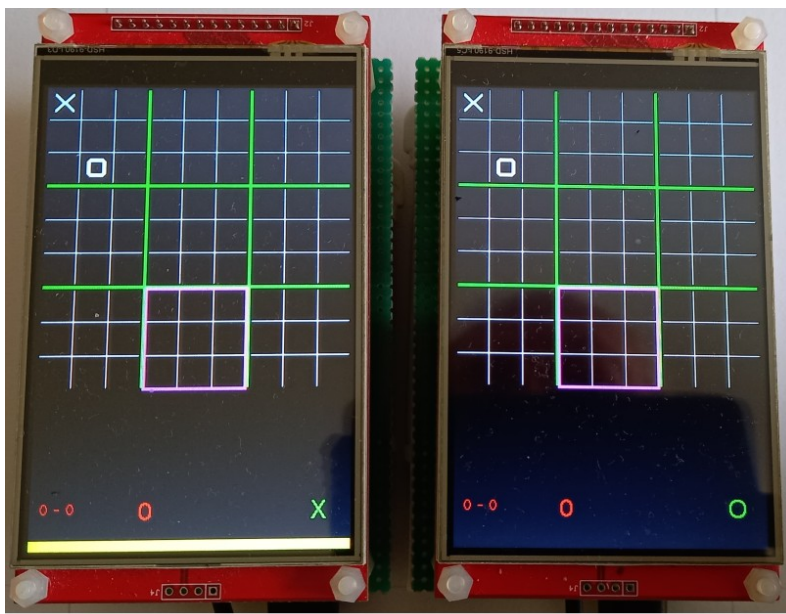
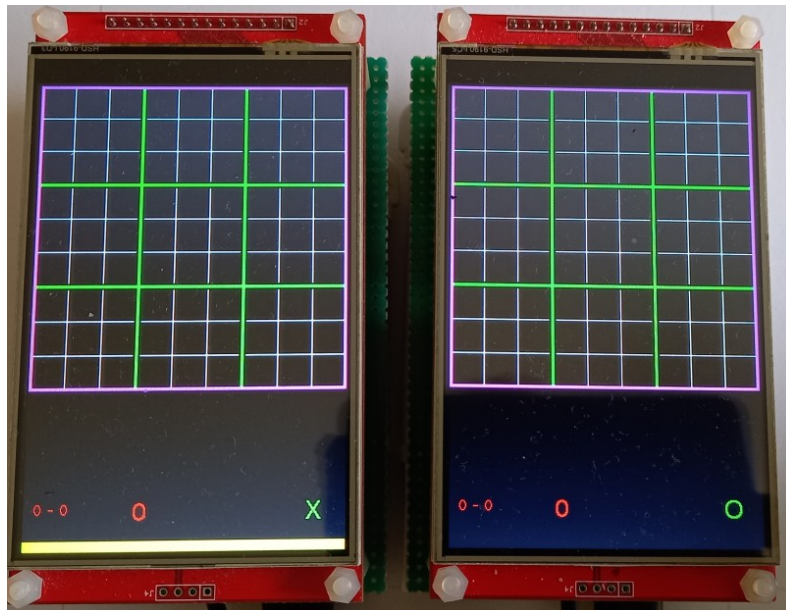
It is the turn of the player with the yellow bar.

Place an X or an O

Choose which box you want to rotate using the 4 colored or uncolored squares.

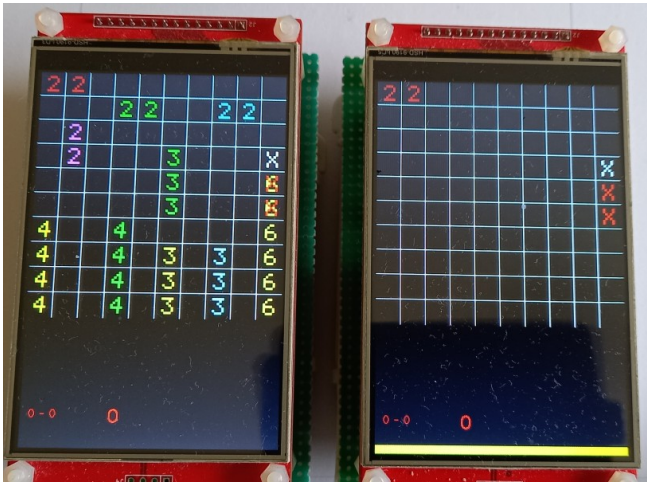
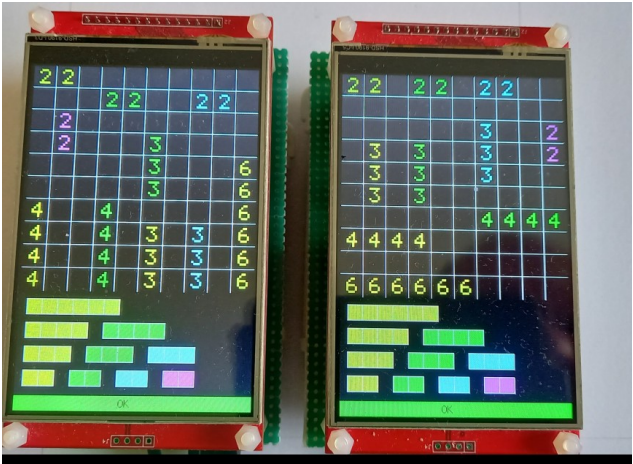
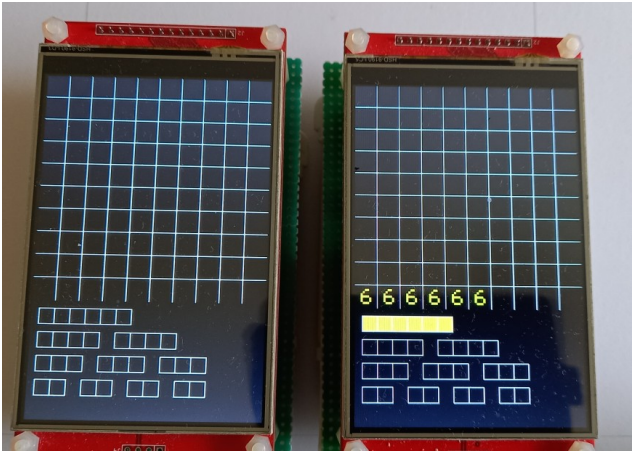
Then choose the direction left or right with the arrows.

Super Tic-Tac-Toe



The playing field consists of 9 small Tic-Tac-Toe playing fields.
Each small playing field gets a big X or O depending on the game result in this playing field.
The field in which you can place your bets is determined by the purple frame.
1st move is right.
Subsequent moves are determined by the placement of an X or O in a small playing field.
More explanation see Wikipedia.

Zeeslag



Place the ships first.

To do this, click on an empty space of the ship and place it on the playing field.

ESP32 does NOT check for proper placement.

But the lineup is shown at the end of the game.

When all ships are placed press the green OK bar.

Play continues when both players have placed their ships.

Player with the yellow bar may make a move.

Player who has to move sees where he has already made a move.

WHITE X not hit

RED X hit but not the entire ship yet.

RED NUMBERS the ship has sunk.

Player not to move sees where a move has already been made.

WHITE X hit nothing

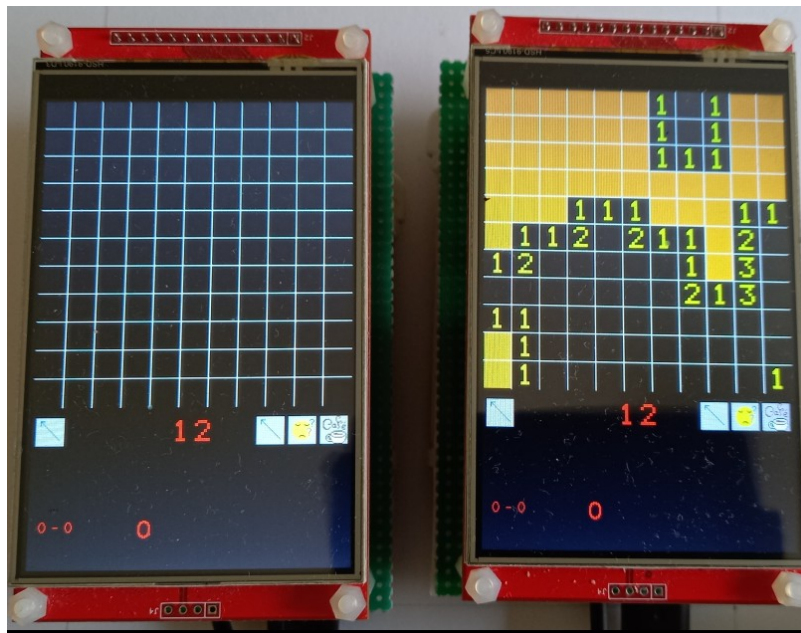
RED X ship hit but not yet complete

RED NUMBERS ship has sunk.

Smileys



Choose the number of smileys



Select the desired action below on the right.

Arrow : See what's under the box

Smiley with question mark: Same as question mark with minesweeper, a help to indicate that there might be a smiley.

Coffee: if you think there is a smiley in that place, give him a cup of coffee, it will make them happy.

The selected action is displayed again on the left.

Number in the middle of the playing field : number of smileys still to be found. If 0 press OK

Select the desired action below on the right.

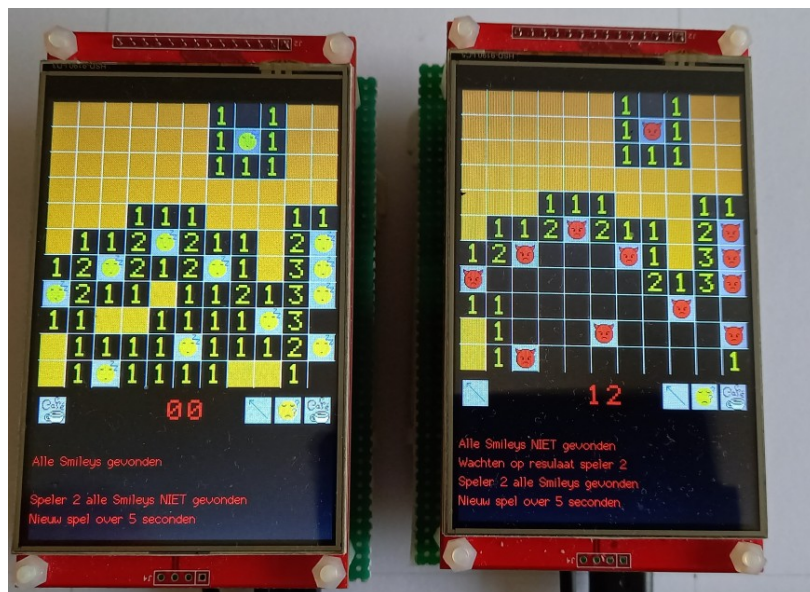
Arrow : See what's under the box

Smiley with question mark: Same as question mark with minesweeper, a help to indicate that there might be a smiley.

Coffee: if you think there is a smiley in that place, give him a cup of coffee, it will make them happy.

The selected action is displayed again on the left.

Number in the middle of the playing field : number of smileys still to be found.
If 0 press OK



Left: happy smileys, they had a coffee.

Right: angry smileys.

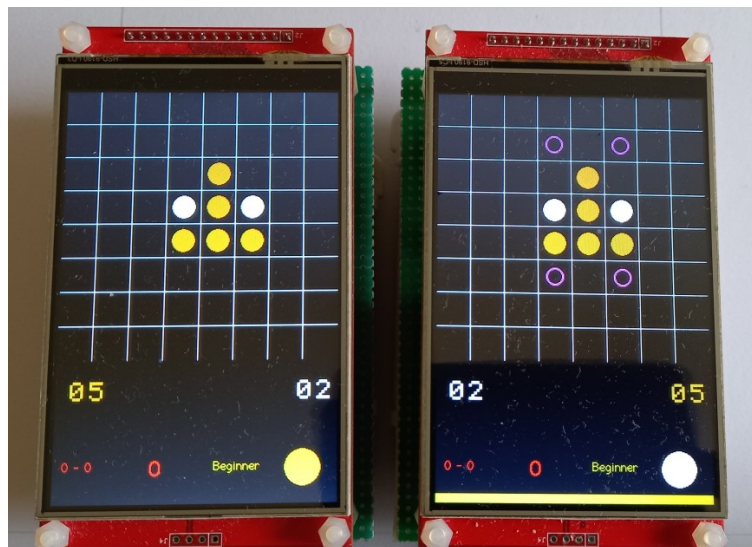
Othello



Choose the desired level

Beginner : Placement options are displayed

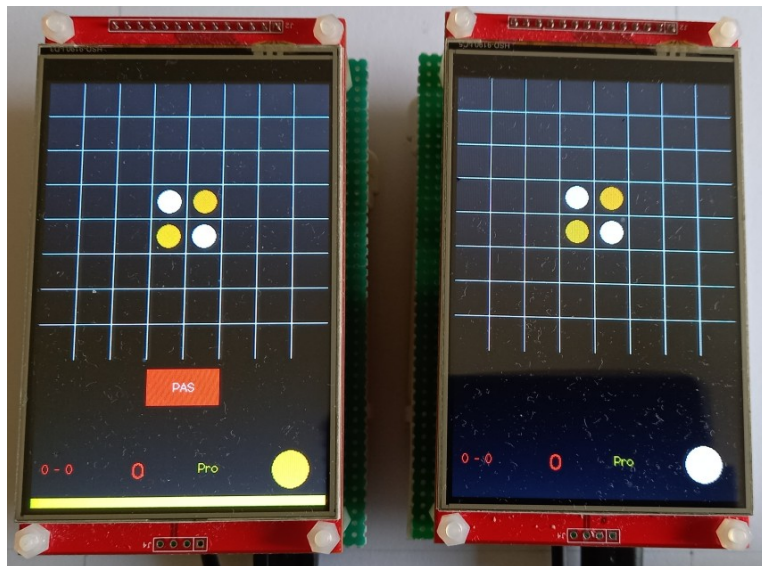
Pro: Placement options are not displayed.



Can put right. You can place where the purple circles are.

The right plays with white, the left plays with gold, see circle at the bottom right.

Numbers indicate the number of discs of the corresponding color.



Pro Level:

no placement help.

Box with <PAS > is always there.

In beginner mode only <PAS> if no placement is possible. Then press <PAS> to continue.

Find out for yourself in Pro mode whether you can place or not.

Pressing <PAS> ends your turn, even if it was possible to place.

**That was it.
Have fun,
regards
thieu-b55**

September 2023

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