



X-O GAME!

Here is where your digital campaign begins



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01 Tiva™ C Series TM4C123G Launchpad

- ▶ The TM4C123GH6PMI microcontroller.
 - ✦ 32-bit ARM Cortex-M4-based microcontroller.
 - ✦ Hibernation module.
 - ✦ Motion control pulse-width modulator (MC PWM) module.
- ▶ USB 2.0 device interface.
- ▶ On-board In-Circuit Debug Interface (ICDI)
- ▶ Switch-selectable power sources:
 - ✦ ICDI
 - ✦ USB device

X-O Game



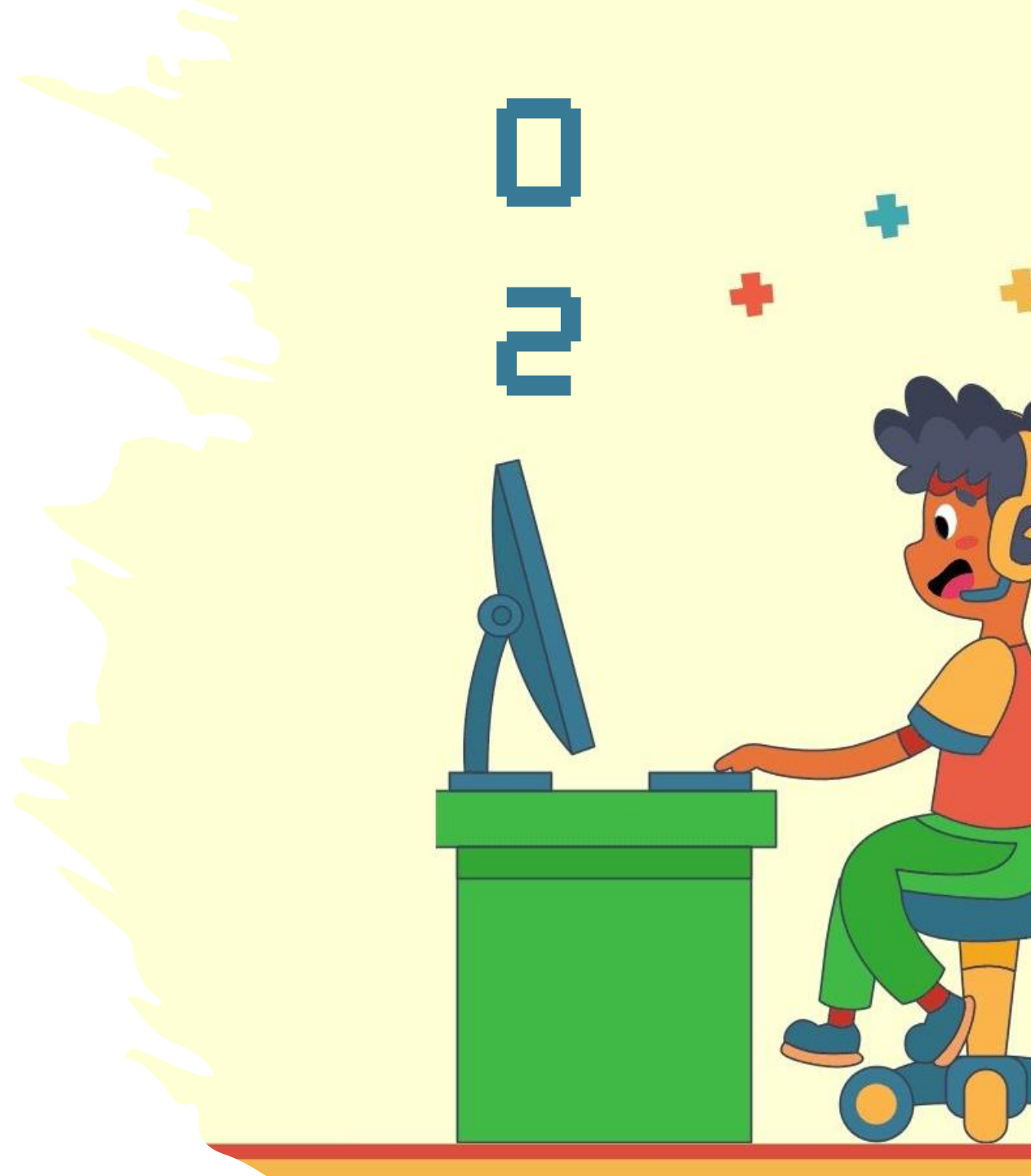
X-O Game is the name of our project. This game is quite popular and simple.



It's a two-player game with a **zero-sum** outcome (gain equals the loss of other).



In this game, there is a board with **3 x 3 squares**. the goal is to get three identical symbols in a row - horizontally, vertically, or diagonally.



03 Project Features



The two **switches** on the board allow you to control your playing position.



On the LCD, the player's turn is presented.



We display the winner and keep track of each player's winnings once the game is over.



If the player wishes to play again, I have a question for him.





04 Project Components

Tiva™ C Series TM4C123G Launchpad
Nokia 5110 LCD display
2 Push Buttons

3 Resistors (470Ω)
Breadboard
Jumper Connectors



os Project View

The screenshot shows the uVision IDE interface. The left pane displays the project structure for 'XO Game', including source files like 'main.c', 'Nokia5110.c', and 'Timer.c'. The main editor window shows the code for 'main.c', which includes headers for 'Nokia5110.h', 'TExaS.h', 'GPIO.h', 'Interrupt.h', and 'LED.h'. The code defines the 'main' function, which initializes the system, sets up the Nokia5110 display, and enters a loop where the game is played.

```
1  *
2  * File Name: Main.c
3  *
4  * Description: Source file for Main File
5  *
6  * Authors: Ola Mohamed - Abdelrhman Atef - Abdelrhman Hassan -Dina Eldin Hassan -Ahmed Gomel - Samer Mohamed
7  *
8  *
9  *
10 *
11 #include "../headers/Nokia5110.h"
12 #include "../headers/TExaS.h"
13 #include "../headers/GPIO.h"
14 #include "../headers/XO Game.h"
15 #include "../headers/Interrupt.h"
16
17 int main(void)
18 {
19     TExaS_Init(SSIO_Read1_Nokia5110_Scope);
20
21     PortF_Init(); // initialization Port F
22
23     PortB_Init();
24
25     Nokia5110_Init(); // initialization Nokia Led
26
27     Nokia5110_ClearBuffer(); // Clear buffer for nokia led
28
29     Nokia5110_DisplayBuffer(); // draw Buffer
30
31     GameIntro(); // enter to the game
32
33     GameInitialization(); // sweep
34
35     DrawClearGameMatrix(); // clear data
36
37     while (1)
38     {
39         RunGame(); // start game
40     }
41 }
42
```

06 About Us

SCORE

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Name

BN

1 Ramzi Muhammad Ramzi

17

2 Ola Muhammad Ahmed

30

3 Abd Al-Rahman Atef

25

4 Abd Al-Rahman Hesham

28

5 Ahmed Gamal Okka

5

6 Diaa Al-Dein Hassan

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