**XO GaMe**

# **Semester Embedded Project**

**Prepared by :**

1. Mohamed Ali Amin
2. Amr Mosaad Siam
3. Bassam Gameel Salama
4. Mohamed Samy Mahmoud
5. Mohamed Hassan Shaaban
6. Mariam Mohamed El azab

**Components :**

1. **Tivac**
2. **Nokia5110**
3. **Push button**
4. **Connection :**



 it is 84x48 and it works with 3.3V

* Signal (Nokia 5110) LaunchPad pin
* Reset (RST, pin 1) connected to PA7
* SSI0Fss (CE, pin 2) connected to PA3
* Data/Command (DC, pin 3) connected to PA6
* SSI0Tx (Din, pin 4) connected to PA5
* SSI0Clk (Clk, pin 5) connected to PA2
* 3.3V (Vcc, pin 6) power
* back light (BL, pin 7) not connected
* Ground (Gnd, pin 8) ground
* Push button is connected pull up to PE0

**GaMe Play :**

First you chooce game type wether 3\*3 or 4\*4  
 then player X start and draw its turn in empty location and then player O draw its turn in empty location .if row or columoun or diagonal filled with x only Player X wins(there will be a blue light in tiva led) or with O only Player O wins(there will be a green light in tiva led) If the all location filled and there is no equality the game is over(there will be a red light in tiva led)

Sw1 to move left

sw2 to move right

sw3(external push button) to select or draw

**Code description :**

1. **Intialize Portf to use sw1 and sw2**
2. **Intialize PortE to use sw3**
3. **Intialize NOKIA5110**
4. **Intialize Game**
5. **Draw game and set cursor to first place and follow sw1 , sw2 and sw3**

If sw1 presssed

Move left and set curcor

If sw2 presssed

Move right and set curcor

If sw3 presssed

Draw (X OR O //depends on order of play ) in the position of the current cursor

1. **Check win**

Check an array filled with draws in all position and detrmine the winner or there is equality