MCU PROJECT

Praveen DE SILVA
Georges KHALIL
Tony THEVASURENDRAN

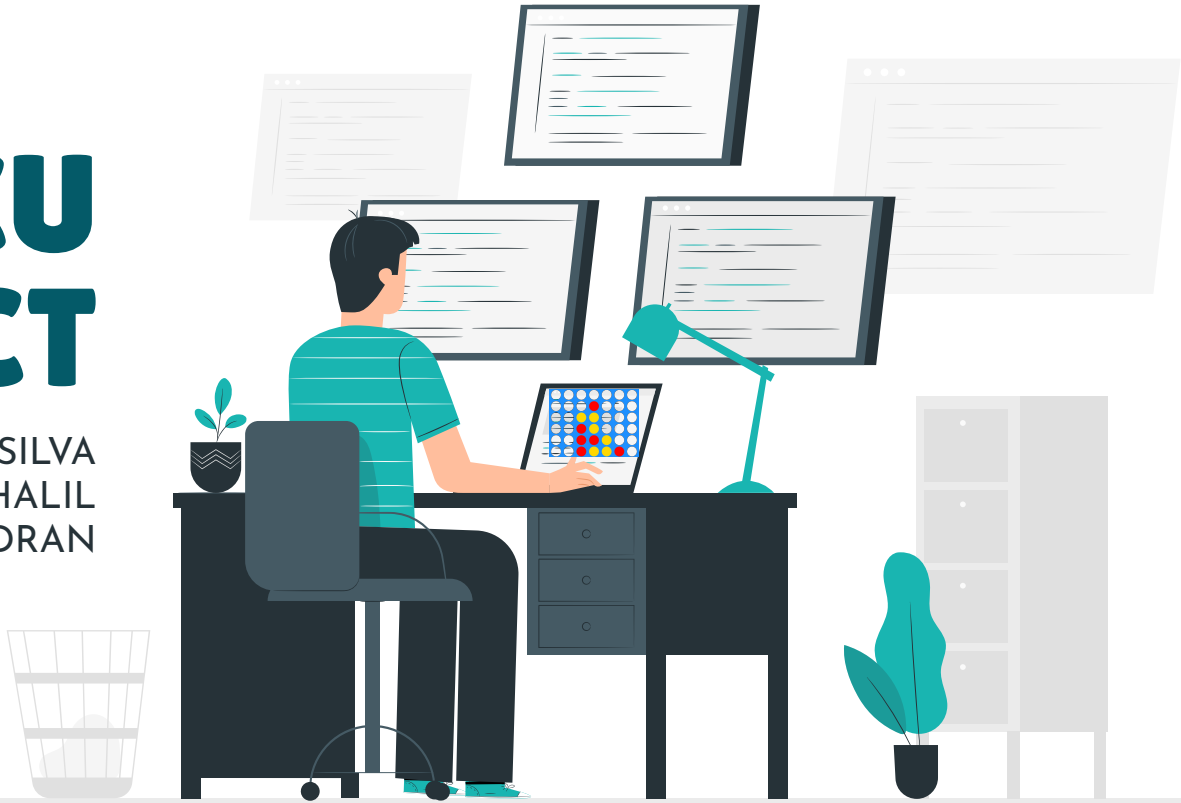


TABLE OF CONTENTS

01 **About the Project**
Project stages

02 **Major Requirements**
GLCD, UART, TOUCHSCREEN

03 **Project Goals**
What do we expect from this project ?

04 **Technical briefing**
How did we do that ? What are the different steps of the project

05 **Sneak Peek**
Presentation of the various features of the project

06 **Our Team**
Quick presentation of each member

PROJECT STAGES

01. Labs

This stage allowed us to discover MCUs and prepared us to the project

02. Kick–off

Launch of projects

03. Project

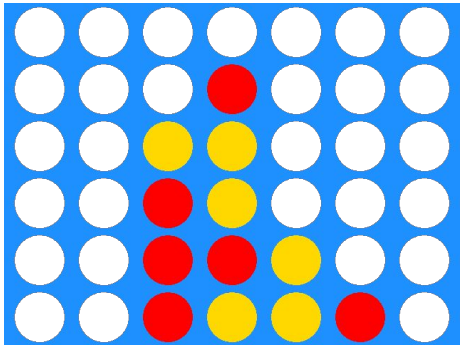
Conception of our project on the EasyPIC

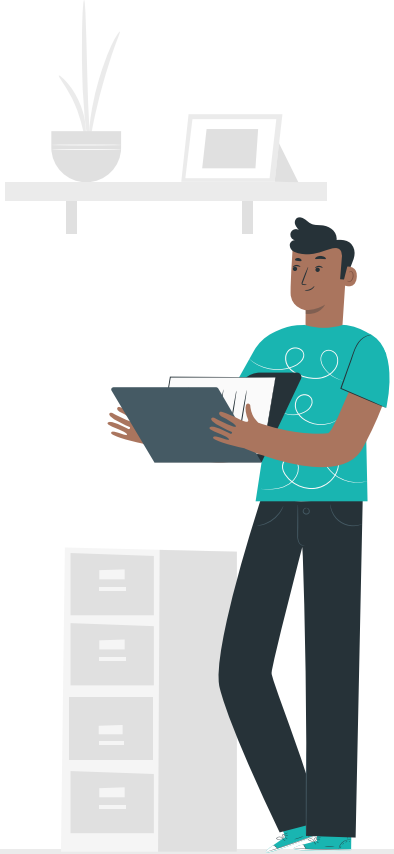
04. Defence

End of the conception and presentation of our work

ABOUT THE PROJECT

Our project -> Connect 4 Game





MAJOR REQUIREMENTS

01

UART, SPI or i2c

Serial communication

02

Sensor, Actuator, Write/Read in EEPROM or Touch Screen

Features

03

GLCD

Screen

MAJOR REQUIREMENTS

01

UART, SPI or i2c

Serial communication

02

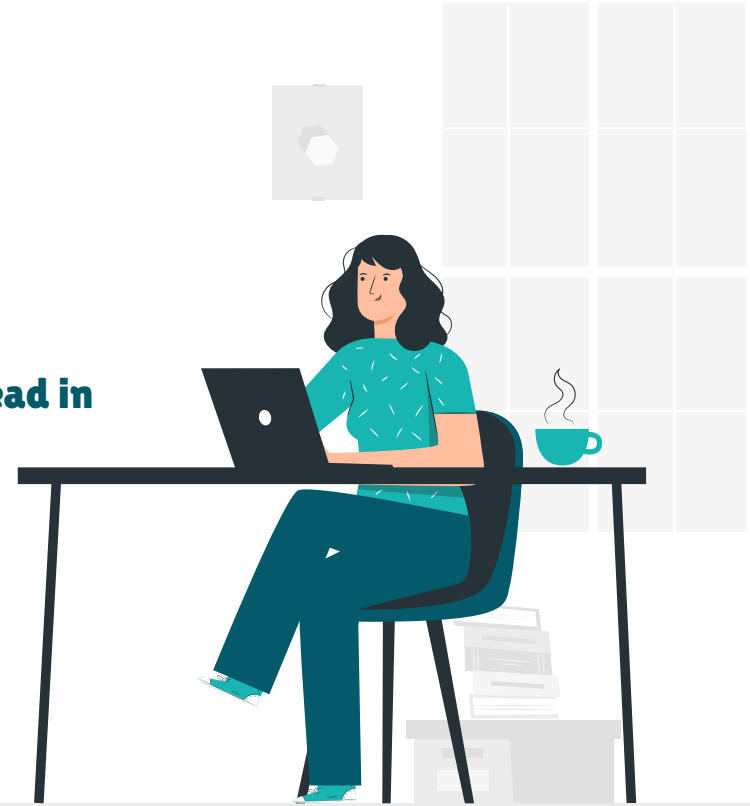
Sensor, Actuator, Write/Read in EEPROM or Touch Screen

Features

03

GLCD

Screen



PROJECT GOALS

Apply the theoretical course

This project reflects our comprehension towards the course

Enhance our creativity

Make a project that shows our futuristic vision

Manipulate the MCU

To better know the PIC and the EasyPIC

Using various features

UART, GLCD screen, Touch screen panel

Improve our abilities as engineer

Teamwork, Continuous learning, Problem solving, Analytical ability, Logical thinking, ...

Introduction to embedded systems conception

First experience in this area

Technical briefing

Connect 4

Baseline of the game

GLCD/Touch Screen

Game interface

UART

Serial communication

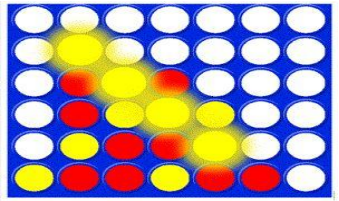
Technical briefing

Connect 4

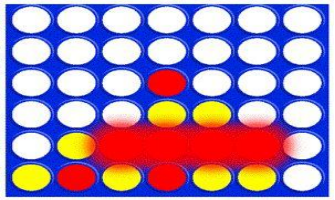
Baseline of the game

42 element array
Game Board

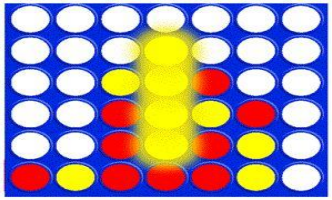
Check Winner



Diagonal



Horizontal



Vertical

Technical briefing

GLCD/Touch Screen

GLCD Library
<glcd.h>

3 main functions
glcd_SetCursor(x,y)
glcd_WriteString()
glcd_FillScreen(0)

ADC Voltage Values Map

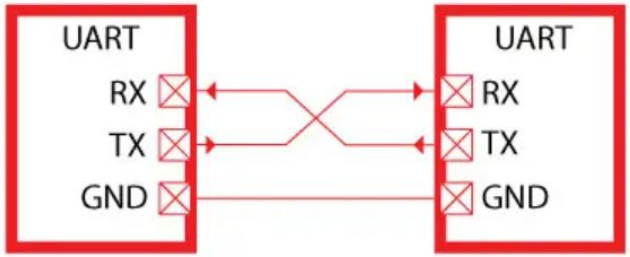
	1	2	3	4	5	6	7
X	384	512	576	640	704	768	896
	384	512	640	704	768	832	960
	384	512	640	704	768	896	1024
	448	576	704	768	832	960	1024
	512	576	704	768	896	1024	1152
Y	832	832	768	768	768	768	768
	832	768	704	704	768	768	768
	832	768	704	704	768	704	768
	832	704	640	704	704	704	704
	768	704	640	640	704	704	704

Technical briefing

UART

Serial communication

PIC18F4550 **PC**

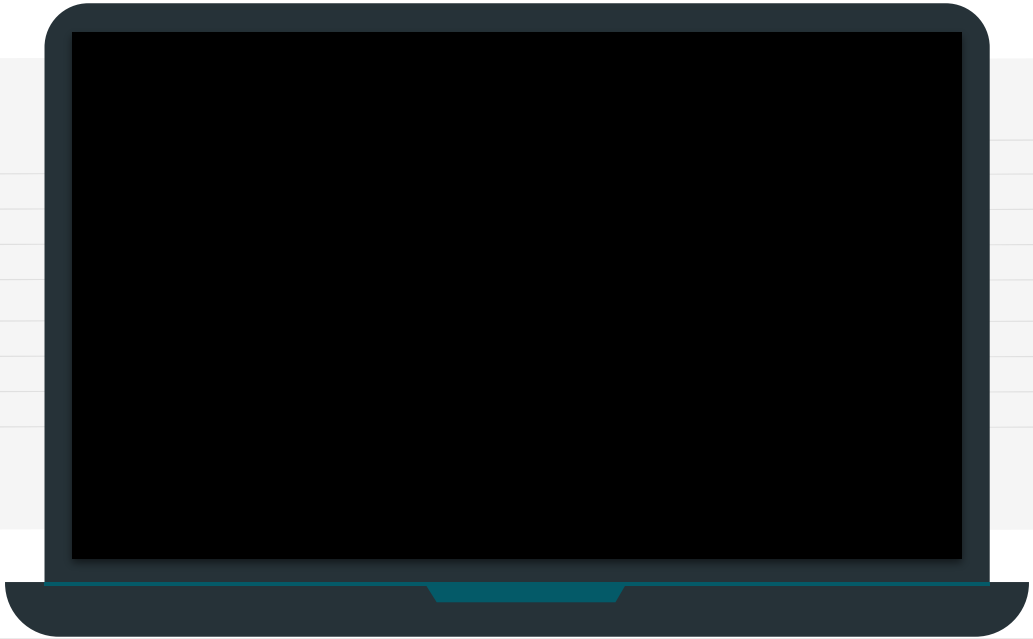


1 function from Library <uart.h>

Display Winner on PC Screen

SNEAK PEEK

Quick demonstration of our project



OUR TEAM

Praveen DE SILVA

Georges KHALIL

Tony THEVASURENDRAN

THANKS

Do you have any questions?