***Form1.vb***

Public Class Form1

Public playersName(2)

Dim player1Move As String = ""

Dim player2Move As String = ""

Dim playersSign() As String = {"X", "O"}

Public player1Score As Integer

Public player2Score As Integer

Dim CurrentPlayer = 0

Dim Counter = 0

Dim \_tempCombinaison() As String

Public PlayWithCPU As Boolean = False ' set to false later

Public isGameRuning As Boolean = False ' set to false later

Dim s As Boolean = False

Private Sub Form1\_Load(sender As Object, e As EventArgs) Handles MyBase.Load

Me.Text = "Tic tac game by parfait"

playersName(0) = "Player 1"

playersName(1) = "CPU"

GroupBox1.Hide()

' test

Dim a() As String = {1, 4, 2, 9}

Dim b() As String = {8, 6, 9, 4, 3}

' Dim t As Boolean = Checkers(a, "get-matcher")

' MsgBox(t)

'If t Then

' MsgBox(getMissMatch(a, \_tempCombinaison))

' End If

End Sub

' Butttons

'

Private Sub Button1\_Click(sender As Object, e As EventArgs) Handles Button1.Click, Button2.Click, Button3.Click, Button4.Click, Button5.Click, Button6.Click, Button8.Click, Button9.Click, Button7.Click

' get the button clicked

Dim btn As Button = sender

btn.Font = New Font("comic sans MS", 20, FontStyle.Bold)

If CurrentPlayer = 0 Then

btn.ForeColor = Color.Green

Else

btn.ForeColor = Color.Blue

End If

' check if the game is running

If isGameRuning Then

' is the turn of the CPU to play

If isTurnOfCPU() Then

MsgBox("it's not your turn to play")

Else

' check if the button it is already used or not

If btn.Text = Nothing Then

' ok the button clicked is not used

' record the key

Dim foundWinner As Boolean = False

recordMovement(btn.Name.Replace("Button", ""))

' try to validate

If Counter >= 4 Then

If Checkers(gett("move").Split(","), "") Then

MsgBox(gett("name") & " Won !")

plus1toTheWinner()

clear()

foundWinner = True

s = True

End If

End If

If Counter >= 8 Then

MsgBox("No one won")

clear()

foundWinner = True

End If

If foundWinner = False Then

btn.Text = playersSign(CurrentPlayer)

changePlayer()

clearMsg()

Counter = Counter + 1

End If

Else

' the button cliked is already used

sendMsg("Invalid move !", 0)

End If

End If

Else

sendMsg("the game is not yet started, please go on menu and create one!", 0)

End If

End Sub

Sub plus1toTheWinner()

If CurrentPlayer = 0 Then

player1Score = player1Score + 1

Else

player2Score = player2Score + 1

End If

' update the score!

writePlayers()

End Sub

Function gett(ByVal args As String) As String

Select Case args

Case "move"

If CurrentPlayer = 0 Then

Return player1Move

Else

Return player2Move

End If

Case "name"

Return playersName(CurrentPlayer)

End Select

Return Nothing

End Function

Sub recordMovement(ByVal key As String)

If CurrentPlayer = 0 Then

player1Move += key & ","

Else

player2Move += key & ","

End If

End Sub

Sub changePlayer()

If CurrentPlayer = 0 Then

CurrentPlayer = 1

Else

CurrentPlayer = 0

End If

If isTurnOfCPU() Then

CPU\_PLAY()

End If

End Sub

Function isTurnOfCPU() As Boolean

If PlayWithCPU = True Then

If gett("name") = "CPU" Then

Return True

End If

End If

Return False

End Function

Sub CPU\_PLAY()

' get list of all unused buttons

Dim listVaibleBtn() = getAllUnusedBtn()

Dim btn As Button

If Checkers(player2Move.Split(","), "get-matcher") Then

' try to win

Dim str As String = getMissMatch(player2Move.Split(","), \_tempCombinaison)

btn = DirectCast(Controls("button" & str), Button)

If s Then

CPU\_PLAY\_RANDOM()

ElseIf btn.Text = "" Then

btn.Text = playersSign(CurrentPlayer)

' player2Move += str & ","

recordMovement(str)

If Checkers(player2Move.Split(","), "") Then

MsgBox("CPU won")

plus1toTheWinner()

clear()

End If

changePlayer()

Counter = Counter + 1

Else

CPU\_PLAY\_RANDOM()

MsgBox("Gen on win")

End If

' MsgBox("Detect wi possibility on " & str)

ElseIf Checkers(player1Move.Split(","), "get-matcher") Then

' deffending

Dim str As String = getMissMatch(player1Move.Split(","), \_tempCombinaison)

btn = DirectCast(Controls("button" & str), Button)

If btn.Text = "" Then

btn.Text = playersSign(CurrentPlayer)

' player2Move += str & ","

recordMovement(str)

changePlayer()

Counter = Counter + 1

Else

CPU\_PLAY\_RANDOM()

End If

Else

' just generate

'MsgBox("Just generate")

CPU\_PLAY\_RANDOM()

End If

'changePlayer()

End Sub

Sub CPU\_PLAY\_RANDOM()

Dim btn As Button

Dim avaibleBtn() = getAllUnusedBtn()

Dim errorPlaced = True

Dim genereted As String = ""

While errorPlaced

Dim genVal As Integer = CInt(Int((avaibleBtn.Length - 1) \* Rnd()) + 0)

btn = DirectCast(Controls("button" & avaibleBtn(genVal)), Button)

If btn.Text = "" Then

btn.Text = playersSign(CurrentPlayer)

errorPlaced = False

genereted = btn.Name.Replace("Button", "")

End If

End While

' player2Move += genVal & ","

recordMovement(genereted)

changePlayer()

Counter = Counter + 1

End Sub

Function getAllUnusedBtn() As String()

Dim list As String = ""

For i = 0 To 9

Dim btn As Button = DirectCast(Controls("button" & i), Button)

Try

If btn.Text = "" Then

list += i & ","

End If

Catch ex As Exception

End Try

Next

Return list.Split(",")

End Function

Function findInArray(ByRef arr As String(), ByVal val As String) As Boolean

Dim f As Boolean = False

For Each x As String In arr

If x = val Then

f = True

End If

Next

Return f

End Function

Function removeInArray(ByVal arr As String(), ByVal elem As String) As String()

Dim result As String = ""

For i = 0 To arr.Length - 1

If arr(i) <> elem Then

result += arr(i) & ","

End If

Next

Return result.Split(",")

End Function

Function compareArray(ByVal arr1 As String(), ByVal arr2 As String(), ByVal args As String) As Boolean

Dim counter As Integer = 0

For Each elem As Integer In arr1

If findInArray(arr2, elem) Then

arr2 = removeInArray(arr2, elem)

counter = counter + 1

End If

Next

Select Case args.ToLower

Case "get-matcher"

If counter = 2 Then

Return True

End If

Case Else

If counter = 3 Then

Return True

Else

Return False

End If

End Select

Return False

End Function

Function getMissMatch(ByVal arr1 As String(), ByVal arr2 As String()) As String

' we assume that the miss match will return only one element

' find the biggest array

Dim b As Integer = 0

Dim f As String = ""

If arr1.Length > arr2.Length Then

b = arr1.Length

Else

b = arr2.Length

End If

For i = 0 To b - 1

Try

If findInArray(arr1, arr2(i)) = False Then

f = arr2(i)

End If

Catch ex As Exception

End Try

Next

Return f

End Function

Function Checkers(ByVal entry As String(), ByVal args As String) As Boolean

' TO DO NOT TEST to validate if the ENTRY length is less than 3, unless if args is get-matchers

If args <> "get-matcher" Then

If entry.Length < 3 Then

Return False

End If

End If

Dim col1() As String = {1, 2, 3}

Dim col2() As String = {4, 5, 6}

Dim col3() As String = {7, 8, 9}

Dim Oblic1() As String = {col1(0), col2(1), col3(2)}

Dim Oblic2() As String = {col1(2), col2(1), col3(0)}

' Cheking in line

If compareArray(col1, entry, args) Then

\_tempCombinaison = col1

Return True

ElseIf compareArray(col2, entry, args) Then

\_tempCombinaison = col2

Return True

ElseIf compareArray(col3, entry, args) Then

\_tempCombinaison = col3

Return True

ElseIf compareArray(Oblic1, entry, args) Then

\_tempCombinaison = Oblic1

Return True

ElseIf compareArray(Oblic2, entry, args) Then

\_tempCombinaison = Oblic2

Return True

End If

' compare by going down

For i = 0 To 2

Dim str() As String = {col1(i), col2(i), col3(i)}

If compareArray(str, entry, args) Then

\_tempCombinaison = str

Return True

End If

Next

Return False

End Function

Public Sub writePlayers()

Label1.Text = playersName(0)

Label2.Text = playersName(1)

Label3.Text = player1Score

Label4.Text = player2Score

GroupBox1.Show()

End Sub

Sub sendMsg(ByVal msg As String, ByRef type As Integer)

' type = 0 is error || type = 1 is a success msg

Label5.Text = msg

Select Case type

Case 0

Label5.ForeColor = Color.Red

Case 1

Label5.ForeColor = Color.Green

End Select

End Sub

Sub clear()

Counter = 0

changePlayer()

player1Move = ""

player2Move = ""

Button1.Text = ""

Button2.Text = ""

Button3.Text = ""

Button4.Text = ""

Button5.Text = ""

Button6.Text = ""

Button7.Text = ""

Button8.Text = ""

Button9.Text = ""

End Sub

Sub clearMsg()

Label5.Text = ""

Label5.ForeColor = Color.Black

End Sub

' MENU

Private Sub AboutToolStripMenuItem\_Click(sender As Object, e As EventArgs) Handles AboutToolStripMenuItem.Click

MsgBox("Simple tic tac game wrote by parfait mutshipayi on 5/june/2017 ")

End Sub

Private Sub PlayWithCPUToolStripMenuItem\_Click(sender As Object, e As EventArgs) Handles PlayWithCPUToolStripMenuItem.Click

' I gonna write this part next time!!!!

Me.Hide()

form2.disable\_input2()

form2.ShowDialog()

End Sub

Private Sub TwoPlayersToolStripMenuItem\_Click(sender As Object, e As EventArgs) Handles TwoPlayersToolStripMenuItem.Click

Me.Hide()

form2.Show()

End Sub

End Class

***Form2.vb***

Public Class form2

Dim disable\_textbox2 As Boolean = False

Public Sub disable\_input2()

TextBox2.Dispose()

Label3.Text = ""

Label2.Text = "Your name"

disable\_textbox2 = True

End Sub

Private Sub form2\_Load(sender As Object, e As EventArgs) Handles MyBase.Load

Me.Text = "New game"

End Sub

Private Sub onClose(sender As Object, e As EventArgs) Handles MyBase.FormClosed

Form1.Show()

Form1.sendMsg("Operation canceled", 0)

End Sub

Private Sub Button1\_Click(sender As Object, e As EventArgs) Handles Button1.Click

Dim on\_success As Boolean = False

If disable\_textbox2 Then

' Play with the CPU

If TextBox1.Text <> "" Then

on\_success = True

Form1.playersName(0) = TextBox1.Text

Form1.playersName(1) = "CPU"

Else

MsgBox("Please type your name ")

End If

Else

' 2 players mode

If TextBox1.Text <> Nothing And TextBox2.Text <> Nothing Then

on\_success = True

Form1.playersName(0) = TextBox1.Text

Form1.playersName(1) = TextBox2.Text

Else

MsgBox("Please fill all inputs ")

End If

End If

If on\_success Then

Me.Hide()

Form1.Show()

Form1.clear()

Form1.sendMsg("game started!!!", 1)

Form1.isGameRuning = True

Form1.player1Score = 0

Form1.player2Score = 0

Form1.writePlayers()

End If

End Sub

End Class