Exercise 5 – Reversed Tic Tac Toe for Windows

Objective

- Developing a basic yet complex Windows desktop application using .NET WinForms
- Working with controls, forms, and events

Prior Knowledge

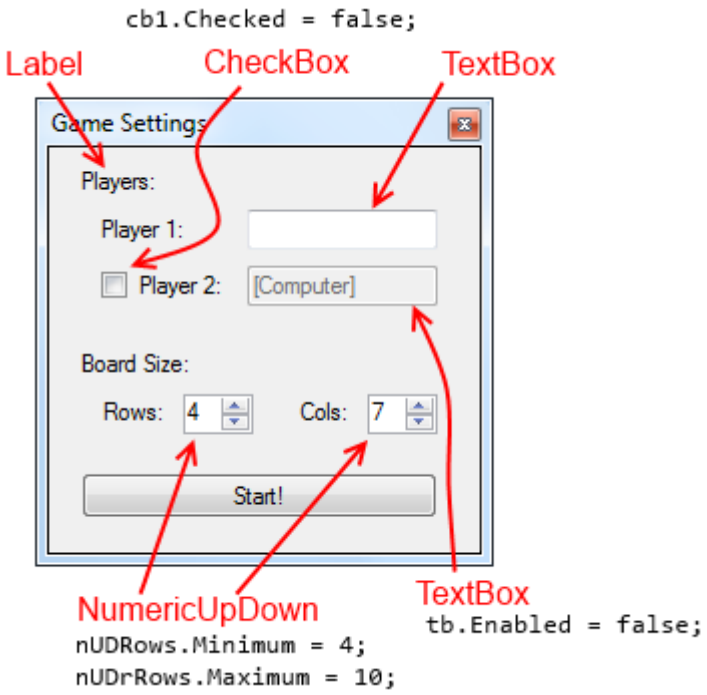
- Using .NET WinForms to develop multi-form Windows desktop application
- Working with basic controls and their events

The Exercise

Implementing the “Reverse Tic Tac Toe” game again, but this time with Windows GUI!

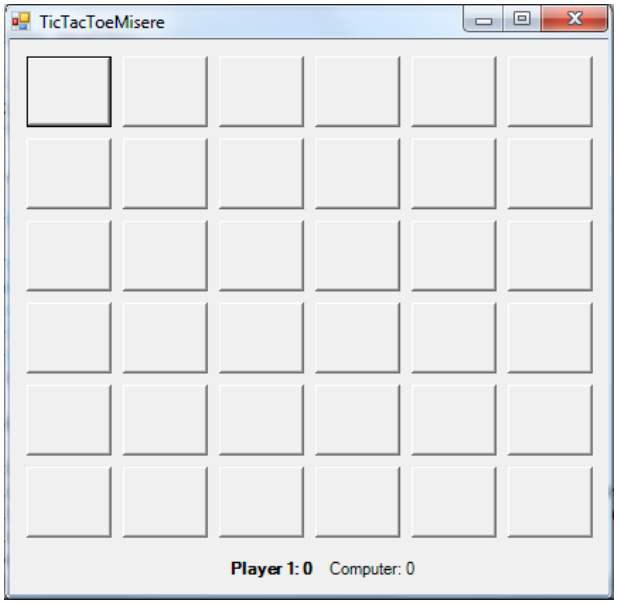
The Program:

The first form will let the user configure the game:

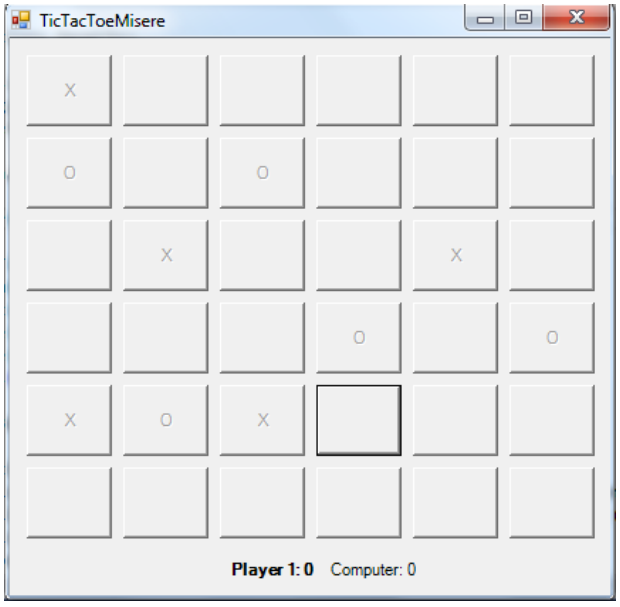


Checking the "Player 2" checkbox will make the second TextBox enabled, and thus letting the user to set the name of the second player.

Clicking the Start!" will close the "Game Properties" form, and the main Game form will be displayed, according to the configuration set in the properties form.

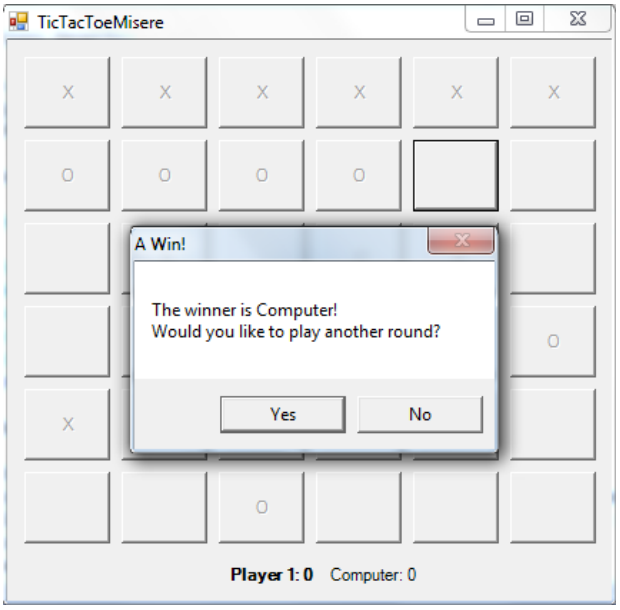


- The board must be of equal amount of rows and cols. Therefor you should not allow setting different values for row/cols, and for each change in the rows control, you should update the cols value accordingly automatically.
- The controls on the bottom that display the score are of type Lable.
- The buttons matrix is built according to the settings in the properties form
- The size of the form will be set according to the board size.



- When the current player clicks an empty button, it will be filled with X/O accordingly.
- A nono-empty button will be disabled (`button.Enabled = false;`)

- When one of the player wins, a message will be displayed:



- When a Tie is achived, a message will be displayed:

- Clicking "No" will end the execution of the application.
- Clicking "Yes" will reset the board, udate the score, and a new round will start.

Note:

- You may use the MessageBox class in order to display these message boxes.
- The click events raised by the buttons pass a 'sender' object as the first parameter, which references the button which raised the event. You're advised to use this parameter to avoid code duplication.
- You must start with an Empty Project just like the way it was demonstrated in the lecture.

- A bonus of up to 7 points will be given for implementing events raised from the Logic Layer and handled in the UI layer for updating the display
  (For example: when a certain cell in the board changes its content, it will **notify** about that. The relevant UI element will be the **Listener** of this notification and will update its display content accordingly). Please describe your implementation in the 'comments' section of your submission email.

General Instructions

- You may use in the course's facebook group in order to ask questions regarding this assignemt.
- You must comply with the coding standards, as stated in the relevant document, found on the course website. Points will be deducted to whom ever does not comply with these standards.
- Send your submission to the email address as described in the "Ex_Submit_Instructions_DN_IDC_21B.pdf" document, which can be found in the course's site. Points will be deducted for not following the instructions carefully.
- Avoid cheating (Do not use other students assignments as a basis for yours. Refrain from copying the work of fellow students from your group or previous semesters. Cheaters will be caught and punished. Work independently!)

Good Luck ☺