# Tic Tac Toe Game using Qt 5.8

For the assessment I first started creating a tic tac toe game in console application using C++ only just to have a quick prototype working.

Using Qt helped me create the User Interface as well as deciding how I will implement the game.

The architecture is based using the MVC design pattern where the Controller is our game manager responsible of handling everything. The Game Manager is implemented using the Singleton design pattern. On a Client Server application the Manager could be our server and we could just have the UI being the client application.

The View is our current interface where a user can click a button and the model are the data designed and implemented on the back-end.

Whenever a user interacts with the view, the view sends a message to the controller that something happens and it needs to be updated. The manager then process the request and updates its data and sends a response back to update the UI accordingly to the result of the update.

If in the future someone wants to implement a different version of the tic tac toe, they can inherit from the different interface classes, change the UI, implement a rule class that could be used.

I also based the architecture on some Strategy pattern where the score could be re defined for different rules ( for instance maybe a diagonal could be 3 points instead of 1 ?).

Player could be redefined to be different since I used a IPlayer interface, same thing for manager etc..

The goal really was to have something clear and simple of a tic tac toe game where the core of the application lives in the GameManager and where the rest stays as independent as possible of the rest (no data is interacting with the view and no view is interacting with the data).

Here is a quick draw of what it looks like :

