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| ­­­­QMainWindow |
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UML Class Diagram

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| puzzle |
| -res:result \*  -score:integer  -lab[16]:QLabel\*  -n[1]:QLCDNumber\*  -ui:puzzle \*  -calculate[16]:integer |
| +<<constructor>> puzzle()  private slots: on\_pushButton\_2\_clicked() : void  private slots: on\_pushButton\_clicked() : void  private slots: on\_pushButton\_3\_clicked() : void  -keyPressEvent(event:QKeyEvent \*): void  -gameover() : integer  -output() : void  -randomnum() : integer  -addright() : void  -addleft() : void  -addup() : void  -adddown() : void  -over() : void |

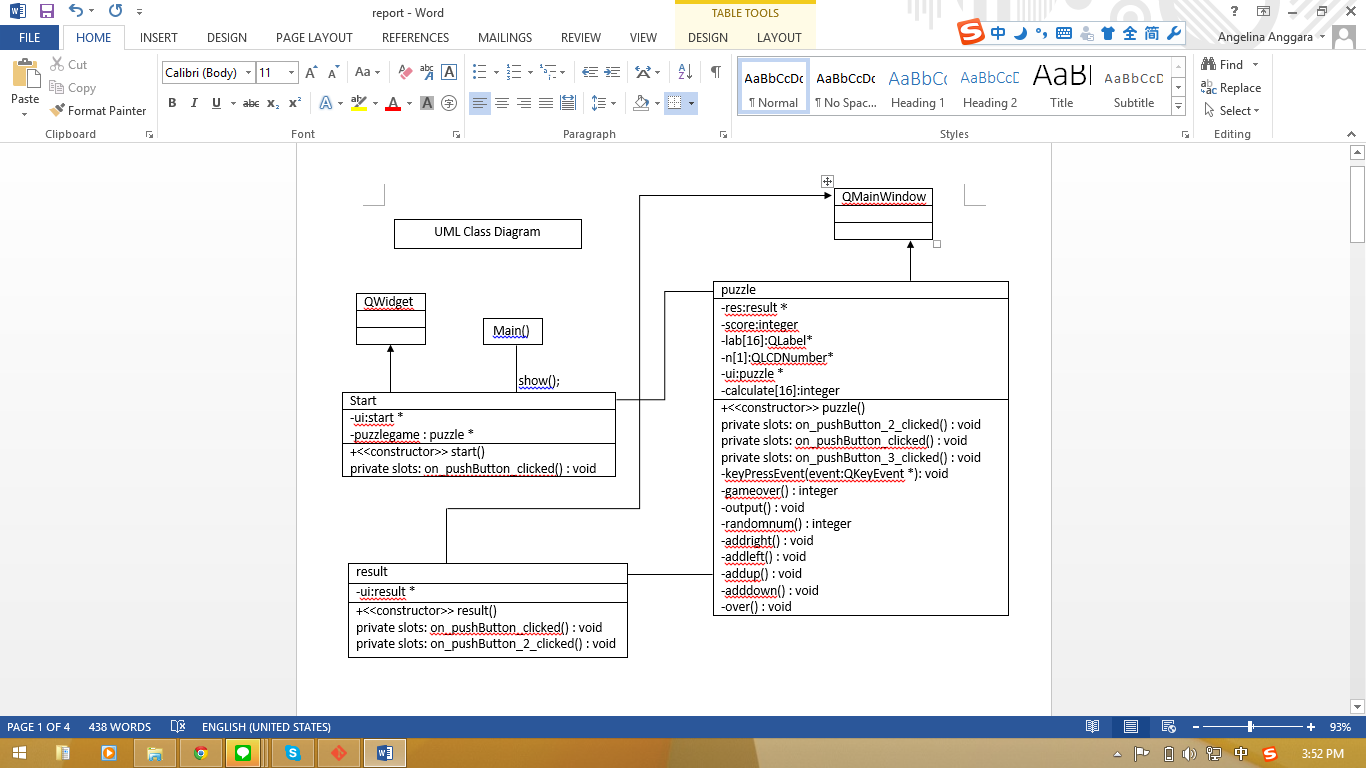
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| QWidget |
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| Start |
| -ui:start \*  -puzzlegame : puzzle \* |
| +<<constructor>> start()  private slots: on\_pushButton\_clicked() : void |

Main() ::

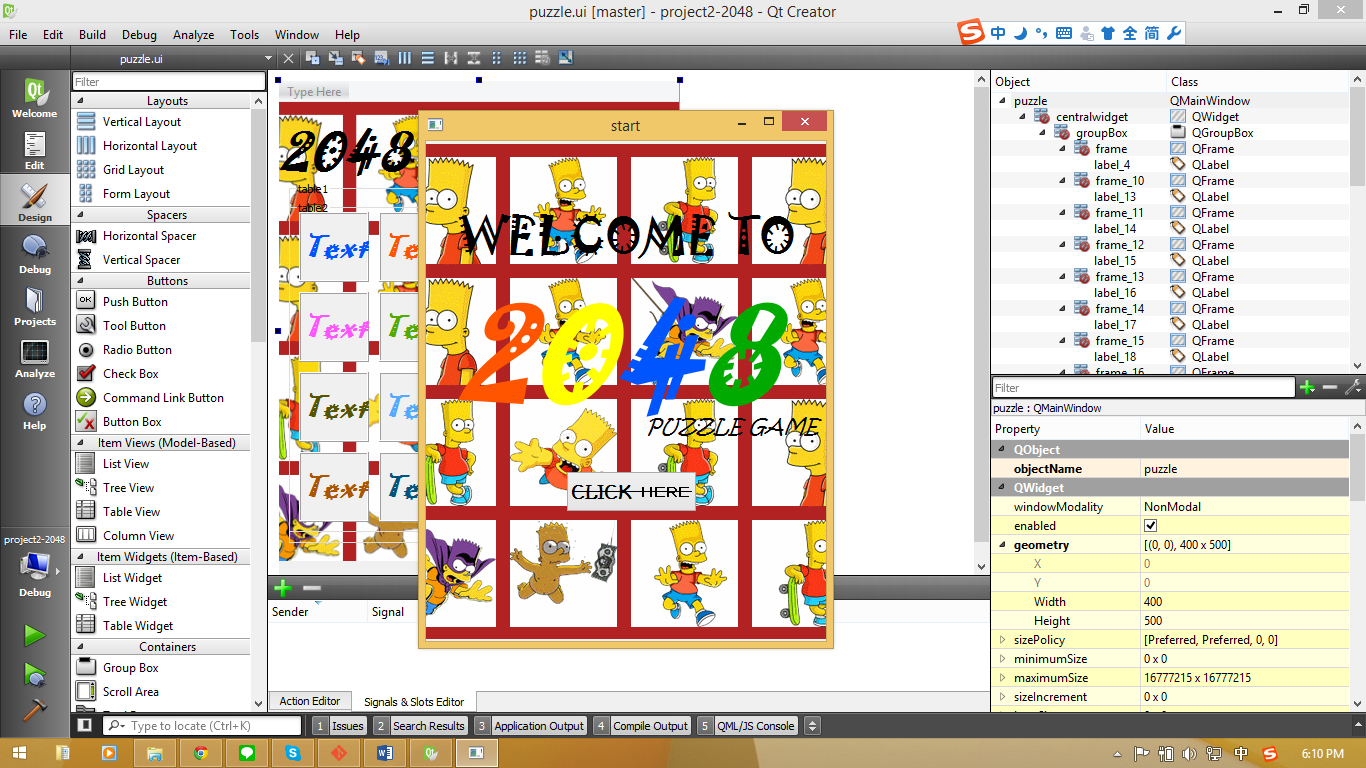
show();

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| result |
| -ui:result \* |
| +<<constructor>> result()  private slots: on\_pushButton\_clicked() : void  private slots: on\_pushButton\_2\_clicked() : void |

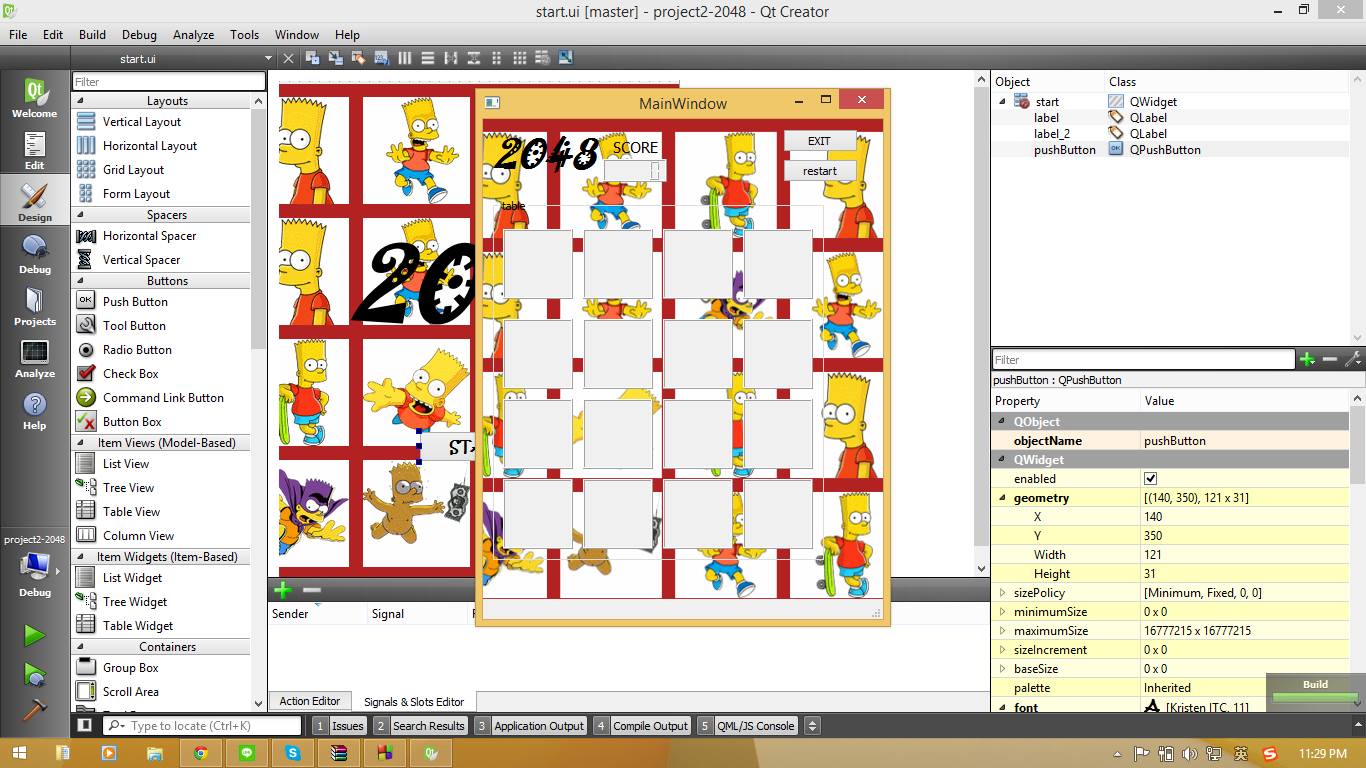


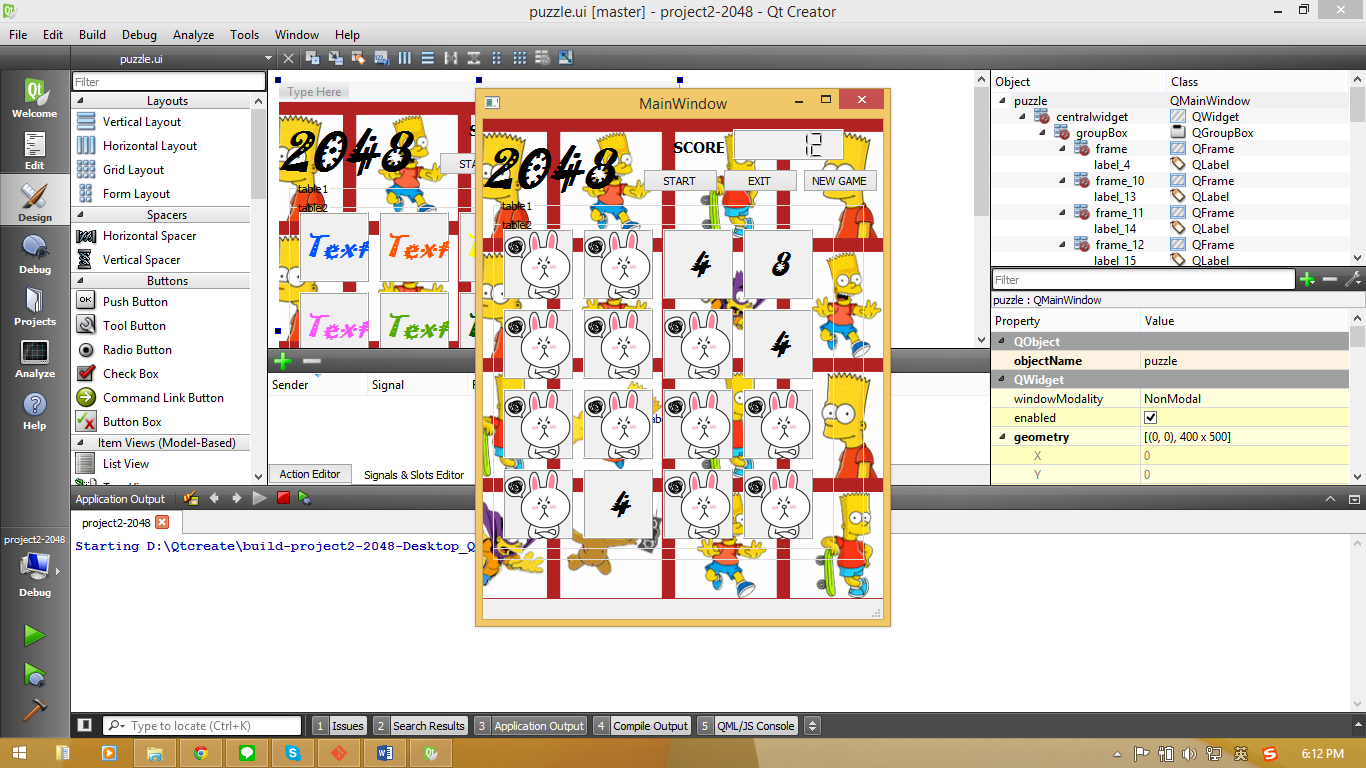
Insights:

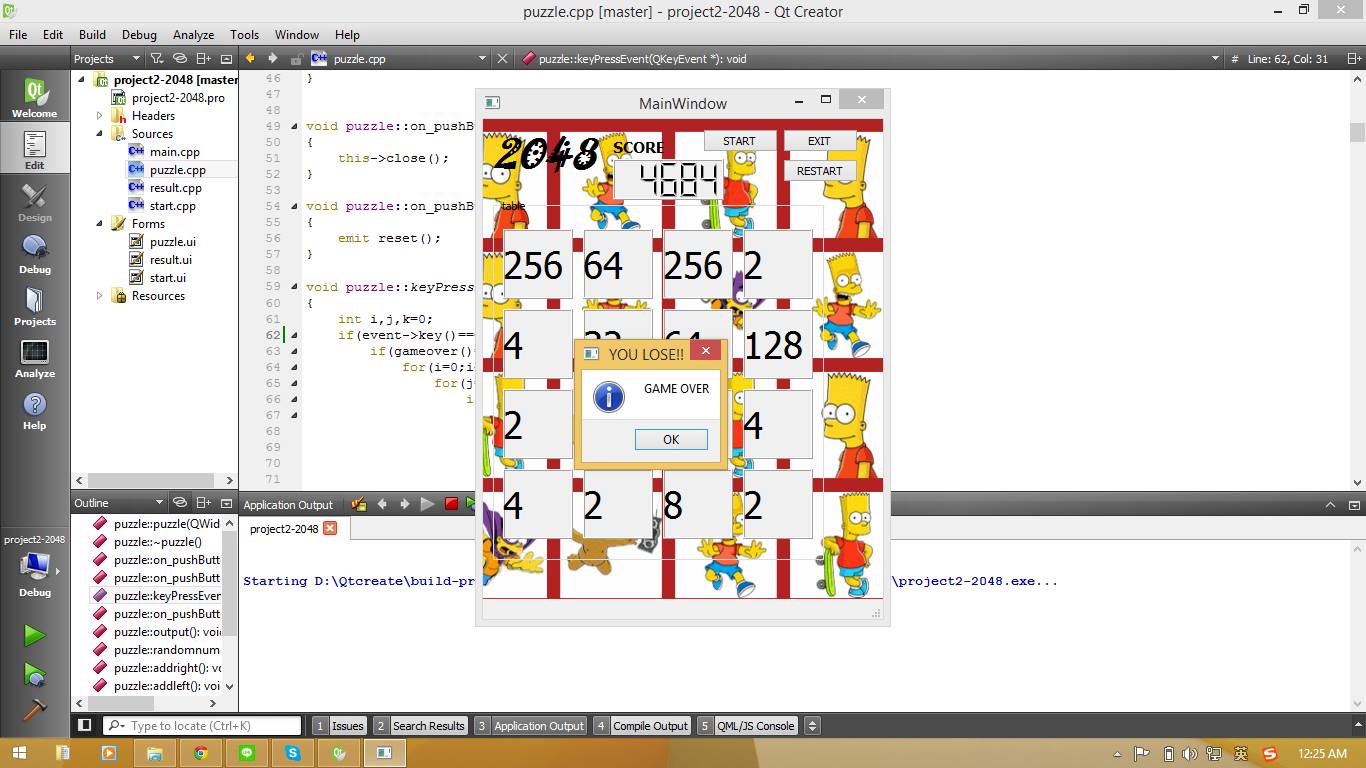
1. First, I am making a “start” QWidget form class, then make the ui file more elegant by setPixmap picture to a label, and it turns out to be a background. Then I make some label to welcoming the player, and put a push button to starting the game by clicking it.

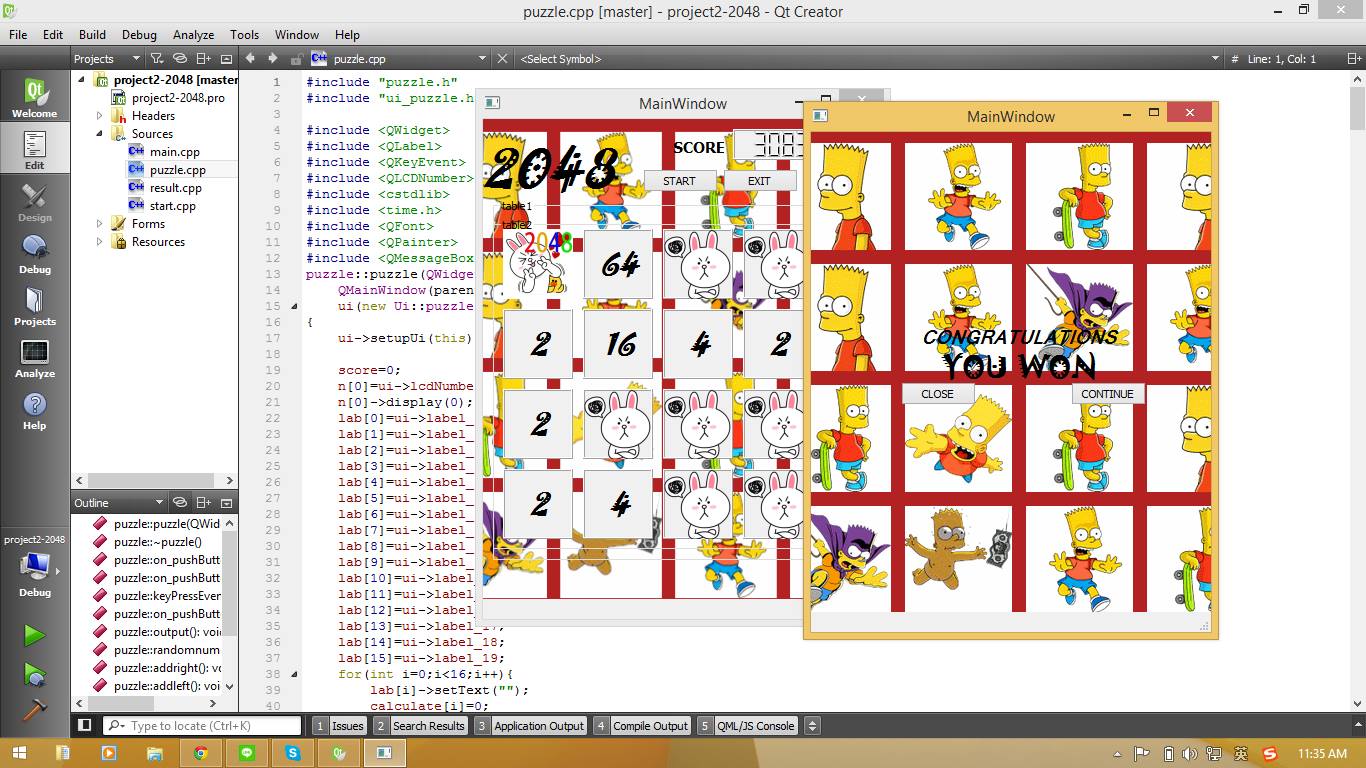


1. After “start” class have been created, I start to think about how to set the game. First I tried to set the “puzzle”class to QWidget too, but it can’t appear a new window here so I end up by making it to QMainWindow class then it succeed. After thinking how to get into the game for so long, finally I given up and skipped it and going to the third class, the “result” class that I set into QMainWindow form class too then just like the start class let it be an elegant window.





1. Then I started to think over the “puzzle” class and same as the other class, I firstly opened the ui file then design into it. And I think I make it worst :( but ya I think its fine la. Cos I don’t really good at this.. 
2. After done designing it, then I go to the source code and trying and still trying to making it. And finally I have set it to 16 label and first that appear in the board is 2 numbers in randomly places and try to combine it if there are the same number in four directions: right, left, up and down. Then combine it until 2048 and appear the “result” class!! That’s all my idea..





1. Ups! I have to say that I haven’t done one part, that is in the “result” class, the continue push button, I have no idea how to continue the game. I have tried to set the puzzle class type to there but it cause compiled error “doesn’t have puzzle type”. It really makes me confusing, so I decides to delete it.
2. Through this project, I have learned how to use QtCreator. Besides that, I have learned to use keypressevent(arrowkey to control) and set the focus of the windows,etc.
3. In the bg.qrc file, I have made pictures that include numbers, but I feel it not too match with my windows, cause it is not so clear and difficult to play with those pictures. So I ended up making it numbers only.
4. In the “puzzle” class, I set the push button “START” and push button “NEW GAME”, actually they are the same one, but ya I just wanna make it like that XD

PS: I have changed a little bit of the design part, the screenshots were taken before I designed it more haha XD