# CmpE 230 Project 3 – Card Game

Briefing:

I did this project alone. I use Qt 5.14.2 and use Qt creator 4.12.3. I wrote the code in an object oriented way. I have 6 sub-classes and one main class namely Window. In Window class I have all initializations and signal bindings. I have a dumb widget. The main scheme of window is like that:

I have a vertical layout. In this layout I have 2 layouts: One horizontal layout and one manually designed grid layout that I created namely Table. In horizontal layout I have a time label, score label, spacing item, New Game button and Quit button. In the grid layout I have 6x5 30 WordCard.

Let's examine the connections between classes:

Code Analysis:

My classes communicate each-selves with signals and slots. I have a diagram to demonstrate these connections
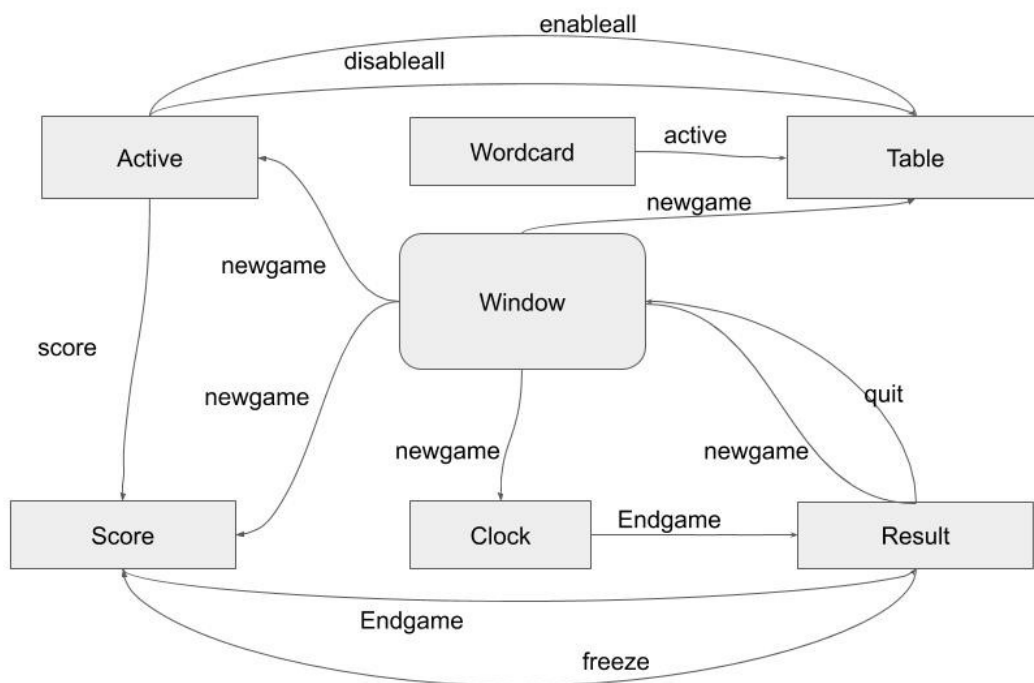
I have Clock class to determine and show time limit of the game. I have Score class to determine and show score of the game. I have Wordcard class to represent cards. I have Table layout class to override grid layout. I have a Result class to take action when the game is over. I have Active class to handle the situations of flipped cards. All classes are instantiated at main "Window" class.

I want to focus on Active class. Active class has a list field which stores WordCard pointers. This is the list of flipped cards. When this list has 2 elements, it compares two elements and take action. When there are two element, it disables all other cards and if they are same, turns their color green. When they are different, make cards color red and wait for about a half a second. Then reverses cards and enables all other cards.

Implication Details:

User has 180 seconds and time begins from 0 and increases till became 180 and than game is over when time is over. When user chooses 2 different card, cards became red and wait for half a second. When user chooses same cards, cards became green. When all cards are matched, game is over.

Completion Status:

Project is done completely. There exist no bugs or missing parts encountered in test-runs.

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