RATIONALE

**GameSystem:**

The most important class is the GameSystem class. It contains different players, board, dictionary, bags for normal tile. I separate bags into two because the normal bags handout tiles automaticly to player. The dictionary class is responsible for check the word that player put to board is valid. Also we can add new dictionary to that class without any other change. The gameSystem is responsible for dealing the player’s action. It has five main methods, “putTile”, “getNext”, ”exchangeTile”, ”cancel” and “ purchaseSpecialTile”. The method “getNext” is to test the whether a move is valid. Firstly it will test whether all the tile that player play are in one Line. Secondly it will exam whether all the word form are valid by calling one method “isAllWordValid”. Finally it will test whether the tile are put adjacent. It involves two steps to calculate the score. The first step is to check whether the square that holds the tile is a special tile and trigger its effects if it is. It will results the change of points of the word. The second step is to change the player’s score by calculating all the words’ points. The “cancel” method helps player replay tiles.

**Player:**

In the player class, the total scores are counted. The belonging tiles and special tiles are recorded in player class.

**Board**

The board class contains three parts, one part is the tiles on board, one part is the special tiles on board, and the other is the squares on board. The main responsibility that board class has is to check that the tile player put is valid, which contains to check whether the tiles are put adjacent in vertical or in transverse to each other to form the right word. Other methods such as putting and removing tiles on board are included.

**Special tile**

I use strategy pattern to implement special square. I wrap the method “trigger effect” in special square which used to be in game system to achieve the design for devision of labor and simplifying the code. As a result I can treat them same in board class. Every special tile has its own “effect” and can cause different result. Besides the special tile is only visible to its owner.

**Squares**

I create an interface and four concreate classes to implement it for the purpose of design for change. As a result I can treat them same in board class. The differences occurs when calculating the scores.

**Word**

The word class is useful for calculating the scores and checking the validation of the word that tiles form. The design goal is to design for devision of labor and simplifying the code.