

# FOOP Final Project Report

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Board Game Title: **Taiwan Risk!**

Since there was some bugs at demo time, we couldn't show the GUI correctly.  
But we have fixed it, please check the correct output below, THANKS.

## Responsibilities:

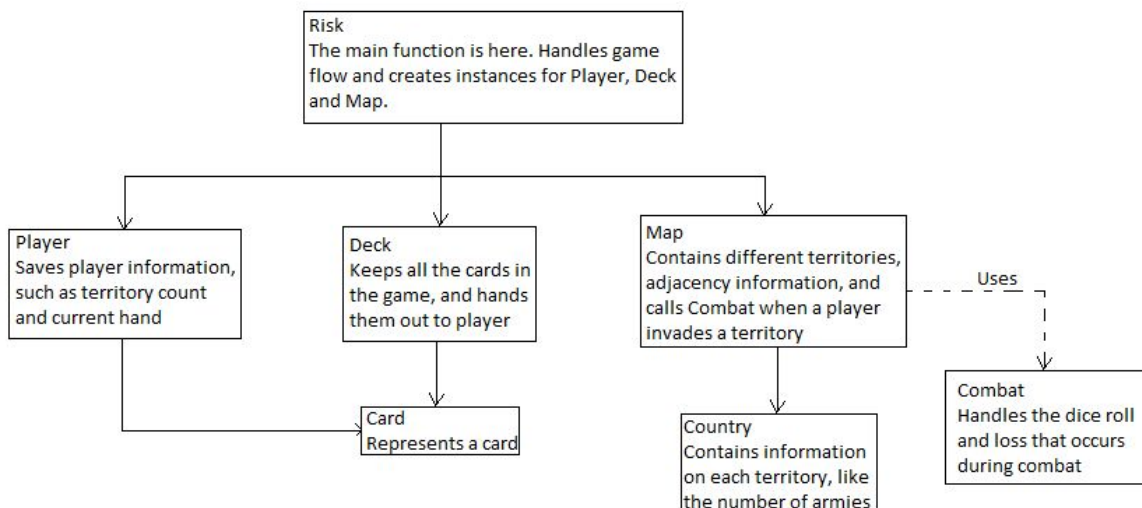
蕭主衡: Overall design, main() function, Card class, Deck class

王聲融: Map class

許秉儒: Country class, Combat class

葉光哲: Player class

## Design



\*\*The advantage of the design is that every class has a clear responsibility. Also, every class only calls the classes under it in the hierarchy, or only calls a class' function without storing an instance of the class.

\*\*The disadvantage of the design is that not all data is shared across the program, so sometimes a class need to use convoluted ways to navigate through multiple other classes' data and functions to get what it needs.

## How to Play

(i) At the start of each game, the players are randomly assigned their starting territory. They then distribute their starting armies. Each territory must have at least 1 army stationed on it. Once all players have distributed their armies, the setup is complete and the game begins.

(ii) Each turn is split into three phases: reinforcement phase, attack phase and fortify phase. Once a player have completed all three phases, the next player's turn begins.

(iii) At the start of the reinforcement phase, the player get new armies according to the number of territories they control, and get bonus armies from controlling an entire continent, as well as turning in card combinations (either three-of-a-kind or one-of-each-kind). The player then distribute these new armies in his territories.

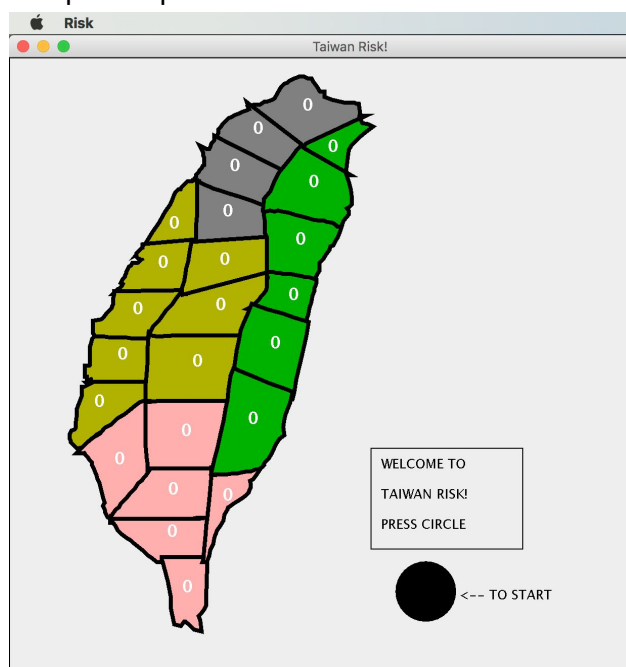
(iv) At the attack phase, the player may choose a territory they own and attack an adjacent enemy territory. During an attack, the attacker gets up to 3 dice, one for each army taking part in the attack, and the defender gets up to 2. The attacker discards his lowest die, and the rest are compared with the defender's dice. The side with the higher roll kills one army on the enemy side, and draws count as a win for the defender. The dice rolling continues until one side has been annihilated. The player may choose to attack as many times as he wants during his attack phase. If the player successfully conquer at least one new territory, he draws a card and add it to his hand. A player is eliminated if he loses all of his territories.

(v) At the fortify phase, the player may choose to transfer armies from one of his territory to an adjacent territory he owns. This can be done once, and every territory must have at least one army stationed on them at the end of the move.

(vi) The cards are either infantry, cavalry or artillery cards. They can be turned in during the reinforcement phase for extra armies. There are also two wild cards, and one "end game" card. If the "end game" card is drawn, the game ends immediately, and the player with the most territories is declared the winner.

(vi) The game continues until the "end game" card is drawn, or until one player eliminates all of the other players and control the entire map.

Sample Output:



### (The Map of Taiwan!)

\*\*Each block represents a region (aka country).

\*\*Each color represents a continent (North, Central, South and East Continents represented by gray, dark yellow, pink and green respectively).

\*\*The number on the block represents the number of armies on the country.

\*\*The color of the numbers represent which player:

Player 1: BLUE

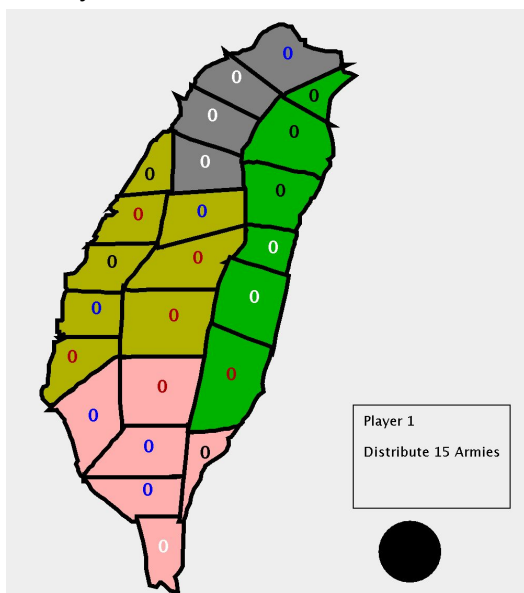
Player 2: WHITE

Player 3: BLACK

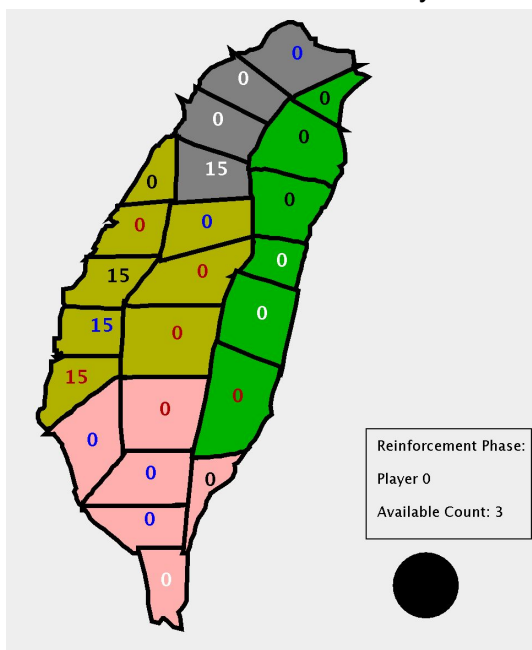
Player 4: RED

Phase 1:

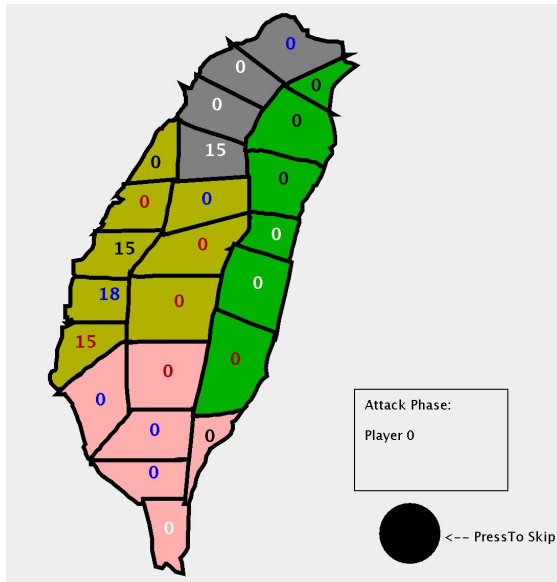
<<Players need to distribute their 15 armies to their countries>>



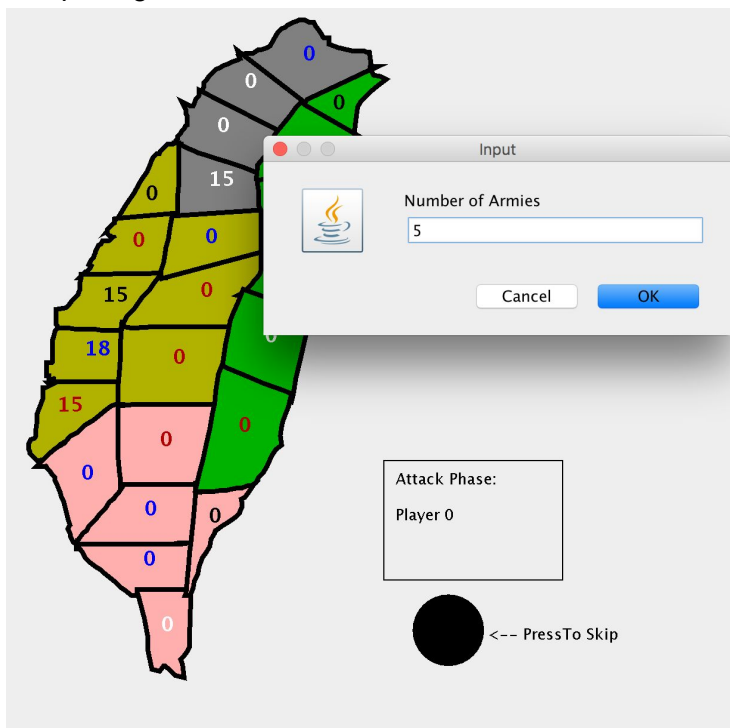
<<After the Distribution. The Player then has to reinforce the armies.>>



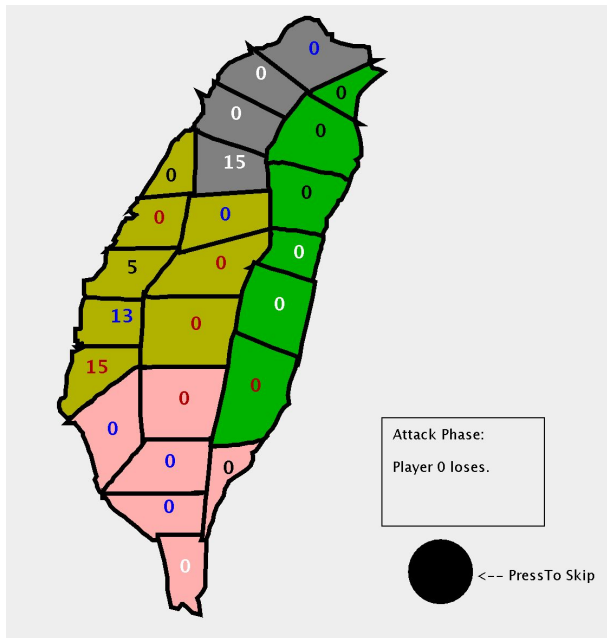
<<After reinforcement, new armies have been added. Now the player can choose to attack.  
If the player does not want to attack, just Press To Skip>>



<<Inputting the number of armies to attack.>>

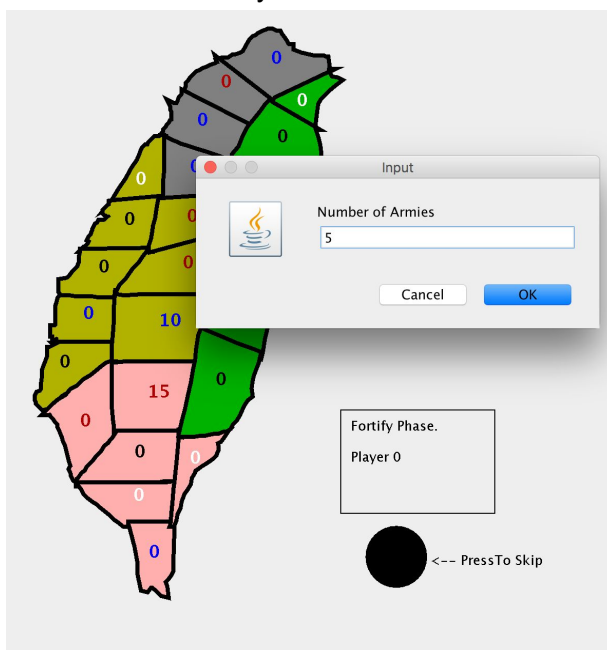


<<Result of the attack.>>



(Player 0 loses because not all defensive armies are dead.)

<<Then is the Fortify Phase.>>



(Here Player decides to give 5 armies from '10' to '0')

<<The loop continues for each Player and goes on until a winner has been decided>>

