

## **TankWars Game Documentation**

I will be adding on to the wingman game code provided by Arthur. It already has some essential classes I can reuse. Some of the classes I will be reusing are the weapon classes since there are weapons in this game, also with that comes reusing the bullet classes as well. I will need to remove the classes named BossEnemy, SideEnemy, BackEnemy, and Shootingenemy since there are no enemies in this game, just players.. I would obviously need to change some of the in-game mechanics but I will also keep some. Here is a breakdown of what the major classes will do in my program:

**TankWorld Class** – This class holds the main method for the tank game. It holds the concept methods to start the game such as game initialization methods, loading image resources method, methods that get specific values from the game world, methods that add objects to the game world and also specific methods that look out for specific actions done in the game. This class invokes every other class in the tank package in some way. Uses the **TankWeapon, TankBullet, and FancyTankWeapon Classes** to when it shoots but also what kind of weapon is shooting.

**TankLevel Class** – This class creates the map and level for the tank game. It reads in a file of text with number ranging from 1-5, it then corresponds those numbers with objects within the game. For example 1 = unbreakable block and 2 = breakable block. It also restores the blocks that are broken after a few seconds. This class extends the **AbstractGameModifier** class from the wingman game. This class also loads the game. It uses the **Wall, BreakableWall, addPlayer, and addPowerup Classes** to add the objects into the game.

**GameWorld Class** – This class is in the wingman package. Since TankWorld imports it we can use it in this game. This class is used to set the speed of the game.

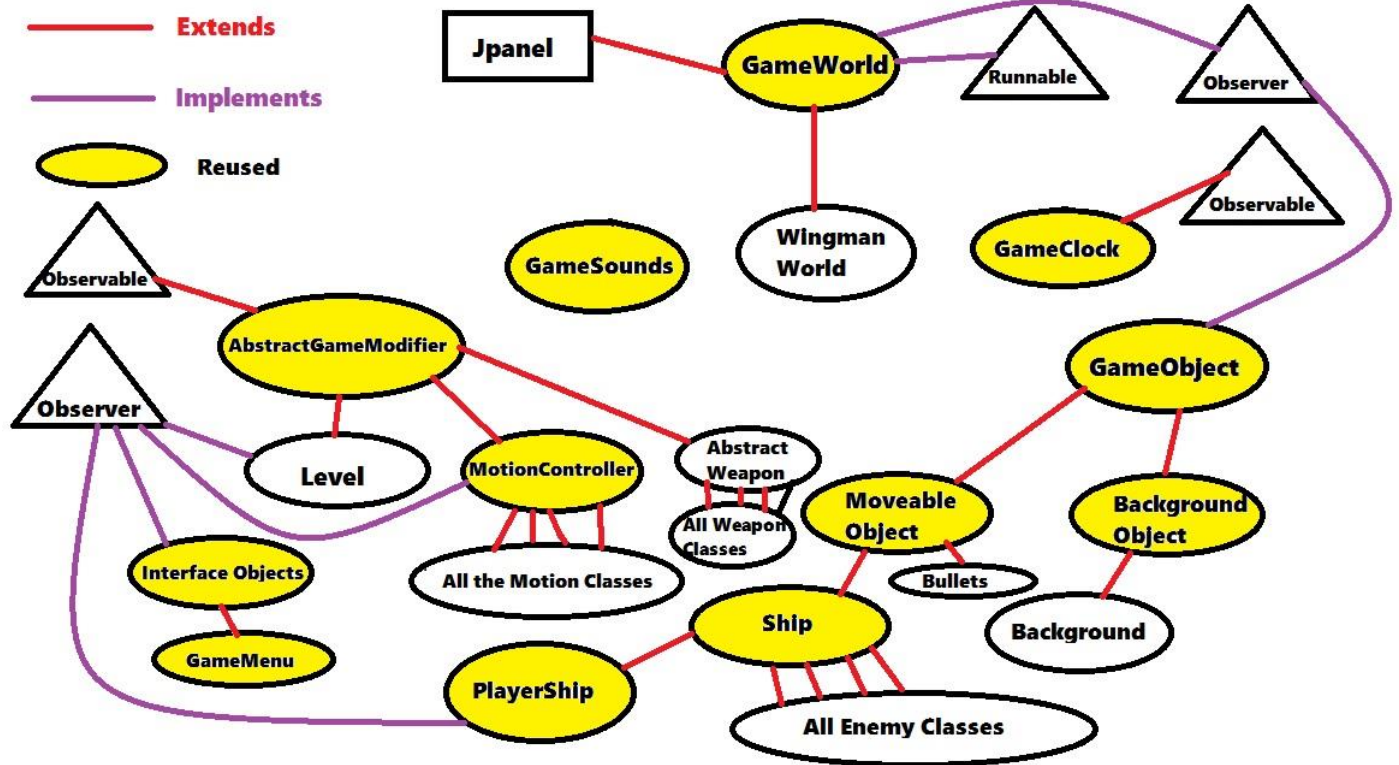
**Background Class** - This class is in the wingman package. Since TankWorld imports it we can use it in this game. It extends the Background Object class. Updates the variables in the class based on info returned by the super class.

**GameSounds Class** – This class is used to invoke methods to play the mp3 files for background music, weapon fire, explosions ... etc.

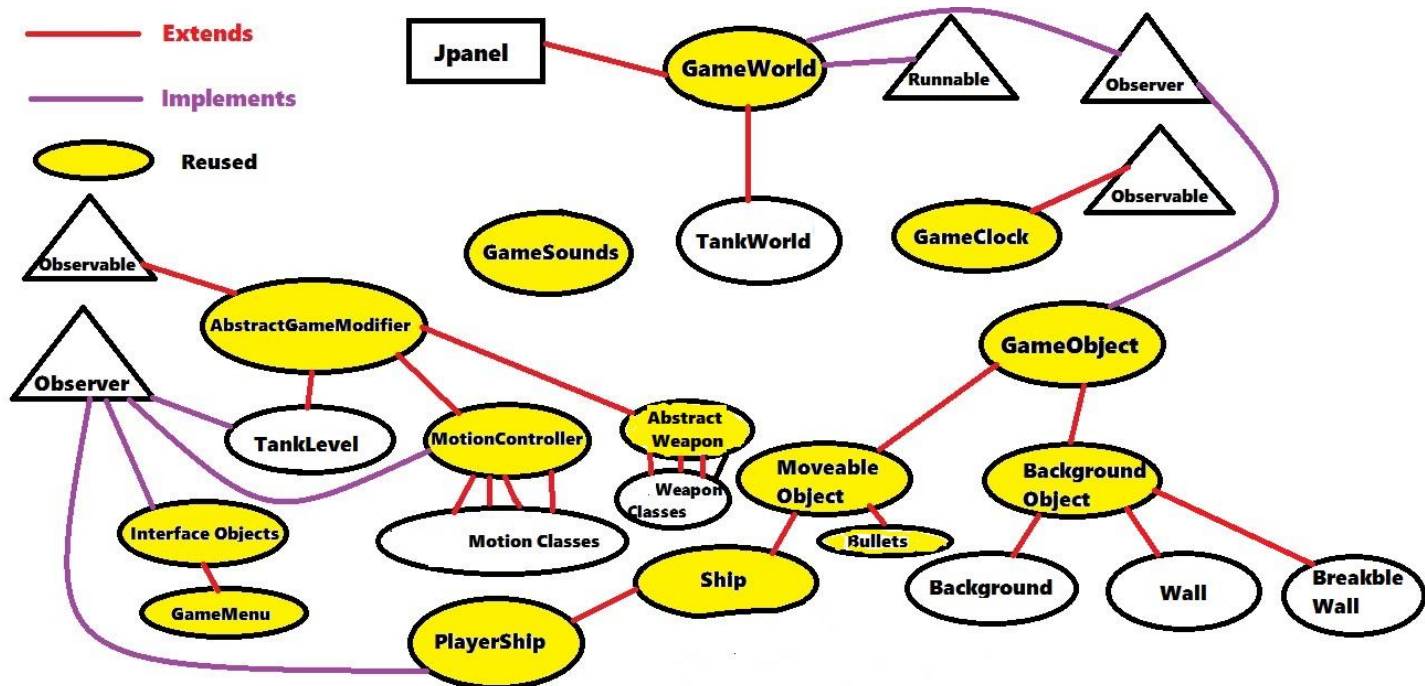
**Tank Class** – This class is used to draw the tank in the game but also track when it dies, moves, turns to update its location.

**Reusability:** Here are the class diagrams for Wingman game and Tank game for comparison of classes I reused:

## Wingman



## TankWars



### **Reflection**

Throughout the development process I used Arthur's code. First I had to write down what I was going to need for this new game. The process was great learning experience because it taught me that having a plan before coding can come very useful. After I had what I needed, I started to add the necessary classes and methods to get the game to work. It didn't take me as long as I thought it was. This assignment taught me that reusability can be very useful and time saving. Just implementing a new game out of someone's existing code is a real hands on experience. The whole process of developing this game was a good learning experience for me because I learned what I need to improve on.