Describtion about the space war

Our project is consists of 12 classes. To give a better view of it, we can have a look at the configuration diagram as follow

Timer

Thing

Main

Wall

Mover

Bullet

Sprite

Ship

Alien

AudioPlayer

AudioCollection

GameLogic

There are six major classes that will operate during the process.

First, the most important is the **Main**. No doubt it is the class containing the main method, determining the flow of the entire program. Delivering user’s input to **Gamelogic**. What the user input and what branch or change will be applied to the program are all done in this main method.

Second, **Thing** class, which is the main part of all the objects you see in this game. What it did is actually generating all the visible objects and set basic values such as position and what image to display.

Third: **Timer**. **Timer** is an assistance class, to help determine relating to time such as delay and loop. **Timer** is somehow to make control time relative problem easy.

Fourth: **Gamelogic** class. It may be the most high-tech part of the whole game. All the logic functions and decisions are made here. For example, how the alien army is lined up, how they move, what happens when an alien or spaceship is hit by a bullet, when the game will comes to an end.

Fifth, is the **Audioplayer** and **Audiocollection**. **AudioPlayer** is a class containing methods to play an audio file during the process of the game, extending **Thread** class. **Audiocollection** is, referring to its name, a collection, have many static properties and methods, to make it easy to play audios.

Notice **Sprites** and **Bullet** extends **Mover** class and **Alien** and **Ship** are subclasses of **Sprites**. **Mover** and **Wall** subclass **Thing**.And EVERYTHING in the game is a thing. The design is obvious. **Thing** has location, **Wall** has extra “broken” method and relative properties to indicate its specification. In the same way, **Mover** can move and **Sprites** can not only move but also fire.

Basically above is our game design.

When the game start , there will be a picture and a text displayed on the screen. The program automatically detects the enter key so once you press enter, the program will jump out of the circle to launch the game. You will the see alien troop and your spaceship. At the same time, the timer is also triggered, from which you can see on the right top of the window , and the scoring system will start to count from zero. The enemy troop will automatically moving side to side. They change their direction once the alive member on the left side or right side reach the edge of the map. Every member of the existing alien randomly shoot a bullet. You can fire by pressing space key. Your ammo is abundant, no limit of bullets at one moment. One bullet will kill an alien, so will it do to your ship. Each hit on an alien will gain you 1point of grade. Once your ship get hit you will lose the game. Letting the alien troop reach the button of the map can also make you lose the game. When you defeat all the aliens in the troop, you will enter next level, the speed of the alien will increase, so more difficult the game will be. You have a defensing wall made of bricks at the start of each level. Each brick can overtake three bullets attack. After that , its job is done and you are going to face the enemy’s fire by yourself. One note for the wall, when the aliens come over near the wall, they can EAT the wall dramatically. That can add more fun to the game when alien come lower and lower and you will feel the close threat of the crazy enemy. In fact , the bullets can do a counter-strike. When in an exact position, you can fire a bullet to destroy enemy’s bullet. If you want to restart at anytime, just press enter key and you will be in level one again.