## Class SpaceWorld

java.lang.Object

public class **SpaceWorld**extends greenfoot.World

World that the battle will take place in. In the SpaceWorld, aliens and humans fight to conquer 5 target planets. There are 2 types of fighters, attackers and invaders. The attackers aim to eliminate members of the opposing team, while the invaders aim to conquer the planets.

There are also 2 healing planets that revive the attackers if their health is low. The health planets also lose health when reviving the attackers, so when the healing planets are recharging, attackers cannot heal there.

The Space World also randomly spawns multiple black holes and comets at once. When all the planets get conquered, a barrage of comets will appear, followed by a barrage of black holes to show the futility of winning.

The user can choose to spawn comets and black holes. There are also buttons that change the frequency the weapons are spawned at and the spawn rates of the fighters.

### CREDITS

CODE

Explosion class: Jordan Cohen

TextButton class: Jordan Cohen

IMAGES

comet.png https://www.themindmuseum.org/support-science/virtual-exhibits/catch-a-comet

planet sprites http://freegameassets.blogspot.ca/2013/09/asteroids-and-planets-if-you-needed-to.html

attacker http://www.freepngimg.com/png/24752-spaceship

invader https://ru.pngtree.com/freepng/space-ship\_2303742.html

laser.png https://upload.wikimedia.org/wikipedia/commons/e/eb/Green\_laser.png

SOUND

battleofheroes.mp3 https://www.youtube.com/watch?v=P1k5zo0w6N8

explosion2.mp3 https://www.youtube.com/watch?v=mJAX16YVQ3U

**Version:** April 6 2018 **Author:** Maggie Lin

|  |  |
| --- | --- |
| **Constructor Summary** | |
| [**SpaceWorld**](http://docs.google.com/SpaceWorld.html#SpaceWorld())()            Constructor for objects of class SpaceWorld. |

|  |  |
| --- | --- |
| **Method Summary** | |
| void | [**act**](http://docs.google.com/SpaceWorld.html#act())()            Act - do whatever the TargetPlanet wants to do. |
| static float | [**getDistance**](http://docs.google.com/SpaceWorld.html#getDistance(greenfoot.Actor,%20greenfoot.Actor))(greenfoot.Actor a, greenfoot.Actor b)            Static method that gets the distance between the x,y coordinates of two Actors using Pythagorean Theorum. |

|  |
| --- |
| **Methods inherited from class** |
| addObject, getBackground, getCellSize, getColorAt, getHeight, getObjects, getObjectsAt, getWidth, numberOfObjects, removeObject, removeObjects, repaint, setActOrder, setBackground, setBackground, setPaintOrder, started, stopped |

|  |
| --- |
| **Methods inherited from class** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

|  |
| --- |
| **Constructor Detail** |

### SpaceWorld

public **SpaceWorld**()

Constructor for objects of class SpaceWorld. This adds buttons, text, the score bar and planets to the world.

|  |
| --- |
| **Method Detail** |

### act

public void **act**()

Act - do whatever the TargetPlanet wants to do. This method is called whenever the 'Act' or 'Run' button gets pressed in the environment.

### **Overrides:**act in class greenfoot.World

getDistance

public static float **getDistance**(greenfoot.Actor a,  
 greenfoot.Actor b)

Static method that gets the distance between the x,y coordinates of two Actors using Pythagorean Theorum.

**Parameters:**a - First Actorb - Second Actor **Returns:**float