



Pokemon Game Documentation

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DESIGN PATTERNS

Singleton

Singleton Design Pattern is used for the IOFile class.

- The singleton pattern is used as there should only be one instance of the IOFile.

Builder

Builder Design Pattern is used for building the BattleSphere, CommandCentre and Defender classes.

- The builder pattern is used to make the BattleSphere and the CommandCentre with all the commands from the config file.

Flyweight

The Flyweight Design Pattern is used for the SharedMedia Factory and SharedMedia classes.

- The flyweight pattern is used so there only needs to be one instance of each media element such as images, sounds and shared variables.

Composite

The Composite Design Pattern is used for the Alien, AlienBoss, AlienComponent and AlienComposite classes.

- The composite pattern is used to create a tree structure for the aliens and alien boss. This allows the swarm to be acted upon in one method such as in the move() method that is called and then sub sequentially called each child elements move() method.

Adapter

The Adapter Design Pattern is used for the Bullet, UpBullet, DownBullet, DefenderBullet, AlienBulletAdapter and AlienBullet classes.

- This is used so the AlienBullet can be shot downwards on the screen by calling the same updateY() method that the DefenderBullet class uses to shoot the bullet downwards.
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CLASSES

Alien

The alien class is a concrete class used for the aliens on the screen.

AlienComponent

The alien component is an abstract class used to hold alien member variables.

AlienComposite

The alien composite is a class used to group the alien objects.

AlienBoss

The alien boss class is used to store the data pertinent to the alien boss on the screen.

AlienBullet

The alien bullet class is used for creating alien bullets on the screen. It has the methods for moving the bullet down the screen.

AlienBulletAdapter

The alien bullet adapter class is used to adapt the alien bullets `updateY()` method to the `updateY()` method from the abstract bullet class that originally moves the bullet up the screen.

BattleSphere

The battle sphere class is used to control all the methods used for running the game and displaying each next frame on the screen.

BattleSphereBuilder

The battle sphere builder class is used to build the battle sphere object and all its components to run the game.

CommandCentre

The command centre class is used to construct the commands and be able to call upon them within the battle sphere class.

Defender

The defender class is used for all the methods needed to display the defender on the screen.

DefenderBullet

The defender bullet class is used for all the methods needed to display the defender bullet on the screen.

GameDirector

The game director class is used for all the methods needed to display the defender bullet on the screen.

IOFile

The IO file class is used for all the methods needed to read in the config file and create the objects used for the game.

Main

The main class is used to run the whole game and initialise the classes need to run it.

SharedMedia

The shared media class is used to store shared media and only one instance of it even though its used by many objects.

SharedMediaFactory

The shared media factory class is used to store the instances of the shared media objects.

Star

The star class is used to generate each one of the classes.
