Team 7 Project 4 Revised Class Diagram

laserPowerUp
- + time : float
- + effect : GameObject
- + shieldFX : GameObject
- + OnTriggerEnter(other : Collider) : void
- + pickUp(player : Collider) : void

MapBounds
- + xMin : float
- + xMax : float
- + zMin : float
- + zMax : float

asteroidRotator
- + maxTumble : float
- - Start() : void

Controls asteroid rotation

asteroidMover
- - speed : float
- - Start() : void

destroyByTime
- + lifetime : float
- - Start() : void

Destroys game objects that take up memory after a set amount of time.

outOfBounds
- - OnTriggerExit(other : Collider) : void

Destroys player and asteroid objects that leave the game controller boundary.

Controls asteroid movement

asteroidSpawner
- + asteroid : GameObject
- + spawnValues : Vector3
- + asteroidCount : int
- + spawnWait : float
- + startWait : float
- + waveWait : float
- + gameController : GameController
- + scoreTracker : ScoreTracker
- + powerUps : GameObject[]
- + difficultyNum : int
- + spawnPosition : Vector3
- + spawnRotation : Quaternion
- - difficulty : float
- - gameover : bool
- - randomNum : int
- - spawnNum : int
- - score : int
- - Start() :
- - Update() : void
- - spawnWaves() : IEnumerator
- - spawnWavesE() : IEnumerator
- - spawnWavesI() : IEnumerator
- - spawnPU() : IEnumerator

Keeps ship in frame

Power Ups affect state of Player for a certain duration of time

shieldPowerUp
- + time : float
- + effect : GameObject
- + shieldFX : GameObject
- + toFollow : Gamebject
- + myShield : GameObject
- + myEffect : GameObject
- + powerUp : GameObject
- + OnTriggerEnter(other : Collider) : void
- + pickUp(player : Collider) : void
- + destroyAsteroids() : void

PlayerController
- + map : MapBounds
- + Laser: GameObject
- + upgradedLaser : GameObject
- + startLaser : Transform
- + speed : float
- + tilt : float
- + fireRate : float
- + laserUpgrade : bool
- - shipComp : Rigidbody
- - nextShot : float
- - moveVertical : float
- - movement : Vector3
- - Start() : void
- - Update() : void
- - FixedUpdate() : void

GameController
- + player : PlayerController
- + gameOverText : Text
- + restartText : Text
- + scoreTracker : ScoreTracker
- - audioSource : AudioSource
- - restart : bool
- - gameOver : bool
- + addScore() : void
- + GameOver() : void
- + GO() : bool
- - Start() : void
- - Update(): void

destroyAsteroid
- + explosion : GameObject
- + playerExplosion : GameObject
- - scoreValue : int
- - gameController : GameController
- - Start() : void
- - OnTriggerEnter(other : Collider) : void

Destroys asteroid if contact made with player

Asteroid object is destroyed

Spawns asteroids for game

Used by GameController to keep score

shrinkPowerUp
- + time : float
- + effect : GameObject
- - playerVar - PlayerController
- + OnTriggerEnter(other : Collider) : void
- + pickUp(player : Collider) : void

Destroys asteroid if contact made with laser

Causes background to scroll horizontally

Lasers fired by player

timePowerUp
- + duration : float
- + effect : GameObject
- - playerCont : PlayerController
- + OnTriggerEnter(other : Collider) : void
- + pickUp(player : Collider) : IEnumerator

laserMovement
- + speed : float
- - laserComp : Rigidbody
- - Start() : void

bombPowerUp
- + time : float
- + effect : GameObject
- + explosion : GameObject
- + asteroids : GameObject[]
- + OnTriggerEnter(player : Collider) : void
- + pickUp(player : Collider) : void
- + destroyAsteroids() : void

BGScroller
- + scrollSpeed : float
- + tileSizeZ : float
- + startPosition : Vector3
- - Start() : void
- - Update() : void

MainMenu
- + Play() : void
- + Test() : void

Instantiates Main Game and Test Environment

testGmC
- + player : PlayerController
- + gameOverText : Text
- + restartText : Text
- + scoreTracker : ScoreTracker
- + asteroid : GameObject
- + spawnValues : Vector3
- + powerUps : GameObject[]
- - spawnPosition : Vector3
- - spawnRotation : Quaternion
- - audioSource : AudioSource
- - restart : bool
- - gameOver : bool
- + addScore() : void
- + GameOver() : void
- + GO() : bool
- - Start() : void
- - Update(): void

VolumeSetting
- + volumeSlider : Slider
- - volume : float
- - Start() : void

Sets Game Volume via Main Menu

ScoreTracker
- + gameController : GameController
- + scoreText : Text
- + score : int
- + updateScore() : void
- - Start() : void
- - Update() : void

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