**ANALYSIS**

**Functional basic requirements**

* Ship with movement and shoot
* Asteroids spawn where you don’t see them
* When asteroids were shot, divide in smaller asteroids
* Score by time and number of asteroids shot
* Life determinate
* Screen of Game Over

**No Functional requirements**

* In levels 3D, the ship shoots missile from mesh with the direction of camera view
* In levels 2D, the ship shoots missile from mesh with direction of position of mouse
* The ship, except boatship in level 2D, movement is determinate: with key W and S (forward movement) and with key A and D (Rotation actor)
* In level 2D, the boatship movement is determinate: with key A and D (right or left movement)
* The ship has a determinate life expecting that the biggest asteroid has the damage to eliminate all life and the second biggest has the damage to eliminate half life
* The ship can shoot two missiles per second (one missile per half second)
* The boatship has two CollisionComp to notice the collision with asteroids
* The spaceship has one CollisionComp to notice the collision with asteroids
* When missiles of ship destroy asteroid, the ship earns 50 points
* When the life of ship is zero, the game is end and launch the level with the score and message of game over
* When the game is end, every second which has survived will counts as 5 points
* There are 4 determinate sizes of asteroids
* Asteroids can spawn with different sizes
* When an asteroid is shot, this is destroyed and spawn two asteroids half its size
* When an asteroid is shot and his size is the smallest, this is destroyed and don’t spawn anything
* When an asteroid or a missile touch KillZVolume, they are destroyed
* In levels 3D, velocity of asteroids is random with ranges, but the component Z always is negative respect rotation AsteroidsManager
* In levels 3D, components X and Y of asteroid’s spawn location is random with range and the component Z is determinate
* In levels 2D, components X and Y of velocity of asteroids are random with ranges and component Z is zero, but the component Y always is negative respect rotation AsteroidsManager
* In levels 2D, component X of asteroid’s spawn location is random with range, components Y and Z is determinate
* Missiles have a CollisionComp to notice the collision with asteroids or ship
* Missiles and asteroids have a constant velocity

**ASSETS**

**Models**

* Spaceship
* Boatship
* Missile
* Asteroid

**Materials**

* Water
* SkySpace

**Texture**

* Game over
* Target
* CursorTexture

**CLASS DIAGRAM**