

VisualizationManager

-terrain:GeometryData
-cameras[]:Camera

+init(cameraLocation:Vector3, cameraDirection:Vector3, fieldOfView:int, frameWidth:int, frameHeight:int)

+renderSnapshot(particles[]:ISphParticle, frameId:int)

+finalizeVideo(outputDirectory:String, timeDelta:int)

+loadStaticGeometry(terrain:GeometryData)

+placeLightSource(pos:Vector3, intensity:double, dropOff:double)

+addCamera(cameraLocation:Vector3, cameraDirection:Vector3, fieldOfView:int, frameWidth:int, frameHeight:int)

Renderer

+getTerrainPixelColorAt(terrain:GeometryData, location:Vector3):Pixel

+adjustPixelWithWater(pixel:Pixel, particles[]:ISphParticle, location:Vector3, maxRayRange:int):Pixel

+getLightIntensityAt(location:Vector3):double

Camera

-location:Vector3
-direction:Vector3
-width:int
-height:int
-fieldOfView:int

-lightSources[]:LightSource
-frames[]:Frame

+Camera(location:Vector3, direction:Vector3, width:int, height:int) <<Constructor>>

+renderFrame(particles[]:ISphParticle, terrain:GeometryData)

+registerLightSource(light:LightSource)

+mergeFramesAndFlushVideo()

+getLocation():Vector3

+getDirection():Vector3

+getFieldOfView():int

LightSource

-location:Vector3
-intensity:double

+LightSource(location:Vector3, intensity:double, dropOff:double) <<Constructor>>

+getLocation():Vector3

+getIntensity():double

Pixel

-x:int
-y:int

+Pixel(color:Color) <<Constructor>>

+getColor():Color

+setColor(color:Color)

Frame

-width:int
-height:int

-pixels[]:Pixel

+Frame() <<Constructor>>

+getPixelAt(x:int, y:int):Pixel

+getImage():Image