



ArcGIS and game engines

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What is a game engine?

- Tool for developing games





What is a game engine?

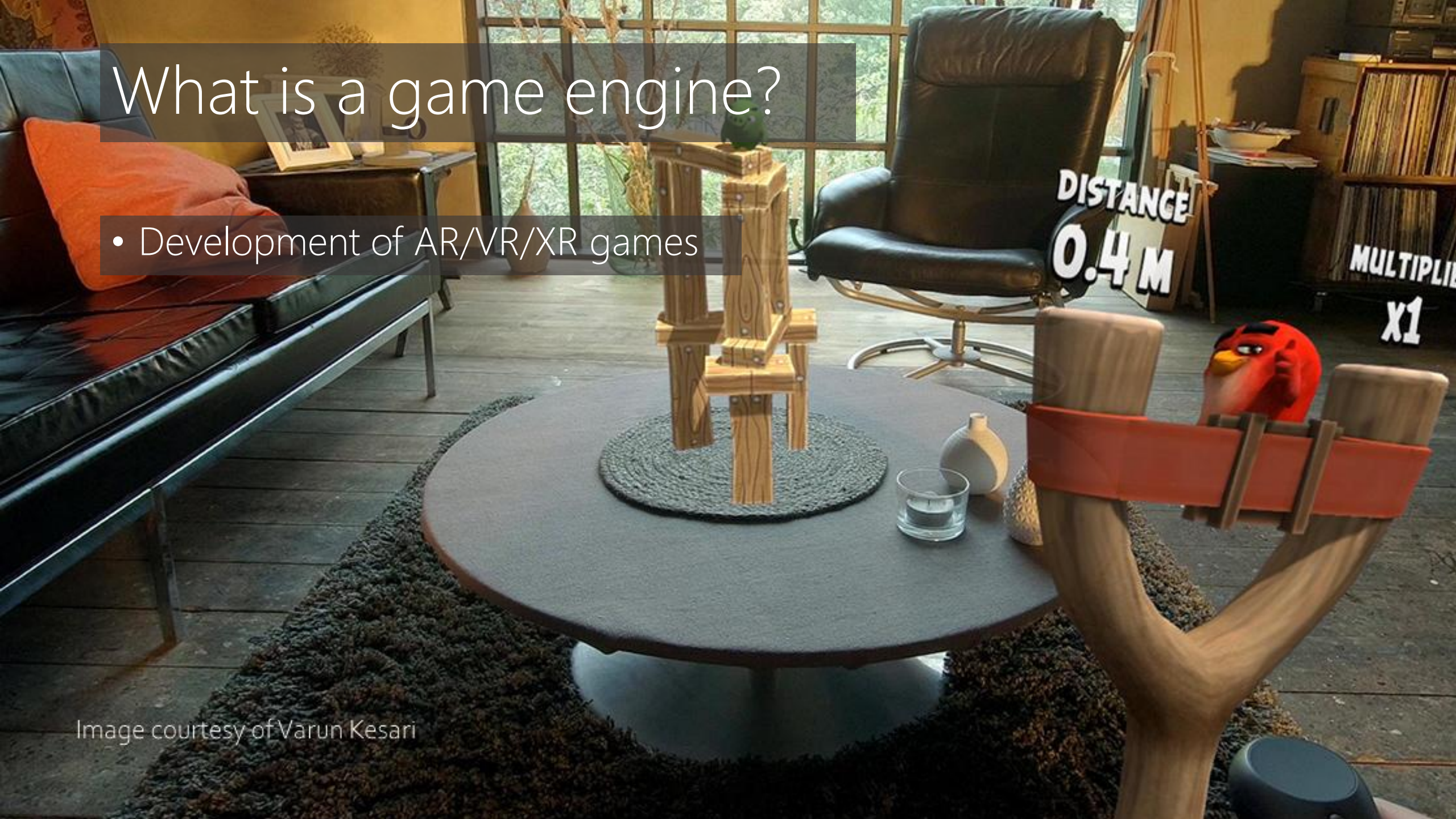
- Tool for developing games

Image: @KrisSchultz

What is a game engine?

- Development of AR/VR/XR games

Image courtesy of Varun Kesari



What is a game engine?

- Entertainment/media apps



What is a game engine?

- AR/VR/XR GIS apps



Image courtesy of Esri Inc

Why game engines?

- Environment & object interaction
- Physics, AI, animation
- High quality rendering

Why game engines?

- Platform diversity
- Developer communities

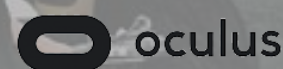


Photo by Sergey Galyonkin via Flickr

Why game engines?

- Advanced features - Physics, AI, animation

GIS and game engines in the past

- GIS like games - SimCity

GIS and game engines in the past

- GIS like games - City Skylines
- Slow to moderate adoption



Image by Gregory Burel via Flickr

GIS and game engines in the past

- Minecraft example(s)
- Game engines plugins

Current support

- CityEngine's ArcGIS 360 VR
- 3D industry formats glTF, USD, FBX, OBJ
- Specialized formats - Unreal Engine (Datasmith)
- CityEngine VR Experience template
- GIS related technologies in game engines

Scene Overview

Redevelopment
Visibility
Current Situation

Current support

- CityEngine VR Experience template

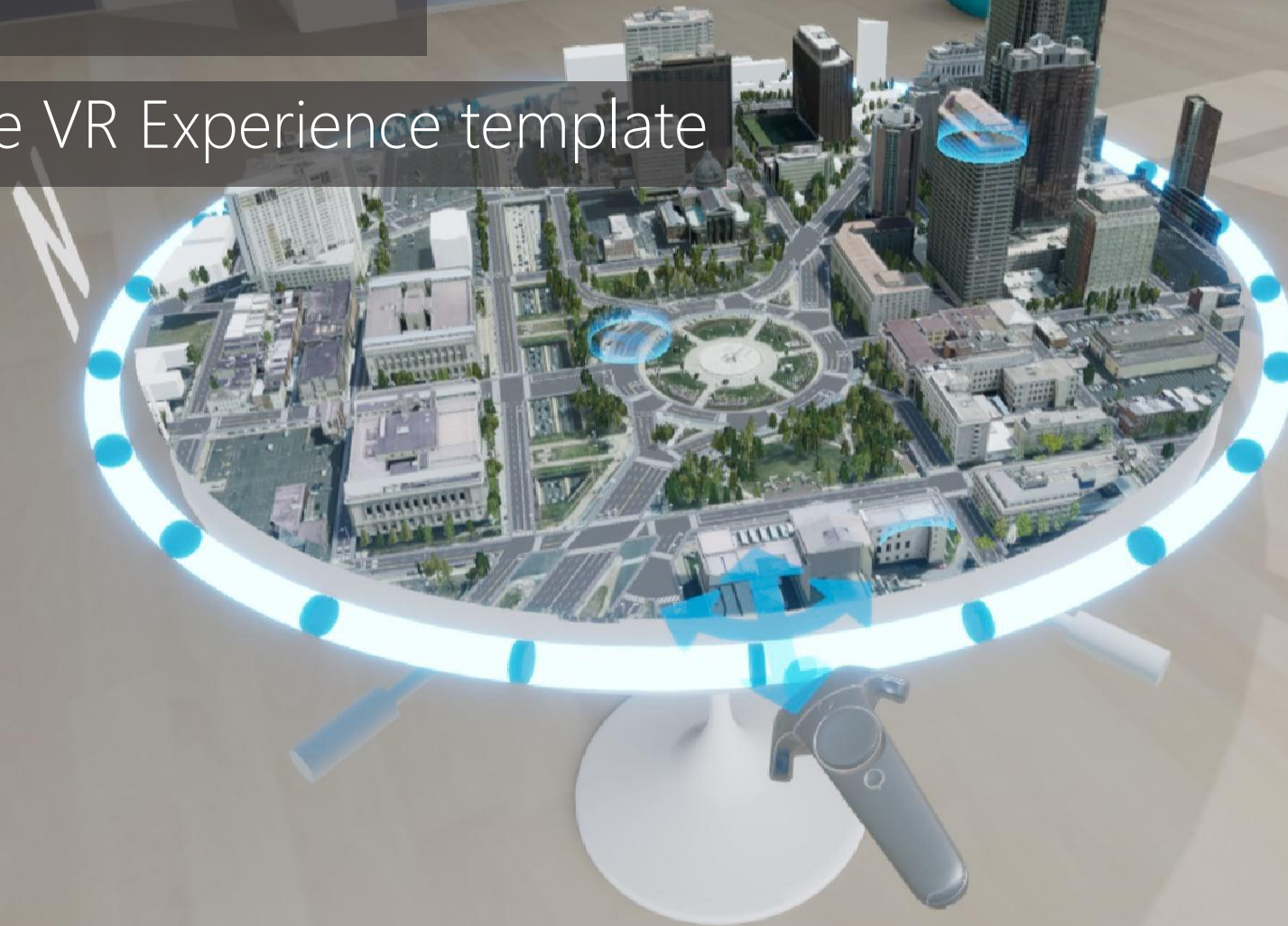


Image courtesy of Esri Inc.

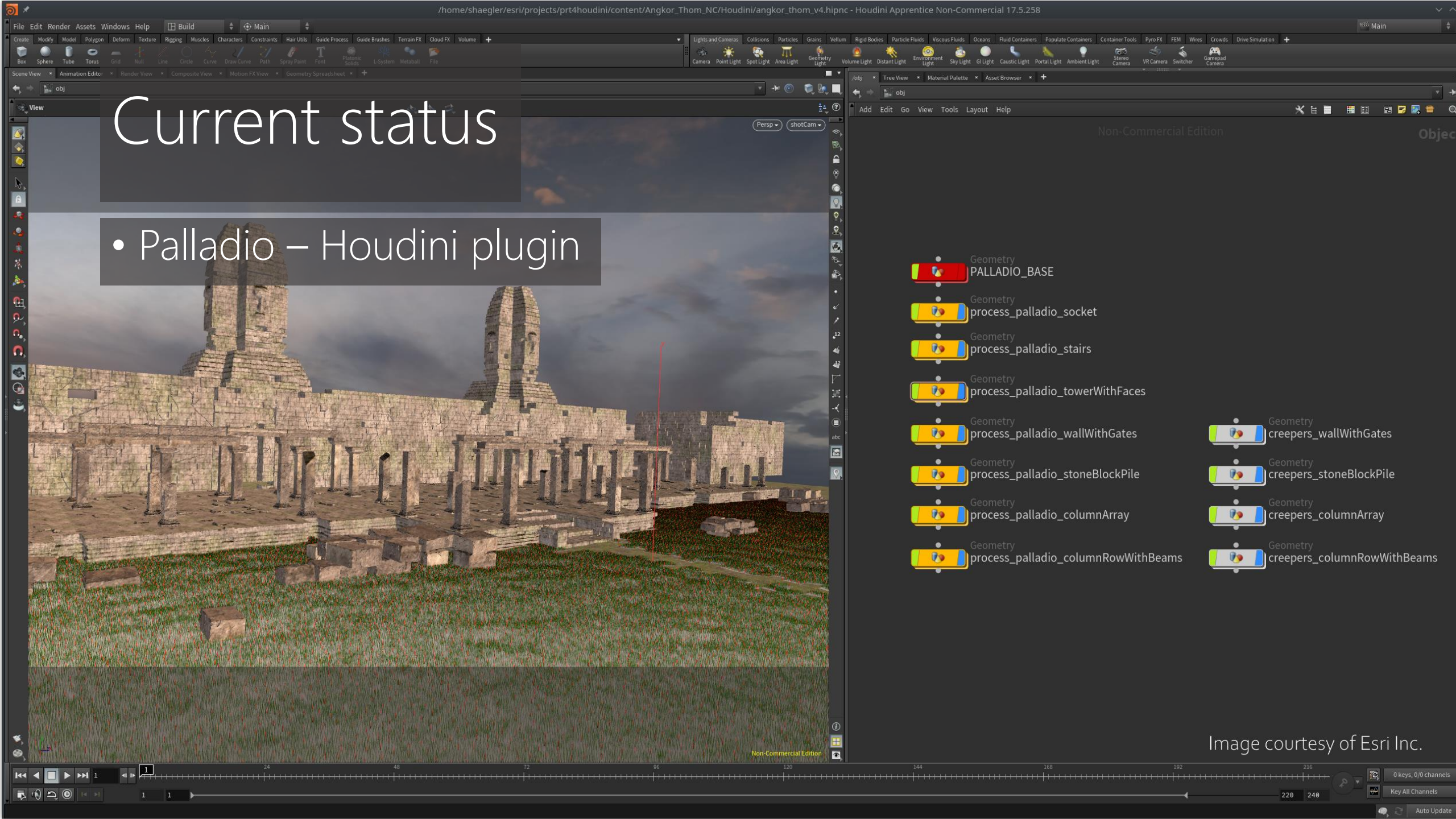
Current support

- GIS related technologies in game engines

LiDAR

LAS file rendered in Unreal Engine.
Data from Auckland Council, 2013

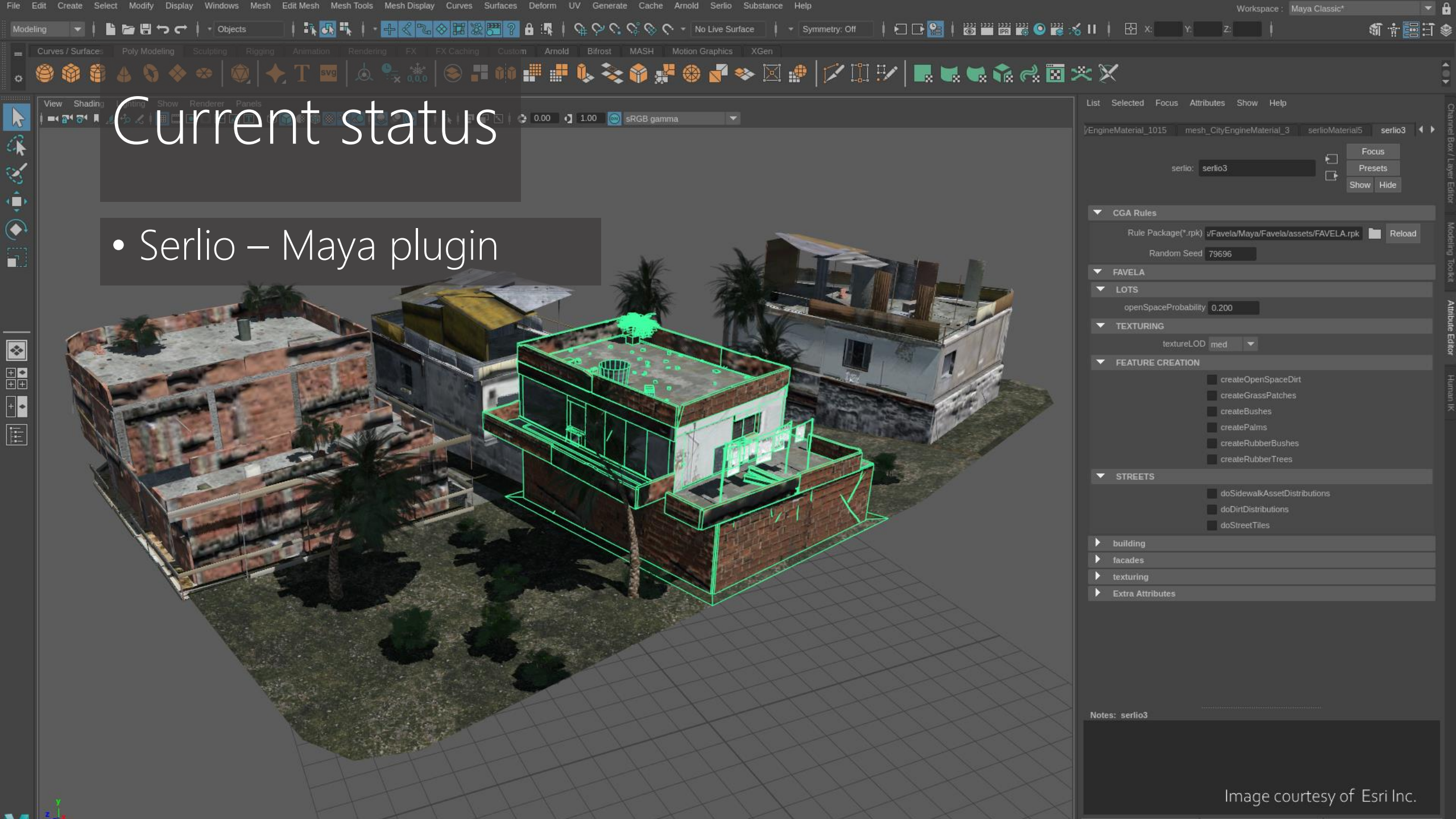




Current status

- Palladio – Houdini plugin

Image courtesy of Esri Inc.



Current status

- Serlio – Maya plugin

ListSelectedFocusAttributesShowHelp

EngineMaterial_1015mesh_CityEngineMaterial_3serlioMaterial5serlio3

serlio: serlio3

CGA Rules

Rule Package(*.rpk) /Favela/Maya/Favela/assets/FAVELA.rpkReload

Random Seed 79696

FAVELA

LOTS

openSpaceProbability 0.200

TEXTURING

textureLOD med

FEATURE CREATION

createOpenSpaceDirt

createGrassPatches

createBushes

createPalms

createRubberBushes

createRubberTrees

STREETS

doSidewalkAssetDistributions

doDirtDistributions

doStreetTiles

building

facades

texturing

Extra Attributes

Notes: serlio3



Image courtesy of Epic Games, models from Esri City Engine

What's coming up?

- New features in CityEngine
- New products – Beta in June (subject to change)
 - ArcGIS for Unreal
 - ArcGIS for Unity

Photo by Marcela McGreal via Flickr



Content Browser Modes

Add New Import Save All Content

Search Paths Search Content

Content 16 items View Options

World Outliner

Search...

Label	Type
SampleLevel (Play In EWorld)	
ArcGISUtilsPlayerCoArcGISUtilsF	
ArcGISUtilsScene1	ArcGISUtilsS
ArcGISUtilsSkyAtmoArcGISUtilsS	
CameraActor	CameraActo
Clouds	StaticMesh/
DevSummitGameMo	Edit DevSu
DevSummitPawn	Open DevS
DirectionalLight	DirectionalL
GameNetworkManaGameNetwo	
GameSession	GameSessic
GameStateBase	GameStateE
GlobalSmoke_Mesh_StaticMesh/	
GlobalSystemSmokeEmitter	

24 actors View Options

Details

Select an object to view details.