

Epic Games

(v1)

An In-Depth Look at Real-Time Rendering Quiz 1

Name: Yann GEFFROTIN

Score: 100%

Passmark: 100%

Attempted: Sunday, August 18, 2019

Attempt Number: 1

Time Taken: 00:12:48

Locked: No

Marking Required: No

1: Correct		What is GBuffer?
		A buffer where all the textures are stored
		A Geometry Buffer
Actual Answer	Answer Given	A set of images of the scene rendered in different ways, used for deferred rendering

2: Correct		In which step of rendering is the scene shaded and drawn on the screen?
Actual Answer	Answer Given	GPU Thread
		Draw Thread
		Game Thread

3: Correct		Which render pipeline is better for performance?
		Forward rendering
		Deferred rendering
Actual Answer	Answer Given	It depends on the features the game or project needs

4: Correct		Why is managing the number of drawcalls in a scene important for performance?
		The drawcall count doesn't affect performance at all
Actual Answer	Answer Given	If there is too many drawcalls, the overhead for each call could build up and harm performance.
		Too many drawcalls may introduce a risk of a segmentation fault

5: Correct		Which thread calculates animations and handles logic?
		GPU Thread
		Draw Thread
Actual Answer	Answer Given	Game Thread

6: Correct		Which method(s) are helpful when profiling a GPU bound project (pick 2)
		Identifying heavy blueprints, and move them to C++
Actual Answer	Answer Given	GPU Profiler
Actual Answer	Answer Given	Viewport Vizualization tools

7: Correct		Performance wise, it is better to have multiple meshes in a scene or merging them into a single mesh?
		That is correct since the smaller the objects, the less likely they will be rendered all at once
		That is not correct as it will increase the draw calls count
Actual Answer	Answer Given	It depends on the size of the meshes, their polycount, number of materials, etc.

8: Correct		Which thread calculates occlusion in a scene?
		GPU Thread

Actual Answer	Answer Given	Draw Thread
		Game Thread

9: Correct		When optimizing a scene which has performance problems, which STAT command is recommended to be used first?
		STAT fps
Actual Answer	Answer Given	STAT unit
		STAT rhi

10: Correct		How do mesh LODs help increase the performance of a scene when it's rendered?
		They reduce the drawcall count
		They help improve the quality of your mesh
Actual Answer	Answer Given	They reduce the polycount on distant meshes while preserving the quality from up close