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Sprint Retrospective Document

Date: 03.04.2019
Project acronym: GRT
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Supervisor: Ahmet Oğuz Akyüz

Sprint 7 summary

Item ID (from the previous retrospective doc)	Workpackage ID (from the Kick-off doc)	Status	Group's comments
8	WP4	Complete	A complete BVH structure is implemented in CPU ray tracer.
9	WP4	Dropped	With our supervisor's advice, we will proceed with compute shaders instead of CUDA.
10	WP4	Dropped	With our supervisor's advice, we will proceed with compute shaders instead of CUDA.
11	WP4	In progress	Integration with Unity will be done once we have a working compute shader ray tracer.
12	WP4	Dropped	With our supervisor's advice, we will proceed with compute shaders instead of CUDA.
13	WP4	In Progress	Researches are done, transfer will be implemented once Unity ray tracer is done.
14	WP5	Complete	Research about different sampling methods are done.
15	WP5	Complete	A simple model of Diffuse Global Illumination is implemented.

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Sprint 8 plan

Item ID	Workpackage ID (from the Kick-off doc)	Description	Status
11	WP4	Implementation of a Masking Algorithm to increase the performance.	Leftover from Sprint6
13	WP4	Transfering the BVH structure to GPU memory as a heap data structure.	Leftover from Sprint7
16	WP3	Parsing Unity scene into buffers and transfering them into GPU memory.	New
17	WP3	Implementation of Unity compute shader ray tracing algorithm.	New
18	WP4	Transfering BVH construction implementation to Unity C#.	New
19	WP4	Implementation of BVH intersection in Unity compute shaders.	New
20	WP5	Implementation of complete Diffuse Global Illumination model.	New
21	WP6	Research of different possible sampling mechanisms for our ray tracer.	New

Overall progress

	Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Sprint 6	Sprint 7	Sprint 8	Sprint 9
MF1	0%	10%	10%	50%	50%	60%	65%		
MF2	0%	50%	70%	70%	70%	70%	80%		
MF3	0%	0%	0%	0%	0%	0%	0%		

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MF4	0%	0%	0%	0%	0%	0%	0%		
MF5	0%	0%	0%	30%	35%	50%	65%		
MF6	0%	0%	0%	0%	0%	0%	100%		
MF7	0%	0%	0%	0%	0%	0%	40%		
MF8	0%	0%	0%	0%	0%	0%	0%		
MF9	0%	0%	0%	0%	0%	0%	20%		
MF10	0%	0%	10%	90%	90%	90%	90%		
MF11	0%	10%	20%	30%	30%	30%	40%		

Discussion with Supervisor

Our supervisor suggested to continue with Unity compute shaders instead of CUDA because of the problems of Unity-CUDA linking. Thats why we dropped CUDA related Items from our plan and added new ones for Unity compute shaders.