Visual Raytrace: An Immersive Learning Application

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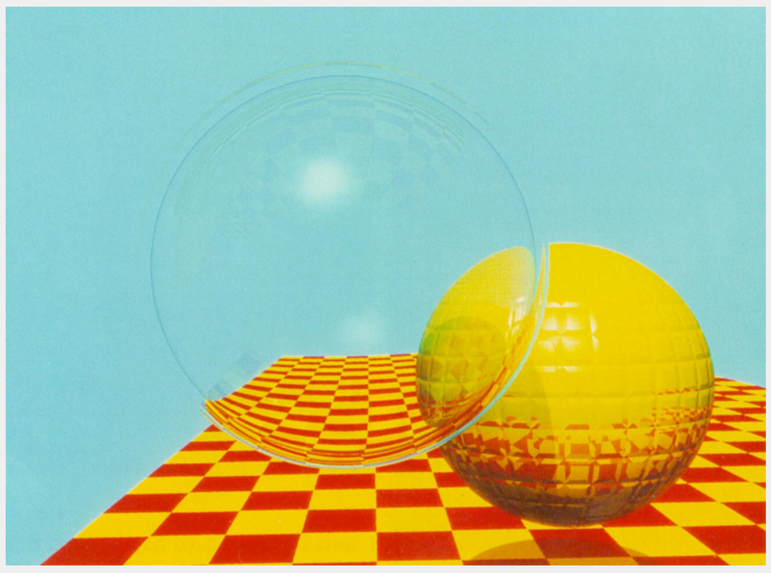
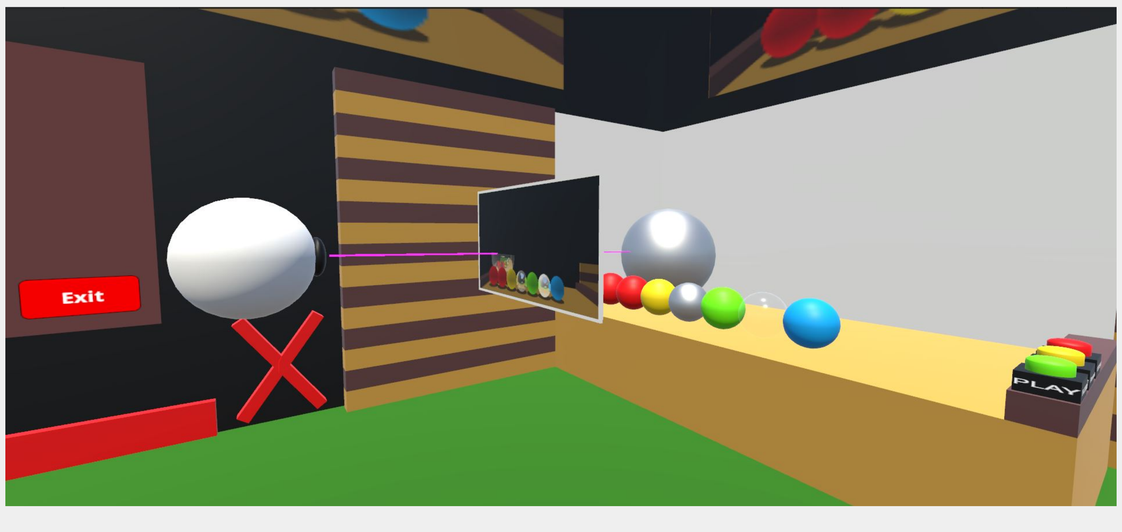
Whitted Raytracing



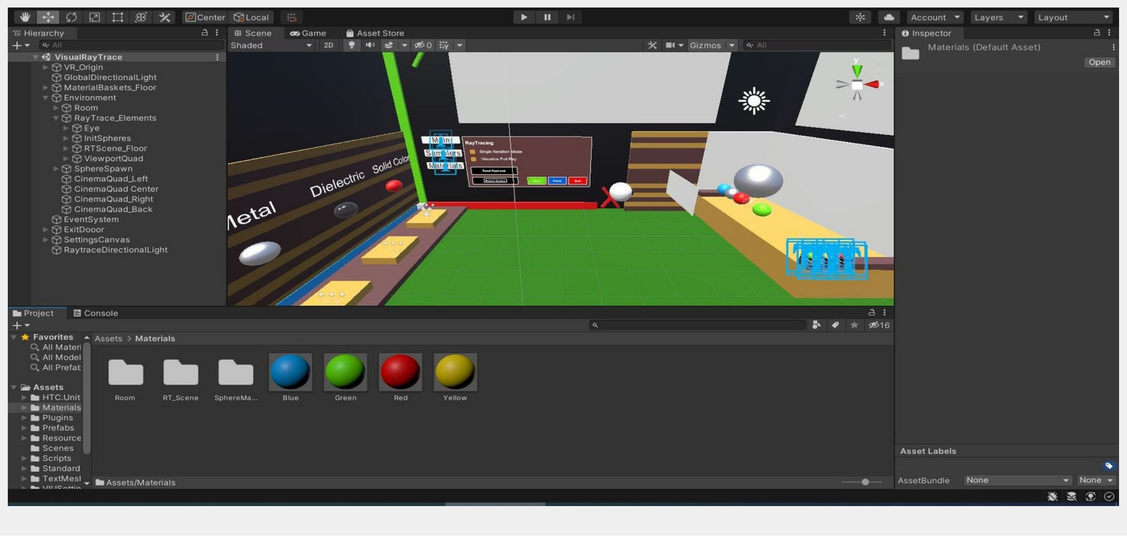
Immersive Learning

- Raytracing is one of the major topics in computer graphics classes.
- Students have to implement their own version of a working raytracer.
- To implement a raytracer students need to understand the basic concepts of computer graphics like coordinate systems, camera, lighting or reflection.
- Key for the successful implementation of a raytracer by the students: develop a high spatial imagination.
- The immersive learning application **Visual Raytrace** supports the transfer from 3D space to a programming language and deepens the understanding of the basic concepts of a raytracer.

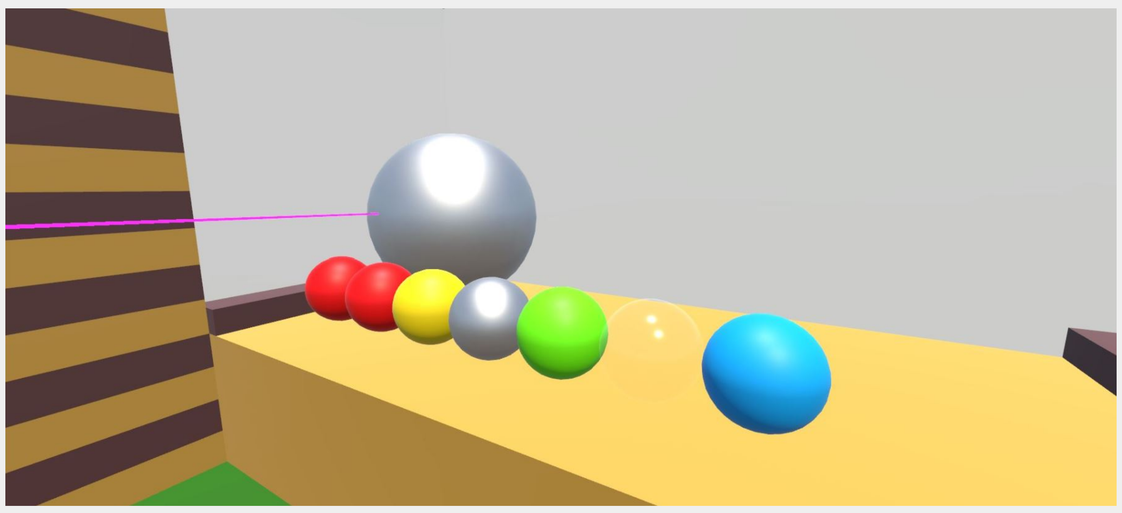
A Raytracer in a Virtual Environment



Unity and C#

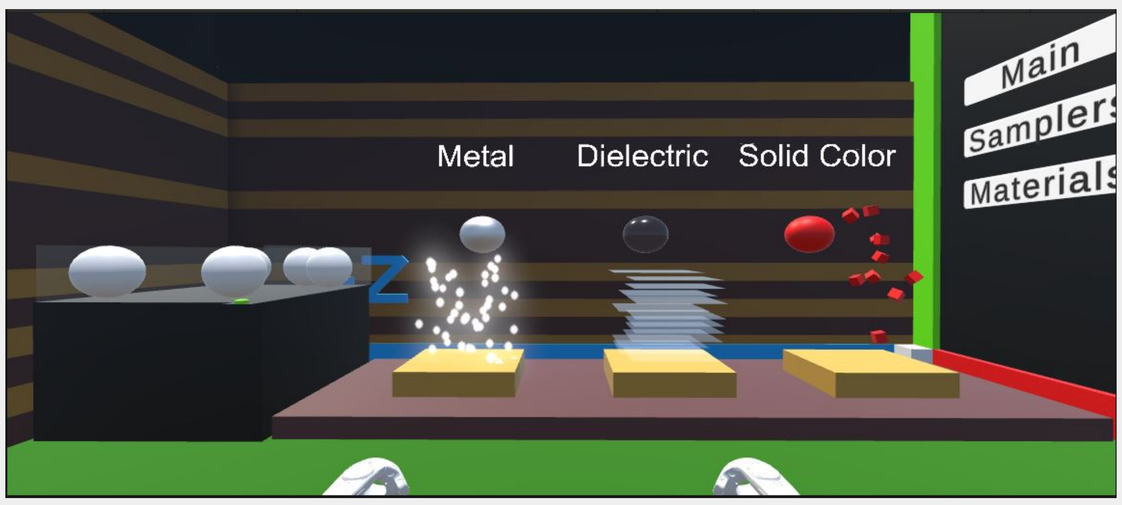


Ray-Sphere Intersection

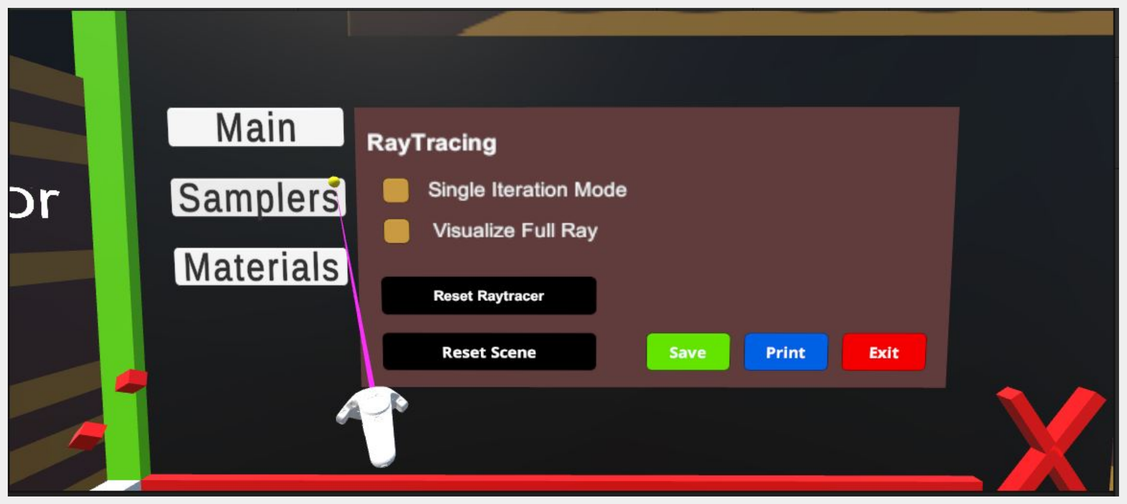


A Virtual Framebuffer and a Virtual Ray

Interactive Scene Definition



Settings for the Raytracer



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github.com/VRLAB-HSKL/RayTracing

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