Libing Zeng (曾立兵)

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RESEARCH

My research in computer graphics currently focus on light transport simulation, especially MLT-type rendering algorithms.

EDUCATION

Hunan Univ., P.R. China **2007.09－2011.06**

Bachelor in Electronic Information Engineering

Top 10% GPA (score 85.0/100: 1st year, 83.5; 2nd year, 83.1; 3rd year, 88.5)

Top 1% B.S. Thesis Award

Projects (2016.11 ~)

A Remedy For Proposal Failures in Metropolis Light Transport

Advised by Dr. Li-Yi Wei.

(Ongoing, first draft completed. Implemented by extending PBRT-V3)

A Renderer Written From The Scratch (BART animations)

Advised by Dr. Li-Yi Wei.

This renderer mainly has two components. First, parsing animation description files (AFF); Second, rendering the three animations of BART, which is presented by Dr. Ulf Assarsson.

Some implementations: "Multi-Jittered" sampler + "Gaussian" filter for reconstruction + Mipmap + EWA filter for texture anti-aliasing.

The source code and the resulting animations can be found in my Github (BART-Animations).

The results are linked by Dr. Ulf Assarsson in the his project page of the paper (BART, searching “Libing” in the page will find the links).

A Renderer Extended From The Book, Ray Tracing From The Ground Up

Self learning.

I read the book and extended it from the following aspects. Objects: part of sphere, part of tori, globe, and so on. Tessellation: sphere, horn, rotational sweeping surfaces, bezier patches (Utah teapot). 2D texture: solid cylinder checker, sphere checker. Scene building: several scenes were built and the corresponding resultant images were produced.

The source code and the images rendered can be found in my Github (RayTraceGroundUp).

A Renderer With Implementations Of Various NON-TRIANGULATE Surfaces

Self learning.

This render is based on the framework of Peter Shirley's "ray tracing in one weekend" and is extended with tracing almost all of the surfaces mentioned in the book, An Introduction to Ray Tracing. The extended surfaces are all NON-TRIANGULATE, which include box, sphere, polygon, quadric surfaces, tori, blending and joining surface, superellipsoid, superhyperboloid, supertoroid, blobs, tear drop, bicubic Bezier patches, bicubic B-spline patches, translational sweeping surface, cone sweeping surface, rotational sweeping surface, sphere sweeping surface, and CSG surfaces.
The source code and the images rendered can also be found in my Github (AnIntroductionToRayTracing).

WORK EXPERIENCE

Guo-Yuan-Li Fruit Store (startup) **2014.06 – 2016.02**
"Guo-Yuan-Li" is Chinese pinyin which means fresh fruit in orchard.
I started the fruit business, and got everything working well, then transferred it to my younger brother.

MediaTek **2011.09 – 2014.05**
Engineer, customer project leader
Lead projects and develop embeded system applications with C language.

BACHELOR THESIS

The Design and Development of Experiment Teaching Management System **2011**
Advised by Dr. Shaoyuan Wang
Top 1% B.S. Thesis Award
I designed a novel experiment teaching management system and implemented it with J2EE.

AWARDS

Innovation of Graduation Project, Hunan Univ., P.R. China **2011**
The First Prize. (top 1% in the class of 2011)
I developed a lab equipment management system with J2EE. Later, the system is adopted by several schools.

National Inspirational Scholarship, Ministry of Education, P.R. China **2010**
(top 5% in the class of 2011)

National Univerity Students Intelligent Car Race, Ministry of Education, P.R. China **2010**
The First Prize in Southern China (Top 10 in more than one hundred teams.)
I developed the software on embeded system with C language.

PERSONAL

Github
https://github.com/libingzeng

Blog

https://blog.csdn.net/libing_zeng

There are over 200 technical reports about my journery of computer graphics (written in simplified Chinese). Also, this blog has over 220 followers and over 0.39 million visitors now.