
PA1 – Playing with Embree

Embree Usage

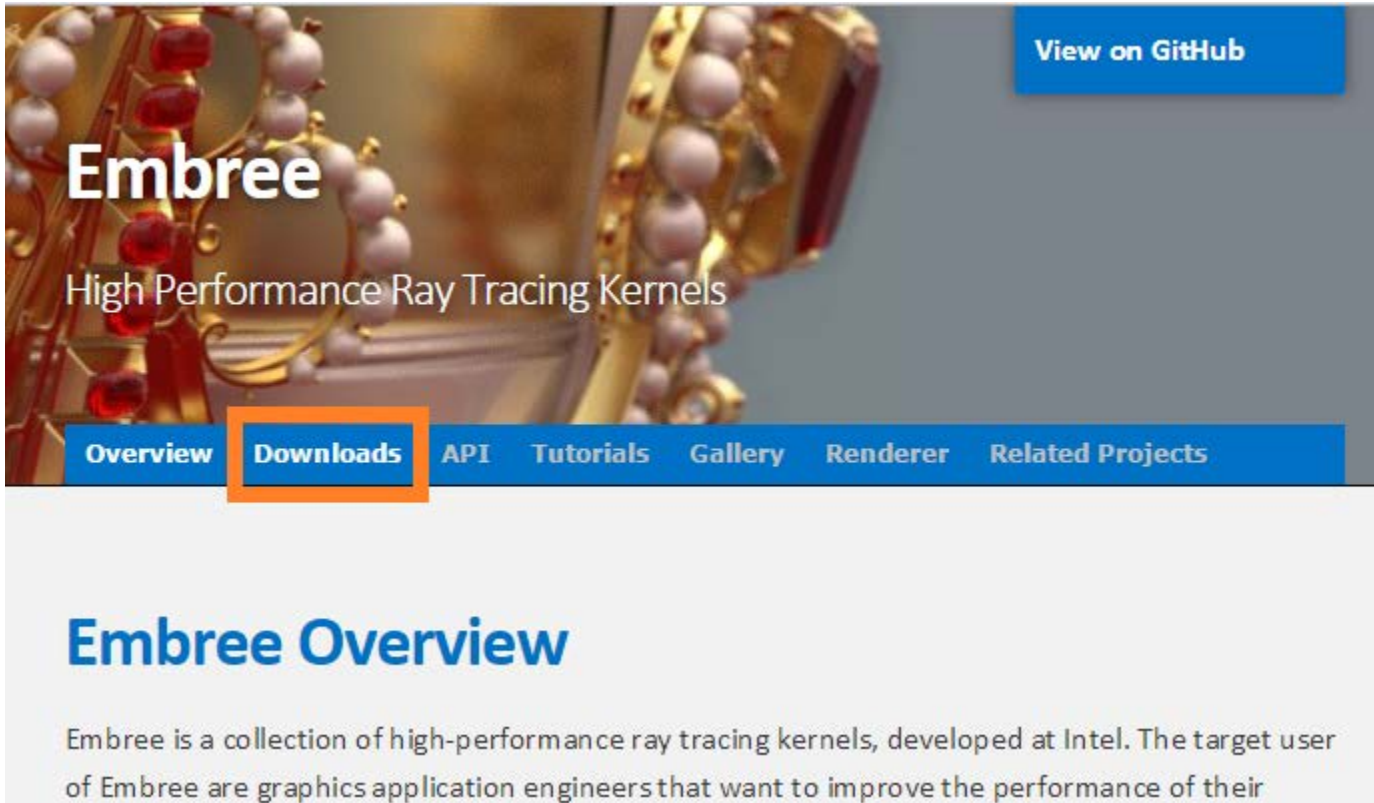
- High performance ray tracing kernel
 - Intel's ray tracing kernel optimized for Intel processors
- Various kind of simulations
 - Lighting, sound, particles, collision detection, etc.)



**Embree: A Kernel Framework for Efficient CPU Ray Tracing
(SIGGRAPH 2014)**

Installation

- Installing Embree Binary
 - Access <https://embree.github.io/>



The image is a screenshot of the Embree website. At the top, there is a blue navigation bar with the following links: Overview, Downloads (highlighted with an orange box), API, Tutorials, Gallery, Renderer, and Related Projects. In the top right corner of the page, there is a blue button labeled "View on GitHub". The main content area features a large image of a golden trophy with red and white beads. Overlaid on this image is the text "Embree" in a large white font, followed by "High Performance Ray Tracing Kernels" in a smaller white font. Below the navigation bar, the page title "Embree Overview" is displayed in a large blue font. Underneath the title, there is a paragraph of text: "Embree is a collection of high-performance ray tracing kernels, developed at Intel. The target user of Embree are graphics application engineers that want to improve the performance of their".

Installation

Downloading Embree

For Windows we provide Embree as MSI installer and ZIP files:

[embree-3.2.0-x64.msi](#)

[embree-3.2.0.x64.windows.zip](#)

For Linux we provide Embree as RPMs or as a tar . gz file:

[embree-3.2.0.x86_64.rpm.tar.gz](#)

[embree-3.2.0.x86_64.linux.tar.gz](#)

For macOS we provide Embree as PKG installer and as a tar . gz file:

[embree-3.2.0.x86_64.pkg](#)

[embree-3.2.0.x86_64.macosx.tar.gz](#)

For the first generation Intel® Xeon Phi™ coprocessor (codenamed Knights Corner) we provide Embree v2.9.0 precompiled for Linux as RPMs or as a tar . gz file:

[embree-knc-2.9.0.x86_64.rpm.tar.gz](#)

[embree-knc-2.9.0.x86_64.linux.tar.gz](#)

The source code of the latest Embree version can be downloaded here:

[embree-3.2.0.zip](#)

[embree-3.2.0.tar.gz](#)

Binary
for
**Win/
Linux/
Mac**

Source

Example : Windows – 64-bit

- Anything is OK
 - In this example, we choose zip one



The screenshot shows the 'Downloading Embree' section of a website. It lists two options for Windows: an MSI installer and a ZIP file. The ZIP file link is highlighted with an orange box. Below, it lists options for Linux: RPMs and tar.gz files.

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- [embree-3.2.0.x86_64.linux.tar.gz](#)

- Extract zip file
 - example C:\ embree-3.2.0.x64.windows

Example : Windows – 64-bit

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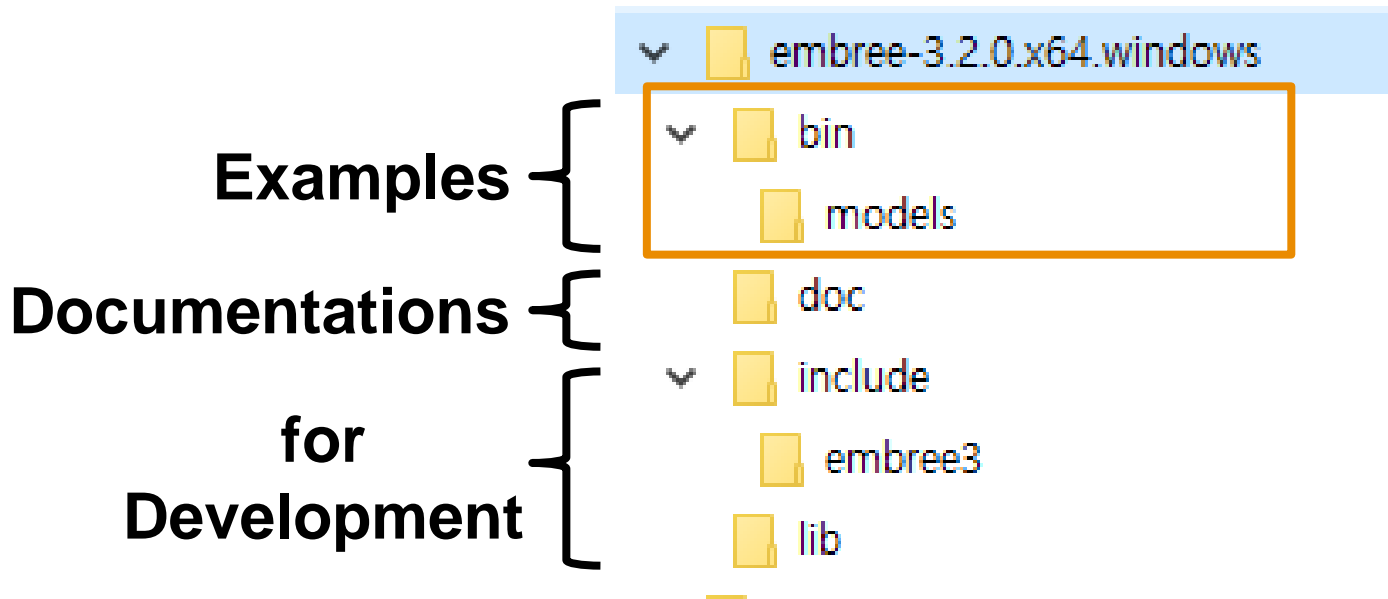
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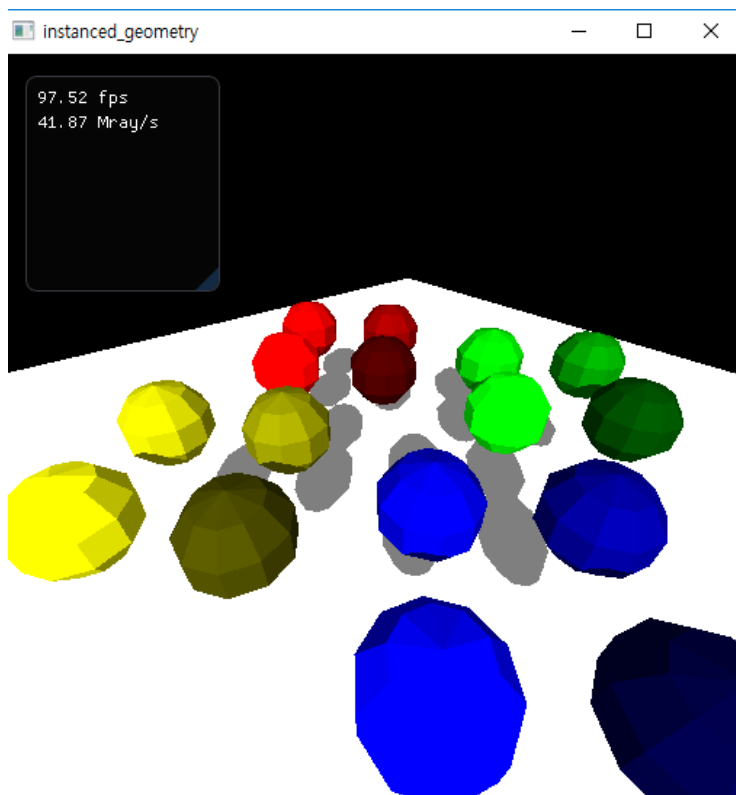
Example : Windows – 64-bit

- Contents of zip file

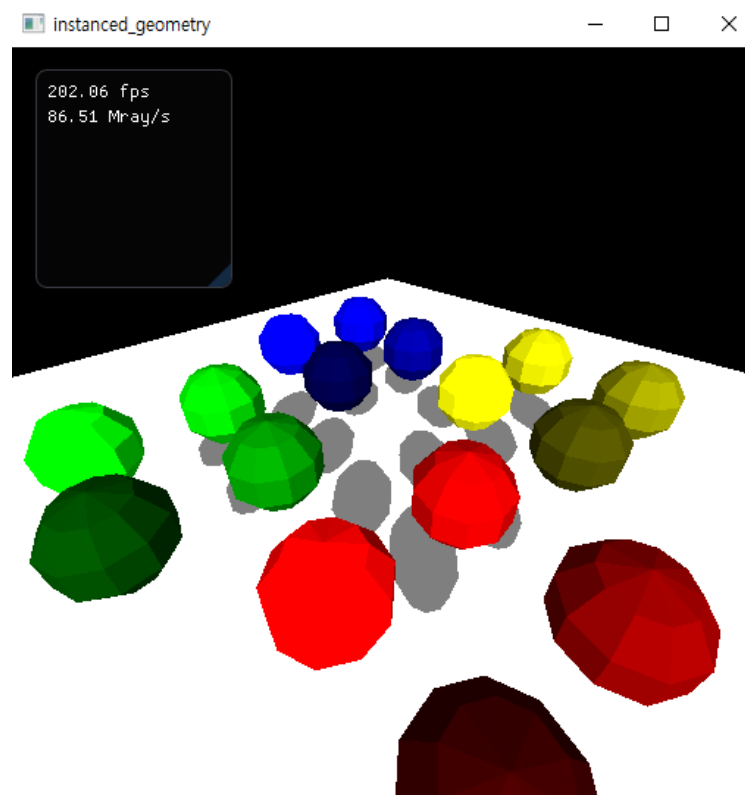


Playing with Embree

- Play with some examples



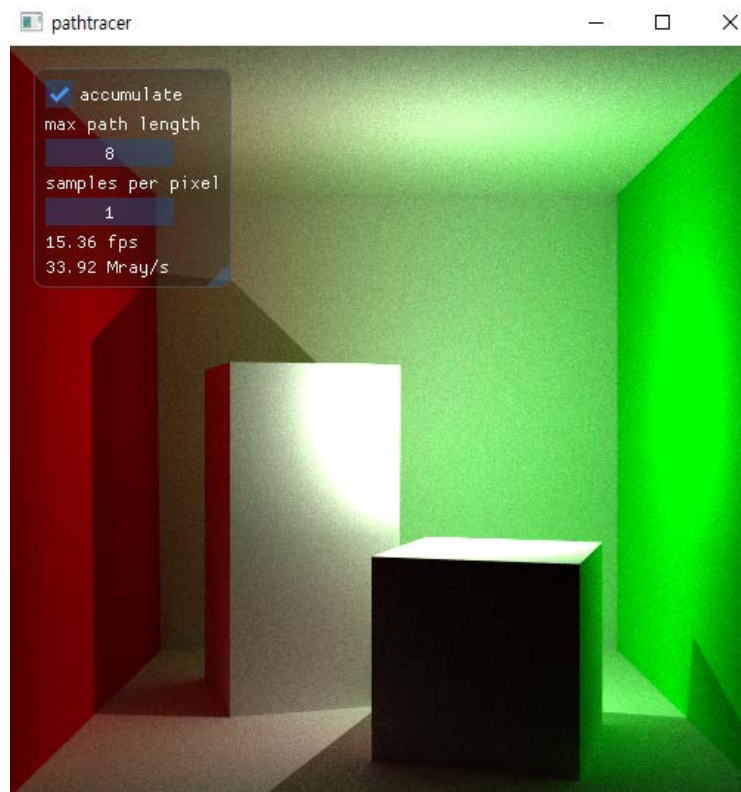
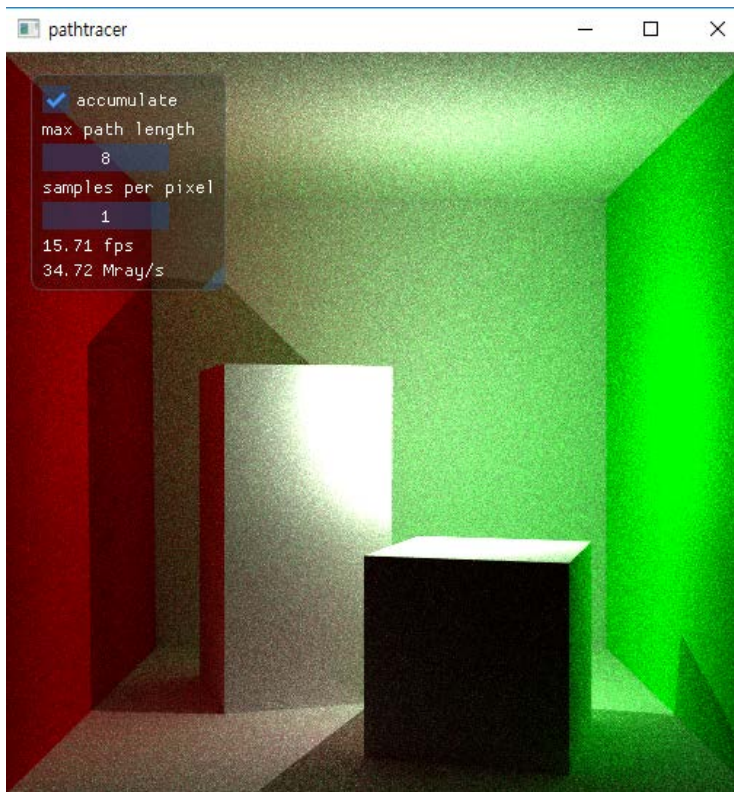
Instance_geometry



Instance_geometry_ispc

Playing with Embree

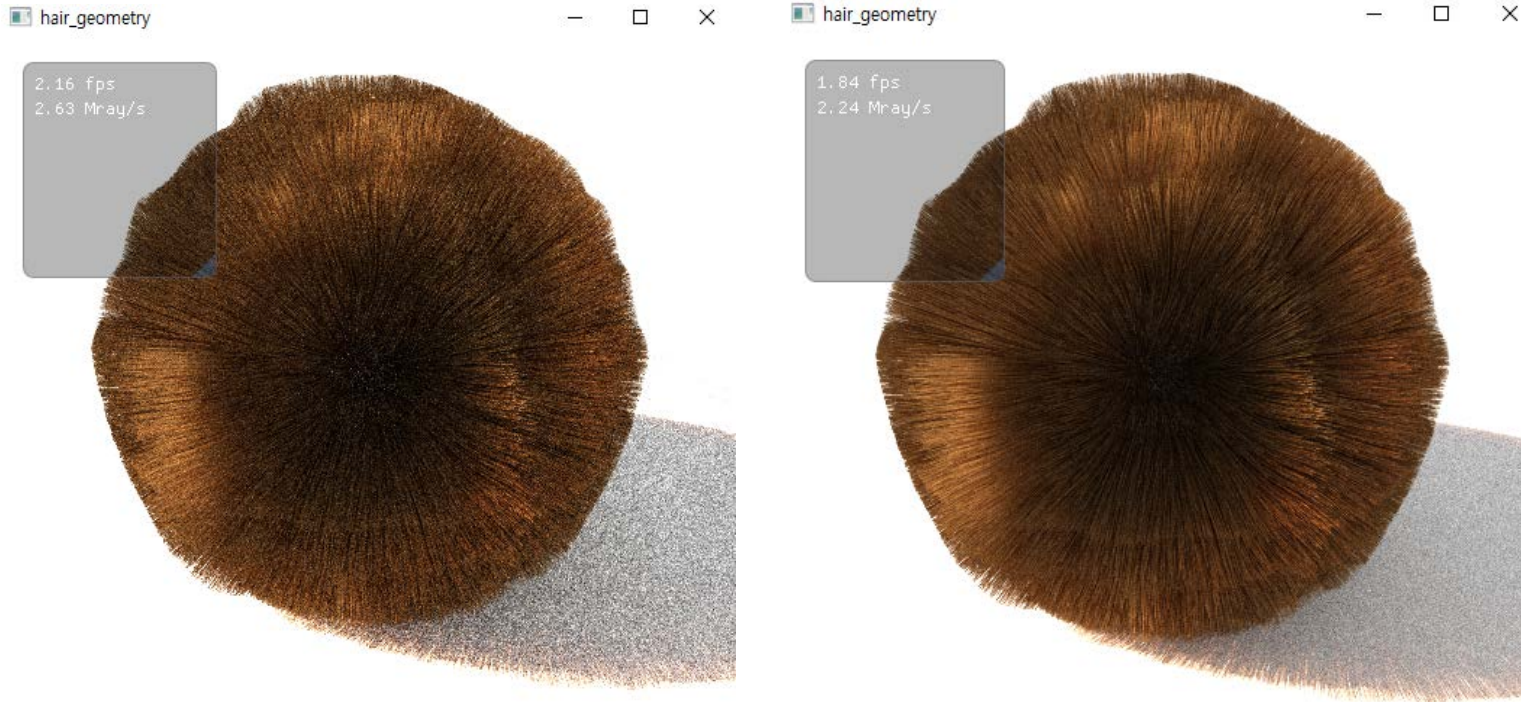
- Play with some examples



path_tracer; how the scene changes when time passes?

Playing with Embree

- Play with some examples



hair_geometry; how the scene changes when time passes?

Playing with Embree

- See how it changes when time passes
- Interact with the scene
 - Drag mouse ...

Playing with Embree

- For details...
 - Write a topic to the KLMS board
 - Send an e-mail to TA