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# PA1 – Playing with Embree

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# Embree Usage

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

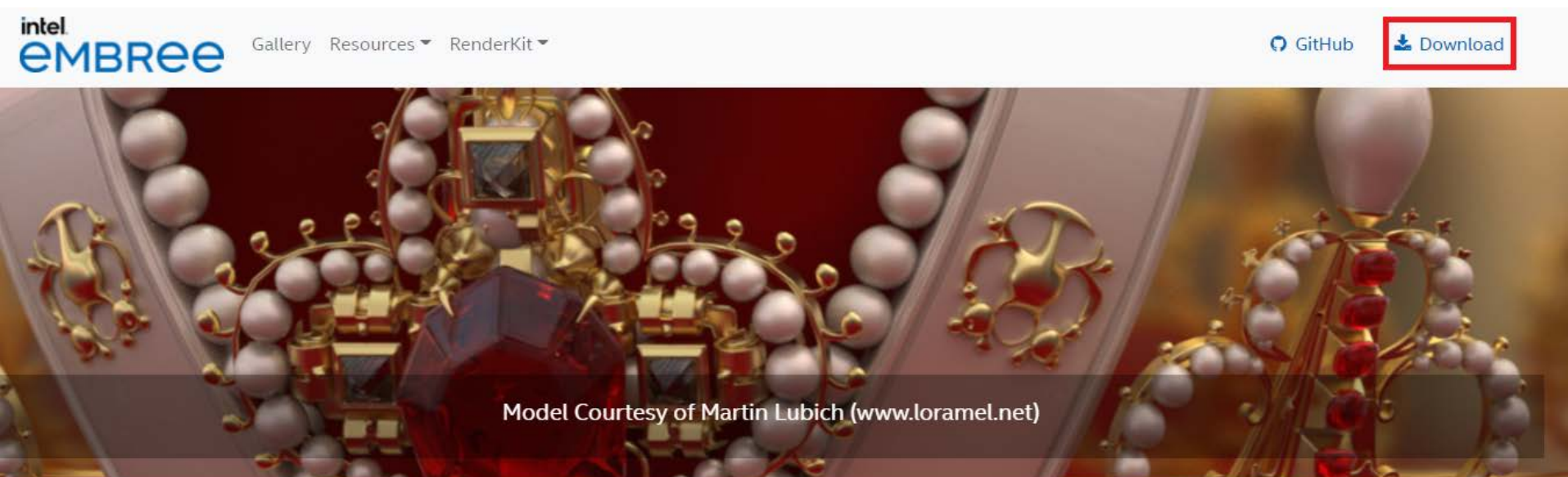


**Embree: A Kernel Framework for Efficient CPU Ray Tracing  
(SIGGRAPH 2014)**

# Installation

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- Installing Embree Binary
  - Access <https://www.embree.org/>



# Installation








## Embree v3.13.1 Release

 TrevorThomson released this 7 days ago

- Added support for ISPC+ARM.
- Releases upgrade to TBB 2021.3.0 and ISPC 1.16.1

 1 1 person reacted

Assets 7

 <a href="#">embree-3.13.1.x64.vc14.msi</a>	55.1 MB
 <a href="#">embree-3.13.1.x64.vc14.windows.zip</a>	55.1 MB
 <a href="#">embree-3.13.1.x86_64.linux.tar.gz</a>	91.7 MB
 <a href="#">embree-3.13.1.x86_64.macosx.zip</a>	124 MB
 <a href="#">embree-3.13.1.x86_64.pkg</a>	50.4 MB
 <a href="#">Source code (zip)</a>	
 <a href="#">Source code (tar.gz)</a>	

Binary  
for  
Win/  
Linux/  
Mac  
Source

# Example : Windows – 64-bit

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

Assets 7

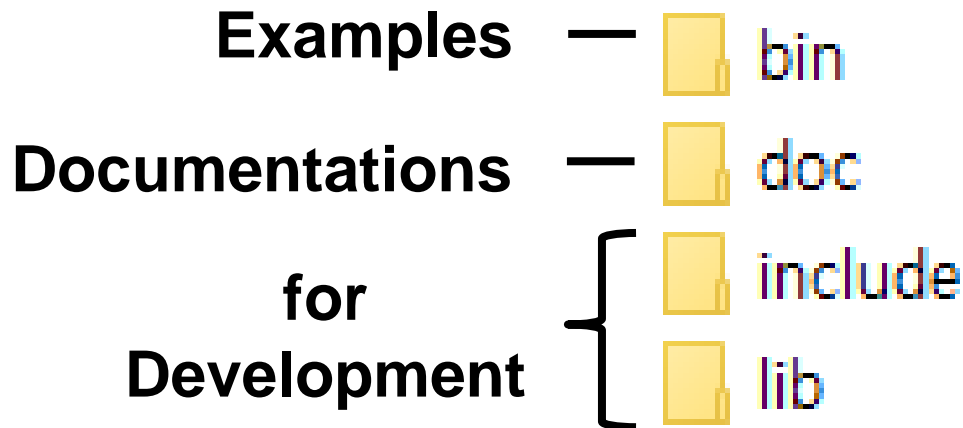
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 <a href="#">Source code (zip)</a>	
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- Extract zip file

# Example : Windows – 64-bit

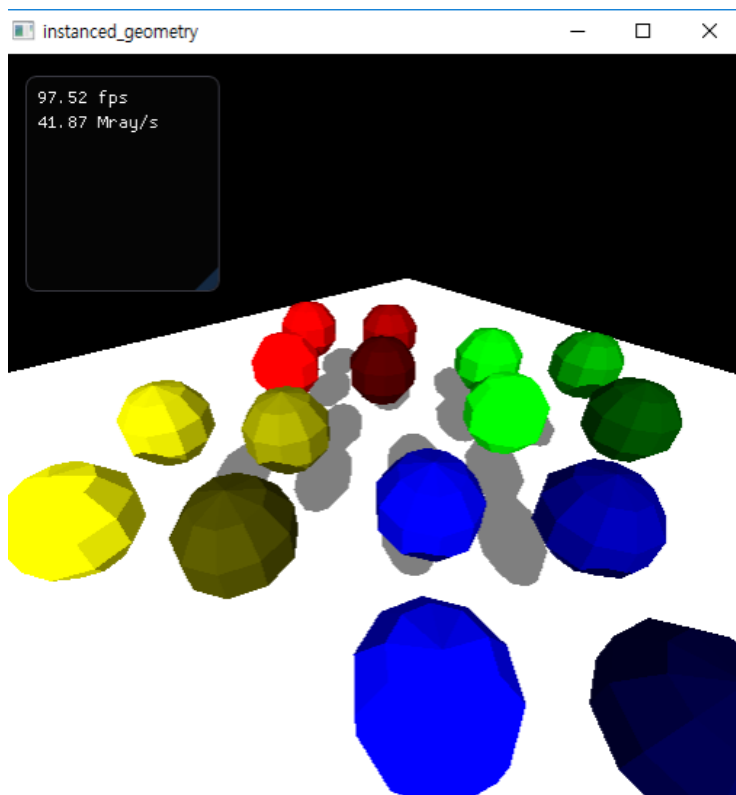
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- Contents of zip file

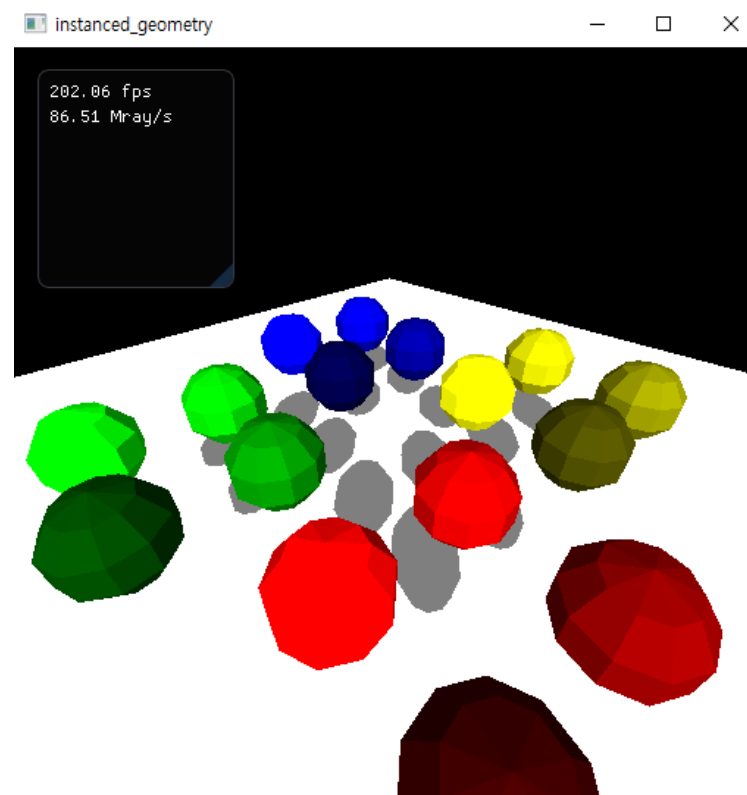


# Playing with Embree

- Play with some examples



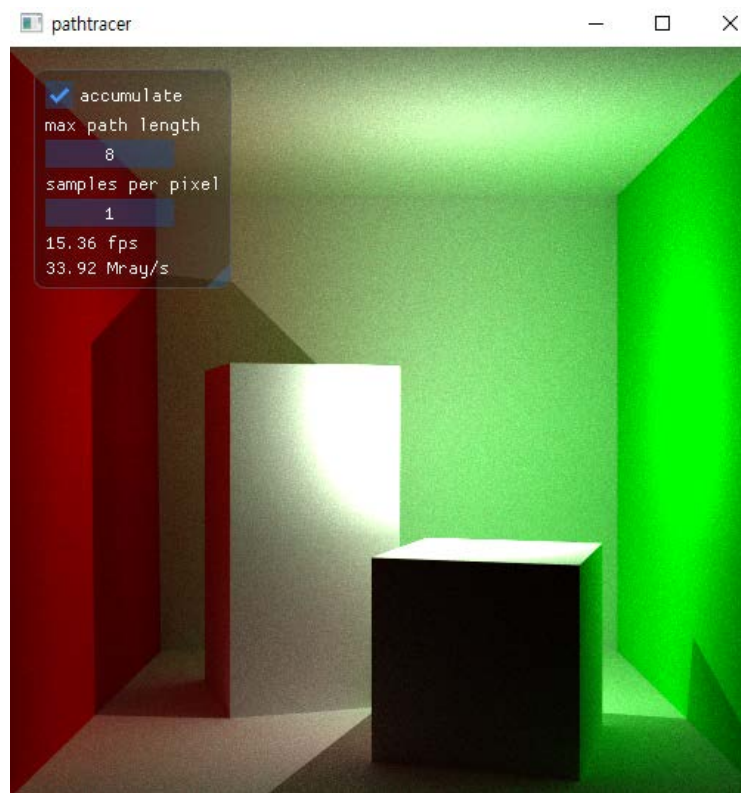
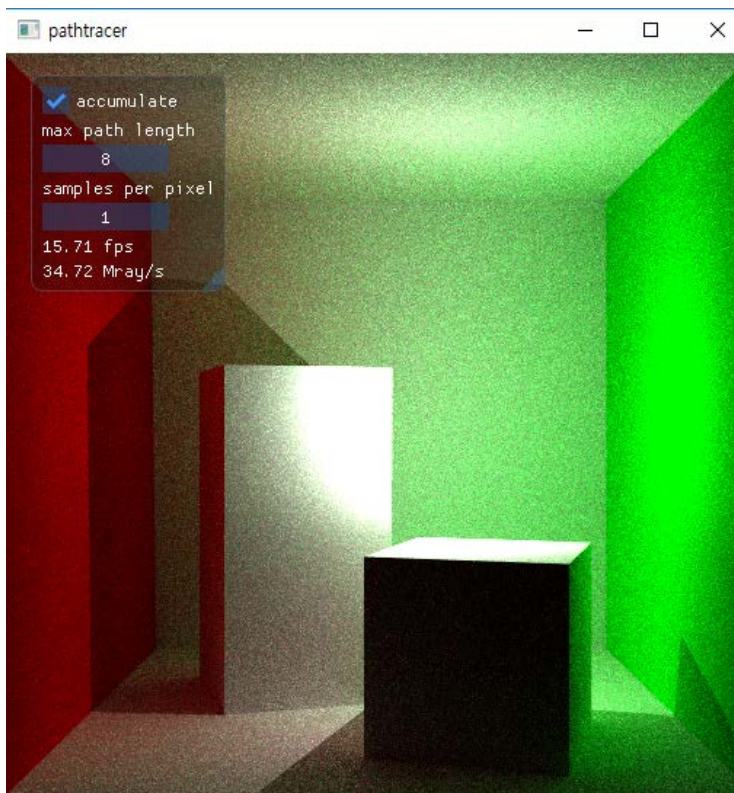
Instance\_geometry



Instance\_geometry\_ispc

# Playing with Embree

- Play with some examples

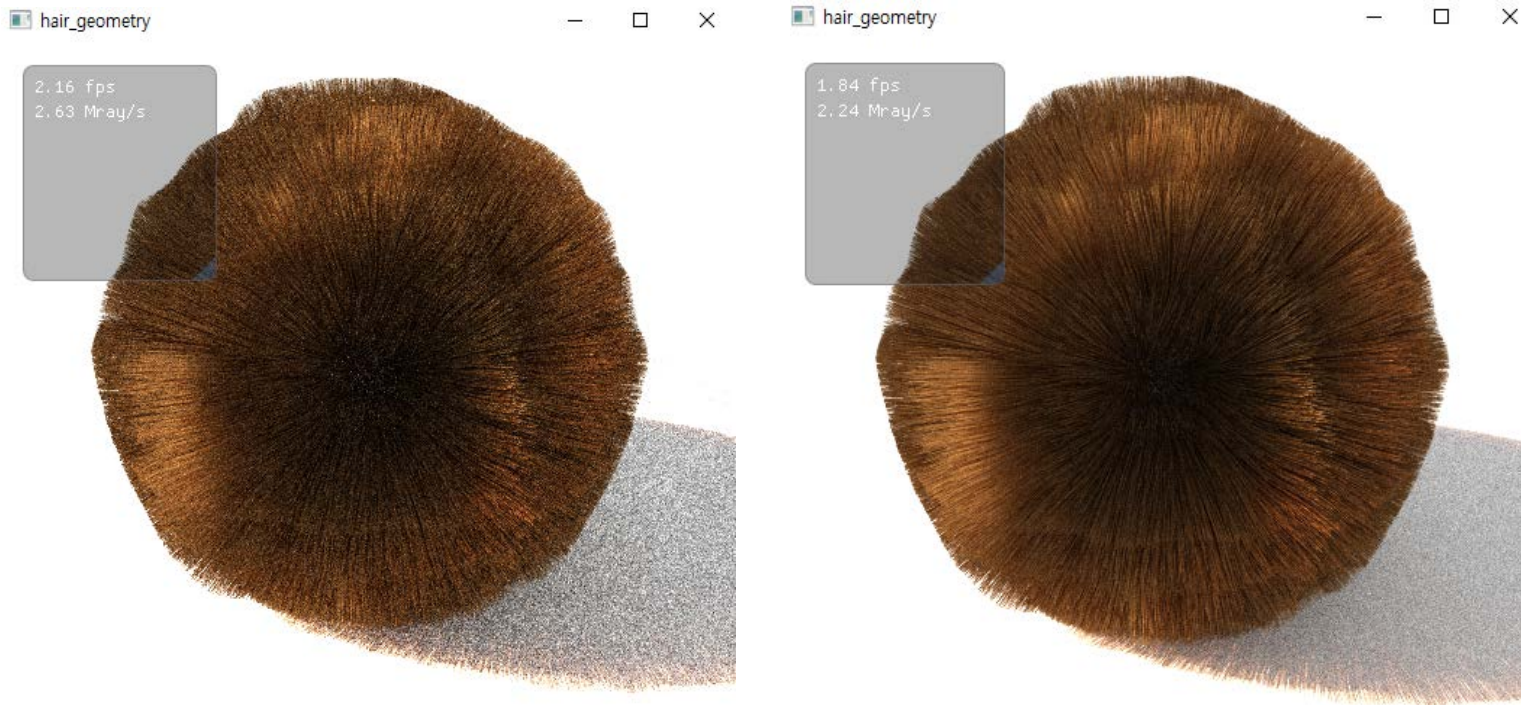


**path\_tracer**; how the scene changes when time passes?



# Playing with Embree

- Play with some examples



**hair\_geometry**; how the scene changes when time passes?

# Playing with Embree

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- See how it changes when time passes
- Interact with the scene
  - Drag mouse ...
- Submit screenshots of following projects:
  - pathtracer
  - quaternion\_motion\_blur
  - voronoi

# Playing with Embree

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- For details...
  - Write a topic to the KLMS board (recommended)
  - Send an e-mail to TAs