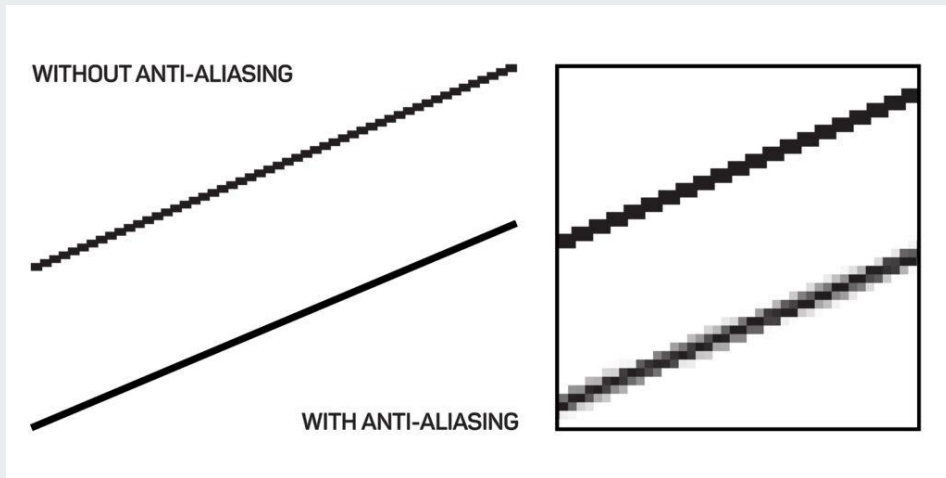




Anti-Aliasing FXAA vs. MLAA



Presented by Samuel Spencer



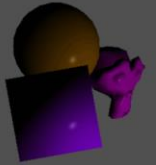
Outline

- FXAA
- MLAA
- Visual Differences
- Performance
- Challenges



FXAA

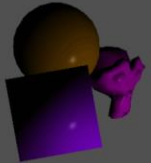
- Fast Approximate Anti-Aliasing
- Post-Processing Anti-Aliasing
- Input data is rendered image
- Detects high contrast regions(Luminescence) for edges
- Blends pixel colors
- Very inexpensive technique



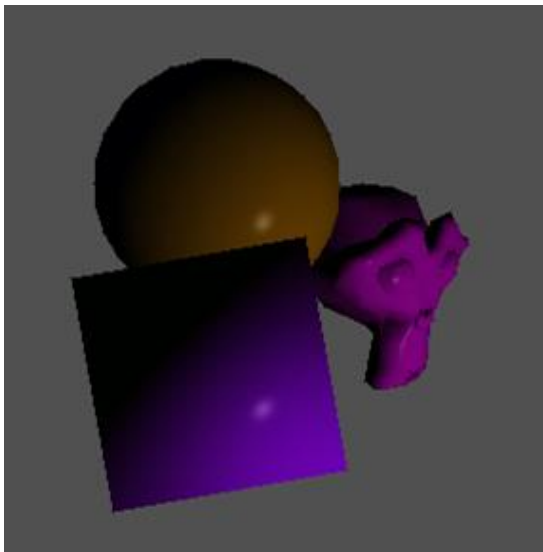


MLAA

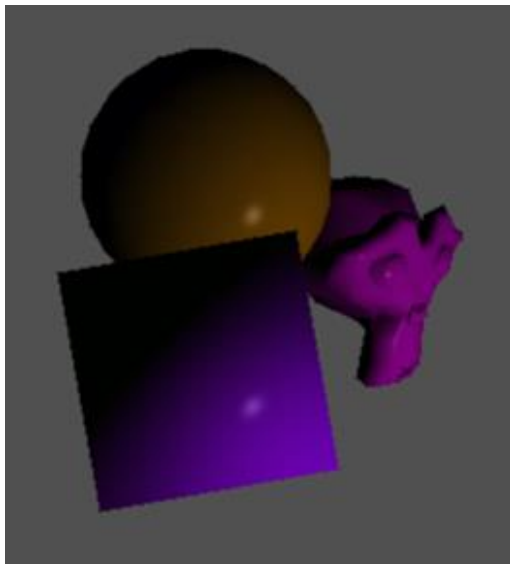
- Morphological Anti-Aliasing
- Also Post-Processing Anti-Aliasing
- Pattern-Based Smoothing(Sobel Operator)
- Can handle complex-geometries



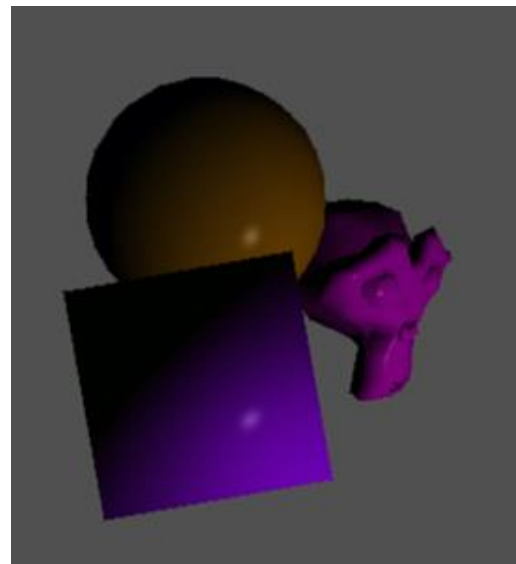
FXAA vs. MLAA



No Anti-Aliasing



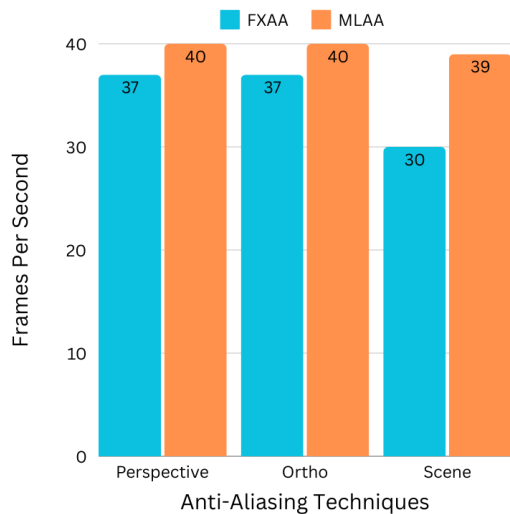
FXAA



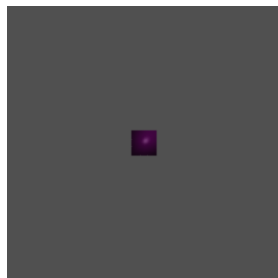
MLAA



Performance



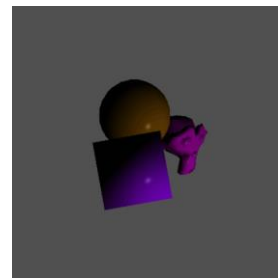
FXAA:



Perspective

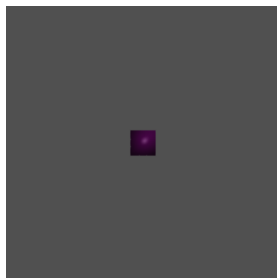


Ortho

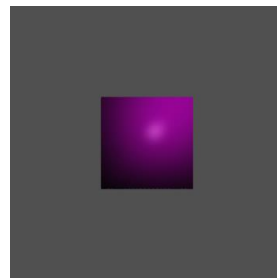


Scene

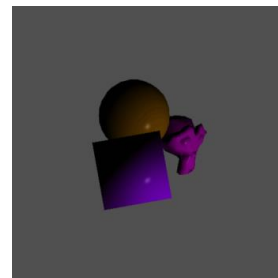
MLAA:



Perspective



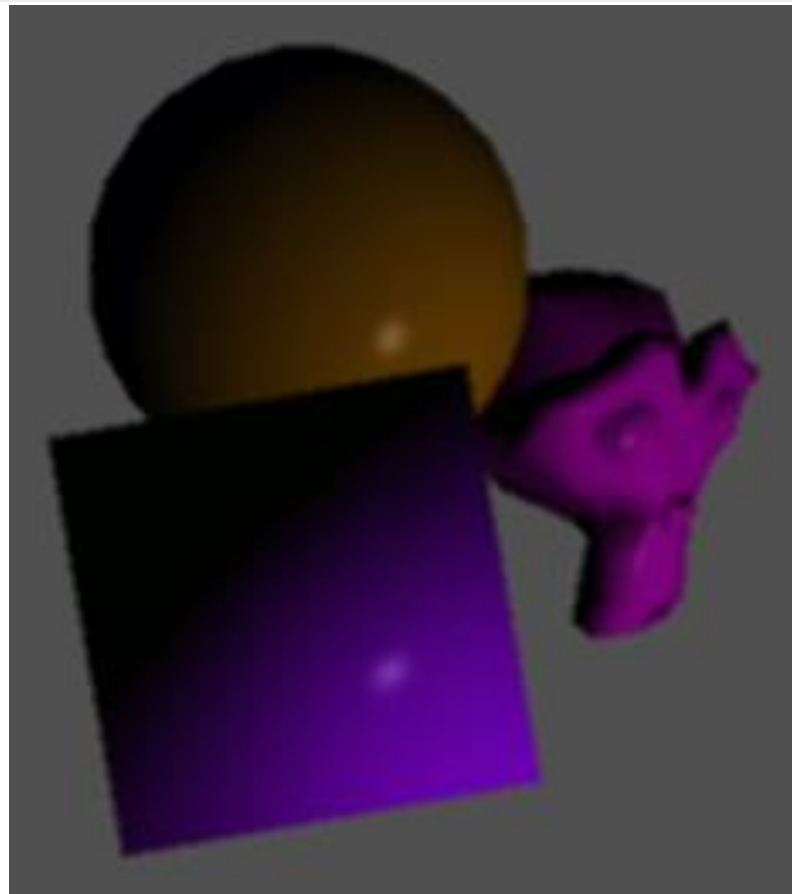
Ortho



Scene

Challenges

- Rendering/Animation
- Sampling Aliasing
- Runtime



MSAA 8x



References

<https://blog.frost.kiwi/analytical-anti-aliasing/>

<https://www.iryoku.com/mlaa/>