Default Settings

- 1 clipmap update per frame
- Voxel Cone Tracing for each pixel on screen (no skipping)
- ~ 8 diffuse cones per pixel
- Screen resolution: 1100 x 600
- Voxel texture resolution 128^3

NVIDIA GeForce GTX 1080

- $\sim 8.3ms$
- $\sim 120FPS$
- Full HD (1920 x 1080): $\sim 16.3ms$, $\sim 60FPS$

Sapphire Radeon HD 7870

- $\sim 34.5ms$
- $\sim 30FPS$

GPU Memory

- Two clipmaps (3D textures) are used (for radiance and opacity) with RGBA8 (4 byte) each
- 6 Faces per anisotropic voxel
- 6 clipmap levels
- 128^3 voxel texture resolution
- Border is extended by 2 in each dimension (for correct interpolation at clipmap borders) $\rightarrow 130^3$ voxel texture resolution
- For each voxel attribute (radiance, opacity) one big texture is used with resolution: $130 \cdot 6 \times 130 \cdot 6 \times 130 = 780 \times 780 \times 130$

Thus the GPU memory requirement for voxel cone tracing is:
$2 \cdot 130^3 \cdot 4 \cdot 6 \cdot 6 \div 1024 \div 1024 \approx 604MB$

For a 64^3 voxel texture resolution $\sim 79MB$ is needed.

Note: A lot of performance improvements are still possible. They aren't yet implemented mainly because of code readability and lack of time. The interactivity goal was reached however as the results suggest.