Out of Core Photon-Mapping for Large Buildings

[Additionnal figures]

Figure 1: Use of CPU during global illumination for the octagon building according to $\text{MAX\_TMP\_PHOTONS}$. An interval on the abscissa represents 5 seconds and an interval on ordinates represents 5% of CPU use: a. With $\text{MAX\_TMP\_PHOTONS} = 500$, allocated memory is not sufficient and disks reads and writes reduce CPU efficiency. - b. $\text{MAX\_TMP\_PHOTONS} = 5000$, CPU is used more efficiently with some remaining falling off. - c. $\text{MAX\_TMP\_PHOTONS} = 10000$, disk is much less required and 100% CPU is used most of the time. - d. $\text{MAX\_TMP\_PHOTONS} = 20000$, there is almost no difference than with b. disk accesses cannot be further reduced with this method.
Figure 2: Number of photons processed for each room loaded in memory during computations for our octagon building. Peaks correspond to corridors where a high number of photons enter through portals. We represent only the four first steps (after too less photons remain).
Figure 3: Images from the L-Building.
Figure 4: Images from the Z-Building.
Figure 5: Images from our octagon building.
Figure 6: Image from our octagon building.
Figure 7: Images from the Tower_100 building.
Figure 8: Images from the Tower_100 building.