"The Boiler Makers"

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1 Content

In a small factory of the 18th century, there's a lot going on. Fire is burning to heat the water in a boiler. Steam is exhausted through several valves and leaks of the piston chamber. Smoke and particles of hot glowing metal are hurtling through the environment which is sparsely illuminated by several flickering light bulbs.

2 Effekts und details

Musts

- Kinematic animation: Steam engine in action

- Bump mapping especially on rusty metal and wooden surfaces [1,4]

- Shading (Phong) [6]

- Shadowing and self-shadowing [3,5]

- Steam exhausted by the engine [8]

Nice to have

- Shading (Ambient occlusion) [2]

- Particle system simulating the effect of glowing pieces of metal produced by the hammer falling on the ambos [8]

- Refraction mapping of water in the compensation tank for the boiler [9]

- Motion blur of fast moving devices such as the falling hammer, the spinning fly wheel and regulator [7]

- Fire beneath the boiler and smoke produces by it: Rendering smoke and fire in real-time

- Dynamic illumination caused by flickering light bulb

- Detail maps simulating dirt and dust, especially on upper surfaces.

Issues regarding the model

- The piston of the steam engine should be round

- There should be a water tank and/or a boiler

- More detailed model

- Environment needs to be modeled (e.g. walls, floor)

- Tools lying around (google warehouse)

Literatur

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