

Graphical Presentation

Developing a Pinball Game

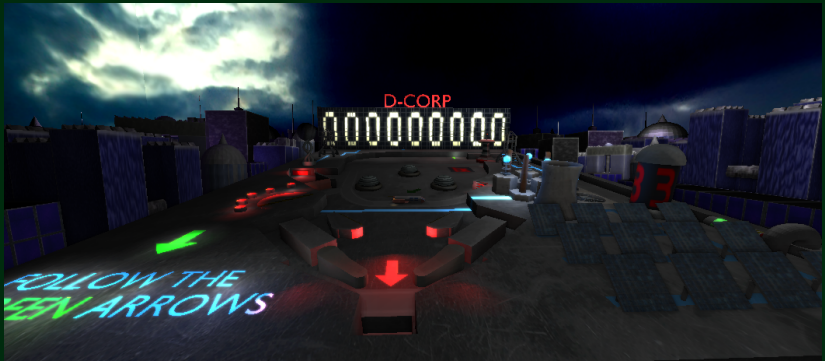
Matthias Heinrichs Maxim Jourenko Aivar Kripsaar
Florian Langel Felix Rath

RWTH Aachen University

28. September 2012



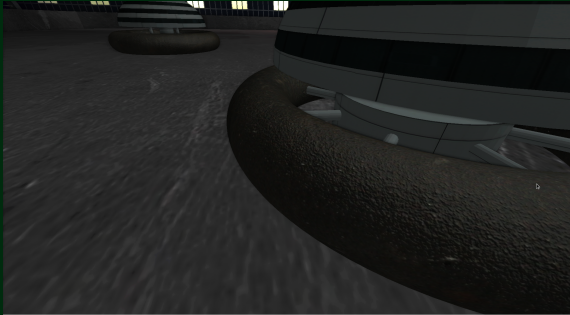
Graphical Presentation



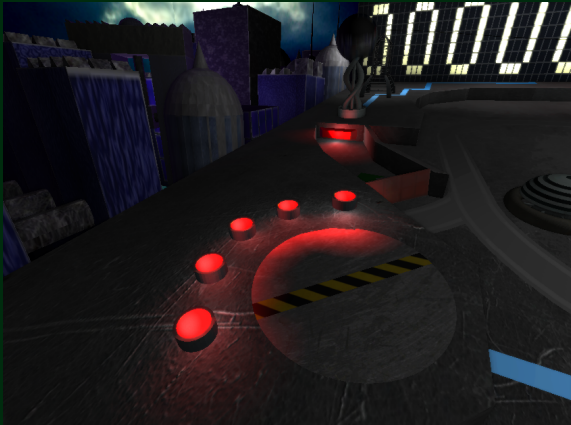
Setting

Dark, gloomy and unfriendly looking city in the near future.

Normal Mapping

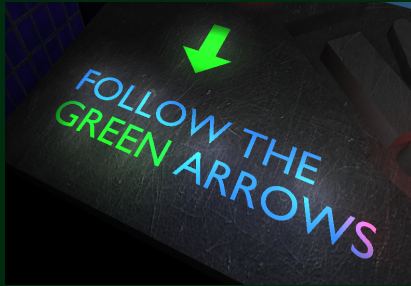


Deferred Lighting



Glow

Without Glow



With Glow

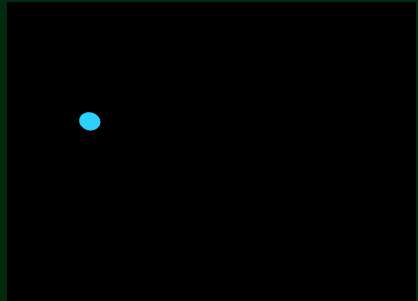


Motion Blur

Pinball



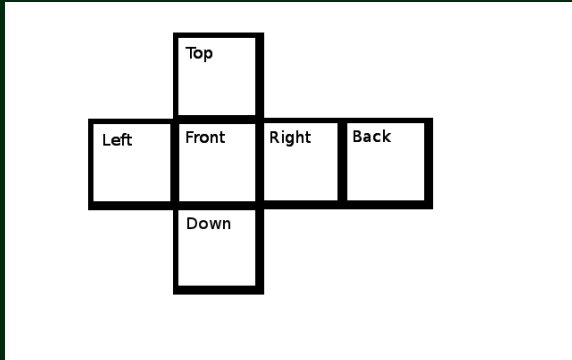
Velocity Buffer



- Store the MVP of the pinball and compute with the help of the new MVP and the time left the current velocity
- Apply Motion Blur as a Post Process

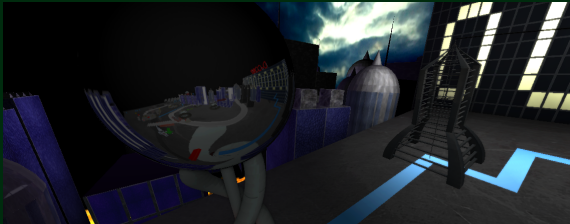
Skybox

Cubemap



Reflections

Dynamic Cubemap Reflection



- Place the a cameraobject in the middle of the object
- Render the scene in each direction
- Transfer the imagedata into a cubemap (tricky)
- Depending on viewing angle add cubemap color to the base color

Physics



Interactive city

- Use of animations on the scene graph
- Event trigger system
- Implemented a mission where you can score bonus points

Content

Content Creation

- Stand-alone level-editor
- Used Blender 2.64 to create obj. model files
- Created our world in an XML file
- Parser for objects, materials, textures

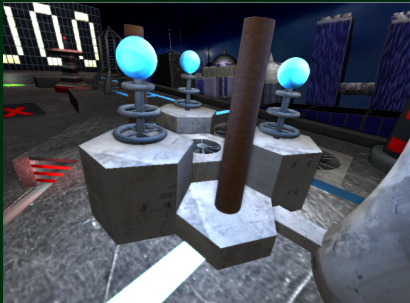
Difficulties

- Level-editor got canceled
- Model creation with blender took a lot of time
- Collision shapes were hard to implement
- Many adaptations necessary

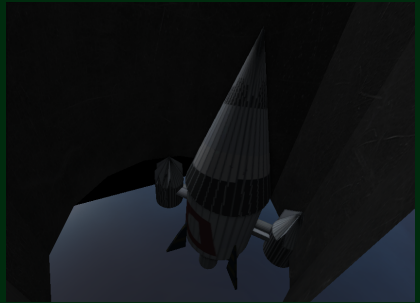


Content

Power Plant



Rocket Mission



Sound

- Used phonon as sound API
- Multithreading
- Created our own epic pinball theme
- Tool: Magix Music Maker

