The Lost Treasure Of Am'Rashah

Names

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Description

Effects

- **Normal Mapping**
  - Visible: All textured Objects
  - Source: Echtzeitgraphik VU, Michael Wimmer
- **Displacement Mapping + Adaptive Tessellation**
  - Visible: Treasure in center of the pyramid + Desert
  - Source: Echtzeitgraphik VU, Lukas Prost, "Curved PN triangles" Vlachos et al.
  - Addition: Distance-Based Tessellation
- **Blinn-Phong Shading**
  - Visible: All Objects
- **Physically Based Shading**
  - Visible: Expanding golden aura from the treasure (at the end of the animation)
  - Source: Physically Based Shading and Image Based Lighting, Algorithmen der Echtzeitgraphik VU, Bernhard Steiner
- **Volumetric Fog**
  - Visible: Sandstorm
  - Source: "Atmospheric scattering and "volumetric fog" algorithm – part 1", Bartlomiej Wronsik", "better fog"
  - Addition: "Value Noise"
- **Omni Directional Shadow Maps + PCF**
  - Visible: "mysterious" point light inside the treasure hall
  - Source Echtzeitgraphik VU, Peter Houska, GPU Gems: Chapter 11. Shadow Map Antialiasing

- **Skybox**
    - Visible: Outside
    - Source: [OGLdev](#)
- **Free camera and automatic camera**
    - Addition: Path based on NURBS imported from an .obj-file
- **Handcrafted Models (except the heads)**
    - Visible: Everywhere
    - Source: Our Imagination
- **Simple Animation & Sound System**
- **Self-made Voiceover**

Controls

- F1 – Wireframe
- F2 – Free camera / follow path (after the walkie-talkie scene is over)
    - WASD - Fly
- F3 – Normal Mapping on/off
- F4 – Displacement Mapping on/off
- F5 – Sandstorm view

External

Libraries

Glm - https://glm.g-truc.net/0.9.8/index.html

Assimp - http://assimp.sourceforge.net/

GLFW - http://www.glfw.org/

GLEW - http://glew.sourceforge.net/

tinyspline - https://github.com/msteinbeck/tinyspline

SFML - https://www.sfml-dev.org/

Resources

Textures - https://3dtextures.me

Sounds - https://freesound.org/ https://www.youtube.com

Tools

Audacity - https://www.audacityteam.org/

Blender - https://www.blender.org/

Graphics Card

NVIDIA