=== CONTROLS ===

CONTROLS | FUNCTION

W, ARROW UP | Accelerate

S, ARROW DOWN | Decelerate/Backwards

A, ARROW LEFT, MOUSE DRAG RIGHT | Pan left

D, ARROW RIGHT, MOUSE DRAG LEFT | Pan right

Q | Go down

E | Go up

MOUSE DRAG UP | Camera down

MOUSE DRAG DOWN | Camera up

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F1 - Help/Show Controls

F2 - Frame Time on/off

F3 - Wire Frame on/off

F4 - Textur-Sampling-Quality: Nearest Neighbor/Bilinear

F5 - Mip Mapping-Quality: Off/Nearest Neighbor/Linear

F8 - Viewfrustum-Culling on/off

ESC - Quit Game

=== DEVELOPMENT STATUS ===

Implemented until now:

- Bling-Phong illumination model

- All models with textures

- Debug camera (controls see above)

=== EFFECTS ===

Implemented until now:

- Direction shadows with PCF from the sun

(can be seen as the whole room except a part of the floor are in shadow)

=== IMPLEMENTATION DETAILS ===

Requirements:

- Windows

- OpenGL 3.3 Core Profile

Libraries used:

- Assimp: http://www.assimp.org/

- FreeImage: http://freeimage.sourceforge.net/

- FreeType: https://www.freetype.org/

- Glew: http://glew.sourceforge.net/install.html

- PhysX: https://developer.nvidia.com/physx-sdk

Models:

- Chessboard with figures: https://free3d.com/3d-model/chess-table-18114.html

- Chest of drawers: https://www.turbosquid.com/3d-models/free-sideboard-3d-model/558818

- Frame: https://free3d.com/3d-model/frame-75994.html

- Frame Image: https://dermeister.at/evilmaster01.jpg

- Knight1 and Knight2: https://free3d.com/3d-model/knight-84265.html

- Door: https://free3d.com/3d-model/medieval-door-16986.html

- Torches: https://www.yobi3d.com/q/3d-models-fire-torch

- Wardrobe: https://www.turbosquid.com/3d-models/classic-wardrobe-unwrap-model-1288182

- Chairs: https://www.turbosquid.com/3d-models/free-wooden-chair-3d-model/791045

- Table: https://free3d.com/3d-model/round-table-928375.html

Textures (for self-created room model):

- Walls of Room: Stone(1)01 from https://www.cg.tuwien.ac.at/courses/Textures/Total\_Textures\_V1/

- Ceiling of Room: Wood(2)09 from https://www.cg.tuwien.ac.at/courses/Textures/Total\_Textures\_V1/

- Floor of Room: Wood(2)10 from https://www.cg.tuwien.ac.at/courses/Textures/Total\_Textures\_V1/

Tested on the following graphic cards:

- NVIDIA GeForce GTX 750 Ti

- AMD Radeon Pro 460

- VisLab first white computer on the right side