

Readme

PCG-FPS Project Version m0.22.4 compiled on 2020-05-21

git commit: [a38a1a447facff677043b4eeecf3ae45eb2ee63c](#)

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New Features

- internal refactorings and optimizations

Reference Screenshot



Know Issues

- Some times "ERROR SHADER LINKING" appears in cmd-window, no idea why and should not be a problem as long as everything else is visible
- overly zealous heuristic mechanisms of virus protection software might detect some of the files as malicious. I can assure that there is nothing malicious in this software. Whitelisting the files and/or directories might be required to run.
- Normal mapping does not work property on certain surfaces. It is deactivated by default

Usage

The program should start by simply double clicking on the *fps2.exe* file, give the requirements are met. Do not change the folder structure, given this is a demo, file loading is not implemented in the most robust form and could result in unforeseen behavior of the program.

System Requirements

- Microsoft Windows 10
- OpenGL 3.3 enabled Graphics Card and driver

Controls

Camera

Key	Function
W	Move Forward
S	Move Backward

Key	Function
A	Move Left
S	Move Right
Mouse	Change camera angle

Gameplay

Key	Function	Comment
Left Mouse Button	Shoot	hits will be visualized as red sphere

Game

Key	Function	Comment
F2	Reset game	Reset stats, set player back to start
F3	print current game stats to console	
F5	Restart Game	Removes all hits, resets stats and sets player back into start box

Demonstration and Debug

Key	Function	Comment
F6	write current position of camera to log file	X,Y,Z coordiantes
F7	activates ghost mode	ignores all collision
F8	show positions of lights	switch between on and off. always drawn in color of light
F9	make lights move	switch between static at center of room and moving around center in a circle
F10	Draw BoundingBox of Level, Targets and Collision Geometry	Center drawn as Point, extends as box. Colors: Red: Collision; Blue: Target; Green: Startline
F11	toggle normal mapping	toggles usage of normal mapping on walls and targets
F12	switches shadow rendering modes	Modes: off, Shadow Mapping, Shadow Mapping with PCF, Shadow Mapping with PCF with fixed Sample Positions

other

Key	Function	Comment
Escape	close programm	how dare you?

Settings file

Key	Values	Comment	Default	Comment
scr_width	Integer	Width of window	1280	
scr_height	Integer	Height of window	720	
rndr_type	Integer: 0 = OpenGL	select type of render	0	
rnd_near	floating point number	position of near plane from camera	0.1	
rnd_far	Floating point number	position of far plane from camera	300.0	
rnd_vsync	boolean value via 0/1	use vertical synchronization	0	
rng_mode	Integer	0 = random single seed, 0 = fixed seed	0	0 = use specified seed rng_seed to generate level; 1 = use random seed to generate level, rng_seed setting will be ignored
rng_seed	unsigned Integer	seed to re-generate a know level	0	specify integer between 0 and 4294967295 to be used in generator
rng_printseed	boolean	1 = prints used seed to command line.	0	output seed for generator to console
rnd_colorcoderooms	boolean value via 0/1	0 (off)	1 = add color code according to type of room (hallway, start, finish), 0 = off	

Technical Stuff

- Build with Visual Studio 2019 Community Edition (16.4.5) [[Download Installer](#)]
- Windows SDK Version 10.0.17763.0
- [C++17](#)

- [OpenGL 4.6](#)
- currently only x86 build supported

Libraries

- [PCG](#): library handling procedural content generation
- [Tools](#): various tools

ThirdParty

- [GLFW](#) Version 3.3 Win32
- [GLEW](#) Version 2.1 Win32
- [stb](#) as git submodule
- [GLM](#) as git submodule
- [assimp](#) Version 4.1.0 Win32
- [ReactPhysics3D](#) Version 0.7.1