

PHYSICAL SIMULATION IN VR readme

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A) How to build the project:

1. Open the bowlingvr.sln file in Visual Studio (preferably 2017 or higher)
2. Select the Debug / Release configuration for Win32 (x86)
3. Build -> Build Solution

All the libraries and dependencies are included.

B) How to run the project:

1. Optional: Launch SteamVR before launching bowlingvr.exe (Prevents an initialization bug, where the headset's render model is drawn over the scene. If this happens, just restart the application.)
2. Launch bowlingvr.exe from within Visual Studio or from the Debug / Release folder.

When launching from a folder, following folders and files need to be in the same directory as the .exe:

models (folder)
assimp-vc140-mt.dll
libjpeg-9.dll
libpng16-16.dll
libtiff-5.dll
libwebp-7.dll
openvr_api.dll
SDL2.dll
SDL2_image.dll
zlib1.dll

3. If HTC Vive is connected and OpenVR can initialize, the VR version of the simulation will run.
4. If OpenVR can't initialize, the non-VR version will run.

C) Controls:

ESC - quit

VR specific:

Bend down to pick up the ball with a controller aiming at it (as shown in the video provided) and press and hold the controller's trigger button. If the ball is unstable, put it on the ground slowly and pick it up again.

Non-VR (serves as a preview when HTC is unavailable) specific:

Use W, A, S, D keys to move player's body around the scene. Use mouse rotation to move the player's head around. Press C to throw a sphere from the player's body position.

D) Project file structure:

docs – folder containing Doxygen documentation

bowlingvr – folder containing project sources, include headers and libraries, dependencies

Debug – folder containing the Debug configuration binary file of the application (bowlingvr.exe)

Release – folder containing the Release configuration binary file of the application (bowlingvr.exe)