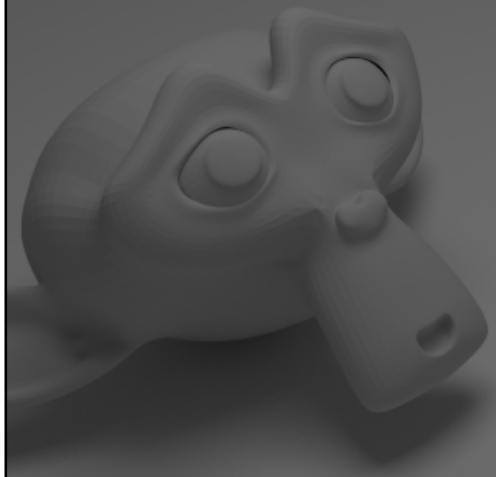
BlenderVR

Framework for multiplatform interactive Virtual Reality



D. Poirier-Quinot, D. Felinto, B. Katz

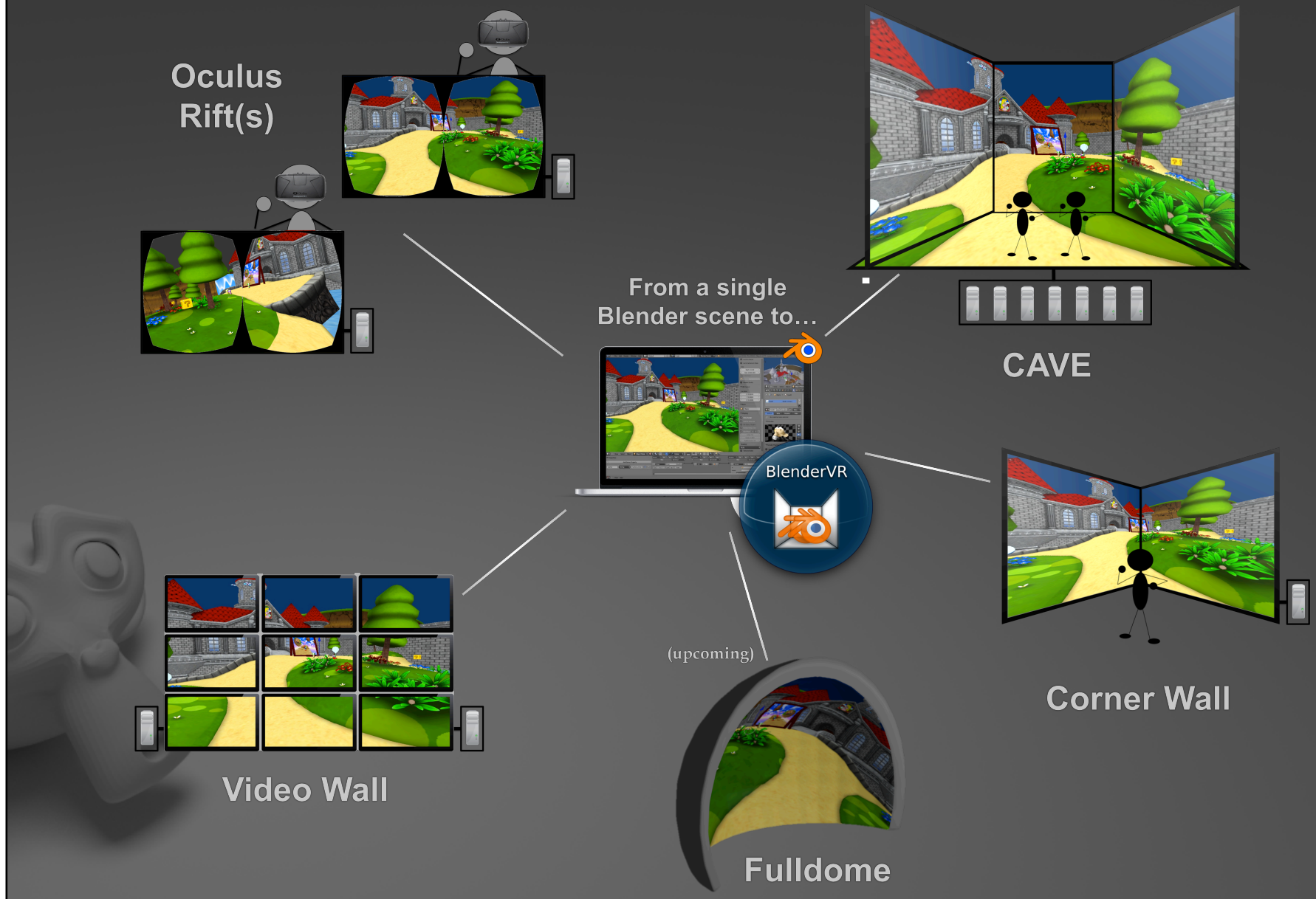
I. Software Overview

Objective

Operating

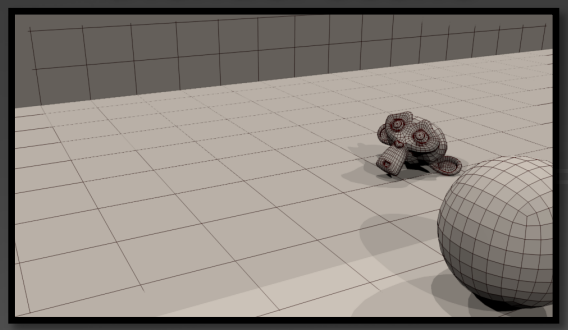
II. Current state of the Project

Objective: One to rule them all



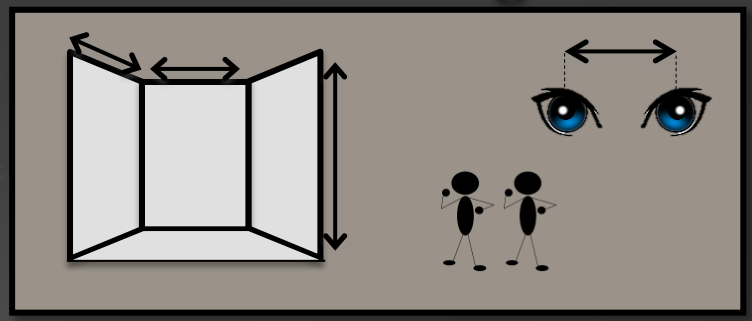
Operating: VR Recipe

Blender scene



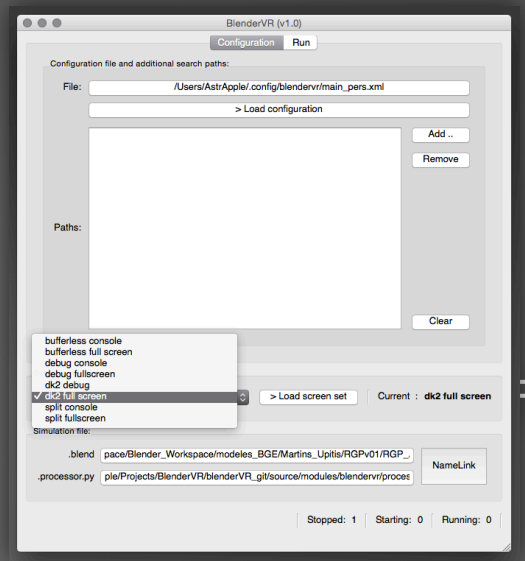
3D objects, game logic

Architecture configuration



Define screens, nodes, users, etc.

BlenderVR GUI



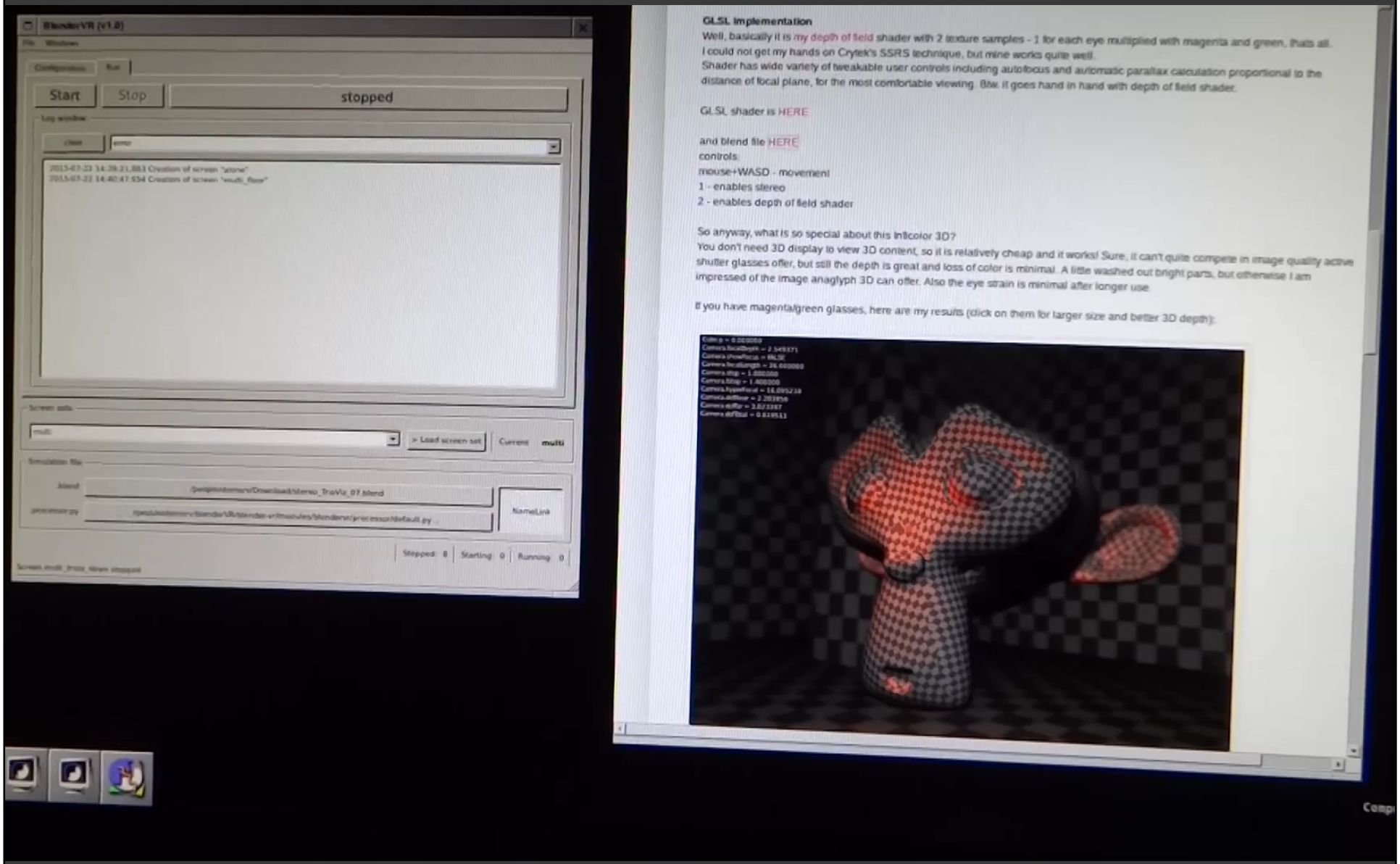
VR scene

Select scene, configuration, start run

Operating: Plug & Play, CAVE scenario

directly render any Blender scene to your VR architecture

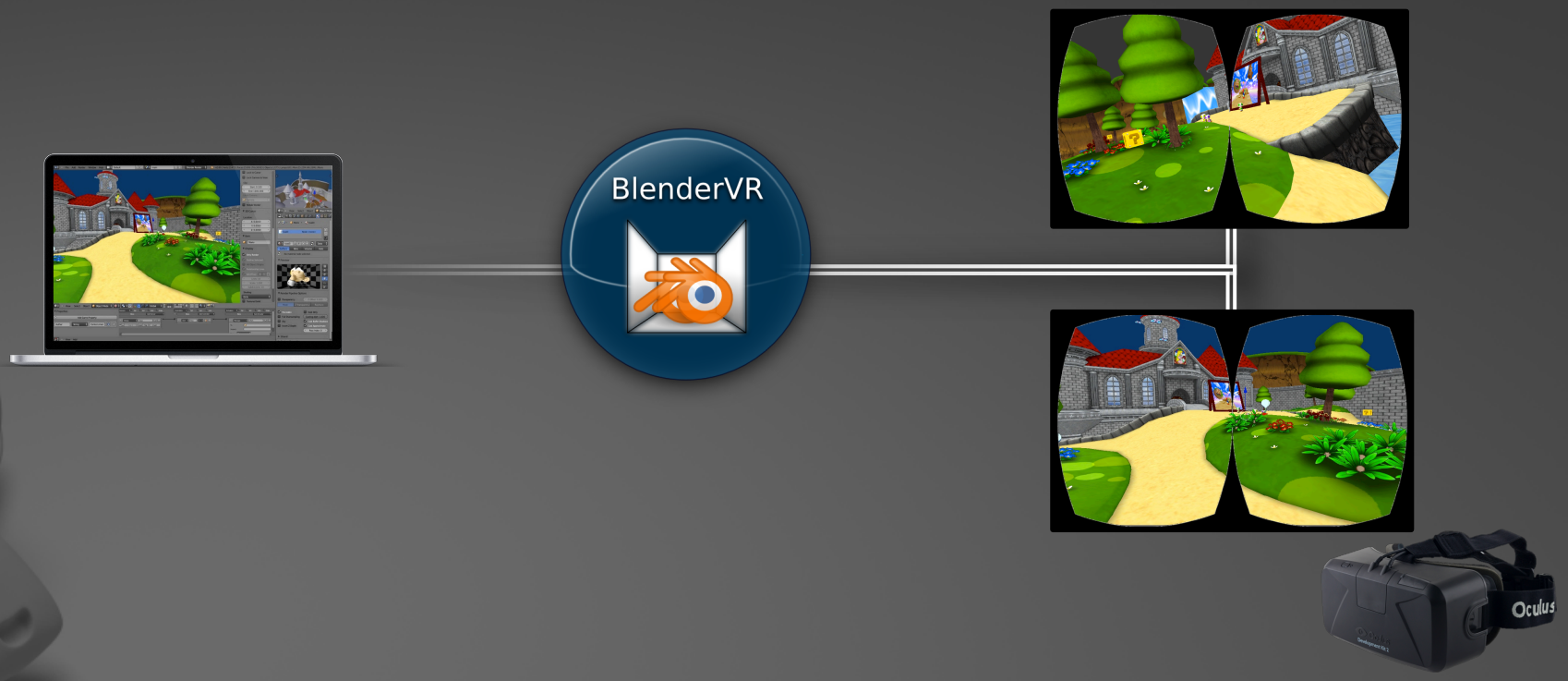
Operating: Plug & Play, CAVE scenario



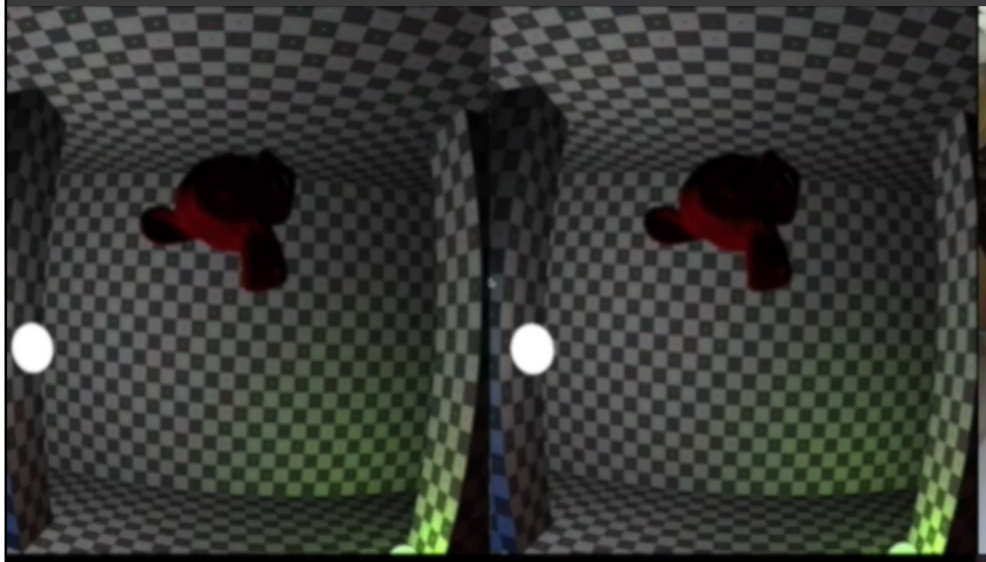
BlenderVR @ LIMSI on the EVE architecture

Operating: Oculus rift, 2 users interaction

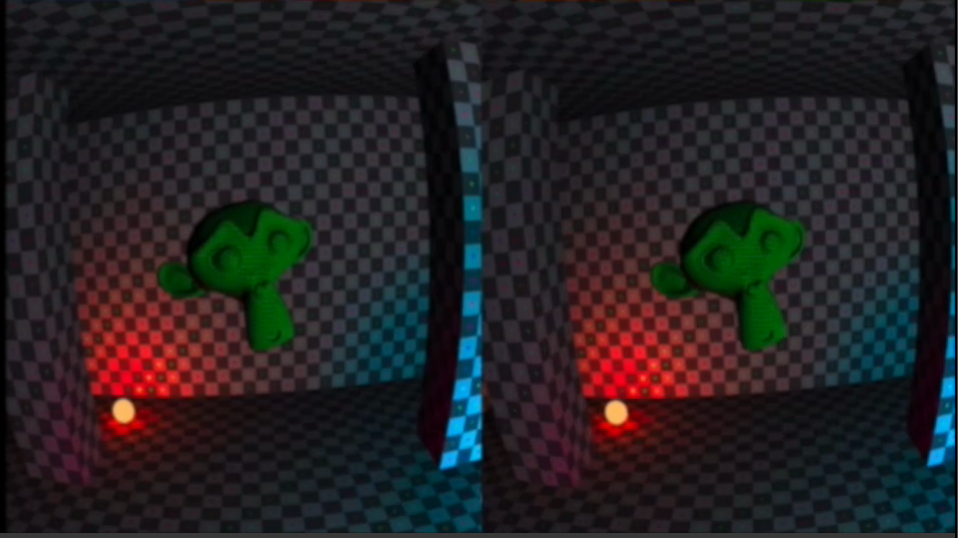
networked interactions



Operating: Oculus rift, 2 users interaction



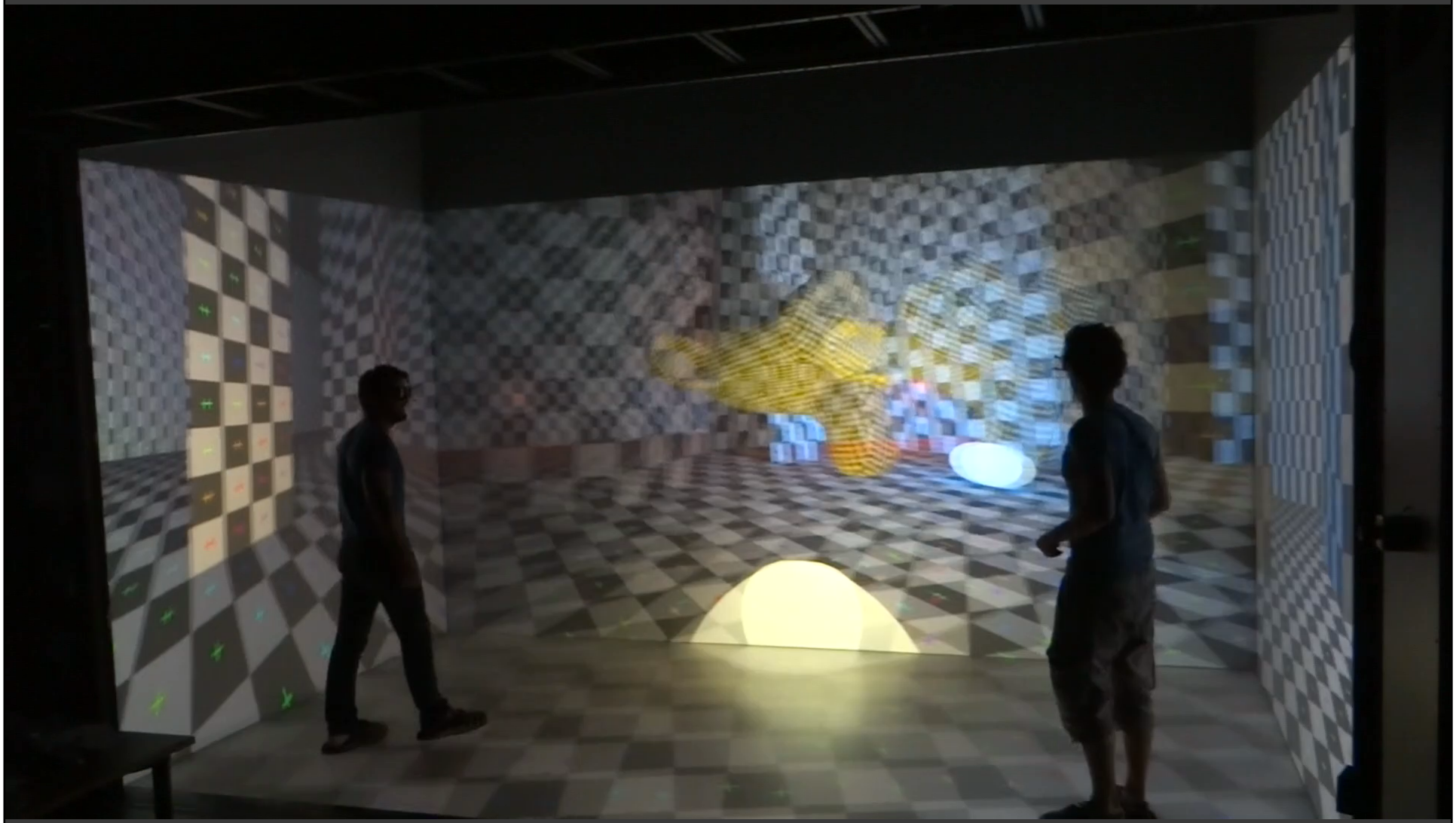
HMD multi-users (dk2)
(both users navigate and interact in the same scene)



Operating: CAVE, multi-users stereoscopy

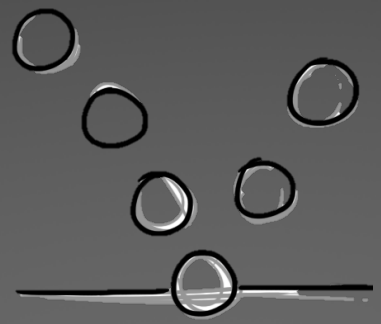
multi-users adaptive stereoscopic rendering

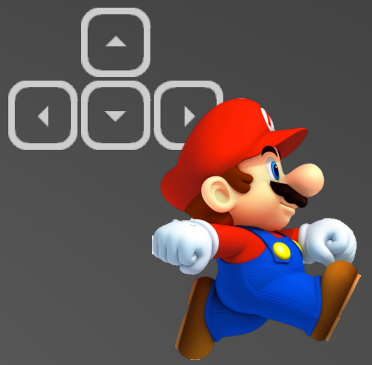
Operating: CAVE, multi-users stereoscopy

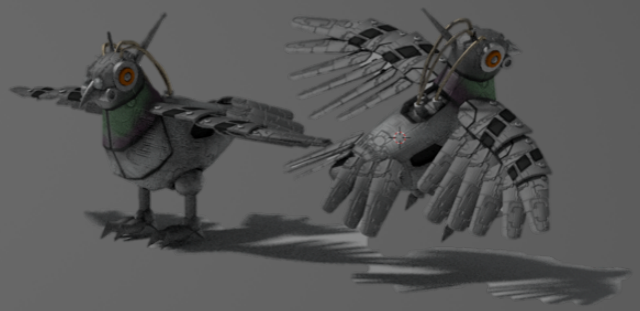


Operating: CAVE, master/slave synchronization

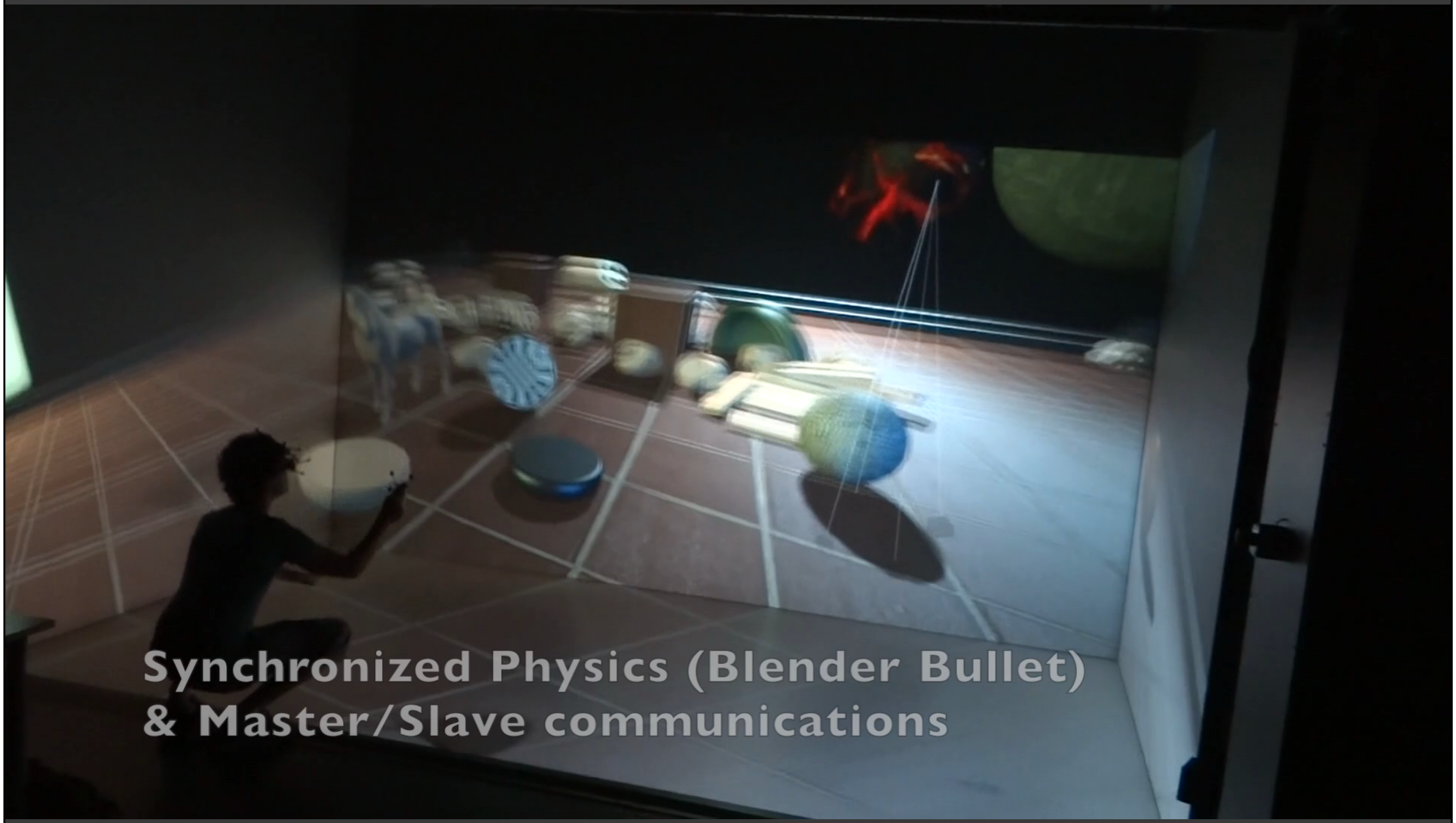
compliant with bullet physics, animations, armatures, etc.





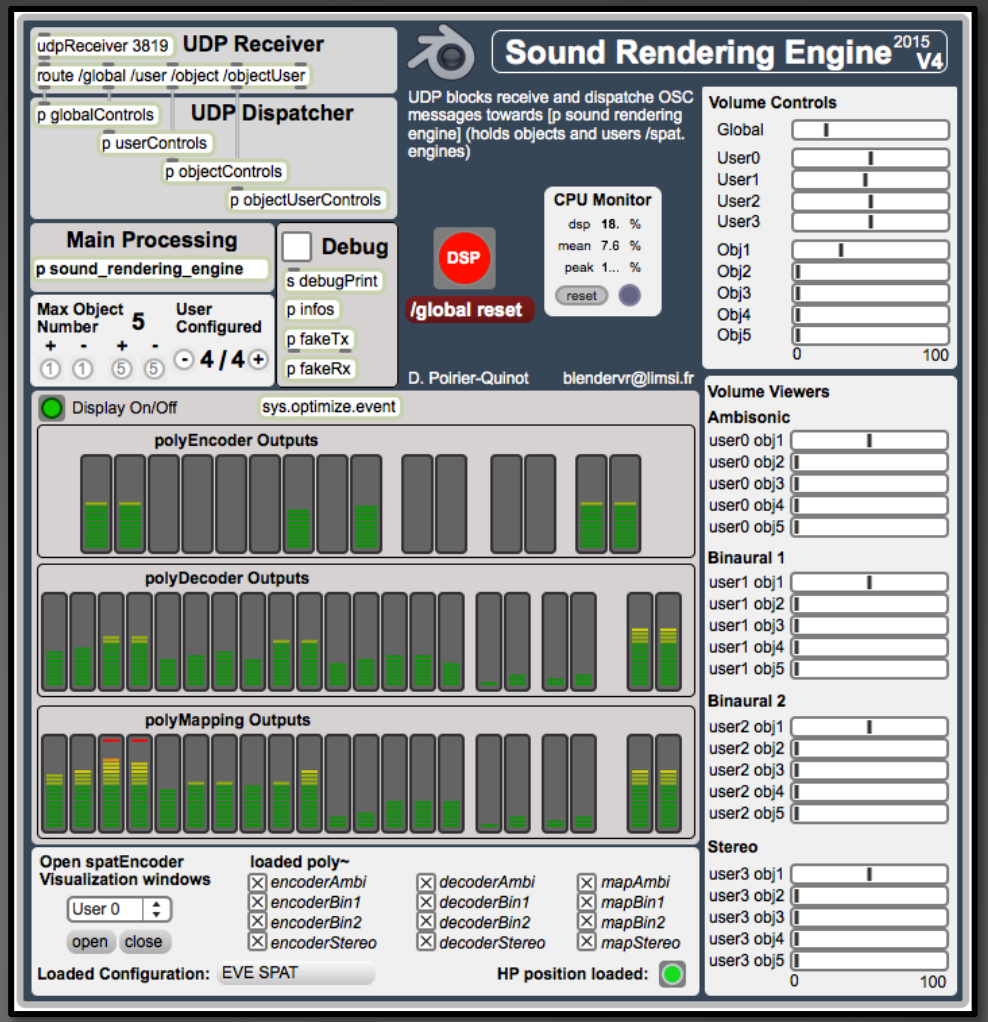


Operating: CAVE, multi-users stereoscopy

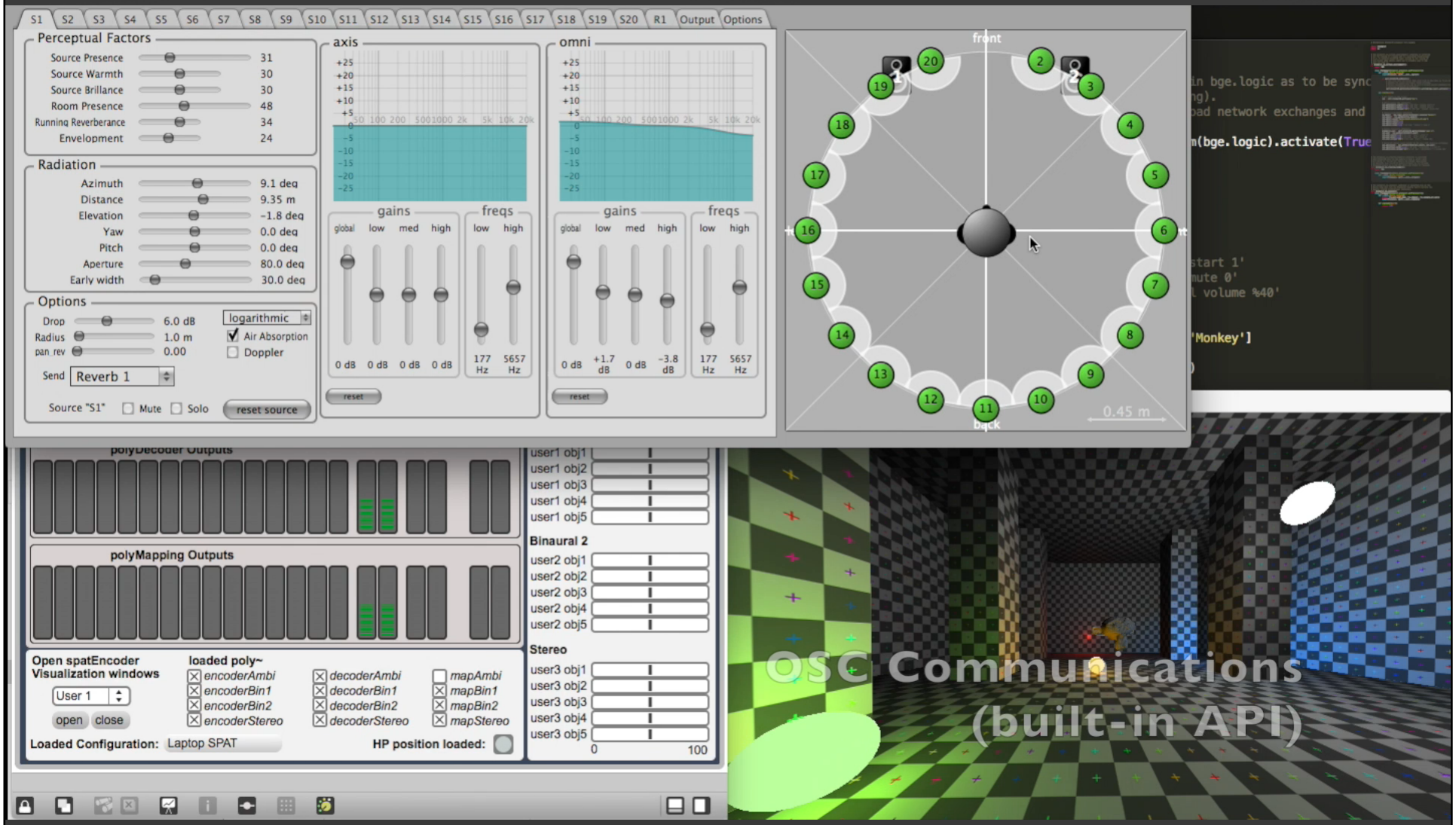


Operating: 3D sound add-on

add sound to 3D objects (ambisonic, binaural, etc.)



Operating: CAVE, multi-users stereoscopy



I. Software Overview

II. Current state of the Project

Established Components

Latest achievements

Future developments

Diffusion tools

Website

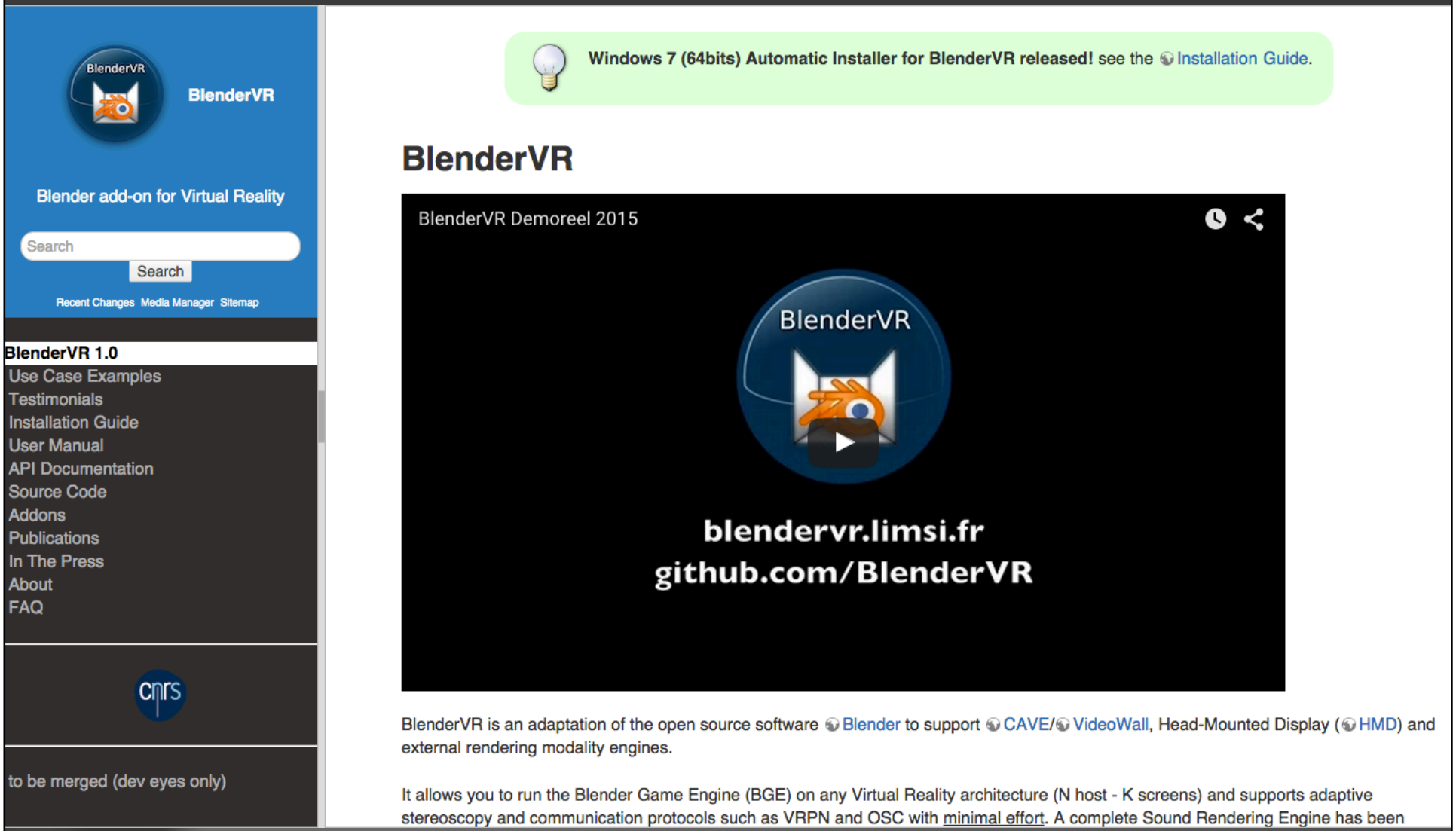
User Manual

Application Programming Interface (API)

Github

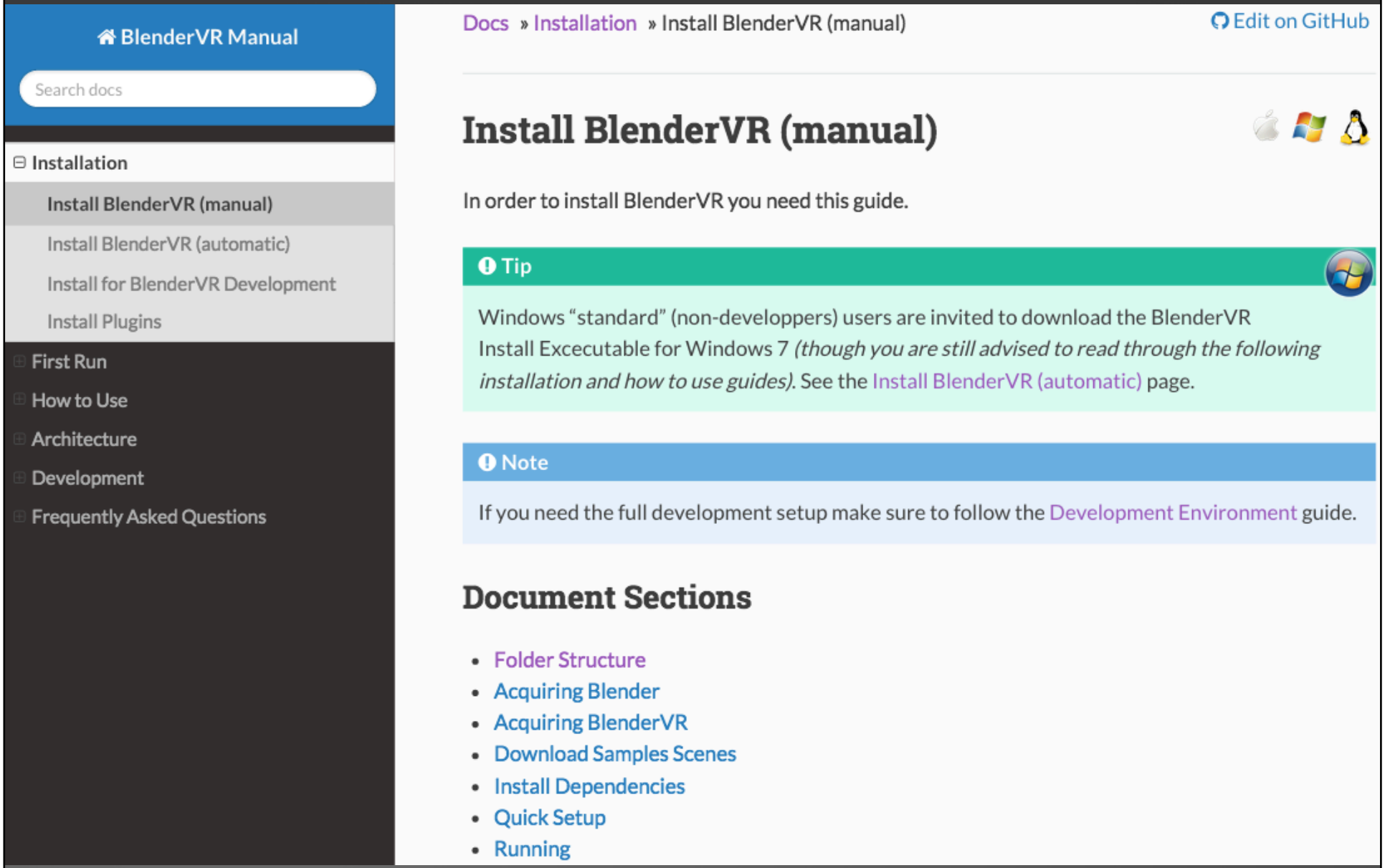
Diffusion tools

Website

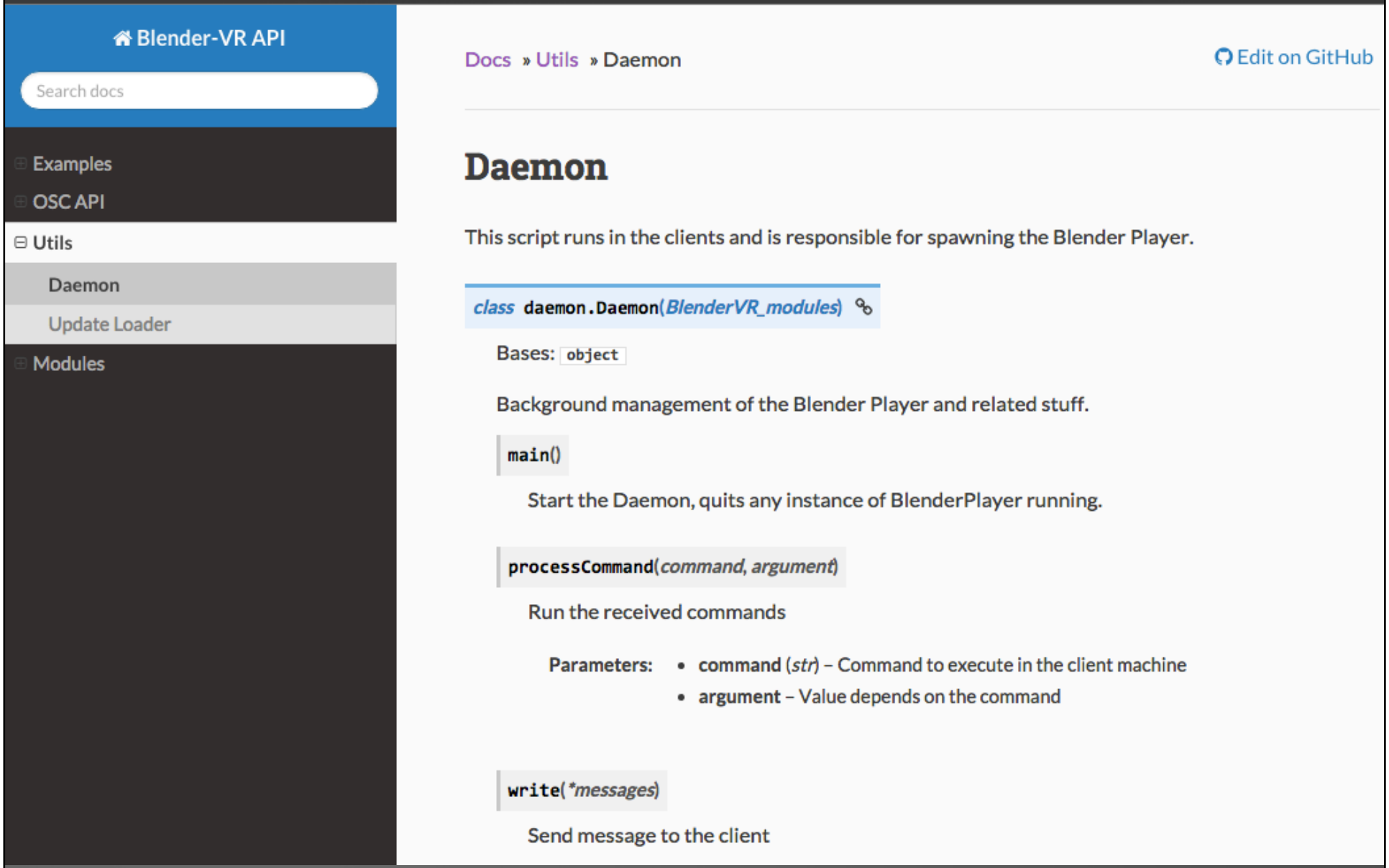


https://blendervr.limsi.fr

Diffusion tools User Manual



Diffusion tools API



Diffusion tools

Github

BlenderVR

Repositories | People 8 | Teams 1 | Settings

source

Blender Virtual Reality Main Code

Updated 17 days ago

19 sept. 2015 21:41 UTC+2

manual

BlenderVR User Manual

Updated 21 days ago

samples

Sample files

Updated on 31 Aug

vrpn

forked from vrpn/vrpn

Virtual Reality Peripheral Network - Official GitHub Repository

Updated on 26 Jul

blender

Blender Source Code

Updated on 2 Jul

python-ovrsdk

forked from jherico/python-ovrsdk

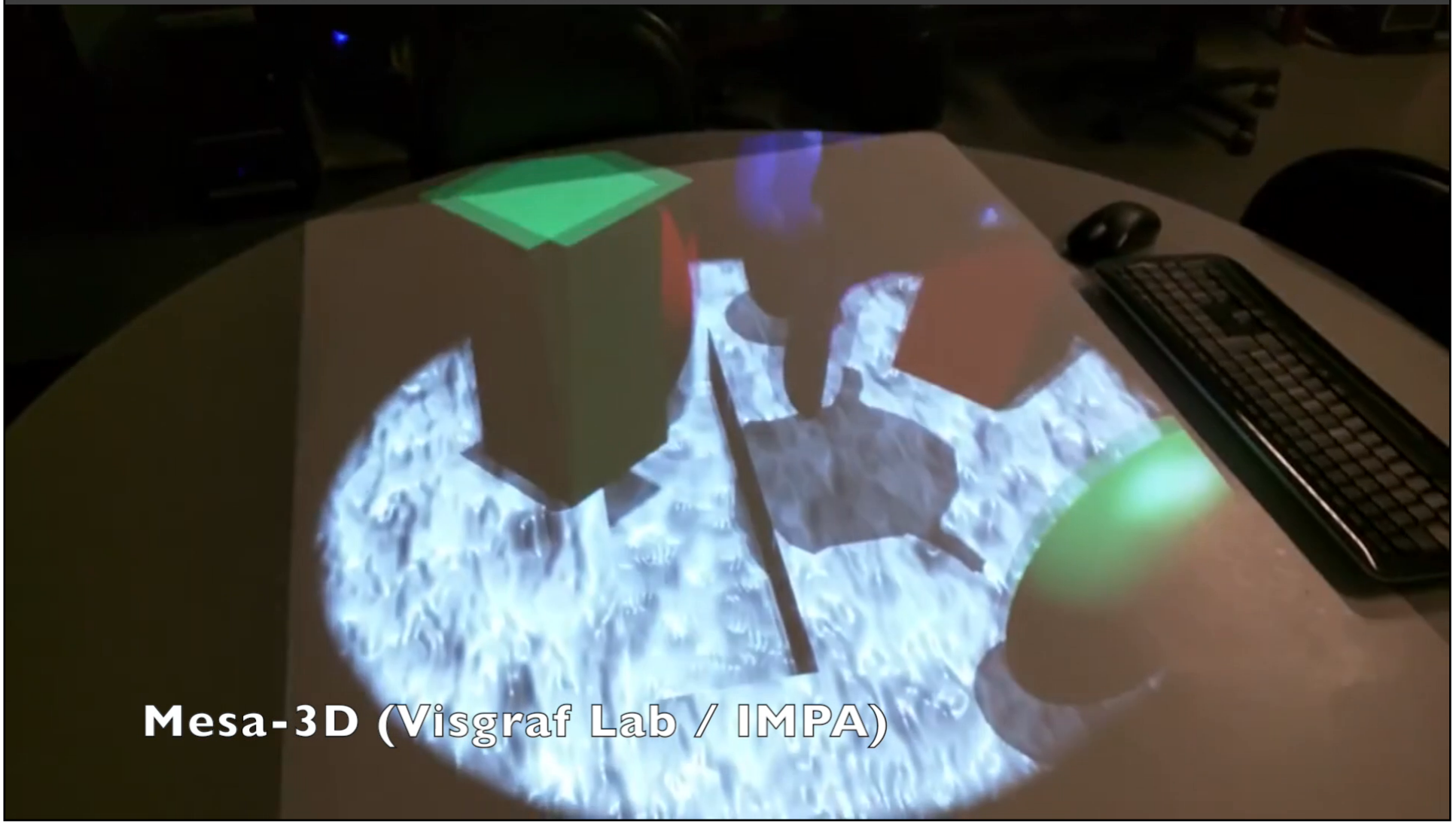
https://github.com/BlenderVR

Available Assets

- Step-by-step installation guide
- Detailed documentation
- “How-to-use”: example implementations
- “How-to-use”: video tutorials
- Add-On: Sound Rendering Engine
- Windows 7 Installer (.exe)

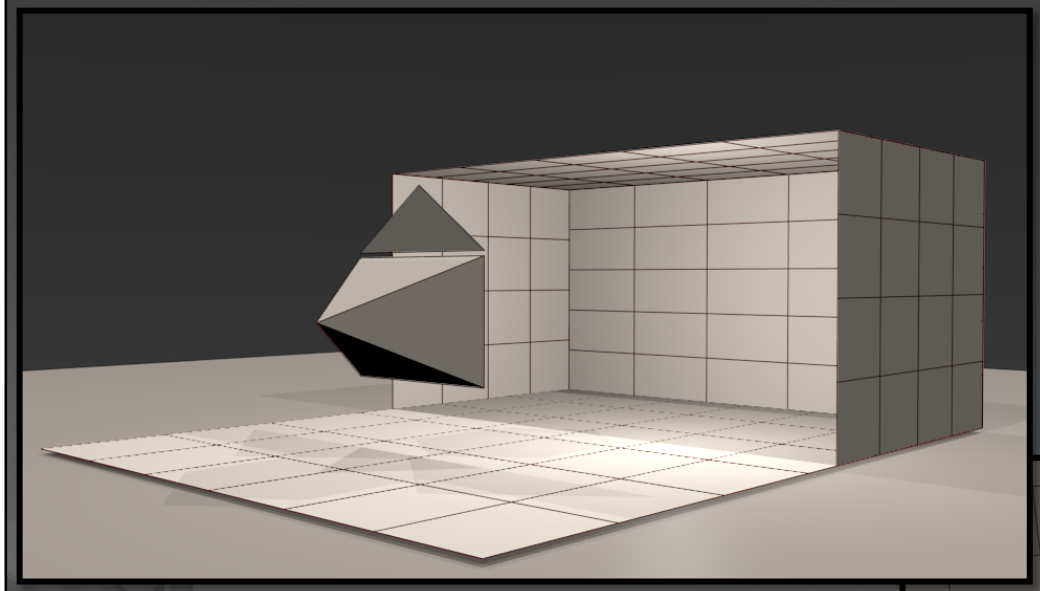
Latest developments

adapt BlenderVR to the 3D-Mesa (Visgraph Lab / IMPA)



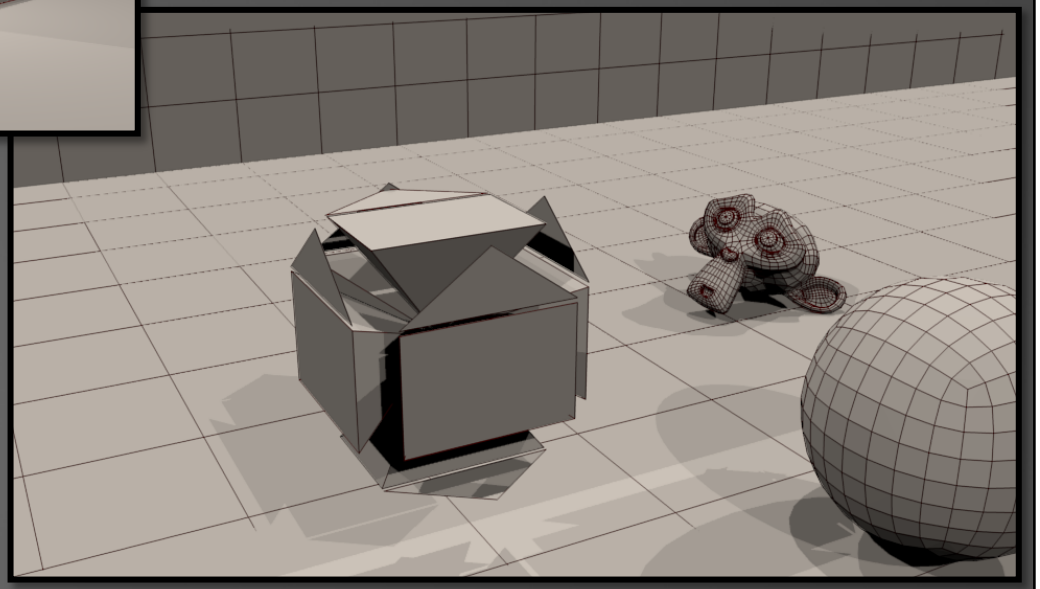
Latest developments

adapt BlenderVR to portable CAVE



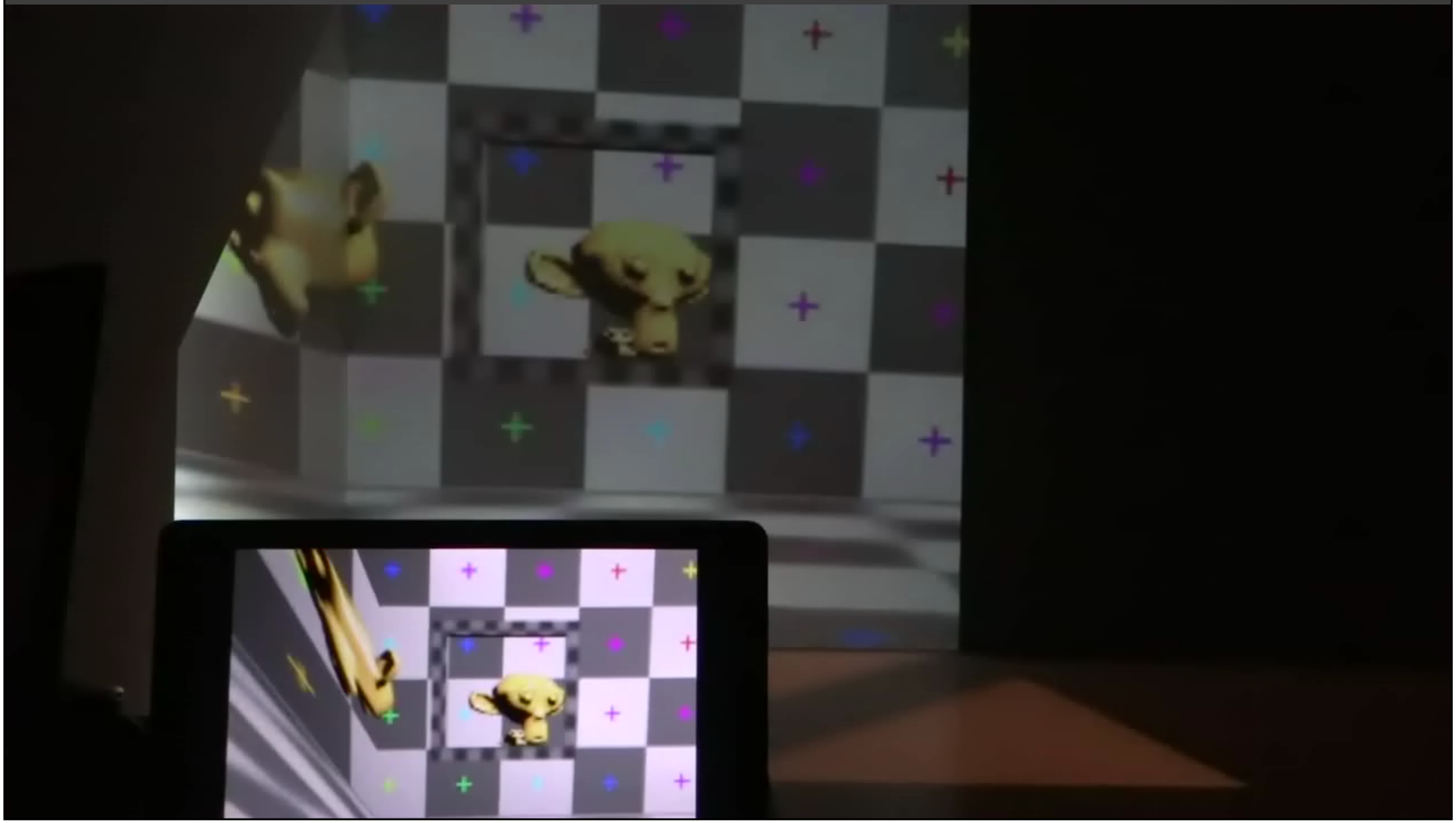
Projection scene

Virtual scene



Latest developments

adapt BlenderVR to portable CAVE



Latest developments

Some of BlenderVR Contribution to Blender code

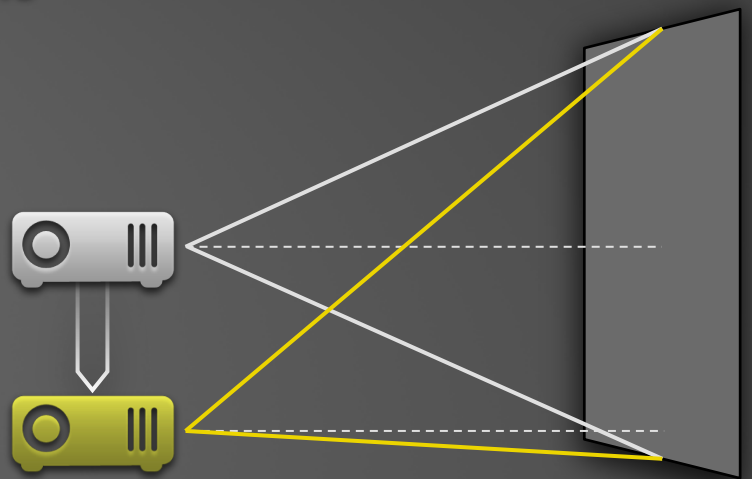
- **scene.pre_draw_setup callback:**

  allows the user to change the camera data right before the rendering calculations

- **bge.render.getStereoEye:**

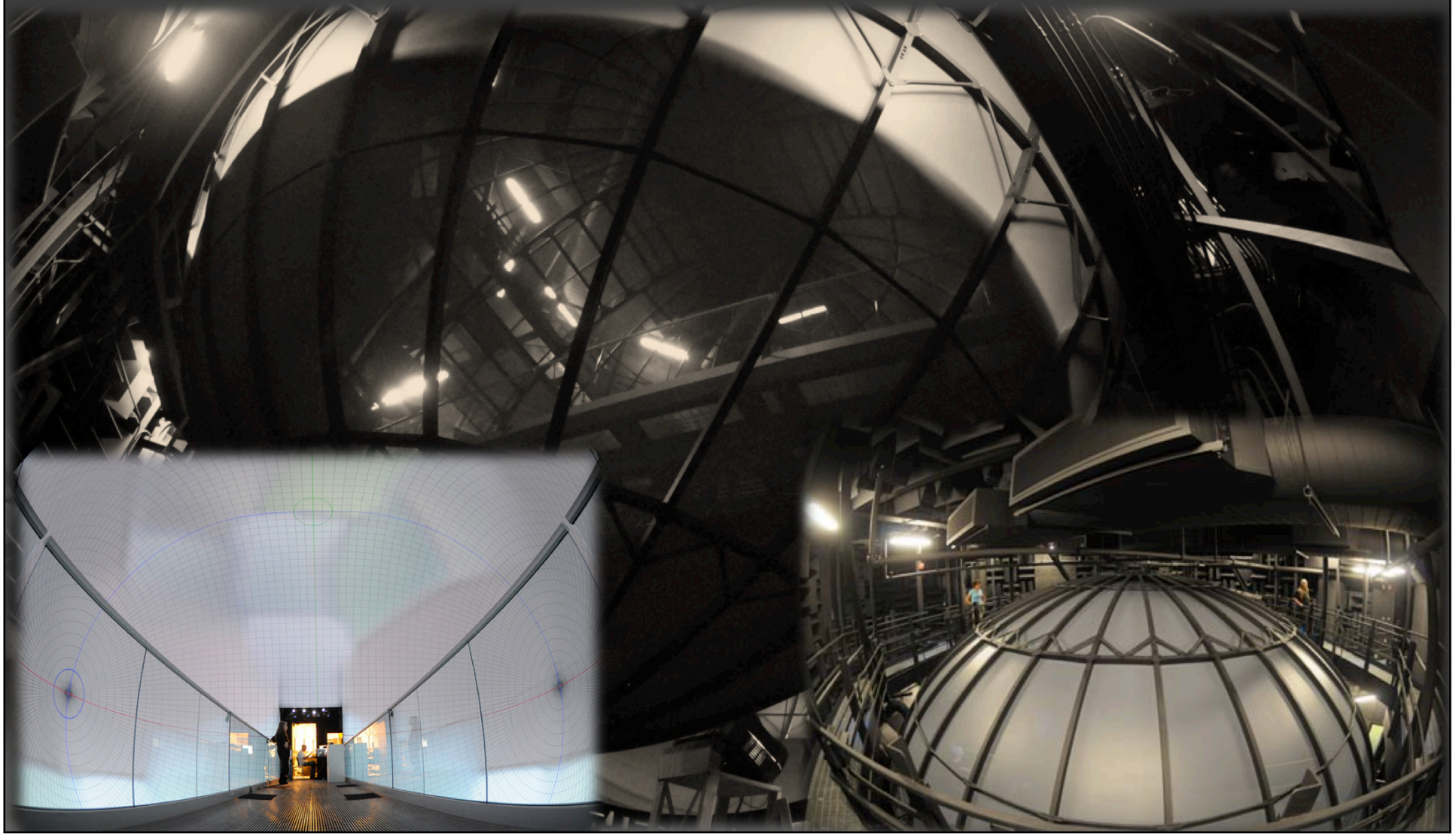
  allows the user to run specific code for each of the rendered stereoscopic eyes in the Game Engine

- **Camera Lens Shift support in Blender Game Engine**



Current/Future developments

Adapt BlenderVR to the Allosphere (at the California NanoSystems Institute)

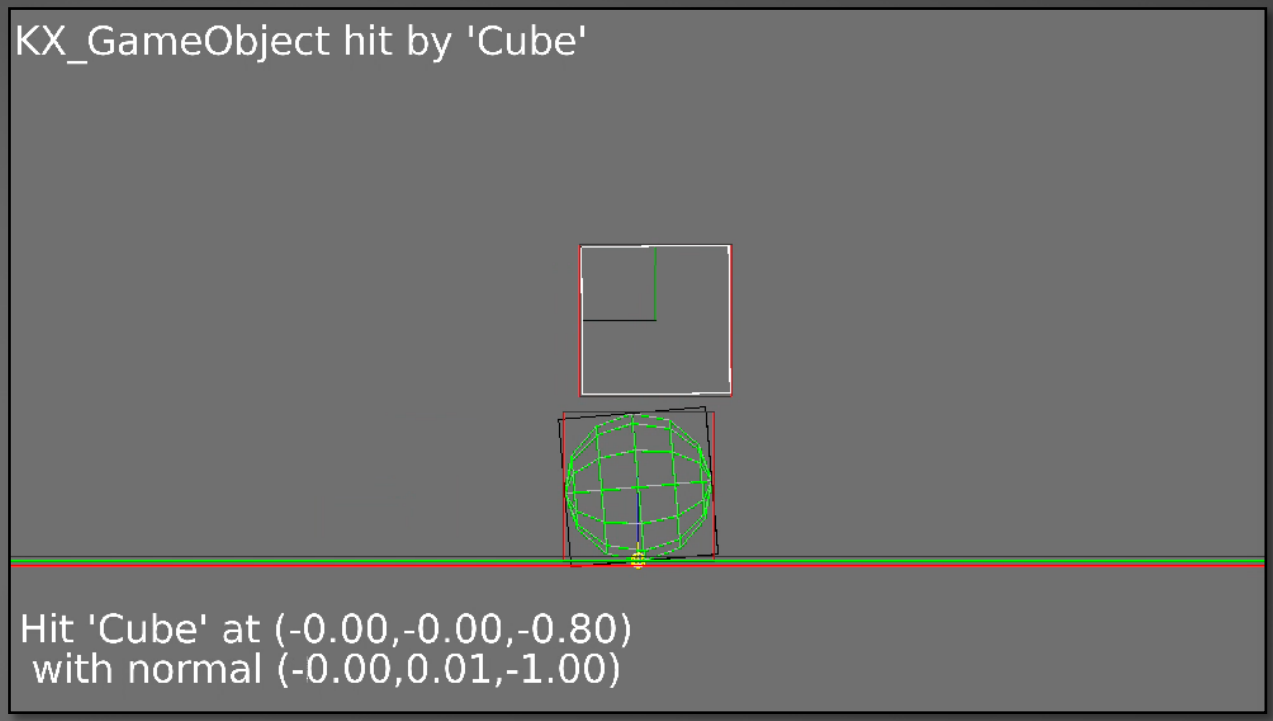


Current/Future developments

3D Audio and Room Acoustics: VR Concert in Notre-Dame de Paris cathedral

Current/Future developments

Haptic: Bullet based integration of VRPN haptic devices



Current/Future developments

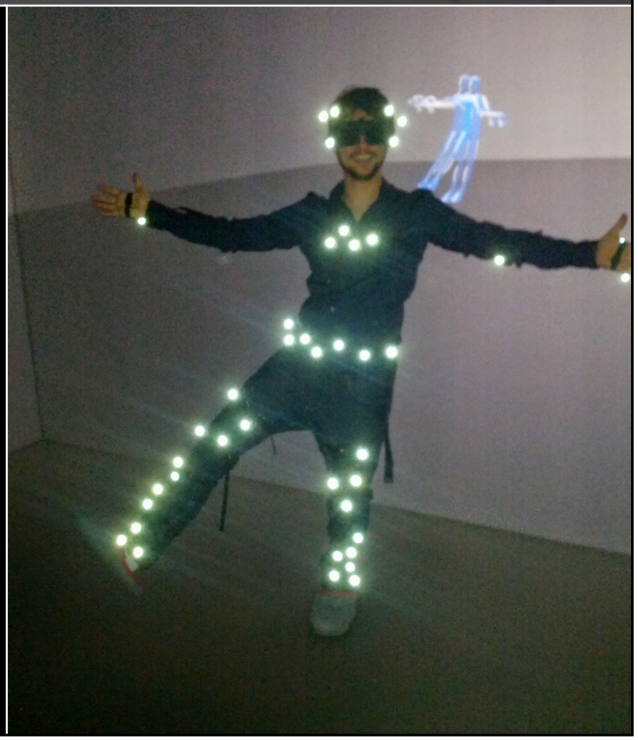
Body tracking integration to animate 3D Avatars in real-time

DK2 rendering based on Frame Buffer Object

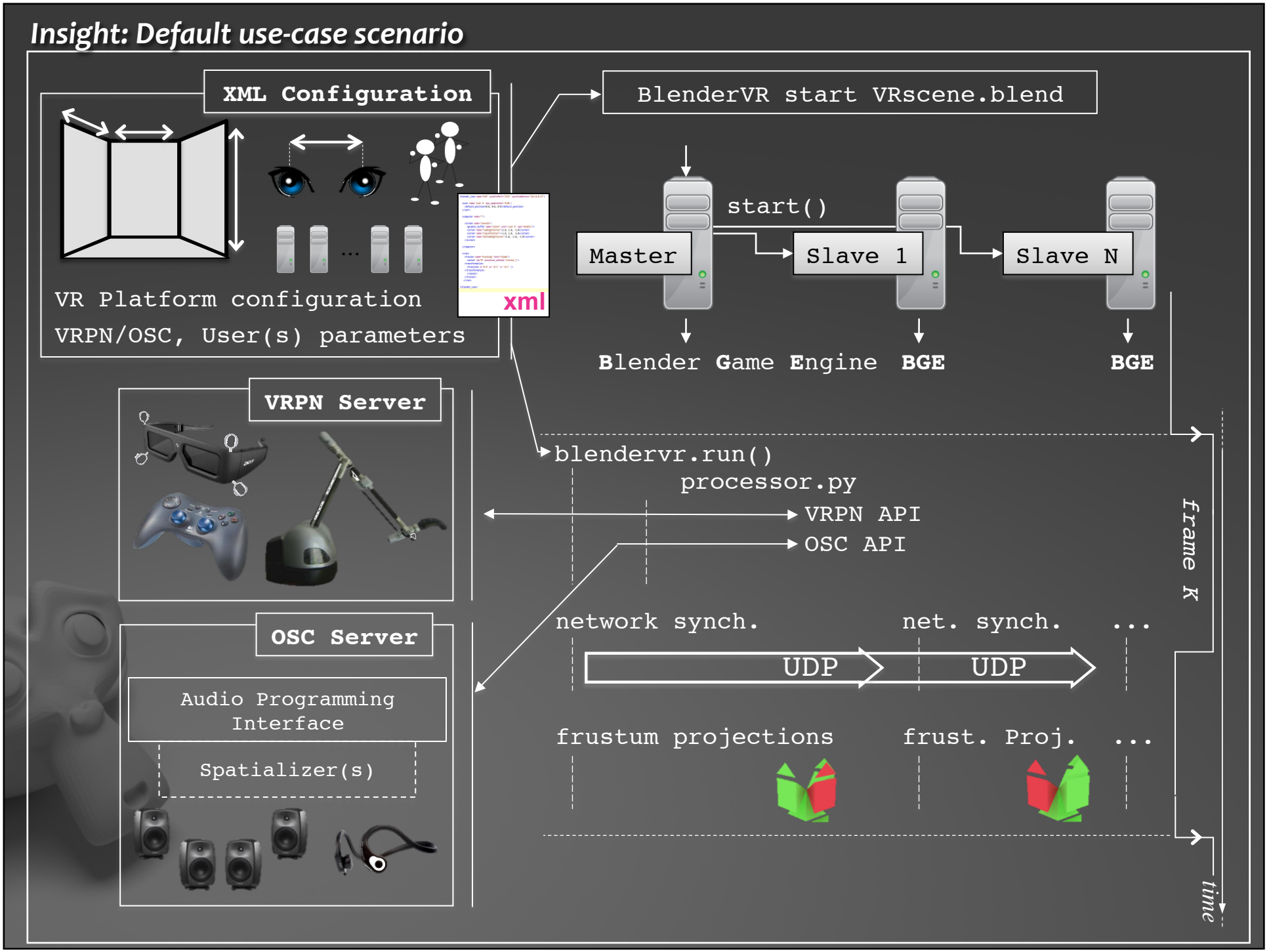
BlenderVR-temple: BlenderVR showcase game

BlenderVR temple (WIP)

BlenderVR avatar (WIP)




BlenderVR


Insight: Default use-case scenario
XML Configuration
VR Platform configuration
VRPN/OSC, User(s) parameters
xml
BlenderVR start VRscene.blend
start()
Master
Slave 1
Slave N
Blender Game Engine
BGE
BGE
VRPN Server
blendervr.run()
processor.py
VRPN API
OSC API
frame K
network synch.
net. synch.
...
UDP
UDP
OSC Server
Audio Programming Interface
Spatializer(s)
frustum projections
frust. Proj.
...
time