BlenderVR: Blender extension for VR applications
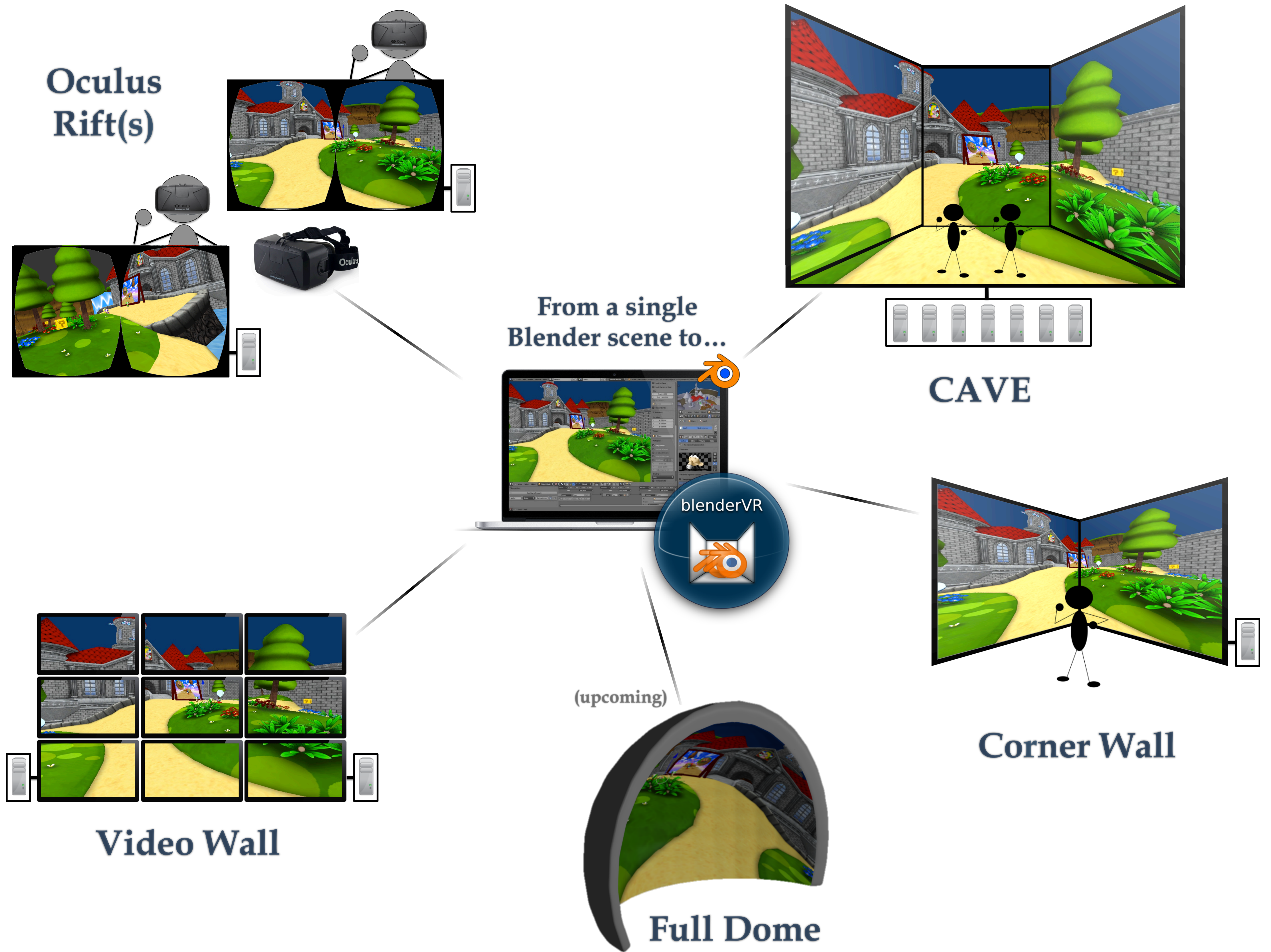
An Open-source Framework for Interactive and Immersive VR

Brian F.G. Katz, Dalai Q. Felinto, Damien Touraine, David Poirier-Quinot, & Patrick Bourdot
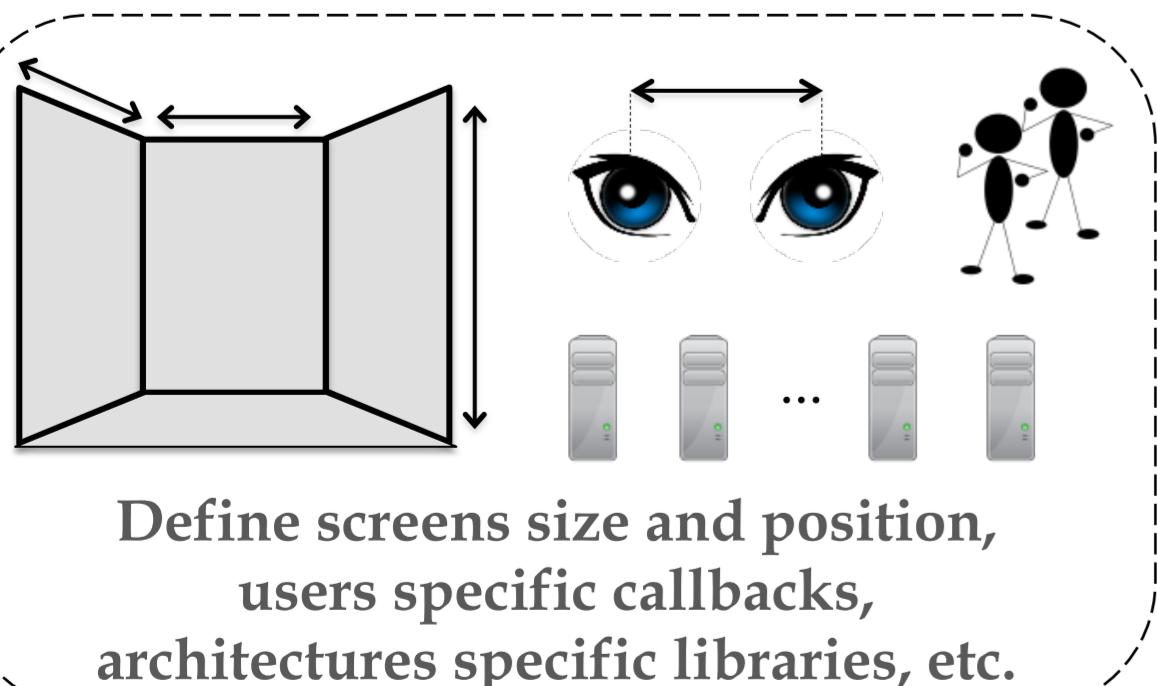**LIMSI-CNRS, Orsay, France – *blendervr@limsi.fr***

FREE • OPEN SOURCE • MULTIPLATFORM • JOIN US

Oculus Rift(s)

From a single Blender scene to…

blenderVR

CAVE

Corner Wall

Video Wall

(upcoming)

Full Dome

ANY ONE OR EVEN ALL AT ONCE

Features

Modular Architecture

Define screens size and position, users specific callbacks, architectures specific libraries, etc.

VRPN & OSC APIs

VRPN

OSC

Tracking & Interaction

3D Sound

Based on the Blender Game Engine

3D content creation | Bullet-based physics | Logic control | Rig and animations
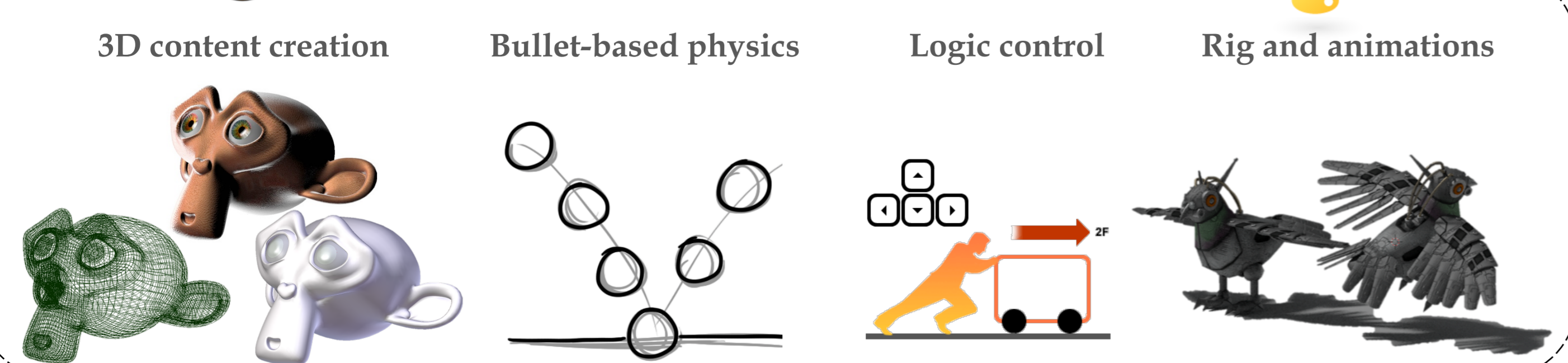
They've used BlenderVR

- Study investigating paradigms for 6DoF navigation in immersive virtual worlds [1].
- Design evaluation of an audio guidance system for rescue operations [2].
- Real-time animation of virtual avatars based on motion capture [3].
- **IEEEVR 2015**: Evaluation of navigation paradigms for collaborative situations in a multi-stereoscopic immersive system: how two users can safely share the same virtual and real environment [4].

[1] W. Chen, A. Plancoulaine, N. Féréy, D. Touraine, J. Nelson, and P. Bourdot. 6DoF navigation in virtual worlds: comparison of joystick-based and head-controlled paradigms. ACM Symp on Virtual Reality Soft and Tech (VRST), p.111–114, 2013.
[2] D. Poirier-Quinot and B. F. Katz. CAVE-based virtual prototyping of an audio radiogoniometer: Ecological validity assessment. Intl Conf on Auditory Display (ICAD), p.1–8, 2014.
[3] H.Li.Création et contrôle de l'avatard ans la plateforme BlenderCave. Master's thesis, Université Paris-Sud, 2014.
[4] W. Chen, N. Ladeveze, C. Clavel, D. Mestre, and P. Bourdot. User cohabitation in multi-stereoscopic immersive virtual environment for individual navigation tasks. IEEE VR, 2015.

Now it's your turn…

BlenderVR Developments

- Integrated in Blender master from v2.74
- Multi-user adaptive stereoscopy
- Synchronized scene between VR architectures
- Freeware (CeCILL B license)
- Master/Slave synchronization
- White/black listing object sync. Optimization
- Oculus DK1 and DK2 head orientation support

blendervr.limsi.fr

Website - installation, tutorials and documentation

github.com/BlenderVR