edddison

edddison & VR - Virtual Reality

Proof of concept, June, 2017

Locomotion in VR - Virtual Reality & edddison

Problem

If there's one problem we're most desperate for VR to solve right now it's locomotion. Popular choices include teleportation, artificial trackpad movement and roomscale. All of these have their advantages and their drawbacks. All solutions need user skills to work with an controller which is tricky for non technical users.

Our approach

Assist clients, stakeholders and managers to orient themselves in 3D models. A second person (the operator) guides users through the presentation.

Operators task

The operator choose floor-plans (Navigation areas).
Move the users view (360 degrees)

User task

- look around
- Rotation in VR
- look up and down

Watch a video

The operator choose the floor-plan and the user look around.

Advantage
- Prevent user disorientation
- Manage the presentation
- Focus on important things – You are guiding through the presentation

How it works
- The operator guides users through the presentation
- Users look around via HDM. The target group are not familiar to use joysticks, hand held or controller
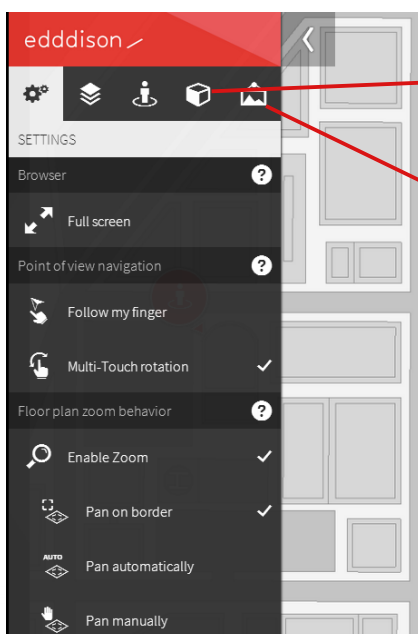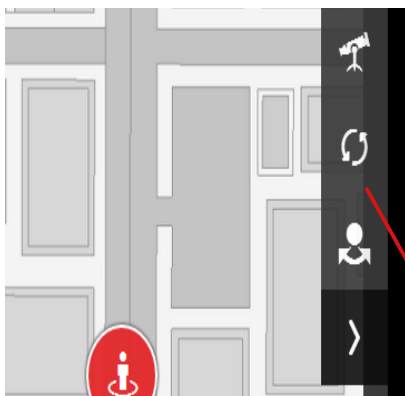
Tips for the Operator

- Do all movements and activities carefully thought out

- Inform the user before jumping to other areas

- Ask users what they want to see

- Use the target POV while changing the floor-plan (The view focus always to the room center or a object)

- Turn the view, do it slow with the tangible control object or on touchscreens use the control menu on the right side.

- If people are sitting. Turn the POV around (360 degrees). So user can look behind.

- Adjust the elevation (POV level)

- Move objects in the scene

- Switch on and off objects

- Activate and show additional content like a video, image or slide
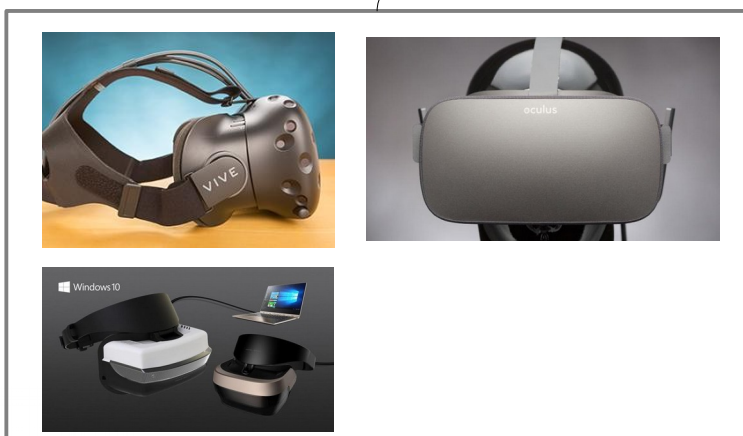
Tips for the User

- look around and rotate

- look up and down

Technical Setup

Supports 3D Software
- Unreal (tested)
- Unity (Not yet, comes with the next edddison update)
- Autodesk Stingray (not tested)

edddison hardware for operators

- Tablets, Smartphones (Android, Apple, Windows)

- Touchscreens (Windows all OS)

- Mixed reality devices (camera tracked items). Use your own Webcam, printed plans and markers to navigate in 3D models

- Sprout by HP. Enable users to interact with physical objects and the touch-mat. Comes with an integrated Windows PC.
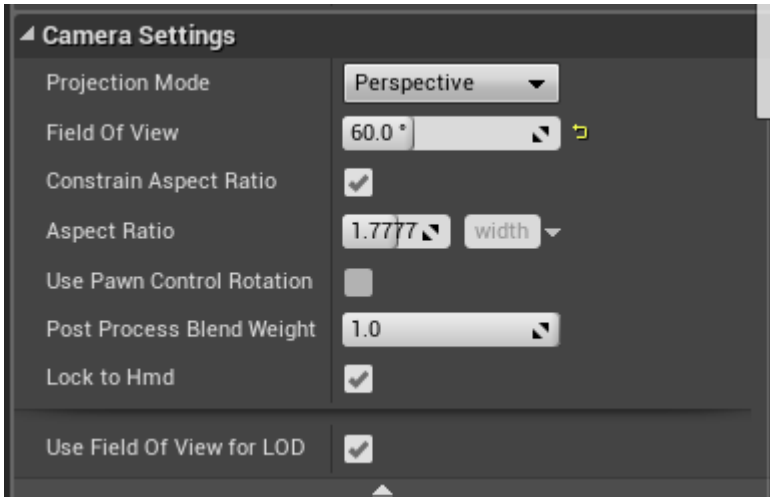

PC Windows

Running edddison and 3D scene

HMD

- HTC Vive

- Oculus

- Windows 10 VR Headsets

Prepare in Unreal

- Unreal engine 4.15 or younger
- Edddison 1.2.6
- Oculus Rift

If you use edddison for VR, you can use your existing non VR project. It is not neccessary to add further navigation and trigger planes for interacting with a VR controller.

Just put a simple CameraActor into the scene and add it to edddison. Check the "Lock to Hmd" setting and uncheck the "Use Pawn Control Rotation". Then try out with the VR Preview play mode.
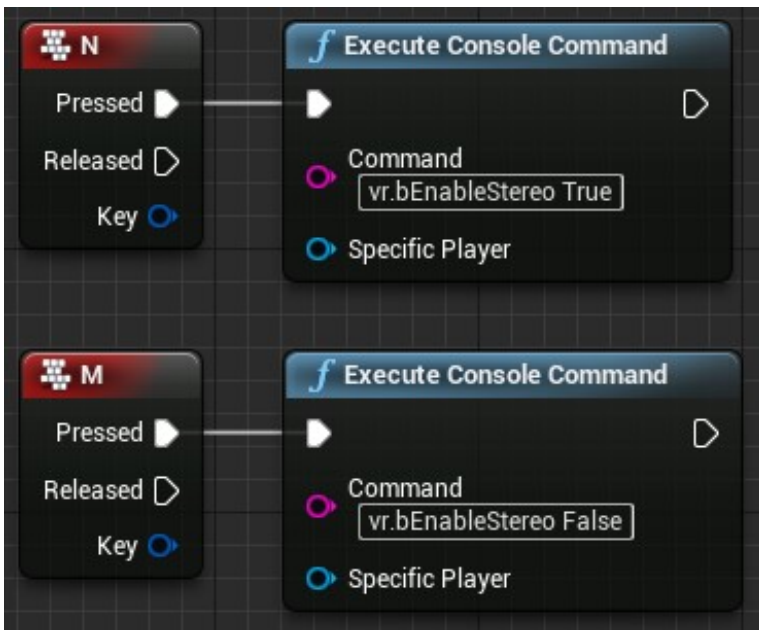
Use blueprints to switch stereo view at the operator monitor:

Create this blueprint for the CameraActor to switch stereo mode online.

Press 'n' key to enable stereo

Press 'm' key to disable stereo

How to prepare in Unity and Autodesk Stingray comes in the next edddison update!