ZYLIA Philharmonic Orchestra 6DoF Demo Manual

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Overview

The ZYLIA Philharmonic Orchestra 6DoF Demo is a VR scene with Poznan Philharmonic Orchestra performing two Mozart's pieces: The Overture to the opera Marriage of Figaro and Pamina's Aria from the opera Magic Flute. It allows the user to test the 6DoF technology. It has been developed in Unreal using the SteamVR platform and tested both on the HTC Vive VR headset and with a computer mouse and keyboard.

Binaural sound is generated based on the listener's position, thanks to ZYLIA 6DoF renderer in Wwise. The user can move inside the scene simply by walking, using VR controllers or a computer mouse and keyboard.

Controls:

VR headset:

- Menu button – show menu
- Trigger – teleport and menu selection (in case of HTC Vive it is the Grip button)
- Touchpad – movement and rotation

Computer keyboard and mouse:

- WASD keys – move around
- Mouse – look around
- Backspace – show menu

Workflow Summary

Steps necessary to run the Demo:

1. Unpack the .zip archive.
2. If you are using the VR headset, connect it to your computer. If you are using a computer mouse and keyboard, skip to the point number 4.
3. Configure the setup for SteamVR (Instructions are in the last chapter).
4. Inside the extracted folder open the application *6DoF Demo*.
5. The application will check what controllers (the VR headset or a computer keyboard and mouse) are used and launch the appropriate version.

System requirements

Component	Recommended system requirements	Minimum system requirements
Processor	Intel Core i5-4590/AMD FX 8350 equivalent or better	Intel Core i5-4590/AMD FX 8350 equivalent or better
GPU	NVIDIA GeForce GTX 1060, AMD Radeon RX 480 equivalent or better	NVIDIA GeForce GTX 970, AMD Radeon R9 290 equivalent or better
Memory	4 GB RAM or more	4 GB RAM or more
Video output	HDMI 1.4, DisplayPort 1.2 or newer	HDMI 1.4, DisplayPort 1.2 or newer
USB port	1x USB 2.0 or newer	1x USB 2.0 or newer
Operating system	Windows 7 SP1, Windows 8.1 or later, Windows 10	Windows 7 SP1, Windows 8.1 or later, Windows 10

Before starting the Demo, SteamVR should be set up to assure the correct calibration of the scene which allows the user to experience the 6DoF technology as it is meant to be. This is the standard procedure for HTC Vive configuration, if you don't have experience with it, you can go to section *SteamVR Setup.*

Computer keyboard and mouse control

1. Launch the *Philharmonic Orchestra 6DoF Demo* application.

2. The menu should appear (as seen in the image below). Here you can choose the quality settings (it only affects the visuals). You can interact with the options by walking through them. Also in this step, you are able to read about the demo. To start the demo stand in the blue cylinder with the 'ENTER' sign above for a few seconds. To exit the demo you can stand in the red cylinder with the 'EXIT' sign above for a few seconds, or just press the escape key.

3. After starting the demo you will be moved to the scene with the orchestra. You should immediately hear the sound of Mozart's Overture to The Marriage of Figaro in your headphones.

4. In the application, you can move around and listen to the 6DoF Audio.

5. You can enter the menu by pressing Backspace. Here you can choose different settings of visuals – turn on/off audio spheres or microphones. You can also switch to the scene with Pamina's Aria or exit the demo. Menu is depicted in the image below.
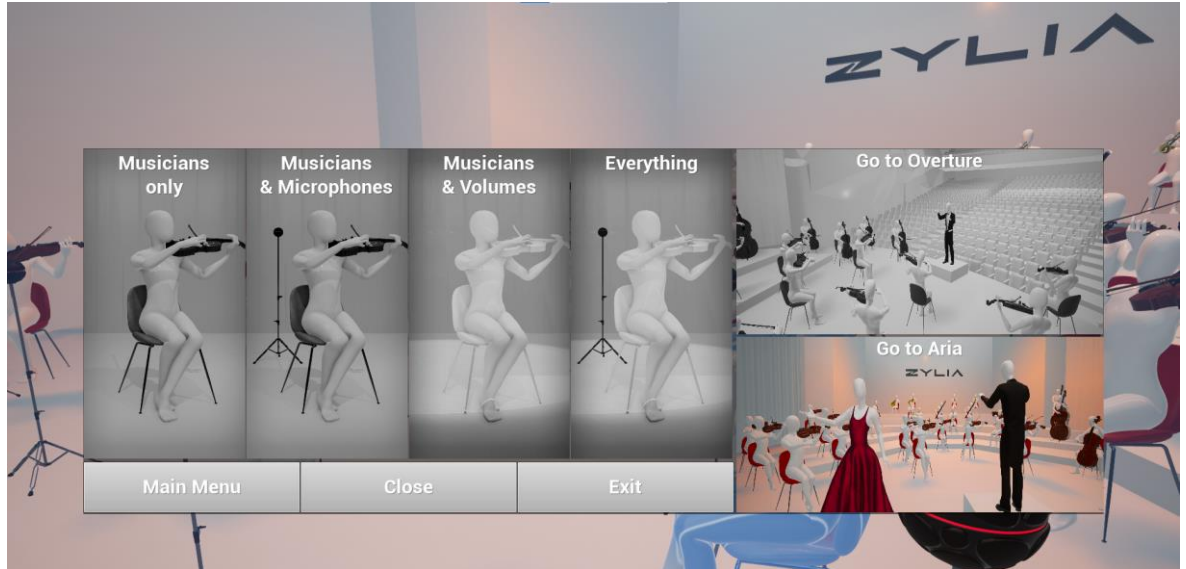
VR headset control

1. Launch *Philharmonic Orchestra 6DoF Demo* application

2. In the menu you can choose your controllers and quality settings (it only affects the visuals). You can interact with each cylinder by putting your controller close to the option. Also in this scene you are able to read about the demo and see the controllers' settings.

3. After choosing the controller you are moved to the scene with the orchestra. You should immediately hear the sound of Mozart's Overture to The Marriage of Figaro in your headphones.

4. In the application, you can move around and listen to the 6DoF Audio.

5. You can enter the menu by pressing Backspace. Here you can choose different settings of visuals – turn on/off audio spheres or microphones. You can also switch to the scene with Pamina's Aria. Menu is depicted in the image below.

6. Enjoy your 6DoF experience!

If you experience any problem with the ZYLIA Philharmonic Orchestra 6DoF demo or you have a question regarding the technology, please write to *support@zylia.pl*

SteamVR setup

Steam VR room configuration should be performed at every new event to get the playable area set up. It is necessary to do this in each new venue to ensure that the boundaries are set up correctly.

1. Make sure that at least 6.5 FT X 5 FT (2 m x 1.5 m) is available free to use for the virtual space

   ○ Users should be able to walk around freely in this space. Ensure that there is not obstacles that will interfere with the users experience.

2. Make sure that Vive Light Houses (Base Stations) are in a stable location in opposite corners of the play area.

1. Base stations have a field of view of 120 degrees.

2. Base stations need to be set at a 30-45 degree angle towards the floor.

3. Maximum distance between stations is 16 FT.

4. Base stations need to be in direct, unobstructed, view of each other

5. Each Base station needs a power source

3. Head set needs to be set up

   1. Headset requires 3 cables plugged into the link box which are colour coded by ORANGE

      - Orange HDMI

      - Orange USB

      - Orange Power

   2. Link box plugs into the computer and a power source

      - HDMI to computer

      - USB to computer

      - Dedicated Power Source

   3. Place Headset in center of set up space

4. Start Steam VR

   - Steam requires internet connection or should be set up with Offline Mode already enabled

5. Controllers should be placed in center of room

   - Power on controllers by pressing System button (lower most button on controller)

6. Room set up should automatically launch

   1. If Room Setup does not launch automatically

      - Click SteamVR menu button

      - Select "Run Room setup"
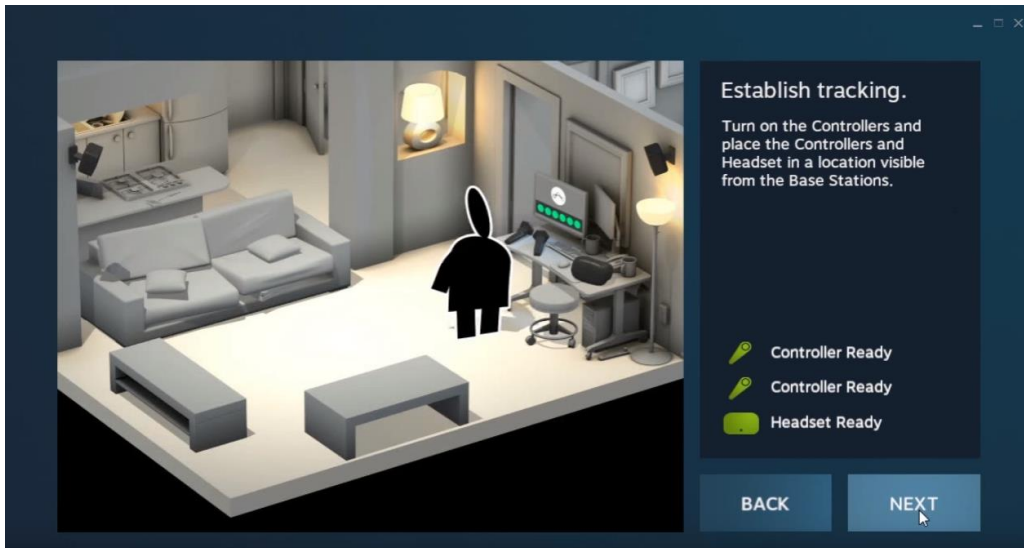
7. Inside SteamVR Room Setup

   1. Select Room-Scale

   2. Make sure that Headset and Controllers are placed in center of established play area

      1. Controllers and Headset should be lit up green in the interface

   3. Next step will to locate your monitor

      1. Use any controller

      2. Point controller towards main monitor

      3. Press and hold the Trigger while pointing towards monitor

   4. Calibrate the floor level

      1. Place both controllers at least a foot away from each other

      2. click the "Calibrate Floor" button in the SteamVR interface on the computer

      3. This will set the lowest height in SteamVR

   5. Measure your space

      1. Use one of the controllers to trace the playable space

         • This will set the boundaries of the play area.

      2. Use the controller as you would a paintbrush to trace the boundaries of play.

      3. Keep in mind the boundaries of available space, we don't need users to over step this and hit equipment.

- If users get close to this boundary they will see a grid or, if enabled, see an overlay from the headsets camera of their surroundings.

- You will see on the computer interface all of the Light Houses, Controllers, and Headset in a real time view.

6. Set your play area

    1. After tracing the play area you will see a green box on the SteamVR interface

    2. This is going to be the boundaries that the user will be in

    3. if there is not enough room, the square will be red.

        - If this happens make sure that the area you have set up is of adequate size.

        - If you are unable to create an adequate play area, go back to step 1.