

# Deliverable

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<b>Project Title:</b>	<i>Immersive Experiences around TV, an integrated toolset for the production and distribution of immersive and interactive content across devices.</i>

## D3.6 Interaction and Display

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Dissemination Level

P	Public	x
C	Confidential, only for members of the consortium and the Commission Services	

**Abstract:** This deliverable describes the hardware and software components delivered for Pilot 1

## REVISION HISTORY

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Revision	Date	Author	Organisation	Description
0.1	20/12/2016	Szymon Malewski	PSNC	Document edition
0.2	9/01/2017	Joan Llobera	i2CAT	Final Review
0.3	10/01/2017	Szymon Malewski	PSNC	Final formatting

### Disclaimer

The information, documentation and figures available in this deliverable, is written by the **ImmersiaTV** (*Immersive Experiences around TV, an integrated toolset for the production and distribution of immersive and interactive content across devices*) – project consortium under EC grant agreement H2020 - ICT15 688619 and does not necessarily reflect the views of the European Commission. The European Commission is not liable for any use that may be made of the information contained herein.

### Statement of originality:

This document contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

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## 1. INTRODUCTION

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The display component is responsible for integrating the video, audio and data streams in a coherent omnidirectional scene adapted to immersive displays and second screens. It supports interaction, parsing the user input (head movements, tablet moved around, finger gestures) and adapting the environment appropriately to the reactions expected. It also allows to synchronize end-user devices and second screens using a multimedia server to orchestrate the different video streams.

## 2. FUNCTIONALITY

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The display component is a multi-platform software solution that is able to:

- synchronize and integrate different video and audio streams in a consistent experience,
- handle the interaction specific to each device (head movements for the HMD, device movements and finger gestures for the tablet, etc.),
- synchronize content at the frame level with other displays in the local network

The architecture of the display component contains two kinds of connected devices: receiver devices (TV Set, HMD, Tablet) and a session management device.

The receiver device runs the ImmersiaTV interaction and display software (in short, the ImmersiaTV player). This software is a multi-platform player targeting the general consumer. It is based on the Unity3D engine, allowing deployment on a wide variety of end-user devices and adapting the experience to the particular characteristics of each device. The processing of the media streams is performed using the GStreamer open-source framework. It receives and decodes different audio and video streams and delivers resulting frames to Unity3D for rendering. The ImmersiaTV player is designed to be compatible with emerging broadcast synchronisation standards (like HbbTV 2.013), and work on the main platforms available to deliver the ImmersiaTV experience.

The session management device is connected to the same local network as the players and coordinates the distributed playback experience. Its main task is to make sure that all players synchronize to the same clock and get appropriate content. In the first pilot it is an application independent from other players, running on a separate machine. In the next stages it will be to integrated with the player application, so any player can act as session manager, removing the need for an additional device on the network.

### 3. CODE REPOSITORY

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<ftp://ftp.immersiatv.eu/releases/0.7/players/>

### 4. INSTALLATION GUIDE

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#### PC with HTC VIVE

1. Create a folder in your hard drive
2. Unzip PC.zip in the created folder
3. Execute immersiatv\_pc.exe

#### Android Mobile/Cardboard

There are different ways to install an apk into an android device.

1. Create a folder in your hard drive
2. Unzip AndroidMobile.zip in the created folder
3. Connect your android device to the computer
4. Move the apk file into \Download folder of your device storage
5. Disconnect your device from the computer
6. Execute the apk file from the device (use a File navigation app like FileManager)
7. Once is installed you can remove the apk file from the mobile

#### Android Samsung Gear VR

The process is similar to any android device. See above instructions, using AndroidSamsungGear.zip for this case.

#### Android TV

The process is similar to any android device. See above instructions, using AndroidTV.zip for this case.

### 5. CODE DOCUMENTATION

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The current release does include documentation in form of README files and changelog files. Future versions will include a more detailed and structured documentation online.