



Comperre Show Creation

Warp Mapping and IMAG with Actor

User Guide



Warp Mapping and IMAG with Actor : User Guide

Trademark Information

The 7thsense logo, and various hardware and software product names are trademarks of 7thSense Design Ltd. Product or company names that may be mentioned in 7thSense publications are tradenames or trademarks of their respective owners, and such trademarks may also be registered in their respective countries. Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

Copyright Information

All Rights Reserved. This document is copyrighted © by 7thSense Design Ltd and shall not be reproduced or copied without express written authorisation from 7thSense Design Ltd.

The information in this document is subject to change without notice. 7thSense Design Ltd assumes no responsibility for errors, and/or omissions contained in this information.

Printed: April 2024

This edition is for software version Compere 1.0-7, MappingGUI 1.0.0
Document ref.: M863-2

E: info@7thsense.one
W: 7thsense.one

7thSense Design Ltd
2 The Courtyard, Shoreham Road
Upper Beeding
Steyping
West Sussex
BN44 3TN
UK

T: +44 (0) 1903 812299

7thSense Design LLC
4207 Vineland Rd
Suite M1
Orlando, FL 32811
USA

T: +1 407 505 5200



Overview	4
Workflow	5
Generate .wrp7 Files	7
Create a Region Set of Regions	9
Create a Virtual Canvas Preset	11
Apply a Capture to a Region Map	13
Timeline Playback	14
Use a Region Set	15
Example JSON Header	16
Document Information	17
Index	18

Overview

With Compere 1.0 build 7 and MappingGUI 1.0.0, IMAG regions can be created and positioned on warp-mapped LED display surfaces to playback IMAG sources over a preconfigured show timeline.

The app creates a set of warp files (ST maps) that are then ingested as a single asset group, using Asset Logistics.

Exporting as PNG as well, enables each ST map section to be viewed.

Terminology

Virtual Canvas

a defined area within a display surface on which to overlay PiP regions

Region

an IMAG = PiP (picture in picture)

Region Set

a set of regions within a virtual canvas

Virtual Canvas Set

A set of warp files (.wp7) generated by MappingGUI

Virtual Canvas Preset

binds a given VirtualCanvas to a RegionSet

Channel = section = Actor playback device

Workflow

A series of operations will create the required virtual canvas and set of warp-mapped regions to be ingested, manipulated in the Visualise panel and used for Actor timeline playback. The majority of this is a once-only preparation for the display surface being used.

Check in Compere that 'Enable Visualise Renderer' is switched on, in *Configuration > Settings > Preferences*.

MappingGUI app: create and ingest required meshes

1. Create the warp files from a source .obj using the MappingGUI app.
2. Ingest the .wrp7 files using the Asset Logistics app (and tag to distribute as necessary).

Compere: create RegionSets and Regions

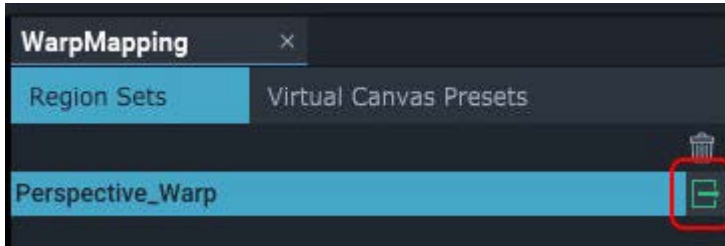
3. Import the .obj into the Visualise panel.
4. Open a 'Warp Mapping' panel and go to the 'Region Sets' tab.
5. Drag the new .wrp7 set ('VirtualCanvasSet') from Actor's Asset Manager into the Warp Mapping panel to create a RegionSet.
6. In the Project Tree, right-click on the new RegionSet to 'Add Region'(s) to a RegionSet, and name each appropriately.

Compere: Virtual Canvas Presets

7. In the Warp Mapping panel, go to the 'Virtual Canvas Presets' tab and click + to select a Region Set and add a preset. A virtual canvas is an area on the total display surface on which its display regions can be manoeuvred. The Preset binds the Region Set to this area.
8. From the Resource panel, drag NDI or ST 2110 Capture resources into the Input Feed panel. Give reasonable offsets to each, to make them more visible, and resize them according to the capture sources.
9. Enter the NDI source name (use NDI studio monitor to help) or local SDP path for ST 2110 sources.

Add Captures to the Actor Timeline

10. Drag the input from the project tree onto the timeline.
11. Right-click the timeline capture asset properties and enter the appropriate regionMappingName (from the project tree) into the Source box. This is the region on which you want the capture resource stream to draw.
12. Click the 'Edit in Visualise' button in the WarpMapping panel to see the regions in Visualise:



Use the Regions in Visualise

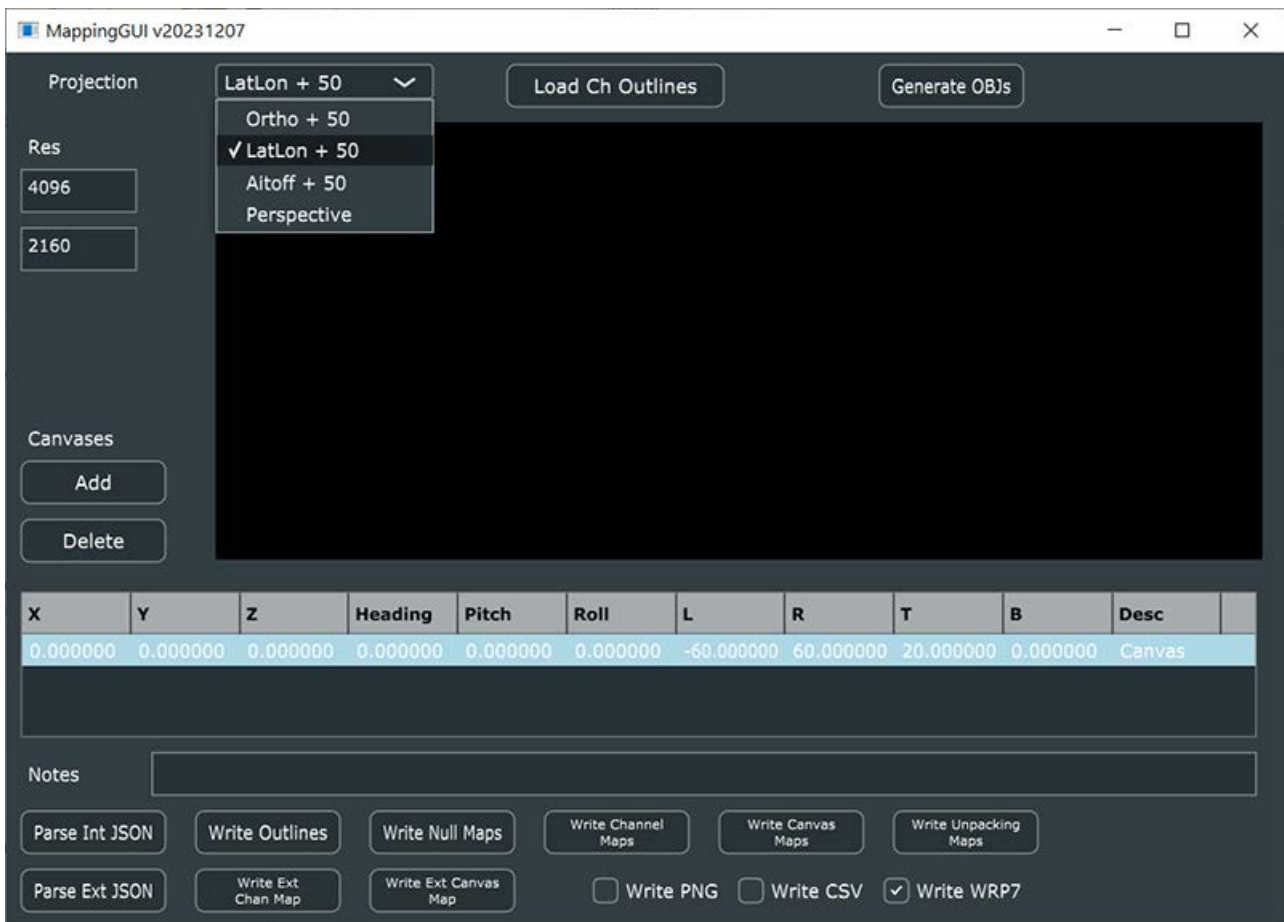
13. In the Visualise panel, click to select the Region, and adjust its properties or just click/drag the Region in the panel.

Generate .wrp7 Files

MappingGUI is a standalone app that creates a series of warp mappings as sections of a mesh model (.obj), and export 7thSense format warp files (.wrp7).

This can be a map of a whole canvas, or regional maps of one or more canvases.

Launch MappingGUI.exe.



Projection

Select the required available geometry.

Resolution

Pixel dimensions of the ST maps to be generated.

Canvases

Define/delete/add a canvas.

The **Notes** field serves as a name for whole VirtualCanvasSet, and goes into the JSON file embedded within each .wrp7 file. It is shown as the CanvasSet name in Compere.

- Select how many canvases are required.
- Click to Parse the required JSON.
- Browse to and select the appropriate .obj file.
- Parsing will take some time, depending on complexity of the .obj.
- Click the respective button to write the required channel or canvas maps. This will create the required folder, with sub-folders for each channel's .wrp7 file (typically, media section). The parent folder name will be used as the label in Actor's Asset Manager.
- Each .wrp7 file is accompanied by a 'sidecar.json' file. This enables the Asset Logistics app to deliver each warp file to only the expected device.
- The 'Desc' column of the canvas table can be edited, and will be shown in Compere as the VirtualCanvas name.

In Compere running as Actor

These files can now be ingested as assets into the Actor asset vault in the normal way by placing the parent folder with its subfolders in the Asset Logistics watch folder, and selecting the appropriate System ingest in Actor's Asset Management panel.

Create a Region Set of Regions

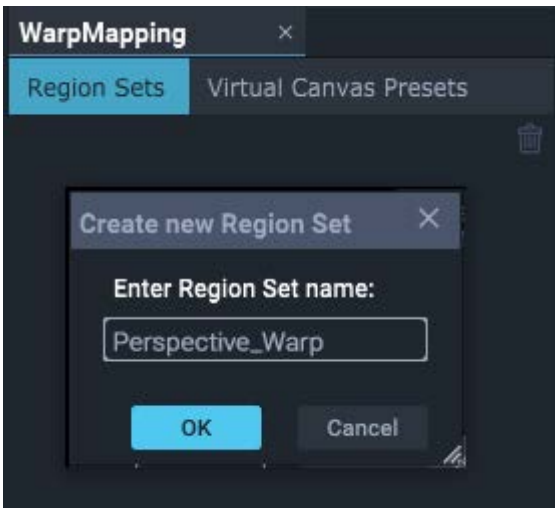
First import the .obj from which the warp files were created, into the Visualise panel. Here it is represented in 3D as a display surface.

Add the set of warp files

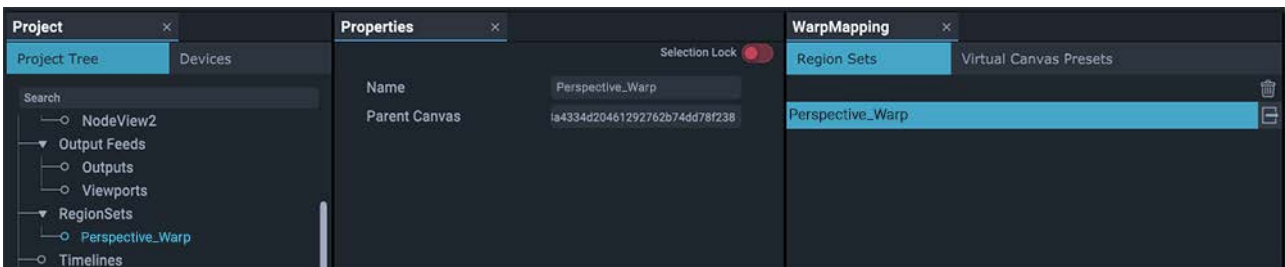
Drag the .wrp7 set (VirtualCanvasSet) that you ingested, from Asset Manager into the Region Sets tab of the Warp Mapping panel.

Note: Asset Management uses the name of the single folder from which all the generated .wrp7 files were ingested, rather than the CanvasSet name ('Notes' field in the JSON sidecar file).

Enter a name for the new Region Set in the dialog presented as you drop in the warp set:



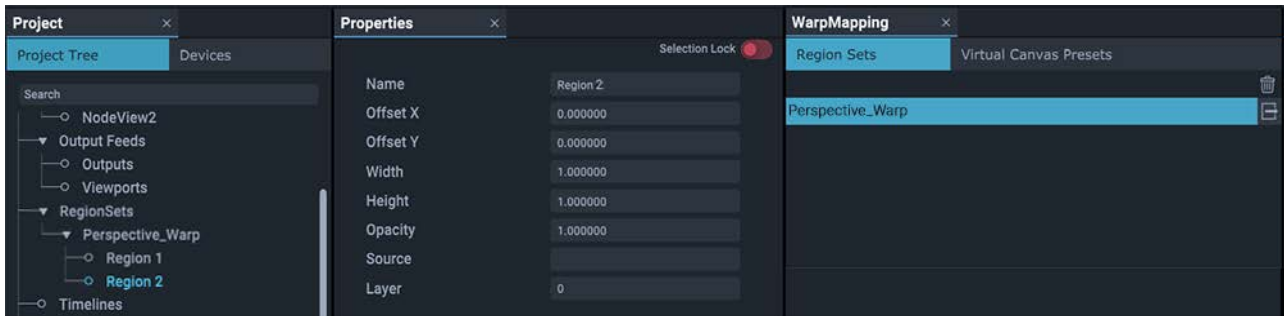
There is now a named Resource Set in the Project Tree.



Add regions to the RegionSet

Right-click on the Region Set name in the Project Tree, and select 'Add region' to add new regions to the set. Name each according to how you want to reference it.

Note that all regions must be added *before* creating a virtual canvas preset.



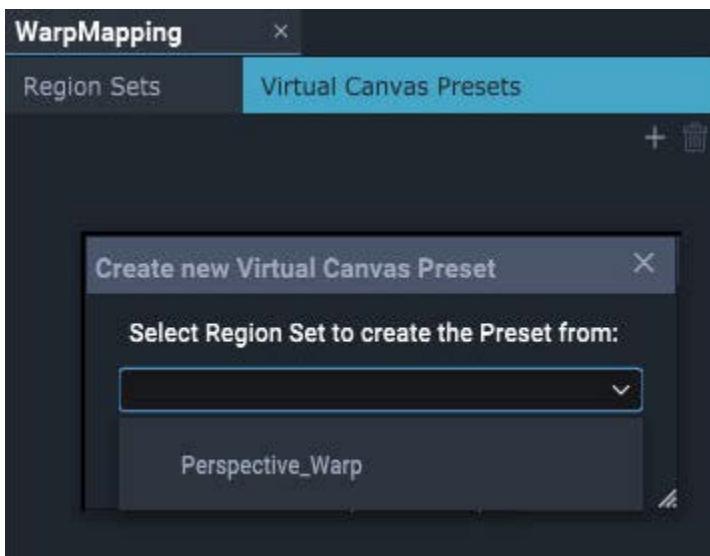
Region data (size, position) can be edited in the properties panel, or in the Visualise panel (see below).

Create a Virtual Canvas Preset

A **Virtual Canvas** can be imagined as a transparent film over all or part of the output (display surface, represented by the .obj in the Visualise panel). Only a region within it is opaque. Media outside a region is not visible, and the PiP is therefore always on top of media playing directly onto the display surface. Multiple PiPs are layer ordered (by region property). This Virtual Canvas is bound to a Region Set by creating a Preset.

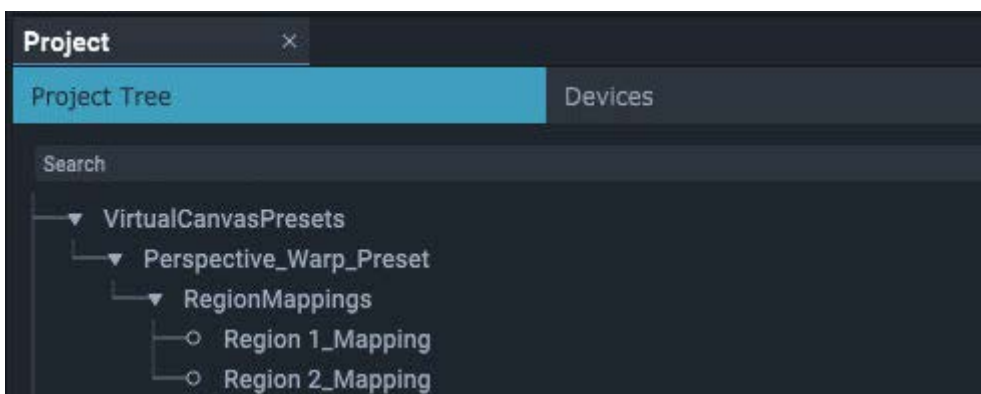
Create a Virtual Canvas Preset from a Region Set

Select the 'Virtual Canvas Presets' section of the Warp Mapping dialog. Click the + button at the top right. You will be prompted to select a Region Set on which to base the preset.



Select a Region Set and then click OK. A new Virtual Canvas Preset instance will be created and be visible in the Project Tree.

The Virtual Canvas Preset should contain a Region Mappings sub-section, and that in turn should contain one [Region]_Mapping entry per region of the Region Set on which the preset was based.



Your Region Set is now linked to a Virtual Canvas and show on the display surface (and object in the Visualise panel).

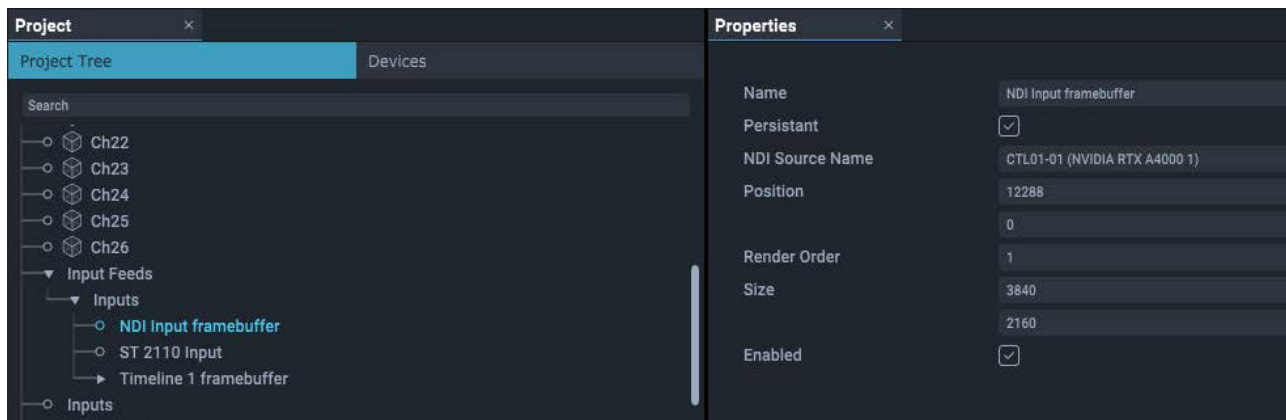
Apply a Capture to a Region Map

Add and configure capture resources in Input Feeds

ST 2110 and NDI captures (e.g. cameras) are supported.

Drag NDI or ST 2110 Capture resources from the Resource panel into the Input Feed panel. In their properties, give reasonable offsets to each, to make them more visible, and resize them according to the capture stream sources.

For each in/out make sure 'Persistent' is clicked to ensure there are no timing issues (this will keep the capture stream running even when not in scope on the timeline):



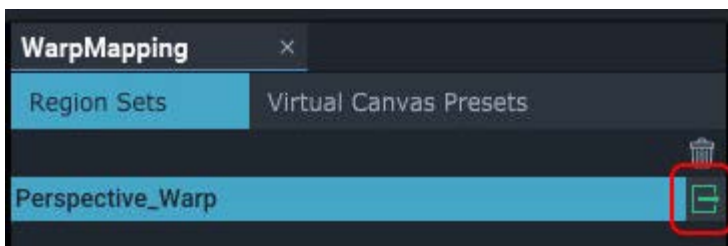
Enter the NDI source name, or the local SDP path for ST 2110 sources.

Timeline Playback

Drag each input from the project tree onto the timeline.

Right-click the timeline capture asset properties and enter the appropriate region Mapping Name (from the project tree) into the Source box. This is the region on which you want the capture resource stream to draw.

You can now click the 'Edit in Visualise' button in the Warp Mapping panel to see the regions in Visualise:



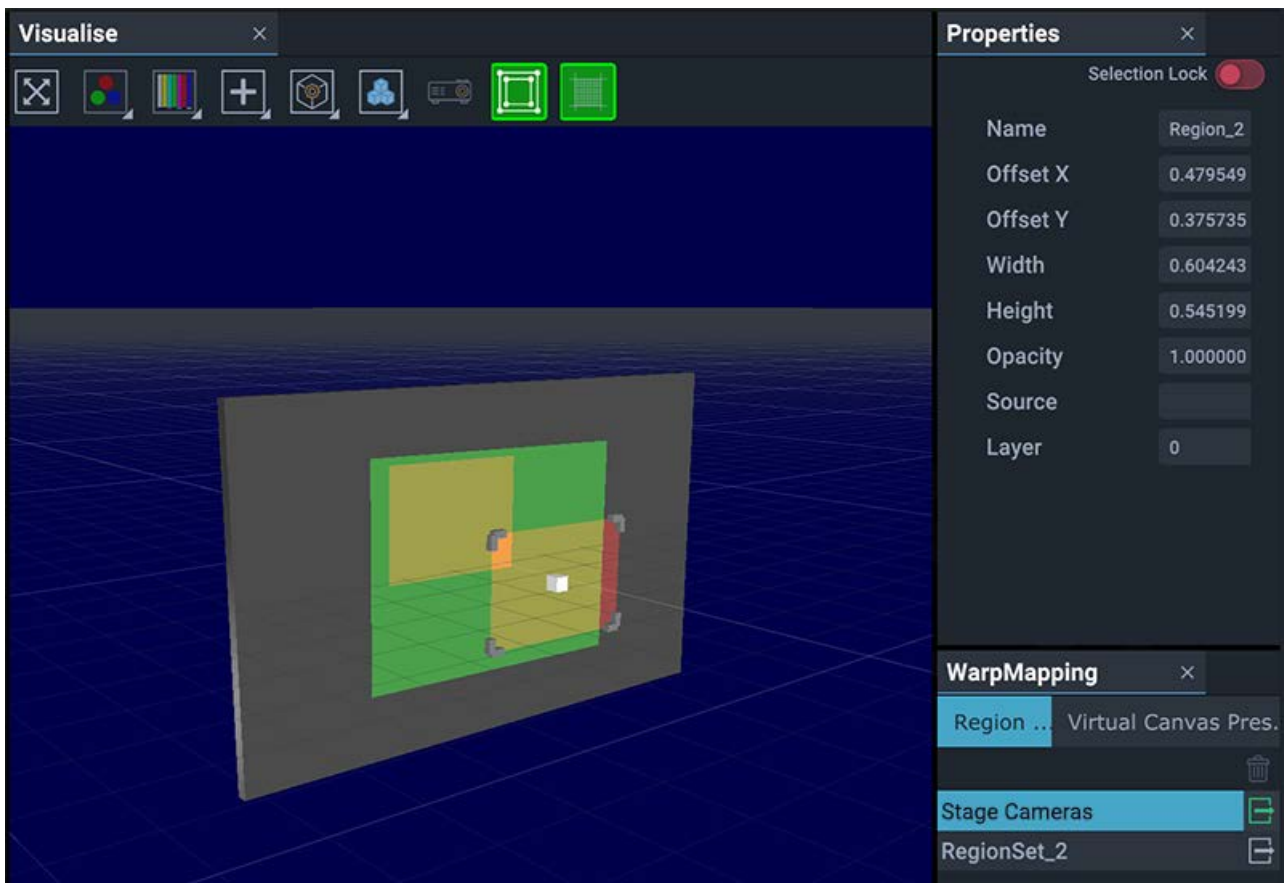
Notes:

Ensure that any virtual canvas preset is only in scope at the specified times. Inputs (and consequent network bandwidth) should then only be used within specified time span.

Region properties (e.g. size, position, layer order, opacity etc.) can be keyframed, and can be directed by external controls.

Use a Region Set

When in Region Set editing mode, the background of the Visualise panel turns dark blue. The Region Set's virtual canvas will be projected onto the mesh in green. Regions are projected onto the display surface object as red, so that when within the virtual canvas, the colours sum to green, whereas outside the virtual canvas the region will be red only and will not display in the real world.



Select a Region, and drag it around in the Visualise panel. Alternatively, adjust the properties directly or address the region via external control commands.

Note that only Regions within the currently selected Virtual Canvas (Region Set) will show these handles in Visualise.

Example JSON Header

Sample JSON data baked into a .wrp7 file:

```
{
  "Metadata-v1": {
    "Canvases": [
      {
        "Bottom": [],
        "CanvasUUID": "[]",
        "Description": "[]",
        "Heading": [],
        "Left": [],
        "MappingMode": "[]",
        "Pitch": [],
        "Right": [],
        "Roll": [],
        "Top": [],
        "X": [],
        "Y": [],
        "Z": []
      }
    ],
    "CanvasSetUUID": "[]",
    "CompatibleJuggler": "Juggler2",
    "GenerationTimestamp": "[]",
    "Notes": "[]",
    "ScreenDefinitionFile": "[] .json"
  }
}
```

Document Information

Date	Document edition	Software version	Revision Details	Author/Editor
December 2023	1	Compere 1.0-7 MappingGUI 1.0.0	New release	Andie Davidson
April 2024	2	Compere 1.0-7 MappingGUI 1.0.0	Updated flow with actions for Actor and Juggler devices	

C

captures as input feeds 13

J

JSON header, .wrp7 files 16

M

MappingGUI 7

P

playback in regions 14

R

region 9

region set 9

region sets 15

S

ST maps 4

V

virtual canvas

 region sets 4

 regions 4

virtual canvas preset 11

W

warp mapping 4

workflow 5

E: info@7thsense.one
W: 7thsense.one

7thSense Design Ltd
2 The Courtyard, Shoreham Road
Upper Beeding
Steyning
West Sussex
BN44 3TN
UK

T: +44 (0) 1903 812299

7thSense LLC
4207 Vineland Rd
Suite M1
Orlando, FL 32811
USA

T: +1 407 505 5200

