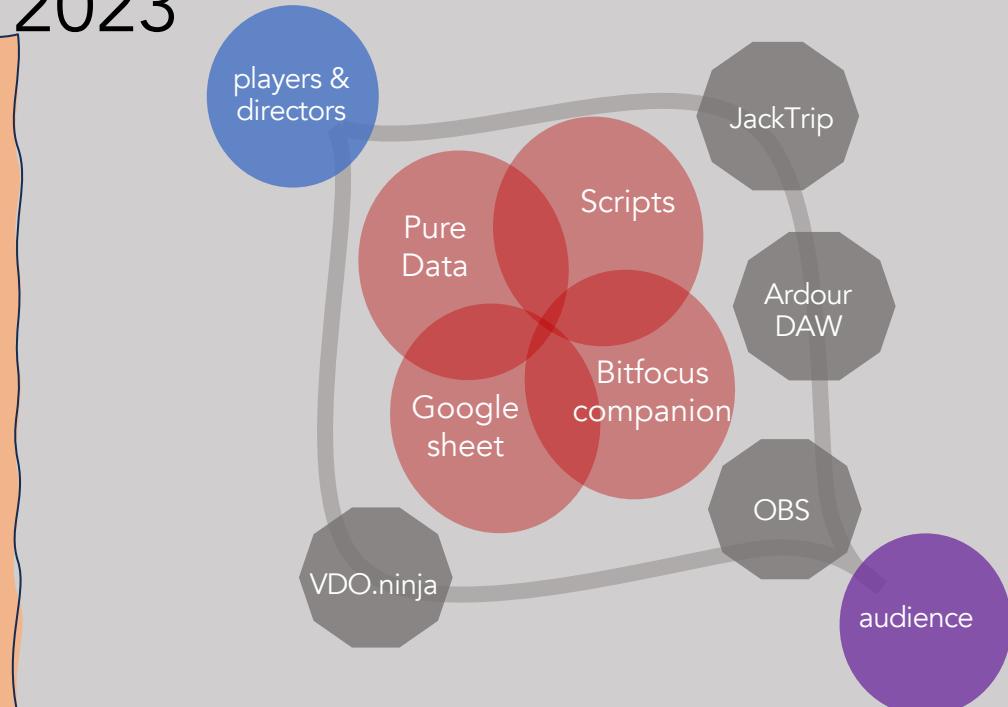


Pretty Good JackTrip Toolkit

Panel Discussion – NowNet Arts Conference
2023

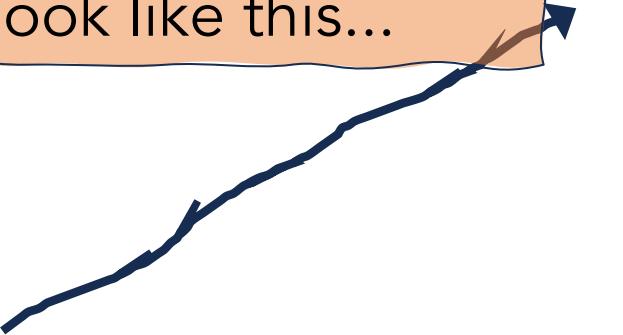


My process was this



The process unfolded as a series of puzzlers presented by Sarah Weaver and members of the NowNet Hub ensemble. The solutions to those puzzlers is the story for today.

Apologies if I make
it look like this...



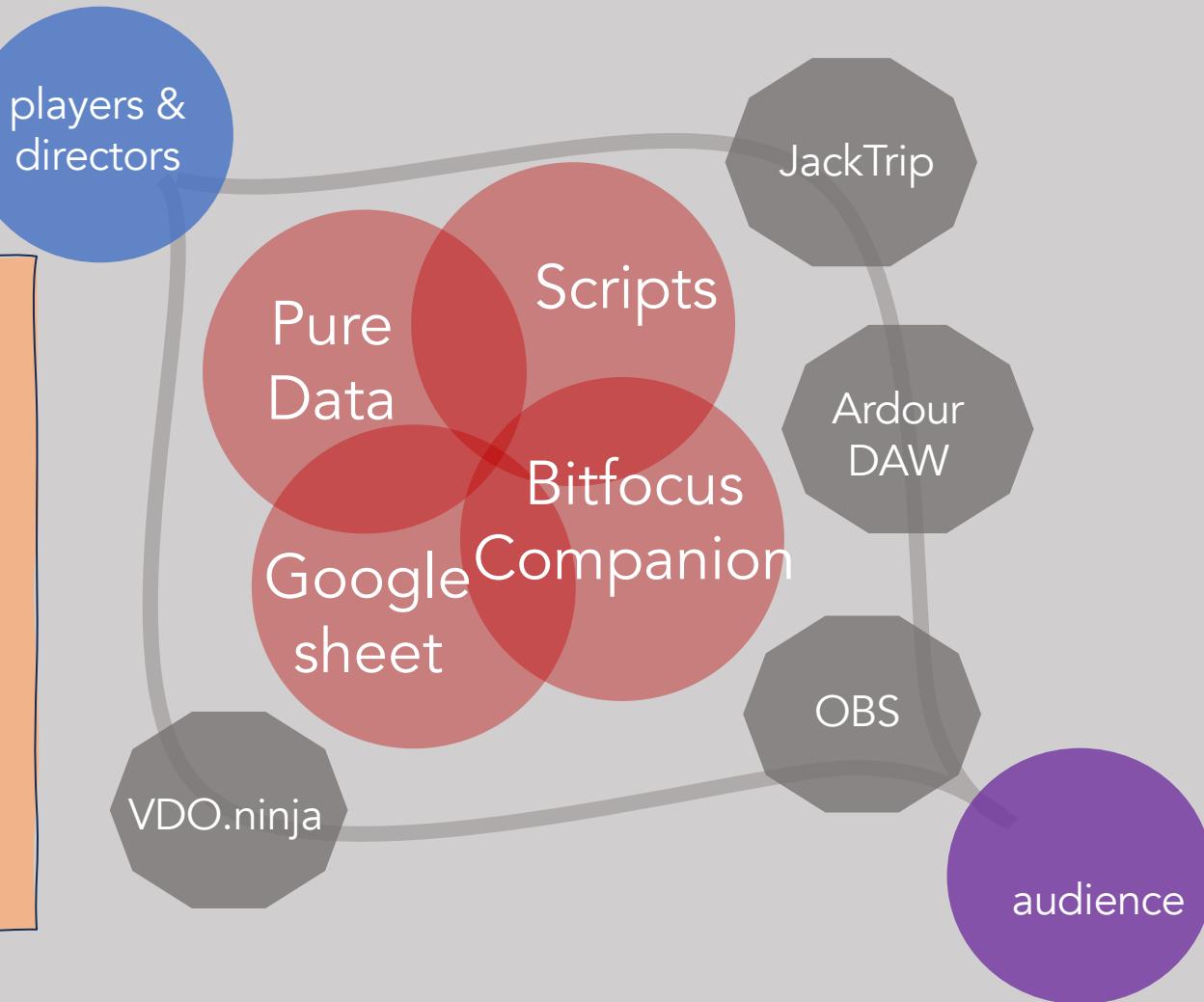
Or this

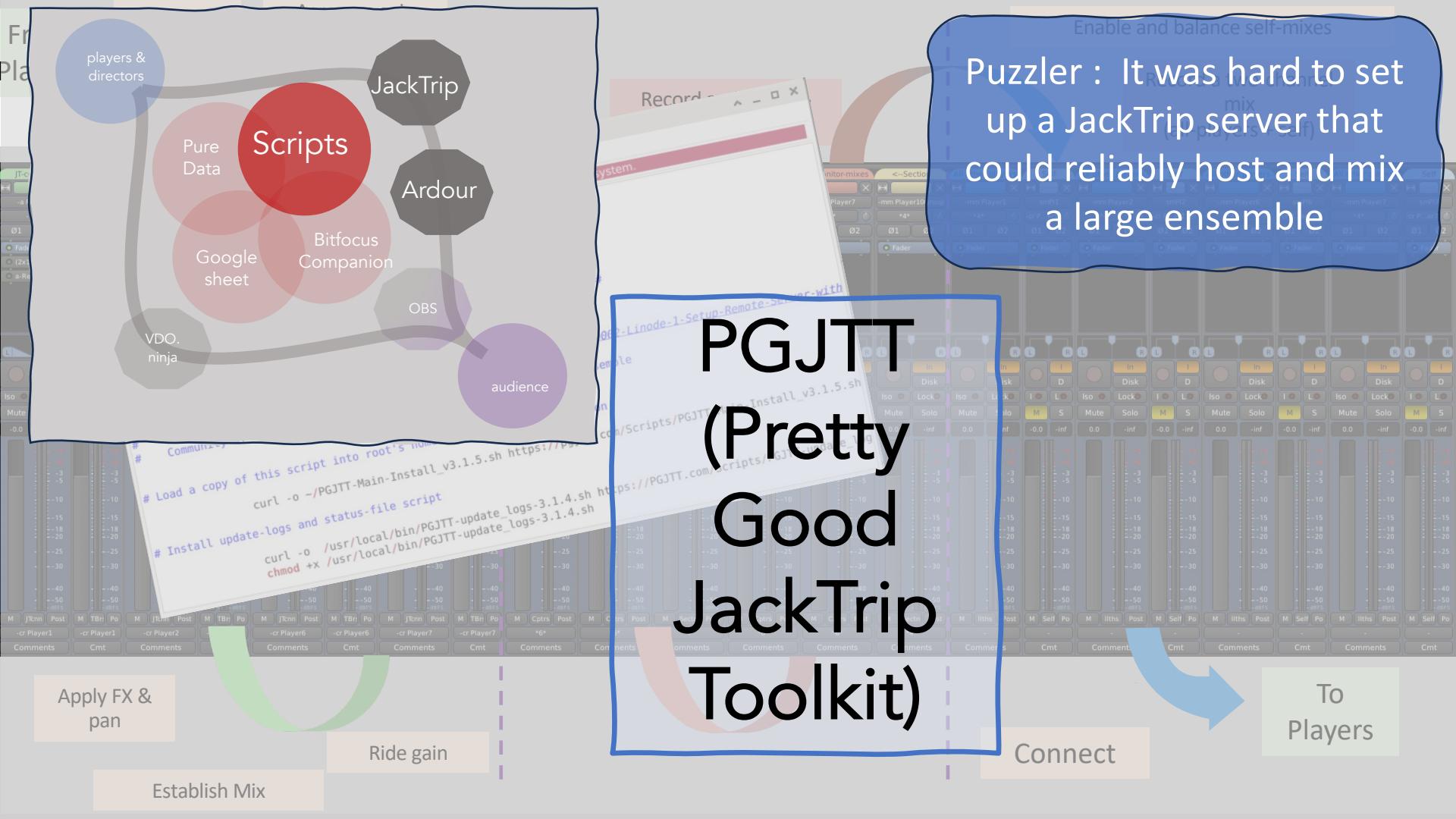
System Integration (from ChatGPT)

- System integration is the process of linking together different computing systems and software applications physically or functionally, to act as a coordinated whole.
- The systems to be integrated may be various software applications, databases, computing systems, or a mix of these. This process is complex and involves various steps, including:
 - determining system requirements,
 - selecting the appropriate systems,
 - designing how the systems will connect,
 - implementing the connections, and
 - testing to ensure everything is functioning correctly.
- The goal of system integration is to create a more efficient system that eliminates redundant processes and automates data flows, ultimately improving operational efficiency and productivity.

Puzzler-solutions

- Pretty Good JackTrip toolkit (PGJTT)
- Connect Players Script
- Gloria's cues
- VDO.ninja
- Custom cue-mixing
- Multi-channel audio





Pretty Good Jacktrip Toolkit

https://www.pgjtt.com

Search

Pretty Good Jacktrip Toolkit



Home

Build your own server — in four steps

Step1: Provision a Linode server with one of these Linode Stackscripts

[Legacy – version 3.1.5](#)

[Current – version 3.2.1](#) (adds multi-channel audio and cue-mixing)

Step2: Wait about 10 minutes and then SSH into the newly-provisioned server

Step3: Answer “yes” to the realtime audio prompt in the script

Step4: Log out and back in again when the script completes

www.PGJTT.com



Trash



Connect 5 players



File System



QjackCtl



Home



Ardour6

Jacktrip 1.5.3
Mixer q32

Task Manager

Jacktrip 1.5.3
GUITest Player
connectionConnect 25
playersJacktrip 1.7.1
Mixer q32Connect 20
playersConnect 15
playersConnect 10
players

Desktop Launchers

Debian Linux (with the Xfce desktop, launchers for software & scripts, and utilities for file browsing & editing/system monitoring/etc. – delivered on a VNC remote-desktop (TightVNC)

/usr/local/bin/connect_players.sh - Mousepad

```
Warning: you are using the root account. You may harm your system.

then
:
#####
# Scenario 2?
# Player:      in Jack?      NOT in Mixer?
#
# - determine how many channels we're receiving
#
#####
else

    if [[ $newJackConnections == *$queryString3* ]];

#####
# Scenario 2.a?
# receive_2 connected? - we're receiving stereo: assume that
# sending on 2 channels:
#
# - connect player, wait,
# - add to current_Mixer_connections
# - execute Jmess against a multi XML file for this player
#
```



Task Manager

	CPU: 7%	Processes: 135	Memory: 30% (1.2 GiB / 3.8 GiB)	Swap: 6% (33.2 MiB / 512.0 MiB)
Ardour	308841	512.3 MiB	4%	
Xtightvnc :1-desktop X -auth /root/.Xauthority -geometry 2800x1080 -depth 24 -rfbwait 120000 -rfbau...	578	97.5 MiB	1%	
Task Manager	30898	35.6 MiB	1%	
jackd -T -ndefault -t 200 -p 2048 -R -T -d dummy -r 48000 -p 512	308878	129.4 MiB	1%	
jacktrip1.5.1 -S --hubpatch 5 -z -q 16	309205	122.4 MiB	1%	
/usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libpul...	747	28.5 MiB	1%	
teamviewerd -d	507	42.0 MiB	0%	

Task manager

JackTrip, Jack and Qjackctl



Trash

Connect 5
players

File System



QjackCtl



Home



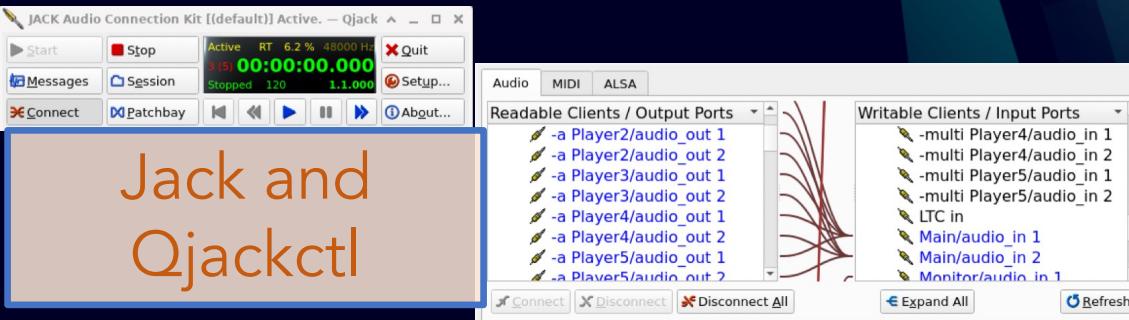
Ardour6

Jacktrip-1.5.3
Mixer q32

Task Manager

Jacktrip-1.5.3
GUITest Player
connectionConnect 25
playersJacktrip-1.7.1
Mixer q32Connect 20
playersJack and
QjackctlConnect 15
playersConnect 10
players

```
Terminal -  
File Edit View Terminal Tabs Help  
-----  
Using JitterBuffer strategy 1  
Waiting for Connection From a Client...  
UDP Socket Receiving in Port: 61002  
-----  
Waiting for Peer...  
JackTrip HUB SERVER: Total Running Threads: 1  
=====  
spawning jacktripWorker (auto hub patching disabled)  
Received Connection from Peer!
```

JackTrip



Trash



Connect 5 players



File System



QjackCtl



Home



Ardour6

Jacktrip 1.5.3
Mixer q32

Task Manager

Jacktrip 1.5.3
GUITest Player
connectionConnect 25
playersJacktrip 1.7.1
Mixer q32Connect 20
playersConnect 15
playersConnect 10
players

Ardour DAW (with templates to launch 5, 10, 15, 20 and 25-player mixers and provide players with individualized monitor/cue-mixing)





Trash

Connect 5
players

File System



QjackCtl



Home



Ardour6

Jacktrip 1.5.3
Mixer q32

Task Manager

Jacktrip 1.5.3
GUITest Player
connectionConnect 25
playersJacktrip 1.7
Mixer q32Connect 20
playersConnect 15
playersConnect 10
players

JMess

(for managing audio routing)

Terminal -

File Edit View Terminal Tabs Help

```
JMess: A simple utility so save your jack-audio mess.  
Copyright (C) 2007-2016 Juan-Pablo Caceres.  
VERSION: 1.0.3
```

Usage:

```
-----  
-h --help          Prints this help  
-c --connect      Load the connections specified at inputFile.xml  
-s --save          Save current connections in outputFile.xml  
-d --disconnectall Disconnect all the connections  
-D --DisconnectAll Disconnect all the connections without confirmation
```

JMess





Trash

Connect 5
players

File System



QjackCtl

A web server
(preconfigured to provide a drop-box to export recordings and other files via the web)



Home



Recordings

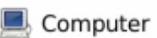
File Edit View Go Help



/root/Recordings/

Jacktrip 1.5.3
Mixer q32Jacktrip 1.5.3
GUIConnect 25
playersConnect 20
playersConnect 15
playersConnect 10
players

Places



Computer



root



Desktop



Trash

Devices



File System

File
manager

Test_12bar%L.wav

Test_12bar%R.wav



Index of /Recordings/

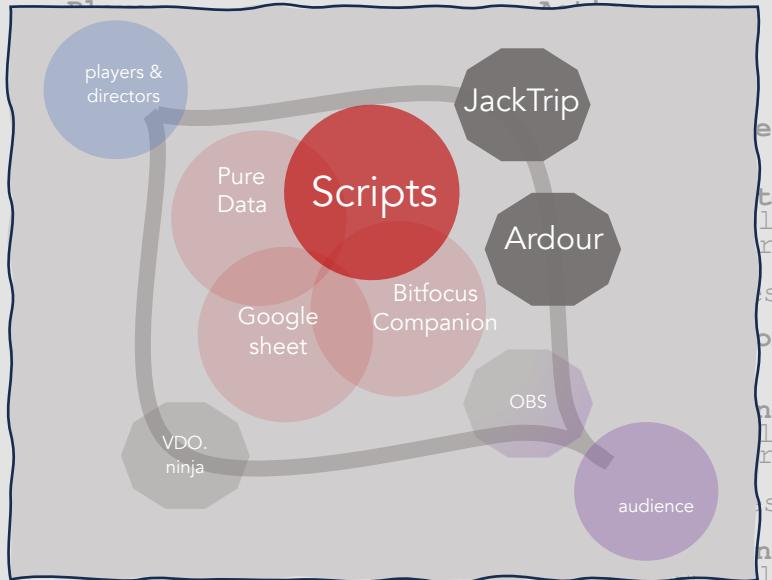
143.42.228.172/Recordings/

Index of /Recordings/

Name	Last Modified	Size
...		-
Test_12bar%L.wav	2023-Aug-15 20:11:53	6.5M
Test_12bar%R.wav	2023-Aug-15 20:11:53	6.5M

Web
page

Here are the scenarios the function can encounter when it evaluates a Player.



3 NOT in Jack? in Mixer? - remove from `current_Mixer_connection`

4 NOT in Jack? NOT in Mixer - do nothing

5 in Jack TWICE? in Mixer? - post **duplicate-player alert**,
- take the alert down when they disconnect

Puzzler : It was hard to bring people into the mixer and extra hard if they dropped off and needed to reconnect.

Connect-Players script

connect_PlayerN Function – Truth Table

Player in Jack?	Ardour DAW connected?	Jack receive_2 connected?	Jack send_2 connected?	JMess multi file for player?	Action:
yes	yes	---	---	---	do nothing
yes	no	yes	---	no	connect player - 2 in x 2 out
yes	no	yes	---	yes	connect player - 2 in x 2 out – multi-channel
yes	no	no	yes	no	connect player - 1 in x 2 out
yes	no	no	yes	yes	connect player - 1 in x 2 out – multi-channel
yes	no	no	no	no	connect player - 1 in x 1 out
yes	no	no	no	yes	connect player - 1 in x 1 out – multi-channel
no	yes	---	---	---	do housekeeping
no	no	---	---	---	do nothing
yes TWICE	---	---	---	---	post duplicate-player alert

File Edit View Terminal Tabs Help

Player1_

Player2_

Player3_

Player4_CONNECTED_2-in_2-out_

Player5_CONNECTED_2-in_2-out_

Player6_

Player7_

Player8_CONNECTED_2-in_2-out_

Player9_

Player10_

Player11_

Player12_

Player13_

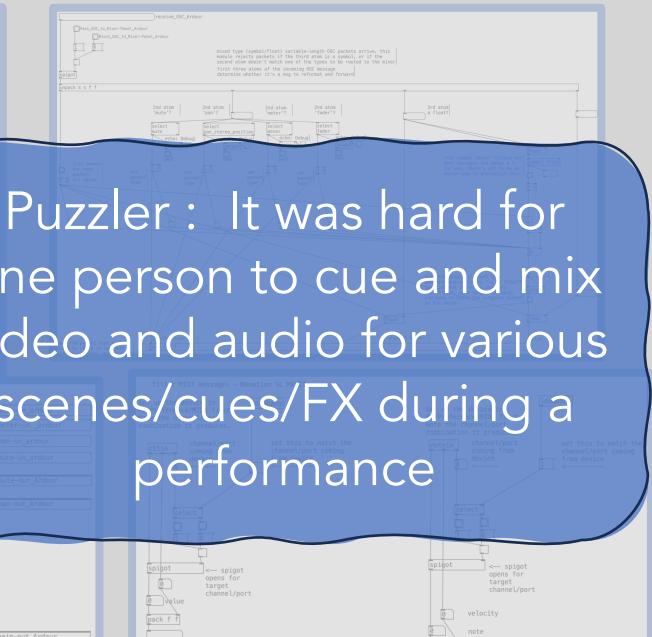
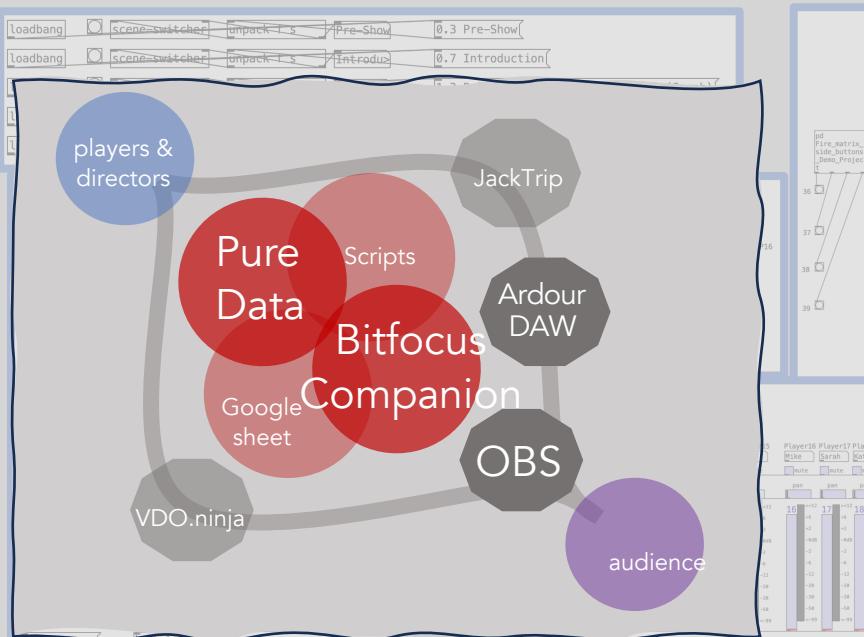
Player14_CONNECTED_2-in_2-out_

Player15_

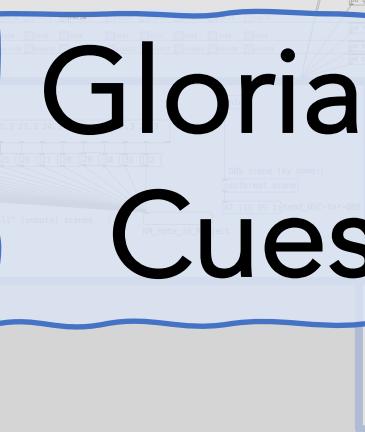
Looking for Players entering or leaving - use ctrl-c to stop

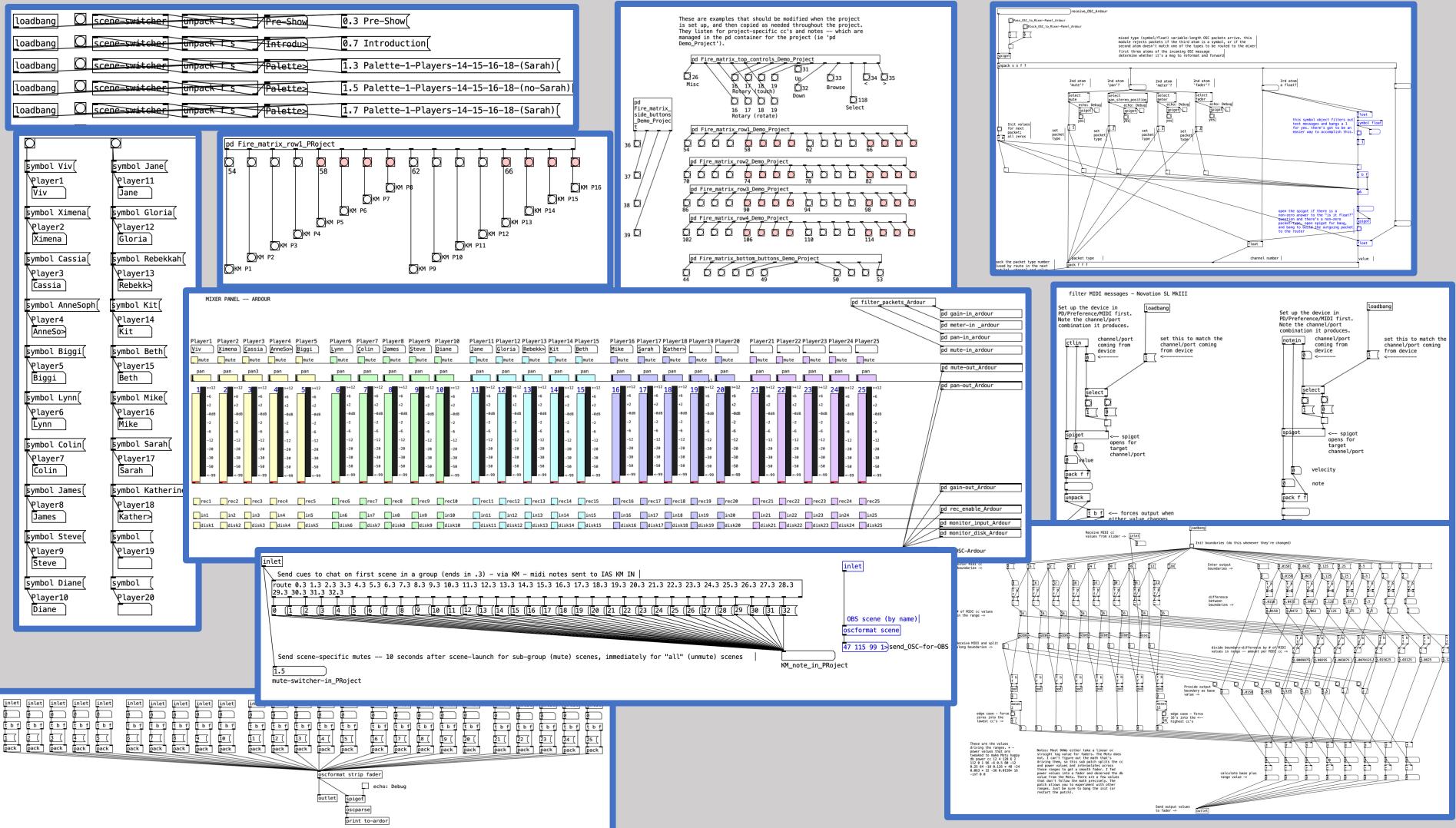
delayLoop is 1



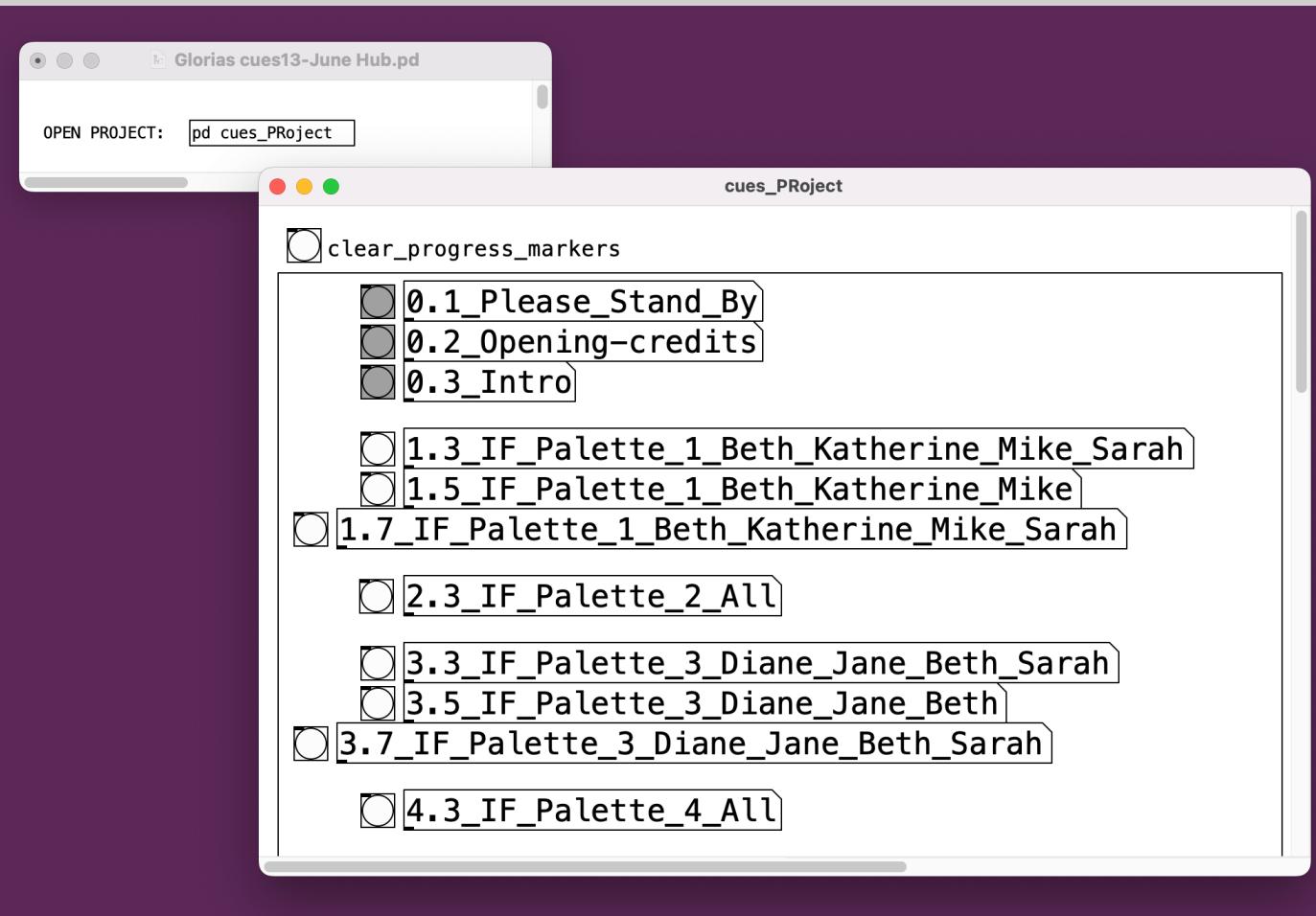


Gloria's Cues

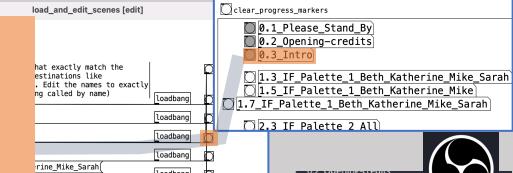
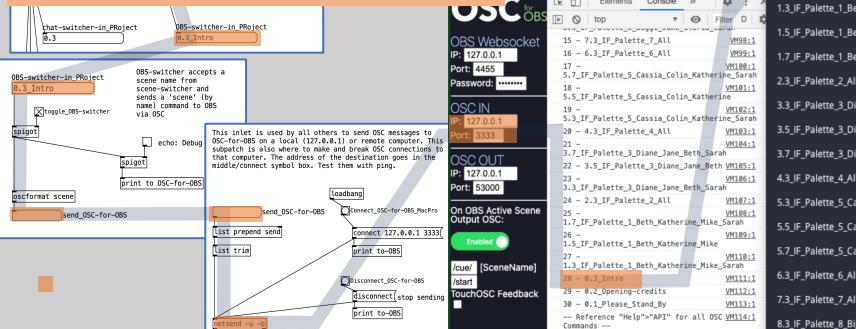




Here's the
director view



Rev 2 – a better way...



0.3 Intro

1.3_JF_Palette_1_Beth_Katherine_Mike_Sarah
1.5_JF_Palette_1_Beth_Katherine_Mike
1.7_JF_Palette_1_Beth_Katherine_Mike_Sarah
2.3_JF_Palette_2_All

Buttons

The squares below represent each button on your Streamdeck. Click on them to set up how you want them to look, and what they should do when you press or click on them.



You can navigate between pages using the arrow buttons, or by clicking the page number, typing in a number, and pressing 'Enter' on your keyboard.

You can use common key commands such as copy, paste, and cut to move buttons around. You can also press the delete or backspace key with any button highlighted to delete it.



Companion

Buttons

Text: 3, 9, 15

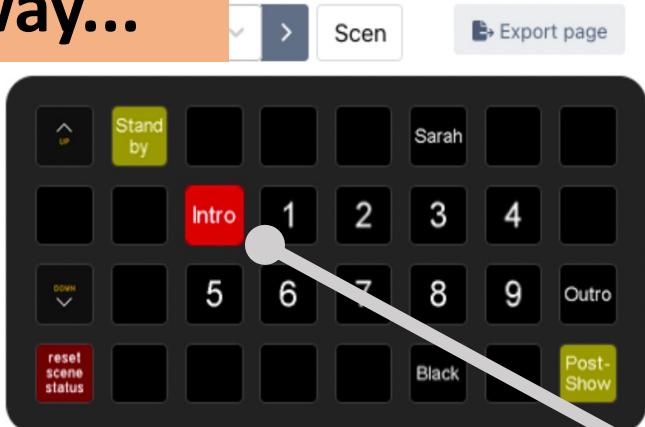
Actions: obs: Set Program Scene, obs: Set Preview Scene

Scenes: Pre-Show, Intro, Dmsn 1, Dmsn 2, Dmsn 3, Dmsn 4

Buttons

Rev 2 – a better way...

sent each button on your Streamdeck. Click on them to look, and what they should do on them.



Copy

Move

Delete

Wipe page

Reset page buttons

You can navigate between pages using the arrow buttons, or by clicking the page number, typing in a number, and pressing 'Enter' on your keyboard.

You can use common key commands such as copy, paste, and cut to move buttons around. You can also press the delete or backspace key with any button highlighted to delete it.

Edit Button 3.11

Presets

Variables

Recorder

Auto



Follow Default

Text



PNG



72x72 PNG



Relative Delays



Progress



Rotary Action



Actions

Feedbacks

+ Add step

Press actions

obs: Set Program Scene

Delay

0

ms

Scene

Intro

obs: Set Preview Scene

Delay

1500

ms

Scene

Dmsn 1

Slide1.jpg

Properties

Scenes

Sources

Pre-Show

Player

Intro

Player

Dmsn 1

Player

Dmsn 2

Player

Dmsn 3

Player

Dmsn 4

Player

Dmsn 5

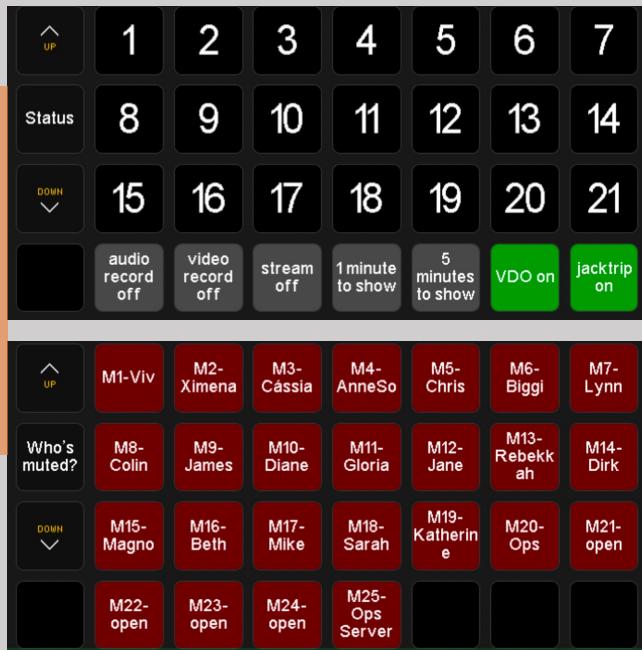
Player



For Director: Scene Cues and Player-mutes



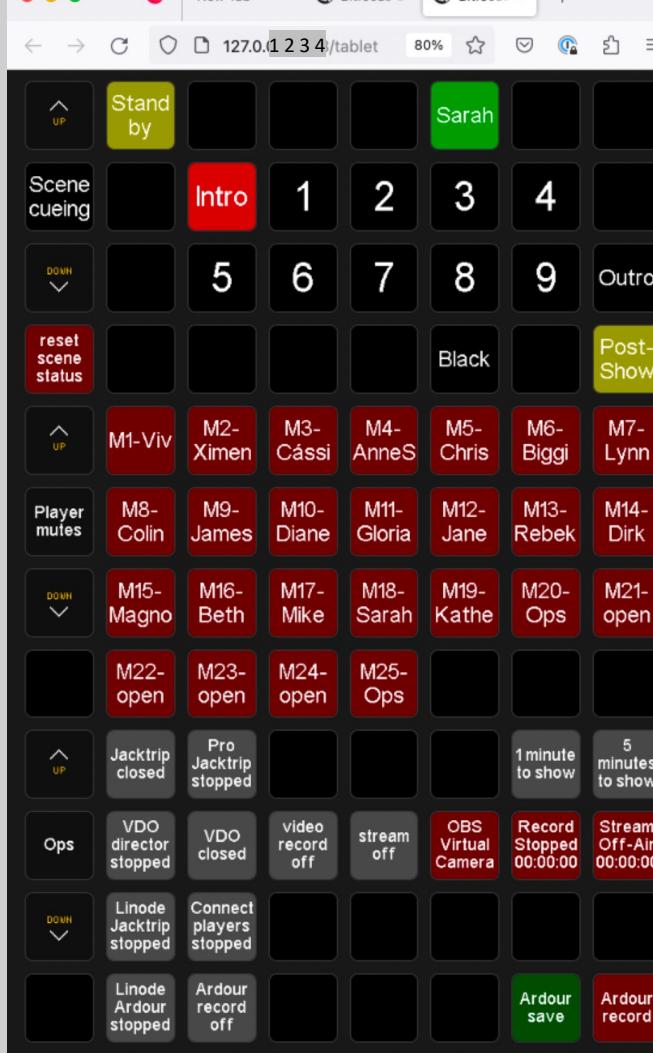
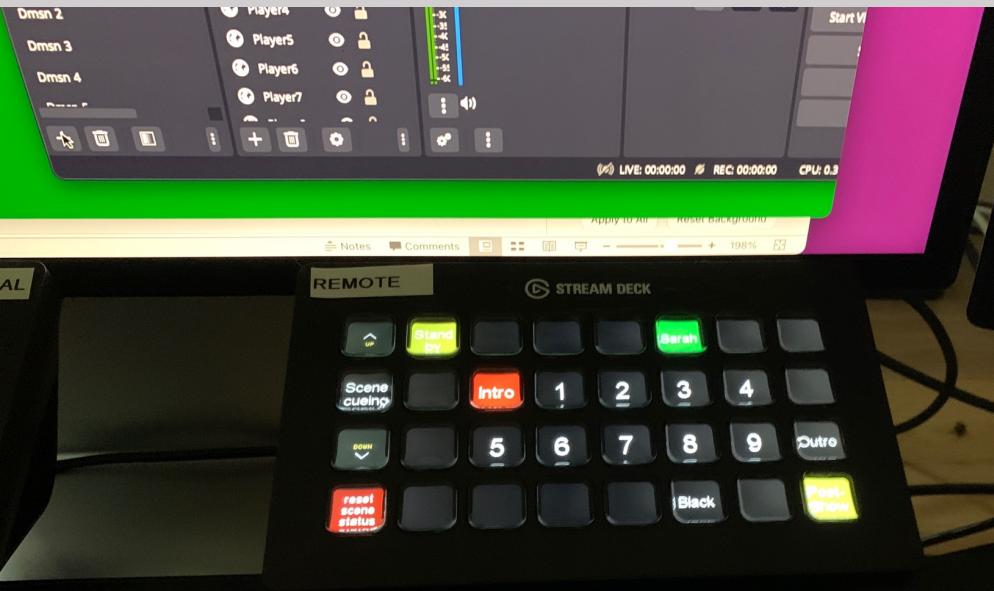
For Players: Current scene, tech-status and who's-muted info



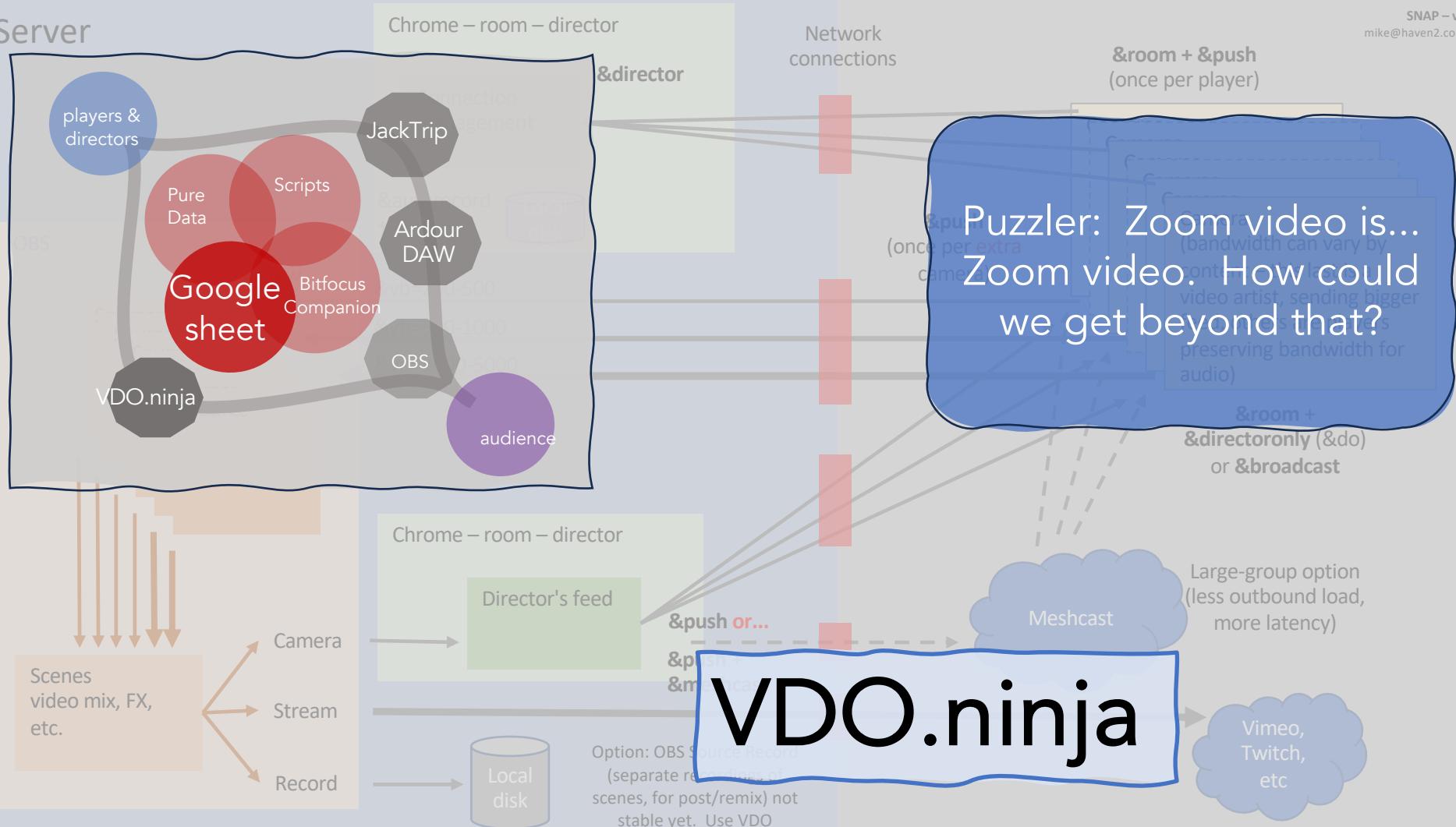
For Ops: Technical cues



Companion

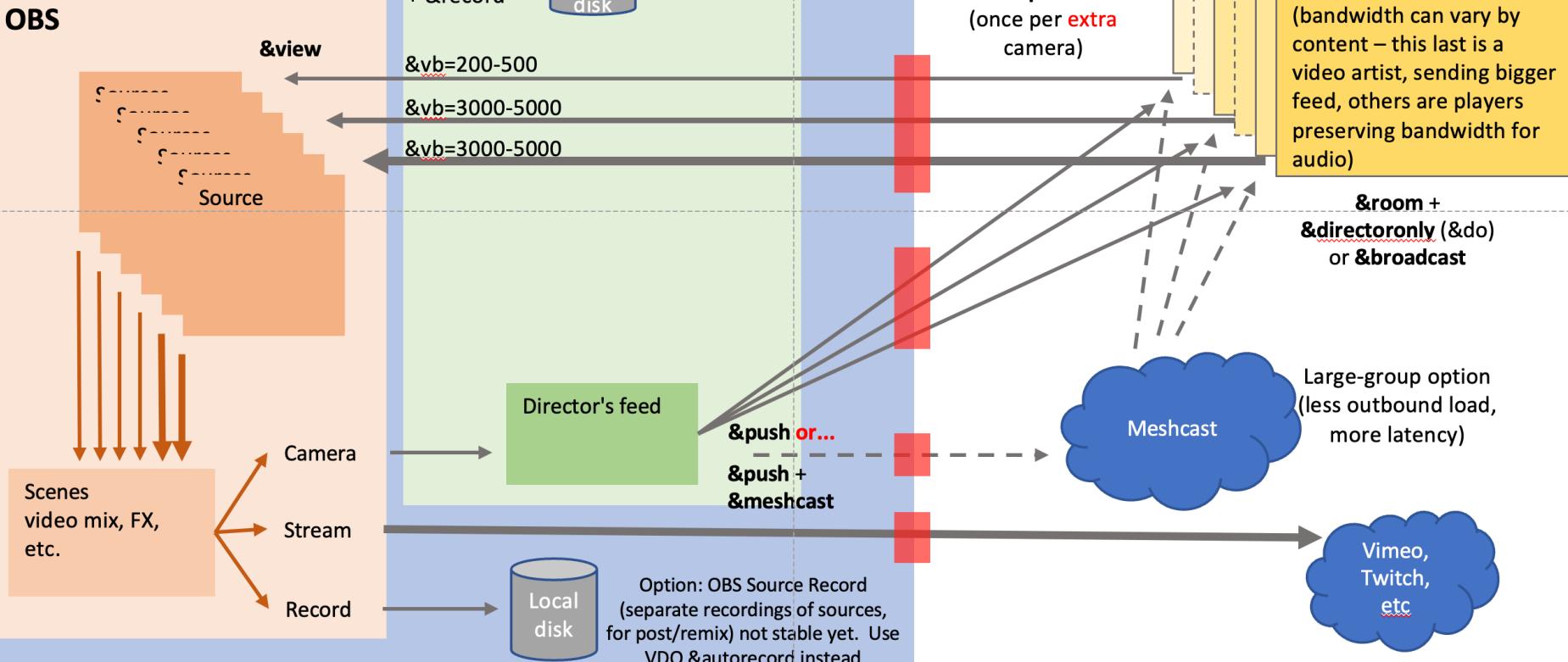


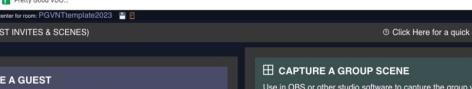
Server



Server

OBS



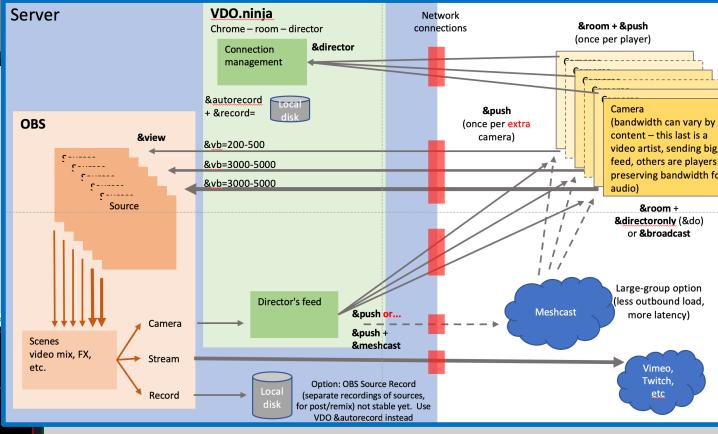


The screenshot shows the VDO Ninja Control Room interface. At the top, there are tabs for 'Pretty Good VDO -- TEMP/1' and 'Control Room'. Below the tabs, a URL in the address bar is <https://vdo.ninja/?director=PGVNNTemplate2023&password=template2023&pushsPrettyGoodDirector&device=0&h=8&w=1280&port=20000>. The main content area shows a 'VDO Ninja' control center for room 'PGVNNTemplate2023'. A 'LINKS (GUEST INVITES & SCENES)' section is visible. On the right, a 'Click Here for a quick overview and help' link is present. The main video area is divided into four guest slots, each with a placeholder icon. An overlay titled 'CAPTURE A GROUP SCENE' is displayed, with a sub-instruction 'Use in OBS or other studio software to capture the group video mix' and a URL <https://vdo.ninja/?scene=0&room=PGVNNTemplate2023&password=template2023>. The overlay also includes 'Auto-add guests', 'Customize', and 'Copy link' buttons.

The screenshot shows the OBS Studio application window. At the top, the title bar reads "OBS 29.0.2 (mac) - Profile: Untitled - Scenes: templates - all sizes - Cam1 only - V1.3 - duplicate and c". The main area displays a 4x6 grid of camera sources, each represented by a red square with a black dot in the center. The left side of the interface has a list of source names: "Camera1 - 25 players - template - duplicate before modifying", "Camera1 - 16 players - template - duplicate before modifying", "Camera1 - 9 players - template - duplicate before modifying", "Camera1 - 4 players - template - duplicate before modifying", and "Screen Share solo - template - duplicate before modifying". Below the grid, the "Sources" tab is selected in the bottom navigation bar, showing a list of 10 "template.200" entries. The "Properties" tab is also visible. On the right side, there are several control buttons: "Start Streaming", "Start Recording", "Start Virtual Camera", "Studio Mode", "Settings", and "Exit". The bottom status bar indicates "05 LIVE 00:00:00" and "CPU 0.7% 60.000 fps".

VDO.ninja

Brings network video into OBS
and sends OBS video mix back to players



OBS

Mixes and streams video

Pretty Good VDO -- TEMPLATE - Duplicate before m...

File Edit View Insert Format Data Tools Extensions Help

100% \$.00 123 Default... - + B I A

A	B	C	D	E	F
Name	Player number	Regular Join	Lo Bandwidth Join	Hi Bandwidth Join	
Player the 1st	1		jacktrip -C 45.56.103.101 -z -q16 --ud		
Player the 2nd	2	Join	Join	Join	jacktrip -C 45.56.103.101 -z -q16 --ud
Player the 3rd	3	Join	Join	Join	jacktrip -C 45.56.103.101 -z -q16 --ud
--open--	4	Join	Join	Join	jacktrip -C 45.56.103.101 -z -q16 --ud
--open--	5	Join	Join	Join	jacktrip -C 45.56.103.101 -z -q16 --ud

Players - VDO & JackTrip links

Google spreadsheet

Pretty Good VDO -- TEMPLATE - Duplicate before m...

File Edit View Insert Format Data Tools Extensions Help

100% \$.00 123 Default... - + B I A

A	B	C
Publication URL	Share with players	select File/Share/Publish To Web - choose "Link" - Choose the Players tab - Publish - dist
Parameter	Value	Description
?director	PGVNTtemplate2023	?director= first parameter is a question mark rather than ampersand - establish the room in the D
&password	template2023	&password= establish room password
?hash=	52fc	?hash= generated - enter the password here , paste the result as the value here (to be used in pl
&push=	PrettyGoodDirector	&push= establish and name the director's feed -- which is viewed by participants
&adevice=	0	&adevice= preload "no audio device" - we use Jacktrip instead
?h=		?h= overrides default room height dimension - improves sharpness - leave blank for default (720
?w=		?w= overrides default room width dimension - improves sharpness
?rb=	20000	&rb= total room bandwidth - calculate this yourself - number of guests x kBITS for each - eg six gu
Director - local room		
		https://vdo.ninja/?director=PGVNTtemplate2023&password=template2023&push=PrettyGoodDirector&adevice=0&h=720&w=1280&rb=20000
&meshcast=	de1	&meshcast= feed to guest via Meshcast streaming (vs local) - optional parm to preselect server k
&mcbitrate=	5000	&mcbitrate = note that Meshcast is

Players - VDO & JackTrip links

Director

Pretty Good VDO -- TEMPLATE x +

Pretty Good VDO -- TEMPLATE - Duplicate before m... File Edit View Insert Format Data Tools Extensions Help

100% 14 B I A

A1

A	B	C	D	E	F
Name	Player number	Regular	Lo Bandwidth	Hi Bandwidth	
Player the 1st	1	Join	Join	Join	jacktrip -C -q16 --ud
Player the 2nd	2	Join	Join	Join	jacktrip -C -q16 --ud
Player the 3rd	3	Join	Join	Join	jacktrip -C -q16 --ud
	4	Join	Join	Join	jacktrip -C -q16 --ud
	5	Join	Join	Join	jacktrip -C -q16 --ud

Google spreadsheet

+ ⌂ 🔒 Players - VDO & JackTrip links Director Grids N < > ⌂ ⌂

Pretty Good VDO -- TEMPLATE X +

Pretty Good VDO -- TEMPLATE - Duplicate before m... File Edit View Insert Format Data Tools Extensions Help

100% 100% | \$ % .0 .00 123 | Default... | - 10 + | B I A | :

A1 fx

Parameter	Value	Description
?director		?director= first parameter is a question mark rather than ampersand - establish the room in the D
&password=		&password= establish room password
&hash =		&hash= generated - enter the password here , paste the result as the value here (to be used in pl
&push=		&push= establish and name the director's feed -- which is viewed by participants
&adevice=	0	&adevice= preload "no audio device" - we use Jacktrip instead
&h=		&h= overrides default room height dimension - improves sharpness - leave blank for default (720
&w=		&w= overrides default room width dimension - improves sharpness
&trb=	20000	&trb= total room bandwidth - calculate this yourself - number of guests x kBits for each - eg six gu
Director - local room		
		https://vdo.ninja/?director=
&meshcast=	de1	&meshcast= feed to guest via Meshcast streaming (vs local) - optional parm to preselect server l
&mcbitrate=	5000	&mcbitrate= specifies the per-viewer bitrate - 2400 kBits/sec is the default - note that Meshcast is

Google
spreadsheet

A1

fx

	A	B
1		
2	Publication URL	Share with players
3		select File/Share/Publish To Web - choose "Link" - Choose the Players tab
4	Parameter	Value
5	?director	?director= first parameter is a question mark rather than ampersand - establish the room in the D
6	&password=	&password= establish room password
7	&hash =	&hash= generated - enter the password here , paste the result as the value here (to be used in pl
8	&push=	&push= establish and name the director's feed -- which is viewed by participants
9		
10	&adevice=	0
11	&h=	&h= overrides default room height dimension - improves sharpness - leave blank for default (720
12	&w=	&w= overrides default room width dimension - improves sharpness
13	&trb=	20000
14		
15	Director - local room	
16	https://vdo.ninja/?director=	
17		
18		
19	&meshcast=	de1
20	&mcbitrate=	5000











































































































































































































































































































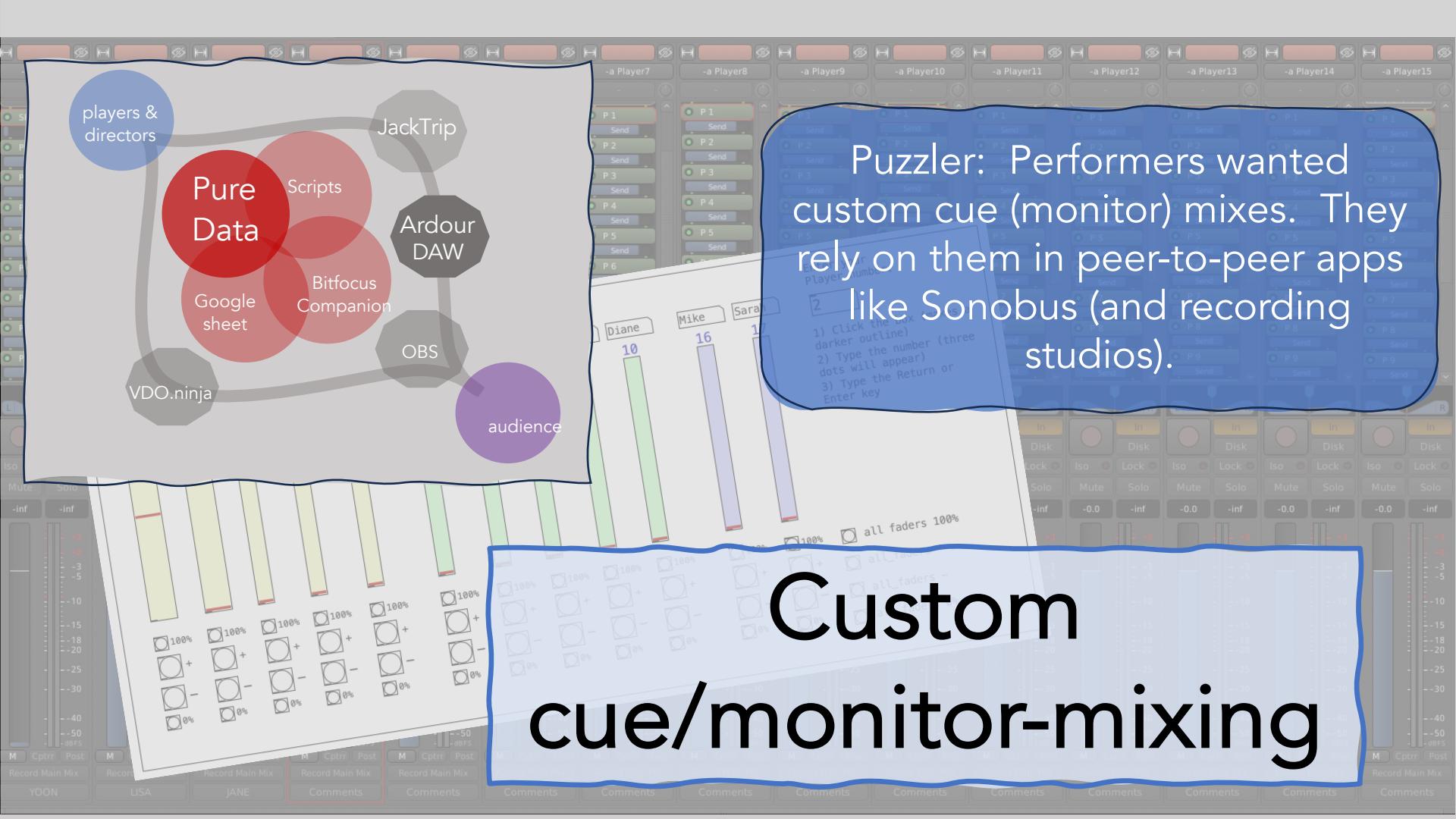


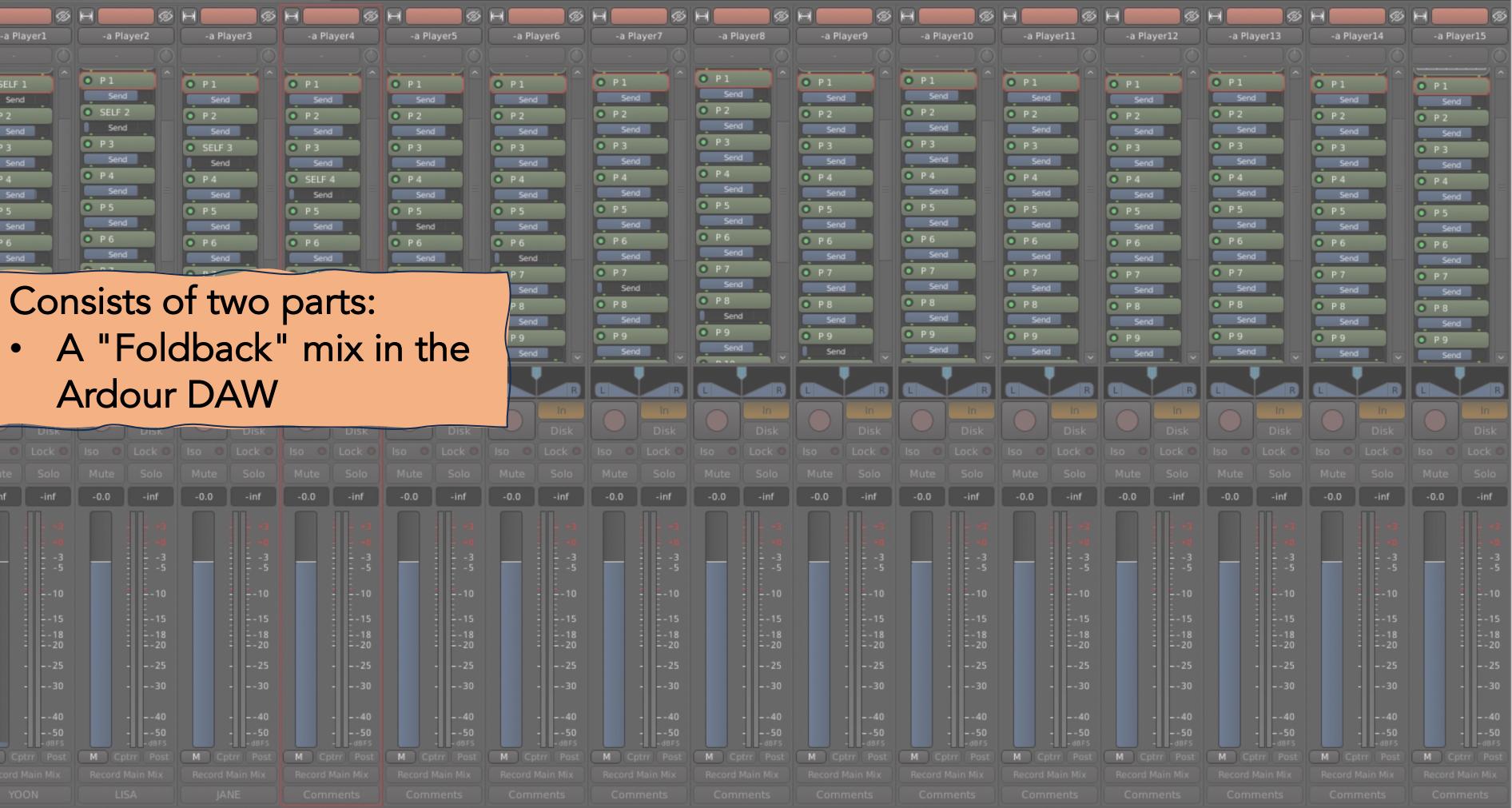


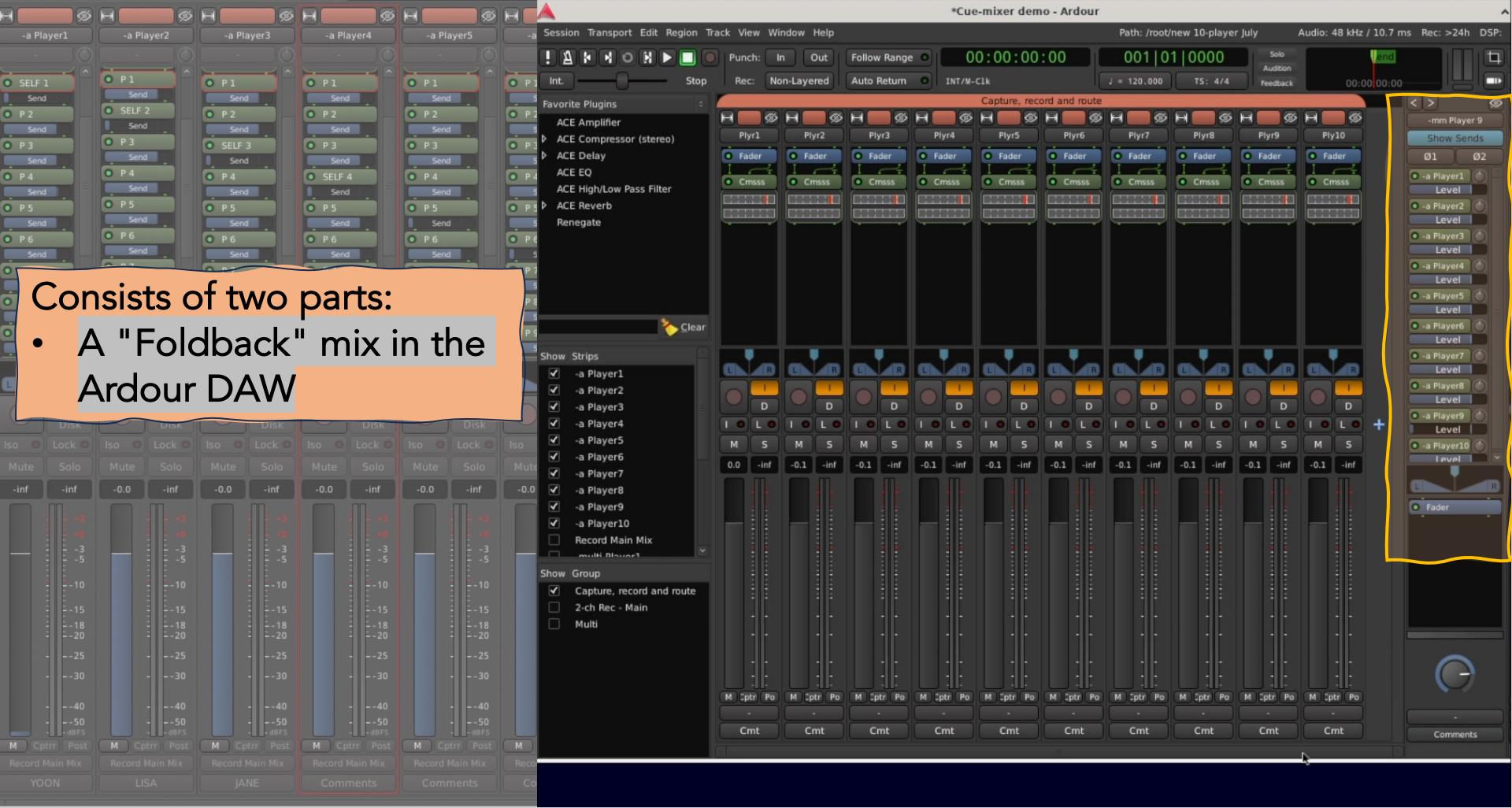






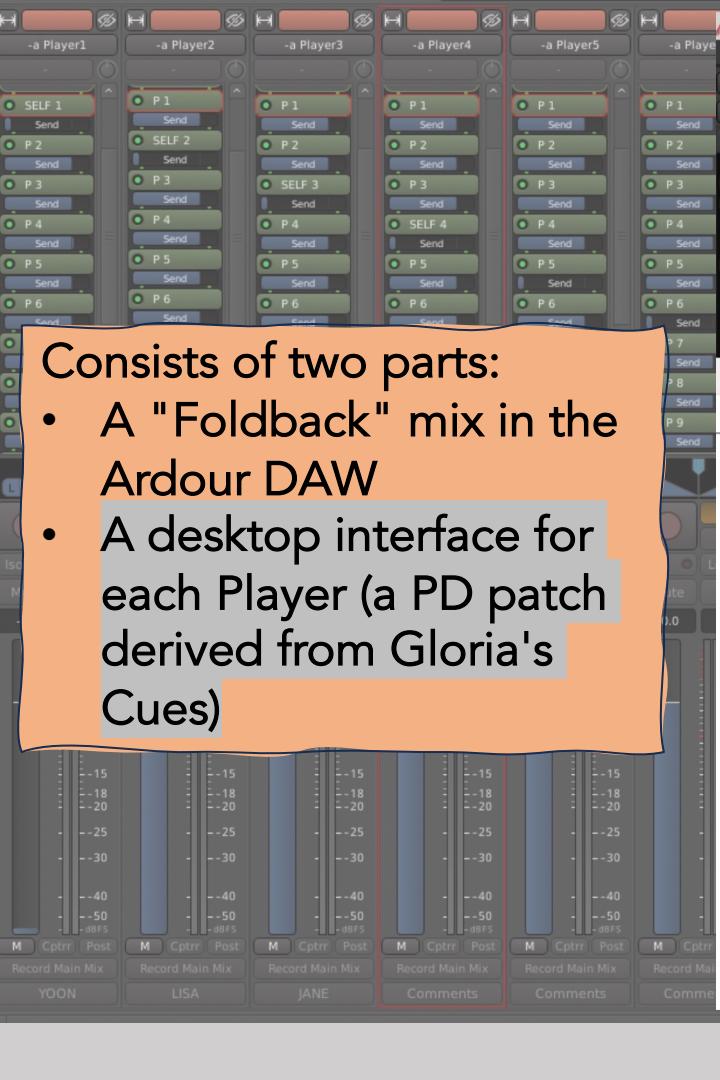



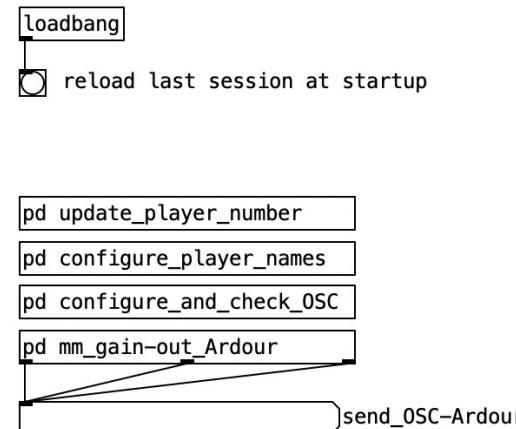
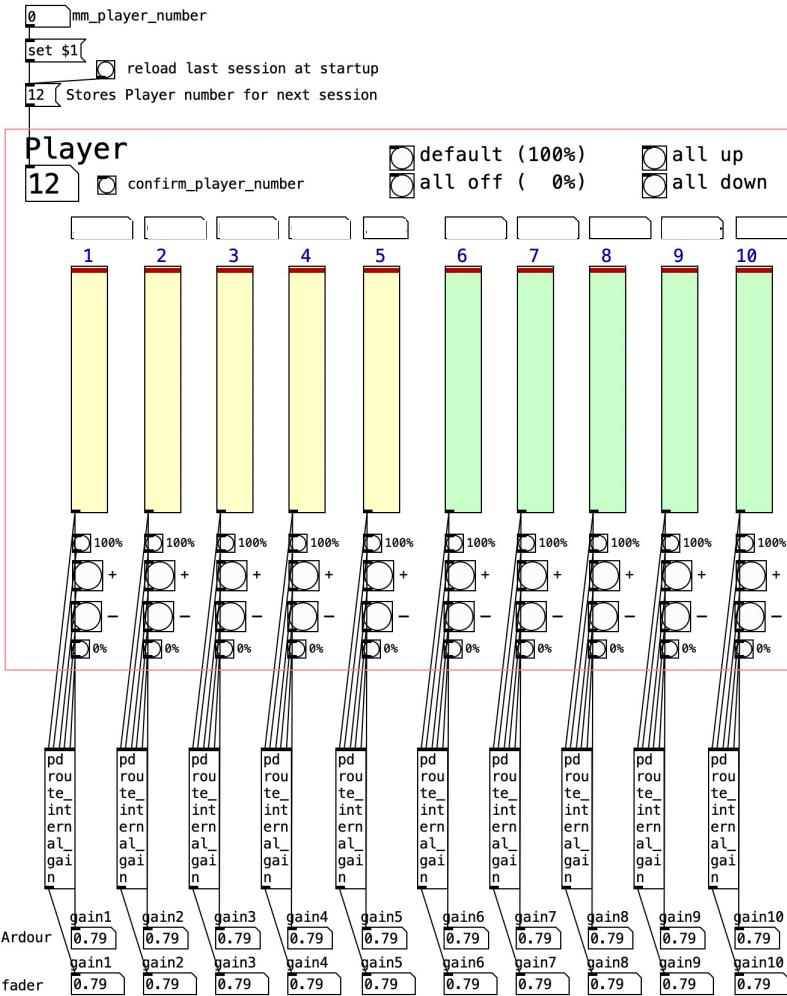




Consists of two parts:

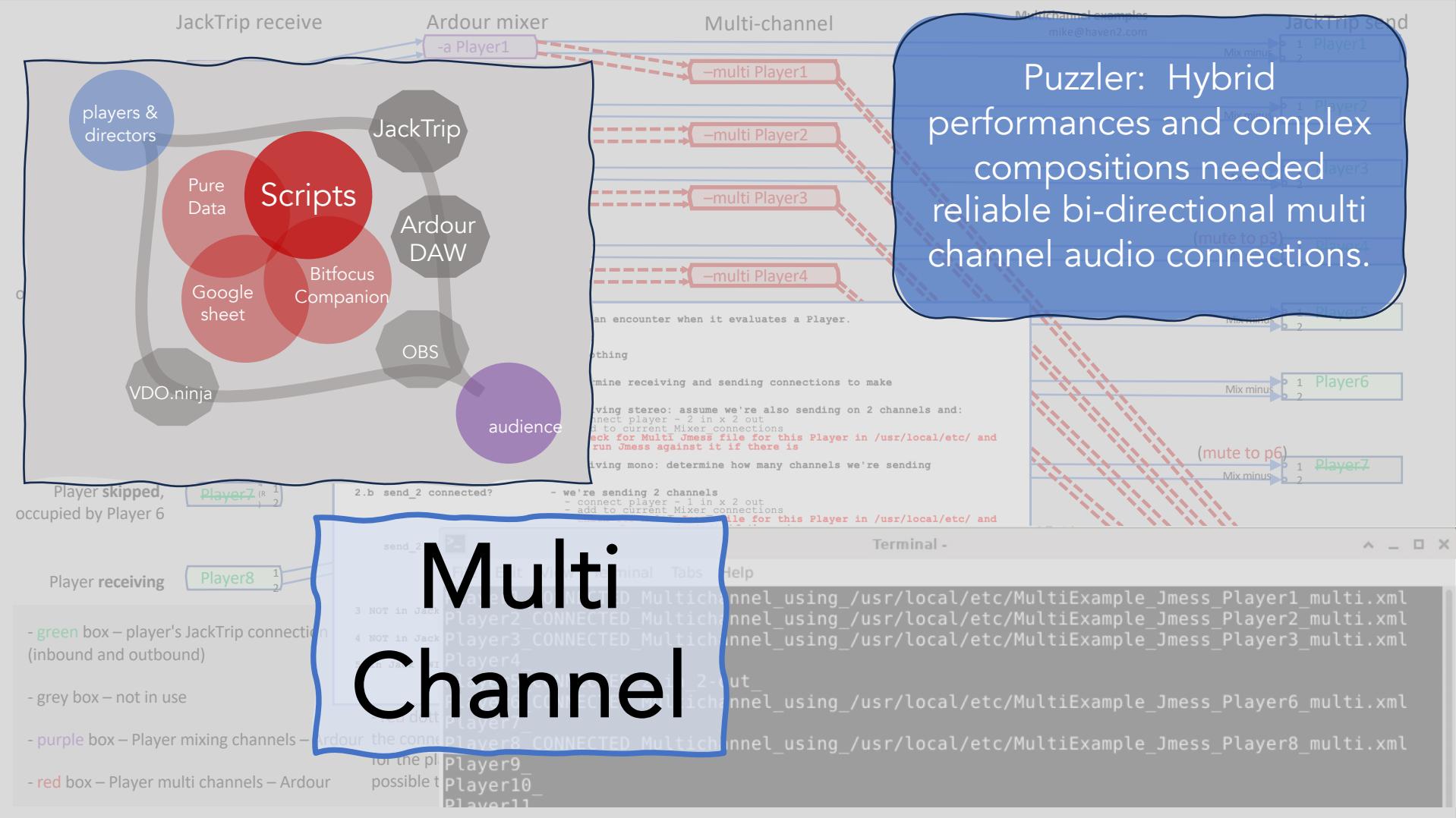
- A "Foldback" mix in the Ardour DAW
- A desktop interface for each Player (a PD patch derived from Gloria's Cues)



canvas object --
set properties for
graph-on-parent
here

Todo: simultaneous connections?, replace db scale, separate pd files for each player?, reset button, "gas station" to load patches for performers

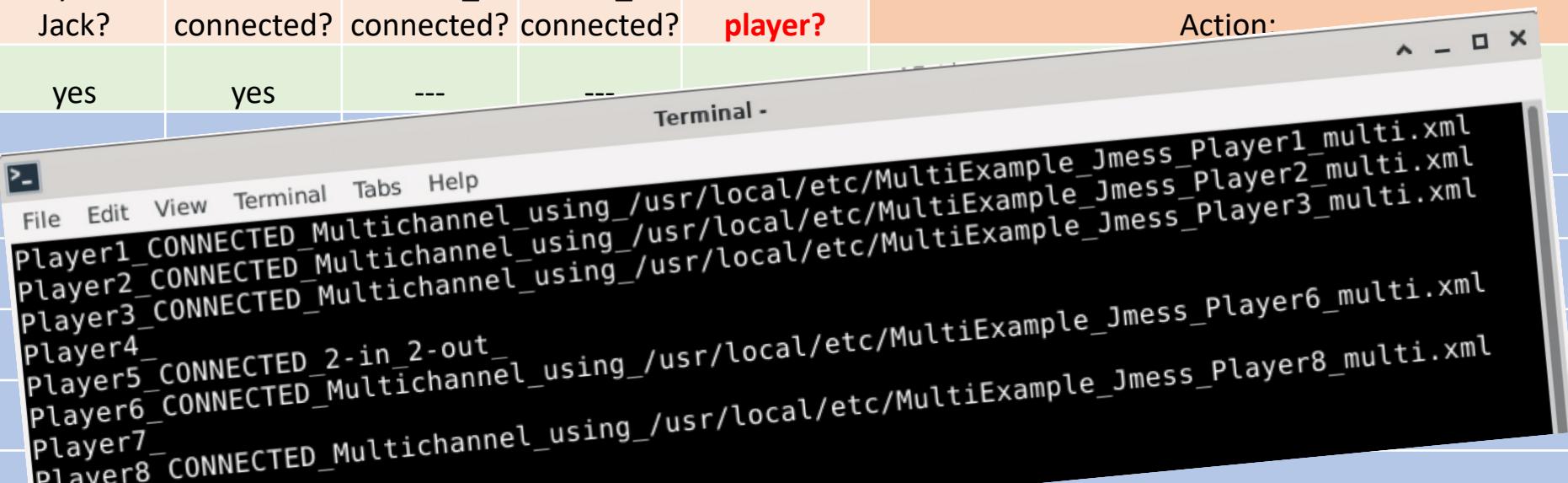


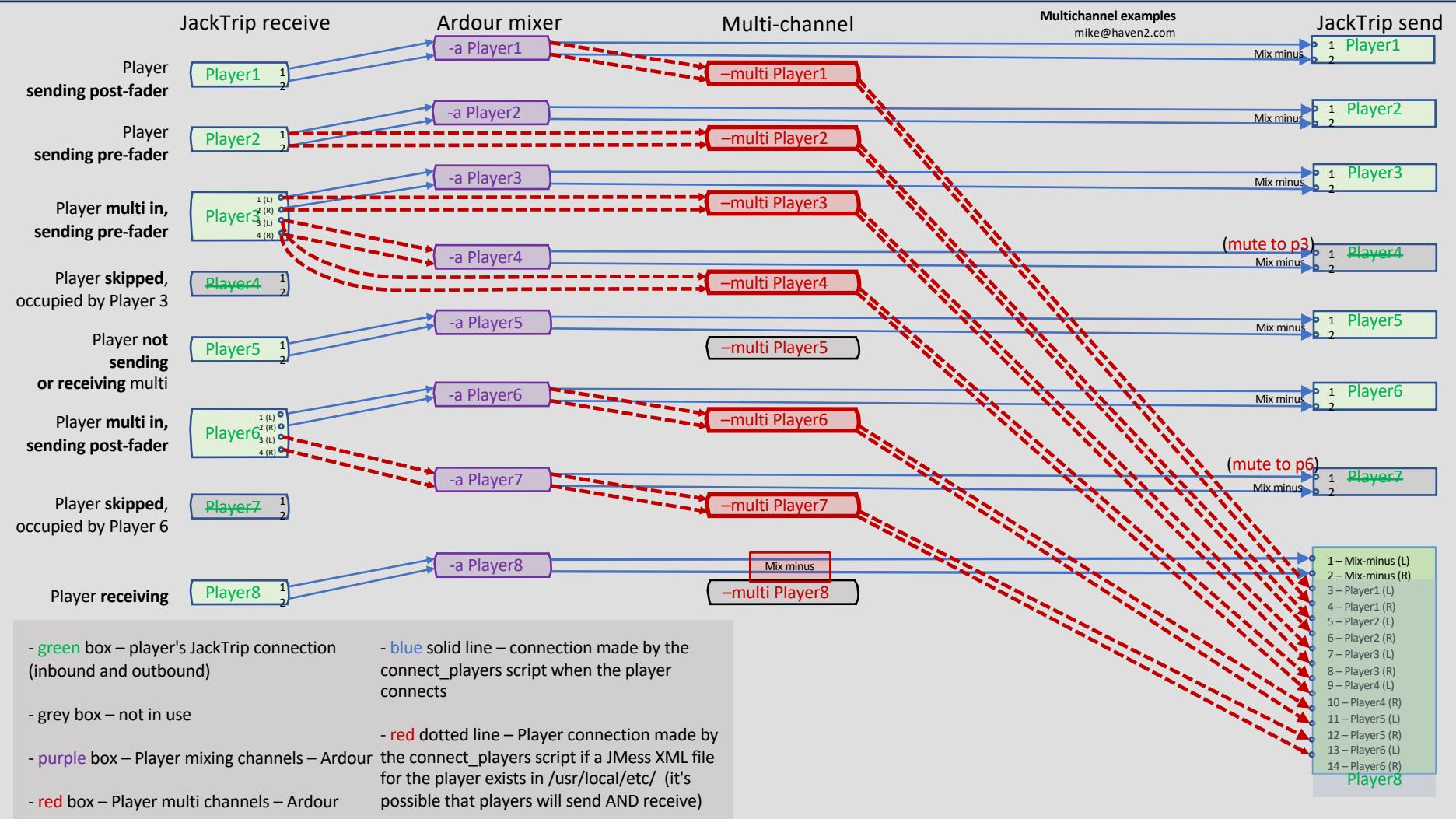
connect_PlayerN Function – Truth Table

A special case of the Connect_Players script

Player in Jack?	Ardour DAW connected?	Jack receive_2 connected?	Jack send_2 connected?	JMess multi file for player?	Action:
yes	yes	---	---	---	do nothing
yes	no	yes	---	no	connect player - 2 in x 2 out
yes	no	yes	---	yes	connect player - 2 in x 2 out – multi-channel
yes	no	no	yes	no	connect player - 1 in x 2 out
yes	no	no	yes	yes	connect player - 1 in x 2 out – multi-channel
yes	no	no	no	no	connect player - 1 in x 1 out
yes	no	no	no	yes	connect player - 1 in x 1 out – multi-channel
no	yes	---	---	---	do housekeeping
no	no	---	---	---	do nothing
yes TWICE	---	---	---	---	post duplicate-player alert

connect_PlayerN Function – Truth Table

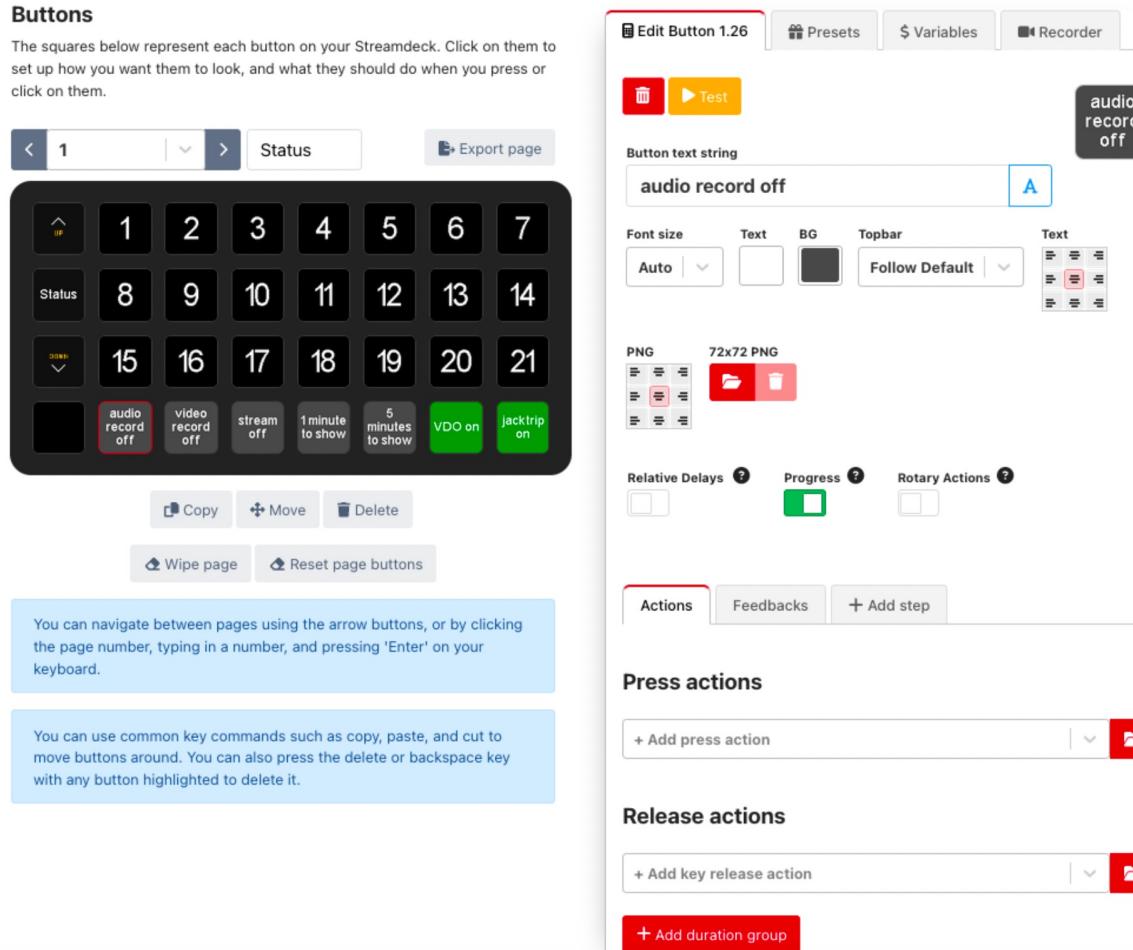
Player in Jack?	Ardour DAW connected?	Jack receive_2 connected?	Jack send_2 connected?	JMess multi file for player?	Action:
yes	yes	---	---		
					Terminal -
					 A terminal window titled "Terminal -" showing a series of log messages for each player from 1 to 11. Each message is a timestamp followed by "CONNECTED" and a file path: "Player1_CONNECTED_Multichannel_using_/usr/local/etc/MultiExample_Jmess_Player1_multi.xml", "Player2_CONNECTED_Multichannel_using_/usr/local/etc/MultiExample_Jmess_Player2_multi.xml", "Player3_CONNECTED_Multichannel_using_/usr/local/etc/MultiExample_Jmess_Player3_multi.xml", "Player4_CONNECTED_2-in_2-out", "Player5_CONNECTED_Multichannel_using_/usr/local/etc/MultiExample_Jmess_Player6_multi.xml", "Player6_CONNECTED_Multichannel_using_/usr/local/etc/MultiExample_Jmess_Player8_multi.xml", "Player7_CONNECTED_Multichannel_using_/usr/local/etc/MultiExample_Jmess_Player9_multi.xml", "Player8_CONNECTED_Multichannel_using_/usr/local/etc/MultiExample_Jmess_Player10_multi.xml", "Player9_CONNECTED_Multichannel_using_/usr/local/etc/MultiExample_Jmess_Player11_multi.xml", and "Player10_CONNECTED_Multichannel_using_/usr/local/etc/MultiExample_Jmess_Player12_multi.xml". The terminal window has a blue header bar with the title and a blue sidebar on the right.
yes	yes	---	---	yes	connect player - 1 in x 1 out – multi-channel
no	no	---	---	---	do nothing
yes TWICE	---	---	---	---	post duplicate-player alert



Connections Buttons Surfaces Triggers Settings Import / Export Log

Buttons

The squares below represent each button on your Streamdeck. Click on them to set up how you want them to look, and what they should do when you press or click on them.



The squares below represent each button on your Streamdeck. Click on them to set up how you want them to look, and what they should do when you press or click on them.

1 Status Export page

1 2 3 4 5 6 7

8 9 10 11 12 13 14

15 16 17 18 19 20 21

audio record off video record off stream off 1 minute to show 5 minutes to show VDO on jacktrip on

Copy Move Delete

Wipe page Reset page buttons

You can navigate between pages using the arrow buttons, or by clicking the page number, typing in a number, and pressing 'Enter' on your keyboard.

You can use common key commands such as copy, paste, and cut to move buttons around. You can also press the delete or backspace key with any button highlighted to delete it.

Edit Button 1.26

Presets Variables Recorder

audio record off

Button text string: audio record off

Font size: Auto Text: white BG: dark gray Topbar: Follow Default

Relative Delays Progress Rotary Actions

Actions Feedbacks + Add step

Press actions

+ Add press action

Release actions

+ Add key release action

+ Add duration group

Status buttons:

No actions

Background-color and button-text changes are sent from buttons on other pages.

Connections Buttons Surfaces Triggers Settings Import / Export Log

Buttons

The squares below represent each button on your Streamdeck. Click on them to set up how you want them to look, and what they should do when you press or click on them.

Who's mut

Export page

Who's muted?

M1-Vlv M2-Ximena M3-Cássia M4-AnneSo M5-Chris M6-Biggi M7-Lynn

M8-Colin M9-James M10-Diane M11-Gloria M12-Jane M13-Rebekkah M14-Dirk

M15-Magno M16-Beth M17-Mike M18-Sarah M19-Katherine M20-Ops M21-open

M22-open M23-open M24-open M25-Ops Server

Copy Move Delete

Wipe page Reset page buttons

You can navigate between pages using the arrow buttons, or by clicking the page number, typing in a number, and pressing 'Enter' on your keyboard.

You can use common key commands such as copy, paste, and cut to move buttons around. You can also press the delete or backspace key with any button highlighted to delete it.

Edit Button 1.26

Presets Variables Recorder

audio record off

Font size Text BG Topbar Text

Auto Follow Default

PNG 72x72 PNG

Relative Delays Progress Rotary Actions

Actions Feedbacks + Add step

Press actions

+ Add press action

Release actions

+ Add key release action

+ Add duration group

Who's-muted?
buttons:

No actions.

Background-color
changes are sent
from buttons on
another page.

Player-name
button-text
changes are sent
via a Pd script
(currently Sarah's
Mixer)

Connections Buttons Surfaces Triggers Settings Import / Export Log

Buttons
The squares below represent each button on your Streamdeck. Click on them to set up how you want them to look, and what they should do when you press or click on them.

3 Scenes Export page

Stand by Sarah

Scene cueing Intro 1 2 3 4 Outro

5 6 7 8 9 Black Post-Show

reset scene status

Copy Move Delete Wipe page Reset page buttons

You can navigate between pages using the arrow buttons, or by clicking the page number, typing in a number, and pressing 'Enter' on your keyboard.

You can use common key commands such as copy, paste, and cut to move buttons around. You can also press the delete or backspace key with any button highlighted to delete it.

Edit Button 3.12 Presets Variables Recorder

Auto Follow Default

Relative Delays Progress Rotary Actions

Actions Feedbacks + Add step

Press actions

obs: Set Program Scene
Delay 0 ms Scene Dmsn 1

obs: Set Preview Scene
Delay 1500 ms Scene Dmsn 2

internal: Button: Trigger press and release
Delay 0 ms Use variables for page Page This page
Use variables for button Button 25
Force press if already pressed

internal: Button: Set background color
Delay 0 ms Background Color 1
Use variables for page Page 1 (Status)
Use variables for button Button 2

+ Add press action

Release actions

+ Add key release action

+ Add duration group

Scene-cueing buttons:

Actions:

obs: Set Program Scene

obs: Set Preview Scene

internal: trigger a local button to clear the background color of the all the status buttons on the Status page

internal: set background color of the status button on the Status page

The squares below represent each button on your Streamdeck. Click them to set up how you want them to look, and what they should do when you press or click on them.

Player mutes

M1-Viv M2-Ximen M3-Cässi M4-AnneS M5-Chris M6-Biggi M7-Lynn

M8-Colin M9-James M10-Diane M11-Gloria M12-Jane M13-Rebek M14-Dirk

M15-Magno M16-Beth M17-Mike M18-Sarah M19-Kathe M20-Ops M21-open

M22-open M23-open M24-open M25-Ops

Player mutes

Copy Move Delete Wipe page Reset page buttons

You can navigate between pages using the arrow buttons, or by clicking the page number, typing in a number, and pressing 'Enter' on your keyboard.

You can use common key commands such as copy, paste, and cut to move buttons around. You can also press the delete or backspace key with any button highlighted to delete it.

Player-mute buttons:

Actions: Step 1

obs-Ardour: send OBS
– path is /strip/mute
arguments are
Player's channel
number, mute-on (1)

internal: set
background color of
the mute button on
the local-page

internal: set
background color of
the mute button on
the Who's
Muted? page

Actions: Step 2

obs-Ardour: send OBS
– path is /strip/mute
arguments are
Player's channel
number, mute-off (0)

internal: set
background color of
the mute button on
the local-page

internal: set
background color of
the mute button on
the Who's
Muted? page

Connections Buttons Surfaces Triggers Settings Import / Export Log

Buttons

The squares below represent each button on your Streamdeck. Click on them to set up how you want them to look, and what they should do when you press or click on them.

5 Ops Export page

Jacktrip closed Pro Jacktrip stopped 1 minute to show 5 minutes to show

VDO director stopped VDO closed video record off stream off OBS Virtual Camera Record Stopped 00:00:00 Stream Off-Air 00:00:00

Linode Jacktrip stopped Connect player stopped Linode Ardour stopped Ardour record off Ardour save Ardour record

Copy Move Delete Wipe page Reset page buttons

You can navigate between pages using the arrow buttons, or by clicking the page number, typing in a number, and pressing 'Enter' on your keyboard.

You can use common key commands such as copy, paste, and cut to move buttons around. You can also press the delete or backspace key with any button highlighted to delete it.

internal: Button: Set background color

Delay: 0 ms

Background Color: VDO closed

Use variables for page: Page: This page

Use variables for button: Button: This button

internal: Button: Set background color

Delay: 0 ms

Background Color: VDO closed

Use variables for page: Page: 1 (Status)

Use variables for button: Button: 31

internal: Button: Set text

Delay: 0 ms

Button Text: VDO closed

Use variables for page: Page: 1 (Status)

Use variables for button: Button: 31

internal: Button: Set text

Delay: 0 ms

Button Text: VDO open

Use variables for page: Page: This page

Use variables for button: Button: This button

Reminder/status buttons:

Actions: Step 1

internal: set background color of the button on the local page

internal: set background color of the button on the the Status page

internal: set button text on the local page

internal: set button text on the Status page

Actions: Step 2

internal: set background color of the button on the local page

internal: set background color of the button on the the Status page

internal: set button text on the local page

internal: set button text on the Status page

Connections Buttons Surfaces Triggers Settings Import / Export

Buttons

The squares below represent each button on your Streamdeck. Click them to set up how you want them to look, and what they should do when you press or click on them.

5 Ops Export page

You can navigate between pages using the arrow buttons, or by clicking the page number, typing in a number, and pressing 'Enter' on your keyboard.

You can use common key commands such as copy, paste, and cut to move buttons around. You can also press the delete or backspace key with any button highlighted to delete it.

Button text string
OBS Virtual Camera

Font size: Auto Text: BG: Topbar: Follow Default

72x72 PNG

Relative Delays: Progress: Rotary Actions:

Actions: Feedbacks: + Add step

OBS – toggle Virtual Camera

Press actions

obs: Toggle Output

Delay: 0 ms Output: Virtual Camera

Button text string
Record\$(obs:recording)\$(obs:recording_timecode)

Font size: Auto Text: BG: Topbar: Follow Default

72x72 PNG

Relative Delays: Progress: Rotary Actions:

Actions: Feedbacks: + Add step

OBS – toggle Video Recording

Press actions

obs: Toggle Recording

Delay: 0 ms

Button text string
Stream\$(obs:streaming)\$(obs:stream_timecode)

Font size: 18pt Text: BG: Topbar: Follow Default

72x72 PNG

Relative Delays: Progress: Rotary Actions:

Step 1: 2: Feedbacks: < > Select: +

OBS – toggle Streaming

Press actions

obs: Toggle Streaming

Delay: 0 ms

Button text string
Ardour record

Font size: Auto Text: BG: Topbar: Follow Default

72x72 PNG

Relative Delays: Progress: Rotary Actions:

Step 1: 2: Feedbacks: < > Select: +

Ardour – toggle Record

Press actions

osc-Ardour: Send message without arguments

Delay: 0 ms OSC Path: /rec_enable_toggle

osc-Ardour: Send message without arguments

Delay: 0 ms OSC Path: /transport_play

Button text string
Ardour save

Font size: 18pt Text: BG: Topbar: Follow Default

72x72 PNG

Relative Delays: Progress: Rotary Actions:

Actions: Feedbacks: + Add step

Ardour – Save the Session

Press actions

osc-Ardour: Send message without arguments

Delay: 0 ms OSC Path: /save_state

Ardour – toggle Record

obs-Ardour: send OBS – path is /rec_enable_toggle

obs-Ardour: send OBS – path is /transport_play

Ardour – Save the Session

obs-Ardour: send OBS – path is /save_state

Connections

When you want to control devices or software with Companion, you need to add a connection to let Companion know how to communicate with whatever you want to control.

Label	Module	Status	Disabled	OK	Warning	Error
obs	obs OBS	✓		?	✗	\$ > ✗ ✗
osc-Ardour	osc Generic	✓		?	✗	\$ > ✗
OSC_PD_BF.Companion_Send	osc Generic	✓		?	✗	\$ > ✗
midi-relay	midi-relay Tech Ministry	Connecting		?	✗	\$ > ✗
osc-Protokol	osc Generic	Disabled		?	✗	\$ > ✗

[+ Add connection](#)[Edit connection](#)

osc configuration

Label

osc-Ardour

Target IP

Target Port

[Save](#)[Cancel](#)

Connections:

Example – OSC connection to Ardour

Use the "osc Generic" module

Rename it – "osc-Ardour" in this example

Specify IP address and port



Trash



Connect 5 players



File System



QjackCtl



Home



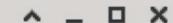
Ardour6

Jacktrip-1.5.3
Mixer q32

Task Manager

Jacktrip-1.5.3
GUITest Player
connectionConnect 25
playersJacktrip-1.7.1
Mixer q32Connect 20
playersConnect 15
playersConnect 10
players

*/root/PGJTT-Main-Install_v3.1.5.sh - Mousepad



File Edit Search View Document Help

Warning: you are using the root account. You may harm your system.

```
#!/bin/bash

#####
#
# SECTION: Init
#
#####

# Version: 3.1.5      Author: Mike O'Connor  Date: 27-Feb, 2022
# Credits:
# Inspired by: https://help.jacktrip.org/hc/en-us/articles/1500009330002-Linode-1-Setup-Remote-Server-with
# First version built by: Ralph Jenson
# Community of supporters: Sarah Weaver and the Nownet Arts Hub ensemble

# Load a copy of this script into root's home directory - documentation

curl -o ~/PGJTT-Main-Install_v3.1.5.sh https://pgjtt.com/Scripts/PGJTT-Main-Install\_v3.1.5.sh

# Install update-logs and status-file script

curl -o /usr/local/bin/PGJTT-update_logs-3.1.4.sh https://PGJTT.com/Scripts/PGJTT-update\_log
chmod +x /usr/local/bin/PGJTT-update_logs-3.1.4.sh
```





Player

12

 confirm_player_number default (100%) all off (0%) all up all down

Player1

Player2

Player3

Player4

Player5

Player6

Player7

Player8

Player9

Player10

1

2

3

4

5

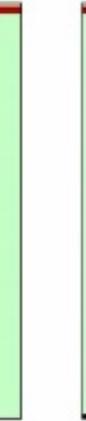
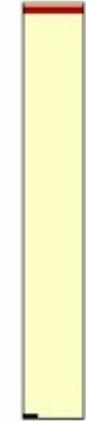
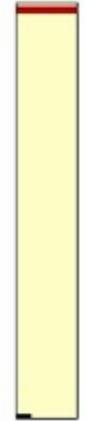
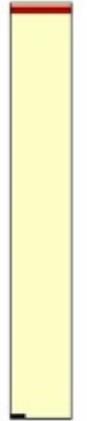
6

7

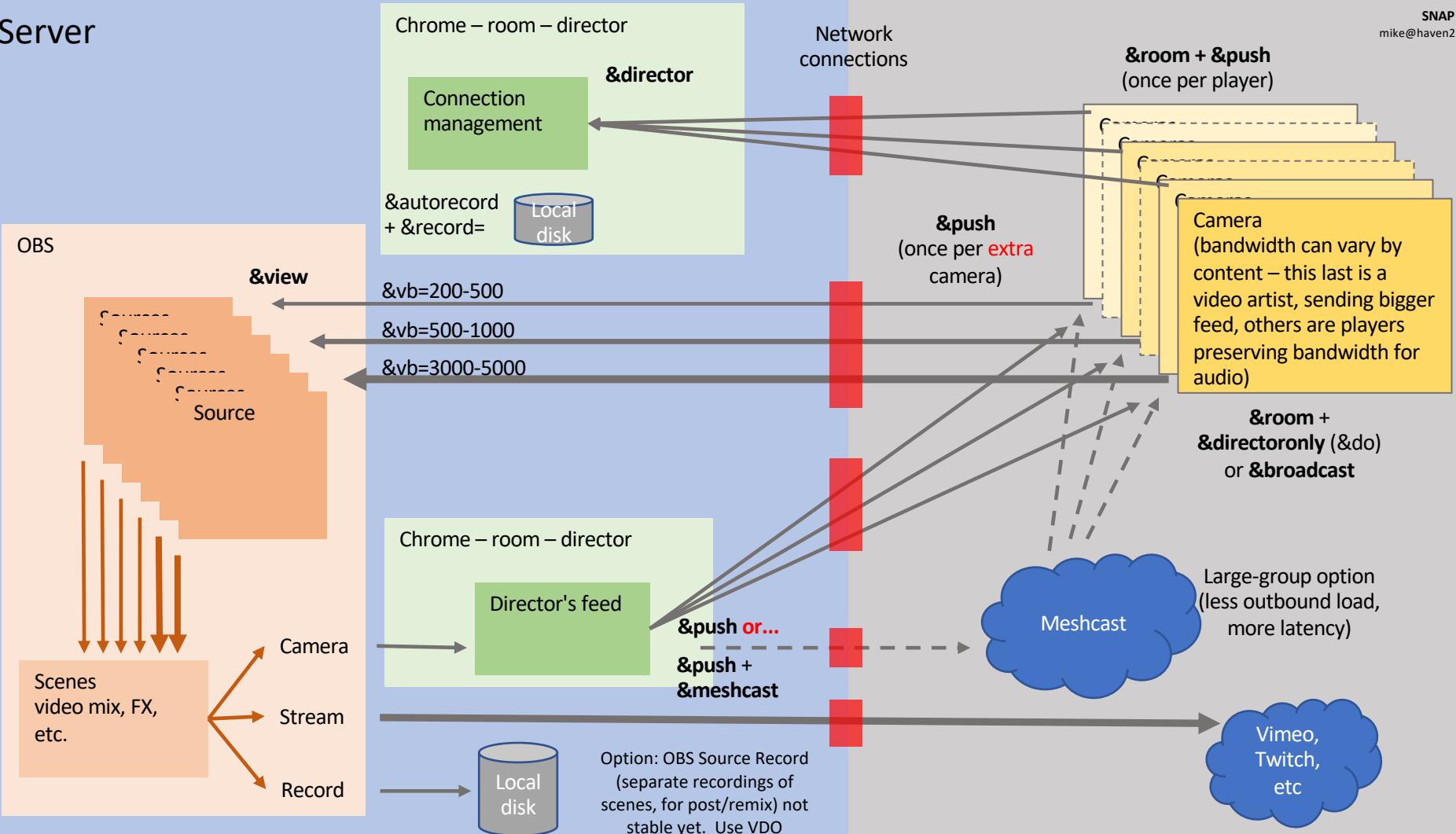
8

9

10

 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% + + + + + + + + + + - - - - - - - - - - 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

Server





Trash



Jacktrip 1.3
Basic mixer



Connect 5
players



File System



Jacktrip 1.4
Basic mixer



Connect 10
players



Home



Ardour6



Connect 15
players



usr-local-bin



Task Manager



Connect 20
players



usr-local-etc



Jacktrip 1.4
GUI



Connect 25
players



Jacktrip 1.5.1
Basic mixer



Jacktrip 1.5.1
GUI



Step1: Provision a Linode server with [this Community StackScript](#)

Step2: SSH into the newly-provisioned server

Step3: Answer “yes” to the realtime audio prompt in the script

Step4: Log out and back in again when the script completes

Done – you can use the server through the command-line or a graphical interface (VNC)

Connect 20
players - m...



MTR
connection ...



Geany

Here's how to build one...

Pretty Good Jacktrip Toolkit



Build your own server — in four steps



Trash



Jacktrip 1.3
Basic mixer



Connect 5
players



File System



Jacktrip 1.4
Basic mixer



Connect 10
players



Home



Ardour6



Connect 15
players



usr-local-bin



Task Manager



Connect 20
players



usr-local-etc



Jacktrip 1.4
GUI



Connect 25
players



Jacktrip 1.5.1

Basic mixer



Jacktrip 1.5.1
GUI



QjackCtl-NEW



Connect 20

players - m...



MTR
connection ...



Geany

Attributes that might appeal to producers...

Repeatable/Reliable/Stable

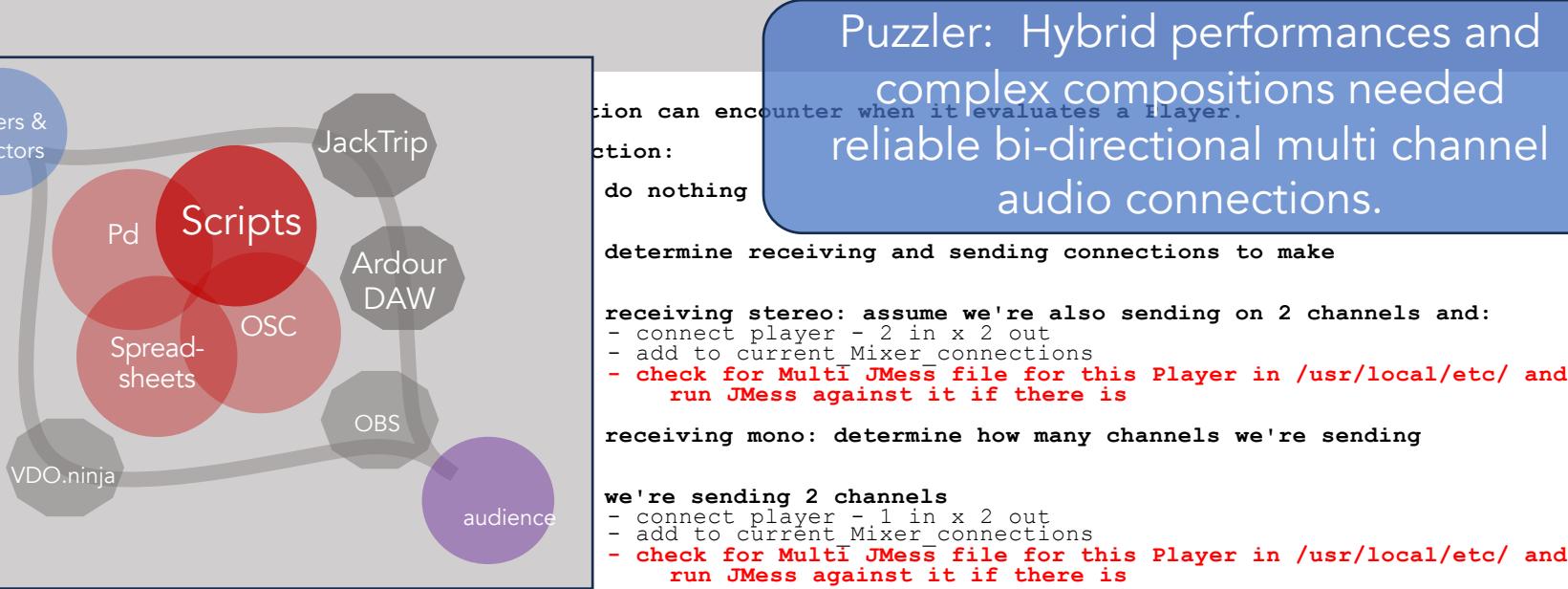
Flexible/Familiar/Feature-rich

Inexpensive/Open-source

Attributes that might appeal to players

Invisible/Transparent

Nuanced/Interactive



Puzzler: Hybrid performances and complex compositions needed reliable bi-directional multi channel audio connections.

tion can encounter when it evaluates a Player.

ction:

do nothing

determine receiving and sending connections to make

receiving stereo: assume we're also sending on 2 channels and:

- connect player - 2 in x 2 out
- add to current_Mixer_connections
- **check for Multi JMess file for this Player in /usr/local/etc/ and run JMess against it if there is**

receiving mono: determine how many channels we're sending

we're sending 2 channels

- connect player - 1 in x 2 out
- add to current_Mixer_connections
- **check for Multi JMess file for this Player in /usr/local/etc/ and run JMess against it if there is**

- we're sending 1 channel

- connect player - 1 in x 1 out
- add to current_Mixer_connections
- **check for Multi JMess file for this Player in /usr/local/etc/ and run JMess against it if there is**

send_2 NOT connected?

3 NOT in Jack? in Mixer?

- remove from current_Mixer_connections

4 NOT in Jack? NOT in Mixer - do nothing

5 in Jack TWICE? in Mixer?

- post duplicate-player alert,

- take the alert down when they disconnect

Multi
Channel

Puzzlers...

It's hard to reliably host, and impossible to mix, a large ensemble in JackTrip

It's hard to bring people into the mixer and extra hard if they drop and need to reconnect.

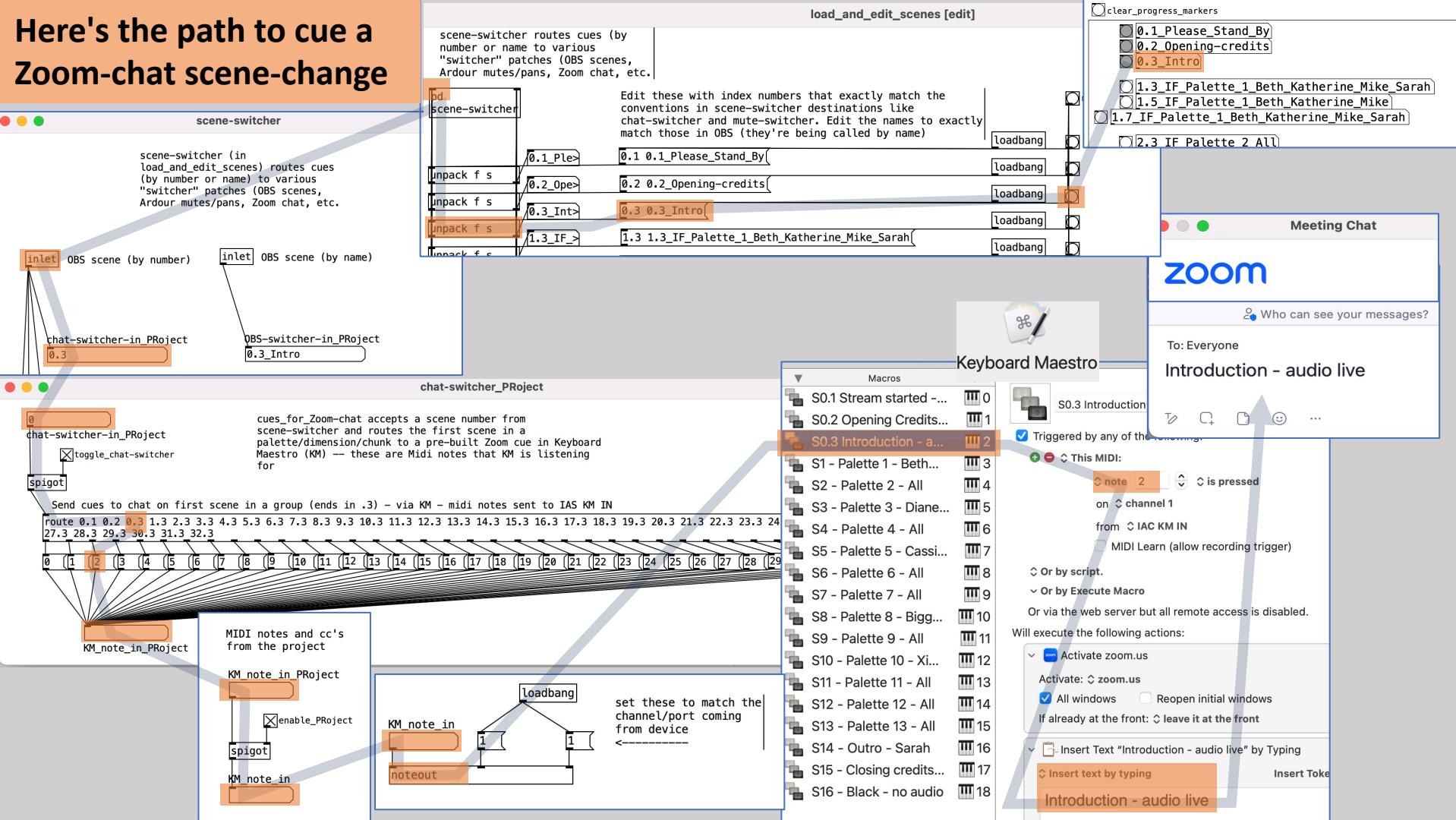
It's hard for one person to cue and mix video and audio for various scenes/cues/FX during a performance

Zoom video is... Zoom video. How can we get beyond that?

Hybrid performances and complex compositions need reliable bi-directional multi channel audio.

Performers need custom monitor mixes and are used to them in peer-to-peer apps like Sonobus (and recording studios).

Here's the path to cue a Zoom-chat scene-change



sources...

Software

DAW (midi)

Keystroke scripting (midi)

Shot-box scripting (midi, OSC)

Video editing (OSC)

Hardware

Audio interface (OSC)

Midi control-surface (midi)

structuring/translating/routing/filtering/timing
destinations...

DAW
(midi)

Keystroke scripting
(midi)

Audio interface
(OSC)

Shot-box scripting
(midi, OSC)

Video editing
(OSC)

Midi control-surface
(midi)

Bitfocus Companion - Admin 127.0.0.1:8000/buttons

3.0.0 (3.0.0+6049-stable-126f27e8)

Connections Buttons Surfaces Triggers Settings Import / Export Log

Buttons

The squares below represent each button on your Streamdeck. Click on them to set up how you want them to look, and what they do when you press or click on them.

3 PAGE Export page

Press actions

obs: Set Program Scene

Delay 0 ms Scene Scene 3

+ Add press action

Release actions

Bitfocus Companion - Admin 127.0.0.1:8000/tablet

Properties Filters

Scenes

Scene 1 Scene 2 Scene 3 Scene 4 Scene 5 Scene 6

Scene Transitions

Fade Duration 300 ms

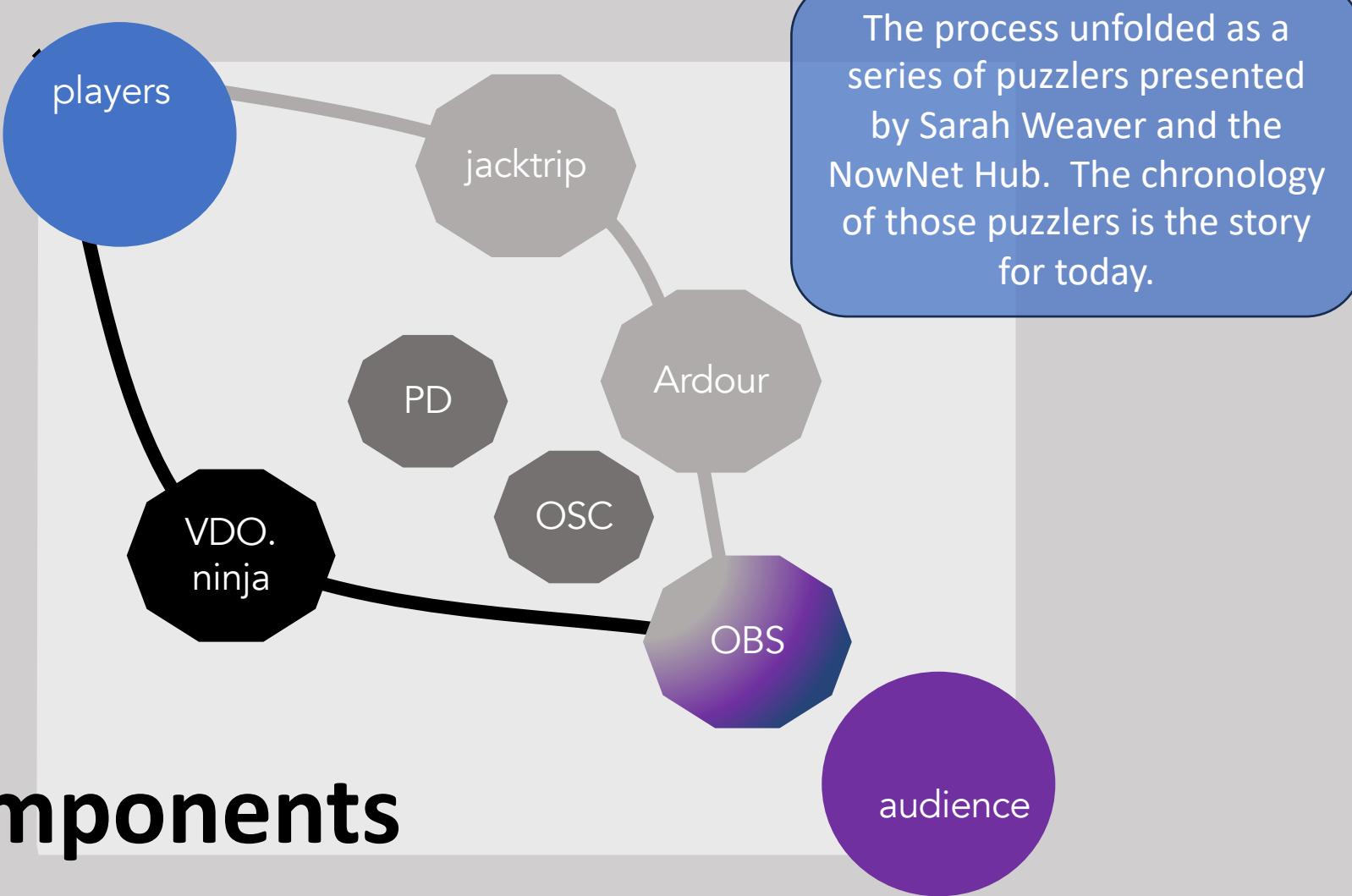
Controls

Start Streaming Start Recording Start Virtual Camera Studio Mode Settings Exit

OBS 29.0.2 (mac) - Profile: Mike's OBS profile - Scenes: OBS Demo

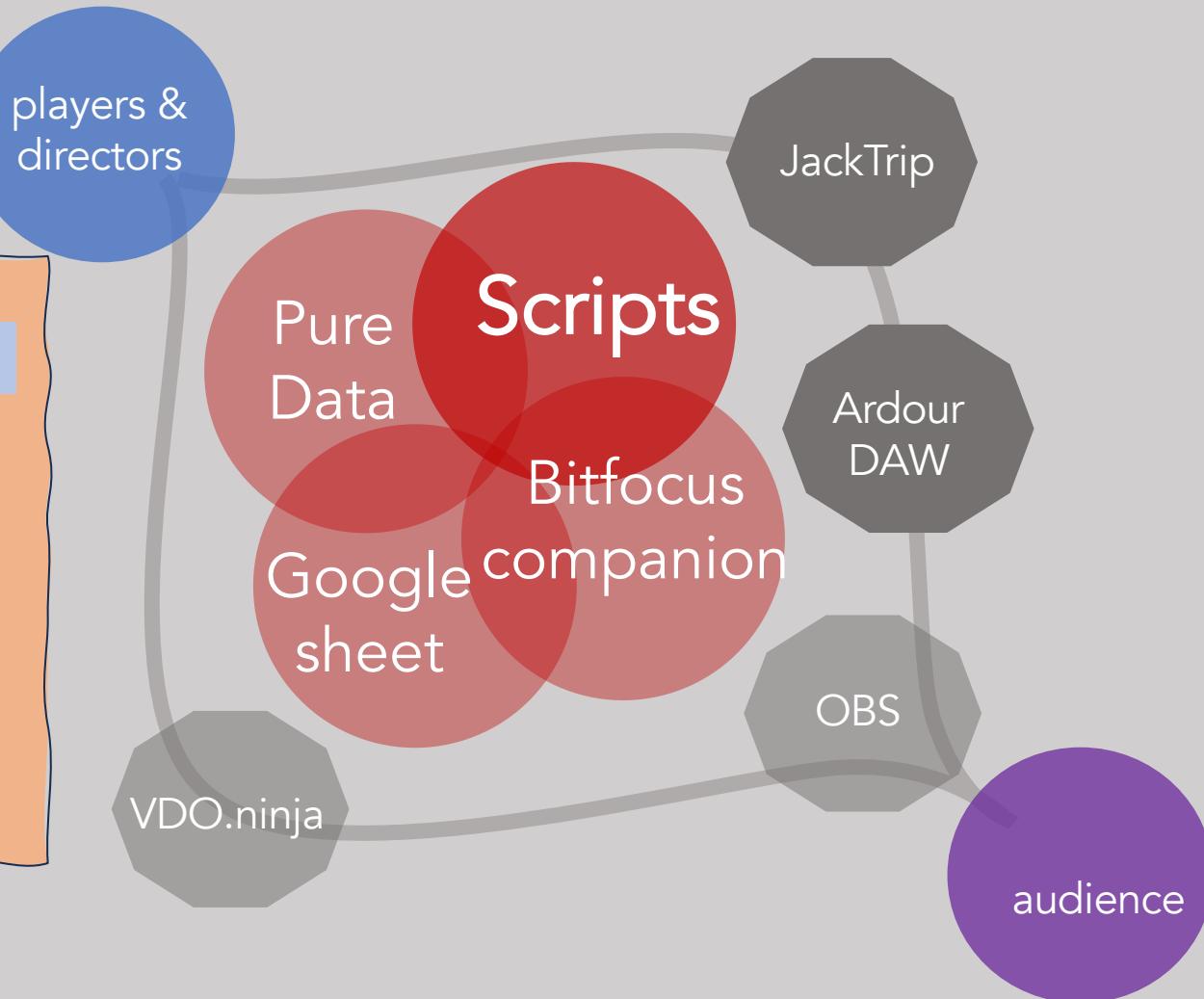
LIVE: 00:00:00 REC: 00:00:00 CPU: 1.4%, 60.00 fps

Components



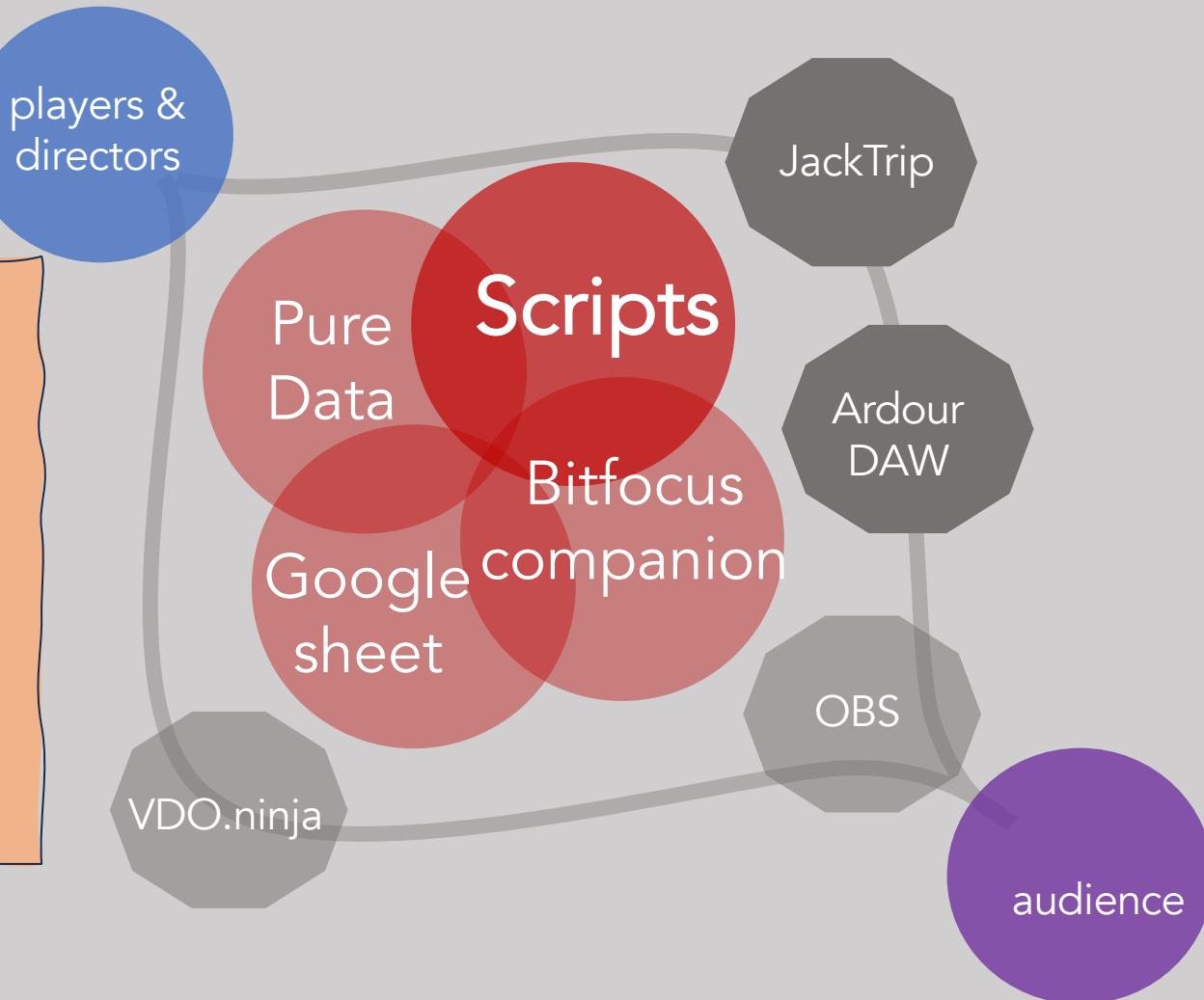
Steps along the way

- Pretty Good JackTrip toolkit (PGJTT)
- Connect Players Script
- Gloria's cues
- VDO.ninja
- Custom cue-mixing
- Multi-channel audio



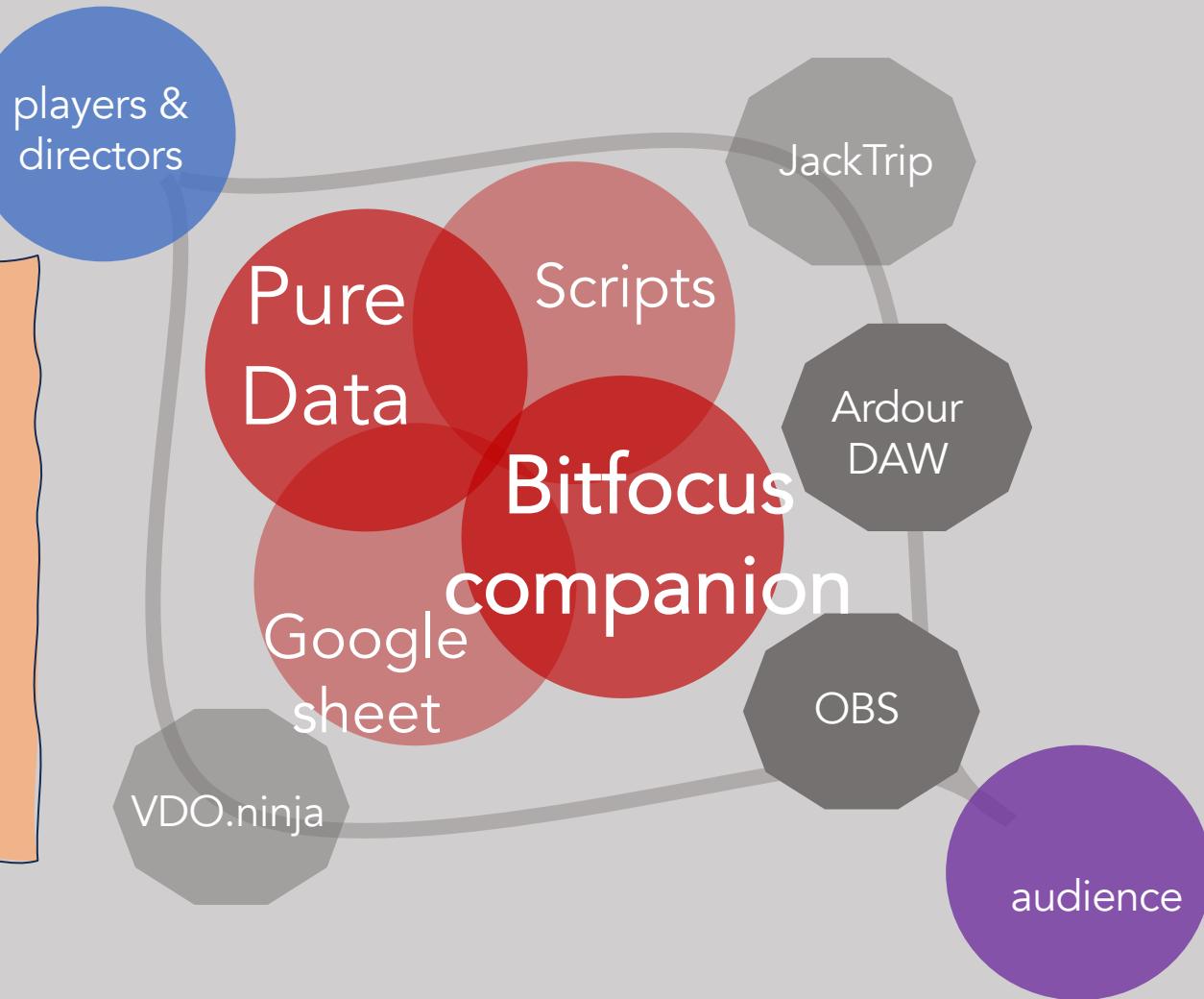
Steps along the way

- Pretty Good JackTrip toolkit (PGJTT)
- Connect Players Script
- Gloria's cues
- VDO.ninja
- Custom cue-mixing
- Multi-channel audio



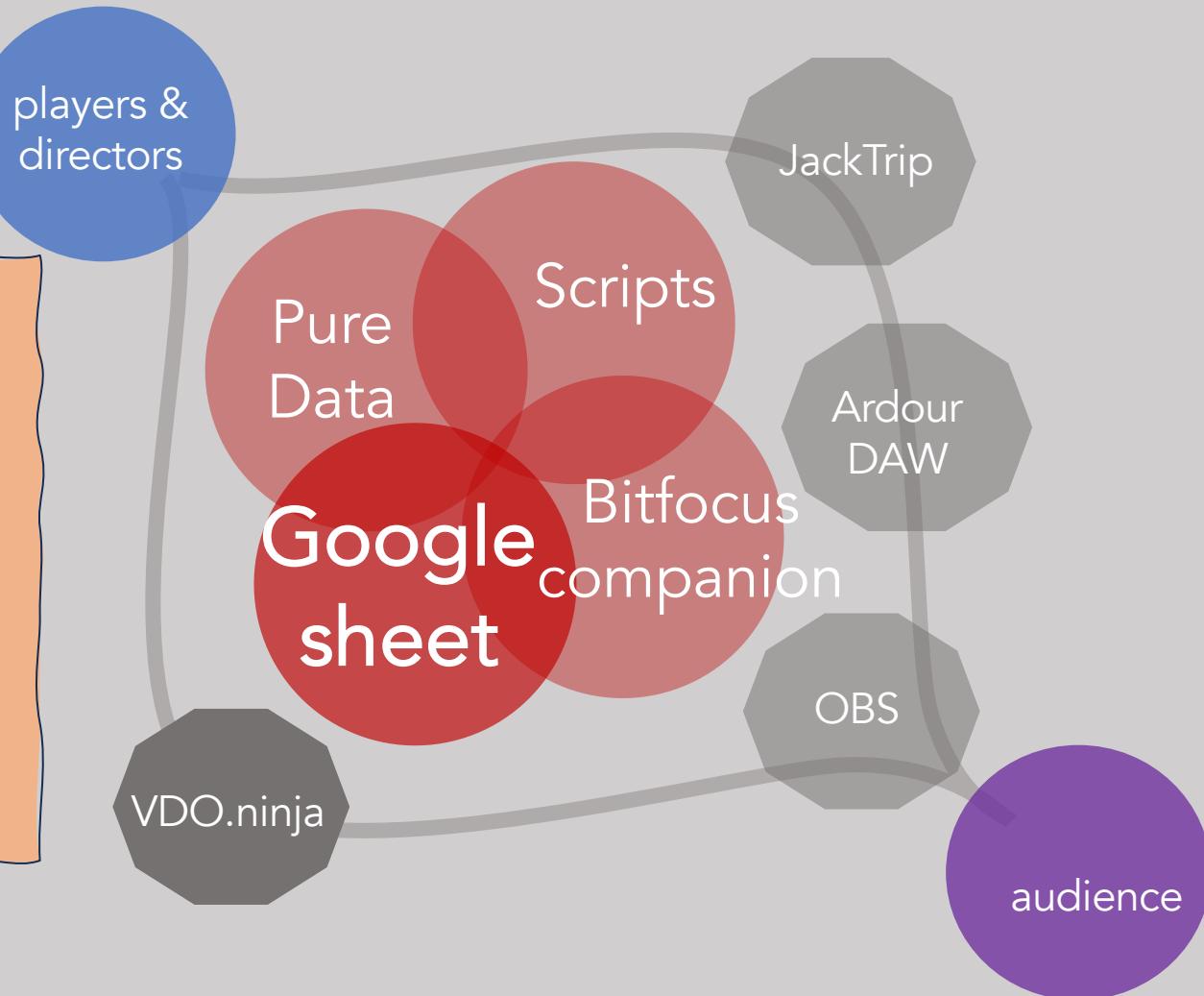
Steps along the way

- Pretty Good JackTrip toolkit (PGJTT)
- Connect Players Script
- Gloria's cues
- VDO.ninja
- Custom cue-mixing
- Multi-channel audio



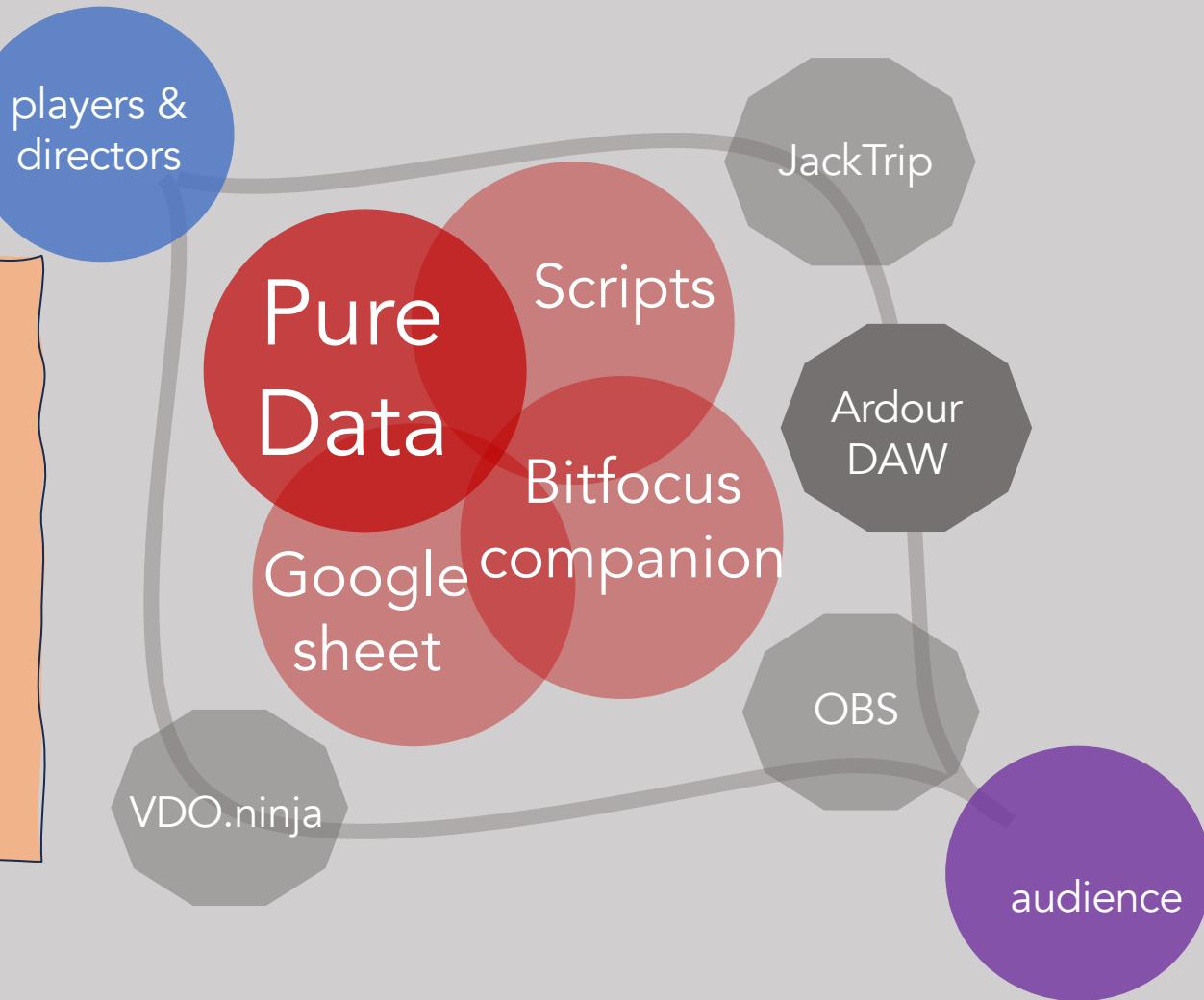
Steps along the way

- Pretty Good JackTrip toolkit (PGJTT)
- Connect Players Script
- Gloria's cues
- **VDO.ninja**
- Custom cue-mixing
- Multi-channel audio



Steps along the way

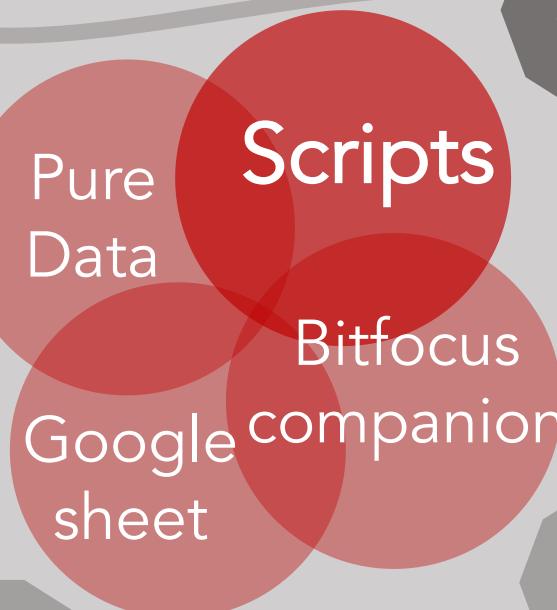
- Pretty Good JackTrip toolkit (PGJTT)
- Connect Players Script
- Gloria's cues
- VDO.ninja
- Custom cue-mixing
- Multi-channel audio



Steps along the way

- Pretty Good JackTrip toolkit (PGJTT)
- Connect Players Script
- Gloria's cues
- VDO.ninja
- Custom cue-mixing
- Multi-channel audio

players & directors

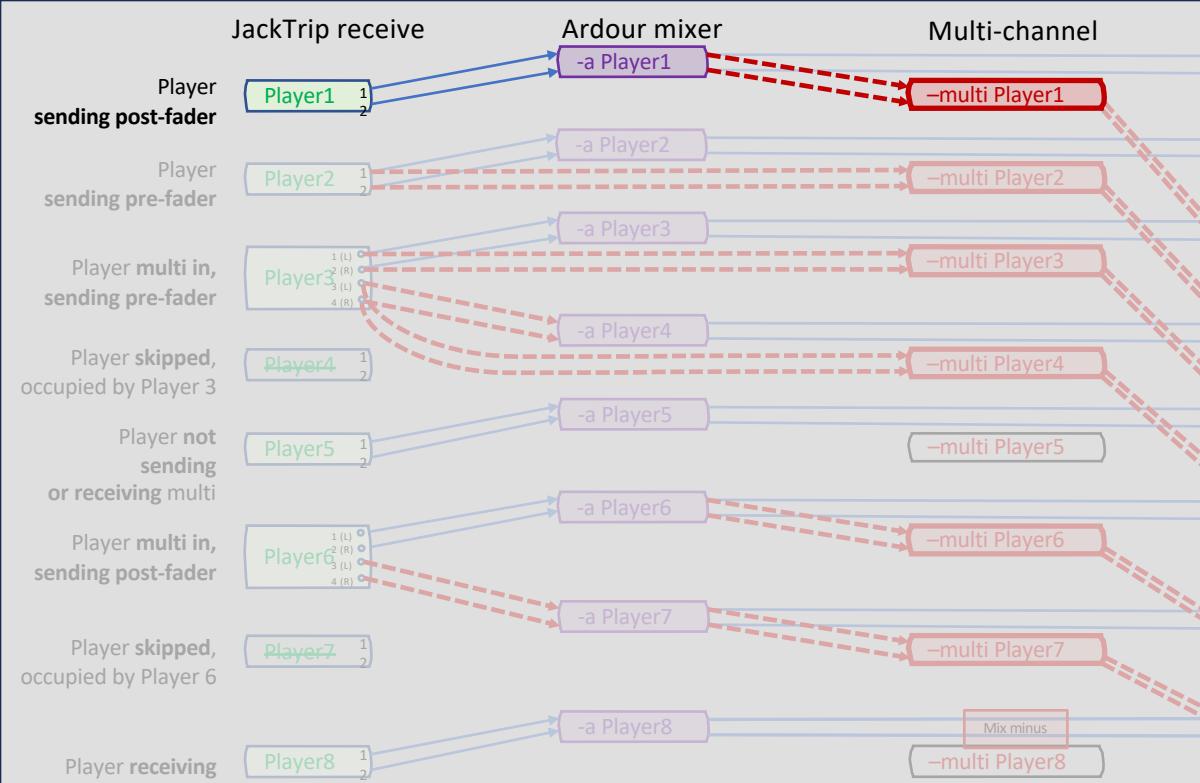


JackTrip

Ardour DAW

OBS

audience



- green box – player's JackTrip connection (inbound and outbound)

- grey box – not in use

- purple box – Player mixing channels – Ardour

- red box – Player multi channels – Ardour

- blue solid line – connection made by the connect_players script when the player connects

- red dotted line – Player connection made by the connect_players script if a JMess XML file for the player exists in /usr/local/etc/ (it's possible that players will send AND receive)

Example file: **Player1, sending post-fader**
(Replace 'MultiExample' with a session name)
`/usr/local/bin/MultiExample_JMess_Player1_multi.xml`

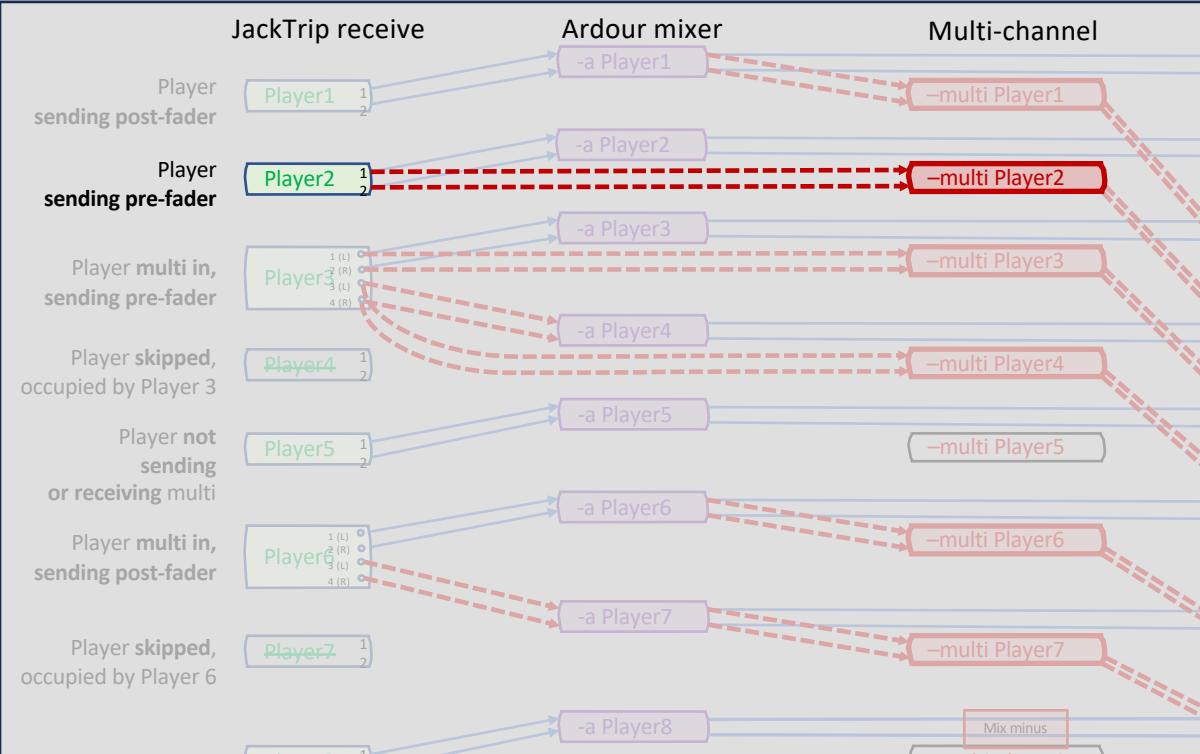
```

<jmess>
<connection>
<output>ardour:-a Player1/audio_out 1</output>
<input>ardour:-multi Player1/audio_in 1</input>
</connection>
<connection>
<output>ardour:-a Player1/audio_out 2</output>
<input>ardour:-multi Player1/audio_in 2</input>
</connection>
</jmess>

```

test connections running JMess against the file name, eg:
`jmess -c /usr/local/bin/MultiExample_JMess_Player1_multi.xml`

2 – Mix-minus (R)
3 – Player1 (L)
4 – Player1 (R)
5 – Player2 (L)
6 – Player2 (R)
7 – Player3 (L)
8 – Player3 (R)
9 – Player4 (L)
10 – Player4 (R)
11 – Player5 (L)
12 – Player5 (R)
13 – Player6 (L)
14 – Player6 (R)
Player8



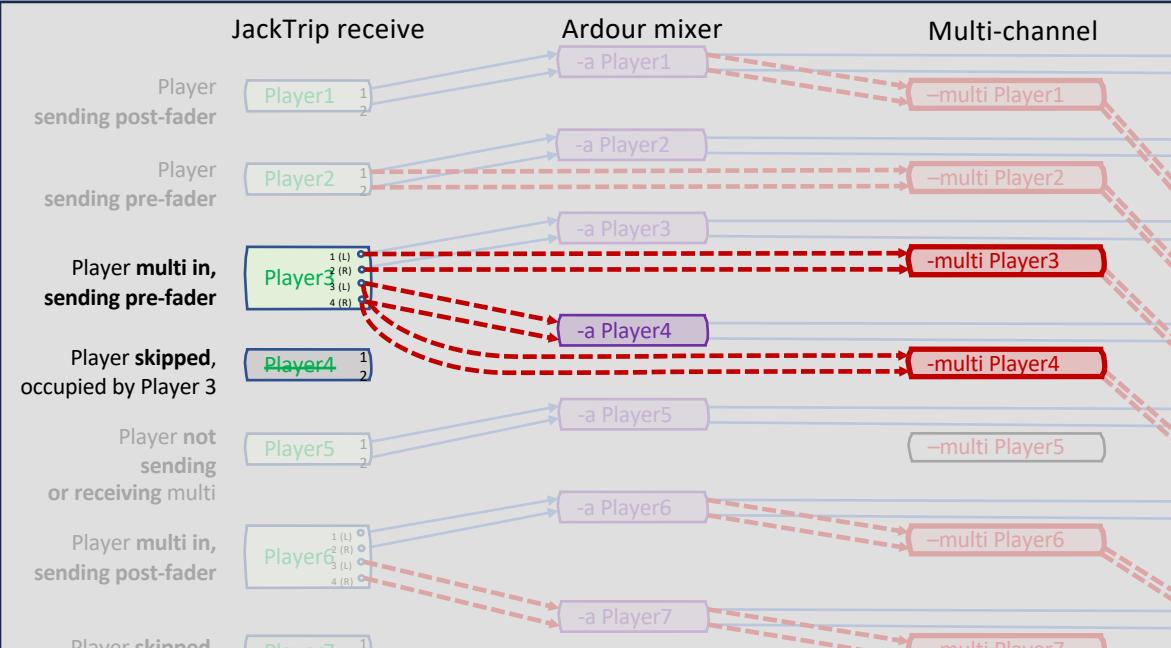
Example file: **Player2, sending pre-fader**
 (Replace 'MultiExample' with a session name)
`/usr/local/bin/MultiExample_JMess_Player2_multi.xml`

```
<jmess>
<connection>
<output>Player2:receive_1</output>
<input>ardour:-multi Player2/audio_in 1</input>
</connection>
<connection>
<output>Player2:receive_2</output>
<input>ardour:-multi Player2/audio_in 2</input>
</connection>
</jmess>
```

test connections running JMess against the file name, eg:
`jmess -c /usr/local/bin/MultiExample_JMess_Player2_multi.xml`

1 – Mix-minus (L)
2 – Mix-minus (R)
3 – Player1 (L)
4 – Player1 (R)
5 – Player2 (L)
6 – Player2 (R)
7 – Player3 (L)
8 – Player3 (R)
9 – Player4 (L)
10 – Player4 (R)
11 – Player5 (L)
12 – Player5 (R)
13 – Player6 (L)
14 – Player6 (R)

Player8



- green box – player's JackTrip connection (inbound and outbound)
 - grey box – not in use
 - purple box – Player mixing channels – Ardour
 - red box – Player multi channels – Ardour

- blue solid line – connection made by the connect_players script when the player connects
 - red dotted line – Player connection made by the connect_players script if a JMess XML file for the player exists in /usr/local/etc/ (it's possible that players will send AND receive)

Example file: **Player3, sending 4-chan multi-in pre-fader**

(Replace 'MultiExample' with a session name)

/usr/local/bin/MultiExample_JMess_Player2_multi.xml

<connection>

<output>Player3:receive_1</output>

<input>ardour:-multi Player3/audio_in 1</input>

</connection>

<connection>

<output>Player3:receive_2</output>

<input>ardour:-multi Player3/audio_in 2</input>

</connection>

<connection>

<output>Player3:receive_3</output>

<input>ardour:-a Player4/audio_in 1</input>

</connection>

<connection>

<output>Player3:receive_4</output>

<input>ardour:-a Player4/audio_in 2</input>

</connection>

<connection>

<output>Player3:receive_3</output>

<input>ardour:-multi Player4/audio_in 1</input>

</connection>

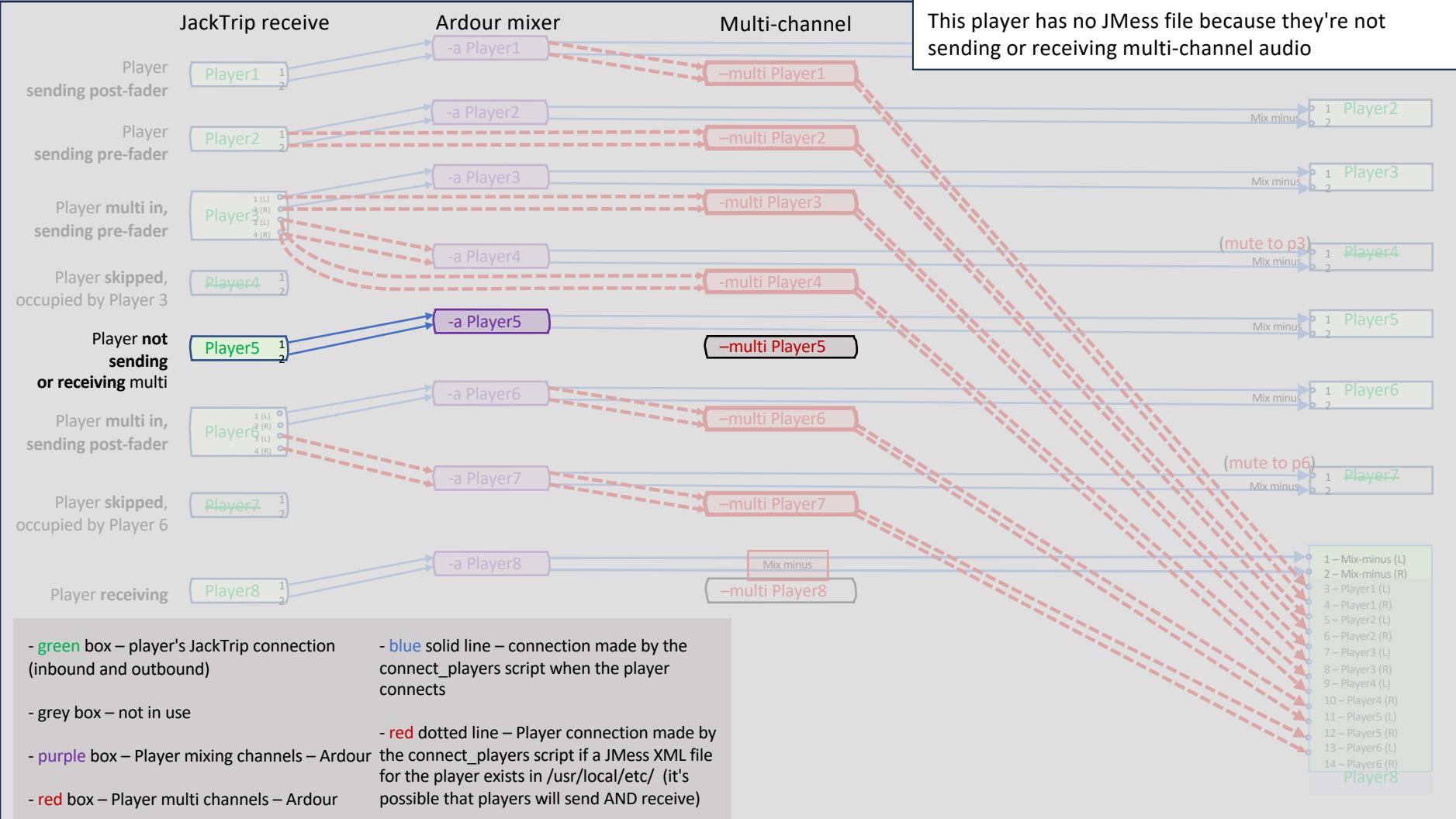
<connection>

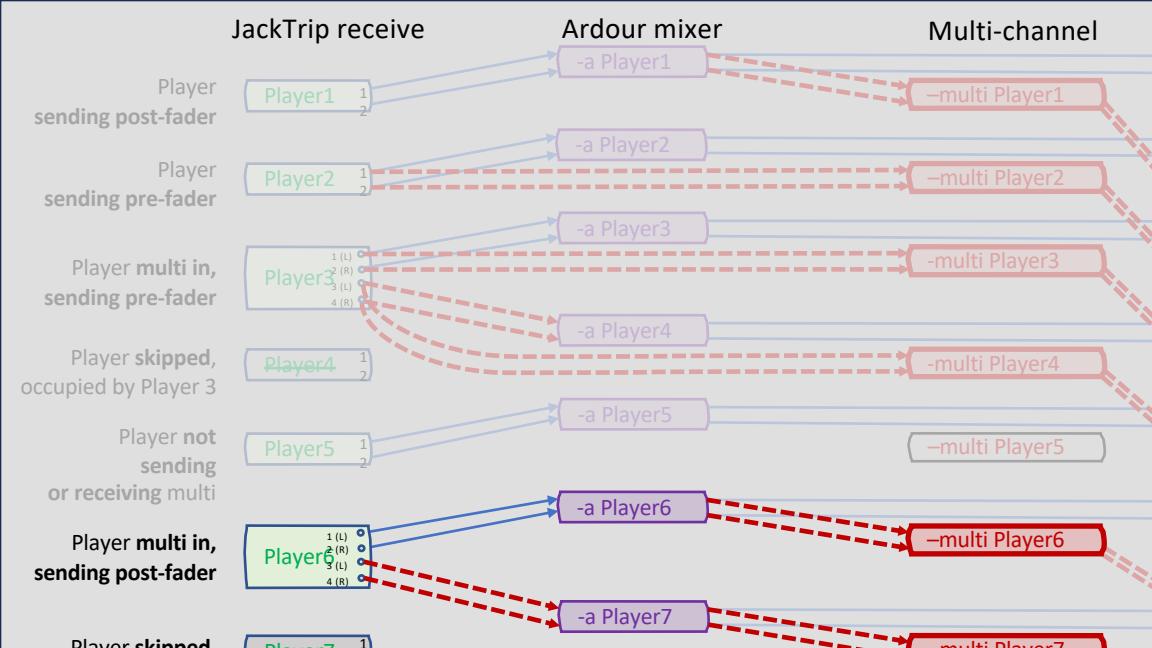
<output>Player3:receive_4</output>

<input>ardour:-multi Player4/audio_in 2</input>

</connection>

test connections running JMess against the file name, eg:





- green box – player's JackTrip connection (inbound and outbound)

- grey box – not in use

- purple box – Player mixing channels – Ardour

- red box – Player multi channels – Ardour

- blue solid line – connection made by the connect_players script when the player connects

- red dotted line – Player connection made by the connect_players script if a JMess XML file for the player exists in /usr/local/etc/ (it's possible that players will send AND receive)

Example file: **Player6, sending 4-chan multi-in post-fader**
(Replace 'MultiExample' with a session name)
/usr/local/bin/MultiExample_JMess_Player2_multi.xml

```

<connection>
  <output>ardour:-a Player6/audio_out 1</output>
  <input>ardour:-multi Player6/audio_in 1</input>
</connection>
<connection>
  <output>ardour:-a Player6/audio_out 1 </output>
  <input>ardour:-multi Player6/audio_in 2</input>
</connection>

<connection>
  <output>Player6:receive_3</output>
  <input>ardour:-a Player7/audio_in 1</input>
</connection>
<connection>
  <output>Player6:receive_4</output>
  <input>ardour:-a Player7/audio_in 2</input>
</connection>

<connection>
  <output>ardour:-a Player7/audio_out 1</output>
  <input>ardour:-multi Player7/audio_in 1</input>
</connection>
<connection>
  <output>ardour:-a Player7/audio_out 1</output>
  <input>ardour:-multi Player7/audio_in 2</input>
</connection>

```

test connections running JMess against the file name, eg:
jmess -c /usr/local/bin/MultiExample_JMess_Player6_multi.xml

Example file: **Player8, receiving 12-chan multi-in**
(Replace 'MultiExample' with a session name)
`/usr/local/bin/MultiExample_JMess_Player8_multi.xml`

```
<connection>
  <output>ardour:-multi Player1/audio_out 1</output>
  <input>Player8:send_3</input>
</connection>
<connection>
  <output>ardour:-multi Player1/audio_out 2</output>
  <input>Player8:send_4</input>
</connection>

<connection>
  <output>ardour:-multi Player2/audio_out 1</output>
  <input>Player8:send_5</input>
</connection>
<connection>
  <output>ardour:-multi Player2/audio_out 2</output>
  <input>Player8:send_6</input>
</connection>

<connection>
  <output>ardour:-multi Player3/audio_out 1</output>
  <input>Player8:send_7</input>
</connection>
<connection>
  <output>ardour:-multi Player3/audio_out 2</output>
  <input>Player8:send_8</input>
</connection>

<connection>
  <output>ardour:-multi Player4/audio_out 1</output>
  <input>Player8:send_9</input>
</connection>
<connection>
  <output>ardour:-multi Player4/audio_out 2</output>
  <input>Player8:send_10</input>
</connection>

<connection>
  <output>ardour:-multi Player6/audio_out 1</output>
  <input>Player8:send_11</input>
</connection>
<connection>
  <output>ardour:-multi Player6/audio_out 2</output>
  <input>Player8:send_12</input>
</connection>

<connection>
  <output>ardour:-multi Player7/audio_out 1</output>
  <input>Player8:send_13</input>
</connection>
<connection>
  <output>ardour:-multi Player7/audio_out 2</output>
  <input>Player8:send_14</input>
</connection>
```

Player receiving

- green box – player's JackTrip connection (inbound and outbound)

- grey box – not in use

- **purple** box – Player mixing channels – ArduPilot
- **red** box – Player multi channels – Ardunova

- blue solid line – connection made by the connect_players script when the player connects

- red dotted line – Player connection made by the connect_players script if a JMess XML file for the player exists in /usr/local/etc/ (it's possible that players will send AND receive)

Multi-channel

