Hello!

2022-1-23 Antonia & Pedro @ liquidshop2

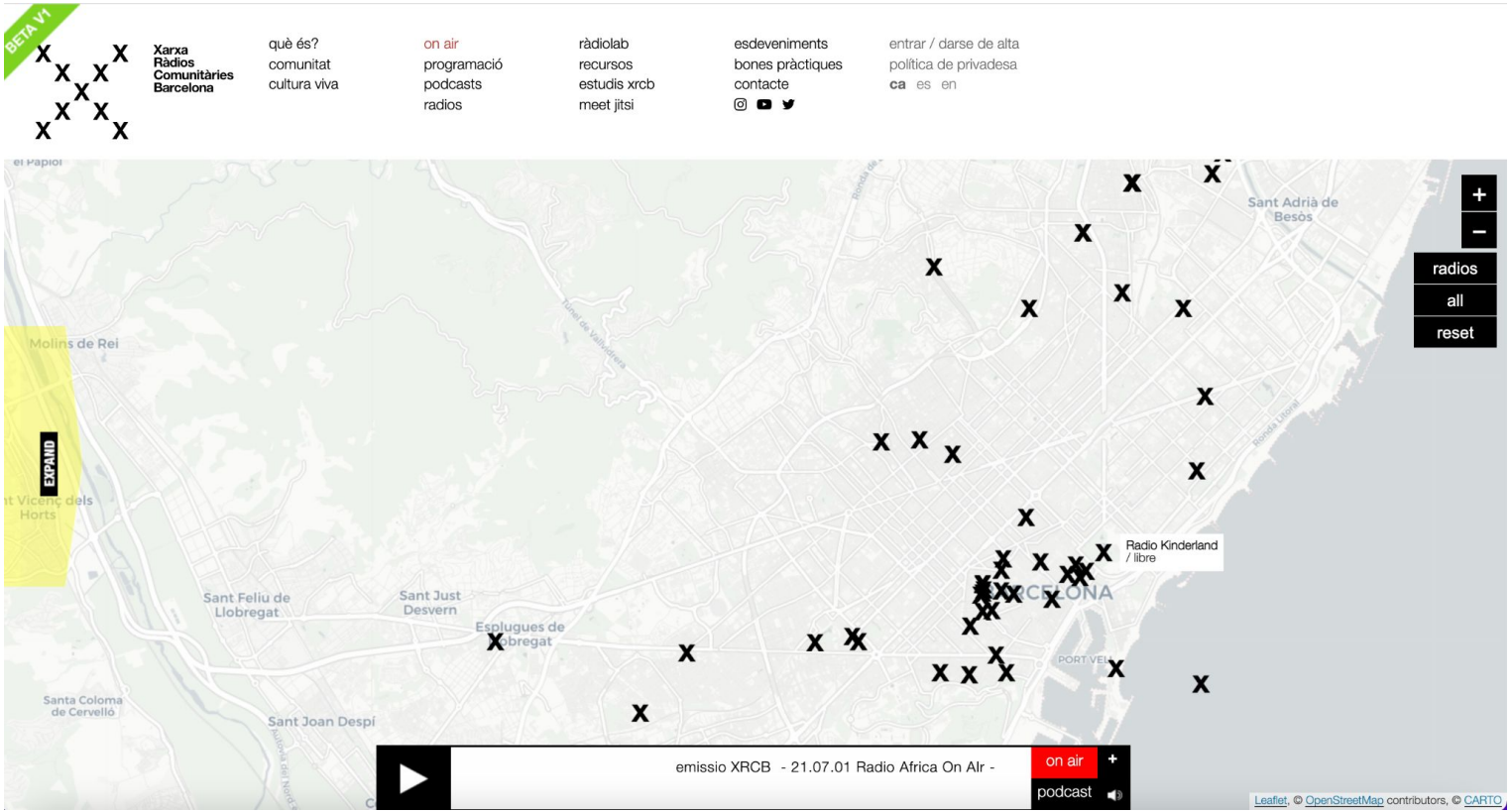
XRCB.CAT

Barcelona Community Radio Network

What is it?

- It’s a mapping of all the Barcelona Community Radio Stations
- It’s a research on the future of radio
- It’s R&D for online radio
- It’s an ethical and techno political platform for community podcasting and streaming.
- Above all, it’s a community

The Map


BETA V1
Xarxa Ràdios Comunitàries Barcelona
què és?
comunitat
cultura viva
on air
programació
podcasts
radios
ràdiolab
recursos
estudis xrcb
meet jitsi
esdeveniments
bones pràctiques
contacte
entrar / darse de alta
política de privadesa
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EXPAND
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radios
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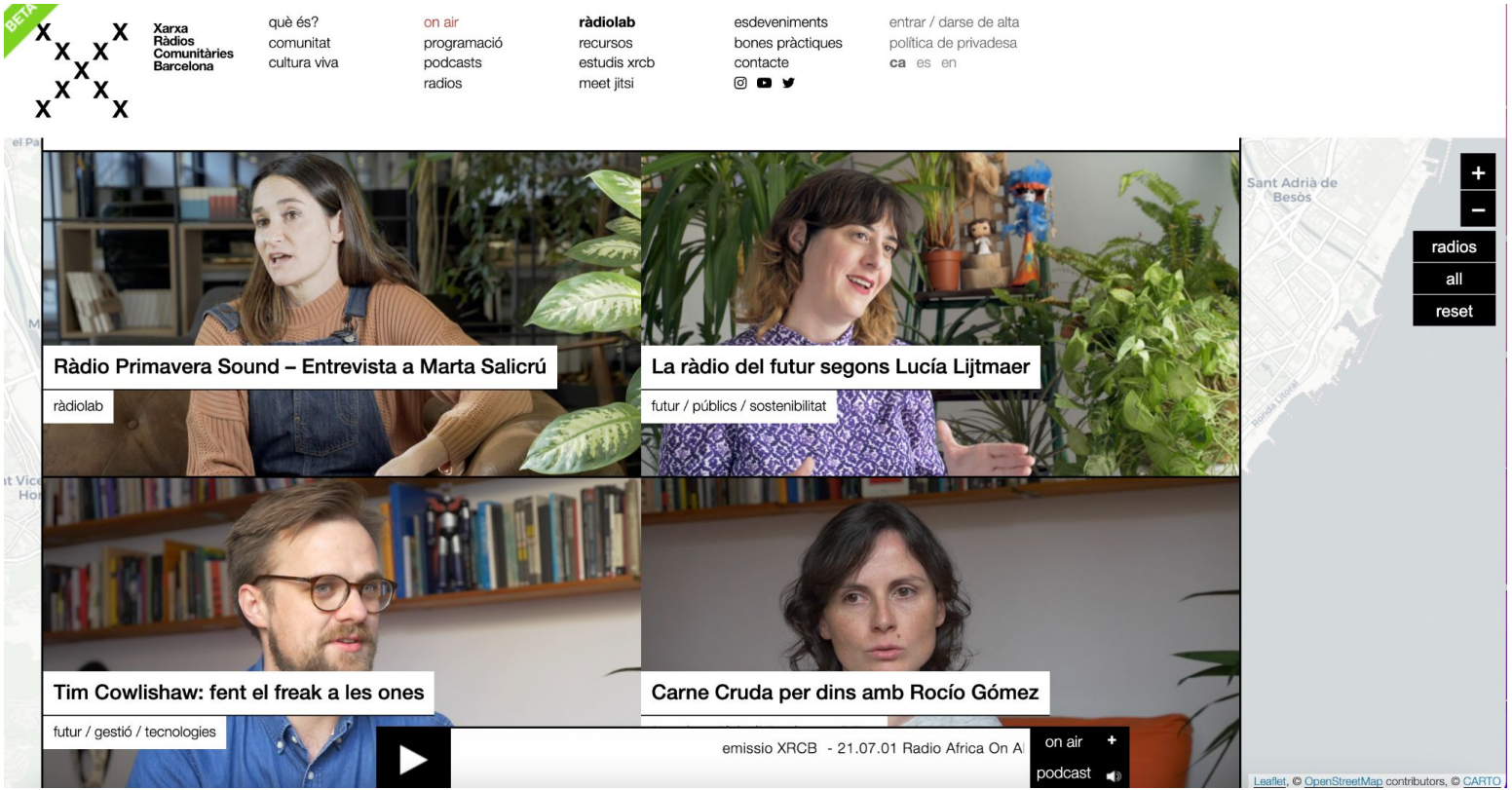
reset
Sant Adrià de Besòs
Molins de Rei
Sant Feliu de Llobregat
Sant Just Desvern
Esplugues de Llobregat
Santa Coloma de Cervelló
Sant Joan Despí
Radio Kinderland / libre
emissio XRCB - 21.07.01 Radio Africa On Air -
on air
podcast
Leaflet, © OpenStreetMap contributors, © CARTO

The Research - Radiolab



R&D for radio

We develop our own software

We design devices for radio (like this mobile node)

We investigate how to make the network sustainable

52 radios

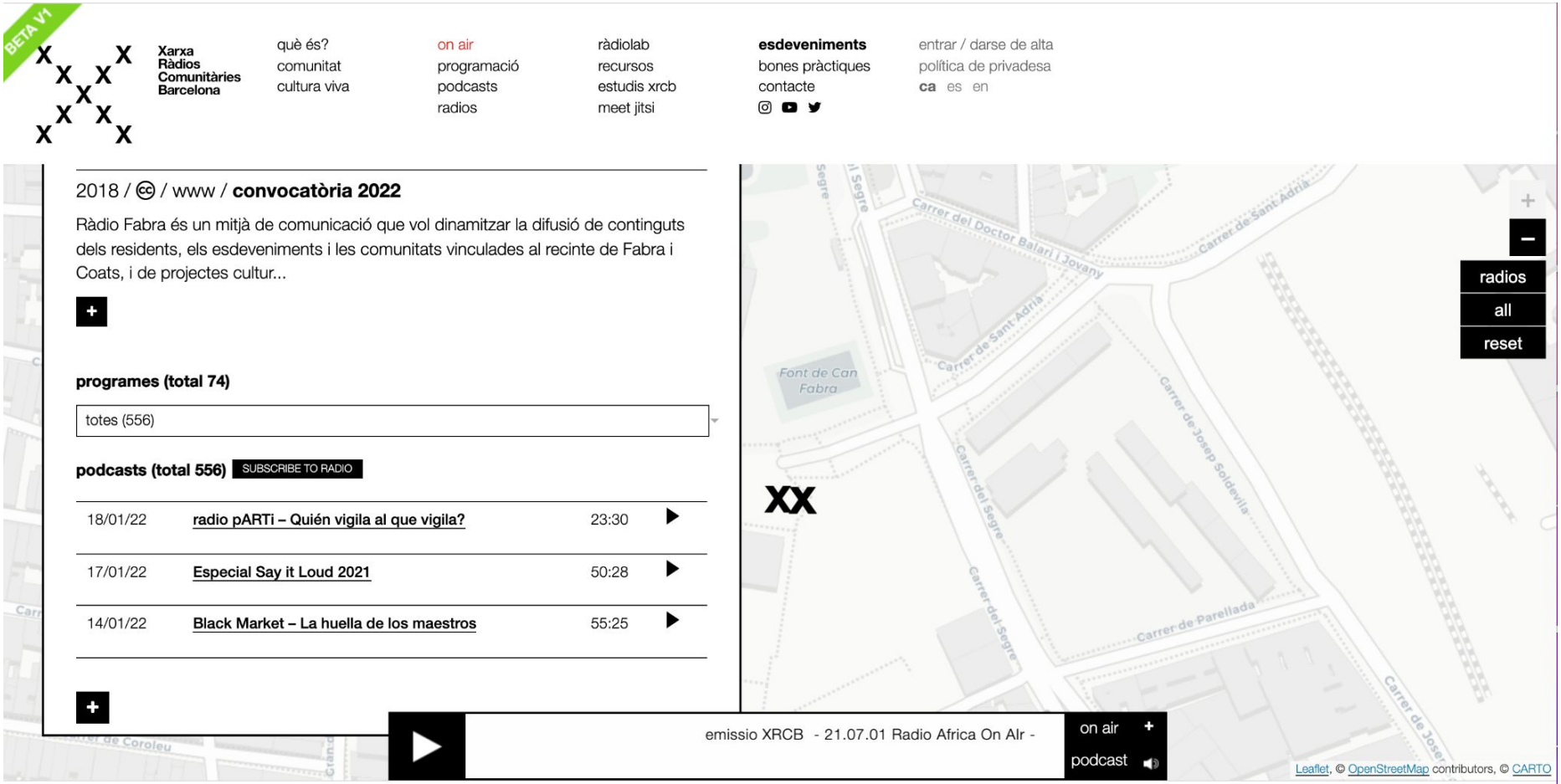
and growing

1037podcasts

and counting

The radios

- Community radios
- Neighborhood radios
- Individuals who record their shows at home (podcasters)
- Institutions (museums, art centers, soon public libraries)
- Free/ pirate radios (at heart)
- etc.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política de privadesa
ca es en
2018 / cc / www / convocatòria 2022
Ràdio Fabra és un mitjà de comunicació que vol dinamitzar la difusió de continguts dels residents, els esdeveniments i les comunitats vinculades al recinte de Fabra i Coats, i de projectes cultur...
+
programes (total 74)
totes (556)
podcasts (total 556)
SUBSCRIBE TO RADIO
18/01/22 radio pARTi – Quién vigila al que vigila? 23:30
17/01/22 Especial Say it Loud 2021 50:28
14/01/22 Black Market – La huella de los maestros 55:25
+
Carrer del Doctor Balari i Jovany
Carrer de Sant Adrià
Font de Can Fabra
Carrer del Segre
Carrer de Josep Soldevila
Carrer de Parellada
radios
all
reset
emissio XRCB - 21.07.01 Radio Africa On Air -
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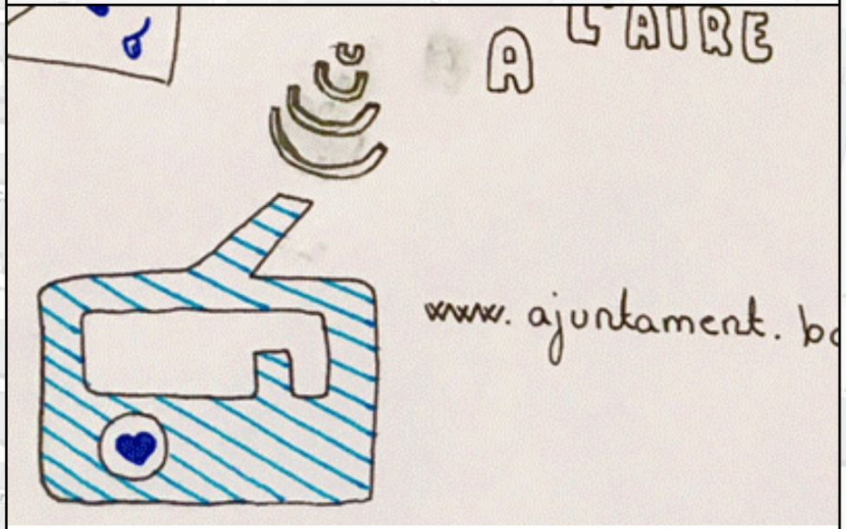
FABRA.gif
Mostra-ho tot

BETA V1

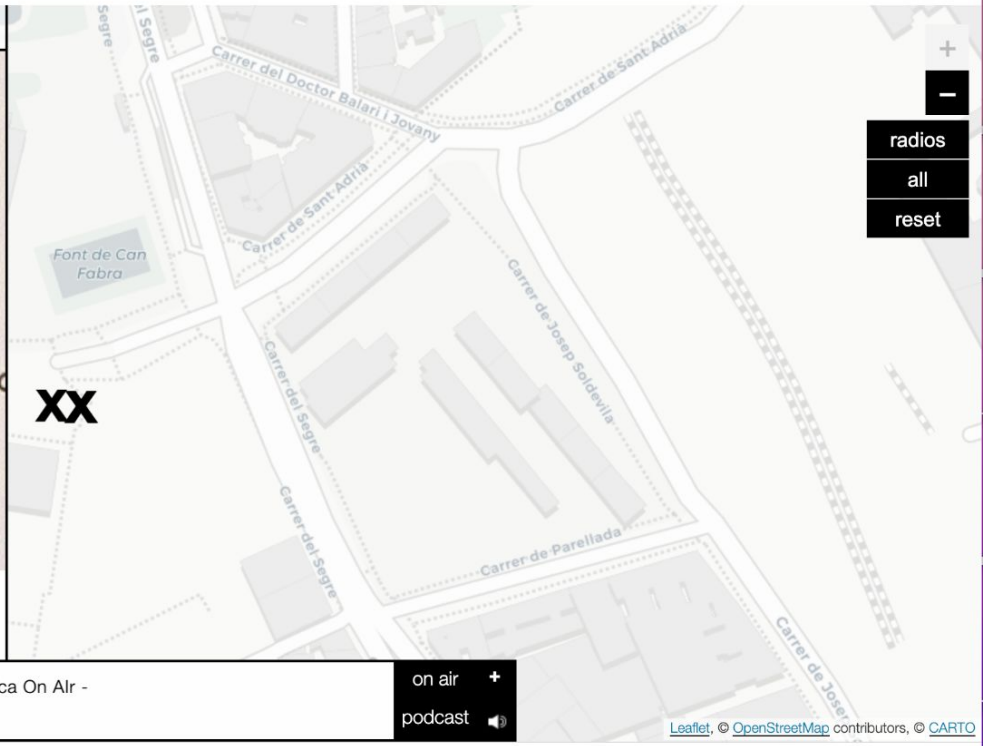
Xarxa Ràdios Comunitàries Barcelona



radio pública

Sant Andreu

2018 / cc / www / **convocatòria 202**



emissio XRCB - 21.07.01 Radio Africa On Air -

on air +

podcast

FABRA.gif

Mostra-ho tot

2 studios

Physical studios for the community to use and make their shows

Ràdio Fabra

Ràdio Rambles

Events

Our own or collaborations

bip bip bip
Soroll de robot
bip bip
Soroll de

RÀDIO
África
"On Air"
Xarxa
Ràdios
Comunitàries
Barcelona
cbcn
eXO.cat
CULTURA VIVA
guifi·net
SHURE

Marshall

Liquidsoap show case!

Sovereign infrastructure

XRCB is a project from exo.cat and funded by Cultura Viva program from ICUB (part of Barcelona City Council)

exo.cat is a small nonprofit telecom operator that is part of guifi.net, a community network based on Spain

exo.cat manages their own physical infrastructure located on equinix, near catnix

Other wireless community networks in the world:

https://en.wikipedia.org/wiki/List_of_wireless_community_networks_by_region

Software Architecture

We explore and integrate technologies that could help the radio community

We work openly here https://gitlab.com/guifi-exo/xrcb

- xrcb.cat is mainly a **wordpress** site
  - https://gitlab.com/guifi-exo/xrcb/xrcb-theme
- icecast.xrcb.cat is the **icecast** instance
- **liquidsoap** scripts integrate with wordpress and icecast

Details on current deployment

- Liquidsoap started to work on year 2018
- Low maintenance confirmed
- Viewing from the future: presenting current status of https://gitlab.com/guifi-exo/xrcb/xrcb-scheduler as of commit a4678af4378575a4228355e6a847b694687571f9
- Current liquidsoap version is **1.3.7** (hello from 2019-4-10)
  - I hope soon it will be at 2.0.2 :)
- On top of a debian 11, that brings liquidsoap 1.4.3
- It is an opam installation, hence it lets you have a more controlled/autonomous version https://www.liquidsoap.info/doc-2.0.2/install.html#install-using-opam

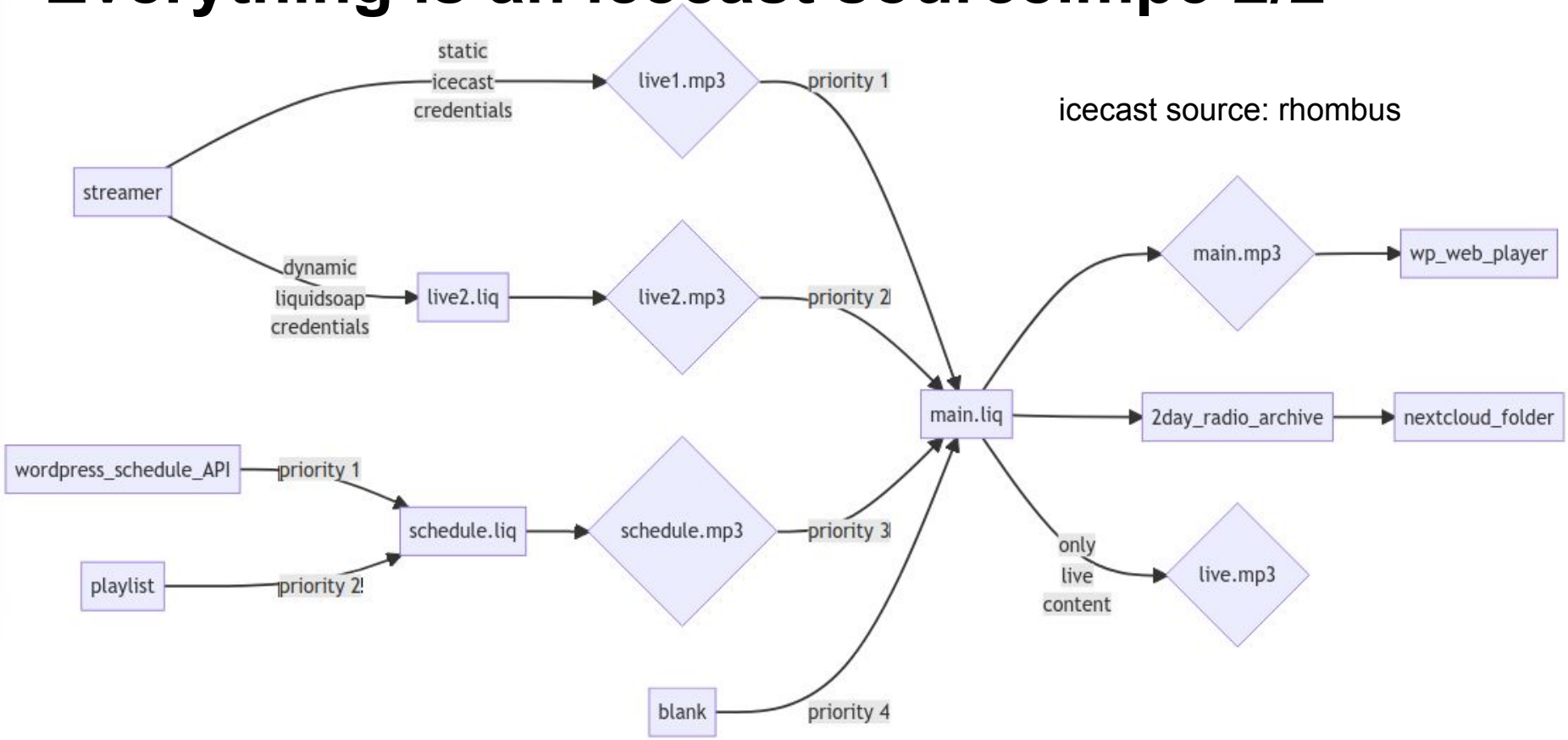
Everything is an icecast source.mp3 1/2

It’s transparent and allows easy debugging: anybody can check if everything is fine https://icecast.xrcb.cat/

each liquidsoap script works on an independent systemd service / daemon

design caveat: quality degradation, it reencodes on mp3 multiple times. future work: move all (possible) sources to flac except final output

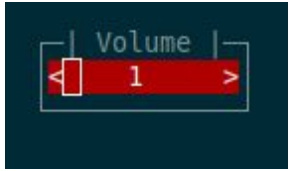
Everything is an icecast source.mp3 2/2



icecast source: rhombus

live2.mp3

- only triggers its icecast source when active https://gitlab.com/guifi-exo/xrcb/xrcb-scheduler/-/blob/master/script/live2.liq#L50
- **poor man's server-side volume-loudness controller**
  - this is a way when remote cannot make volume louder
  - https://gitlab.com/guifi-exo/xrcb/xrcb-scheduler/-/blob/master/liquidsoap_param_controller.py
  - check *good loudness* section https://gitlab.com/guifi-exo/xrcb/xrcb-scheduler/-/blob/master/script/live2.liq#L15
  - Interaction: up/down arrows and numbers work




```
v = interactive.float("volume", 1.)
signal = amplify(v, signal)
signal = nrj(signal)
set("server.telnet",true)
```

schedule.mp3 1/2 from wordpress API

- python script parses every day (cronjob) the schedule API https://gitlab.com/guifi-exo/xrcb/xrcb-scheduler/-/blob/master/prepare_template_scheduler.py
  - cronjob: https://gitlab.com/guifi-exo/xrcb/xrcb-scheduler/-/blob/master/xrcb-scheduler.cron
  - note: wordpress scheduling through a custom wordpress form
- jinja templates generates a liquidsoap scheduling https://gitlab.com/guifi-exo/xrcb/xrcb-scheduler/-/blob/master/script/schedule.liq.j2
- extract of today's example (2022-01-23-schedule.liq): https://paste.debian.net/1228104/

schedule.mp3 2/2 wp media playlist

- get all mp3 media from wordpress https://gitlab.com/guifi-exo/xrcb/xrcb-scheduler/-/blob/master/generate_playlist.sh
- playlist on schedule liquidsoap script https://gitlab.com/guifi-exo/xrcb/xrcb-scheduler/-/blob/master/script/schedule.liq.j2#L26

Thank you!