

PRE-FOSDEM GNU RADIO HACKFEST 2020

REVIEW

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02.02.2020

SLIDES URL

Visit <https://www.nocolour.de/slides/hackfest-review/>
for live slide imagery

FACTS

- Duration: 3 days (28.01 - 30.01)
- Location: ESA ESTEC (Noordwijk, NL)
- Participants: 14 (6 GNU Radio officers) + 1 space cat
- Thanks to the ESA TEC-EST section and ESA TEC-ES division for approval!

SETUP (DAY 2)



MICKY, THE SPACE CAT



MICKY, THE SPACE CAT



TOPICS

- GNU Radio scheduler & runtime
- GNU Radio 3.8 OOT porting & package feed
- SigMF Tooling

SCHEDULER & RUNTIME

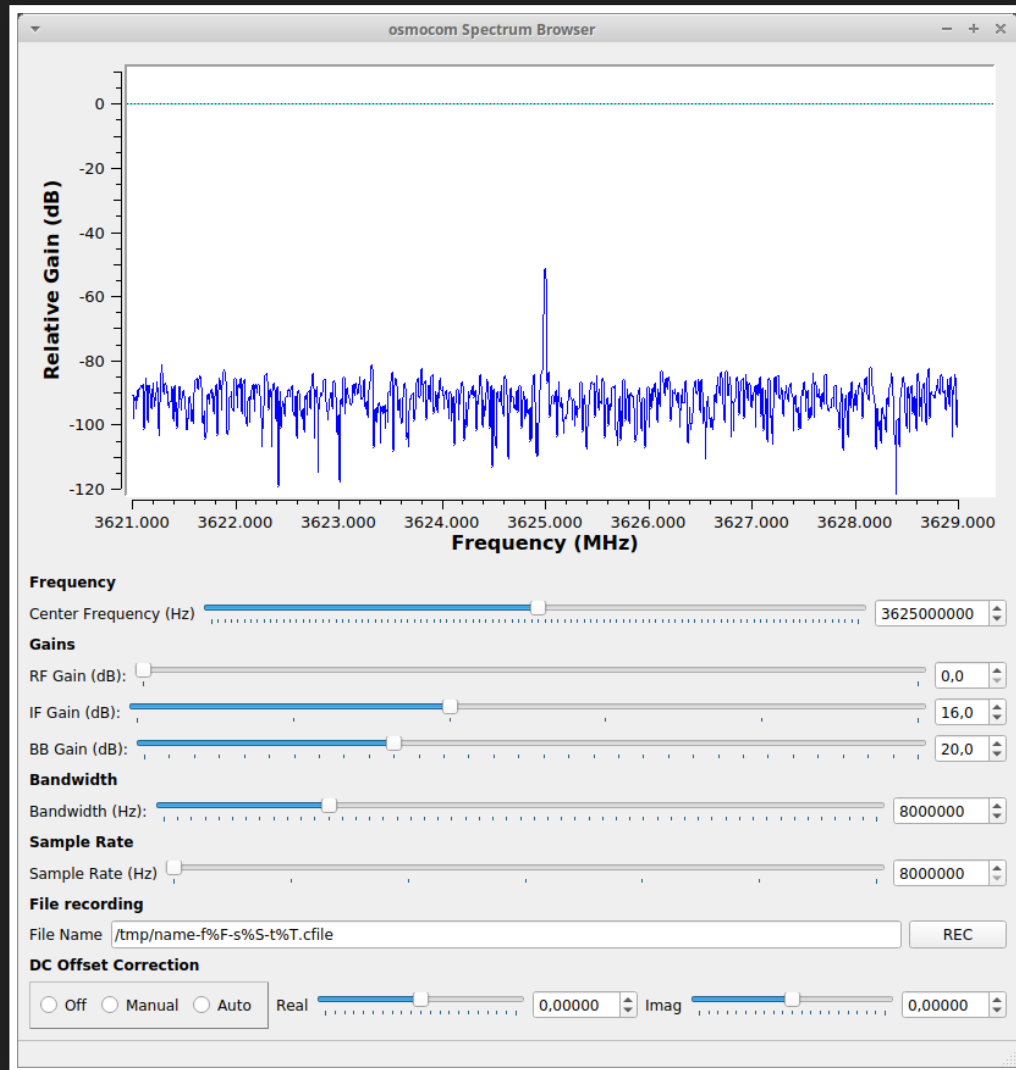
- First Day: Brainstorming session
- Second & Third Day: Start of Proof of Concept implementation

<https://github.com/gnuradio/newsched>

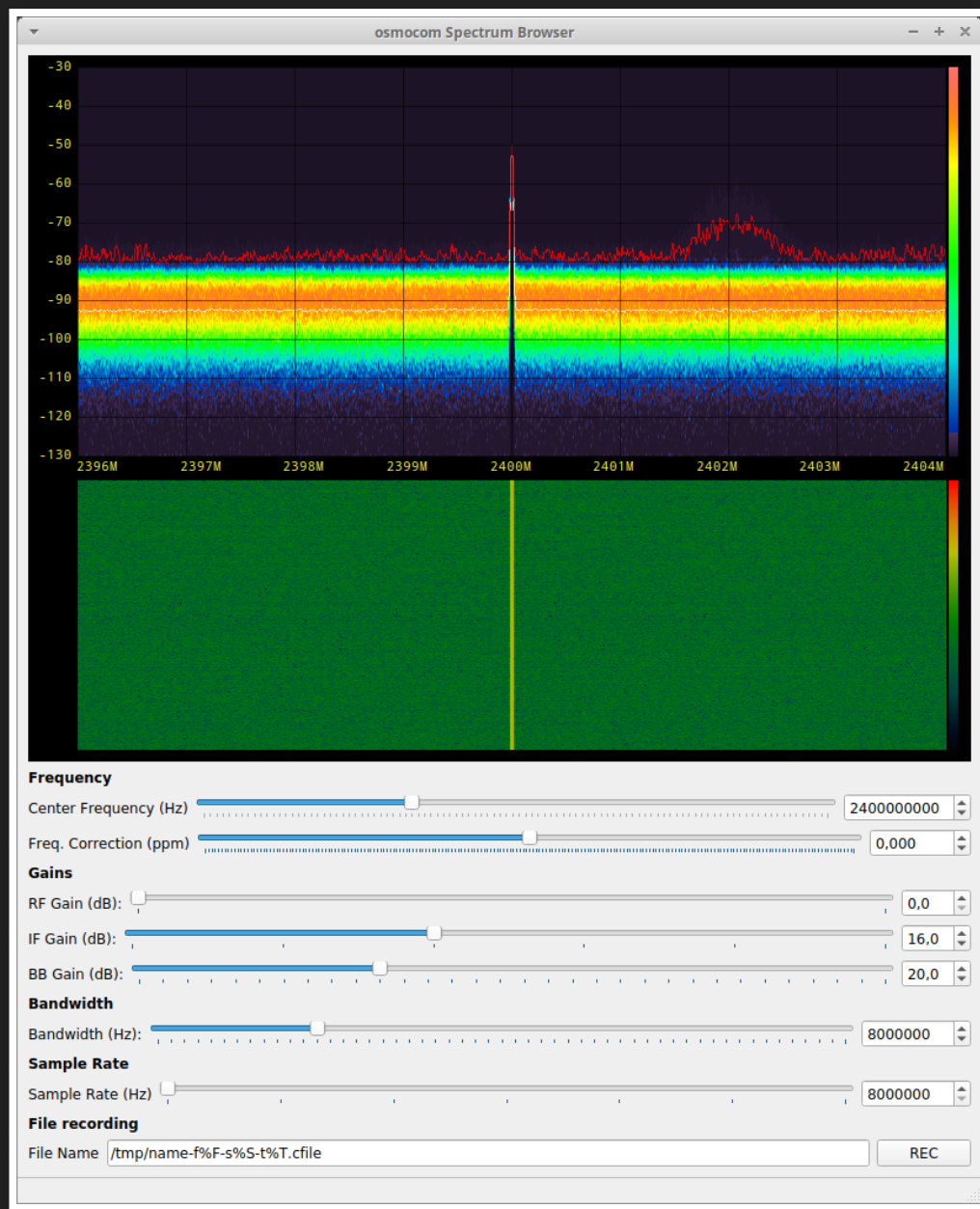
GNU RADIO 3.8 OOT PORTING & PACKAGE FEED

- Effort to help porting packages to 3.8
- Adding features to make porting to 3.8 easier
- Thoughts & Concept for a binary package feed

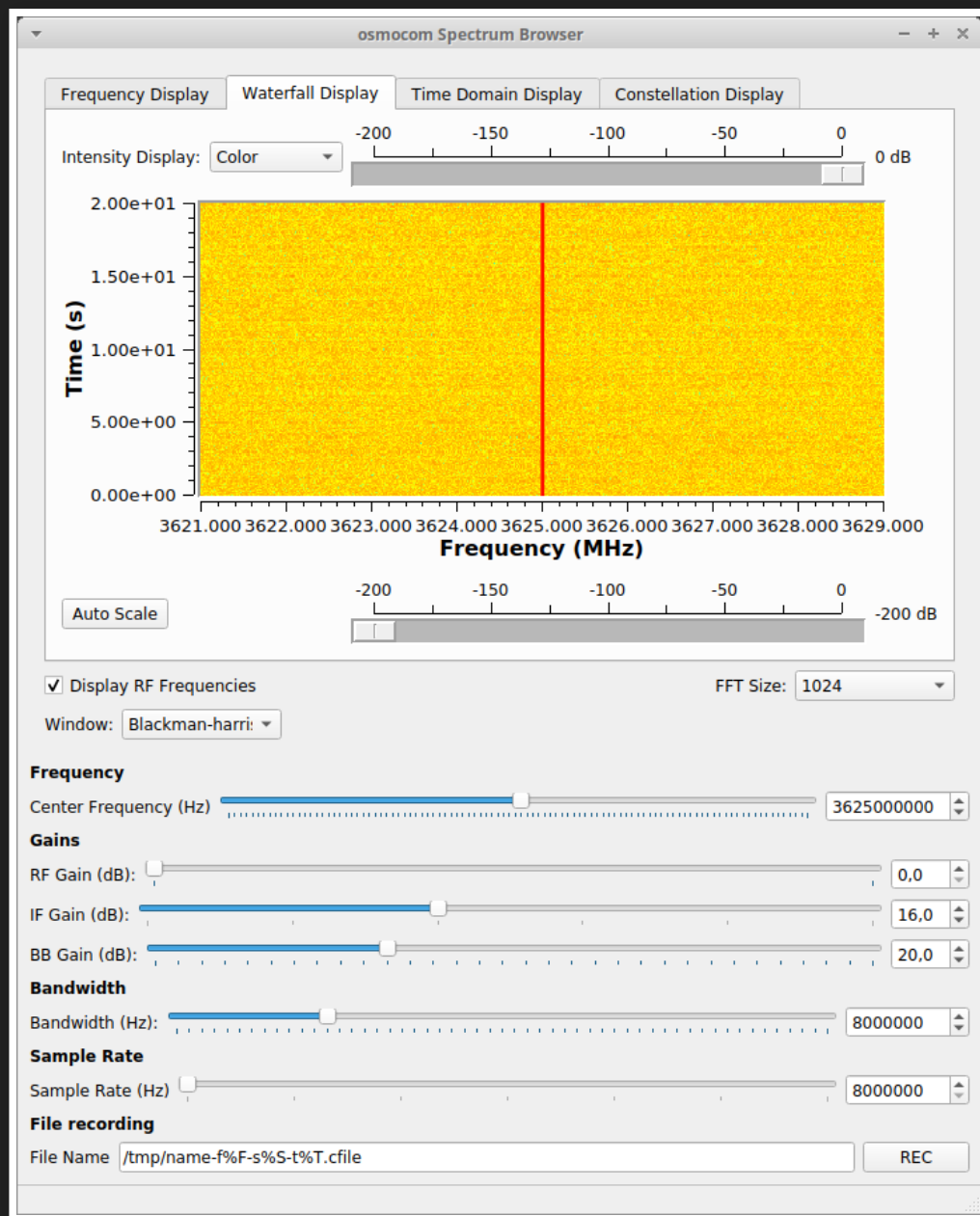
OSMOCOM_FFT QTGUI PORTING



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CGRAN UPDATES

- Add a `supported_versions: vX.Y, vY.Z` key to your MANIFEST.md files
- Specified logos are now loaded & displayed in CGRAN



The Comprehensive GNU Radio Archive Network

The Comprehensive GNU Radio Archive Network (CGRAN) is a free open source repository for 3rd party GNU Radio applications (a.k.a Out Of Tree Modules) that are not officially supported by the GNU Radio project.

GNU Radio Packaging Legend:

OS	GR Version
Ubuntu-16.04	3.7.9.1
Ubuntu-18.04	3.7.11
Ubuntu-19.04	3.7.13.4

search for text

Name	Most Recent Commit	Description	Categories	GNU Radio supported versions
gr-iqbal	Nov. 21, 2015	GNU Radio block to correct IQ imbalance in quadrature receivers	iq imbalance, rx, osmocom	v3.7, v3.8
gr-fosphor	Sept. 25, 2018	GNU Radio block for RTSA-like spectrum visualization using OpenCL and OpenGL acceleration	fft, gpu, opencl, opengl	v3.7, v3.8
gr-drm	Aug. 22, 2018	DRM/DRM+ transmitter	sdr, drm, digital radio, short wave	—
gr-ldpc	April 8, 2014	None	None	—

CONCEPT FOR AUTOMATIC OOT PACKAGING FEED (DEBIAN DERIVATIVES)

- Automatic parsing of a metadata file (PyBOMBS recipe with extra fields)
- Generation of control/rules/install files in `debian/` directory
- CI pipeline for automatic packaging

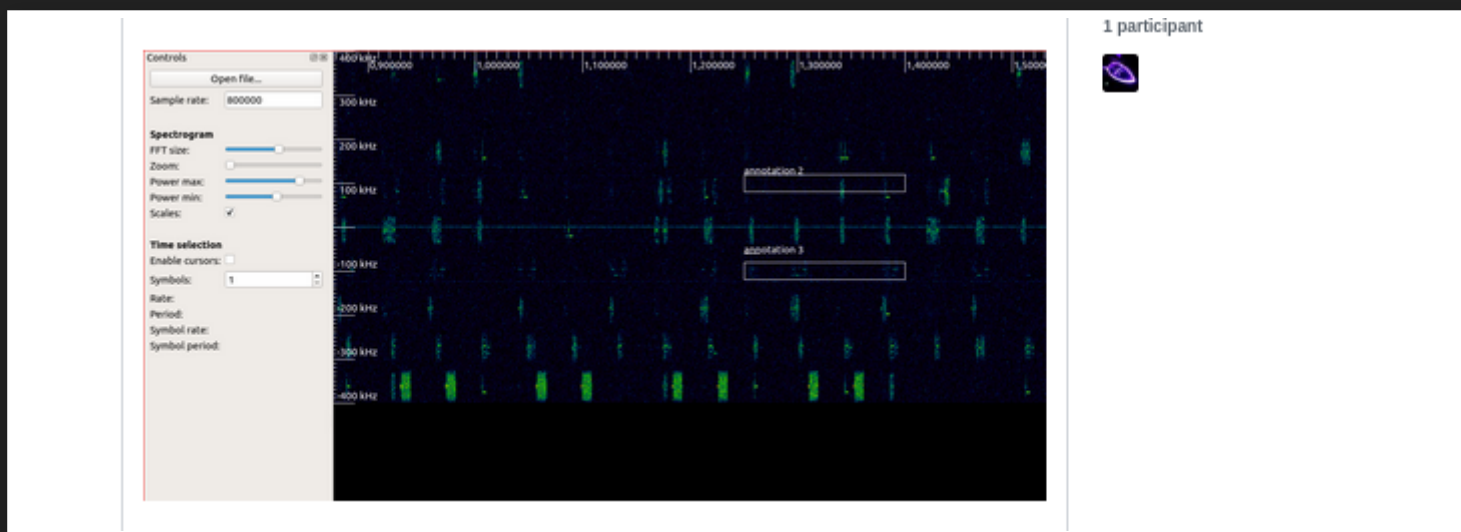
SIGMF TOOLING

- Goal: Profileration of SigMF in the GNU Radio ecosystem for IQ sample storage & metadata description

CLEANUP OF LIBSIGMF CMAKE

- Adhere to Modern CMake
- Enable easy downstream packaging
- First results posted in PR #4

ADDITION OF SIGMF TO INSPECTRUM (PR #161)



FUN ACTIVITIES

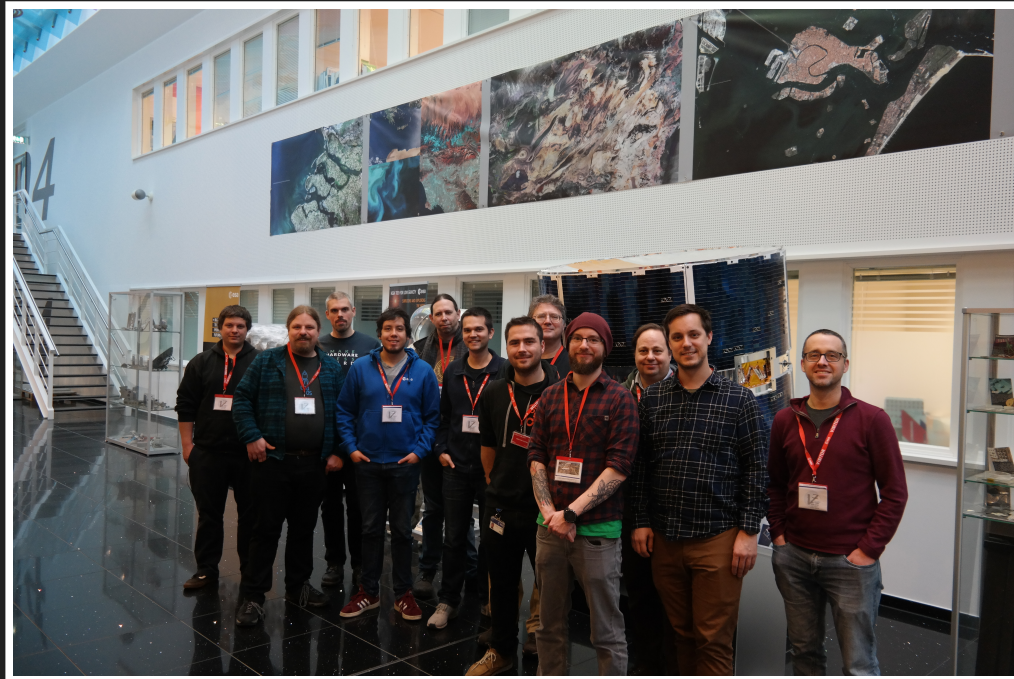
- Hackfest at the European Space Research and Technology Centre has some upsides

TOUR THROUGH THE ERASMUS BUILDING



Figure 9: 3D CGI & real footage tour through the ISS

VISIT TO THE CONCURRENT DESIGN FACILITY (CDF)



CONCLUSION

- Real progress on GNU Radio runtime & scheduler implementation
- Good updates & additions to the GNU Radio 3.8 OOT porting effort
- New sparked interest int SigMF and integration into more tools is planned for the near future!

THANKS FOR YOUR ATTENTION - JOIN THE NEXT HACKFEST!

