The Stats Slide

Stat	2017	2018
Executed CLAs	5	11
Closed Issues	68	140
Closed Pull Requests	177	272

Git clones

1,606 Clones

823 Unique cloners

Visitors

12,839 Views

2,430 Unique visitors

Participation in Software Coding Programs

- Google Summer of Code
  - **Swapnil Negi:** gr-modtool Overhaul
    - Mentors: Sebastian Koslowski, Nicolas Cuervo
    - Created a GUI, programmatic control through API, YAML Generator, plug-in architecture, + more
    - Status: Merged!
  - **Luca Schmid:** MIMO Improvements
    - Mentors: Felix Wunsch, Marcus Müller
    - Implemented diversity combining, Alamouti, differential block codes, Bell Labs Layered Space-Time (VBLAST), + more
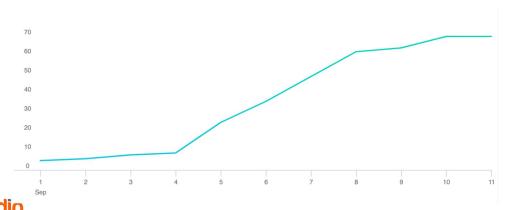   - Status: Merged!
- Administered by Felix Wunsch this year!

Last Year's Slide

GRCon17

- Another year of growth!
- Another year of everyone waiting until the last minute to buy their tickets!
- Discussion about next year needs to start soon!

This Year's Slide

- Y'all will be the death of GRCon Organizers.

GRCon19

- Planning is already underway!
- Organizing committee co-chaired by Michelle Thompson and Steve Conklin
  - To get involved, talk to Michelle here at GRCon18!
- Huntsville, Alabama
- September 16th - 20th, 2019

Changes in GNU Radio Leadership

- Johnathan Corgan has stepped down as GNU Radio maintainer & CTO of the GNU Radio Foundation.

- At the same time, did away with the concept of core development team being mostly "area specific" and responsible for particular parts of the codebase.

- Retained a few key title roles, otherwise leadership roles are more fluid, now.

Leadership & Governance

Foundation President, Project Lead, FSF Maintainer	Me
Foundation Officer, Community Manager	Martin Braun
Project Maintainer & Officer	Marcus Mueller
Volk Maintainer & Officer	Nathan West
DevOps Admin & Officer	Andej Rode
Officer	Bastian Bloessl
Officer	Derek Kozel
Officer	Nate Temple
Officer	Philip Balister
CGRAN Maintainer & Officer	Marc Lichtman
Officer	Richard Prestage

Pushing Core Development

- Merge of `next` into `master` is imminent.

- Once done, will represent an alpha version of 3.8 release.
  - Comprises many substantial updates and improvements.
  - Represents a significant investment of time and effort.

- The progress to-date is a huge accomplishment. Thank a developer!

Ecosystem Activity

- Out-of-Tree Modules and applications are still exploding

Ecosystem Activity

- Out-of-Tree Modules and applications are still exploding

- Continue to see an explosion of use in cybersecurity
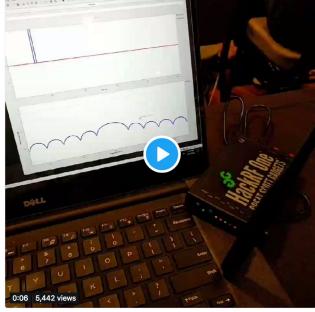 - Both intentional and unintentional

Ecosystem Activ

- Out-of-Tree Modules ___ ling

- Continue to see an e
  - Both intentional and u

Matt Jones
@MattJonesIT

The class just made an AP go offline due to running out of DFS channels by triggering DFS events on ALL of them using a HackRF and GNU Radio Companion during our SDR deep dive by @bastibl at #WLPC. Very cool.

0:06   5,442 views

4:00 PM - 21 Feb 2018 from Tempe, AZ

61 Retweets 195 Likes

7   61   195

GNURadio
THE FREE & OPEN SOFTWARE RADIO ECOSYSTEM

Ecosystem Activity

- Out-of-Tree Modules and applications are still exploding

- Continue to see an explosion of use in cybersecurity
  - Both intentional and unintentional
  - Announced at osmocom: transmitting with USB VGA dongles: osmo-fl2k

Ecosystem Activity

- Out-of-Tree Modules and applications are still exploding

- Continue to see an explosion of use in cybersecurity
  - Both intentional and unintentional
  - Announced at osmocom: transmitting with USB VGA dongles: osmo-fl2k
  - BMW ConnectedDrive Hacking: First done in 2015 by Dieter Spaar, in the news again

Ecosystem Activity

- Out-of-Tree Modules and applications are still exploding

- Continue to see an explosion of use in cybersecurity
  - Both intentional and unintentional
  - Announced at osmocom: transmitting with USB VGA dongles: osmo-fl2k
  - BMW ConnectedDrive Hacking: First done in 2015 by Dieter Spaar, in the news again

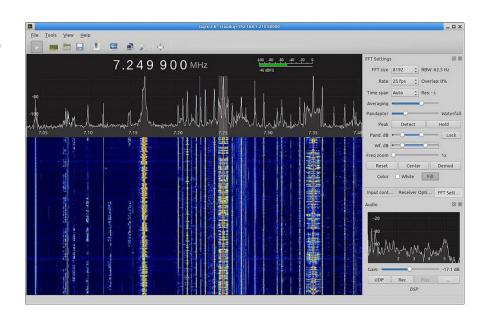- Efforts like VOLK and SigMF continue to grow, expanding outside of even our usual community & ecosystem.

Community Update: gqrx

- gqrx is no longer being maintained
- Latest release is v2.11.5, May 2018

- Created & maintained by Alexandru Csete

- Looking for an adopter!

Open Source Sustainability

- The concept of "sustainable open source" is a hot topic right now.
- The growth & success of an open-source project is often a double-edged sword
  - As the project grows, it becomes more work to maintain it.
  - The vast majority of the user-base is non-contributing.
  - How do you stably maintain a software project without paid developers?
    - Business models, foundations, grants, corporate support…
    - Lots of options, none are easy
    - Real answer: you can't.
- Remains a serious problem for large & small projects alike.

Open Source Sustainability

- The concept of "sustainable open source" is a hot topic right now.
- Remains a serious problem for large & small projects alike.

Looking for Work after 25 Years of Octave

From: John W. Eaton

Subject: Looking for Work after 25 Years of Octave

Date: Wed, 8 Feb 2017 15:21:06 -0500

User-agent: Mozilla/5.0 (X11; Linux x86_64; rv:45.0) Gecko/20100101 Icedove/45.2.0

```
TL;DR:  Reflecting on the last 25 of Octave, it's been a great
experience.  I would love to continue as the Octave BDFL but I also
need to find a way to pay the bills.
```

Open Source Sustainability

- The concept of "sustainable open source" is a hot topic right now.
- Remains a serious problem for large & small projects alike.

Bastien Guerry @bzg2 · 2h

Okay, here is the situation: I badly need to replace my 3yo dying computer but I can't afford to buy one. If you ever considered making a donation for #emacs #orgmode but didn't take the time, now is your chance :) Reach me at liberapay.com/bzg/ or

Pay Bastien Guerry using PayPal.Me
paypal.me

20   10

Open Source Sustainability

GNU Radio Sustainability

- GNU Radio was founded with a $320,000 donation for development.
  - Thanks, John Gilmore!
- Many millions of dollars are invested every year in using GNU Radio.
- How much is invested in GNU Radio itself?
  - Every time someone on the mailing list helps you, how much is that worth?
  - How much would you pay for regular & thorough tutorial blogs, videos, and examples?
  - If GNU Radio disappeared overnight, how much would you pay to bring it back?
- Not trying to shame anyone, but rather raise a topic that will be significant discussion point in the community over the next 1-2 years.
  - It's on *us* to make it possible to generate revenue.

GNU Radio's Status

- Of GNU Radio core development team:
  - 6 employed by private industry
  - 2 employed in academia
  - 1 is a student
  - 1 is self-employed as a consultant
  - 1 employed at a federally funded research lab
- GNU Radio *will* require paid work to maintain its position & utility.
  - The core runtime (i.e., the scheduler) needs a refresh.
  - Tools like GRC need to be updated.
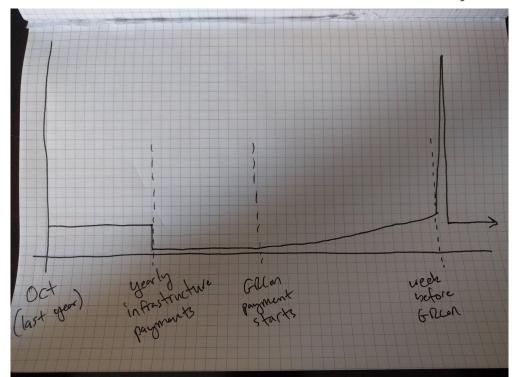 - Our workflows need to be updated to reflect the modern GNU Radio community.

Sustainable GNU Radio

- We have The GNU Radio Foundation, but not steady income

Sustainable GNU Radio

- We have The GNU Radio Foundation, but not steady income

Sustainable GNU Radio

- We have The GNU Radio Foundation, but not steady income.

- If we change nothing, we will level out and eventually become obsolete.
  - Just to be clear, this is years out. Talking long-term, here.

- Even if we had income, how do we run what is effectively now a (non-profit) business, and who will take on paid roles?

Don't Panic

- This isn't meant to sound dire!

- The GNU Radio community is arguably the strongest SDR ecosystem in the world, and our footprint is substantial.
  - Open-source software is just a product of the community behind it.

- The goal is prepare and plan now for what is necessary, before it really becomes an, "Okay, now you can panic," sort of thing.

Summary

- In the last year, the GNU Radio community has continued to grow, and the project has seen a substantial increase in activity and contributions.

- We need to be thinking about how to keep pushing GNU Radio forward, and how to reach sustainable development & maintenance.

- If you want to get involved, contribute, or just chat, please do!