Visualization Tools

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Before I begin

Want to play with SDR full time?

Virginia Tech is Hiring Research Faculty
Software Radio, Cognitive Radio & Wireless Security
Also always looking for interested Graduate Students and Industry Partners!

Please come talk to us at our booth or email if interest!
Technical positions in Arlington, VA and Blacksburg, VA
GQRX Spectrum Exploration (OOT)

- You never know what you will find in the spectrum
- GQRX is a nice easy way to explore!
gr-fosphor plotting tools (OOT)

- Awesome high rate OpenCL/OpenGL Spectrogram plotting!

Running at most of the booths here today!
Demo 1
GNU Radio File Plotting Tools

Set of tools that installs with GNU Radio `gr_xxx_plot_yy`

- `$# gr_spectrum_plot_c test_lte.dat`
Graphical Blocks in GRC

Search for “GUI” - there are too many items listed to find them any other way

QTGui and WXGui

Graphical Blocks
Visualizing Stream Data

- Z-Wave streaming example
- Many Things
Visualizing Stream Data

- Triggering in QT Gui
Message Based Plotters

- Currently living out of tree, python based
- Plans to merge with qtgui, move to c++ in-tree soon
GNU Radio File Plotting Tools

- Plotting Files with Messages!
GNU Radio File Plotting Tools

- Currently out of tree (OOT) but working on merging, message based plotters for large files!
- “Such Samples” – Loads only small regions of a file in memory at a time
Demo 3
- Extracting and Visualizing Events
Event Driven Power Mapper Graph!

Trigger every N samples

Annotate Latest GPS NMEA String

Compute Burst Avg Power

Write JSON

88.1MHz WAMU FM
Going Mobile
Visualization Spatial Data

- Parse JSON data into KML for Google Earth...
Visualization Spatial Data
Future Work
- Move burst plotters to QT Gui / C++
- More burst modem examples (OFDM)
- Block Unification (FASSWG)
- Message Opportunities

Questions?