So Many nifty OOT modules

gr... SQUIRREL!!!
Origin of the ... SQUIRREL!!!
gr-osmocom

Hardware abstraction layer. Drives anything from RTL to USRP
INSTRUMENTATION

Not always obvious what the flowgraph is doing

In old-school C style: just put in some printf()

Tap some of the signal paths with a GUI sync.
gr-pyqt
DECODERS

Otherwise known as "what's up doc?"

There are a lot of interesting signals out there, and thankfully some smart people have done a bunch of work to make it easy to understand (or at least use)
ADSBoard uses PPM; look for spikes in amplitude that correlate against a known preamble, and unpack the resulting bits.
Balint says it's like SMS for aircraft. Mostly used to report broken lavatories.

And engine diagnostics.
There are a bunch of frequencies in use at my local airport; this is what motivated me to start looking at the polyphase channelizer
gr-nmea, gr-uhdgps

Cheap

Not Cheap
gr-nmea

Direct serial access to NMEA devices, GPSD for everything else

Keep your local clock synced, and get PVT data for your flowgraphs

Clearly not as good as a USRP+GPSDO but satisfactory for some use cases
gr-nmea

***** MESSAGE DEBUG PRINT ******
(longitude, -109.535) (latitude, 31.3068) (valid, #f) (host_time, 2015-08-22 17:13:05.164600) (protocol, nmea) (id, GPGSA,A,1,........,1,E)

***** MESSAGE DEBUG PRINT ******
(gps_time, 2015-08-23 00:13:05) (longitude, -109.535) (latitude, 31.3068) (valid, #f) (host_time, 2015-08-22 17:13:05.053200) (protocol, nmea) (id, GPGGA,A,1,........,1,E)

***** MESSAGE DEBUG PRINT ******
(longitude, -109.535) (latitude, 31.3068) (valid, #f) (host_time, 2015-08-22 17:13:05.643870) (protocol, nmea) (id, GPGSA,A,1,........,1,E)

***** MESSAGE DEBUG PRINT ******
(speed, 0) (track, 0) (host_time, 2015-08-22 17:13:05.714650) (protocol, nmea) (id, VTG)
ENCODERS

OOT modules can also produce useful signals to transmit
gr-nacl

Symmetric and Public Key crypto.
gr-paint

Mad props to @drmpeg

A simple block

Turns this into...
gr-paint
What's next?

Try it. Very few things require actual hardware. Send patches or bug reports if something breaks.

Keep an eye on https://github.com/trondeau/gr-samples and http://cgran.org/ for more applications of different blocks and modules

/join #gnuradio
/join #cyberspectrum
Image Sources

http://coloryoursat.com/292-thickbox/satellite-dish-squirrel-2.jpg
http://s.tmocache.com/content/dam/tmo/en-g/Q3%202014/unc7/toto/blade3.jpg
http://bookingbuddy.typepad.com/.a/6a00e5500ce6be8834019104e84df1970c-800wi
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