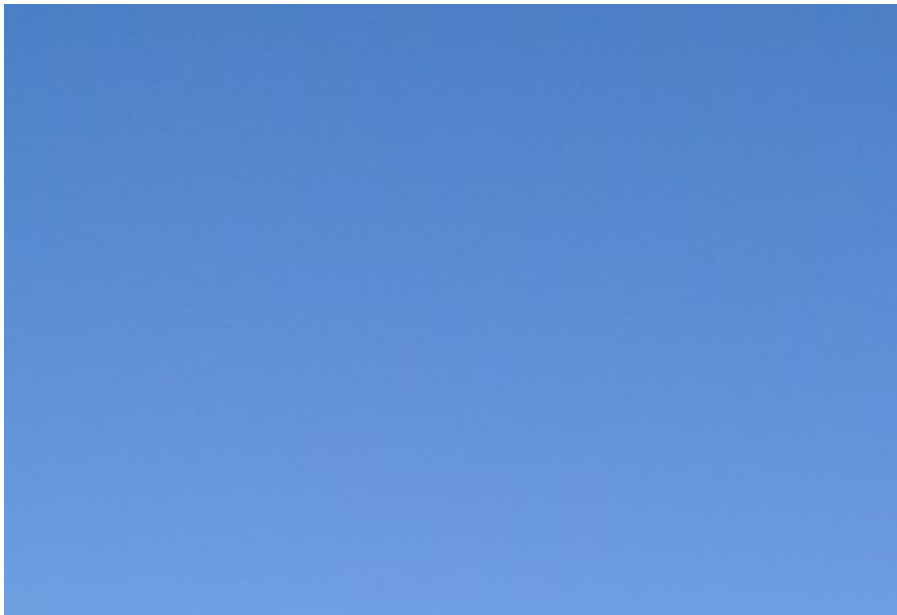


Rocket Science On Github

Open Source Bridge 2014

June 24, 2014

PSAS



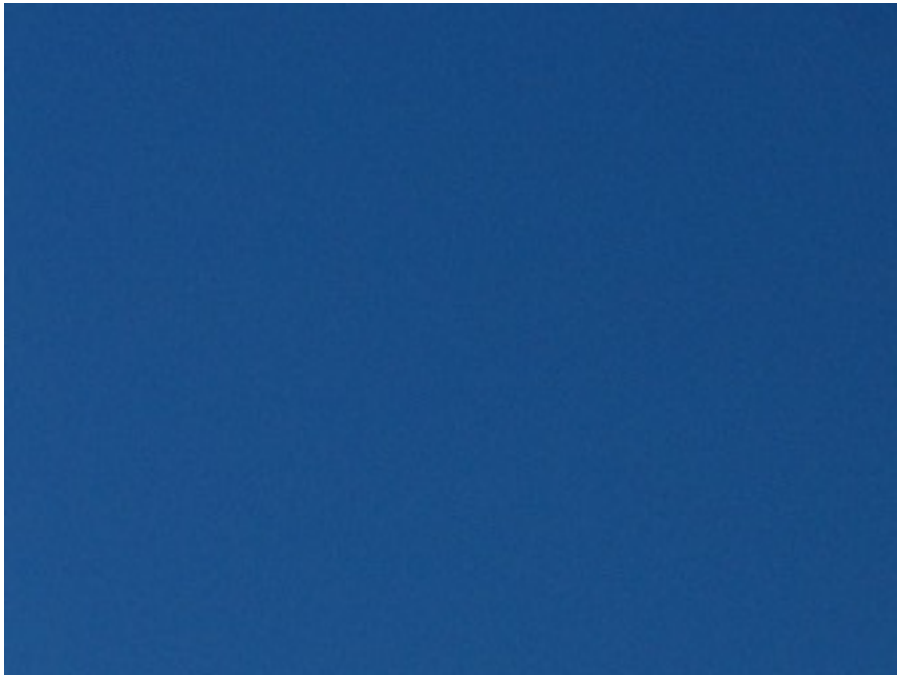
Why Rockets?

- ▶ Labs are safe and predictable.
- ▶ Rockets can kill you! And are hard!
- ▶ Okay, so let's build rockets.
- ▶ Our goal: **Put a 1 kg nanosatellite into orbit.**

Plan Of Attack

1. Build steerable rocket.
2. Get lawyers.
3. ???
4. Orbit!

An aside about rocket physics. . .



projects /

Project

Description

admin.git

Information on PSAS system

airframe-cad.git

PSAS Airframe Team CAD

astraea.git

Trajectory optimizer

[projects](#) / [av3-fc.git](#) / **summary**

[summary](#) | [shortlog](#) | [log](#) | [commit](#) | [commitdiff](#) | [tree](#)

description	Flight computer for the AV3 stack.
owner	Nathan Bergey
last change	Fri, 21 Dec 2012 22:30:37 +0000 (14:30)
URL	git://git.psas.pdx.edu/git/av3-fc.git ssh://git.psas.pdx.edu/git/av3-fc.git

[projects](#) / [av3-fc.git](#) / tree

[summary](#) | [shortlog](#) | [log](#) | [commit](#) | [commitdiff](#) | tree

ADIS support

-rw-r--r--	276	.gitignore	blob history
-rw-r--r--	676	Makefile	blob history
-rw-r--r--	4552	adis-imu.c	blob history
-rw-r--r--	269	adis-imu.h	blob history
-rw-r--r--	2055	aps.c	blob history
-rw-r--r--	413	aps.h	blob history

Github

- ▶ Use organization where everyone has commit access
- ▶ Name squatting is not allowed
- ▶ Triggered spam alerts
- ▶ Customer support was fast and helpful
- ▶ What to do with archived repos?
- ▶ Turn off access with message in pre-receive

```
#!/bin/sh
```

```
echo "see: https://github.com/psas/$(basename `pwd` .git)
```

```
exit 1
```

Initial Reactions

READMEs

Read The Docs

Capstones

- ▶ Introduce students to large git based development
- ▶ They make their own organization
- ▶ PSAS forks the project

CAD

- ▶ Solidworks
- ▶ Eagle

Test Data

- ▶ 100's of MB
- ▶ It shouldn't really ever change
- ▶ Pare down to minimum needed for analysis
- ▶ Don't check in artifacts
- ▶ Notes in README about what code and hardware was tested

Rise of the Issue Tracker

- ▶ Multiple repos, multiple issue lists
- ▶ Can't crosslink (automatically)
- ▶ *Everyone is confused all the time about where issues live*



PUBLIC



Bro

Eve

Assi

Cre

Men

Full Stack

- ▶ github.com/psas
- ▶ Top Level Readmes
- ▶ Software
 - ▶ RTD
 - ▶ travis-ci
 - ▶ Make files: immediate satisfaction
- ▶ EE CAD
 - ▶ Better visibility
 - ▶ Missing tools
- ▶ Solidworks
 - ▶ Missing everything

Launches!

- ▶ github.com/psas/Launch-11

Secret Weapons

- ▶ Github ecosystem
- ▶ Badges!
- ▶ RTD
- ▶ gh-pages
- ▶ Forks
- ▶ Visibility
- ▶ Issue tracking

Missing Pieces

- ▶ Top down visibility
- ▶ Connecting repos
- ▶ **CAD tools**

What People Like

- ▶ Easy administration
- ▶ Badges
- ▶ Fitting in

Not So Much

- ▶ Email alerts on by default
- ▶ Where is *blank*?
- ▶ “You don’t update the website anymore”

Launch!

July 20th

- ▶ L- 25days 22 hours

Follow Us

- ▶ github.com/psas
- ▶ psas.pdx.edu
- ▶ [@pdx aerospace](https://twitter.com/pdx aerospace)

Meta

```
$ git clone git@github.com:natronics/github-rocket-science
```