RepoDash

A Command Line Github Issue Metrics Dashboard

Laurence Molloy

PyData

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09 January 2020

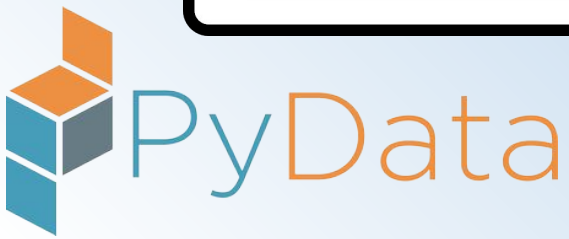
About Me

Previously...

- *Mathematician*
- *Speech Tech Engineer*
- *IT Manager*

Now...

- *Perl / Python Developer*
- *Data Scientist*



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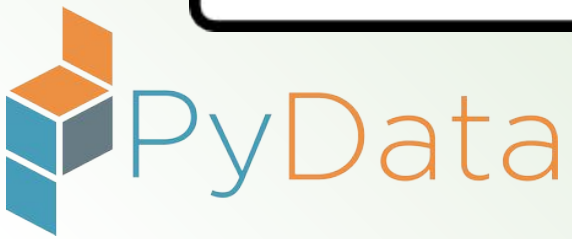
The Historic Need

- IT Manager in a tech startup
- Legacy system support & maintenance
- Fossil source control
- Monthly management reporting needs
- Limited time / resource



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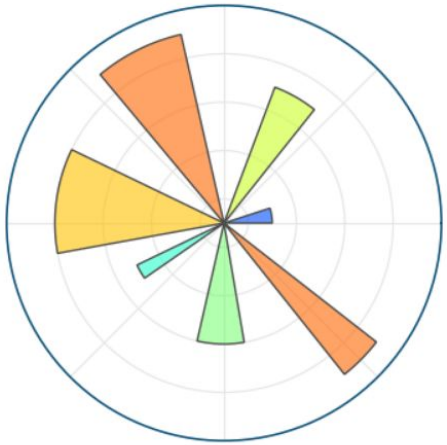
Recent Inspiration

NUMFOCUS
OPEN CODE = BETTER SCIENCE

ABOUT PROJECTS PROGRAMS

Now Hiring: Matplotlib Research Software Engineering Fellow

by Gina Helfrich, Ph.D. (Communications Director, NumFOCUS) | Nov 22, 2019 | Blog



The problem:

- **Backlog of 1200 issues**
- **Backlog of 300 PRs**

Requirements of the post:

- **Classify & prioritise**
- **Help to reduce the backlog**

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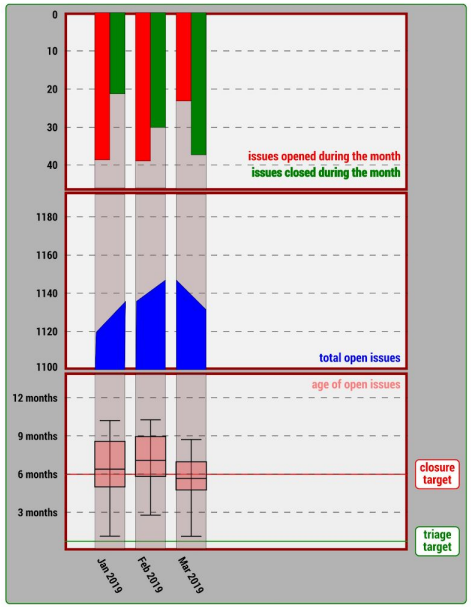
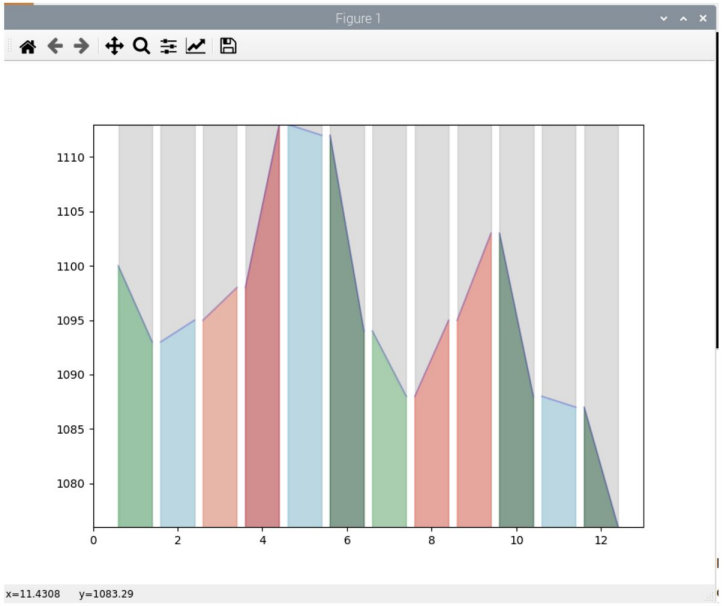
The Development Journey

Inkscape Wireframe



Early Matplotlib Prototype



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Basic Dashboard Design

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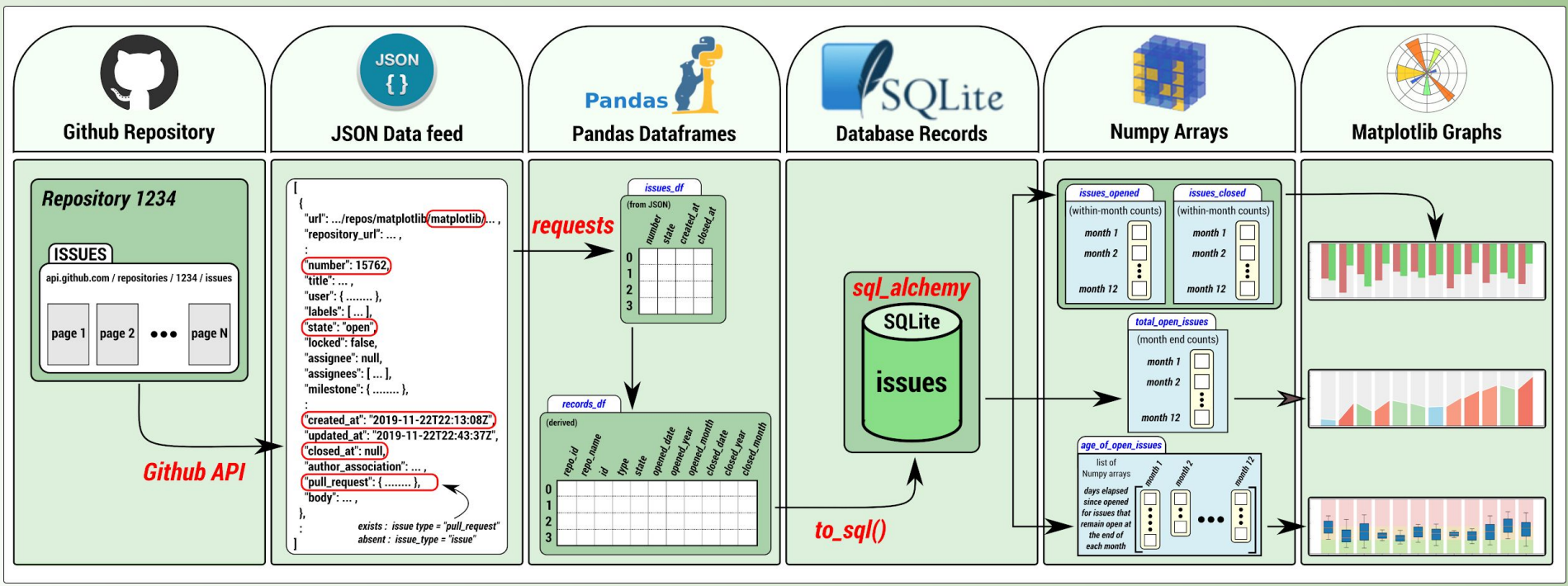
Integration with Github



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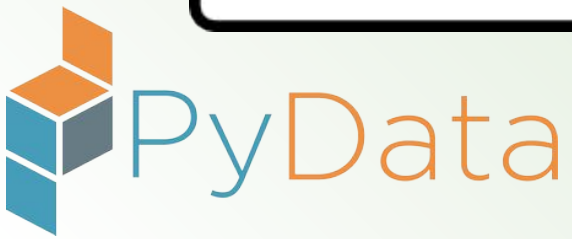
Enhancements

- Authentication
- Different projects
- Different timeframes
- Command line control
- Documentation
- ‘current’ open issue count
- Issue labelling (triage) & assignment



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python3 RepoDash.py OPTIONS

-h, --help	Show this help message and exit
-a, --authtoken TOKEN	Github personal access token
-u, --user USER	Github user name
-r, --repo REPO	Github repo name
-t, --type { *issue* , *pr* }	Issue type, one of ['issue' , 'pr']
-m, --months MONTHS	analysis timespan in months
-d, --refdate REFDATE	reference date ('YYYY-MM')
-f, --firstpage FIRSTPAGE	first page of issues to request
-c, --pagecount PAGECOUNT	number of pages to request
-o, --offsetmonth { *opened* , *closed* }	which month to offset issue closure in
-p, --datapath DATAPATH	path for SQLite db file
-i, --info	write environment info to debug_info.txt file

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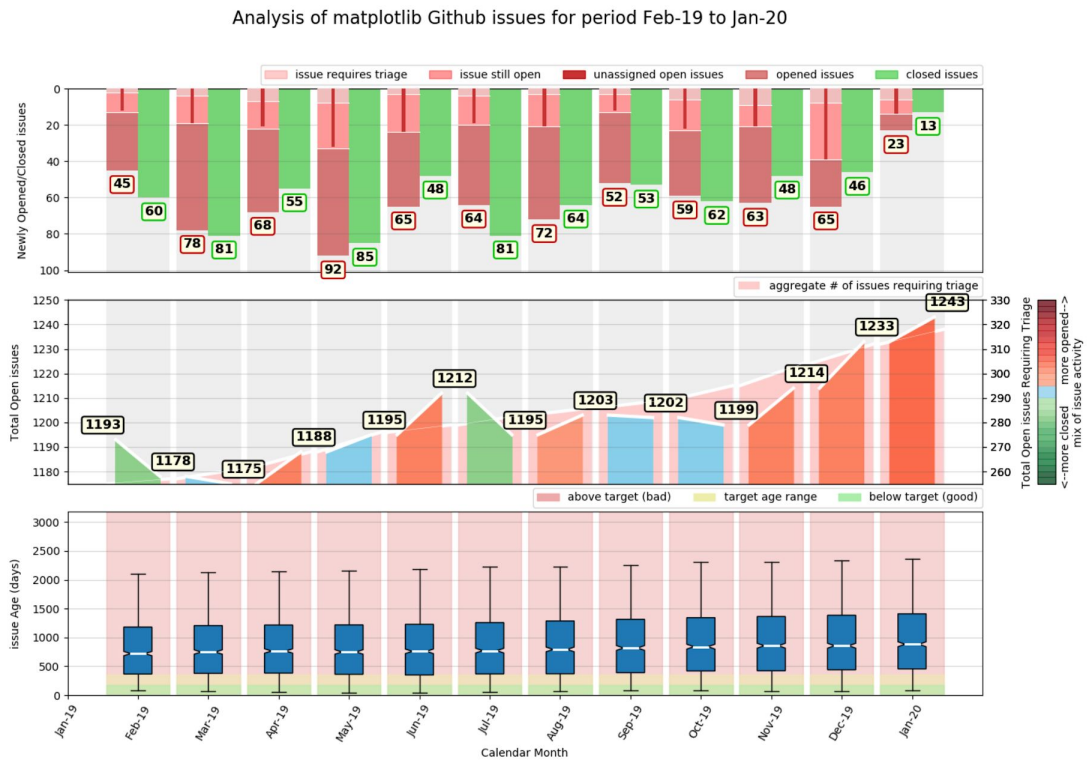
Enhanced Dashboard Design

RepoDash.py -u matplotlib -r matplotlib -f 1 -c 162 -m 12 -d '2020-01'



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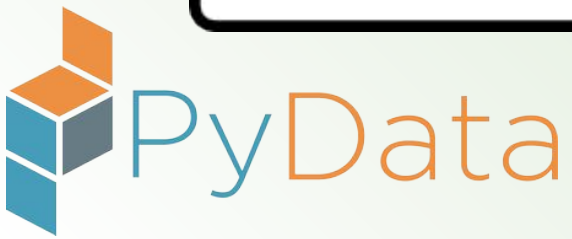
Limitations

- Efficiency
- Encapsulation of plotting code
- More metrics
- Dashboard configuration / optionality
- Private repos on corporate GitLabs
- Bugs



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Performance Testing

Time taken to process all pages of issues

Matplotlib	**162 pages**	**~10 minutes**
Pandas	**389 pages**	**~30 minutes**
Kubernetes	**870 pages**	**~70 minutes**

Remembering current progress can save time

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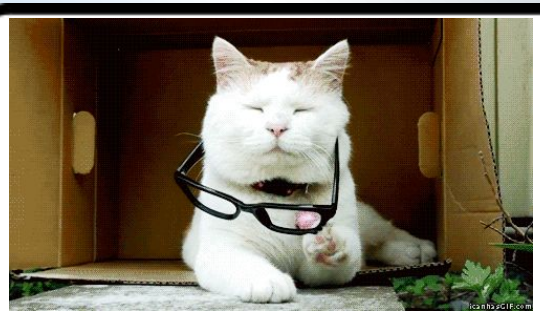
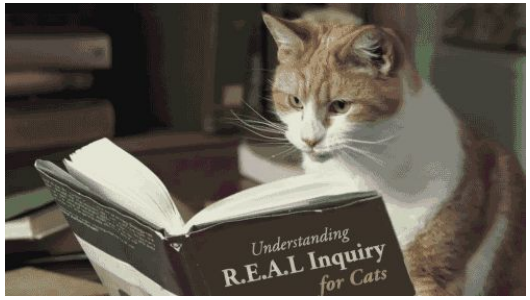
Any Questions?





CATch me afterwards
I'm PURRfectly approachable

(paws for applause)

Documentation & Repository

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