# F´, Open Source, and the Future

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# Agenda

- F´ and Open Source
- Benefits of Open Source
- Lessons Learned
- F´ and the Future

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# F´ and Open Source


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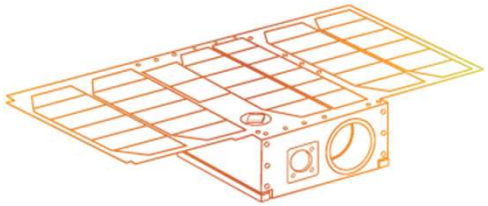
# Framework and Projects

## Framework

Standard Components, Development Tools, References



## fprime-community

Extras, Add-Ons, Libraries

## Project Adaptions

CubeSats, Instruments, Deployables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# Open Sourcing

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https://octodex.github.com/original/

3.5

| 2013 | Internal Development | 2017 | Open Development | 2024 |
|---|---|---|---|---|

**Apache License, Version 2.0**


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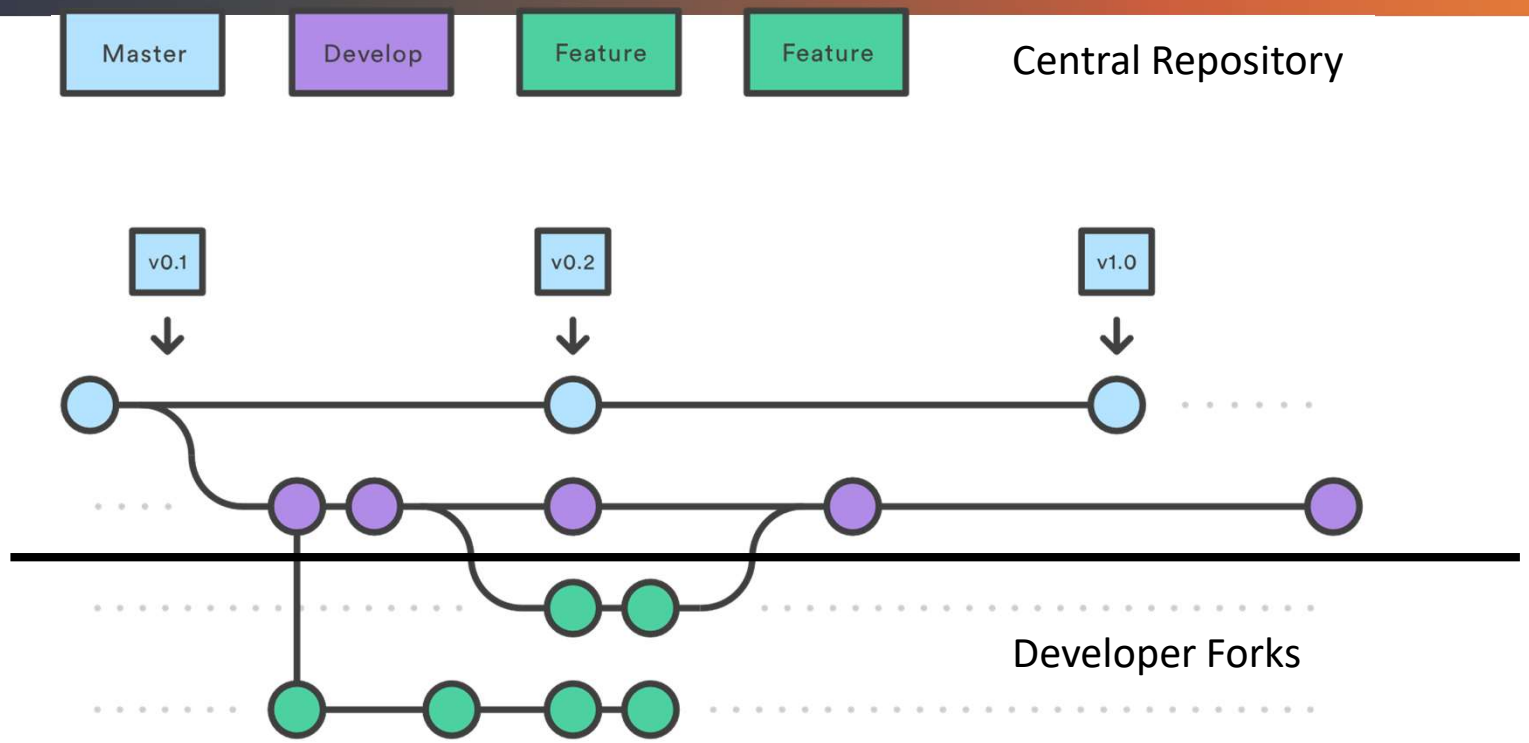
# F´ Open Development Model




https://www.atlassian.com/git/tutorials/comparing-workflows/gitflow-workflow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# Open Tooling and Documentation

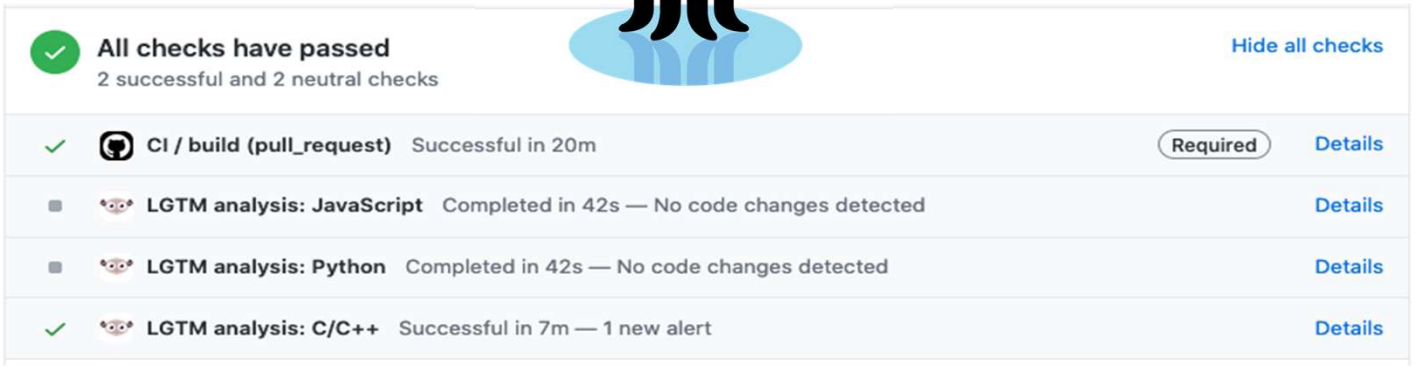
Static Analysis

https://www.doxygen.nl/index.html



https://www.sphinx-doc.org/en/master/

Generated Documentation




Automatic Pull Request Verification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# Benefits of Open Source


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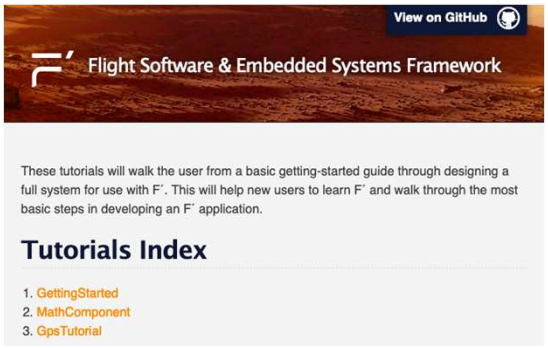
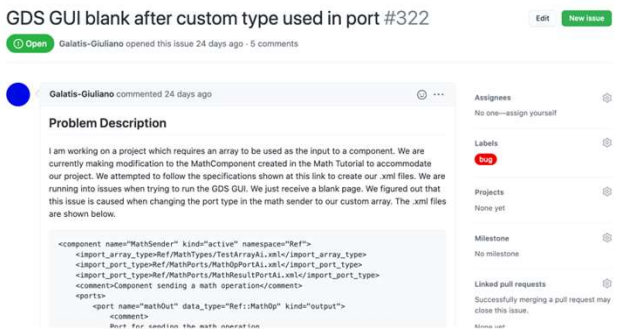
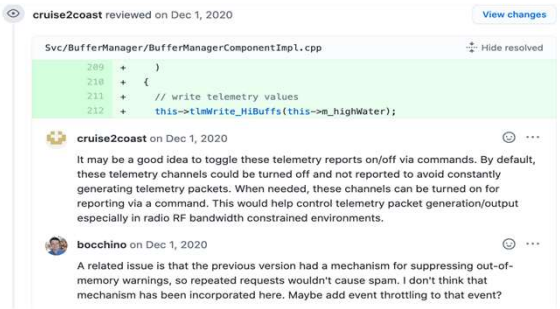
# Extended Oversight




Documentation Edits




Error Reports




Design and Code Reviews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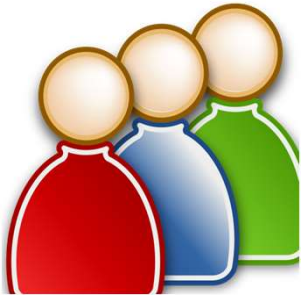
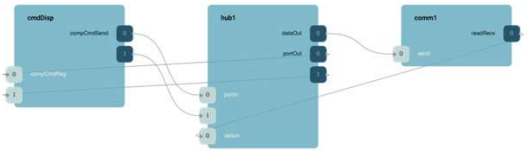
# Community of Expertise



https://commons.wikimedia.org/wiki/File:User-group-square.svg

Best Practices

Answers



Recommended Patterns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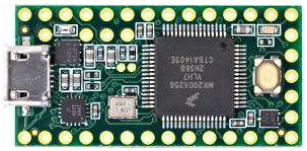
# Ecosystem Surrounding Framework

https://commons.wikimedia.org/wiki/File:OpenMoji-black_1F527.svg

Extended Tooling

Useful Libraries



prjc.com

New Use Cases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# Lessons Learned


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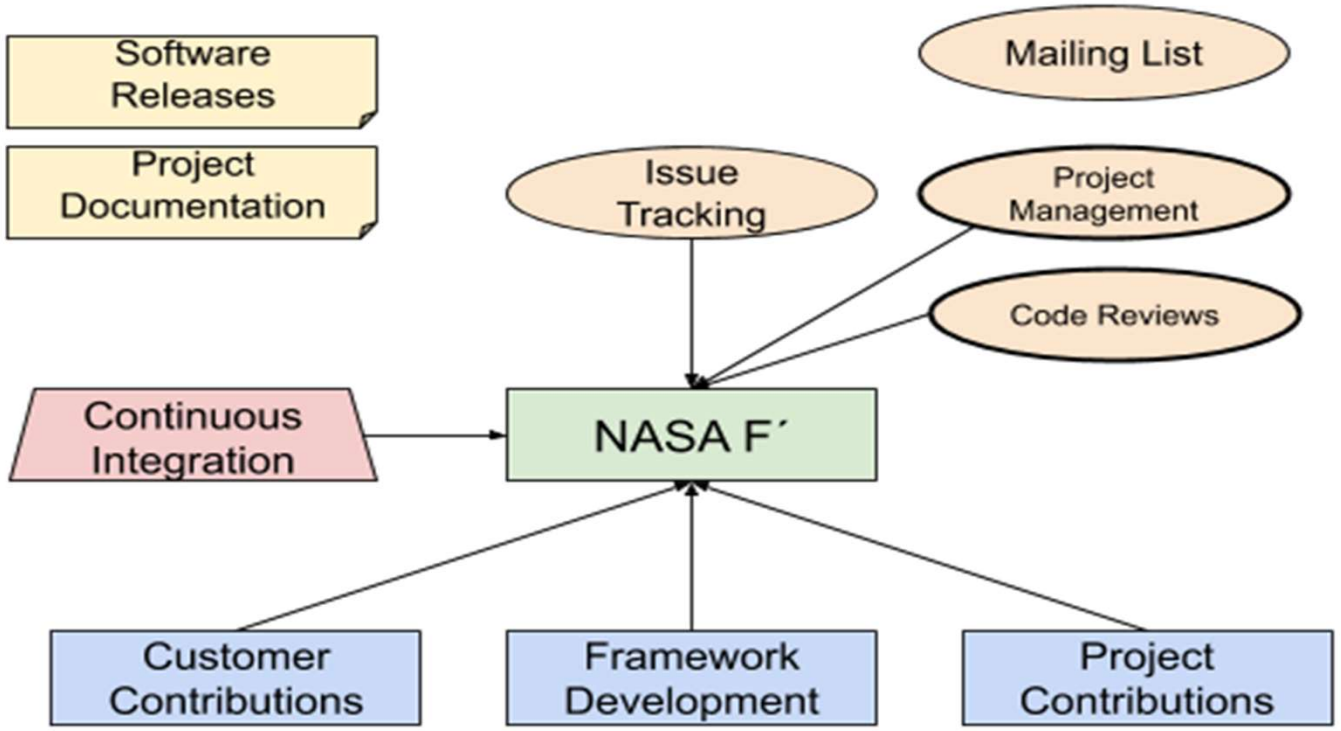
# Embrace Openness





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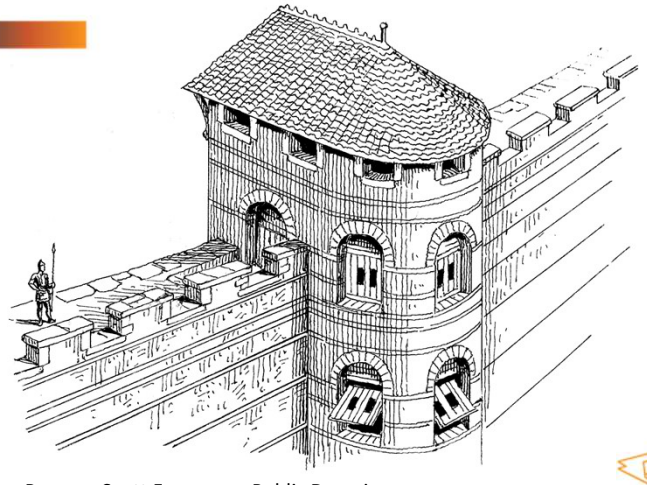
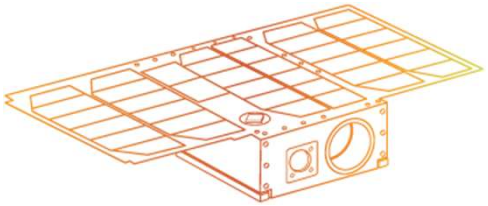
# Separate Product Line from Projects



Pearson Scott Foresman, Public Domain



Budget, Schedules, Short-Cuts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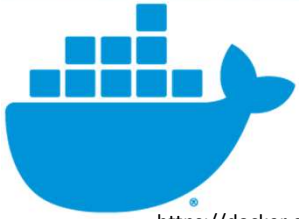
# Leverage Tools and Automation

Free and Open



https://docker.com

Ease Maintenance

Standard Practice

Low Integration Overhead

https://github.com/cookiecutter/cookiecutter

Reduce Development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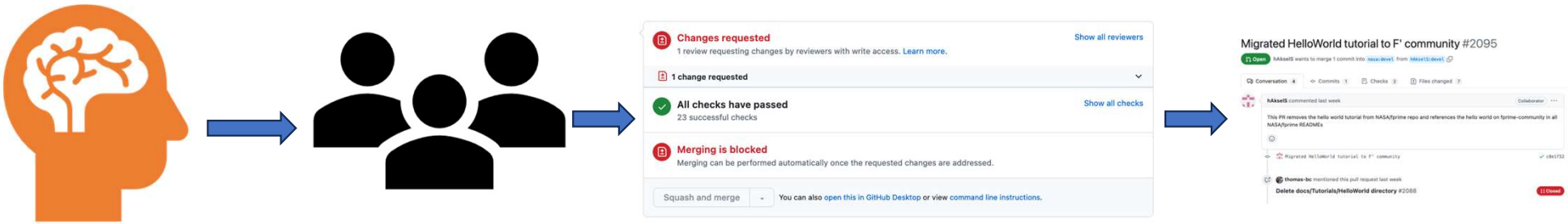
# Accepting Contributions




Concept CCB Automated Testing Expert Review

All contributions to the F´ product line are approved via a change control board (CCB), run through a comprehensive set of automated tests, and finally reviewed by a subject matter expert before merging into the product line.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# Questions?

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# Further Information on F Prime

**F Prime Website:**
https://fprime.jpl.nasa.gov

**F Prime Software:**
https://github.com/nasa/fprime

**F Prime Community:**
https://github.com/nasa/fprime/discussions


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