



GOVERNANCE AND COMMUNITY

Key factors for successful open source projects

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WHAT MAKES AN OPEN SOURCE PROJECT SUCCESSFUL?



What are the key factors?



AGENDA

- Technical factors
- Legal factors
- Social factors
- A success story: Orekit



TECHNICAL FACTORS

The bottom half of the slide has a dark blue background with a semi-transparent overlay of a modern office or control room. In the center, a globe is visible, surrounded by various data visualization elements like charts, graphs, and computer monitors. The text 'TECHNICAL FACTORS' is written in a large, white, sans-serif font, with a vertical white line to its left.

(OBVIOUS) TECHNICAL FACTORS

- › Efficient response to an (unmet) need
- › Robust, reliable, well designed and coded software
- › Sufficient **documentation**
- › **Support** (a way to report bugs and ask questions)
- › Access to the source code **repository**



| LEGAL FACTORS

- › License
 - A potential stumbling block!
 - Choose a **well-known license, adapted to your context**
 - Writing your own license is a very bad idea!
- › Copyright ownership
 - Who holds the copyright on contributions?



| SOCIAL FACTORS

SOCIAL FACTORS: COMMUNITY

- › Releasing source code is easy!
 - Success is measured by **community**, not source code
- › Building a community is hard
 - You must meet **non-technical** needs and expectations of users and contributors: support, benevolence, transparency, consideration and trust

- › **Governance** is the constitution of the project
 - Set of principles by which the project operates
 - Make known the conditions of participation in the project
- › Introduce **Transparency** and **Trust**
- › Particularly important principles:
 - Decision-making processes
 - People involved in decisions

- › The benevolent dictatorship
 - **Centralized** control held by a few people (often only one), committed to the success of the project
- › Meritocracy
 - **Distributed** control awarded in recognition of contributions

A license is a **legal framework** for collaboration

A governance model is a **social framework** for collaboration

Ross Gardler – Open Source Governance Models (2013)



| A SUCCESS STORY: OREKIT

A SUCCESS STORY: OREKIT – IN BRIEF

- › **Orekit** is a low level space dynamics library in Java
- › Open Source (Apache 2.0), funded by **CS Group**
- › Used by space agencies, space companies and research laboratories:

Airbus Defence & Space, ESA, Eumetsat, **US Navy**, **Swedish Space Corporation**, Exotrail, Thales Aliena Space, Technische Universität Berlin, ITTI, SupAero, University of Texas at Austin, ...

- › **Open governance:** 9 entities are members of the Project Management Committee (PMC)
- › **Meritocracy**
 - User ⇒ Contributor ⇒ Committer ⇒ PMC member
- › **Trust:** 4 external committers
- › Very responsive **support**, acclaimed by all users
- › Contributions **made easier** by an efficient and modern collaborative platform

A SUCCESS STORY: OREKIT – STATISTICS & TOOLS

GitLab Projects Groups Activity Milestones Snippets [L](#) [P](#) [S](#) [D](#) [I](#) [E](#) [P](#) [Q](#) [V](#)

Search or jump to...

Orekit Details

Project

Details

Activity

Releases

Cycle Analytics

Repository

Issues 39

Merge Requests 1

CI/CD

Operations

Wiki

Snippets

Settings

← Collapse sidebar

Code

Lines of Code

500k

250k

0

2005 2010 2015

Code Comments Blanks

Apache License 2.0 → 4,827 Commits 13 Branches 34 Tags

Orekit is a free low level space dynamics library written in Java. It provides algorithms to handle them. Homepage: <http://www.orekit.org/>

master orekit / +

Merge branch 'release-10.0'

Pascal Parraud authored 2 months ago

Activity

Commits per Month

Zoom 1yr 3yr 5yr 10yr All

2005 2010 2015

30 Day Summary
Jul 29 2019 — Aug 28 2019

33 Commits
5 Contributors

12 Month Summary
Aug 28 2018 — Aug 28 2019

738 Commits
Up + 267 (56%) from previous 12 months

12 Contributors
Down -3 (20%) from previous 12 months

Community

Contributors per Month

2005 2010 2015

Most Recent Contributors

- Luc Maisonobe
- Evan Ward
- Guyline Prat
- Sébastien Dinot
- Petrus Hyvönen
- Bryan Cazabonne

Ratings [Click to add your rating](#)

Consolidated Pageviews

700

600

500

400

300

200

100

0

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1 Aug 1 Sep 1

Signups 96 ↑

15

10

5

0

Jan 2019 Apr 2019 Jul 2019

Topics 157 ↑

8

6

4

2

0

Jan 2019 Apr 2019 Jul 2019

Posts 899 ↑

60

40

20

0

Jan 2019 Apr 2019 Jul 2019

DAU/MAU 19% ↑

40

30

20

10

0

Jan 2019 Apr 2019 Jul 2019

Daily Engaged Users 3 ↑

5

4

3

2

1

Jan 2019 Apr 2019 Jul 2019

New Contributors 78 ↑

5

4

3

2

1

0

Jan 2019 Apr 2019 Jul 2019

Transforming Angles
0 votes

New AbsoluteDate methods?
1 vote

Data Context Proposal
Orekit development 3 votes

Issues with lodGooding
Orekit usage 0 votes

DormandPrince853Integrator setting
Orekit development 0 votes

J	1	15	1d
Y E M P	10	71	5d
E	10	102	6d
S M G B	4	68	9d
T	2	47	12d





Thank you for your attention.
What questions did I not answer?



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C-S.FR

