

Open Source Development Tooling

Prof. Dr. Dirk Riehle

Friedrich-Alexander University Erlangen-Nürnberg

FOSS B06

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1. Legal innovation
2. Process innovation
3. **Software tool innovation**
4. Business model innovation

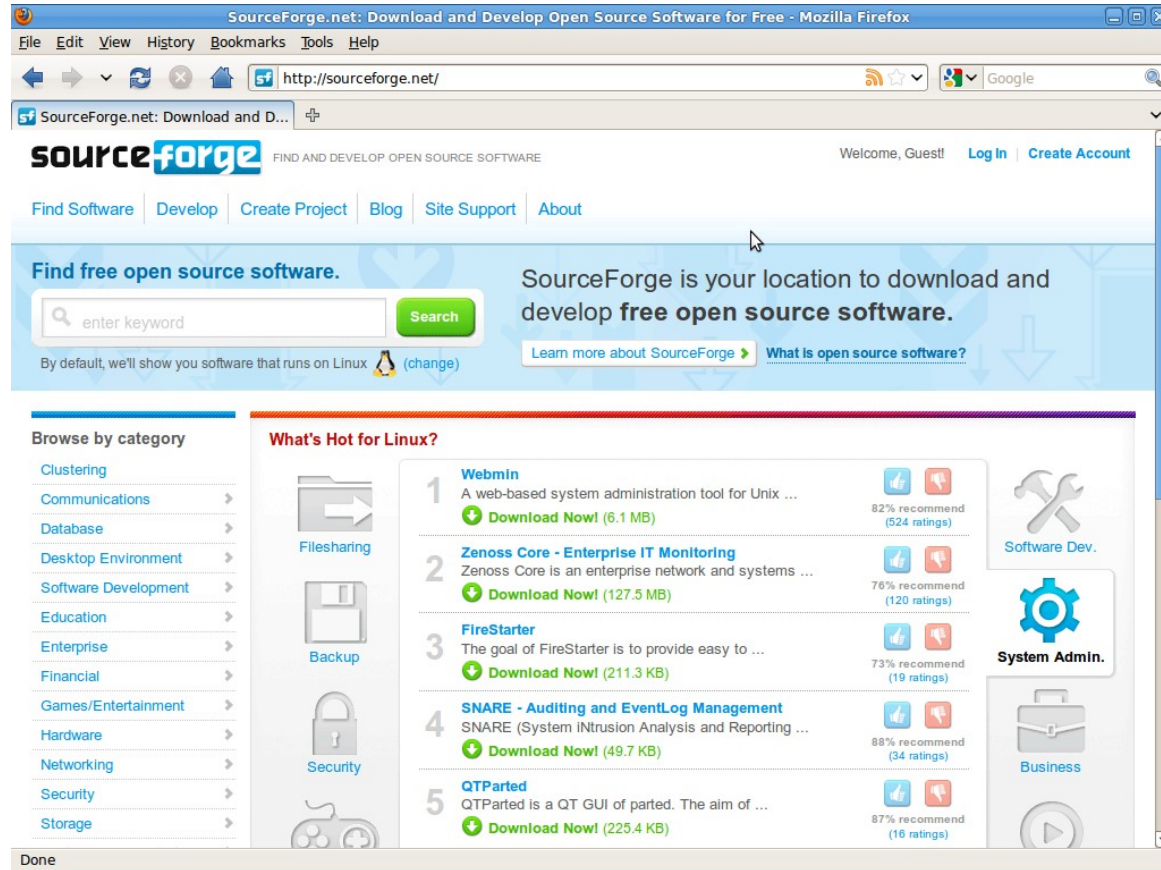
- **Software forges**
- **Distributed version control**

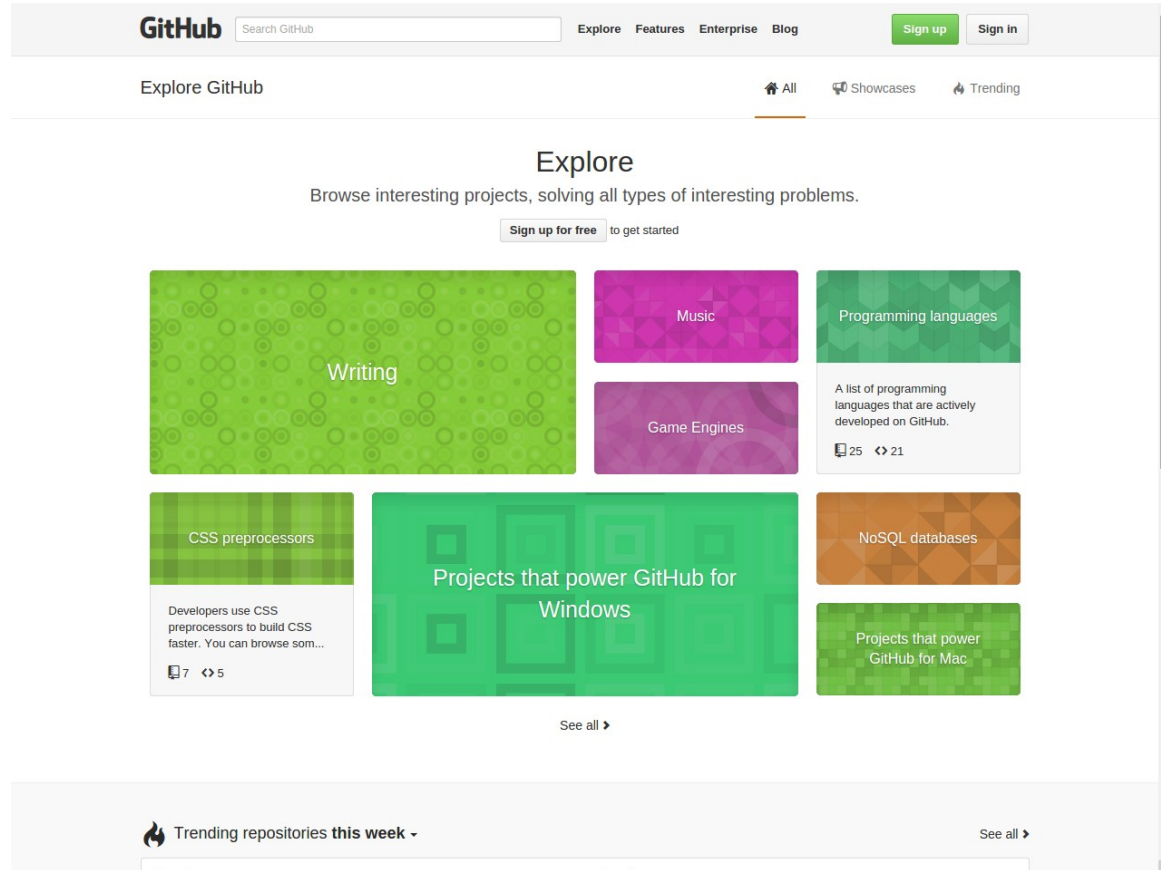
Software Forge

- A software forge is ...
 - A web-based tools platform for collaborative software development
 - Typically not just for one, but for many open source projects
 - Run as a service (though the forge software may be open source)

Open Source Software Forges







A forge helps

- 1. Community process**
- 2. Improve code quality**
- 3. Shares best practices**

The Five Stages of Volunteering (Recap)

#	Volunteer View	Project View
1	Find project	Market project
2	Understand project	Explain project
3	Engage with project	Engage with volunteer
4	Work within project	Work with contributor
5	Lead project	Enable career

Forge Support for #1 Market Project

- Support stumbling
 - Random display of project
 - Featured project of the week
- Support searching
 - Indexed search for keywords
 - Hierarchical browsing

Find, Create, and Publish Open Source software for free

THIS WEEK:



33,733,893 DOWNLOADS



28,140 CODE COMMITS



4,487 FORUM POSTS



1,204 BUGS TRACKED

[MORE DETAILS](#)[Audio & Video](#)[Business & Enterprise](#)[Communications](#)[Development](#)[Home & Education](#)[Games](#)[Graphics](#)[Science & Engineering](#)[Security & Utilities](#)[System](#)[Administration](#)[@sourceforge](#)

Projects Of The Month

**Project
Libre****Staff Choice** [ProjectLibre](#)

The open source replacement of Microsoft Project

[Download](#)

Windows | BSD | Mac |

Solaris | Linux

**Community Choice** [SMPlayer](#)

Free media player with support for Youtube

[Download](#)

Windows | Linux

Editor's Choice

**OPTOSS NG-NetMS**

OptOSS Next Gen Network

**eXo Platform - Social
Collaboration**

[Explore GitHub](#)[Showcases](#)[Trending](#)

Explore

Browse interesting projects, solving all types of interesting problems.

[Sign up for free](#) to get started

Software development tools

[Policies](#)[DevOps tools](#)

These tools help you manage servers and deploy happier and more often wi...

📄 16 <> 4

[Projects that power GitHub for Mac](#)[Game Engines](#)

Frameworks for building games across multiple platforms.


📄 18 <> 7

[Swift](#)[Text editors](#)[Front-end JavaScript frameworks](#)[See all >](#)

Forge Support for #2 Explain Project

- Provide summary
 - Project home page
- Provide documentation
 - Wikis and documentation download
- Provide communication
 - Forums and mailing lists

[Home](#) / [Browse](#) / [Development](#) / [Software Development](#) / [WinPython](#)



WinPython


Portable Scientific Python 2/3 32/64bit Distribution for Windows

Brought to you by: [praybaut](#), [stonebig](#)


[Summary](#) | [Files](#) | [Reviews](#) | [Support](#) | [Wiki](#) | [Discussion](#) | [Mailing Lists](#) | [Tickets](#) | [Mercurial](#) ▼

★ **4.9 Stars** (7)

↓ **9,120 Downloads** (This Week)

 **Last Update: 2 days ago**

 **Tweet**  **G+**  **Like**  **10**



Download
WinPython-64bit-3.4.4.1.exe



[Browse All Files](#)

Recommended Projects



[Numerical Python](#)

A package for scientific computing with Python

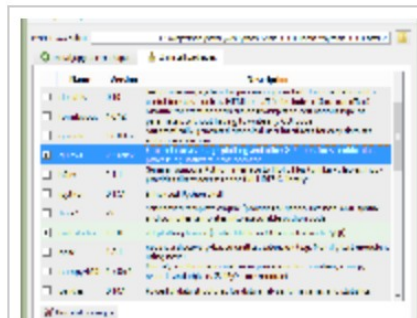
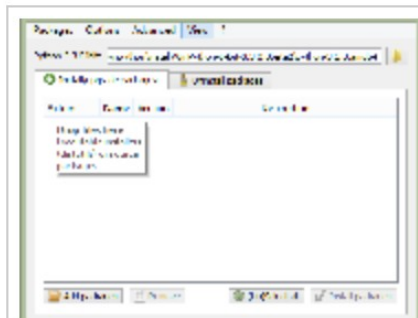
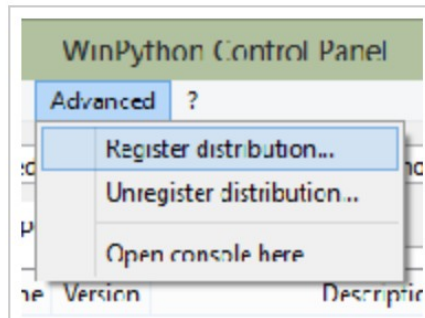


[SciPy: Scientific Library for Python](#)



[PyQt](#)

The GPL licensed Python bindings for the Qt application framework



Forge Support for #3 Engage with Volunteer

- Provide installable download
- Provide open forums and mailing lists
- Provide all relevant tools open accessible



This repository Search

Pull requests Issues Gist



angular / angular.js

Watch

4,192

Star

47,408

Fork

22,147

Code

Issues 837

Pull requests 291

Wiki

Pulse

Graphs

HTML enhanced for web apps <http://angularjs.org>

7,575 commits

14 branches

161 releases

1,418 contributors

Branch: master

New pull request

New file

Upload files

Find file

HTTPS

[https://github.com/angular.js](https://github.com/angular/angular.js)



Download ZIP



d0g committed with Narretz refactor(*): move noop functions to `angular.noop`

Latest commit 4883e95 11 hours ago

.github	chore(ISSUE_TEMPLATE): fix typo in ISSUE_TEMPLATE	6 days ago
benchmarks	chore(benchmark): improve targetable layout	a month ago
css	fix(ngAnimate): rename `ng-animate-anchor` to `ng-anchor`	10 months ago
docs	docs(errorDisplay): encode `<` and `>` in error messages	10 hours ago
i18n	style(i18n): improve indentation for readability	a month ago
images	docs(guide): change concepts.graffle/data.plist to fix 'World' spelling	a month ago
lib	chore(saucelabs): update to latest sauce version	2 months ago
logs	creating logs/ and tmp/ dirs	5 years ago
scripts	chore(travis): update Chrome and FF versions, add Safari 9	8 days ago

Forge Support for #4 Work with Contributor

- Support email updates, notifications
- Support forge persona, reputation building, kudos, etc.

Improves Code Quality

- Quality of open source project improves, because
 - There is less redundant, more shared development, because
 - All projects are findable, co-located, never deleted

Shares Best Practices

- Projects get better faster, because
 - Co-location and spill-over help knowledge sharing

Distributed Version Control

- git and hg changed how we develop software
- Decoupling of efforts (“distributed”) speeds up development

Review / Summary of Session

- Open source tool innovation
 - Software forges
 - Distributed version control
- Software forges help
 - The community process
 - Improve code quality
 - Share best practices
- Distributed version control
 - Speeds up development

Thank you! Questions?

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- Contributions
 - ...

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It is Friedrich-Alexander University Erlangen-Nürnberg – FAU, in short.
Corporate identity wants us to say “Friedrich-Alexander University”.

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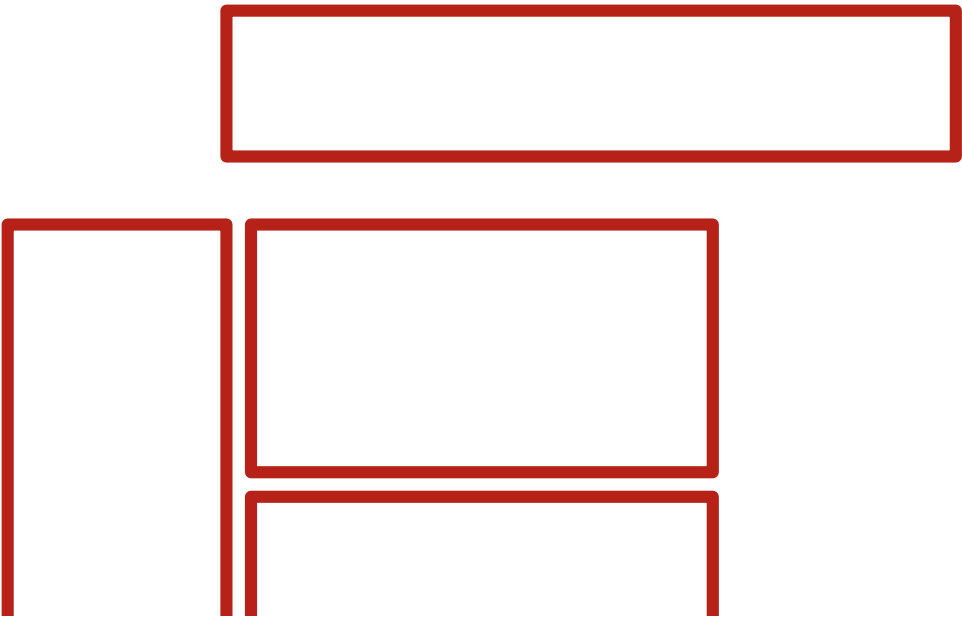
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Example of a Project Homepage

Forge Support for #3 Engage with Volunteer

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DR

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- Contributions
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