Faites du logiciel libre.

Ludovic Courtès

Journées informatique IN2P3/IRFU

24 septembre 2024

Inria

- **ingénieur de recherche** depuis 15 ans
  - soutien aux équipes HPC (calcul intensif)
  - PEPR NumPEx
  - Comité pour la Science Ouverte (CoSO)

- **ingénieur de recherche** depuis 15 ans
  - soutien aux équipes HPC (calcul intensif)
  - PEPR NumPEx
  - Comité pour la Science Ouverte (CoSO)
- **contributeur logiciel libre** depuis 20 ans
  - Guix, démarré en 2012
  - Guile, co-mainteneur depuis 2008
  - …

Français
Castellano

Printable version

Home

Libre Software Meeting

BORDEAUX – JULY 4–8 2001

News

Welcome to the LSM web site! This site will be updated regularly to keep you informed of the organisation of the Libre Software Meeting, issue 2002.

Many photographs and links in the LIVE section

LSM 2003 will be held in Metz!

The ABUL [1] voted during its general assembly of December 20th, 2002 the cancellation of the 2003 edition of the Libre Software Meeting [2] and the creation of a driving committee to better prepare the 2004 edition of this event.

However, a group of dedicated volunteers proposed to organise the 2003 edition in Metz (Moselle, east of France), with the help of belgian, germans and inhabitants of Luxembourg. Please refer to http://libresoftwaremeeting.org, the official site of the Libre Software Meeting, for more information.

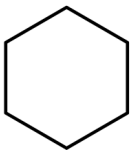
Environnements reproductibles : 2 fichiers, 2 commandes

1. `guix describe -f channels > channels.scm`
2. `guix time-machine -C channels.scm -- \`
   `shell -m manifest.scm`

Environnements reproductibles : 2 fichiers, 2 commandes

Cf. exposé de Cayetano

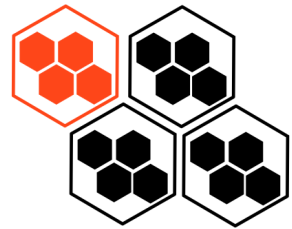
1. `guix describe -f channels > channels.scm`
2. `guix time-machine -C channels.scm -- \`
   `shell -m manifest.scm`



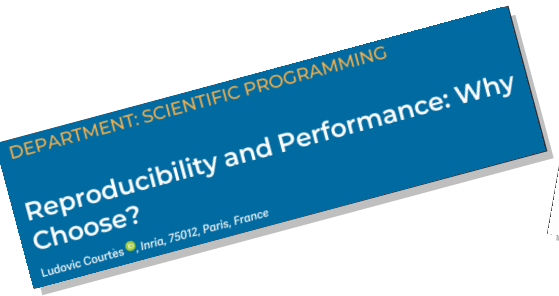
package

environments

containers



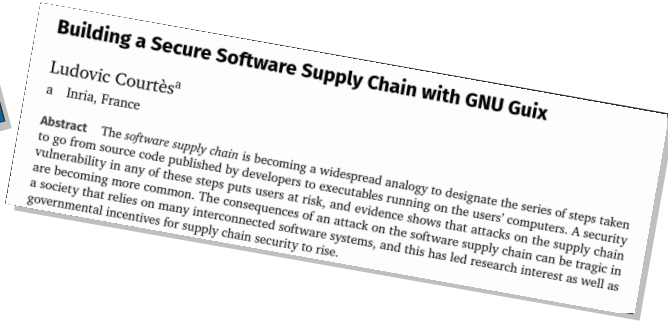
systems



DEPARTMENT: SCIENTIFIC PROGRAMMING

Reproducibility and Performance: Why Choose?

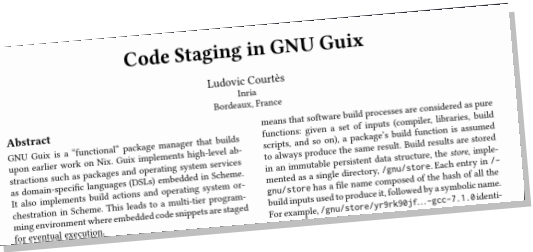
Ludovic Courtès, Inria, 75012, Paris, France



Building a Secure Software Supply Chain with GNU Guix

Ludovic Courtès[a]
a Inria, France

Abstract The *software supply chain* is becoming a widespread analogy to designate the series of steps taken to go from source code published by developers to executables running on the users' computers. A security vulnerability in any of these steps puts users at risk, and evidence shows that attacks on the supply chain are becoming more common. The consequences of an attack on the software supply chain can be tragic in a society that relies on many interconnected software systems, and this has led research interest as well as governmental incentives for supply chain security to rise.

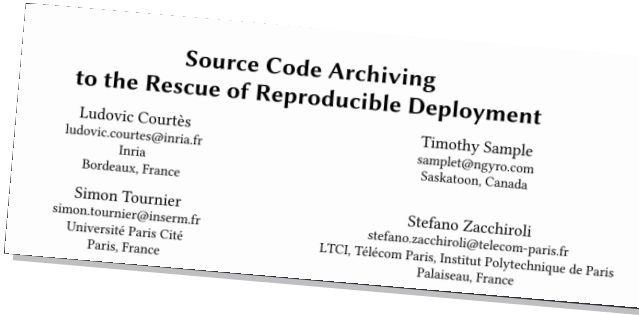


Code Staging in GNU Guix

Ludovic Courtès
Inria
Bordeaux, France

Abstract
GNU Guix is a "functional" package manager that builds upon earlier work on Nix. Guix implements high-level abstractions such as packages and operating system services as domain-specific languages (DSLs) embedded in Scheme. It also implements build actions and operating system orchestration in Scheme. This leads to a multi-tier programming environment where embedded code snippets are staged for eventual execution.

means that software build processes are considered as pure functions: given a set of inputs (compiler, libraries, build scripts, and so on), a package's build function is assumed to always produce the same result. Build results are stored in an immutable persistent data structure, the *store*, implemented as a single directory, `/gnu/store`. Each entry in `/gnu/store` has a file name composed of the hash of all the build inputs used to produce it, followed by a symbolic name. For example, `/gnu/store/yr3rk90jf...-gcc-7.1.0` identi-



Source Code Archiving to the Rescue of Reproducible Deployment

Ludovic Courtès
ludovic.courtes@inria.fr
Inria
Bordeaux, France

Timothy Sample
samplet@ngyro.com
Saskatoon, Canada

Simon Tournier
simon.tournier@inserm.fr
Université Paris Cité
Paris, France

Stefano Zacchiroli
stefano.zacchiroli@telecom-paris.fr
LTCI, Télécom Paris, Institut Polytechnique de Paris
Palaiseau, France

- P. Swartvagher, *On the Interactions between HPC Task-based Runtime Systems and Communication Libraries*, PhD thesis, Dec. 2022
- M. Felšöci, *Fast Solvers for High-Frequency Aeroacoustics*, PhD thesis, Feb. 2023
- N. Vallet *et al.*, *Toward practical transparent verifiable and long-term reproducible research using Guix*, Nature Scientific Data, Oct. 2022

- Guix **depuis 2012**
- **100 contributeurices** de code chaque mois
- **+** revue de code, documentation, support, traduction, web, graphisme, admin sys, évènementiel, conférences…

Contributors per Month

https://openhub.net/p/gnuguix

Personnes contribuant du code chaque mois :

- **Open MPI** : 15
- **Slurm** : 25
- **ROOT** : 30
- **Python** : 100
- **GCC** : 100
- **Linux** : 1200

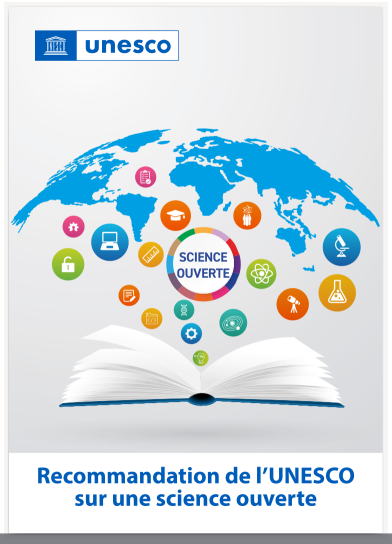
Pourquoi du logiciel libre ?

Permet aux utilisateurices :

- d'**utiliser**
- d'**étudier**
- de **redistribuer**
- de distribuer des **versions modifiées**

https://gnu.org/p/free-sw.fr.html

logiciel libre = *open source**



https://www.unesco.org/en/legal-affairs/recommendation-open-science

7. **Les connaissances scientifiques ouvertes** désignent le libre accès aux publications scientifiques, aux données de recherche, aux métadonnées, aux ressources éducatives libres, aux logiciels, et aux codes sources et aux matériels relevant du domaine public ou alors protégés par le droit d'auteur, et publiés sous une licence ouverte permettant leur consultation, leur réutilisation, leur utilisation à d'autres fins, leur adaptation et leur distribution dans des conditions spécifiques, dont tous les acteurs bénéficient de manière immédiate, ou bien aussi rapidement que possible – quel que soit leur lieu de résidence, leur nationalité, leur race, leur âge, leur genre, leur niveau de revenu, leur situation socioéconomique, le stade de leur vie professionnelle, leur discipline, leur langue, leur religion, leur handicap, leur appartenance ethnique, leur statut migratoire, ou tout autre motif – et gratuitement. Elles font également référence à la possibilité d'une ouverture des méthodologies de recherche et des processus d'évaluation. Les utilisateurs se voient ainsi accorder un libre accès :

Troisième axe

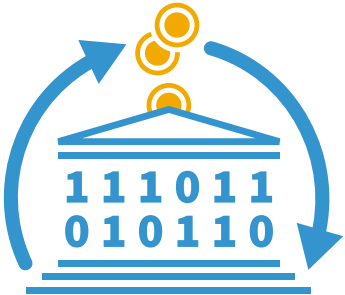
Ouvrir et promouvoir les codes sources produits par la recherche

https://www.ouvrirlascience.fr/plan-national-pour-la-science-ouverte/

https://www.acm.org/publications/policies/artifact-review-badging

*Published documents are **merely the advertisement** of scholarship whereas the computer programs, input data, parameter values, etc. embody the scholarship itself.*

— Jon Claerbout, ca. 1985



Public Money

Public Code

publiccode.eu

Oui, mais...

Oui, mais...

- le transfert !

Oui, mais...

- le transfert !
- la compétition !

Oui, mais...

- le transfert !
- la compétition !
- ma carrière !

S’organiser.

Le but :

- construire un **un commun**
- travailler **entre pairs**
- sur du **long terme**

1. aposer une license libre
2. publier le code
3. c’est tout! :-)

libre “de jure”

1. aposer une license libre
2. publier le code
3. c’est tout! :-)

publier ≠ “créer une communauté”

https://www.ouvrirlascience.fr/science-ouverte-codes-et-logiciels/


Quand vais-je prendre
ma retraite ?

Qu’est-ce qui fait qu’on va vouloir contribuer ?

"Did You Miss My Comment or What?" Understanding Toxicity in Open Source Discussions

Courtney Miller, Sophie Cohen, Daniel Klug, Bogdan Vasilescu, Christian Kästner
Carnegie Mellon University Wesleyan University
{courtneymiller, dklug, vasilescu}@cmu.edu

ABSTRACT

Online toxicity is ubiquitous across the internet and its negative impact on the people and that online communities that it effects has been well documented. However, toxicity manifests differently on various platforms and toxicity in open source communities, while frequently discussed, is not well understood. We take a first stride at understanding the characteristics of open source toxicity to better inform future work on designing effective intervention and detection methods. To this end, we curate a sample of 100 toxic GitHub issue discussions combining multiple search and sampling strategies. We then qualitatively analyze the sample to gain an

volunteering their time, talk openly about how sometimes interactions with others in open source can be toxic, rude, mean, or unkind [e.g., 3, 24, 44, 54, 108]. Toxicity, defined here as "rude, disrespectful, or unreasonable language that is likely to make someone leave a discussion"[1] is a huge problem online [26]. Virtually all online platforms recognize the threat that toxicity, or the various types of behavior under its umbrella, poses on the health and safety of online communities. As a result, a number of prevention and mitigation policies and interventions have been proposed, including codes of conduct, moderation, counterspeech, shadow banning, or just-in-time guidance to authors.

https://doi.org/10.1145/3510003.3510111

Prior work: Open-source contributors deciding whether to work on a project consider the friendliness of project correspondence [76]. Some newcomers disengage due to negative interactions [94]. Some maintainers report stress and burnout [79]. *Our results:* Maintainers often invest substantial time to respond to toxic comments.

1. se sentir **bienvenu·e et respecté·e**

2. **trouver sa place** dans le collectif

3. comprendre la **prise de décision** et y participer

1. se sentir **bienvenu·e et respecté·e**
   - **charte** : `https://www.contributor-covenant.org/`
   - empathie, communication non-violente
2. **trouver sa place** dans le collectif
   - **transparence** et lisibilité des activités (comm' !)
   - revue entre pairs, *mentoring*
3. comprendre la **prise de décision** et y participer
   - recherche du **consensus**
   - des procédures, pas de privilèges ni d'arbitraire

Facile ? Non.

- épuisement
- incompréhensions
- apathie
- dilution de responsabilités
- …


“Je suis venu pour le code, je suis resté pour la communauté.”

Pour conclure.

La solidité des résultats de recherche passe par l'ouverture du code.

Le logiciel libre sans autogestion, c’est du bricolage.

Faites du logiciel libre.

ludovic.courtes@inria.fr | @civodul@toot.aquilenet.fr