

Bugs tracking at a large scale in the FLOSS ecosystem - FOSSA 2010

Olivier Berger, Telecom SudParis

Tuesday 09/11/2010

Large scale bugtracking

Definition : bugtracking

Introduction

Purpose

Foreword

About
HELIOS

Tracking bug reports

Goals

Existing tools

Problems

Solutions

- NO : Looking for bugs in the code / programs
- YES : Looking for bug **reports** for these bugs

Context : FLOSS ecosystem

Introduction

Purpose

Foreword

About
HELIOS

Tracking bug reports

Goals

Existing tools

Problems

Solutions

- Lots of duplicate or related bugs
- Not a single place where to monitor bugs

Who I am

- Institut TELECOM / TELECOM SudParis / Computer Science dept. / PFTCR/FOCS2 team
 - 2 perm. staff Christian BAC and myself
 - 2 PhD students
 - 2 non permanent research engineers
 - Research on collaborative development platforms, tools, process, in FLOSS communities
- Previously worked in service companies (Cap Gemini, IDEALX)
- At TELECOM SudParis since 2002
- R&D on FLOSS, forges, bugtracking, Linked Data, etc. (CALIBRE, HELIOS, COCLICO)
- Contributor to Debian, FusionForge, Mantis



About HELIOS



<http://heliosplatform.sourceforge.net/>

Application Lifecycle Management with Open Source tools

About HELIOS

Funding programme

- French collaborative R&D cluster programmes
 - System@tic Paris Region



- Public funding (partial)
- 2 years (2008-2010) (over now)
- Partners : Alcatel-Lucent, Artenum, Institut TELECOM / TELECOM & Management SudParis, Kalis, Mandriva, Thales

Specific Goals on Helios WP3

- Help developers, maintainers, power users
- Monitoring work done around particular issues
- Not one single distribution channel
- Many venues for support : many distributions, many bugtrackers
- Redundancy of reports across trackers
- Final goal : ease of monitoring bug links all over the Open Source ecosystem
- Application to Internal bugtracker (integrators) monitoring 3rd parties (OSS projects) bugs

Existing tools : bts-link

<http://bts-link.alioth.debian.org/>

- Bts-link : monitoring bug status change around the Debian bugtracker
- Debian tool for package maintainers
- Uses existing bug links (`forwarded-to`) set by humans :
 - Distribution (Debian) package bugs
 - “Upstream” project bugtrackers bugs
- Monitoring **status changes** on upstream bugs
- Email notification for Debian packagers (or people monitoring Debian bugs)
- Supports lots of upstream bugtracker types (through **specific** connectors) : bugzilla (and issuezilla), gnats, launchpad, mantis, savane (from savanah), sourceforge trackers, trac, gforge (and fusionforge most probably), google code

Issues with tools like bts-link

- At the moment works only over debugs
- Needs custom ad-hoc connectors/scrapers for each bugtracker : no standard APIs
- Make it more generic and not Debian specific :

Either :

- custom bugtracker data gatherer
- or standard for bugtracker data interchange : none yet

Problems : interop / standardisation (lack of -)

- Until recently, no real standard for bugtracker APIs
- Interchange of data representing Bugs/Issues

Past efforts : our Helios ontology

- Bug/Issue representation
- Ontology, Schema (Semantik Web standards)
- Standard proposed and community build : baetle
<http://code.google.com/p/baetle/>
- Reuse of EvoOnt BOM <http://www.ifi.uzh.ch/ddis/evo/>
- Semantic web techniques (RDF) : extensible
- Mapping bugtrackers data to RDF/Linked Data :
prototype on UDD, bugzilla, etc. (D2R)

Our first result

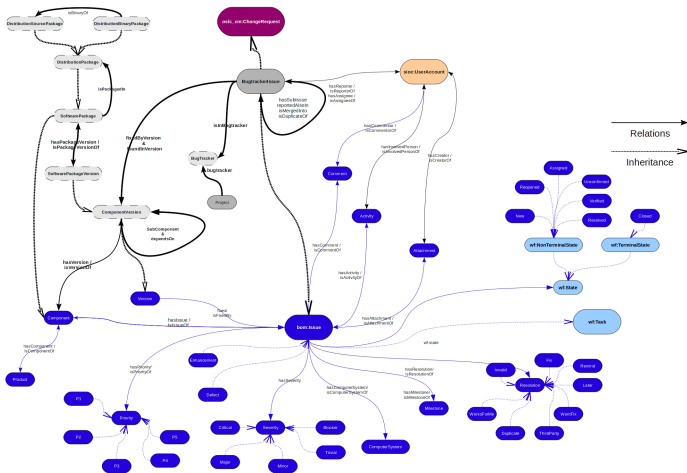
http://heliosplatform.sourceforge.net/ontologies/helios_bt.html

Introduction

Purpose
Foreword
About
HELIOS

Tracking bug reports

Goals
Existing tools
Problems
Solutions



OSLC-CM : a proposed standard for bugtracker interoperability

- OSLC (Open Services for Lifecycle Collaboration) proposed standard
 - Web technology : REST, RDF, AJAX,
 - Open community, Open standard
 - OSLC-CM (Change Management) FLOSS implementations developed in Helios and COCLICO
 - Mantis bugtracker
 - FusionForge trackers (soon Codendi too)
 - Many more domains than trackers
- WebID, aka FOAF+SSL
- OAuth
- Building grounds for forge interop standard to be elaborated at PlanetForge community as part of the COCLICO project

Demo of our OSLC-CM Add-on for Mantis

Olivier
Berger,
Telecom
SudParis

Introduction

Purpose
Foreword
About
HELIOS

Tracking bug reports

Goals
Existing tools
Problems
Solutions

[https://picoforge.int-evry.fr/cgi-bin/twiki/view/
Oslc/Web/MantisOslcServer](https://picoforge.int-evry.fr/cgi-bin/twiki/view/Oslc/Web/MantisOslcServer)

SemWeb / Linked-Data

Introduction

Purpose
Foreword
About
HELIOS

Tracking bug
reports

Goals
Existing tools
Problems
Solutions

- Semantic Web and Linked Data hype
- Linked (Open ?) Data

<http://linkeddata.org/>

- Bugs (reports) become first class citizens of the SemWeb (RDFa, adapters, OSLC-CM...)

Introduction

Purpose
Foreword
About
HELIOS

Tracking bug
reports

Goals
Existing tools
Problems
Solutions

Perspectives

- SD (Simple Deffects) : Distributed bugtracker
- Semantic desktop integration (Nepomuk, ...)
- fetchbugs4.me someday (web app to monitor one's bug reports)

Introduction

Purpose
Foreword
About
HELIOS

Tracking bug
reports

Goals
Existing tools
Problems
Solutions

Bibliography

O. Berger, V. Vlasceanu, C. Bac, S. Lauriere, Q. V. Dang,
**Weaving a Semantic Web across OSS repositories :
unleashing a new potential for academia and practice**, in
International Journal of Open Source Software & Processes
(IJOSSP), Volume 2, Issue 2 (2010)

Copyright & License

- This presentation is under CC-by-SA license
- Copyright (c) 2010 Olivier Berger
- Made with org-mode under emacs (org + beamer)

Thank you
Questions?

More

@oberger : <http://identi.ca/oberger/>

email : <mailto:olivier.berger@it-sudparis.eu>

blog :

http://www-public.it-sudparis.eu/~berger_o/weblog/