Talk is silver, code is gold? Contribution beyond source code in Free/Libre Open Source Software

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Who am I?

- Areas of interest: Free Software, Commons-Based Peer Production, social computing, Computer Supported Cooperative Work, Science and Technology Studies, etc.

- Working as a Drupal developer for the past 5 years. Previously worked with other free software platforms

- Previous background in Computer Science: @URJC (Spain), @NTNU (Norway)

- Started PhD in Sociology @UniS (UK) in October 2013

- Collaborating with the FP7 EU project P2Pvalue (www.p2pvalue.eu)

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Outline

- Introduction: Free Software, Commons-Based Peer Production and Drupal

- Research questions

- Data and methods

- Findings

- Discussion

- Conclusion and future work

What is Free/Libre Open Source Software (FLOSS)?

- Software which allows its use, copy, study and modification in any way

- Source code released under a license which protects these rights (e.g. GNU General Public License)

- Examples: GNU/Linux, Firefox, Apache, etc.

- Huge increase in adoption and production

- A new mode of software development, fostered by the Web: public testing and experimentation, unfinished product, etc. (Raymond, 2001)
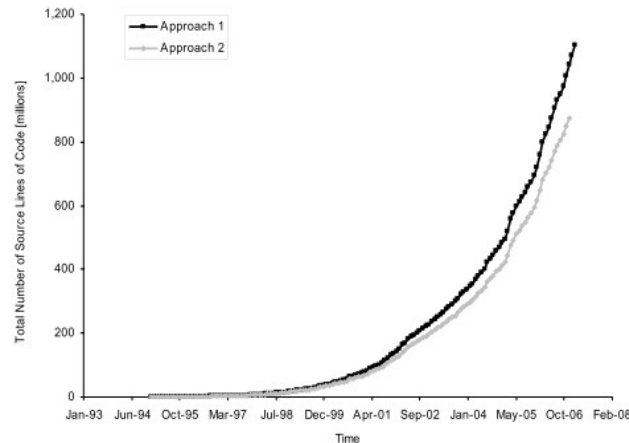
Deshpande and Riehle (2008)

What is Commons-Based Peer Production (CBPP)?

- A new model of socio-economic production in which groups of loosely connected individuals cooperate with each other to produce meaningful products without a traditional hierarchical organisation (Benkler, 2006)
- Spreading to diverse areas: open science, open agriculture, Peer-to-peer urbanism, etc. (Fuster Morell et al., 2014)

WIKIPEDIA
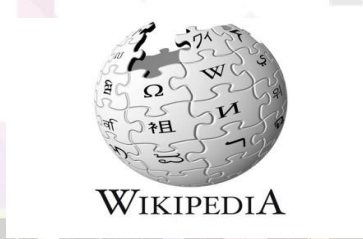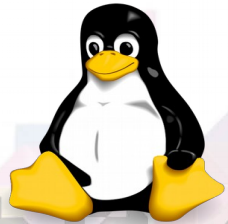
What are the commons?

- The commons: as a **resource or good shared by a group of people that may be subject to social dilemmas**, such as over-exploitation or free-riding. (Hess & E. Ostrom, 2007)

- Classification of goods according to:

  - **Excludability**: feasible to prevent its access to it

  - **Rivalry**: its use or consumption prevents or affects the consumption by others

	Rival	Non-Rival
Excludable	Private goods. E.g.: bread	Toll goods. E.g.: cable TV
Non-excludable	Common Pool Resources E.g.: fish taken from the ocean	**Public goods** E.g.: lighthouse, **Free Software**

V. Ostrom and E. Ostrom (1999)

What are the commons?

- Furthermore, some of these goods are **anti-rival**: the more people use them, the more utility each person receives (e.g.: Free software). Weber (2004)

- One more dimension: the scope of the ownership: "Those goods that belong to **everyone and no one at the same time**, therefore not following the rules of the market" Lafuente et al. (2007)

What is Drupal?

- Free software content management framework

- Very modular: think of it as a "Lego". Dozens of "core modules", +27k contributed modules

- Powering 2% websites worldwide (W3Techs, 2014)

- Employed in complex and high traffic websites: whitehouse.gov, mtv.co.uk, economist.com, etc.
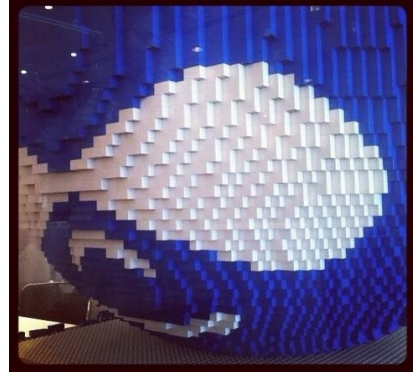
What is Drupal?: the Drupal community

- Started as a personal project of a student

- Code released in 2001 under a GPL

- Currently +1M users registered at Drupal.org, +30k code contributors (Drupal.org, 2014a)

- Hundreds of local F2F events, dozens of camps and cons in 4 continents (Drupal.org, 2014b)

The Drupal goods as a commons

- **Anti-rival**: its use by a person increases the value for other users
- **Non-excludable**: accessibility is protected as part of the licenses applied for the code, the contents created in the community, etc.
- **Global**: the ownership does not belong to any individual or state, as protected by the licenses chosen (exception: the trademark)
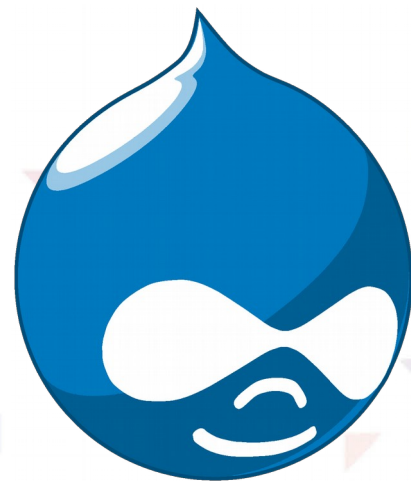
Drupal community as a CBPP community

- Ongoing discussion on the differences between CBPP, peer production, the delimitation criteria, etc.

- Drupal as a community whose mode of production (Fuster Morell et al., 2014) is:

  - **Collaborative process**

  - **Peer-based**: different levels of structure depending on the process, but not mainly based on contractual obligations nor coercion

  - **Commons-process**: process driven by the general interest, results in openness of the resources

  - **Favouring reproducibility**: via Free Software or Creative Commons licenses, exchange of practices, etc.

Contribution activities as unit of analysis

- Understand **processes** and **dynamics: how do these communities organise themselves?**

- Previous studies looked either at the individuals or at the whole community (e.g.: motivations to contribute, structure of the community, etc.). Huang, Le & Panchal (2011), Sims, J. P. (2013), Nordin (2014)

- My approach is to look at **contribution** activities as unit of analysis [using Activity Theory (Engeström, 1987) as a framework], using an ethnographic approach

- Implies to understand **deeply** what **contribution** means: **stage 1**

Contribution

- A blurry notion: meanings constantly evolving as part of negotiation processes between the participants

- Critical in CBPP communities focussed on digital commons: economy of contribution [not based on direct reciprocity] rather than economy of gift [based on direct reciprocity] (Wittel, 2013)

Contribution: "code-centrism"

- **"Code-centrism":**
  - In FLOSS literature: typically looking at source code as main notion of contribution
  - In FLOSS communities: "Talk is silver, code is gold"
- What about other contributions?
- **Affective labour** as the **"lifeblood"** of the commons (Bollier, 2014): the inmaterial labour present in social interaction which creates or modifies emotional experiences (Hardt, 1999)

Research questions

- RQ1: What type of activities are perceived as contributions in the Drupal community? Do the "official" meanings match the ones of the members of the community?

- RQ2: How are the identified activities represented in the main platform of collaboration in an individual level?

- RQ3: Can some of these activities be understood as sources of affective labour and what relevance do they have? Are there any differences on how they are perceived between members with different degrees of experience?

Data and methods

- Ethnographic methodological approach: online and offline

- Triangulation of data collection methods:

  - Participant observation (6 months): online participation, 13 events, etc.

  - Documentary analysis: Drupal Planet as "native" starting point. 2 years archive (3,266 documents). See

  http://www.davidrozas.com/lab/drupal_planet_archive.php

  - Semi-structured qualitative interviews (4): London and Madrid

- Analysis supported by CAQDAS

Findings: Contribution beyond source code (RQ1)

"[...]organise talks, meetups or just hang out with Drupalistas to drink some beers and have a talk, are also very important activities, and very positive for the community."

Drupal developer, 7 years. Original reply in Spanish.

Findings: Contribution beyond source code (RQ1)

- Two main types emerged, according to th[e]

  focus of action:

  - "**Object-oriented**": source code,

    documentation, translation, etc.

  - "**Community-oriented**": usage & support, online

    community management, training & mentoring,

    organisation & participation in F2F events, etc.

- Suggestive, not exhaustive, list

Findings: Contribution beyond source code (RQ1)

- Analysis of main platform shows that "community-oriented" ones are less visible

- From them, this affects specially local/regional F2F events

Findings: Contribution beyond source code (RQ1)

- Offer empirical evidence of the need of **widening our understanding** of contribution activities
- This lack of visibility is also reflected in the main platform of collaboration

Findings: Contributions in user profiles (RQ2)

- Profiles are key elements in the generation of perceptions by other users in FLOSS (Marlow, Dabbish & Herbsleb, 2013)

- Source of public references, significant role in the process of status attainment in FLOSS communities (Stewart, 2005)

Findings: Contributions in user profiles (RQ2)

- Inequality in the representation of "community-oriented" activities

- Affecting specially to "organisation and participation of local/regional F2F events"

- Some Drupalistas try to overcome these limitations

Findings: Contributions in user profiles (RQ2)

Examples of "object-oriented" contributions reflected in the profiles

History

Member for	9 years 5 months
Documentation	Over 1000 edits

Projects

Drupal core (6486 commits)
Poll (from core) (2557 commits)
Spark (160 commits)
Quiz (102 commits)
Drupal Module Upgrader (92 commits)
Pants (76 commits)
Revision Moderation (74 commits)
Organic groups (72 commits)
Documentation (60 commits)
Webchick's test profile (52 commits)
Drupal 7 to 8 Module Upgrader [dead] (51 commits)

Localization contributions

Spanish   1124 approved translations

History

Member for	4 years 4 weeks
Primary profile	Profile on https://www.drupal.org/

Findings: Contributions in user profiles (RQ2)

Examples (the few) of "community-oriented" contributions reflected in the profiles

Put each item on a separate line or separate them by commas. No HTML allowed.
☑ I contributed Drupal patches
☑ I contributed Drupal modules
☐ I contributed Drupal themes
☑ I contributed Drupal installation profiles
☑ I contributed to Drupal issue queues
☐ I contributed to Drupal.org
☑ I contributed Drupal documentation
☐ I contributed Drupal translations
☐ I helped organize DrupalCon
☐ I contributed Drupal automated tests
☐ I reviewed Project applications
☐ I help in the Drupal support forums
☑ I provide Drupal-related services
☐ I help mentor new contributors
☐ I attended the Drupal conference at FOSDEM 2005 (Antwerp, Belgium)
☐ I attended OSCON 2005 or the off-site Drupal conference at OSCON 2005 (Portland, Oregon)
☐ I attended LinuxWorldExpo London
☐ I attended DrupalCon Amsterdam 2005
☐ I attended the Drupal conference colocated with the Open Source CMS and Blogging Tools Summit (Vancouver, Canada)
☐ I attended the Drupal conference 2006 (Brussels, Belgium)
☐ I attended OSCMS 2007, Sunnyvale
☐ I attended DrupalCon Barcelona 2007
☐ I attended DrupalCon Boston 2008
☐ I attended DrupalCon Szeged, Hungary 2008
☐ I attended DrupalCon DC 2009
☐ I attended DrupalCon Paris 2009
☐ I attended DrupalCon San Francisco 2010
☑ I attended DrupalCon Copenhagen 2010
☐ I attended DrupalCon Chicago 2011
☐ I attended DrupalCon London 2011
☐ I attended DrupalCon Denver 2012
☐ I attended DrupalCon Munich 2012
☐ I attended DrupalCon Portland 2013
☐ I attended DrupalCon Sydney 2013
☐ I attended DrupalCon Prague 2013
☐ I attended DrupalCon Austin 2014
☑ I attended DrupalCon Amsterdam 2014
☐ I will attend DrupalCon Latin America 2015
☐ I will attend DrupalCon Los Angeles 2015
☐ I will attend DrupalCon Barcelona 2015

Drupal

My mentors   JohnAlbin, Bojhan, webchick, nod_, berdir

My mentors:

(after the study)
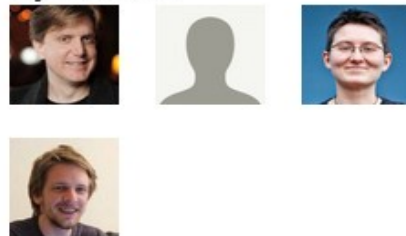
13 people list LewisNyman as a mentor

Findings: Contributions in user profiles (RQ2)

Use of "open fields" to try to overcome these limitations

Bio:
Read more at www.chandeepkhosa.com, email
hello@chandeepkhosa.com, or call 07962 382 442.

I am a freelance Drupal Site Builder & Front End Developer looking for
new freelance projects in London and have been developing websites
with Drupal since 2007.

I have been very involved in training and mentoring web developers,
particularly young people, getting them into careers specialising in
Drupal. I have helped to support the Drupal community by speaking at
camps and conferences on topics including e-Commerce & responsive
web design.

-- Drupal community --
✿ Founding & organising Drupal West London
✿ Mentoring apprentices & creating open source curriculum for learning
Drupal - Open Drupal
✿ Speaking at Drupal camps on Drupal Commerce, Responsive web
design & Open Drupal http://chandeepkhosa.com/?q=speaker
✿ Organising & facilitating a BoF (birds of a feather) session at
DrupalCon Amsterdam 2014 https://amsterdam2014.drupal.org
/bof/open-drupal-drupal-apprenticeships-...
✿ Contributing & reviewing front end patches during sprints at Drupal
Dev Days Szeged, Drupalaton & DrupalCon Amsterdam

P2P VALUE

Findings: Contributions in user profiles (RQ2)

- Descriptive account of how identified activities are represented

- Empirical evidence of the uneven representation of some contribution activities, affecting specially the "community-oriented" category

Findings: Role of affective labour (RQ3)

- Analysis focussed on organisation and participation in F2F events – most clear example of affective labour (creation and modification of emotional experiences)

- These contribution activities play a relevant role in the sustainability of the community: "come for the software, stay for the community"

P2P VALUE

Findings: Role of affective labour (RQ3)

"[...]indeed, the fact of attending these meetups, it was really good. Because you realise there are people behind the source code, right? There are people behind the modules. And you meet people that can tell you this kind of personal stories.[...] And then, it stops being something anonymous, it becomes something yours."

Drupal developer and devop, 1.5 years. Original reply in Spanish.

- Drupal becomes a community, avoid barriers, increases the will for reciprocity, etc.

Findings: Role of affective labour (RQ3)

"[...]friendships are developed, and seeing people in-person helps a lot. I believe so, the idea of... having F2F meetups and get to know each other in-person is essential.[...] In the IRC you will talk about certain things, but after a day cycling 50 or 60 kilometres [referring to the "Tour de Drupal"], [...]there will be more interaction for sure, and a bigger friendship [...]"

Drupal developer, 7 years. Original reply in Spanish.

- As the engagement with the commons increases, affection relationships develop (friendship). Commitment, sense of community, avoid to burnout, etc.

P2P VALUE

Findings: Role of affective labour (RQ3)

"Because the community is growing, then you have less of a sense of community. But I think the solution to that is to have smaller local communities.
So, you know, as the worldwide community grows, then you start finding, like whereas before it might have been 50 people worldwide, now you have like 50 people in your part of London, or wherever."

Drupal themer and developer, 11 years.

• Local activities help to scale up the sense of community, as it grows

Findings: Role of affective labour (RQ3)

- Existence and relevance of affective labour

- Different types of emotional experiences (which vary according to degree of experience), which foster collaboration

- Not only understood as a type of contribution unequally represented; they are key for sustainability

Discussion

- Role of F2F in FLOSS and hacker culture (Coleman 2013). Additional evidence, framing them as contributions, and empirical evidence of lack of visibility

- Filling the gap of Nordin (2014), including also local events. Scale up sense of community

Discussion

- Connecting to major literature on commons, through affective labour. The participation "transforms the local subjectivities" of Drupalistas, as in non-digital domain (Singh, 2013)
- Not only socio-cultural reasons: need of exploring new dimensions of value in CBPP communities (P2Pvalue, OVN, Sabir), and incorporate them in socio-technical systems

Conclusion

- Need to broaden our understanding of contribution activities in FLOSS communities, beyond "object-centric" ones

- Lack of visibility and relevance of "community-oriented" ones

- Need to keep on exploring conceptualisation and incorporation of value in CBPP communities

Future work

- Explore some of these contribution activities in depth (ethnographic approach), drawing on Activity Theory
  - Two dimensions: online/offline & formal/informal
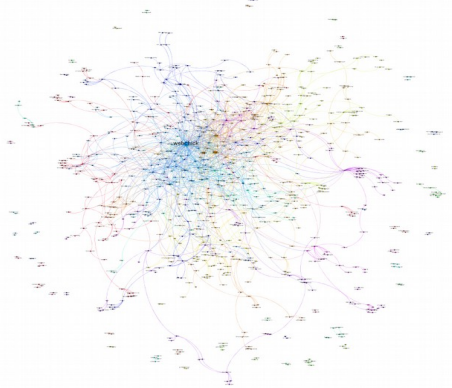 - Hybrid model of organisation?
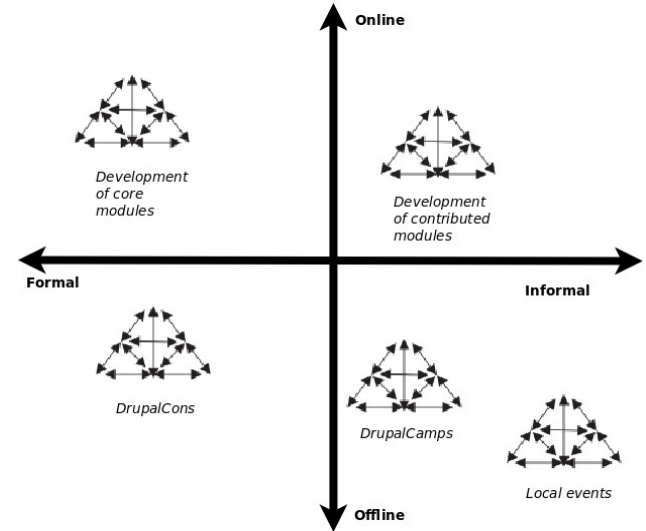
[Not so] future / parallel work

- Understanding better the implications of these "community-oriented" contributions using digital methods
- SNA of mentorship relationships, using D.org API: https://www.drupal.org/api
- https://github.com/drozas/drupal-org-api

My mentors:
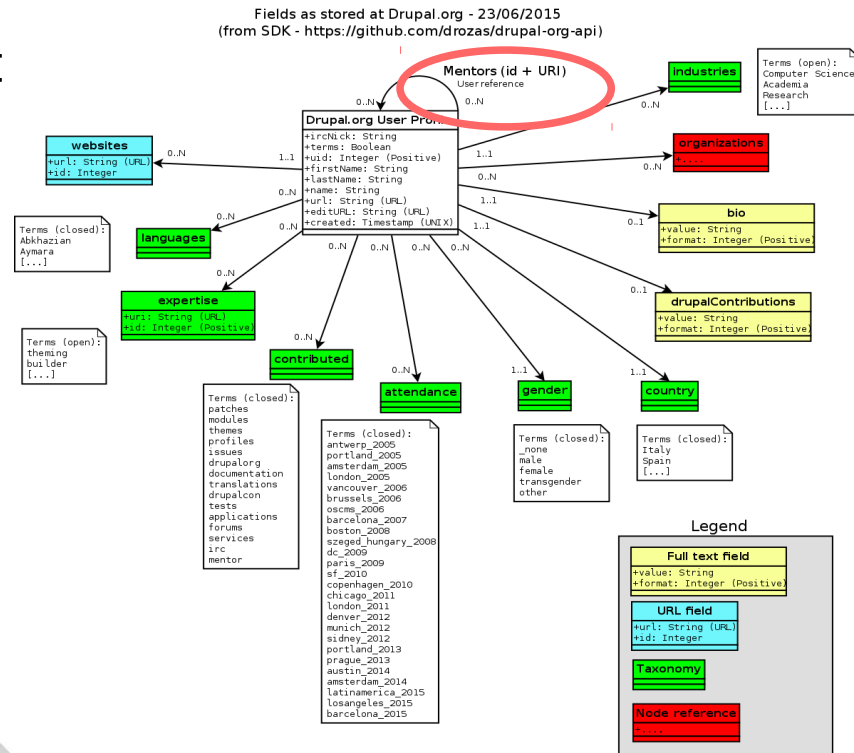
2 people list drozas as a mentor

[Not so] future / parallel work

- 3.5M profiles. Currently fetched almost 10%

- See drupal_mentorship.gephi
  - Women more influential than other FLOSS?
  - Clusters (devs vs themers vs …)

- Furthermore, this is just one indicator!

- Collaboration?

Fields as stored at Drupal.org - 23/06/2015
(from SDK - https://github.com/drozas/drupal-org-api)

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  - http://upload.wikimedia.org/wikipedia/commons/a/af/Tux.png
  - http://upload.wikimedia.org/wikipedia/commons/5/53/Wikipedia-logo-en-big.png
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Any questions/feedback?

Thanks!

¡Gracias!

Ευχαριστώ!

Obrigado!

Grazie!

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