A Techno–Feminist View on the Open Source Software Development

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INTRODUCTION

Current debate on women in free/libre open source software (FLOSS) tends to fall into the gender stereotype of men and women when coming across to the gender issue. This article stays away from a reductionism that simplifies the gender issue in the FLOSS community to the level of a fight between men and women. Instead of splitting women from men in the FLOSS development, this analysis helps motivate both men and women to work together, reduce the gender gap and improve the disadvantaged statuses of women and a wider users' community in the FLOSS development. More importantly, it addresses not only the inequality that women face in computing, but also other inequalities that other users face, mainly emerging from the power relationships between expert and lay person (namely, developer and user) in software design. In so doing, the issue at stake is not only to create a welcome environment for women to join the FLOSS development, but also to come up with a better way of encouraging both sexes to collaborate with each other.

This article starts from how FLOSS can make a difference for today's information society, and present some successful stories of implementing FLOSS in developing countries and rural areas to empower women and the minority. Consequently, it discusses the problem of including more women and the minority in the FLOSS development through deconstructing the myth of the programming skill.

BACKGROUND

The essential element of FLOSS is "freedom" that allows users to run, copy, redistribute, study, change and improve the software. By having source code made available to the public, interested users or developers can study and understand how the software is written and, if competent, they can change and improve it, as well. In other words, apart from serving as an alternative choice for consumers, FLOSS helps open up the black box of software technologies, facilitate the practice of participatory design and provide an opportunity of breaking down the hierarchy of professional knowledge. And this could lead to improved security and usability, because users can configure software to fulfill their local requirements and secure against vandalism, user errors and virus attacks.

Given these opportunities, FLOSS has been adopted and implemented in several developing countries and rural areas. For instance, believing that FLOSS serves as a better technological tool to bridge the digital divide, Brazil, for example, has also required any company or research institute that receives government financing to develop software to license their work under FLOSS licenses, meaning the underlying software code must be free to all (Benson, 2005). In the wave of localization and customization, a group of volunteers in India has started the IndLinux[1] project to create a Linux distribution that supports Indian Languages at all levels. These examples are just two of the many ongoing projects around the world. These continuously emerging cases demonstrate that FLOSS provides a better basis for more widespread access to information and communication technologies (ICT), more effective uses and a much stronger platform for long-term growth and development compared with scaled-down versions of proprietary software.

However, such FLOSS-based technologies meant to be used widely and to empower users have not yet engaged with a diverse range of people in development and implementation. So far, the freedom of FLOSS seems to be enjoyed only by those who are capable of manipulating the technologies. We see imbalanced population distributions in the FLOSS-

based knowledge demography, and the unbalanced gender distribution is among those top ones. We see a strong programming culture in the FLOSS development and implementation nowadays—if one does not program, he or she seems to be left out of the FLOSS movement. In other words, instead of breaking down the hierarchy of professional knowledge, a new boundary and barrier of accessing ICT knowledge seems to be established. Abbreviations such as "RTFSC" (Read The F***ing[2] Source Code) or "RTFM" (Read The F***ing Manual) shows how strong this hegemony of software knowledge is. This article aims to challenge the workship on programming knowledge, which is one of the many reasons that causes gender inequality in FLOSS (see Henson, 2002; Lin, 2006).

I would like to stress that to be involved in the FLOSS development, one needs not be a programmer (see Rye, 2004); one could write documentation, report or triage bugs, improve graphic or text content, translate/localize, submit feature-requests or teach how to use FLOSS. These activities are equally important to programming in the software innovation process, because software is not ready to use just as it is written. It needs many efforts to make it user friendly, implement it in different contexts and maintain it over time (Levesque, 2004). To make FLOSS successful, we need not only Richard Stallman or Linus Torvalds, but also a great amount of volunteers reporting and fixing bugs, writing documentation and, more importantly, teaching users how to use OpenOffice.org and Mozilla Firefox browser. When thinking of an approach of including more women and improving the representation of women in FLOSS, these activities can be considered as essential.

Saying that we should start encouraging women to participate in these activities does not imply that women are not good at programming. Not at all! While it is generally recognized that there is no genuine biological difference between men and women in science (American Sociological Association, 2005), the history and cultural and educational backgrounds in turn lead to the circumstance in which many women nowadays do not have as strong programming experience as men do. Given this, we may need an alternative way of including women in FLOSS. But more importantly, it is because neither of these activities (e.g., documentation and localiza-

tion) are subordinate to programming, nor are they peripheral in any case, and we need to encourage women and other minority user groups to participate in these activities in the FLOSS development.

These efforts on documentation and localization (including translation) are so important that they are the keys to opening the black box of the software technologies and allowing more people (regardless of gender, class, race and disability) to participate in the FLOSS development. While some people try to degrade the skill of writing documentation or translation, an experienced female FLOSS user, Patricia Jung, emphasized the importance and challenge of writing documentation on the Debian-women mailing list:

Documentation can be a means of quality insurance, and this power is far too seldom used, not only in Open Source development. The people who write the best code I know write documentation alongside or even before coding: The code has to follow documentation, otherwise it's a bug :), at least documentation and code are never allowed to get out of sync. Which means documentation _is_ development, not just something subordinate.

In a scenario like this, documentation and usability are not just nice to have but an inherent part of development and equally important as writing code, and it finally leads you to better software, to software that is aware of its users and tasks and not just aware of how things are easiest, smartest to implement. But it requires a paradigm shift: Coders are no longer allowed to see documentation as a nasty add-on, as something subordinate, and documentation people don't simply have to follow the software they get but allowed and required to intervene. Software isn't released as long as the doc people don't give their go: Right now code matches documentation, it does what it is supposed to do, now we can release. (Debian-Women, 2005)

Jung's message demonstrates that coding is neither the only nor the foremost activity in the FLOSS innovation process. Programmers do not play a more important role than other contributors in the FLOSS development. The FLOSS community is comprised of diverse people from different social worlds, and

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