

# Women in the Free/Libre Open Source Software Development

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## INTRODUCTION

Free/libre open source software (FLOSS) has become a prominent phenomenon in the ICT field and the wider public domain for the past years. However, according to a FLOSS survey on FLOSS developers in 2002, “women do not play a role in the [FLOSS] development; only 1.1% of the FLOSS sample is female.” (Ghosh, Glott, Krieger, & Robles, 2002). In the mainstream research on FLOSS communities, many researchers also overlook different processes of community-building and diverse experiences of members, and presume a stereotyped male-dominated “hacker community” (e.g., Levy, 1984; Raymond, 2001; Himanen, 2001; Thomas, 2002). Moreover, issues around gender inequality are often ignored and/or muted in the pile of FLOSS studies. Female programmers often are rejected ex/implicitly from the software labour market (Levesque & Wilson 2004). The requirements of female users are not respected and consulted either (European Commission, 2001). This feature is opposite to the FLOSS ideal world where users should be equally treated and embraced (op. cit.). While many researchers endeavour to understand the FLOSS development, few found a gender-biased situation problematic. In short, women are almost invisible in current FLOSS-related literature. Most policies targeting at advocating FLOSS are also gender blind.

Thus, this essay highlights the need for increased action to address imbalances between women’s and men’s access to and participation in the FLOSS development in cultural (e.g., chauvinistic and/or gender-biased languages in discussions on mailing lists or in documentations), economic (e.g., unequal salary levels for women and men), political (e.g., male-dominated advocacy environment) and technical (e.g., unbalanced students gender in technical tutorials) spheres. On the other hand, it also

emphasises the powerful potential of FLOSS as a vehicle for advancing gender equality in software expertise. FLOSS helps transport knowledge and experience of software engineering through distributing source code together with the binary code almost without any limit. Many FLOSS licences such as the General Public Licence (GPL) also facilitates the flow of information and knowledge. In other words, if appropriately harnessed, FLOSS stands to meaningfully contribute to and mutually reinforce the advancement of effective, more expedited solutions to bridging the gender digital divide.

In the end, this article points out that while women in more advanced countries have a better chance of upgrading their ICT skills and knowledge through participating in the FLOSS development, the opportunity is less available for women in the developing world. It is worth noting that although the gender issues raised in this article are widespread, they should not be considered as universally indifferent. Regional specificities in gender agenda in software engineering should be addressed distinctly (UNDP/UNIFEM, 2004).

## TOWARD A FEMINIST ANALYTICS<sup>1</sup> ON THE GENDER ISSUES IN THE FLOSS DEVELOPMENT

To a degree, the gender problems in the FLOSS development can be seen as an extension of the ongoing gender issues in new-tech service industries and/or software industry (e.g., Mitter & Rowbotham, 1995). These long-term problems mainly include low-level work content, unequal payment, emotional distress from discrimination and prejudice, physical ache from the long working hour in front of the computer, division of labour within the home (child-rearing), essentialist notions of women’s roles, sex-

ism, informal networks, prejudice, lack of role models and support, and “glass ceilings.” Generally speaking, women within the software industry have to work harder than men in order to get the same respect and conquer the glass-ceiling problem in this patriarchy world (DeBare, 1996).

Although FLOSS has dramatically changed the way software is produced, distributed, supported, and used, and has a visible social impact enabling a richer digital inclusion, most of the gender problems existing in the software industry have been duplicated in the FLOSS field.

A FLOSS *social world* (Lin, 2004) is different from what Turkle (1984) argues: “computer systems [mainly proprietary] represent a closed, controllable microworld—which appeals to more men than women” (Turtle, 1984). It requires a holistic perspective to capture the complexity and dynamics within and across the social world. While the heterogeneity and the contingency in this social world are not yet fully explored, analysis from a feminist perspective is almost absent. Little attention has been paid to the internal differences and to the private arena linked with the FLOSS innovation system. However, this methodological lack has not stopped us from observing the gender problems within the field. Instead, by means of the FLOSS development, some gender problems in ICT become even more apparent.

Additionally, in a world of volunteers, we clearly see that men and a competitive worldview are more present in all forms of media. Many women participating in the FLOSS development are invisible: their labour in fields such as NGOs that help implement and promote FLOSS, documentation translation, book editing, teaching and tutoring (e.g., E-Riders<sup>2</sup>) are less visible than male-dominated coding work. Indeed, FLOSS advocates have not adequately addressed this critique of gender equality. They tend to treat the FLOSS community as a monolithic culture—to pay more attention to differences between and among groups than to differences within them. They are so eager uniting the voices on freedom of information that they give little or no recognition to the fact that FLOSS groups, “like the societies in which they exist (though to a greater or lesser extent), are themselves *gendered*, with substantial differences of power and advantage between men and women” (Okin, 1999).

A number of key dilemmas that hinder women’s participation in the FLOSS development can be summarised:

1. **A Lack of “Mentors” and Role Models:** It is true that there is a very low percentage of female participants in the FLOSS social world. However, we should not overlook the importance and possible future of outstanding female figures in the FLOSS field. It is difficult to make the majority of male peers respect these female figures. I am not suggesting that men all look down on women, but it is more difficult for women to be assertive in front of male-dominated audience. The whole way the world is constructed means there are just men at every level, which makes it really hard for women to get their feet in the door. A way of overcoming this is to establish more female figures in the world. While few in the computer world actually know that Ms. Ada Byron is the first programmer in the world, how could we expect people to recognise women’s ability?
2. **Discriminated Languages Online and/or Offline (e.g., Phrases in Documentaries):** Many female FLOSS developers have complained the highly unfriendly atmosphere within the social world, online (e.g., mailing lists, IRC) and/or offline (e.g., documentation). For instance, referred to prospective readers, existed FLOSS documentation usually use single sex term, he, rather than she or they. This kind of gender-biased words subtly exclude women from participating in the FLOSS development. While the online languages are in a direct way full of men’s jargon, reading the documentation offline does not make a female developer/user feel more included in the field. If women need to be encouraged to participate in FLOSS-related discussions, a sexist or discriminative surrounding is definitely not attractive.
3. **A Lack of Women-Centred View in the FLOSS Development:** The consequence of the lack of female FLOSS developers is that there is a greater amount of female-unfriendly software in the FLOSS system. Some scholars in science and technology studies (STS) have pointed out that technologies are gendered both in their design and use (e.g., Edwards, 1993;

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