Open Source and Piracy, a Media Analysis

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Introduction

Summmary and Analysis

In a talk given to university students in Paris, Richard Stallman warns of being a prisoner of the digital world. It does not seem likely that Stallman, a computer scientist, would preach against a digital lifestyle. However, Stallman takes issue not with computers and software on their own, but rather with software and services that disrespect their users' freedom. He believes proprietary software allows companies to insert malicious code that can spy on users. Companies that make this kind of software, he says, not only deny users freedom of privacy, but also establish control over those users by keeping their source code secret. To combat this loss of control, Stallman argues "we have to extract people from digital society if it doesn't respect their freedom or we have to make it respect their freedom" (2011, para. 2).

Early in the talk, Stallman clarifies what he means by free software: software that respects users' freedom. Non-free software, he says, has potential to control its users. As an example, he points to computers running Microsoft Windows. Those machines do not respect users' freedom, he says, because they track "data about the use of the computer" (2011, para. 4). Stallman adds that malicious software need not be on users' hardware; an online service can also spy on its users and control users' data . He points out a privacy double standard—companies do not protect users' privacy, but in the case of DRM, take great lengths to protect their own.

Stallman chiefly supports his argument for "digital extraction" with an analysis of what he believes to be the main threats to digital freedom: surveillance, censorship, restricted data formats, proprietary software, Internet services, and computer voting. While Stallman alludes to

the more political topics of surveillance, censorship by governments and computer voting, he devotes much of his talk to the regulation and distribution of digital media and software. Stallman envisions a world where users distribute content easily and freely; accordingly, he views any copy protection measures, such as the DMCA, as a form of censorship (2011, para. 96). Stallman encourages his audience to fight the "digital handcuffs" imposed by copy protection that seek to control how they use content (2011, para. 98). Stallman similarly opposes proprietary software. Stallman supports his claim for prohibiting proprietary software by citing its negative effects on education. He further argues society as a whole would benefit by severing its dependence on proprietary software (2011, para. 53). To realize his vision of a world with predominantly free software, Stallman launched the GNU Project and the Free Software movement.

Stallman supports his arguments with examples carefully tailored to his audience. Because he delivered his talk at a French university, Stallman illustrates threats to digital freedom using examples from France and greater Europe. For instance, he mentions the tracking of bicycles in Paris to demonstrate threats posed by digital surveillance (2011, para. 8), and he mentions secret file formats employed by Italian public television to demonstrate threats posed by restricted data formats (2011, para. 30). Stallman also enhances his credibility through his use of French terms2011. Stallman's explanation of the meaning of "free"—or rather "libre"—software compliments the subtleties of French (2011, para. 34). Stallman's extensive explanation of free software also lays an important foundation for the rest of his talk that can be understood by different audiences.

One should note that Stallman presents his views in a purely ethical context. In fact, Stallman believes one should only mention free software as "an ethical issue." (2011, para. 63). Stallman claims additionally that those who coined the term "open source" did so to avoid

discussing the ethics of free software (2011, para. 52). Stallman also refuses to entertain any arguments on the economics of free software, choosing to focus solely on ethics (2011, para. 34).

When talking about a digital society, Stallman draws his ethical truths about a digital society from a non-digital society. For example, in his section entitled “the war on sharing,” Stallman, who views book lending as an “important social act,” criticizes the Amazon kindle for its inability to lend books (2011, para. 98). Stallman maintains that residents of a digital society must fight to maintain the basic freedoms and rights enjoyed by the non-digital society of the past.

Research Analysis

Practical Advantages of Open Source Software

Stallman maintains that a free society can only come about through the adoption of free software, stating that he launched the GNU operating system for the express purpose of freedom and not for technical innovation (2011, para. 48). Stallman criticizes those who associate the free software movement with the ilk of Linus Torvalds and others who would seek to shift the focus of the free software movement away from ethics and towards practicality. However, if Stallman truly wishes to see widespread adoption of free software, then it would behoove him to also encourage others to capitalize on the practical benefits that made Linux and other open source software solutions so successful.

While the transparency of source code serves to inhibit the existence of unethical and malicious code, it also serves to enhance the collaborative nature of software development. A key feature of open source is that it creates an environment in which users mutually borrow and contribute back to one another's projects. The community that formed around the development of Linux embodies this idea very closely. Jim Zemlin, the executive director of the Linux Foundation, provides an illustration in which changes made to Linux to conserve power on a cellphone can be used to benefit supercomputers that also run Linux (2013, 11:34). Similarly, the increased availability of code allows developers to adapt software to new challenges. By inheriting httpd's Common Gateway Interface standard, the development of the Apache web server was expedited, as it's creators no longer had the need to build these components from scratch (Bisson, 2007, p. 7).

The overall restrictiveness of proprietary software presents a large disadvantage to its users.

Because software is built from source code, the support for any piece of software is ultimately tied to the ability to edit and view that source code. Having access to a product's source code decreases dependency on that product, which is critical should that product become discontinued or should its vendor declare bankruptcy. Thus, vendor lock-in threatens software users with eventual obsolescence, even in cases where it was possible to retroactively obtain the rights to proprietary code . In one such case involving the migration to new electronic voting machines in New York, the code obtained to make these machines function was licensed for testing and not for deployment (Colannino, 2012, p. 916). Moreover, this issue could have been avoided had the code been released with a free software license, such as the GNU public license. Open source licenses protect the continuous improvements made on software that prevent vendor lock-in (Colannino, 2012, p. 919).

Open source software also has a unique quality assurance mechanism in the form of its peer-review process. The communities that develop around open source software are comprised of passionate individuals who are devoted to problem solving (Bisson, 2007, p. 19). These users endlessly patch vulnerabilities and provide new features. In 2013, it was determined that 6,782 lines of code are added and subtracted to Linux on a daily basis (Zemlin, 2013, 12:03). Consequently, the constant revision of Linux ensures it's stability and relevance. Yet, the process of open source peer-review is not as straightforward as some would believe. In a study analyzing the bug reports for Mozilla Firefox, Wang et. al. reevaluates "Linus's Law," or the idea that "given enough eyeballs, all bugs are shallow"(Wang, Shih, & Carroll, 2015, p. 52). They determine that Mozilla's peer-review process lacked a central focus due to the differing levels skill levels of bug reporters, as disputes commonly arose over the relative importance of certain bugs (2015, p. 52). However, Wang et. al. claim that the careful labeling of duplicate bug reports

would solve this problem (2015, p. 52).

Due to the ease and availability of open source software, it is very easy to match a software need with an open source solution. When developing Facebook, Mark Zuckerberg used Linux and other free software to build the word's most successful social media platform (Zemlin, 2013, 6:18). It can even be argued that a software need—not an ethical need—provided Stallman with the impetus to launch the free software movement. Stallman's animosity towards proprietary software originated from a printer's software's lack of extensibility. When denied permission to add features to the software's source, Stallman vowed that he would never let a programmer share in his frustration (2015, para. 19).

Economics of Open Source

Stallman (2011) explains the need for free software in his lecture, but does not explain the economic power of free software. Although free software is by definition free of charge, that does not mean that free software has no place in a capitalistic society. Major companies contribute to open source software, and some are even core contributors and maintainers. Using open source enables these companies to leverage the knowledge of the community, which is not possible when creating closed source software. Open source software is also useful to companies in its finished form, for example, Apache web server ran two-thirds of major web sites (Powell, 2012, p. 696)

Open source software can also become the basis for entrepreneurs starting new companies, as liberal software licenses do not restrict any kind of usage, including commercial. One such example is OpenSimulator, which is a BSD licensed 3D software system. Because the BSD license is commercially friendly, a startup can use OpenSimulator in their own software, and redistribute it (Yetis-Larsson, Teigland, & Dovbysh, 2014, p. 477-8).

OpenSimulator's community was the subject of a study on open entrepreneurship, examining how networking in an open source community can help an entrepreneur fulfill business goals. The study ultimately found that entrepreneurs rely on the networks they form by actively participating in the open source community when starting new firms. The study also found that entrepreneurs make open source communities better with their political skills while still achieving business goals (Yetis-Larsson et al., 2014); sharing environments do not exclude business opportunities, in fact, these communities greatly benefit capitalism. An economy where costs to start a business are low can foster innovative technologies and increase the standard of living for everyone, since in-house software can be costly, open source can lower costs for business

ventures.

Open source businesses have proved sustainable, Red Hat being an excellent example. Red Hat makes money from subscriptions, training, and services instead of by licensing their software (Red Hat Inc., 2015, p. 31). Red Hat's software is licensed under the GNU GPL, and also promises to not enforce patent rights on their code (Red Hat Inc., 2015, p. 65), making their software freely usable and distributable by anyone. CentOS, for example, is a free clone of Red Hat Enterprise Linux, making the power of Red Hat software available to anyone who can download an installer. Despite the existence of a free clone, Red Hat still makes a large amount of money, $524 Million of revenue in Q3 FY 2016, up from $456 Million in Q3 FY 2015 (Red Hat Inc., 2015, p. 24). Red Hat is living proof that developing open source software can still generate revenue, which contributes to the economy by providing valuable services and advancing global technology.

When companies can make open source software profitable, the nature of open source hugely benefits the overall economy. Open source technology enables a more efficient economy, because individuals and firms do not have to go through the laborious process of building everything from scratch, or bear the expense of paying large licensing fees to get anywhere with software development. However, open sourcing a piece of software is not always the best solution as it could mean sacrificing profits. One paper studied the economic viability of open sourcing a piece of software at a certain point. The paper concludes that it makes sense to open source software that has high costs to maintain quality, because open source contributors can reduce the cost of maintaining that software in-house. However, the costs to switch to open source must also be considered before making the switch (Caulkins et al., 2013). One example cited in the paper is the Doom-engine, which was very high quality software when it was released, but competitors

eventually caused the cost of keeping the engine up to date to be too much for id Software. Id Software open sourced the engine in 1997, but still made money by selling content that runs on the engine (Caulkins et al., 2013, p. 1188).

Although Stallman's lecture can give an almost Marxist view of software, open source still has a big place in a capitalistic society. Much like global trade, sharing knowledge can benefit all parties involved and improve the overall efficiency of the economy. Wasted resources, namely human resources, decrease the efficiency of the economy, so reducing the amount of duplicated work in software development is good for the overall economy.

Conclusion

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