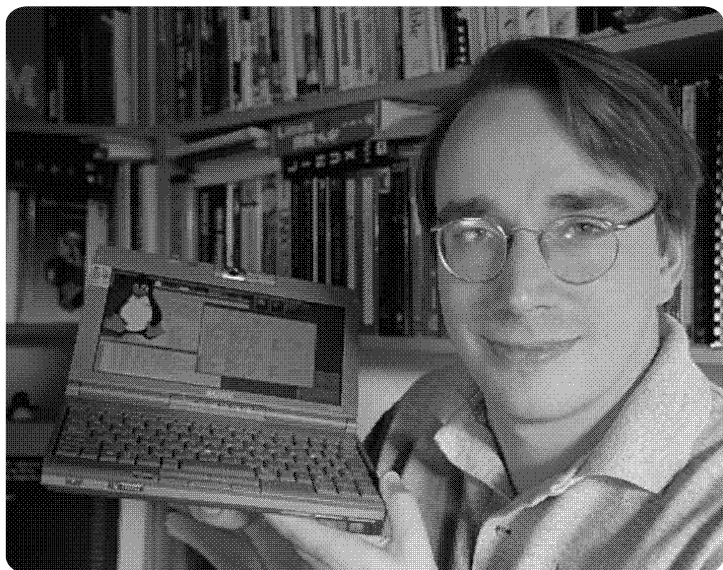


An Excursion into Terminology



Open Source

The concept of open source not only signifies access to tools completely without financial barriers set in place but also guarantees complete insight into source code, enabling the right to share and modify software structures and design. Adhering to specific principles, open source licenses mandate unrestricted redistribution, transparent accessibility to source code, permission for modifications and distribution of derived works without any further royalty claim or any other form of copyright restriction. Additionally, the license prohibits discrimination against individuals or groups and specific kinds of activity with its tools. It ensures that the attached rights apply universally upon redistribution without requiring additional licenses. Moreover, the license is not specific to a particular product or distribution, therefore granting the same rights to all parties involved. It also refrains from restricting other software distributed alongside it and emphasizes technology neutrality by not predetermining specific technologies or interface styles.

These principles of open source, first transcribed by Open Source Initiative (OSI) ⁽³⁹⁾ co-founder Bruce Perens in the late 1990s, strive to maintain transparency, collaboration, and accessibility in software development. Its overarching goal concentrates on the idea of fostering collaborative development, accessibility, innovation, community building, security, adaptability, and longevity within the technical field.

Despite the term open source being more or less recent, its historical roots extend much further back, with the concept originally being described as “free software”. Now this implies that the term “free” not only pertained to the purchase of software but also to its use and modification being freely accessible, today often causing confusion with the term “freeware”. Freeware does not necessarily provide the user

with the freedoms defined as free software but rather those specified in the individual license agreement with the copyright holder (40). Technically until the late 1960s, most computer work was thought of as free software, since technical knowledge and advances were usually shared openly. Volunteer user groups like SHARE (focusing on IBM products) and DECUS (focusing on DEC products) advocated for software sharing. Before 1970, software was generally viewed as an accessory to hardware rather than a valuable entity on its own. However, the landscape shifted in 1969 when the computing firm IBM announced the unbundling of software, making it necessary for users to purchase certain software separately from hardware. (*Gonzalez–Barahona, 2021, p. 75.*) Although proprietary software became the norm in the mid-1970s, the early 1980s saw a rise of computer programs being distributed in a manner resembling what could now be considered free and open source software, among them being SPICE, TeX, and Unix, aiming to offer free educational insight into their technologies. The free software concept further gained ground in the late 1980s through experiences and distributions mainly originating from university faculties. In 1983, drawing inspiration from the Unix operating system and with the goal of creating freely accessible and modifiable software, former MIT programmer Richard Stallman initiated his GNU Project (41). Stallman went on to introduce features such as Emacs (42) (a highly modifiable and expandable text editor for coding), as well as the GNU Compiler Collection (43) (translating high-level code into machine code for various programming languages) and the GNU Debugger (44) (a tool for debugging software to help developers identify and fix bugs in programs during development). This progress eventually led to the creation of the Free Software Foundation (45) in 1985. Stallman defined the philo-

sophical principles of free software based on his “four freedoms”, which were legally solidified through licenses. In 1989, these licenses were unified into the GNU General Public License (GPL) (46), one of the most well-known and widely used standard open source licenses until today.

The then following decade would be characterized by major advancements in the open source community, ultimately leading to the creation of complete and fully functioning open source computer systems most notably Linux, becoming a considerable alternative to Windows and Apple operating systems. The first firm version of Linux was introduced in 1994 by Linus Torvalds – the name being a blend of his own and the widely respected Unix –, with the operating system ready to be installed on any Windows computer. Linux continued to gain a substantial amount of attention and contributors, in some cases even becoming the preferred standalone operating system for computer operations. Moreover, the late 1990s saw the internet becoming a significant growth catalyst, expediting the progress of open source as a whole and leading to the rise of businesses like Red Hat and SuSe, providing support and training for open source systems 84. Key developments in the open source community also included the release of Netscape Communicator as a free and open source Web Browser and email client in 1998. Additionally, nonprofits like KDE and GNOME set the stage for direct corporate participation. Netscape’s Mozilla, which evolved into the Mozilla Foundation (47), found financial support through agreements with companies like Google. IBM’s Eclipse project, initiated in 2001, led to the Eclipse Foundation’s formation in 2004, also showcasing collaboration between companies and developers across diverse open source projects. (Gonzalez–Barahona, 2021, pp. 76–79.)

Open Content

Open content pertains to media content that is legally sanctioned for free use and redistribution under copyright laws (48). For one, this allowance may come into effect after the expiration of statutory protection periods, designating previously protected works as part of the public domain. Alternatively, content earns the label of “free” if the creator or rights holder willingly places a work under a free license. The notion of open content encapsulates a continuous concept, signifying the creator’s willingness to extend extensive usage rights. It encompasses materials whose utilization extends beyond the typical bounds set by legal frameworks, and these materials are licensed without imposing any financial burden on the end user. The non-profit organization Creative Commons (CC) (49) offers pre-drafted license agreements to facilitate the legal release of copyrighted content. Established by Stanford Law Professor Lawrence Lessig, in response to conflicts between internet sharing and copyright constraints, CC introduced free public licenses in 2002. Triggered by issues with the 1998 Sonny Bono Copyright Term Extension Act (50), adding an additional 20 years to the overall term of copyright protection – which Lessig deemed unconstitutional –, these licenses provided creators with a flexible alternative to the default “all rights reserved” model, allowing them to share works while retaining copyright. However, CC does not act as a distributor or publisher; instead, authors adopt CC licenses at their discretion. CC offers six standard license agreements, ranging from restricted use to fully guaranteed, unrestricted use, allowing remixing, revision, and redistributions, even commercially.

The ideological idea (51) behind Creative Commons was to provide a middle ground, establishing rules that would enable creators to retain some rights while promoting a culture of sharing, collaboration, and open access to knowledge in the digital age.

However, within this realm, even more extreme political positions have materialized, advocating for the complete abolition of media copyright frameworks. They emphasize the idea that media resources should be collectively managed and utilized by a community rather than being privately owned or controlled by single entities, often being larger media institutions like for example the Walt Disney Corporation. These movements seek to challenge the privatization and commercialization of media and art, advocating for a more inclusive and equitable approach to resource management (52). The word “copyleft” (53) although rooted in ideas of software copyright within the open source space, can also function as a comprehensive umbrella term in these respects. Additionally some considerable fractions of ideas can also be found in anarchist circles, more commonly within leftist anarchism and socialism, often referred to as Infoanarchism (54). This perspective frequently aligns with perceptions of values regarding social justice, free speech, and the democratization of decision-making processes.

Open Access

The open access concept (55) strives to provide universal access to scientific literature, eliminating financial, legal, and technical barriers, all while upholding the principles of authorship. Proponents argue that open access is crucial, as it ensures already publicly funded research findings are readily available to the public, enabling democratic access to knowledge to foster the rapid exchange of scientific ideas and consequently enhancing research and innovation efficiency through facilitating global collaboration. Furthermore, open access amplifies the visibility and citation frequency of research outcomes, all while empowering authors with exploitation rights, enabling easier dissemination and reuse.

The open access movement began in 1991 when Paul Ginsparg founded the arXiv archive (56), followed by the emergence of issues such as the serial crisis in the 1990s. The serial crisis denoted a substantial and swift escalation in subscription fees for scholarly journals, particularly those from for-profit publishers. This predicament in academic publishing stemmed from factors like university budget cuts, mounting journal costs, economic downturns, and the imbalance between static or reduced library funds resulting in rapidly rising prices for institutional access to essential journals, well above the inflation rate. (Das, 2015, pp. 44–67.)

In 2002, synchronously with Lawrence Lessig's Creative Commons, the Budapest Open Access Initiative was established. Over the years, open access gained momentum with the creation of essential open databases like the Directory of Open Access Journals (DOAJ) (57), and initiatives such as OpenAIRE (58). Recent developments included the formation of alliances like the Global Sustainability Coalition for Open Science Services (SCOSS) (59), ensuring

open access infrastructure, and significant agreements like Projekt DEAL (60), a union of German-speaking academic institutions enabling the open publication of scientific articles, overall indicating a growing global shift towards open access in scholarly publishing.

Furthermore, although not typically an associated part of the formal Open Access movement, the well-known online platform Wikipedia (61) operates as a collaborative encyclopedia that allows users to create, edit, and update articles on a wide range of topics and has made valuable contributions to the free flow of information and knowledge. While it aligns with the ethos of freely sharing information, Wikipedia works under a Creative Commons Attribution-ShareAlike license (62). This license allows for the redistribution and modification of content, but it doesn't necessarily ensure the same level of academic thoroughness or peer review, associated with formal scholarly publications. Both Open Access initiatives and Wikipedia share the goal of making information more widely available, but they starkly differentiate in their purposes of freely distributing knowledge on their platforms.

The Free Culture Movement as a Conceptual Framework

The Free Culture Movement, mainly composed of voluntary student initiatives, strives to integrate all of these various open culture elements, including perceptions of open source, Copyleft, open access, and especially advanced theories of open content ideas. This movement actively advocates for the freedom to distribute and modify media, information, and software, but also without compensating or seeking consent from the original creators, emphasizing the dissemination through the Internet and other media forms.

“The mission of the Free Culture movement is to build a bottom–up, participatory structure to society and culture, rather than a top–down, closed, proprietary structure. Through the democratizing power of digital technology and the internet, we can place the tools of creation and distribution, communication and collaboration, teaching and learning into the hands of the common person – and with a truly active, connected, informed citizenry, injustice and oppression will slowly but surely vanish from the earth.”
– *Free Culture Manifesto* § 1.

Additionally, their manifesto vehemently opposes a future characterized by “digital feudalism” (63) and limited ownership of purchased products, advocating for a reversal of expansive intellectual property rights. The movement completely rejects the copyright culture, calling it “permission culture” (64). Its advocates swear to commit to resisting re-

pressive legislation and preserving the internet's participatory structure to prevent corporate control and maintain its "revolutionary potential". As one of its key figures, Lawrence Lessig further explored the societal impact on creativity, focusing on the interplay between creative work, technology, and legal structures, in his 2004 published book aptly titled "Free Culture" (65).

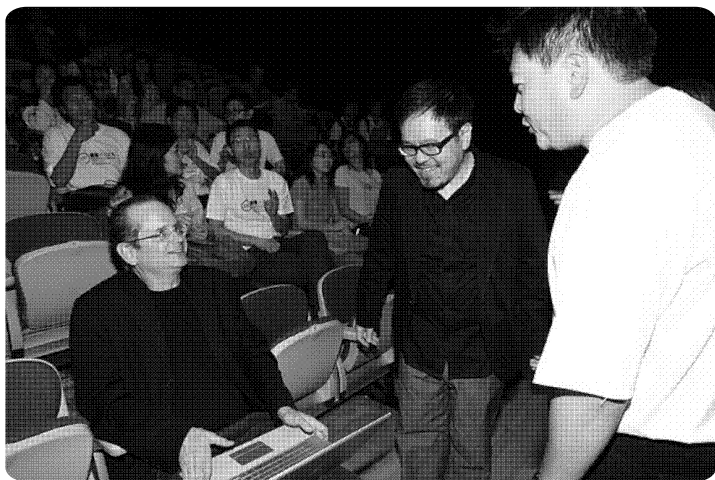
Nevertheless, these movements have equally faced criticism. The renowned web 2.0 critic Andrew Keen challenges the unregulated production, reproduction, and consumption of media on the internet that advocates for common ownership of digital content in his book "The Cult of the Amateur". He blames the internet for endangering the value of intellectual ownership, characterizing a younger generation as intellectual "kleptomaniacs" (*Keen, 2007, p.24.*), who regard copying and pasting a well-phrased thought out opinion as their own. His critique contends that Lessig overlooks the fact that much of the shared content, regardless of its widespread circulation, originates from the individual efforts and creativity of its creators.

Moreover, free and open culture movements have been denounced for their lack of minority representation, female perspective, and role models, claiming open communities to be particularly inviting to a vocal minority of rather male individuals who often appear "not kind, patient, or moderate in their participation". (*Reagle, 2012, p.8.*) Despite championing their concepts of freedom and openness, the free culture movement starkly mirrors the gender disparity observed in its IT and computing roots. Often underrepresented female participants face obstacles such as unwelcoming language. The movement's male-dominated geek stereotype and community dynamics seem to exacerbate these challenges.

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; TINY BASIC FOR INTEL 8080  
; VERSION 2.0  
; BY LI-CHEN WANG  
; MODIFIED AND TRANSLATED  
; TO INTEL MNEMONICS  
; BY ROGER RAUSKOLB  
; 10 OCTOBER, 1976  
; ©COPYLEFT  
; ALL WRONGS RESERVED  
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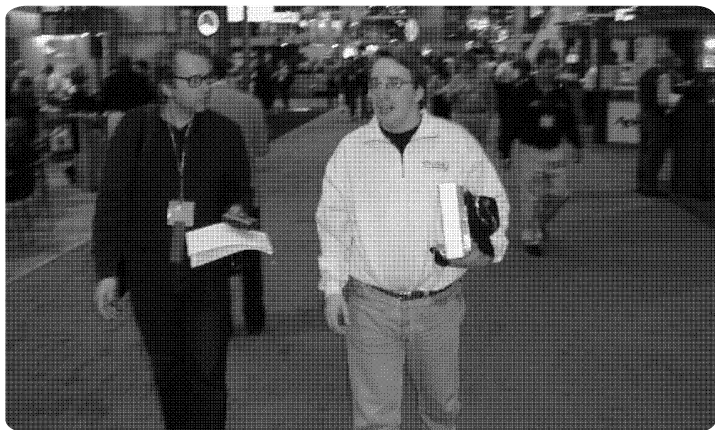
(Li-Chen Wang: Copyleft. All Wrongs reserved)

Li-Chen Wang, a pioneer in computer engineering, notably introduced the term “copyleft” in 1976 through his Palo Alto Tiny BASIC



(CC Hong Kong: Lessig, Freeman, Pindar.)

Creative Commons founder Lawrence Lessig at a 2008 gathering in Hong Kong



(Hankins, Brian: Linus Torvalds)

Linus Torvalds (on the right) at Linuxworld 2000 in New York City