# Forking Toward the Commons:
# From OpenOffice to LibreOffice and The Document Foundation

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*Abstract. In this paper, I explore the development of LibreOffice and The Document Foundation (TDF) as a project designed to promote digital inclusion and the development of the digital commons. The project was formed by forking OpenOffice.org; it seeks to eradicate the digital divide and promote civic participation by providing free, universal access to LibreOffice as a suite of office productivity tools. By supporting open document formats and open standards, the project fosters conditions for LibreOffice users to share and control the documents they create.*

*The paper is divided into three sections. First, I analyze the historical development of OpenOffice.org as a Free Software office suite deployed extensively around the world. I highlight the importance of language for the process of digital inclusion by examining the development of OpenOffice.org's Native Language Confederation. Second, I explore threats to digital inclusion posed by the power relationships between the OpenOffice.org community and the Sun and Oracle corporations. I analyze the tensions that emerged when Oracle bought Sun and seemed likely to undermine the open nature of the OpenOffice.org project. Third, I investigate how a core group of committed community members applied their political will and skill to move away from OpenOffice.org by forking LibreOffice and launching The Document Foundation. They organized effectively to garner support from a diverse range of community volunteers, corporations, governments and associations committed to the development of Free Software. In the conclusion, I identify the conditions that allowed the fork of LibreOffice to succeed. I explore lessons from this case for applying the strategy of forking to other projects promoting digital inclusion and the digital commons. Data for the paper include interviews with founders of The Document Foundation and members of its Board of Directors, as well as The Document Foundation Blog, The Document Foundation Wiki, and the information technology business press.*

## 1. Introduction

In September 2010, a committed group of volunteers who had worked on the OpenOffice.org free software office suite announced that they would be breaking away to form a new organization called The Document Foundation (TDF). They launched LibreOffice as a free office suite that would both protect and promote community, as well as corporate, participation in the software's development. They engaged in the process of forking, which Nyman and Mikkonen (2011, p. 1) define as "a situation in which several versions of a piece of software originating from a single, shared code base are developed separately." As Robles and González-Barahona (2012) note, the forking process has not been studied extensively, partly because hacker ethics see forks as potentially wasting the effort of community members who become involved in solving problems more than once. Nonetheless, Nyman and Mikkonen (2011, p. 1) view forking as "the invisible hand of sustainability" of open source software, since it provides a way for the community to ensure that the code remains open. In the process, the community secures its own survival and contributes to the development of the digital commons. Forking is a complex process with a contradictory, dual dynamic, since it can simultaneously threaten and ensure a project's survival (Nyman and Mikkonen 2011). As Nyman and Mikkonen (2011) argue, the possibility of a fork is inherent in open source projects, by virtue of their open code. This theoretical possibility in itself provides incentives to resolve conflicts in communities, as well as raising the prospect of investing participants' time and energy to move the software in a new direction to promote the digital commons.

The fork of Libreoffice is a significant recent example of the forking process. As Gamalielsson and Lundell (2014, p. 129) state, LibreOffice "is one of the few OSS projects which have an active community for more than 10 years...with significant commercial interest." As will be discussed further below, the longevity and commercial interest of the project is largely based upon the fact that it built upon OpenOffice.org. In the years since the fork of LibreOffice, it has become widely used by individuals, corporations, governments, and nonprofits around the world. It won a Linux New Media Award as one of the most innovative open source projects of 2012; it was commended as the best interoperability solution that allowed users to work on Linux, Mac OSX and Windows platforms. It also won Linux Magazine's Public Choice Award for the best

desktop application, as well as a prize from a German publisher for being supportive to small and medium sized businesses (Hillenius, 2011; Ehren, 2012; Interview with Effenberger, March 2012). Equally important, LibreOffice was launched with specific goals of eradicating the digital divide and promoting civic participation by providing free, universal access to LibreOffice as a suite of office productivity tools. It is thus a good example of a fork motivated by a community vision of developing the digital commons.

What made these accomplishments possible? In this paper, I identify the conditions that allowed LibreOffice to have a successful forking strategy. Understanding these conditions allows me to explore the implications of this case for the broader process of developing the digital commons.

The paper is divided into three sections.

First, I analyze the historical development of OpenOffice.org as a Free Software office suite deployed extensively around the world. I highlight the importance of language for the process of digital inclusion by examining the development of OpenOffice.org's Native Language Confederation. In this project, community participants volunteered to translate, document and support OpenOffice in their native languages.

Second, I explore threats to digital inclusion posed by the power relationships between the OpenOffice.org community and the Sun and Oracle corporations. I analyze the tensions that emerged when Oracle bought Sun, exploring how they gave rise to the creation of LibreOffice and TDF in September 2010. I identify the conditions that led to the decision to fork OpenOffice, as Free Software community participants decided that they needed to defend digital inclusion against corporate actions that could undermine the open nature of the project. These conditions fit with what Robles and González-Barahona (2012) characterize as a community-driven development strategy, and what Gençer and Ozel (2012) call an independent fork.

Third, I investigate the dynamics of this community-driven development strategy (Robles and González-Barahona 2012), exploring how a core group of committed community members applied their political will and skill to fork the project. They organized effectively to garner support from a diverse range of community volunteers, corporations, governments and associations committed to the development of Free Software. Indeed, this broad base of support made it possible to accomplish the fork on both the technical and political levels. I emphasize the importance of articulating the values of digital inclusion for this organizing work. TDF effectively communicated its commitment to democratizing access to the LibreOffice free office suite, supporting the preservation of native languages, and allowing software users to retain control over the documents they create through open document formats and open standards. In the conclusion, I explore the possibilities for the strategy of forking to contribute to the broader project of developing digital inclusion and the digital commons.

Data for the paper include interviews with founders of The Document Foundation and members of its Board of Directors, as well as The Document Foundation Blog, The

Document Foundation Wiki, and the information technology business press. Interview participants were given a choice about whether they would be represented by a pseudonym to protect confidentiality.

## 2. Developing OpenOffice.org as a Free Software Office Suite
On July 19, 2000, Sun Microsystems announced the release of the source code for its StarOffice Suite under the GNU General Public License (GNU GPL). This was the "single largest open-source software contribution in GPL history," according to Marco Boerries, Sun vice-president and general manager of webtop and application software. He noted that "[s]ince innovation happens in many places, making the source code...available will enable the enormous community of developers to bring their expertise and energy to improve and expand the reach" of this office suite (http://www.openoffice.org/press/sun_release.html). At the same time, Sun announced that OpenOffice.org would serve as the hub for coordinating the source code, as well as the definition of XML-based file formats and language-independent office application programming interfaces (APIs). This move was viewed as a momentous step for the Free Software community, primarily because it challenged the dominance of Microsoft's proprietary Office file formats. Since the StarOffice source code enabled users to read and write Microsoft Office formats, it made it possible for other open source projects to provide compatible functionality as well. In the process, this release expanded opportunities to use the GNU-Linux operating system on the desktop (http://www.openoffice.org/press/sun_release.html).

From the inception of the OpenOffice.org project, there were plans to create an OpenOffice.org Foundation. In an announcement on its website in 2001, OpenOffice.org stated that the OpenOffice.org Foundation would be a non-profit organization that would "oversee the operations, technology strategy, incorporation of technology contributions, and establishment of standards in conjunction with other standards bodies and open source projects as appropriate" (http://www.openoffice.org/white_papers/OOo_project/openofficefoundation.html). The vision was to model the foundation after the Apache Software Foundation; it would be run by a Steering Committee or Board with membership from the open source community, with Sun Microsystems holding a minority representation in the governance structure.

This original vision of shared governance of a foundation to promote the development of OpenOffice.org never came to fruition. Sun became the dominant supporter of OpenOffice. There were ongoing tensions between Sun's commitment to Free Software projects and its efforts to control those projects through patent and copyright mechanisms. Many developers viewed Sun as a trusted supporter of free software projects, however, so this arrangement was largely accepted (Hillesley 2010).

**OpenOffice.org and Digital Inclusion: A Language-based Strategy to Community Development**

The most basic way that OpenOffice.org contributed to the development of the digital commons was to make a high quality, free office productivity suite accessible to millions of people around the world. Since it did not require licensing fees like proprietary software, this free office suite offered historically disenfranchised groups a better chance of access to office productivity tools. Indeed, from 2000 until 2010, OpenOffice was deployed extensively in many parts of the world. It is impossible to measure the exact number of users; however, it was downloaded hundreds of millions of times. The OpenOffice.org website documented public information about major deployments by governments, schools and universities, and the private sector in Africa, Asia, Europe, North America, Oceania, and South America through April 2011 (http://wiki.services.openoffice.org/wiki/Major_OpenOffice.org_Deployments).

For example, one of the most extensive national deployments of OpenOffice.org was in Brazil. The Brazilian government supported this deployment as part of its broader policy of promoting digital inclusion, so that historically disenfranchised groups in Brazil would have access to skills, knowledge and resources to use computers and the Internet. Starting in October 2003, the Lula administration gave preference to Free Software solutions that offered equal functionality and performance with proprietary solutions. Free Software operating systems, servers, Web servers and email solutions were chosen for use in government offices. This allowed the government to save on licensing fees as well as complying with open and international standards for software. It strengthened national control over sensitive data files, since those files were not vulnerable to changes in the file format executed by a private firm that might make older files inaccessible (Schoonmaker, 2007; Interview with Hallot, 2010).

As part of this process of promoting digital inclusion, OpenOffice.org (or the Brazilian brand known as BrOffice) was adopted in a wide range of Brazilian venues. These included the state-owned Banco do Brasil, which installed 71,000 copies of BrOffice.org on almost every computer in the business. The state government of Paraná adopted BrOffice.org throughout its state offices; this included over 40,000 installations in the education sector alone. BrOffice was also adopted by the state governments of Sergipe and Bahia. The government deployed it in a range of sectors, from airlines to the public information technology company, Dataprev (http://wiki.services.openoffice.org/wiki/Major_OpenOffice.org_Deployments). In response to the fork of LibreOffice in the fall of 2010, organizations using BrOffice began a process of migrating to LibreOffice (Ghedin, 2011; filhocf, 2011).

In many countries around the world, language was key to OpenOffice.org's contribution to the process of digital inclusion. Indeed, one of the most striking achievements of the OpenOffice.org project was the development of the Native Language

Confederation. The Confederation was comprised of a wide range of locally-based projects that provided information and resources, such as documentation and support, in over 100 native languages.  It began with localization projects for French, German, Italian and Dutch, and then expanded to other languages.

In an interview with Charles-H Schulz, project lead of the Native Language Confederation, he highlighted three strategic reasons for choosing a language-based approach for the global expansion of OpenOffice.org.  First, on the technical level, the nature of the tool as an office suite increased the need for language localization. Such suites are targeted toward individual users of applications like word processing and slideshow presentations. To make it possible for non-English speaking people to use the OpenOffice.org suite, many words needed translating. Volunteers participating  language localizations thus developed a glossary of terms in the local language to make it available to those who spoke it. Thousands of strings needed to be translated, including terms like file, open, new, document, and more.  Language thus played a central role in making the OpenOffice.org office suite globally accessible to people speaking myriad languages. The role of language in this process  was quite different in the office suite than it was for other tools, such as an Internet browser.

The role of language was especially clear in the Brazilian case, where a dedicated group of seven volunteers initially created the local Brazilian OpenOffice.org community; they called themselves OpenOffice.org.br.  In 2002 and 2003, their first big project was to translate OpenOffice into Brazilian Portuguese.  Olivier Hallot assembled the team for the translation project and completed much of the work himself. In an interview with Hallot about this work, he emphasized the importance of providing access to OpenOffice for millions of Brazilians who do not speak English. Indeed, language was a central aspect of the Brazilian OpenOffice.org community's early work.  Translating OpenOffice into Portuguese was a necessary step to facilitate any other strategy for digital inclusion. In addition to the translation project, Brazilian volunteers wrote documentation in Portuguese and created key tools like a spelling dictionary and a grammar checker. They sponsored several regional and national events attended by a mix of developers, service providers and corporate users.  They remained active over many years, transitioning from the OpenOffice.org community to the LibreOffice community in November 2010 in support of the fork to bolster the open nature of the project (Ghedin, 2011; filhocf, 2011).

OpenOffice.org community participants in individual  countries faced a range of challenges in building the brand and organizing their own communities around projects for language localization. Schulz (interview 2010) emphasized how the language-based approach to the localization of OpenOffice.org allowed participants to organize on a broader, cross-national scale while also avoiding political tensions. Indeed, this approach

helped to create conditions for people from different countries to work together in deploying the office suite. For example, Israelis, Palestinians and Iranians collaborated on the Arabic language localization.

Equally important, the language-based approach encouraged more involvement by a broader range of the software's users than a country-based approach. It involved what Schulz (interview 2010) called a "guerrilla strategy," developed from the bottom up, rooted in the work of volunteers in local communities who wanted to make the office suite available in a particular language. Developing a localization required resources and connectivity generated primarily by particular local communities. Certainly, OpenOffice.org had some resources and tools to help guide localization projects. The key to the success of such projects, however, depended on local people as well as the resources available in particular parts of the world. For example, Schulz (interview 2010) noted that there were only a few successful localization efforts in Africa, due to the lack of resources and connectivity. Localizations had better success in South Africa due to its greater resources, with projects done in Afrikaans, Zulu and other languages spoken in that country.

Language localization has thus been central to OpenOffice.org's contribution to the broader process of digital inclusion. One source of evidence for this success is the OpenOffice.org wiki. It lists all language localizations and their current status; members of the community can edit the status of their projects as they develop (Interview with Schulz, 2010). Language localizations include a wide number of lesser known languages, such as Bulgarian, Bosnian, Catalan, Czech, Gujarati, Hindi, Icelandic, Khmer, Kannada, Marathi, Pashto, Sindhi, Tamil, Tswana, and Ukrainian (For a complete list, see http://wiki.services.openoffice.org/wiki/Languages).

## 3. Threats to Digital Inclusion: Proprietary Interests Conflict with Community Development

Despite these achievements in promoting digital inclusion, the OpenOffice.org project was fraught with contradictions. These tensions were rooted in Sun's proprietary interest in the marketing and development of the suite. Sun's control over all code contributed to the project made the project vulnerable to the company's actions and interests. These contradictions came to a head when Oracle, the world's largest enterprise software company, purchased Sun for $7.4 billion in April 2009. In a press release at that time, Oracle President Safra Catz stated that she expected Sun to contribute over $1.5 billion to Oracle's profits in the first year and over $2 billion in the second year. Sun Chairman Scott McNealy commented, "'Oracle and Sun have been industry pioneers and close partners for more than 20 years...This combination is a natural evolution of our relationship and will be an industry-defining event'" ("Oracle Buys Sun," 2009 – available at http://www.oracle.com/us/corporate/press/018363).

When she stated that Oracle's acquisition of Sun would be a defining event in the

industry, Catz probably imagined the growth of new business opportunities for the companies. Indeed, it is unlikely that her vision of shaping the industry involved setting the "invisible hand of sustainability" (Nyman and Mikkonen 2011, p. 1) in motion and laying the groundwork for a fork. Nonetheless, the conditions for such a fork arose as questions emerged about the future of the OpenOffice.org project under Oracle's ownership. Oracle's decision to assert its ownership over Java by suing Google for copyright and patent infringement sharpened these questions, as did its cutoff of support for OpenSolaris (Hillesley, 2010). Indeed, Oracle's acquisition of Sun threw a spotlight on the problems for digital inclusion posed by the OpenOffice.org structure. Reliance on one company to maintain the project made it virtually impossible to protect broad community involvement essential for digital inclusion. Certainly, the process of digital inclusion requires participation from grassroots individuals, groups and communities. Control by one corporation is antithetical to such a process, and sparked action by the community to redirect the project.

In August 2010, a core group of 20-25 people who had played major roles in the OpenOffice.org community gathered at a conference in Budapest. They came from all over the world – France, Germany, Sri Lanka, Brazil, and other countries. They discussed their interest in creating a foundation that would ensure a more stable, community-based structure for the project and support its development as a Free Software office suite. They agreed upon the need to avoid OpenOffice.org's problems of reliance on Sun as a single commercial entity. Toward this end, they planned to encourage a wide range of corporate participation.

On September 28, 2010, this group of leading development members of the OpenOffice.org community, including members of the Community Council and several project leads, announced the launch of The Document Foundation (TDF). They formed a Steering Committee of developers and national language project managers to create an independent foundation. The foundation's mission was to build the OpenOffice suite into a Free Software office suite that was more widely accessible to users and developers. They gave this new office suite the provisional name of LibreOffice. Unlike OpenOffice, LibreOffice would not rely upon one firm's commercial interests. By contrast, it would be structured through an independent foundation, as envisioned in OpenOffice.org's original charter. The Document Foundation (TDF) would thus provide a new ecosystem for individuals, corporations, governments, and other interested users to contribute to the software's development. By expanding the range of contributors, TDF hoped to encourage greater innovation and involvement. Since it would be independent from a single corporate vendor, this would provide incentives for a range of companies to become involved, stimulating competition and eventually increasing consumer choice (corbet, 2010).

Since OpenOffice.org was so widely used around the world, forking LibreOffice posed considerable risks. Indeed, 10 years of development and expansion were potentially threatened, since current users might not decide to migrate to LibreOffice. The Steering Committee sought to address this problem by inviting Oracle to become a member of TDF and asking Oracle to donate the OpenOffice brand to the community. Less than two weeks later, Oracle declined (*The H Open, 5* October 2010; Interview with Effenberger, October 2010).

Based upon this contentious history, the fork of LibreOffice may be conceptualized as what Gençer and Özel (2012) call an independent fork, often arising as a result of internal power conflicts. Since the LibreOffice fork was rooted in an effort to protect a central role for the community in the ongoing development of the office suite, this fork fits equally well with Robles and González-Barahona's (2012) characterization of some forks as driven by a commitment to more community-driven development. Interviews with key participants in the project highlight the importance of community-driven development in their decision to fork the project.

For example, in an interview with Charles-H Schulz, a member of TDF's Steering Committee, he emphasized that it was a "flawed model" to rely on one company. He called the fork a "sad story;" however, he also viewed it as liberating (Interview 2010). On his blog the day TDF was launched, Schulz posted an article aptly entitled, "Give up spoon-feeding: Use a fork instead," where he highlighted the problems associated with Sun's dominance of the OpenOffice.org project. He noted, "10 million lines of code that are not easily hackable, a certain heaviness in our process and governance structure made us feel like we had to change something" (Schulz, 2010). The key change was a shift back to emphasizing resources coming from the ground up, from the community, to take the project to a new level. Indeed, in the first 4 days after TDF and LibreOffice were launched, volunteer developers integrated software updates and bug fixes that had been stalled for 3 years under Sun's control of the project (Interview with Schulz, 2010).

## 4. Forking toward the Commons: Employing Technical Knowledge, Political Will and Skill

Forking LibreOffice was a massive undertaking. With such massive amounts of code, OpenOffice was what Schulz called the "aeroflot of free software" (Interview with Schulz, 2010). The founders of TDF allied with the technical team and had to trust that they could accomplish the fork, but they were not completely sure how it would work (Interview with Schulz, 2010). On the LibreOffice website, the description of the project credits 713 people who either contributed to the development of OpenOffice.org and had those contributions imported into LibreOffice, or began contributing to LibreOffice after September 2010 (http://www.libreoffice.org/about-us/credits/).

With such broad participation from the community in the project, the process of forking eventually involved hundreds of people deciding how they would relate to both

OpenOffice.org and LibreOffice. In a study by Gamalielsson and Lundell (2014), they found that of the 645 committers to LibreOffice, 553 (85.7%) had been recruited to the project. They base this conclusion on data revealing that these committers had not participated actively in the continuation of OpenOffice.org after the formation of LibreOffice, or in the subsequent development of Apache OpenOffice. Furthermore, 75 of the 645 committers to LibreOffice had previously contributed to OpenOffice.org; 66 of these 75 committers stopped contributing to OpenOffice.org once they became involved in LibreOffice. These data indicate that these 66 committers were recruited from OpenOffice.org to LibreOffice. Gamalielsson and Lundell (2014) view those committers as a particularly important group, since they have provided 58.7% of the commits to LibreOffice since the project was forked.

In addition to this success in recruiting key participants, LibreOffice faced a range of challenges. To understand these challenges, I conducted a series of interviews with Florian Effenberger, who was the media spokesperson for TDF when it was initially formed, became a member of the original Steering Committee, and then was eventually elected as Chairman of the Board (also on a pro bono basis). Effenberger emphasized that the knowledge and commitment of the community constituted a solid base upon which to build an alternative to the problems that had plagued OpenOffice.org. The most pressing issue was to create a foundation as an alternative organizational form that would offer a legal basis for widespread community participation and avoid the problems of dependence on a single commercial entity such as Sun. Due to TDF's global nature, there were extensive discussions about which country would be the best place to legally establish the foundation. Eventually, Germany was chosen because of the stability of foundations under German law (Interview with Effenberger, February 2012).

Once the foundation structure was legally established in the fall of 2011, challenges arose as TDF pursued the development of LibreOffice. One key challenge was to figure out how to make money and to work with corporations. Since its structure was unusual, many corporations had been waiting for it to be finalized before deciding how they wanted to participate. Effenberger noted that corporations had been impressed with the extensive legal process TDF underwent to establish itself. Indeed, this process reassured corporations that TDF was not just "a group of hackers who aren't happy with Oracle – we're serious people" (Interview with Effenberger, February 2012). In February 2012, Intel announced that they would join the TDF Advisory Board. This was very significant, since Intel is such a major actor in the market (Interview with Effenberger, March 2012).

There were around 400 developers contributing to the project by that time, with about 55% of them working as volunteers and the rest divided among the participating corporations. Effenberger noted that this was very different from the situation with

OpenOffice.org, where it was more difficult to get new developers involved. Indeed, developers encountered high barriers to entry under the OpenOffice.org licensing system, since they were required to sign a copyright agreement that allowed Sun to use the code as it saw fit. Many developers did not like this arrangement, since they were required to share their copyright but Sun was not (Interview with Effenberger, June 2011; Interview with Effenberger, February 2012).

In order to make it easier for developers to get involved in the project, TDF sponsored hackfests. They provided a list of easy hacks that people with some development experience could readily do. By choosing to work on one of these relatively simple projects, developers had a clear idea of where to start; they could get some pointers about how to fix bugs and what needed to be done in the project. Such a list fit with the overall TDF effort to promote a transparent work process where everyone who chose to contribute to the project knew what was going on and had the same rights. The goal was to promote a trusting atmosphere for firms as service providers or large adopters, as well as for individual users (Interview with Effenberger, February 2012). TDF participants are continuing to strategize about different ways to extend involvement on both the corporate and individual levels. Indeed, promoting involvement by a broad range of actors is one of the project's successes to date, as well as one of its ongoing challenges.

## 5. Conclusion: Forking and the Prospects for Digital Inclusion

The process of founding The Document Foundation and forking LibreOffice offers key lessons to understand the process of promoting digital inclusion and developing the digital commons. These lessons emerge as we explore the project's successes and challenges.

Indeed, LibreOffice and TDF face four main challenges in the current period. First, the foundation structure is still relatively new, so participants need experience to learn how to run it. Gamalielsson and Lundell (2014, p. 142) call this organizational form a "tailor made foundation," noting that "contributors shaped TDF with a view to support their preferred way of working." Effenberger emphasized that difficulties may arise in the effort to involve the community so closely in the foundation's formal work. Indeed, other Free Software projects that are run by peer communities are often more loosely organized; TDF thus constitutes an organizational experiment that requires participants to learn through experience. Second, for the LibreOffice brand to continue to solidify its user base and garner support, TDF will need to continue building relationships with free software communities around the world, as well as with governments, nonprofits and corporations. It is breaking new ground in certain ways, largely due to the nature of a free software office suite as integral to the work of every computer user. Such a program is used by individuals for a range of purposes, both in their personal activities and in their work with diverse kinds of organizations. Since LibreOffice is available on Windows, Mac and Linux platforms, it crosses boundaries between proprietary and free software systems. Challenges may arise in the attempt to be relevant to the myriad interests of such a diverse

user base. Third, improving the code and further developing the software is an ongoing challenge. Developers are currently working on a version of LibreOffice for use on mobile devices like phones and tablets, for example. Finally, developing LibreOffice in a global community, crossing barriers of language, technical resources and more, involves a continual process of communication and effort.

These challenges are considerable; however, the participants in TDF and LibreOffice have already navigated a complex process of software, community and organizational development. Based upon the data considered above, the process of developing TDF and LibreOffice was successful due to five interrelated sets of conditions. First, there was a history of extensive community involvement in the project. Hundreds of volunteers had invested time in developing OpenOffice.org over a ten year period. They thus had an interest in preserving the free office suite. Second, Oracle and Sun's actions to pursue their private economic interests sparked concern in the OpenOffice.org community about the future of the project. These actions threatened to undermine the project's commitment to developing software that was freely available to develop, share, modify and redistribute, as well as community members' hard work. Third, a core group of community members had the political will and skill to develop a strategy to fork the project. They won support from a range of community volunteers, corporations, and associations committed to the development of Free Software. Fourth, this community and corporate support for the project made it possible to accomplish the fork, both technically and politically. Both volunteer and paid developers contributed hours to the project, while other participants engaged in translation, worked on documentation, and crafted the organizational structure. Finally, the underlying values of promoting digital inclusion were articulated clearly in a range of ways, including a "Next Decade Manifesto" where TDF committed itself to "eliminate the digital divide in society by giving everyone access to office productivity tools free of charge to enable them to participate as full citizens in the 21$^{st}$ century" (http://wiki.documentfoundation.org/TDF/Next_Decade_Manifesto).

Over the last several years, the participants in TDF and LibreOffice were able to use forking as an effective strategy to promote the development of the digital commons. They built community involvement and commitment to the project, including its core values of digital inclusion. This case offers insights into the organizational and political strategies through which this community involvement was developed. It may be useful for other projects with similar goals of democratizing access to the digital commons. Furthermore, it highlights the particular significance of software as a vital infrastructure for economic, political, social and cultural activities in our contemporary digital age.

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