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App Neutrality: Apple's App Store and Freedom of Expression Online

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Apple's wireless devices have become a critical entry point into the Internet. But unlike the broader Internet, which can be construed as a relatively open communications network, the iOS app store is arguably a closed technological ecosystem. Developers must gain Apple's approval before distributing their apps through the store. Some have criticized the company's app review and approval process for being opaque and arbitrary. This process has also resulted in the rejection of both explicitly and implicitly political apps. This article analyzes Apple's guidelines and approval process, discusses content-based rejections of apps, and outlines the consequences of this process for developers' and consumers' freedom of expression. It also argues for principles that guarantee "app neutrality" while also guaranteeing device safety and quality control.

Introduction[1]

In August 2009, Red Daly, a 22-year-old computer science graduate student at Stanford, tried to use his programming skills to support the implementation of a Canadian-style "single-payer" health insurance system in the United States. Daly submitted to Apple's iOS app store an iPhone app called iSinglePayer that included facts and figures about the single-payer system, used Global Positioning System (GPS) technology to determine a user's congressional representatives as well as how much money health insurance companies had donated to their campaigns, and allowed users to easily call lawmakers. A month later, Apple rejected Daly's app on grounds that it was "politically charged" (Single, 2009). Though the app has since been approved, Apple's decision temporarily prevented both Daly and potentially millions of iPhone users from using the app to express their views on health care reform.

iOS developers often experience the sort of approval rollercoaster that Daly encountered in 2009. In contrast with the Internet as a whole (and the Web in particular), the iOS app store could be construed as a comparatively closed technological ecosystem. Unless developers are willing to cater to the very small

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segment of iOS users who modify their devices so they can circumvent the app store altogether—a practice known as "jailbreaking" a device—they must gain Apple's approval before distributing their apps through the store. Likewise, the vast majority of users can only download apps from the iOS app store.

Some have criticized the company's app review and approval process for being opaque and arbitrary. Developers complain that vague approval guidelines, seemingly arbitrary approval or rejection decisions, and an acute susceptibility to pressure from different quarters when it comes to content have made Apple's approval process unpredictable and often frustrating for them. This process has also resulted in the rejection of both explicitly and implicitly political apps.

With more than 400 million iOS devices sold worldwide since 2007 (De Vere, 2012b), Apple's devices and app store have become important online intermediaries for Internet users. It is therefore worth exploring the consequences Apple's content development guidelines and app store approval process have for freedom of expression and the continued development of a democratic culture online. What guidance do the Apple guidelines provide regarding content? How much latitude has Apple allowed itself in these decisions? Is there a discernible pattern to Apple's content-based rejections of apps?

In this article, I analyze Apple's developer guidelines and approval process, discuss app approvals and rejections based on their content, and outline the consequences of Apple's approval process for developers' and consumers' freedom of expression. I also weigh the merits and viability of establishing a set of principles that guarantee "app neutrality" for the app store. This set of principles would be similar to the "net neutrality" policy proposed for Internet access (Newman, 2008) and would preserve freedom of expression while guaranteeing safety and general quality control. As wireless technology becomes an increasingly important component of the online ecosystem, it is critical that freedom of expression and a democratic culture be protected and fostered across all components of the network, including its wireless components.

Freedom of Expression and Democratic Culture Online

The Internet has also become a critical conduit of freedom of expression, particularly in democratic societies. Many scholars have found a positive relationship between Internet use and political engagement. Voters' online news consumption has been associated with an increased likelihood of voting in presidential elections (Mossberger, Tolbert, & McNeal, 2008), and general Internet use has been positively associated with greater political participation (Boulianne, 2009). This relationship seems to hold across nationalities (Lilleker & Jackson, 2010; Rojas & Puig-i-Abril, 2009) and seems especially strong among young people (Bakker & de Vreese, 2011). The Internet has also facilitated the formation of transnational activist networks that allow citizens to reach across national boundaries and express themselves politically (Gillan & Pickerill, 2008; Van Aelst & Walgrave, 2004).

Freedom of expression online extends beyond the political realm. Millions of users have invested countless hours creating and curating digital profiles, uploading pictures and videos, and engaging with fellow users in myriad ways (Burgess & Green, 2009). The rise of the Internet has fostered the development of an online democratic culture in which "ordinary people can participate, both collectively

and individually, in the creation and elaboration of cultural meanings that constitute them as individuals" (Balkin, 2004, p. 8).

The relatively open architecture of the Internet has facilitated this emergent political and cultural activity. The Internet's structure was originally built around the "end-to-end principle," which places the network's intelligence at the end points instead of the middle (Saltzer, Reed, & Clark 1984). The Internet is mostly characterized by its open-ended, decentralized, and distributed networking architecture as well as the multidirectionality of its interactivity, the openness of its communication protocols and their implementations, and the principles of openness and cooperation that have generally—though not always—characterized its governance (Castells, 2001, pp. 28–29). But the Internet is a not a perfectly open and transparent communications network. Ongoing arguments about what technical protocols should govern the network and how these decisions should be made (Morris, 2011) are but one example of the less-than-utopian nature of the Internet. Partly for this reason, many scholars, policy experts, and advocates have embraced the principle of "network neutrality," which in broad terms means that "a broadband network should be free of restrictions on the modes of communication allowed and should not restrict or degrade content, sites, or platforms" (Newman, 2008, p. 155).

Wireless broadband, however, has so far been subjected to less scrutiny and regulation than its hard-wired counterpart. For example, when the Federal Communications Commission (FCC) tried to formalize net neutrality in 2010, it did not submit wireless broadband to the same level of regulation as it did traditional broadband. The FCC neutrality rules emphasize three principles: no blocking, meaning that broadband services "may not block lawful content, applications, services, or non-harmful devices"; no unreasonable discrimination, meaning that broadband providers "may not unreasonably discriminate in transmitting lawful network traffic"; and transparency, meaning that broadband providers "must disclose the network management practices, performance characteristics, and terms and conditions of their broadband services" (FCC, 2011, p. 1). All three apply to fixed broadband providers, but only the transparency principle applies directly to wireless.

Yet wireless broadband, as well as the applications and services that define its utility for most users, deserves closer scrutiny. Internet access through non-desktop devices such as tablets, smartphones, and e-book readers is expected to overtake access through desktop computers by 2015 (O'Dell, 2010). This means that the architectures and policies deployed by intermediaries like app stores will exercise greater control than ever before over what information users can access online.

Zittrain (2008) has expressed concerns about the supposedly inherent lack of "generativity"—the capacity of a certain technology to allow its users to extract new uses from it that the original designers never anticipated—of devices like the iPhone and the tradeoffs they force users to make between security and convenience versus innovation. This argument had great validity when the original iPhone was introduced in 2007 because its functionality was limited to that provided by Apple. The introduction of the app store in 2008, however, has led to a rapid increase of technical innovation within the iOS platform. As of September 2012, the iOS app store contained more than 650,000 apps (De Vere, 2012b). Apps running on iOS devices can do just about anything, from serving as GPS devices, to helping doctors treat patients, to entertaining cats, and everything in between. Such diversity of development within the comparatively

closed iOS platform has opened new avenues and outlets for users in areas such as education, entertainment, productivity, and self-expression. A lack of generativity, as conceived by Zittrain, does not seem to be an obstacle for iOS app developers when it comes to technological innovation. This diversity of innovation shows that there can be advantages to comparatively closed systems like the iOS ecosystem. Zittrain himself acknowledges that less generative systems do offer an advantage in the area of security (Zittrain, 2008, pp. 36–61).

Generativity at one level of a system, however, does not guarantee it at other levels; generative layers can coexist with nongenerative ones (Grimmelmann & Ohm, 2010). As currently structured, the layer of the iOS ecosystem that deals with content holds the potential to discourage content diversity, freedom of expression, and political participation. Apple's vague developer guidelines and its unpredictable and opaque approval process pose a greater barrier to content diversity and freedom of expression than lack of technological generativity. This article is therefore less concerned with the technical innovation that is achievable within the iOS platform and more interested in the potentially negative effects Apple's developer guidelines and app review process could have on app content, and, by extension, on freedom of expression.

The developer guidelines are essentially all that control what content is available on the app store—a classic example of the increasingly significant impact private industry policies have on network governance (DeNardis, 2012). Unlike publishers who post their content on the Web, where the diffused nature of content hosting fosters diversity and freedom of expression, publishers wishing to reach iOS app users must pass through the bottleneck of Apple's approval process. What types of content Apple allows developers to make available through apps, as well as the processes that govern such decisions, deserve closer scrutiny because of the consequences these decisions and processes could have on the ability of both developers and users to express themselves politically, socially, and culturally.

The concept of app neutrality does not seem to be well developed in the literature. When it is alluded to in technology policy circles, it is usually within the context of net neutrality and refers to discrimination against certain apps by mobile carriers or by device makers against competing technologies—for example, Apple's discrimination against Flash and related technologies (Capobianco, 2012; Jasper, 2010). After examining Apple's app approval process along with several cases in which Apple reversed its original decisions due to external pressures, I will outline how expanding the concept of app neutrality to include app stores would strengthen freedom of expression online.

Apple's Place in the Wireless Universe

Apple is one of the most prominent players in the wireless universe. Since the launch of the iPhone in the summer of 2007, Apple has sold approximately 410 million iOS devices (De Vere, 2012b). In 2011 alone, Apple sold 156 million iOS devices—more than the 122 million Macs sold in that product's 28-year history (Oliver, 2012). As of July 2012, Apple held a 33.4% market share among U.S. smartphone platforms, having grown 2% from the previous three-month average (Reed, 2012).

Though Apple's iPhone is second to Google's Android OS in smartphone market share, iOS holds a 59% advantage over Android in the OS-installed base in the United States when the iPad and iPod touch are factored into the analysis (comScore, 2011a). As of spring of 2012, Apple held a 64.4% share of the tablet market (Graziano, 2012). Apple also dominates mobile Web traffic, driving nearly 60% of all U.S. digital traffic that flowed through smartphones and tablets as of August 2011 (comScore, 2011b).

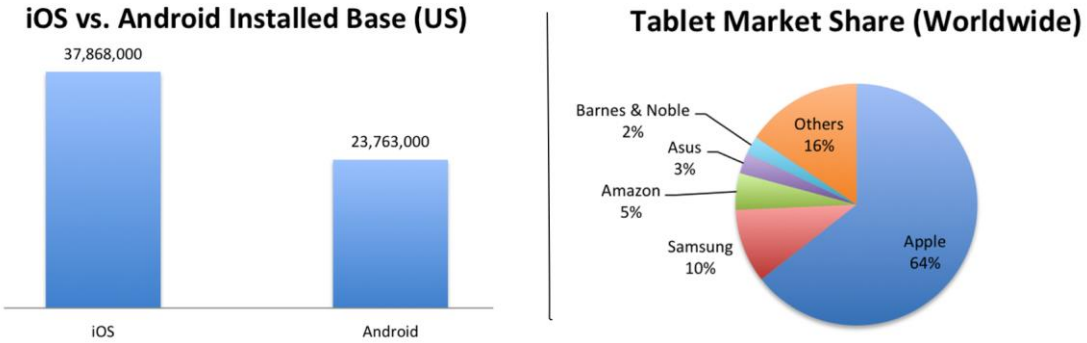

Figure 1. Apple iOS devices in the marketplace.

Sources: comScore. (2011a). Apple iOS Platform outreaches Android by 59% in U.S. when accounting for mobile phones, tablets and other connected media devices. Retrieved from http://www.comscore.com/Press_Events/Press_Releases/2011/4/Apple_iOS_Platform_Outreaches_Android_by_59_Percent_in_U.S; Graziano, D. (2012). Apple's Share of the Tablet Market Nears All-Time High. BGR. Retrieved from http://www.bgr.com/2012/08/14/ipad-market-share-all-time-high

The app store numbers are no less impressive. At the launch event for the third-generation iPad, Apple CEO Tim Cook boasted of having nearly 600,000 apps available in the app store and marveled at the fact that, just a few days earlier, a customer in China had triggered the 25 billionth app download (MacWorld, 2012).

Developers have benefitted greatly from creating products for iOS. Since the launch of the app store in 2008, Apple has reportedly paid out more than $4 billion to its 43,000 iOS developers, while Apple itself has earned approximately $1.7 billion from the store (De Vere, 2012a). But despite this impressive revenue, developing for the iOS platform can often be a frustrating process due to the vagueness of Apple's guidelines and the unpredictability of its approval process.

The App Store Approval Process: Ambiguity and Self-Censorship

The iOS apps approval process was shrouded in secrecy for the first year of the app store's existence. In 2009, however, Apple became more forthcoming after the FCC began questioning the company about its rejection of the Google Voice app (Ogg, 2009). According to Apple's disclosure of the approval process, in 2009 the company employed 40 full-time staff members to review 8,500 apps and

updates each week, and each app was reviewed by at least two employees before a decision was reached. There is also a review process, but its inner workings are not yet clear (Elmer-DeWitt, 2009).

The review process is governed by a document called "App Store Review Guidelines," which the company made public for the first time in 2010. The document outlines specific technical infractions for which an app may be rejected. For example, crashes, bugs, not notifying users before collecting and transmitting location data, or rapid battery drain are all reasons for rejection. Since these technical matters are outside the purview of this article, I will concentrate on aspects of the guidelines that regulate content and affect freedom of expression more directly.

The content-related bullet points of Apple's guidelines are much more ambiguous than their technical counterparts. Perhaps the best example of the ambiguity embedded in the Apple guidelines is the fourth bullet under the "Introduction" heading:

> We will reject Apps for any content or behavior that we believe is over the line. What line, you ask? Well, as a Supreme Court Justice once said, "I'll know it when I see it." And we think that you will also know it when you cross it. (Apple, 2010, p. 1)

This overarching guideline serves two purposes: First, it gives Apple maximum flexibility in accepting or rejecting apps. Second, it encourages developers to engage in self-censorship. By keeping developers guessing about which content steps "over the line," developers are incentivized to cater to the lowest common denominator in order to gain Apple's approval. The reference to U.S. Supreme Court Justice Potter Stewart's famous quote from *Jacobellis v. Ohio* (1964) regarding obscenity is of little benefit since, unlike lawyers, judges, or ordinary citizens who could look to this Supreme Court decision for a precedent on what constitutes obscenity, developers cannot use Apple's prior decisions as precedent for what will or will not be allowed on the app store.

For example, the second bullet under the "Introduction" heading of the guidelines reads, "If your app doesn't do something useful or provide some form of lasting entertainment, it may not be accepted" (Apple, 2010, p. 1). Similarly, under the heading "Objectionable content," guideline 16.1 states that "apps that present excessively objectionable or crude content will be rejected," and guideline 16.2 states that "apps that are primarily designed to upset or disgust users will be rejected" (Apple, 2010, p. 5). Yet Phillip Shoemaker, director of applications technology at Apple, sells apps that simulate various bodily functions, offering these products under the company name Gray Noodle (Chen, 2010). Such apps would also seem to run afoul of guideline 2.12, which states that "apps that are not very useful or do not provide any lasting entertainment value may be rejected" (Apple, 2010, p. 2), but the subjective nature of the judgment regarding usefulness and entertainment value, as well as the use of the qualifier "may," preclude developers from knowing whether their app will be rejected or not—and precedent will be no help in this regard.

These guidelines, along with Apple's still relatively opaque review process, give the company maximum flexibility to accept or reject apps while encouraging developers to self-censor in order to hit what amounts to a moving target. As ambiguous and opaque as the review process is by itself, however,

there is yet another arbitrary aspect to this process: Apple's willingness to reverse its decisions based on outside pressures.

Six Troubling App Review Reversals

In this section I describe six cases in which Apple reversed its app review decisions after protests erupted over the company's determinations. These reversals fall under two broad categories: reversals after public protests online and reversals that occurred after high-ranking government officials contacted Apple and urged the company to remove apps from the store.

NetToons

Pulitzer Prize–winning cartoonist Mark Fiore created the NetToons app as a vehicle to distribute his political animated cartoons. Despite guideline 14.2 stating that "professional political satirists and humorists are exempt from the ban on offensive or mean-spirited commentary" (Apple, 2010, p. 5), Apple initially rejected Fiore's app in December 2009 (McGann, 2010).

This decision received media attention online and raised worries among journalists and other political satirists (Ogg, 2010) who were concerned that Apple might start intruding on the editorial content of newspaper apps. In April 2010, however, Fiore was awarded the Pulitzer for editorial cartooning. Shortly thereafter, then-Apple CEO Steve Jobs called the rejection of Fiore's app "a mistake that's being fixed" and the app was approved a few days later (Berton, 2010; Ogg, 2010).

Manhattan Declaration

The Manhattan Declaration app allowed users to signal their disapproval of same-sex marriage by signing a declaration penned by Christian clergy, scholars, and other individuals. The app, which developers described as speaking "in defense of the sanctity of life, traditional marriage, and religious liberty" and issuing "a clarion call to Christians to adhere firmly to their convictions in these three areas" (Bosker, 2010), was awarded a 4+ rating by Apple—meaning the company did not think it contained objectionable material.[2]

Shortly after the app became available, Change.org member Michael Rogers launched an online petition through that website urging Apple to reverse its decision. The petition used strong language to condemn Apple for approving the app:

> *Want to join the hate fest? There's an app for that!* [emphasis in original] . . . .

[2] Apple awards ratings to apps according to their content and its suitability for children of certain ages. The four ratings categories are: 4+, 9+, 12+, and 17+. See Siegler (2009) for more discussion on the rating system.

> Supporters of equal rights and the right of women to control their own bodies must stand together and say to Apple: "Applications that support hate and division have no place in the iTunes Store." (Rogers, 2010, para. 6)

Shortly after the petition was launched—it gathered just 7,738 signatures—Apple reversed its decision and took down the app, but did not make any public comments or answer questions about the reversal (Geen, 2010).

iSinglePayer

The iSinglePayer app, which provides information and the means to take political action in support of a single-payer health insurance system for the United States, was initially rejected for being "politically charged" (Single, 2009). After the rejection, developer Red Daly criticized Apple's "censorship" on his blog and asked for support from fellow single-payer supporters (Daly, 2009).

News of the rejection spread rapidly throughout the Web. It was featured in popular technology blogs like Endgadget and liberal blogs like Daily Kos, where a diary on the subject was recommended—rated highly by the community—and attracted 428 comments (Ozzie, 2009; Patel, 2009). Although Apple reversed its decision within a few days, it also forced the developer to take down references to the controversy in the app description (Daly, 2009).

WikiLeaks

This unofficial WikiLeaks app displayed content from the official WikiLeaks website and its Twitter account. Apple accepted the app on December 17, 2010, and then removed it three days later (Tsotsis, 2010). According to an Apple spokesperson, the company removed the app because "it violated developer guidelines. An app must comply with all local laws. It may not put an individual or target group in harm's way" (Yarow, 2010, para. 3), but declined to specify who was put in harm's way. However, apps from media organizations that have published material originally uncovered by WikiLeaks—for example, *The New York Times*—are still available at the store.

While there is no direct evidence that government officials pressured Apple to remove the app, this possibility cannot be ruled out. Following exhortations from Senate Homeland Security Committee Chairman Joseph Lieberman (I-CT), WikiLeaks itself was the victim of a widespread corporate boycott that cut off its DNS service, Web hosting, and payment processing services (Benkler, 2011, p. 3).

Drivers' License

The Drivers License *[sic]* app let users make low-resolution images of drivers' licenses from all 50-states, add humorous names and images, and share those images online. DriversEd.com, an otherwise serious driver's education company, developed it as a "joke app."

Senator Robert P. Casey, Jr. (D-PA) objected to the app on grounds that it could undermine the integrity of government-issued IDs and wrote Apple CEO Tim Cook to ask that it be removed (Gewirtz, 2011). Apple complied a few days later despite the fact that, according to a DriversEd.com press release, Senator Casey's concerns were unfounded because "it would take more effort and expertise to modify the product of the DriversEd.com 'Driver License' app than to construct a counterfeit from scratch" (DriversEd.com, 2011, para. 2).

ThirdIntifada

The ThirdIntifada app reproduced content from the website 3rdIntifada.com, which posts news and opinion articles about Israeli behavior toward Palestinians. Typical stories described demolitions of Palestinian homes by Israeli forces, the reported unearthing of a Muslim cemetery, and exhortations for Arabs in the Middle East to liberate Palestinians from "Zionist occupation" (AlJazeera.com, 2011). Apple initially approved the app, but reversed itself after Israel's information minister wrote Apple CEO Tim Cook requesting its removal. According to a spokesperson, the app was removed "because it violates the developer guidelines by being offensive to large groups of people" (Bilton, 2011, para. 4).

Table 1. Summary of Apple App Decision Reversals.

App name	Content type	Original Apple decision	External pressure actor	Final Apple decision
Manhattan Declaration	Petition	Accepted	Petition	Rejected
Mark Fiore	Political cartoons	Rejected	Journalism bloggers	Accepted
iSinglePayer	Activism	Rejected	Blogosphere	Accepted
WikiLeaks (unofficial)	Sensitive leaks	Accepted	Unknown	Rejected
Drivers License	Entertainment	Accepted	U.S. government official	Rejected
ThirdIntifada	Political activism	Accepted	Israeli government official	Rejected

The six cases described above raise significant questions about Apple's review process and its susceptibility to outside pressures.

In some cases, such as iSinglePayer, Apple cites reasons that are not explicitly addressed in the developer guidelines—there is no guideline that explicitly bans apps for being "politically charged," which is in itself an exceedingly vague term. In this case, Apple also opens itself up to charges of hypocrisy: why was iSinglePayer banned when equally "politically charged" apps such as Conservative Talking Points were available before and after Apple banned iSinglePayer? In other cases, like that of Manhattan Declaration, Apple refuses to explain the rationale behind its reversal, though it would be reasonable to infer a correlation with public pressure.

In the case of Mark Fiore, the guideline that exempts "professional political satirists and humorists" from the personal attacks guideline did not shield his app from being rejected until he won a Pulitzer Prize. But in an era of bloggers and citizen journalists, photoshopped macros and Internet memes, when anyone with an inexpensive WordPress installation can monetize their writing or digital art by tapping into an ad network, how does Apple distinguish between amateurs and professionals? When it comes to freedom of expression, why should this distinction matter?

Finally, there is the role of the different sorts of pressure brought to bear on the app store approval process. While some might applaud Apple's responsiveness to public opinion, the ease with which Apple can apparently be swayed by online uproars or a few thousand petition signatures is troubling. Under current norms, most of us would find it troubling for a Web hosting company to take down a particular website based on public pressure. Given the explosive growth of wireless Internet traffic and Apple's prominent—by some measures dominant—place in the wireless sphere, there is no reason why citizens should be any more comfortable with Apple's susceptibility to public pressures than they would be if Internet Service Providers (ISPs) and Web hosting companies were subjected to similar demands. The relatively closed nature of the iOS ecosystem gives this susceptibility an additional weight it might not otherwise have. Because all decisions of what content is available for iOS devices flow through Apple itself, these public pressures can have an outsized censorship effect that would not be possible in a content-neutral environment.

The cases also demonstrate how susceptible Apple is to governmental pressure. In the Drivers License and ThirdIntifada cases, Apple was complicit in a form of government regulation of online content that is becoming quite common: governments taking advantage of corporate unwillingness to be associated with any form of controversy in order to block the ability of certain disfavored speakers to express themselves online (Benkler, 2011), which could result in end runs around the U.S. First Amendment.

The pattern in these cases is similar to the one displayed in the WikiLeaks case: Public official disapproves of an app, said official contacts Apple requesting removal of the app, Apple removes the offending app. Thus government officials are relieved from the responsibility of passing laws or bringing court cases that regulate content they find offensive. Instead, they tap companies that provide the Internet's infrastructure—as Apple does with the app store and other services—and induce them to regulate content. This type of censorship-by-proxy opens the door for First Amendment violations that the government would presumably be less willing to undertake if it had to carry out the censorship directly.

In the case of the WikiLeaks unofficial app, in which there is no direct evidence that government pressure was brought to bear, it is possible that Apple simply observed how other major companies such as Visa and PayPal behaved toward WikiLeaks—behavior instigated by a powerful U.S. senator—and decided to follow suit. Government censorship of disfavored speakers is thus made even more efficient because it does not even require a letter or phone call from a prominent government official. Corporate officers already know what is likely to trigger a letter, and they act preemptively. As is the case with public pressure, the relatively closed nature of the iOS ecosystem gives this susceptibility to indirect government regulation a weight it might not otherwise have in a more content-neutral environment.

The Case for App Neutrality

The combination of an architecture that requires all apps be channeled through an app store, Apple's vague and inconsistently applied guidelines, and its susceptibility to outside pressures has turned Apple into the final arbiter of freedom of expression within the iOS ecosystem for both users and developers. Whether it intended to or not, Apple has assumed a key governance function within one of the fastest-growing sectors of the online environment.

The vagueness of Apple's developer guidelines and the uncertainty and opaqueness of its approval process beg the question: what is to be done? How can society extend the breadth and depth of freedom of expression and democratic culture that already exists online into the growing app sphere? What would a policy that achieves these aims look like?

Extending the principles of net neutrality in modified form to the app sphere—that is, app neutrality—could achieve such aims. Below I propose a few basic guidelines, anchored on widely accepted international laws and treaties, such as the Universal Declaration of Human Rights and the International Covenant on Civil and Political Rights, that seek to protect freedom of expression:

- Apple would reject apps that contain universally accepted illegal content—for example, child pornography—or that facilitate or incite universally accepted illegal behavior.
- Apple would not reject apps that violate national laws that conflict with internationally recognized laws and standards for human rights.
- Apple could still reject apps for technical reasons, such as potential damage they may cause to devices or not meeting other reasonable technical specifications.
- Apple would institute clear, unambiguous developer guidelines and make them public.
- When rejecting an app, Apple would provide clear reasons that refer explicitly to guidelines supposedly violated by the developer.
- Apple would establish a transparent appeals process for rejected apps that renders decisions in a reasonable time frame.

- If an approval is reversed, Apple would give clear reasons that refer explicitly to guidelines supposedly violated by the developer; the same process would apply if a rejection is reversed outside the appeals process.

The Principles of Freedom of Expression and Privacy enounced by the Global Network Initiative ("Protecting and Advancing Freedom of Expression," 2008), a nonprofit coalition of ICT companies, civil society organizations, investors, and academics, provide a blueprint for how Apple might draw from principles of corporate social responsibility to address these issues, as it has tried to do with issues like supplier responsibility in the past (Apple, 2012).

Apple, its third-party developers, and users would all benefit from the adoption of such guidelines. Providing clear guidance and a transparent process for developers would allow Apple to issue fewer rejections, which would make apps available on the store more quickly. Adoption of these guidelines would also make Apple less susceptible to criticism from developers, customers, and free speech advocates. Finally, consumers would benefit from an even greater selection of apps that encourage freedom of expression. Other app stores could also adopt similar guidelines, depending on their particular circumstances.

An obvious boundary of this article is that it focuses on the iOS ecosystem, while excluding other major mobile platforms like Android, Microsoft, and BlackBerry. It also does not address the partial adoption of the centralized mobile app store model by desktop operating systems like Apple's OS X and Microsoft's Windows 8, as well as the blurring of boundaries between mobile and desktop platforms. I have instead provided an in-depth analysis of Apple's content-related app store policies and approval process—a choice that is justified not just by Apple's market share in particular segments of the technology sector, but also because of its influential role as technological trendsetter. Although comparative studies that include all platforms are necessary in order to understand how various levels of "openness" and "closedness"—which are themselves contested concepts—affect freedom of expression and political participation, a thorough contextualization of Apple's policies and approval processes in relation to other platforms is beyond the scope of this article.

As the adoption of devices like the iPhone continues to grow at a dizzying rate, the future of freedom of expression and a democratic culture online will depend increasingly on how well society protects those values in the app sphere. Given the fact that Apple rejects 30% of the 26,000 apps submitted to the app store each week (Van Grove, 2012), the ambiguity, opaqueness, and susceptibility to outside pressures that seems to characterize Apple's approval process do a disservice to a democratic online culture. It is time to fully extend the values that have protected freedom of expression online into the growing realm of apps. App neutrality provides a way to do just that.

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