How Do App Stores Challenge the Global Internet Governance Ecosystem?

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App stores challenge the culture of openness and resistance to central authorities cultivated by the pioneers of the Internet. Could multistakeholder governance bodies bring more inclusivity into the global cyberspace governance ecosystem?

Over four decades, a variety of stakeholders have been working both formally and informally to build and maintain the governance ecosystem that supports a unique and free Internet [1]. To allow the Internet to realize its full potential, the organizations involved in its governance aim to keep the Internet open, secure, trustworthy, and accessible to all [2]. In the 90s Tim Berners-Lee introduced the World Wide Web [3], with many new ideas that focused on a decentralized and open Internet, where no permission was needed from a central authority to post anything and with no central controlling nodes. However, in the last few years, there has been a shift in the way users access information and services on the Internet. Users have been migrating from general-purpose Web browsers to singlepurpose apps, which are standardized pieces of software designed to run on specific devices and written for a specific operating system. There are more than 1 million apps available in the market today, that have been downloaded more than 100 billion times [4].

The surge of apps for smartphones has brought innovation, new technologies, and new entrepreneurs into the digital economy, but it also introduced a new set of control points, represented by the app stores [5]. They’re online digital distribution platforms from which apps can be downloaded. App stores are associated with a specific operating systems, and the most popular platforms are Android (Google), iOS (Apple), and Windows Apps (Microsoft). The app stores challenge the culture of openness and resistance to central authorities cultivated by the pioneers of the Internet. Several characteristics of the app stores emphasize the notion of new control points in the Internet governance process, such as the submission processes, the levels of certification and quality control required to have the app accepted, pricing mechanisms, and criteria used to rank and suggest apps to users.

Multistakeholder support, security, privacy, transparency, neutrality, freedom of expression, and competition are central values in the global Internet governance ecosystem, where many players with different legal statuses operate on a variety of layers — on local, national, regional, and international levels — driven by technical innovation, user needs, market opportunities, and political interests. So, a natural question that arises is: How do app stores fit in the global Internet governance process?
The Market’s Size

The importance of apps market and its potential ability to shape innovation, competition, and consumer choice and behavior become more vivid when compared with other core sources of access to communication and content platforms. Since 2014, globally, consumers are connecting more through mobile devices than desktop. In the US, for instance, combined with mobile Web, mobile usage accounts for 60 percent of time spent in digital media, while desktop-based digital media consumption makes up the remaining 40 percent [6].

Not only has the method of connection changed, but the time spent with these devices has changed as well. Last year in the US, for every 5.6 hours of time that consumers spent per day with digital media, it was split with 2.8 hours going to mobile devices.

Policy Issues

There are a number of issues related to app stores that should be followed by policy makers. For instance, the app store market model had a major impact on transparency and openness, due to the fact that mobile Internet users are turning away from browsers and are relying on apps. Apps themselves don’t depend on a browser, which makes less relevant some user-empowering characteristics such as browser controls and Web standards. In turn, the operating system’s interface and its design options make operating systems regain much of their former importance, because available options and predefined standards (as well as non-negotiable OS characteristics) are entirely operation system-dependent. And it’s not a coincidence that operating systems are often designed by the same entities that controls app store markets [7].

This situation can be regarded as a setback from the decentralized and, as was then regarded, ever-growing Web. Not that open Web standards don’t play a most important role anymore — for several reasons, and not the least because even if several services are basically accessed via apps, many of them are part of a complex platform that were built upon or rely on a Web interface. But the empowerment of a few players that run app store markets in detriment of a decentralized architecture is evident, and it poses several questions regarding not only competition issues, but as more of our interest at this time, user’s rights. This system change represents a shift of power from Internet governance bodies to the companies responsible for the operating system.

Additionally, the submission process controlled by the owners of the app stores transform them into arbiters of the freedom of expression and right to innovate, for apps are themselves a conduit of ideas and messages. The lack of transparency regarding how apps are ranked and suggested to users and buyers in the main stores is another aspect that shows the importance of discussing the role of app stores in the global Internet governance ecosystem.

Another relevant issue has to do with freedom of expression values. One consequence of a closed-app store ecosystem is that, when content is one of the criteria used by app store managers to approve an app, the judgment regarding content evaluation might harm freedom of expression. In an example of such an episode, Frank Pasquale mentions that one app store — which has strict guidelines forbidding apps with “objectionable content” — rejected an app designed for downloading and formatting public domain texts on the basis of the possibility it could be used...
to access a version of Kama Sutra [9].

Related to privacy, some specific characteristics of the app store market model call attention. First, users’ identities are much more likely to be tied to the use of an app than is foreseeable on the Web, due to the app store’s control over the download and installation process for a particular device and the constant pressure for integration of data from one app to another app or Web-based service account. This, added to the fact that app store managers generally are in possession of users’ billing data, makes the set of users’ data they handle potentially much more robust than on an open environment, making it also much more difficult to use apps anonymously, for example — which is different from the Web.

The importance of the operating system is also visible when privacy controls are considered. Although apps can have their own setting panels where users can shape their privacy preferences, they aren’t standardized or present in every app. This makes for a concrete simplification in the management of privacy settings. On the other hand, the OS settings panels have developed increasingly important privacy options, either global or app-specific, where users’ options on issues such as disclosure of geo-locational data, access to hardware (the microphone, camera, and so on), access to stored data (such as contacts), ad options, and others are available. Other instruments as the (sometimes mandatory) display of information related to the user’s privacy during an app’s normal use (such as a reminder that locational data is being collected) can make for a more robust privacy environment. This can’t be taken for granted, as the privacy environment is, after all, controlled by the OS manufacturer, which can shape the setting and the available options based on several factors and not merely on the presumed user’s interest.

Depending on the OS management, app standards can be tuned to increase users’ privacy. As an example, health apps have recently shown a move for more transparency and control in collecting and processing users’ data, which some operating systems are requiring from app developers. This is a clear indication that the use of personal data is considered particularly relevant or sensitive (such as locational data), given the need for the user’s explicit consent for gathering such data or the mandatory demand for renewed consent in some situations [10].

Additionally, as apps grow more and more popular, domain names will lose their importance, because Internet traffic mainly will go to mobile apps and not to websites in a browser. ICANN continues to control the domain name system, but app stores will control the mechanisms that lead users to information and services [11].

For all the negative aspects of the closed-app ecosystems, they might offer certain advantages for regulated areas such as clinical health study. The control point established by the stores raises other governance questions. On the positive side, more control can improve security by making it harder for hackers and criminals to insert malicious software in apps. On the other side, the app-submission process is viewed by developers as restrictive. A recent survey [8] shows that a significant percentage of developers think stores and app publishers use anticompetitive practices.

Also, the recent entry of big technology enterprises into clinical health study in the US offers early evidence of how app ecosystems, which are generally unregulated by technology policy, ironically might assist in the enforcement of federal policy in other spaces. Clinical studies in the US fall under an umbrella of rules and regulations designed to protect the human “subjects” from unethical experimentation or from harm. These protections extend into app-based studies. Also, in terms of implementing privacy-friendly or pro-consumer policies, app stores can require independent ethical review and informed consent processes, a practice that at least
a large competitor uses. In this instance, the more-controlled system holds the possibility of stricter enforcement of privacy and ethics.

Multistakeholder governance mechanisms engaging diverse stakeholders have proven that they can keep the Internet open, transparent, and inclusive. To deal with critical issues such as freedom of expression, ethics, privacy, and data protection, multistakeholder governance bodies could be a promising alternative to support and address the limits of app stores, while also bringing these players closer to the global cyberspace governance ecosystem.

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