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App Law Within: rights and regulation in the smartphone age

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1. Introduction *

We're really trying our best to create the best platform in the world for you to express your talents and make a living too. If it sounds like we're control freaks, well, maybe it's because we're so committed to our users and making sure they have a quality experience with our products. Just like almost all of you are too.

(Apple, 'iOS App Store Review Guidelines')¹

When assessing the 'smartphone' (Internet-connected devices with both telephone and computing functions, typically equipped with a touch screen or keyboard) sector or market, control matters. The manufacturer of the device benefits from implementing a controlled environment for applications ('apps'), so that the user is reassured by their experience of using it.² In work on control and the DVD platform, Gillespie described the DVD sector as being difficult to criticise because 'no single element of this arrangement is solely responsible for its consequences, or for its missteps'.³ This is an apt description of the multi-faceted strategy of those who develop smartphone and app stores (e.g. Apple), which relies, as will be shown in this article, on statute, contract and more in order to be effective. As such, Gillespie's approach of looking at the exercise of control through different tools and upon different players (e.g. the network of relations between users, developers, manufacturers, and others) can be followed, but with special attention paid to how law facilitates control. In common with the commercial enterprises involved in the development of DVD, the strategy of Apple and its competitors cannot be described as being capable of functioning without relying upon existing law, as it depends on relevant provisions in order to protect and sustain a particular vision for the platform(s).

Indeed, disputes can and do arise between the manager of a platform and the third-party developers who would wish to provide apps to users of that device. These

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¹ Apple, 'iOS App Store Review Guidelines' (12 September 2012) <<https://developer.apple.com/appstore/guidelines.html>>. This statement has been widely reproduced online, e.g. D Caolo, 'Apple's App Store Review Guidelines: some juicy bits' (*The Unofficial Apple Weblog* 9 September 2010) <<http://www.tuaw.com/2010/09/09/apples-app-store-review-guidelines-some-juicy-bits/>>.

² Mark de Reuver, 'Governance of mobile service innovation after the walled gardens' (2011) 13 info 43, 44.

³ Tarleton Gillespie, *Wired Shut* (MIT Press, Cambridge (MA) 2007) 169.

proceed along various (and sometimes overlapping) lines. So although the marketplaces for apps are successful and many opportunities are available for developers to promote and sell their products, this does not negate the need for the relationship between store operators and app developers to be scrutinised; this is the subject of part 2 of this article). The focus is on Apple's iOS App Store and (primarily) the iPhone. As Apple has taken a deliberate, conscious decision to 'police' its store, its decisions have been the most visible contests over control and power in the public arena. Just as the rhetoric of new media has overstated the idea of disintermediation, without due regard to the persistence of intermediary control over content and commerce⁴ or the combination of personalisation and bias that replaces one filter with another,⁵ tributes to the new opportunities presented by app platforms run the risk of playing down the significance of Apple's role. This is then developed, in part 3, through consideration of the degree to which the success of apps prompts the consideration of the relevance of consumer and privacy laws. The purpose of doing so is to provide a truly critical analysis of freedom and control in the app 'space' which reflects the tripartite relationship between the platform operator, the app developer, and the consumer.

The smartphone has been used as the basis for exploring new markets, business models, competition problems and the limits of intellectual property⁶ and is the subject of a small number of cases.⁷ Zittrain's exploration of generativity takes the iPhone as a key case study, discussing its launch on its first page and returning to it as a quintessentially 'tethered' appliance;⁸ Grimmelmann and Ohm, in turn, reviewed Zittrain's book and discussed the symbolic role of the iPhone within the theory of generativity and the reception of the book.⁹ Naughton pursues a similar theme; the iPhone is 'functional, enjoyable and perhaps even beautiful - but wholly or largely under someone else's control'.¹⁰ Finally, Wu describes what he calls the 'Cycle' of open innovation emerging from a closed context but often itself becoming closed in due course,¹¹ and (of particular interest regarding apps) argues that successful services have been developed without control of infrastructure, but remain vulnerable to the actions of others¹²

⁴ Jack Goldsmith & Tim Wu, *Who controls the Internet? Illusions of a borderless world* (OUP, New York 2006).

⁵ Eli Pariser, *The filter bubble: what the Internet is hiding from you* (Viking, London 2011).

⁶ E.g. Douglas MacMillan, 'Inside the app economy' (*Business Week* 22 October 2009); James Grimmelmann, 'Owning the stack: the legal war to control the smartphone platform' (*Ars Technica* September 2011) <<http://arstechnica.com/tech-policy/news/2011/09/owning-the-stack-the-legal-war-for-control-of-the-smartphone-platform.ars>> accessed 1 December 2012; Chuck Martin, *The Third Screen: marketing to your customers in a world gone mobile* (Nicholas Brealey, Boston 2011).

⁷ Menno Cox, 'Apple's exclusive distribution agreements: a refusal to supply?' (2012) 33 ECLR 11; Fabien Fontaine, 'French antitrust law and strategic analysis: apples and oranges?' (2009) 30 ECLR 286

⁸ Jonathan Zittrain, *The future of the Internet: and how to stop it* (paperback edn Penguin, London 2009) 1-2; 101.

⁹ James Grimmelmann & Paul Ohm, 'Dr. Generative or: How I Learned to Stop Worrying and Love the iPhone' (2010) 69 Maryland Law Review 910, 917-921.

¹⁰ John Naughton, *From Gutenberg to Zuckerberg: what you really need to know about the Internet* (Quercus, London 2012) 285.

¹¹ Tim Wu, *The master switch: the rise and fall of information empires* (Atlantic, London 2010) 6-7.

¹² *Ibid* 284-5.

Models of regulation presented in this article, particularly those pertaining to electronic programme guides and for premium rate telephone services (PRS), can therefore contribute to the debate on the role of the iOS App Store and other app stores, although the technological and cultural differences between the app market and markets such as PRS mean that the objective of this exercise is to understand regulatory goals and tools rather than fitting apps within an existing category. The suggestion that existing tools in relation to consumer and privacy rights be used or extended is made in order to ascertain how public authorities could promote open platforms, or more precisely to minimise the (non-natural) advantage of closed platforms. As closed platforms already rely upon certain laws so as to remain closed, and apps on both open and closed platforms are already subject to various laws, it would not be a case of an unregulated space falling under new State control. Instead, this article will argue that laws could be used to promote user and developer rights, even if harm to competition is not demonstrated to the extent that a competition remedy would be appropriate.

The academic interest in smartphones is premised in part on a claim regarding the significance of smartphones, so it is appropriate to note the current state of the market in brief, before proceeding to the substantive analysis in part 2. Smartphones have come to prominence in the mobile phone market over a short period, prompting debate on the legal, cultural and commercial significance of the sector and the iPhone in particular.¹³ In the US and in some European states, close to half of all ‘phones’ are smartphones, and the proportion has exceeded half in the UK.¹⁴ Younger users are adopting smartphones at a faster rate than others,¹⁵ and around 60% of current smartphone owners in the UK acquired their first smartphone within the last year.¹⁶ The popularity of smartphones and of tablets (e.g. the iPad, which uses the same operating system as the iPhone) forms part of a broader realignment in the hardware sector, following the peak and subsequent decline of the sale of personal computers in industrialised or developed states.¹⁷ Some smartphones use an operating system devised by the manufacturer (e.g. Apple’s iPhone and iOS), but many devices share a third-party operating system (e.g. the range of devices running the Android OS). The Android OS is now the most widely used operating system, although the iPhone remained the most popular single device. Smartphones also form a part of the shift in Internet access from fixed to mobile. Already, the total number of mobile broadband subscriptions (including smartphones) in the world is twice the total of fixed

¹³ See in particular Brian Chen, *Always on: how the iPhone unlocked the anything-anytime-anywhere future – and locked us in* (Da Capo, Cambridge (MA) 2011).

¹⁴ 51.3%: Comscore, ‘Mobile future in focus’ (23 February 2012) http://www.comscore.com/Press_Events/Presentations_Whitepapers/2012/2012_Mobile_Future_in_Focus 16, accessed 1 December 2012.

¹⁵ Ofcom (the regulatory agency for broadcasting and telecommunications in the UK) reports that a quarter of phones in use in the UK are smartphones, but that proportion rises to half in the case of users aged 16-24: Ofcom, ‘Communications Market Review 2011’ http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr11/UK_CMR_2011_FINAL.pdf 47-8, accessed 1 December 2012.

¹⁶ *Ibid* 194.

¹⁷ Charles Arthur, ‘PC sales dip year-on-year as ultrabooks fail to stave off economic woes’ (*Guardian* 12 July 2012) <<http://www.guardian.co.uk/technology/blog/2012/jul/12/pc-sales-dip-ultrabooks-windows-8>> accessed 1 December 2012.

broadband subscriptions¹⁸ (although a fixed connection may be shared with multiple users and/or be able to offer higher speeds). Even the UK tax authorities have had to consider the classification of smartphones, exploring the boundary between phones and computers.¹⁹

A key consequence of this shift from phone to smartphone has been the development of the market for apps, which is the subject of this article and an opportunity to consider alternative responses to Zittrain's provocation on the choice between open and closed models. For present purposes, a simple definition of apps is adopted, i.e. applications (including those developed by third parties) which run on a smartphone. In general, they are distributed through large retail platforms such as the Apple App Store or the Android Market. Some apps are free, others require the payment of a fee for download, and an important third category is apps that are free to download but require or permit in-app payment for additional content or functionality. There are early examples of app stores provided by mobile phone networks (such as DoCoMo in Japan)²⁰, but in relation to smartphone and tablets, there has been significant expansion and development in recent years. There are currently over a million apps available,²¹ including 550,000 in the iOS app store²² and 450,000 on the Android Market.²³ Apple has 'celebrated' (with great fanfare) its 25th billionth download,²⁴ and it is also estimated that 29 billion app downloads (across all platforms) were recorded in 2011.²⁵

¹⁸ ITU, 'Global ICT developments' (last updated December 2011) <http://www.itu.int/ITU-D/ict/statistics/> accessed 1 December 2012; the current estimate is 8.5 fixed wired broadband subscriptions per 100 inhabitants and 15.7 active mobile broadband subscriptions per 100.

¹⁹ HMRC, 'Revenue & Customs Brief 02/12' (20 February 2012) <<http://www.hmrc.gov.uk/briefs/income-tax/brief0212.htm>> accessed 1 December 2012. It previously treated smartphones as PDAs rather than mobile phones, which meant that they could not benefit from an exemption from benefit-in-kind provisions, because they were not 'devices that are designed or adapted for the primary purpose of transmitting and receiving spoken messages and used in connection with a public electronic communications service': Income Tax (Earnings & Pensions) Act 2003, s. 319(4). It now states that that approach is incorrect, and accepts that because 'many modern consumer PDAs are now also likely to be smartphones', smartphones (with both telephony and Internet functions) meet the criteria to be considered as mobile phones, although pure PDAs will not.

²⁰ NTT DoCoMo, 'i-mode history' <<http://www.nttdocomo.com/services/imode/history/index.html>> accessed 1 December 2012.

²¹ Shelly Freierman, 'One Million Mobile Apps, and Counting at a Fast Pace' (*New York Times* 11 December 2011) <<http://www.nytimes.com/2011/12/12/technology/one-million-apps-and-counting.html>> accessed 1 December 2012.

²² —, 'App store metrics' <http://148apps.biz/app-store-metrics/> accessed 1 December 2012.

²³ Andy Rubin, 'Android@Mobile World Congress: It's all about the ecosystem' (*Google Mobile Blog* 27 February 2012) <<http://googlemobile.blogspot.com/2012/02/androidmobile-world-congress-its-all.html>> accessed 1 December 2012.

²⁴ —, '25 billion app countdown' <<http://www.apple.com/itunes/25-billion-app-countdown/>> accessed 1 March 2012 (no longer online).

²⁵ ABI Research, 'Android Overtakes Apple with 44% Worldwide Share of Mobile App Downloads' (24 October 2011) <<http://www.abiresearch.com/press/3799-Android+Overtakes+Apple+with+44%25+Worldwide+Share+of+Mobile+App+Downloads>> accessed 1 December 2012.

2. Developer-focused issues

2.1 Approach

The App Store operates a preapproval process (enforced by a Developer Agreement and explained through Review Guidelines and Human Interface Guidelines), and it is this process which frequently triggers media coverage of the ‘rejection’ of an app. An iPhone, without modification, can only be used to download or run applications made available to App Store, so acceptance of an app in the iOS App Store is a critical part of any developer’s strategy. If approved, the revenue from an app is split, with 30% retained by Apple and 70% passed to the developer.

Apps are particularly important to the market success of the iPhone and a key feature in both purchase decisions and actual usage.²⁶ Because Apple’s system benefits from integration with the pre-existing iTunes Store, credit card details are already stored,²⁷ making the decision to purchase an app a very straightforward one, requiring no more than occasional re-entry of an existing password. Finally, because of the success of the iPhone, developers may find themselves complying with the more restrictive policies of Apple in respect of all their activities, i.e. promoting for practical and financial reasons an ‘App Store safe’ version on other platforms rather than creating separate versions for each.²⁸

Of course, other platforms are available, and indeed there are app stores with less detailed approval guidelines (e.g. Android Market) or without a preapproval process. To some extent, non-Apple smartphones are challenging Apple’s early success.²⁹ However, they can themselves be criticised for being ‘too open’, when problems with spam or fraud are detected;³⁰ this theme will be considered in part 3.

Walden and da Correggio Luciano argue that the management of the App Store is the ‘equivalent of a printer manufacturer only allowing cartridges made by it or approved by it to be used in its printers since only Apps approved by Apple may be downloaded from the App Store to non-jailbroken iPhones’.³¹ It is an interesting choice of analogy, particularly as the question of cartridges has been the subject of mixed treatment in European law.³² However, their subsequent statement that ‘if considered

²⁶ Martin (n 6) 34.

²⁷ Quentin Hardy, ‘Why iPhone Shoppers Buy More Apps’ (*New York Times: Bits Blog* 16 January 2012) <<http://bits.blogs.nytimes.com/2012/01/16/why-iphone-shoppers-buy-more-apps/>> accessed 1 December 2012.

²⁸ Chen (n 13) 96.

²⁹ Kevin O’Brien, ‘Apple’s Lead in Smartphones Is Not Guaranteed’ (*New York Times* 26 February 2012) <<http://www.nytimes.com/2012/02/27/technology/apple-riding-high-but-for-how-long.html>> accessed 1 December 2012.

³⁰ Charles Arthur, ‘Developers express concern over pirated games on Android Market’ (*Guardian* 17 March 2011) <<http://www.guardian.co.uk/technology/blog/2011/mar/17/android-market-pirated-games-concerns>> accessed 1 December 2012.

³¹ Laíse da Correggio Luciano & Ian Walden, ‘Ensuring competition in the Clouds: The role of competition law?’ (QMUL Cloud Legal Project Research Paper, April 2011) <<http://www.cloudlegal.ccls.qmul.ac.uk/Research/researchpapers/48338.html>> 3-4, accessed 1 December 2012.

³² E.g. the earlier *Pelikan/Kyocera* and *Info-Lab/Ricoh* decisions, where the conclusion was that consumers could consider the aftermarket when choosing between products on the (competitive) upstream market, and the more recent EFIM decision, in which the complaints of third party manufacturers were rejected by the Commission and a subsequent appeal dismissed by the General

dominant in the market, Apple's conduct could be considered abusive as it reduces the choice of consumers' demonstrates the caution with which this question is approached. One must, for example, consider at an early stage of analysis which 'market' is referred to: is it the market for iPhones smartphones, for operating systems, or the market for iPhone apps? In French cases regarding arrangements between Apple and Orange, it was found that the combination of design and features made the iPhone distinct from other smartphones; lower courts had found that the market in question was smartphones (not all phones).³³

In general, the application of overarching competition law principles (e.g. abuse of dominance) may be difficult, not relevant for all apps,³⁴ and is not the primary concern of this article – although the lack of a competition remedy may itself be the basis of a critique of the appropriateness of this system for information technology³⁵ or justify a particular approach.³⁶ The Federal Communications Commission (FCC)'s aborted investigation of the non-approval of the Google Voice app in the earlier days of the iPhone did not provide information on the status of the iPhone under competition law.³⁷

Recognising this limitation, and Wu's finding that competition laws alone 'are inadequate for the regulation of information industries' (because the conventional trigger of price and related abuses is normally absent),³⁸ the approach now pursued in this article is one of scrutinising regulatory approaches that do not depend on the use of general competition remedies. Although regulating markets and protecting consumers through competition law may be popular, the non-applicability of

Court in November 2011: Decision C(2009) 4125, affirmed by Case T-296/09, *EFIM v Commission*. See further discussion in Cleary Gottlieb Steen & Hamilton, 'EC Competition Report October-December 2009' <<http://www.cgsh.com/files/Publication/b3d3755c-64dd-4080-b11a-7a7e58d9ff5e/Presentation/PublicationAttachment/4d8cea1c-4b49-4a47-93af-7b77094bfc0a/EC%20Comp%20Report%204Q%202009.pdf>> accessed 1 December 2012.

³³ Cox (n 7) 18, discussing unreported decisions (*Apple Sales International v Bouygues Télécom*, Cour d'appel de Paris, 4 February 2009; *France Télécom & Orange France v Bouygues Télécom*, Cour de Cassation, 16 February 2010).

³⁴ See discussion of the case of the WikiLeaks app, distinguishing between termination of an existing relationship and not entering into a new one (assuming dominance in an appropriate sub-market): Angela Daly, 'Private power and new media: the case of the corporate suppression of WikiLeaks and its implications for the exercise of fundamental rights on the Internet' in Christina Akrivopoulou & Nicolaos Garipidis (eds), *Human Rights and Risks in the Digital Era: Globalization and the Effects of Information Technologies* (IGI Global, Hershey (PA) 2012) 83, 87.

³⁵ da Correggio Luciano & Walden (n 31) 10: 'In the cloud computing sector, where, in the same way as in the ICT sector as a whole, network effects are likely to be strong, the non-applicability of competition law until dominance is attained could prejudice the goals of competition law'

³⁶ Cox (n 7) 12: 'Any (in my view erroneous) delineation of the relevant market which renders the upstream supplier a non-dominant undertaking might in the future lead to anti-competitive behaviour remaining outside the scope of EU competition law'

³⁷ Jason Croft, 'There's an App for Just About Anything, Except Google Voice' (2010) 14 *SMU Science & Technology Law Review* 1; Jason Croft, 'Mobile computing: why you may never see some great apps' (2010) *AIPLA Antitrust News* <<http://ssrn.com/abstract=1601089>> accessed 1 December 2012 (both arguing that the FCC would have good reason to find against Apple); David Waterman & Sujin Choi, 'Non-discrimination rules for ISPs and vertical integration: lessons from cable television' (2011) 35 *Telecommunications Policy* 970, 977 (drawing a parallel between this investigation and the wider consideration of net neutrality, in the context of the degree to which regulatory intervention is necessary to support innovation); Grimmelmann & Ohm (n 9) 949 (as an example of where there is 'plenty still wrong with the iPhone' despite moves towards generativity).

³⁸ Wu (n 11) 303-4.

competition law in a given case should not be read as a criticism of other forms of regulation, particularly when the protection of consumer interests through the law on the sales of goods and services long predates competition law in most jurisdictions.

The relationship between developers and the platform operator may ultimately be judged by what it is compared with. This is not surprising, as the user experience of an app store can be positioned between two existing models. Model 1 is that of a host such as YouTube, where a user can visit a single site and browse and choose from a range of content uploaded by third parties who bear primarily responsibility for it. Model 2 is that of a supermarket, where the options are determined by the supermarket but primarily manufactured by third parties who deal with the supermarket rather than the end user. As well as different user experiences, and possible (non-legal) expectations on whether third parties can expect to be able to 'trade' via the platform, there are legal differences between the models (such as regarding liability). In the case of the developer, those involved in the mainstream games industry will have plenty of experience of approval processes, such as those utilised by Nintendo, which for many years refused approval to games that did not match the image it wished to present of the family-friendly Nintendo consoles. But those who are more accustomed to working through model 2, where pre-approval is not common (particularly if a liability regime does not require hosts to intervene in order to maintain immunity from legal action), will naturally struggle with the type of supplier-retailer relationships that farmers supplying milk to model 1 supermarkets are more than familiar with. Of course, both paradigms are strongly influenced by the applicable legal arrangements, including specific, sectoral regulation as well as general principles of competition law.

2.2 Markets and carriers

Prior to the development of the smartphone, mobile data access was concentrated in carrier-provided 'walled gardens'.³⁹ The term 'carrier' is used here to denote the provider of the mobile phone telecommunications service (e.g. o2 or Vodafone in the UK). Some secondary sources use 'operator' instead and this phrasing has been left intact where necessary. All carriers have billing arrangements (post- or pre-paid) with end users; most will operate a telecommunications network (interconnected with other networks), although some virtual operators will use the network of another carrier. A carrier may also be present in retail markets, e.g. high street stores. Carriers are typically regulated by telecommunications law and national regulatory authorities, and may be restricted by conditions associated with the grant of spectrum or of a licence to provide an electronic communications network or service.

As de Reuver puts it in a comprehensive reflection on the age of the walled garden, "the main advantage walled gardens offer to end-users is a consistent end-user experience, because all content has the same look and feel. In addition, billing, security and customer support are centralized at the operator to reduce complexity for end-users. From an operator point-of-view, walled gardens guarantee a large share of the revenues and reduce the risk to become mere connectivity providers".⁴⁰ Yet how much of this can also describe the iOS App Store? De Reuver's first point, a

³⁹ Nicola Green & Leslie Haddon, *Mobile communications: an introduction to new media* (Berg, Oxford 2009) 146.

⁴⁰ de Reuver (n 2) 44; internal citations omitted.

consistent end-user experience, is a key part of Apple's strategy. As well as the Review Guidelines discussed in this article, many of which are clearly directed at consistency of user experience, Apple also sets out very detailed Human Interface Guidelines. The second point, of the centralisation of billing, security and customer support is more complex. Billing is indeed centralised in Apple's case, through the user's single account, although there is a separation between this billing and the carrier's billing system (i.e. the mobile bill of the user).⁴¹ Indeed, it was noted in 2010 that the key advantage of (hitherto less successful) carrier-operated app stores was that they could make use of the existing billing relationship between the carrier and the customer.⁴² Apple enforces security policy through its review guidelines (as discussed below), although customer support is divided between Apple and the developer of a given app. On de Reuver's final argument, that walled gardens assist carriers in diversifying revenue streams, this too is applicable in the case of Apple, although of course it is ensuring that it is not just a hardware provider – appropriate, perhaps, for the company which dropped the 'Computer' from its title some years ago.

It can be observed, therefore, that Apple shares some tools and objectives with carriers. By doing so, it may diminish the role of the carrier.⁴³ However, this is not a like-for-like replacement, for two reasons. The first is that a number of the features of an carrier's walled garden (probably the smaller part) may not be 'inherited' by Apple. The second and related reason is that for an iPhone (although not an iPod Touch), it is not currently possible to sideline a carrier entirely, given the nature of mobile phone networks. Indeed, the iPad is available with a mobile network SIM card. So Apple and carriers compete for influence over the user experience.

Indeed, Apple's role is defended by some developers through comparing it with the former role of carriers. The CEO of Rovio (responsible for Angry Birds) explains that smartphones have an advantage over previous generations of phones-as-platforms, as the phone company has much less influence over the range of games that are available;⁴⁴ he criticises the former system as a 'carrier-dominated Soviet model'. A commentator on mobile marketing argues that smartphone apps allow a direct relationship to be built between user and brand, instead of it being subject to the control of the carrier.⁴⁵ A more nuanced approach is found in the view of a vice-president of Skype, who noted that the customer experience is enhanced, despite some developer frustration with the process, by 'having certain processes in place to approve apps is important, otherwise it will be a total free for all'.⁴⁶

⁴¹ The significance for regulation of different billing models is considered in part 3, below.

⁴² —, 'Mobile industry focuses on apps' (*Screen Digest* March 2010) 77.

⁴³ It has been argued that contrary to criticism of the power of carriers (by those who, for example, favour wireless net neutrality), the success of Apple in negotiations demonstrates that this power is limited: Robert Hahn and others, 'The economics of "wireless net neutrality"' (2007) 3 *Journal of Competition Law & Economics* 399, 430.

⁴⁴ Peter Cohen, 'Angry Birds CEO: we really have Apple to thank' (*LoopInsight* 28 February 2011) <<http://www.loopinsight.com/2011/02/28/angry-birds-ceo-we-really-have-apple-to-thank/>> accessed 1 December 2012.

⁴⁵ Martin (n 6) 3

⁴⁶ Russ Shaw, speaking at Westminster eForum, 'Smartphones, tablets and apps' (London, 1 March 2011), transcript on file with author. Declaration of interest: this comment was made in response to a question put by the author.

Carriers cannot yet be written out of the picture, either. A number of reports have (with varying degrees of credibility) argued that carriers are losing out to app-based and other alternatives to its own services, such as smartphone-based instant messaging replacing billed SMS and MMS,⁴⁷ and are considering possible responses. In a less adversarial fashion, developers may wish to foster relationships with carriers. Facebook, for example, is reaching out to carriers who could, as the New York Times put it, ‘help it make money from its hundreds of millions of mobile users buying games or music on the social network’.⁴⁸ Indeed, Facebook has a particular need for a payment platform; it would struggle, for example, to use Apple’s payment systems for functions of this nature, and an integrated payment platform across Facebook (whether on a website, smartphone, etc) would surely be popular.

App developers more generally may, particularly if a significant number of platforms succeed in becoming established, see the benefits of developing a single app and making it available on multiple platforms. We even have a word for this already, a buzzword already associated with electronic media: ‘crossplatform’. This may not be straightforward, though, where there are differences between review guidelines and payment mechanisms, so it may be more like the ‘porting’ of games from one restricted platform to another.

It is possible to point to the diversity of available apps as evidence that a controlled environment can still promote innovation, and opponents of net neutrality argue that non-neutral platforms such as the iOS App Store are valuable for consumers and innovators.⁴⁹ However, criticism of the store and of Apple should not turn on innovation alone, particularly in relation to freedom of expression. We can now look at these guidelines in more depth.

2.3 Review Guidelines

Controversial aspects of the iOS App Store Review Guidelines can be divided into three overall ‘themes’: rejection on content grounds (including some competition-driven restrictions), rejection on development grounds, and the regulation of transactions.

2.3.1 Theme 1

From launch, the App Store required compliance with content restrictions as a condition of an app being made available in the store. The system of prior scrutiny applies to all apps provided by parties other than Apple, whether they are free or charged for. In 2010, the guidelines were published (to developers), accompanied by a press statement from Apple,⁵⁰ and they have become available on the Web through republication.

⁴⁷ —, ‘Social messaging apps “lost networks \$13.9bn in 2011”’ (*BBC News* 21 February 2012) <<http://www.bbc.co.uk/news/technology-17111044>> accessed 1 December 2012; Georgina Prodhon, ‘Facebook Offers Olive Branch to Mobile Carriers’ (*Reuters* 28 February 2012) <<http://www.reuters.com/article/2012/02/27/us-facebook-mobile-idUSTRE81Q1YC20120227>> accessed 1 December 2012.

⁴⁸ Prodhon (n 47).

⁴⁹ Gary Becker and others, ‘Net neutrality and consumer welfare’ (2010) 6 *Journal of Competition Law & Economics* 497, 518.

⁵⁰ Apple, ‘Statement on App Store Review Guidelines’ (press release, 9 September 2010) <<http://www.apple.com/pr/library/2010/09/09Statement-by-Apple-on-App-Store-Review-Guidelines.html>> accessed 1 December 2012.

Some requirements go to the function of the app, particularly where that is linked with the use of the smartphone itself. A good example is guideline 2.4, prohibiting the use of the phone's location features to control vehicles or aircraft. Others are about the app in its own right. Guideline 2.11 allows duplicates to be rejected, while the following guideline 2.12 allows for 'not very useful' apps or those not providing any 'lasting entertainment value' to be rejected too. Here, we see Apple's role as very different to that of an open platform, inserting a quality threshold rather than providing a platform open to all who comply with requirements of legality. Indeed, it goes further than the typical 'taste' requirements of many standard terms of use of web 2.0 hosting services, who may decide to go beyond the requirements of the law and restrict certain legal but controversial content,⁵¹ but otherwise not be concerned with the usefulness or value of the uploaded material.

The guidelines do include the forms of content regulation akin to that of codes of practice utilised in the media and new media more generally. This process is understandably controversial, with early reports discussing the rejection of a book-reading app which allowed access to the Kama Sutra⁵² and a 'baby shaker' game, which was at first approved and subsequently removed.⁵³ In early 2010, the original restrictions were made more restrictive, at a time where they had not yet been published.⁵⁴

Apps that are 'defamatory, offensive, mean-spirited, or likely to place the targeted individual or group in harms way' (guideline 4.1) will be rejected. Of course, while defamation may be an issue for litigation, mean spirits (without more) are unlikely to trouble the courts. In reaction to controversial incidents, such as the pre-Guidelines rejection of a cartoon app by Mark Fiore⁵⁵ (memorably reported by *Wired* as Apple banning a 'Pulitzer-winning satirist for satire'⁵⁶ and a frequently-used illustration of Apple's approach to censorship),⁵⁷ the current guidelines provide, curiously, that

⁵¹ Jillian York, 'Policing content in the quasi-public sphere' (OpenNet Initiative, September 2010) <<http://opennet.net/sites/opennet.net/files/PolicingContent.pdf>> accessed 1 December 2012; Jillian York, 'Online free speech vs private ownership' (*Al Jazeera English* 1 June 2011) <<http://www.aljazeera.com/indepth/opinion/2011/05/20115291717195157.html>> accessed 1 December 2012; Emily Laidlaw, 'A framework for identifying Internet information gatekeepers' (2010) 24 *International Review of Law, Computers & Technology* 263, 270; Daithí Mac Síthigh, 'The mass age of Internet law' (2008) 17 *Information & Communications Law* 79, 81-3; Laura Stein, *Speech Rights in America: The First Amendment, democracy, and the media* (University of Chicago Press, Chicago 2006) 83.

⁵² Bobbie Johnson, 'Apple bans iPhone program over sex claims', (*Guardian Technology Blog* 21 May 2009) <<http://www.guardian.co.uk/technology/blog/2009/may/21/apple-iphone>> accessed 1 December 2012.

⁵³ Charles Arthur, "'Baby Shaker' game pulled from Apple's iPhone App Store", (*Guardian* 23 April 2009) <<http://www.guardian.co.uk/technology/2009/apr/23/apple-iphone-baby-shaker>> accessed 1 December 2012.

⁵⁴ Jenna Wortham, 'Apple bans some apps for sex-tinged content' (*New York Times* 22 February 2010) <<http://www.nytimes.com/2010/02/23/technology/23apps.html>> accessed 1 December 2012.

⁵⁵ Laura McGann, 'Mark Fiore can win a Pulitzer Prize, but he can't get his iPhone cartoon app past Apple's satire police' (*Nieman Journalism Lab Blog* 15 April 2010) <<http://www.niemanlab.org/2010/04/mark-fiore-can-win-a-pulitzer-prize-but-he-cant-get-his-iphone-cartoon-app-past-apples-satire-police/>> accessed 1 December 2012.

⁵⁶ Ryan Singel, 'Apple App Store bans Pulitzer-winning satirist for satire' (*Wired* 15 April 2010) <<http://www.wired.com/business/2010/04/apple-bans-satire/>> accessed 1 December 2012.

⁵⁷ Rebecca MacKinnon, *Consent of the networked: the worldwide struggle for Internet freedom* (Basic Books, New York 2011) 126; Ted Striphas, *The late age of print: everyday book culture from*

‘professional political satirists and humorists are exempt from the ban on offensive or mean-spirited commentary’. One wonders how *professional* is to be interpreted in this context and there is no clause of this nature to be found in approval guidelines elsewhere. Of particular significance to the games sector (which is considered further, below) is guideline 15.3, which prohibits in-game ‘enemies’ from being a real government or corporation.

With the launch of the iPad, further problems arose regarding Apple’s policies on appropriate content; the iOS guidelines remained the same, but the new opportunities presented to developers by the functions and screen size of the iPad was a new opportunity for conflict. Even an application based on James Joyce’s *Ulysses*, no stranger to censorship at the time of its first release as a work of literature a century ago, found itself the subject of restrictions.⁵⁸

New applications of the guidelines continue to be seen. Showing perhaps a further lack of understanding of irony, the Phone Story app (which criticised the manufacturing of iPhones and the labour practices of Apple’s contractors in China) was rejected,⁵⁹ because it violated guidelines including the prohibition of ‘violence or abuse of children’ (15.2), and ‘excessively objectionable or crude content’ (16.1);⁶⁰ again, reports focused on the decision as a signal of the power exercised by Apple and the significance of the guidelines, as well as its availability on other platforms.

The guidelines now appear to have entered a period of stability, although there are occasional changes. One which demonstrates the use of the Guidelines as a response to the perceived threat of regulatory intervention is new guideline 22.8 on the publication of drink-driving checkpoint information, inserted in response to criticism from senators in the United States.⁶¹

2.3.2 Theme 2

The desire for developers to make an app available on more than one platform is easy to understand. This was hampered, though, by guidelines introduced in early 2010, which required the use of Apple tools. This was seen as a particular blow to Adobe, which had promoted development tools where an application could be created within that tool and then ported with little extra effort to appropriate formats for various

consumerism to control (Columbia University Press, New York 2009); David Gauntlett, *Making is connecting: the social meaning of creativity, from DIY and knitting to YouTube and Web 2.0* (Polity, Cambridge 2011) 180; Sue Haplern, ‘The iPad revolution’ (*New York Review of Books* 10 June 2010) <<http://www.nybooks.com/articles/archives/2010/jun/10/ipad-revolution>> accessed 1 December 2012.

⁵⁸ John Naughton, ‘Buck naked on your iPad? No way...’ (*Observer* 20 June 2010) <<http://www.guardian.co.uk/technology/2010/jun/20/james-joyce-ulysses-seen-app>> accessed 1 December 2012.

⁵⁹ —, ‘Phone Story: Banned’ <<http://phonestory.org/banned.html>> accessed 1 December 2012.

⁶⁰ Stuart Dredge, ‘Apple bans satirical iPhone game Phone Story from its App Store’ (*Guardian Apps Blog* 14 September 2011) <<http://www.guardian.co.uk/technology/appsblog/2011/sep/14/apple-phone-story-rejection>> accessed 1 December 2012.

⁶¹ Jeff Bertolucci, ‘Avoid DUI Checkpoints? No App for That, Senators Say’ (*PC World* 22 March 2011) <http://www.pcworld.com/article/222884/avoid_dui_checkpoints_no_app_for_that_senators_say.html> accessed 1 December 2012; Chloe Albanesius, ‘Apple bans DUI checkpoint apps in App Store’ (*PC Magazine* 9 June 2011) <<http://www.pcmag.com/article2/0,2817,2386693,00.asp>> accessed 1 December 2012.

stores.⁶² The FTC is reported to have been interested in this matter,⁶³ but the criticised clauses in the Developer Agreement are no longer in force.⁶⁴ These clauses also attracted the attention of the European Commission, which opened an investigation into the programming requirements, which the Commission noted ‘could have ultimately resulted in shutting out competition from devices running platforms other than Apple’s’.⁶⁵ It too closed its investigation after the changes of September 2010.

More generally, it is very difficult to use the iPhone for the purpose of writing software. The much-praised Scratch application (used to teach principles of programming within computer education) could not be approved,⁶⁶ as its very nature (creating code which runs within the application rather than by utilising Apple’s systems) violated the then Developer Agreement.⁶⁷ This was criticised by a number of programmers as a long-term risk to promoting ‘tinkering’ and the development of computer skills by young or inexperienced users.

2.3.3 Theme 3

Along with the iPhone and the iOS App Store, a third integrated feature of the app economy is the In App Purchase system. IAPs use the same user account (and stored card details), but are subject to two complementary restrictions. Guideline 11.2 requires all in-app purchases (e.g. for buying content for use within the app, or to unlock a level in a game) to use IAP, while guideline 11.3 prohibits the use of IAP for goods and services to be used outside the application. The workaround used by some (most obviously Amazon) of providing a link (in the app) to a website for purchase⁶⁸ has been blocked by Apple, with guideline 11.14 (formerly 11.13) preventing the approval of an app which contains a ‘buy’ button linking to the non-app purchase of content for use within the app. However, it remains possible, in accordance with guideline 11.13 for content bought outside of an app to be used within an app without using IAP, but the user must find their own way to purchasing it, and this only applies to magazines, newspapers, books, audio, music, and video. A requirement for such purchases to be available within the app at the same price or better is no longer included.

Again, the cumulative effect of these rules may present an obstacle to crossplatform strategies, although the benefit for Apple (and perhaps the consumer) is that iOS

⁶² Jenna Wortham, ‘Apple Places New Limits on App Developers’ (*New York Times* 12 April 2010) <<http://www.nytimes.com/2010/04/13/technology/companies/13apple.html>> accessed 1 December 2012.

⁶³ Chen (n 13) 98.

⁶⁴ ‘In particular, we are relaxing all restrictions on the development tools used to create iOS apps, as long as the resulting apps do not download any code. This should give developers the flexibility they want, while preserving the security we need.’ Apple (n 50).

⁶⁵ ___, ‘Antitrust: Statement on Apple’s iPhone policy changes’ (press release, 25 September 2010) <<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/1175>> accessed 1 December 2012.

⁶⁶ Chen (n 13) 102-3.

⁶⁷ The current provision (‘an Application may not download or install executable code. Interpreted code may only be used in an Application if all scripts, code and interpreters are packaged in the Application and not downloaded’) still presents an obstacle, and the development of an alternative app for Android is making use of Flash, so would also not be suitable for the iPhone.

⁶⁸ Claire Miller & Miguel Helft, ‘Apple Moves to Tighten Control of App Store’ (*New York Times* 1 February 2011) <<http://www.nytimes.com/2011/02/01/technology/01apple.html>> accessed 1 December 2012.

transactions are directly linked with the existing Apple account of the user. IAPs, of course, engage the 30%/70% revenue split, which has not gone unnoticed by content providers.

Even more controversial are the implications for subscriptions. This is a significant part of the business model for some apps, such as those launched by certain news providers. Although not originally covered by the guidelines, the subsequent extension of the purchase restrictions to subscriptions makes it difficult to provide a non-IAP system for subscribing to content. The objections of newspapers are not just to the financial link with Apple but also the loss of control over the data (e.g. contact information) of (in-app) subscribers – a long-standing source of importance to newspapers.⁶⁹ As discussed below, this has led to some drastic measures being taken by publishers.

It has been shown how the Review Guidelines play a significant role in governing the development of apps. The main observation of this section has been that the guidelines pursue multiple objectives, and are modified in connection with objections and observations from various parties. With this exercise of power in mind, then, we can turn to the ways in which the guidelines can be circumvented or disregarded, should an objection not be dealt with through amendment.

2.4 Challenges to the Guidelines

2.4.1 Jailbreaking

The reason that the Review Guidelines matter so much is that the iPhone, by design, will only download and run applications from the iOS App Store. Even alternative app stores in the form of apps have been curtailed.⁷⁰ By modifying the operating system (so-called ‘jailbreaking’), a user will be able to download and run other (unapproved) applications directly or from third party stores. However, there are a number of obstacles to the widespread adoption of this approach. It may invalidate the user’s warranty.⁷¹ An update of the operating system will probably undo the modification;⁷² the update could be blocked, but this may create a security risk or make some functions or apps difficult to use.

The status of modification under copyright law also makes it a less attractive proposition than it would otherwise be. Restrictions on the development or commercial exploitation of ‘devices, products or components’ which have a primary purpose of circumventing digital rights management or related forms of protection hamper the growth of jailbreaking, because it makes it difficult for non-skilled users (who may need to rely upon commercial products rather than on personal knowledge) to modify an OS or device.

⁶⁹ Rik Myslewski, ‘Apple tightens rules for iPad news delivery’ (*The Register* 15 January 2011) <http://www.theregister.co.uk/2011/01/15/itunes_newspaper_crackdown/> accessed 1 December 2012 (the spelling error is in the original URL).

⁷⁰ James Brightman, ‘Why Apple’s tight App Store management is a good thing’ (*GamesIndustry International* 9 October 2012) <<http://www.gamesindustry.biz/articles/2012-10-09-why-apples-tight-app-store-management-is-a-good-thing>> accessed 1 December 2012.

⁷¹ Chen (n 13) 104.

⁷² Charlie Sorrel, ‘iPhone Software Update Breaks 3G Unlock’ (*Wired: Gadget Lab* 28 January 2009) <<http://www.wired.com/gadgetlab/2009/01/iphone-software/>> accessed 1 December 2012.

In the US, the circumvention of technological protection measures that controls access to protected works is prohibited.⁷³ However, a periodic rulemaking procedure allows for specified uses to be approved by the Library of Congress. In 2010, this procedure led to an exemption, proposed by the Electronic Frontier Foundation, for enabling operability of lawfully obtained apps with mobile phones.⁷⁴ For the latest review, the EFF proposed renewal of the ‘smartphone app’ clause (revised to include tablets, too) as well as a new provision on modification of game consoles,⁷⁵ and another organisation proposed a general clause on installation of lawfully obtained software on any personal computing device (including tablets and e-readers).⁷⁶ The ‘smartphone’ provision was renewed but without inclusion of tablets, and neither the proposals on consoles nor on computing devices were accepted.⁷⁷ However, the process is itself an opportunity, and the lack of a process of this nature is a significant weakness of the European regulation of DRM.⁷⁸

Cases regarding the modification of computer game consoles have seen a demonstrable widening of the scope of copyright law, which adds to the doubt outside of the US.⁷⁹ In the UK, weaker anti-circumvention provisions (in respect of computer software, as compared with other works protected by copyright), have been effectively eroded through identification of the impact of modification on the protection of underlying works. This can entail arguing that the works of visual art in a game are ‘copied’ to a screen, and therefore that modification facilitates infringement of exclusive rights in artistic works.⁸⁰ Even where courts find in favour of modification, as in Australia, legislative bodies can respond (as the Australian Parliament did) by narrowing the scope of the exception.⁸¹ So it can be noted that while jailbreaking could in theory serve as a constraint upon Apple’s activities (through making decisions under the Review Guidelines much less significant), copyright law as currently constituted shores up Apple’s position of power through making jailbreaking a legally unattractive option.

2.4.2 Alternatives to apps

Developers may also choose to make their products available to iPhone users outside of the App Store without needing the user to modify the device, often as a ‘web app’, i.e. a website available in the usual way but added to the home screen by the user alongside actual apps. Apple also advises that apps are ‘different than books or songs, which (it does) not curate’, remarkably advising those who want to describe sex to

⁷³ 17 USC 1201.

⁷⁴ 37 CFR 201: “Computer programs that enable wireless telephone handsets to execute lawfully obtained software applications, where circumvention is accomplished for the sole purpose of enabling interoperability of such applications with computer programs on the telephone handset.”

⁷⁵ <http://www.copyright.gov/1201/2011/initial/eff.pdf>

⁷⁶ Software Freedom Law Center, <http://www.copyright.gov/1201/2011/initial/sflc.pdf>

⁷⁷ (2012) 77 Federal Register 65260 <<http://www.copyright.gov/fedreg/2012/77fr65260.pdf>> accessed 1 December 2012.

⁷⁸ Vasiliki Samartzi, 'Optimal vs sub-optimal use of DRM-protected works' (2011) 33 EIPR 517, 527.

⁷⁹ David Booton & Angus MacCulloch, ‘Liability for the circumvention of technological protection measures applied to videogames: lessons from the UK’s experience’ [2012] Journal of Business Law 165.

⁸⁰ *R v Gilham* [2009] EWCA Crim 229 [24], [28]

⁸¹ Melchor Raval, 'Game over for mod chips? The aftermath of Sony v Stevens and the Australian-US Free Trade Agreement' (2012) 34 EIPR 95.

‘write a book or a song, or create a medical app’ and those who want to criticise religion to ‘write a book’.

The *Financial Times* took the ‘web app’ route, expressly to avoid having to comply with Apple’s payment requirements.⁸² However, this decision may still require serious consideration of what is being gained and lost. It was alleged in 2011 that ‘web apps’ promoted for running from the home screen would run slowly, because of the lack of priority given to the JavaScript engine on the iPhone.⁸³ Apps may also be able to run more efficiently through local storage of data⁸⁴ and some functions may simply ‘work better’ in apps than as a web page.⁸⁵ Non-app solutions do depend to some extent on the adoption of standards for smartphone websites; Facebook has recently noted its support for this campaign, with the New York Times noticing the strategic implications, explaining the issue as one of enabling browser-based apps ‘instead of going through Apple’s and Google’s stores’.⁸⁶ However, Facebook itself appears to have noted the shortcomings of the HTML5 route and adopted a native approach.⁸⁷

Furthermore, Apple has taken a hard line against the use of Flash,⁸⁸ which among other things is the method by which a significant part of the web-based ‘casual games’ sector operates. Although this may represent missed sales,⁸⁹ and other smartphones support Flash,⁹⁰ the late Steve Jobs explained that allowing Flash would cause problems ranging from battery life to security to the difference between touch-and mouse-based operating systems. Jobs’ statement praises the openness of HTML5 as compared with the ‘100% proprietary’ Flash. The praising of openness is of particular interest, in the light of the approach to the App Store discussed in this article.

⁸² Andrew Egecliffe-Johnson, ‘FT’s new web app bypasses need for iTunes’ (*Financial Times* 7 June 2011); John Abell, ‘Cause and effect? FT ditches the App Store, digital subs increase’ (*Wired : Epicenter* 3 November 2011) <<http://www.wired.com/business/2011/11/cause-effect-ft-subs-increase/>> accessed 1 December 2012; Stuart Dredge, ‘Financial Times passes 2m users for its HTML5 web app’ (*Guardian: Apps Blog* 24 April 2012) <<http://www.guardian.co.uk/media/appsblog/2012/apr/24/financial-times-web-app-2m>> accessed 1 December 2012.

⁸³ Ryan Singel, ‘Apple Accused of Slowing Web Apps to Benefit App Store’ (*Wired : Epicenter* 15 March 2011) <<http://www.wired.com/business/2011/03/app-store-html5-slowdown/>> accessed 1 December 2012.

⁸⁴ Martin (n 6) 10 (discussing cars.com)

⁸⁵ Croft (n 37) 27.

⁸⁶ Prodhan (n 47).

⁸⁷ Charles Arthur, ‘Facebook doubles iPhone app speed by dumping HTML5 for native code’ (*Guardian: Apps Blog* 24 August 2012) <<http://www.guardian.co.uk/technology/appsblog/2012/aug/24/facebook-iphone-app>> accessed 1 December 2012.

⁸⁸ Steve Jobs, ‘Thoughts on Flash’ <<http://www.apple.com/hotnews/thoughts-on-flash/>> accessed 1 December 2012.

⁸⁹ Olswang, ‘Convergence Survey 2011’ <<http://www.olswang.com/convergence2011/>> 116, accessed 1 December 2012.

⁹⁰ http://www.adobe.com/flashplatform/certified_devices/smartphones.html - but Adobe has ended development of Flash for smartphone browsers: Danny Winokur, ‘Flash to Focus on PC Browsing and Mobile Apps; Adobe to More Aggressively Contribute to HTML5’ (*Adobe Featured Blogs* 9 November 2011) <<http://blogs.adobe.com/conversations/2011/11/flash-focus.html>> accessed 1 December 2012.

2.4.3 Opening up the app store (1)

There are various tools by which individual decisions and the overall approach of Apple can be challenged. At the decision level, Apple has recently introduced a 'Review Board' for developers to seek the review of a decision. This does not (as compared, say, with the PEGI rating system for games across the European Union)⁹¹ appear to provide for non-developer appeals. Discussion of rejections on the Internet is also not unusual, and there are sporadic attempts to catalogue rejections,⁹² although Apple discourages this approach: '(if) you run to the press and trash us, it never helps'.⁹³

Rejection decisions are never published by Apple; this is a notable difference to content rating preapproval systems (e.g. for films and games) and complaint-driven systems (e.g. for advertising), although as Apple is acting alone rather than as an industry-wide self-regulatory body, it is not entirely unsurprising. It remains interesting to note that some Web enterprises have made great steps in taking a more open approach to externally-driven decisions to remove content, without applying the same (laudable) philosophy to its own decisions. Twitter has joined Google in publishing DMCA takedown notices on the Chilling Effects website, which means that we know an awful lot about when, why and which rightsholders affect what we see on Twitter, but as little as ever about how Twitter affects what we see on Twitter.

2.4.4 Opening up the app store (2)

The regulation of electronic programme guides (EPGs) in the European Union⁹⁴ may provide an interesting model for those concerned about the approval guidelines of the iOS App Store or of app stores more generally. EPGs facilitate user selection of TV services (and increasingly video-on-demand services too) through platforms such as cable and satellite. They are a significant part of the consumer experience of digital television: a good one is 'more than just a useful tool',⁹⁵ as viewers can choose from a wide range of options and look at what is to be broadcast at later dates. In European Union telecommunications law, EPGs are a special case, with member states permitted by article 5(1)(b) of the Access Directive⁹⁶ to impose access conditions on the provision of EPGs. This approach is known as fair, reasonable and non-discriminatory ('FRAND'), is used in other areas of IP and competition law, and applies in general rather than to those designated as having significant market power (under telecommunications law) or in a dominant position (under competition law).

⁹¹ Damien Tambini and others, *Codifying Cyberspace: communications self-regulation in the age of Internet convergence* (Routledge, London 2007) 190-198.

⁹² <http://approveview.tumblr.com/>; <http://www.apprejections.com> (accessed 1 March 2011; no longer available).

⁹³ Apple (n 1); Erick Schonfeld, 'The New App Store Guidelines: What You Need To Know' (*TechCrunch* 9 September 2010) < <http://techcrunch.com/2010/09/09/app-store-guidelines/> > accessed 1 December 2012.

⁹⁴ Ian Walden, 'Who owns the media? Plurality, ownership, competition and access' in David Goldberg and others (eds), *Media law and practice* (OUP, Oxford 2009) 42-6; Daithí Mac Síthigh, 'Convergence: the impact of broadcast regulation on telecommunications' in Ian Walden (ed), *Telecommunications law and practice* (OUP 5th edn, Oxford 2012) 671-4.

⁹⁵ Michael Starks, *Switching to digital television: UK public policy and the market* (Intellect, Bristol 2007) 10.

⁹⁶ Directive 2002/19 of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities, [2002] OJ L108/7.

The Directive is implemented in the UK is through section 310 of the Communications Act, and a code of practice drawn up by the regulator, Ofcom.⁹⁷ There are three key principles in the Code: ‘appropriate prominence’ for public service broadcasters, adjustments for disabled users, and most relevant for present purposes, that EPG operators make FRAND arrangements with broadcasters for inclusion in an EPG. This is not a right to be included, nor price regulation per se (although one operator is so regulated because of its market power), but a requirement to behave in a particular fashion when dealing with. The EPG codes of UK operators are easily available.⁹⁸ Furthermore, the consideration of both s 310 of the Communications Act and the current Code by the High Court (in relation to an unsuccessful but fully argued breach of contract claim made by a television service provider against an EPG operator)⁹⁹ demonstrates that the code is enforceable and more than an aspiration or a statement of general practices (an accusation which might be levelled at some codes in the field).

Of course, guidelines are in place in the Apple system, although only available to developers (and to readers of websites which have received leaked copies). Its pricing policy is clear (i.e. the fixed ‘cut’ taken by Apple of iOS App Store transactions). However, the key difference between the regimes is that the regulation of EPGs is based on the FRAND principle. Furthermore, European law also regulates (in the context of digital television) conditional access systems (i.e. payment and encryption for subscription TV channels) and application programme interfaces (which support the delivery of non-television (data) service over broadcasting facilities).

2.4.5 Conclusion

The power of Apple in respect of the iOS App Store is tempered by the ability to ‘jailbreak’ and the opportunity to reach audiences through ‘web apps’. However, these responses are limited, and will require a certain degree of developer and user action. In terms of regulation, no obvious avenue for intervention has emerged, although it has been argued here that the (consumer-focused) European model of EPG regulation could be considered, particularly as competition law may not provide a remedy that satisfies the critics of Apple’s approach to control. It should be recalled that supporting ‘openness’ through law is already apparent. The clearest example is the licensing of newly-released spectrum (the 700MHz range) by the FCC in the United States. The award of some ‘blocks’ of spectrum is subject to openness requirements,¹⁰⁰ which has in turn provided advocates with opportunities to challenge

⁹⁷ Ofcom, ‘Code of practice on electronic programme guides’ <<http://stakeholders.ofcom.org.uk/binaries/broadcast/other-codes/epgcode.pdf>> accessed 1 December 2012.

⁹⁸

http://www.dmol.co.uk/_data/assets/pdf_file/0012/76899/DMOL_LCN_Policy_V5_30_July_2012.pdf (DTT Multiplex Operators, for the ‘Freeview’ digital terrestrial television platform); http://corporate.sky.com/documents/pdf/20c24d2e1c62406594e1a79de5f917db/Allocating_listings_EPG (Sky, satellite platform); <http://www.virginmedia.com/about/working-with-us/epg-listing-policy.php> (Virgin Media, cable platform)

⁹⁹ *JML Direct v Freesat UK* [2009] EWHC 616 (Ch); affirmed in [2010] EWCA Civ 34.

¹⁰⁰ Francesco Liberatore, ‘Perspectives on mobile regulatory issues in the United States and European Union’ (2011) 32 ECLR 303, 307 (as part of a trend towards open access); Steven Levy, *In the plex: how Google thinks, works, and shapes our lives* (Simon & Schuster, New York 2011) 222-4 (explaining how Google’s policy goals of neutrality were achieved although it did not – and perhaps

selected examples of app store regulation.¹⁰¹ However, this does not resolve overall issues in relation to store-developer relations, as it is limited to certain carriers and to the specially designated spectrum.

In the next section, more directly consumer-facing remedies will be considered. It will then be possible to see how aspects of the problems highlighted in this section can be addressed even in the absence of a feasible response founded on the regulation of app stores or review guidelines themselves.

3. Citizen- and consumer-focused issues

3.1.Introduction

Smartphones and apps continue to develop as tools for ecommerce (i.e. beyond the purchase of the app itself). It has been observed that, so far, smartphones are more likely to be used for looking up prices or information rather than purchases,¹⁰² although there are plenty of examples of innovative use, ranging from paying for pizza in a restaurant through an app¹⁰³ (charged to card or PayPal) to the continuing growth of ‘virtual goods’ in games and social networking sites.¹⁰⁴ Perhaps the observation that smartphones are devices for consumption¹⁰⁵ is an apt one, although combined with the management of platforms like the iOS App Store, this would suggest that the ‘generative’ PC model is a very distant one. This section will demonstrate how it is stores other than the iOS App Store that attract most attention in terms of consumer and privacy issues (with the focus on consumer/payment issues, given the information noted in this paragraph regarding smartphones and ecommerce), and that – across all app stores – the scope for game and broadcast regulation governing apps is beginning to become apparent.

did not want to – win the auction); Gerald Faulhaber & David Farber, ‘The Open Internet: a customer-centric framework’ (2010) 4 *International Journal of Communication* 302, 331 (arguing that because the ‘open’ block reached a lower price than other blocks, the value of the spectrum was depressed by the commitment).

¹⁰¹ An advocacy group has filed a challenge with the FCC, arguing that the unavailability (without complex modification) of a ‘tethering’ app violates the spectrum conditions. —, ‘Complaint of Free Press against Verizon Wireless for violating conditions imposed on C block of upper 700 Mhz spectrum’ (6 June 2011) <http://www.freepress.net/sites/default/files/fp-legacy/FreePress_CBlock_Complaint.pdf> accessed 1 December 2012; Ryan Singel, ‘Verizon Ban on 4G Tethering Apps Violates Openness Rule, Complaint Alleges’ (*Wired: Epicenter Blog* 6 June 2011) <<http://www.wired.com/epicenter/2011/06/verizon-tethering-fcc/>> accessed 1 December 2012.

¹⁰² Tim Carmody, ‘The Smartphone in Your Pocket Is a Multifunction Buying Machine’ (*Wired: Epicenter* 22 February 2012) <<http://www.wired.com/business/2012/02/smartphone-buying-machine>> accessed 1 December 2012.

¹⁰³ Caleb Cox, ‘Pizza Express preps app for iPhone payment’ (*The Register* 18 June 2011) <http://www.reghardware.com/2011/06/18/pizza_express_iphone_payment_app/> accessed 1 December 2012.

¹⁰⁴ Nicholas Lovell, ‘Flash with money: social games are winning Playfish millions of Facebook friends – and a solid business’ (*Wired (UK)* December 2009) 72; Claudio Feijoo and others, ‘Mobile gaming: Industry challenges and policy implications’ (2012) 36 *Telecommunications Policy* 212, 216.

¹⁰⁵ ‘Content consumption will increase on mobile devices because they’re naturally geared towards consumption rather than creation’: Yaron Galai, founder of Outbrain, quoted in Martin (n 6) 91.

3.2 Electronic commerce and premium rate services

Regulation of the app economy is under ongoing consideration in the UK, in terms of the law on premium rate services (PRS). PRS regulation is a departure from the overarching European framework for the regulation of telecommunications, which is no longer based on licensing, instead using a system of general conditions and ‘authorisation’ of services. The system is backed by statute (section 120 Communications Act 2003) but managed by an independent regulatory body, PhonepayPlus. It applies to content services provided through an electronic communications network or service, where there is a charge for the service, paid in the form of a charge for use to the provider of the communications network or service (e.g. on a phone bill) through which the service is provided. The regulatory scheme is primarily in terms of consumer protection (e.g. fairness in rates, maximum charges, dialling scams). Provisions also exist on harm and offence (less interventionist than in the case of broadcasting but more so than for telecommunications or Internet services in general), and on access by under-18s.

Interested parties have for some time been reviewing how the remit of PhonepayPlus can be effective when PRS is just one of a number of forms of ‘micropayment’. In a letter to the Secretary of State for Culture, Media and Sport, PhonepayPlus and a number of trade associations¹⁰⁶ argued that the PRS model could be useful for other forms of micropayment, that there were risks associated with having different systems (framed in terms of weaker consumer protection and barriers to innovation).¹⁰⁷

The primary issue here is that there is a range of ways in which payments can be made, but only some of them fall within the terms of PRS regulation, and popular others (including many app stores) are clearly not covered. A report commissioned by PhonepayPlus and published in 2011¹⁰⁸ noted the trend towards fragmentation (i.e. in the different forms of payment in the market), but emphasised the particular importance of apps, which ‘will create significant new opportunities for micropayments, both for purchasing apps, and for purchases of digital content and services within apps’.¹⁰⁹ In the case of mobile, it identified risks of non-delivery of content (or poor instructions on how to download), susceptibility to unauthorised purchases, poor disclosure of terms and conditions or data charges, and cancellation problems.¹¹⁰

PhonepayPlus has issued guidance¹¹¹ on the application of PRS regulation to app payments (in three categories: for download, in-app payments and ‘freemium’ models

¹⁰⁶ The Association for Interactive Mobile Entertainment (AIME), MEF (formerly the Mobile Entertainment Forum) and the UK Competitive Telecommunications Association (UKCTA).

¹⁰⁷ Letter from Alastair Graham (chair, PhonepayPlus) to Jeremy Hunt MP (30 June 2011) <http://www.phonepayplus.org.uk/News-And-Events/News/2011/6/~media/Files/PhonepayPlus/Policy%20Industry%20support/Final_PhonepayPlus_Industry_Letter_30_June_2011.pdf> accessed 1 December 2012.

¹⁰⁸ Analysys Mason, ‘The marketplace for and regulation of micropayment services in the UK’ (December 2010) <http://www.phonepayplus.org.uk/News-And-Events/News/2011/6/~media/Files/PhonepayPlus/Research/Analysys_Mason_The_marketplace_for_a_nd_regulation_of_micropayment_services_in_the_UK.pdf> accessed 1 December 2012.

¹⁰⁹ Ibid 31.

¹¹⁰ Ibid 76.

¹¹¹ PhonepayPlus, ‘General guidance note: application-based payments’ (February 2012) <<http://www.code.phonepayplus.org.uk/pdf/guidance-notes/application-based-payments.pdf>> accessed 1 December 2012.

which combine free download with optional later payment). However, this only applies to payments that qualify as PRS, i.e. are charged to a phone bill or pre-paid account, but not payments ultimately taken from a credit, debit or pre-paid card. The guidance deals with familiar PRS issues, such as making the charge and future charges clear, as well as emerging issues, such as the application of consumer protection provisions to virtual currency (e.g. provision of information on exchange rates, expiry dates). Notably, though, it is carefully tailored to the app environment, with provisions on consent and receipts for in-app purchases, negotiating the need to protect the consumer with the developer's desire to integrate something like a 'power-up' in a game into the overall game. A warning is also issued that 'informing consumers of the price of extra items at the start of a video game or virtual world, and then charging them without further consent as soon as their avatar makes contact with extra items within the service' needs positive, auditable advance consent (including the likely charges), if a finding of breach is to be avoided.

Ofcom (as the parent regulator) has had to consider whether charges to mobile phone bills for 'portal' content (i.e. paid by the user to the carrier) should be treated as PRS (as it met the statutory test); it determined (subject to further consultation) that these services should not be regulated in this fashion.¹¹² Services which allow third parties to provide content to users, with the charge ultimately appearing on the phone bill, would continue to be considered PRS; the main service in the UK is known as Payforit. Although beyond the scope of the consultation in question, it is clear that payments to typical app stores (including in-app payments), on the other hand, will fall outside of the current approach to PRS without more, as the app store is not the provider of the communications service (the carrier is).

Furthermore, Ofcom in its capacity as broadcasting regulator has scrutinised the use of apps as payment mechanisms for audience participation.¹¹³ The reason for this is that the use of PRS in connection with broadcasting is now the subject of tight regulation in the UK, with an unusually specific condition included in broadcast licences, even requiring third party verification (as compared with the general approach of making compliance with the Broadcasting Code the condition and setting out the details of regulation in the Code). This resulted from a series of scandals in relation to the use of PRS, including quiz shows that appeared to do no more than raise revenue through ethically dubious questions, and phone-in voting that operated (and charged the caller) after the decision had already been made.¹¹⁴

Illustrations of harm to consumers associated with apps can be found both in PhonepayPlus decisions and through consumer complaints reported in the media. A number of examples of the former are available in the database of PhonepayPlus

¹¹² Ofcom, 'Review of Premium Rate Services: an application of the analytical framework' (29 July 2011) <<http://stakeholders.ofcom.org.uk/binaries/consultations/review-prs/summary/condoc.pdf>> accessed 1 December 2012; confirmed and implemented in Ofcom, 'Review of Premium Rate Services: an application of the analytical framework' (2 July 2012) <<http://stakeholders.ofcom.org.uk/binaries/consultations/review-prs/statement/statement.pdf>> accessed 1 December 2012.

¹¹³ Broadcast Bulletin 169 (8 November 2010) 5-6; Broadcast Bulletin 186 (18 July 2011); Broadcast Bulletin 188 (22 August 2011).

¹¹⁴ Richard Ayre, 'Report of an inquiry into television broadcasters' use of premium rate telephone services in programmes' (18 July 2007) <<http://stakeholders.ofcom.org.uk/broadcasting/reviews-investigations/premium-rate/ayrereport/>> accessed 1 December 2012.

adjudications.¹¹⁵ The first significant case is that of Battery Booster UK, an Android app which after (free) download proceeded to send SMS messages to a premium rate shortcode. The terms and conditions of the app included the ability to send and receive SMS messages, but the document contained no reference to the premium rate service ‘subscribed’ to (for video clips). The PhonipayPlus tribunal found multiple violations of its Code and imposed a fine of £135,000.¹¹⁶ This particular business model has been at issue in other cases¹¹⁷ and has been highlighted by PhonipayPlus as a developing problem.¹¹⁸ Another serious case dealt with an app where agreeing to download the app (through two pages, the first the correct Android page and the second designed by the provider) triggered a chargeable text message with little notice to the consumer that any charge would apply; multiple breaches were recorded and a fine of £50,000 and other remedies determined.¹¹⁹ Fake battery boosters appear to be a particular source of difficulty, with another ‘free’ app, Battery Super Charger, being the subject of a later case, 300 complaints, and a fine of £75,000.¹²⁰ Rules of the PhonipayPlus code breached in these cases included rules on pricing (e.g. failure to provide clear information before a purchase is made, applying a charge without proof of consent, omitting the required reminders for subscription services), and the general rule against misleading the consumer.

A 2012 case dealt with errors in an Android video-on-demand app (TV2Go) where content was paid for by SMS; the result was a small fine and formal reprimand,¹²¹ but it does demonstrate that the choice of SMS payment (popular on Android where payment details may not be stored, but difficult on the iPhone due to Apple’s policies) means that formal external investigation of consumer complaints will be possible, where it would not be so possible for other payment methods. Further cases, with further fines and requirements to submit future offerings for preapproval involving (in part) the same payment provider (regarding compliance failures in subscription and unsubscription procedures) reinforce the importance of the availability of this remedy.¹²²

Indeed, in-app payments continue to provoke a certain degree of public interest. This was best demonstrated in relation to the Smurfs’ Village app, which attracted complaints from parents after children made substantial in-app purchases of ‘smurfberries’, with bills of over \$1000 being reported.¹²³ This is a mainstream

¹¹⁵ All decisions are published (and can be located through case names and numbers) at <http://www.phonipayplus.org.uk>. The database is a dynamic one so definitive URLs are not available.

¹¹⁶ Case 852607 *mBlox* (9 June 2011).

¹¹⁷ Case 01921 *Echovox* (1 September 2011).

¹¹⁸ Written evidence to the House of Lords Science & Technology Committee on malware and cybercrime, <<http://www.publications.parliament.uk/pa/cm201012/cmselect/cmsctech/1537/1537vw.pdf>> accessed 1 December 2012; see also section 7.2 of the PhonipayPlus app guidance (n 111).

¹¹⁹ Case 06161 *Connect Ltd t/a SMSBill* (16 August 2012).

¹²⁰ Case 06655 *Sight Mobile* (2 August 2012).

¹²¹ Case 02896 *txtNation* (19 January 2012).

¹²² Case 06717 *Mobegen* (2 August 2012); Case 08458 *txtNation* (16 August 2012).

¹²³ Sara Yin, ‘Smurfs iOS Game Shocks Parents With In-App Fees’ (*PC Magazine* December 2010) <<http://www.pcmag.com/article2/0,2817,2374622,00.asp>> accessed 1 December 2012; Cecilia Kang, ‘In-app purchases in iPad, iPhone, iPod kids’ games touch off parental firestorm’ (*Washington Post* 8 February 2011) <<http://www.washingtonpost.com/wp-dyn/content/article/2011/02/07/AR2011020706073.html>> accessed 1 December 2012.

application (one of the highest ‘grossing’ in the iOS App Store)¹²⁴ and, even after the original disclosure, continues to be the subject of news reports across the world¹²⁵ and is held up as a case study for app-related consumer risk.¹²⁶

The clear objection to further use of a PRS-like system for apps is that it would create an artificial line between apps and the Internet more generally. However, if PRS or a version thereof is already appropriate for certain apps and for websites using Payforit, the artificial line is already present, and would just be adjusted rather than created anew. Furthermore, the support of legitimate PRS providers for the PhonepayPlus system, alongside other systems such as that for the regulation of advertising, may point towards a strategy whereby support for a fresh approach to app regulation in terms of consumer confidence could be presented as beneficial to developers.

3.2 Privacy

A range of interesting issues in relation to smartphones and privacy have also been observed; for present purposes, two will be noted and subsequently used in the analysis of what they mean for the overall analysis of app store regulation. The first issue relates to the role of app stores and the second to actions taken by app developers. Both issues have been characterised by regular ‘incidents’ of media interest, but also a developing interest in the question of apps and privacy by regulators.

The Federal Trade Commission is the US body responsible for consumer protection at the federal level. Its Bureau of Consumer Protection enforces privacy legislation and monitors relevant developments across all markets. One of its areas of work relates to apps and alleged widespread failures to comply with the Children’s Online Privacy Protection Act (COPPA); the Commission has started to take action.¹²⁷ A further example of regulatory dialogue using privacy law powers is at the state level, namely the agreement between the Attorney-General of California and six app platform operators (including Apple and Google). A statement noted that the California Online Privacy Protection Act¹²⁸ “requires operators of commercial web sites and online services, including mobile apps, who collect personally identifiable information about Californians to conspicuously post a privacy policy”, with app-specific detail that users will be able to view (from a consistent place on the relevant download page) a privacy policy before downloading the app.¹²⁹

¹²⁴ Mark Langshaw, ‘Tap Zoo’ named as highest-grossing iOS app of 2011’ (*Digital Spy* 10 December 2011) <<http://www.digitalspy.co.uk/tech/news/a355295/tap-zoo-named-as-highest-grossing-ios-app-of-2011.html>> accessed 1 December 2012 (Smurfs’ Village was the fourth highest grossing app in 2011).

¹²⁵ Tariq Tahir, ‘Boy, 4, runs up £100 bill playing ‘free’ Smurfs app on mum’s iPad’ (*Metro* 20 November 2011) <<http://www.metro.co.uk/tech/882327-boy-4-runs-up-100-bill-playing-free-smurfs-app-on-mums-ipad>> accessed 1 December 2012; Arvid Berentsen, ‘Mobiltjenester gir klagerush’ (*Aftenbladet* 23 November 2011) <<http://www.aftenbladet.no/nytte/teknologi/Mobiltjenester-gir-klagerush-2897128.html>> accessed 1 December 2012.

¹²⁶ e.g. *Analysys Mason* (n 108) 95.

¹²⁷ —, ‘Mobile apps for kids: current privacy disclosures are disappointing’ (FTC Staff Report, February 2012).

¹²⁸ Business and Professions Code, section 22575.

¹²⁹ —, ‘Attorney General Kamala D. Harris Secures Global Agreement to Strengthen Privacy Protections for Users of Mobile Applications’ (press release, 22 February 2012) <http://oag.ca.gov/news/press_release?id=2630> accessed 1 December 2012.

The agreement also includes commitments to user education and reporting tools, but the most interesting facet, for the purposes of this article, is the commitment for the platform operators to include a field for privacy statements or links in the application submission / approval process for apps. This is a prudent recognition of the significance of the approval process, but a less benevolent reading is that it points towards the regulation of the approval process in the same way that other intermediaries are regulated so as to secure the objectives of various laws and policies. Indeed, the FTC is far from subtle in this regard. Using some of the language of ‘privacy by design’¹³⁰ and Lessig’s analysis of regulation,¹³¹ the FTC argues that while the iOS App Store and Android Market provide ‘the basic architecture’ for communicating information to users, they ‘should provide a more consistent way for developers to display information’ on data collection and interactivity, perhaps in the store itself, because ‘as gatekeepers of the app marketplace, the app stores should do more’.¹³²

The other notable feature of ‘app privacy’ is the regular highlighting of new or anticipated privacy problems in relation to apps. Frequently, these problems relate to the use of other information stored on the smartphone by an app, which recalls the very reasons for the success and importance of the smartphone, i.e. as a single, multifunctional device. Facebook has been criticised¹³³ for developing apps that have the ability to access and send SMS messages on Android smartphones, although it responded that the function in question was part of the testing of SMS integration.¹³⁴

It will not be hugely surprising that this would not be possible on an iPhone, due to the restrictions associated with Apple’s system.¹³⁵ However, apps on the iPhone can, in terms of technology, access information stored on the smartphone such as a contact list (name, phone number, etc). This is restricted by the Developer Agreement, which requires consent to be sought before this information is accessed or uploaded, and the Review Guidelines, which provide (17.2) that ‘apps cannot transmit data about a user without obtaining the user’s prior permission and providing the user with access to information about how and where the data will be used’. It has been suggested that greater protection could be ensured by building in the requirement for consent into the Apple API used for access to this data,¹³⁶ and while a number of members of Congress were beginning to consider the matter, Apple agreed to do so in the near future.¹³⁷ A social networking app, Path, was the subject of adverse media coverage

¹³⁰ See for example Ann Cavoukian, ‘Privacy by design and the emerging personal data ecosystem’ (October 2012), <<http://www.ipc.on.ca/images/Resources/pbd-pde.pdf>> accessed 1 December 2012.

¹³¹ Lawrence Lessig, *Code version 2.0* (Basic, New York 2006).

¹³² FTC Staff Report (n 127) 3.

¹³³ Robin Henry & Cal Flynn, ‘Smartphone apps that cash in on your privacy’ (*Sunday Times* 26 February 2012) 10.

¹³⁴ Iain MacKenzie, ‘Today’s bad journalism – the Sunday Times’ (26 February 2012) <https://www.facebook.com/note.php?note_id=10151330596285363> accessed 1 December 2012.

¹³⁵ Jon Brodtkin, ‘Facebook testing Android SMS integration, denies "spying" allegations’ (*Ars Technica* 27 February 2012) <<http://arstechnica.com/gadgets/news/2012/02/facebook-testing-android-sms-integration-denies-spying-allegations.ars>> accessed 1 December 2012.

¹³⁶ Chris Foresman, ‘Developers say Apple needs to overhaul iOS user information security’ (*Ars Technica* 15 February 2012) <<http://arstechnica.com/apple/news/2012/02/developers-apple-needs-to-overhaul-ios-user-information-security.ars>> accessed 1 December 2012.

¹³⁷ ‘Apps that collect or transmit a user’s contact data without their prior permission are in violation of our guidelines. We’re working to make this even better for our customers, and as we have done with location services, any app wishing to access contact data will require explicit user approval in a future

for failure to comply with this requirement,¹³⁸ provoking comprehensive reviews of the actions of a range of apps.¹³⁹

The privacy risks associated with the use of apps are clearly touching a nerve of sorts at the moment. The FTC has recognised this through the publication of new marketing guidelines¹⁴⁰ and there are indications that privacy fears are having an impact on smartphone and app usage.¹⁴¹ Whether a clear theme has been identified is not easy to say. The situations discussed in this section, though, do point to the role of the app store in whatever solution emerges. With the Californian scheme relying to a great extent on the store as a protector of privacy, and the affordances of the store being a key factor in the extent of potential breaches more generally, there may be some support for an interventionist approach to app approval, in so far as doing so would protect user privacy. The problems of definition or medium specificity that are highlighted in the discussion of ecommerce, above, are not apparent in the case of privacy. Yet there is still a certain difficulty in reconciling the desire for store-based regulation with the weaknesses of such an approach, as considered in part 2, above. The paradox remains that a trade-off between self-protection and rights to expression is the theme of the iOS App Store,¹⁴² but even if appropriate, the growth of the App Store means that the ‘benefits’ of security may be lessened, as will be discussed in part 4 of this article.

3.3 Game and media regulation

In the consideration of consumers and citizens, we can finally develop the idea that app regulation (in terms of the interests of the consumer and of the wider notion of protection of the public) is a site of conflict between regulation through law and regulation by Apple and others, through consideration of content regulation.

Smartphones are a popular platform for video games, without a doubt. The appeal of Angry Birds (even to middle-aged prime ministers)¹⁴³ is a visible manifestation of games as apps and iPhones as gaming devices – although Angry Birds has gradually expanded to other platforms, ranging from other smartphones to Facebook to board games. This comes as a further development to a broader shift within gaming in what

software release.’ (Tom Neumayr, spokesperson for Apple, quoted in John Paczkowski, ‘App Access to Contact Data Will Require Explicit User Permission’ (*AllThingsD* 15 February 2012)

<<http://allthingsd.com/20120215/apple-app-access-to-contact-data-will-require-explicit-user-permission/>> accessed 1 December 2012.

¹³⁸ Stuart Dredge, ‘Path’s privacy problem poses questions for all social apps’ (*Guardian Apps Blog* 9 February 2012) <<http://www.guardian.co.uk/technology/appsblog/2012/feb/09/path-privacy-apps>> accessed 1 December 2012; see Path’s response: —, ‘We are sorry’ (*Path Blog* 8 February 2012) <<http://blog.path.com/post/17274932484/we-are-sorry>> accessed 1 December 2012.

¹³⁹ Dieter Bohn, ‘iOS apps and the address book: who has your data, and how they’re getting it’ (*The Verge* 14 February 2012) <<http://www.theverge.com/2012/2/14/2798008/ios-apps-and-the-address-book-what-you-need-to-know>> accessed 1 December 2012.

¹⁴⁰ —, ‘Marketing your mobile app: get it right from the start’ (FTC, 5 September 2012) <<http://business.ftc.gov/documents/bus81-marketing-your-mobile-app>> accessed 1 December 2012..

¹⁴¹ Jan Boyles and others, ‘Privacy and Data Management on Mobile Devices’ (Pew Internet Project, 5 September 2012) <<http://pewinternet.org/Reports/2012/Mobile-Privacy.aspx>> accessed 1 December 2012.

¹⁴² MacKinnon (n 57) 130: ‘In governing our access to and use of applications, Apple provides a valuable service by shielding us from malicious criminals. But it also shows troubling disregard for our political rights as citizens.’

¹⁴³ Matt Rudd, ‘There’s no escape’ (*Sunday Times – Magazine* 12 February 2012) 20-25.

Juul calls a ‘casual revolution’.¹⁴⁴ Juul was writing before iPhone games took off, but his identification of online Flash games in particular assists in explaining why the link between gaming and apps is so important. Games and entertainment are the most popular categories in the iOS App Store,¹⁴⁵ while casual gaming developers are already seeing the majority of their games available through app stores rather than mobile carriers¹⁴⁶.

This shift from mobile carriers to the Internet recalls the discussion of carrier-developer relationships in part 2, although it also reduces the influence of mobile-specific rating bodies, such as the Independent Mobile Classification Body (IMCB).¹⁴⁷ The IMCB supports the ‘rating’ of certain mobile content as unsuitable for under 18s (by reference to its own policy on standards, although the rating is carried out by content providers) and the resulting information is used by carriers to support systems such as blocking certain content until verification of age (i.e 18 or above) has been completed. The system does not include material generally available on the Internet, as it is focused on content provided directly through carriers rather than merely through the use of a carrier-provided data connection.

Yet a direct relationship between manufacturer and game developer is not a new one, and Apple is just the latest manufacturer to play this role. Nintendo developed the Nintendo Entertainment System (NES) as a family-friendly console with significant restrictions in its early days of any depiction of drugs, ‘foul language’, smoking and alcohol,¹⁴⁸ and it can be observed that Apple’s approach echoes this – although Nintendo has reduced its restrictions over time, to the extent that the controversial *Manhunt 2* (at first, refused classification in the UK) is available on its Wii.¹⁴⁹

Existing statutory schemes struggle to deal with apps, thus demonstrating the important role played by the private schemes. In the UK, the Video Recordings Act 1984 (which provides that some games require statutory classification) does not extend to games other than those supplied in physical format (e.g. on a disc or cartridge).¹⁵⁰ Although the opportunities exemption from the Act (excluding less problematic games e.g. those suitable for younger children) has been substantially reduced through amendment (adopted in 2010¹⁵¹ and implemented in 2012¹⁵²), no

¹⁴⁴ Jesper Juul, *A casual revolution: reinventing video games and their players* (MIT Press, Cambridge (MA) 2010).

¹⁴⁵ Tom Chatfield, *Fun, Inc.: Why Games Are the 21st Century’s Most Serious Business* (Virgin, London 2010) 213.

¹⁴⁶ —, ‘Strong growth for Gameloft in 2009’ (*Screen Digest* March 2010) 55.

¹⁴⁷ <<http://www.imcb.org.uk>> accessed 1 December 2012. See discussion in Christopher Marsden, *Internet co-regulation: European law, regulatory governance and legitimacy* (Cambridge University Press, Cambridge 2011) 143-5.

¹⁴⁸ Dominic Arsenault, ‘The Nintendo Entertainment System’ in Mark Wolf (ed), *The Video Game Explosion: A History from Pong to Playstation and Beyond* (Greenwood, Westport (CT) 2008) 109-112, 111.

¹⁴⁹ Daithí Mac Síthigh, ‘Legal games: the regulation of content and the challenge of casual gaming’ (2011) 3 *Journal of Gaming & Virtual Worlds* 1, 11.

¹⁵⁰ Daithí Mac Síthigh, ‘The regulation of video games: past, present and future’ (2010) 21 *Entertainment Law Review* 298, 299.

¹⁵¹ Digital Economy Act 2010, ss 40-41.

¹⁵² The new system was implemented and came into force on 30 July 2012, through commencing the relevant amendments to the Video Recordings Act (SI 1164/2012 and SI 1766/2012), adopting new

change has been made to the position of games in the form of apps. The voluntary, European Commission-supported PEGI Online system¹⁵³ does include some games not within the scope of UK legislation, but the focus is online versions of existing console systems.

The body that classifies games under the self-regulatory system in the United States, the Entertainment Software Ratings Board (ESRB), has suggested that its system should be used for games in the App Store.¹⁵⁴ Recently, an agreement between the ESRB and the CTIA (a trade association for mobile phone carriers) provides for the use of ESRB ratings on carrier game stores (and Microsoft's),¹⁵⁵ but this does not apply to the iOS App Store or to app stores not associated with the participating parties (in particular, the Android Market). As such, the lack of participation by Apple and the Android Market may mean that the ESRB will have limited influence over apps more generally. Apple's app rating scheme (assigned automatically in response to a 'matrix' filled out by a submitting developer)¹⁵⁶ is one of four categories: 4+, 9+, 12+ and 17+, while the Android Market uses four categories (assigned in the same way) of Everyone, Low Maturity, Medium Maturity and High Maturity; neither can be aligned to any of the statutory or non-statutory schemes discussed here.

Australia's elaborate scheme for the regulation of media content across platforms also demonstrates the difficulty of app regulation. Games are subject to statutory classification under a National Classification Scheme, while Internet content is also regulated through a regulatory authority (with the potential for it being 'refused classification' i.e. banned, albeit not based on preclearance). It was determined in 2011 that 'mobile and online games be treated similarly to other online content'¹⁵⁷ i.e. capable of being made available and complained about but not requiring the use of the games rating system unless the game was subsequently classified. Legislation to this end was introduced in late 2011, creating a category of 'exempt online game' for a two-year period, but is still under consideration by the Senate.¹⁵⁸ In the meantime,

provisions on labelling (SI 1767/2012) and transitional provisions (SI 1764/2012) and the formal designation of the GRA by the Secretary of State. See further <<http://www.videostandards.org.uk/GRA>> accessed 1 December 2012.

¹⁵³ Marsden (n 147) 157-161.

¹⁵⁴ Daniel Terdiman, 'Will Apple offer ratings for iPhone games?' (*CNet* 10 June 2009) <http://news.cnet.com/8301-10797_3-10262087-235.html> accessed 1 December 2012.

¹⁵⁵ —, 'CTIA and ESRB announce mobile application rating system' (press release, 29 November 2011) <http://www.esrb.org/about/news/downloads/CTIA_ESRB_Release_11.29.11.pdf> accessed 1 December 2012; Eric Engleman, 'Apple Joins Google in Skipping New Mobile-App Ratings for Sex, Violence' (*Bloomberg* 29 November 2011) <<http://www.bloomberg.com/news/2011-11-29/apple-joins-google-in-skipping-new-mobile-app-ratings-for-sex-violence.html>> accessed 1 December 2012; —, 'Verizon App Store for Android adds ESRB ratings' (*GamePolitics* 14 August 2012) <<http://www.gamepolitics.com/2012/08/14/verizon-app-store-android-adds-esrb-ratings>> accessed 1 December 2012.

¹⁵⁶ FTC Staff Report (n 127) 6.

¹⁵⁷ Standing Committee of Attorneys-General, 'Communique, 4/5 March 2011' <[http://www.scag.gov.au/lawlink/SCAG/ll_scag.nsf/vwFiles/SCAG_Communique_4-5_March_2011_FINAL.pdf/\\$file/SCAG_Communique_4-5_March_2011_FINAL.pdf](http://www.scag.gov.au/lawlink/SCAG/ll_scag.nsf/vwFiles/SCAG_Communique_4-5_March_2011_FINAL.pdf/$file/SCAG_Communique_4-5_March_2011_FINAL.pdf)> accessed 1 December 2012.

¹⁵⁸ Classification (Publications, Films, and Computer Games) Amendment (Mobile and Online Computer Games) Bill 2011.

the position of games and apps more generally has been considered during the major reviews of Australian media law.¹⁵⁹

Another class of apps, small in number but potentially associated with major media enterprises, may fall under the auspices of the Audiovisual Media Services Directive,¹⁶⁰ because the app is the means of access to ‘TV-like’ audiovisual content, i.e. an on-demand audiovisual media service.¹⁶¹ So how does this affect apps? ‘Online games’ are excluded from the Directive,¹⁶² but a video-on-demand service distributed through any electronic communications network (including the Internet) can fall within the scope of regulation, if certain tests (e.g. on editorial responsibility) are met. While the regulatory system will vary from state to state, the Authority for Television on Demand (ATVOD) in the UK¹⁶³ requires service providers to notify it of the provision of a service; it is not the app that is the subject of notification, but the content that is made available through it (although if a service is available on multiple platforms, a single notification is sufficient).

The Communications Act 2003 (as amended to implement the Directive) and the subsequent regulatory code enforced by ATVOD require compliance with rules on advertising, identification, and content. In terms of content, the requirements are much less intensive than those applicable (under EU and UK law) to television broadcasting, and deal only with incitement to hatred and the protection of minors. However, the requirement that programmes which ‘might seriously impair the physical, mental or moral development of minors are only made available in such a way as to ensure that minors will not normally hear or see’¹⁶⁴ the content is relevant. This is because ATVOD requires and Ofcom confirms¹⁶⁵ that material unsuitable for

¹⁵⁹ Australian Law Reform Commission, ‘Classification: Content Regulation and Convergent Media’ (ALRC Report 118, 29 February 2012) <<http://www.alrc.gov.au/publications/classification-content-regulation-and-convergent-media-alrc-report-118>> accessed 1 December 2012 (recommending a platform-neutral approach, a focus on commercial media and games with a significant Australian audience, the use of the Classification Board for the most controversial (15+) material); Department of Broadband, Communications & the Digital Economy, ‘Convergence Review Interim Report’ (15 December 2011).

¹⁶⁰ Directive 2007/65/EC of the European Parliament and of the Council of 11 December 2007 [2007] OJ L332/27. Now consolidated as directive 2010/13/EU.

¹⁶¹ On on-demand AV media services and the role of co-regulation, see Rachael Craufurd Smith, ‘Media convergence and the regulation of audiovisual content’ (2007) 60 *Current Legal Problems* 238, 250-253; Mac Síthigh (n 94) section 4.3; Marsden (n 147) 147-8.

¹⁶² Directive 2010/13, recital 22. See discussion in Christopher Marsden and others, ‘Assessing Indirect Impacts of the EC Proposals for Video Regulation’ (31 August 2006) <<http://stakeholders.ofcom.org.uk/market-data-research/tv-research/videoregulation/>> 118-123, accessed 1 December 2012.

¹⁶³ Authority for Television on Demand, <http://www.atvod.co.uk>; designated by Ofcom under part 4A Communications Act 2003 (as inserted by SI 2979/2009).

¹⁶⁴ Directive 2010/13/EU, article 12; Communications Act 2003, s 368E(2) (inserted by the Audiovisual Media Services Regulations, SI 2009/2979); ATVOD Rules and Guidance, version 2.0, rule 11: <http://www.atvod.co.uk/uploads/files/ATVOD_Rules_and_Guidance_Ed_2.0_May_2012.pdf> accessed 1 December 2012.

¹⁶⁵ Ofcom, ‘Sexually explicit material and video on demand services’ (4 August 2011). See further the Ofcom sanction (financial penalty of £60,000) against the service provider Strictly Broadband for providing such a service without access control: <<http://stakeholders.ofcom.org.uk/binaries/enforcement/vod-services/Strictly-Broadband.pdf>> accessed 1 December 2012. During 2012, ATVOD has found breaches of rule 11 on the part of various other service providers, with most services either making changes or closing: ATVOD, ‘Complaint

minors (according to the test and in particular the interpretation that this includes legally available material equivalent to that classified at R18 by the British Board of Film Classification)¹⁶⁶ must only be available when subject to a content access control system such as initial age verification (certain credit card systems, or checks off the electoral register, may be appropriate) backed up by PIN or password protection for return visits.¹⁶⁷ This means that additional protections (above and beyond those built in to an App Store) may be required in the case of a small number of apps.

4. Conclusion

The issues discussed above, while making the formulation of recommendations difficult, do remind the reader that main theme in the analysis of the governance model of the iPhone app store is tied to the iPhone's designation as, in Zittrain's terms, a tethered device. In contrast, while not quite the exemplar of generativity, alternatives such as the Android platform are less tethered, but allegedly suffer from problems in relation to fraud and abuse. However, this analysis can only ever describe a particular point in time, and is inherently unstable. This is shown by the emerging criticism of quality control of the iOS App Store, which Business Week called 'anarchy in the App Store'.¹⁶⁸ The argument is that recent problems in relation to the App Store is a consequence of its popularity and the existence of competition: 'as the Apple Store has grown to include more than 600,000 apps, and with Apple facing pressure from Google and Android, some worry that the company is becoming less vigilant about monitoring app developers, exposing users to unnecessary risks and shoddy apps'.¹⁶⁹ If the closed platform turns out to be risky after all, then the trade-off does not operate, at least from the point of view of the consumer, and indeed certain developers. The result would be either a higher baseline of risk (i.e. all users are exposed to a certain amount of risk), or a reaction from the platform operator that makes it even more closed than before (i.e. tighter rules to restore user and consumer confidence). The latter may be difficult given the attention that is now paid to Apple's actions, by regulators, developers, and observers. Being the archetype of non-generativity (or post-generativity) means that those who support generativity or wider concerns of openness will not hesitate to criticise changes in control, as we have seen over the past years.

It has been argued in this article that law has a key role to play in support of Apple's chosen model. Initially, if Apple's actions fall outside of current competition or telecommunications law, this may represent an advantage which depends on the

determinations' <<http://www.atvod.co.uk/complaints/complaint-determinations>> accessed 1 December 2012.

¹⁶⁶ ATVOD (n 164) 12.

¹⁶⁷ ATVOD (n 164) 13; the details of payment and verification systems are considered in detail in the *Bootybox.tv* determination <http://www.atvod.co.uk/uploads/files/Bootybox_tv_Determination_091211.pdf> accessed 1 December 2012).

¹⁶⁸ Adam Satariano & Douglas MacMillan, 'Anarchy in the App Store' (*Bloomberg BusinessWeek* 15 March 2012) <<http://www.businessweek.com/articles/2012-03-15/anarchy-in-the-app-store>> accessed 1 December 2012.

¹⁶⁹ Nick Bilton, 'Apple loophole gives developers access to photos' (*New York Times : Bits Blog* 28 February 2012) <<http://bits.blogs.nytimes.com/2012/02/28/tk-ios-gives-developers-access-to-photos-videos-location/>> accessed 1 December 2012.

continued adoption of a given definition; this is particularly relevant in the context of telecommunications, where forms of intervention do not (yet) specifically address the app market. However, the core argument is that the combination of copyright law and the ability to contract out of a warranty in an enforceable, valid fashion protects Apple's strategy of discouraging jailbreaking. Finally, as well as Apple's consequent ability to control developer actions through its management of the iOS App Store, apps themselves are not beyond the control of public authorities. This means that app stores are not truly unregulated markets, although there is a certain lack of consistency regarding which legal provisions apply which suggest that they may be inefficiently or improperly regulated markets.

An alternative strategy for regulation can therefore be posited. To understand it, we must revisit Zittrain's dichotomy of open and closed systems. There is an aspect of this debate which can be readily and legitimately manipulated by public authorities, namely user rights. Although less apparent in the United States, the focus of Zittrain's work, a European perspective makes the position clearer. The extensive legislative schemes for data protection and consumer rights in the EU (both founded on the need to harmonise law in the internal market but increasingly justified and developed as legislative vindication of fundamental rights) reduce the risk to the user. By doing so, the stark choice between closed and open platforms can become a less crucial one. Where users have legal rights against developers (in relation to payment, for example), developers are not completely free to develop any app they wish. This means that the theoretical concept of generativity is an aspiration rather than an observable state. Indeed, developers (even where few legal requirements apply) are already accustomed to dealing with regulation, just through Apple rather than public authorities.

Nonetheless, this solution would depend on the nature of consumer and privacy laws that are in place. It is not just the appreciable legal wrongs of misleading the consumer as to the nature of a particular charge that may be alleged to be associated with an open platform; non-legal issues (such as stability) and issues difficult to prohibit even if proscribed (such as spam) are also relevant. There is also an appreciable difference between intervention to protect the interests of the consumer (regarding, for example, transparency in billing) and protecting the interests of the developer (which may in turn protect the interests of the consumer through supporting services demanded by users or facilitating competition). In particular, the former may be capable of being justified by reference to the inequality of arms between the platform operator and the end user or the vulnerable position of some consumers, whereas the category of developers includes some who would be considered the 'equals' of the operator, such as major social networking services or news providers.

The policy argument for including developer concerns (in their own right) within this proposal is restricted by the problem set out above of finding the appropriate comparator, although it is surely the case that future work on 'creative industries' and stimulating growth within the software, animation and game sectors should consider these issues in the same way that the allocation of rights or the structure of tax incentives already are. With these words of caution in mind, though, it can still be concluded that an approach of using existing provisions of law, including those borrowed from cognate sectors, to shift the balance between open and closed models and thus the degree of generativity in the smartphone and app sectors, would be legitimate and capable of having a demonstrable impact on the position of the end user.