

February 16, 2016

The Honorable Maria A. Pallante  
Register of Copyrights  
U.S. Copyright Office  
101 Independence Avenue, SE  
Washington, DC 20559-6000

RE: Comments of ACT | The App Association in Response to the U.S. Copyright Office's Notice of Inquiry, *Software-Enabled Consumer Products Study: Notice and Request for Public Comment*, 80 FR 77668 (Dec. 15, 2015)

Dear Ms. Pallante:

ACT | The App Association, representing over 5,000 app companies and software firms creating and licensing digital content, writes to submit input to the United States Copyright Office ("USCO") in response to its Notice of Inquiry.<sup>1</sup> ACT is widely recognized as the foremost authority on the \$120 billion mobile app economy and its intersection with governmental interests. As the only organization focused on the needs of small business app developer entrepreneurs around the world, ACT advocates for an environment that inspires and rewards innovation while providing resources to help its members leverage their intellectual assets to raise capital, create jobs, and continue innovating.

#### **I. General Views**

Copyright protections are foundational to rewarding the creativity and innovation that sustains and grows much of the U.S. economy. With the rise of the digital economy and the increasing Internet-enabled connectivity of consumer products, these copyright protections have only become more important for those who utilize this global marketplace. ACT applauds the USCO for seeking public comment to inform to its review of the role of copyright law with respect to software-enabled consumer products.

As detailed in ACT's latest *State of the Mobile App Economy* report,<sup>2</sup> the app industry has existed for less than a decade and has experienced exponential growth alongside the rise of smartphones. It now represents a \$120 billion ecosystem which is led by U.S. companies, the vast majority of which are

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<sup>1</sup> *Software-Enabled Consumer Products Study: Notice and Request for Public Comment*, 80 FR 77668 (Dec. 15, 2015) ("RFI").

<sup>2</sup> ACT's annually-released *State of the Mobile App Economy* provides further information on this growing industry that continues to grow, creating jobs and revolutionizing how consumers work, play, and manage their health. See <http://actonline.org/2016/01/04/act-the-app-association-releases-latest-app-industry-report/>.

startups or small businesses. The explosion of business-to-consumer and business-to-business mobile apps being deployed by non-traditional software companies is dramatically changing the independent software vendor economy, specifically with regard to exposure to digital risks and vulnerabilities. These deployments include a variety of content delivery options, security and monitoring services, tech support services, payment processing services, patents, licensing agreements, and diverse revenue models. Copyright protections should contemplate dynamic industries like the mobile app economy, and are a crucial underpinning to ACT's thousands of software development member companies' business models, such as:

- Health devices with embedded software that are relied upon for related decisions, ranging from lifestyle changes to medical treatments.
- Automotive products with embedded software that drivers rely on to protect their safety on American roadways.
- Software-enabled financial tools used by countless Americans to handle financial transactions.
- Consumer and home-oriented products enabled by embedded software apps that are relied upon for alertness and safety, as well as convenience and entertainment.

Piracy presents a major threat to the success of ACT members and the billions of consumers who rely on digital products and services. Piracy, whether originating within the U.S. or abroad, threatens not only the creators of digital content by undermining their ability to innovate, invest, and hire; but also the end-users' confidence in software-enabled products and services as there is potential for consumers to be victimized by illegal sellers who pose as legitimate content owners and sellers. Counterfeiting software apps can lead to customer data loss, interruption of service, and revenue loss and reputational damage. Further, with the rise of enterprise mobile app development, apps are being used as a means to attack mobile users of an entire enterprise. While the criminal penalties for these activities (*e.g.*, attacking a bank's clients through a counterfeit version of their app) are likely more of a deterrent than the copyright laws being violated when the counterfeit app is created, these criminal acts all begin with first misappropriating application logic and application media content (brands, etc.). These threats have caused significant damage, and continue to pose substantial hazards, to app development companies that service every sector of the economy for countless end-users.

For example, ACT member BusyBee Studios' children's app Zoo Train<sup>3</sup> was featured in the GooglePlay app store for sale at \$0.99. This app uses colorful animal shapes and animations in providing educational puzzles and spelling lessons for young children. During a search for the product, the developers found another app in the GooglePlay store using the same name and artwork, but from a different publisher. This pirated app was free in the GooglePlay store and was displayed as a result of a search query for "Zoo Train," and – unlike the true Zoo Train app – displayed advertisements to earn bogus revenue as well as gained permission to control a user's device in order to access phone dialer information, the address book, and the network stack to install itself to run in the phone's operating system background to collect this information (in other words, a malware "stub" that sits inactive but can be activated with

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<sup>3</sup> <https://itunes.apple.com/us/app/zoo-train/id407870968?mt=8>.

a command). It took nearly 12 months to have the counterfeit Zoo Train app removed from the GooglePlay store.

Zoo Train is not alone in facing such risks. Further innovative mobile app innovators that rely on technological protection measures (“TPMs”) such as authentication and encryption to mitigate serious piracy threats include:

- Mimir Health,<sup>4</sup> which makes cloud-based analytic software for healthcare executives and clinicians. The company’s products combine disparate healthcare data into one place, eliminating time wasted on data consolidation and preparing reports by hand.
- DrinkMate,<sup>5</sup> producer of the smallest breathalyzer in the world that plugs into a smartphone. Once plugged into a smartphone and activated via its software app, a user can blow into the device and get an immediate reading of blood alcohol content. DrinkMate’s goal is to promote safe and responsible drinking habits and personal/public safety.
- PreEmptive Solutions,<sup>6</sup> which provides application protection solutions, and works directly with many thousands of software development organizations to help them manage these specific risks. Leveraging PreEmptive’s application analytics and protection solutions, development organizations materially improve application quality, user satisfaction, and development ROI across today’s distributed and increasingly heterogeneous computing architectures.

The app industry effectively did not exist when the Digital Millennium Copyright Act<sup>7</sup> (“DMCA”) became law in 1998 after a comprehensive negotiation between policymakers, copyright interests, tech firms, network operators, and nonprofits. The DMCA is not without flaws, but it has proven effective and flexible enough to provide for and deal with continued innovation in the tech sector as well consumer protection; further, courts have reined in attempts to abuse the law on many key issues. To educate policymakers, the developer community, and consumers about the DMCA, ACT published a white paper on the 15<sup>th</sup> anniversary of the DMCA titled “Quick Guide to the DMCA: The Digital Millennium Copyright Act Basics,”<sup>8</sup> a resource with easy-to-understand facts about what the law actually does and how it impacts innovation.

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<sup>4</sup> <http://www.mimirhealth.com/>.

<sup>5</sup> <http://www.getdrinkmate.com/>.

<sup>6</sup> <https://www.preemptive.com/>.

<sup>7</sup> Pub. L. No. 105-304, 112 Stat. 2860 (Oct. 28, 1998).

<sup>8</sup> ACT | The App Association, Quick Guide to the DMCA (2014), available at [http://actonline.org/wp-content/uploads/2014/10/DMCA\\_fullpage9-17-14.pdf](http://actonline.org/wp-content/uploads/2014/10/DMCA_fullpage9-17-14.pdf).

ACT's views on the role of copyright with respect to software-enabled consumer products are informed by several principles that we strongly urge the USCO to incorporate into its related report to Congress. These include:

- ***Copyright Laws Should Encourage Innovation while Protecting Consumer Interests:*** the United States' copyright laws were created to stimulate innovation for the general public good. As laws like the DMCA are nearly 20 years old and debate around copyright reform continues to intensify, it is important that the Congressional intent underlying copyright law remain a priority, such as ensuring that the copyright owner's exclusive rights remain meaningful and effective and through the properly-scoped application limitations on those rights, such as of the fair use and first sale doctrines.
- ***Copyright Laws Should Permit for the Securing of Digital Content:*** software application developers continue to face significant monetary and reputational risks due to piracy. The tools to address these threats provided by the DMCA--incentives to intra-industry consensus approaches and the use of TPMs (such as the use of digital rights management ["DRM"] technologies)--should be enabled and not discouraged. While no technology is impervious to attack, the DMCA has been a driving force in establishing the use of TPMs which have allowed for rights holders to reasonably protect their creative works.
- ***Copyright Laws Should Provide Legal Certainty:*** software application developers must deal with complex laws and regulations, including copyright, in the context of the United States (and very often) globally. Copyright owners need clear legal mechanisms, including in the criminal context, to ensure that they can leverage the Internet to export their software or services to consumers in the United States and other countries, and a predictable process to protect their rights.
- ***Changes to Copyright Laws Should be Responsive to Proven Harms:*** calls for sweeping changes to U.S. copyright law based on theoretical legal theories and undemonstrated impacts should be carefully scrutinized. ACT urges the USCO to ensure its report to Congress is based on data-driven proven – not theoretical – harms.
- ***Changes to U.S. Copyright Law and Global Impacts:*** policymakers examining changes to U.S. copyright law should always consider the impact changes made to copyright law in the context of a digital economy may have in creating precedent outside of the United States.
- ***Sector-Specific Issues should be Addressed by Relevant Federal Actors, Not Through Altering the Copyright Laws:*** policymakers should carefully approach proposals for changes to the Copyright Act to address sector-specific issues, and ensure that changes to the Copyright Act do not supplant the mechanisms and processes in place to address the public interest for regulated segments of the economy, whether through specific Federal agency jurisdiction, competition, or other relevant areas of law.

## II. Responses to Questions in the NOI

1. **Whether copyright law should distinguish between software embedded in “everyday products” and other types of software, and, if so, how such a distinction might be drawn in an administrable manner.**
  - a. **Whether “everyday products” can be distinguished from other products that contain software, such as general purpose computers—essentially how to define “everyday products.”**
  - b. **If distinguishing between software embedded in “everyday products” and other types of software is impracticable, whether there are alternative ways the Office can distinguish between categories of software.**

To date, the Copyright Act, coupled with the DMCA’s protections, have enabled innovation, helped combat piracy, and facilitated appropriate public access and fair use. As noted above, the exponential growth of the mobile app economy (and the “Internet of Things” [IoT]) gives rise to a wider application of copyright law to many “everyday” products. These “everyday” products are and will be enabled by the same digital technologies that Congress contemplated when adopting the DMCA’s changes to the 1976 Copyright Act.

Functionally, whether a product is an “everyday” product is a relative determination that will change at an increasing rate as technological innovation escalates across segments of the economy. Moreover, technological innovation consistently outpaces legislative and regulatory processes, virtually assuring that any statutory articulation of a distinction will quickly become outdated, leading to more confusion and frustration in the marketplace. Attempting to determine a stagnant definition of “everyday products” from “others” in the context of copyright law is not feasible, and would therefore generate increased uncertainty by creating new and complicated differentiations in the law, discouraging investment and innovation (e.g., the “bring your own device” model). Alternatively, uniform and predictable application of the copyright laws will provide clarity in legal responsibilities and expectations for all stakeholders.

Based on the above, ACT strongly discourages Congress and the USCO from attempting to distinguish between software embedded in “everyday products” and other types of software (as well as “alternative ways [to] distinguish between categories of software”) in the copyright context because such an exercise is impractical and would multiply confusion around the application of copyright law. While there are certainly opportunities to continue to refine copyright law that will embrace the next generation of technological advances, Congress should be wary of dismantling the compromises underlying existing law that have served innovation and creativity well, and should only proceed after extensive and careful consultation with stakeholders.

ACT also encourages the USCO’s report to Congress to include discussion of the impact the United States’ copyright laws have globally. Should the USCO recommend to Congress that it consider taking a radical step such as attempting to differentiate between software in “everyday products” and “others,” it could push other nations to undertake a similar approach, multiplying legal uncertainty around the globe.

**2. The rationale and proper scope of copyright protection for software embedded in everyday products, including the extent to which copyright infringement is a concern with respect to such software.**

Since the 1976 Act's enactment, the scope of copyright protections for computer programs has been refined by Congress, as well as judicially, creating precedents that underlie the software industry and the potential benefits that will result from the increasing digitization and connectivity of “everyday” products. Consistent with our views above, ACT strongly urges for the most clear and consistent approach to software copyright as is possible, regardless of whether it is embedded in so-called “everyday” products or in “other” products.

The DMCA, and the Copyright Act itself, was never expected to end unlawful uses of content. No laws, for that matter, prevent unlawful behavior entirely. While the DMCA has not eliminated digital piracy, it has provided important tools for copyright owners to protect their copyrights online. Similarly, for software embedded in “everyday” products, copyright owners will face an ongoing battle to mitigate infringement. If Congress undertakes a legislative initiative in this area, ACT encourages Congress to consult extensively with stakeholders before proposing statutory change.

**3. The need to enable interoperability with software-embedded devices, including specific examples of ways in which the law frustrates or enables such interoperability.**

Interoperability – at its highest level, the ability to communicate with other interfaces – can sometimes be a necessity for app developers, but the practice of reverse engineering must be balanced with the need to adequately maintain the integrity of software using TPMs (such as authentication and encryption). The use of TPMs is crucial to maintaining the integrity of software and in protecting end-user data collected by consumer products with embedded software, not only from nefarious actors but also in furtherance of the obligation to protect end-users’ privacy rights.

While the USCO has requested that input related to the effectiveness of Section 1201 be shared in a separate Request for Information,<sup>9</sup> ACT notes that Congress’ safeguarding provision requiring an examination of Section 1201’s efficacy in the DMCA<sup>10</sup> is a valuable means to evaluate fair use and its relation to interoperability. Section 1201 allows a lawful user of a computer program to circumvent a technological measure “for the sole purpose of identifying and analyzing those elements of the program that are necessary to achieve interoperability of an independently created computer program with other programs, and that have not previously been readily available to the person engaging in the circumvention, to the extent that any such acts of identification and analysis do not constitute infringement...”<sup>11</sup> Since the DMCA came into effect, the courts have provided further clarity around this

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<sup>9</sup> See RFI at 77671.

<sup>10</sup> 17 U.S.C. § 1201(a)(1)(C).

<sup>11</sup> 17 U.S.C. § 1201(f)(1).

exemption that has provided increased certainty for copyright holders and the public.<sup>12</sup> ACT continues to monitor these developments, and discourages sweeping changes to copyright law based on theoretical legal arguments and speculative harms.

Furthermore, interoperability raises a number of issues that fall beyond the USCO's purview (*e.g.*, antitrust issues handled by the Department of Justice and/or Federal Trade Commission) or are sector-specific (*e.g.*, the Federal Communications Commission's efforts to ensure interoperability in public safety communications<sup>13</sup>). ACT urges the USCO to ensure that its decisions around the application of copyright law to software embedded in devices are made in full consideration and coordination with the regulatory agencies best positioned to understand the issues unique to each sector.

**4. Whether current limitations on and exceptions to copyright protection adequately address issues concerning software embedded in everyday products, or whether amendments or clarifications would be useful. Specific areas of interest include:**

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**d. Fair use (codified in 17 U.S.C. 107)**

The fair use doctrine is an important component of the U.S. copyright system, which provides for the ability to copy, distribute, or otherwise use a copyrighted work under certain circumstances. ACT believes that the DMCA has advanced the Congressional intent of "fair use" while reasonably protecting copyright owners. The Copyright Act contains a list of the various purposes for which that may be allowed and the factors a court must consider in determining whether a use was fair, to be determined on a case-by-case basis.<sup>14</sup> ACT continues to monitor developments in the courts, but at this time does not hold specific recommendations for changes to 17 U.S.C. 107.

**e. The first-sale doctrine (codified in 17 U.S.C. 109)**

Software apps are often licensed for use by consumers, and this digital content is therefore not owned by licensees for the purposes of Section 109 of the Copyright Act. This contrasts with a marketplace for sale of physical goods, which suffer from generational losses and therefore deteriorate over time. The "physical" manifestation of software only applies in limited cases when it had been previously installed on a computer that is resold. Licensing allows app developers to offer low-cost, consumer-friendly products in a thriving marketplace, making it possible for consumers to get amazing, innovative products for as little as \$0.99. To be clear, the software industry at large, and in particular the mobile app economy, has flourished using this licensing business model, which has directly resulted in baseline

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<sup>12</sup> See, *e.g.*, Davidson & Associates v. Jung, 422 F.3d 630 (8th Cir. 2005).

<sup>13</sup> *E.g.*, Interoperability, FCC Public Safety & Homeland Security Bureau, Interoperability, <https://transition.fcc.gov/pshs/emergency-information/interoperability.html> (last accessed Feb. 16, 2016).

<sup>14</sup> These factors are: (1) the purpose and character of your use; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion taken; and (4) the effect of the use upon the potential market. See 17 U.S.C. 107.

consumer expectations related to the licensing of software (*e.g.*, warranties on the product and related consumer support).

Proposals to expand the first sale doctrine to software and the app market would significantly threaten the industry's viability, putting the quality of consumer software in peril, as treating software as if it had the same attributes as a physical product would require app makers to radically change their pricing structure. Aside from the technical challenges associated with such an assurance that the seller deletes the original copy before resale in a secondary market, it is reasonable to infer that app sales in the primary market will decline substantially. Since most app companies are small businesses, this threat to revenues would force them to dramatically increase prices and forego consumer-friendly business models to ensure a financial return on investment. In some cases, such a change would very likely lead to some app developers exiting the market, decreasing competition among the remaining developers, and reducing the overall diversity of the marketplace.

Expanding the first sale doctrine to digitally licensed content would also discourage investment in one of the fastest growing sectors of our economy. When forced to raise prices, app makers would have far fewer customers, leading to marketplace uncertainty. Investment in mobile services would fall sharply and the pace of new innovations that make our lives easier would slow to a crawl. App companies not only create and license content but also obtain software licenses in the development of their products. Without the incentive for innovators to license their inventions, many software companies would no longer have access to the component parts of code, created by others, that are necessary to make new apps. Without access to these tools, the vast majority of companies in the app marketplace would lack the resources to continue production.

In rejecting the notion that the first sale doctrine should extend to digital transmissions of copyrighted works, the Department of Commerce's Internet Policy Task Force ("IPTF") recognized the flexibility that the licensing model has brought to the software marketplace. Specifically, it noted that an "overly broad application of the first sale doctrine could also impede the continued development of the growing range of flexible new licensing models and variable pricing[, and that c]onsiderable evidence [demonstrates] that such models are becoming more and more prevalent and that they provide real value to consumers above and beyond traditional ownership models."<sup>15</sup>

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<sup>15</sup> INTERNET POLICY TASK FORCE, DEP'T OF COMMERCE, WHITE PAPER ON REMIXES, FIRST SALE, AND STATUTORY DAMAGES (2015) at 65-68, <https://www.ntia.doc.gov/report/2016/white-paper-remixes-first-sale-and-statutory-damages>.



**5. The state of contract law vis-a-vis software embedded in everyday products, and how contracts such as end user license agreements impact investment in and the dissemination and use of everyday products, including whether any legislative action in this area is needed.**

Many copyrighted products, including apps, are distributed subject to license agreements that use “click-through” agreements facilitated by the app store platform (*e.g.*, iOS). These license agreements are a business necessity and create the terms of service for the use of the software, and may appropriately include copyright limitations based on a balance of interests and the specific product, its end user(s), etc. Adherence to licensing terms, for example, is crucial to ensuring data integrity and resiliency, as well as end user privacy. ACT believes that the freedom to contract serves as a major reason underlying the innovation seen in the mobile app economy.

The USCO should carefully consider, based on actual proven harms, its recommendations to Congress related to state of contract law vis-a-vis software embedded in everyday products in order to ensure that its recommendations are aligned with the existing body of contract laws, regulations, and precedents; and the wide reliance of the business community, including those participating in the digital economy, on them. ACT supports ensuring that app developers maintain the ability to dictate the terms by which the product they sell is used through end user license agreements. Undercutting the balance in place today that would alter the fundamentals underlying the digital economy at large, and would impede the proliferation of innovative software-enabled consumer products.

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ACT | The App Association appreciates the opportunity to submit comments to the USCO to help inform the record and its study on copyright issues for software-enabled consumer products, and looks forward to the opportunity to meet with you and your team to discuss these issues in more depth. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Morgan Reed". The signature is written in a cursive style with a large, prominent 'M' and 'R'.

Morgan Reed  
Executive Director  
ACT | The App Association