



StanfordLawSchool
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STANFORD INTELLECTUAL
PROPERTY EXCHANGE

A LEGAL FRAMEWORK
FOR CONSUMER PUBLICATION
ON THE INTERNET

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INTRODUCTION/BACKGROUND

Roland Vogl*

THE NEW MEDIA BARONS

The German podcaster Larissa Vassilian illustrates the appeal of user-generated content. Vassilian, who podcasts under the name Annik Rubens, is one of the most prominent podcasters in Germany. Her two Internet radio shows, the daily “Schlaflos in München” (Sleepless in Munich) and the weekly “Filme und So” (Movies and Stuff) are downloaded regularly by anywhere from 5,000 to 16,000 listeners, ranking these two shows among Germany’s top 10 podcasts on iTunes. The media business commentator Jeff Jarvis accords her success to the fact that “she manages to convey her personality with an authenticity that sets her apart from the all-the-same voices of broadcasting. Because she talks about her life and her views and responds to those of her audience, she establishes personal relationships with loyal subscribers...”¹ Jarvis adds: “[T]his is a cautionary tale for media bosses: it’s hard for talent to rise and survive in your institutions. But on the Internet, with her podcasts and her thousands of faithful fans, Vassilian has the freedom to be herself... There’s just one issue: making money... As with so much else in citizens’ media, marketers haven’t figured out how to join a world they can’t measure and insure like old, expensive media...”²

“Rocketboom”³ is a three-minute daily videoblog created and co-owned by producer-director Andrew Baron and Amanda Congdon. Congdon stars five days a week as Rocketboom’s anchor and host, occasionally doing interviews. The Monday-through-Friday shows present video oddities and animations, report on robotics and other technologies, sample vlog excerpts and offer coverage of emerging social movements, plus political commentary, satiric or serious.⁴ With an emphasis on international arts, technology and blog drama, the New York City based vlog is presented via online video and widely distributed through RSS. Rocketboom is currently one of the most popular vlogs on the Internet with more daily subscribers for original syndicated multimedia content than nearly any other site, including podcasts. Rocketboom is created with a consumer-

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¹ Jeff Jarvis, *Prinzessin von Podcasting, Lessons for us all from the princess of podcasting*, Nov. 28, 2005, GUARDIAN column available on BUZZMACHINE at <http://www.buzzmachine.com/index.php/prinzessin/>. On another place Jarvis elaborates on her appeal as a podcaster: “[Y]ou see, she’s friendly and appealing and funny and real, unlike radio and TV “professionals,” who’ve been made fake on a scale from stiff to overbearing to obnoxious. Think about it: Would you really want to sit in a chair across from Rush Limbaugh or Randi Rhodes yelling at you, or any given newsreader boring you? Even Howard Stern isn’t Howard Stern off the air, he says. But I’ll just bet that Rubens is Rubens. That’s what makes her that ideal podcaster... and that’s what makes podcasts as unlike radio as weblogs are unlike newspapers. They’re made of people. Yet Rubens is also not clumsy and crude and long-winded like some podcasters, bless their hearts. She is just slick enough; she cares about making a good show and thinks it through and the effort shows. She’s friendly and entertaining but informative and organized (which is to say, unlike some podcasters I won’t name, she knows that just because you can talk for two hours, you don’t have to).

She and Hetzel also created a great blog to go along with their podcast. But note that: The blog isn’t the thing, it’s just the value added. The podcast is the thing...”. See Jeff Jarvis, *My favorite podcasts*, BUZZMACHINE at

<http://www.buzzmachine.com/index.php/2005/10/18/my-favorite-podcasts/>

² Jeff Jarvis, *Prinzessin von Podcasting, Lessons for us all from the princess of podcasting*, Nov. 28, 2005, Guardian column available at <http://www.buzzmachine.com/index.php/prinzessin/>.

³ <http://www.rocketboom.com/vlog/>

⁴ <http://en.wikipedia.org/wiki/Rocketboom>

level video camera, a laptop, two lights and a map with no additional overhead or costs. On February 2, 2006 Rocketboom was incorporated into an episode of the TV series CSI in a fictional scene of a murderer watching Congdon comment on the crime. In the month following the *CSI* episode, the number of Rocketboom viewers jumped to 200,000, similar to the size of a cable show audience.⁵

“Breakup,” is a 75-second video clip produced by a 17-year-old girl who refers to herself as “Bowiechick,” which has been viewed more than 155,000 times and generated more than 800 comments on the video-sharing website YouTube.com in March of 2006. The clip features the young girl lamenting a breakup with her boyfriend while simultaneously cheering herself up by playing with video effects of her webcam and altering her on-screen appearance. One minute, she appears to be wearing glasses, the next it looks as if she’s strapped on a gas mask. At one point her nose and eyes appear feline. The mini-blockbuster video helped introduce the avatar features of the webcam she used to a legion of YouTube viewers and generated significant buzz about the possibilities of viral marketing through consumer made advertisements.⁶

The creators of user-generated content – such as the three mentioned here - are technologically empowered. They can distribute their content around the world and on demand, and thus have a much larger potential audience than any TV broadcast. However, the legal system provides a number of obstacles for digital content creators. While they may have found the means to express themselves online in new and original ways, they still face unnecessary legal risks and transaction costs. This project, which brought together the intellectual resources of Stanford Law School’s Program in Law, Science & Technology, its Center for Ecommerce, and Codex: The Stanford Center for Computers and Law, is inspired by the new generation of Internet publishers. The Program in Law, Science and Technology was awarded a generous grant by MediaX⁷ for a research proposal which was submitted by principal investigator Professor Margaret Jane Radin, law student JuNelle Harris, and myself in response to MediaX’s request for proposals inviting research into technological, procedural and/or legal mechanisms that can facilitate consumer publication and use of material in online forums such as blogs and P2P networks, including issues of Internet law and personalization technologies. Those mechanisms should allow for the creation, expression and use of content by consumers and also ensure appropriate protection for the rights of all relevant parties in their digital content.

The MediaX grant allowed us to recruit a team of law students who focused on legal research surrounding the hypothetical creation of an online platform which would enable content creators to attach their individual licensing preferences to their creations, clear copyrights in third-party owned content, and get fair compensation for their works. The following overview of the current copyright wars in the digital realm shall provide a background and understanding for why an online platform such as the one we used as a hypothetical for this report to guide the students’ research efforts, may in fact help resolve some of hardest legal issues the Internet and new digital technologies have spawned.

⁵ Dan Mitchell, *A Blog Writes the Obituary of TV*, Mar. 11, 2006, NYT<http://www.nytimes.com/2006/03/11/technology/11online_ready.html?ex=1299733200&en=f550c582a36472d4&ei=5090&partner=rssuserland&emc=rss>

⁶ Greg Sandoval, *Teenage auteur ignites buzz about video graphics*, CNET News.com <http://news.com.com/Teenage%20auteur%20ignites%20buzz%20about%20video%20graphics/2100-1025_3-6053340.html>

⁷ <http://mediax.stanford.edu>

COPYRIGHT WARS

Peer-to-Peer File-sharing

On June 27, 2005 the US Supreme Court issued its long-awaited ruling in the *MGM v. Grokster* case. In its unanimous decision the court held that marketers and distributors of technology who actively promote the use of their products for purposes of infringing copyright may be held liable for third-party infringements using that technology. The decision was widely viewed as a big victory for the entertainment industry⁸ and as a blow to technology companies and digital rights of consumers. Technology companies, legal scholars and digital rights activists have argued that unrestricted liability for anyone who is in any way involved with copyright infringement threatens to stifle innovation.⁹ The concern is that while courts can make decisions about direct infringement on a case-by-case basis, lawsuits based on indirect liability necessarily sweep together both socially beneficial and socially harmful uses of a program or service, either permitting both uses or condemning both.¹⁰

In the decision, the Supreme Court overturned a Ninth Circuit ruling that barred Hollywood and the music industry from suing the providers of file-sharing software used by consumers to swap songs and movies for free.¹¹ At the same time, the Court confirmed the prior standard under *Sony Corp. v. Universal City Studios*¹², that no secondary liability should be imposed on a manufacturer or distributor of a product capable of substantial lawful uses without actively promoting copyright infringement by third-party users, even where the manufacturer or distributor knows that the product is in fact used for an unlawful purpose. Adopting an “inducement” rule from patent law the high court introduced a new theory of copyright liability and found that the so-called *Sony Betamax* standard did not apply in instances in which the manufacturer or distributor of the technology actively promoted infringing activity.¹³ The mere knowledge of infringing potential or of actual infringing uses, or ordinary acts incident to product distribution - such as offering technical support or product updates - would not be enough to subject a manufacturer or distributor to liability.¹⁴ At this point it is quite unclear as to what constitutes “active promotion” and “inducing” of infringing actions. Legal experts have therefore pointed out that the vagueness of the new inducement standard will likely lead to uncertainty as technology companies encounter risk associated with their business and revenue models until the definitions of “active promotion” and “inducement” become clearer. Some expect that the new inducement theory will fuel a new generation of entertainment industry lawsuits against technology companies and that “the threat of legal

⁸ See, e.g., Hilary Rosen, former head of the Recording Industry Association of America, posting on the Huffington Post: “Wow. We won big. Unanimous. That doesn't happen very often. I was right. Winning is a big psychological lift.”

<http://www.huffingtonpost.com/theblog/archive/hilary-rosen/the-wisdom-of-the-court-3259.html>.

⁹ See, e.g., Mark A. Lemley & Anthony R. Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 STAN. L.REV. 1345, 1349 (2004); see also the Electronic Frontier Foundation's (EFF) response at

<http://www.eff.org/news/archives/2005_06.php#003748>

¹⁰ *Id.* at 1350.

¹¹ A copy of the Supreme Court's decision in *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.* can be found at http://www.eff.org/IP/P2P/MGM_v_Grokster/04-480.pdf. In its decision the court overruled the Ninth Circuit which in August of 2004 had found that: “This appeal presents the question of whether distributors of peer-to-peer file-sharing computer networking software may be held contributorily or vicariously liable for copyright infringements by users. Under the circumstances presented by this case, we conclude that the defendants are not liable for contributory and vicarious copyright infringement and affirm the district court's partial grant of summary judgment.” See *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd.*, 380 F.3d 1154, 2004 (9th Cir.(Cal.) Aug 19, 2004)

¹² *Sony Corp. of America v. Universal City Studios*, 464 U.S. 417 (1984).

¹³ A classic example of inducement, the Court said, would be by advertisements or solicitations that send a message designed to stimulate others to commit violations

¹⁴ However, the Court also noted that mere distribution of a product, without specific encouragement of infringement, could give rise to inducement liability where evidence shows that the distributor intended and encouraged the product to be used to infringe.

costs may lead technology companies to modify their products to please Hollywood instead of consumers.”¹⁵ To the surprise of many, the very recent and widely anticipated copyright lawsuit against YouTube was not brought by the entertainment industry. Rather, in July 2006 YouTube was sued by the journalist and helicopter pilot Robert Tur who claimed that YouTube encouraged its users to violate copyright law by allowing the video he shot of the beating of trucker Reginald Denny during the 1992 Los Angeles riots to be posted on the site without his permission.¹⁶

The *Grokster* case and other cases show that courts are willing to shut down innovative services in the field of digital content distribution under an indirect copyright infringement theory.¹⁷ In addition to indirect copyright liability suits the content industries began filing numerous direct liability lawsuits against individual Internet music and movie file-sharers in 2003.¹⁸

Regardless of the *Grokster* decision, most people agree that P2P technology and blogs are here to stay. As mentioned earlier, in the decision the court reaffirmed the core position of the *Sony Betamax* case,¹⁹ finding that peer-to-peer technology can be used for non-infringing uses. It is therefore fair to say that the genie is out of the bottle. The question thus becomes how P2P technology will adapt and evolve to accommodate the requirements of the marketplace. Companies like SNOCAP, Inc. already provide legal P2P alternatives to unauthorized music file-sharing.²⁰ What such companies may not realize is that they are essentially in the legal compliance business.

Beyond the question of the future of P2P technology, we are facing a much larger question, namely: What distribution models of digital content will emerge from the present copyright wars? Moreover, how will the resultant models affect the future production and consumption of digital content? Clearly, the Internet offers tremendous functional opportunities for the distribution of digital content, be it text, audio or video. Traditional barriers to producing and distributing content have been significantly reduced or completely removed by new

¹⁵ See, Fred von Lohmann, *Supreme Court Ruling Will Chill Technology Innovation*, EFF, <<http://www.eff.org/effector/18/21.php>>

¹⁶ Greg Sandoval, YouTube sued over copyright infringement, CNET News.com, July 18, 2006 <http://news.com.com/2100-1030_3-6095736.html>.

¹⁷ E.g. the widely-reported shutdown of the Napster service in 2001. See *A&M Records, Inc. v. Napster, Inc.*, 2001 (N.D.Cal. Mar 05, 2001) affirmed by *A&M Records, Inc. v. Napster, Inc.*, 284 F.3d 1091, 2002 (9th Cir.(Cal.) Mar 25, 2002). The ReplayTV case is another often-cited example of how new innovative services can be shut down through copyright litigation: In 2001, 28 major movie studios, television networks, and cable companies sued the creator of a new digital video recorder (DVR) that allows customers to skip through commercials and send recorded television programs to a limited number of other DVRs. The creators of the ReplayTV, SONICblue, Inc., and its subsidiary ReplayTV, Inc., defended themselves through two years of expensive litigation. The ReplayTV creators filed for bankruptcy in March 2003 and sold off their assets. Fearing a similar fate, the purchaser of the ReplayTV technology, Digital Networks North America, announced in June 2003 that it was removing the contentious “commercial advance” and “send show” features in all future ReplayTV models, to “address concerns of content copyright holders.” See *Paramount Pictures Corp. v. ReplayTV, Inc.*, 2002 WL 1315811, C.D.Cal., 2002., Apr 29, 2002.

¹⁸ Jeordan Legon, 261 music file swappers sued; amnesty program unveiled, CNN Jan. 23, 2003, <<http://www.cnn.com/2003/TECH/internet/09/08/music.downloading/index.html>. According to recent reports these suits failed to deter P2P downloading; see, e.g. EFF, *RIAA v. The People: Two Years Later*, (Nov. 3, 2005) <http://www.eff.org/IP/P2P/RIAAatTWO_FINAL.pdf>

¹⁹ *Sony Corp. of America v. Universal City Studios*, 464 U.S. 417 (1984). In its *Sony Betamax* decision the Supreme Court ruled that the making of individual copies of complete television shows for purposes of time-shifting does not constitute copyright infringement, but is fair use. The Court also ruled that the manufacturers of home video recording devices, such as Betamax or other VCRs, cannot be liable for infringement. The case was a boon to the home video market as it created a legal safe haven for the technology, which also significantly benefited the entertainment industry through the sale of pre-recorded movies. See Wikipedia at http://en.wikipedia.org/wiki/Sony_v_Betamax

²⁰ SNOCAP offers a content registry and clearinghouse that enables record labels, publishers and individual artists to sell their catalogs through peer-to-peer networks and online retailers. See <http://www.snocap.com/about/>.

affordable or “free” technologies, including digital cameras, blogs, vlogs, content editing software, P2P, and RSS streams. Incumbent content creation and distribution companies such as movie studios, television networks and music labels now find themselves on a level competitive playing field with new players in the field of content distribution and production, such as Apple with its iTunes platform, and individual creators who can now create high quality content at low cost and distribute it around the world through the Internet. There are, however, two major distinctions between the incumbents and these individual creators. First, the incumbents may be paralyzed or deterred from innovation by the fear of cannibalizing their existing marketing platforms, and past distribution oligopolies.²¹ Second, incumbent media companies, unlike the individual creators, have deep legal resources. Indeed, this latter distinction is amplified by the ability of media incumbents to work together to crush new distribution mechanisms which they view as illegal.

The Law and Policy Debate

While individual content creators, corporate content owners, Internet start-ups and established services experiment with new ways of producing and distributing content, players on both sides of the copyright wars argue that the copyright system needs to be reformed to address the problems that arise in the rapidly changing digital environment. It is still the case that the Internet facilitates massive copyright infringement. Thus, those who invest time, money and effort into the creation of content still – for the most part – want to see more effective legal protection against individual infringers and providers of piracy-enabling tools. In addition, they successfully urged legislators to pass regulations, such as the DMCA²², that protect the content owners’ use of “self-protection” in the form of Digital Rights Management systems, which others have criticized as promoting a technology and a contract-based “paracopyright” regime which undermines copyright’s traditional safety valves, such as the idea/expression dichotomy, fair use and copyright’s limited term.²³ Most recently, the recording industry advocated for reform of the Copyright Act’s compulsory licensing provisions, and – together with the motion picture industry – has proposed an audio and television broadcast flag system²⁴ to protect over-the-air digital broadcasts, which now frequently find their way into private file-sharing networks often referred to as the “darknet.”²⁵

²¹ At least *vis-a-vis* content which the incumbent owns.

²² The Digital Millennium Copyright Act (DMCA) criminalizes production and dissemination of technology that can circumvent measures taken to protect copyright, not merely infringement of copyright itself, and heightens the penalties for copyright infringement on the Internet. Passed on May 14, 1998 by a unanimous vote in the United States Senate and signed into law by President Bill Clinton on October 28, 1998, the DMCA amended title 17 of the US Code to extend the reach of copyright, while limiting the liability of Online Providers from copyright infringement by their users. On May 22, 2001 the European Union passed the EU Copyright Directive or EUCD, similar in many ways to the DMCA. *See, e.g.*, <http://en.wikipedia.org/wiki/DMCA>

²³ *See, e.g.*, Neil W. Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1, 24–26 (2001) (referring to legislation such as the DMCA as paracopyright). In its report on the Digital Millennium Copyright Act of 1998, the House Committee on Commerce adopted the position of a group of U.S. law professors that the Act’s provisions protecting the integrity of access and use control technology “have little, if anything, to do with copyright law,” and “represent an unprecedented departure into the zone of what might be called paracopyright,” [H.R. Rep. No. 105-551, pt. 2, at 24 \(1998\)](http://www.house.gov/commerce/committees/technology/1998/105-551_pt_2_at_24_1998.html); *see also* United States v. Elcom Ltd., 203 F. Supp. 2d 1111, 1140 (N.D. Cal. 2002).

²⁴ A broadcast flag is a set of status bits (or “flags”) sent in the data stream of a digital television program that indicates whether or not it can be recorded, or if there are any restrictions on recorded content. http://en.wikipedia.org/wiki/Broadcast_flag. More recently, the RIAA asked House lawmakers to require that digital radio services that permit subscribers to peel songs off the program stream and store them on portable devices should have to pay a mechanical royalty. *See* Michael Warnecke, *Digital Radio Not Playing Fair With Licensing, says RIAA*, BNA ELECTRONIC COMMERCE & LAW REPORT, p. 1065 (Nov. 9, 2005).

²⁵ *See* Peter Biddle, Paul England, Marcus Peinado, and Bryan Willman, *The Darknet and the Future of Content Distribution*, <http://msl1.mit.edu/ESD10/docs/darknet5.pdf>. *See also* J.D. LASICA, DARKNET: HOLLYWOOD'S WAR AGAINST THE DIGITAL GENERATION (2005).

On the other side, there is a growing movement of independent creators, software developers, scholars and digital rights activists who are opposed to the expansion of copyright in the digital realm. They claim that copyright as it exists today is chilling technological innovation, creative expression and free speech.²⁶ More generally, they lament that the extension of the copyright term, the lowering of the originality requirement and the increasing use of ever more sophisticated DRM systems combine to decrease the number of works in the public domain, largely because they view having a healthy stock of works in the public domain as a key driver of cultural progress. They argue that copyright may fulfill its function of providing incentives to creators to build cultural value while allowing fair uses that are beneficial to society in the offline world, but that on the Internet, where every use produces a copy and therefore implicates copyright law, copyright does not live up to its fundamental purpose: to encourage creativity.²⁷

Various alternatives to the present copyright regime have been proposed to deal with online copyright infringement, including:

- A system of levies²⁸
- the implementation of streamlined dispute resolution systems in order to lower the enforcement cost against content piracy²⁹
- providing viable legitimate alternatives for online content dissemination
- reforming copyright law by reintroducing certain formalities to have more works in the public domain available online³⁰

However, so far little progress has been made towards reconciling the competing interests of the different stakeholders. Driven by the feeling that waiting for public reform would make what digital rights activists consider a land-grab by the content industries irreversible, some players started projects based on private legal ordering. Creative Commons³¹ is one such private initiative that took its inspiration from the free software movement. This US-based nonprofit organization operates a licensing platform that promotes the free use of creative works by facilitating the release of works under generous license terms that make works available for sharing and reuse. Neither the content licensed through a Creative Commons license nor the software offered through the Free Software Movement is in the public domain. The content within the Creative Commons and the Free Software Movement is copyrighted content, and so permission to use that content is required. However, Creative Commons and the Free Software Movement grant that permission, on certain conditions, in advance.³² Some scholars have criticized Creative Commons' strategy, saying that it is entirely dependent upon a proprietary regime, and thus that it derives its legal force from the copyright regime's very existence, thereby validating the applicability of copyright law, even in contexts where – according to some – copyright law should not be applicable in the first place.³³

²⁶ See, e.g., Lawrence Lessig, *Re-crafting a Public Domain*, (forthcoming).

²⁷ See id at ..

²⁸ Neil Netanel and Terry Fisher have proposed that copyright be “enforced” online in this context through a system of levies—or rather, that levies be used to compensate copyright owners for the online activities against which traditional enforcement has proven difficult. See Neil W. Netanel, *Impose A Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing*, 17 HARV. J. L. & TECH.

²⁹ See, Mark A. Lemley & Anthony R. Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 STAN. L.REV. 1345, 1410.

³⁰ See, e.g., Christopher Sprigman, *Reform(aliz)ing Copyright*, 57 STAN. L. REV. 485 (2004).

³¹ <http://creativecommons.org>

³² See Lawrence Lessig, *Re-crafting a Public Domain*, (forthcoming)

³³ See, e.g., Niva Elkin-Koren, *What Contracts Can't Do: The Limits of Private Ordering in Facilitating a Creative Commons*, 74 FORDHAM L. REV. 375 (Nov. 2005). Prof. Elkin-Koren argues that in the absence of a shared sense of free access, Creative Commons' reliance on property rights may strengthen the proprietary regime in creative works. It may actually reinforce the property discourse

USER-GENERATED CONTENT

Content industry insiders seem to agree that user-generated content will be the future of content, or at very least, that people will dedicate significantly more of their time to consumer-made content online. For example, during the Web 2.0 Conference in 2005, Yahoo! CEO Terry Semel suggested that “Yahoo! is all about content,” and mentioned the three different types of content that Yahoo! currently focuses on: user-generated content, professional content, and emerging forms of content.³⁴ According to a recent Pew study, 57% of teenagers create or remix content online, 19% create their own blog and 33% share other creations.³⁵ The wave of blogging, vlogging, podcasting³⁶ and filesharing in recent years suggests that we are already in the midst of a paradigm shift in content production, distribution and consumption.

There are many online outlets for individuals to express themselves. Internet users express their individuality on social networks such as the Facebook³⁷ or MySpace,³⁸ they share photographs on Flickr³⁹, and opinions on their Blogger.com blogs.⁴⁰ They flock to places like Google Video⁴¹, YouTube⁴², Revver⁴³, CurrentTV⁴⁴, Veoh⁴⁵ or Ourmedia⁴⁶ to post their videos, and they may even acquire some online fame with their spoof music videos as did the so-called “Asian Backstreet Boys,” for example. Google Video and Revver also help individual creators earn money from their videos. Revver, for instance, attaches a so-called RevTag, a single frame ad, at the end of video uploads, and every time someone clicks on the ad, the video creator earns money. Google Video offers a DRM solution to users of the service enabling them to charge viewers a fee for watching their videos. Companies like Brightcove⁴⁷ or Booyah Networks⁴⁸ help individual content producers build Internet TV businesses and monetize their content.

as a conceptual framework and a regulatory scheme for creative works. For other critiques of Creative Commons see, e.g., David M. Berry and Giles Moss, *On the “Creative Commons”: a critique of the commons without commonalty - Is the Creative Commons missing something?*, FREE SOFTWARE MAGAZINE (June 2005)

http://www.freesoftwaremagazine.com/free_issues/issue_05/commons_without_commonalty/index_p1.html; see also Péter Benjamin Tóth, *Creative Humbug*, INDICARE (June 2005) [legal counsel for the Hungarian collecting society ARTISJUS criticizing Creative Commons for being unforthcoming about its purpose and misrepresenting both its mission and licenses. http://www.indicare.org/tiki-read_article.php?articleId=118#comments].

³⁴ See Richard MacManus, *Web 2.0 Conference Day 2: Yahoo! CEO on future of media*, ZDNet

<http://blogs.zdnet.com/web2explorer/?p=26>

³⁵ See ‘Pew Internet & American Life Project’ at http://www.pewinternet.org/press_release.asp?r=113

³⁶ Podcasting is a term used to describe a collection of technologies for automatically distributing audio programs over the Internet using a publisher/subscriber model. It differs from earlier online delivery of audio or video because it automatically transfers the digital media files to the user's computer for later use. Podcasting enables independent producers to create self-published, syndicated “shows,” and gives broadcast radio or television programs a new distribution method. A small part of the much larger ‘ipodverse’ (from ipod + universe, a portmanteau, a term freshly coined by the gadget’s fans but not comparable in scale, therefore a misnomer). Excerpted from Wikipedia at <http://en.wikipedia.org/wiki/Podcasting>.

³⁷ <http://www.facebook.com/>

³⁸ <http://www.myspace.com/>

³⁹ <http://www.flickr.com/>

⁴⁰ <http://www.blogger.com/start>

⁴¹ <http://video.google.com/>

⁴² <http://www.youtube.com/>

⁴³ <http://www.revver.com/>

⁴⁴ <http://www.current.tv/>

⁴⁵ <http://www.veoh.com/>

⁴⁶ <http://www.ourmedia.org/>

⁴⁷ <http://www.brightcove.com/>

⁴⁸ <http://www.booyahnetworks.com/>

Many individual content creators produce their own original content from scratch. However, many build on the works of others to create new works – they mix and mash, remix and expand – and they typically share their creations with others. The current architecture of the web makes it very easy for users to copy pre-existing works from the web and to use them in their new works. However, almost any use of digital content online involves making a copy and therefore implicates copyright law. Individual creators using elements of already existing proprietary content run the risk of infringing third-party copyrights and exposing themselves to copyright liability. The very high number of DMCA take-down notices⁴⁹ received by video hosting services illustrates the high probability of copyright disputes inherent to the online distribution of content that includes pieces of content owned by third parties. Still, many of the individuals who engage in what would amount to clear cases of copyright infringement have not faced copyright liability because the infringement stayed undetected or it is too costly to go after individual infringers.

The ease with which one can access, copy and redistribute content online is one of the defining features of what is often referred to as our current “read-and-write” web. However, many warn that the increasing use and sophistication of DRM systems will change the architecture of the web forever and turn the “read-and-write” web into a “read-only web,” more akin to television than to what we know as the Internet today.⁵⁰ In this “read-only” web, users might still be able to find much of the content for which they would search. However, it would be impossible – or at least very hard – for the average content creator to freely access this content and make uses that would otherwise qualify as fair uses. Taking a broader economic perspective, some have argued that DRM systems which enable copyright holders to enforce the rights given to them under the copyright law (and more) and to exclude all unauthorized access to their works may lead to a so-called “tragedy of the anti-commons,”⁵¹ and cause the stock of available digital works to become under-utilized, thus causing a net-loss for society as a whole.⁵² Building on this idea, some commentators have started to question whether ownership of content is not, or should not be, central on the web. For example, Jeff Jarvis asked on his “BuzzMachine” blog⁵³ “Who wants to own content?” and – referring to the so-called “Cluetrain” manifesto⁵⁴ - argues that the value is no longer in maintaining an exclusive hold on content or distribution but rather in relationships and trust.⁵⁵

⁴⁹ In 1998, Congress passed the On-Line Copyright Infringement Liability Limitation Act (OCILLA) in an effort to protect service providers on the Internet from liability for the activities of its users. Codified as section 512 of the Digital Millennium Copyright Act (DMCA), this law exempts on-line service providers that meet the criteria set forth in the safe harbor provisions from claims of copyright infringement made against them that result from the conduct of their customers. These safe harbor provisions are designed to shelter service providers from the infringing activities of their customers. If a service provider qualifies for the safe harbor exemption, only the individual infringing customers are liable for monetary damages; the service provider’s network through which they engaged in the alleged activities is not liable.

⁵⁰ See, e.g., Lawrence Lessig, *Creatives face a closed Net*, FT.COM (Dec. 28, 2005) at <http://news.ft.com/cms/s/d55dfe52-77d2-11da-9670-0000779e2340.html>

⁵¹ The tragedy of the anticommons occurs when rational individuals (acting separately) collectively waste a given resource by under-utilizing it. This happens when too many individuals have rights of exclusion (such as property rights) in a scarce resource. This situation (the “anticommons”) is contrasted with a *commons*, where too many individuals have privileges of use (or the right not to be excluded) in a scarce resource. The tragedy of the commons is that rational individuals, acting separately, may collectively *over-utilize* a scarce resource. The term “tragedy of the anticommons” was originally coined by Harvard Law professor Frank Michelman and popularized in 1998 by Michael Heller, a law professor at Columbia University. Michelman and Heller pointed to biomedical research as one of the key areas where competing patent rights actually prevent useful and affordable products from reaching the marketplace. See WIKIPEDIA at http://en.wikipedia.org/wiki/Tragedy_of_the_anticommons

⁵² For more on this point..see...Lessig, Niva Elkin Koren (?)

⁵³ <http://www.buzzmachine.com/>

⁵⁴ <http://cluetrain.com/>

⁵⁵ Jeff Jarvis, *Who Wants to Own Content*, BUZZMACHINE at <http://www.buzzmachine.com/index.php/2005/08/23/who-wants-to-own-content/>

There are many signs that “open content” will become an important source of new online culture. More and more Creative Commons licensed works are released online and users can access and use the works in the ways prescribed by the specific license. There are sites, such as the Podsafe Music Network⁵⁶, that offer “podsafe”⁵⁷ content, which is generally content that is licensed under a Creative Commons license. However, it is too soon to think that the future will be governed by open content only. In fact, it is unlikely and undesirable that the future will be governed by open content. Many content creators and content owners still prefer to be directly rewarded for their works rather than having to rely on other sources of income which may arise in connection with their works. Refusing individual content creators who are not funded by big corporations, universities or their parents the right to be remunerated for their works is to discourage them from creating at all. There is likely going to be an online market of digital content where the content traded will have at least a small price, whether paid by the consumer or a third party which wants access to such consumer. Ideally, this market would have no or only very low barriers to entry, and would be open to anyone who wants to share his works. The potential diversity and creative richness of such future markets for content production and distribution is what made us think about using a hypothetical marketplace empowering sophisticated content transactions as a guiding theme for the legal research underlying this report. We called this typical law school hypothetical the “Stanford Intellectual Property Exchange.”

THE STANFORD INTELLECTUAL PROPERTY EXCHANGE HYPOTHETICAL

The mission of the Stanford Intellectual Property Exchange (IPX) is to reduce legal transaction costs which are currently keeping the marketplace of user generated content from reaching its full potential. We believe that there is a tremendous amount of content online and offline which individual Internet users will use to create new original works. As outlined above, the ever-expanding reach of copyright law and the increasing use of DRM systems either provide a disincentive for individual creators to use pre-existing content in their own work or steer them into the ‘darknet’ to find, freely access and use the content illegally. For example, there may be documentary filmmakers who refrain from using certain footage because others own rights to it, relying on fair use would be too risky and licensing the work may be too costly, cumbersome, time-consuming or just not possible for other reasons.⁵⁸ Another example would be the popular spoof music videos or fan films, such as the Star War’s fan films.⁵⁹ In a world with strong DRM systems and efficient copyright policing, these works might never see the light of day. This is in fact a loss for everyone involved in the process of producing, distributing or consuming content. It would be bad for many content owners because they might have been able to get rewarded for new uses of their already existing content that in many cases may no longer generate any significant revenue. It would be bad for individual artists because they lose the freedom necessary to create original works. And it would be bad for society, as we would all be missing out on the works that would have been created.

⁵⁶ <http://music.podshow.com/>

⁵⁷ ‘Podsafe’ is a term created in the podcasting community to refer to any work which, through its licensing, specifically allows the free use of the work in podcasting, regardless of restrictions the same work might have in other realms. For example, a song may be free for use in podcasts, but may need to be purchased or have royalties paid for over-the-air radio use, television use, and possibly even personal use. See WIKIPEDIA at http://en.wikipedia.org/wiki/Podsafe_music

⁵⁸ For example, in August 2004, Robert Greenwald released an updated version of his award-winning film, *Uncovered: The Whole Truth About the Iraq War*. Greenwald has added a clip of President George W. Bush’s February interview with Tim Russert on *Meet the Press*, NBC’s Sunday morning talk show. In the clip, the president defends his decision to go to war. Greenwald asked NBC for permission to run the one-minute clip - offering to pay for the right. NBC, however, refused to license the clip explaining that the clip is “not very flattering to the president.” Greenwald included it anyway. See Lawrence Lessig, *Copyrighting the President*, *Wired.com* column (Aug. 2004) <http://www.wired.com/wired/archive/12.08/view.html?pg=5>.

⁵⁹ E.g., *Star Wars Revelations*, a Star Wars inspired fan movie which cost a mere \$20,000 to produce. Hundreds of people from around the world contributed their time and talent to this project. See Clive Thompson, *May the Force Be With You, and You, and You...*, *SLATE* (Apr. 29, 2005) <http://www.slate.com/id/2117760/>.

By analyzing the legal issues surrounding the Stanford Intellectual Property Exchange hypo this report lays out a vision of a world in which creators can freely produce, collaborate on, and distribute works online, for compensation or for free. It is a world of dramatically reduced legal transaction costs; one where it will also be easy to find, access, and obtain permission to use pieces of content, to remix and built it into new works, to release these new works on the web and to receive royalties for further uses of these works. In this world, computational logic tools mediate between content owners and Internet user-creators. The software enables creators to find the content they are looking for and helps content owners express their licensing preferences and attach these to their content. Furthermore, it helps negotiate agreements between different parties.

The four articles comprising this report address the complexities of online content transactions in fundamentally original ways while providing an in-depth discussion of the legal issues surrounding the idea for a Stanford Intellectual Property Exchange. In his paper entitled “Lex Machina - Legal-Computational Innovation in the Intellectual Property Context,” Joshua Walker, the Executive Director of CodeX: The Stanford Center for Computers and Law, Director of the Stanford Intellectual Property Litigation Clearinghouse and astute co-editor of this report, discusses how advanced legal informatics tools can help reduce transaction costs in the IP licensing space. Hakim Haouideg, a student in Stanford Law School’s LLM Program in Law, Science and Technology, and Gabriel Ramsey, a lawyer specializing in intellectual property at Orrick and a very resourceful advisor to the project who volunteered much of his scarce spare time to this project, co-authored the paper entitled “Modularity Of Licensing Terms For Online Content Distribution: What Are The Legal Alternatives For The Netizen?”. Stefania Fusco, a doctoral candidate at Stanford Law School, in collaboration with Andrew Dawson, a first-year law student at Stanford Law School, prepared a detailed study on the issues surrounding contract formation and software agents in her paper entitled “The Enforceability of Contracts Between Software Agents.” Harry Surden, a recent graduate of Stanford Law School who currently works as law clerk at the Federal District Court in San Francisco and as a CODEX fellow at Stanford University provides an overview of intermediary liability and fair use issues in the digital realm. Richard Koch-Sembdner, also a student in Stanford Law School’s LLM Program in Law, Science and Technology, drafted a paper on the role of trust in ecommerce which served as the source for the enclosed chart on trust promotion in IP transactional platforms.

Supported by a team of expert advisors, including individuals such as Professor Michael Genesereth, the Director of the Logic Group in the Computer Science Department at Stanford University, Professor Margaret Jane Radin, the Wm. Benjamin Scott and Luna M. Scott Professor of Law at Stanford Law School and Director of the Law School’s Center for Ecommerce, Stanford Law School alumnus Peter Thiel, PayPal co-founder, venture capitalist and hedge fund manager, Rufus Pichler, the Global Engelberg Fellow from Practice at NYU School of Law and a practicing attorney at Morrison & Foerster LLP, Gabriel Ramsey of Orrick and Joshua Walker, the researchers found very fruitful support for their research enterprise.

I would like to thank our team of researchers and advisors, and MediaX, for helping this project come to fruition. We wish you an inspired reading.

Roland Vogl

Stanford, September 2006

LEX MACHINA

Legal-Computational Innovation in the Intellectual Property Context

J. H. Walker¹

BACKGROUND

It is one of the greatest anomalies of modern times that the law, which exists as a public guide to conduct, has become such a recondite mystery that it is incomprehensible to the public and scarcely intelligible to its own votaries.

Lee Loevinger wrote that in 1949. Almost six decades later, the problem remains. Technology has not even begun to address the opaqueness and informational inefficiency of most legal code. Rather, it has made it worse. The legal information problems Loevinger describes have actually been made more acute, not less, by the advent of the “Information Age”. A mundane transaction,² once catapulted from a purely local environment onto a global Internet, may abruptly implicate a host of thorny jurisdictional questions, and myriad parties.³ Thus, while the engineering, commercial, and communicative powers of ordinary citizens have increased exponentially, their legal powers have commensurately *diminished*. The same ordinary people who are able to independently create web sites and start-ups affecting millions of people, at zero marginal and often little fixed cost, typically have no faculty to identify, much less understand and comply with the many public and private legal regimes which govern their online conduct.

Legal doctrine has been *applied* to new computer science technologies, but this does not imply the inverse. Indeed, engineers are not the only ones who have done embarrassingly better at incorporating technology into their work. The medical profession, for example, has far outstripped the legal profession in successfully applying computer tools in substantive ways. No one is trying to research protein folding with slide rule and chalk, but lawyers address equally complex problems with even less technology; with nothing more than their unique, but nonetheless limited ability to review and produce static natural language.

Mastery of natural language: That is really the key to legal practice; and the lodestar of its confusion. Natural language is so expressive that it can capture any state or object. It is *too* expressive. It is so expressive that the same words can mean many different things, typically resulting in unintended ambiguity. To address this problem, legal drafters add more words. This may happen when a public or private rule is initially expressed, or later, when it is being interpreted.⁴ The habit of adding words – be they technical, legal terms or plain English – increases the total volume of relevant text applicable to any given legal issue. While it is logical to draft in clear detail in any given instance, the accretive addition of text means that one must frequently review a mountain of documents to resolve even relatively simple legal issues. This is not such an enormous problem for lawyers, because lawyers have (i) by definition developed a mastery of textual review and (ii) have developed advanced technologies to avoid using any . . . including document finding / library technologies like Westlaw and Lexis.⁵

For the non-lawyer, the situation is hopeless. He or she cannot individually penetrate the textual thicket without the help of a highly paid lawyer. It is as if engineers forced consumers to (i) read a physics textbook, (ii) read the electrical code, and (iii) understand the wiring of their particular house in order to turn on a light; or pay a specialist a fee to make the connection . . . each time. In fact, lawyers have never invented a user interface for the law so brilliant as the light switch. We have only made it darker.

The failure of the bar to make simple legal procedures easier also makes legal practice more boring. Practicing lawyers frequently act as scribes; conducting purely document related tasks which may be highly repetitive, completely non-analytical, *mechanical*. Indeed, no one who has completed a U.S. securities rules “tech check”

on a quarterly corporate filing does *not* think that the process should be automated in part – with regard to mechanical formatting and other non-analytical regulatory protocols.⁶

It is ironic that computer science has, to this day, made so few inroads into the technology of legal communication. For the law was seminal in the creation of the computer.

Gottfried von Leibniz (1646 - 1716) is primarily known as an independent inventor of the Calculus (contemporaneously with Sir Isaac Newton) and generally as one of the greatest mathematician-philosophers of all time. But before he ventured into advanced mathematics and symbolic logic, Leibniz was a legal scholar. In fact, Leibniz's first work assignment was redrafting the legal code of the Electorate of Mainz, and his formal education in law vastly outstripped his formal education in mathematics. Leibniz obtained bachelor's, master's, and doctoral degrees in law. He focused on the use of symbolic logic in legal contexts, and on reasoning methods for resolution of seemingly intractable legal cases.⁷

Having fashioned or designed several mechanical (and purely quantitative) calculators, Leibniz dreamed of creating a device which could reason about *concepts*.⁸ Specifically, he wanted to create a machine which could resolve any real world dispute as easily as a calculator determines a sum. To work, the machine required a universal concept language covering all of human knowledge, and a set of “grammatical” rules, or canons, which produced correct judgments through mechanical induction.⁹ He referred to his proposed machine as a “calculus ratiocinator”.

Leibniz's machine exists. . . . It is called the legal system. Unfortunately, the apparatus does not quite fit in the box Leibniz made for it. The worldly abstractions he sought to capture in a universal *conceptschrift* were, and remain, infinite. For this reason, the legal system relies on natural language. In common law countries, the default mechanism of resolution is not Leibniz's literally mechanical deduction, but analogical reasoning.

Nevertheless, the world of mathematical logic and computer science has drawn innumerable societal contributions from Leibniz's overambitious beginnings. Norbert Wiener asserted that “the general idea of a computing machine is nothing but a mechanization of Leibniz's calculus ratiocinator”.¹⁰ The modern computer *can* reason about concepts. More to the point, the connection illuminates the fact that Computer Science and Law have the same analytic nucleus: categorizing and reasoning about real world objects and events.

Given their historical connection, why do legal procedures and communications seem relatively resistant to technological evolution?

Computer science tools should have been incorporated much faster in the law than in other domains. Unlike books, clothing, and other chattels commonly the object of e-mediated activity, the law *consists* of information. The re-engineering of legal processes, such as compliance processes, should have happened *faster* in the legal domain than, for example, in the medical domain. But the medical profession, along with its allied fields, has vastly outstripped the legal community in efficient use of technology.

One explanation is that lawyers have consistently been terrible at adopting new technologies and approaches. Indeed, lawyers have historically been abysmal at fundamental innovation, lagging far behind other professions in making use of computer science tools to address complex information problems.¹¹ It may also be that regulation of the profession – including the proscription on profit sharing with non-lawyers – has discouraged interdisciplinary work. A related byproduct of this bar on non-lawyer investment / regulatory discouragement of interdisciplinary work, is lack of capital.

In contrast to the medical industrial complex¹² (which relies on a host of interwoven disciplines, each duly regulated and each with extraordinary access to capital), financial industries (ditto), etc., ***the legal industry is capital poor***. Legal practices are acutely constrained to entity forms, including partnerships, which discourage the kind of capital spending required for innovation. This means that a legal practice cannot issue public offerings at any point in its life cycle – however attractive it would be to investors, and however mutually and socially beneficial such investment would be. Perhaps as importantly, partnerships tend to shy away from the capital investments required to innovate. Unlike general corporations, which may retain and re-invest profits, partnership profits flow through to each individual partner each year. This means that every single dollar spent on infrastructure, technology, or research (if such a concept even existed for law firms) is a proportionate dollar *deducted* from each individual partner’s yearly salary. Thus, unlike general corporations, which incentivize research and development departments, law firm decisors have strong, ineluctable, *personal* incentives not to invest in anything, much less long-term innovation. When compared to the highly innovative pharmaceuticals industry, which has an initial-investment-to-profit cycle of up to twenty years, the legal industry’s yearly profit constraint trends it towards a hopelessly short-sighted framework.¹³ The practice of law exhibits unique ethical duties which require special regulation, but so does the practice of medicine. The industrial disincentives for legal innovation are incidental *flaws*, not impediments.

A second explanation for lack of legal innovation is that the nature of the law, and legal reasoning (e.g., analogical reasoning), precludes fundamental innovation. This is referenced herein as the “Structural Argument”. As detailed below, the Structural Argument is false as a global proposition.

A third explanation, related but distinct from the Structural Argument, is that the law is fundamentally “backwards looking”, particularly in common law jurisdictions. This is true; but it has nothing to do with innovation. It may indeed be the case that the common law is induced from its past. However, a historical orientation towards the *substance* of the law has virtually nothing to do with improving the efficiency of legal *process*.¹⁴ The legal profession may indeed have conflated a substantive orientation (positive: the accretive induction of interstitial rules from experience) with a procedural orientation (negative: fixation on outdated methodologies and technologies). History is supposed to guide the substance of the law, not kill innovations in the way it is communicated and carried out. Conflating common law induction practices with technical stasis is like confusing one’s destination with one’s manner of transport. It is an *explanation* for the present absence of procedural and communicative innovation, not an argument for continued methodological stasis. This reasoning error, once corrected, presents no barrier whatsoever towards fundamental innovation in legal procedures.

This paper focuses specifically on innovations in the intellectual property. It does so because the field of intellectual property law (“IP”) presents acute problems and opportunities relative to other legal domains. IP information problems are often compounded by technical complexities, particularly in the area of patent law. Ambiguities as to the scope of legal entitlement reduce the attractiveness of efficient licensing platforms and skew the legal system in favor of plaintiffs.¹⁵ Thus, the need for advanced informatics technologies is greater. IP presents an opportunity for progress because many of its practitioners are themselves engineers, or otherwise technophilic. While even they have failed to comprehensively apply the same informational tools they adopted and developed as engineers to their legal practices, they are certainly far less *reticent* to employ them. There are very few outright Luddites in IP. Thus, the probability that innovative and useful legal informatics tools will be adopted is higher in the IP space.

Perhaps more importantly, and as Roland Vogl pointed out in his Introduction, there is a crying social need for better and more democratic IP technologies. The ability of ordinary people to innovate in digital media is now primarily dependent on innovation in *legal technology*. Here, it is very clear that economic creativity turns here on concomitant legal creativity. The bar must innovate; or it will continue to disrupt and exact exorbitant, if not preclusive, costs upon innovations in digital media.

This paper's argument is comprised of three major elements. The first section provides a general defense of legal-computational architectures, and related innovation. The second section describes a hypothetical, online intellectual property exchange: IPX. While, at present, a mere thought experiment, Stanford IPX would comprise an intuitive tool for private ordering – a literal “marketplace of ideas” and their myriad instantiations. The third section describes some potential effects of the deployment of IPX and, generally, the democratizing effects and greater transactional efficiency which may result from the modularization of intellectual property rights.

ARGUMENT

I. A General Defense of Legal-Computational Architectures

For it is unworthy of excellent men to lose hours like slaves in the labor of calculation which could safely be relegated to anyone else if the machine were used.

G. W. Leibniz¹⁶

This section defines and addresses the general feasibility of legal automation technologies. It further describes computational protocols for handling certain robust problems in intellectual property contracts.

A. Defining Legal-Computational Innovation

Before determining the feasibility of such innovation, one must define it. This subsection defines the specific type of innovation discussed in this paper, in part by discussing what it is not.

General Definition. “Legal innovation” here refers principally to innovation in legal procedures, compliance actions, and methods of communication; rather than to innovations which are primarily doctrinal. The distinguished jurists Benjamin Cardozo and Learned Hand are widely regarded as innovators of legal doctrine – expressing such innovations in their written opinions (inaccessible to most non-lawyers). In contrast, an innovation in legal compliance could be something as dissimilar as TurboTax™, a software program that helps people comply with their tax law obligations. While some legal technologies may be clearly differentiated from doctrinal innovations, in other cases the distinction is less clear. For example, Learned Hand’s “calculus of negligence” may be characterized as a qualitative mathematical tool.

Implicit in the idea of an “innovation” is that it is at least Calder-Hicks efficient versus the pre-existing status quo, if not necessarily Pareto optimal. For example, a legal-computational architecture that reduces legal transaction costs for intellectual property related exchanges would satisfy this definitional prerequisite.

Note that while purely doctrinal innovation may speed or enable technical innovation, the former is not a precondition of the latter, as the TurboTax™ example shows. See also below.

Horselaw Versus Horsepower. Cyberlaw is another category of legal work which is generally to be distinguished from the present subject. A retrofitted metaphor may epitomize that distinction. Jurist and legal scholar Frank Easterbrook once, notably, compared the “Law of Cyberspace” to the “Law of the Horse” (or, alternatively, “Cyberlaw” to “Horselaw”).¹⁷ Easterbrook’s point was that a new technology does not necessitate a new legal concept, but merely the application of an existing legal concept to a new factual category.¹⁸ In other words, technological change does not mandate a legal one.

In many respects, this paper advocates the inverse thesis to the one Easterbrook was rebutting. It argues that the advent of the Internet requires the application of such technology to the law. Thus, this paper primarily treats “horsepower”, as opposed to “horselaw”.¹⁹

It should be noted that Easterbrook was wrong not to view the Internet in a legally exceptional way. Not because laws applicable to the Internet are or should be applicable in substance, but because of the *scale* of the Internet, and the numerosity and speed of transactional effects. As noted above, a dramatic increase in the

number of legal transactions or effects from a typical Internet user requires a commensurate decrease in the marginal legal cost per transaction. Otherwise, Courts and people will be overwhelmed, illegality will become the norm in certain Internet domains, and enforcement will become more capricious. (Perhaps there is most frequently no compliance at all. Instead, there are cataracts of Napster-esque litigation, in which ordinary people are most at risk.) The effort to apply computational tools to legal contexts is not a curio, but a necessity.

The Information Age and the rise of the Internet do have profound legal implications; but not because “cyberspace” will be treated fundamentally differently from any other real world legal context. It will not be. Rather, the Internet has such profound implications because the law itself is information; and, like any information, Internet-based applications may make it more accessible, more democratic, and more efficient. For example, geographic filtering technology may reduce jurisdictional ambiguity and related legal administrative burdens as to e-mediated activity.²⁰ Relatedly, while the advent of the Internet may not mandate new legal constructs; it does make them possible.²¹ With this in mind, one may characterize “legal-computational innovation” as horsepower, but not as horselaw *per se*.

Rights Engines versus DRM. Many confuse the type of innovation outlined in the IPX project with digital rights management technology. They are not unrelated; but they are not at all the same.

Digital rights management (“DRM”) includes such technologies as digital “watermarking”, to prevent theft or unlicensed copying of digital media – in other words, for enforcing pre-existing licensing regimes and IP laws. DRM is primarily a tool for *enforcing* rights. IPX is primarily a tool for *creating* them. Specifically, the IPX project addresses tools for *creating* contracts and mediating extrinsic statutory regimes. The system seeks to empower non-experts to efficiently *enter into* digital media licenses, reduce *legal* information asymmetries between unsophisticated parties and major companies as well as reducing *legal* transaction costs for all parties. To describe this contract creation and automation technology, this paper uses the term “rights engines”.

Another problem with “digital rights management” is that it is typically, and exclusively the rights of major media companies which are being managed, *not* those of consumers or small businesses. Today, DRM connotes an almost Orwellian image of heavy handed major media companies stomping on unlicensed (or even licensed²²) individuals, or killing popular, innovative websites. Whether this characterization is fair or not, the legitimate rights of all parties in the digital media chain should be “managed” and protected. Again, to the extent the IPX project implicated DRM technologies, it proportionately incorporates management of pertinent consumer rights and the rights of other parties.

B. Why the Structural Argument Fails

Apprehension as to the Erosion of Legal Service Monopolies. The reaction of a number of lawyers to such ideas has been not skepticism, but, apprehension. (Of course, such apprehension implies a real possibility. *It implies technical feasibility.*) The original Luddites were 19th century English workers who protested Industrial Revolution automation technologies which threatened their jobs. Some lawyers have similar concerns. They are concerned those successful legal-computational architectures will reduce the dependence of people on their advice. They are correct, but wrong. Such an architecture *will and should* legally empower ordinary people. However, what it will also do is allow even more complex legal transactions (requiring live counsel), as well as expand the possibilities for the profession. Attorneys will become less scribes²³ and more logical architects; exploring precisely the sorts of uncertain cases and novel legal constructs which form the heart of our law school training.

To fixate on such apprehensions would also violate both specific and general moral obligations. Many attorney oaths or rules of ethics require that attorneys seek to improve the law and legal administration. Arguing against legal administrative innovation for purposes of personal gain is plainly unethical. Attorneys may not neglect innovations in transactional efficiency and legal communication if this specific obligation is to be met. The Bar should not allow attorneys to artificially prop up inefficient means of completing legal procedures. The printing press put many scribes out of work, and obliterated the need for high marginal cost (but gorgeously illuminated) hand-written. It also brought the written word to millions where it had before been the unique purview of an un-elect few.

Structural Argument Generally. To other legal practitioners and scholars, the mere idea of expressing legal constructs in computable form seems technically impossible in any context. Some of this technical skepticism may stem from an under-appreciation of the flexibility and nuance of computer science tools.²⁴

In fact, the instantiation of legal rules in computer code is commonplace. If the skeptics were right, no e-commerce technology be clearly legal, because compliance could not have been architected in by engineers. (In some respects, all deployed technologies are at least tangentially “law related” because they must comply with the law.) Nor could TurboTax™ possibly allow non-experts to accurately navigate their tax law obligations. Obviously, there is legal e-commerce and the use of TurboTax™ by millions of people has not lead to widespread crackdowns by the I.R.S. There are innumerable implemented legal-computational constructs, however primitive or *ad hoc* they might be.

A more persistent set of examples lie in the database field. Computer Science generally, but database design particularly, involves the central activity of the law: *The accurate categorization of real world objects and events*. Take one example from a basic textbook on database systems.²⁵ The text features a database design problem involving entertainment contracts.²⁶ The challenge presented by the authors is to create a database schema which accurately reflects the reality of film contracts, the films themselves, movie stars, studios, etc. – along with the critical data attributes of each (e.g., name and/or address).²⁷

An inaccurate database schema may prevent the database coders and users from distinguishing between two clearly different cases. The authors continuously discuss how to represent legal relationships in computer code – specifically, in the schemas (“blueprints” or “skeletons”) of databases. They also discuss categorizations of real world objects or people in ways which have ineluctable legal implications, both with respect to how something is best categorized and the implications of their categorization. In one case, the textbook authors propose that a movie “contract [be] associated with a single star and a single movie, but any number of studios”.²⁸ Although the textbook authors’ representations of legal relationships are generally sound, here it would probably fail. Unfortunately, the proposed database would choke on a master contract which governed more than one movie – a potentially standard occurrence in the world of entertainment law.²⁹ An entertainment lawyer might have fixed the problem by asking the designer to allow a specified contract to be associated with n-authors³⁰, n-movies, and n-other contracts. This is merely one example of a computational instantiation of legal categories and legal relationships. The database field is permeated with them. That there exist avoidable errors in such instantiations only supports the thesis of this paper.

A true computational instantiation is isomorphic with legal reality – even where the former is a circumscribed and incomplete representation of the latter. Indeed, it is difficult to draw philosophical distinctions between such database design / encoding and the analytic activity of a judge trying to map out contractual relations *ex post*. The required analysis appears identical.

Philosophical Objections & Resolution. On a deeper level, there is a philosophical objection to the very idea of legal-computational innovation. One common argument is that the law is endemically and wholly resistant to formal reasoning. This argument is provably false. There are innumerable formal logical constructs in the law. There are formal elements to legal rules and standards, which may, in subsets of cases, make the law *reasonably* predictable. Due process requires this.

Even if Holmes was right, and the law is “a bad man,”³¹ it is not a crazy man. It cannot be that the law is entirely illogical. Whatever esoteric boundary conditions or ambiguous prerequisites exist, there are many examples of clear logical “states” in the law. One is either subject to personal jurisdiction in a given forum or one is not, and there are certain recordable acts which make personal jurisdiction a certainty. Likewise, one is legally married or one is not. To take another example, a chemical substance is either a pharmaceutical under the Federal Food, Drug and Cosmetics Act or it is not. There may be close cases, we may not know the answer for all substances (without judicial or executive pronouncement); but still, for most cases, the characterization is a binary “yes” or “no”.

Such binary legal characterizations may be formally represented. Given a legal state, a logic application may deduct at least a subset of legal consequences for a user. Moreover, when the relevant facts themselves have been formalized – as in certain online contexts – legal issues wholly dependent on such facts may be resolved. Again, a simple example is the U.S. Government’s online “Do Not Call” Registry.³² A user correctly enters her telephone number into a government website, clicks a few buttons, and thereby exercises her legal right to opt out of unsolicited commercial phone calls. This Registry is a simple but compelling example of a working “legal-computational architecture”. In theory, the law contains no ineluctable elements which would prevent further and more sophisticated enablement of such socially empowering tools.

Indeed, individual legal codes may be constructed or reconstructed to virtually eliminate code-specific impediments. Law is information. It consists of restraints on human behavior created, *ab initio* by humans themselves. This suggests that legal automation and related technologies may be ultimately feasible, even if not presently feasible. Even if a given legal regime, as it exists now, is not amenable to automation technologies or other computer science technologies, the code itself can be adapted to make it so.

Nor does inherent ambiguity in legal standards prevent development of applicable compliance tools. Even though the precise contours of a given legal regime may not be perfectly translated into computational logic, one may create an “artificial fence” around liability risks which *is* computable. That is, one may create software tools which prevent violative conduct by erring on the side of caution, using broad logical constructions. Those who wish to venture closer to the line of liability may do so with the benefit of legal counsel, or hazard litigation.

Another reason that legal innovation is presently more likely is due to the advent of the Semantic Web³³ and Web Services movements, along with allied developments. Where Leibniz toiled alone trying to categorize all human knowledge, Semantic Web technologies allow users around the world to tag their own data, and even automate ontology creation. As knowledge on the Web becomes increasingly structured, it will become easier to automate initial legal categorizations.

While generally *ad hoc*, and lacking a common logical basis, certain legal-computational technologies are already deployed, and thus help show why the Structural Argument fails as a general proposition. Present implementations demonstrate computational expressions of legal rules which are efficient. They show that the

law can be applied, and complied with, *more cheaply* using available technologies. The IPX model suggests that the law can be made *better*.

To take the practical view, all architectures for Internet transactions must, in some respect, include logical models of the law, or embed noncompliance. From Internet protocols, to health care, to e-commerce, to privacy controls and Sarbanes-Oxley compliance, one sees numerous real-world implementations. Again, the problem is that a lot of existing representations are *ad hoc* – lacking a sound theoretical basis. As yet, there is no common language to standardize and communicate such legal architectures.

On “AI”. This paper does not adopt the widely accepted expression “artificial intelligence”, partly because the term is doubly a misnomer. The phrase was coined in the flush of the 1950's,³⁴ when the reach of a then nascent computer science profession particularly, and wildly, exceeded its technical grasp.

“Artificial” is misleading in the sense that it contextually connotes something non-human or apart from human intelligence. However, “AI” programs are obviously man made and – though generally mathematically rigorous – very human indeed. This conclusion may be arrived at through the categorical legal characterization of software programs (including those constituting software agents³⁵) as copyrightable material. Anything copyrightable must be the work of a human author. Therefore, any “artificially intelligent” software agent must be a human creative expression. Its reasoning processes, including its ability to learn, are the direct result of human creativity and the fixation of reasoning methods into a software language script. “AI” tools universally constitute constrained sets of human thought *ab initio*.

“Intelligence” is a misnomer because it implies human thought with all its intricacies, idiosyncrasies, and even errors. Computational rationality is precisely that. It does not generally embody human irrationality, heuristics, or acutely associational modes of thinking. Even attempted computational mimicking of human irrationality must be rigorously defined – rational in any resultant irrationality. It cannot make reasoning mistakes. *Very generally speaking*, computers are excellent at formal deduction, not so good at induction,³⁶ and abominable at analogical reasoning. Computers may be uniquely powerful in generating deductive conclusions respecting highly limited artificial domains. A software program may be entirely capable of passing a Turing Test and yet have no capacity to do analogical reasoning. Nor does rationality imply any free will.³⁷

The interesting thing about rational software programs is that (i) they may be created in highly collaborative fashion and (ii) they may be accretively advanced over time. Thus, a computer program may embody rationality greater than the sum of its contributors, the magnified and accreted reasoning of one person over time, or both; yet even this magnified rationality remains purely human in its fixation. An AI program of genius may be conceived of as an autonomous Bach concerto.

Of course, the computer science community will take no note of this argument, nor should it, necessarily. “Artificial intelligence” is a term of great rhetorical power, and may serve well to inspire adherents. Nevertheless, it is the inexorable prerogative of a lawyer to argue about words.

Reasoning versus “Rules v. Standards”. The “rules/standards” construction in legal scholarship is a meaningless dichotomy for this discussion.³⁸ In place of ambiguous “rules” and “standards” terms/standards, this paper refers to inductive, deductive, and analogical reasoning. The latter categories may not be exclusive. For example, “induction” in the general common law context (the creation or identification of rules through cases) involves analogical reasoning about case facts. Induction protocols might be reasoned about deductively, or otherwise be carried out a mechanically deductive way. “Mechanical reasoning” here means reasoning

methods which may be expressed in formal logic, and/or reasoning which may be successfully resolved through computation. Reframing the dialectic in this way allows us to distinguish between elements of the law which are amenable to mechanized reasoning and those which are not.

Mapping, Addressing, and Avoiding Intrinsic Complexities in the Law. While few outside the legal profession appreciate the complexities and ambiguities that lurk under the most facially benign legal issues, many inside the profession exaggerate the impenetrability of the law to information science. Where zones of impenetrability do exist, the need for and utility of information tools actually *increases*.

1. Mapping Ambiguity. One may formally represent a set of unrepresentable things. Computational logic cannot resolve inconsistencies and ambiguities in the law. (That is what judges do.) It may map them. More specifically, it may help ordinary users: (i) understand when they are entering a legal grey zone; or (ii) avoid particular grey areas entirely. This is a huge difference between IPX and past efforts to apply “artificial intelligence” to legal domains globally. In fact, mapping uncertainty may have enormous value to the profession and the advancement of legal doctrine.

Where early nautical mapmakers lacked comprehensive data on a given sea, they rendered an ingenious expedient. They inserted a sea monster. The icon achieved two purposes. First, it warned seafarers generally: *Stay away unless you want to expose yourself to great risk.*³⁹ Second, it *attracted* exploration. It invited those confident in the skills of their watch, those looking to expand the boundaries of the known world, and even the desperate whose failure might bring back new data. Just as mapping circuit splits in federal courts may facilitate Supreme Court clarification, so may logical mapping *failures* help focus legal scholars and practitioners on vital doctrinal ambiguities.

2. Filtering; A Cybernetic Approach. By formally distinguishing grey areas from paths of clear compliance, one may help people determine when they need an attorney, and when they do not. The more restrictive compliance determination would not allow the user to explore boundary areas of the law, but it could get the job done eighty percent of the time for eighty percent of the users – and cheaply, too. In Jewish law, we might call this *Seyag La-Torah* (a fence around the law). This refers to rabbinic injunctions enacted to safeguard the observance of primary commandments. There is, relatedly, a biblical prohibition on writing on the Sabbath. To guard against inadvertent breach, Talmudic authorities prohibited the *touching* of writing instruments on the Sabbath. Why is there not a system online that says “don’t touch that” when an online system detects positive illegality? Why are *mala in se* not architected out of the system from the beginning?⁴⁰ This does not mean that people should avoid the fullest exercise of their rights; it just means they should be aware when they are entering a boundary area of the law and, hopefully, enjoy the advice of counsel while doing so. The same is true of civil disobedience: It is only meaningful if one recognizes, *in situ*, the bad law one is transgressing.

Law schools tend to select away from mundane legal issues, into difficult, close questions. This bias can be explained by the need to challenge smart students, and expand the frontiers of legal understanding. However, day-to-day legal practice contains a lot of mundane, highly formal operations which can and should be automated. Documents like nondisclosure agreements, protective orders, and jury instructions – to name but a few – each typically comprise certain highly formalized and standard elements which could frequently be most efficiently generated automatically and then customized by counsel. Modularity and automation tools may be particularly efficient in multi-party and multi-jurisdictional contexts. In short, filtering mechanical legal operations to machines may make legal practice not only more efficient, but more cognitive.

3. Deductive, Not Analogical Reasoning. Neither this project, nor any related project, is attempting to create systems that can do analogical reasoning. A very simple example of the *type* of efficient technology within reach is the U.S. Government’s Do Not Call Registry. If a user truthfully and correctly enters her telephone number into the Do Not Call registry, her submission automatically creates additional legal exclusions on that number. We know that by deduction. Compliance by marketing organizations can also be automated, to some extent. The computational law tools available at present may enable far more sophisticated transactions, and further enable the exercise of legal rights.

4. Cheating Ambiguity: Legal Modeling in Discrete Contractual Architectures. The difficulties in developing logical representations of the law are myriad and profound. They are, nonetheless, tractable – particularly when the factual contexts themselves are somewhat formal / computationally mediated. Contract Law is a prime area for experimentation because there is greater relative control over the legal regime itself – and the degree to which such regime is formalized *a priori*. Part of this research involves formalization of contract terms. The more advanced part allows for dynamic, automated interactions between parties. Adjective Law and “network industries” (e.g., utilities and other industries in which natural monopolies may exist) also may support advanced implementations.

Advanced Legal-Computational Architectures. More advanced computer science tools might allow *ex ante* resolution or avoidance or prevention of legal disputes, mapping of legal uncertainty / conflicts / ambiguity, and may seek to redress certain historic limitations in legal doctrine, practice, or procedure. The feasibility of advanced (or “strong theory”) legal automation will tend to increase when the transactional domain may be artificially limited, as by contract. This may allow system procedures and transactions to be completed *and analyzed* without reference to analogical reasoning. Successful completion and subsequent analysis may be conducted primarily through deductive reasoning. The potential for such “artificiality” is present in the proposed IPX experiment.

II. IPX: A Performance System for Content Creation & Distribution

IPX is a hypothetical online intellectual property exchange, with robust commercial and non-commercial possibilities which is equally accessible to individual content creators, large media companies, consumers, and others. The system will massively reduce legal transaction costs for intellectual property exchanges. It will obviate, or eliminate the need for live legal consultation for platform-based transactions. IPX is a literal “marketplace of ideas”; or, perhaps more accurately, of ideational instantiations.

Groups like Creative Commons have made high-level (particularly noncommercial) licenses widely available, and are working to tag content with legal information, using HTML. IPX will build on such legal and technological advances, and accept both Creative Commons and a wide variety of other semantic tags. The latter enables the former, but the former is plainly distinct.

IPX is a website, an open market, not a set of high level licensing protocols or a legal advocacy movement. It is neutral on the so-called “Cathedral/Bazaar” conflict (see Section III, below), but seeks to maximize the legal choices available to all actors, and minimize legal information problems. Moreover, by increasing the granularity of terms, it will give creators more options.⁴¹ For example, many particularized use constraints would not be possible with a high level Creative Commons license.⁴² Nor, indeed, would the songwriter/film maker matching functionality – which will require advanced computational logic tools, as well as quantitative terms for time, price, and their admixture. IPX will also facilitate remuneration to independent creators, and the reuse of archived content of media conglomerates.⁴³ At a high level, it will enable creative people and

consumers, as well as distributors, to “rip,” “mix,” and synthesize not only open content with proprietary content, but also Creative Commons terms with big media terms (or transact more efficiently within either type of regime).

In practice, commercial licensing tends to require more granularity than noncommercial licensing.⁴⁴ Thus, to enable greater interchange – if not détente – between the commercial (“proprietary”) and noncommercial (“open”) content worlds, the Creative Commons licensing and tagging approach must be taken much further: IPX seeks to provide more licensing options, and the AI technology to deal with the added complexity. It seeks to act as a record-keeper, if not arbiter, of intellectual property exchange. Through a computational logic approach, it will facilitate the interoperation of licensing rules with other types of rules (such as privacy rules and business rules), and address complex jurisdictional issues and overlapping legal domains. A concrete example of how the hypothetical system would work follows.

Grace Kim is a novice film maker based in Prentiss, Idaho. She is seeking to complete and produce her first feature film, entitled Napoleon Kryptonite – a comedy about a high schooler in rural Idaho that believes he has super powers. Ms. Kim has an edited cut of the film, but she needs music, and to make sure she can use “Kryptonite” in her title. Ordinarily, achieving both objectives and completing related rights clearance processes could cost hundreds of thousands of dollars – far beyond the budget of a typical independent film.⁴⁵

Ms. Kim goes to the IPX website instead. Online, she posts specifications for the types of music she needs (e.g., by listing musical exemplars), as well as price ranges, textual descriptions, and appropriate film snippets. She gets thirty hits from potential writer/performers around the world, and chooses music from three: One from Scotland, one from Hong Kong, and a third from another Idaho town three miles down the road. For their part, each of the bidders is notified and matched to Kim’s posts automatically, through the use of personal agent technology. Ms. Kim obtains clear licenses, under U.S. law, to use each of the works in her film. Second, Ms. Kim puts out a specification to IP attorneys licensed in Idaho to analyze the “Kryptonite” issue. Numerous rated attorneys bid to resolve her question and obtain any requisite rights. She chooses a highly rated attorney from Boise who resolves the issue at minimal cost, on the contractual condition that he gets the licensing work, at his normal rate, if the film gets picked up by a major distributor.⁴⁶

Kim gets her film distributed and it is a major success. The film’s success has a “halo” effect on each of the previously unknown signer/songwriters. It is particularly popular amongst the digerati. One major software company, “Digimack,” wants to use certain film characters to send up their CEO at the upcoming employee meeting. Confidentially, Digimack posts a query to the Napoleon Kryptonite rights holders IPX lists (now Ms. Kim’s company jointly with two other companies), requesting rights to use the characters for the stated limited purpose, and noting their willingness to pay a small fee. The ownership consortium sets price and use constraints, again on IPX, using the system’s standard contract building blocks. Ms. Kim, a devout Mormon, also imposes a special condition that no derivative Digimack work will mention or, in the judgment of a designated third party,⁴⁷ make fun of Mormonism or the Mormon Church; otherwise, Digimack will pay a reasonable penalty and be legally required to make a public apology. The deal is closed at virtually no legal cost, within a day.

No claim is made that the above actions tell a comprehensive legal, much less general story of what is required to make a documentary film. Rather, they are salient legal milestones, generalizable to most, if not all documentary films (as well as other types of content production). If the transaction costs of these milestones could be reduced, it could theoretically accrue a substantial, Pareto optimal benefit to a large number of

individuals. In general, IPX might seek to partially automate contract creation and management for the following categories of tasks:

- Creating original works/footage;
- Collecting third party materials and *ex ante* rights clearance;
- Engaging third party contractors;
- Promoting and distributing film; and
- Addressing post-production conflict.

III. Cathedrals, Bazaars, Continua

In his book *The Cathedral and the Bazaar*,⁴⁸ open source guru Eric S. Raymond splits software development into two distinct models. Traditional, “cathedral” style development is hierarchically managed, abstemious, and proprietary⁴⁹. The Linux or “bazaar” approach is free, promiscuous, and multi-sourced.

Raymond’s metaphor is brilliant . . . and wrong. It creates a false dichotomy between proprietary and open source systems; a false dichotomy mirrored in the massive litigations and fundamental disconnect between and amongst creators, consumers, and large media conglomerates over the future of digital speech. The social architectures of content creation – whether relating to complex software development or blogging – can also be anything in between the cathedral and the bazaar, even for the most proprietary of projects. In truth, the “cathedral” and “bazaar” mindsets are merely the antipodes of a rich continuum of hybridized property options.⁵⁰ *A priori*, individuals should have as much freedom to choose, link, and “mash up” intellectual property constraints as they do over the type of music they listen to.

The problem, however, is complex. Presently, the cost of legal customization to consumers, independent artists, and media corporations precludes this kind of freedom, and further proscribes entire sectors of commerce and creative exchange. Laws and contracts are opaque. Lawyers are too expensive for small exchanges involving independents or consumers. Even the most ostensibly “open” distribution websites for digital media are designed to further highly specific agendas.

Subsidized advocacy groups are frequently out of touch with the reality that most artists and digital creators need to make a living. On the other hand, big companies are typically the only ones who can afford the legal advice to navigate complex intellectual property regimes. Thus, the “propertization” of digital media immediately translates into allocations of assets and legal power to such companies. “Digital rights management” tools typically manage corporate rights alone, sometimes without the knowledge of consumers, much less with their best interests in mind, or those of other independent actors. “Clickwrap” agreements are virtually never read and virtually never favorable to anyone but the corporate drafter. IPX seeks to change that reality for digital media.

This paper introduces the term “interwrap” to mean a contract which, like a clickwrap agreement, is easily entered into, but which does not feature the asymmetry of legal power / negotiation present in virtually all clickwraps. IPX seeks to make “interwrap” contracts as common as “clickwrap” contracts to eliminate the legal negotiation asymmetries between big companies and ordinary people for defined transactional classes, and to generally empower independent actors to exchange intellectual property in a legal and efficient manner.

Of course, when a lawyer hears the term “cathedral” she will tend to think not of software development, but of Calabresi & Melamed’s “One View of the Cathedral”.⁵¹ The cathedral represents the law (i.e., the governing legal regime). Calabresi & Melamed’s view erased the ontological and arguably artificial distinction between tort rights and property rights. They note generally:

Framework or model building has two shortcomings. The first is that models can be mistaken for the total view of phenomena, like legal relationships, which are too complex to be painted in any one picture. The second is that models generate boxes into which one then feels compelled to force situations which do not truly fit. There are, however, compensating advantages. Legal scholars, precisely because they have tended to eschew model building, have often proceeded in an *ad hoc* way, looking at cases and seeing what categories emerged. But this approach also affords only one view of the Cathedral. It may neglect some relationships among the problems involved in the cases which model building can perceive, precisely because it does generate boxes, or categories.⁵²

Calabresi & Melamed suggest that building artificial frameworks for legal phenomena is worthwhile *even and assuming* that such frameworks are flawed. Call it collective intelligence, or call it competition amongst frameworks, but such artificial constructs have salutary effects on the understanding and expression of the law. There is more than one view of the Cathedral and it is only an aggregation of views which leads to the complete, best picture.

Given myriad and mutually independent demands of content producers, promoters, and consumers, can there be a marketplace for cathedrals – for private legal frameworks? To transplant Raymond’s software code analogy further, can a legal regime itself be constructed like open source code? (Lawnix?) Alternatively, is society better off when “priests” or “masons” have a monopoly on constructing legal regimes/architectures? If so, is that compatible democratic principles? If not, how do amateurs navigate the complexities of legal development (not to mention the future and personal effects of such development) without adverse effects from incompetence or the gyrations of populism?

If a marketplace for legal frameworks / regimes was possible, how could a layperson, a typical citizen, (i) choose accurately between them and (ii) navigate within the regime chosen? To what extent can legal compliance for the masses be automated – not so that any member of the public gets sophisticated legal advice – but merely so that they may reduce their exposure to suit for speech to which the Constitution clearly entitles them? In other words, to what extent can prospective liabilities be precluded through the structure the speech platforms themselves?

Lastly, what implications would a bazaar of intellectual property “cathedrals” (i.e., viable, discrete online frameworks) have on the *Grokster* doctrine?⁵³ Would it eliminate *Grokster’s* purported threat to innovation?⁵⁴ Can permissions be made so explicit, and distribution structures so isomorphic with legal right, that it becomes almost impossible to argue incidental or indirect infringement? How can a machine *expressly designed* to instantiate and enforce law be credibly accused of promoting or fostering copyright infringement through design, behavior, or words?

The context of digital content creation and online distribution allows one to pose such questions not because special rules apply to the Internet, but because legal compliance can be hard-coded into the interactions themselves, and because Internet fora may ameliorate collective action problems.

CONCLUSION

This paper has examined the general feasibility, mechanics, and implications of employing advanced computer science tools in the context of legal acts. Specifically, it reviewed means of exploiting information technologies to enhance, expedite, and “democratize” a discrete set of intellectual property transactions to facilitate sophisticated development and distribution of digital content by individuals with no legal expertise. The immediate object has more general implications. There are a number of recurring pitfalls in law and computer science projects, of any species. A few rules of thumb may help avoid them:

- Expert legal advice is a prerequisite to all successful compliance engines or performance systems. Systems development should be subjected to the same obligations of professional competence and zeal as the practice of law, even when such ethical duties are legally inapplicable.⁵⁵ The key to developing technologies capable of automating routine legal transactions is to *maximize* the involvement of legal domain experts during development, and upon statutory and other changes.
- Build for change. The law may change, so systems should be designed to adapt efficiently. This may mean automating legislative alerts, building easy-to-use update tools for non-technical attorneys, etc.
- Legal and engineering development should occur concurrently. Software engineers sometimes view lawyers as “a bunch of zombies, walking around killing everything they touch.”⁵⁶ That is, the engineers create something great, and then the lawyers come in, *ex post*, and shut it down. The histories of Napster, Grokster, and innumerable stillborn corporate software projects in some ways reinforce this view. This general trend should be reversed in law related technologies.
- The technologies themselves should be able to identify legal issues which they cannot resolve, and efficiently sort out “non-mechanical” queries to attorneys. A hybrid approach to solving legal information problems – intertwining computational tools with professional legal analysis – will always beat out approaches which are legally or mathematically reductionist.
- Attorneys, as a group, need to overcome their math phobia, and learn the richness and qualitative nuance which may be conveyed in modern computer science languages. By immersing themselves in this world, attorneys may advance the art of computational logic, driving the creation of powerful new means to express legal concepts.
- Inversely, engineers must be exposed to the full complexity and compass of pertinent legal domains. An architecture which does not embody respect for and humility as to the law will fail.
- When faced with insurmountably complex or otherwise non-schematizable set of legal issues, build a fence. Design a simplified, “dumbed down” legal schema which errs on the side of legality. Users will not be able to exercise their full legal rights, but neither will they be exposed to litigation.⁵⁷ For example, advising individuals to generally assert their fair use rights may have the salutary effect of increasing exercise of such rights. Nevertheless, for an attorney to give such naked advice would likely be malpractice. No system, and no lawyer, should doom an unshielded consumer to a legally ambiguous course and concomitant risk.
- *Seek out* complexity, conflict, and ambiguity in the law. Advance identification and codification of complex, non-computable problems by developers is the key to developing successful legal-

computational architectures. Once such “no go” areas are expressed,⁵⁸ they may be (i) more efficiently allocated to attorneys, (ii) avoided completely, or (iii) “fenced”.

- Maximize individualization. Personal software agents may incorporate legal (e.g., jurisdictional) modules which are specific to the user at zero marginal cost.⁵⁹ Ironically, mechanical encoding and standardization may allow for greater individuation.
- While doctrinal or statutory innovation may enable greater innovation in legal communication, the latter is not immediately dependent on the former. Private legal constructs (*i.e.*, private ordering) should be drafted with an eye towards legal automation, as this may be Pareto optimal for all parties thereto.
- Seek out isomorphisms between legal state and legal workflows / user interfaces. For example, the computer code constituting software agents may, to some extent, be made isomorphic with concepts of legal agency – the former a microcosm of the latter. Where the metes and bounds of the law are accurately, if roughly, imposed in code terms, the agent is more likely to exhibit efficient legal behavior.

As noted at the beginning: Leibniz’s “legal machine” is the legal system itself. It is a *social* technology, for which wholesale “mechanization” is neither possible nor desirable. Within that rubric, attorneys have a professional obligation to pursue computational and other technical innovations within the legal system.

¹ Esq. Executive Director, CodeX: Stanford Center for Computers & the Law. J.D., 2002, University of Chicago. A.B., 1995, Harvard University, *magna cum laude*. Thanks to Roland Vogl, Esq., Professor Michael Genesereth, and the Stanford Logic Group for comments. All contentions and any errors herein remain the author's alone. (JHW © 2006 Social accountability is, of course, a direct and marvelous incident of propretization.)

² Here, "transaction" means an act which has a legal effect, including an e-mediated act. It does not necessarily refer to a commercial transaction. Thus, in this paper, a "transaction" could refer to an agreement between parties, an action by a citizen vis-à-vis a municipal or other government, etc.

³ See, e.g., Forbes.com, "eBay's Whitman Bemoans Europe's Regulations", Chris Noon, February 7, 2006, at http://www.forbes.com/facesinthenews/2006/02/07/whitman-ebay-europe-cx_cn_0207autofacescan13.html (complaining that "Europe's nightmare 'patchwork of regulation and taxes' was limiting eBay's growth across and 25-nation EU" and was disproportionately harming small businesses).

⁴ For this reason, the "rules/standards" dialectic amongst legal scholars has no bearing on this discussion. See also below.

⁵ Moreover, attorneys are typically paid by the hour. Thus, the more paper involved in any given legal procedure or analysis, the more money received. Hourly payment schedules are a legitimate response to the unpredictability of practice, constant factual variation, and the systemic nature of the legal information problems described herein. Nevertheless, they create a systemic moral hazard for attorneys, particularly since no individual will face professional censure for failing to solve information problems which falsely appear as intrinsic to practice.

⁶ Compare standard formatting and current address requirements (purely mechanical) with Risk Factor disclosures (requiring scrupulous professional review for each filing).

⁷ Martin Davis, *Engines of Logic: Mathematicians and the Origin of the Computer*, at 5-6 (2000).

⁸ *Id.*

⁹ Leibniz built the first mechanical calculator capable of doing multiplication and division. *Id.*

¹⁰ Norbert Wiener, *Time, Communication, and the Nervous System, Teleological Mechanisms*, *Annals of the N.Y. Acad. Sci.* 50 (4), 214 (1948).

¹¹ Many would cite the cost of health care administration in the United States as a counterexample, proof of the medical profession's purported technological inefficiency. This is backwards. One may argue that the "excessive" cost of health care administration in the United States derives also from legal information problems – precisely the type of complexity addressed herein.

¹² This would include the biotechnology/pharmaceuticals sector, the hospital services sector, etc.

¹³ Note that while non-practicing technology entities may innovate, they typically do not have access to the best lawyers – who go to firms or into academia. This, in turn, drives "law technology" into a low-quality service framework, which further discourages the best and the brightest lawyers from innovation careers.

¹⁴ Lawyers will immediately, as trained, fault the bifurcation of substantive from procedural legal issues. Indeed, the two are often intertwined, and purely "procedural" rules frequently exhibit highly complex informational characteristics. However, the substance of procedural rules may, again, be bifurcated from the execution of the procedures themselves. For example, the issue of compliance of a given party with a given litigation procedure rule may involve highly complex analogical reasoning. The consequences of non-compliance may be purely mechanical deductive reasoning.

¹⁵ See, e.g., Mark Lemley, *Time for Congress to innovate, reform abused patent system*, *San Jose Mercury News*, Op-Ed ("[t]oday's patent litigation system is tilted in favor of plaintiffs, especially in the information technology industries, where patents are easy to get and their scope hard to define") (June 15, 2006).

¹⁶ Davis at 8, citing G. W. Leibniz, *Machina arithmetica in qua non addition tantum et subtraction set et multiplicato nullo, division vero paene nullo animi labore peragantur*, 1685, in D.E. Smith, *A Source Book in Mathematics* (M. Kormes, trans.), 173-81 (1929).

¹⁷ Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, *U. Chi. Legal F.* 207, 207 (1996).

¹⁸ *Id.*

¹⁹ Of course, horselaw may be a necessary incident of any online application, including a legally-oriented one.

²⁰ See, e.g., Jack L. Goldsmith and Alan O. Sykes, *The Internet and the Dormant Commerce Clause*, 110 *Yale L.J.* 785, note 111 (2001).

²¹ See *supra* at 12-13 (Advanced Legal-Computational Architectures).

²² See Associated Press, "Sony BMG Tentatively Settles Suits On Spyware", *The New York Times*, December 30, 2005 (Late Edition – Final), at Section C; Column 6, p. 4 (describing surreptitious insertion of DRM technology by media company which limited the number of copies of a disc that a licensee could make).

²³ Admittedly, scrivening is a form of livelihood, if a somewhat deadly one. If, ten years down the road, research similar to that proposed leads to the loss of legal scrivening jobs, it may be argued that the increased societal savings are better applied to the sponsorship of poets, and the like. However, scribes may rest at ease, for the moment.

²⁴ In the end, of course, the best answer to technical skepticism is technical success.

²⁵ Hector Garcia-Molina, Jeffrey D. Ullman, and Jennifer Widom, *Database Systems: The Complete Book* (Prentice Hall 2002).

²⁶ *Id.* at 41 – 44.

²⁷ Id.

²⁸ Id. at 44.

²⁹ Of course, determining the *legal attributes* demanded of a contractual representation requires even more domain expertise.

³⁰ “N” is a prefix meaning “an unspecified but specific finite number of variables. For example, an *n-gon* is a polygon with *n* sides” E. J. Borowski & J. M. Borwein, *Collins Web-Linked Dictionary of Mathematics*, at 378 (2005). In this context, “n-actors” would mean a certain number of actors which are bound by a specific contract.

³¹ Oliver Wendell Holmes, *The Path of the Law*, 10 *Harvard Law Review* 457 (1897), available at http://www.constitution.org/lrev/owh/path_law.htm.

³² See <https://www.donotcall.gov/default.aspx>.

³³ Semantic Web means a set of technologies aimed at semantically tagging documents on the World-Wide Web (“Web”), such that this data can be categorized and reasoned about by computers more efficiently than is possible with unstructured data. A key element of Semantic Web approach is the use of universally recognizable tags and ontologies. A non-peer reviewed summary of Semantic Web technology may be found at http://en.wikipedia.org/wiki/Semantic_web (last viewed July 26, 2006).

³⁴ See, e.g., Stuart Russell and Peter Norvig, *Artificial Intelligence, A Modern Approach*, 17 (Second Ed. 2003) (“[p]erhaps ‘computational rationality’ would have been better, but ‘AI’ has stuck”).

³⁵ The “humanity” of software products of software products may similarly be proven by recursion. The manner in and characteristics by which an autonomous software agent develops subsidiary software products are set by the human programmer. The inclusion of random or other variables also derives from the original programmer’s decisions.

³⁶ Statistical reasoning is excluded from this usage of “induction”. Obviously, computers are superlative at purely numerical computation.

³⁷ Whether “intelligence” requires free will is a problem best left to philosophers. For our purposes, the significant point is that AI implies a human equivalence which it cannot support.

³⁸ See *supra* note 4.

³⁹ Just so, if deductive reasoning cannot provide a citizen with a compliance determination for a given action on the Internet, the system should answer: (i) avoid the action; or (ii) get a lawyer.

⁴⁰ Again, part of the reason for this may be because engineers and lawyers tend not to mix. When they mix at all, it is usually after a given system has already been designed, with lawyers cast as ruthless editors and naysayers who neither understand nor appreciate the instant engineering issues. (Thus, typical engineers become as law-phobic as typical lawyers are math-phobic.) Lawyers typically determine compliance of systems instead of helping to develop them. An exception may arise in the medical community, where medical liability experts help create medical procedure software which decreases medical errors . . . and malpractice suits.

⁴¹ See generally, Chapter 3: Hakim S. Haouideg and Gabriel Ramsey, *Modularity of Licensing Terms for Online Content Distribution* (“Ramsey & Haouideg”).

⁴² Again, a hortatory term discouraging disparagement of any kind may not be sufficient. The specific use case requires a third party monitor. IPX may also be able to reduce music licensing costs below mandatory levels where the rights holder values a reasonable use constraint more than the fee difference.

⁴³ Some major media companies, like the BBC, have adopted a Creative Commons-type approach for limited sets of content, involving noncommercial use. See <http://creativecommons.bbc.co.uk/>. Others are more circumspect.

⁴⁴ Ramsey & Haouideg.

⁴⁵ Alternatively, the work is distributed without the requisite rights, and then litigated into oblivion. This occurs frequently.

⁴⁶ By hosting the contract, and allowing the service provider to impose an explicit, conditional price term, the creator (Kim) can leverage the upside risk of future success to obtain immediate service benefits.

⁴⁷ In Contract Law, this is known as a “wise man” provision.

⁴⁸ Eric S. Raymond, *The Cathedral & the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary* (Sebastopol, Calif.: O’Reilly & Associates, 2001).

⁴⁹ Regardless of whether Raymond meant “commercial” to be a descriptor of the cathedral category, that this category is supposed to cover “proprietary” software is forcefully implied. See *id.* Indeed, there have been few more proprietary groups in history than the stone masons that built cathedrals.

⁵⁰ Ironically, the standard licensing demands of “free software” advocates (e.g., “infection clauses”) are equally as coercive, and equally as extreme, as those typically imposed by large software publishers. These competing philosophies should be in competition, not open warfare.

⁵¹ Guido Calabresi and Douglas Melamed, *Property Rules, Liability Rules and Inalienability: One View of the Cathedral*, 85 *Harv.L.Rev.* 1089 (1972) (“Calabresi & Melamed”).

⁵² *Id.* at 1127-28.

⁵³ See *MGM Studios, Inc. v. Grokster, Ltd.*, 125 S. Ct. 2764 (2005).

⁵⁴ See, e.g., Lawrence Lessig, *A Rotten Ruling*, *Wired* (September 2005), at <http://www.wired.com/wired/archive/13.09/posts.html?pg=7>.

⁵⁵ Even if a legal software tool does not “practice law”, an engineer who creates and deploys such a tool without counsel may be practicing law without a license.

⁵⁶ Judge Richard Posner is credited with this “software engineer’s” characterization. Advanced Antitrust Seminar, University of Chicago Law School, Spring 2001 (not for additional attribution).

⁵⁷ Moreover, because of legal information and collective action problems, most people will have even less of an ability to exercise their rights without such systems.

⁵⁸ As argued above, the law is not comprised entirely of gray areas. See *supra* at 9-10.

⁵⁹ Compare the individualization opportunities that zero marginal cost software tools provide with the tendency of treatises and other legal communication tools to gloss over or ignore jurisdictional and other variances. Of course, the legal data libraries for each module involve substantial fixed costs, and update costs.

**Modularity Of Licensing Terms For Online Content Distribution:
What Are The Legal Alternatives For The Netizen?**

Gabriel Ramsey & Hakim S. Haouideg

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1. Introduction

In the offline world, creation and distribution of content is highly centralized and content licensing is primarily reserved for professional creators and publishers—such as record companies, movie studios and publishing houses. By contrast, in the online world, these functions are increasingly becoming decentralized. With the rise of personal computer ownership and high-speed Internet connections, a mounting number of individual Internet users (“netizens”) are engaged in the online distribution of content they create. Every day, more and more content, ranging from blogs and podcasts to home-made movies, and from consumer reviews to in-depth articles, is uploaded onto the Internet. This trend appears to be evidenced by the explosion of online businesses seeking to capitalize on user-created content.¹

Until now, with respect to content they create, most netizens have not seen themselves as empowered economic actors. Consequently, they have cared little about the legal ramifications of distributing their content online. However, widespread availability of sophisticated tools for creating digital content combined with the instant worldwide exposure provided by the Internet will likely lead ordinary Internet users to become increasingly interested in controlling further use of their creations. This, in turn, is likely to influence the expectations of both those who create and those who consume content. For example, while user-generated online content has typically been available for free, it usually qualifies for copyright protection. It is likely that creators will become more sophisticated with regard to the proprietary rights they hold in their creations and in certain circumstances may wish to assert those rights. As expectations change, Internet content consumers are likely to face more uncertainty. In this context, the need for clear communication between creators and users regarding proprietary rights in digital content will become an economic necessity.

The most effective way to accomplish clear communication between a creator and consumer of content is for those parties to enter into a license agreement. A well-drafted license could either clarify that a work can be used for free without any limits, or it may ensure that a creator can control further uses and/or charge a fee for the use. In either case, the result is greater certainty than the speculation about ownership and use permissions in which creators and users oftentimes have to engage on the web today. Typically, complex copyright licenses have been available only to those parties who can afford highly paid lawyers to draft them. However, that capability could be offered to all internet users through an automated intellectual property exchange, such as the “IPX” system. The IPX system will be able to indicate rights associated with particular content and facilitate contracting of such rights, thereby enabling a wide array of content creators and consumers to engage in sophisticated content transactions.

This paper is a preliminary study exploring the possibility of systematizing licensing terms which would be made available through such a system, in order to ensure valid, useful licenses. In particular, in the instant paper we will address the “modularity” of license terms. In Section 2 of the paper we will explore the definition of “modularity” in more detail. In Sections 3 and 4 of this paper we will try to provide a practical assessment of what basic terms might be necessary to make such a system work and the problems and possibilities of each.

The discussion is designed as a set of core questions to be answered by potential Licensors and Licensees using such a system. For example, parties choosing licensing terms will be confronted with preliminary questions such as “What rights do I own in this creation?” and “Does the fact that I used parts of someone else’s content change something about my legal position regarding the content?” There will be fundamental questions with regard to distributing the content such as “What rights do I want to grant?” and

¹ See e.g. VideoEgg.com, StupidVideos.com, YouTube.com, Google Videos, JibJab.com, Flickr.com, Revver.com, CurrentTV.com, Ourmedia.com.

“How much will I charge? Finally, in every license there are important technical issues to be resolved, such as determining what law will control the license.

In order to help individuals find their way through the virtually unlimited options available for online content licensing, we identify terms that answer such basic questions and explore the possibility of systematizing them so that they could be built into a automated intellectual property exchange.

2. What Is “Modularity”?

Before exploring the “modularity” of particular contract terms, it is necessary to have a perspective on what modularity means in the first place. Generally, as we define it here, the modularity of a term is a measure of its ability to meet legal and business objectives and is a measure of its “fit” in a particular technological architecture. That is, “modularity” is the extent to which a given term:

- (a) is general enough to have broad applicability across multiple licensing contexts,
- (b) is necessary to some specific licensing context, and
- (c) possesses attributes which enable its implementation in a machine logic.

In other words, modularity is a measure of *both* the ability to standardize a given term and the ability to customize the term.² Ideal “modularity” might be thought of as a perfect equilibrium between these aspects in a given context. Legal or business norms may require that certain terms be included in a license in order for it to have any value or meaning. Similarly, industry or other convention may drive how parties state those terms. Further, certain terms may be amenable to standardization and uniformity while other terms may require variation and flexibility. As is explicated in further detail in this paper, such issues are important to understanding the range of terms that should be made available through IPX and how they should be articulated—*i.e.* business and legal “modularity.”

But, the manner of approaching terms which satisfactorily deal with legal and business issues must also have value from a technological perspective. Binary choices are likely the easiest to implement through a machine logic. Thus, generally, technological “modularity” is likely to be achieved through pre-defined contractual “pieces” the presence or absence of which have clear meaning to the system and which can be easily selected and strung together to form a whole agreement. The discussion below assumes that this is the case and assesses the “modularity” of contract terms by reference to this concept generally. However, we also indicate where definition of terms in this manner appears to be difficult or impossible, from a business or legal perspective. Typically, this involves scenarios where a great deal of customization is desirable and sophisticated, highly granular decision processes would be required in order to make such customization available. We assume that under these circumstances, there must be either a decision to limit the contractual capabilities of the system or to implement more elaborate technological solutions.

This all raises an interesting issue. There may be many technological possibilities for systematizing the process of seeking and offering content, communicating desired or refused terms, and forming binding agreements effectuating transfer of rights in content. These technological possibilities themselves *determine* what licensor/licensee communication might look like, what types of terms might be articulated and the basic meaning of “modularity.” For this reason, it is difficult to discuss modularity of license terms in a vacuum, without some understanding of what the underlying technology might be and what logics might be possible. It is beyond the scope of this paper and the expertise of its authors to do more than allude to such possibilities where the more general notion of technological modularity mentioned above breaks down and terms appear difficult to implement.

² See Margaret Jane Radin, *Boilerplate Today: The Rise of Modularity and the Waning of Consent*, p. 1224 (discussing this dual facet of modularity in contract terms)

3. What Intellectual Property May Be Traded On The System?: Initial Questions Of Copyrightability And Ownership.

Before exploring contract terms governing content licensed through IPX, it is necessary to consider what material will be allowed on the system. Any type of intellectual property can be licensed: a trademark, a patent, a trade secret, or a copyright. IPX's primary objective is to facilitate consumer publication online by building an easy-to-use online clearinghouse for digital works which can be used by any digital creator. We will therefore focus exclusively on copyrighted works, as this is the form of intellectual property protecting the content created or owned by users of the system.

In order to provide the general conceptual framework and a starting point for defining the modular content licensing elements of the IPX, we will first outline the main prerequisites of copyright protection and ownership. Many digital content creators are generally aware that their works are protected under the law and that they own the rights. It is still very important that an online licensing system such as the one underlying the IPX also educates its users about their rights. In particular, the IPX should provide every user with some basic understanding of the scope of the rights granted to the individual creator under the current copyright regime (through direct questions and explanations understandable to non-lawyers) and ensure that the work intended to be licensed satisfies a *prima facie* copyrightability assessment made by the creator.

While IPX aims to build a system that drastically removes legal transaction and avoid unnecessary legalese, it is important to note that IPX's existence will be based on the very existence of the copyright regime and all transactions involve works under copyright protection (otherwise, no permission would be required).

3.1. Copyrightability

U.S. copyright law protects any original work of authorship fixed in any tangible medium of expression.³ IPX should help a content owner assess whether her creation is protected by copyright law pursuant to this definition.

3.1.1. Is It A "Work Of Authorship"?

The concept of work of authorship includes several categories of works that will encompass most of the creations by the netizen.

Creations such as the content of a weblog or a webpage, consumer reviews, articles, etc.⁴ will likely fall into the copyright law category of *literary works*.⁵ Videos or flash animations (with or without sound) will fall under the category of *audiovisual works*.⁶ Pictures, drawings or website banners will be considered

³ 17 U.S.C. § 102.

⁴ Although computer programs are protected by copyright law as literary works, we intentionally exclude these works from the scope of our study. Indeed, licensing of computer programs requires treatment of a number of issues that go beyond the modularity of the general copyright licensing terms (e.g. with regards to warranties, access to source code, reverse engineering, etc.). Further, because software licensing often requires more complex relationships involving matters such as technical support and product upgrades that will usually not be provided by the average net-citizen, we set aside the issue of software.

⁵ 17 U.S.C. § 101 defines "literary works" as "works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied."

⁶ 17 U.S.C. § 101 defines "audiovisual works" as "works that consist of a series of related images which are intrinsically intended to be shown by the use of machines or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied"

as *pictorial and graphic works*.⁷ Sounds such as musical files or podcasts will likely be considered *sound recordings*.⁸ The category of sound recordings only protects the specific recording of the song, the underlying work (words and music) will likely be protected as *musical works*.

In designing the IPX, it may be warranted to distinguish the category of works from the outset (following the legal categories or even a more specific categorization). This will not only enable a Licensor to make an initial assessment whether the work is generally subject to copyright protection, but may also facilitate the modularity of terms generated by the system—especially terms concerning use of the work and consideration (*See infra*).

3.1.2. Is the Work Sufficiently Original?

In order to receive copyright protection, the work must contain some amount of originality. This requirement may easily be self-assessed by the user since “original” merely means that the work was independently created by the author and that it possesses at least some minimal degree of creativity.⁹ Originality does not mean ‘novelty’; a work may be original even though it closely resembles other works so long as the similarity is fortuitous, not the result of copying.¹⁰

Most of the works that a Internet publisher may wish to license will meet the originality requirement, provided that they have been independently created. The requisite level of creativity indeed is extremely low; even a slight amount will suffice. The vast majority of works make the grade quite easily, as they possess some creative spark, “no matter how crude, humble or obvious” it might be.¹¹ In order to assess a *prima facie* case for copyrightability, the system could thus simply ask the user whether he created his work independently, without copying any other work.

3.1.3. Does The Work Meet The “Fixation” Requirement?

Finally, the law requires the work to be “fixed in a tangible medium of expression,” meaning that its embodiment in a copy or phonorecord should be sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.¹² This simply means that a somewhat durable copy of the work (such as saving a digital file on a hard drive or on website server) will suffice. Here again, a trivial question such as “Do you have a copy of your work?” should suffice to assess a *prima facie* compliance with this requirement.

3.1.4. No Other Formality Is Required

Following a change in the law for the purpose of compliance with the Berne Convention,¹³ registration with the Copyright Office is no longer a prerequisite for copyright protection. A copyrightable work is protected immediately upon its creation.

⁷ 17 U.S.C. § 101 defines “pictorial, graphic, and sculptural works” as “two-dimensional and three-dimensional works of fine, graphic, and applied art, photographs, prints and art reproductions, maps, globes, charts, diagrams, models, and technical drawings, including architectural plans”.

⁸ 17 U.S.C. § 101 defines “sound recordings” as “works that result from the fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work, regardless of the nature of the material objects, such as disks, tapes, or other phonorecords, in which they are embodied”.

⁹ *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (U.S. 1991)

¹⁰ *Id.*

¹¹ *Feist*, supra note 9, at 345.

¹² 17 U.S.C. § 101.

¹³ Berne Convention Implementation Act of 1988, Pub. L. 100-568, 102 Stat. 2853.

However, registration remains mandatory before a claim for copyright infringement may be brought; but the work may be registered at any time.¹⁴ In addition, a registration may provide more trust and confidence to the licensee, which could be more willing to enter into a license if the work is registered. Finally, a registration number can serve as an easy and efficient way to define the licensed work. Registration of works could easily be offered as part of the suite of services offered by IPX, at least when the Copyright Office will allow online registration through the CORDS system.¹⁵

3.2. Does The Licensor Own The Work?

In general, the copyright is owned by the author of the work.¹⁶ However, issues of ownership may arise when the author created the work under an employment agreement, when more than one person contributed to the work, or when the work is based on or includes preexisting works. IPX should provide mechanisms for users to make an initial assessment of these issues before offering the work through the system.

3.2.1. Is It A Work Made For Hire?

If a work is created by an employee within the scope of his or her employment, the employer is considered the author of that work, and therefore, is the owner of the copyright under the “work for hire” doctrine, unless it has expressly agreed otherwise in a written contract.¹⁷ The work of an independent creator will be considered a work made for hire if the work is specially ordered or commissioned and falls within the nine types of works that are enumerated in the Copyright Act.¹⁸

In order to avoid situations in which netizens offer to license works for which they do not own copyrights, it would be advisable for IPX to ask a question such as “Did you create the work under an employment agreement or did a third party ask you to create the work?” If the answer is “no,” the work for hire doctrine is less likely to apply; if however it is “yes,” it will be necessary to ask further questions in order to let the user proceed with the licensing such as “Did your agreement expressly provide that you keep the copyright in your work?”

3.2.2. Is It A Joint Work?

In the case of a “joint work,” the co-authors are co-owners of the copyright in the work.¹⁹ The copyright law defines a “joint work” as a work prepared by two or more authors with the intention that their

¹⁴ 17 U.S.C. § 408.

¹⁵ CORDS is a system for electronic copyright registration and deposit that accepts filings for literary texts, serials, and musical work, see <http://www.copyright.gov/cords/index.html>.

¹⁶ 17 U.S.C. § 201 a.

¹⁷ 17 U.S.C. § 201 b. See also 17 U.S.C. § 101 (“A ‘work made for hire’ is (1) a work prepared by an employee within the scope of his or her employment [...]”).

¹⁸ 17 U.S.C. § 201 b. See also 17 U.S.C. § 101 (“A ‘work made for hire’ is (2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, as an instructional text, as a test, as answer material for a test, or as an atlas, if the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire. For the purpose of the foregoing sentence, a ‘supplementary work’ is a work prepared for publication as a secondary adjunct to a work by another author for the purpose of introducing, concluding, illustrating, explaining, revising, commenting upon, or assisting in the use of the other work, such as forewords, afterwords, pictorial illustrations, maps, charts, tables, editorial notes, musical arrangements, answer material for tests, bibliographies, appendixes, and indexes, and an ‘instructional text’ is a literary, pictorial, or graphic work prepared for publication and with the purpose of use in systematic instructional activities”)

¹⁹ 17 U.S.C. § 201 (a).

contributions be merged into inseparable (e.g. a music, a novel or a painting) or interdependent (e.g. words and music in a musical composition) parts of a unitary whole.²⁰

Unless otherwise agreed between the co-owners, each co-owner may license the entire work without the consent of the other owners, but the license may only be non-exclusive.²¹ An assignment of copyright or an exclusive license may only be granted by all of the co-owners.²² Therefore, whether or not the work is a joint work might be of particular relevance when the user is planning to grant an exclusive license. The user might be presented with an initial question whether they authored the work with anyone else or if anyone is named as a co-author. If the answer is “yes,” the licensing options might automatically be constrained from that point forward.

3.2.3. Does The Work Include Preexisting Content?

In the preliminary questions for assessing copyright ownership, the system should also ask the user whether its work includes content that it did not create independently. Besides the specific situation of a joint work, copyright law recognizes two other categories of works that incorporate content created by other persons, and for which the authorization from that person will be required.

The first category is comprised of collective works, such as a periodical issues, anthologies, or encyclopedias, in which a number of contributions, constituting separate and independent works in themselves, are assembled into a collective whole.²³ The collective work as a whole will be protected by copyright (independently from the different separate works²⁴) only if the selection and arrangement meets the originality requirement.

The second category is called “derivative works.” A “derivative work” is a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted.²⁵ The aspects of a derivative work added by the derivative author are that author’s property, but the element drawn from the pre-existing work remains on grant from the owner of the pre-existing work.²⁶ The copyright owners of the preexisting work hold a bundle of exclusive rights in the copyrighted work, including the right to reproduce the work or to incorporate it into derivative works. Thus, if the creator either based her work on someone else’s or integrated a compilation of content created by others, a permission from these other people will be required, unless this content was in the public domain.

There might also be much more subtle cases than derivative works or compilations in which IPX users will incorporate the works of others. For example, the room in which a video is being filmed may contain a copyrighted picture or object. A podcast interview in the entrance of a concert hall might include some music from the hall. In these cases as well, a permission from the owner of the incorporated work will be required.

All of these ownership issues are threshold questions that must be resolved before a work can be offered through the IPX system, otherwise trust in the system will fall rapidly. Where vulnerabilities are

²⁰ 17 U.S.C. § 101.

²¹ *Meredith v. Smith*, 145 F.2d 620 (9th Cir. 1944) ; *Williams v. Arc Music Corp.*, 1997 U.S. App. LEXIS 21325 (9th Cir. 1997) ; see also 1-6 Nimmer on Copyright § 6.10 (further stating that there is no support for the proposition that an entity with a license from one co-owner must tender royalties to the other.)

²² *Glovaroma, Inc. v. Maljack Prods., Inc.*, 71 F. Supp. 2d 846, 853 (D. Ill. 1999)

²³ See 17 U.S.C. § 101.

²⁴ See 17 U.S.C. § 201 (b) (“Copyright in each separate contribution to a collective work is distinct from copyright in the collective work as a whole, and vests initially in the author of the contribution.”)

²⁵ 17 U.S.C. § 101

²⁶ *Stewart v. Abend*, 495 U.S. 207 (U.S. 1990)

identified, those offering works might be directed to take action to obtain all rights before including the work in the system. The risks might also be mitigated through warranty or indemnification provisions in the ultimate license of the work. [See *infra*] Ideally, if a system such as IPX became established, technologies such as tagging of content with rights grants or reservations would resolve many of these issues in advance.

4. Building The Modular Content License: An Assessment Of Particular License Terms

4.1. The Preamble: Stating The Parties Intentions

Most of the licensing agreements will start with a preamble. The preamble generally states the parties identities, perhaps contact or other identifying information and a brief statement of the intention of the agreement. A typical preamble might appear as follows:

- This License Agreement (“Agreement”) is made as of [DATE] between [Licensor Name] (“Licensor”) and [Licensee Name] (“Licensee”).
- **PURPOSE**
- Licensor is authorized and intends to grant certain rights in the work(s) licensed herein, in connection with the Use.
- Licensee seeks to and intends to obtain a license to the work(s) licensed herein, in connection with the Use.
- NOW THEREFORE, the parties hereto, intending to be legally bound by the terms and conditions contained herein, hereby agree as follows:

Through simple question and answer identifying the parties, the work and the Use (discussed *infra*), such a preamble provision could easily be generated by IPX. The example provided here, is at a high level of generality, largely “boilerplate.” However, it is possible that more specifics with respect to the nature of the intended project/use could be filled in if the parties so desired a more detailed articulation of the intended use context.

4.2. Terms Defining The Work To Be Licensed

It is important that the work at issue in the license be identified in some specific manner. The IPX system should require that the party providing a work provide describe it with particular name, and perhaps other identifying information. That information could be directly imported into a license term defining “The Work.” Such clarity is necessary to reduce any dispute later regarding what information was licensed. As has already been suggested, IPX could facilitate registration of works with the Copyright Office, resulting in particular registration numbers which identify a work. [See *supra*] Such identifiers could be used in conjunction with or instead of the name of a work.

4.3. Terms Defining What The Licensee Will Be Allowed To Do With The Work

4.3.1. General Questions

IPX will have to be able to define what the users licensing content through its system will be allowed or able to do with it. There are, of course, infinite potential variations in the use rights that could be granted between a licensor and a licensee. The more sophisticated IPX will be in capturing these variations, the greater the likelihood that the system will be widely accepted. Indeed, a large part of the value of a content license lies in the details of which uses are granted and which are reserved. So, before assessing the “modularity” of content licensing terms, it is important to consider whether terms defining use rights should or can be modular at all. For example, it might be more valuable for an online content licensing system to enable very detailed communication and negotiation of the “use rights” terms between the parties. This could be as simple as a technology enabling direct, open-ended communication between the licensor or licensee. A far more ambitious vision might attempt to define a particularized “language” of low-level licensing concepts or principles and technology to parse statements of offered and desired use rights—matching licensor with licensee.²⁷

While a system that could capture infinite potential variation in license terms may be ideal in some respects, there are costs of such a system as well. It may be technologically difficult to create and may be cumbersome or confusing, particularly for unsophisticated users. Indeed, if a system is directed at making online content licensing transactions widely available and simple for a broad array of users, a more paternalistic approach in defining terms granting “use rights” may be desirable. The question of “modularity” arises here. Is it possible to formulate a set of typical or essential use terms that would apply to many licensing exchanges between creators and users?

The operative legal regime—copyright—provides a point of departure, as it defines possible “uses” in a discrete manner. The Copyright Act defines six exclusive rights in the copyrighted work held by the copyright owner. They are the rights to: (1) reproduce the work; (2) prepare derivative works based upon the work; (3) distribute copies of the work to the public; (4) perform the work publicly; (5) display the work publicly; and (6) perform a sound recording publicly by means of a digital audio transmission.²⁸ A possible approach for IPX would be to define terms granting or reserving these rights, which are of sufficient generality that they could apply across content types and transactions and be implemented by an online system, but specific enough that contracting parties could define with some detail the value of the transaction.

Taking a very practical view, however, it may not be necessary to define terms that are precisely coextensive with the uses recognized by copyright. Instead, in a given licensing transaction, the following broad issues may define the contours of how “use” rights are viewed by contracting parties:

- (1) Will the licensee simply obtain a license for personal, noncommercial use or will the content be licensed for commercial purposes?
- (2) Does the licensee plan to make any further re-use or copying, such as incorporating the material into new works or other products?
- (3) Does the licensee plan to redistribute the work?²⁹

²⁷ See Karen Coyle, Rights Expression Languages, A Report for the Library of Congress (February 2004)

²⁸ 17 U.S.C. §106

²⁹ See e.g. “use of the work is only for personal, noncommercial use”; “Licensee is engaged in the production of a project and wishes to license the work for use in connection with the Project, including use in connection with the production, exhibition and exploitation of the Project that may be used in the promotion thereof.”

A survey of content licenses across industries and media reveals that these basic concepts animate more specific licensing terms and embody some of the most important commercial concepts inherent in the exclusive rights under copyright as well. One observer, collecting examples of efforts at online digital rights automation, similarly grouped use rights types as “Re-use,” “Transfer,” and “Use.”³⁰ One of the most notable attempts to define a “modular” licensing framework online to date—the Creative Commons Project—has taken such a high-level approach, defining terms around these principles. Creative Commons has designed seven licenses defining broad variations in use rights:³¹

- “***Attribution Non-commercial No Derivatives***”: allows downloading and sharing of works, as long as attribution to the creator is given, the work is not changed in any manner and the work is not used commercially.
- “***Attribution Non-commercial Share Alike***”: allows others to remix, change and build upon the work, as long as attribution to the creator is given, as long as new creations are licensed under identical terms, and the work is not used commercially.
- “***Attribution Non-commercial***”: allows others to remix, change and build upon the work, as long as attribution to the creator is given and the work is not used commercially.
- “***Attribution No Derivatives***”: allows for redistribution, commercial or non-commercial, as long as the work is not changed and attribution is given to the creator.
- “***Attribution Share Alike***”: allows others to remix, change and build upon a work for commercial or non-commercial purposes, as long as attribution to the creator is given, as long as attribution to the creator is given and new creations are licensed under identical terms.
- “***Attribution***”: allows others to redistribute, remix, change and build upon a work for commercial or non-commercial purposes, as long as attribution to the creator is given.

Creative Commons articulates its licensing terms at such a high level in order to moderate and bring balance to the assertion of copyright by content creators. The project resulted from the perception that copyright owners too often emphasize control, assert rights too broadly and assert them too often, thus harming the public good and creating a culture of uncertainty around the use of works. Not only does Creative Commons define these terms, but provides tools and metadata with which to “tag” works in a “machine readable way” in order to communicate the licensing terms which apply to the content. This is certainly a first step in the development of an automated, online system for licensing content. The terms are easily understood and accessible to ordinary users and creators alike. The regime makes room for commercial and non-commercial applications of works and recognizes some of the most basic distinctions in use rights under the Copyright Act.

Accordingly, an online licensing system might be built around use terms of this nature. If a license can be reduced to such broad, simple, fundamental distinctions, it may beg the question why go further in granularity in any online licensing system. Indeed, having only a few fundamental choices in such a system would increase its simplicity. For example, a license which defines use rights as “noncommercial purposes, all re-use allowed, all distribution allowed,” is easily understood and implemented, therefore increasing

³⁰ Karen Coyle, *Rights Expression Languages A Report for the Library of Congress* (February 2004), pp. 27-28. Also defined was a “manage” use right which relates to “housekeeping” tasks such as the installation of backup of the resource files. *Id.*

³¹ <http://creativecommons.org/about/licenses/meet-the-licenses>

certainty and reducing transaction costs. If the goal is to obviate the need for lawyers and complications, defining extremely detailed, specific terms is inconsistent with that objective.

But, there are limitations in a licensing system that defines use terms at such a high-level. While licensing of content for personal, noncommercial use may proceed with relative ease based on a simple set of terms, matters quickly become more complicated in any commercial license of content. For example, if a licensee only wishes to license content for personal use, the licensee must be able to make or possess at least one copy of a work in order to experience it. If that is the extent of the use to be granted, simple terms achieving that result will allow a valuable exchange to occur. Allowing mixing and re-use of content, for personal use, without redistribution can likewise be easily encompassed in such high-level terms.

By contrast, once a licensee plans to use, reuse or redistribute the work for commercial purposes, more granularity may be necessary in order to clarify the extent and nature of those activities and to flexibly provide for the parties' understanding of the exchange of value.³² Questions like “do I have the right to rebroadcast publicly or only make physical copies?,” “how many copies?,” “what territory of use?,” “what is the nature of the project?,” “how much money will you make off of my work?,” are not just the province of the content industry but are equally relevant to ordinary creators and ordinary users. Any automated system for licensing content which hopes to be an economic force must be able to deal with these kinds of issues and allow the questions to be answered, which necessarily means finding a way to define use rights with more granularity.

4.3.2 Defining A Universe Of “Use“ Terms

So, recognizing that some granularity in terms is necessary to enable valuable economic, licensing transactions and more complicated re-use and redistribution scenarios—we face the question “how granular”? In other words, how do we create a catalog of terms that (a) can be applied to different forms of content available in online licensing transactions, (b) are of sufficient generality that they can be easily understood by licensors/licensees and implemented in a machine logic, yet (c) be specific enough that they can enable valuable transactions?

To answer these questions we look at the particular rights expressed in the Copyright Act and survey existing online content licenses to begin to understand how such rights to use content are articulated, and to see the contours of the body of terms most often implicated in online content licensing transactions. In doing so, we may begin to see how industry-specific idiosyncrasies and the nature of the content itself drive the nature of terms. On one hand this is a practical lens through which to assess definition of terms, as any system for licensing content will exist in a general business context and may gain credibility if its licenses reflect terms already recognized in various content industries. Further, industry terms may have evolved as they have for good reason, accounting for real-world issues that arise between parties. On the other hand, it is possible that some such terms are the outgrowth of relatively consolidated entertainment industries and emphasize control of content, such that they are not appropriate or necessary in a more open licensing architecture intended to include a vastly more varied group of licensors and licensees.

At the end of the day, we must decide what to take and what to leave from this complex mass of information. But first, we define a universe of options. We frame the discussion with the exclusive rights granted by the Copyright Act:

³² Even in a non-commercial context, a high-level grant to further use and redistribute works, while seemingly simple on its face, may lead to problems. Recently, the Creative Commons license has been criticized in that its requirement that any work containing “re-used” licensed content must be licensed under the same terms as the original content leads to confusion because different source content that is used in a new work may have different licensing terms associated with it. This leads to uncertainty as to what terms apply to the resulting work. Michael Fitzgerald, *Copyleft Hits A Snag* (Dec. 21, 2005).

4.3.3. “Use” Terms Should Recognize Different Rights Under Copyright

While a system that divides “use” terms based on some of the most fundamental distinctions under the Copyright Act, as discussed above, might be workable, in order to reflect valuable exchanges, terms reflecting the precise rights under copyright should be enabled.

A. Reproduction Of The Copyrighted Work

The right to reproduce a work is the right to make a copy in another material object in which the work is fixed (e.g. “copies” or “phonorecords” in the parlance of the Copyright Act).

Any online licensing system must provide for terms for reproduction of the work. For example, if a user simply wants to license a work for personal use and enjoyment, be it music, film, graphic or literary content, the user must at the very least license a copy for themselves, and the corollary right to “play,” “display” or “print” that copy. Likewise, if the user wishes to re-use the work in some fashion, in or on other media or products, then copying is necessary. For instance, the synchronization of music in a film, literary copy in an advertisement, copying an image for personal enjoyment all implicate the reproduction right, as they result in a separate fixation of the work in a tangible medium.³³ The basic architecture of a term granting reproduction rights might be as follows:

- Licensors grants to Licensee a license to reproduce the Work in connection with the Use only, limited to the Territory, and during the Term hereof.

It may be desirable to further specify in such a use grant what general category of reproduction is allowed. That aspect of the “Use” could be built into the term itself. For example, the term could specify that reproduction is allowed (a) for “non-commercial” or “commercial” purposes,³⁴ (b) for “personal” or “public” use, (c) in order to “play,” “display,” “print,” “reuse,” or “distribute.” Combinations of these possibilities (as well as others³⁵) could more specifically define the use term in a modular way.

B. Preparation Of Derivative Works

Users of the licensed work may wish to sample or re-use parts of it in the creation of new content, or to otherwise alter the content. In general, re-use of a work in a new work implicates the reproduction right above or the performance rights discussed below. However, the Copyright Act also provides the copyright owner the right to create “derivative works.” An online system for licensing should provide as an option, a term granting rights to create derivative works. This right effectively *only* takes on significance where the user wishes to make some change to the licensed work.³⁶ For example, the term might be articulated as follows:

- Licensors grants to Licensee a license to shorten the length of the work or remix or reuse the work, or any part thereof, as necessary in connection with the Use only, limited to the Territory, and during the Term hereof.

As an economic matter, the details of the “changes” to a work in relation to what remains unchanged, or more generally “how much” of a work is used, are likely to determine the value of this use term. However, it

³³ The Copyright Act provides for compulsory licensing of the reproduction right (and the distribution right) in non-dramatic musical compositions, at a determined statutory rate.

³⁴ See *infra* “Consideration” Section, for an example of a term limiting the grant to non-commercial uses.

³⁵ See *infra* “Explicit Details Of The Use/Project” Section, for examples of very granular uses.

³⁶ One interesting implementation of online licensing of content for use in derivative works is ccmixter.org, which provides a forum to obtain music licensed under the Creative Commons license and to share samples, remixes or mash-ups created from such works. See <http://ccmixter.org/media/viewfile/isitlegal.xml>

is very difficult to see how this relationship or even the amount of the work used could be captured in a modular licensing term or an online system, except through some system by which a licensee self-reports.

C. Distribution Of The Copyrighted Work

Any licensee who uses the licensed work in a new project which results in a new work, product or other item, may desire to also distribute to the public the item in which the content is used. This implicates the distribution right under copyright, which reserves in the copyright owner the right to sell, transfer, rent, lease or lend the work.³⁷ It is also possible that a licensee wishes to distribute fixations of the licensed work, in itself, but that seems less likely than various “re-uses” in the context of an automated, online content licensing system. In either event, an online system for licensing content should provide for terms granting or reserving the right to further distribute the work. Before a distribution right is granted, a right to make reproductions must also be granted. The term might be articulated as:

- Licensor grants to Licensee a license to distribute the Work through [sale, rental, leasing, lending] in connection with the Use only, limited to the Territory, and during the Term hereof.

D. Public Performance Of The Copyrighted Work

The user may desire to make a public performance of a licensed literary, musical, dramatic, choreographic, pantomime, motion picture or other audiovisual work. For example, a user may desire to play a licensed song publicly to entertain customers, guests or employees. Similarly, a user may himself wish to perform an underlying musical work publicly. The performance right would apply regardless whether the music was performed live, broadcast on radio or television, music-on-hold, transmitted or played via CD’s or videos or, importantly, online. Thus, an automated, online system for licensing content would have to provide potential terms for licensing the right to publicly perform works.

In the context of music, it is important to note that the traditional “performance” right in music only extended to the underlying work. However, in the mid-1990s Congress recognized a “digital performance right” in sound recordings when performed by “non-interactive”³⁸ digital audio transmission—i.e. when streamed by radio stations and other Webcasters. This has particular ramifications for an online content licensing system, which would have to ensure the availability of terms for licensing *both* the performance rights in the underlying work and any recording which will be publicly performed by digital transmission.

The Copyright Act provides for compulsory licensing of performance rights, whether traditional or digital audio transmissions, under a statutory fee framework. However, any personalized or “on-demand” interactive broadcast is not subject to compulsory licensing. An online licensing system should be able to implement licensing of this type under current statutory rates. Traditional performing rights organizations, such as ASCAP, BMI and SESAC have managed licensing of these rights, and newer performing rights associations, such as SoundExchange manage licensing of performance rights in digital transmissions.³⁹ One

³⁷ The Copyright Act provides for compulsory licensing of the distribution right in non-dramatic musical compositions, at a determined statutory rate. This compulsory licensing framework is often administered by the Harry Fox Agency. <http://www.harryfox.com>

³⁸ In other words, in any streaming context that does not amount to “music on demand.”

³⁹ Although perhaps not the foremost consideration in an automated system for licensing content online between many ordinary creators of content and licensees, it should be noted that some music creators may already have agreements with performing rights societies—such as ASCAP, BMI and SECAC—which govern the licensing of public performance of works. One option would be that the license defers to the performing rights societies: “Performance Rights. Any public performance of the work is subject to the

possibility is integration of such performing rights societies' catalogs and, when the content creator has already delegated licensing of performance rights to these organizations, the applicable terms required by these organizations could be imported into the license agreement. Similarly, the Licensor or other licensing agent of the Licensor may grant performance rights and performing rights societies fee waivers.⁴⁰ Grant of a public performance right might be articulated as follows:

- Licensor grants to Licensee a license to perform the Work publicly in connection with the Use only, limited to the Territory, and during the Term hereof.
- or
- Licensor grants to Licensee a license to perform the Work publicly by means of digital audio transmission in connection with the Use only, limited to the Territory, and during the Term hereof.

It might be desirable to further specify in such a use grant where the public performance will take place (e.g. that aspect of the "Use" could be built into the term itself). For example, ASCAP categorizes public performance licenses with respect to: (a) "General (Nightclubs, Restaurants, Concerts, Hotels, Businesses, etc.)," (b) "Television," (c) "Cable & Satellite," (d) "Radio" and (e) "New Media & Internet."⁴¹

E. Public Display Of The Copyrighted Work

Analogous to the public performance right, the display right reserves in the copyright owner the right to publicly display a static "copy" of a work, whether literary, musical, dramatic, choreographic, pictorial, graphic and sculptural works, pantomime and individual images of motion pictures or other audiovisual works. Any system for licensing online content should provide for a term to license the right to publicly display such works. Grant of a public display right might be articulated as follows:

- Licensor grants to Licensee a license to display the Work publicly in connection with the Use only, limited to the Territory, and during the Term hereof.

Contextual specificity regarding where the "display" will occur might track the categories applicable to the performance rights, as well.

clearance of the applicable public performance rights in force from time to time applied by the performing rights society in each part of the Territory in accordance with their respective prevailing terms and conditions." *Magnatune License* at http://magnatune.com/artists/license/license_template.html

⁴⁰ For example, in some circumstances online music label "Magnatune" specifies that "A Performing Rights Society (ie, ASCAP / BMI / PRS / GEMA / SESAC) fee waiver is granted with this license so that you do not have to pay any fees to them if you are playing exclusively our music in your public space. If you are in the USA, you may license any music you like. If you are outside of the USA, you should only license music by musicians inside the USA. You can be sure you are safe, as we have successfully defended our music license before lawyers from PRS/MCPS (the UK's performing music rights collections society) and won: the crucial point is that if you are playing our music outside of the USA, you must only use music from USA musicians. Please note that the collection societies will only recognize this waiver if you play our music exclusively, and never mix in unlicensed music from other sources."

<https://magnatune.com/artists/license/restaurant?artist=Curl&album=Inner&genre=Pop>

⁴¹ <http://www.ascap.com/licensing/>

4.3.4. “Use” Terms Should Recognize Different Forms Of Media

Any online system for licensing content should be able to specify whether the licensed content is one of several broad types. For example, workable categories might be: (1) musical composition, (2) musical recording, (3) film or other audiovisual work, (4) still photos or other fixed images or (5) literary work. As licensing of the various “use” rights under the Copyright Act has developed, various idiosyncrasies have developed with respect to these different kinds of content. A system for licensing various kinds of creative works may want to recognize such idiosyncrasies. For example, because there are separate rights in an underlying musical composition and a given recording of a work, typically in connection with using music in a film a separate “synchronization” license for the composition and “master rights” license for the recording are required. Similarly, different uses and use contexts may be more or less relevant to one media type or another. It might be possible to provide an interface in which Licensor and Licensee choose the type of media offered or sought, leading to a variety of questions specific to that media type.

4.3.5. “Use” Terms Should Recognize Contexts In Which Work Will Be Used And Details Of The Use

A. Context Of The Use/Field Of Use

There is a great advantage in an online system for licensing to be able to understand and communicate details about the ultimate use of a work, in order to better define the value of the exchange between licensor and licensee. It is impossible to define an exhaustive list of “how” a work may be used, as there are as much variations in potential uses as there are humans. But, the system might, at least generally, define basic commercial and non-commercial contexts in which works are likely to be reused, broadcast, distributed etc in an automated system for licensing content, modular terms granting use in the following typical areas may be workable examples:

- In Motion Picture, Video, Television Or Other Film Projects
- In Software Or Videogames
- In A Television Advertisement
- In A Radio Advertisement
- In A Printed Advertisement
- In Other Projects In The Same Media
- In A Website, Flash Or Java Application On The Web, Podcast Or Video Blog
- In Out Of Context Trailers, Advertisements and Promotional Material
- In Motion Picture Trailers
- In Musical Recordings
- In Dramatic Theatrical Productions
- In A Fixed Image
- In Merchandise
- In A News Or Magazine Article (Printed) (Online)
- In A Work Of Fiction (Printed) (Online)
- In A Work Of Nonfiction (Printed) (Online)
- In Other Printed Publications
- For Personal Use
- For Commercial Use
- For Educational Use

With each context in which a work is used, there may be further particular questions which define the value of the transaction. It is possible that pre-defined questions pertinent to a particular use context could be answered before an automated, online system for licensing embarks to complete a licensing transaction between licensors and licensees. For example, for film projects the parties may wish to specify whether a work will be used during the credits, as a feature in the film or as background and the price may be determined accordingly. Analogous questions might be developed for each particular use context above. Similarly, the user could supply the budget for the project in which a work would be used, in order to arrive at a license fee. While categories such as these mean very little to a machine logic, users of the system may elect to only allow uses in particular contexts and greater or lesser value can be ascribed to particular use contexts, resulting in very real flexibility in licensing transactions.

B. Explicit Definition Of The Use/Project

In conventional license agreements, the scope of “use” associated with a grant of right is defined in some detail—perhaps in an Exhibit or some other portion of the agreement that sets forth in prose the nature of the project and what its boundaries are in relation to the right, for example:

- **License Grant.** In consideration of the terms, conditions, covenants and warranties herein, Licensor grants to Licensee a non-exclusive and non-assignable license to use the Work in connection with the Use only, limited to the Territory, and during the Term hereof (as each of the foregoing are defined in Schedule “A”) (“the License”).

Each of the example terms provided above defining use rights under the Copyright Act makes reference to a formalized statement of a “Use.” Is such detail capable of being made “modular” in an automated system? Possibilities may exist. One possible solution might a system in which the licensee describes in detail the project in an input field of some sort. The licensor may review the proposed use, via the electronic system, and accept or amend and propose a new version. This scenario is little different than a negotiation via email in a non “automated” context, but could certainly be implemented as part of an overall system. However, it may be unwieldy and perhaps misses the goal of automation.

Another alternative could simply be a blind grant by the licensor, either where the licensee never provides details about the project, or a system in which the licensee provides information about the project to define scope, but it is automatically accepted. The licensee is “in control” in this scenario.⁴² By contrast, a similar system could have predefined characteristics of a project that are important or necessary to a licensor and which are presented as options from which a licensee may choose, and the resulting project is constrained accordingly. The licensor is “in control” in this scenario. These possibilities are potentially more “modular” in that they are more likely to be easily automated.

One further possibility is to provide an interface in which many conceivable use scenarios are selectable items—for example the type of work and project “contexts” listed above could be selectable and in the aggregate define the “details.” Additionally, it may be possible for the system to implement a variety of more specific “verbs”⁴³ that would specify and signify particular kinds of uses. Such verbs could be selectable items which are automatically integrated into the various basic terms corresponding to copyright, presented above.

⁴² The online music label Magnatune.com works this way. Licenses for particular uses are granted based on various formuli, but the precise nature and substance of the licensee’s project is not known or considered by Magnatune.

⁴³ See Karen Coyle, *Rights Expression Languages, A Report for the Library of Congress* (February 2004) (discussing this conceptualization of licensed uses)

Examples might include:

- download
- provide for download
- upload
- provide for upload
- stream
- provide for streaming
- send
- make available
- copy in a physical embodiment
- copy in digital form
- duplicate
- host
- cache
- route
- transmit
- store
- modify
- move
- distribute
- perform
- reformat
- aggregate
- annotate
- excerpt
- adapt
- sell
- rent
- lease
- lend
- facilitate sale of
- facilitate rental of
- facilitate leasing of
- facilitate lending of
- give
- analyze
- create algorithms based on
- index
- syndicate
- publish
- print
- display
- play
- read
- write
- extract
- embed
- enlarge
- reduce
- edit
- transfer

Several “Rights Expression Languages” currently under development approach the modularity of usage in precisely this manner. In particular, the Open Digital Rights Language (“ODRL”) and MPEG-21/5 both define similar “vocabularies” for expression of terms and conditions over assets.⁴⁴ The motivation for this approach in these projects is that fundamental semantic pieces can be implemented in a machine logic. Thus, not only does the approach allow flexibility in generating valuable license terms, but promotes the technological goals as well.

C. Territory Of Use

Will there be geographic restrictions on where the work may be used? Choices of geographical areas, such as world region, country or state, are likely amenable to modularity, in that a discrete number of options may be presented from which parties may choose. Obviously, if the work is to be re-used online, it becomes more difficult to define a territory of use. Although, it may be possible to build technological boundaries based on geographic location, as is done by online music stores.⁴⁵ But there is a risk of practical inefficiency.

⁴⁴ See <http://odrl.net/> (rights data elements); http://www.chiariglione.org/mpeg/working_documents.htm (MPEG 21-5 Working Documents – Rights Data Dictionary)

⁴⁵ See for example this excerpt from the iTunes Legal Information and Notice: “Although the Site is accessible worldwide, not all features, products or services discussed, referenced, provided or offered through or on the Site are available to all persons or in all

Territory of use may be of particular relevance to determining the value of distribution of a work or public performance/display of a work. For example, in licensing performance rights, ASCAP relies on a concept called Area of Dominant Influence (ADI), which is the geographic area or market reached by a radio or television station (used by advertisers to determine the potential audience).⁴⁶

The Territory of Use may also be relevant to the basic underlying rights in the content. If, for example, a U.S. citizen grants rights on his/her picture to be exploited in France, French copyright law will apply to define the extent of the rights granted⁴⁷ and, possibly also, whether or not the work is protected at all in France.

D. Number of Copies

The number of “copies” may arise in several different contexts in content licenses. First, the issue may arise with respect to the actual number of copies of the work that the licensee wishes to license—for example, a licensee may wish to license several different copies of digital video for public performance in different locations. Second, the issue may arise with respect to the number of copies of media or products incorporating the work, which are distributed by the licensee—for example, a licensee may wish to distribute 1000 items of merchandise containing a licensed image. Like territory of use, terms designating the number of licensed copies is highly modular, in that parties can simply indicate a number which is easily understood by a machine logic.

4.4. Terms Defining Consideration

An online licensing system must enable valid contracts, one requirement of which is “consideration.” Consideration simply means some bargained-for exchange of value. Any license which enables both parties to receive some benefit, tangible or otherwise, is a valid contract. Thus, an online system would enable contracts based on adequate consideration if it allowed the Licensee to receive content and the Licensor to receive remuneration or some promise that the Licensee will adhere to specified limitations. A more practical issue, however, is what kind of consideration an online licensing system will enable. The possibilities can be assessed by considering licenses that do not provide monetary remuneration and those that do.

4.4.1. Licenses Without Remuneration

Licenses to content granted by an online system may provide the content without any requirement that the Licensee pay the Licensor. However, in order for the contract to be valid, the Licensee must provide the Licensor some benefit. One primary form of consideration in such a content license is simple “attribution.” In other words, the Licensee “pays” the Licensor by ensuring that the world knows that the work was created by the Licensor. This form of consideration features prominently in various licenses of the Creative Commons Project, as follows:⁴⁸

- If you distribute, publicly display, publicly perform, or publicly digitally perform the Work or any Derivative Works or Collective Works, You must keep intact all copyright notices for the Work and provide, reasonable to the medium or means You are utilizing: (i)

geographic locations, or appropriate or available for use outside the United States” (available at <http://www.apple.com/legal/terms/site.html>).

⁴⁶ <http://www.ascap.com/licensing/termsdefined.html>

⁴⁷ Berne Convention, art. 5.2.

⁴⁸ See *supra* (discussion re Creative Commons “use” terms); <http://creativecommons.org/about/licenses/meet-the-licenses>

the name of the Original Author (or pseudonym, if applicable) if supplied, and/or (ii) if the Original Author and/or Licensor designate another party or parties (e.g. a sponsor institute, publishing entity, journal) for attribution in Licensor’s copyright notice, terms of service or by other reasonable means, the name of such party or parties; the title of the Work if supplied; to the extent reasonably practicable, the Uniform Resource Identifier, if any, that Licensor specifies to be associated with the Work, unless such URI does not refer to the copyright notice or licensing information for the Work; and in the case of a Derivative Work, a credit identifying the use of the Work in the Derivative Work (e.g., “French translation of the Work by Original Author,” or “Screenplay based on original Work by Original Author”). Such credit may be implemented in any reasonable manner; provided, however, that in the case of a Derivative Work or Collective Work, at a minimum such credit will appear where any other comparable authorship credit appears and in a manner at least as prominent as such other comparable authorship credit.

Similarly, content from open sites such as Wikipedia.org, DMOZ.org or Artlibre.org are subject to licenses which impose very few limits on copying and use except that the copyright and license notices be reproduced in all copies or that attribution otherwise be given. These licenses set forth in a fair amount of detail precisely how such notices are to be presented or attribution given.⁴⁹ In an online system, a more general, flexible term such as the Creative Commons term is probably desirable.

More generally, any restriction that a Licensee agrees to in a license without monetary remuneration is valid consideration. For example, agreement that use, re-use or distribution is to be noncommercial or “royalty free” or that the content is to be re-licensed under the same terms are all valid consideration.⁵⁰ One possible architecture of a term limiting the grant to non-commercial uses could be:

- You may not exercise any of the rights granted in this License in any manner that is primarily intended for or directed toward commercial advantage or private monetary compensation. The exchange of the Work for other copyrighted works by means of digital file-sharing or otherwise shall not be considered to be intended for or directed toward commercial advantage or private monetary compensation, provided there is no payment of any monetary compensation in connection with the exchange of copyrighted works.⁵¹

Examples of terms requiring re-licensing on the same terms is as follows:

- Each time You distribute or publicly digitally perform the Work or a Collective Work, the Licensor offers to the recipient a license to the Work on the same terms and conditions as the license granted to You under this License.⁵²
- Each time You distribute or publicly digitally perform a Derivative Work, Licensor offers to the recipient a license to the original Work on the same terms and conditions as the license granted to You under this License.⁵³

All of these terms are easily implemented as modular choices in an online licensing system, which could provide binary commercial/non-commercial options and provide terms requiring attribution, reproduction of copyright/license notices and re-licensing under identical terms.

⁴⁹ http://en.wikipedia.org/wiki/Wikipedia:Text_of_the_GNU_Free_Documentation_License; <http://www.dmoz.com/license.html>

⁵⁰ <http://creativecommons.org/about/licenses/meet-the-licenses>

⁵¹ <http://creativecommons.org/licenses/by/2.5/legalcode>

⁵² <http://creativecommons.org/licenses/by/2.5/legalcode>

⁵³ <http://creativecommons.org/licenses/by/2.5/legalcode>

4.4.2. Licenses With Remuneration

An system such as IPX should also provide for commercial licenses, which include monetary remuneration as the consideration. The simplest framework is a “fixed fee” system, in which the Licensee pays the Licensor a fee only once, at the time the license is entered into. This could be accomplished by incorporating PayPal or similar payment technology into the online licensing system. For example, Google Video offers video downloads at a fixed fee, set by the party offering the video.⁵⁴ Similarly, the Copyright Clearance Center offers fixed fee licensing of publications.⁵⁵

A more robust system would provide for ongoing royalty payments at a periodic basis, based on a variety of factors, such as the scope of “use,” the type of content, warranties, number of copies and many other terms. The system would have to have some mechanism for either calculating the rate based on a variety of factors, or allowing the Licensor to set the rate. The difficulty is enforcing the payments, although it is not impossible. For example, conceivably once the rate is set in the system, a simple, automated email invoicing component could be implemented in order to ensure that the royalty payments occur.

Regardless of the payment structure, an explicit term should be included defining what the payment terms may be. For example:

- **Payment Terms.** Licensee shall pay the License Fee in full [at the time of execution of this Agreement][on a pre-determined periodic basis][immediately upon receipt of invoice from Licensor] Licensee expressly agrees that the terms of the License granted under this Agreement shall be valid only AFTER Licensee has made payment in full for the License Fee to Licensor pursuant to the terms herein and such payment has cleared. Any use by Licensee of the License granted under this Agreement without completing full payment of the License Fee shall constitute a material breach of this Agreement, entitling Licensor to all available remedies.
- **Taxes.** Licensee shall pay and be responsible for all taxes and levies.

4.5. Term And Termination Provisions

Licenses should specify the “Term” for which the license will endure and after which it will terminate. This is likely to be a highly modular, as the term can be a particular number of months or years or perpetual.

Licensees should also have a provision providing for the right to terminate upon “material breach” by either of the parties. Such a provision might look like the following:

- **Termination.**
- Licensor shall have the right to terminate this Agreement forthwith upon a material breach or attempted breach by Licensee of any of the terms and conditions hereof unless such breach is cured within thirty (30) days following written notice to Licensee thereof.
- Licensee shall have the right to terminate this Agreement forthwith upon a material breach or attempted breach by Licensor of any of the terms and conditions hereof unless such breach is cured within thirty (30) days following written notice to Licensor thereof.

⁵⁴ <http://video.google.com/support/bin/answer.py?answer=26520>

⁵⁵ <http://www.copyright.com>

This basic model does not attempt to define what acts may be considered a “material breach” and is thus highly modular. However, it is possible to provide selectable options for acts which may commonly be considered material breaches in content licenses, such as non-payment, breach of warranty, or non-compliance with attribution or re-licensing restrictions. For example, a Licensor could opt to include further specifics such as “Licensee’s failure to pay the License Fee as required under the terms of this Agreement shall be deemed a material breach.”

Further clarity regarding what happens upon expiration or termination of the license could be selectable options as well. For example, the Licensor could opt to include language such as: “Upon expiration or termination, Licensee shall have no further right to use the Tracks or the Materials and any further use thereof whatsoever shall represent an act of copyright infringement.” Similar terms might provide for treatment of copies already printed/produced and in stock at the time of termination. Further, terms might provide for completion of royalty payments due at the time of termination, or even provide for further payments after termination in the appropriate economic context.

4.6. Exclusivity And Assignability Provisions

Is use of the work to be exclusive or non-exclusive? Will it be assignable or not assignable? In the context of an automated, online system for licensing content of a broad spectrum of creators and licensees, it seems most likely to be non-exclusive licenses, and usually not assignable. In any event, these issues present binary choices easily built into a modular licensing system. These pieces would be built into the basic license grant term.⁵⁶ However, it would be desirable if the online system could record when an exclusive right in a work is granted, and therefore preclude the further grant of any rights in the work thereafter.

4.7. Representations And Warranties

The terms of the contract that provide for representations and warranties are an extremely important aspect of the license agreement. By these terms, the licensor is expected to present some facts in order to induce the licensee to enter into the contract (representations) and to provide some assurance that these facts are true (warranty). While the user of the system will probably focus most of his attention on other parts of the agreement defining the work, the grant of rights, and the remuneration, it is essentially in the representations and warranties that the parties will resolve the strength of the licensed rights. Whether or not the licensor represents and warrants that he owns the copyrights may impact the value that the licensee is willing to pay for the license.

The terms defining the representations and warranties are extremely modular, ranging from a full warranty with indemnification to a disclaimer of all warranties, depending on the importance of the copyrights in the transaction and the negotiations on risk allocation between the parties. Another issue regarding warranties and disclaimers is that the legal language discussing these issues can be particularly technical. Generally, IPX may wish, like the Creative Commons Project, to have non-legal summaries of legal language, to ensure understanding by ordinary users. Certainly, the warranty and disclaimer terms are an area where such efforts would provide much value to users of the system.

In the context of an online licensing system, the two extremes of the spectrum (disclaiming all warranties or offer a broad range of warranties) will most of the time be inappropriate. For this reason, we elaborate a basic warranty likely to be adequate for most of the non-exclusive transactions that are likely to occur through the system.

⁵⁶ See *supra* Definition of the Use/Project Section (providing an example basic “license grant” term)

In any event, a well-drafted agreement will either expressly provide for a warranty or disclaim it in order to avoid warranties later implied by a court in the event of a dispute, and the uncertainties associated with that possibility. While warranties are usually written in the same format as the rest of the agreement, any disclaimer of an implied warranty must be “conspicuous.”⁵⁷ In practice, this usually means that the disclaimer will be written in capital letters, sometimes even in boldface type.

4.7.1. Default Representations And Warranties

Aside from the relatively exceptional cases where it could be appropriate to disclaim all warranties (*see infra*), every user of the system should be able to provide at least some default warranties, namely that he has the right and power to enter into the agreement and that the work is not in the public domain, that he entered into no conflicting agreements with other parties, and that nobody made any claim of ownership against his work. The user should however not be required to provide further warranties (such as that the work is not infringing any other rights) unless he expressly elects to do so (*see infra*).

A copyright license implicitly contains a warranty to the effect that “neither the work nor any part thereof is in the public domain.”⁵⁸ It is an essential part of the agreement and is in most cases the first reason for the licensee to enter into the agreement. This will not be construed literally to mean that “no part” of the work is in the public domain because by its very nature, any literary work is, at least in some minor part, in the public domain. If, however, the licensor is shown to have no title at all in the work, this will constitute both a breach of the warranty and, according to some authors, even a failure of consideration.⁵⁹

It is also important to remind the licensor that he may not enter into this agreement if he already conceded conflicting rights on his creation and remind him of possible scenarios in which he may have done so (e.g. uploading to another site). The typical example would be to grant a non-exclusive license when an exclusive license has been previously granted. The system should thus clearly ask the user whether he already granted rights outside his use of the system.⁶⁰ Sometimes, the user might be fully aware that he conceded conflicting rights on his work. For example, some websites require an exclusive, perpetual and irrevocable license to content uploaded on their servers.⁶¹ Although such extreme obligations are relatively rare, it is important that the user check the terms of use of all the websites where his content was uploaded. As systems such as IPX become prevalent, it is possible that content could be tagged (either by the user or some other party) to indicate pre-existing limitations on further licensing of the content.

Finally, even if the user represents and warrants that he has the title to his work, a potential licensee will probably want to be reassured of the fact that, as of the date he will enter into the licensing agreement, nobody claimed ownership of the work. A pending (i.e. unsettled) claim of ownership represents a threat that the user loses their ability to use the work. For most potential licensees it would then be advisable to wait for the dispute to be resolved in order to know who they will have to seek a license from.

⁵⁷ U.C.C. § 2-316(2). (“Subject to subsection (3), to exclude or modify the implied warranty of merchantability or any part of it the language must mention merchantability and in case of a writing must be conspicuous, and to exclude or modify any implied warranty of fitness the exclusion must be by a writing and conspicuous. Language to exclude all implied warranties of fitness is sufficient if it states, for example, that *There are no warranties which extend beyond the description on the face hereof.*”)

⁵⁸ M & A Associates, note 62.

⁵⁹ *Loew's, Inc. v. Wolff*, 101 F. Supp. 981 (S.D. Cal. 1951), *aff'd*, 215 F.2d 651 (9th Cir. 1954)

⁶⁰ We assume that if the system records previous transactions, an internal compatibility check could be run, at least every time a user has previously granted (or intends to grant) any type of exclusivity.

⁶¹ *See* for example the Terms of Use of “ePolitix.com” a website offering notably blog services where users can blog about their political opinions (11.2. by providing Content to the Site, you grant DPC an exclusive license to deal with that Content in any way.).

The default representations and warranties could read as follows:

- Licensor represents and warrants that, as of the Effective date,
 - it is the owner of the Work and it has the right and power to grant the license granted herein,
 - the Work is not in the public domain,
 - there are no other agreements with any other party in conflict herewith, and
 - there are no pending claims of ownership against the Work.
- LICENSOR DISCLAIMS ALL OTHER WARRANTIES, AND SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF OTHER PARTIES RIGHTS. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

We selected these representations and warranties as defaults because they are likely balanced enough to satisfy most of the non-exclusive licensees. The system could, for example, draw to the attention of potential licensees the fact that the licensor did not agree to make at least these “default” representations and warranties, thus enhancing the trust in the fact that otherwise indicated, the potential licensees can be confident in the fact that the user provides some warranties.

4.7.2. Total Disclaimer

The first deviation from the default rule could consist in disclaiming all representations and warranties. In this case, the licensor only licenses the rights that it might have, without any warranty that it actually has any of the licensed rights or that the rights are valid. Obviously, this option will be acceptable to the licensee only in very specific cases, for example when the licensor is only interested in a limited use (such as simply viewing the work for personal enjoyment) or when the licensee is only willing to provide a small compensation (or no compensation at all) for the license. One example of such a disclaimer can be found in the Creative Commons License, reproduced below (example 2).

In order to obtain this result, it is necessary to expressly disclaim all warranties in the licensing agreement with clear and precise language. Failure to do so may result in a court finding an implied warranty anyway.⁶² It is also necessary to keep in mind that some jurisdictions may not allow parties to disclaim all warranties. For example, some jurisdictions consider a warranty of title to be an essential element of any licensing agreement.⁶³

- **Example 1:**
- LICENSEE ACKNOWLEDGES AND AGREES THAT THERE ARE NO WARRANTIES, GUARANTIES, CONDITIONS, COVENANTS OR REPRESENTATIONS BY LICENSOR AS TO THE MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE OR NON-INFRINGEMENT, WHETHER EXPRESS OR IMPLIED (IN LAW OR IN FACT), ORAL OR WRITTEN.⁶⁴

⁶² *M & A Associates, Inc. v. VCX, Inc.*, 657 F. Supp. 454, 461 (D. Mich. 1987) (holding that an agreement to convey the exclusive right to sell copies of a movie included the obligation to take the necessary steps to preserve the copyright).

⁶³ This issue has been expressly addressed in the Creative Commons License (see example 2)

⁶⁴ Michael D. Scott, *Licensing and Intellectual Property Law – Desk Reference*, Aspen Law and Business, 2003 ed., 992.

- **Example 2:**
- UNLESS OTHERWISE MUTUALLY AGREED TO BY THE PARTIES IN WRITING, LICENSOR OFFERS THE WORK AS-IS AND MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND CONCERNING THE WORK, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF TITLE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR THE ABSENCE OF LATENT OR OTHER DEFECTS, ACCURACY, OR THE PRESENCE OF ABSENCE OF ERRORS, WHETHER OR NOT DISCOVERABLE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO SUCH EXCLUSION MAY NOT APPLY TO YOU.⁶⁵

4.7.3. Further Warranties

The second possible deviation from the default terms could be to add further representations and warranties to the list.

A. Warranty Of Exclusivity

As previously discussed, co-authors own co-equal rights in the joint works. This makes it possible for any co-author to grant a nonexclusive license, but all the co-authors need to agree on an exclusive license. In any situation in which the licensor grants an exclusive license, a corresponding warranty that the licensor possesses the right to grant exclusive rights (either because the work is not a joint work, or he has obtained the right to do so from joint authors) will be an important component of the license's value.

B. Warranty Regarding Copyrights Of Third Parties

If the licensee intends to re-use the work in any manner (post it on his own website, reprint it, distribute it, etc.) he might require further representations and warranties that the work does not infringe copyrights of third parties. Every potential copyright owner is indeed also a potential copyright infringer. The rule that innocence is no defense to copyright infringement creates a risk of infringement even for the author who diligently examines the sources of his work.⁶⁶

- Licensor represents and warrants that the Work does not infringe any valid right of any third party. Specifically, Licensor represents and warrants that the Work has not been adapted from any other work, nor has the material from any other work been copied and used in the Work.⁶⁷

In some instances the need to obtain authorization from third parties will be self-evident, because the user's copyrighted work is either based or clearly incorporates somebody else's copyright (*see supra*). Even the author's complete good faith will not necessarily insulate him or his licensee from liability for copyright infringement. It is no defense, for example, that the author copied elements of a copyrighted work unconsciously and honestly believed that he had originated the elements himself.⁶⁸ The only way for the licensor to be completely insulated from liability for copyright infringement is to make completely sure that,

⁶⁵ Creative Commons License.

⁶⁶ Paul Goldstein, Copyright Sec. 1.15

⁶⁷ Georges J. BATTERSBY, Charles W. Grimes, License Agreements – Forms and Checklists, Aspen Law & Business, § 6.03 [C].

⁶⁸ Goldstein, Copyright Sec. 1.15

in creating its work, it did not use the plaintiff's copyrighted material as a model, template, or even inspiration.⁶⁹

C. Warranty Regarding Other Rights Of Third Parties

Depending on the particular use that the licensee is willing to obtain permission for, it might be suitable to include some further warranties regarding the content itself (besides the licensor's rights on this content). For example, if a third person appears on a picture, the licensee might request that the licensor warrant that they obtained this person's permission in order to avoid any claim under his/her publicity right.

- Licensor represents and warrants that no part of the Work is defamatory or otherwise violates the privacy or publicity rights of any third party.⁷⁰

4.8. Indemnification

The indemnification clauses (often called "hold harmless") oblige one party to reimburse the expense for loss or damage sustained by the other. Typically, the licensee will want an indemnification provision in case it is sued by a third party for copyright infringement, which includes paying for its defense (including attorneys fees) and for its eventual damages.

The indemnification clause operates like private insurance, making one party bear the risk and cost of the damages incurred by the other party. This raises at least two questions. The first one is whether the licensor should indemnify the licensee. As netizens, licensors should not have to bear the risk of the exploitation of their work by the licensees (at least, not unless they add the cost of this risk to the cost of the license). It makes more sense both in economic and practical terms that the licensees bear the risk of their exploiting the work. However, indemnification might make sense in this context, to the extent that a licensee faces liability from the "true" copyright owner if the licensor licensed and used a tainted work through the system. Indeed, under that scenario, the licensee would want to turn to the licensor who provided the infringing work to cover the litigation costs and damages. The second question is whether the licensor reasonably could indemnify the licensee. Copyright litigation can be extremely costly and the average user of the platform might just not be able to bear this cost.

For these reasons, it may not be advisable for IPX to include an indemnification provision. If the licensee insists on being indemnified, then the system should clearly explain the consequences to the licensor, and we recommend the following language that limits the indemnification to specific warranties and to a maximum amount.

- **Indemnity.** Licensor agrees to indemnify, hold harmless and defend Licensee from all claims, defense costs (including reasonable attorneys' fees), judgments and other expenses arising out of or on account of the breach of any representation or warranty set forth in Section [X] of this Agreement; provided that
 - (a) Licensee used the Work under the terms and conditions specified herein,
 - (b) Licensee gave Licensor prompt notice, in writing, of the claim,
 - (c) Licensee shall grant Licensor exclusive control over its defense and settlement, provided that Licensee at its expense may select counsel to participate on its behalf in the

⁶⁹ 4-13 Nimmer on Copyright § 13.01.

⁷⁰ Georges J. BATTERSBY, Charles W. Grimes, License Agreements – Forms and Checklists, Aspen Law & Business, § 6.03 [C].

action and shall have the right to approve in advance all settlements in the event of a proposed settlement,

- (d) Licensee provides reasonable information and assistance to Licensor, at Licensor's expense, in the defense of such claim,
- (e) LICENSOR'S LIABILITY TO LICENSEE PURSUANT TO THIS SECTION IS LIMITED TO THE TOTAL FEES PAID BY LICENSEE TO LICENSOR UNDER THIS AGREEMENT.

4.9. Dispute resolution

This section of the agreement states the rules to be followed in the event of a dispute between the licensee and the licensor. In particular, three distinct questions should be addressed in the agreement: the law applicable to the contract, the courts that will have jurisdiction to hear the case, and the possibility of solving the controversy through an alternative dispute resolution mechanism.

4.9.1. Choice of law and choice of forum

It is important that the parties choose a law applicable that will be used to interpret the terms of the license agreement. In case there is an ambiguity or a question about the agreement, the applicable law will serve as the legal framework to interpret the contractual terms.

The terms electing the applicable law are very modular. As a general rule, each party will want the agreement to be governed by the law of the country (or State)⁷¹ in which she resides. As most transactions are expected to be non-exclusive (see *supra*), it would make more sense for the licensor to have the contract interpreted according to the law of the of the country or State where she resides in order to have all her license agreements interpreted under the same law.

IPX could also decide that all contracts should be interpreted under one single law (for instance the laws of California) in order to provide for a uniform interpretation of all the IPX licenses. This would enable IPX to better advise the users on the contractual terms, their enforcement, and their interpretation.

- **Choice of law.** All questions concerning the validity, operation, interpretation, and construction of this Agreement will be governed by and determined in accordance with the laws of [the State of California] as they apply to agreements entered into and to be performed entirely within [the State of California] between [California] residents, without regard to the choice-of-laws or conflicts-of-laws provisions thereof.

The parties should also choose the jurisdiction in which a law suit may be brought. The strategic decision here is the same as the choice of law provision. Although it is not unusual in commercial transactions to elect the law of a country and the jurisdiction of another, it may not be the best option for IPX users (especially the netizens), since it contributes to making the trial both more complicated and expensive. The IPX system could thus for example warn the user when the law and the jurisdiction are not from the same country/state.

- **Choice of forum.** Both parties agree that any claim or dispute concerning the validity, operation, interpretation, and construction of this Agreement must be resolved by a court located in [Santa Clara County, California], except as otherwise agreed by the parties [or as described in the Alternative Dispute Resolution Option below]. Both parties agree to submit

⁷¹ In the United States, the area of contracts is governed by State law.

to the personal jurisdiction of the courts located within [Santa Clara County, California] for the purpose of litigating all such claims or disputes.

Finally, it is also worth noting that the law chosen by the parties will only apply to the license agreement itself and not to the licensed copyright. As already mentioned, the law defining the copyright on the Work will be the law where the content is exploited (see *supra* Territory of Use). Similarly, the choice of jurisdiction will only apply for a conflict between the parties. A third party claiming that the work infringes her copyright would remain free to sue in any competent jurisdiction and this jurisdiction will have to apply the laws designated by its own conflicts-of-laws rules.⁷²

4.9.2. Alternative dispute resolution option

The various alternative dispute resolution mechanisms are detailed in another chapter of this book.⁷³ As far as the modularity of the terms are concerned, the various options may easily be implemented in the following sample clause.

- **Alternative Dispute Resolution Option**
- For any claim (excluding claims for injunctive or other equitable relief) where [the total amount of the award sought is less than XXX dollars], the party requesting relief may elect to resolve the dispute in a cost effective manner through [binding non-appearance-based arbitration].
- In the event a party elects [binding non-appearance-based arbitration], the parties shall initiate such arbitration through an established alternative dispute resolution ("ADR") provider [mutually agreed upon by the parties].
- The ADR provider and the parties must comply with the following rules: a) the [binding non-appearance-based arbitration] shall be conducted by telephone, online and/or be solely based on written submissions, the specific manner shall be chosen by the party initiating the [binding non-appearance-based arbitration]; b) the [binding non-appearance-based arbitration] shall not involve any personal appearance by the parties or witnesses unless otherwise mutually agreed by the parties; and c) any judgment on the award rendered by the arbitrator may be entered in any court of competent jurisdiction.⁷⁴

First, the parties should agree on the type of claims that may be submitted to alternative dispute resolution. In the sample language, the criteria is the amount of the claim; but the parties could decide to base the possibility of ADR on the type of claim (only claims concerning a breach the consideration clause, the warranty clause, etc.).

Then, the parties have to chose the type of alternative dispute resolution (arbitration, mediation, etc.), and the ADR provider (which could be either agreed upon from the beginning, or at a later stage provided that it complies with some requirements).

Finally, the sample language describes arbitration as an option, and thus leaves to the parties the choice of whether to use an alternative dispute resolution mechanism or to go to court. If the parties are so willing, they could also decide to make it compulsory to submit the dispute to final arbitration (thus depriving themselves from recourse to the competent jurisdictions).

⁷² IPX could potentially serve as a clearing house for such claims, if the third party's rights are already part of the IPX system.

⁷³ See _____.

⁷⁴ This language is an excerpt from the eBay user agreement, available at <http://pages.ebay.com/help/policies/user-agreement.html?ssPageName=f:f:US>

4.10. Boiler Plate Provisions

Finally, there are a variety of technical provisions that are often included in content licenses and contracts generally. These “boilerplate” provisions have developed over years of legal history and are highly standardized. Form language could be provided and the term could be simply selected or not selected by the parties. Examples are as follows:

- **Reserved Rights.** Licensee acknowledges and agrees that all rights in and to the work, whether now known or hereafter in existence, that are not licensed hereunder are specifically reserved by Licensor.
- **Accuracy of information.** All information provided by [Licensee] [Licensor] herein and during the Term hereof shall be accurate, complete and not misleading in any material respect
- **Notices.** All notices permitted or required under this Agreement shall be in writing and shall be delivered as follows (i) by email, (ii) by U.S. Mail (iii) by facsimile transmission, or (iv) by certified or registered mail, return receipt requested, five days after deposit in the mail.
- **Waiver and Severability.** The failure of either party to require performance by the other party of any provision hereof shall not affect the full right to require such performance at any time thereafter; nor shall the waiver by either party of a breach of any provision hereof be taken or held to be a waiver of the provision itself. In the event that any provision of this Agreement shall be unenforceable or invalid under any applicable law or be so held by applicable court decision, such unenforceability or invalidity shall not render this Agreement unenforceable or invalid as a whole, and, in such event, such provision shall be changed and interpreted so as to best accomplish the objectives of such provisions within the limits of applicable law or applicable court decisions.
- **Counterparts.** This Agreement may be executed in two or more counterparts, each of which will be considered an original, but all of which together will constitute one and the same instrument.
- **Entire Agreement.** This Agreement is the entire agreement between Licensor and Licensee, which supersedes any prior or contemporaneous agreement or understanding, whether written or oral, and any other communications between Licensor and Licensee relating to the subject matter of this Agreement. This Agreement may not be changed orally, but only by a writing signed by both parties which specifically references this Agreement.
- **Survival:** Provisions [specify provisions that the parties wish to survive] shall survive termination of this Agreement.
- **Headings.** The headings herein are for convenience only and are not intended by the parties of or to affect the meaning or interpretation of this Agreement.

In the context of an electronic system such as IPX, it would be useful to include a boilerplate provision by which the parties agree that formation of a contract using the technology is binding:

- **Electronic Contract Formation.** You agree that the Terms of this Agreement, combined with your act of using the Site and/or the services offered on or through the Site have the same legal force and effect as a written contract with your written signature and satisfy any laws that require a writing or signature, including any applicable Statute of Frauds. You further agree that you shall not challenge the validity, enforceability or admissibility of the

Terms of this Agreement on the grounds that it was electronically transmitted or authorized. In addition, you acknowledge that you have had the opportunity to print the Terms.

•

Similarly, the very standardized “notice” provision above might be revised to specify that notices will be sent exclusively by email or some other mechanism through the IPX system, that the parties accept this form of notice and that the notice is deemed to be received by the recipient when IPX sends the notice or at some other time (perhaps when the system recognizes that the email has been opened—as is possible with some email systems).

5. Final Conclusions

The foregoing only begins to scratch the surface of how an automated licensing system, such as IPX, might implement a robust, economically significant licensing framework. However, it can be seen that the most basic terms of a paradigmatic license can be identified and rendered in a manner that is sufficiently modular for implementation in such a system. Further, by discovering the critical decision-points where modularity of license terms breaks down, we begin to understand where the designers of IPX must either make crucial decisions about the system’s capabilities or take on the challenge of a more robust architecture.

IPX has competing goals—openness and simplicity on the one hand and economic viability on the other. Whatever terms and architectures for implementing terms are ultimately selected must keep these competing goals in view. The competing goals result in a strategic decision to be made regarding the amount of freedom left to the users in choosing their licensing terms: should the system adopt a paternalistic approach (imposing terms protecting the licensor, forbidding unbalanced contracts...) or a strictly modular approach (leave complete freedom to the parties to decide what is best for them). If IPX is only used as a tool to bring parties together, complete freedom seems to be the best option. However, if IPX’s mission is to serve as a substitute for a lawyer and if IPX wants to be perceived as a “safe and trustworthy” place for netizens to license their content, the best option would probably be the paternalist approach. This paper suggests that the system should leave complete freedom to the parties as far as the final decision is concerned, but the system should “suggest” terms that are “common”, “balanced” or “safe” or at least limit the array of options. Warnings to parties if they want to deviate from default terms also make sense, in order to be sure that the netizen fully understands her obligations under the contract. As we have seen, empowerment of users comes both from providing an array of licensing options and also educating netizens on the basics of copyright and contract law necessary for them to use the system and choose the most appropriate licensing terms.

As the technological possibilities become clearer, as IPX evolves, so will the possibilities for defining modular terms. Similarly, the IPX system will be able to benefit from its own experience. After a few thousand transactions, we believe that the IPX system will be able to generate unprecedented statistical data about (for example) the type of terms commonly used by the parties, the type of uses, the value of licenses, etc... The IPX system will then be able to reuse these data to improve the guidance and the advice provided to its users.

THE ENFORCEABILITY OF CONTRACTS BETWEEN SOFTWARE AGENTS

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¹ In collaboration with Andrew Dawson who authored Part 1.3. and co-authored Part 3.1. of this paper.

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Introduction

Software agents are today used to accomplish an increasing number of tasks over the Internet. Like many other technologies, their purpose is to make human activities as easy and efficient as possible, and relieve humans from having to perform certain actions. Indeed, software agents may perform aggregate tasks on a scale which would be impossible for humans – such as “crawling” billions of web pages. Once programmed, the software may follow instant instructions *ad infinitum*.

The advantage of this kind of technology is obvious. By delegating their tasks to their software, humans invest less time and money to accomplish activities which are repetitive, otherwise routinizable, boring. Software agents can rapidly resolve standardized transactions and reduce substantially the time that otherwise humans would have to apply in each and every one of these operations.

The Stanford Intellectual Property Exchange (“IPX”) seeks to relieve this potential for content transactions. The idea is to help content providers protect, distribute and profit from their creations through a mechanism that – because of the intensive use of the software agents – will be much more cost efficient than the traditional one in where many types of legal transactions are precluded whether legal counsel is available or not (e.g., due to legal transactional costs).

To achieve this goal, IPX must catalyze the evolution of contract boilerplates into modular, digital templates. Thus, this paper investigates the validity of certain types of online transactions. Part one will discuss the validity of ostensible contracts concluded by software agents. It will describe such activities from a traditional contract law perspective and will review recent attempts to provide more specific regulations that would take into consideration the context in which these transactions occur. Part two will instead discuss the most important element for the validity of a contract under traditional law: the meeting of the minds of the parties. This section will also consider different scenarios in which, aside from the mutual assent of the parties, other elements come into play and threaten the effectiveness of the agreements. Finally, Part three will consider an alternative approach to evaluate these transactions not through the lens of contract law, but through agency principles, shifting the focus of the discussion from “the task” to be performed to nature of the agent carrying it out.

Part 1 **May Parties Using Electronic Agents to Engage in Online Transactions for Content Create a Valid Contract?**

1.1 Hypothetical: Prusca's Case

Suppose that a software agent's owner, Prusca, is looking for some pictures to complete a post about her favorite restaurants in the Bay Area. Prusca wants to publish this post on her blog, *Life in the West Coast*, that she started after she moved from Chicago to the Bay Area to keep her family updated on her life. Notwithstanding this limited initial purpose, pretty soon Prusca's blog becomes quite popular and now hundreds of Internet users visit it on a regular basis, showing their interest in Prusca's stories by leaving comments. Prusca did not anticipate this success, but is now considering moving to the next level and perhaps seeking a career as a writer.

So, she decides to enrich her blog with informational posts such as the one about her favorite restaurants and, in order to do that, she visits all the restaurants in the area and ranks them by food quality, presentation and service. However, she thinks that her review will not be satisfactory unless she can also provide pictures of the restaurants' interiors, their food and the surrounding areas, as, for her, these are all elements that can affect the perception of the overall gastronomic experience.

She has a number of permitted shots that she has taken during her visits at the restaurants, but she has just few pictures of the surrounding areas and therefore wants her software agent to search for them over the Internet and to clear the rights that could create obstacles to their use on the blog. Can Prusca's software agent successfully perform this task? Are the required transactions valid and legally enforceable? A modest attempt to provide an answer to these questions is presented below.

1.2 Electronic Contracts and Electronic Agents

Transactions over the Internet can occur in a number of different ways. Indeed, as noted by one author, "contracts today can be formed electronically (...) by e-mail correspondence, by visiting a website and accepting an on-line mass market software offer, by electronic agents, or by Electronic Data Interchange, known as 'EDI'."²

Of central importance to the purpose of this paper are contracts formed by software agents that act on behalf of their respective owners. No human participation is present at the time of contracting or required for these transactions to occur, as, indeed, the parties do not even know each other until after the contract is concluded. In this case the electronic interactions themselves constitute "the alleged basis of [the] contract formation"³ and not the meeting of the minds of the human subjects involved.⁴

Electronic agents, more commonly known as bots (as in robots),⁵ are pieces of software "programmed to execute sophisticated commands of human user"⁶ by searching the Internet and retrieving documents necessary perform the required tasks.

²Valerie Watnick, *The Electronic Formation of Contracts and the Common Law "Mailbox Rule,"* 56 *Baylor L. Rev.* 175, (2004).

³ *Id.*

⁴ Under traditional law, a contract is formed when there is a meeting of the minds of the parties involved as to a specific deal. Indeed, in order to form a valid contract the mutual assent of the parties involved, as it is incorporated in their offer and acceptance, is required. For more info about contract formation see *infra* p.68.

⁵ For a definition of 'bots' please see http://en.wikipedia.org/wiki/Internet_bot last visited 05/22/06;

⁶ Anthony J. Bellia Jr., *Contracting with Electronic Agents*, 50 *Emory L.J.* 1047, (2001).

The expression “software agents” encompasses both *autonomous agents* and *intelligent agents*.⁷ *Autonomous agents* can “travel between sites using their own selection criteria”⁸ whereas *intelligent agents* are programmed “to perform specific acts, such as selection, form filling and site location.”⁹

Humans can use software agents to conduct transactions and conclude contracts over the Internet. Indeed, as with human agents, *autonomous electronic agents* can act independently and develop their own strategies to deal with other electronic agents or human operators. As they might also have self-learning capabilities, which would allow them to change their behavior based on their experience,¹⁰ autonomous software agents can be free to decide when the transaction may occur and to negotiate the terms of the contract in a way that potentially pleases their owners most.

Suppose, for instance that, as in our hypothetical case, Prusca is looking for pictures to use on her blog and wants her bot to find them and to clear the required rights. The bot, based on Prusca’s specifications, first determines which online pictures would fulfill Prusca’s basic need (e.g., a picture of a given geographic locale) and then searches further to find the optimum deal in terms of price, quality and license conditions. The software agent can also compare different providers, normally *represented* by other software agents with similar capabilities, and negotiate with them. Once the bot has found a satisfactory deal,¹¹ it *reaches an agreement* with its counterpart and concludes the transaction within the bounds Prusca has set. A contract is formed and *the agent has served its principal!*

Numerous issues arise from these transactions, as many commentators have strongly questioned the ability of bots to express *agreement*¹² and *represent* their owners as conventionally required by the definition of the principal/agent relationship provided by agency law.¹³

An exhaustive discussion of the last two points will be the focus of Parts two and three. The next subsection will instead be dedicated to a description of the existing regulation of bots’ transactions.

1.3 Salient E-Commerce Regulation

As the brief discussion of Prusca’s story above indicates, the legal issues raised by bots entering into contracts on behalf of their owners are controversial and, as yet, unresolved. There have been some nation-wide legislative attempts to clarify the legal status of bot contracting (and online contracts generally). These efforts have ranged broadly both in their scope and in their success at gaining implementation. This mixed success indicates that significant problems remain before a common understanding of the limits of bot contracting can be reached.

⁷ Lorin Brennan, *Through the Telescope: “UCITA” and the Future of E-Commerce*, 20 Miss. C. L. Rev. 27, (1999). Obviously, the above definitions are those legal, and not necessarily computer science commentators.

⁸ *Id.*

⁹ *Id.*

¹⁰ David D. Wong, *The Emerging Law of Electronic Agents: E-Commerce and Beyond ...* 33 Suffolk U. L. Rev. 83, (1999).

¹¹ Based on its owner preferences as they are incorporated in its programming.

¹² As mentioned above, the agreement of the parties is necessary for the formation of a valid contract; see *supra* note #4.

¹³ In these regards, it is important to understand that the use of software agents to reach agreements over the Internet “does not alter the substance of business contracts as it alters the process of agreement” and for this reason electronic contracts are considered somehow problematic in terms of their validity under the existing contract law. Indeed, “electronic contracts do not always fit the traditional framework” of contract formation and thus require some creative thinking to shape the law in a way that accommodate those new circumstances created by the fact that agreements are formed in cyberspace; see Donnie L. Kidd, Jr. & William H. Daughtrey, Jr., *Adapting Contract Law to Accommodate Electronic Contracts: Overview and Suggestions*, 26 Rutgers Computer & Tech. L.J. 215, (2000); see also on contract formation *supra* note #4.

One of the first broad legislative attempts to establish the legal boundaries of bot contracting was the Uniform Electronic Transaction Act (UETA).¹⁴ The UETA does not rely primarily on agency law to shape its provisions. Instead, it appeals to traditional contract-law norms by referring to software agents simply as “tools” of the user, rather than as agents.¹⁵ The drafters of the act are aware of the limitations of this approach, though, and suggest that this understanding of the contracting capacity of software agents may prove inadequate if and when more “autonomous” software agents (such as the one discussed in Prusca’s example) are developed: “courts may construe the definition of electronic agent accordingly, in order to recognize such new capabilities.”¹⁶ The act has been adopted by 48 states and the District of Columbia.¹⁷

Prusca’s example highlights the limitations of this approach. If one considers Prusca’s bot simply to be a tool, like a pen or a pair of reading glasses, it will be hard to find sufficient “meeting of the minds” to establish a contract. When Prusca is using her reading glasses, she is still fully aware of what she is agreeing to. With the bot example, however, the whole point is that the bot is doing at least some of the work for her. She is not, so to speak, looking over its shoulder as it goes about its business.

A later legislative proposal, the Uniform Computer Information Transactions Act (UCITA), constituted a furtive attempt to broaden this approach to bot contracting. UCITA begins by defining “electronic agent” in a way similar to predecessor acts like the UETA. UCITA defines “electronic agent” as “a computer program, or electronic or other automated means, used by a person to initiate an action, or to respond to electronic messages or performances, on the person’s behalf without review or action by an individual at the time of the action or response to the message or performance.”¹⁸ Though similar to previous definitions, the comment to this definition suggests more awareness of the agency principles invited by development of autonomous software agents, though it still rejects the use of agency theory as the primary foundation of electronic contracting. The comment suggests that “[t]he legal relationship between the person and the electronic agent is not equivalent to common law agency since the “agent” is not a human,”¹⁹ while suggesting elsewhere that the act’s definition of electronic agents “embodies principles like those in agency law, but it does not depend on agency law.”²⁰ Though the act does refer to agency law as a source of contracting principles, it clearly still has reservations. Commentators have suggested that this compromise, recognizing that agency principles are involved but still refusing to consider bots as true agents, really does not add any substantial principle to the discussion.²¹ Instead, we are left with the same ambiguities outlined in the example above. How might we apply those agency principles to Prusca’s bot, if it is not a true agent?

¹⁴ Uniform Electronic Transactions Act §2(6), 7A (pt. I) U.L.A. 28 (Supp. 2001).

¹⁵ *Id.*, §2(6) cmt. 5.

¹⁶ *Id.*

¹⁷ http://www.nccusl.org/Update/uniformact_factsheets/uniformacts-fs-ueta.asp

¹⁸ *Id.*, §102(a)(27).

¹⁹ *Id.*, §102 cmt. 23.

²⁰ *Id.*, §107 cmt. 5.

²¹ See Bellia *supra* note#6, at 1070-71.

Part 2 May Bots “Agree”?

Most people living in the developed world today live in two domains: one offline and one online. Because they are experiencing these two environments simultaneously, people tend to port behaviors and associations from one domain into the other. Thus, behaviors and analogues once unique to one world may inexorably seep into the other. As technology advances and begins to perform human-like activities, people naturally tend to associate human attributes to technology. Software agents are a clear example of this phenomenon. User friendly software agents are frequently associated with certain positive human attributes (ask Jeeves), and thereby confusion is created as to their capacities and the implications of their actions.

Part two discusses whether software can express agreement through a description of various potential scenarios emerging from an automated, “assent-free” world.

2.1 Can Software Manifest Sufficient Assent?

As mentioned in the previous section, issues exist concerning the validity of electronic contracts. This is mainly because of the problem of mutual assent of the parties in cases where the transactions occur exclusively between software agents, where no human intervention is present until after the contract is allegedly concluded. Indeed, in order to constitute a binding agreement, a contract must be the result of the expressed or implied intent of the parties to be part of the specific deal.²² More precisely, the parties need to express their agreement to perform a certain act for the benefit of the other and in consideration of their counterparts’ performance. Therefore, in the context of electronic contracts, the issue arises primarily when the software acts autonomously²³ and rests on whether the software can express the kind of assent²⁴ that is necessary to generate a binding obligation.

In such case, it is also a question whether the owner of the software can be held responsible for the transaction *concluded* by his bot²⁵ or if instead it is the software itself or its manufacturer that should be considered bound. In Prusca’s case for instance, can her bot convey to a counterpart, possibly another software agent, her intent to purchase the right to use the pictures? If so, is Prusca bound by the transaction although she is not *specifically* aware of its terms until after it is concluded? What if in the end she does not like the pictures that her bot selected based on her instructions, or, even worse, if the bot mistakenly executed her specifications and now she is bound by unwanted license terms? Is this legally possible?

One author has pointed out that “current law does not have mechanisms to allow agent-based formation of electronic contracts.”²⁶ As another author explains, under the Restatement (second) of Contracts two conditions are necessary for an act to be binding:

1. the act must convey a promise or, in other words, must be such to induce the other party to reasonably believe that a commitment has been made;
2. the promise must be made in reference to the other party’s promise.²⁷

²² See *supra* note #4.

²³ See *supra* p.66.

²⁴ See *supra* note #4.

²⁵ For this to happen, the formation of some kind of principal/agent relationship between the software and the software’s owner would most probably be required; see *infra* the discussion in 0.

²⁶ See Brennan *supra* note #7.

²⁷ See Kidd and Daughtrey *supra* note #13. This is also referred to as “nexus”.

Significant doubt remains as to whether a software agent, as such, can perform either of these two tasks. Indeed, can a software agent ever mimic human intent to be bound by the significance of a “contracting” act? And if so, can the software’s counterpart in the contract attach to it the “correct” meaning? Can a software agent use his owner’s assent without his knowledge to satisfy its “promises”? Can a software agent be its owner’s legal agent?

These are just a few of the issues that arise in connection with the analysis of the validity of electronic contracts from the mutual assent requirement point of view. So far, scholars have presented mainly two possible ways of answering these questions. The first one is that the assent conveyed by the software’s behavior is the one of the software owner who commands it to perform a certain task and, for this reason, releases it into the web. In this case, the bot is allegedly acting as “its agent” and the transactions concluded by it are binding for “the principal” (*i.e.* its owner). A full discussion of this scenario will be the subject of Part three.

The second possibility is that there is no assent at all, expressed or implied, in these transactions.²⁸ This is because software is not considered capable of behaving in a way that could be perceived as a promise having legal effects, and thus cannot enter into contracts on behalf of its owner. Under this scenario, the only assent present in these transactions is that of the software’s owner, who agrees to use the bot as a *mere tool* to accomplish a certain task. Nothing is ever expressed by the software’s owner in relation to the *specific* transaction, which therefore occurs without the approval of the human entity whose obligations are at stake. More precisely, it could be said that the software’s owner approves *ex ante* any such change of rights, even though he does not approve the specific way in which this change will be carried out. Under traditional doctrine, however, this reading is fatal to contract.²⁹

Nevertheless, the “reality” of e-commerce consists of millions of transactions occurring every day with or without human intervention no matter the traditional vision of contract formation. Some scholars have therefore attempted to reconcile contract law with the reality of e-commerce.

Indeed, as one commentator has suggested,³⁰ electronic contracts are enforceable because of the so-called *Trust Theory* according to which the purpose of contract law is to protect the ability of parties to rely on certain promises. More specifically, individuals pursue different goals that require cooperation and coordination with other individuals in order to be reached. Such coordination and cooperation can be achieved through the use of mutual promises. Using bots to conduct transactions is equivalent to the adoption of any other means by which individuals express promises to each other. The person using the bot knows that another person may assume from the choice of this particular kind of tool of communication that he wants the transaction, and that he intends to honor the commitments so arranged. Therefore he should be considered responsible for it and no question should arise about the enforceability of the contract.

In Prusca’s case, for instance, it is possible to say that at the moment in which she uses her bots to find the pictures and to clear the related rights, she knows that this act will convey a message to a possible counterpart that she wants to purchase certain rights and that she will do whatever is required by the specific agreement to achieve that. Therefore, according to this theory, Prusca should be bound by the ostensible contract no matter that it has been the result of negotiations carried out by a mathematical algorithm. Indeed, in this way, the reliance of the counterpart (*i.e.*, the owner of the rights to the picture to be acquired), is saved. He can trust that whatever has been expressed by Prusca’s bot will be honored by her even if she will ultimately not like it!³¹

²⁸ Margaret Jane Radin, *Humans, Computers, and Binding Commitment*, 75 Ind. L. J. 1125, (2000);

²⁹ [SUPPORT TO COME]

³⁰ See Kidd and Daughtrey *supra* note #13.

³¹ See, for example, priceline.com’s reverse auction platform, which involves bilateral contracts where neither party is certain of the precise outcome until a matching algorithm has finalized the terms.

This analysis is indeed powerful. Still, the fact that at the time at which the transaction is concluded, the *reliance* at stake is not that of the human counterpart, but that of the counterpart's software, seems problematic. In other words, at the time in which the agreement is reached, none of the human parties is aware of it and thus no reliance on their reciprocal performances exists. This is particularly true when the deal is concluded exclusively between software agents and no immediate human contribution is present. Indeed, in this case, more than actual reliance it would be more appropriate to talk about a "potential reliance" or "hope" that arises when the bot owner releases it into cyberspace.

Is this hope – which is somehow less than reliance as it does not connect as much to the actual deal – important enough to be protected by law? To answer this question a much deeper analysis of the cost and benefits of e-commerce in general and of the purposes for its existence and maintenance would be required. Indeed, if the benefit of having a system of e-commerce outweighs the cost of extending protection to hope then the traditional view of contract law based on the meeting of the minds of the parties involved should probably be revisited.

Also, it should be noted that, if it is true that the law from time to time has to adjust to reflect the changed circumstances of society,³² then it is possible to say that the significance of cyberspace for society itself has to be taken in consideration, and that hope has to be protected to the extent that allows an important system of electronic deals to function properly. At the same time, it must be understood that giving legal relevance to hope means opening the door to transactions that could reduce the control that people enjoy today over their portfolio of rights.³³ Nevertheless, the explosive growth of e-commerce in the last ten years seems to suggest that this tradeoff is considered acceptable by society. Indeed, it could be said that the benefit that people get from operating in cyberspace overcomes the loss of control that they experience over certain transactions.

Very close to the position discussed here is the one of another commentator,³⁴ who argues that electronic contracts are enforceable because of the so-called *Objective Theory of Assent*. According to this theory, the subjective intent of the parties is irrelevant in terms of contract formation. Indeed, the only thing that really matters in here is the "objective intent," which consists of what the parties consciously manifest to their counterparts, at least as that manifestation would be reasonably understood by the average person engaging in similar deals.

Therefore, according to this theory, in the context of electronic contracts, parties are bound because by choosing to use a software agent to accomplish a certain task, they objectively manifest that they want to have this task carried out. The fact that internally they might have reservation toward the specific agreement arranged by their bots is completely irrelevant.

This theory differs from the *Trust Theory*³⁵ discussed above, in that it focuses on the single individual that decides to "adventure" in cyberspace at his own risk. In our example, Prusca's decision to look for the content over the Internet through the help of her bot amounts to an assumption of risk on her side for the objective interpretation that a possible counterpart could make of her behavior, *i.e.* using a software programmed with certain instructions. The *Trust Theory* on the other hand is much more concerned with the individual within a group and with what can better serve the needs of the group rather than the individual. Prusca in this case is bound to the specific transaction not because her counterpart's objective understanding of the meaning of her behavior, but because society, in order to function properly, needs to trust people's promises no matter how they are conveyed.

³² *Id.*

³³ See Radin *supra* note #28.

³⁴ Jean-Francois Lerouge, *The Use of Electronic Agents Questioned under Contract Law: Suggested Solutions on a European and American Level*, 18 J. Marshall J. Computer & Info. L. 403, (1999);

³⁵ See *supra* p.69.

These theories present two sides of the same coin, and they achieve the same goal: the preservation of a degree of certainty in the marketplace so as to foster its growth and productivity. They also share the same cost: the partial loss of the control that people typically enjoy on their portfolios of rights. Indeed, Prusca's entitlements will be changed because of her bot's actions. She will be able to control this change to a certain degree by giving specific instructions to the software, but the way in which such specifications will be concretized in the specific transactions is beyond her reach. This scenario is new for our legal system, but, as mentioned above,³⁶ many seem to have grown accustomed to and accepted this tradeoff for the benefit of being able to operate in a more efficient³⁷ way over the Internet.

Finally, it is worth asking whether this phenomenon of consumers accepting a loss of some control over their portfolios of rights is ultimately a signal that society is progressively embracing a sort of *private eminent domain*,³⁸ controlled by business entities.

This idea has been raised by one author³⁹ in particular, who pointed out the growing "widespread trust in business entities to rearrange our entitlements without our consent."⁴⁰ According to this author the trust in business entities is much more evident in the online world than in the offline world, and is analogous to the trust in the government to change our entitlements for the benefit of the society. The distinction between "private and public authority" is therefore progressively disappearing in relation to the degree of control that the individuals are willing to give up in their transactions and the terms that define them.⁴¹

Is the acceptance on the side of consumers of a private eminent domain good for society? Are private entities more efficient in rearranging individuals' entitlements than the individuals themselves? Companies do present the benefit of having a greater capacity to look at the big picture, but what about the individual's ability to define himself? Is the control that people have over their entitlements, the possibility to arrange and rearrange them, a way through which humans define themselves as such? Or it is instead the possibility of releasing such control that today is offered by technology a way through which individuals free themselves and reclaim their essence?

These are all questions that concern ethical and policy choices whose determination should be left to the society at large and the legislature that represents it. Nevertheless, it is important to raise them in the context of the IPX project, which aims to create an online platform for the exchange of intellectual property rights helped by autonomous software agents. Indeed, is the use of bots a way to relieve creators of content from the burden of having to deal with entitlements that are getting progressively more complex?

³⁶ See supra p.70.

³⁷ On the efficiency of operating over the Internet and the relative reduction of costs; see Brennan supra note #7;

³⁸ *Eminent domain* generally refers to procedures by which an entity, normally the government, is able to change peoples' entitlements for the benefit of society. A classic example is the government taking away a piece of land from its owner to build a highway or some other infrastructural element that the specific community needs. This taking is possible only if just compensation is paid by the government to the holder of the right that has been expropriated. The expression *private eminent domain*, on the other hand, stems from the same legal concept but refers to the situation in the taker is a private entity. In the Internet context, private eminent domain describes transactional abandonment of certain rights portfolios to private entities for the ostensible purpose of improving the efficiency of e-commerce systems. [CITE TO COME] Individuals may give up certain rights to operate on and exploit the efficiencies of the Internet.

³⁹ See Radin supra note #28.

⁴⁰ *Id.*

⁴¹ This reduction of the distinction between "private and public" authority depends of course also on many other factors such as the monetary value of the specific transaction. Still the loss of people's absolute control over their rights is a powerful variable to explain this phenomenon.

2.2 . . . If Something Goes Wrong?

The fact that society may be progressively embracing some form of private eminent domain to simplify the conclusion of certain transactions does not eliminate a number of problems that occur in the real world as well as in cyberspace.

The first issue relates to the knowledge and understanding by consumers of the contract's terms. Indeed, how can the user of an electronic agent be held to terms and conditions of an agreement that he did not have the chance to read and understand until after the transaction was concluded?

According to one author⁴² the answer to this question rest on the ability of consumers to program the software *ex ante* and fix the minimum level of protection they wish to receive by opting for certain terms and contract conditions and rejecting others. Indeed, if the user had the chance to program the software and a record of the instructions that the user gave to his bot is available, no issue should arise about the validity of the contract, as the possibility for the consumer to be subject to unfair surprises seems to be reduced to the minimum.

Consider Prusca's example. She wants her bot to search for certain content and to acquire the rights needed to allow her to use it in a certain way. She programs her software to that effect. She first creates the specification relative to the pictures: she wants them to portray the surrounding areas of the restaurants that she visited and she wants them to be black and white. Then, she lists the rights that she wants to buy: she wants the right to copy them and to publish them in her blog. Finally, she releases the bot, so programmed, in the web. The software at that point will not consider any other option but those that fulfill Prusca's exact specifications. Let us say now that Prusca's bot finds three pictures fitting all Prusca's core requirements on IPX and concludes the relevant transactions. Is Prusca bound by them even if she could not read the terms in advance? The answer, according to the aforementioned author, appears to be positive, particularly if a record of the given instruction is kept and compared with the resulting transaction. Indeed, ***if there is correspondence between Prusca's specifications and the terms of the transactions, no unfair surprise on her side can be claimed.***

The second concern worth noting relates to mistakes which may arise when the software fails to follow the user's instructions. There are two main instances in which this problem could occur.⁴³ The first one is when there is a flaw in the original programming of the software. In this case under traditional contract law, if the counterpart did not have a reason to know about the mistake, the contract is valid and the bot's owner is responsible for it. In Prusca's example, for instance, what would happen if her bot mistakenly failed to follow her instructions and concluded a transaction that she did not want? As mentioned above, the issue rests on whether the counterpart has knowledge or reason to know about the mistake. Let's say that the terms of the license requested by Prusca's bot are so unusual and inconvenient for her that a counterpart by learning about them should be alerted that something in the transaction is wrong. In this case, Prusca will not be considered bound by the contract concluded by her bot particularly in a situation in which the counterpart attempted to profit from her bot's mistake.

Nevertheless, it should be pointed out that this situation seems unlikely in the IPX context where transactions are highly standardized. Indeed, IPX would offer content to which standard terms, selected by a predetermined license's menu, are attached. Thus, anomalous terms would ward off counterpart bots in the normal course and preclude contract.

Of more significant concern are situations where one bot's malfunction is not readily detectable by a given counterpart. In this case, under traditional contract law, the agreement reached by Prusca's software is valid

⁴² See Jean-Francois Lerouge *supra* note #34.

⁴³ *Id.*

even if its terms do not correspond to what she specified when she programmed the bot. This is because by deciding to use a particular instrument to look for the pictures and clear the relative rights, Prusca assumed the risk that the selected tool could fail. Indeed, she is the only one in the position to evaluate the software and its characteristics before the task is carried out. On the other hand, Prusca's counterpart, operating through IPX never had this chance and thus his reliance on Prusca's manifestations through her bot has to be protected.⁴⁴

The second case is when the mistake is due to a system failure that was caused by a so-called "Act of God."⁴⁵ None of the parties in this situation are at fault. However, according to traditional contract law, the transaction seems to be valid and the relative outcomes seem to fall on the subject who decided to use the particular instrument to conclude the transaction as, by doing that, he assumed the risk to act in what later turned out to be a malfunctioning system.

If we refer once again to Prusca's case, it seems possible to lay out a number of possible alternative scenarios. First, Prusca sends out her bot, and it concludes a transaction not corresponding to her specifications because of a breakdown of the system not due to human error. Prusca is bound by the resulting contract as she assumed the risk of this event when she decided to operate in cyberspace instead of the offline world with, perhaps, live legal consultation.

Second, Prusca's counterpart operates through IPX. A transaction is concluded with Prusca's bot, but because of a system failure due to an "Act of God," the terms of the contract do not correspond to what the Prusca's counterpart wanted. However, they do correspond to the specifications that Prusca's gave to her bot. The contract in this case should be considered valid and Prusca's counterpart should be held by its terms because by deciding to operate through IPX he assumed the risk that a failure inherent to the system in which this platform operates could occur. This scenario is different from the one in which the mistake happened not because an "Act of God," but because of a failure that can be imputed to IPX. In this case the contract appears to be valid and Prusca's counterpart should be held by its terms, but he could have a valid action of indemnification against the platform for the damages he incurred because of the IPX's failure.

⁴⁴ See *supra* p.69.

⁴⁵ See Jean-Francois Lerouge *supra* note #34.

Part3 **Should Electronic Agents Be Considered Legal Agents?**

There are two main conceptual strains in the literature that attempt to integrate the use of software agents in to existing legal doctrines: software agents as tools of the user, and, as the name “agent” would seemingly suggest, software as an agent of the user.⁴⁶ According to most commentators, these two frameworks each entail their own limitations and opportunities. A thoughtful analysis of the most significant points in the discussion over the adoption of agency principles in online contracting follows.

3.1 Can Agency Principles Be Adopted to Solve the Enforceability Problem?

Under current contract law,⁴⁷ the issues relating to enforceability of electronic contracts are not quite settled,⁴⁸ particularly where the transaction occurs between autonomous software agents and there is no immediate human involvement.

Some scholars have attempted to overcome this problem by suggesting the adoption of agency principles to better define these agreements from a legal standpoint. As noticed by one author, the legislative efforts produced so far,⁴⁹ both at the federal and at the state level, do not seem to have been of great help in resolving the issue of the validity of contracts between software agents particularly because they do not address the nature of “the relationship between an individual and the bot acting on his or her behalf.”⁵⁰

Indeed, in the context of the statutory schemes discussed above,⁵¹ it is most common for the drafters to understand software agents as tools of the user rather than entities that can stand in relationship with legal significance; but this may well be because the more advanced agent-like capabilities of software require more sophisticated and context dependent analysis.⁵² The doctrinal fork between contract principles and agency principles has something to do with the expectations of the user, and precise task being performed by the agent. Therefore, some commentators suggest that a more sophisticated piece of software may still be most appropriately seen as a tool of the user, rather than her agent.

When a human actor uses a computer merely as a medium to send a message to another human actor, the computer functions in the same way that a fax machine or a posted letter does. However, when a principal uses a computer in the same manner that it uses a human agent, then the law should treat the computer in the same manner that it treats the human agent.⁵³

There are, however, particular challenges to extending agency law to cover contracts entered into by software agents. In traditional agency law, the principal can give her agent the authority to enter into contracts on her behalf. According to the Restatement of Agency, “Authority is the power of the agent to affect the legal relations of the principal by acts done in accordance with the principal’s manifestations of consent to him.”⁵⁴ This authority, according to another commentator, can either be what is known as “actual authority,” or “apparent authority.”⁵⁵ In traditional agency law, actual authority is conferred by the principal’s consent to be bound. Apparent authority refers to an authority imposed by law, even when the principal may not have

⁴⁶ See Bellia *supra* note #6, at 1048.

⁴⁷ See *supra* p.68.

⁴⁸ See *supra* p.68.

⁴⁹ See *supra* p.66.

⁵⁰ Stephen T. Middlebrook & John Muller, *Thoughts on Bots: The Emerging Law of Electronic Agents*, 56 Bus. Law. 341, (2000);

⁵¹ See *supra* p.68.

⁵² See Bellia *supra* note #6, at 1047.

⁵³ John P. Fisher, *Computers as Agents: A Proposed Approach to revised U.C.C. Article 2*, 72 Ind. L.J. 545, at 557, (1997).

⁵⁴ Restatement 2nd of Agency, §7 (1958).

⁵⁵ Kerr, 243

consented.⁵⁶ According to this author, actual authority may be conferred on a software agent by a person's manifest willingness to be bound by its actions. Alternatively, apparent authority may flow from the fact that, to the outside world, an individual's use of a software agent has conferred to it the authority to enter in to contract.⁵⁷ In this way, one can easily employ basic agency principles to enforce electronic contracting.

Another commentator has instead pointed out that the relationship between an individual and his software agent should be governed, at least in part, by agency principles as, "agency law, at its heart, is a tool by which society fosters economic growth and innovation."⁵⁸ Indeed, given its function, "agency law should remain responsive to the economic needs of society and thus mold and adapt itself to the new requirements of modern electronic commerce."⁵⁹

Nevertheless, as noticed by another commentator, agency principles are not so easily transferred. In his view, agency law traditionally requires other elements that are not easily imported into electronic contracts. In traditional agency law actual authority required consent of both, the agent and the principle. This is important to this author because through this consent the agent gains not only the authority to act on behalf of the principal, but also certain legal duties (such as that of "obedience").⁶⁰ Therefore, the relationship between the agent and the principal is necessarily more complex than that between a principal and a tool, because it implicates the ability of the agent to express consent. And this, the same author says, is more than a software agent is capable of doing.⁶¹ This criticism of agency law in the context of software agents focuses on the "personhood" of both the agent and the principal. By reading a broad notion of autonomy and human discretion into the necessary elements of the agent's standing, a piece of software's limited autonomy necessarily falls short.⁶²

In response to these objections, it has been noted that after all the aforementioned obstacles do not seem to represent serious impediments because a "well-designed electronic agent will both act on the user's behalf and [it will be] subject to the user's control [and thus] (...) will (...) fulfill the rationale behind the agent "consent" requirement of traditional agency principles."⁶³ In Prusca's case for instance, it is possible to say that before releasing her bot into the web, she will provide enough specifications to make sure that the software will behave in the way she wants (*i.e.* acting on her behalf). As for the aspects of duty and control, there seem few cases in which a bot would actively "disobey" its owner. A bug in the software might cause the agent to go awry; but it could not do so consciously.⁶⁴

Given . . . that electronic agents act on behalf of their users, and given also that electronic agents can probably embody and faithfully execute all fiduciary duties, no serious objection appears to exist for not treating electronic agents 'as if' they were human agents. Indeed, the well-designed electronic agent is far less likely to breach its fiduciary duty than his human counterpart.⁶⁵

The law employs the fiduciary device of loyalty to deter all-too-human agents from raising their own selfish interests over those of the principle within the agents zone of action. Since a bot does not have selfish interests,

⁵⁶ *Id.*; but also Bellia *supra* note #5, at 1059.

⁵⁷ See Kerr *supra* note #57, at 243.

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ See Bellia *supra* note #5, at 1060

⁶¹ *Id.*, at 1063.

⁶² *Contra*, Kerr *supra* note #55, at 239-43 (Arguing that this very lack of human discretion in some ways makes software agents "better" agents than humans typically are since in most cases the software agent will be incapable of acting outside the scope of its programming.)

⁶³ See Wong *supra* note #10.

⁶⁴ And even if one day bots will be able to produce such determinations, they will, most probably, also be able to mimic 'human consent' and thus they will be even 'closer' to human agents. In that case, bots might also be subject to human-like liabilities and they might also possess assets to cover such liabilities and so on, but this appears to be the topic of a next project may be ten years from now!

⁶⁵ See Wong *supra* note #10.

since it is incapable of “disloyalty” as that term is understood, there is no need to require of software agents such fiduciary duties as a prerequisite to legal agency.

An analogous contention argues against requiring bot “consent,” as an obstacle to using the agency framework here. Agents must consent so as to avoid circumstances of involuntary servitude, etc. A bot is created for “involuntary servitude”, much like a toaster is created to toast. While ownership and purpose must be verified for bots, the absence of a policy rationale to require assent from non-humans suggests this should not preclude reference to agency law here.

Given that the other aspects of the principal/agent relationship⁶⁶ are substantially present, it is possible to conclude that agency law could indeed provide substantial guidance in the regulation of certain aspects of contracts between software agents.

Conclusion

Generally speaking, validity issues remain unresolved as to agreements concluded over the Internet by software agents. Most of these issues derive from the fact that the transactions in question occur without the immediate assent of the contracting parties – or, at least, not simultaneous consent as understood in traditional contract doctrine.

Nevertheless, commercial usages involving bots or analogous software have concretized over time. Millions of “assent-free” agreements are concluded over the Internet. Scholars have therefore put forward different suggestions to reconcile *reality* and *law*. Indeed, for these scholars, assent-free agreements concluded on line are valid either because humans, by deciding to operate through the software, assume the risk of the objective interpretation that a possible counterpart would make of their behavior, or because society, in order to function properly, needs to trust people’s promises no matter how they are conveyed.

According to another scholar, reality seems to suggest that humans are embracing some sort of *private eminent domain* to rearrange their entitlements. Whether this is a good thing for society is beyond the scope of this paper. However, it is possible to say that given the volume of Internet transactions people seem indeed to be willing to let go some of the control they have enjoyed so far on their rights in order to be able to operate in an efficient online transactional system.

Alternatively, online transactions can be scrutinized through agency principles. This option makes a software agent’s owner responsible for the transactions concluded by his bot because of the *actual* authority that he confers upon it at the moment in which he decides to employ it to accomplish certain tasks on his behalf.

The agency framework, nested in the contractual domain, does allow the law to reflect and reinforce the reality of extensive online transactional activity, and specifically supports beneficial use of software contracting agents. A software bot is merely an analogue to a human contracting agent; but it is a useful analogue.

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⁶⁶ Under traditional agency law, the agent duties consist in: duty of loyalty, duty of obedience to reasonable directions and duty of reasonable care under the circumstances.

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THE STANFORD INTELLECTUAL PROPERTY EXCHANGE INTERMEDIARY LIABILITY

Harry Surden

As a facilitator mediating the exchange of intellectual property licenses and creative works, the Stanford Intellectual Property Exchange (IPX) will face liability issues under federal copyright law. This chapter will primarily focus on issues relating to secondary liability for copyright infringement. The first part will present a brief overview of the law of secondary liability and other relevant areas of copyright law, and the second part will assess the potential liability of the intellectual property exchange within the context of the applicable law.

I. Relevant Law

A. Indirect or Secondary Liability in Copyright

Federal copyright law¹ grants copyright owners the exclusive right: (1) to reproduce copyrighted works; (2) to prepare derivative works based upon copyrighted works; (3) to distribute copies of copyrighted works; (4) to perform copyrighted works²; (5) to display copyrighted works publicly.³ Additionally, copyright owners have the exclusive right to *authorize* anyone else to exercise the statutorily granted rights.⁴ A violation of any of these exclusive rights is considered direct infringement.

Generally speaking, secondary liability, or indirect liability, in the copyright context refers to the imposition of liability on one party for the infringing acts of another. In contrast to direct liability, where the defendant is alleged to have committed the infringing act itself, indirect liability theories permit the imposition of liability on third parties that have not themselves engaged in any acts of infringement. Plaintiffs typically sue under indirect liability theories when enforcement against the direct infringers would be prohibitively difficult.⁵ The two major indirect liability theories in copyright are *vicarious liability* and *contributory liability*.

1. Vicarious and Contributory Liability Generally

Vicarious liability in copyright arose from the tort doctrine of *respondeat superior*. Under the doctrine of *respondeat superior*, courts could impose liability on employers for tortious acts committed by their employees.⁶ In the copyright domain, vicarious liability has expanded beyond the employer-employee context to other relationships involving supervision and control.⁷ Roughly speaking, a defendant may be vicariously liable in copyright for the infringing acts of another person, if the infringer is under the control of the defendant.

¹ The Copyright Act of 1976, 17 U.S.C. § 101 et seq.

² This provision only applies to “literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works.” 17 U.S.C. § 106(4). In the case of sound recordings, copyright owners are also granted the right to perform the works via digital transmission. 17 U.S.C. § 106(a).

³ This only applies to “musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work.” 17 U.S.C. § 106(5)

⁴ 17 U.S.C. § 106

⁵ “When a widely shared service or product is used to commit infringement, it may be impossible to enforce rights in the protected work effectively against all direct infringers, the only practical alternative being to go against the distributor of the copying device for secondary liability on a theory of contributory or vicarious infringement.” *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 125 S. Ct. 2764, 2777-2779 (U.S. 2005) (discussing *Sony*).

⁶ Restatement (Second) of Agency § 219(1) (1958).

⁷ See Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 Stan. L. Rev. 1366-68 (2004).

In legal terms, a plaintiff must prove two elements in order to impose vicarious liability upon a third party defendant: (1) that the defendant has “[t]he right and ability to supervise the infringing activity” and (2) that the defendant has “[a]n obvious and direct financial interest in exploitation of copyrighted materials.”⁸ Courts have found that a third party can be held liable for the infringing acts of another under its control even when the third party has no *knowledge* of the infringement nor *intends* for the infringement to happen.⁹

Although the courts have often confused the two, contributory liability offers a separate theory of secondary liability independent of vicarious liability. Contributory liability in copyright arose from the tort doctrine of enterprise liability. This doctrine permitted courts to impose liability on third parties who induced or enabled others to commit tortious acts, even if the third parties did not commit any tortious acts themselves.¹⁰ Roughly speaking, liability in copyright under a theory of contributory infringement is possible whenever a party assists or encourages another party to commit direct infringement. In legal terms, a contributory infringer is “[o]ne who, with knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another”¹¹

2. *Sony v. Universal Studios and Grokster v. MGM*

The two leading statements on contributory infringement are Supreme Court cases *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984) (“*Sony*”) and *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 125 S. Ct. 2764 (U.S. 2005) (“*Grokster*”). In *Sony*, the plaintiffs, who were major entertainment companies, sued the Sony Corporation, which manufactured video cassette recorders (“VCRs”), under a theory of contributory liability for copyright infringement. The plaintiffs produced evidence that the purchasers of Sony’s VCRs were using the machines to engage in direct copyright infringement through the taping of copyrighted television programs without authorization.¹² The plaintiffs argued that Sony should be held contributorily liable because Sony’s VCR assisted and enabled the users to engage in copyright infringement and because Sony had constructive knowledge that some such infringement was occurring.¹³ Borrowing a doctrine from patent law, the court held that Sony was not liable under a theory of contributory infringement because the VCR was a product capable of “significant non-infringing uses.”¹⁴

Over 20 years later, the Supreme Court once again examined the doctrine of contributory liability in copyright, this time in the context of internet file sharing services. In *Grokster*, the defendants were distributors of peer-to-peer software programs which enabled users to exchange computer files with one another directly, without any the assistance of an intermediary. The *Grokster* plaintiffs produced evidence that the vast majority of the files exchanged using the defendants’ software were copyright protected files whose transfers were not authorized by the copyright holders.¹⁵ The defendants argued that they were not liable under *Sony* for contributory infringement because a “substantial” amount of the materials exchanged using the defendants’ software was non-infringing, and that the software was therefore capable of substantial non-infringing uses.¹⁶ The court rejected the contention that *Sony*’s “substantial non-infringing use” standard governed and instead

⁸ *RCA/Ariola Int'l Inc. v. Thomas & Grayston Co.*, 845 F.2d 773, 781 (8th Cir.1988)

⁹ Romualdo P. Eclavea, 14 Amer. Law. Reports 825 I § 2;

¹⁰ Melville B. Nimmer and David Nimmer, *Nimmer on Copyright*, § 12.04[A][2]. (2004).

¹¹ *Fonovisa, Inc. v. Cherry Auction, Inc.*, 76 F.3d 259, 264 (9th Cir. 1996).

¹² See *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 455-56 (1984).

¹³ See *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 125 S. Ct. 2764, 2777-2779 (U.S. 2005) (discussing *Sony*).

¹⁴ *Sony*, 464 U.S. at 442. The *Sony* court thus borrowed the “staple item of commerce” doctrine from patent law. This is codified in 35 U.S.C. § 271(c)’s patent infringement provision, which states, “[w]hoever...sells within the United States a component of a patented [invention]...knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

¹⁵ *Grokster*, 125 S.Ct. at

¹⁶ See, *Grokster*, 125 S.Ct. at 2778 (estimating that 10% of the works exchanged on the defendants’ peer to peer networks to be non-infringing).

announced a rule based upon the doctrine of inducement. The *Grokster* court stated, “[o]ne who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties.”¹⁷ In other words, following *Grokster*, contributory liability is possible even where a product or service is capable of substantial non-infringing uses when there is evidence that the defendant encouraged the use of the product or service for infringing purposes.¹⁸ It is also worth noting that the *Grokster* court limited its holding so as not to apply where a third party simply *knows* about infringement, but does not actively encourage the infringing conduct. The *Grokster* court explained that “mere knowledge of infringing potential or of actual infringing uses...[is] not enough...to subject a distributor to liability....The inducement rule...premises liability on purposeful, culpable expression and conduct...”¹⁹

B. Intermediaries and Safe Harbor Provisions

The federal copyright provisions are expansively worded. For instance, copyright holders are granted the exclusive right to reproduce and authorize the creation of *all* copies of a copyrighted work.²⁰ One looming issue is the extent to which providers of intermediary services can be subject to secondary liability as they are used as a conduit for copyrighted works by their users. Broadly defined, intermediaries are those entities that provide infrastructure services which facilitate the transfer and organization of information. Prior to the advent of the Internet, Congress included a liability exemption for “passive carriers”²¹ or those intermediaries which have “no direct or indirect control over the content or selection” of the transmitted data and whose service “consist[s] solely of providing wires, cables, or other communications channels for the use of others...”²²

Intermediary liability typically consists of two major issues. First, to what extent does an intermediary’s “reproduction” of copyrighted data during the course of transferring, organizing, and disseminating data constitute direct infringement? Secondly, to what extent should an intermediary be held secondarily liable for direct infringement by the intermediary’s users? Recent cases have held that liability for passive intermediaries are best analyzed under the framework of secondary liability theories, rather than under the theory direct liability.²³ In an influential case, *Religious Technology Center v. Netcom On-Line Communication Services, Inc.*, 907 F.Supp. 1361, 1366 (N.D.Cal.,1995) (“Netcom”), the court held that an online site was not liable for direct infringement for copies of a copyrighted work reproduced on its computers because the copies were created passively by the user, without any volitional intervention by the intermediary site.²⁴ This, and similar authority seem to indicate that websites won’t be held liable for passive, non-volitional copies made in the normal course of functioning.

To address some of the issues faced by intermediaries, Congress included in the Digital Millennium Copyright Act (DMCA) provisions which provide “safe harbor” from copyright damages for those intermediaries which qualify under its terms.²⁵ The DMCA allows for certain limitations on copyright liability for internet “service” providers and search engines which meet its statutory requirements.

¹⁷ *Grokster*, 125 S.Ct. at 2778.

¹⁸ It should be noted that the *Grokster* court specifically declined to address the issue as to whether the defendants’ software programs were capable of substantial non-infringing uses.

¹⁹ *Id.* At 2780.

²⁰ See 17 U.S.C. § 106(a).

²¹ See Generally *Nimmer*, 12B.01[A][1].

²² 17 U.S.C. § 111(a)(3).

²³ See *Nimmer at* 12B.01[A][1].

²⁴ “Although copyright is a strict liability statute, there should still be some element of volition or causation which is lacking where a defendant’s system is merely used to create a copy by a third party.” *Religious Technology Center v. Netcom On-Line Communication Services, Inc.*, 907 F.Supp. 1361, 1370 (N.D.Cal.,1995).

²⁵ See 17 U.S.C. § 512.

C. Fair Use

Another significant limitation on a copyright holder's ability to control all reproductions of copyrighted works is the "fair-use" doctrine.²⁶ The Copyright Act's fair-use provision permits unauthorized reproductions of copyrighted works for purposes such as "criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research."²⁷ In determining whether an unauthorized reproduction is protected under the fair use provisions, courts examine factors such as: (1) whether the reproduction is for commercial or non-profit use; (2) the nature of the copyrighted work; (3) how much of the copyrighted work was reproduced; (4) the potential effect that the unauthorized reproduction could have on the commercial value of the work.²⁸ Generally speaking, the purpose of the fair-use provision is to balance the public's need to manipulate and disseminate copyrighted information for socially beneficial activities against the need to provide sufficient financial incentives to creators to generate new works.²⁹

The fair use doctrine has also been cited as a rule of efficiency, permitting limited, but socially valuable unauthorized uses of copyrighted works where the transaction costs of gaining authorization are too high.³⁰ Interestingly, the IPX would serve the same purpose: To enable efficient social use where present transaction costs are prohibitive. However, the approaches are different. One involves *ex ante* resolution through explicit permissions. The other is a broad standard typically determined *ex post*, through judicial review. In other words, the scope of the fair use limitation (*i.e.*, the ultimate metes and bounds of the default intellectual property right) may only be determinable after the use has occurred. Moreover, the IPX would enable such transactions without altering the initial right – incenting rights owners to transact through competition and the prospect of personal gain. In contrast, fair use circumscribes the right itself. The two approaches may have complex "feedback" effects upon each other.

II. Secondary Liability in Copyright and the Intellectual Property Exchange

Any intermediary dealing with the exchange of intellectual property runs the risk of secondary liability for direct infringement by the exchange participants. This section will provide a brief analysis of the potential liability of the IPX intellectual property exchange system in view the legal doctrines described above. Since the intellectual property exchange is still in its formative stages, this assessment relies on the following assumptions for the purposes of analysis: (1) that the IPX is organized as a not-for-profit entity, or is operated by a not-for-profit entity, such as Stanford University; (2) that the IPX, at least initially, is primarily concerned with facilitating the licensing of intellectual property *rights*, and secondarily the transfer of the underlying works themselves following authorization by the rights holder; (3) the IPX will have a firm policy prohibiting users from engaging in copyright infringement or unauthorized reproduction of copyrighted works using IPX service, and the IPX organization will take steps to rectify infringements when properly notified; (4) the majority of IPX users purporting to license usage rights will possess the rightful legal ability to do so, and users will be obligated to attest as such; (5) the IPX will be structured as an online service operating through centrally located computer servers.

The most likely direct copyright infringement scenario will involve the uploading, transformation, and licensing of copyrighted works on the IPX system by unauthorized users. While the individual users may be subject to liability under a direct infringement theory, the IPX runs little risk of liability for direct infringement

²⁶ Codified in 17 U.S.C. § 107.

²⁷ *Id.*

²⁸ *Id.*

²⁹ See Am. Jur. Copyright § 78.

³⁰ See generally, William M. Landes & Richard A. Posner, An Economic Analysis of Copyright Law, 18 J. LEGAL STUD. 325, 349 (1989).

based upon the actions of its users. A plaintiff alleging a direct infringement claim against the IPX would assert that the storage and transfer of infringing works through the IPX computer servers violates the reproduction, distribution, and display rights.³¹ After *Netcom* and similar decisions, courts appear most willing to analyze such scenarios under a secondary liability, rather than a direct liability, framework. Therefore, the risk of liability under a direct infringement theory is unlikely under these facts. Moreover, the IPX would probably qualify under the DMCA's statutory safe harbor provisions as an internet "service" provider.³² Assuming that the IPX promptly complies with the DMCA procedures, the DMCA statutory protections should limit exposure for direct infringement.

Additionally, the IPX will be able to proffer a reasonably strong fair-use defense to any direct infringement claims given the following: (1) the non-profit nature of the organization³³; (2) the public service aims and overall good faith objective of the project³⁴; (3) the likely minimal commercial impact of the unauthorized reproductions on the market. A second direct liability question might result from thumbnail images or similar samples of unauthorized works displayed by the IPX search engine. In *Perfect 10 v. Google, Inc.*,³⁵ a district court found that Google's display of photo thumbnail images in its search engine directly infringed the plaintiff's copyright in the images. The *Perfect 10* court found that Google's use of the thumbnail images was not a fair use due to the commercial nature of Google's search business and the potential commercial impact of the thumbnail photos on the market for photos to be displayed on cellular phones. However, this fair-use calculus would likely turn out differently in the IPX context given the non-profit nature of the organization, and the probable minimal market impact of these thumbnail displays.

The IPX also does not face a great risk of exposure under the secondary liability theories of copyright infringement. Liability seems remote under the doctrine of vicarious liability. Vicarious liability requires "[t]he right and ability to supervise the infringing activity" and "[a]n obvious and direct financial interest in exploitation of copyrighted materials." Since the IPX, as proposed, may not have the means to control the activities of its users, the control element will be attenuated. Perhaps more obviously, given the organization's assumed policy prohibiting infringing uses, the number of infringing users will probably be small relative to the number of authorized users. Taken along with the assumption that the organization will be non-profit in nature, the IPX would appear to have little direct or substantial financial interest in exploiting unauthorized works.

Similarly, in light of *Sony* and *Grokster*, the IPX would be at a small risk for liability under contributory infringement theory. Contributory infringement occurs when "[o]ne who, with knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another . . ."³⁶ Under *Sony* and *Grokster*, a defendant whose product or service is capable of substantial non-infringing uses, faces liability for the infringing uses of the product if the defendant actively induced the infringing activity. The IPX service, as proposed, is clearly capable of substantial non-infringing uses, since it is being designed for the manifest purpose of facilitating *authorized* uses of copyrighted works. Under *Grokster*, liability under a contributory infringement theory would not apply, since the IPX organization will not induce or encourage infringing activity on the part of its users.

III. Conclusion

³¹ A plaintiff might also allege that the licensing of copyrighted works by one who does not have the right to do so would be a violation of the exclusive *authorization* right.

³² See *Hendrickson v. eBay, Inc.*, 165 F.Supp.2d 1082 (C.D.Cal.,2001) (finding that the eBay online service was protected under the DMCA safe harbor provisions); See 17 U.S.C. 512(c).

³³ See Marshall Leaffer, *Understanding Copyright Law*, § 10.7 (1999).

³⁴ See *NXIVM Corp. v. Ross Institute*, 364 F.3d 471, 479 (2nd Cir. 2004) (discussing the role of bad faith and good faith usage of works in a fair use defense).

³⁵ *Perfect 10 v. Google, Inc.*, 416 F.Supp.2d 828 (C.D. Cal. 2006).

³⁶ *Fonovisa, Inc. v. Cherry Auction, Inc.*, 76 F.3d 259, 264 (9th Cir. 1996).

In sum, the exposure of the intellectual property exchange, as proposed, for intermediary copyright liability is minimal. As the preceding analysis makes clear, an important part of the liability assessment turns on the fact that the IPX, as conceived, is organized as a not-for-profit entity.

**TRUST PROMOTION IN IP TRANSACTIONAL PLATFORMS
BEST PRACTICES**

PRACTICE	DESCRIPTION	PRECEDENT
1. Registration & Identity Verification	Anonymity reduces accountability. User identities should be verified. This may address 3PI, fraud, abuse, spam, and other concerns.	Standard in e-commerce websites.
2. Third Party Certification Marks	Certification marks or “digital watermarks” may be provided to verify source information or even transactional history. See generally 15 U.S.C. § 1127 (defining certification marks as proof that the marked products “have been examined, tested, inspected, or in some way checked by a person who is not their producer, by methods determined by the certifier	TRUSTe, BBBOnLine, VeriSign, WebTrust, and Chamber Seal.
3. Indemnification	The seller may indemnify the buyer against 3PI.	UCC 2-312. ¹
4. Insurance	Third party insurers or middlemen could insure various types of IP on the site. While no platform can eliminate the risk of 3PI, this problem is endemic to IP transactions <i>generally</i> . In the absence of a single structural solution, the platform should facilitate attacks on this problem through market forces. For example, an entity or person could, using the system, review and insure clean title to a given piece of IP. The insurance fee may vary by the estimated risk of 3PI. Some insurers, along with their models and algorithms, would fail, while superior ones may thrive.	Real estate title insurance.
5. Escrow Services	Again, a third party, or the platform itself could hold the purchase price until the buyer has been satisfied. Of course, the escrow agent would have to ensure that the buyer cannot take the IP and run, so to speak.	EBay.
6. Open Source Library	Create a library of IP elements for which 3PI is an impossibility (e.g., musical works of Mozart (<i>i.e.</i> , as opposed to proprietary sound recordings of performances thereof)).	Google, Creative Commons.
7. Feedback & Ratings Systems	Feedback on creators, middlemen, and buyers would work in the same way it works in any other e-commerce context.	Standard in e-commerce websites.
8. Neighborhood Watch	Both users and non-users should be able to report violations and abuses of all kinds. Hybrid employee/contractor and member approaches may also be used	OurMedia, JibJab, Current TV.
9. Privacy Policy	The site should not sell identifying user information to third parties.	Common, if not standard.
10. ODR	ODR should not be viewed as a replacement for legal action. Rather, ODR should <i>anticipate</i> the results of such action. ODR should also be available to third party non-users that feel their work has been infringed.	EBay.
11. Live Communications	Live communication between buyers and sellers may promote trust in transactions. If, for example, a potential buyer can call a potential creator / seller, the buyer can probe issues relating to the IP and its authorship, conduct diligence on seller practices generally, and confirm location information (e.g., by area code). Alternatively, the platform might facilitate conferences; confirming, while protecting private user data like telephone numbers.	EBay.
12. Screening Technologies	Platform software should filter out viruses, Trojan horses, and other noxious code from any content which passes through the site.	Yahoo! and other e-mail services.

¹ This section provides that: “Unless otherwise agreed a seller who is a merchant regularly dealing in goods of the kind warrants that the goods shall be delivered free of the rightful claim of any third person by way of infringement or the like but a buyer who furnishes specifications to the seller must hold the seller harmless against any such claim which arises out of compliance with the specifications.”

TRUST PROMOTION IN IP TRANSACTIONAL PLATFORMS BEST PRACTICES

KEY:

Third party infringement = “3PI”

Uniform Commercial Code = “UCC”

Online Dispute Resolution = “ODR”