

The Creative Commons and Copyright Protection in the Digital Era: Uses of Creative Commons Licenses

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As digital technology thrusts complexity upon copyright law, conflict has escalated between copyright holders desperate to institute a vigorous enforcement mechanism against copying in order to protect their ownership and others who underscore the importance of public interests in accessing and using copyrighted works. This study explores whether Creative Commons (CC) licenses are a viable solution for copyright protection in the digital era. Through a mixed-methods approach involving a web-based survey of CC licensors, a content analysis of CC-licensed works, and interviews, the study characterizes CC licensors, the ways that CC licensors produce creative works, the private interests that CC licenses serve, and the public interests that CC licenses serve. The findings suggest that the Creative Commons can alleviate some of the problems caused by the copyright conflict.

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Introduction

The Creative Commons, crafted by Stanford University law professor Lawrence Lessig and others in December 2002, provides a set of copyright licenses free for public use.¹ A creator who is willing to release her work under a Creative Commons (CC) license can go to the Creative Commons website (creativecommons.org) and make a selection among various license options with a simple mouse-click (creativecommons.org/license/). If she chooses to license her work under a CC attribution license, for example, she retains her copyright but allows others to use her work without permission and without payment, as long as they credit her for the original creation. After the mouse-click, the website provides her with several lines of computer code that she can copy and paste at her website. Visitors to her website will see a Creative Commons logo and a sentence under the logo indicating the conditions and jurisdiction, if specified, of her license. The logo and the sentence are

embedded with a link that directs visitors to Commons Deed, a quick and easy summary of the full license. Another click from the Deed takes the visitors to the full license. Meanwhile, a user who is looking for content to use under less restrictive conditions than traditional copyright law can go to the Creative Commons website and find CC-licensed works by using the search engines or directories there.

The Creative Commons has drawn some positive responses and is growing in popularity. It was estimated that five million items were available under CC licenses as of October 2004 ("Movement Seek," 2004); some 145 million creations had been registered as of June 2006 (Rohter, 2006). Many news stories have been written about the uses and success of CC licenses (e.g., Chmielewski, 2004; "Movement Seeks," 2004; Rohter, 2006). A number of scholars have also noted the potential of the Creative Commons to serve public interests (Gasaway, 2003; Jones, 2004; Merges, 2004; O'Hara, 2003; Reichman & Uhler, 2003; Stoeltje, 2004; Wagner, 2003).

The purpose of this study is to examine whether the Creative Commons can resolve the conflict surrounding copyright law in the digital era. The theoretical framework that guides the focal inquiry of this study is taken from Kim (2005). In brief, that framework posits that there are two competing visions of the fundamentals of copyright law: a "private property" vision and a "public policy vision." The private property vision is so termed because those who support it believe that copyright originated as a natural law property right of authors, and that authors who create original works deserve to have property rights over their work. The emphasis of the private property vision is on the *private* interests of authors in controlling the use of copyrighted works as their *property*. The public policy vision, in contrast, is held by those who note that copyright has historically developed as society's grant of a limited monopoly, and who think that the rights of authors must be weighed against the freedom of everyone else to use the copyrighted work. This vision is termed the public policy vision, because it underscores the importance of *public* interests in accessing and using copyrighted work. It also underlines the role of copyright as a matter of public *policy* that aims to achieve a proper balance between private interests and public interests.

The two competing visions have clashed throughout the 300-year development of copyright law, but the conflict between them has escalated in the digital era. Advocates of the private property vision hoped that digital technology would enable copyright holders to collect fees for each use of their copyrighted works (e.g., Goldstein, 2003). Instead, they observed massive copyright infringement. Content providers, including the music industry, are desperate to institute a vigorous enforcement mechanism against copying to protect their ownership.

Proponents of the public policy vision hoped that digital technology would promote production and sharing of cultural products (e.g., Benkler, 2000; Kranich, 2004). Instead, they observed that contemporary copyright law has become so restrictive that it risks impeding future innovation and creativity. For example, Samuelson (n.d.) stated that today's major copyright industries, fearing a substantial loss of control over copyrighted material because of technological developments,

have lobbied to gain more control over consumers than they have ever had before. Similarly, Boyle (2004) wrote that contemporary intellectual property policy is “in the sway of a maximalist ‘rights-culture’ which leads debate astray” (Introduction, para. 4).

The birth of the Creative Commons is closely related to the concern that the attempts of copyright holders to protect ownership of their copyrighted material are threatening users’ freedoms. CC Chairman Lessig, noting the changes that copyright law has undergone (2004b), argued that there has been a shift from “free culture” to a restrictive, permission culture (2004a). When he said *free* culture, he meant *free* in the sense of “freedom,” not in the sense of “no payment.” People used to have freedom to create, to use cultural resources, to criticize others using the culture around them. However, Lessig states that “those freedoms are increasingly restricted. And the question becomes, how do we respond?” (2004b, p. 10). One response that Lessig and others who share the public policy vision have suggested is the Creative Commons, which aims “to build a layer of reasonable, flexible copyright in the face of increasingly restrictive default rules” (“Some Rights Reserved,” n.d.).

Although the Creative Commons was suggested by supporters of the public policy vision, it seems to have potential to resolve the boiling conflict between the two visions of copyright law. To be a solution, it must satisfy three conditions: First, it must accurately reflect the ways people produce creative works; second, it must serve the private interests of creators; and third, it must serve the public interests of users.

This study examines whether the actual uses of the Creative Commons indicate that CC licenses are being used in ways that meet these three conditions. Specifically, it asks the following four research questions:

- RQ1:** What are the characteristics of CC licensors, and how are CC licenses related to those characteristics?
- RQ2:** How do CC licensors say they produce creative works, and how are CC licenses related to those characteristics?
- RQ3:** What are the private interests that CC licensors say must be protected in order for them to produce creative works, and how do CC licenses serve those private interests, if they do?
- RQ4:** What public interests do CC licenses serve, if any?

Methodology

This study combined three different methods. First, a content analysis of CC-licensed work was conducted from January 24, 2005 through February 5, 2005, to explore the uses of CC licenses. Second, a web-based survey of CC licensors was conducted to explore the uses and users of CC licenses. The first invitation to the survey was sent on February 9, 2005, and the survey was closed on March 6, 2005. Last, four in-depth interviews with non-CC users who were representatives of major content industries

were conducted on March 16 in New York City and on March 18, 2005 in Washington D.C. The interviews explored the views of the industry representatives on copyright law, as well as their thoughts about CC licenses.

The Population and the Sample

The process involved in identifying a population and drawing a sample for the web-based survey of CC licensors and the content analysis of CC-licensed works required some innovation. The population for the content analysis consists of all CC-licensed work, while the population for the web-based survey consists of all CC licensors. To draw a sample from a population, a complete list of the population is needed. Obtaining a complete list of CC-licensed works and/or CC licensors from the Creative Commons was impossible, because none exists. Thus, the population for this study was found through syntax link searches at Yahoo!.² For example, a query was made as “link: <http://creativecommons.org/licenses/by/1.0/>,” and Yahoo! found all web pages that were linked to a CC attribution license. This seemed the most accurate means to search for all CC-licensed works, because all CC-licensed works have to be linked to a CC license. The syntax link search was limited to web pages written in English and hosted in the United States.

The population size was estimated as 2,571,800 through syntax link searches using Yahoo! on January 24, 2005. However, all 2,571,800 web pages could not be accessed, due to the way the search engine worked. No search engines, including Yahoo!, presented any results beyond the first 1,000th result. To access a larger sample, the author of this study conducted 13 different syntax link searches. Each search had a link to a different CC license and showed the first 1,000 web pages that were licensed under that CC license. As a result, 13,000 CC-licensed web pages were found and could be accessed. A sample of 1,000 web pages in total was randomly drawn from the 13,000 CC-licensed web pages. Since the sample of 1,000 was drawn from the web pages ranked higher by the search engine, which were likely to have more link popularity and to have been accessed by more users than web pages ranked lower, the findings from this study may have a bias.

Content Analysis of CC-licensed Works

The purpose of the content analysis of CC-licensed works was to identify what types of works are available and how they are related to the different types of CC licenses. Other characteristics of CC-licensed works, such as the quality of the works and their commercial viability, were not examined. A simple check of which kinds of works (audio, image, video, text, or others) are available under which kinds of CC licenses was conducted. In classifying the types of CC-licensed work, the following six broad categories were used: (1) Text, (2) Mixture of two or more types of main work, (3) Image (photo, illustration, and design), (4) Audio (music and speech), (5) Video (movie and footage), and (6) Other (software, computer tool, etc.).

Whether a certain CC-licensed work fell into one of those categories was decided by the type of the main work. For example, a blog that had mainly text entries but

also contained a few matching photos was considered as a work in a text format. However, a blog that had two different sections—one designated for text entries and the other for photo entries—was considered as a mixture of two types of main work. Within the *Text* category, the following five types of CC-licensed works were distinguished: (1) Blog (text only): a blog with text entries; (2) Blog (text with photo): a blog that consisted of mainly text entries but also had a few photos matching the text entries; (3) Website: either a website that consisted of text only or a website that comprised both text and a few matching images; (4) Other Text: books, articles, essays, novels, and software documentation; and (5) Educational Material: a website with lesson plans or course packets. The distinction between a blog and a website was made on the basis of factors such as whether each entry had a date, whether the content was presented in a blog format, and whether the author called it a blog or a website. The *Mixture of two or more types of main work* category comprised these three types of CC-licensed works: (1) Blog and Photo means there were two different sections—one with text entries and the other with photo entries—within a blog; (2) Website and Photo means that two different sections—one with text entries and the other with photo entries—existed within a website; and (3) Other Multimedia Content includes websites at which more than two different types of work were available. Applying these criteria, two coders conducted the content analysis. The intercoder reliability, calculated using Holsti's (1969) formula, was 95%.

Web-Based Survey of CC Licensors

After the sample of 1,000 CC-licensed web pages was selected, a list of CC licensors was compiled from those pages. When available, the names of CC licensors, the titles of CC-licensed works, and the contact information for CC licensors (i.e., email addresses of CC licensors) were collected. When the first web page at a website did not contain the information, other web pages within the website were searched.

A total of 617 email addresses were collected from the 1,000 selected web pages. Thus, the actual number of CC licensors who could be invited to the web-based survey was 617. The survey was distributed via a series of email messages with written explanations of the research project and links to the survey website. Zoomerang's online survey software, zPro, was used in this study. The first message and three reminder emails were sent to the 617 CC licensors. In total, 280 licensors participated in the survey, for a response rate of 45%.

Characteristics of CC Licensors

In an interview with the author of this study, BMI (Broadcast Music, Inc.) Assistant General Counsel Judith M. Saffer said, "It is not human nature for most people to give up what they do not have to give up." Her presumption was that "most people who own copyright want to have the control over their product and want to have the ability to get paid as much as they can." Saffer, a proponent of the private property vision, suggested that commercially successful creative people or companies would not use CC licenses.

In order to investigate whether people who licensed their works under CC licenses were really not highly interested in acquiring financial gain from their copyrighted works, the web-based survey explored the following characteristics of CC licensors: (1) who owns CC-licensed work, (2) the occupations of CC licensors, (3) how important it is for CC licensors to earn financial gain from copyrighted work, (4) whether CC licensors usually register their works with the U.S. Copyright Office, and (5) demographic characteristics of CC licensors.

Who Owns CC-Licensed Work?

Out of 280 CC licensors, 246 (almost 90%) said they own their most recent CC-licensed work as an individual, while nine of them said they own it as a non-profit organization, and another nine said they own it as a corporation for profit. The respondents included only two educational institutions. This finding came as a surprise, since before starting this study, the author had assumed that most owners of CC-licensed work would be nonprofit organizations or educational institutions, which were assumed to care more about sharing intellectual property than about reaping profits from their copyrighted works. That the CC website lists many nonprofit organizations and educational institutions as CC affiliates further supported that assumption.

Instead, the results indicate that individual Internet users are the primary adopters of CC licenses. Peter Givler, executive director of the Association of American University Presses (AAUP), when asked about the Creative Commons, said that he “simply does not get it.” He noted that choices that CC licenses give to creators have been always available through individual contracts between authors and publishers. However, the fact that almost 90% of CC licensors own the copyrighted work as individuals suggests that it is easier to use CC licenses than to draft one’s own licenses, especially for individual creators with limited resources. It also suggests that the widespread use of CC licenses represents a grassroots movement on the Internet.

What Are the Occupations of CC Licensors?

The four most common occupations among CC licensors were computer professionals (28.6% of the survey participants), students (18.2%), artists (13.6%), and educators (9.3%). That computer professional was the most common occupation is interesting, yet understandable, given that CC licenses were inspired by the Free Software Foundation’s GNU license. Computer professionals can also easily utilize the technical functions of CC licenses, because they are familiar with computer technology.

That the second most common occupation was student suggests that CC licenses are popular among young people, many of whom are accustomed to creating and publishing on the Internet. Also, many college students have engaged in music file sharing, which could have made them aware of the conflicts over copyright protection on the Internet and prompted them to use CC licenses to endorse the public policy vision. It is interesting that 14% of the question respondents said they were artists, in that proponents of the private property vision do not necessarily think that CC licenses are in the best interests of artists (J. M. Saffer, personal communication, March 16, 2005).

A follow-up question was asked to determine whether CC licensors consider themselves professional artists. Seventy-one CC licensors (25.4%) said they consider themselves professional artists (musician, writer, photographer, painter, designer, etc). The reason that 71 people said they were professional artists, but only 38 CC licensors chose artist as the category that comes closest to describing their current occupation, was that some respondents considered themselves professional artists at the same time that they held other occupations, such as computer professional, educator, student, and media professional.

How Important is it for CC Licensors to Earn Financial Gain from their Copyrighted Works?

CC licensors as a whole are not a group of creators for whom financial gain from their copyrighted works is critical to their livelihood. About 73% of CC licensors said they do not make money from their copyrighted works at all. About 19% of CC licensors said income generated from their copyrighted works is a supplementary source of income, followed by about 3% of CC licensors who said it is their main source of income. Of those who said that revenue from their copyrighted works was either a supplementary or their main source of income, about 15% said that the percentage of their total income that came from their copyrighted work was more than 30%.

However, CC licensors who consider themselves professional artists were somewhat different from CC licensors as a whole. While about 47% of them said they do not make money from their copyrighted works, the rest (53%) reported that they generate financial gain from them. About 39% of CC licensors who consider themselves professional artists said that revenue from their copyrighted works is a supplementary source of income, followed by 10% of CC licensors who said it was their main source of income and 4.2% of CC licensors who said it was their only source of income. About 23% of those 35 CC licensors who consider themselves professional artists and whose income from their copyrighted income is either a supplementary or the main source of income said the percentage of total income that came from their copyrighted work was more than 30%.

These findings suggest that the assumption that only certain types of creators—for example, novice creators or hobbyists—license their works under CC licenses may not be correct. Although many CC licensors do not generate income from their copyrighted works, there is clear evidence that some make their living from their copyrighted works and therefore have a high degree of economic interest in them. About 27% of CC licensors as a whole, and more than 50% of CC licensors who consider themselves professional artists, said that income generated from their copyrighted works is their supplementary, main, or only source of income.

Have CC Licensors Registered their Works with the U.S. Copyright Office?

Registering a work with the U.S. Copyright Office is not a requirement for the work to be protected under copyright law. However, there are advantages to doing so.

For works of U.S. origin, registration is a prerequisite to an infringement action (Copyright Act, 2000). One may register after the infringement occurs; however, statutory damages and attorney's fees may be awarded only if registration is made prior to the infringement (Copyright Act, 2000). These remedies—the ability to collect statutory damages and attorney's fees—are regarded as particularly important incentives for registration among copyright practitioners (Gorman & Ginsburg, 2002). Whether CC licensors have registered their works with the U.S. Copyright Office could be an indication of whether CC licensors have these remedies in mind.

Only four CC licensors said they registered their most recent CC-licensed work with the U.S. Copyright Office. Moreover, only 35 CC licensors (12.5%) said that they have registered any of their copyrighted works with the Office. Obviously, the vast majority of CC licensors are not thinking about the remedies that would be available to them if they were to sue for copyright infringement.

What Are the Demographic Characteristics of CC Licensors?

Of the CC licensors who responded to the survey, 266 (73.6%) are men. One-hundred and six of the CC licensors (37.9%) completed graduate studies, and another 82 of them (29.3%) completed undergraduate degrees. In terms of income, CC licensors are a diverse group; no single category of income describes more than 20% of them. The respondents had a very high level of computer skills. On a five-point scale on which 5 means "very experienced," the CC licensors indicated their computer skill level as 4.74, on average.

How Are CC Licenses Related to these Characteristics?

First, there was a relationship between the occupations of CC licensors and their choice of CC license elements. Those who said their occupation was artist were more likely to restrict commercial use of their works. About 88% of such respondents attached the *noncommercial* license element to their works, compared to about 69% of people who had other occupations ($\chi^2 = 5.055, p < .025$). Also, those who said their occupation was artist were more likely to restrict the production of derivative works from their works: About 33% attached the *no derivative works* license element to their works, whereas only 20% of people who had other occupations did so. The difference was statistically significant only at a 90% confidence level, however ($\chi^2 = 3.011, p < .083$). Among those who allowed derivative works, CC licensors whose occupation was artist were more likely to require others using their works to share the subsequent work in the same way that they did. However, this difference was small and was not statistically significant ($\chi^2 = 1.371, p < .242$).

Second, there was a relationship between the importance of earning financial gain from copyrighted works and the choice of the *share alike* license elements. CC licensors were divided into two groups: those who generated supplementary, main, or all income from their copyrighted works, and those who did not generate income from their copyrighted works. The two groups were no different in choosing to

add the *noncommercial* and *no derivative works* license elements to their works. The only statistically significant difference was in their choice of the *share alike* license element: Those who generated income from their copyrighted works were more likely to require others using those works to share the subsequent work in the same way that they did. About 81% attached the *share alike* license element to their works, as compared to about 68% of those who did not make money from their copyrighted works. However, the difference was statistically significant only at a 90% confidence level ($\chi^2 = 2.815, p < .093$).

These findings were unexpected, in that the author of this study assumed that individuals who generate income from their copyrighted works would be more restrictive as regards the commercial use of their works than those who do not make money from their copyrighted works. According to the survey results and the statistical analysis, however, they were not. Instead, they were more likely to ask later creators who would produce derivative works based on their original works to share the derivative works in the same way that they licensed their original works. It is possible that those who generated income from their copyrighted works might have licensed only works that were not commercially viable under CC licenses, while keeping other commercially exploitable works within their full control. However, this study has no findings that address that possibility.

Production of Creative Works and Its Relationship to CC Licenses

Proponents of the private property vision imagine an author struggling alone in his or her garret and creating out of thin air. For example, in an interview with the author, AAUP Executive Director Givler said copyright law recognizes “original work,” which is the product of “active creation.” He attributed active creation to authors’ “energy, time, and imagination.” In contrast, proponents of the public policy vision emphasize that contemporary authors owe intellectual debts to prior authors, and that all original works are in part derivative. Consistent with these divergent views, proponents of the private property vision advocate the author’s absolute ownership over his or her work, whereas those who hold the public policy vision emphasize the role of the public domain in authorship.

In order to shed light on this issue from the perspective of CC licensors, the licensors in this study were asked whether they usually work alone or with others when they produce creative works. Single authorship was the dominant form of creation among those who participated in the web-based survey: Two-hundred and twenty-four (80%) said they usually work alone when creating copyrighted work, while 37 CC licensors (13.2%) said they usually work with others. CC licensors responded in a similar way when asked how many persons participated in creating the respondent’s most recent CC-licensed work. One-hundred and ninety CC licensors (67.9%) said that no one except themselves participated; thirty-five (12.5%) said that two to nine people participated; and nine CC licensors (3.2%) reported that more than 10 people participated in creating their most recent CC-licensed work.

While the majority of the survey participants said they usually work alone, the content analysis found that an interesting new way to collaborate in producing creative works was emerging, and that people who created in that way were adopting CC licenses. This collaborative method can be called the “wiki” way, since collaborative production was done using either wiki software or tools similar to a wiki. For example, *TheNewPR/Wiki* (www.thenewpr.com/wiki/pmwiki.php) is a CC-licensed website that contains creative works in text format and provides useful information to PR practitioners. Twenty people, including the person who started the wiki, were writing at this site at the time of this study. Anyone is allowed to participate through either anonymous or signed contributions. It is difficult, if not impossible, to decide who owns copyright over the works produced through a wiki.

Meanwhile, the CC licensors acknowledged their intellectual debts to other authors. The licensors were asked to indicate the importance of being able to use others’ work on a five-point scale, from 1, meaning that it is “completely unimportant” to be able to use others’ work, to 5, meaning “very important.” The respondents indicated the importance of this as 3.92, on average. This suggests that CC licensors’ views tend toward the public policy vision, in that CC licensors think that their cultural production relies upon someone else’s work, rather than being entirely independent from others.

Next, a set of questions was asked to determine: (1) how concerned the CC licensors were about the possibility that they might infringe someone else’s copyright when they created and (2) whether they had had any difficulties in getting permission to use others’ work for their creations. These questions are related to the concerns, raised by proponents of the public policy vision, that copyright holders’ attempts to protect their ownership of their copyrighted material are threatening users’ freedoms (e.g., Benkler, 2001; Boyle, 2004; Samuelson, n.d.). These concerns, in turn, are related to Lessig’s (2004a) argument that there has been a shift from free culture to a restrictive, permission culture.

According to the web-based survey results, most CC licensors (67.9%) were concerned that they might infringe someone else’s copyright when they produced creative works. Also, it was found that the concerned creators were seeking copyright permission. About 76% of those who said they were concerned about infringing someone else’s copyright when they produced creative works also said they had tried to get permission from others to be able to use their work. In comparison, only 35.8% of those who were not concerned said they had tried to get permission. This difference was statistically significant ($\chi^2 = 36.074, p < .000$).

CC licensors were then asked whether they had ever been denied permission to use copyrighted work when they tried to get copyright permission. About 68% of those who had tried to get permission said that they had not been denied. Although the majority was successful, nearly one-third (32%) of the licensors who tried to get permission from copyright holders had their requests denied. Moreover, a negative reinforcement mechanism seemed to exist between having their requests denied and

being concerned about infringing someone else's copyright. Only 5.6% of those who said they had been denied permission to use copyrighted work said they had not been concerned about infringing someone else's copyright, whereas 18.8% of those who said they had not been denied said they were not concerned. The difference was statistically significant ($\chi^2 = 5.129, p < .024$).

CC licenses are related to these characteristics in several ways. First, licensors who said they usually work alone when they produce creative works were more likely to choose the *noncommercial, no derivative works* license elements. About 74% of those who usually work alone chose the *noncommercial* license element, compared to about 58% of those who usually engage in collective authorship. The difference was statistically significant, but only at a 90% confidence level ($\chi^2 = 3.664, p < .056$). In terms of allowing derivative works, CC licensors who usually work with others were more generous. Over 90% of those who usually work with others allowed derivative works, compared to 76% of those who usually work alone; the difference was statistically significant ($\chi^2 = 4.448, p < .035$). Among those who allowed derivative works, those who usually work with others were more likely to require others using their works to share the subsequent work in the same way that they did. However, the difference was small and was not statistically significant ($\chi^2 = .434, p < .510$).

Second, there was a positive relationship between the degree to which CC licensors acknowledged their intellectual debts to other authors and whether they allowed derivative works from their own works. Those who chose to allow derivative works appreciated the importance of being able to use others' work more than those who chose not to allow derivative works. Since the importance of being able to use others' work was measured by a five-point scale, the mean value of the importance could be calculated for each group. CC licensors who chose the *no derivative works* license element indicated an average importance of 3.37, while those who did not choose the license element (i.e., those who allowed derivative works) indicated the importance of being able to use others' work as 4.07, on average. This difference was statistically significant ($t = 4.504, p < .000$).

Third, a relationship existed between the effort to get permission from others to be able to use their work and a willingness to allow derivative works. Those who have tried to get permission to use others' work were more likely to allow derivative works than those who have not tried to get permission. About 82% of the licensors who have tried to get permission allowed derivative works, compared to about 72% of those who have not tried to get permission. The difference was statistically significant, but only at a 90% confidence level ($\chi^2 = 3.259, p < .071$).

Finally, those who have been denied permission to use copyrighted work were more likely to allow derivative works than those who have not been denied. About 87% of the licensors who have been denied permission to use copyrighted work allowed derivative works, compared to about 80% of people who have not been denied permission. This difference, however, was not statistically significant ($\chi^2 = 1.411, p < .235$).

Private Interests and Their Relationship to CC Licenses

Advocates of the private property vision consider earning financial gain from copyrighted work to be the foremost, if not the only, private interest of creators that should be protected in order to ensure a constant production of creative works. In contrast, the initiators of the Creative Commons believe that there are other important reasons why creators in the digital era would produce creative works, and that CC licenses serve those reasons. What do CC licensors say about the private interests that must be protected in order for them to produce creative works? How do CC licenses serve those private interests, if they do at all?

In the web-based survey, the CC licensors were asked several questions regarding their motivations to create and use CC licenses. First, a majority of the licensors (201, 71.8%) chose “love of creating/inner desire to create/fun/hobby” as the most important motivation for them to create, followed by 37 licensors (13.2%) who said “reputation/recognition from others.” Six CC licensors (2.1%) indicated that producing creative works was part of their regular job, and five CC licensors (1.8%) said they created for financial gain. Seventeen CC licensors (6.1%) listed other reasons, such as informing the public, disseminating useful information, or a mix of reasons.

As their second most important motivation for creation, 164 CC licensors (58.6%) cited “reputation/recognition from others.” Thirty-nine licensors (13.9%) chose “love of creating/inner desire to create/fun/hobby,” followed by 30 (10.7%) who said they had other reasons. Among the other reasons specified, communicating and sharing ideas with others were most frequent. Eighteen CC licensors (6.4%) said financial gain was the second most important reason for their creation, followed by 10 people (3.6%) who said creation was part of their regular job.

Next, the survey respondents were asked why they decided to use CC licenses. The main reason why they decided to do so was belief in sharing: One-hundred and forty-five people (51.8%) said they licensed their work under CC licenses because they believed in sharing, followed by 72 (25.7%) who said they wanted to build their reputations via making their work widely available over the Internet. Twenty-five CC licensors (8.9%) said they used CC licenses because they expected a wide dissemination of their work might bring future opportunities to make money. Eighteen licensors (6.4%) specified other reasons; among these, five people said all of the given choices were equally important for them, and three said they chose CC licenses because they did not like the current copyright protection system. Another three said they chose CC licenses because they wanted to keep control over their work.

CC licensors were also asked whether they were satisfied with CC licenses. The licensors indicated their satisfaction as 4.25, on average, on a five-point scale on which 1 meant “completely dissatisfied,” and five meant “completely satisfied.” A high satisfaction with CC licenses was also evident in the responses to a question about whether the respondents planned to use a CC license for their future work. Only six people (2.1%) said they did not plan to do so.

These findings suggest that CC licenses serve the private interests of CC licensors. CC licenses might work for three different groups of creators. The first is those who believe in the public policy vision of copyright; using CC licenses gives them personal satisfaction, in that they are contributing to an intellectual commons. The second group consists of creators who prefer a wide dissemination of their creation without expecting compensation. The private interest that CC licenses serve for them is reputation or recognition from others. The third group is those who prefer a wide dissemination of their creation and also hope for monetary compensation in return. They use CC licenses hoping to make money from their work in the future.

A limited relationship exists between CC licenses and these motivations for creation and reasons for using CC licenses. No statistically significant difference was found between the motivations for CC licensors to create and their choices of different types of CC licenses. However, one statistically significant difference was found between the reasons people use CC licenses and their choices of different types of CC licenses. Those who said they chose to use CC licenses either because they believe in sharing or because they expected their work to become widely available over the Internet, which might bring future opportunities to make money, were more likely to allow derivative works than those who said they chose to use CC licenses either because they want to build reputation or for other reasons ($\chi^2 = 7.946, p < .047$).

Public Interests and Their Relationship to CC Licenses

Proponents of the private property vision of copyright and supporters of the public policy vision of copyright have differing views on how copyright law should serve public interests. AAUP Executive Director Givler, representing the private property vision, said that existing copyright law encourages and promotes “the growth of publishing industries that serve the interests of users.” In his view, copyright law serves the interests of publishers to whom copyright has been transferred from authors through contract. The publishers are then able to recover publishing costs through sales of copyrighted material, and the publishing industries serve the public interest by constantly providing diverse books, journals, and other materials to meet readers’ interests. This view seems to consider the public as passive consumers of copyrighted works, rather than as active users or potential creators. Givler equates the prosperity of the publishing industries with the advancement of public interests.

However, proponents of the public policy vision think that promoting science and useful arts, which is the original purpose of copyright protection specified in the Constitutional Copyright clause, means more than enabling copyright industries, such as the publishing industry, to thrive. How do CC licenses, which are rooted in the public policy vision, serve the public interest? Because of the difficulty of finding people who actually used CC-licensed work and asking them about the benefits they derived from CC-licensed works, the examination of public interests was done indirectly, in two ways. The first way was to examine how CC license elements have

been used and what types of CC-licensed works are available under which CC licenses. The second was to ask CC licensors two questions from which public interests can be inferred.

The question of how CC license elements have been used was answered by counting which license elements were adopted in the sample of 1,000 web pages. CC licensors in the web-based survey were also asked which license elements they chose to attach to their most recent CC-licensed work. These two measures produced similar results, as shown in Table 1. The similarity indicates that the 280 CC licensors who participated in the web-based survey accurately represent the sample of 1,000 used in this study, in terms of the CC license elements that were used.

CC licensors were likely to allow noncommercial uses and the production of derivative works; they also asked later creators to share the subsequent works in the same way that they licensed their works. About 70% of the CC-licensed works were licensed for noncommercial uses only. Over 80% of the CC-licensed works permitted derivative works use, by virtue of not attaching the *no derivative works* license element. Among those CC-licensed works from which derivative works can be made, 71% of them attached the *share alike* element.

Table 2 shows what types of CC-licensed works were available and how many of each type there were. The majority of works licensed under CC licenses (82.6% of the CC-licensed works) were in a text format. Blog (text only) was most common (44.1%), followed by Blog (text with photo) (17.3%) and Website (13.3%).

Some relationships were found between CC licenses and the types of works for which they were used. The *noncommercial* license element was more likely to be attached to text, image, and multimedia works than to audio works ($\chi^2 = 13.718$, $p < .018$). While about 72% of works in text format had the *noncommercial* license element, only 50% of audio works imposed the same limitation. These findings are

Table 1 Uses of CC license elements on web pages and as reported by survey respondents

CC License Elements		CC-Licensed Works That Are	CC Licensors Who Said They Allowed
<i>Noncommercial</i>	Noncommercial use only	703 (70.3%)	182 (65.0%)
	Commercial use allowed	297 (29.7%)	73 (26.1%)
	Missing	None	25 (8.9%)
	Total	1,000 (100.0%)	280 (100.0%)
<i>No Derivative Works</i>	No derivative works	184 (18.4%)	56 (20.0%)
	Derivative works allowed	816 (81.6%)	202 (72.1%)
	Missing	None	22 (7.9%)
	Total	1,000 (100.0%)	280 (100.0%)
<i>Share Alike</i>	<i>Share alike</i> required	579 (71.0%)	143 (70.8%)
	<i>Share alike</i> not required	237 (29.0%)	58 (28.7%)
	Missing	None	1 (0.5%)
	Total	816 (100.0%)	202 (100.0%)

Table 2 Types and frequencies of CC-licensed works on web pages

Types of Main Work	Frequency
Text	826 (82.6%)
- Blog (text only)	441 (44.1%)
- Blog (text with photo)	173 (17.3%)
- Website	133 (13.3%)
- Other Text (book, article, essay, novel, software documentation)	74 (7.4%)
- Educational Material (lesson plans, course packets)	5 (0.5%)
Mixture of two or more types of main work	81 (8.1%)
- Blog and Photo	51 (5.1%)
- Website and Photo	23 (2.3%)
- Other Multimedia Content	7 (0.7%)
Image (photo, illustration, design)	53 (5.3%)
Audio (music, speech)	20 (2.0%)
Video (movie, footage)	6 (0.6%)
Other (software, computer tool)	14 (1.4%)
Total	1,000 (100.0%)

somewhat similar to what CC staffer Mike Linksvayer found through web crawling 1.2 million pages to provide a license distribution breakdown in March 2005 (Linksvayer, 2005).

Works in text format were more likely to allow derivative works than were works of any other type. About 83% of CC-licensed works in text format could be used in derivative work, as compared to only 66% of image works ($\chi^2 = 17.046, p < .004$). When derivative works were allowed, CC-licensed works in text format were more likely to be licensed with the *share alike* license element than were works of any other type. About 75% of CC-licensed works in text format had the *share alike* license element, compared to 53.3% of multimedia works and 51.4% of image works ($\chi^2 = 34.879, p < .000$). All these differences were statistically significant.

Public interests were also examined by asking two questions about the CC licensors' experiences: 1) whether anyone has ever contacted CC licensors regarding their CC-licensed works and 2) whether CC licensors have used others' CC-licensed works. Ninety-four respondents (33.6%) said that others had contacted them for their CC-licensed works. Of those 83 who gave reasons, 66 respondents said that others had contacted them for permission to use or permission to republish their work elsewhere. Eight of the licensors said they had received feedback, comments, or thank-you notes regarding their CC-licensed work; three said they had received questions about CC licenses; and six reported other reasons such as "to offer me a job," "proposals of new musical projects," and "interviewed for a book." That over 30% of the survey participants had heard from others suggests that the public has been using CC-licensed works. Moreover, the major reason that others contacted them was to request permission to re-use the CC-licensed works. This clearly

indicates that the Creative Commons has contributed to the growth of a cultural commons that the public can, and does, use. Furthermore, CC-licensed works facilitated later creations by the CC licensors surveyed. One-hundred and thirty-nine (49.6%) said they had used work issued by others under CC licenses.

Further Discussion and Conclusions

The findings suggest that CC licenses are flexible enough to meet the three conditions for a solution set out early in this study. That is, CC licenses accurately reflect the ways people produce creative works, serve the private interests of creators, and serve the public interests of users. First, the Creative Commons assumes that creative works build on the past. To encourage the collaborative creative activities, CC licenses were designed in a way that encourages re-uses of copyrighted work. The web-based survey found that single authorship was the dominant form of creation, but that CC licensors greatly appreciated being able to use others' work. CC licenses have been adopted by individuals engaged in single authorship, as well as others engaged in collaborative authorship, including via wikis. Second, in the web-based survey, CC licensors identified diverse private interests, such as personal satisfaction, building reputation, and economic interests, that must be protected in order for them to produce creative works. The respondents were also highly satisfied with CC licenses that served their diverse private interests. Third, the study found that the Creative Commons has served the public interest by providing a pool of cultural works that everyone can use and by facilitating later creations.

The findings also suggest that some of the assumptions held by interviewees representing the private property vision regarding CC licenses are not correct. Their views can be summarized as follows. First, they said that they do not see why any copyright owners would want less protection than the law allows them to have. Second, they said that CC licenses might be useful in certain instances, but they do not think that any copyright owners who hold copyright over commercially viable works would want to use CC licenses. Third, they said that what CC licenses enable people to do—build their own copyright—has always been possible through individual contracts and licenses under copyright law.

The findings of this study contradicted these three views. First, this study found that, in fact, various types of copyright owners want less than the full protection provided by traditional copyright law. They chose different CC license elements according to their different needs. For example, artists' choices of CC license elements were different from those of CC licensors with other occupations. Also, the majority of CC licensors acknowledged their intellectual debts to other authors. To them, allowing later authors to make derivative works from their original works under CC licenses was more important than exercising full control under copyright law.





Second, it is true that financial gain from their copyrighted works is not critical for CC licensors as a group. Many create because of a love of creating, and many share their works because they believe in sharing. Others create to be recognized by

others; they distribute their works widely under CC licenses to build their reputations. However, it is not the case that CC licensors do not produce commercially viable creative works. Some survey respondents who consider themselves professional artists generate some or all of their income from their copyrighted works. There are also those who chose CC licenses to market their works as commercially viable products.

With regard to the third point, while designing one's own copyright may always have been an option, the Creative Commons has made it easily available to everyone. Almost 90% of CC-licensed works were owned by individual creators. The widespread use of CC licenses among individuals indicates that CC licenses are grassroots legal tools for many Internet users. The Creative Commons has also enhanced the visibility of copyright options on the Internet. Now people can easily find copyrighted works that they can use under certain conditions, because the conditions are marked with standardized digital labels (see note 1).

In conclusion, what was uncovered in this study does not clearly support either of the two visions of copyright, suggesting that the Creative Commons may not entirely solve the conflict between the two visions. However, the Creative Commons can alleviate some of the problems caused by the conflict. The Creative Commons has differentiated different kinds of creators in the digital era and provided them with various freedoms. Diverse digital creators can explore and use CC licenses according to their private interests, instead of being fearful of massive copyright infringement and instituting restrictive copyright protection mechanisms. Beyond that, the Creative Commons has raised public awareness about how copyright is related to creativity and freedom. It has spurred creation by enabling dispersed creators to meet and rely upon each other. In these respects, the Creative Commons has contributed to the growth of a cultural commons from which everyone can benefit.

Table 3 Four license elements

Logo	License Element	License Element Description
	Attribution	You let others copy, distribute, display, and perform your copyrighted work—and derivative works based upon it—but only if they give you credit.
	Noncommercial	You let others copy, distribute, display, and perform your work—and derivative works based upon it—but for noncommercial purposes only.
	No Derivative Works	You let others copy, distribute, display, and perform only verbatim copies of your work, not derivative works based upon it.
	Share Alike	You allow others to distribute derivative works only under a license identical to the license that governs your work.

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Notes

- 1 The first set of copyright licenses consists of 11 kinds of licenses that combine four different license elements. Since then, the Creative Commons has updated the versions of licenses and added additional kinds of licenses. In essence, CC licenses combine *attribution*, *non-commercial*, *no derivative works*, and *share alike* license elements (<http://creativecommons.org/about/licenses/>). The *attribution* license element has been assigned by default since May 2004, and six combinations of the remaining three license elements are currently used (<http://creativecommons.org/about/licenses/meet-the-licenses>). Table 3 summarizes the four license elements according to the descriptions at the Creative Commons website.
- 2 Now some search engines, including Yahoo! and Google, provide a search function that limits results to CC-licensed works (<http://search.creativecommons.org/>). Yahoo! was the first to offer such a service on March 23, 2005.

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Appendix: Web-Based Survey Questions

1. Do you own the CC-licensed work, [title of work], as:

- An individual
- A partnership
- A non-profit organization
- A corporation for profit
- An educational institution
- Something else (please specify:_____)

2. Which of the following comes closest to describing your present occupation?
 Artist (musician, writer, painter, etc.)
 Scientist or engineer
 Health professional
 Educator
 Student
 Computer professional
 Manager or administrator
 Accounting, financial
 Government or public policy
 Sales or marketing
 Other (please specify: _____)
3. Do you consider yourself a professional artist (musician, writer, painter, etc.)?
 a. Yes
 b. No
4. How important is it for you to earn financial gain from your copyrighted works?
 Which of these statements best describe you?
 a. It is my only source of income.
 b. It is my main source, but I have other income.
 c. It is supplementary to my main source of income.
 d. I do not make money from my copyrighted work.
5. (IF YOU ANSWERED B OR C ABOVE) Please estimate the percentage of your total income in 2004 that came from copyrighted work: _____ %
6. In creating your copyrighted work, which one of the following is your most important motivation:
 a. Love of creating/inner desire to create
 b. Financial gain
 c. Part of my regular job
 d. Reputation, recognition from others
 e. Other (please specify: _____)
7. Which of the above is your second most important motivation? _____
8. In choosing to use CC licenses, which one of the following is your most important motivation?
 a. My work becomes widely available over the Internet which helps me to build up my reputation.
 b. My work becomes widely available over the Internet which may bring future opportunity to make money.

- c. I want others to use my work freely because I believe in sharing.
 - d. Other (please specify:_____)
9. CC licenses enable you to protect your private interests in your work. The private interests include getting credit for your work, making money from your work, and not allowing derivative works. Are there any other private interests that you want to protect regarding your work? If so, please specify: _____
10. When creating copyrighted work, do you usually work alone or with others?
- a. Alone
 - b. With others
11. Thinking about your most recent CC-licensed work, how many persons participated in its creation, including yourself? _____.
12. One of the purposes of the Creative Commons is to make good work available for wider use. How important is it for you, personally, to be able use others' work?
- a. Very important
 - b. Somewhat important
 - c. Neither important nor unimportant
 - d. Somewhat unimportant
 - e. Completely unimportant
13. Have you ever been concerned about infringing someone else's copyright when you produce creative works?
- a. Yes
 - b. No
14. Have you ever tried to get permission from others to be able to use others' work?
- a. Yes (GO TO Q. 15)
 - b. No (SKIP TO Q. 17)
15. Have you ever been denied permission to use copyrighted work?
- a. Yes
 - b. No
16. Have you ever used work that others have licensed under CC licenses?
- a. Yes
 - b. No
17. Has anyone contacted you for your CC-licensed work(s)?
- a. Yes (If so, why?_____)
 - b. No

18. Thinking about your most recent CC-licensed work, did you allow others to use it for commercial purposes?
- a. Yes
 - b. No
19. Thinking about your most recent CC-licensed work, did you allow others to create derivative works based upon it?
- a. Yes (GO TO Q. 20)
 - b. No (SKIP TO Q. 21)
20. Did you attach "Share Alike" as a condition?
- a. Yes
 - b. No
21. Thinking about your most recent CC-licensed work, did you register it with the U.S. Copyright Office?
- a. Yes
 - b. No
22. Have you ever registered any of your copyrighted work with the U.S. Copyright Office?
- a. Yes
 - b. No
23. How satisfied are you with CC licenses?
- a. Completely satisfied
 - b. Somewhat satisfied
 - c. Neither satisfied nor dissatisfied
 - d. Somewhat dissatisfied
 - e. Completely dissatisfied
24. Do you plan to use a CC license for your future work?
- a. Yes
 - b. No (If not, why? _____)
25. For each of the following kinds of works, please tell me how many you have licensed under the Creative Commons licenses:
- a. Audio (music, sounds, speeches) _____
 - b. Images (photos, illustrations, designs) _____
 - c. Video (movies, animations, footage) _____
 - d. Text (books, blogs, articles, essays) _____
 - e. Education (lesson plans, course packets, textbooks) _____

26. In what year were you born? _____
27. What is your gender?
- a. Male
 - b. Female
28. How would you describe your level of computer skills?
- a. Very experienced
 - b. Somewhat experienced
 - c. Neither experienced nor inexperienced
 - d. Somewhat inexperienced
 - e. Completely inexperienced
29. Which category best describes your education?
- a. Less than high school
 - b. High school graduate
 - c. Some college
 - d. College graduate
 - e. Graduate studies
30. Which category best describes your income in 2004?
- a. \$ 0-19,999
 - b. \$ 20,000-39,999
 - c. \$ 40,000-59,999
 - d. \$ 60,000-79,999
 - e. \$ 80,000-99,999
 - f. \$ 100,000 and higher

Thank you so much for your time! Your answers are very valuable to this study!

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