

Protection of Collaborative Online Maps under US Copyright Law

Catherine Gellis and Jonathan Rubens

This is a summary and analysis of US Copyright law as it applies to maps generally and collaborative online map projects specifically. This paper is not intended as legal advice and it is not a legal opinion as to the viability of copyright protection for any specific map project.

- I. Analysis: Map Copyright.
 - a. Copyrightability of maps generally.

There is no prohibition under U.S. law preventing the copyrighting of maps. In fact, they are referenced specifically in the statute's definitions as being copyright-eligible as pictorial, graphic, or sculptural works.¹ Maps may also be eligible for copyright protections as compilations.² However whether copyright protection applies -- and if it does, the scope of that protection -- will depend on the particulars of the specific map in question.

As a general matter, the U.S. Copyright Act extends protection to "original works of authorship fixed in any tangible medium of expression."³ Eligible works of authorship include "literary works"⁴ and "pictorial, graphic, and sculptural works."⁵ The Act also provides copyright protection to compilations, but only to the extent that there has been a contribution of originality in assembling that compilation.⁶ In *Feist Publications, Inc. v. Rural Telephone Service Co.* the U.S. Supreme Court⁷ said copyright is not available just to reward the mere "sweat of the brow" effort of whoever compiled them.⁸ Rather, "a

¹ 17 U.S.C. § 101.

² 1 William F. Patry, *Copyright Law & Practice* 247-48 (1994) ("[A]uthorship in a map may consist of compilation or pictorial authorship, or a combination of the two").

³ 17 U.S.C. § 102(a). This protection extends to any medium "now known or later developed, from which [these works] can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." *Id.* Pursuant to the definitions articulated at § 101, a work is "fixed" in a tangible medium of expression when "its embodiment in a copy ... is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration."

⁴ 17 U.S.C. § 102(a)(1). With respect to online collaborative map projects, "[e]lectronic databases are expressly mentioned as falling within the category of literary works in the House Judiciary Committee report" prepared prior to the passage of the current U.S. Copyright statute. 3 William F. Patry, *Patry on Copyright* 223 (2010).

⁵ 17 U.S.C. § 102(a)(5).

⁶ "The copyright in a compilation or derivative work extends only to the material contributed by the author of such work..." 17 U.S.C. § 103(b).

⁷ Any U.S. court, whether state or federal, can interpret questions of federal law, which includes copyright law. Their decisions become binding law only for their areas of jurisdiction (meaning their state or district, as in the case of state and federal courts, respectively), but they can also serve as persuasive authority for subsequent courts in other jurisdictions considering similar issues. In addition to state and federal district courts, the entire United States is divided into 11 federal appellate circuits, each comprising a number of district courts below it. An appeals court decision necessarily has greater authority than a lower district or state court decision, but, like a district court decision, it will only be binding on any state or district within the circuit. Meanwhile a decision by the U.S. Supreme Court is the law of the land and binding on every circuit and state.

⁸ 499 US 340, 360 (1991).

compilation is copyrightable only to the extent that it features an original selection, coordination, or arrangement" of the contents therein.⁹

Copyright protection is also never available for basic facts.¹⁰ Furthermore, the "merger doctrine" also prevents the copyrighting of a particular expression of facts if it would have the effect of essentially locking up the only practical way of expressing them.¹¹ But the court ruled in *Mason v. Montgomery* that with sufficient originality even maps can avoid this "idea/expression merger" problem and be found copyrightable.¹² The level of creativity need not be very high,¹³ but without enough there will be no copyright.¹⁴

In assessing whether there is sufficient originality in maps courts used to require that the map maker have directly observed himself what he included in the map.¹⁵ However, in *U.S. v. Hamilton* this direct observation rule was rejected¹⁶ because it created an authorship test more severe than was necessary

⁹ *Id.* (citing 17 U.S.C. § 101)

¹⁰ "In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work." 17 U.S.C. § 102(b).

¹¹ "In some cases ... it is so difficult to distinguish between an idea and its expression that the two are said to merge. Thus, when there is essentially only one way to express an idea, 'copying the "expression" will not be barred, since protecting the "expression" in such circumstances would confer a monopoly of the "idea" upon the copyright owner free of the conditions and limitations imposed by the patent law.'" *Mason v. Montgomery Data, Inc.*, 967 F. 2d 135 (5th Cir. 1992) (citing *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 741 (9th Cir. 1971)).

¹² *Id.* at 138-39. In *Mason* the court found that Mason's maps were not the only way to express the geographical data they expressed. *Id.* at 140-41. "Although the competitors' maps and Mason's maps embody the same idea, they differ in the placement, size, and dimensions of numerous surveys, tracts, and other features. The record also contains affidavits in which licensed surveyors and experienced mapmakers explain that the differences between Mason's maps and those of his competitors are the natural result of each mapmaker's selection of sources, interpretation of those sources, discretion in reconciling inconsistencies among the sources, and skill and judgment in depicting the information." *Id.* at 139. But compare this result with the earlier *Kern River Gas Transmission Co. v. Coastal Corp.* case, where a map indicating the proposed location of a pipeline was found uncopyrightable as the only effective way of conveying that information. *Id.* (citing *Kern River Gas Transmission Co. v. Coastal Corp.*, 899 F. 2d 1458, 1464 (5th Cir. 1990)).

¹³ *County of Suffolk v. First American Real Estate*, 261 F. 3d 179, 188 (2d Cir. 2001) (citing *Mason*, 967 F.2d at 142, itself quoting *Feist*, 499 U.S. at 345).

¹⁴ See, e.g., *Sparaco v. Lawler, Matusky, Skelly, Engineers LLP*, 303 F. 3d 460, 467 (2d Cir. 2002) ("The defendants, however, submitted evidence that the particular site plan employs standard cartographic features without originality...The district court was accordingly justified in concluding that [there was no copyright infringed] as to the site plans to the extent they identify existing factual information about the site."). See also *Darden v. Peters*, 488 F. 3d 277, 287 (4th Cir. 2007) (finding that the U.S. Copyright Office had not erred in denying copyright registration to a map that merely added aesthetic elements such as colors, shadings, and labels in standard fonts to pre-existing maps).

¹⁵ See *U.S. v. Hamilton*, 583 F. 2d 448, 450 (9th Cir. 1978) (citing *Amsterdam v. Triangle Publications*, 93 F.Supp. 79 (E.D.Pa.1950), *aff'd on opinion below*, 189 F.2d 104 (3rd Cir.1951)). This requirement was intended to ensure that the map was not but a mere copy of a previous one. *Id.* at 451.

¹⁶ The principle of *stare decisis* means that the Supreme Court (as well as any lower court) will always attempt to honor previous decisions in any subsequent cases. Nevertheless, particularly when the facts can be differentiated, a court could render a decision effectively mooting a previous one and establishing a new status quo.

for any other type of copyrightable material.¹⁷ Instead courts now instead look closely for evidence of originality in either the aesthetic choices made in rendering the map or in the selection of aspects included.¹⁸ Note, however, that mere color choices or basic styling of components of the map are not themselves significant enough to warrant protection.¹⁹ On the other hand, it may not take much originality to achieve copyrightability.²⁰ Applied to maps, in *Rockford Map Publishers v. Directory Service Company of Colorado* the court said, "The copyright laws protect the work, not the amount of effort expended. A person who produces a short new work or makes a small improvement in a few hours gets a copyright for that contribution fully as effective as that on a novel written as a life's work. Perhaps the smaller the effort the smaller the contribution; if so, the copyright simply bestows fewer rights."²¹

b. Copyrightability of collaborative online map projects.

i. In individual contributions.

Individual contributions to a collaborative online map project can be copyrightable if there is sufficient originality in them. How those contributions are made can bear on assessing their originality. For instance, the process of marking-up aerial photographs by tracing visible contours such as roads or buildings could on the one hand be seen to result in a map that is nothing but obvious, uncopyrightable fact-based characteristics.²² But in *City of New York v. GeoData Plus*, a valid copyright was found in an electronic map created by digital tracing.²³ "[This] 'tracing' involved the manual selection of coordinates to create various lengths of straight lines in order to approximate the original images. This process — unlike rote copying — involved a distinctly human element in which many independent decisions had to

¹⁷ "Expression in cartography is not so different from other artistic forms seeking to touch upon external realities that unique rules are needed to judge whether the authorship is original. Recording by direct observation is only one measure of a cartographer's skill and talent, and originality should not be made synonymous with a requirement that features of a copyrighted map be observed and recorded directly before they will be entitled to copyright protection." *Id.*

¹⁸ "[R]ewarding the cartographer's art requires us to recognize that the elements of authorship embodied in a map consist not only of the depiction of a previously undiscovered landmark or the correction or improvement of scale or placement, but also in selection, design, and synthesis." *Id.* at 452.

¹⁹ *Id.* at 451 (internal citations omitted). See also *Streetwise Maps, Inc. v. VanDam, Inc.*, 159 F. 3d 739, 748 (2nd Cir. 1998), where the defendant's use of the same color in one aspect of the map did not constitute copyright infringement.

²⁰ "Original, as the term is used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity. To be sure, the requisite level of creativity 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." *Feist*, 499 U.S. 340, 345 (1991) (quoting 1 Nimmer & Nimmer, Nimmer on Copyright § 1.08[C][1]).

²¹ 768 F. 2d 145, 148 (7th Cir. 1985) (citing *Mazer v. Stein*, 347 U.S. 201 (1954)). Note, however, that the *Mazer* case predates the *Feist* decision, which limited the scope of copyright on compilations of facts. Nonetheless, *Mazer's* comments on there being no minimum to the amount of effort required for copyright protection appears to still be good law, so long as that contribution is sufficiently original.

²² Tracing also raises originality concerns when it is earlier maps being traced if the resulting product could be deemed too derivative of the previous work. But see *Mason*, 967 F. 2d at 136-7, and *Rockford Map*, 768 F. 2d at 147 where valid copyrights were found even though the maps in question were created in part by tracing other cartographic sources.

²³ 537 F. Supp. 2d 443 (E.D.N.Y. 2007).

be made concerning how best to reflect selected shapes given the limited nature of the digitized 'drawing' tool."²⁴ Tracing aerial photos would also seem to require a certain drawing skill and artistic choice as the user interacts with the tool and decides where to begin and end lines. Labeling and annotating, too, could be described as highly discretionary tasks. While there could be no copyright in the facts conveyed themselves, copyright would prevent the wholesale adoption of how the mapmaker chose to express that information.

In instances when contributions come in the form of raw GPS paths, they are unlikely to be deemed independently copyrightable given that they are simply a set of GPS coordinates.²⁵ If, however, these paths are also annotated and labeled, these tasks would resemble the typical practice of the cartographer, whose efforts have been protected. Also protectable would be most multimedia contributions (e.g., photographs, narrations) that might accompany the GPS paths. Such multimedia components are generally copyrightable on their own accord as original works.²⁶

Copyright is available even for very small contributions, but the smaller the contribution the more difficult it is to highlight originality. If a contributor were to merely enter the location of, for example, a mailbox, that location information is not itself copyrightable. The question then would be whether there is any other aspect of the small user contribution that could be. Because of the merger doctrine the answer could effectively be no: while the particular expression locating the mailbox may be protectable, if that is the only way to indicate that the mailbox is in fact there, others cannot be foreclosed from representing that information. They also cannot be foreclosed from making it the same color in their maps. It may be that there is simply not enough originality possible in these small contributions on their own to warrant their own copyrightability.

However, a series of small contributions may be considered a compilation. Even if the individual information represented is not protectable on its own, the "selection, coordination, or arrangement" of all that information may be if it reflects the sufficient originality of the contributor.²⁷ The more discretion by the contributor that can be shown, the more likely it is to be copyrightable.²⁸

ii. In the whole.

²⁴ *Id.*

²⁵ "[O]riginality is not a stringent standard; it does not require that facts be presented in an innovative or surprising way. It is equally true, however, that the selection and arrangement of facts cannot be so mechanical or routine as to require no creativity whatsoever." *Feist*, 499 US at 346.

²⁶ See 17 U.S.C. § 102.

²⁷ See *Feist*, 499 US at 360.

²⁸ "Rather than examining each feature of a map individually, the court should focus on how the map maker selected, coordinated and arranged the expressive features of the map to depict its factual content." *Wilson v. Brennan*, 666 F. Supp. 2d 1242, 1254-55, (D. N.M. 2009) (citing *Streetwise*, 159 F.3d at 748).

Just as an individual contribution may itself qualify for copyright as a compilation of geographic data originally assembled, so may the larger whole map that is formed from all these contributions.²⁹ As with any compilation, the key will be to see sufficient evidence of originality in the "selection, coordination, and arrangement" of all the data contained within the whole.³⁰ Assuming there is some, the question then would be whose discretionary judgment is represented. In cases where the entire community of contributors is able to continuously make edits and changes to previous contributions this question may be more difficult to answer. The answer, however, may bear on who can own or control the resulting copyright, the importance of which is discussed further below.

II. Analysis: Copyright ownership and enforcement.

a. Copyright ownership and joint authorship.

Barring a specific agreement to the contrary, the author of an original expression would own the resulting copyright.³¹ Thus, as far as individual contributions to an online collaborative mapping project are concerned, to the extent that these contributions are independently copyrightable, the individual contributors who authored them would own the copyright in what they have contributed. However a collaborative online map project as a whole may be entitled to copyright protection on the basis of it being a sufficiently original compilation of map data. The question then is raised, who would own that copyright?

One possibility could be that the project itself would be the author and thus the copyright holder. For this to be true one would expect to see a significant contribution of originality by the project itself or at minimum some agreement establishing its ownership interest. Without these elements, the party or parties who did provide the originality in the selection, coordination, or arrangement of its contents would ordinarily be the author of the resulting product. In a situation where many people were involved with its creation, ownership of the copyright in the whole would then be shared by all contributors to it as a work of "joint authorship."³²

A work of "joint authorship" is, per the statute, "a work prepared by two or more authors with the intention that their contributions be merged into inseparable or interdependent parts of a unitary whole."³³ That intention is important,³⁴ and may be evinced in a case when contributors to online collaborative mapping projects are invited and encouraged to provide not only their own contributions but also to add to and/or modify the contributions of others. This is particularly true when all contributors are on equal footing with regard to editorial discretion and establishment of community

²⁹ The compilation of all these contributions, as long as it reflected enough originality in their "selection, coordination, and arrangement," would be entitled to copyright regardless of whether these underlying contributions were themselves copyrightable or even in the public domain. *See Feist*, 499 U.S. at 348.

³⁰ *Id.* at 360.

³¹ 17 U.S.C. § 201(a).

³² Note, however, that some courts have required each joint author to have provided independently copyrightable work in order to be eligible for joint authorship. *See, e.g., Morrill v. The Smashing Pumpkins*, 157 F. Supp. 2d 1120, 1123 (CD Cal. 2001).

³³ 17 U.S.C. § 101.

³⁴ *Aalmuhammed v. Lee*, 202 F. 3d 1227, 1234 (9th Cir. 2000).

norms to govern disputes and no single contributor, nor single set of contributors, appears to be in a position of control. While there do not appear to be cases yet addressing joint authorship in these sorts of online collaborative projects, their particulars contrast with those in cases where courts have *not* found joint authorship in multiple-author projects. Those cases typically involve musical or cinematic projects where there has been one party in a position of control to "master mind" all the others' creative contributions.³⁵ Where there is no mastermind, all authors would share in the authorship equally.

The joint authorship question is important because joint authorship equates to joint ownership of the copyright, and each joint owner has equal standing to use, exploit, or otherwise license any of the exclusive rights the copyright grants.³⁶ This reality could create complications for an online collaborative project whose contributors would like to be able to control its subsequent use by others. On the other hand, joint authorship may provide a solution for the problem of copyright enforcement as described below.

b. Copyright enforcement.

The issue of copyright ownership is key to the question of copyright enforcement. Copyright can be enforced by the "legal or beneficial owner" of any specific exclusive right afforded by copyright.³⁷ These rights include the right to reproduce, distribute, display, or prepare derivative works based upon the copyrighted work.³⁸ The right to enforce another's exclusive rights cannot be separately assigned.³⁹ Contributors to an online collaborative project would have standing to enforce the copyright in their own contributions, but the project they had contributed to would not have standing to do it for them. However, because a joint author has equal standing with any other joint author to enforce a copyright, if an official representative of the project were to become a qualifying contributor, doing so might obtain for the project the standing to be able to enforce the copyright in the compiled whole.

III. Limitations and conclusion.

Under U.S. law⁴⁰ map data, including that which is contributed to a collaborative online mapping project, is likely copyrightable both in terms of individual contributions and as an entire compilation of geographic data. Without there being some governing agreement, individual contributors will own the copyright in their own contributions and also collectively be joint owners of the copyright in the compilation as a whole, which would give each of them the full ability and access to use, exploit, license, or otherwise enforce the rights the copyrights afford. More research would be needed to determine

³⁵ *Id.* "Control in many cases will be the most important factor." *Id.*

³⁶ See *Thomson v. Larson*, 147 F. 3d 195, 199 (2d Cir. 1998). It also could bear on an online collaborative project's ability to excise previous contributions.

³⁷ 17 U.S.C. § 501(b).

³⁸ 17 U.S.C. § 106.

³⁹ See, e.g., *Righthaven LLC v. Democratic Underground, LLC*, No.: 2:10-cv-01356-RLH-GWF, at 6 (D. Nev. Jun. 14, 2011) available at https://www.eff.org/files/filenode/righthaven_v_dem/order6-14-11.pdf.

⁴⁰ This article has assumed U.S.-based authors providing their contributions from U.S. soil to a project that hypothetically is hosted on U.S.-located servers.

what factors in an online collaborative project might cause joint authorship not to be manifested in all the contributors, or, alternatively, what terms in an agreement governing those contributions would be effective to either conclusively enable or prevent creation of joint authorship, or otherwise grant or limit the rights to enforce any of these copyrights by any particular party.