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Mixing It up on the Web: Legal Issues Arising from Internet “Mashups”

by Robert S. Gerber

As society has moved into the Internet Age, we are growing accustomed to having more and more data at our finger tips in more formats about more topics. Very simply, consumers are demanding a lot of content. In order to grab traffic and corresponding market share, entertainment and media companies are scrambling to try to meet the demand. As a means of competing commercially for surfers, traffic, and revenue, and in some measure, out of sheer creativity, “mashups” are now springing up all over the Internet.

What Are Internet Mashups?

Music buffs may recognize the term “mashup” as a reference to a remix or a music track comprised of two or more tracks (or samples of tracks) blended or mashed together. It is the same concept on the Internet. A mashup is the result of an Internet application that blends or mashes together two or more sources of content or data (often called Web services) available on the Internet.

Mashups are the hot new thing on the Web. Some mashups are amazing; some are quite helpful; others seem useless or just do not work very well.¹ The vast majority of current mashups combine one or more databases with a mapping application. For example, currently available mashups allow one to locate and map such diverse information and data as:

- NCAA Men’s Basketball Tournament winner, loser, and venue history throughout the nation (<http://www.mibazaar.com/ncaa/>);
- Scuba diving reports from exotic locations around the globe (<http://www.travel-dive.com/articles-map/>);
- Photos and stories of the 9/11 tragedy from different perspectives (http://911digitalarchive.org/maps/ground_zero.php);
- Real-time parking availability in the San Francisco Bay area (<http://www.parkingcarma.com/its/DesktopDefault.aspx?tabid=65>);
- “1001 secret fishing holes” throughout the United States, including in national parks and wildlife refuges (<http://www.1001seafoods.com/fishing/fishing-maps.php>); and
- The location of sex offenders in your neighborhood (<http://www.mapsexoffenders.com/>).

The Web services provided by mashups are not just limited to mapping applications. For example, other mashups include:

- <http://www.liveplasma.com>, where you can type in the name of a movie, director, actor, or musical artist and get a graphical display of related categories of information;
- <http://www.ringfo.com>, where you can dial into a tollfree

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number while shopping for books or CDs, type the UPC or ISBN code of the CD or book into your cell phone, and receive spoken data from Amazon.com on new and used prices, customer ratings, and similar items;

- <http://www.celebsoup.com>, which provides news, pictures, video, music, and gossip about celebrities by mashing together Yahoo!, eBay, and Amazon databases; and
- <http://www.podbop.org>, where you can type in the name of a city and state, locate any bands playing in your area, find out where and when they are playing, and listen to sample mp3 audio recordings of the band.

Mashups and APIs

To create mashups, a programmer typically uses an application programming interface or API from each Web service to call each source of content or data and then writes a program that combines the Web services into a new mashed together presentation or compilation.² APIs can be proprietary, and in such instance their use requires payment of a fee and the signing a license agreement. Alternatively, APIs can be open, or available to anyone to use for free.

Though some APIs may be free, they nevertheless may be subject to an owner's specific license or terms and conditions of use or a GNU General Public License.³ In addition, the number of calls that the mashup may make to the provider or its Web service or database is usually limited if the API is free. Moreover, some of the terms and conditions of even free APIs are often quite restrictive. For example, Google, which has launched an experimental and open API, allows its Web services to be used only for *non-commercial* purposes and has the following additional terms and conditions (among others) posted on its Web site:

So long as you comply with your obligations under this Agreement, you may indicate that a product or service that you created either used or is based on Google Web APIs provided that those products or services do not in Google's reasonable opinion (1) tarnish, infringe, or dilute Google's trademarks, (2) violate any applicable law, and (3) infringe any third-party rights. If you wish to use the GOOGLE trademark and/or logo in any other manner, you must first obtain Google's written consent.⁴

Other API licensors have anticipated or reacted to the mashup craze by attempting to preclude or restrict their licensees contractually from certain kinds of mashing. For example, eBay's API license agreement at § 2.4(d) provides that API licensees:

may not co-mingle, modify or display the eBay Content with the content of third parties. For purposes of this Agreement, this subsection shall mean that all eBay Content must be displayed within Your Application and

on Your Site through Your Application, as applicable, such that the eBay Content is segregated from non-eBay content, and the eBay Content must be presented in such a way that the eBay Content is visually separate (as with lines or color changes) from non-eBay Content ("eBay Area"); and no third party listings, information or other content of any kind may be combined with eBay Content or displayed anywhere within the eBay Area.⁵

Despite these and other restrictive contractual terms and conditions on Web services, mashups are becoming very popular on the Internet. *Mashupcamp.com* recently reported that *eBay.com* alone gets more than two billion API requests for data *per month* (how many of these requests are limited to straight data feeds, rather than mashups, is unknown). However, another sign of this popularity is that third-party intermediary businesses for Web services are starting to spring up. These intermediaries attempt to create a marketplace for commercial Web services so that users can shop in one place for them. The intermediaries make money by taking a commission from the amounts paid by the mashup creators to commercial Web service providers that charge for the calls made by the mashup Web sites to the providers' services or databases. The intermediaries also provide helpful tools and support to mashup developers.⁶

Legal Issues

Because mashups by definition involve the combination of *someone else's information or data* into a new service or application, mashups can trigger a number of legal issues that should be considered, preferably before a significant amount of time is put into their design or implementation.

Contract Law Issues

There are two basic legal contracts that could affect one's use of data or Web services from a third-party site (depending on the data provider, there could be many others). The first and most obvious is the API license agreement. A mashup developer should consider each of the license terms carefully with the advice of legal counsel before significant development work is done on an Internet mashup because the various provisions of the license could be violated in a variety of ways (*e.g.*, failure of proper attribution, presenting or not using the data or service as authorized by the license, mixing data sources, or using the data or service for an improper or illegal purpose). One area of primary concern is that most free API license agreements currently prohibit the *commercial* use of the provider's Web services. What does that mean? If a mashup developer is not reselling the data acquired from the Web service provider, but is merely putting up advertising on a mashup site, is this a "commercial" use? What if the mashup service is provided as an add-on to an already existing and profitable Web site? Is any use of a mashup for profit a

“commercial” use under these agreements? Can non-profits or government agencies use mashups to enhance their revenue streams or can that also be a “commercial” use?

The second contract to be concerned with is the Web service’s general user agreement or terms of service. Most such agreements specifically prohibit the scraping of information or data. Scraping is a method by which a computer extracts data or information from the display output of another service or program, rather than accessing the service or database directly (say, through an API). Therefore, even if a mashup developer is able to avoid using a Web service provider’s API (and thus signing an API license agreement) and instead attempts to scrape information or data from a third-party site using a different software program, the developer could face a claim for breach of a site user agreement.⁷

Copyright Law Issues

Copyright law does not protect raw data, but it does protect compilations of data if, as a whole, the compilation contains at least a minimal amount of creativity such that it constitutes an original work of authorship (such as in selection, coordination, and/or arrangement of the data).⁸ A mashup developer may violate the copyright that may exist in the Web site owner’s compilation of data by using that database wholesale in the mashup or combining it into a new form with other data (if done without permission or beyond the scope of a license). Whether a copyright issue would arise from the selective use of some of the data made publicly available by a third-party Web site (such as by means of scraping) is a closer question that would depend greatly on the specific circumstances. Finally, under some facts, a mashup that is created without a license might arguably constitute a derivative work of one or more of the underlying Web sites or databases and thus constitute copyright infringement.⁹

Patent Law Issues

Mashup developers’ attempts to scrape data and then replicate the functionality of the underlying Web service provider’s site can implicate US patent laws. Web services are usually structured around information databases. Those services often apply abstract mathematical algorithms to the information in the databases, either to organize them or to extract data from them. While mathematical algorithms alone are not patentable, abstract mathematical algorithms may be patentable if reduced to “useful” form.¹⁰ Similarly, an invention that employs mathematical algorithms for a concrete process is patentable.¹¹ Many Web services therefore have one or more potentially applicable issued patents that might be infringed by unauthorized data access, extraction, combination or other manipulation in the context of a mashup.¹²

Trademark Law Issues

A mashup developer can violate a Web service provider’s trademark or service mark by misleadingly associating the mashup with the Web service provider, causing confusion as to the source of the mashup. This can happen innocently, simply from the mashup developer’s wanting to give appropriate name or brand attribution on the new site to the Web service provider. However, a trademark or service mark owner generally has the right to monitor and control the use of its mark to prevent others from becoming confused as to the source of any goods or services associated with the mark. In addition, the use of another’s Web service might tarnish or dilute another company’s mark. For example, if surfers think that a poor quality mashup is offered by Provider X simply because the mashup uses the Provider X API and Web service (when in fact it is due to poor or inaccurate data delivered by Provider Y’s database, which happens to be mashed together with Provider X’s data), then Provider X’s reputation, goodwill, and the value of its marks could be inappropriately harmed. Provider X is thus entitled to protect its reputation and goodwill by controlling the use of its marks in connection with its Web services, consistent with trademark law principles.

Unfair Competition/False Advertising

By relying on third parties to deliver data, mashup developers could innocently or intentionally make false promises or representations about the availability, reliability, or comprehensiveness of the information or data that the mashup delivers. This could constitute unfair competition and/or false advertising under federal or state law. Moreover, a mashup developer could innocently or intentionally engage in unfair competition and/or false advertising by using someone else’s protected data without properly complying with either its license, Web user agreements, or applicable intellectual property laws.

Obscenity/Rights of Privacy & Publicity

A mashup developer could be subject to obscenity, privacy, and/or right of publicity laws if a Web service used delivers certain material. Despite having user agreements and policies designed to protect against the posting and display of obscene materials, users of many Web services post questionable material to providers’ sites constantly, and some search engines are tricked into returning sexually explicit descriptions in response to routine inquiries. For example, Flickr.com, a popular open Web service provider now owned by Yahoo!, allows users to post photographs to its site and, if they wish, share those photos with the general public. Despite having “community guidelines” that prohibit the uploading of depictions of frontal nudity and male and female genitalia for public display,¹³ such depictions (and even more graphic ones) are available on the service. Moreover, it is impossible to know whether photographs posted on Flickr or other content providers violate

someone's right of privacy, their rights of publicity, or perhaps even their moral rights (if from overseas) if ultimately used in a mashup. For example, a mashup that makes use of the Flickr service and that incorporates images from the Flickr Web site could, theoretically, incorporate objectionable and perhaps even obscene material through no fault or intention of Yahoo! or the mashup developer. In this hypothetical scenario, the mashup's results might also unintentionally disparage the innocent third-party provider of a Web service that happens to be mashed with the offending service.

Warranty Issues

Many Web service providers, particularly those with open APIs, specifically disclaim any warranty for the availability, reliability, or comprehensiveness of their service or data. Yahoo!, for example, states on its Flickr.com Web site: "Flickr services are experimental and are currently offered to outside developers on an ad hoc basis with no guarantee of uptime or availability of continued service. We reserve the right to disable access to external applications at any time..."¹⁴

Similarly, the Google Maps API terms of use state:

GOOGLE MAKES NO WARRANTY THAT (i) THE SERVICE WILL MEET YOUR REQUIREMENTS, (ii) THE SERVICE WILL BE UNINTERRUPTED, TIMELY, SECURE, OR ERROR-FREE, (iii) THE RESULTS THAT MAY BE OBTAINED FROM THE USE OF THE SERVICE WILL BE ACCURATE OR RELIABLE, (iv) THE QUALITY OF ANY PRODUCTS, SERVICES, INFORMATION, OR OTHER MATERIAL PURCHASED OR OBTAINED BY YOU THROUGH THE SERVICE WILL MEET YOUR EXPECTATIONS, AND (v) ANY ERRORS IN THE SOFTWARE WILL BE CORRECTED.¹⁵

Similarly, a mashup developer should disclaim any warranties to the mashup end users in order to best protect the developer from liabilities under various states' warranty laws.

Conclusion

While the potential for new and exciting mashup applications is great, so are the legal issues that face mashup developers. The provision of mashed Web services is certainly a trend of the future, but the development of them is fraught with potential legal liabilities that require careful consideration.

Notes

1. For those interested in exploring, two of the best mashup lists available on the Web can be found at <http://www.programmableweb.com/mashups> and www.mashupfeed.com.
2. Mashups can also be created using Web feeds, such as RSS and JavaScript.
3. The most recent GNU General Public License can be found at <http://www.gnu.org/licenses/gpl.html>. Other commonly used public copyright licenses are those authored by Creative Commons, which can be found at <http://creativecommons.org/license/>.
4. See <http://www.google.com/apis/api-terms.html>.
5. See <http://developerebay.com/join/licenses/individual>.
6. See, e.g., www.strikeiron.com.
7. See, e.g., *ShopLocal LLC v. Cairo, Inc.*, 2006 WL 495942 (Slip. Op. Feb. 27, 2006) (case involving assertion of breach of user agreement for scraping). Unauthorized scraping may also, under some circumstances, violate the federal Computer Fraud and Abuse Act (CFAA), 18 U.S.C. § 1030. See *Southwest Airlines, Inc. v. Farechase, Inc.*, 318 F. Supp.2d 435 (N.D. Tex. 2004) (denying motion to dismiss CFAA claim for unauthorized scraping of plaintiffs Web site by an alleged competitor).
8. See 17 U.S.C. § 101; *Feist Publications, Inc. v. Rural Tel. Service Co., Inc.*, 499 U.S. 340 (1991) (rejecting a broader sweat-of-the-brow protection for databases). Internationally, databases may receive more protection than in the United States. Contrary to Feist's no-sweat-of-the-brow holding under U.S. law, a *sui generis* right is afforded to European Union companies that prohibits the extraction or reuse of any database in which there has been a substantial investment in either obtaining, verification, or presentation of the data. See EU Directive 96/9/EC (Mar. 11, 1996).
9. See 17 U.S.C. § 101 (defining a derivative work).
10. See *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998).
11. See *In re Alappat*, 33 F.3d 1526, 1542-1544 (Fed. Cir. 1994).
12. See, e.g., Brin, "Information Extraction from a Database," US Patent No. 6,678,681 Jan. 13, 2004) (assigned to Google).
13. See <http://www.flickr.com/guidelines.gne>.
14. See <http://www.flickr.com/services/>.
15. See <http://www.google.com/apis/maps/terms.html>.