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SOFTWARE PROTECTION IN THE COMMONWEALTH OF PUERTO RICO

by DIEGO A. RAMOS†

I. INTRODUCTION

The Commonwealth of Puerto Rico has a dual system of laws, similar to any of the fifty states of the United States of America: a national, centralized, federal set of laws and regulations, and a local group of laws and regulations dictated at the state or commonwealth level. Computer software developers enjoy protection from infringement or misuse by third parties at both levels. However, this article is limited to the nuances of Puerto Rican law. It will only refer to federal law for background or preemption purposes to explain the extent or limits of local laws.

Puerto Rico is powerless to regulate rights over patents and copyrights. Federal laws are the exclusive source to protect those rights found in computer software developed, distributed, or used in Puerto Rico. On the other hand, commonwealth laws on trademarks, trade secrets, and “moral rights” protect software developers from misappropriation, misuse and unfair competition by unauthorized third parties. Each of those intellectual property rights is discussed here. The reader should bear in mind, however, that neither the Supreme Court of Puerto Rico (the highest local appellate tribunal) nor the United States District Court for the District of Puerto Rico has ever construed the specific application of any local intellectual property law for the protection of software in Puerto Rico. What follows are the author’s opinions as to how the courts will apply those laws to intellectual property software issues.

II. PUERTO RICO’S SPECIAL RELATIONSHIP WITH THE UNITED STATES

Puerto Rico is not a country or republic, like Spain, Germany or Japan. It is not a state, like New York, California or Florida. It enjoys a

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very special and unique relationship with the United States, best summarized by the First Circuit Court of Appeals in Trailer Marine Transportation Corporation v. Rivera Vázquez:

Puerto Rico was acquired by the United States from Spain in 1898 by the Treaty of Paris and became subject to Congress’ plenary authority under the Territorial Clause of the Constitution (The Congress shall have Power to . . . make all needful Rules and Regulations respecting the Territory . . . belonging to the United States.). Then, over a half century, Puerto Rico’s autonomy increased in stages, its relationship with the federal government being governed successively by the original Foraker Act, 31 Stat. 77 (1900); then by the Organic Act of 1917, also known as the Jones Act, 39 Stat. 951 (1917); and finally by federal statutes in 1950 and 1952 that established Puerto Rico’s present status in accordance with the legislation, a referendum and ultimately a Puerto Rican Constitution approved by the people of Puerto Rico and by Congress.

Today, the government of the Commonwealth of Puerto Rico in many respects resembles that of a state. It has an elected governor and legislature, and its legislature has powers akin to those exercised by the states. Puerto Rico has immunity to suit in common with state governments. Except for various tax code provisions and certain other exceptions, federal statutes apply in Puerto Rico, as they do in any state, unless otherwise provided. Citizens of Puerto Rico, like citizens of the states, are citizens of the United States. The United States guarantees Puerto Rico a republican form of government and Puerto Rico is bound to respect the rights, privileges and immunities of all citizens.

Nevertheless, under the 1950 and 1952 legislation the status of the Commonwealth of Puerto Rico is still not the same as that of a State in the Federal Union, though both have in common complete powers of local self-government. Puerto Rico is not formally a state, has no Senators and no voting representation in the House, and in certain respects it has been treated differently than states by the courts. For example, under governing Supreme Court precedent, Congress may, and sometimes has, enacted laws that make different provision for Puerto Rico than for the states, limited only by a rational basis requirement. While fundamental constitutional rights are protected in Puerto Rico, not all federal constitutional rights have been held to apply in Puerto Rico, and the Court has declined to decide whether Puerto Rico is governed by the Fifth or by the Fourteenth Amendment. In sum, Puerto Rico’s status is unique.¹

Puerto Rico, a former colony of Spain, has a strong Hispanic culture, similar to Latin American countries like Mexico, Chile or Argentina. The Civil Code enacted in 1930 closely resembles the Civil Code of Spain dating to the nineteenth century, which in turn takes after the Napole-

¹. Trailer Marine Transp. Corp. v. Rivera Vázquez, 977 F.2d 1, 6-7 (1st Cir. 1992) (citations omitted).
Spanish is the predominant language and is used by the Government in all its official acts, including the local court system. By contrast, English is also an official language, frequently used in commerce. Additionally, it is the language used by the federal court sitting in San Juan, which is the capital of the Commonwealth.

This clash of two cultures has generated a unique system of laws, that relies on the Common Law Anglo-Saxon tradition. This tradition arises out of U.S. constitutional principles for procedural and individual rights, while maintaining its Civil Law roots of bench trials and the concept of “droit morale” for intellectual property. Puerto Rico is the only jurisdiction in the United States that has enacted a “moral rights” statute to protect software source code.

III. PATENT AND COPYRIGHT PROTECTION FOR SOFTWARE IN PUERTO RICO

"The Congress shall have Power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."²

This is what many call the Intellectual Property clause of the U. S. Constitution, which is applicable to Puerto Rico as to any other state.³ This clause dictates that federal patent and copyright laws control and that Puerto Rico may not enact its own patent or copyright schemes. Additionally, Puerto Rico may not enact laws granting rights that conflict with the intellectual property clause or the federal statutes and regulations enacted thereunder.⁴

A. PATENTS

The only agency with the power to grant a patent within the United States, and thus Puerto Rico, is the United States Patent and Trademark Office in Washington, D.C. (“USPTO”).⁵ Puerto Rico has no patent office and while the present political commonwealth status with the United States remains, it does not have the power to regulate the issuance of letters of patent for inventions.

Federal patent law protects inventions that are: (1) new; (2) not obvious; and (3) useful, such as those found in machinery, products and the

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3. Trailer Marine, 977 F.2d at 7.
processes to make them. However, mathematical formulas, algorithms and mental steps are not patentable,\(^6\) even though a computer system using a mathematical formula can be patented as a process.\(^7\)

**B. COPYRIGHTS**

Under past federal copyright law, after an author "published" his work, all rights that were protected by state legislation or "common law" were lost. The author's only protections were found under the federal copyright act then in effect.\(^8\) However, even with such precedent, the Supreme Court of Puerto Rico believed that authors could choose between federal or commonwealth copyright law protection.\(^9\) After the 1976 Federal Copyright Act went into effect, the court rejected the decision in *Reynal v. Tribunal Superior*\(^10\) and acknowledged that Puerto Rico could not legislate "economic" copyright protections for authors because federal law preempted the field.\(^11\)

The Federal Copyright Act of 1976\(^12\) protects computer software from unauthorized copying, altering, distributing, performing, displaying or gray marketing by third parties. Software enjoys copyright protection the moment it is fixed in a tangible medium of expression, provided that it is an original work of authorship.\(^13\) Federal copyright law also protects video games even though they are not "fixed" and the screens they generate are changed by the user while interacting with the program.\(^14\)

Both source and object code of application software are protected by copyright.\(^15\) Additionally, operating system software is afforded protection.\(^16\) However, the "look and feel" aspect of the screens viewed by the user may or may not be protected by copyright, depending on many factors. To the extent those factors limit the functionality of the program,

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10. *Id.*
13. *Id.* § 102(a)(1).
15. Williams Electronics, Inc. v. Arctic Int'l, Inc., 685 F.2d 870 (3d Cir. 1982).
they are not protected subject matter.  

The United States District Court for the District of Puerto Rico sits within the First Circuit. As a result, the holding in Lotus Development Corporation v. Borland International, which was affirmed by the Supreme Court in January, 1996, is controlling. To understand the First Circuit's position, it is necessary to review the concurrent opinion of Judge Boudin, who leaned toward carving a “fair use” defense for Borland's copying of Lotus's menu command structure:

Most of the law of copyright . . . has developed in the context of literary works such as novels, plays, and films. In this milieu, the principal problem . . . is to stimulate creative expression without unduly limiting access by others to the broader themes and concepts deployed by the author . . . .

The computer program is a means for causing something to happen; it has a mechanical utility, an instrumental role, in accomplishing the world’s work. Granting protection . . . can have some of the consequences of patent protection in limiting other people's ability to perform a task in the most efficient manner . . . .

[To assume that computer programs are just one means of expression, like a filmed play, may be quite wrong. The “form” — the written source code or the menu structure depicted on the screen — looks hauntingly like the familiar stuff of copyright; but the “substance” probably has more to do with problems presented in patent law or, as already noted, in those rare cases where copyright law has confronted industrially useful expressions. Applying copyright law to computer programs is like assembling a jigsaw puzzle whose pieces do not quite fit.

* * *

The present case is an unattractive one for copyright protection of the menu. The menu commands (e.g., “print,” “quit”) are largely for standard procedures that Lotus did not invent and are common words that Lotus cannot monopolize . . . .

If Lotus is granted a monopoly on this pattern, users who have learned the command structure of Lotus 1-2-3 or devised their own macros are locked into Lotus . . . . Apparently, for a period Lotus 1-2-3 has had such sway in the market that it has represented the de facto standard for electronic spreadsheet commands. So long as Lotus is the superior spreadsheet — either in quality or in price — there may be nothing wrong with this advantage.

18. Id.
But if a better spreadsheet comes along, it is hard to see why customers who have learned the Lotus menu and devised macros for it should remain captives of Lotus because of an investment in learning made by the users and not by Lotus. Lotus has already reaped a substantial reward for being first; assuming that the Borland program is now better, good reasons exist for freeing it to attract old Lotus customers: to enable the old customers to take advantage of a new advance, and to reward Borland in turn for making a better product. If Borland has not made a better product, then customers will remain loyal with Lotus anyway.

Thus, for me the question is not whether Borland should prevail but on what basis . . . .

* * *

The majority’s result persuades me and its formulation is as good, if not better, than any other that occurs to me now as within the reach of the courts. Some solutions (e.g., a very short copyright period for menus) are not options at all for courts but might be for Congress . . . .

Registration of software with the registrar of copyrights in Washington, D.C., is no longer a precondition for federal copyright protection. However, no suit may be filed for copyright infringement in federal court unless the software is registered, or the court is notified that it is in the process of being registered. Moreover, the best remedy for federal copyright protection is not available unless the work was previously registered. This remedy encompasses statutory damages that can elevate to $100,000 per claim of willful infringement and attorney's fees. Lastly, jurisdiction of the federal court is exclusive, like in patent infringement cases, and no lawsuit may be filed in the courts of Puerto Rico.21

IV. MORAL RIGHTS PROTECTION FOR SOFTWARE IN PUERTO RICO

In Pancorbo v Wometco,22 the Supreme Court of Puerto Rico held that authors had inalienable “moral rights” over their works of authorship that federal copyright law did not preempt.23 In making its determination, the court referred to its earlier ruling in Ossorio v. Secretario de la Vivienda.24 In Ossorio, Chief Justice Jose Trias Monge reasoned that, because his holding in Reynal25 stated that federal and Puerto Ri-

20. Lotus, 49 F.3d at 819-822.
23. Id.
can intellectual property law could coexist, nothing barred Puerto Rico from enforcing "moral rights."\textsuperscript{26} The Federal Copyright Act, he claimed, only protected economic rights of authors.\textsuperscript{27} Civil Law moral rights went further because they protected authors from non-economic damages.\textsuperscript{28} Therefore, Puerto Rico, with its Civil Law Spanish tradition, could protect moral rights.\textsuperscript{29}

Civil law jurisdictions, France above all, have developed certain inalienable and personal rights belonging exclusively to authors. The French term \textit{droit moral} encompasses the rights of paternity and integrity over a work of authorship. Moral rights generally include:

1. The right to be known as the author of the work;
2. The right to preclude others from wrongly claiming that they authored the work;
3. The right to preclude others from wrongly claiming that the work was authored by one who is not the other and does not want to be associated to the work;
4. The right to recall a work that is no longer compatible with the author's artistic view or reputation; and
5. The right to preclude others from mutilating, distorting or altering the work not to the liking of its author.\textsuperscript{30}

Article 6bis of the Berne Convention for the Protection of Literary and Artistic Works, completed in Paris on May 4, 1896, and revised in Paris on July 24, 1971 ("Berne Convention") states:

Independently of the author's economic rights, and even after the transfer of said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation, or other modification of, or other derogatory action in relation to, the said work, which shall be prejudicial to his honor or reputation.\textsuperscript{31}

Continental intellectual property law has also embraced another peculiar idea known in French as \textit{droit de suite}. This is the inalienable right to an interest in the resale of narrowly defined original works of authorship. In Article 14ter, the Berne Convention specifies that signatory countries may legislate such a right and establish the procedures to collect royalties on resales:

\textsuperscript{26} Ossorio, 106 P.R. Dec. at 51; 6 Official Translations of the Opinions of the Supreme Court of Puerto Rico 65, 68-69 (1977).
\textsuperscript{27} Id.
\textsuperscript{28} Ossorio, 106 P.R. Dec. at 51; 6 Official Translations of the Opinions of the Supreme Court of Puerto Rico 65, 69 (1977).
\textsuperscript{29} Id.
The author, or after his death the persons or institutions authorized by national legislation, shall, with respect to original works of art and original manuscripts of writers and composers, enjoy the inalienable right to an interest in any sale of the work subsequent to the first transfer by the author of the work.32

The United States did not adhere to the Berne Convention until March 1, 1989. However, Congress intentionally disallowed the “moral rights” provisions in the Convention’s Article 6bis.33

Thus, it is highly questionable if a state or Puerto Rico may extend “moral rights” protections specifically rejected by Congress under the supremacy clause and the intellectual property clause preemption doctrine espoused in Sears,34 Compco35 and Bonito Boats.36

However, Puerto Rico, like several states in the United States, has adopted legislation to protect the “moral rights” of local authors. Unlike those several states, Puerto Rico extended “moral rights” to all intellectual property except works created to advertise or promote goods, services and commercial establishments.37 Indeed, the law refers to the ability to register source code for computer software with the Intellectual Property Registrar of Puerto Rico.

Unfortunately, the moral rights law of Puerto Rico is too vague in its definition of “moral rights.” The law says only that “moral rights” are those granting its author the enjoyment of his or her intellectual property and that those rights are different from its economic rights over the work.38 Whatever those rights might turn out to be, they last for fifty years after the author’s death and are inheritable,39 certainly not the short-lived monopoly Judge Boudin had in mind in Lotus v. Borland40 for source code.

38. Id. §1401(a)-(b).
39. Id. § 1401(d).
40. 49 F.3d 807 (1st Cir. 1995).
The author of a software source code may seek injunctive relief against third parties, thereby forcing them to destroy or return the infringing copies. The court will also balance the rights of both parties before entering a judgment. Additionally, the author may seek damages.\textsuperscript{41} Lastly, the statute of limitations is three years.\textsuperscript{42}

The law has a limited compulsory resale royalty that appears to run only in favor of authors of works of “art.” This appears to exclude authors of literary and scientific works, and thus probably bars such right to most software authors. However, those few that may fit the limited description they are entitled to a five percent compulsory royalty on the resale profit in the work of art.\textsuperscript{43}

Unlike federal copyright registration, but akin to the inalienable moral rights notion in Civil Law countries, the software author need not register the work to enforce his rights in court and there are no added advantages, like statutory damages, punitives, or attorney’s fees to those who register. The only benefit is that the certificate of registration is likely to ease the burden of establishing ownership of the claimed moral right.

V. TRADE SECRET PROTECTION OF SOFTWARE

Unlike patent and copyright protection, exclusively controlled by federal law in the U. S., trade secret protection is a matter of state or commonwealth law. In \textit{Kewanee Oil Company v. Bicron Corporation},\textsuperscript{44} the Supreme Court of the United States rejected a defense that patent law preempted trade secrets protected by local law because they conflicted with the duty of disclosure embedded in the granting of a patent:

Trade secret law and patent law have co-existed in this country for over one hundred years. Each has its particular role to play, and the operation of one does not take away from the need for the other. Trade secret law encourages the development and exploitation of those items of lesser or different invention that might be accorded protection under the patent laws, but which items still have an important part to play in the technological and scientific advancement of the Nation. Trade secret law promotes the sharing of knowledge, and the efficient operation of industry; it permits the individual inventor to reap the rewards of his labor by contracting with a company large enough to develop and exploit it.\textsuperscript{45}

\begin{itemize}
\item \textsuperscript{41} P.R. \textsc{Laws} Ann. tit. 31, § 1401(f).
\item \textsuperscript{42} Id. § 1401(g).
\item \textsuperscript{43} Id. § 1401(h).
\item \textsuperscript{44} 416 U.S. 470 (1974).
\item \textsuperscript{45} Id. at 493.
\end{itemize}
In later cases, the Court has held that trade secrets are a property right protected under the Constitution.46

Trade secret protection in the different states is either protected by common law, following sections 757 and 758 of the Restatement of Torts, or some legislative version of the Uniform Trade Secrets Act of 1979.47 as suggested by the National Conference of Commissioners on Uniform State Laws.48 Over thirty jurisdictions have already adopted some form of the Uniform Act. Puerto Rico is not one of those jurisdictions, nor has the Supreme Court of Puerto Rico adopted the Restatement of Torts concerning trade secret protection in any context, much less the protection of software.

However, there is little doubt that the courts in Puerto Rico will adopt some form of protection for misappropriation of trade secrets found in software, akin to the Restatement's or the Uniform Act's. The source of such protection will be found in Article 1802 of the 1930 Civil Code.49

It is well settled in Puerto Rico that in civil actions for redress of damages caused by third parties, the rule of law is to be construed from the Continental Civil Law, not the Anglo-Saxon Common Law tradition.50 However, practice through the years has shown that tort common law concepts permeate Puerto Rican jurisprudence and trade secrets should not be the exception. It follows then that the definitions found in the Restatement and the Uniform Act are likely to play a major role in defining what protections software will merit under trade secret law.

Under the Uniform Act, a trade secret is:

[Information, including a formula, pattern, compilation, program, device, method, technique, or process, that: (i) derives independent economic value, actual or potential, from not being generally known to other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain secrecy.51

In Coco Rico, v. Fuertes Pasarell,52 U.S. District Judge Jose A. Fuste

49. P.R. LAWS ANN. tit. 31, § 5141 (stating that whenever an act or omission by anyone harms someone else, through its fault or negligence, the tortfeasor must compensate for the harmed caused).
defined the protection afforded under a "non-divulging agreement" as a "trade secret" without referring to either the Restatement or the Uniform Act.\(^5\) Though not binding upon the courts of Puerto Rico, his reasoning and definition may be persuasive to a local judge or to Puerto Rico's supreme court:

Trade secret protection may be afforded to any idea or process valuable or useful in one's business which is not generally known. A trade secret is any special knowledge developed through skill and ingenuity and the expenditure of money and effort, which, by being secret, gives the owner an advantage over his competitors . . . . In determining whether a particular process is entitled to protection, the Court must consider the degree of secrecy surrounding it, the efforts expended in developing it and preserving its secrecy, its value to plaintiff and defendant, and the difficulty of duplicating it . . . .

Secrecy, then is the hallmark of trade secret protection. Once a trade secret enters the public domain, the possessor loses his exclusive rights to the trade secret.

Judge Fuste made clear that just because the alleged infringer "acknowledge[d] the formula as a 'secret' [it] does not mean it is a 'secret' in the eyes of the law."\(^5\)\(^4\) In fact, he concluded that the "secret" was part of an expired patent and, as such, it had fallen in the public domain and "all claims to secrecy surrounding the formula extinguished upon the expiration of the patent. The formula, therefore, is not a valid 'trade secret.'"\(^5\)\(^5\) Moreover, the judge also ruled that processes that are of "common knowledge in the industry" can not be protected as trade secrets.

*Integrated Cash Management Services, v. Digital Transactions*,\(^5\)\(^6\) held that the "manner in which . . . generic utility programs interact" is protected though the programs themselves were not.\(^5\)\(^7\) To do so, the combination of "public domain" characteristics or components, which by themselves are not protected, must have a unified design that gives a competitive advantage not publicly known by competitors of the software developer.\(^5\)\(^8\)

"Matters of public knowledge or of general knowledge in an industry cannot be appropriated by one as his secret."\(^5\)\(^9\) Indeed, if the alleged infringer is aware of the so called secret, then there is no trade secret.\(^6\)\(^0\)

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\(^{53}\) [Id. at 617.]

\(^{54}\) [Id. at 617 n.8.]

\(^{55}\) [Id. at 618.]

\(^{56}\) [920 F.2d 171 (2d Cir. 1990).]

\(^{57}\) [Id. at 174.]

\(^{58}\) See *Imperial Chem. Indus. Ltd. v. National Distillers and Chem. Corp.*, 342 F.2d 737 (2d Cir. 1965) (illustrating this principle in a non-software context).

\(^{59}\) See *Restatement of Torts* § 757 cmt. b (1939).

The one who claims rights over the trade secret must ensure that the secret is well kept. His negligence in leaving the secret unprotected will suffice to forego the right. In Defiance Button Machine Company v. C & C Metal Products Corporation, the defendant obtained access to a password from a former employee of the plaintiff and could access software left unprotected by plaintiff in a computer owned by defendant.\(^{61}\) The court held that plaintiff could not claim a trade secret because it had included the access password in a book not subject to a duty of secrecy by defendant.\(^ {62}\) In other words, once the secret is out, its owner may no longer claim it belongs to him.

Patented materials are not "trade secrets" once the patent issues.\(^ {63}\) A trade secret held with a patent is likely to run afoul the full disclosure duty of the patent holder and his duty to disclose the "best mode" for his invention.\(^ {64}\) However, a software source applicant for copyright protection may submit the codes with the portions containing trade secrets blocked out.\(^ {65}\)

Secrecy, by definition, "implies at least minimal novelty."\(^ {66}\) A trade secret lasts in perpetuity until revealed. Its owner has the exclusive right to exploit it commercially and to enjoin others from using it without its license or consent.

According to the Uniform Act, a trade secret may be legally duplicated by (i) independent invention, (ii) reverse engineering, (iii) discovery under a license from the trade secret owner (while not subject to a promise of secrecy), (iv) observing the "secret" item in public use or display, and (v) from public literature.\(^ {67}\)

Trade secrets may also be enforced under general contract principles in Puerto Rico, provided the object of the contract is not contrary to some public policy or the community's morals. To the extent the "secret" advantage was not listed in the contract, then the courts will construe what "secret" the alleged infringer promised not to reveal. Then, the courts will have to refer to decisions in other jurisdictions, likely applying the Uniform Act or Restatement and examining other types of intellectual property to separate what is proprietary and secret from what is not.

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61. 759 F.2d 1053, 1058 (2d Cir. 1985).
62. Id. at 1063-64.
63. Trade secrets by their very nature are private and undisclosed to the public. See Uniform Trade Secrets Act § 1(4)(i), 14 U.L.A. 433. Once a patent has been issued, all information relating to the invention is open to inspection by the public. 37 C.F.R. § 1.11(a) (1995). Indeed, "knowledge cannot be placed in the public domain and still be retained as a secret." Smith v. Dicavo Corp., 203 F.2d 369, 373 (7th Cir. 1953).
65. See Copyright registration application TX Form and instructions for registration of computer programs.
66. Kewanee Oil, 470 U.S. at 476.
The analysis given by the First Circuit in *Lotus v. Borland* 68 should aid the courts in determining what is outside public policy and the morals of the community.

VI. TRADEMARK AND UNFAIR COMPETITION PROTECTION

Unlike patent and copyright protection (within the exclusive jurisdiction of federal laws and courts) and trade secret protection (solely within the province of state or commonwealth laws) trademark and unfair competition protection coexist at the federal and local levels. Moreover, local and federal courts enjoy concurrent subject matter jurisdiction.69

Software applications sold to the public through distribution and retail outlets are identified under some trademark or name distinguishing them from the name or mark of competitors. Unauthorized software copies may reach the consumer market using marks or names identical to the owner of the software, or with similar but confusing names or marks, or may be deceptively marketed to the injury of the developer of the pirated software. In those instances, trademark protection becomes imperative.

A. THE PUERTO RICO TRADEMARK ACT OF 1991

In 1923, Puerto Rico enacted a trademark law copied from the 1905 Federal Trademark Act. The Legislature repealed the statute in 1991 and a new law went into effect on February 14, 1992. The new statute has yet to be construed by the Supreme Court of Puerto Rico, but jurisprudence interpreting the old law will help understand the protections afforded to off-the-shelf software in Puerto Rico.

Marks can be grouped into four distinctive categories: arbitrary or fanciful, suggestive, descriptive or generic. The first two categories may be appropriated by their first user in commerce to the exclusion of its competitors.70 Descriptive and generic marks cannot be registered in Puerto Rico.71 Geographic names identifying the place of origin of a product or service, illegal matters, names of persons without their consent and marks or trade names similar to others already registered that are likely to confuse consumers cannot be registered.72 However, descriptive marks may acquire, with the passing of time and continuous exclusive use in the market, secondary meaning and become protected by

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68. 41 F.3d 807 (1st Cir. 1995).
71. P.R. LAWS ANN. tit. 10, § 171(c)(4)-(c)(5).
72. Id. § 171(c)(6).
trademark law like arbitrary, fanciful or suggestive marks.\textsuperscript{73}

In Puerto Rico, a generic foreign word that identifies the product in a foreign country may be arbitrary or fanciful when used in Puerto Rico (where the population overwhelmingly speaks Spanish) and thus subject to registration as a trademark.\textsuperscript{74}

The 1991 law provides that any person who "reproduces, falsifies, copies or imitates" a mark without its owner's consent and uses it or intends to use it within the market of Puerto Rico may be enjoined from so doing and is liable to the registered trademark holder in damages.\textsuperscript{75} The damages available are: gross profits obtained by the infringer, lost profits of the trademark registrant, loss of goodwill, and any other proper set of damages suffered by the mark owner.\textsuperscript{76} Moreover, the court will award all costs, expenses and attorney's fees incurred by the successful mark registrant.\textsuperscript{77} The court may issue an ex parte temporary restraining order compelling the infringer to cease and desist from continued use of the deceptively similar mark, including impoundment of advertising materials and products.\textsuperscript{78} Plaintiffs may obtain the order without an attachment bond if the mark owner submits a certified copy of the Puerto Rican mark registration at the State Department.\textsuperscript{79}

The burden to prove consumer confusion lies with the mark owner. Among the elements to be established are: (i) similarity between the marks; (ii) similarity between the products or services; (iii) mark strength; (iv) intent of the infringer; and (v) actual confusion.\textsuperscript{80} The test is whether a likelihood of confusion by the consumer about the origin or source of the product exists.\textsuperscript{81} Naturally, first in use, first in right. A similarity in the sound of the marks may be confusingly similar, allowing exclusion of the junior user's mark.\textsuperscript{82}

The 1991 law suggests that all property rights over the mark are acquired pursuant to a valid registration under the statute. The law further suggests that a prior user of a mark may move to cancel any later registered mark confusingly similar within five years after the junior

\begin{thebibliography}{9}
\bibitem{73} Cooperativa Cafeteros v. Colón Colón, 91 P.R. Dec. 361 (1964) (translated by the author).
\bibitem{75} P.R. Laws Ann. tit. 10, § 171(w).
\bibitem{76} Id.
\bibitem{77} Id.
\bibitem{78} P.R. Laws Ann. tit. 10 § 171(x).
\bibitem{79} Id.
\bibitem{81} Id.
\end{thebibliography}
mark's registration. If literally construed, this will create a drastic departure from federal and common law trademark rights that conferred protection without registration. Of course, off-the-shelf software mark owners are encouraged to register their common law marks in Puerto Rico to obtain the benefits under the 1991 Act, but also to avoid a motion to dismiss the lawsuit on some argument of abandonment or Civil Law preclusion pursuant to this poorly worded section of the 1991 Act. Federal treatises and jurisprudence on trademarks and unfair competition are highly persuasive to construe the local statute.

In Puerto Rico, the Supreme Court has ruled that a trademark is a property right that identifies the source of the product or service but also its quality and distinctiveness. Its main purpose is to differentiate one's goods or services from the ones of its competitors.

B. LANHAM ACT PROTECTION OF SOFTWARE

The 1947 Federal Trademark Law, popularly known as the Lanham Act, protects off-the-shelf software products distributed directly to consumers through distribution and retail outlets from unfair competition and deceptive advertising schemes at the federal level.

The Lanham Act provides three different protections to off-the-shelf software developers: (i) protection from confusion brought about by similar or copied marks; (ii) protection to the “trade dress” of the packaging or marketing of the software; and (iii) protection from deceptive advertising.

1. Consumer Confusion Protection

This is the traditional protection afforded by trademarks. A trademark owner must choose a mark that it may appropriate and exclude others from using. Suggestive, arbitrary and fanciful marks can be protected without proof of secondary meaning. These terms are considered “inherently distinctive.” Descriptive terms may also be

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83. P.R. LAWS ANN. tit. 10, § 171(a).
84. See Keebler Co. v. Rovira Biscuit Corp., 624 F.2d 366, 372 (1st Cir. 1980) (asserting that a right in trademark is a common law property right created by the use of a name or symbol and not by registration).
88. Id. § 1114(1)(a).
89. Id. § 1124.
90. Id. § 1125(a).
92. Id.
appropriated after they acquire “secondary meaning.” Secondary meaning refers to a mark's ability to tell the public that the mark serves a special trademark function, namely, that it denotes a product or service that comes from a particular source, and that source is the mark's owner.33

Every product is composed of a bundle of special characteristics. The consumer who purchases what he believes is the same product expects to receive those special characteristics on every occasion. Congress enacted the Lanham Act to realize this expectation with regard to goods bearing a particular trademark . . . . The Act's prophylaxis operates not only in the more obvious cases, involving the sale of inferior goods in derogation of the registrant's mark, but also in the less obvious cases, involving the sale of goods different from, although not necessarily inferior to, the goods that the customer expected to receive . . . . By guaranteeing consistency, a trademark wards off both consumer confusion and possible deceit.

The system also serves another, equally important, purpose by protecting the trademark owner's goodwill . . . . Once again, this protection comprises more than merely stopping the sale of inferior goods. Even if an infringer creates a product that rivals or exceeds the quality of the registrant's product, the wrongful sale of the unauthorized product may still deprive the registrant of his ability to shape the contours of his reputation.34

In the First Circuit, the elements of consumer confusion of marks are: (i) the similarity of the marks themselves; (ii) the similarity of the underlying goods or services; (iii) the relation of the “channels” through which the parties “trade;” (iv) the relation of the parties' advertising; (v) the kinds of prospective buyers; (vi) evidence of actual confusion; (vii) the infringer's reasons for using the mark; and (viii) the strength of the senior's mark.35 However, to prevail, “actual confusion is not required.”36 The mark owner only has to prove “likelihood of confusion.”37 A substantial variance in quality control creates a presumption of confusion as a matter of law.38 The right of a mark owner even extends to the right not to be confused with someone else's stronger mark, called “reverse confusion” protection.39 To prevail in a trademark infringement claim against a junior user, the senior user must show (i) that it uses, and thus “owns” the mark, (ii) that the junior user is using that same or a similar mark,
and (iii) that the infringer's use is likely to confuse the public, thereby harming the mark's senior user.100

Federal registration in the USPTO in Washington, D.C., gives legal and constructive notice to all potential junior users in the United States and any later registration of that national mark by a junior user in Puerto Rico is preempted.101 The national, senior mark need not be in use in Puerto Rico.102 Confusion may exist if there is advertising that may reach consumers in Puerto Rico and Puerto Rico is a place for possible expansion by the senior mark user.103

Trademark infringement results in irreparable harm because "loss of profits, goodwill, and reputation cannot be satisfactorily quantified and, thus, the trademark owner cannot adequately be compensated. Hence, irreparable harm flows from an unlawful trademark infringement as a matter of law."104

2. Trade Dress Protection

Trade dress that is inherently distinctive (suggestive, arbitrary, or fanciful), or has acquired distinctiveness through secondary meaning, is protected under Section 43(a) of the Lanham Act as long as it is not functional.105 "The "trade dress" of a product is essentially its total image and overall appearance . . . . It involves the total image of a product and may include features such as size, shape, color, or color combinations, texture, graphics, or even particular sales techniques . . . ."106

Undoubtedly, the "trade dress" chosen by an off-the-shelf software developer to package its diskettes in order to differentiate from its competitor's software is protected by section 43(a) of the Lanham Act. Some authors have suggested using trade dress law to protect graphical user interfaces.107

100. WCVB-TV v. Boston Athletic Ass'n, 926 F.2d 42, 44-45 (1st Cir. 1991).
102. Id.
103. Century 21 Real Estate Corp. v. Century 21 Real Estate, Inc., 929 F.2d 827, 830 (1st Cir. 1991); see Davidoff, 747 F. Supp. at 127 (federal registration gives notice to potential users in the United States and a later registration in Puerto Rico is preempted).
106. Id. at 765 n.1.
107. Matthew E. Watson, Trade Dress Theory and the Software Graphic User Interface: Sorting Through the Gooey Mess, 34 JURIMETRICS J. 251-293 (1994) (discussing how Two Pesos v. Taco Cabana may afford copyright-patent-like protection for graphical user interfaces); but see Lotus, 49 F.3d at 819-22 (Boudin, J., concurring).
Colors may also be appropriated as a trademark or trade dress. However, when the colors serve a "functional" purpose, then only patent law may protect the functional aspect of the software.

Trademark law, by preventing others from copying a source-identifying mark, reduce[s] the customer's costs of shopping and making purchasing decisions, . . . for it quickly and easily assures a potential customer that this item—the item with this mark—is made by the same producer as other similarly marked items that he or she liked (or disliked) in the past. At the same time, the law helps assure a producer that it (and not an imitating competitor) will reap the financial, reputation-related rewards associated with a desirable product. The law thereby encourage[s] the production of quality products, and simultaneously discourages those who hope to sell inferior products by capitalizing on a consumer's inability quickly to evaluate the quality of an item offered for sale.

It is the source-distinguishing ability of a mark—not its ontological status as color, shape, fragrance, word, or sign—that permits it to serve these basic purposes . . . . And, for that reason, it is difficult to find, in basic trademark objectives, a reason to disqualify absolutely the use of a color as a mark . . . .

Neither can we find a principled objection to the use of color as a mark in the important functionality doctrine of trademark law. The functionality doctrine prevents trademark law, which seeks to promote competition by protecting a firm's reputation, from instead inhibiting legitimate competition by allowing a producer to control a useful product feature. It is the province of patent law, not trademark law, to encourage invention by granting inventors a monopoly over new product designs or functions for a limited time, after which competitors are free to use the innovation. If a product's functional features could be used as trademarks, however, a monopoly over such features could be obtained without regard to whether they qualify as patents and could be extended forever (because trademarks may be renewed in perpetuity) . . . . Functionality doctrine therefore would require, to take an imaginary example, that even if customers have come to identify the special illumination-enhancing shape of a new patented light bulb with a particular manufacturer, the manufacturer may not use that shape as a trademark, for doing so, after the patent had expired, would impede competition—not by protecting the reputation of the original bulb maker, but by frustrating competitors' legitimate efforts to produce an equivalent illumination—enhancing bulb . . . . A product feature is functional, and cannot serve as a trademark, if it is essential to the use or purpose of the article or if it affects the cost or quality of the article, that is, if exclusive use of the feature would put competitors at a significant non-reputation-related disadvantage.

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109. Id. at 1303-04 (citations omitted).
Thus, a software packaging trade dress will enjoy full protection under Section 43(a) of the Lanham Act, as long as it serves a source identity purpose, and not a functional purpose.

3. Deceptive or Disparaging Advertising Protection

Software developers have the duty to compete fairly and to refrain from disparaging the competition, or from claiming features or benefits in their applications that do not exist. To the extent that a competitor breaches any of those duties, an injured or disparaged developer has federal protection pursuant to Section 43(a) of the Lanham Act.

In Castrol Oil v. Penzoil, the court held that advertising is literally false when the claim made cannot be objectively proven following generally accepted industry testing standards. There, the court found that Penzoil's comparative advertising was false and consequently subjected the defendant to damages for deceptive advertising.

Intel Corporation v. Terabyte ruled that confusion need not relate to the source of the product, but can relate to the quality or performance of the product. Here the defendant relabeled its slower computers as faster than they really were. This could also be true where software competitors compare their products in advertising, disparaging competitors or claiming features or advantages that their software products do not have, misleading the consumers into buying them by taking sales away from the injured competitors.

VII. CRIMINAL PROTECTION OF SOFTWARE IN PUERTO RICO

About eight years ago, Puerto Rico jumped into the Information Age by specifically criminalizing the intentional copying, reproduction, printing, publication, or sale, without its author's or owner's consent, of any computer program, computer design, or electronic information method.

Unfortunately, it is not clear whether the crime may only be punishable as a misdemeanor or may be treated as an "aggravated misappropriation crime" that carries a fixed imprisonment term of ten years, that the judge may modify to a maximum of twelve or a minimum of six years, depending on the circumstances of the crime, the victim and the ac-

110. 987 F.2d 939 (3d Cir. 1993).
111. Id. at 943-44.
112. Id. at 949-50.
113. 28 U.S.P.Q.2d 1182 (9th Cir. 1993).
114. Id. at 1186.
115. Id. at 1183-84.
In all likelihood, pursuant to well-known tenets of criminal statute construction, any doubts will be resolved in favor of the lesser penalties found in the 1988 amendment, which classifies intellectual property infringement as a misdemeanor, punishable by imprisonment of up to six months, a $500 fine, or both.\footnote{118}

The statute provides the remedy of restitution. All impounded copies of the infringed intellectual property, and all the illegal profits attached by the police placed under custody of the court, may be returned to the author or owner of the original work at its request. If within ninety days after final judgment is entered against the infringer, and no one claims those copies or profits, the judge may then order their destruction. Again, the statute's poor draftsmanship suggests destruction of the impounded profits which makes little practical sense. Most likely, the funds will be transferred to the government pursuant to Puerto Rico's abandoned property laws.

The law also makes it a misdemeanor to intentionally and maliciously alter the identity of the author, title, edition serial, editor's name, and identification of the work.\footnote{119}

The law has a limited "fair use" defense that allows limited copying of "fractions" or "references" of "recordings, books or writings, films or photographs of paintings, drawings or sculptures" used "incidentally" to illustrate "books, writings or programs" for journalistic or didactic purposes. However, the law fails to include software within this incomplete "fair use" defense definition.

Considering the special political relationship Puerto Rico enjoys with the United States, this author believes that federal copyright and patent protection is controlled at the national, federal level, not by local law.\footnote{120} It follows then that making it a crime to infringe "intellectual property" rights in Puerto Rico, above what the Intellectual Property clause leaves to the public domain, is preempted, either expressly, implicitly or because it would conflict with the intent of the Framers of the Constitution or Congress upon enacting the Copyright and Patent laws.

On the trademark front, it is illegal to "reproduce, copy, imitate, or falsify" a trademark registered in Puerto Rico or the USPTO.\footnote{121} It is also illegal to sell goods bearing falsified, imitated, or unauthorized copies or reproductions of registered marks with the intention to pass off those goods as goods sold by their legitimate trademark owner.\footnote{122} The

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\item[117.] Id. § 4272.
\item[118.] Id. § 4271(b).
\item[119.] P.R. LAWS ANN. tit. 33, § 4272(b).
\item[120.] See generally Goldstein v. California, 412 U.S. 546 (1973).
\item[121.] P.R. LAWS ANN. tit. 33, § 1311.
\item[122.] Id. § 1312.
\end{itemize}}
criminal code makes it illegal to even possess those goods.\textsuperscript{123} Keeping the empty authorized packaging to refill it with other goods and then sell them to an unsuspecting consumer is an illegal crime.\textsuperscript{124} Defacing the packaging of a trademarked product is also illegal.\textsuperscript{125} These crimes are misdemeanors and are punishable by imprisonment of no more than six months, a fine not greater than $500, or both.\textsuperscript{126}

Corporations registered or authorized to do business in Puerto Rico are criminally liable when their authorized agents or representatives, acting on their behalf or for their benefit commit a crime.\textsuperscript{127} Thus, a software programmer that copies software of a competitor, where the derivative work is for the benefit of his employer, renders the company criminally liable for those actions. It is thus to the benefit of software companies to draft and enforce programs for the detection and prevention of criminal acts by their employees.\textsuperscript{128}

A last point the reader should bear in mind is that, under a Civil Law system like Puerto Rico's (and particularly its general tort statute, Article 1802 of the 1930 Civil Code), criminal acts entail "fault" by definition and thus render the criminal liable for whatever damages he, she or it may have caused to the victim of the crime. It follows then that a software developer may assert a civil law claim for damages any such criminal acts may have caused it, regardless whether the infringer was charged, prosecuted, or found guilty or innocent of the crime. Principles of collateral estoppel may run in favor of the victim of the crime, but never against it because the burden of proof in civil actions is lesser than the burden of the prosecutor in a criminal case.\textsuperscript{129}

\section*{VIII. CONCLUSION}

Puerto Rico may be a small 100 by 35 mile island, sitting in the middle of the Caribbean sea, with more than three million inhabitants; yet because of its unique political and economic ties to the United States, it has carved out a dual system of laws protecting software intellectual property rights second to none of the states in the nation.

At the federal level, patent, copyright and Lanham Act protection secure programmers' ideas from the time of fixation in a tangible me-

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\textsuperscript{123} Id. § 1315. \\
\textsuperscript{124} Id. § 1316. \\
\textsuperscript{125} Id. § 1317. \\
\textsuperscript{126} See P.R. LAWS ANN. tit. 33, §§ 1311-1312, 1315-1317. \\
\textsuperscript{127} P.R. LAWS ANN. tit. 33, § 3174. \\
\end{flushright}
Letters of patent protect useful and novel inventions by way of processes for seventeen years. Copyrights protect the literary expression of source and object code. Unauthorized copying or reproductions subject infringers to stiff civil penalties and damages in favor of copyright holders. Competitors must compete fairly and refrain from disparaging or deceptive advertising or face the serious consequences of their transgressions in the courts.

At the local level, no state protects "moral rights" in software as broadly as the Intellectual Property law of Puerto Rico. The 1991 Trademark Act of Puerto Rico grants rights to local marks registrants that neither the Lanham Act nor the common law provide. It is in the best interest of off-the-shelf software developers to register their marks and rights in the corresponding registrars in Puerto Rico to enjoy the full panoply of protections afforded them under the local laws.

Last, Puerto Rico's Civil Law tradition and its courts' pragmatism to adopt common law concepts to redress a perceived wrong, combined with the public policy expressed in the Penal Code, making intellectual property infringement a crime, are a sure recipe for adoption of some sort of trade secret protection pursuant to Article 1802 of the 1930 Civil Code.

When one throws into the equation that Puerto Rico has one of the best business and communications infrastructures in the Caribbean and Latin America, combined with federal and local tax incentives, Puerto Rico is probably the most software-friendly jurisdiction South of the Border, rivaling software mainland-state havens. Puerto Rico is ready for the Information Age by going out of its way in protecting intellectual property rights in software products.