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The First of Many Steps: The EU Unitary Patent, Software, and What the United Kingdom Should Do Next

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The First of Many Steps: The EU Unitary Patent, Software, and What the United Kingdom Should Do Next

Ronak Patel*

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I. INTRODUCTION

Patents. Copyright. When it comes to intellectual property in Europe, these two terms are, largely, the name of the game.¹ Whether a piece of intellectual property is classified as something that falls under copyright or as something that falls under patent will determine the scope of the intellectual property's protection, the subject matter it extends to, the rules of engagement in litigation, and many other things.² Do you want to protect a book or a song that you just wrote? Get yourself a copyright.³ Do you want to protect that new high-tech electric engine that you just developed? Get yourself a patent.⁴ Easy, right?

Well, not so fast. Among the various clear-cut issues in intellectual property law lurks a murky foe: software.⁵ Software eludes easy classification, finding some protection in both of the major traditional regimes, regimes that were developed in a time where the notion of software—and the protections it might need—were beyond contemplation.⁶ Some prefer the resultant (but unintended) weakness, but to others, the lack of software protection and the resulting issue of

1. Intellectual property falls into two major categories—industrial property, which includes patents, and copyright. However, to be perfectly clear, intellectual property has been used to describe other sorts of property too, such as trade secrets and trademarks. See *What is Intellectual Property?*, WIPO, <http://www.wipo.int/about-ip/en/> (last visited Oct. 23, 2011). Notably, trade secrets and trademarks, while generally discussed as intellectual property, are actually creatures of economic regulation. For instance, in the United States, trademark protection derives from the commerce clause as opposed to the intellectual property clause.

2. See *The Copyright, Designs and Patents Act 1988* (U.K.) (describing differences in subject matter between patents and copyright, as well as their scope); copyright extends to literary works (which includes “song lyrics, manuscripts, manuals, computer programs, commercial documents, leaflets, newsletters & articles, etc.”), dramatic works (which includes “plays, dances, etc.”), “musical recordings and scores”, artistic works (which includes “photography, painting, sculptures, architecture, technical drawings/diagrams, maps, logos”), “typographical arrangement of published editions” (which includes “magazines, periodicals, etc.”), sound recordings (which includes “recordings of other copyright works, e.g. musical and literary”), and films (which includes “broadcasts and cable programmes”). *Fact Sheet P-01: UK Copyright Law*, THE UK COPYRIGHT SERV. (Nov. 27, 2009), http://www.copyrightservice.co.uk/copyright/p01_uk_copyright_law; see also *The Patents Act of 1977* (2011) (U.K.) (providing further guidelines on patent rights and rules); patent extends to new inventions, with “an inventive step that is not obvious to someone with knowledge and experience in the subject,” which is “capable of being made or used in some kind of industry,” and which is not “a scientific or mathematical discovery, theory or method; a literary, dramatic, musical or artistic work; a way of performing a mental act, playing a game or doing business; the presentation of information, or some computer programs; an animal or plant variety; a method of medical treatment or diagnosis; [and which is not] against public policy or morality.” *What Is A Patent?*, INTELL. PROP. OFF., www.ipo.gov.uk/types/patent/p-about/p-whatism.htm (last visited Dec. 26, 2011).

3. *What is Intellectual Property?*, *supra* note 1 (explaining that copyright applies to literary works).

4. *The Patents Act of 1977*, c. 1, § 1 (U.K.) (noting that patent rights can be granted to new inventions with industrial application).

5. See Richard Stallman, *Beware: Europe's 'Unitary Patent' Could Mean Unlimited Software Patents*, THE GUARDIAN (Aug. 22, 2011, 7:43 PM), <http://www.guardian.co.uk/technology/2011/aug/22/european-unitary-patent-software-warning> (discussing current issues with software protection in the United Kingdom).

6. AMY LANDERS, UNDERSTANDING PATENT LAW 2-4 (2008) (providing a history of the development of patent law, and noting that it had begun development as far back as the fifteenth century); see also JULIE E. COHEN ET AL., COPYRIGTH IN A GLOBAL INFORMATION ECONOMY 21-23 (3d ed. 2010) (noting that, in its first form, copyright protection was first developed in England in the fifteenth century).

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piracy is a signature (twentieth and) twenty-first century issue that needs a twenty-first century solution.⁷ To the chagrin of the former camp, a solution is likely on its way: the unitary software patent.⁸ A unitary software patent, part of a larger unitary patent for the European Union, will create a software patent that is enforceable in twenty-five European nations⁹ (and could, eventually, be valid in any EU country), including the United Kingdom, should they sign the treaty.¹⁰ It would greatly strengthen the protection of software available through patent.¹¹ However, some, including noted free software activist Richard Mathew Stallman, passionately oppose the use of any unitary patent.¹² Stallman and his cohorts argue that conferring the power to grant unitary patents to the European Union could enable it to expand the scope of software that is currently subject to patent protection.¹³ This, they argue, would lead to inefficiency, stifle innovation, and the spark all out wars for software patent protection by the software industry.¹⁴

This Comment seeks to address the fears espoused by Stallman and other anti-software patent forces. This Comment will do this by first offering a brief overview of the software protections available under current U.K. and EU law. Next, this Comment will introduce the concept of a unitary patent, and explain how software could become involved. After doing so, this Comment will evaluate the unitary patent, and ultimately argue that, due to protections currently embedded in the European Union's patent law jurisprudence, the unitary patent does not pose a significant threat that the scope of software protection by patent would be expanded, and provides several advantages over the current, country-by-country patenting system. Finally, this Comment, taking in account the software industry's desire for increased software protection,¹⁵ will propose

7. See Stallman, *supra* note 5 (providing a discussion of the current dispute over software protection by patent); *Aerotel v. Telco & Macrossan's Applications*, [2006] EWCA (Civ) 1371, [16] (Eng.).

8. Stallman, *supra* note 5.

9. Notably missing from the unitary patent are Spain and Italy, who have declined to join. William New, *Europe Reaches Agreement on Unitary Patent*, INTELL. PROP. WATCH (June 29, 2012, 4:45 PM), www.ip-watch.org/2012/06/29/europe-reaches-agreement-on-unitary-patent/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+ip-watch+%28Intellectual+Property+Watch%29.

10. Stallman, *supra* note 5.

11. See *Patents for Software*, EUR. PAT. OFF., <http://www.epo.org/news-issues/issues/computers/software.html> (last visited Sept. 25, 2011) (discussing the issues in the debate over software patent protection).

12. Stallman, *supra* note 5.

13. *Id.*

14. See *id.*; IAN HARGREAVES, DIGITAL OPPORTUNITY: A REVIEW OF INTELLECTUAL PROPERTY GROWTH 22 (2011), available at <http://www.ipo.gov.uk/ipreview-finalreport.pdf> (noting that a stalled negotiation process could lead to a unitary patent that was ultimately burdensome; ultimately, however, Professor Hargreaves seems to indicate his support for the unitary patent).

15. This Comment will now take a moment to note that software is a hotly debated issue—what is software piracy to some is free software and progress to others. Those terms ultimately form a venn diagram, with some things falling exclusively into the piracy section, others into free software, and much of it into an overlapping, hard to define gray zone. See Stallman, *supra* note 5. This Comment does not take a stance one way or another in proposing this new protection system. Instead, it recognizes that there is a desire for increased protection, and proposes a way to do it, with the hope that it can provide increased protection from piracy while

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expanding software protection beyond its current state. It will do this by first discussing the means to enable such an expansion, and will then make a particular recommendation: a system that models portions of the Digital Millennium Copyright Act.

II. SOFTWARE PROTECTION TODAY

This Part seeks to give the reader a background into how software is currently protected. Under current U.K. law, EU law, and the laws of several international treaty organizations, software is protected through a variety of mechanisms, including patent and copyright law.¹⁶

A. *Software and Patents*

Available to the first inventor or entity who applies for it,¹⁷ a “patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say. . .the invention is new[,]. . .it involves an inventive step[,]. . .[and] it is capable of industrial application.”¹⁸ If and when a patent is granted, the patent holder earns the exclusive right to practice that patent, and is entitled to bring suits for infringement against any person or entity who practices the patent or a part of the patent without first getting the patent holder’s permission, even if that person or entity is not trying to make a profit.¹⁹ This patent holder retains this right of exclusion for twenty years from the date of filing their application.²⁰ At that point, the work reverts to the public domain, and competitors may begin to practice the patent without fear of an infringement suit.²¹

What about software patents? Historically, patent protections have been only hesitantly applied to software.²² Software has had this particular difficulty, in part because of the Patents Act’s section on excluded subject matter, which includes a

not completely stifling software freedom, which is what would happen if an alternate system, like a more aggressive software patent, were used. *Id.*

16. Another notable area of protection, one that will not be explored in this section, is licensing law.

17. *Patents: Some Facts*, MEDIPEX, www.medipex.co.uk/data/files/Factsheets/Patents%20Factsheet.pdf (last visited Nov. 12, 2011).

18. The Patents Act of 1977, c. 1, § 1 (U.K.).

19. See *A Short Guide: UK Patents*, MARKS&CLERK UK, <http://www.marks-clerk.com/uk/attorneys/documents/UKPatentsAShortGuide09.pdf> (last visited Nov. 11, 2011).

20. *Id.*

21. *But see UK IPO Launches New Databases*, MARKS&CLERK UK (Feb. 2, 2009), <http://www.marks-clerk.com/uk/attorneys/news/newsitem.aspx?item=240>.

22. See Stallman, *supra* note 5 (providing a brief discussion of the battle over software patents); Aerotel v. Telco & Macrossan’s Applications, [2006] EWCA (Civ) 1371, [74] (Eng.) (“[T]he [United Kingdom’s Patent] Office has a strong tradition of rejecting patent applications for software.”).

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provision against the patentability of computer programs.²³ Nonetheless, “[m]any thousands of patents have been granted” in the realm of computer programs; it is allowable when the software or computer-related invention in question is of a “technical character” or solves a technical problem.”²⁴ Patents granted in this arena include, but are not limited to:

- Software for controlling an apparatus or machinery.
- Software which processes data representing images or data representing other physical entities.
- Software which improves the operation of hardware, for example improved operating systems or software achieving an increase in effective memory or speed.
- Software for implementing business inventions where a “technical” problem is overcome in order to implement the invention and the invention directly solves the technical problem.
- Any other software where there are sufficient “technical” considerations involved in the production of the software, or which produces a new technical effect.²⁵

Two recent developments to software patents deserve attention. First, in 2005, there was a push by pro-software patent forces to have the European Parliament extend patent protections to software.²⁶ Opponents of the effort argued that it would severely limit software innovation by making software development a sort of maze in which patented ideas had to be avoided, limiting efficiency and variety.²⁷ As a result of this strong opposition movement, the directive failed, and software patent protection remained as it was.²⁸

A second noteworthy development occurred in *Aerotel v. Telco and Macrossan’s Applications*, a 2006 case decided by the Court of Appeals of England and Wales.²⁹ Considering European Patent Office policy and law, (specifically Article 52 of the European Patent Convention), the court rejected Macrossan’s application because it related to software and business methods, which are two excluded categories of subject matter under the Patents Act for the

23. The Patents Act of 1977 § 2(c).

24. *A Short Guide: UK Patents*, *supra* note 19.

25. *Id.*

26. See Richard Stallman, *Patent Absurdity*, THE GUARDIAN (June 20, 2005), <http://www.guardian.co.uk/technology/2005/jun/23/onlinesupplement.insideit>.

27. *Id.*; Stallman, *supra* note 5.

28. See Stallman, *supra* note 5 (providing a brief discussion of the battle over software patents).

29. *Aerotel v. Telco & Macrossan’s Applications*, [2006] EWCA (Civ) 1371, [16] (Eng.).

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United Kingdom and under the European Patent Convention.³⁰ However, in doing so, the court did note that there was political pressure to extend the patent protections to software, finding that the current situation was not compatible with the United Kingdom's obligations under the Agreement on Trade-Related Intellectual Property Rights.³¹ It further noted a growing market demand for change—that “[p]eople are applying for what are, or arguably are[,] . . . computer program patents in significant numbers.”³²

The case did not quite end here. Macrossan, unhappy with the decision, made an appeal to the House of Lords, seeking clarification on Article 52 and U.K. patent policy, and ultimately tried to extend the scope of patent protection to include software inventions such as his own.³³ The House of Lords, however, “dismissed his appeal on the grounds that [Macrossan’s case did] not raise an arguable point of law of general public importance.”³⁴

To round out patent and software issues, this Comment now addresses what a “technical contribution” is. Required by both the European Patent Office and the (United Kingdom’s) Intellectual Property Office,³⁵ technical contribution is a standard that is used to determine whether an invention involving software—a *computer implemented invention*—falls outside the aforementioned exclusion of software subject matter.³⁶ While this concept is “at the heart of patent law,”³⁷ there is a divergence in how the requirement is interpreted by the United Kingdom and by the European Patent Office.³⁸

A recent and controlling discussion of the issue by the United Kingdom courts came in the aforementioned *Aerotel v. Telco and Macrossan’s*

30. *Id.* at [1], [16], [57], [61], [67]-[74] (note, there was a separate appeal by *Aerotel* that was also considered, and which was granted; it is not the subject explored by this section).

31. *Id.* at [16] (while the judge made this point, the formulation of his decision did not take notice of it because the agreement was not at issue).

32. *Id.* at [17].

33. See Lucy Sherriff, *Software Developer Asks Lords to Hear Patent Appeal*, THE REG. (Nov. 10, 2006, 6:02 AM), http://www.theregister.co.uk/2006/11/10/patent_appeal/.

34. Ben Moshinsky, *Macrossan’s Epic Patent Fight Ends*, THE LAWYER (Feb. 7, 2007), <http://www.thelawyer.com/macrossans-epic-patent-fight-ends/124165.article>.

35. Note, the office was formerly known as the U.K. Intellectual Property Office, and, before that, the Patent Office. *Newport, South Wales*, INTELL. PROP. OFF., <http://www.ipo.gov.uk/about/history/history-office/history-office-newport.htm> (last visited Feb. 15, 2012); *Patents Act 1977: Patentability of Computer Programs*, INTELL. PROP. OFF. <http://www.ipo.gov.uk/p-pn-computer.htm> (last visited Nov. 12, 2012).

36. *Aerotel*, EWCA (Civ) 1371 at [11], [29]; Case T 0154/04, Duns Licensing Assoc., 2008/02 Official Journal of the EPO 46, 54 (Nov. 15, 2006), available at <http://www.epo.org/law-practice/case-law-appeals/recent/t040154ex1.html>; Convention on the Grant of European Patents art. 52(2), Oct. 5, 1973, 1065 U.N.T.S. 199.

37. In the Matter of Application No. 9204959.2 By Fujitsu Limited, [1997] EWCA (Civ) 1174, [31] (Eng.).

38. *Case T*, Official J. of the EPO at 70. Note that the United Kingdom interprets the standard for both its own national patent laws and the European Patent Convention, whereas latter considers only the European Patent Convention. See *Aerotel*, EWCA (Civ) 1371 at [33]; see also *Case T*, Official J. of the EPO at 58-59.

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Applications.³⁹ In that case, the court found the standard for the technical contribution requirement, as required by the European Patent Convention, to be encapsulated in a four-part test.⁴⁰ Step one engages in basic claim construction.⁴¹ Step two conducts an “assessment of the inventor’s contribution.”⁴² Step three considers whether the contribution consists of solely excluded matter.⁴³ Step four “ask[s] whether there is anything technical about the contribution.”⁴⁴ In announcing the test, Lord Justice Jacob noted that the test was a departure from the European Patent Office’s approach, which the court criticized as taking an overly narrow view of what an excludable computer program can be.⁴⁵ The court reasoned that the European Patent Office’s view was a narrow one because it limited excludable computer programs only to programs that were wholly abstract and intangible.⁴⁶ Lord Justice Jacob instead argued that “the framers of the . . . [European Patent Convention] really meant to exclude computer programs in practical and operable form. They meant to exclude real computer programs, not just an abstract series of instructions.”⁴⁷

Soon after the decision, the European Patent Office addressed the standard promulgated by *Aerotel v. Telco and Macrossan’s Applications*.⁴⁸ In *Duns Licensing Associates*, a decision by the European Patent Office’s Technical Board of Appeal, the Board held that the approach authored by Lord Justice Jacob, in its focus on the issue of abstractness, was incorrectly “rooted in this second ordinary meaning of the term of invention,”⁴⁹ a view based in old but no longer applicable law.⁵⁰ The Board held that this was “not consistent with a good faith interpretation of the European Patent Convention.”⁵¹ Construing Lord Justice Jacob’s technical contribution test as “[presupposing] that ‘novel and inventive purely excluded matter does not count as a technical contribution,’⁵² the Board resoundingly found the approach to be simply ‘irreconcilable with the European Patent Convention.’”⁵³ Despite this harsh criticism, however, the United Kingdom has nonetheless retained Lord Justice Jacob’s test, and,

39. *Aerotel*, EWCA (Civ) 1371 at [11].

40. *Id.* at [63], [64], [72].

41. *Id.* at [63].

42. *Id.*

43. *Id.* at [64].

44. *Id.* at [72].

45. *Id.* at [29]-[31].

46. *Id.*

47. *Id.* at [31].

48. Case T 0154/04, *Duns Licensing Assoc.*, 2008/02 Official Journal of the EPO 46, 70 (Nov. 15, 2006), available at <http://www.epo.org/law-practice/case-law-appeals/recent/t040154ex1.html>.

49. *Id.*

50. *Id.*

51. *Id.*

52. *Id.* at 71.

53. *Id.*

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ostensibly, the theory that it is rooted in, that some computer programs are excludable under the European Patent Convention.⁵⁴

*B. Software and Copyright*⁵⁵

In addition to patent law, the United Kingdom provides protection to software through its copyright regime.⁵⁶ Software is protected under copyright as if it was a literary work—a literary work whose *text* is the software’s source code.⁵⁷ The software copyright’s duration is for the life of the author plus seventy years after the author has passed away;⁵⁸ during this time, the copyright provides the author with numerous rights and protections.⁵⁹ These rights and protections give the copyright owner the ability “to control the ways in which . . . [the copyrighted] material may be used . . . [and] cover[s] broadcast and public performance, copying, adapting issuing and lending copies to the public.⁶⁰ In many cases, the creator will also have the right to be identified as the author and to object to distortions of his work.”⁶¹ Furthermore, under the fourth article of the European Union’s Directive on the Legal Protection of Computer Programs, the software copyright holder retains the right to restrict the right of reproduction of software, temporarily or permanently.⁶² Specifically, it states that “[i]nsofar as loading, displaying, running, transmission or storage of the computer program necessitate such reproduction, such acts shall be subject to authorization by the right holder.”⁶³ The software owner may also restrict “the translation, adaptation, arrangement and any other alteration of a computer program and the reproduction of the results thereof, without prejudice to the rights of the person who alters the program.”⁶⁴ Moreover, the software owner also maintains the distribution rights.⁶⁵

However, copyright does grant some rights to the user as well. For one, despite the provisions of the fourth article of the European Union’s Directive on

54. *Astron Clinica Ltd. & Others and The Comptroller Gen. of Patents, Designs and Trade Marks*, [2008] EWHC (Pat) 85, [44]-[46] (Eng.).

55. Note, a unitary patent system would not affect copyright laws; however, as copyright is a key regime in governing software, and because my later proposal will analyze copyright elements, the topic warrants discussion now.

56. *If You Think Software Patents Are a Pain, Try Software Copyright*, THE IP KAT (July 27, 2010), <http://ipkitten.blogspot.com/2010/07/if-you-think-software-patents-are-pain.html>.

57. *SAS Institute Inc. v. World Programming Ltd.*, [2010] EWHC (Civ) 1829, [197] (Eng.).

58. Copyright, Designs and Patents Act of 1988, c. 48, § 12(2) (U.K.).

59. *Id.* at c. 16-27.

60. *Fact Sheet P-01: UK Copyright Law*, *supra* note 2.

61. *Id.*

62. Directive 2009/24/EC, art. 4, of the European Parliament and of the Council of 23 April 2009 on the Legal Protection of Computer Programs, 2009 O.J. (L 111).

63. *Id.*

64. *Id.*

65. *Id.*

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the Legal Protection of Computer Programs, software users retain the right to reproduce software for certain purposes, including the creation of “back-up”⁶⁶ copies, and where reproduction is necessary for the operation of the software.⁶⁷ Further, under article five, the owner of software can, without running afoul of article four, “observe, study or test the functioning of the program in order to determine the ideas and principles which underlie any element of the program if he does so while performing any of the acts of loading, displaying, running, transmitting or storing the program which he is entitled to do.”⁶⁸ Additionally, software users are allowed to decompile software for the purpose of (and only of) achieving interoperability with other programs, so long as the information needed for interoperability is not readily available, nor are the results of interoperability studies used to create programs substantially similar to the software from which interoperability is sought.⁶⁹ Finally, the author’s rights to control their software’s distribution are limited by the first sale doctrine; they have no right to control their product’s resale or rental once the initial purchase has already occurred.⁷⁰

Another important point of consideration is how software protection under copyright differs from software protection under patent. A copyright does not protect the entire scope of the software in question.⁷¹ Unlike copyrights, patents provide owners with the rights of exclusivity over an idea.⁷² Software copyrights, however, do not extend to the “ideas, procedures, methods of operation and mathematical concepts” that underlie a given piece of software.⁷³ Instead, copyright protects software only to the extent and in the manner of which a piece of software expresses certain ideas and concepts.⁷⁴ This is significant when it comes to matters of infringement since copyright infringement only occurs when there is direct copying of the copyrighted source code;⁷⁵ if a new user can find a way to express that source code differently, they may be able to practice the idea underlying the software without facing liability.⁷⁶ Having addressed software patent and copyright issues, we can now turn to the unitary patent.

66. *Id.* at art. 5.

67. *Id.*

68. *Id.* (discussing how rights to reproduce software for the purpose of operating the software can be contractually nullified and rights to create backup copies cannot).

69. *Id.* at art. 6.

70. *Id.* at art. 4.

71. *SAS Institute Inc. v. World Programming Ltd.*, [2010] EWHC (Civ) 1829, [206]-[207] (Eng.).

72. Scott M. Alter, *Selecting Protection for Computer Programs: Know Your Options*, 39 FED. B. NEWS & J. 264 (1992).

73. *SAS Institute Inc.*, EWHC (Civ) 1829 at [205]; *see also Navitaire Inc. v. Easyjet Airline Company Bulletproof Technologies Inc.*, [2004] EWHC (Civ) 1725, [87] (Eng.) (holding that copyright protection does not extend to programming language).

74. *SAS Institute Inc.*, EWHC (Civ) 1829 at [206]-[207].

75. Alter, *supra* note 72.

76. *See SAS Institute Inc.*, EWHC (Civ) 1829 at [206]-[207].

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III. ENTER THE UNITARY (SOFTWARE) PATENT

The unitary patent will create a new regime, which governs the creation and implementation of patent law in the majority of the European Union.⁷⁷ Because of this, as Stallman suggests, it would become possible for patentability to be extended to cover issues of software.⁷⁸

A. *So, What Is a Unitary Patent?*

Assuming nothing derails the ratification process, unitary patents will, in many ways, be similar to patents as society currently knows them.⁷⁹ They would be used to claim ownership over certain ideas for a limited time so that the idea could be immune from market competition—i.e. so that the price will stay up.⁸⁰ Unitary patents will also require the disclosure of the idea in order to further the store of knowledge available in the public domain.⁸¹ What ultimately makes the unitary patent different is its implementation and its range: a unitary patent would operate in a European-wide system.⁸²

Because the European Patent Office does not have the authority itself to bind members of the European Union to a new system of patent laws, an EU unitary patent can only arise with a new international agreement created between the Member States of the European Union.⁸³ Currently, twenty-five countries are working together to create the unitary patent.⁸⁴ The envisioned agreement will be open only to EU nations, and will require them to accept the European Union's primacy on matters under the agreement.⁸⁵ The system will allow inventors to seek a new type of patent—the unitary patent—directly from the European Patent Office.⁸⁶ The unitary patent will give unitary effect to an invention's patent over

77. Stallman, *supra* note 5.

78. *Id.*

79. See *Unitary Patent / EU Patent*, EUR. PAT. OFF., <http://www.epo.org/law-practice/legislative-initiatives/eu-patent.html> (last visited Sept. 25, 2011) (explaining that a unitary patent would simply be an “optional adjunct to traditional national and European patents[.]...a European patent granted by the [European Patent Office] under the [European Patent Convention] to which unitary effect would be given after grant, at the patentee's request.”).

80. See LANDERS, *supra* note 6 (explaining the basic function of a patent). It should be noted that this book approaches patent from an American perspective; however, the basic functions of the patent overlap across international lines, and the United States patent system originates from the United Kingdom's patent system. *A Brief History of the Patent Law of the United States*, LADAS & PARRY LLP, www.ladas.com/Patents/USPatentHistory.html (last visited Feb. 15, 2012).

81. See New, *supra* note 9.

82. *Id.*

83. *Id.*

84. *Id.*

85. *Unitary Patent / EU Patent*, *supra* note 79.

86. *Id.*

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all other nation members to the agreement.⁸⁷ This means that, instead of a patent holder having several patents under several different nations' patent law systems, the holder will have a single patent under a single, European Patent Convention-wide system of rules.⁸⁸

The agreement would also establish an international organization called the Unified Patent Court.⁸⁹ The Unified Patent Court would contain would be split between three courts: a main seat in Munich, and two specialized seats in Munich (mechanical engineering) and London (life sciences and pharmaceuticals)⁹⁰ When disputes arise regarding a unitary patent granted by the European Patent Office, the court will be the central organization for interpretation and resolution of disputes and their underlying legal issue.⁹¹ The court's interpretation of the law would have a binding effect on all member nations.⁹²

B. The Impetus for the Unitary Patent

Supporters behind the unitary patent have a simple goal: simplicity.⁹³ Under the current system, a patentee who applies to the European Patent Office is applying for several different patents, and this multiplies their transaction costs severely.⁹⁴ The European Patent Office calculated various statistics, and recently reported that a European Patent that is valid in only thirteen nations can cost upward of €18,000 (nearly \$24,000 U.S. dollars),⁹⁵ with translation fees alone costing €10,000 (just over \$13,000 U.S. dollars).⁹⁶ "This has created a situation in

87. *See id.*

88. *Id.*

89. *Id.*

90. *Id.*; *Deal Reached: Unitary Patent Court To Have Three Homes*, SCI. BUS. (Jun. 27, 2012), bulletin.sciencebusiness.net/news/75784/Deal-reached-Unitary-patent-court-to-have-three-homes.

91. Kevin P. Mahne, *A Unitary Patent and Unified Patent Court for the European Union: An Analysis of Europe's Long Standing Attempt to Create a Supranational Patent System*, 94 J. PAT. & TRADEMARK OFF. SOC'Y 162, 187 (2012).

92. *Id.*

93. *See Commission Proposes Unitary Patent Protection in 25 Member States--Frequently Asked Questions*, EUROPA (Apr. 13, 2011), http://europa.eu/rapid/press-release_MEMO-11-240_en.htm.

94. *Id.*

95. *Currency Calculator Euro, US Dollar*, X-RATES, <http://www.x-rates.com/calculator/?from=EUR&to=USD&amount=18000> (last visited Sept. 15, 2012).

96. Press Release, Europa, Patents: Commission Opens the Way for Some Member States to Move Forward on Unitary Patent (Dec. 14, 2010), *available at* europa.eu/rapid/pressReleasesAction.do?reference=IP/10/1714; *but see also* ROLAND BERGER MARKET RESEARCH, *STUDY ON THE COST OF PATENTING 1-2* (2004), *available at* www.ffi.org/system/files?file=cost_analysis_2005_study_en.pdf. This source provides a report commissioned by the European Patent Office, which found that, in 2003, Euro-direct patents, which are valid in six countries, cost €30,530, and that Euro-PCT patents, which are valid in eight countries, cost €46,700. The prices include pre-filing expenditures, attorney fees, translation fees, internal processing costs, European Patent Office Fees, and validation fees. The report did estimate that the United States Patent costs more than the more recent European Patent Office publication, putting it at €10,250. Whether the difference accounts for a drop in prices or a difference in factors considered is unclear, because the more recent European Patent Office

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which the cost of a European Patent is ten times greater than a U.S. patent, which costs on average €1,850 [about \$2,500 U.S. dollars].”⁹⁷ Indeed, this situation has led many patentees to forego protection in several nations in order to cut down on costs.⁹⁸

A unitary patent would, supporters argue, dramatically lower the cost of patenting, as a patentee would need only need one patent—and thus only need to prepare one application under one system of legal rules.⁹⁹ This would cut attorney’s fees and other procedural costs, making European patents more accessible, and thus, arguably, will create greater incentives for companies to undertake research and development efforts.¹⁰⁰ Furthermore, patentees would only be required to file a patent in three languages—German, English, and French.¹⁰¹

C. *How Software (Could) Become Involved*

A unitary patent system, just like the current U.K.¹⁰² and European Patent Convention systems,¹⁰³ does not necessarily have to involve expansive software protection.¹⁰⁴ Briefly stated, the fear of activists like Stallman is that, if the United Kingdom and other European nations confer the power to the European Patent Office to make a single patent, the European Patent Office could expand the scope of the patent to cover software more broadly.¹⁰⁵ If they did this, Stallman notes, because of the binding unitary effect, even if member nations objected to the new software patents, “no country will be able to escape them on its own.”¹⁰⁶

did not list the factors they considered in computing their figures. *Currency Calculator, Euro, US Dollar, supra* note 95.

97. Press Release, Europa, *supra* note 96; *Currency Calculator Euro, US Dollar, supra* note 95.

98. Press Release, Europa, *supra* note 96.

99. *Commission Proposes Unitary Patent Protection in 25 Member States--Frequently Asked Questions, supra* note 93.

100. The value of the unitary patent will be further explored in Part IV.A.

101. *Deal Reached, supra* note 90.

102. *Commission Proposes Unitary Patent Protection in 25 Member States--Frequently Asked Questions, supra* note 93.

103. *Id.*

104. The Patents Act of 1977, c. 37, pt. 1, § 2 (2011) (U.K.); Convention on the Grant of European Patents, *supra* note 36, at art. 52(2); Stallman, *supra* note 5.

105. See Stallman, *supra* note 5.

106. *Id.*

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IV. THE VALUE OF THE UNITARY SOFTWARE PATENT AND THE NEED FOR
GREATER SOFTWARE PROTECTION: A RECOMMENDATION OF HOW THE UNITED
KINGDOM CAN EXPAND SOFTWARE PROTECTION, AND A PROPOSAL OF WHAT
THAT EXPANSION SHOULD INCLUDE

The risks posed by the unitary patent to expand the scope of software protection by patent are indeed somewhat troubling.¹⁰⁷ However, the unitary patent also offers several advantages to the software community.¹⁰⁸ When one considers this in conjunction with protections in the law, which limits the ability for the scope of software to expand, the balance tips in favor of the unitary patent.¹⁰⁹ Yet, while the unitary patents limited ability to expand software protection is comforting, it is also problematic when one considers the growing desire for greater software protection, and the potential¹¹⁰ for that desire to lead to an expansion.¹¹¹ Thus, in addition to seeking a unitary patent, the United Kingdom should also embark on creating a new regime of laws that provide greater protection for software, thus quelling the need for a larger software patent.¹¹² The United Kingdom can begin at the national level, then expand to the European Union and, ultimately, to the whole of the international community.¹¹³ Any new system, while potentially being composed of many different software protection elements, should at a minimum include provisions similar to the United States' Digital Millennium Copyright Act, except focusing solely on the issue of software.¹¹⁴

A. *The Unitary Patent Survives Scrutiny, But Does Not Address the Needs of the Software Community*

1. *The Acceptability of the Unitary Software Patent*

First, it is worth noting that there are several apparent downsides for the United Kingdom in pursuing membership in a unitary patent system. For one, doing so would give up a significant amount of sovereignty that the United Kingdom has over its patent system; by allowing the unitary patent, U.K. courts will no longer have a role in interpreting the European Patent Convention, as this role will be relegated to the new patent courts created by the unitary patent.¹¹⁵

107. See *infra* Part IV.A.1.

108. See *id.*

109. See *id.*

110. See *id.*

111. See *infra* Part IV.A.2.

112. See *id.*

113. See *infra* Part IV.B.

114. See *infra* Part IV.C.

115. See *supra* Part III.A.

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This loss in sovereignty will also make Stallman’s assertion that the scope of software patents will expand true; this is necessarily so because of the current divergence between the United Kingdom and the European Patent Office in interpreting the European Patent Convention Article 52.¹¹⁶ As the law currently stands, the European Patent Office takes a less strict view on the patentability of computer programs than does the United Kingdom.¹¹⁷ Whereas the United Kingdom interprets the European Patent Convention to apply to “real computer programs,”¹¹⁸ the European Patent Office is more concerned with computer programs when in the abstract form only.¹¹⁹ Because a unitary patent system would be governed by a European-wide entity, it would follow that the European Patent Office’s looser interpretation would win the day (the European Patent Office would not be directly in charge of the new court system, but it would play a pivotal role in connection with it, and would be the office through which patents were sought).¹²⁰

Yet, despite these concerns, there are tempering considerations. While entering the unitary patent does indeed sacrifice some of the United Kingdom’s sovereignty, this has been done routinely in the past with intellectual property treaties like the Berne Convention.¹²¹ This is precisely because the United Kingdom and other nations realized that, by sacrificing some of their sovereignty, they received what was ultimately better protection, which went beyond their borders.¹²² This tradeoff will be precisely the same with the unitary patent; in exchange for a loss of control over the patent system, the United Kingdom’s industries will gain a much broader patent right.¹²³

The efficiency of a single system of patent also provides many financial benefits in terms of reducing the cost for industries in the United Kingdom (and other nations) to get a patent.¹²⁴ Noted Professor Ian Hargreaves, who was commissioned by the United Kingdom to make a recommendation on the unitary patent, argued in favor of it, and, citing the efficiency and economic benefits, declared the commission of an EU unitary patent and unified patent court deserving of the “highest immediate priority.”¹²⁵

116. See *supra* Part II.A; see also Case T 0154/04, Duns Licensing Assoc., 2008/02 Official Journal of the EPO 46, 60-63 (Nov. 15, 2006).

117. See *supra* Part II.A (comparing the United Kingdom’s interpretation of Article 52(2) to the European Patent Office’s interpretation). Compare *Aerotel v. Telco & Macrossan’s Applications*, [2006] EWCA (Civ) 1371, with *Case T*, Official J. of the EPO.

118. *Aerotel*, EWCA (Civ) 1371 at [31].

119. *Id.*; see also *supra* Part II.A.

120. *Aerotel*, EWCA (Civ) 1371 at [31]; see also *supra* Part II.A; *Unitary Patent / EU Patent*, *supra* note 79.

121. See COHEN ET AL., *supra* note 6, at 34.

122. *Id.*

123. See *supra* Part III.A-B.

124. See *id.*

125. HARGREAVES, *supra* note 14, at 8.

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A notable counter argument to this is that the Unified Patent Court is split into three courts, arguably making the term “unified” contradictory.¹²⁶ This is not a matter for concern. Though separate, the courts have power to issue a single decision,¹²⁷ thus retaining the sense of certainty so desired by patentees. Additionally, while the requirement of three languages does mean some translation fees will remain, this is ultimately minor compared to filing for every language, and the United Kingdom particularly benefits from the fact that one required language is English. Furthermore, London is the seat of one of these courts, and having the seat of a governmental institution has long been recognized as a strong strategic advantage.¹²⁸ This is particularly important because United Kingdom Prime David Minister Cameron was able to remove the European Court of Justice’s potential appellate power, making the Unified Patent Court the ultimate source of adjudication.¹²⁹

There are also several legal substantive issues to consider. For one, it should be noted that the transition to the European Patent Office’s approach towards the excludability of computer programs (the issue of technical contribution) will likely occur, absent some change in jurisprudence, which, from the strong language used in *Duns Licensing Associates*, seems unlikely.¹³⁰ Thus, the United Kingdom will have to swallow the *Duns Licensing Associates* approach should it want to receive the benefits of the unitary patent.¹³¹ Doing so, while perhaps not preferable (at least in the eyes of Lord Justice Jacob), does propose a benefit.¹³² While it may be a less preferable form of law, there is value in unity; under the current system, U.K. industries have to deal with two distinct sets of patent law in regards to software—the *Aerotel v. Telco and Macrossan’s Applications* approach and the *Duns Licensing Associates* approach.¹³³ This means that prospective patent owners will face uncertainty when drafting their claims, and those who do own patents will have a patent with an uncertain scope.¹³⁴ This is

126. Benjamin Fox, *'Historic Day' As EU Patent Deal Ends 40-Year Wait*, EUOBSERVER (Dec. 12, 2012), euobserver.com/political/118490.

127. *Id.*

128. For instance, while a more obvious capital would have been Philadelphia, the United States famously picked Washington D.C., a swampland, because of its more favorable centered location between the North and the South, quelling southern fears of the potential Northern influence induced by a northern location. *Washington, D.C.: History*, CITY DATA, citydata.com, www.city-data.com/us-cities/The-South/Washington-D-C-History.html (last visited Jan. 3, 2013).

129. Nikolaj Nielsen, *EU Breaks 30-Year Deadlock On Joint Patent*, EUOBSERVER (Jun. 29, 2012), euobserver.com/economic/116819. Notably, the United Kingdom has further achieved the exclusion of articles 6 and 8, a major victory increasing the incentive not to pull out of the treaty. *Id.*

130. See Case T 0154/04, *Duns Licensing Assoc.*, 2008/02 Official Journal of the EPO 46, 70 (Nov. 15, 2006).

131. *Id.*

132. See *supra* notes 117-20 and accompanying text.

133. Paul England, *A Clash of Appeals over Patentability*, 2(11) J. INTELL. PROP. L. & PRAC. 712 (2007).

134. See *id.*

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fatal because industries that rely on patents in order to justify the research and development expenses required to develop a technology require legal certainty to ensure that their investments are worthwhile—to ensure that they will even pursue them in the first place.¹³⁵ Thus, even if it means using a less preferable law, accepting the unitary patent, and the *Duns Licensing Approach*, will provide certainty to prospective and current U.K. patent owners.¹³⁶

This Comment now turns to Stallman’s suggestion that a unitary patent would be a back door to opening the scope of software patents.¹³⁷ Stallman argues, “that the EPO has a vested interest in extending patents into as many areas of life as it can getaway with. With external limits (such as national courts) removed, the [European Patent Office] could impose software patents, or any other controversial kind of patents.”¹³⁸ To this point several observations must be made; first among those is that, under the unitary patent system proposed, the European Patent Office is not empowered with judicial decision making; this power is, rather, invested in a unitary patent court system.¹³⁹ Furthermore, while this court would be judicially empowered, the European Patent Convention would still govern the power of the court,¹⁴⁰ and Article 52 specifically limits the ability for the system to expand the availability of software protection by patent, a significant obstacle to the supposed goals of the European Patent Office.¹⁴¹

2. *The Need for Greater Software Protection*

The unitary patent is an important step for stronger software protection, but it is not the only step needed. As noted by Lord Justice Jacobs, there is an increasing demand for software protection by the business community.¹⁴² Software protection currently comes primarily from copyright and patent law, two regimes which were developed long before, and thus not created for,

135. Doug Litchman & Mark A. Lemley, *Rethinking Patent Law’s Presumption of Validity*, 60 STAN. L. REV. 45, 59 (2007). Note the article cautions that certainty can also be a bad thing, as “some scholars suggest that the last marginal increase in patent certainty comes at an enormously high cost to society, in essence because a confident patent holder can be particularly aggressive when it comes to negotiating licensing deals or settling litigation.”

136. *Id.*; HARGREAVES, *supra* note 14. Note that a further benefit is that accepting Duns Licensing Associates is arguably a better interpretation of the law, given that the European Patent Office Board of Appeals (and, ostensibly, the Unified Patent Court) has “interpretive[] supremacy with regard to the [European Patent Convention] in terms of its scope of application.” Case G 0003/08, C.3651.D European Patent Office 1, 13 (May 12, 2010). Another advantage provided by having a single law is that litigation becomes less complex, saving companies money which they can then spend on productive activities as opposed to defensive ones.

137. *See supra* Part III.C.

138. Stallman, *supra* note 5.

139. *Unitary Patent / EU Patent*, *supra* note 79.

140. *See id.*

141. Convention on the Grant of European Patents, *supra* note 36, at art. 52.

142. *See Aerotel v. Telco & Macrossan’s Applications*, [2006] EWCA (Civ) 1371, [17] (Eng.).

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software.¹⁴³ Hence, to meet the demands of the twenty-first century, the United Kingdom needs to create laws that focus specifically on the “aspects [of software that] need some legal protection . . . that existing legal regimes cannot provide.”¹⁴⁴ To bolster the credibility and strength of these laws, such a system should be international.¹⁴⁵

*B. So, How Should the United Kingdom Proceed?**1. Start at Home*

Since this Comment argues for an international system, it would seem logical for this Comment to immediately call for an international convention. It does not. Instead, this Comment suggests that the United Kingdom begin by instituting a new software regime for the United Kingdom alone.

Any international process will be fraught with difficulty.¹⁴⁶ But, by instituting a national system first, the United Kingdom will have something other nations cannot yet offer to software producing communities: a new form of protection.¹⁴⁷ By doing this, the United Kingdom can become a magnet for software developers, much like Ireland has become for corporations by offering them a low corporate tax rate.¹⁴⁸ With this advantage, other nations will be forced to similarly increase their software protection in order to continue to attract software business to their markets.¹⁴⁹ This will create an international need and

143. See *supra* Part II; see generally Stallman, *supra* note 26.

144. Pamela Samuelson et al, *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2310 (1994).

145. Consider the strength added to the United Kingdom’s copyright protection when the United States ascended to the Berne Convention. See COHEN ET AL., *supra* note 6, at 33-35.

146. Consider the fact that Europe dedicated nearly a century towards trying to convince the United States to adopt the Berne Convention for the Protection of Literary and Artistic Works. See COHEN ET AL., *supra* note 6, at 34-37.

147. Note the one exception, and competitor to the United Kingdom, would be the United States, which has the Digital Millennium Copyright Act, the act that inspires much of the system this Comment will endorse. 17 U.S.C. 512 (1998). To the extent that Europe has adopted laws similar to the Digital Millennium Copyright Act, the safe harbor provision, which is keyed to system proposed by this Comment, is staggeringly weaker in European nations. The provisions only apply to sites that are actively aware and choose not to respond to the presence of improper copyright material, and lays out no guidelines or specifics on how the provision works. “In short, the main difference between the U.S. and the EU on matters of notice and takedown is that the EU removes all the formalities that exist under U.S. law and, with them, all of the protections.” Jonathan Bailey, *U.S. vs. Europe: Notice and Takedown*, PLAGIARISM TODAY (May 15, 2006), www.plagiarismtoday.com/2006/05/15/us-vs-europe-notice-and-takedown. Furthermore, while this Comment only recommends the Digital Millennium Copyright Act-like provisions, it expands those provisions to an extent, and it foresees that any system developed by the United Kingdom will likely have many more provisions involved.

148. See John Murray Brown, *Ireland Defends Low Corporate Tax Rate*, FIN. TIMES (Apr. 15, 2011, 10:26 AM), <http://www.ft.com/cms/s/0/e90525f2-66a1-11e0-ac4d-00144feab49a.html#ixzz1bg8pHfAt> (explaining that Ireland has seen great financial gain by offering a 12.5 percent tax rate to corporations).

149. See Segolene Barbou Des Places, *Evolution of Asylum Legislation in the EU: Insights from Regulatory Competition Theory* 17 (Robert Schuman Ctr. for Advanced Studies, Working Paper No. 2003/16,

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desire for an agreement since, if a nation is going to increase its own protections, it will likely want other nations to recognize and enforce its system of laws.¹⁵⁰ Having already set a standard for new software protections,¹⁵¹ the United Kingdom could take charge of the debate, and set a baseline of protection that reflects the desires of its people, desires which already will have been expressed through legislative vote.¹⁵²

2. *Look Beyond Europe*

Additionally, unlike the unitary patent, which would be only available to EU nations,¹⁵³ this Comment argues that the United Kingdom pursue the membership of non-European countries, particularly the United States,¹⁵⁴ India, China, Japan, Brazil and Russia.¹⁵⁵ Doing this would increase the system's efficacy by providing software developers with worldwide protection; without it, software pirates would be able to seek refuge in other nations, and the scope of the United Kingdom's new rights would be limited.¹⁵⁶ The United Kingdom already saw this problem in the eighteenth and nineteenth century where, by not being a party to the Berne Convention on the Protection of Literary and Artistic Works, the United States frequently violated U.K. authors' copyrights.¹⁵⁷ International cooperation is thus essential.¹⁵⁸

2003), available at http://www.eui.eu/RSCAS/WP-Texts/03_16.pdf (making the observation that nations "constantly had to readapt their legislation in order to remain competitive.").

150. See England, *supra* note 133.

151. *Fact Sheet P-01: UK Copyright Law*, *supra* note 2.

152. *Id.*

153. See *Unitary Patent / EU Patent*, *supra* note 79.

154. While the United States already, obviously, has many of the provisions articulated in the next section of this Comment, it does not have them all, and for what it does have it operates only at the national level. Thus, if someone violated the safe harbor based out of another country, the United States takedown notice would be of no use. See Michael L., *How Does the Pirate Bay Respond to DMCA Takedown Notices?*, IP IN THE DIGITAL AGE (Feb. 17, 2009), <http://ipinthedigitalage.com/how-does-the-pirate-bay-respond-to-dmca-takedown-notices> (noting that attempts to serve takedown notices on the Pirate Bay, a site offering free copyrighted material, are fruitless, and often replied to simply with "snarky replies").

155. For the reasons discussed below, it is in the United Kingdom's interest to seek the cooperation of all nations. However, this article singles out these non-European countries because they are either currently one of the larger software markets (the United States, Japan and Canada) or are emerging as one of the larger software markets (Brazil, Russia, India and China). *Software Industry Facts and Figures*, BUS. SOFTWARE ALLIANCE, http://www.bsa.org/country/Public/Policy/~media/Files/Policy/Security/General/sw_factsfigures.ashx (last visited Nov. 14, 2011).

156. See Stallman, *supra* note 5 (discussing the problems that the United States faces in enforcing the Digital Millennium Copyright Act abroad).

157. COHEN ET AL., *supra* note 6, at 33-34. In fact, infringement of the United Kingdom's authors in the United States was so bad that Charles Dickens undertook a tour of the United States to persuade people to honor his rights to his works. *Id.* at 33.

158. See England, *supra* note 133.

*Global Business & Development Law Journal / Vol. 26**3. If International Cooperation Seems Unlikely, Try Enhancing It*

Of course, there could be difficulties in securing a deal with a majority of the world; this ranges from general logistical matters¹⁵⁹ to the political climate of the prospective nations.¹⁶⁰ If this proves to be the case, the United Kingdom would be wise to first pursue an EU-only agreement. Such an agreement would likely prove to be an easier undertaking given the close relationship that European nations have (by virtue of being members of the European Union).¹⁶¹

To top it off, the United Kingdom does not even need all EU nations to start the treaty process, because the United Kingdom could proceed through the European Union's provision for enhanced cooperation.¹⁶² While binding all EU nations to a new treaty requires each nation's individual consent,¹⁶³ the provision of enhanced cooperation would allow a smaller group of European nations—at least nine—to enter into a treaty together.¹⁶⁴ Thus, the United Kingdom only needs to seek the cooperation of eight other nations to begin this process,¹⁶⁵ and could rely on the utility and popularity of the new system to then attract the rest of the EU member nations. This theory underlies the earlier attempted use of enhanced cooperation for the unitary patent itself; it would work because, as put by Keith Hodgkinson, who is the Chairman of Marks & Clerk International Law Firm, “[i]f the scheme were to take off we think that a number of countries now waiting in the wings would jump in afterwards and there would be immense pressure on the remaining countries to participate.”¹⁶⁶ Hodgkinson went on to reason that “we don't want another decade-long wait for the European patent as we have had with the London Agreement on translations, so this may be a way of

159. COHEN ET AL., *supra* note 6, at 34-37 (explaining that it took eight years to negotiate the Agreement on Trade-Related Aspects of Intellectual Property Rights).

160. See Stallman, *supra* note 5 (noting the large opposition movement that derailed Europe's attempted expansion of software rights in 2005); see also Stallman, *supra* note 26 (providing, in 2005, a passionate argument against the software patent proposals).

161. See *Basic Information on the European Union*, EUROPA, http://europa.eu/about-eu/basic-information/index_en.htm (last visited Feb. 15, 2012) (noting that there “is a unique economic and political partnership between 27 European countries” who are member to the European Union).

162. The Treaty on the Functioning of the European Union, arts. CCCXXVI-CCXXXIV, Mar. 25, 1957, 298 U.N.T.S. 3, 2010 O.J. (C 83/188-192).

163. *Procedure for the Adoption of International Agreements*, EUROPA, http://europa.eu/legislation_summaries/institutional_affairs/decisionmaking_process/114532_en.htm (last visited Sept. 4, 2012).

164. The Treaty on the Functioning of the European Union, *supra* note 157, at arts. CCCXXVI-CCXXXIV; *Enhanced Cooperation*, EUROPA, http://europa.eu/legislation_summaries/glossary/enhanced_cooperation_en.htm (last visited Sept. 4, 2012).

165. See The Treaty on the Functioning of the European Union, *supra* note 157, at arts. CCCXXVI-CCXXXIV.

166. *EU Commission Formally Proposes Single EU Patent*, MARKS&CLERK UK (Dec. 16, 2010), www.marks-clerk.com/uk/attorneys/news/newsitem.aspx?item=360.

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kick starting the whole process in the face of inward looking resistance from a few countries.”¹⁶⁷

C. *Creating New Online Anti-Piracy Tools: Implementing a Digital Millennium Copyright Act-Like System*

While an international agreement could contain many things, this Comment specifically proposes a tool that is modeled in part after the United States’ Digital Millennium Copyright Act. This will serve both to incentivize other nations to join the system and will work to curb the pirated software market.¹⁶⁸ To incentivize others to appreciate the value of this new system, these online tools recognize and respond to the most significant marketplaces for pirated software—internet sites¹⁶⁹ and peer-to-peer networks.¹⁷⁰ Attacking software piracy on the internet is tantamount to the success of any effort to curb software piracy, because “[w]here Internet navigation once required knowledge of Unix or DOS commands, the World Wide Web has delivered point-and-click maneuverability. Where it once took abundant time and patience to upload and download pirated software programs, high-speed Internet connections and advances in compression technology make some of the largest files available in a matter of minutes.”¹⁷¹

Focusing on Internet sites is not enough however; peer-to-peer networks must also be targeted.¹⁷² These networks are significant contributors to software piracy in part because of how they make achieving piracy easier; “where finding particular programs once presented a challenge, peer-to-peer (P2P) programs

167. *Id.* Indeed, this seems to have proven true as there are now twenty-five nations, all but two of the EU, who are working to join the unitary patent system (at the time of enhanced cooperation, there were only 12). New, *supra* note 9.

168. *See supra* Part IV.B.

169. This term, as it will be used, is to be construed broadly, and includes auction sites, one-click hosting sites and bit-torrent sites, which are significant sources for pirated software; more generally, it covers the traditional categories protected under the United States’ Digital Millennium Copyright Act, which includes: conduit communications (which “include the transmission and routing of information, such as email or Internet Service Provider, which store the material only temporarily on their networks”), system caching (which “refers to the temporary copies of data that are made by service providers in providing various services that require such copying in order to transfer data”), storage systems (which “refers to services which allow users to store information on their networks, such as a webhosting service or a chat room”) and information location tools (which “refer to services such as search engines, directories, or pages of recommended web sites which provide links to allegedly infringing web sites”). *The Many Forms of Software Internet Piracy*, BUS. SOFTWARE ALLIANCE, <http://www.bsa.org/country/~media/Files/Antipiracy/en/formsofsoftwarepiracy.ashx> (last visited Jan. 15, 2012); *Frequently Asked Questions (and Answers) about DMCA Safe Harbor*, CHILLING EFFECTS, www.chillingeffects.org/dmca512/faq (last visited Jan. 15, 2012).

170. *The Many Forms of Software Internet Piracy*, *supra* note 164. Note that the United States’ Digital Millennium Copyright Act does not expand to peer-to-peer networks; this system will. Jennifer Urban & Laura Quilter, *Efficient Process or ‘Chilling Effects’? Takedown Notices Under Section 512 of the Digital Millennium Copyright Act*, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 621, 649 (2006).

171. *Internet Software Piracy Fact Sheet*, BUS. SOFTWARE ALLIANCE, <http://www.bsa.org/~media/b60b3ae31b984b50b5b11200aa7b781f.ashx> (last visited Jan. 15, 2012).

172. *See id.*

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have enabled easy and wide-ranging searches. Today, even the most novice of users can find his or her way to tens of thousands of pirated software copies.”¹⁷³ On one such network, The Pirate Bay, a web user can gain access to at least 300 pieces of software without doing anything more than clicking the menu link for “applications,”—and the presence of the search engine function suggests much more software is bound to be found.¹⁷⁴

The volume of such peer-to-peer network infringements that could be stopped by acts like the Digital Millennium Copyright Act is staggering; one study of Digital Millennium Copyright Act takedown requests revealed that nearly half of the discoveries of online pirated material were focused on material found on peer-to-peer networks.¹⁷⁵ Given the ease of piracy through Internet sites and peer-to-peer networks, a new system that is able to directly attack these ports of piracy will yield direct benefits for software producers.¹⁷⁶ It will help create an incentive in the software manufacturing industry to organize behind the system and push their countries to adopt it.¹⁷⁷

So, what should this Digital Millennium Copyright Act-like system include? For one, it should create a safe harbor provision¹⁷⁸ for Internet sites, peer-to-peer networks, and Internet Service Providers from secondary liability for the software rights infringement.¹⁷⁹ The safe harbor will prevent groups from suffering liability for infringement by others on their site or network (i.e. infringement the site owners did not themselves partake in; if they themselves

173. *Id.*

174. *Browse Applications>Applications*, THE PIRATE BAY, <http://thepiratebay.org/browse/300> (last visited Jan 15, 2011). Not all of this software is necessarily illegal; for example, an independent software producer could create a software program and make it available on the site free to anyone who wishes to download it. However, even a cursory overview reveals that much of the software listed are commercial titles, and The Pirate Bay has a well-known reputation for hosting illegal content. *British Telecom urged to Block Illegal Filesharing Hub*, THE GUARDIAN (Nov. 4, 2011, 4:30 PM), <http://www.guardian.co.uk/technology/2011/nov/04/british-telecom-block-illegal-filesharing-site> (noting that “[t]he Pirate Bay is the world’s largest BitTorrent site, enabling and encouraging the mass illegal distribution of copyrighted content”).

175. Urban & Quilter, *supra* note 170 (The study was based off a list of self-reported takedown notices. Additionally, it is a study of all copyrighted materials, not just software).

176. The takedown procedures directed at material on peer-to-peer sites noted in the Urban and Quilter article would, if this were the state of the law, be effective, and thus implicate the remaining half of the material that those who seek to rely on the Digital Millennium Copyright Act wish to address. *Id.*

177. Because, as Lord Justice Jacob pointed out, there is a demand for increased software protection. *Aerotel v. Telco & Macrossan’s Applications*, [2006] EWCA (Civ) 1371, [17] (Eng.).

178. To the extent that safe harbor provisions exist under current EU law, they are toothless. Bailey, *supra* note 147.

179. While an Internet Service Provider would not likely post pirated software—it is instead in the business of providing access to the Internet—it is imperative to target these entities because they do in fact have the ability to restrict access to the Internet, and can thus be a tool in taking down repeat software pirates. Edward Wyatt, *U.S. Court Curbs F.C.C. Authority on Web Traffic*, N.Y. TIMES (Apr. 2, 2010), <http://www.nytimes.com/2010/04/07/technology/07net.html>; *Comcast Corp. v FCC*, 600 F.3d 642 (D.C. Cir. 2010).

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posted the material, they would not be a part of the safe harbor), so long as they comply with certain rules and procedures.¹⁸⁰

There should be several requirements for a site to meet in order to fall under safe harbor.¹⁸¹ First, sites, peer-to-peer networks, and Internet Service Providers in the safe harbor must comply with a takedown notice process.¹⁸² Here, where software-rights holders notify a site or a peer-to-peer network user's Internet Service Provider that their site is hosting pirated software, the site, peer-to-peer network, or Internet Service Provider will be given a set amount of time to block access to material, remove the material, or, where necessary, terminate the internet rights of a user,¹⁸³ or to provide a response to the company asserting a claim of legitimacy of the questioned software (i.e. argue that the software was legally posted).¹⁸⁴ Where disputes are not resolved, litigation can be pursued.¹⁸⁵ If a resolution in favor of the software rights holder comes down, the court can be empowered to allow a suit for infringement to occur if the site is deemed to have acted in an unreasonable manner;¹⁸⁶ the scope of unreasonableness can be defined and developed by the judiciaries of the various participating nations, and thus evolve alongside and adapt to the system and the beliefs of a given nation on software protection and litigation rights.¹⁸⁷

A second requirement to qualify for safe harbor provisions will be a more general requirement that site owners, when they are *specifically* aware, through any means, that there is pirated software on the site, and they can locate it through reasonable means, that they will act to remove it or, for Internet Service Providers, to put the user on notice that they are infringing (and that repeated activity could lead to their Internet access being severed).¹⁸⁸ This requirement is basically modeled after the Digital Millennium Copyright Act's protections in section 512, parts (c)(1)(A)(iii) and (d)(1)(C), and will ensure that a basic level of responsibility is observed among sites which host software.¹⁸⁹ It requires specific awareness in order to limit the provision's strict application to only the clearest

180. 17 U.S.C. § 512 (1998).

181. *Id.*

182. *Id.* § 512(b)(2), (c)(3), (d)(2).

183. This portion of the response must be taken carefully because, while it is important to stop online piracy, there may be instances of innocent infringement, where a user did simply did not understand their rights, or where the user believed they had the right to post software (such as believing the software was open source, or within the fair use doctrine). To this end, the law can set up guidelines or empower nations to set up guidelines on what must be necessary for an Internet Service Provider to blacklist a user.

184. 17 U.S.C. § 512. These procedural requirements are essential to enabling the proper enforcement of the law. Bailey, *supra* note 147.

185. For an example of such litigation, see *Viacom Int'l Inc. v. YouTube Inc.*, 718 F.Supp.2d 514 (S.D.N.Y. 2010).

186. See *Internet Software Piracy Fact Sheet*, *supra* note 166; see also Bailey, *supra* note 147.

187. *Internet Software Piracy Fact Sheet*, *supra* note 166; Bailey, *supra* note 147.

188. See 17 U.S.C. § 512(c)(1)(A), (d)(1).

189. See *id.* § 512(c)(1)(A)(iii), (d)(1)(C).

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violations.¹⁹⁰ For issues regarding a general awareness that software infringement is occurring, we turn to requirement three: policing.

The third requirement to qualify for safe harbor protections will be for Internet sites and peer-to-peer networks which host software to take on an affirmative self-policing duty.¹⁹¹ This duty will be, and must be, somewhat limited, because of the danger that financial costs of policing obligations can pose to an Internet venture.¹⁹² For example, consider the costs of a site like YouTube to fully police itself for videos which infringed on copyrights, as was argued by Viacom in *Viacom International Inc. v. YouTube Inc.*¹⁹³ If Viacom is successful, YouTube will be responsible for finding “a small fraction [of works amongst] millions of works posted by others on the service’s platform.”¹⁹⁴ The costs to sort through all these works, or develop the necessary technology, and determine whether they are actually infringing or whether they are protected through some other means, like fair use, would be staggering.¹⁹⁵ While some large companies might be able to afford the investment it required, many smaller Internet ventures, unable to qualify for safe harbor, would crumble from the ensuing litigation, as, even if they succeed in avoiding an infringement verdict, the cost of the defense could itself be fatal. YouTube’s trial defense in *Viacom Int’l Inc. v. YouTube Inc.* cost the company a hundred million dollars—before even going to trial—and their favorable verdict has been remanded, meaning even more costs are to come.¹⁹⁶ Indeed, some ventures would be forced out simply from fear of litigation, and those who were not may still find themselves unable to justify growth given the potential liability risks in hosting larger amounts of materials.¹⁹⁷

Yet, an affirmative duty can be created for the purposes of software, as long as it is properly limited. For one, by focusing only on software, there would be a

190. Not all software accused of infringement will be actual infringement. For example, issues may arise where an otherwise copyrighted software is being used in a way pursuant to the fair use doctrine. *Copyright Law Fact Sheet P-09: Understanding Fair Use*, THE UK COPYRIGHT SERV. (July 5, 2004), http://www.copyrightservice.co.uk/copyright/p09_fair_use.

191. See *Viacom Int’l Inc. v. YouTube Inc.*, 718 F.Supp.2d 514, 524 (S.D.N.Y. 2010).; see *Frequently Asked Questions (and Answers) about DMCA Safe Harbor*, *supra* note 169.

192. See Wyatt, *supra* note 179; see also *Viacom Int’l Inc.*, 718 F.Supp.2d at 523-24.

193. *Viacom Int’l Inc.*, 718 F.Supp.2d at 524. YouTube was initially successful in earning a summary judgment motion; however, the case has been remanded on several factual issues, though much of the legal analysis was upheld. See generally *Viacom Int’l Inc. v. YouTube Inc.*, 676 F.3d 19 (2d Cir. 2012).

194. *Viacom Int’l Inc.*, 718 F.Supp.2d at 524.

195. See *id.* at 523.

196. *Id.* at 524; *Viacom Int’l Inc.*, 676 F.3d at 19; Eric Schonfeld, *Google Spent \$100 Million Defending Against Viacom’s \$1 Billion Lawsuit*, TECHCRUNCH (July 15, 2010), <http://techcrunch.com/2010/07/15/google-viacom-100-million-lawsuit/>.

197. See Stephen DeMaura, ‘Loser Pays,’ *Texas Small Business Wins*, NAT’L REV. ONLINE (May 31, 2011, 10:09 AM), www.nationalreview.com/corner/268436/loser-pays-texas-small-business-wins-stephen-demaurea (exploring the issue of business tort liability, and noting that it has strangled some small businesses out of existence).

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smaller group of Internet ventures that are affected by these new rules, decreasing the fears of slowing the natural progression of the Internet.¹⁹⁸ Second, what constitutes policing can be narrowed to workable means; for instance, instead of requiring sites which host software to police all content, a system could be required in which a site instead engages in policing by sampling—randomly taking five to ten percent of the software uploaded on its site per year and screening it for piracy concerns.¹⁹⁹ This would be a more manageable task that smaller ventures could take on and should the task be onerous, exemptions and waivers could be made available upon a showing of hardship.²⁰⁰ When instigated, policing by sampling, though minimal, will nonetheless have an important effect: it will put those who host pirated software at threat of detection, detection which could lead to civil or criminal liability (the system could facilitate this by requiring that sites provide, so long as it can be done in a reasonable and non-burdensome manner, notice to software rights holders that their material is being infringed upon).²⁰¹

IV. CONCLUSION

While the two largest pillars of intellectual property, patent and copyright, were established long before the emergence of software, software has nevertheless come to be a central intellectual property issue and need.²⁰² So far, protection for this new field has, by and large, been developed by working within these traditional pillars.²⁰³ As the march into the twenty-first century continues, it will become increasingly apparent that relying on doctrines developed centuries ago to protect a technology that developed within the last half of the twentieth century is no longer sufficient.²⁰⁴ Countries will likely explore new means of

198. The United States' Digital Millennium Act applies to all forms of copyright. *See generally* 17 U.S.C. § 512 (1998).

199. Think of this much like you would think about a drug checkpoint; not every car would be stopped, but a pre-established amount of cars would be, and all cars would be at risk—and thus have less incentive—to carry drugs. With all uploaded software being at risk for monitoring, a similar effect on incentives would take place. *See generally* MARC L. MILLER & RONALD F. WRIGHT, *CRIMINAL PROCEDURES: THE POLICE: CASES, STATUTES, AND EXECUTIVE MATERIALS* 104-07 (3d ed. 2007) (explaining automobile checkpoints and officers given in the field discretion to select vehicles to stop).

200. *See e.g.* N.H. CODE ADMIN. R. Saf-C 3222.08 (New Hampshire statute detailing economic hardship waiver possible if other criteria are met in vehicle inspection).

201. *See generally* 17 U.S.C. § 512 (creating such liability). Of course, some will find ways to circumvent this proposed system. No system can account fully for human interference. To the extent that it cannot, however, the system will still be useful in attacking piracy to the extent that it creates a new regulating presence on the Internet.

202. *See What is Intellectual Property?*, *supra* note 1 (defining the several intellectual property regimes).

203. *See supra* Part II.

204. This Comment is hardly the first to call for a greater, more specific focus on developing software only laws. For example, *see* Samuelson et al., *supra* note 144 (containing an entire symposium and journal issue focused solely on the development of an intellectual property system for software).

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software protection with increasing speed—in fact, some countries already have begun to do just that.²⁰⁵

Software protection would be well served by the adoption of the unitary patent and by the creation of new anti-piracy tools.²⁰⁶ Doing either or both of these things would mark a greater presence of international cooperation, and (or at least) a more cohesive European Union, and would be an important step towards creating a software regime that is compatible with the needs of the industry and its users.²⁰⁷

205. Consider the European Union's software directive, for example. *See generally* Directive 2009/24/EC, *supra* note 62 (working through the auspices of copyright law, the directive is entirely focused on software issues).

206. *See supra* Part IV.A, C.

207. Greater cooperation and mutual reliance by countries lead to greater stability and mutual reliance. This is precisely why Europe fought so hard for the United States to join treaties like the Berne Convention—having equal laws meant greater protection for both countries' people. COHEN ET AL., *supra* note 6, at 34-37. This basic theory is perhaps best espoused by a line from the venerable political drama *The West Wing*, which commented on what the cooperation and mutual reliance instilled by free trade does for the world: "free trade stops wars." *The West Wing: Somebody's Going to Emergency, Somebody's Going to Jail*, NBC (Feb. 28, 2001), <http://westwing.bewarne.com/second/38somebody.html> (containing a description of the episode as well as the quote in question). When countries' economies rely on each other, there is an incentive to engage in mutually beneficial action.