Rivalling Silicon Valley: the case for the reform of Software Patents

Sir Tim Berners-Lee famously gifted the World Wide Web to humanity, turning down the chance to patent his innovation and make millions, if not billions. Whilst the action was undoubtedly selfless; does it represent a valid way of structuring online business affairs and the corresponding software patents needed? This essay will make the case that it does not. UK Law and the European Patent Convention (EPC) do not allow for software to patented. This is not good practise and the UK should adopt the American system of software being eligible for patents; only then can the UK challenge the American dominance of the software market.

The Current Statutory Position

The first patent granted in the UK was given to John of Utynam in 1449 for a glass-making process he had introduced to England from his native Flanders[1]. The proliferation of monarch granted letters of patent led to the introduction of the Statute of Monopolies in 1623. The Act granted patents for no longer than 14 years[2] and is seen as a wider symptom of the economic transition from the feudal to the capitalist[3]. Further legislation including the Statute Law Revision Act 1863 and the Statute Law Repeals Act 1969 have effectively repealed most of

[1] Thomson Reuters, 'The History of Patents ' (*Thomsonreuters.com*) < http://ip-science.thomsonreuters.com/support/patents/patinf/patentfaqs/history/ > Last accessed 4th September 2016

[2] The Statute of Monopolies 1623, section 6

[3] G. A. Bloxam, 'Letters Patent for Inventions: Their Use and Misuse' [1957] 5(3) The Journal of Industrial Economics 157

the provisions contained in the Statute of Monopolies 1623 and the current law is governed by the Patent Act 1977 (The 1977 Act).

The 1977 Act allows for protection to be granted to an invention provided that:

> *"(a) the invention is new;*
>
> *(b) it involves an inventive step;*
>
> *(c) it is capable of industrial application;*
>
> *(d) the grant of a patent for it is not excluded by subsections (2) and (3)"*[4]

Each of the above criteria have been the subject of much judicial debate over what exactly constitutes a "new invention" or an "inventive step". This judicial discourse is not relevant here as we must go further into the legislative instrument, namely section 1(2)(C) to find the express provision relating to computer programs:

> *"a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer"*

In sum, the statute expressly forbids a patent being granted for a program for a computer, regardless of the criteria in section 1(a-c). This essay will suggest that this express rule stifles creativity and should be repealed.

The 1977 Act, whose enforcement is overseen by the Intellectual Property Office of the UK (IPOUK), brought domestic law into line with the European Patent Convention 1979 (EPC).

[4] Patent Act 1977, section 1

This appears to be the root of why software is of itself, unable of being patented. When the EPC was drafted in the 1970s, the authors consulted with many distinguished computer science scholars who put forward the position that software was essentially mathematics and not an invention as such[5]. However, businessmen pointed out that software was being sold as a concrete product whose development required significant investment in time and creativity. The infancy of the software industry at that time no doubt contributed the fact that the EPC reflects the wishes of contemporary computer science scholars.

Article 52 of the EPC states that:

> *"(1) European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application.*
>
> *(2) The following in particular shall not be regarded as inventions within the meaning of paragraph 1:*
>
> *(a) discoveries, scientific theories and mathematical methods;*
>
> *(b) aesthetic creations;*
>
> *(c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;*
>
> *(d) presentations of information."*

[5] Arnoud Engelfriet, 'The mess that is the European software patent ' (Ipkitten, 28 October) < http://ipkitten.blogspot.co.uk/2012/10/the-mess-that-is-european-software.html > Last accessed 4th September 2016

The Article's similarities with the 1977 Act are self-evident. The Act directly transposed the provisions of the EPC into domestic law. A point clearly not lost on Nicholls LJ in *Gale*'s *Application*[6]*:*

> *"The intention of Parliament was that there should be uniformity in this regard. What is more, any substantial divergence would be disastrous. It would be absurd if, on an issue of patentability, a patent application should suffer a different fate according to whether it was made in the United Kingdom under the Act or was made in Munich for a European patent (UK) under the Convention"* [7]

This similarity makes enforcement easier with patents granted by the European Patent Office (EPO) under the EPC easily transposed to UK Law once certain formalities have been met. Section 130(1) of the Manual of Patent Practice issued by the Intellectual Property Office sets out clearly that a European Patent is enforceable in the UK if the UK is listed as a country in which protection is sought for the invention[8].

Additionally, it must be noted that the EPC is not an instrument of Union Law but operates as individual treaties between countries and the EPC. Applicants under the EPO also have a right to appeal to the Board of Appeal of the EPO. Moreover, an attempt was made in 2002 to reform the whole mess with the *"EU Directive on the Patentability of Computer-Implemented Inventions"* but this was ultimately shelved in 2005 following its rejection by a European

[6] [1991] RPC 305

[7] [1991] RPC 305 at p. 323

[8] Manual of Patent Practices 2016

Parliament vote. The overwhelming consequence of this is that national laws will not be harmonised.

Relevant UK Case Law

There are two main cases to be considered here; *In the Matter of Application No. 9204959.2 by Fujitsu Limited*[9] and *Aerotel Ltd v Telco Holdings Ltd*[10].

In *Fujitsu's Application*, Fujitsu claimed a patent for software that modelled crystal structures on a computer, a task which previously had to be done by hand. A patent was refused at first instance and Aldous LJ heard the case in the Court of Appeal. His judgement is notable for two reasons. Firstly, he followed on from Nicholls LJ's train of thought in *Gale's Application*[11] that the UK Courts should use decisions of the EPO for guidance interpreting the computer program exclusion. Secondly, he stressed that each case should be decided on its own facts and that the substance of the invention is what should be considered and not the form in which it is claimed. For example, if the substance was a mathematical algorithm for organising images then the intention of the company in how it is to be distributed should be considered above all.

This case is representative of a wider problem; as our society develops, more and more tasks will be done by computers and any claim for patentability based on a method for performing a

[9] [1997] EWCA Civ 1174

[10] [2006] EWCA Civ 1371

[11] [1991] RPC 305

mental act will be rejected[12]. This will stifle development as businesses' will not invest in products which they cannot securely patent and generate a dependable profit from. However, in cases such as *Menashe Business Mercantile Ltd v William Hill Organization Ltd*[13], the law has kept up with the geographical challenges of the modern era and enforced a European Patent Infringement Action against William Hill even though the servers containing the software were outside the EU (Antigua). This is because the consumers using the software were based in the UK.

The decision in *Fujitsu* stood until another Court of Appeal case around a decade later, *Aerotel Ltd v Telco Holdings Ltd*, joined with *in the Matter of Patent Application GB 0314464.9 in the name of Neal William Macrossan* [14]. The Court granted Aerotel's patent application because the system as a whole was new in itself but declined to grant Macrossan's patent because of the computer program exclusion. This case is important because the judgment rejects the similarity notion set out in *Gale* and *Fujitsu* but also allows for the divergence of UK case law from EPO case law. This divergence has half-heartedly been tackled in the opinion recently given by the Enlarged Board of Appeal of the EPO issued on 12th May 2010, as discussed below.

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[12] Lloyd I, 'Software Patents After Fujitsu. New Directions or (another) Missed Opportunity', Case Commentary 1997 2 *Journal of Information, Law and Technology (JILT)*. < http://elj.warwick.ac.uk/jilt/cases/97_2fuji/ > Last accessed 4th September 2016.

[13] [2002] EWCA Civ 1702

[14] [2006] EWCA Civ 1371

Differences between the UK and EU approach

The decision taken in the *VICOM* case[15] where a patent was sought and granted for a method of digitally processing images, set out the principles governing the patentability of computer related inventions[16]. This decision could recently have been clarified in the G 3/08 opinion issued by the Enlarged Board of Appeal of the EPO. However, the referral was deemed inadmissible as there was only a development in case law and not a divergence in decision making[17].

The position in European Law is now that a patent will generally not be granted for software; a patent will only be granted if a technical problem is being solved in a novel and non-obvious manner[18]. Contrastingly, the position in the UK is that a patent can be granted for a computer program even if it is just inventive and not novel. Furthermore, the UK Courts have refused to follow the European approach, although arguably the outcome of their decisions would be the

[15] T 208/84, Judgement given on 15th July 1986

[16] Margarete Singer and Dieter Stauder, *The European Patent Convention: a commentary* (3rd edn, Heymanns 2003)

[17] Opinion G 3/08 of the Enlarged Board of Appeal of the EPO, headnote 6

[18] European Patent Office, 'Patents for software? European law and practice' (*Epoorg*, 26th November 2013) < https://www.epo.org/news-issues/issues/software.html > Last accessed 4th September 2016.

same in most cases[19]. Overall, the status of the case law in the UK and under the EPC has become very confused and is in dire need of reform and simplification.

The Law in the US

Article 1, section 8 of the Constitution of the United States states that:

> *"Congress shall have Power [. . .] To 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"*

Going further into US patent law, Title 35 of the United States Code is the relevant statutory instrument and section 101 provides that:

> *"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title."*

Computers and computer programs are no explicitly mentioned anywhere in US patent law and as computers have become more omnipresent, case law has evolved to address this lacuna in the law.

[19] David Robinson and Mark Kenrick, 'Securing software patents through the EPO' (marks-clerk.com, 3rd November) < http://www.marks-clerk.com/Home/Knowledge-News/Articles/Securing-software-patents-through-the-EPO.aspx > Last accessed 4th September 2016

The most important early case decided by the US Supreme Court is that of *Gottschalk v. Benson 1972*[20]. In their judgement the Supreme Court held a numerical algorithm was not patentable as it would be tantamount to patenting an abstract idea which was not permissible, influenced by a pre-existing precedent. Following *Benson*, patent applications began to be submitted with a numerical algorithm combined with a general purpose digital computer programmed to carry out the process. These new "inventions" were deemed patentable as they were more than just abstract ideas.

A more recent case, *Alice Corp. v. CLS Bank International*[21] had similar issues. In this case the program for facilitating financial transactions was deemed to be an abstract idea and there outside the scope of patent protection. Moreover, what is important about this case is the *amicus curiae*[22] briefs submitted by interested parties. Although the Supreme Court went out of their way not to mention software patents in their judgement, it is widely considered to be a case on software patents and many multi-national corporations submitted briefs. On the one hand, Google and Amazon submitted a brief which argues that patents on abstract ideas is harmful and that the idea needs a working system before it can be considered for a patent. On the other hand, Linkedin and Netflix submitted a brief that no software should be patented as this inhibits both innovation and scientific collaboration Ultimately, the Supreme Court did not say who they were swayed by.

[20] 409 U.S. 63

[21] 573 U.S.

[22] Originating in Roman Law and defined as a brief containing relevant information which is submitted by an interested party to assist the Court; whether or not to accept this information is a decision of the Court.

Adopting the US system

The current European position is that a patent will not be granted for a computer implemented invention. In order to be granted a patent a technical problem must be solved in a novel and non-obvious manner[23]. It is not enough for it to be a numerical algorithm or for the program to do what you would expect software to do[24]. An example of this is Graphic User Interfaces, which are notoriously difficult to patent in the UK and in Europe as they do not solve a problem in a novel way. Conversely, they are easy to obtain a patent for in the US[25].

The current UK system followed this to begin with, but is now based on the original *VICOM*[26] decision which has been modified and applied differently by the domestic Courts over the years. But ultimately, what the current system provides is uncertainty. The UK and European systems will often come to a consensus on what is and is not patentable, even though their pathways through the law to the outcome differ[27] . This is not the optimum level at which the system should be operating.

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[23] European Patent Office, 'Patents for software? European law and practice' (*Epoorg*, 26th November 2013) < https://www.epo.org/news-issues/issues/software.html > Last accessed 4th September 2016.

[24] London IP, 'Is it possible to Patent Software?' (London IP, 23 April 2010) < http://www.londonip.co.uk/can-you-patent-software/ > Last accessed 4th September 2016

[25] *ibid*

[26] T 208/84, Judgement given on 15th July 1986

[27] Avi Freeman, 'Patentable Subject Matter: The View from Europe' [2011] 3(1) International Free and Open Source Software Law Review 59-80, at page 79

As set out above, in contrast to the supposedly firm rule that exists in the UK system, the US system is much more liberal and allows for software patents to be granted if a way of delivery can be demonstrated which will allow the patent application to bypass the abstract idea exception. This system facilitates certainty and is infinitely more desirable than the European model.

The UK should repeal the 1977 Act and withdraw from the EPO; something which will be easier in the shadow of Brexit (in spite of the fact that the EPO is not part of Union law). When formulating a new system, the US practices and conventions should be adopted in order to jump start the domestic software industry and foster the entrepreneurial spirit of the software developing community. There is debate among the software developing community itself, as evidenced by the various *amicus curiae* briefs submitted in the *Alice* case, as to whether patents are themselves desirable or not.

This essay is convinced by the arguments put forward by Google and Amazon in the *Alice Corp.* case, that software needs a working system before it can be considered for a patent. The working system allows the invention to be disseminated to the public and make a profit for the business. The entrepreneurial spirit of small and medium sized tech startups should be actively encouraged by Government policy and legislation in order to facilitate the same innovation in software as there has been in gadgets. The famous British Innovator Sir James Dyson has shown what can be accomplished with a stringent patent system for new gadgets. The UK tech industry focuses their innovation on gadgets as these physical objects are easy to patent under the UK system and can consequently be protected from infringement and return a near guaranteed profit.

The dominance of the US software industry was already concerning to the UK Patent Office (UKPO) (Now the IPOUK) as far back as 1994. The Legal Protection for Software Related Inventions Conference, held in October 1994, recognised that:

> *"UK and European industry was handicapped, both because they were not protecting their own innovations, and because they were coming up against patent monopolies of their overseas competitors."*[28]

The IPOUK has failed to take action on this in the intervening two decades; this level of inaction will doom the UK to being a second rate innovator on the international technological stage. To counter this, the UK should adopt the US system immediately, for the simple reason that the availability software patents would facilitate growth in the domestic software market. The rise in the UK market will allow it to become the logical European base for large multi-national companies and stimulate growth in home grown small and medium size tech start-ups. The internet is the future; the UK needs to keep up.

Word Count (including footnotes): 2,909

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[28] The Legal Protection for Software Related Inventions Conference (held on 19th October 1994)