





**FIG. 1.**

5 The current set of claims was filed on 11<sup>th</sup> June 2014 and contains one independent claim. Claim 1, reads as follows:

*1. An index-determining system for facilitating management of sports-associated economic risk by determining an index reflecting economic values and/or associated risks of a sports activity, said system being less susceptible to manipulation by utilising underlying variables that are independently influenced by a number of factors and which are derived from independent sources, the system comprising:*

*one or more processing components, one or more data-storage components, and one or more communication interfaces,*

*the processor, data-storage, and communication interface components being configured for receiving and storing in a database of the data storage information comprising one or more sports variables describing economic values and/or associated risks of a sports activity and a plurality of further sports variables determining or explaining such values or risks of the sports activity,*

*selecting an appropriate one or more of the information comprising one or more sports variables describing economic values and/or associated risks of a sports activity and a plurality of further sports variables determining or explaining such values or risks of the sports activity the system being adapted, in use, to derive from the received information a sports risk index (SRI) model for the sports activity, the derived model being configured for computing an SRI reflecting economic values and/or associated risks of the sports activity from subsequently-received variables determining or explaining such values or risks of the sports activity,*

*receiving subsequently from time-to-time the determining or predicting variables, and computing subsequent values of the SRI by applying the derived SRI model to the subsequently received variables determining or explaining such values or risks of the sports activity, characterised by:*

*the computed SRI values reflecting the sports variables describing economic values and/or associated risks of a sports activity expected to be associated with the subsequently-received value or risk determinative or explanatory variables, and wherein*

*the explanatory variables underlying the SRI comprise any one or more of the group comprising: economic and demographic information; attendance; TV viewing ratings; financial or cost related information, and factors related to revenue generation by the sports industry including public preferences and tastes; economic and demographic information, and being further characterised by:*

*a user terminal providing a structured and hierarchical arrangement of successive display screens whereby, in use, a user is able to select certain sports activities and futures or options contracts related to the selected sports activities, and wherein the one or more of the information comprising one or more sports variables describing economic values and/or associated risks of a sports activity and a plurality of further sports variables determining or explaining such values or risks of the sports activity is based on the said user selections made using the terminal and is thus a reduced selection from the full range of available information comprising one or more of the information comprising one or more sports variables describing economic values and/or associated risks of a sports activity and a plurality of further sports variables determining or explaining such values or risks of the sports activity.*

## **The law and its interpretation**

6 Section 1(2) of the Patents Act reads:

*It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of:*

*...*

*(c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer;*

*...*

*but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing as such.*

7 In addition to the above, there is also the case law established in the UK in Aerotel/Macrossan<sup>1</sup>, and further elaborated in Symbian<sup>2</sup>, AT&T/CVON<sup>3</sup> and HTC v Apple<sup>4</sup> which I am bound to follow. In Aerotel<sup>1</sup> the Court of Appeal reviewed the case law on the interpretation of section 1(2) and approved a four-step test for the assessment of patentability, namely:

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<sup>1</sup> Aerotel Ltd v Telco Holdings Ltd (and others) and Macrossan's Application [2006] EWCA Civ 1371

<sup>2</sup> Symbian Limited's Application [2008] EWCA Civ 1066

<sup>3</sup> AT&T Knowledge Ventures LP and CVON Innovations Limited [2009] EWHC 343

<sup>4</sup> HTC v Apple [2013] EWCA Civ 451

- 1) Properly construe the claim
  - 2) Identify the actual (or alleged) contribution
  - 3) Ask whether it falls solely within the excluded matter
  - 4) Check whether the contribution is actually technical in nature.
- 8 The operation of the test is explained at paragraphs 40-48 of the judgment<sup>1</sup>. Paragraph 43 confirms that identification of the contribution is essentially a matter of determining what it is the inventor has really added to human knowledge, and involves looking at substance, not form. Paragraph 47 adds that a contribution which consists solely of excluded matter will not count as a technical contribution.

### **Application of the *Aerotel* test**

#### Properly construe the claim

- 9 The first step of properly construing the claim causes some difficulty in the present case. In the hearing, Mr Hutchinson suggested the current claims did not properly bring out the true technical aspects of the invention, and instead proposed a construction of the invention that was not based on the claims but was based more loosely on the general disclosure of the application.
- 10 In Mr Hutchinson's view, the invention is really a system to enable mass computation. The key is that the indexing agent takes a large amount of complex data (which may well include patchy or transient information) and processes it to generate an index which is a proxy, or metric, for that complex data. Mr Hutchinson contended that the indexing agent is equivalent to the "special exchange" of Aerotel's patent. Mr Hutchinson further argued that the nature of the data is immaterial in this construction.
- 11 For the sake of expediency I am willing to accept Mr Hutchinson's proposed construction of the invention as a whole rather than insisting that he submit redrafted claims to the same effect. I will however return to the actual wording of the claims later on to check that it does not alter my conclusion.

#### Identify the actual contribution

- 12 First, Mr Hutchinson argued that the "indexing agent" is a new piece of hardware and so the contribution is new equipment. I am afraid that I cannot accept this argument. From the disclosure as a whole, it is clear to me that it does *not* teach any new equipment or apparatus. The description at page 10, lines 4-11, states that:

*"In preferred embodiments, user terminals 12 and 14, exchange system 16, clearinghouse system 18 and index agent system 19 can comprise any one or more of a number of different apparatuses, devices or the like configured to operate in accordance with preferred embodiments of the present invention.*

*For example, user terminals can comprise, include or be embodied in portable or non-portable processing apparatuses such as one or more of a laptop computer, desktop computer, server computer, a mobile telephone, a portable digital assistant (PDA), and the like. These processing apparatuses communicate information with the exchange or trading platform system across networks such as the Internet.”*

13 Page 10, lines 17-21, goes on the state that:

*“The exchange 16 and/or clearinghouse 18 and/or index agent systems 19 can preferably comprise, include or be embodied in one or more processing apparatuses similar to those of the user terminals, but, more preferably, are PC computers, server computers or the like configured to communicate among themselves and with user terminal apparatuses across networks such as the Internet.”*

14 Furthermore, page 11, lines 27-32, states:

*“Referring now to FIG.2, apparatus 2 can be configured, in accordance with preferred embodiments of the present invention, to operate as one or more user terminals 12 and 14, exchange system 16, clearinghouse system 18, and index agent system 19. Although shown as separate apparatuses, in some embodiments, one or more apparatuses 2 may support one or more of the exchange system, the clearinghouse system, and the index agent system as logically separated but co-located within the a single apparatus.”*

15 It is thus clear to me that the invention is intended to be carried out on conventional computing devices utilising conventional connections and networks. Further, that the invention is not meant to be limited to any particular type of apparatus but instead is suitable for being carried out using any suitable computing apparatus as a skilled person would see fit. It is also clear that the indexing agent, which is the critical component of the system according to Mr Hutchinson, is not a new piece of apparatus at all, but is rather a logical component of the system. This component may or may not be co-located with other components depending upon the particular way the invention is carried out. Thus figures 1 and 2 of the application do not show a new apparatus but merely a diagrammatic representation of the logic of the system.

16 In short, I can find nothing in the application as filed to support the assertion that the indexing agent is a new piece of hardware. All of the enabling examples given in the description are of standard programmable computing devices. It is thus clear to me that the system is primarily intended to be enacted by software running on one or more such devices. Page 12, lines 13-17, of the description make this explicit stating:

*“In many preferred embodiments, the functions and steps described herein can be implemented in software applications, routines, modules, and the like. However, it should be understood that any one or more of these functions and steps may alternatively be implemented in firmware or hardware, without departing from the spirit and scope of embodiments of the present invention.”*

- 17 While this section does mention the *possibility* of implementing the functions and steps of the invention in hardware no details of how this might be done are given. I can only assume that the applicants are alluding to known 'single function' computing devices utilising ROM or PROM where instructions are fixed at, or shortly after, the time of manufacture. While such devices are not reprogrammable I would still consider their instructions to constitute a program for a computer. I also note that the declared preferred embodiment is to use software and that there is no enabling disclosure of anything else. Furthermore, it cannot be enough to simply mention the possibility of using hardware to sidestep the issue of excluded matter. Such an approach would drive a coach and horses through the purpose of section 1(2). I shall thus proceed on the basis that the invention is effected as some form of computer program.
- 18 Next, Mr Hutchinson argued that the contribution is an improved computer system where the indexing agent does the complex calculations centrally and expresses them as the SRI. The traders' terminals are thus not required to analyse the complex data themselves allowing them to be simpler, lower specification devices and greatly reducing the bandwidth of communications between the terminals and the central systems. At least for the sake of argument, I will accept this second alleged contribution.

Ask whether the contribution falls solely within excluded matter

- 19 The fact that the invention is effected as a computer program does not of course mean that it is automatically excluded as the thing as such. What matters is whether or not the invention provides a technical contribution beyond that of one or more programs running on a conventional computer system. For clarity, let me state that I will henceforth use the term 'computer system' to refer to a system of one or more programmable devices interacting using known connection techniques and networks.
- 20 As mentioned above, Mr Hutchinson argued that because the complex calculations are carried out by the centralised indexing agent and only the SRIs are distributed to the user terminals, the computer system as a whole is more efficient than if each user terminal were burdened with performing the complex calculations and the network having to transmit large amounts of 'raw' data.
- 21 I am afraid that I cannot agree with this line of reasoning. It is possible, as Mr Hutchinson did during the hearing, to envisage a hypothetical system which carries out the same task as the invention, but which does so in a more wasteful and inefficient manner. However, such a hypothetical system has been artificially constructed purely to create a favourable comparison and it does not automatically follow that the invention must therefore be an improved computer system.
- 22 More importantly, I can see nothing in the application to support such an 'improved efficiency' argument. There is no discussion anywhere in the description of solving any problem of computer performance. Rather, it is very clear that the invention is aimed squarely at enabling the trading of sports-associated financial instruments.

23 This conclusion is reinforced if I turn to the AT&T<sup>3</sup> signposts as reiterated in paragraphs 50 & 51 of HTC<sup>4</sup>:

*50. In AT & T Knowledge Ventures LP's Patent Application [2009] EWHC 343 (Pat), [2009] FSR 19 Lewison J (as he then was) reviewed many of the decisions referred to in Aerotel and Symbian and derived from them the following set of what he described as useful signposts:*

*i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer;*

*ii) whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run;*

*iii) whether the claimed technical effect results in the computer being made to operate in a new way;*

*iv) whether there is an increase in the speed or reliability of the computer;*

*v) whether the perceived problem is overcome by the claimed invention as opposed to being merely circumvented.*

*51. I respectfully agree these are useful signposts, forming as they do part of the essential reasoning in many of the decisions to which we must look for guidance. But that does not mean to say they will be determinative in every case. I have also had the benefit of reading in draft Lewison LJ's judgment in this case. I respectfully agree with that too, including his observation that, in the light of Mann J's judgment in Gemstar-TV Guide International Inc v Virgin Media Ltd [2009] EWHC 3068 (Ch), [2010] RPC 10, he would adopt as his fourth signpost the less restrictive question whether a program makes a computer a better computer in the sense of running more efficiently and effectively as a computer. Indeed, this is, to my mind, another illustration of the still broader question whether the invention solves a technical problem within the computer.*

24 I will consider each signpost briefly in turn. First, the only process outside of the computer system affected by the current invention is the trading of financial instruments. This is clearly not a technical process. Secondly, the current invention does not operate at the level of architecture – it is a number of programs running on otherwise standard hardware to enable the trading of financial instruments. Any benefits conferred by the invention only apply when performing this business activity and not when the computer system is used for any other purpose.

25 Thirdly, the computer system is not operating in a new way. Neither is it faster, more reliable, more efficient or more effective as a *computer system*. As mentioned above, what the invention does is enable the trading of sports-based financial instruments – I can see no evidence that the underlying computer system *itself* is different. Finally, the problem overcome is a purely business related one, namely how to effectively trade sports-based financial instruments.

- 26 Thus in conclusion, the contribution is one or more computer programs which calculate improved information which enables better business decisions to be made. What the inventor has added to human knowledge is a way to trade sports-based financial instruments. This contribution falls solely within the categories of a business method and a program for a computer as such and is therefore excluded.
- 27 This conclusion does not change if I consider the actual wording of the current claims. While the claims contain various technical sounding components such as “processing components”, “data-storage components”, “communication interfaces”, “databases” and “user terminals providing structured and hierarchical arrangements of successive display screens”, I know from the description that these are all running on standard computing devices. Try as I might, I can see nothing in the claims that forms the basis of a contribution falling outside of a business method or a program for a computer as such.
- 28 Finally, Mr Hutchinson argued that if a computer system for enabling better image processing is patentable then the computer system of the current application should be too. At the hearing he claimed that this argument was based on Raytheon<sup>5</sup> but the details of that case do not marry up with the points of his argument. I thus believe that he intended to refer to Vicom<sup>6</sup> instead, the details of which marry up much better. I will respond based on this assumption.
- 29 *Lewison J.* helpfully summarised Vicom<sup>6</sup> in the first half of paragraph 17 of his decision in AT&T<sup>3</sup>:

*17. Vicom (T0208/84) concerned the digital processing of images. The application was rejected by the Examining Division on the ground that it claimed a mathematical method and a computer program as such. On appeal to the Board the appellant argued that a novel technical feature clearly existed in not only the hardware, but also in the method recited in the claims. The invention conferred a technical benefit namely a substantial increase in processing speed compared with the prior art. Digital filtering in general and digital image processing in particular are "real world" activities that start in the real world (with a picture) and end in the real world (with a picture). What goes on in between is not an abstract process, but the physical manipulation of electrical signals representing the picture in accordance with the procedures defined in the claims. Thus the claimed technical benefit was an increase in processing speed....*

- 30 He then went on to distil the teaching of Vicom<sup>6</sup> in paragraph 20 of AT&T<sup>3</sup> stating:

*20. What the Board are saying in this paragraph is, I think, that you assess the patentability of a claimed invention ignoring the fact that it operates through a computer program. If, ignoring the computer program, it would be*

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<sup>5</sup> Raytheon Co.s Application [1993] RPC 427

<sup>6</sup> Vicom Systems Inc. - EPO Boards of Appeal T0208/84 [1987]



*patentable, then the fact that a computer drives the invention does not deprive it of patentability.*

- 31 Ignoring the computer program in the invention of the current application all that is left is a method of doing business. This is clearly different from the improved image processing system in *Vicom*<sup>6</sup>. My conclusion thus remains unchanged.

Check whether the contribution is actually technical in nature

- 32 As reasoned above, the contribution does not have a relevant technical effect. Thus the application fails the fourth *Aerotel* step.

**Decision**

- 33 I have found that the contribution made by the invention defined in the independent claim falls solely in subject matter excluded under section 1(2) as some combination of a business method and a program for a computer as such. I have read the specification carefully and I can see nothing that could be reasonably expected to form the basis of a valid claim. This includes the contribution suggested by the applicants' attorney at the hearing. I therefore refuse this application under section 18(3).

**Appeal**

- 34 Any appeal must be lodged within 28 days.

**Dr. Stephen Brown**

Deputy Director, acting for the Comptroller