Introduction

1 This decision concerns whether the invention disclosed in UK patent application No 0812495.0 is excluded from patentability under section 1(2) of the Patents Act. The application derives from international application PCT/US2006/061864 which was published as WO 2007/100407. On entering the national phase of the PCT in the UK it was reprinted as GB 2448628.

2 The various examination reports issued on the application have all reported that the invention for which protection is sought is excluded and is not clearly defined in the claims. For their part the applicants have responded with argument rebutting the excluded matter objections and with amendments and arguments in response to the clarity objections raised. Despite numerous rounds of correspondence the examiner and the applicant have been unable to resolve these issues and a hearing was held on 1 July 2011 to help me decide the matters. At the hearing the applicant was represented by Mr Alistair Russell of the Patent Attorneys Hoffmann Eitle. The examiner, Mr Daniel Voisey also attended.

3 At the hearing I informed Mr Russell that there were a number of court judgments and Hearing Officer decisions that I wished to be addressed on and gave him an opportunity to file submissions on them. Mr Russell provided those submissions in his letter dated 12 July 2011. I also gave the applicants an opportunity to make submissions on the judgments handed down in Halliburton¹ and Protecting Kids the World Over² as being potentially relevant to the issues under consideration on this application which they duly did via Mr Russell’s letter dated 14 November. I confirm that I have taken those submissions into account alongside Mr Russell’s submissions at the hearing itself and the skeleton argument he helpfully provided in advance of it in reaching my decision.

¹ Halliburton’s Applications [2011] EWHC 2508 (Pat)
² Protecting Kids The World Over (PKTWO) Limited’s Application [2011] EWHC 2720 (Pat)
The application is titled “Method and Apparatus for Interactive Criteria-Based Commodity Comparison” and as described is essentially an interface for a price comparison tool. The invention is summarised in the description as relating generally to “a method and apparatus for applying and automatically adjusting weighting values given to multiple selection criteria.” It is presented as resolving problems with present comparison tools, in which “relative weighting values will not persist once weighted sliders are adjusted to a point of equality.” As described (and I stress described for reasons that will become apparent later) the invention comprises an interface that allows the user to specify the importance to be given to various characteristics of products under comparison. The description gives the particular example of how the user might use it to identify different digital cameras that might meet his/her requirements. The interface provides an interactive element for each characteristic that might be significant for the product – for the camera the characteristics include factors contributing to the picture quality. The interactive elements allow the user to change the weighting to be given to each characteristic which can thus affect the products recommended to them. Increasing the weighting to be given to one characteristic reduces the weightings given to the other characteristics such that the total remains constant. In the case where the weightings are percentages, increasing the weighting of one characteristic from 25 to 50% will result in a consequential reduction in the remaining weightings from 75 to 50% to maintain the overall total (at 100%) whilst maintaining the relative weightings given to those other characteristics.

The application acknowledges that such “weighted comparison” tools are known but the inventions seeks to solve a shortcoming in those tools which occurs when one of the criteria is “maxed out” which for the example above would occur when one characteristic is given a 100% weighting. Such an adjustment would, in these conventional systems, result in the loss of the relative weighting information for the other characteristics such that on reducing the maxed out weighting from 100%, the weightings for the remaining characteristics would be increased evenly rather than reflecting the relative importance attributed to them by the user before the “max out” occurred. The present invention seeks to overcome this by storing the relative weighting given to the other characteristics when it is determined that the user is changing the weighting given to one characteristic so that that relativity is still retained even after max out of the one characteristic.

The claims under consideration were last amended with the agent’s letter of 1 April 2011 and comprise independent method and apparatus claims 1 and 15. They read as follows:

1. A method comprising:

   - providing, via a display, a plurality of user-alterable graphic user interface elements, wherein each of the plurality of user-alterable graphic user interface elements corresponds to at least one alterable selection criterion, such that the plurality of user-alterable graphic user interface elements serve to illustrate current weighting values as correspond to such alterable selection criteria and wherein the aggregate sum of the current weighting values as correspond to all of the plurality of user-alterable graphic user interface elements comprises a particular value;
- detecting direct user alteration of a given one of the user-alterable graphic user interface elements, which alteration causes a change in the weighting value that corresponds to the given one of the user-alterable graphic user interface elements;

- storing relative value information regarding present relative weighting values of non-directly-adjusted user-alterable graphic user interface elements to provide stored relative value information;

- providing adjusted current weighting values by automatically adjusting the current weighting values as correspond to the non-directly-adjusted user-alterable graphic user interface elements as a function, at least in part, of the direct user alteration and the stored relative value information to ensure that the aggregate sum of the current weighting values as correspond to all of the user-alterable graphic user interface elements continues to comprise the particular value while further ensuring that the current weighting values for each of the non-directly-adjusted user-alterable graphic user interface elements continue substantially to maintain their relative values vis-a-vis one another; and

- illustrating the adjusted current weighting values by automatically modifying corresponding user-alterable graphic user interface elements,

such that the method will remember and substantially persist relative values vis-a-vis one another for the automatically adjusted current weighting values of the non-directly adjusted user-alterable graphic user interface elements notwithstanding previous automatic adjustment of these current weighting values to a point of equality.

15. An apparatus comprising:

- a memory having stored therein a plurality of user-alterable graphic user interface elements, wherein each of the plurality of user-alterable graphic user interface elements corresponds to at least one alterable selection criterion, such that the plurality of user-alterable graphic user interface elements can serve to illustrate current weighting values as correspond to such alterable selection criteria and wherein the aggregate sum of the current weighting values as correspond to all of the plurality of user-alterable graphic user interface elements comprises a particular value; and

- a display interface operably coupled to the memory and being constructed and arranged to:

- selectively present the plurality of user-alterable graphic user interface elements on a display and to detect direct user alteration of a given one of the user-alterable graphic user interface elements, which alteration causes a change in the weighting value that corresponds to the given one of the user-alterable graphic user interface elements;

- store relative value information regarding present relative weighting values of non-directly-adjusted user-alterable graphic user interface elements to provide stored relative value information;

- provide adjusted current weighting values for presentation on the display by automatically adjustmenting (sic) of the current weighting values as correspond to the non-directly-adjusted user-alterable graphic user interface elements as a function, at least in part, of the direct user alteration and the stored relative value information to ensure that the aggregate sum of the current weighting values as correspond to all of the user-alterable graphic user interface elements continues to comprise the particular value while further ensuring that the current weighting values for each of the non-directly-adjusted user-alterable graphic user interface elements substantially continue to maintain their relative values vis-a-vis one another;

- illustrate the adjusted current weighting values by automatically modifying corresponding user-alterable graphic user interface elements on the display,

such that relative values vis-a-vis one another for the automatically adjusted current weight values for non-directly adjusted user-alterable graphic user interface elements are remembered and persisted notwithstanding previous automatic adjustment of these current weighting values to a point of equality.
The Law

7 Section 1 of the Act sets out a number of requirements that an invention must fulfil for a patent to be granted. Subsection 1(2) identifies categories of subject matter which are excluded from receiving patent protection. The relevant parts of it read:

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1(2) 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;
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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.

8 Mr Russell accepted that the approach to be adopted when assessing whether an invention is excluded is that set out by the Court of Appeal in its judgment in Aerotel. That approach is a four step test comprising the following steps:

1. properly construe the claim;
2. identify the actual contribution;
3. ask whether it falls solely within the excluded subject matter;
4. check whether the actual or alleged contribution is actually technical in nature.

9 In its subsequent decision in Symbian the Court of Appeal confirmed that this test was consistent with the “technical contribution” approach it had adopted previously and indeed that addressing the technical contribution question was a necessary part of applying the Aerotel test.

10 I should also add that there is no suggestion in the examiner's reports or Mr Russell's responses and submissions that claims 1 and 15 do not make the same contribution. In my view they clearly make the same contribution and for the remainder of this decision I will focus on claim 1.

Applying the test

Step 1 - Properly construe the claim

11 In addition to the excluded matter objection, the examiner has reported that the claims are not clear. The clause that he objects to in claim 1 concerns the extent to which the relative values “substantially persist”. Whilst that wording might not be ideal I do not consider it or the remainder of the claims to cause any particular difficulty in construing the claims for present purposes. Indeed Mr Russell has indicated he is content to accept the examiner's view of how the claim should be

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3 Aerotel Ltd v Telco Holdings Ltd and Macrossan’s Application [2006] EWCA Civ 1371, [2007] RPC 7
4 Symbian Ltd’s Application [2008] EWCA Civ 1066
construed and I am also happy to do so too. Thus I consider claim 1 to relate to a method with the following steps:

- Displaying user alterable graphic user interface elements relating to alterable selection criteria and indicating a current weighting value, where the sum of all such weighting values equals a particular value;
- Detecting user alteration of one of the graphic user interface elements whereby its weighting value is changed;
- Automatically adjusting the weighting values of the other graphic user interface elements to maintain both their values relative to each other and the value of the sum of all the weighting values, and altering the display accordingly;
- And remembering the relative differences between weighting values for the graphic user interface elements, so as to continue the relative differences subsequent to a previous automatic adjustment of the values to equality.

12 Independent claim 15 is drafted as an apparatus claim for performing that method.

13 Mr Russell stressed, and I accept, that in contrast to what is described, the independent claims make no mention of the use of the interface as a product comparison tool but are instead drafted solely in terms of the way the interface is operated and the components used to provide the required functionality.

14 I also note that there is no suggestion that the hardware through which the invention is implemented is anything other than a conventional piece of hardware programmed to provide a particular functionality. Indeed as noted above the description acknowledges that an interface having all the functionality other than the “reversible” feature is known and that it is the shortcomings in such interfaces that the invention seeks to overcome.

Step 2 - Identify the actual contribution

15 Mr Russell correctly impressed upon me that identifying the actual contribution is more than a restatement of the novel feature of the independent claims. In doing so he referred to the judgment in Aerotel, where it was accepted that this assessment is

"an exercise in judgement probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the exercise."

16 On this basis, Mr Russell proposed this summary of the actual contribution in respect of the independent claims. He considered the contribution of claim 1 to be

Providing an interface for an information filter which automatically adjusts selection criteria in response to user adjustment of one selection criterion, by which a user can perform robustly reversible adjustable information filtering

and that of claim 15 to be

Providing a programmed machine which can filter information using selection criteria which are adjusted automatically in response to user adjustment of one selection criterion, the automatic adjustment being robustly reversible.
In proposing these as the contribution made by the invention, Mr Russell is clearly seeking to emphasise the technical nature of the invention. That is hardly surprising given the nature of steps 3 and 4 of the Aerotel test and the case law upon which it is based. However it is not in my view a wholly accurate representation of the contribution made by the present invention. In my opinion Mr Russell’s characterisation of the contribution places too much emphasis on “information filtering” when the claims do not actually require any filtering to take place. Furthermore the term “information filtering” is itself somewhat misleading when it is clear from the description that the filtering referred to encompasses an internet search and subsequent presentation of the results. It is though clear to me that the invention is really concerned with the way search criteria can be adjusted rather than the filtering itself. Moreover, the term “robustly reversible” as favoured by Mr Russell itself requires definition and is excessively abstract (Mr Russell defined it as describing the advantageous effect of the invention whereby “prior settings of the relative weightings of multiple criteria can be reliably recovered” after one of the criterion has been “maxed out”, resulting in every other criteria being set at zero, and then reduced).

In my view the contribution made by the present invention is a user interface implemented through a computer program whereby when a user begins adjusting the weighting to be given to one selection criterion, the pre-existing relative weightings given to the other criteria are stored, such that the stored relative weightings can be used in automatically adjusting the remaining criteria when the selected criterion is further adjusted after too much weight has been given to it.

I would add that irrespective of them being drafted as method and apparatus claims, I consider independent claims 1 and 15 to make this same contribution.

Step 3 – does the contribution fall solely within the excluded subject matter

Having identified the contribution made by the invention, what I must now do is decide whether that contribution falls solely within excluded subject matter. In his final examination report the examiner reported that he thought the invention was excluded under the business method, mental act and computer program exclusions. At the hearing I indicated that I did not consider the mental act exclusion to apply, a view which is reinforced by the judgment in Halliburton. Mr Russell also argued (and I agree) that the invention is not excluded as a method of doing business. Whilst the field of use of the specific embodiment described is a business activity (namely online product comparison) the claims are directed to a tool for providing a particular functionality and a method of using that tool. That is not a method of doing business as such in the way that a claim to the underlying methodology of comparing the products might be.

Discussion at the hearing and the subsequent submissions focussed mainly on the computer program and to a lesser extent the presentation of information exclusions. Mr Russell pursued a number of avenues in seeking to convince me that the invention is not excluded under these heads. In doing so he provided helpful submissions on a wide range of precedent cases and Hearing Officer decisions at

5 Gemstar-TV Guide International Inc. et al v Virgin Media Limited et al [2009] EWHC 3068 (Ch); Autonomy Corporation Limited [2008] EWHC 146 (Pat); Raytheon [2007] EWHC 1230 (Pat); Trane
my request. I am very grateful to him for those submissions. They were particularly
helpful in distilling the applicant’s characterisation of the technical effect which the
invention provides. Mr Russell repeatedly stated this to be

“the way in which a user inputs commands into a computer and how the
interface automatically adjusts other user defined criteria in response thereto
in a reversible manner”.

22 The particular importance of the reversible aspect is clear from Mr Russell’s
submission that:

“The technical effect actually obtained with the present invention is to make
the adjustments reversible, in spite of adjustment of some of the selection
criteria values to parity, which directly solves the problem in the prior art
where the user could not reverse his input commands to obtain prior values of
the selection criteria in this situation”.

23 In Mr Russell’s view, this effect distinguished the present invention from those found
to be unpatentable in the precedents referred to. For example, he felt that the
contribution in *Yahoo* was the underlying search algorithm rather than the way the
search criteria were entered and the contribution in *Autonomy* was in the way the
search results were displayed rather than the way the user selects various criteria. I
agree with him that the contribution made by the present invention is different from
that considered in the previous cases. What I must decide is whether the
contribution provided by the program of the present invention falls within excluded
matter or not – in effect, does the computer program of the application make a
“technical contribution”.

24 In doing that I will apply the five “signposts” referred to by Lewison J. in his judgment
in *AT&T/CVON* where he summarised the wealth of existing case law on what does
and does not constitute a technical contribution when considering a computer
program. Those signposts are identified as

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

(2) 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 application being run;

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

(4) whether there is an increase in the speed or reliability of the computer;

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*International Inc.*, GB 0805153.4, O/429/10; *Roke Manor Research Limited*, GB 0608420.6, O/285/09;
*Vortaloptics Inc.*, GB 0606301.0, O/234/08; *Yahoo! Inc.*, GB 0520969.7 & GB 0522995.0, O/172/08;
*Press Star Limited*, GB 0225714.5, O/214/07; *Sony United Kingdom Limited*, GB 0227657.4,
O/174/07; *Accucard Limited*, GB 0030707.4, O/145/03

6 *AT&T Knowledge Ventures’ Application and CVON Innovations Ltd’s Application* [2009] FSR 19
whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

Addressing those points in turn, at no point did Mr Russell seek to argue that the invention provides a technical effect on a process outside the computer. It clearly does not, particularly bearing in mind that the display of results on a screen is not considered to be enough to make an interface patentable as is clear from the Gemstar judgment.

Nor did Mr Russell try to argue that the invention made a contribution at the level of the architecture of the computer. Again it clearly does not. Whilst the invention claimed does not specify the nature of the selection criteria, the contribution is in the additional functionality provided by the interface and that is clearly at the application rather than the architecture level.

In a similar vein, implementing the invention does not result in the computer operating in a new way other than to the extent that any computer running a program operates in a new way. In the present case, the invention is an application (in the computing sense) - the interface - which may well operate in a new way but the operation of the underlying computer is not altered in the way it was deemed to be in Symbian.

Mr Russell suggested that applying the fourth signpost should lead me to conclude that the invention is patentable. He suggested that the “robustness” it provided when a user wanted to reverse a “max-out” input increased the reliability of the computer. Alternatively he suggested that even if this could not be deemed to be an increase in reliability per se, then it was the same sort of advantage as speed and reliability mentioned in the signpost and should equally be sufficient for an invention providing it to avoid the exclusions. I do not agree. The end result of implementing the invention may well be an improved user experience but it does not lead to a more reliable computer. Nor can that improvement be said to be of the same sort of thing as an increase in speed or reliability. Those improvements point to a better computer whereas the invention here is merely a better application running on the computer.

As for the final signpost, Mr Russell suggested that the invention did indeed solve a problem rather than circumventing it. I confess that I do not find it easy to apply this signpost to the present invention. The distinction between solution and circumvention is far less clear than it is say in the case of an invention seeking to reduce bandwidth problems by some new data compression technique (solution) as opposed to deciding to send less data (circumvention). This is not helped by it being difficult to unambiguously define the problem that the invention seeks to address. For example Mr Russell framed the problem as being one “where the user could not reverse his input commands to obtain prior values of the selection criteria in this situation” i.e following a “max-out” entry. However the problem could equally well be framed as the user being able to input an inappropriate value to which the present solution could equally well be deemed a circumvention. Thus I am not convinced that applying the 5th signpost provides much assistance in the present case.

I do though find the judgment in Gemstar to be particularly helpful. This is clearly the closest precedent to the present situation in terms of subject matter, dealing as it
does with the patentability of a user interface and the associated mix of computer program and presentation of information issues. It is also in my view the most telling.

31 In that case the court considered whether three patents granted to Gemstar were valid in respect of novelty, inventive step and excluded matter. In his submissions, Mr Russell argued that Gemstar “supports the view that an interface (implemented by a computer program) may indeed be patentable, provided that the contribution relates to some technical aspect of the way the interface works rather than the selection of what information is displayed” and that the “present invention appears to fall into such a patentable category”. In support of that position he sought to rely upon a passage from the discussion in Gemstar of the EPO Guidelines C-IV, 2.37 – June 2005 on the presentation of information where towards the end of paragraph 56 Mann J said:

“If the presentation of information has some technical features over and above the information and its delivery, then it might be patentable. So the contrast is between the content or its mere delivery, on the one hand, and that material plus some additional technical aspect of its delivery, on the other. That approach is consistent with the law on computer programs discussed above”.

32 However in the next paragraph of his judgment (which Mr Russell did not refer to) Mann J. quotes the full text of the guidelines to illustrate the sort of “additional sort of technical aspect” that he is referring to:

“The point is made a little clearer by the full text of the guidelines, which read as follows:

“A representation of information defined solely by the content of the information is not patentable. This applies whether the claim is directed to the presentation of the information per se (e.g. by acoustical signals, spoken words, visual displays, books defined by their subject, gramophone records defined by the musical piece recorded, traffic signs defined by the warning thereon) or to processes and apparatus for presenting information (e.g. indicators or recorders defined solely by the information indicated or recorded). If, however, the presentation of information, as distinct from the information content, has new technical features, there could be patentable subject-matter in the information carrier or in the process or apparatus for presenting the information. The arrangement or manner of representation, as distinct from the information content, may well constitute a patentable technical feature. Examples in which such a technical feature may be present are: a telegraph apparatus or communication system using a particular code to represent the characters (e.g. pulse code modulation); a measuring instrument designed to produce a particular form of graph for representing the measured information; a gramophone record having a particular groove form to allow stereo recordings; a computer date structure … defined in terms which inherently comprise the technical features of the program which operates on the said data structure (assuming the program itself in the particular case, to be patentable); and a diapositive with a soundtrack arranged at the side of it.”

So what achieves patentability is some real world technical achievement outside the information itself.”
The technical aspect that Mr Russell says the present invention provides concerns how the information is generated within the computer rather than the sort of technical aspect referred to in the guidelines when read in full and I do not agree that Gemstar supports his position. In fact I would say quite the contrary.

In finding the first two Gemstar patents to be excluded, Mr Justice Mann said at paragraph 50 of his judgment:

“the technical effect relied on by Gemstar is a better interface, or a different interface if “better” is not relevant. That is an abstract concept. It does not in terms describe some physical activity or effect. There is a different display on the screen, but that is not enough, in my view. That is still part of the computer program and is not an external effect (Mr Birss did not rely on any internal effect).

and later in the same paragraph

“The fact that what the user perceives and interacts with is “better” does not make the advance technical at all (nor is it part of the claims). Nor does characterising it as an interface give it a technical effect that it would not otherwise have had. One has to look to see what the effect actually is, and in my view it is not technical. In fact, in the sense in which Mr Birss uses the expression, “interface” confirms this – it is an abstract, not a physical, concept.”

Whilst I accept that the precise contribution made by the present invention is different to those of the Gemstar patents in my view the present invention is no less abstract than those found to be excluded in Gemstar. As claimed, the invention is an interface whereby the user can modify the information relating to “selection criteria” which is displayed on the screen with the end result being the display of a user adjusted variation of those selection criteria. That seems to me to be an equally abstract concept as the one found to be unpatentable in Gemstar.

That the abstract nature of the invention is a problem is best illustrated by a further line of argument put forward by Mr Russell. He put it to me that a mechanical equivalent of the invention would be patentable and argued that so therefore must a computer implemented version. He said that such a mechanical device having the same functionality as the present invention would be deemed to be solving a technical problem in the device and would thus make a technical contribution. The computer implemented equivalent must, he said, solve the same problem and likewise must be making the same technical contribution. He considered that the fact that the present invention implements the equivalent control system in software does not detract from the technical nature of the invention and should not prevent it from qualifying for patent protection. Whilst that might appear to be an attractive argument, it loses sight of the fact that the Act does not include an exclusion for mechanical devices but it does for computer programs. Accepting Mr Russell’s argument that computer implemented inventions are patentable if they could be implemented via a mechanical equivalent would it seems to me reduce the computer program exclusion to obsolescence which cannot have been the intention of the draftsmen.

In pursuing this line of argument Mr Russell gave the specific example of a mixing desk of the sort used to control sound levels in a recording studio or concert venue. That I think gets to the heart of the “abstract” point in Gemstar. Were the claims
limited to the control of sound levels (say) via the use of the present interface, then the contribution made by the invention would be altogether different and quite possibly patentable since they would produce an effect on a process going on outside the computer – the sound levels generated. However the end result of implementing the invention defined in the present claims produces no such external effect – it results in user adjusted selection criteria being displayed. Furthermore, the content of the application as filed does not in my view provide any field of use limitation which could be introduced into the claims to render them patentable. The precedent cases including Autonomy demonstrate that performing internet searches is not considered to be a patentable activity and limiting the present claims by including the step of actually performing the search (or filtering) would not avoid the computer program exclusion. The situation would of course also not be saved by limiting the claim to the activity of product comparison.

In my view the contribution is a computer program that does not provide the required technical effect for the computer program exclusion to be avoided.

Step 4 – Check whether the actual or alleged contribution is actually technical in nature

Having considered technical contribution above in relation to the third step, it is not strictly necessary to assess it again separately here. I would add however that in my view the contribution is not technical beyond the fact that it is implemented via a computer program which is plainly not sufficient to render the invention patentable.

Conclusion

I have found that, whilst the inclusion of the “reversibility” feature might well result in a better interface, as the claims are currently drafted the invention is an abstract concept and falls solely within the computer program exclusion. Furthermore I can see nothing in the application that could be incorporated into the claims to form the basis of a patentable invention. Indeed at the hearing Mr Russell accepted that there was no saving amendment if I found the independent claims to be excluded.

Other matters

As I have indicated, at the hearing there was some discussion as to the relevance of the presentation of information exclusion to this application. Having found the invention to be excluded as a program for a computer I do not consider it necessary to decide whether it is also excluded as the presentation of information or for that matter as a combination of the two.
Decision

41 I refuse the application under section 18(3) as being excluded from patentability under section 1(2)(c) as a program for a computer as such.

Appeal

42 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

A BARTLETT

Deputy Director acting for the Comptroller