

09 September 2011

**PATENTS ACT 1977**

APPLICANT                      Microsoft International Holdings B.V.

ISSUE                              Whether application number GB 0711264.2 is  
excluded from patentability under section 1(2)

HEARING OFFICER              Ben Micklewright

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**DECISION****Introduction**

- 1 Patent application GB0711264.2 in the name of Microsoft International Holdings B.V. is the UK national phase application for PCT application WO 2007/046708 entitled "Intelligent video summaries in information access". The UK national phase application was republished as GB 2436244 A.
- 2 The examiner issued his first examination report on 6 May 2010 and in that report argued that the invention was excluded from patentability under sections 1(1)(d) and 1(2) of the Act as a program for a computer as such and the presentation of information as such. The applicant disagreed. The examiner maintained his objection and after several rounds of correspondence the applicant requested a hearing. The matter therefore came before me at a hearing on 28 June 2011 where the applicant was represented by Dr Rachel Free of the firm Olswang. The examiner also attended.
- 3 At the hearing the relevance of documents cited in the international search report, one of which was also cited on the first UK examination report, was discussed. It should be noted that the examiner has deferred other matters, including novelty and inventive step, until the patentability matter is resolved. As these documents were not explicitly highlighted by the examiner in his most recent examination report I gave the applicant a period of two weeks in which they could make written observations in relation to these documents. These observations were received by the Office on 11 July 2011.
- 4 The applicant presented two sets of claims to the examiner during the prosecution of the application, a main request and an auxiliary request. I will consider the claims of both requests in my decision.

**The invention**

### *The main request*

- 5 The invention relates to providing thumbnails and summaries of videos and displaying these thumbnails and summaries in a results page following a query. A set of videos is queried to identify matching videos. The results are displayed in the form of a thumbnail image for each matching video. The user may then select a particular video and a video summary is streamed to the user's client device, the video summary comprising some but not all of the frames from the matching video. Several methods of computing a video summary are disclosed in the application and dependent claims 3-7 relate to these methods. Claim 1, the only independent claim, is not however limited to any particular such method and, in its latest form, reads:

*1. A method for displaying video data within result presentations in information access systems or information search systems wherein the method comprises steps for:*

*applying a query to a set of videos;*

*identifying matching videos;*

*producing a result page with at least one of the matching videos;*

*computing a thumbnail image and a video summary from at least one of the matching videos within the result set, the video summary providing to an end user an abbreviated review of the matching video, the video summary comprising a plurality of frames from the matching video but not all the frames from the matching video;*

*providing for loading within the result page, the thumbnail image for the matching video; and*

*upon user selection, streaming the video summary over a transfer link to a client device used to view the search results, the video summary being for the matching video such that a user can explore the content of the matching video within the information access or search system by streaming the video summary.*

### *The auxiliary request*

- 6 Claim 1 of the auxiliary request includes a feature whereby the video summary is optimised according to device capability. Claim 1, the only independent claim of the auxiliary request, reads (emphasis mine):

*1. A method for displaying video data within result presentations in information access systems or information search systems at a user device wherein the method comprises steps for:*

*applying a query to a set of videos;*

*identifying matching videos;*

*producing a result page with at least one of the matching videos;*

*and wherein at least one of the matching videos within the result set is associated with a thumbnail image and a video summary, the video summary providing to an end user an abbreviated review of the matching video optimised according to device capability, the video summary comprising a plurality of frames from the matching video but not all of the frames from the matching video;*

*displaying within the result page, the thumbnail image for the matching video;  
and*

*upon user selection, streaming the video summary for the matching video such that a user can explore the content of the matching video within the information access or search system by streaming the video summary.*

## **The law**

- 7 Section 1(1)(d) of the Patents Act 1977 (“the Act”) states that a patent may be granted only for an invention in respect of which the grant of a patent for it is not excluded by subsections (2) and (3) or section 4A. Section 1(2)(c) states that things which consist of “a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer” are not inventions for the purposes of the Act, but only to the extent that a patent or application for a patent relates to that thing as such.
- 8 There is a large amount of case law in relation to these provisions. The most significant recent judgments of the Court of Appeal on the matter are *Aerotel Ltd v Telco Holdings Ltd Ors Rev 1* [2007] RPC 7 and *Symbian Ltd’s Application* [2009] RPC 1. In *Aerotel* the Court of Appeal reviewed all the previous case law and specified the following four-step test as a methodology of determining whether an invention was excluded from patentability under section 1(1)(d):
  - (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 *Symbian* the Court of Appeal confirmed that the above test is intended to be equivalent to the prior case law test of “technical contribution”. In the present case I will therefore use the *Aerotel* test and ensure in my consideration of steps (3) and (4) that I determine whether the invention makes a technical contribution.

## **Assessment**

### *Main request*

- (1) *Properly construe the claim*

10 Although claim 1 appears on the face of it to be straightforward there did emerge at the hearing some issues regarding the construction of the claim. These issues arose in relation to the expressions “*computing a thumbnail image and a video summary from at least one of the matching videos within the result set, the video summary producing to an end user an abbreviated review of the matching video*” and “*upon user selection, streaming the video summary over a transfer link to a client device used to view the search results, the video summary being for a matching video such that the user can explore the content of the matching video*”. Dr Free asserted that the limitations that the video summary be an abbreviated review of the matching video and be such that upon selection a user can explore the content of the matching video implied that the video summary must be an intelligent summary, and cannot be any video summary. She commented that for example merely using the first few frames of the video as a summary would not comprise an abbreviated review of the matching video. The video summary must therefore be in some sense an intelligent video summary. The examiner commented that he considered this to be a subjective criteria rather than an objective one, and in a sense all video summaries could be considered intelligent and/or abbreviated.

11 I agree that the video summary must be an abbreviated review of the video and must be such that the user can explore the content of the video. There is however nothing to say how well the summary needs to carry out these functions. A summary comprising the first few frames of the video could constitute an abbreviated review of the video and could enable the user to explore the content of the video, albeit that it might not be the most effective means for providing this functionality. In fact this possibility is included on page 7 lines 32-34 of the description where it is stated: “*The simplest selection of frames for the video summary is a section from the beginning of the video*”. I therefore conclude that these expressions do not place any great limitation on the nature of the video summary, although I note that some of the dependent claims do relate to more specific means for computing the video summary.

*(2) Identify the actual contribution*

12 The examiner considered the contribution to be essentially a method for displaying video data at a user device which includes computing a thumbnail image and a video summary from a matching video in response to a query and also streaming the video summary over a transfer link to a client device. He commented that as the creation of thumbnails and video summaries is known per se it could also include a particular methodology of how the video summary is created. I note that claim 1 is not limited to a particular methodology (the application discloses several) but the dependent claims do set out some particular methodologies.

13 At the hearing Dr Free highlighted that the key difference between the examiner’s view of the nature of the contribution and the applicant’s is that in the applicant’s view the contribution includes computing the video summaries in an intelligent manner. She argued that the contribution includes the following features:

- Manipulating images in order to compute the thumbnail and video summary.
- Calculating the video summaries in an intelligent manner.

- Streaming the video summary over a link.

14 I must focus first and foremost on the words of the claim when determining the contribution made by the invention. The claim does not explicitly refer to manipulating images, although this may be necessary when computing the thumbnail and video summary, and I will consider this further when determining whether the contribution lies solely in the excluded field. I have already found that claim 1 is not limited to calculating the video summaries in an intelligent manner, although it is limited to computing an abbreviated review of the video such that it enables the user to in some sense explore the content of the video. I would therefore summarise the contribution made by the invention claimed in claim 1 as:

A method for displaying video data at a user device which includes computing a thumbnail image and a video summary from a matching video in response to a query and also streaming the video summary over a transfer link to a client device, the video summary being an abbreviated review of the video whereby the user can explore the content of the matching video.

15 There was some dispute between the applicant and the examiner over the extent to which creating video summaries *per se* was known. The examiner highlighted movie trailers as an example of a known video summary, but Dr Free did not consider them relevant to the present case despite a mention of them in the specification. In my view a movie trailer is a video summary although it is not clear that it could be considered to be “computed” in the sense of claim 1. The examiner also highlighted the documents cited in the international search report as further evidence that video summaries were known. One of these documents had been cited on an earlier examination report but the other two had not previously been referred to by the examiner. I therefore gave the applicant an opportunity to make further submissions on the relevance of these documents after the hearing. Written submissions were received on 11 July 2011.

16 Having considered the documents myself and read Dr Free’s submissions in relation to the documents, I conclude that in the light of these documents it is known to compute some sort of summary of a video. However where the contribution lies in the present case is in using video summaries in the context of a user querying a set of videos to enable them to explore the content of a matching video.

*(3) Ask whether it falls solely within the excluded subject matter*

17 Dr Free referred me to the EPO case *Vicom/Computer-related invention* [1987] 1 OJEPO 14 (T208/84) in her submissions that the claimed invention makes a technical contribution and therefore does not fall solely in the excluded matter. She argued that just as in *Vicom* the manipulation of an image was considered to make a technical contribution, so in the present case the manipulation of images required in producing the video summary should be considered to make a technical contribution.

18 I am not convinced that the invention claimed in claim 1 of the application in suit is comparable to that of *Vicom*, which related to the field of image processing. *Vicom* related to a method of digitally filtering images by applying a mathematical method to the data representing that image and was considered patentable on the grounds that the mathematical method was used in a technical process carried out on a physical

entity (an image stored as an electrical signal). Thus in *Vicom* a technical process was carried out on the image. In the present case the contribution made by claim 1 relates to using video summaries to aid the user in searching for a particular video. This does not relate to a technical process carried out on an image (or on the group of images forming the video). Moreover even if claim 1 was to be limited to specific methods of calculating video summaries as is claimed in dependent claims 3-7, *Vicom* would still not help. A means for identifying scenes and selecting frames of a video to form a video summary also does not amount to carrying out a technical process on an image in the sense described in *Vicom*.

- 19 Dr Free then took me to *AT&T Knowledge Ventures' Application and Cvon Innovations Ltd's Application* [2009] FSR 19 in which Lewison J set out in paragraph 40 of his judgment a number of useful signposts which point towards a relevant technical effect. He said:

*40. As Lord Neuberger pointed out, it is impossible to define the meaning of "technical effect" in this context, but it seems to me that useful signposts to a relevant technical effect are:*

*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 merely being circumvented.*

- 20 Dr Free took me to the first of these signposts and argued that there was a technical effect on a process carried on outside the computer. Firstly, Dr Free argued that there was a technical effect in making the video summaries so that they capture the most relevant information and get rid of redundancies. I do not accept this submission. The process of producing a video summary does not remove redundancies in the system in the same way as compressing an image does to the image. The information removed is not redundant information but rather information is selected so as to give the user a summary of the full contents of the video. The user will then need to view the full video which includes the information removed during the process of producing the summary. There is therefore no technical effect in the present case relating to removing redundancies in the video. Moreover the process of selecting the most relevant information relates in my view to something more akin to a mental act implemented via a computer program rather than to a technical process.

21 Secondly, Dr Free submitted that the streaming of the summaries over a transfer link, leading to reduced bandwidth use, was a technical effect on a process outside the computer. She supported this submission by pointing out that hardware was used and that streaming the video summary involves the manipulation of physical images, arguing that the technical contribution is not streaming any video but streaming the particular claimed video summaries. I do not agree with this submission for several reasons. Although the total size of a video summary is less than that of the full video, streaming occurs as the video is being played and a similar amount of bandwidth is required at any given moment to stream a video summary without interruptions in the playback of that summary as for the full-length video. Streaming video summaries rather than full-length videos does not therefore necessarily require less bandwidth, although it does mean that less data is downloaded overall if the full-length video is streamed in its entirety. This brings me to my second point, which is that according to my construction of claim 1 I have found that the first few seconds of a video could comprise a summary in the sense claimed in claim 1. The amount of data downloaded in streaming the first few seconds of a full-length video does not differ significantly from the amount of data downloaded in viewing other types of video summaries envisaged by the application. Finally, even if it could be argued that less bandwidth was required to stream a video summary as opposed to a full-length video, this seems to me to be circumventing the bandwidth problem rather than solving the problem directly.

22 It therefore seems to me that the contribution lies entirely in the field of computer programming. There is no technical effect outside the computer, nor does the invention result in a better computer. Rather the invention lies in using video summaries to aid the user in searching for a relevant video. The advantage lies in the extra convenience for the user. This does not make a technical contribution but relates solely to a program for a computer. Moreover I do not consider that a limitation to any particular method of computing a video summary, such as those of dependent claims 3-7, would impart a technical contribution. The contribution made by claim 1 would then lie in computing the video summary so as to provide convenience to user in searching for a desired video, which is not a technical process but is more akin to a mental process implemented as a computer program and there is no technical effect on a process outside of the computer. Such a contribution would therefore also make no contribution outside of the excluded subject matter. I would add that, having read the prior art cited in the international search report, I have doubts as to whether the particular methods of computing the video summary disclosed in the application are new methods, although I do not decide this and further searching may be necessary to fully determine this matter.

#### *Auxiliary request*

23 Claim 1 of the auxiliary request incorporates the feature of providing the user with a review of the matching video optimised according to device capability. There is not a great deal of detail in the description as to how these reviews are optimised for device capability but in page 9 lines 19-25 it is stated that the video summary can be optimised for different devices with respect to screen resolution, processing, storage, display and network bandwidth.

24 Despite the fact that the claim has not been searched, I consider that it was well known to optimise multimedia data according to device capability prior to the priority

date of the application in suit, namely 19 October 2005, as the examiner asserted in his examination report. I put this to Dr Free at the hearing, with reference to a several prominent judgments which related to similar technology, and also to the abstract of the document cited in the first examination report, WO 02/008948, which states:

*“Additional methods are provided that reformat a video image for use on a variety of devices that have a wide range of resolutions by selecting some material (in the case of smaller resolutions) or more material (in the case of larger resolutions) from the same multimedia file.”*

- 25 In addition the case *Research in Motion UK Limited v Inpro Licensing SARL* [2006] EWHC 70 (Pat) which involved a patent initially published in 1997 related to sending to a field computer web pages optimised for the specific characteristics of the field computer, including the specific size and resolution of the display of the field computer. In this case Pumfrey J said that the claims gave a technical effect, namely computers running faster and transmitting information more efficiently, albeit ultimately for the purpose of displaying part of that information.
- 26 In a later case before the Office, *Sun Microsystems, Inc.* (BL/O/228/06) involving a patent application published in 2003, the invention related to a method of producing an application to be executed on a target mobile device where the application file is adapted for that individual target device in accordance with application parameters defining the type of target device. The hearing officer found that this general idea was known, and what remained was a program for computer as such and was therefore excluded from patentability.
- 27 I provided Dr Free with an opportunity to comment on this matter in writing after the hearing. In her written submissions she proposed a possible amendment to limit claim 1 of the auxiliary request by including features relating to codec selection and extraction richness and/or to match the streaming capabilities to the capabilities of the transfer link. Dr Free argued that none of the documents or judgments disclosed using video codecs to optimise video summaries and many of them did not relate to optimising videos but rather other types of data (e.g. web pages or application data).
- 28 Whilst this is true, it is apparent that the idea of optimising data according either to the capabilities of a receiving device or to the capabilities of a transfer link was well known prior to the priority date of the application in suit. The extract I have quoted above from WO 02/008948 demonstrates that it is known to optimise video data in this manner. This feature does not therefore in my view form part of the contribution made by claim 1 of the auxiliary request. It is not part of what the inventor has added to human knowledge. The contribution made by claim 1 of the auxiliary request is therefore in substance the same as that made by claim 1 of the main request and is therefore excluded from patentability as a program for a computer as such.
- 29 In relation to the proposed amendment of claim 1 of the auxiliary request, the support comes entirely from page 7 lines 28-30 of the description which states:

*“After selection of the appropriate frames for the video summary and potential resizing to client devices, the resulting frames are compressed by encoding with a video codec. Video codecs have adaptable quality/bitrate settings.”*



*Hence, by combining codec selection with extraction richness for the video summary one can adapt size and bandwidth requirements for the video summary.”*

The meaning of this sentence is unclear. It does not set out how codecs are selected, for example whether they are selected on the fly or are pre-selected, nor what criteria is used to select codecs. Moreover it is not clear whether the codec selection relates to selecting completely different codecs, adapting the quality/bitrate settings for a particular codec, or a combination of the two. All-in-all it is difficult to see what this adds to the contribution made by claim 1 of the auxiliary request except that use is somehow made of video codecs. Using video codecs in this manner is in my view well known. The specification itself says that video codecs are adaptable in terms of quality and bitrate settings, and this would certainly be well known by the skilled person. Moreover altering the quality and bitrate of multimedia data would seem to be the most obvious way of optimising such data for different devices and transfer links. Video codecs are generally designed to compress videos so as to maximise the quality of the video whilst minimising the size of the video or the bandwidth needed to stream the video over a transfer link. It would seem sensible to select a particular codec or particular codec settings in order to balance these factors. I therefore conclude that the amendment proposed by Dr Free adds nothing of substance to the contribution made by claim 1 of the auxiliary request and therefore lacks a technical contribution and relates to a program for a computer as such, lying solely in the excluded subject matter.

### **Conclusion**

- 30 I have found that both the claims of the main request and the claims of the auxiliary request relate to a program for a computer as such and are therefore excluded from patentability under sections 1(1)(d) and 1(2)(c) of the Act. I have inspected the application and cannot identify any amendment which would avoid these exclusions. I therefore refuse the application.

### **Appeal**

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

**BEN MICKLEWRIGHT**

Deputy Director, acting for the Comptroller