



PATENTS ACT 1977

APPLICANT Motorola Solutions, Inc.

ISSUE Whether patent application GB1818388.9 complies with the requirements of sections 1(1)(d) and 1(2)

HEARING OFFICER B Micklewright

DECISION

Introduction

- 1 Patent application GB 1818388.9 is a UK national phase application of PCT application PCT/PL2016/050021, filed on 20 May 2016 in the name of Motorola Solutions, Inc. It was published as WO 2017/200402 A1. Following entry into the UK national phase it was assigned the publication number GB 2565678 A.
- 2 The examiner considered the invention to be excluded from patentability as a program for a computer as such. The applicant disagreed and, following several rounds of correspondence, requested that the matter be referred to me for a decision based on the correspondence on file.

The invention

- 3 The invention relates to offloading assets from portable electronic devices to storage devices on a network. Assets may be multimedia assets such as video recordings, audio recordings, photographs, and the like. A specific embodiment relates to use by a law enforcement agency to capture and store multimedia assets from incidents such as robberies recorded by body-worn cameras used by law enforcement personnel. The assets are captured from the body-worn cameras and offloaded to long-term storage such as a data warehouse. They may then be used as evidence in criminal justice proceedings.
- 4 The invention includes an asset management controller which receives asset upload requests from the portable electronic devices. These requests include at least one device status indicator (indicating for example network id, signal strength, battery level, charging status, device location) and an asset manifest, the manifest including at least two asset identifiers and metadata associated with those asset identifiers. The metadata may relate to file type, file size, timestamp, user role, incident type or location, for example.

- 5 The controller determines whether to grant or deny an asset upload request based on each of the device status indicators and the asset manifest. This decision can be based, for example, on whether a particular request is associated with a high priority incident, the bandwidth and signal strength of the network, battery level, or on the amount of remaining storage in the portable electronic device.
- 6 A storage message communicates the result of these decisions to the portable electronic device. If the request is granted for a particular asset identifier, a storage priority based on the metadata and a storage time based on the asset identifier and the metadata is determined. A high-priority or urgent incident would receive a higher priority. Large files may be scheduled to be offloaded during off-peak times and given a storage time accordingly. So, for example, a large file for an unimportant event allocated a lower priority could be allocated an upload time of 3:00am.
- 7 If a request is denied, a retry condition may be set so that the request to offload the asset, for example if the battery is charged to an acceptable level or if network signal strength increases to an acceptable level.
- 8 The latest claims were filed on 24 May 2021. Of the 16 claims, claims 1 and 9 are independent claims and relate to a system and method respectively. They are equivalent in scope and, for the purposes of this decision, it will be sufficient to consider claim 1 which reads:

1. A system for offloading assets from a portable electronic device, the system comprising:

an asset management controller including

a network interface; and

an electronic processor coupled to the network interface and configured to:

receive, from the portable electronic device via the network interface, an asset upload request including at least one device status indicator and an asset manifest, the asset manifest including at least two asset identifiers and metadata associated with each of the at least two asset identifiers;

determine, based on the asset manifest and the at least one device status indicator, whether to grant or deny each of the at least two asset identifiers in the asset upload request;

determine at least one storage message based on the asset upload request, the at least one storage message including one of a grant and deny for each of the at least two asset identifiers;

transmit, to the portable electronic device via the network interface, the at least one storage message; and

for each of the at least two asset identifiers that is granted,

determine at least one storage priority based on the metadata;

determine at least one storage time based on the at least one asset identifier and the metadata; and

determine the at least one storage message based further on the at least one storage priority and the at least one storage time.

The law

9 Section 1(2) of the Act states:

1(2) It is hereby declared that the following (amongst other things) are not inventions for the purpose of the Act, that is to say, anything which consists of-

- (a) a discovery, scientific theory or mathematical method;
- (b) a literary, a dramatic, musical or artistic work or any other aesthetic creation whatsoever;
- (c) a scheme, rule or method for performing a mental act, playing a game or doing business, or program for computer;
- (d) the presentation of information;

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

10 The provisions of Section 1(2) were considered by the Court of Appeal in *Aerotel*¹ when a four-step test was laid down to decide whether a claimed invention is excluded from patent protection:

- (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.*

11 It was stated by Jacob LJ in *Aerotel* that the test is a re-formulation of and is consistent with the previous “technical effect approach with rider” test established in previous UK case law. Kitchen LJ noted in *HTC v Apple*² that the *Aerotel* test is followed in order to address whether the invention makes a technical contribution to the art, with the rider that novel or inventive purely excluded matter does not count as a “technical contribution”.

12 Lewison J in *AT&T/CVON*³ set out five signposts that he considered to be helpful when considering whether a computer program makes a technical contribution. Lewison LJ reformulated the signposts in *HTC v Apple* in light of the decision in *Gemstar*⁴. The signposts are:

- i) Whether the claimed technical effect has a technical effect on a process which is carried on outside the computer.*

¹ *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371

² *HTC Europe Co Ltd v Apple Inc* [2013] EWCA Civ 451

³ *AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)

⁴ *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10

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 the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer.

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

Assessment

13 I will consider each of the *Aerotel* steps in turn.

(1) Properly construe the claim

14 Claim 1 relates to offloading assets. Paragraph [0013] of the description defines assets as “multimedia files (for example, video recordings, audio recordings, digital photographs, and the like)”.

15 Claim 1 includes a step of determining ... “whether to grant or deny each of the at least two asset identifiers in the asset upload request”. I take this to refer to a determination as to whether to grant or deny a request to offload each asset to which each asset identifier is related. The claim does not refer to the location the assets are offloaded to. Read in the light of the description, I construe the offload requests as to relate to a request to offload assets stored on a portable electronic device to some form of external or remote storage. As I have mentioned above, “storage priority” could, for example, relate to the urgency of an incident to which the asset relates. It would seem that lower priority granted requests may be fulfilled at a later time than higher priority requests. According to the description, the term “storage time” relates to the time at which the asset is offloaded. So, for example, larger files may be offloaded at an off-peak time when the network is less busy.

16 Claim 1 includes two steps which “determine [the] at least one storage message”. The first step relates to determining the storage request “based on the asset upload request” and the second step relates to determining the storage message “based further on the at least one storage priority and the at least one storage time”. It is unclear if this second step takes place before or after the storage message is transmitted to the portable device. In any event, I will construe these steps as indicating that, ultimately, the storage message is based on the asset upload request and also on the storage priority and storage time.

17 I note that claim 1 does not include the step of actually offloading the asset but this does not impact on my decision in relation to excluded subject matter.

(2) Identify the actual contribution

18 Identifying the contribution in the second step of this test is critical and I refer to the following paragraph in *Aerotel* for guidance:

“43. The second step – identify the contribution - is said to be more problematical. How do you assess the contribution? Mr Birss submits the test is workable – it is an

exercise in judgment 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. The formulation involves looking at substance not form – which is surely what the legislator intended.”

19 The applicant considers the present invention to address the problem of how to deal with limited storage in portable electronic devices. According to the applicant, the invention solves this problem in the sense that the claims are directed to an improvement in the operation of the portable electronic devices, in particular to improved offloading of digital assets. They consider that the particular claimed method ensures that such devices are able to continue collecting assets and that priority digital assets are available in a timely fashion to other public safety personnel. The invention solves the problem of how to implement flexible and controlled storage of data from potentially hundreds of disparate portable electronic devices. The applicant also argues that the device solves the problem of limited bandwidth in networks.

20 In their correspondence the applicant refers to the particular application of the invention to law enforcement personnel. The independent claims are not restricted to any such application and therefore any specific advantages of the invention in this particular field may not constitute general advantages of the invention. The contribution must reflect the more general contribution claimed in claim 1.

21 It seems to me that the main benefit of the invention is that it enables offloading of assets from portable electronic devices in a manner which can take account of a number of factors such as priority of the asset, size of the asset, and status of the portable electronic devices. I therefore consider the contribution to be:

A system for offloading assets from portable electronic devices whereby an asset controller receives an asset upload request which indicates at least one status of the device and also includes an asset manifest, the manifest including at least two asset identifiers and metadata associated with those identifiers, whereby the asset management controller indicates in a storage message transmitted to the device whether the upload request for each of the at least two asset identifiers is granted or denied, and whereby, for each asset identifier that is granted, a storage priority is determined based on the metadata, and a storage time (i.e. a time at which the upload will take place) is also determined based on the metadata and the asset identifier, these factors also being used to determine the storage message. The system thereby flexibly controls offloading of assets from portable electronic devices to some form of storage.

(3) and (4): Ask whether it falls solely within the excluded subject matter; Check whether the actual or alleged contribution is actually technical in nature

22 For convenience I will consider steps (3) and (4) together. The AT&T signposts are useful pointers towards whether an invention implemented as a program for a computer makes a technical contribution. I will consider them in turn.

Signpost i) Whether the claimed technical effect has a technical effect on a process which is carried on outside the computer

- 23 The applicant submits that the portable electronic device is “entirely separate from the ‘electronic processor’ of the asset management controller” and “a technical effect is achieved in the portable electronic device, and that effect is entirely outside the electronic processor of the asset management controller.” The portable electronic device is not running the same program as the asset management controller, which is being run on a central server. Furthermore, the applicant submits that the titles and names of the various pieces of equipment referred to indicate that the portable electronic device is not part of a single computing system with the asset management controller, They submit that the skilled person would not class the separate portable electronic device as part of the asset management controller. The applicant highlights that any “user” can make a request to the asset management controller. Although in the present case the “user” is a portable electronic device, in other systems, for example online shopping, a user may request a specific delivery slot and, in that case, the user would not be considered to be part of the computer.
- 24 The applicant refers to two of their other UK patent applications which were granted by the examiner, and argue that, on that basis, the present invention should also be allowed. In both these applications, according to the applicant, there were portable electronic devices separate to a server. This may be the case, and I do not doubt that that there are plenty of inventions of this nature which are patentable. but this does not mean that all such inventions are patentable. Each invention must be considered on its merits. Moreover there is no evidence in these other applications that the reason they were considered patentable directly related to the separation of the portable devices from the central server. There could be all sorts of reasons as to why the examiner decided not to raise an excluded matter objection in these cases. I do not therefore consider these other applications to be helpful in deciding the present case.
- 25 The technical effect in the portable electronic device lies, according to the applicant, in the particular sequence of steps carried out in the device, namely the steps of determining the storage priority and the storage time. I note that it is not clear in claim 1 that these steps necessarily take place on the device, but for the purposes of considering this signpost I will consider the situation where they do take place on the device.
- 26 The applicant submits that the examiner wrongly applied the teaching of *Lantana*⁵ as there is no reasonable interpretation that a body-worn camera is part of the “network” for the purposes of this signpost – it is an entirely separate device. The applicant points specifically to paragraph 49 of *Lantana* in support of their argument that *Lantana* does not apply in the case of the present invention. This paragraph refers to *Vicom*⁶ and the comment made in that EPO decision that a process controlled by a computer was outside the computer and was not therefore excluded matter. In the present case the applicant argues that the reference in claim 1 to “... one of a grant and deny” indicates that there is such control of the processes listed in the remainder of claim 1 so the conclusion in *Lantana* does not apply to the present invention. This latter point is not entirely clear to me, but I take it to mean that the determination of the at least one storage message including the decision on whether to grant or deny the upload requests for each asset identifier effectively controls the process of

⁵ *Lantana c Comptroller-General of Patents* [2013] EWHC 2673 (Pat)

⁶ *Vicom Systems Inc T0208/84* [1987]

determining storage priority and storage time and, ultimately, although this is not claimed, the offload itself.

27 The argument put forward here by the applicant is essentially based on *Vicom* rather than *Lantana*, which refers to the *Vicom* decision. In the present case I am not convinced that the decision on whether to grant or deny upload requests is control of a process outside of the computer. In *Vicom* the process related to the digital filtering of images and was deemed a process outside the computer. In the present case the process in question merely relates to moving data (the assets) from one device on the network to another location on a network. The point in *Lantana* is that, merely because one element of the invention may not be considered to be part of the same computing device, this does not mean that an effect in that element is an effect outside the computing system. The question in the present case is not whether the portable device is considered to be part of the asset management controller or a separate device, clearly it is a physically separate device, but rather whether the offloading of assets from a portable device by an asset management controller on a central server constitutes an effect on a technical process outside of the computer.

28 In the present invention data relating to assets is copied from the storage of a portable device to storage at a location external to the portable device under the control of the asset management controller situated on a central server. Merely moving data from one location on a network to another, even if the source and destination are on different physical devices connected to the network, does not constitute an effect on a process outside of the computer. Something further is needed. I cannot find anything further in the contribution made by the present invention. The invention determines if and when the data is copied (time etc) but this still relates to the copying of data within a networked computer system. The contribution does not therefore make a technical effect on a process outside of the computer.

Signpost 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

29 The applicant has not made any particular submissions in relation to the second signpost, and this can be dealt with briefly. The claimed method of offloading assets does not take place at the level of the architecture of the computer but is a specific application operating at the application level. The effect is produced only when offloading assets from portable electronic devices and is not produced irrespective of the data being processed or the applications being run.

Signpost iii) Whether the claimed technical effect results in the computer being made to operate in a new way

30 The applicant argues that, for the present invention, the computer is made to operate in a new way, namely "via the specific information sent to the portable electronic device from the asset management controller, in the at least one storage message." This does not seem to me a matter of the computer being made to operate in a new way, but rather the computer operating in a conventional way to run a specific program to achieve this effect. This signpost does not therefore point to the presence of a technical contribution.

Signpost iv) Whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer

- 31 The applicant submits that the invention is making the computer a better computer in the sense of running more efficiently as a computer. They state that "a body worn camera could not previously operate with the efficiency that results from the specific 'at least one storage message' that the body worn camera receives." In a later letter they clarify that the portable electronic device (the body worn camera) is more efficient because it uses its limited on-board storage more efficiently by offloading assets to a server based on priority. It therefore operates more efficiently to collect and disseminate those assets. Moreover the device ensures it has sufficient storage for new assets. It also uses limited bandwidth more effectively because assets are offloaded by priority and at particular times, whilst required assets are still provided sooner. Furthermore the invention enables collection of more assets than devices that, for example, require docking to offload, or are offloaded sequentially or according to a fixed schedule.
- 32 These effects may all be benefits of the invention, and they may make the process of offloading assets from portable electronic devices more efficient and/or effective when compared to prior art methods, but the computer itself does not run more efficiently and effectively as a computer. The computer itself operates in the same way and any benefits of the type highlighted by the applicant are specific to the asset offloading process controlled by a computer program.
- 33 The applicant referred to BL O/296/21⁷ in relation to this signpost, a decision of the comptroller. This application relates to processing images in accordance with a traditional computer vision algorithm using a neural network accelerator. The applicant referred to paragraph 20 of this decision, in which the hearing officer refers to the way the traditional computer vision algorithm is implemented more efficiently in terms of silicon area and/or processing time as being the advantage of the invention. The applicant submits that this has similarities with the present invention, where offloading assets enable sufficient storage to continue collecting new assets, and where the device operates to use limited network bandwidth more efficiently. I am not convinced that there is a great deal of similarity between this prior case and the present invention. They do very different things. Moreover I note that, in O/296/21, the invention was not considered to make a technical contribution on the basis of running more efficiently and effectively as a computer, in fact the hearing officer rejected such an argument, but rather on the basis of the processing of the images under signpost i). This is not analogous to the present invention. I therefore conclude that this decision does not assist in the present case.
- 34 *Signpost v) Whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented*
- 35 In their letter of 24 May 2021 the applicant states:

"The invention allows the asset management controller to operate by implementing a flexible and controlled storage of large amounts of data, which is prioritised for storage, from potentially hundreds of disparate portable electronic devices such as

⁷ [Imagination Technology Limited's Application \(BL O/296/21\)](#)

the body worn camera, and the other devices listed in the application. There is no doubt whatsoever that the problem in the operation of the storage system and the various separate portable electronic devices has been fairly and squarely solved. There can be no argument that the problems have been 'circumvented.'

36 In their letter of 23 August 2021 they elaborate further on these arguments:

"The problem is how to maintain the ability of potentially hundreds of disparate devices with limited storage to continue operating to collect and deliver assets. These devices operate individually and via a network in communication with one another, the asset management controller, and data warehouses. Solving this problem is not merely a matter of computer program design. Addressing limited storage is a technical problem, the solving of which has been pursued since the inception of modern computing. The pending claims recite one novel and nonobvious solution to this technical problem. Accordingly, the claims provide a technical solution to a technical problem. The solution is not the mere work of a programmer."

37 The applicant expands further on their argument in their letter of 08 November 2021:

"Consider the problem of a technical process occurring in a portable electronic device, the operation of which process results in too much information being sent to storage for the available memory capacity. It might be arguable that adding more memory space is circumventing the problem. However, using a remote 'asset management controller' to command the portable communication device as specified in claim 1 involves effectively controlling, selectively, parts of the process occurring in the portable electronic device. That control/intervention thereby solves the problem of the steps in the original process that were able to send too much information to the originally available memory capacity. As the examiner concedes in the final line of point 8, the 'solution claimed is not simple and obvious'. The invention is very clearly a solution, and not a circumvention of the problem."

38 The applicant therefore submits that addressing limited storage is a technical problem, and this problem is solved rather than circumvented by the present invention.

39 The applicant has identified several possible problems which, they argue, are solved by the present invention, namely the implementation of flexible and controlled storage of data from potentially large numbers of portable electronic devices, dealing with the limited storage these devices have, and also communicating using networks with limited bandwidth.

40 I am not convinced that any of these problems have been solved in a technical sense. The problem of flexible and controlled storage of data when offloading assets from portable electronic devices is not in itself a technical problem but rather a problem lying in the field of computer programming and in the administrative choices made in deciding if and when to offload assets. Whilst the more specific problems of addressing limited storage and bandwidth could be considered technical problems, they are not solved in the present invention in any technical sense but rather are circumvented. A technical solution to limited storage could, for example, involve storing the data in a particular manner which enables more data to be stored in the limited storage. But in the present invention this problem is circumvented by offloading data to another storage device. Similarly, a technical solution to the bandwidth problem could be to enable more data to be transmitted over the

bandwidth-limited network, but this problem is circumvented by the present invention, for example by scheduling certain offloading tasks for periods when there is less demand on the network.

- 41 Taking a step back, the invention, at its core, relates to offloading data from portable electronic devices based on various factors such as the importance of the data and the network resources available. It relates to moving data (assets) from one location to another on a network. The invention does not provide a new way of moving data from one location to another, or a way of transferring more data in a low-bandwidth network. Rather it decides whether to grant or deny offload requests and generates a storage message based on storage priority (e.g. the importance of the asset) and storage time (the time at which the asset is to be offloaded). There is no effect on a technical process outside of the computer system and the computer itself is not a better computer in any technical sense. The claimed invention does not therefore make a technical contribution and I conclude that it therefore relates to a program for a computer as such.

Conclusion

- 42 I have found that the claimed invention lies wholly in the excluded field of a program for a computer as such and does not therefore comply with the requirements of sections 1(1)(d) and 1(2) of the Act. I therefore refuse the application under section 18(3).

Appeal

- 43 Any appeal must be lodged within 28 days after the date of this decision.

B MICKLEWRIGHT

Deputy Director, acting for the Comptroller