BL O/0738/23
1st August 2023

Intellectual Property Office

PATENTS ACT 1977

APPLICANT	Pearson Education, Inc
ISSUE	Whether patent application GB2110277.7 is excluded under section 1(2)(c)
HEARING OFFICER	H Jones

DECISION

Background

1 This decision relates to the issue of whether the application, GB2110277.7, meets the requirements of section 1(2)(c) of the Patent Act 1977 ("the Act").

2 GB2110277.7 is the GB national phase of PCT/US2020/012689, published as WO2020/146465 by the International Bureau and republished as GB2594215 by the IPO. The prescribed period for putting an application in order as referred to in section 20 of the Act, and as defined in rule 30 of the Patents Rules 2007 and Patents (Fees) Rules 2007, ended on 10 July 2023, and this period has been extended under section 108(2) of the Act until 10 September 2023.

3 Throughout their examination of this case the examiner has maintained that the claimed invention is excluded from patentability under section 1(2)(c) of the Act as a program for a computer as such.

4 In their letter of 3 April 2023, the applicant has requested a decision based on the documents on file. I confirm that I have considered all relevant documentation when coming to my decision and that my decision relates to the claims filed on 3 April 2023. The specification, including the amended claims, the objections raised by the examiner and the applicant's arguments and observations can all be viewed at the IPO's online file inspection service: Intellectual Property Office - Patent document and information service (Ipsum) (ipo.gov.uk)

The invention

5 The invention relates to an electronic reader user interface. The electronic reader has a corpus of electronic content (such as an electronic version of a magazine or a book). The invention presents a content navigation bar (the "content strip tray") on the user interface. The navigation bar shows a continuous series of thumbnail images, each corresponding to a section, chapter, or other subdivision of the corpus. The thumbnail images have a height proportional to the length of the section, and visually reflect the structure and type of content in the section (e.g., a section comprising text, charts and/or images may have a thumbnail representing the combination of text, charts, and images as they appear in the section). The

navigation bar indicates the current reading position in the corpus and allows the user to navigate to other parts of the corpus by interacting with the navigation bar (e.g., dragging the content or indication in the navigation bar using a suitable input interface like a touch screen).

6 The application has two independent claims (1 and 10) which are for a device and a method respectively. They both correspond to the same embodiment and will stand or fall together. For reference, claim 1 reads as follows:

> A system comprising a hardware computing device coupled to a network and comprising at least one processor executing specific computer-executable instructions within a memory, wherein the system is configured to:
>
> convert a corpus of electronic content into a plurality of contiguous visual sections, wherein each visual section, in the plurality of visual sections, has a length, based on a length of the corresponding visual section in the corpus of electronic content, and a type of content and a structure;
>
> convert the corpus of electronic content or the plurality of visual sections into a plurality of contiguous thumbnails that correspond to the plurality of visual sections, wherein each thumbnail, in the plurality of thumbnails, is proportional in length to, and visually indicates a type of content and a structure of, a corresponding visual section, in the plurality of visual sections;
>
> display in a main viewing area of a user interface on an electronic reader to the user a viewable portion of the plurality of visual sections;
>
> display in a content strip tray of the user interface on the electronic reader to the user a viewable portion of the plurality of thumbnails; and
>
> display an accent effect over an accent portion, within the viewable portion of the plurality of thumbnails in the content strip tray, wherein the accent portion corresponds to the viewable portion of the plurality of visual sections in the main viewing area on the electronic reader; and
>
> wherein the system is further configured to:
>
> receive a command from the user that resulted from the user dragging the content strip; and
>
> display a second viewable portion of the plurality of visual sections in the main viewing area to the user, wherein the second viewable portion of the plurality of visual sections in the main viewing area is selected based on a direction and a length of the dragging of the content strip by the user.

The law

7 The relevant provision is section 1(2)(c) of the Act, which says that certain things cannot be protected by a patent:

> *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—*
>
> *(a) a discovery, scientific theory or mathematical method;*
>
> *(b) a literary, dramatic, musical or artistic work or any other aesthetic creation;*

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

(d) the presentation of information;

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 The Court of Appeal in *Symbian*[1] stated that the question of whether a computer-implemented invention is patentable has to be resolved by answering the question whether it reveals a technical contribution to the state of the art. It proceeded to answer the question with the aid of the four-step test set out in its earlier judgment in *Aerotel*[2], namely:

> 1) construe the claim;
> 2) identify the actual (or alleged) 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 The fourth step of the test is to check whether the contribution is technical in nature. In paragraph 46 of *Aerotel* it is stated that applying this fourth step may not be necessary because the third step should have covered the question. This is because a contribution which consists solely of excluded matter will not count as being a "technical contribution" and thus will not, as the fourth step puts it, be "technical in nature". Similarly, a contribution which consists of more than excluded matter will be a "technical contribution" and so will be "technical in nature." In the present case, which concerns a computer-implemented invention, I shall consider whether the contribution falls solely within the excluded subject-matter alongside the question of whether the contribution is technical in nature, i.e. I will consider the third and fourth steps of *Aerotel* together.

10 Lewison J (as he then was) 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. In *HTC/Apple*[4] the signposts were reformulated slightly in light of the decision in *Gemstar*[5]. The signposts 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 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.

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[1] Symbian Ltd. V Comptroller -General or Patents [2008] EWCA Civ 1066
[2] Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application [2006] EWCA Civ 1371
[3] AT&T Knowledge Ventures/Cvon Innovations v Comptroller General of Patents [2009] EWHC 343 (Pat)
[4] HTC Europe Co Ltd v Apple Inc [2013] RPC 30
[5] Gemstar-TV Guide International Inc v Virgin Media Ltd [2010] RPC 10

Application of the *Aerotel* test

Step (1): construe the claim

11 I agree with the examiner that the claim is clear such that its construction poses no difficulties.

Step (2): identify the actual (or alleged) contribution

12 Paragraph 43 of *Aerotel* explains what is meant by the actual contribution and says that it corresponds to what the invention has added to human knowledge, the problem it solves and the advantages it offers.

13 The process of identifying the contribution was summarised in paragraph 43 of Aerotel as follows:

> *… it 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. The formulation involves looking at substance not form—which is surely what the legislator intended.*

14 In their letter of 3 April 2023, the applicant provided their view of the contribution made by the latest claims, which is as follows:

> A system/method for controlling the displayed portion of a corpus of electronic content that has been converted into visual sections (having a length, based on the length of the corresponding section of the electronic content, and a type of content and structure) and thumbnails corresponding to the visual sections (also having a length, based on the length of the corresponding section of the electronic content, and a visual indication of the type of content and structure). A viewable portion of the visual sections is displayed in a main viewing area and a viewable portion of the thumbnails is displayed in a content strip tray, which is accented with an accent effect indicating the thumbnail corresponding to the visual sections displayed in the main viewing portion. The viewable portion of the visual sections displayed in the main viewing area may be controlled by the user providing a manual input (i.e., dragging on a touch screen) to the portion of the display showing the thumbnails.

15 This was accepted by the examiner in their letter of 17 May 2023 at section 11.

16 While this statement of the contribution does reference the features of the invention as claimed, it is also helpful to step back and reformulate the contribution in terms of the problem being solved and how the invention addresses the problem. Doing this, I will take the contribution to be the following:

> A user interface for an electronic reader that allows a reader to understand (by means of visual cues) their current place in a corpus of electronic content and quickly recognise and navigate to other parts of the electronic content that they might be interested in. The user interface does this through the provision of a content strip tray alongside the main content viewer, where the content strip tray presents a series of images corresponding to sections of the electronic content, such that the images convey length, type and structure of the corresponding sections along with an indicator of the parts of the images that are currently displayed in the main content viewer. The content strip tray allows

user interaction to navigate the content to a different location to be shown in the main content viewer.

Steps (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

17 I note that the applicant has argued that the contribution does not fall solely within the excluded subject-matter based on similar reasoning in the Hearing Officer's decision in *Lenovo*[6]. I will consider this in due course, but since the invention is embodied as a suitably programmed computer device (the electronic reader), I will follow the examiner in structuring my analysis around the five *AT&T/CVON* signposts (as reformulated in *HTC/Apple*).

18 I agree with the analysis of the examiner in their letter of 17 May 2023 regarding the first three signposts, and the applicant has not relied upon these signposts to argue that the contribution is technical.

19 Regarding the fourth signpost, the applicant argues that it is clear from *Lenovo* that an improved user interaction with a computer is sufficient to provide a better computer in the sense of the fourth signpost. I do not agree that *Lenovo (*or *HTC/Apple*[7]*)* can be interpreted in this way, i.e. that any improved user interaction with a computer is technical. In *HTC/Apple* the invention of the '948 patent related to how a touch screen device handled multi-touch devices and how multi-touch events are processed as part of the basic internal operation of the device. Similarly, in *Lenovo* the invention related to how touch screen handwriting input was processed and disambiguated such that it could be passed to applications as input data. The current invention is distinguished from *HTC/Apple* and *Lenovo* in that it concerns a user interface for a specific application (an electronic reader application). The contribution does not affect how user input events are handled or understood in isolation from any specific application running on the device. Thus, I do not agree that the contribution results in a better computer in the sense of *HTC/Apple* or *Lenovo.*

20 For the fifth signpost, the applicant has argued that the invention directly solves the problem of "providing improved control of the content being displayed in the main viewing area." I agree that this problem has been solved and not circumvented, but I do not consider this to be a technical problem. Providing a better user interface for navigating a corpus of electronic content is a problem of program design, which I do not consider to be technical.

21 The applicant has further cited the EPO Board of Appeal decisions in *Konami*[8] and *IBM*[9] to support their view that the current invention is technical.

22 Having reviewed *Konami*, I am confident that there are sufficient differences to distinguish this decision from the current application. In particular, the invention in *Konami* is driven by the context of the interface as a video game. In this setting there is a need to use the whole of the screen (or as much as possible) to display the game content, and there is a tension between showing close-up footage of the player

[6] BL O/017/20
[7] This has been specifically considered as the originator of the reworded fourth signpost and as it was cited and discussed in *Lenovo*.
[8] T 0928/03, Decision of the EPO Technical Board of Appeal. [2006]
[9] T 333/95, Decision of the EPO Technical Board of Appeal. [1997]

for playability and providing essential context in terms of the position of other (off-screen) players. In the content of the current application screen real estate is less of an issue, and the key difference from the prior art (cited by the examiner in their examination report of 24 August 2022) is simply the visual appearance of the content-strip tray (having visual sections with length corresponding to the length of the sections). Regarding *IBM*, that decision hinges on whether the user interface assists the user in performing a technical task. I am confident that, in the current case, the contribution does not assist in performing a technical task.

23 In any case, whilst the reasoning of EPO decisions can be useful and persuasive, they are not binding. Having followed the UK precedents and considered relevant EPO decisions, I do not consider the contribution to be technical in nature.

Conclusion

24 Having carefully considered the arguments and documentation on file, I find that the claimed invention is excluded by section 1(2)(c) as a program for a computer as such. I therefore refuse the application under section 18(3).

Appeal

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

Huw Jones
Deputy Director, acting for the Comptroller