Intellectual Property Office

BL O/512/21

06 July 2021

PATENTS ACT 1977

APPLICANT	Hitachi
ISSUE	Whether patent application GB1521244.2 complies with Section 1(2) of the Patents Act 1977
HEARING OFFICER	Peter Mason

DECISION

Introduction

1. The decision relates to patent application GB1521244.2 (the Application), entitled "Food operator assistance system", filed in the name by Hitachi Ltd on the 1st July 2013 and claims an earliest priority date of 1st July 2013 from PCT JP2013/067971.

2. Despite several rounds of amendments, the applicant has been unable to persuade the examiner of the patentability of their invention and accepted an offer to present their views to a hearing officer.

3. The hearing took place on the 13th April 2021 where the applicant was represented by Dr John Addis of Mewburn Ellis LLP. I am grateful to Dr Addis for the skeleton arguments provided prior to the hearing which helped progress the discussions at the hearing. Also present was my assistant senior patent examiner Sean O'Connor.

4. The only substantive matter before me is whether the invention is excluded from patentability under section 1(2)(c) of the Act as a method of doing business and/or a programme for a computer as such. The issue of exclusion is the only issue that has been fully considered so far. If I find that the claimed invention is not excluded from patentability, I will return the application to the examiner to conclude the search and complete the substantive examination.

5. Notwithstanding exclusion under 1(2)(c) of the Act, the examiner opines the Application is additionally excluded under section 4A(1)(a) of the Act as a method of treatment of the human or animal body by surgery or therapy. Having considered the skeleton arguments, and the application prior to the hearing I am content that the Application does not relate prima facie to a treatment of the human body by surgery or therapy and therefore this issue was set aside for consideration at the outset of the hearing.

The invention

6. The invention relates to an apparatus that recommends a meal to a user wherein the recommendation is based on user health information as well as meal information including nutritional value of a meal and unit price. The meal is presented to the user wherein the meal is intended to improve, or at least not exacerbate, the user's health. The apparatus is intended to be operated on a computer terminal.

7. The claim set has been amended on several occasions with the final amendment being made with a correspondence dated 10th December 2020; These claims were accepted for the hearing, and it is these claims on which I will base my decision. There is a single independent claim which reads;

> *1. A food operator assistance system using a database that stores reference value information indicating a range of a proper amount of each nutrient in a meal, comprising: a meal information input unit that collects meal information including a nutritional intake of the meal; an index calculation unit that calculates scores of each nutrient as continuous values, using a function which has the nutritional intake as a variable and varies depending on the range of the proper amount indicated by the reference value information, and adds the scores of each nutrient to calculate a nutritional balance score; and a health information input unit that receives health information indicating health conditions of each user and stores the health information in a health information management unit of a database; wherein the index calculation unit weights the score of a related nutrient which is calculated by the index calculation unit, on the basis of the health information recorded in the health information management unit, and calculates the score in which the weight is reflected as one index; wherein the food operator assistance system further comprises: a target condition setting unit that sets a target value of the nutritional balance score, using the nutritional balance score calculated by the index calculation unit and a unit price of the meal, wherein the meal information input unit receives information about the unit price of the meal; a menu information management unit that manages menu information in which the amount of nutrition and the unit price of a meal menu to be provided are described; and a recommended menu setting unit that extracts a menu to be provided to a user from the menu information management unit, using the nutritional balance score calculated by the index calculation unit and the unit price of the meal; and wherein the food operator assistance system is configured to present the extracted menu to the user.*

The Law

8. The examiner raised an objection under Section 1(2) of the Act that the invention is not patentable because it relates to one or more categories of excluded matter. The relevant provisions of this section of the Act are shown with added emphasis below:

> *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*

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(a) …..

(b) …..

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

(d) …..

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.

9. The assessment of patentability under Section 1(2) is governed by the judgment of the Court of Appeal in Aerotel[1], as further interpreted by the Court of Appeal in Symbian[2]. In Aerotel, the court reviewed the case law on the interpretation of Section 1(2) and set out a four-step test to decide whether a claimed invention is patentable:

(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.

10. The Court of Appeal in Symbian made it clear the four-step test in Aerotel was not intended to be a new departure in domestic law; it was confirmed that the test is consistent with the previous requirement set out in case law that the invention must provide a "technical contribution". Paragraph 46 of Aerotel states that applying the fourth step of the test may not be necessary because the third step should have covered the question of whether the contribution is technical in nature. It was further confirmed in Symbian that the question of whether the invention makes a technical contribution can take place at step 3 or step 4.

11. Lewison J (as he then was) in AT&T/CVON[3] set out five signposts 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:

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[1] Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application [2006] EWCA Civ 1371; [2007] RPC 7
[2] Symbian Ltd v Comptroller-General of Patents [2009] RPC 1
[3] AT&T Knowledge Ventures LP and CVON Innovations Ltd v Comptroller General of Patents [2009] EWHC 343 (Pat)
[4] HTC v Apple [2013] EWCA Civ 451
[5] Gemstar-TV Guide International Inc v Virgin Media Ltd [2010] RPC 10

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;

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

12. The relevance of the legislation and legal precedent above is not contested in the latest communications or at the hearing.

Application of the Aerotel approach

Steps 1 and 2: Properly construe the claim; Identify the actual (or alleged) contribution

13. The first and second steps of Aerotel tests are not contested by the examiner or Dr Addis and so I do not need to labour these steps here. Needless to say, the claims are clear to construe and can reasonably be considered, as the applicant has submitted, to relate to;

A computer implemented method of presenting a recommended menu to a user, wherein the recommended menu is generated using a nutritional balance score and a unit price of a meal, wherein the nutritional balance score is calculated based on meal information including the nutritional intake of a meal and reference value information indicating a range of an appropriate amount for each nutrient in the meal, and taking into account any health conditions that the user may be suffering from (such as high blood pressure, high blood sugar, lipid abnormality, and being overweight).

Steps 3 and 4: Ask whether the contribution falls solely within the excluded subject matter and whether it is technical in nature

14. The third and fourth steps of the Aerotel test involve considering whether the contribution falls solely within excluded categories and checking whether the contribution is technical in nature. assessing whether the contribution is technical influences whether it falls solely within excluded matter and therefore it is appropriate to consider these steps together in this instance.

15. During the hearing, Dr Addis considered the AT&T signposts listed above, specifically relying on signpost (i). The invention clearly involves a computer programme therefore it is appropriate to consider the signposts.

16. Dr Addis alleges that the output provided by the invention is a menu that considers a user's health metrics and that using the recommended menu will improve, or at least not exacerbate, the user's health condition Dr Addis alleges that improving, or at least not exacerbating a user's health is a technical task, and the invention provides a solution for this technical task. Furthermore, Dr Addis identifies the 'process' as providing a menu that would be beneficial to the general health of the user.

17. Throughout their correspondence Dr Addis relies on relies on the High Court decision Protecting Kids the World Over (PKTWO)[6] as well as Patent Decision BL O/809/18[7]. Dr Addis argues that in PKTWO the court said that an automatic generation of an alarm solves a technical problem lying outside the computer, and so is not excluded. Dr Addis further argues that BL O/809/18 suggests that a generation of a warning display is sufficient to meet the threshold for patentability set down in PKTWO.

18. Patent Decision BL O/809/18 relates to a method of managing a construction site wherein real-time measurement data is received and compared with design data to extract non-design data and assign a congestion metric. A warning is issued if the congestion metric exceeds a predetermined threshold. In response to the warning a user alters a start time of an activity that involves a selected element and rearranges elements in the site that are in range of the selected element.

19. The invention therefore provides a warning to a user in response to localised congestion in a construction site. The user is then able to reduce congestion or mitigate further congestion by altering a schedule and rearranging elements in the construction site. This enables a more efficient construction process and may improve safety in the construction site.

20. Dr Addis has drawn my attention to a passage in BL O/809/18 which reads "It is arguable that the present application meets the threshold for patentability set down by Floyd J. in PKTWO merely by the generation of a warning display based on evaluated criteria."

21. In response, although I am not bound by earlier IPO patent decisions, the passage on which Dr Addis refers to is not properly tested and I do not see many similarities between the invention in BL O/809/18 and the application. In BL O/809/18 the invention includes a real-time acquisition of data wherein a measuring device measures three dimensions shape data of a construction site, and wherein an alarm is generated in response to a comparison between this data and a database. Furthermore, a response to the alarm is implemented. In contrast, the Application relates to generation of a menu in response to input data concerning health metrics and a historic meal data, wherein the generated menu is merely advisory. The application does not provide any system for measuring real time data, nor does it require any response to the generated menu.

22. In PKTWO the invention relates to a system for monitoring the content of electronic communications to ensure that users are not exposed to inappropriate

[6] [2011] EWHC 2720 (Pat), [2012] RPC 13
[7] BL O/809/18

content. In particular PKTWO relates to a data communication analysis engine configured to sample data packets on a communication channel for content analysis. The data packets are assigned a score depending on expressions found in the data packets and an aggregate alert level is used to generate an alert. The alert prompts a notification to a user such as a parent and a response is expected relating to one of; alerting a user, terminating the communication, or shutting down the associated equipment.

23. In PKTWO Floyd J. concluded that the invention improves on the prior art inappropriate communication alarm generation, and that this solved a technical problem lying outside the computer. During their decision Floyd J. stated:

> *"First of all, the concept, although relating to the content of electronic communications, is undoubtedly a physical one rather than an abstract one. In that respect it was more akin to the third of the three patents considered by Mann J. in Gemstar. Secondly, the contribution of claim 33 does not simply produce a different display, or merely rely on the output of the computer and its effect on the user. The effect here, viewed as a whole, is an improved monitoring of the content of electronic communications." (my emphasis)*

24. In PKTWO a real time parameter is monitored, using monitoring apparatus, and data is extracted. The data is compared against a look up table or similar predetermined metric to assign a score, if the score is above a predetermined threshold, then an alert is raised and actioned. Therefore, even if a menu generation was comparable to the alarm of PKTWO, there are a further two fundamental distinctions between PKTWO and the Application relating to how the data is collected and how a response to the alarm is managed.

25. It seems to me that the *technical* effect of the Application is the interrogation of several distinct databases in order to suggest an optimised menu to the user. This, however, has no bearing on what the user chooses to eat or what meal the user is provided with, beyond presenting a suggested menu. Merely suggesting a course of action, in response to a comparison between datasets cannot be considered to be technical and therefore the technical effect does not provide a technical effect on a process outside the computer as required by signpost i.

26. During the hearing, Dr Addis did not provide any argument based on signposts (ii)-(iv). Furthermore, it is clear to me that these signposts do not apply here.

Decision

27. I find the invention claimed in GB1521244.2 falls solely within matter excluded under Section 1(2) as a business method and/or program for a computer as such. I can find no amendment in the specification that will render the claims patentable. I therefore refuse the application under Section 18(3).

Appeal

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

Peter Mason

Deputy Director, acting for the Comptroller