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**Datasheet for the decision  
of 6 March 2020**

**Case Number:** T 0886/17 - 3.5.07

**Application Number:** 12802228.2

**Publication Number:** 2725502

**IPC:** G06F17/30, G06Q30/02

**Language of the proceedings:** EN

**Title of invention:**

Information processing device, information processing method,  
information processing program, and storage medium having  
information processing program stored thereon

**Applicant:**

Rakuten, Inc.

**Headword:**

Displaying review information in priority order/Rakuten

**Relevant legal provisions:**

EPC Art. 56

RPBA Art. 13(1), 13(3)

RPBA 2020 Art. 13(1)

**Keyword:**

Inventive step - all requests (no) - mixture of technical and non-technical features

Late-filed request - amendments after arrangement of oral proceedings - all requests - admitted (yes)

**Decisions cited:**

T 0258/97, T 0641/00, T 1351/04, T 1741/08, T 2045/10,  
T 2230/10, T 1375/11, T 1802/13, T 0598/14, T 1187/15,  
T 2227/15, T 0032/16, T 0634/16, T 1442/16, T 1597/16,  
T 0278/17, T 0697/17



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Case Number: T 0886/17 - 3.5.07

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.07**  
**of 6 March 2020**

**Appellant:** Rakuten, Inc.  
(Applicant) 1-14-1, Tamagawa  
Setagaya-ku  
Tokyo 158-0094 (JP)

**Representative:** EIP  
EIP Europe LLP  
Fairfax House  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 8 November 2016  
refusing European patent application  
No. 12802228.2 pursuant to Article 97(2) EPC**

**Composition of the Board:**

**Chairwoman** P. San-Bento Furtado  
**Members:** A. Bacchin  
C. Barel-Faucheux

## **Summary of Facts and Submissions**

- I. The appeal lies from the decision of the Examining Division to refuse European patent application No. 12802228.2, which was filed as international application PCT/JP2012/054559.
  
- II. The Examining Division decided that the subject-matter of claims 1 to 17 and 19 of the sole request then on file constituted a straightforward technical implementation of a non-technical administrative and business-related scheme in a notorious electronic data processing system. As an example of the technical infrastructure of such a data processing system, the following document was cited:  
D1: US2011/0029541 A1, published on 3 February 2011.  
  
With regard to claim 18 the Examining Division stated that computer programs as such were excluded from patentability under Article 52(2)(c) and (3) EPC.
  
- III. In the statement of grounds of appeal of 20 March 2017, the appellant filed sets of claims A and B as its main and first auxiliary requests. It requested that the decision be set aside and a patent be granted on the basis of the main request or the first auxiliary request.
  
- IV. In a communication accompanying a summons to oral proceedings of 22 November 2019, the Board expressed its preliminary opinion that claim 1 of the main request was unclear, and that the subject-matter of claim 1 of the main and first auxiliary requests was not inventive over a notorious web-based information retrieval system which gave users the possibility of

reviewing or rating of articles of interest and viewing such information as part of the search results. The application acknowledged in paragraph [0002] that such systems were known.

- V. With a letter of reply of 6 February 2020 the appellant filed new sets of claims A1, B1, C, D and E as its main request and first to fourth auxiliary requests respectively.
- VI. Oral proceedings were held as scheduled on 6 March 2020, at the end of which the chairwoman pronounced the Board's decision.
- VII. The appellant's final requests were that the contested decision be set aside and that a patent be granted on the basis of the main request or one of the first to fourth auxiliary requests, all of which had been filed with the letter of 6 February 2020.
- VIII. Claim 1 of the main request (claim set A1) reads as follows:  
"An information retrieval apparatus comprising:  
    a searching means (4) that searches transaction targets stored in a first computer readable database (22), based on a search condition used for searching transaction targets designated by a user;  
    characterized by :  
    an acquiring means (4) that acquires pieces of review information associated with transaction target identification information of each of the searched transaction targets that satisfies the search condition, from a second computer readable database (23), different from the first computer readable database (22), that stores a plurality of pieces of review information regarding the transaction targets in

association with the transaction target identification information of each of the transaction targets;

a determining means (4) that determines a priority order of the pieces of review information associated with the transaction target identification information with respect to each of the searched transaction targets, based on processing of the acquired pieces of review information according to a correspondence between the search condition and the pieces of review information by using the search condition which is designated by the user when searching for the transaction targets and is used for searching the transaction targets, to determine a priority order of the pieces of review information for each of the transaction targets based on the search condition; and

a controlling means (4) for receiving data representative of the pieces of review information in the determined priority order and indicative of the correspondence, and for generating a list comprising at least one piece of review information associated with the transaction target identification information of each of the searched transaction targets for display on a display screen in the determined priority order."

IX. Claim 1 of the first auxiliary request (claim set B1) differs from that of the main request in that the following text was added at the end:

", wherein the determining means (4) determines the priority order such that higher priority is given to the pieces of review information including a preset positive term with respect to the search condition used for searching the transaction target".

X. Claim 1 of the second auxiliary request (claim set C) differs from claim 1 of the main request in that the following text was added at the end:

", wherein the piece of review information having the highest determined priority is displayed at the top of the list".

XI. Claim 1 of the third auxiliary request (claim set D) differs from claim 1 of the second auxiliary request in that the passages "based on a search condition used for searching transaction targets designated by a user;" and "according to a correspondence between the search condition and [...] based on the search condition;" were replaced respectively with

"based on a search condition used for searching transaction targets designated by a user, wherein the search condition includes at least one search word and a use condition;" and

"according to a correspondence between the at least one search word and the pieces of review information by using the at least one search word which is designated by the user when searching for the transaction targets and is used for searching the transaction targets, to determine a priority order of the pieces of review information for each of the transaction targets based on the at least one search word;".

XII. Claim 1 of the fourth auxiliary request (claim set E) differs from that of the third auxiliary request in that the following text was added at the end:

", wherein the determining means (4) determines the priority order, based on the number of search words that are input as the search condition and that are included in the pieces of review information."

XIII. The appellant's arguments, where relevant to this decision, are addressed in detail below.

## **Reasons for the Decision**

1. The appeal complies with the provisions referred to in Rule 101 EPC and is therefore admissible.

### *The invention*

2. The invention concerns an information retrieval system for providing review information about "transaction targets" such as products or accommodations. The system receives a search condition input by a user (e.g search words), searches transaction targets matching the search condition, and displays review information regarding the transaction targets in a predetermined display order (see paragraphs [0001] and [0004] and Figure 4A of the A1 publication). The purpose of the invention is to "reduce time and effort necessary for a user to find desired review information" (paragraph [0005]).

### *Admissibility of requests - Revised Rules of Procedure of the Boards of Appeal*

3. The present appeal was pending on 1 January 2020, when the revised Rules of Procedure of the Boards of Appeal (RPBA 2020, OJ EPO 2019, A63 and Supplementary publication 2, OJ EPO 2020) came into force. Thus, the proceedings are subject to those revised Rules of Procedure (Article 25(1) RPBA 2020), although not to Articles 12(4) to (6) and 13(2) RPBA, to which transitional provisions apply (Article 25(2) and (3) RPBA 2020).
  - 3.1 Therefore, when it comes to assessing the admissibility of amendments to the appellant's case,



Article 13(2) RPBA 2020 does not apply and instead Article 13 RPBA 2007 continues to apply. This is because the summons to the oral proceedings was notified before the entry into force of the revised Rules of Procedure (Article 25(3) RPBA 2020).

In addition, under Articles 24 and 25(1) RPBA 2020, Article 13(1) RPBA 2020 is generally applicable as it is not excluded by the transitional provisions under Article 25(2) and (3) RPBA 2020 (T 634/16 of 10 January 2020, Reasons 12 to 14; T 32/16 of 14 January 2020, Reasons 1.1.2 and 1.1.3; T 1597/16 of 14 January 2020, Reasons 2; T 1187/15 of 20 January 2020, Reasons 5.2 to 5.4; T 2227/15 of 29 January 2020, Reasons 1; and T 278/17 of 13 February 2020, Reasons 1). With regard to the criteria set out in the last sentence of Article 13(1) RPBA 2007, Article 13(1) RPBA 2020 is seen as a clarification of those criteria as developed by the relevant case law of the Boards of Appeal (T 278/17, Reasons 1; T 1187/15, Reasons 5.4). The Board further notes that Article 13(1) RPBA 2020 applies to "[a]ny amendment to a party's appeal case after it has filed its grounds of appeal or reply", and thus also after expiry of the period set in a communication under Rule 100(2) EPC or notification of a summons to oral proceedings (see also T 1597/16, Reasons 2.4). This is in line with the principle that the possibilities for parties to amend their case become increasingly limited (see Administrative Council document CA/3/19, pages 3 and 10).

3.2 Accordingly, the amendments filed by the appellant on 6 February 2020, in response to issues raised by the Board in the communication under Article 15(1) RPBA 2007, may be admitted at the Board's discretion, in

accordance with Article 13(1) RPBA 2020 and Article 13(1) and (3) RPBA 2007.

*Main request*

4. *Admission into the proceedings*

The claims of the main request were amended to address the Board's preliminary objections, including the clarity objections raised for the first time in the Board's communication issued with the summons to the oral proceedings, and do not introduce new deficiencies. In its letter of reply, the appellant identified each amendment and its respective basis, and justified the new submissions. Therefore, the Board decided to admit the main request into the appeal proceedings (Article 13(1) and (3) RPBA 2007 and Article 13(1) RPBA 2020).

5. *Inventive step - claim 1*

5.1 At the date of priority of the present application, web-based information retrieval systems which gave the users the possibility of reviewing or rating articles of interest and viewing such information as part of the search results were notoriously known. The application acknowledges in paragraph [0002] that such systems were known.

Such a notorious information retrieval system, which was the starting point for assessing inventive step in the Board's preliminary opinion, includes searching means, acquiring means and controlling means similar to those defined in claim 1.

In its reply and at the oral proceedings, the appellant did not contest the Board's choice of starting point for assessing inventive step. It argued that, in the claimed invention, pieces of review information in which a user was very interested were preferentially displayed.

- 5.2 The information retrieval apparatus of claim 1, if interpreted in light of the description and as suggested by the appellant, differs from such a notorious information retrieval system in that
- (a) the transaction targets are stored in a first computer database and the review information is stored in a second computer database distinct from the first;
  - (b) the apparatus includes determining means for determining a priority order of the pieces of review information of each transaction target which satisfies the search condition, the priority order being determined "according to a correspondence between the search condition and the pieces of review information"; and
  - (c) a list of pieces of review information comprising at least one piece of review information associated with the identification information of each target is generated and displayed in the determined priority order.
- 5.3 Distinguishing feature (a) is a minor obvious implementation detail. It is common practice to distribute data across different databases. In addition, the Board is not convinced that feature (a) interacts with features (b) and (c) in such a way as to produce a synergistic effect. This was not contested by the appellant.

5.4 Features (b) and (c) relate to sorting the pieces of review information and displaying them in the sort order, and have the effect of changing the way the pieces of review information are presented to the user.

Computer programs and presentations of information as such are excluded from patentability under Article 52(2)(c) and (d) and (3) EPC. Furthermore, sorting or grouping data in a particular manner on the display is a matter of the presentation of information, which as such is non-technical (T 2045/10 of 28 April 2016, Reasons 5.6.2). It therefore has to be assessed whether features (b) and (c) interact with technical features of the invention to solve a technical problem bringing about a technical effect (T 2045/10, Reasons 5.6.2 to 5.6.4; T 1442/16 of 30 August 2019, Reasons 1.4; T 697/17 of 17 October 2019, Reasons 4.2 and 5.2.2).

In its statement of grounds of appeal, the appellant argued that the priority order reflected the user's interest because it was based on the search condition. Review information in which a user was very interested was preferentially displayed among pieces of review information of transaction targets.

In its reply and at the oral proceedings, the appellant argued that an important distinguishing feature of claim 1 related to using the same search condition used to search the transaction targets to determine the priority order (as specified in feature (b)), and that this produced three technical effects.

The first effect was a reduction of the load on the information retrieval apparatus, which was clearly not a cognitive effect. By performing the search and

ordering together, fewer processing steps were necessary.

The second effect, improved ergonomics, was achieved by requiring the user to enter the search condition only once, which resulted in fewer mouse clicks or key press operations. Since this related to physical movement, it was technical. In the prior art, the search results were first displayed and then the user had to select one of the displayed search results and scroll down to the "reviews" section. Typically, the user had then to click "see all reviews" in order to go to a page showing a number of reviews. This page had options to order the reviews. The user had to enter the search term again to sort the review information.

The third effect was that the computer was "controlled to the memory location" of the pieces of review information which, in accordance with decision T 1351/04 of 18 April 2007, was a technical effect.

- 5.4.1 Even though the case law generally recognises a technical contribution by non-technical features if they are causally linked to a technical effect, not every physical change qualifies as a technical effect. A physical change caused by non-technical features is to be regarded as a technical effect for the purpose of assessing inventive step if the non-technical features are based on technical considerations aimed at controlling that physical change (T 697/17, Reasons 5.2.2; T 2230/10 of 3 July 2015, Reasons 3.7). The physical change has to be purposively used in the solution of a technical problem (T 258/97 of 8 February 2002, Reasons 6).

In the present case, distinguishing features (b) and (c) are not purposively directed to reducing the

processing load or to directing the computer to a memory location. They are not based on technical considerations of how to achieve these effects, but rather on non-technical considerations regarding the information of interest to the user. In particular, the conclusions of T 1351/04 do not apply here. Unlike in T 1351/04, the present invention does not use an index or similar "management information" providing a path to the desired data, and the Board cannot see any technical considerations regarding directing the computer to a memory location.

The Board agrees with the appellant that teachings from case law should not be dismissed because the specific means used to achieve a technical effect there are not identical to those used in the present case, but notes that the question of which specific means are used to achieve an alleged technical effect, and thus whether they are comparable to those of the case law, is pertinent because features can only make a technical contribution if they are based on technical considerations (see also T 697/17, Reasons 4.2, 5.2.2, 5.2.3).

The Board is therefore not convinced that distinguishing features (b) and (c) can be considered to make a technical contribution by virtue of the first and third alleged technical effects.

- 5.4.2 With regard to the second alleged technical effect, the appellant cited decision T 1375/11 of 31 March 2016, which affirms that it is well established by the Boards of Appeal that improving ergonomics is technical (Reasons 4.4). In that decision, the invention was considered to solve the problem of avoiding the fatigue caused by the repetitive movements of the user's eyes

and head necessary to follow the displayed game, which were physiological aspects (Reasons 4.2 to 4.7). However, in the present case, there are no repetitive movements of the head and eyes or other physiological factors.

When assessing the presence of a credible technical effect in inventions involving presentations of information, a distinction has to be made between subjective psychological factors and objective physiological factors (T 1375/11, Reasons 4.6; T 1442/16, Reasons 1.8). Furthermore, it is established jurisprudence of the Boards of Appeal that "lowering the cognitive burden of a user" *per se* cannot as a rule be considered a technical effect (T 1802/13 of 10 November 2016, Reasons 2.1.7; T 1741/08 of 2 August 2012, Reasons 2.1.6).

In the present case, the allegedly achieved reduction in user interaction steps depends on cognitive aspects, and the Board is not convinced that the use of the search condition for determining the priority order is primarily based on technical considerations regarding ergonomics. If that order were not relevant for the user, then sorting the information according to that order would potentially result in more user interaction steps. As mentioned by the appellant, the priority order is chosen so that review information in which a user is very interested is preferentially displayed among pieces of review information of transaction targets. In that way, the user can grasp information more easily or find information with less effort. However, as argued in the decision under appeal, those are effects that remain at the cognitive level and are subjective. Therefore, the priority order and the presentation aspects of features (b) and (c) do not

have to be considered in the assessment of inventive step. If a technical problem is solved, these aspects can be included in the formulation of the technical problem (T 641/00, OJ EPO 2003, 352, Reasons 7).

If it is assumed, in line with the appellant's argument, that the invention contributes to the technical effect of facilitating user interactions, then features (b) and (c) constitute an advantageous solution to the problem of modifying the notorious information retrieval system to display the pieces of review information according to a priority order determined by the "correspondence between the search condition and the pieces of review information".

However, it is standard practice in user interface design to minimise the number of interactions. Knowing that the priority order is based on the search condition, it is thus obvious for the skilled person to reuse the search condition to generate and immediately display the ordered list instead of requiring further input from the user. Modifying the notorious information retrieval system to determine a specific priority order and generating and displaying the list in that order as defined in features (b) and (c) involves only ordinary programming skills. Hence, regardless of whether features (b) and (c) are technical, they are obvious.

5.5 Therefore, the subject-matter of claim 1 of the main request is not inventive (Article 56 EPC).



*First auxiliary request*

6. Compared to claim 1 of the main request, claim 1 of the first auxiliary request additionally specifies that the priority order is determined such that higher priority is given to the pieces of review information including a preset positive term with respect to the search condition used for searching the transaction target.

According to paragraph [0078] of the description, a preset positive term is "a term registered in a dictionary where a plurality of kinds of positive words is registered". That paragraph gives an example where the search condition is "bath". If review information A includes "bath" and a corresponding "positive term", and review information B includes only "bath", then review information A is assigned a higher display priority.

7. *Admission into the proceedings*

The claims of the first auxiliary request are the same as those filed with the grounds of appeal, except that they have been amended to address clarity objections raised for the first time in the Board's communication. They do not introduce new deficiencies and can be dealt with efficiently as regards inventive step. The appellant identified the amendment and its basis. Therefore, the Board decided to admit the first auxiliary request into the appeal proceedings (Article 13(1) and (3) RPBA 2007 and Article 13(1) RPBA 2020).

8. *Inventive step - claim 1*

8.1 The appellant argued that the additional feature provided further details regarding the way the computer performed the search and enhanced the technical effects mentioned for claim 1 of the main request.

In the Board's opinion, the additional feature is based on non-technical linguistic considerations and does not specify non-obvious technical details of an implementation.

8.2 Therefore, claim 1 of the first auxiliary request does not fulfil the requirements of Article 56 EPC.

*Second auxiliary request*

9. Claim 1 of the second auxiliary request differs from claim 1 of the main request in that it further specifies that the piece of review information having the highest determined priority is displayed at the top of the list.

10. *Admission into the proceedings*

This amendment overcomes a clarity objection raised for the first time by the Board and reinforces the appellant's argument regarding the technical effects of the invention. The appellant identified the amendment and its basis. The claims do not introduce new deficiencies and can be dealt with efficiently as regards inventive step. Therefore, the Board decided to admit the second auxiliary request into the appeal proceedings (Article 13(1) and (3) RPBA 2007 and Article 13(1) RPBA 2020).

11. *Inventive step - claim 1*

In its inventive step assessment for the main request, the Board interpreted claim 1 in the way now clarified in claim 1 of the second auxiliary request. Therefore, for the same reasons as given for the main request, the second auxiliary request does not fulfil the requirements of Article 56 EPC.

*Third auxiliary request*

12. The apparatus of claim 1 of the third auxiliary request differs from that of the second auxiliary request in that the search condition includes at least one search word and a "use condition" and the determination of the priority order is based on the correspondence between the at least one word and the pieces of review information.

A use condition is a search criterion regarding the intended use of the transaction target. As explained in paragraph [0059] of the description with reference to Figure 5A, a use condition may be a "usage schedule" (e.g. check-in and check-out days), the number of persons, a "usage area" (e.g. Hokkaido) or a "usage purpose" (e.g. "Hotel convenient for" a specific purpose).

13. *Admission into the proceedings*

In its letter the appellant identified the amendment and its basis. In its letter and at the oral proceedings, it argued that the claims of the third auxiliary request had been amended to address a clarity objection raised for the first time in the Board's communication. The amendment does not introduce new

deficiencies and can be dealt with efficiently as regards inventive step. Therefore, the Board decided to admit the third auxiliary request into the appeal proceedings (Article 13(1) and (3) RPBA 2007 and Article 13(1) RPBA 2020).

14. *Inventive step - claim 1*

The additional feature is a minor modification based on non-technical considerations regarding the user requirement to view transaction targets (e.g. accommodation offers) meeting a specific use criterion (e.g. hotel with sports facilities). Therefore, the additional feature does not contribute to inventive step and, for essentially the same reasons as given for the higher-ranking requests, the third auxiliary request does not fulfil the requirements of Article 56 EPC.

*Fourth auxiliary request*

15. Claim 1 of the fourth auxiliary request further specifies that the priority order is determined on the basis of the number of search words that are input as the search condition and that are included in the pieces of review information.

16. *Admission into the proceedings*

In its letter and at the oral proceedings, the appellant argued that claim 1 of the fourth auxiliary request had been amended to address a clarity objection raised for the first time in the Board's communication. For essentially the same reasons as given for the third auxiliary request, the Board decided to admit the fourth auxiliary request into the appeal proceedings

(Article 13(1) and (3) RPBA 2007 and Article 13(1) RPBA 2020).

17. *Inventive step - claim 1*

At the oral proceedings, the appellant argued that the additional feature contributed to solving the technical problem of reducing user interaction for searching transaction targets and respective review information when the search condition included a large number of words.

However, the Board notes that the number of matching words is taken into account for ranking the review information according to relevance for the user. The degree to which a piece of review information is relevant for a user depends on the non-technical semantic content of the piece of review information. The number of matching words is used to estimate the semantic similarity between the search condition and the review information. This is a non-technical linguistic consideration (see also T 598/14 of 6 November 2014, Reasons 2.3).

Consequently, the additional feature merely reflects non-technical aspects as regards the information of interest for the user and linguistic considerations. For essentially the same reasons as given for the higher ranking requests, the fourth auxiliary request does not fulfil the requirements of Article 56 EPC.

*Conclusion*

18. Since none of the requests on file is allowable, the appeal is to be dismissed.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairwoman:



S. Lichtenvort

P. San-Bento Furtado

Decision electronically authenticated