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Datasheet for the decision of 5 July 2018

Case Number: T 2214/12 - 3.5.01

Application Number: 08828590.3

Publication Number: 2191420

IPC: G06Q10/00

Language of the proceedings: EN

Title of invention:
PLANOGRAM EXTRACTION BASED ON IMAGE PROCESSING

Applicant:
Accenture Global Services Limited

Headword:
Extracted planogram / ACCENTURE

Relevant legal provisions:
EPC Art. 54(1), 54(2), 56

Keyword:
Inventive step - planogram representing the current state of an inventory environment - (no - presentation of information)

Decisions cited:
T 0641/00

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Case Number: T 2214/12 - 3.5.01

D E C I S I O N
of Technical Board of Appeal 3.5.01
of 5 July 2018

Appellant: (Applicant)	Accenture Global Services Limited 3 Grand Canal Plaza Grand Canal Street Upper Dublin 4 (IE)
Representative:	Harrison, Scott David Swindell & Pearson Limited 48 Friar Gate Derby DE1 1GY (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 11 May 2012 refusing European patent application No. 08828590.3 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	P. Scriven
Members:	A. Wahrenberg
	C. Schmidt

Summary of Facts and Submissions

I. The appeal is against the decision of the Examining Division to refuse the European patent application 08828590.3, published as WO 2009/027839.

II. The Examining Division refused the application *inter alia* because the subject-matters of the independent claims of the main and auxiliary requests were not novel in view of the disclosure of D1 (US 2003/0154141).

III. The appellant requested that the decision of the Examining Division be set aside and that a patent be granted on the basis of a main request or one of four auxiliary requests, all filed with the statement of grounds of appeal.

IV. The main request, filed with the grounds of appeal, is identical to the auxiliary request before the Examining Division. Claim 1 reads as follows:

A method comprising:

receiving, by an image analysis server (124), an image of at least one product within an inventory environment (102);

identifying, by a planogram server (126) in communication with the image analysis server, at least one candidate product based on a configuration profile;

performing, by the image analysis server, object recognition analysis on the image based on stored product images corresponding to the at least one candidate product to provide product recognition data; and

providing, by the planogram server, an extracted

planogram, based on the product recognition data, indicating a current state visually representing actual locations of the at least one product within the inventory environment by mapping the actual locations of the at least one product within the inventory environment to corresponding locations within the extracted planogram.

V. The first auxiliary request differs from the main request by the last feature in claim 1. In the first auxiliary request, it reads (emphasis added):

"providing, by the planogram server, an extracted planogram, based on the product recognition data, indicating a current state visually representing actual locations of the at least one product within the inventory environment <u>including gaps between actual locations or misalignments</u> by mapping the actual locations of the at least one product within the inventory environment to corresponding locations within the extracted planogram".

VI. The second auxiliary request differs from the main request by the addition of the following features at the end of claim 1, immediately before the full stop:

"; and further comprising:
comparing, by the planogram server (126), the extracted planogram (400) to a target planogram to identify differences between the centres of the locations of the at least one product and differences between their orientations in the compared planograms".

VII. Claim 1 of the third auxiliary request differs from the second auxiliary request by the addition of the following feature at the end of claim 1, immediately

before the full stop:

"; wherein the differences include horizontal or vertical deviations of locations of products from their desired locations, or the addition of unexpected products relative to the target planogram".

VIII. The fourth auxiliary request is a combination of the first and third auxiliary requests.

IX. In the statement setting out the grounds of appeal, the appellant advanced arguments to the effect that the claimed invention was novel and inventive over D1.

In particular, the appellant argued that D1 failed to disclose a planogram that represented actual locations of products. The planogram taught in paragraphs [0088] and [0089] of D1 reflected the desired presentation of products in the light of newly ordered products, and not the actual locations of products within the inventory environment.

The technical effect of the distinguishing features was the provision of a better planogram. The problem to be solved was consequently how to provide such an improved planogram.

Since there was nothing in D1 that would lead the skilled person, faced with the problem of providing an improved planogram, to modify D1 so as to provide a planogram that represented the actual locations of the products on the shelf, the claimed invention involved an inventive step.

X. In a communication accompanying a summons to oral proceedings, the Board observed that the extracted

planogram in claim 1 of the main request did not appear to differ from the planogram in D1 and that, if there was a difference between the subject matter of claim 1 of the main request and the disclosure of D1, then this difference did not appear to be a technical one that could contribute to inventive step.

XI. The appellant informed the Board that it would not attend or be represented at the oral proceedings. It withdrew the request for oral proceedings and requested a decision according to the state of the file as it stood.

XII. The Board nevertheless held oral proceedings in the appellant's absence.

Reasons for the Decision

1. The invention is about "planograms".

A "planogram" is a representation of one or more products within an inventory environment such as a shop display. At a minimum, it is a list of products and information about the products' positions and orientations. It is typically a diagram or a picture, but the invention is not limited to that (see paragraph [0023] of the published application).

The application describes two types of planogram:

an "extracted planogram" that reflects the current state of the inventory environment including the actual

locations of the products (paragraphs [0030] and [0031]); and

a "target planogram" that defines how the products should be displayed (paragraph [0036]).

2. *Main request, claim 1*

2.1 Claim 1 of the main request is directed to providing an "extracted planogram" by performing object recognition analysis on a captured image of the inventory environment.

The application describes a number of suitable object recognition techniques, for example the scale-invariant feature transformation (SIFT) algorithm (see paragraph [0022]), but the claimed invention is not limited to any particular manner of object recognition. It covers any technique that uses stored product images to identify a product.

2.2 The Examining Division considered that the subject-matter of claim 1 of the main request lacked novelty over D1 (Article 54(1) and (2) EPC). In particular, in paragraph 4.2, reference was made to the *"image recognition inventory management system in figure 7 as well as paragraphs 51, 88, and 89"*.

2.3 The appellant essentially argued that D1 disclosed a target planogram reflecting the *desired* presentation of products, but not an extracted planogram representing the *actual* locations of products as in claim 1 of the main request.

2.4 The Board considers D1 to be a highly relevant piece of prior art for the subject-matter of claim 1 of the main request, because it concerns planograms created using image recognition. However, the disclosure in D1 lacks a certain level of detail.

The reader learns, from paragraph [0051], that *"new planograms for stocking and product facing"* can be generated using information about what products are missing from the shelf. Furthermore, claim 17 of D1, includes the feature of creating a planogram *"using the identity and the location of each product"*. From this, the skilled reader understands that the new planogram is generated taking account of the actual state of the shelf, but it is not clear what form the resulting planogram actually takes.

Indeed, D1 suggests that the new planogram is not based solely on the result of image recognition. In the embodiment shown in Figure 7 and described in paragraphs [0088] and [0089], a new or updated planogram is created, based the information about missing products, as well as information about the amount of products that have been sold and that are being delivered. This suggests that the planogram is not a reflection of the actual state of the shelf as provided by the image recognition software, but rather a representation of some desired future state.

In view of the gaps and ambiguities in D1, the Board does not see any *clear* disclosure of an "extracted planogram" representing the actual locations of the products.

2.5 However, in the Board's view, the difference between the claimed invention and D1 does not involve an

inventive step (Article 56 EPC) for the following reasons.

2.6 The Board does not consider a planogram to be technical. It is just a representation of products and their positions, i.e. presentation of information. In other words, the choice between a planogram representing the current state of the shelf and a planogram that shows a desired presentation is not a technical one; it is a choice for the shop manager and depends on what sort of information he needs to see. If the aim is to make an inventory of the shelf, he might want to see the actual products and their positions. If, on the other hand, the idea is to plan a new shop layout, he might want to look at some example planograms. Thus, the particular choice of planogram does not contribute to inventive step (see T 641/00 - Two identities/COMVIK). It is given as part of of the non-technical requirement specification that the technically skilled person has to implement.

2.7 In the Board's view, providing a planogram representing the actual locations of products would have been straightforward for the skilled person based on D1. Indeed, D1 has all the technical means for obtaining actual locations of products and for mapping such locations to the corresponding locations within a planogram.

The planogram in D1 is generated based on the actual state of the shelf and some additional information. Thus, the modification required for implementing the invention in claim 1 of the main request involves removing the additional information.

Another way of looking at it is that, since the information for providing the "extracted planogram" in claim 1 is already available in D1, the invention is just a question of providing a visual representation.

Neither approach leads to a finding of inventive step.

3. *First auxiliary request*

3.1 Claim 1 of the first auxiliary request specifies that the extracted planogram represents gaps between actual locations or misalignments.

3.2 The gaps and misalignments are part of the presentation of information about the products on the shelf. Therefore, the idea of providing such information does not, as such, contribute to inventive step. Furthermore, the implementation would have been obvious on the basis of the teachings in D1.

3.3 For these reasons, the Board considers that the feature added by the first auxiliary request does not provide an inventive step (Article 56 EPC).

4. *Second auxiliary request*

4.1 Claim 1 of the second auxiliary request includes the feature of comparing the extracted planogram to a target planogram. The Board does not see that this provides any technical effect. Comparing data is not, as such, a technical activity, and the data itself does not represent anything technical.

Therefore, the subject-matter of claim 1 of the second auxiliary request does not involve an inventive step (Article 56 EPC).

5. *Third auxiliary request*

5.1 Claim 1 of the third auxiliary request defines what sort of information the comparison in the second auxiliary request may yield, i.e. horizontal and vertical deviations of locations of products from their desired locations, or the addition of unexpected products. In the Board's view, this definition does not make the comparison more technical. Therefore, the reasons given in respect of the second auxiliary request apply equally to the third auxiliary request.

6. *Fourth auxiliary request*

6.1 The fourth auxiliary request is a combination of the first auxiliary request and the third auxiliary requests. There is no synergistic relationship between the feature added over the main request by the first auxiliary request and the features added by the third auxiliary request. Therefore, since neither the first auxiliary request, nor the third auxiliary request is allowable for lack of inventive step, the fourth auxiliary must fall for the same reasons.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

T. Buschek P. Scriven

Decision electronically authenticated