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Datasheet for the decision of 12 December 2018

Case Number: T 1164/15 - 3.5.05

Application Number: 10742055.6

Publication Number: 2462503

IPC: G06F3/12

Language of the proceedings: EN

Title of invention:
System, method and software for reducing printer colorant usage

Applicant:
International Paper Company

Headword:
Printer colorant usage/IPC

Relevant legal provisions:
EPC Art. 83, 56
RPBA Art. 15(3)

Keyword:
Oral proceedings held in the absence of the party
Sufficiency of disclosure - (no): claimed apparatus defined as "black box"
Inventive step - (no): juxtaposition of obvious features

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Case Number: T 1164/15 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 12 December 2018

Appellant: (Applicant)	International Paper Company 6400 Poplar Avenue Memphis, TN 38197 (US)
Representative:	Kunz, Herbert Fish & Richardson P.C. Highlight Business Towers Mies-van-der-Rohe-Straße 8 80807 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 5 January 2015 refusing European patent application No. 10742055.6 pursuant to Article 97(2) EPC**

Composition of the Board:

Chair	A. Ritzka
Members:	K. Bengi-Akyuerek
	D. Prietzel-Funk

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division to refuse the present European patent application on the grounds of lack of inventive step (Article 56 EPC), having regard to the disclosure of

D2: US-A-2009/0128838

combined with the disclosures of

D1: US-A-2004/0051891 and
D3: US-A-2005/0063749.

II. With the statement setting out the grounds of appeal, the appellant filed the claims underlying the appealed decision as main request and amended sets of claims according to auxiliary requests I and II. It requested that the examining division's decision be set aside and that a patent be granted on the basis of one of those claim requests. In addition, oral proceedings were requested as an auxiliary measure.

III. In a communication annexed to the summons to oral proceedings pursuant to Article 15(1) RPBA, the board expressed its preliminary opinion on the appeal. In particular, it raised a new objection under Article 83 EPC, and indicated that all the claim requests on file appeared to lack an inventive step (Article 56 EPC), mainly having regard to D2 and D3.

IV. In a letter of reply dated 7 December 2018, the appellant indicated that it would not be attending the oral proceedings. It did not submit any comments on the substance of the board's communication.

V. Oral proceedings were held as scheduled on 12 December 2018 in the absence of the appellant. The board established from the file that the appellant's final requests were that the decision under appeal be set aside and that a patent be granted on the basis of the claims according to the main request or auxiliary requests I or II, all submitted with the statement setting out the grounds of appeal.

After due deliberation on the basis of those final requests and the written submissions, the board's decision was announced at the end of the oral proceedings.

VI. Claim 1 of the **main request** reads as follows:

"A printer controller for a system (100) comprising
a printer (108) having identifying printer characteristics data,
a source of printer colorant (124) associated with the printer (108) and having identifying printer colorant characteristics data,
a computer (104) in electronic communication with the printer (108) and which receives the identifying printer characteristics data and the identifying printer colorant characteristics data,
a display device (112) in electronic communication with the computer (104) which displays a printer menu (132) which comprises at least:
(a) print image quality criteria to be selected; and
(b) printer colorant reduction criteria to be selected,
the printer controller associated with the computer (104),
wherein the printer controller controls deposition by the printer (108) of the printer colorant from the printer colorant source on a printable medium having

identifying printer colorant deposition characteristics data to thereby reduce printer colorant usage in response to:

(1) the identifying printer characteristics data received by the computer (104);
(2) the identifying printer colorant characteristics data received by the computer (104);
(3) the print image quality criteria selected;
(4) the printer colorant reduction criteria selected; and
(5) the identifying printer colorant deposition characteristics data of the printable medium;

wherein said identifying printer characteristics data (1) comprise one or more of printer type, printer model, printer maker, and printing characteristics;
wherein said identifying printer colorant characteristics data (2) comprise one or more of colour, ink-type or toner-type, dye-based ink or pigment-based ink, viscosity or fluidity;
wherein said identifying printer colorant deposition characteristics data (5) comprise one or more of dry time and print density; and
wherein the printer colorant usage reduction operates by reducing the number of printed dots within a given space and determining the pattern of printed dots to be reduced within each given space which does not perceptibly alter the print image."

Claim 1 of **auxiliary request I** differs from claim 1 of the main request only in that it no longer comprises the expression "one or more of" in its last paragraphs.

Claim 1 of **auxiliary request II** differs from claim 1 of auxiliary request I in that it adds the following phrases:

"wherein the identifying printer characteristics data (1) is obtained directly from the printer (108); wherein the printer colorant source (124) comprises a printer cartridge and wherein the identifying printer colorant characteristics data (2) is obtained directly from the printer cartridge".

Reasons for the Decision

1. *Non-attendance of the appellant at oral proceedings*

1.1 The appellant decided not to attend the scheduled oral proceedings before the board (cf. point IV above). Pursuant to Article 15(3) RPBA, the board is not "obliged to delay any step in the proceedings, including its decision, by reason only of the absence at the oral proceedings of any party duly summoned who may then be treated as relying only on its written case."

1.2 In the present case, the appellant did not respond to either the new objection raised in the board's communication under Article 15(1) RPBA under Article 83 EPC or to the board's preliminary opinion regarding the matter of inventive step. So, in the exercise of its discretion under Article 15(3) RPBA, the board took a decision at the end of the oral proceedings, in the absence of the duly summoned appellant.

2. *The present invention*

The present application is concerned with a printer network system made up of a computer, a printer (including a printer cartridge) and a display device. The main embodiment (see paragraphs [0111] to [0118]

and Figs. 1 and 2 as originally filed) describes the use of various input parameters at the computer such as "printer characteristics data", "printer colorant characteristics data", received from the printer itself, "print image quality criteria", "printer colorant reduction criteria", selected by the user, and "printer colorant deposition characteristics data of the printable medium" for reducing the ink usage of the underlying printer.

3. MAIN REQUEST

Claim 1 of the main request comprises the following limiting features, as labelled by the board:

A printer controller for a system comprising

A) a printer having identifying printer characteristics data;

B) a source of printer colorant associated with the printer and having identifying printer colorant characteristics data;

C) a computer in electronic communication with the printer and which receives the identifying printer characteristics data and the identifying printer colorant characteristics data;

D) a display device in electronic communication with the computer which displays a printer menu which comprises at least:

a) print image quality criteria to be selected;

b) printer colorant reduction criteria to be selected;

E) wherein the printer controller is associated with the computer and controls deposition by the printer of the printer colorant from the printer colorant source on a printable medium having identifying printer colorant deposition

characteristics data to thereby reduce printer colorant usage in response to:

1) the identifying printer characteristics data received by the computer;
2) the identifying printer colorant characteristics data received by the computer;
3) the print image quality criteria selected;
4) the printer colorant reduction criteria selected;
5) the identifying printer colorant deposition characteristics data of the printable medium;

F) wherein said identifying printer characteristics data comprise one or more of printer type, printer model, printer maker and printing characteristics;

G) wherein said identifying printer colorant characteristics data comprise one or more of colour, ink-type or toner-type, dye-based ink or pigment-based ink, viscosity or fluidity;

H) wherein said identifying printer colorant deposition characteristics data comprise one or more of dry time and print density;

I) wherein the printer colorant usage reduction operates by reducing the number of printed dots within a given space and determining the pattern of printed dots to be reduced within each given space which does not perceptibly alter the print image.

3.1 *Insufficiency of disclosure (Article 83 EPC)*

The board holds that claim 1 does not meet the requirements of Article 83 EPC, for the following reasons:

3.1.1 The function associated with the "printer controller" according to present claim 1 is merely defined by the compilation of its (internal and external) input parameters (like "printer characteristics data"; "printer colorant characteristics data"; "print image quality criteria"; "printer colorant reduction criteria"; "printer colorant deposition characteristics data of the printable medium") and its output parameter ("printer colorant usage reduction"). It is apparent to the board that neither the claims nor the application as a whole provides the actual features which in fact allow that the technical problem posed, i.e. how to indeed reduce printer colorant usage (see e.g. paragraph [0001] of the application as filed), is actually solved.

Most importantly, the whole application is silent as to the question of how to use and combine the corresponding input parameters (i.e. by means of which function and individual weights of the input parameters) so as to indeed optimise the resulting printer colorant usage. Nor is it clear *when* and *to what extent* the actual reduction of printer colorant according to feature I) is to be controlled. In other words, the claimed printer controller is defined solely as a "black box" rather than specifying its essential properties for actually finding an optimised trade-off between printer colorant usage and print quality.

3.1.2 Consequently, the board concludes that the invention as claimed is not disclosed in a manner sufficiently clear and complete for it to be carried out by a skilled person, contrary to the requirements of Article 83 EPC.

3.1.3 Given that the present application was refused by the examining division for the sole reason of lack of

inventive step, the board considers it appropriate to also address the issue of inventiveness.

3.2 *Inventive step (Article 56 EPC)*

Notwithstanding the above objections under Article 83 EPC, the board finds that the subject-matter claimed also fails to meet the requirements of Article 56 EPC, for the reasons set out below.

3.2.1 The board in principle agrees with the assessment of inventive step as conducted in the decision under appeal (see Reasons 20). In particular, it concurs with the impugned decision that document **D2** constitutes a suitable starting point for the assessment of inventive step. Furthermore, it is common ground that D2 fails to anticipate features C) and I) of present claim 1.

3.2.2 As to feature F), the appellant argued that "printing characteristics" was a general term for printer properties having an effect on printing quality and thus on the extent of a possible printer colorant usage reduction and that therefore "bidirectional printing" as applied in the system of D2 could not be subsumed under that term.

However, the board takes the view that the broad term "printing characteristics" is to be understood to encompass any features which relate to the actual printing process, including "bidirectional printing" as supported by D2.

3.2.3 As to feature H), it is accepted that the corresponding "dry time" or "print density" as claimed cannot be directly and unambiguously derived from the mere notion of different paper types such as "plain paper", "bond

paper" or "synthetic paper" in D2.

However, D2 also demonstrates that, for example, the desired print density can be inputted and processed as a further input parameter for the printing process according to D2 (see e.g. paragraphs [0109] and [0116], in conjunction with Figs. 10 and 11).

3.2.4 Hence, the board concurs with the finding of the decision under appeal that the subject-matter of claim 1 is distinguished from the disclosure of D2 by features C) and I). Accordingly, the subject-matter of claim 1 is considered to be novel (Article 54 EPC).

3.2.5 As to distinguishing feature C), i.e. the receipt of the printer and colorant data by the computer, the board is not convinced that its scope is limited to the narrow interpretation given by the appellant that the respective data is to be received from the printer (and not e.g. from an user input). However, following this narrow interpretation in the appellant's favour, this feature appears to solve the problem of "how to obtain the relevant printer meta data in the printer network system of D2".

Based on the teaching of D2, the person skilled in the field of printer network systems would be aware from his/her common general knowledge that there are in principle two options for solving that problem, namely either (i) pre-storing or inputting the relevant data at "host computer 3" of D2 or (ii) sending the relevant data from "printer 2" or any other external device to the respective host computer via "interface 36". Given that option (ii) provides for more flexibility and probably more up-to-date printer information, the skilled person would prefer that option, in full

accordance with feature C).

3.2.6 As to distinguishing feature I), i.e. the details of the colorant usage reduction, the board finds that it relates to the problem of "how to reduce the printer's ink usage in the printer network system of D2". The board finds that the skilled person in the field of printer network systems, starting out from the teaching of D2 and confronted with the above-identified objective problem, would readily try to find ways of implementing the ink usage according to the ink deposition level desired by the user (see e.g. Fig. 6, in conjunction with paragraphs [0079] and [0080]).

To this end, the board holds that the skilled person would consult prior-art document **D3**, which is also concerned with the optimisation of printer ink usage. The board further agrees with the appealed decision that D3 teaches the same process for ink usage reduction, namely reducing the number of printed dots within a given space without perceptibly altering the print image (see e.g. D3, paragraph [0066], second and third sentences: *"... Printer output filters ... operate ... by reducing the number of dots in each region of the image..."*; [0068], second sentence: *"The object is to reduce the amount of ink used without the user noticing a decrease in quality of the printed document"*; [0069], fourth sentence: *"The printer simulates the grey level by printing a pattern of very small dots within a larger rectangle on the page ..."*, in conjunction with Fig. 5).

3.2.7 In view of the above, the board concludes that distinguishing features C) and I) are associated with distinct partial objective problems and that their solutions constitute a mere juxtaposition of well-known

implementation measures which do not produce any surprising synergistic effect going beyond the sum of their individual effects. Hence, the person skilled in the art, aiming to solve the aforementioned objective problems and having regard to documents D2 and D3, would arrive at the subject-matter of claim 1 in an obvious manner.

3.3 In conclusion, the main request is not allowable under Articles 83 and/or 56 EPC.

4. AUXILIARY REQUESTS

Claim 1 of auxiliary requests I and II differs from claim 1 of the main request in that the expression "one or more of" has been deleted in features F), G) and H), so that all of the listed data items are now required in those features, and that claim 1 of auxiliary request II further specifies that (emphasis added)

J) the printer colorant source comprises a printer cartridge;
K) the identifying printer characteristics data is obtained directly from the printer;
L) the identifying printer colorant characteristics data is obtained directly from the printer cartridge.

4.1 *Insufficiency of disclosure (Article 83 EPC)*

The objection and reasoning with respect to claim 1 of the main request outlined in point 3.1 above apply *mutatis mutandis* to claim 1 of the present auxiliary requests.

4.2 *Inventive step (Article 56 EPC)*

4.2.1 As to amended features F) to H), the appellant did not present any argument as to the effect of considering *all* of the listed data items instead of *one or more* of them. Further, the board considers that the skilled person would certainly know that various input parameters relating to the printing process may typically be used, dictated by practical needs and constraints or user preferences, without exercising inventive skills.

4.2.2 As to added feature J), it is apparent to the board that D2 discloses the use of a printer ink/toner cartridge as the source of print colorant (see e.g. D2, paragraph [0002]).

4.2.3 As to new features K) and L), the board notes that they constitute straightforward implementation options for the purpose of obtaining the relevant printer and colorant data (see point 3.2.5 above).

4.3 In sum, auxiliary requests I and II likewise are not allowable under Articles 83 and/or 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

K. Götz-Wein A. Ritzka

Decision electronically authenticated