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Datasheet for the decision of 15 September 2022

Case Number: T 0532/17 - 3.5.06

Application Number: 08172768.7

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Language of the proceedings: EN

Title of invention:
Personalisation of image processing workflows

Applicant:
Canon Kabushiki Kaisha

Headword:
Personalisation of image processing workflows/CANON

Relevant legal provisions:
EPC Art. 56

Keyword:
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Catchword:

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Case Number: T 0532/17 - 3.5.06

D E C I S I O N
of Technical Board of Appeal 3.5.06
of 15 September 2022

Appellant: (Applicant)	Canon Kabushiki Kaisha 30-2 Shimomaruko 3-chome Ohta-ku Tokyo 146-8501 (JP)
Representative:	TBK Bavariaring 4-6 80336 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 2 November 2016 refusing European patent application No. 08172768.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	M. Müller
Members:	A. Teale
	B. Müller

Summary of Facts and Submissions

I. This is an appeal against the decision, dispatched with reasons on 2 November 2016, to refuse European patent application No. 08 172 768.7 on the basis that the independent claims did not comply with Article 84 EPC regarding clarity and that their subject-matter lacked inventive step, Article 56 EPC, in view of *inter alia* D2, the following document:

D2: GB 2 407 900 A.

II. A notice of appeal and the appeal fee were received on 10 January 2017.

III. With a statement of grounds of appeal, received on 15 February 2017, the appellant submitted amended claims according to a main and a first and second auxiliary request and a new page of the description. The appellant requested that a patent be granted on the basis of one of said main and first and second auxiliary requests and also made an auxiliary request for oral proceedings.

IV. In an annex to a summons to oral proceedings the board set out its preliminary opinion on the appeal that the subject-matter of claim 1 and the independent method claim of all requests lacked inventive step, Article 56 EPC, in view of D2. Claims 1 and 4 of the first and second auxiliary requests were also unclear, Article 84 EPC.

V. With a response received on 10 August 2022 the appellant submitted amended claims according to a third auxiliary request and amended pages of the description.

VI. At end of the oral proceedings before the board, held on 15 September 2022, the appellant maintained the main and third auxiliary requests but did not maintain the first and second auxiliary requests. The appellant requested that the decision be set aside and a patent granted based on the following documents.

Description (both requests):
pages 6, 8-10, 14-17, 19-20, 23-24, 26-29, 31-33, 36, 40-44 and 46-47, as originally filed,
pages 1, 2, 2a, 2b, 11 and 13, received on 11 August 2009,
pages 4-5, 7, 18, 21-22, 25, 30, 34-35, 37-39 and 45, received on 5 November 2015,
page 3, received on 15 February 2017, and
pages 12 and 48, received on 10 August 2022.

Claims:
Main request: 1 to 5, received with the grounds of appeal.
Auxiliary request: 1 to 4, received as third auxiliary request on 10 August 2022.

Drawings (both requests):
Pages 1/20 to 2/20, 4/20 to 8/20 and 10/20 to 20/20, as originally filed,
page 9/20, received on 11 August 2009 and
page 3/20, received on 10 August 2022.

VII. Claim 1 according to the main request reads as follows:

"An image processing apparatus (1001, 1002) having a plurality of different functions, comprising:
an authentication unit (S601-S603) adapted to execute a user authentication for a user who uses the image

processing apparatus; a first registration unit (S801-S809) adapted to register a plurality of processing flows, each of which includes a plurality of processes which are executed with the plurality of different functions; a display unit (S1101) adapted to display a list (1904) of the registered plurality of processing flows; an execution unit (S1111) adapted to execute one processing flow that is selected from the list (1904) by a user; an obtaining unit (S603, S605) adapted to obtain setting data representing a personalized parameter which is personalized for the user authenticated by said authentication unit; a keyword determination unit (S1105) adapted to determine, after the one processing flow is selected from the list (1904) by the user, whether or not a predetermined keyword to be replaced is included in the selected one processing flow; and a replacing unit (S1107) adapted to replace, based on the obtained setting data representing the personalized parameter which is personalized for the authenticated user, the predetermined keyword included in the selected one processing flow with the personalized parameter which is personalized for the authenticated user if said keyword determination unit (S1105) determines that the predetermined keyword to be replaced is included in the selected one processing flow, wherein said execution unit (S1111) is adapted to execute the selected one processing flow for which the predetermined keyword is replaced with the personalized parameter by said replacing unit if said determination unit (S1105) determines that the predetermined keyword to be replaced is included in the selected one processing flow, and wherein said execution unit (S1111) is adapted to execute the selected one processing flow for which the predetermined keyword is not replaced with the personalized parameter if said determination unit

(S1105) determines that the predetermined keyword to be replaced is not included in the selected one processing flow."

VIII. Claim 1 according to the auxiliary request differs from that of the main request in two additional features:

a. the display unit is also adapted to display a screen (1600) for administrator use, and

b. the registered plurality of processing flows includes a processing flow that is registered by a user, authenticated by the authentication unit as an administrator, using the screen (1600), wherein the processing flow is used by a plurality of users.

Reasons for the Decision

1. The admissibility of the appeal

In view in particular of the facts set out at points I to III above, the appeal fulfills the admissibility requirements under the EPC and is consequently admissible.

2. Summary of the invention

2.1 The application concerns an "image processing apparatus", the embodiments in the description and drawings relating to a multifunctional peripheral apparatus (see figure 1; 1001, 1002) having scanner, printer, fax, e-mail, file transmission and copy functions; see [2] and figure 2. The apparatus is

connected via a LAN (Local area Network)(1006) to other devices, for instance a client computer (1005) from which it receives documents to print. The invention relates to personalising and executing the processing flow of the apparatus for each user.

2.2 The invention addresses the problem that each user has their own (personalised) "processing flows" for apparatus operations which need to be selected every time they use the apparatus, it being troublesome for each user to search through the stored processing flows. Moreover apparatus resources are consumed by storing the many processing flows; see paragraph bridging amended page 2b and page 3. Hence the aim of the invention is to reduce the number of stored processing flows and the time and effort required by a user to find a desired processing flow; see page 3, lines 16 to 18.

2.3 The invention relates to storing (also termed "registering") process flows consisting of a sequence of apparatus actions once the apparatus has authenticated the user; see page 24, lines 13 to 22. Figures 11 to 15 show display screens used by an authenticated user to define the steps of a process flow. A processing flow can also comprise "output setting data", for instance the location for storing scanned documents; see [3] and the paragraph bridging pages 2b and 3. According to the invention, keywords in a common processing flow, a form of template, are replaced by personalised parameters for the particular user, thereby eliminating the need to create a processing flow for each user; see figures 20 and 21. As a result, less resources are required to store user settings, even when large numbers of users are involved; see [10]. This also reduces the number of

registered process flows and thus the time required by a user to search through them.

2.4 The apparatus comprises a console (see figure 4) having an LCD touch screen (2013); see the sentence bridging pages 14 and 15. Figure 9 illustrates the steps by which a user uses the console to log into the apparatus, whilst figure 10 illustrates the steps by which a user identifies themselves as a "user" or "administrator" to the apparatus; see steps S804 and S805, respectively. As shown in figure 5, the display comprises "tabs" in the upper part of the screen (501-505) which select an apparatus function, the lower part of the screen being adapted to enter mode information relating to that function; see [60-66].

2.5 Figure 8 illustrates an input screen by means of which the user enters a user name and password to authenticate themselves to the apparatus, thus allowing the user to operate the apparatus; see page 22, lines 9 to 12. As shown in figure 9, when the apparatus CPU receives an access request (step S702), it checks (step S703) whether the user name and password are correct. If they are, then access to the directory service 1004 is granted and the user's setting data is retrieved (step S704); see [82].

2.6 A processing flow specifies an "input", (optionally) "editing" and an "output", this information being stored (see figure 10; step S809 and figure 16; step S905) in XML (Extensible Markup Language) as a registered processing flow which can be selected by the user by pressing a button; see [69-72]. The "input" parameter specifies the document source, for instance "original scanning". "Editing" specifies optional processing steps such as "document combining". The

"output" parameter specifies the document destination, for instance "storing-in-box", "transmitting" and "printing". When the user selects a registered process flow, the apparatus CPU 2001 reads the processing flow information from an XML file and executes it; see figure 6; 1304.

2.7 Figure 14 illustrates a screen (1600) used by an administrator to register a new processing flow; see [88].

2.8 Figure 18 illustrates the steps involved in the execution of a processing flow. In step S1001 a processing flow list screen is displayed (see figure 19) comprising a plurality of processing flow buttons (1904), such as "Scan and print". On selecting a processing flow button, its set values are recalled (step S1003) from the XML file 1304 and stored in the temporary storage region (1303); see figure 6. If a set value is set to "implement process replacement", meaning that each user can set their own value (step S1004), then in step S1005 the CPU checks whether the user personalised setting is already stored in the temporary storage region (1303). If it is (step S1006), then the value in the processing flow is replaced by the user personalised value (step S1008); see [102]. If the user personalised value is not already stored in the temporary storage region (see [103]), then it is added to the processing flows stored there (step 1009). The processing flow is then executed (step S1012). According to [106], if processing personalised for the user is set, then part of the registered processing flow is replaced by the processing personalised for the user. If however processing personalised for the user is not set, then part of the registered processing flow

is replaced, if possible by registered default processing flows.

2.9 In the first embodiment, illustrated in figure 20, a keyword, for instance "%loginname%", in a processing flow is replaced by user setting data (step S1107); see [113-115]. When a user successfully logs into the apparatus, the personalised setting data for the user, for instance the user's login name, can be accessed; see [121]. In the second embodiment a keyword in a processing flow is replaced by a keyword personalised for the user, for instance the user's domain name or the user's email address, the replacement keyword being replaced by the appropriate character string in the subsequent execution step (S2112); see [123,135] and figure 21; S2106-11.

3. Clarity, Article 84 EPC

3.1 According to the decision (point 1), the examining division understood the replacement of keywords set out in the claims in the sense disclosed on page 23, lines 10 to 14, and figure 20 and its related description, that a keyword was a single character string. On this understanding, there was a contradiction between independent claims 1 and 2, which implied that a keyword, such as %loginname%, was replaced by a number of personalised processing steps, whilst the figures 20 and 21 disclosed a keyword being replaced by a user-related "displayed name", "domain name", "login user name", "section ID" or "e-mail address".

3.2 The board does not understand the independent claims of the present requests to cover replacing a keyword with a sequence of processing steps, so that the present requests overcome this objection.

3.3 In the oral proceedings the board came to the conclusion that, despite the doubts it had expressed in the summons regarding clarity, and in the light of the appellant's explanations, claim 1 of the main and auxiliary requests was sufficiently clear that its subject-matter could be assessed as to inventive step, the board understanding claim 1 of each request as follows.

4. The board's understanding of the invention

4.1 According to claim 1 of the main request, users of the image processing apparatus are authenticated to establish their identity, allowing any individual settings that they make to be linked to their identity. A registration unit allows an authenticated user to define a sequence of apparatus functions, known as a "processing flow". A display unit displays a list of the previously stored processing flows. When a user selects one of the listed processing flows, it is carried out by the execution unit. To do this, an obtaining unit obtains a personalised parameter linked to the user's identity. A keyword determination unit determines whether the selected processing flow includes a keyword to be replaced by the personalised parameter, a replacement unit carrying out the replacement.

4.2 Like the examining division, the board understands a "keyword" to be a single character-string, for example %loginname%, %domain%, %sid% or %email%; see [128]. The keyword is replaced by the specific parameter value applicable to the user; see [129] and figure 21; steps S2108 to S2111.

4.3 Claim 1 of the auxiliary request is understood to have been restricted with respect to that of the main request to a user being authenticated by the apparatus as an administrator using a screen available exclusively to administrators to register a processing flow, the processing flow being subsequently usable by a plurality of users.

5. Document D2 (GB 2 407 900 A)

5.1 D2 relates to the use of workflows for processing data in a printing device (see abstract title), figures 2 and 3 showing that the device also has *inter alia* scanning and email functions; see page 4, lines 9 to 18. As shown in figure 1, a plurality of computing devices (102)(see page 4, lines 4 to 8) can be connected to a plurality of such printing devices (104) via a network; see page 3, lines 23 to 26.

5.2 A user of the device can define a workflow by using a computing device or the display panel of the device (see page 9, lines 4 to 25) to choose from predefined options (see page 4, line 19, to page 5, line 4) and save it, the workflow shown in figures 4 and 5 ending in the step of sending an email (step 208). A user can also modify and save an existing workflow; see page 12, line 18, to page 13, line 2. An operation in a workflow may contain user-definable properties or parameters, listed in table I on page 14; see page 13, line 24, to page 14, line 8. For instance, the properties of the "Email Send" operation are a list of recipient email addresses, the source email address and whether or not to attach a document. These properties are defined when the workflow is generated, see figure 8, steps 312, 314 and page 16, line 23, to page 17, line 1. The board understands the one or more recipient

email addresses to be fixed. Hence the addresses given on page 15, lines 21 and 26, "myname@myhost.com" and "myphotostorage@myhost.com", respectively, are understood to be concrete email addresses defined when the workflow is created rather than templates or "keywords" in the sense of the claims. Workflows can be public (accessible to all users) or private (only accessible to the author after they have entered a user ID and/or password); see page 7, lines 3 to 9.

5.3 Subsequently the device receives a request to execute the stored workflow. The request identifies data to be processed and the workflow to be used to process that data; see page 5, lines 5 to 10. The request processing module 134 of the device recalls the workflow and carries it out. The workflow may be implicit from the source or target email-address; see abstract and page 8, lines 1 to 11. According to page 8, lines 16 to 22, the email module 138 sends an email to the address specified in the request.

5.4 In the response of 10 August 2022 the appellant disputed whether the features of the first registration unit could be derived from D2. The board regards the workflow generator in D2 (see figure 2;126) as a first registration unit in the sense of claim 1, since, according to page 6, line 19, to page 7, line 2, users may define workflows using the workflow generator.

5.5 Hence, in the terms of claim 1 of the main request, D2 discloses an image processing apparatus (104) having a plurality of different functions (figure 2;130,132,138), comprising:
an authentication unit (see figure 2;124, page 6, lines 10 to 18, and page 7, lines 4 to 7) adapted to execute

a user authentication for a user who uses the image processing apparatus;
a first registration unit (see figure 2;126 and page 6, line 19, to page 7, line 2) adapted to register a plurality of processing flows, each of which includes a plurality of processes which are executed with the plurality of different functions;
a display unit (see figure 7; 260 and page 16, lines 3 to 8) adapted to display a list of the registered plurality of processing flows;
an execution unit (see figure 2;134 and page 8, lines 1 to 11) adapted to execute one processing flow that is selected from the list by a user and
an obtaining unit (see figure 2; 126) adapted to obtain setting data representing a personalized parameter which is personalized for the user authenticated by said authentication unit.

5.6 Hence D2 does not disclose a template in the sense of replacing keywords in a processing flow by personalised parameters.

6. Inventive step, Article 56 EPC

6.1 According to the appealed decision (point 2), the claims of the only request were assessed in view of figure 21 in the sense that processing was carried out with personalised parameters/variables such as an email address. The claims covered a computer running image processing software. D2 could be taken as a starting point for assessing inventive step. D2 did not mention "authentication" but did disclose "public" and "private" workflows, the distinction implying authentication of the user; see page 7, lines 3 to 9. A user could modify and save a previously saved workflow; see column 12, line 18, to page 13, line 2. In D2

private workflows were registered for each user, increasing resource consumption. Starting from D2, it would have been obvious to use parameter passing techniques, such as XML, known from programming or scripting languages, to personalize workflows, for example to set the user-definable properties in Table I of document D2; see page 14.

6.2 Regarding the main request, the appellant has argued that the subject-matter of the claims differs from the disclosure of D2 in that, when a user logs in, a list of registered processing flows is displayed in which keywords have not yet been replaced by personalised parameters. Once a user has selected a processing flow from the list, a predetermined keyword is replaced by a personalized parameter for the authenticated user. The objective technical problem starting from D2 was to eliminate the need to prepare and register the plurality of processing flows for each user, thereby reducing resource consumption. If parameter passing techniques were applied in D2, then it would take a long time to display all the resulting registered processing flows. There was no hint in D2 towards customising processing flows after selection of the processing flow.

6.3 The board has assessed inventive step starting from D2, the subject-matter of claim 1 of the main request differing from the disclosure of D2 in the following features:

a. a keyword determination unit adapted to determine, after the one processing flow is selected from the list by the user, whether or not a predetermined keyword to be replaced is included in the selected one processing flow; and

b. a replacing unit adapted to replace, based on the obtained setting data representing the personalized parameter which is personalized for the authenticated user, the predetermined keyword included in the selected one processing flow with the personalized parameter which is personalized for the authenticated user if said keyword determination unit determines that the predetermined keyword to be replaced is included in the selected one processing flow,

c. wherein said execution unit is adapted to execute the selected one processing flow for which the predetermined keyword is replaced with the personalized parameter by said replacing unit if said determination unit determines that the predetermined keyword to be replaced is included in the selected one processing flow, and

d. wherein said execution unit is adapted to execute the selected one processing flow for which the predetermined keyword is not replaced with the personalized parameter if said determination unit determines that the predetermined keyword to be replaced is not included in the selected one processing flow.

6.4 The board regards the workflow (202-208) shown in figure 4 of D2, concluding with sending an email (208), as the starting point for assessing inventive step. As stated on page 14 in Table I (last three lines), the "Email send" operation has a property containing the recipient email addresses. The skilled person realizing an apparatus starting from this disclosure would have to fill in the gaps in the disclosure to ensure that,

once the workflow was selected, each recipient email address was inserted into the workflow for sending that recipient's copy of the document scanned in the first step (202) of the workflow; see figure 4.

6.5 The solution to this problem, set out in claim 1 of the main request, namely to use a keyword to mark the point in a workflow where each recipient email address is to be inserted, would have been a usual matter of design for the person skilled in the art of computing devices faced with a list of recipient email addresses.

6.6 Thus difference features "a" to "d" merely implement the insertion of email addresses into a workflow. Keywords must be recognised in the workflow (difference "a"), keywords must be replaced by the next recipient email address in the list (difference "b"), and the resulting workflow must be executed, whether replacement has occurred (feature "c") or not (feature "d").

6.7 Hence the subject-matter of claim 1 of the main request lacks inventive step, Article 56 EPC, in view of D2.

6.8 As stated above (in point VIII), claim 1 according to the auxiliary request differs from that of the main request in two additional features:

e. the display unit is also adapted to display a screen (1600) for administrator use, and

f. the registered plurality of processing flows includes a processing flow that is registered by a user, authenticated by the authentication unit as an administrator, using the screen (1600),

wherein the processing flow is used by a plurality of users.

6.9 Whilst difference features "a" to "d" address a first partial problem of implementing the insertion of email addresses into a workflow, difference features "e" and "f" address a second, independent partial problem, namely the registration of a workflow. Hence the contributions of differences "e" and "f" to inventive step must be assessed separately from those of differences "a" to "d".

6.10 The person skilled in the art of computing devices realizing a printing apparatus according to D2 would have been aware of the need, for instance, to ensure system security for all users, to only allow certain apparatus users to change certain important settings, such as registering workflows. The board finds that difference features "e", displaying a screen only accessible to administrators, and "f", the list of registered workflows comprising a workflow usable by a plurality of users, the workflow having been registered by an authenticated administrator, are usual computing measures addressing the second partial problem set out above.

6.11 The board concludes that the subject-matter of claim 1 of the auxiliary request also lacks inventive step, Article 56 EPC, in view of D2.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

L. Stridde M. Müller

Decision electronically authenticated