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Datasheet for the decision of 19 April 2018

Case Number: T 1714/12 - 3.5.06
Application Number: 05257799.6
Publication Number: 1677227
IPC: G06F21/00
Language of the proceedings: EN

Title of invention:
Image processing apparatus and control method

Applicant:
CANON KABUSHIKI KAISHA

Headword:
Image processing apparatus/CANON

Relevant legal provisions:
EPC 1973 Art. 56

Keyword:
Inventive step - (no)

Decisions cited:
Catchword:
DECISION
of Technical Board of Appeal 3.5.06
of 19 April 2018

Appellant: CANON KABUSHIKI KAISHA
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Decision under appeal: Decision of the Examining Division of the European Patent Office posted on 6 February 2012 refusing European patent application No. 05257799.6 pursuant to Article 97(2) EPC.

Composition of the Board:
Chairman W. Sekretaruk
Members: A. Teale
S. Krischer
Summary of Facts and Submissions

I. This is an appeal against the decision, dispatched with reasons on 6 February 2012, to refuse European patent application No. 0 525 7799.6 on the basis that the subject-matter of claim 1 according to a main and an auxiliary request did not involve an inventive step, Article 56 EPC, in view of the following document:


II. A notice of appeal and the appeal fee were received on 3 April 2012. The appellant requested that the decision be cancelled in its entirety and that the application be granted.

III. With a statement of grounds of appeal, received on 29 May 2012, the appellant submitted a new set of claims and requested that the decision be overturned and that a patent be granted on the basis of the new claims. The appellant also made an auxiliary request for oral proceedings.

IV. In an annex to a summons to oral proceedings the board set out its provisional opinion that the subject-matter of inter alia claim 1 did not involve an inventive step, Article 56 EPC 1973, in view of D1. Claim 1 was also unclear and lacked support by the description, Article 84 EPC 1973.

V. With a submission received on 14 March 2018 the appellant submitted a new request comprising amended claims and an amendment to the description.

VI. At the oral proceedings, held on 19 April 2018, the appellant requested that the decision under appeal be
set aside and that a patent be granted on the basis of the request of 14 March 2018. At the end of the oral proceedings the board announced its decision.

VII. The application is being considered in the following form:

Description: pages 1 and 5 to 29, as originally filed, pages 2 to 4, received on 9 April 2008, and page 30, received on 14 March 2018.

Claims: 1 to 7, received on 14 March 2018.

Drawings: 1/17 to 17/17, as originally filed.

VIII. Claim 1 reads as follows:

"An image processing apparatus (100) comprising: a storage unit (140) for storing a plurality of files, and storing, in association with each other, a display item for accessing a file, and a URL for accessing the file in the storage unit, wherein it is controlled not to display a directory structure of the storage unit even in a case where an edit operation regarding the display item is received, and wherein the directory structure of the storage unit is indicated by the URL stored in association with the display item, and an obtaining unit for obtaining a URL either on a basis of receiving a URL input through a user operation or on a basis of selecting the display item displayed on a display device by a user; a browser unit (110) for displaying, on the display device, a content of a file which is specified by the URL obtained by the obtaining unit and is read from the storage unit or external apparatus, and displaying the URL obtained by the obtaining unit, characterized in that the image
processing apparatus further comprises: a determination unit for determining whether or not the URL obtained by the obtaining unit begins with a character string "file" and a host name or an IP address following the character string "file" indicates the image processing apparatus, and a control unit (102) for restricting, if the determination unit determines that the URL obtained by the obtaining unit begins with the character string "file" and the host name or the IP address following the character string "file" indicates the image processing apparatus, the display of the URL obtained by the obtaining unit such that a directory structure of the storage unit is not displayed to a user when the content of the obtained file is displayed."

The statement of claims also comprises an independent claim 5 to a method, a claim 6 to a computer program referring to claim 5 and a claim 7 to a computer-readable storage medium referring to claim 6.

Reasons for the Decision

1. The admissibility of the appeal

In view of the facts set out at points I to III above, the appeal complies with the admissibility criteria under the EPC and is therefore admissible.

2. Summary of the invention

2.1 The invention relates to controlling the display of a multifunction image processing apparatus, such as a printer/scanner/copier/fax apparatus. As shown in figure 1, the apparatus (100) also has a web browser function (110) for displaying the content of files stored not only on external web servers (150),
connected to the apparatus via an external network (180), but also stored locally in the apparatus itself in an internal file database (144); see paragraph [69].

2.2 As explained in paragraph [4], although such apparatuses often keep the file system and directory configuration within the device secret from the user, the problem arises that if a file stored in such an apparatus is "displayed on a browser and the path to the file is displayed as it is, the file system of the device such as the directory structure will become known to the user. As a result, it may lead to an ill-intentioned user gaining unauthorized access to the file system within the device". Paragraph [101] refers to not letting the user know the file system configuration, thus reducing "the risk that the user may gain unauthorized access to the file system within the device and improv[ing] security". Similarly, paragraph [116] states that "the risk of unauthorized access to files inside the [apparatus] can be reduced, and security improved."

2.3 The application sets out two ways in which a browser may reveal the path to the displayed file. The more straightforward way is that, as shown in figure 3, when a browser displays the content of a file it also displays, in an address bar (311), the URL (Uniform Resource Locator) indicating the file storage location; see paragraph [59]. A more subtle way lies in displaying bookmarks; see paragraph [60]. When the user selects the "BOOKMARKS" button (312) on the browser the path name of the file presently being viewed will be displayed.

2.4 To avoid revealing the file path in these two situations the invention distinguishes between
internally and externally stored files based on their URL. The URL of a file consists of three parts: the "scheme", i.e. the protocol to be used to deal with the file, the "host" (i.e. the network node where the file is stored) and the file path on the host including the file name. The scheme "file" relates to a protocol typically used to retrieve files locally on one's own computer, a URL such as "file://host/path" comprising the scheme "file", a host "host" and a file path and file name "/path". The invention determines whether a file is stored internally by establishing whether the URL of a file begins with a character string "file" and a host name or whether an IP address following the character string "file" indicates the image processing apparatus.

2.5 According to claim 1, if it established that a file is stored internally then, when the file is displayed, the file URL is displayed "such that a directory structure of the storage unit is not displayed ..." This means that the file path (i.e. a hierarchical sequence of directory names) is not displayed. Certainly the "directory structure" (i.e. all possible directory names and their relationships) is not displayed. For instance, only the file name is displayed (see paragraph [110] and step S1640 in figure 16), or simply a standard message, such as "internal file of the device", is displayed; see paragraph [119]. Turning to the display of bookmarks, illustrated in figure 13 (see also paragraph [94]), in the case of an internally stored file only the file name is displayed in an "URL edit field" 1310 of an information window (1300), expressed in claim 1 as "not [...] displaying[ing] a directory structure of the storage unit" when an "edit operation" is received.
3. Document D1

3.1 D1 relates to a system for displaying a set of images on a computer as an album; see column 2, lines 51 to 57. The set of images can then be published on the Internet or sent to a printer. Figure 6, referred to in the decision, shows a graphical user interface (GUI) for collecting a set of images from previously stored files; see column 7, lines 12 to 27. The GUI includes a box (69) indicating the file structure, current file directory and the files in it; see also figure 5; boxes 62, 64 and column 6, line 54, to column 7, line 11.

3.2 Figure 9, referred to in the decision, shows the collection of images from locations on the Internet for inclusion in an album. The figure shows the collection of an image from a web page (77) at an address (76) "http://www.canon.com" entered by the user; see column 8, lines 15 to 17. The user selects one of the images on this web page by clicking on it, there being no indication of the path including the file name; see column 8, lines 21 to 23.

3.3 In terms of claim 1, D1, in particular figures 2 and 6, discloses an image processing apparatus (figure 1; PC 2) comprising a storage unit (disk 16) for storing a plurality of files (22) and storing, in association with each other, a display item for accessing the file in the storage unit, an obtaining unit for obtaining a URL either on the basis of receiving a URL input through a user operation or on the basis of selecting the display item displayed on a display device by a user (implicit in figure 6 and column 7, lines 24 to 27) and a browser unit (20) for displaying, on the display device, a content of a file which is specified
by the URL obtained by the obtaining means and is read from the storage unit and for displaying the URL obtained by the obtaining means; see window 69.

3.4 It is common ground between the board and the appellant that, as set out in the submission of 13 April 2018 (see page 4), the subject-matter of claim 1 differs from the disclosure of D1 in the following features:

(a) a storage unit (140) for storing a plurality of files, and storing, in association with each other, a display item for accessing a file, and a URL for accessing the file in the storage unit, wherein it is controlled not to display a directory structure of the storage unit even in a case where an edit operation regarding the display item is received, and wherein the directory structure of the storage unit is indicated by the URL stored in association with the display item,

(b) a determination unit for determining whether or not the URL obtained by the obtaining unit begins with a character string "file" and a host name or an IP address following the character string "file" indicates the image processing apparatus and

(c) a control unit (102) for restricting, if the determination unit determines that the URL obtained by the obtaining unit begins with the character string "file" and the host name or the IP address following the character string "file" indicates the image processing apparatus, the display of the URL obtained by the obtaining unit such that a directory structure of the storage
unit is not displayed to a user when the content of the obtained file is displayed.

4. Inventive step, Article 56 EPC 1973

4.1 The appealed decision

4.1.1 According to the appealed decision, the apparatus according to claim 1 of the main request differed from the computer system known from D1 (see figures 1 and 2) in that internal files were also identified by a URL and, if the URL started with the string "file", then the display of the URL was restricted. The problem to be solved was therefore how to prevent the user from knowing a storage location of a file when displaying the content of the file. The obvious solution was not to show the storage location. The question of whether a user may know the storage location of a file, which is a separate question from whether the user may view the content of that file, is set out in a security policy, it being usual in such a policy, for business reasons, to hide information to keep it confidential. Thus the decision as to which information was shown was not only obvious but also did not solve a technical problem. Moreover the technical implementation of such a business requirement would not have involved inventive skill by the skilled person. Hence the subject-matter of claim 1 did not involve an inventive step. The feature added to claim 1 in the auxiliary request, namely the determination means for deciding whether a file was stored locally or not, was regarded as implicit in the disclosure of D1.
4.2 The appellant's arguments

The appellant has argued that the skilled person starting from D1 would have had no reason to modify its teaching so as to control the display means to not display the full URL, if it indicated that the resource was stored in the computer equipment. The invention did not simply implement the generally known security policy of hiding information to keep it confidential. It solved the technical problem of keeping the directory configuration of the file system in the image processing apparatus secret when displaying a local resource identified by a URL. The appellant has also disputed that it was known in the prior art to keep the directory configuration of the file system in an image processing apparatus secret when displaying a local resource identified by a URL. The invention lay in the recognition of this problem and in disclosing an automatic system for identifying files, based on their URL, which posed a risk, a technical problem. However neither the problem nor its solution was obvious. The obvious solution to the problem would have been not to display the URL at all, an option offered by Windows browsers at the priority date. Such prior art browsers did not determine whether a file was stored externally or not. This determination was a technical process, as was the subsequent control of the display. The claimed apparatus produced the technical effect of preventing a decrease in user convenience while maintaining high security in a browser that is capable of displaying an internal file that is inside the apparatus and an external file that is outside the apparatus. The invention provided a means for automatically determining in which case there is a security risk when content was displayed on a browser, and for reducing such a risk. A finding of lack of inventive step had to
show that the prior art would have incited the skilled person to arrive at the invention, rather than that the skilled person could have done so.

4.3 The board notes that only difference features having a technical effect and thus solving a technical problem can contribute to inventive step. As the board stated in its provisional opinion (regarding the previous version of the claims), the determination unit (difference "b" above) merely analyzes the content of the URL to deliver a logical result (true or false). In doing so it does not apply technical principles, nor does it per se have a technical effect.

4.4 The output of the determination unit does however cause a directory structure (i.e. a file path) not to be displayed in difference features "a" and "c". The question however arises whether not displaying a directory structure (file path) has a technical effect in these features either. The appellant has argued that not displaying a directory structure avoids a security risk, this solving a technical problem. As the application, in particular paragraphs [4, 101 and 116], contains no disclosure of the nature of this risk, beyond stating that it exists, for instance how unauthorized access to the file system might be achieved, the board is not persuaded that there is a causal technical link between displaying the full file path and an attacker being able to gain unauthorized access to the file system. Put another way, the appellant has not shown that features "a" and "c" solve the security problem asserted by the appellant. In the board's view, knowledge of a full file path alone would not allow an attacker to access the file system. Furthermore, if an attacker were to gain access to the file system, he or she would then be able to read its
directory structure (including all file paths) and to search for a file regardless of which directory it was in.

4.5 However, even if such a link could be established, the decision not to display a directory structure could also be taken for non-technical reasons to achieve non-technical effects. It could, for example, be taken for purely aesthetic reasons to "tidy up" a display. It could also be taken in accordance with a business policy of maintaining secrecy from the user, such policies having being acknowledged as prior art in paragraph [4] of the application. Hence the board is not persuaded that any of the above difference features has a technical effect.

4.6 As none of the difference features over D1 can contribute to inventive step, the subject-matter of claim 1 does not involve an inventive step, Article 56 EPC 1973.
Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:  The Chairman:

B. Atienza Vivancos  W. Sekretaruk

Decision electronically authenticated