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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:

Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 1714/12 - 3.5.06

D E C I S I O N
of Technical Board of Appeal 3.5.06
of 19 April 2018

Appellant: (Applicant)	CANON KABUSHIKI KAISHA 3-30-2, Shimomaruko, Ohta-ku Tokyo (JP)
Representative:	Hitching, Peter Matthew Canon Europe Ltd European Patent Department 3 The Square Stockley Park Uxbridge Middlesex UB11 1ET (GB)
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:

        D1: US 6 237 010 B1.

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