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Datasheet for the decision
of 9 December 2024

Case Number:	T 0646/23 - 3.5.07
Application Number:	17933949.4
Publication Number:	3706015
IPC:	G06F16/54, G06F16/55
Language of the proceedings:	EN

Title of invention:
Method and device for displaying story album

Applicant:
Huawei Technologies Co., Ltd.

Headword:
Story album/HUAWEI

Relevant legal provisions:
EPC Art. 56, 84
RPBA 2020 Art. 12(4), 13(2)

Keyword:
Claims - clarity - main request and first, second and third auxiliary requests (no)
Inventive step - fourth auxiliary request (no)
Amendment to case - fifth auxiliary request (not admitted)
Amendment to appeal case - sixth auxiliary request (not admitted)

Decisions cited:
T 0643/00, T 2230/10

Case Number: **T 0646/23 - 3.5.07**

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 9 December 2024

Appellant: Huawei Technologies Co., Ltd.
(Applicant)   Huawei Administration Building
   Bantian
   Longgang District
   Shenzhen, Guangdong 518129 (CN)

Representative: Epping - Hermann - Fischer
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 5 October 2022 refusing European patent application No. 17933949.4 pursuant to Article 97(2) EPC**

Composition of the Board:

Chair   J. Geschwind
Members: R. de Man
         P. San-Bento Furtado

Summary of Facts and Submissions

I.   The applicant appealed against the decision of the
        examining division refusing European patent application
        No. 17933949.4, which was published in Chinese as
        international publication WO 2019/109245 A1.

II.   The examining division decided, in particular, that the
        subject-matter of claim 1 of the main request and of
        the first to fourth auxiliary requests lacked an
        inventive step over the following document:

        D1: EP 2 187 322 A1, 19 May 2010.

III.   With its statement of grounds of appeal, the appellant
        filed amended versions of the main request and the
        first to fourth auxiliary requests and a new fifth
        auxiliary request.

IV.   In a communication under Article 15(1) RPBA
        accompanying the summons to oral proceedings, the board
        raised clarity objections to claim 1 of the main
        request, expressed the preliminary view that the
        subject-matter of claim 1 of the main request and of
        the first to fourth auxiliary requests lacked an
        inventive step and indicated that it was not inclined
        to admit the fifth auxiliary request into the appeal
        proceedings.

V.   With a letter dated 30 September 2024, the appellant
        filed a sixth auxiliary request.

        It requested that the decision under appeal be set
        aside and that a patent be granted on the basis of the

claims of the main request or, in the alternative, of
one the first to sixth auxiliary requests.

The appellant further requested consideration of the
main and first to fourth auxiliary requests as filed on
17 August 2022 if the board "should object to any of
the amendments of the Main and First Auxiliary to
Fourth Auxiliary Request as filed herewith".

VI.   In a further letter, the appellant indicated that it
        would not participate in the oral proceedings. In
        response, the board cancelled the oral proceedings.

VII.   Claim 1 of the main request reads as follows:

        "A story album display method, comprising:
            aggregating, by a terminal, N images in a gallery
        based on a first dimension, wherein the first dimension
        comprises a photographing time and/or a photographing
        location, and N > 1; and
            performing, by the terminal, screening on the N
        images in the gallery, wherein the performing screening
        comprises identifying content of each image in the
        gallery, and removing, by the terminal, an invalid
        image from the N images, to obtain the story album
        comprising M images, wherein the invalid image
        comprises an image with an invalid label, or one or
        more images with an image similarity greater than a
        threshold; and
            displaying, by the terminal, an album cover of a
        story album, wherein the story album comprises the M
        images in the N images, the M images are associated
        with a theme of the story album, and M < N."

VIII.   Claim 1 of the first auxiliary request differs from
        claim 1 of the main request in that the text "and/or a

photographing location" has been deleted and in that
the following text has been added after ", and N > 1":

", and the aggregating, by a terminal, N images in a
gallery based on a first dimension comprises:
aggregating, by the terminal, images generated within
each of Z time periods into one image set, to obtain Z
image sets, wherein the Z image sets are in a one-to-
one correspondence with the Z time periods, and Z ≥ 2,
and when a time interval between adjacent image sets is
less than an interval threshold, aggregating, by the
terminal, the adjacent image sets".

IX.   Claim 1 of the second auxiliary request differs from
        claim 1 of the first auxiliary request in that the text
        "and a photographing location" has been inserted after
        "a photographing time" and in that the following text
        has been inserted after "the adjacent image sets":

        ", and when a photographing location of adjacent image
        sets is not a preset location, the interval threshold
        is a first preset value; or when a photographing
        location of adjacent image sets is a preset location,
        the interval threshold is a second preset value,
        wherein the second preset value is less than the first
        preset value".

X.   Claim 1 of the third auxiliary request differs from
        claim 1 of the second auxiliary request in that the
        following text has been inserted after "an image
        similarity greater than a threshold":

        ", and the removing, by the terminal, an invalid image
        from the N images comprises: displaying, by the
        terminal, X images with a similarity greater than the
        threshold that are identified from the N images,

wherein X ≥ 2, and in response to a target image
selected by a user from the X images, retaining, by the
terminal, the target image in the story album, and
removing a remaining image from the X images other than
the target image".

XI.   Claim 1 of the fourth auxiliary request differs from
        claim 1 of the main request in that the text
        "performing, by the terminal, screening on the N images
        in the gallery, wherein the performing screening
        comprises identifying content of each image in the
        gallery, and" has been deleted and in that the
        following text has been inserted after "an image
        similarity greater than a threshold;":

           "determining, by the terminal based on a second
        dimension, a theme associated with the M images, to
        obtain the theme of the story album, wherein the second
        dimension comprises an image feature of at least one of
        the M images;
           modifying, by the terminal, the theme of the story
        album based on a third dimension, wherein the third
        dimension comprises association information that is in
        a target application and that is associated with the
        theme of the story album;".

XII.   Claim 1 of the fifth auxiliary request differs from
        claim 1 of the fourth auxiliary request in that the
        following text has been added after "an image feature
        of at least one of the M images":

        ", wherein the determining, by the terminal based on a
        second dimension, a theme associated with the M images,
        to obtain the theme of the story album comprises:
        comparing, by the terminal, a label distribution status
        of the M images with a preset label distribution status

of each candidate theme; and when the label
distribution status of the M images meets a label
distribution status of a first candidate theme,
determining, by the terminal, the first candidate theme
as the theme of the story album; or wherein the
determining, by the terminal based on a second
dimension, a theme associated with the M images, to
obtain the theme of the story album comprises: when a
proportion of images with a specific label in the M
images is greater than a preset proportion, using, by
the terminal, a theme corresponding to the label as the
theme of the story album".

XIII.   Claim 1 of the sixth auxiliary request differs from
        claim 1 of the fourth auxiliary request in that the
        following text has been inserted after "an image
        similarity greater than a threshold":

        ", wherein the removing, by the terminal, an invalid
        image from the N images comprises: displaying, by the
        terminal, Y labels identified from the N images,
        wherein a label of each image is used to reflect an
        image feature of the image, and $Y \geq 2$, and in response
        to a target label selected by the user from the Y
        labels, retaining, by the terminal, an image with the
        target label in the story album, and removing an image
        without the target label"

        and in that the following text has been added at the
        end of the claim:

        ", and wherein the album cover comprises a title of the
        story album, and the title is associated with at least
        one of the theme of the story album, a photographing
        time of the N images, and a photographing location of
        the N images."

Reasons for the Decision

1.   The application relates to displaying "story albums".

2.   *The appellant's requests*

2.1   In its letter of 30 September 2024, the appellant
        requested consideration of the main and first to fourth
        auxiliary requests as filed on 17 August 2022 if the
        board "should object to any of the amendments of the
        Main and First Auxiliary to Fourth Auxiliary Request as
        filed herewith". The requests filed on 17 August 2022
        are the requests considered in the decision under
        appeal. Given that the letter of 30 September 2024 was
        accompanied only by a set of claims according to a
        sixth auxiliary request, the board understands "the
        Main and First Auxiliary to Fourth Auxiliary Request as
        filed herewith" to be the main request and the first to
        fourth auxiliary requests filed with the statement of
        grounds of appeal.

2.2   The statement of grounds of appeal included similarly
        worded statements. In its communication, the board
        indicated that it understood those statements to mean
        that the appellant withdrew the main request and first
        to fourth auxiliary requests considered in the decision
        under appeal only in so far as the corresponding
        amended requests filed with the statement of grounds of
        appeal were admitted into the appeal proceedings. The
        appellant has not disputed this interpretation.

2.3   Hence, the appellant requested that the decision under
        appeal be set aside and that a patent be granted on the
        basis of the claims of the main request or, in the
        alternative, of one of the first to sixth auxiliary

requests, where the main request and the first to
fourth auxiliary requests are understood to be the
amended requests filed with the statement of grounds of
appeal if admitted into the appeal proceedings and to
be the requests filed with the letter of 17 August 2022
otherwise.

Main request and first to third auxiliary requests

3.   *Admission into the appeal proceedings*

3.1   Since the main request and the first, second and third
        auxiliary requests as filed with the statement of
        grounds of appeal differ from the corresponding
        requests considered in the decision under appeal only
        in a minor correction, the board admits them into the
        appeal proceedings (Article 12(4) RPBA).

3.2   As a consequence, the main request and the first,
        second and third auxiliary requests as filed with the
        letter of 17 August 2022 need not be considered in this
        decision (see point 2. above).

Main request

4.   *Clarity*

4.1   Claim 1 of the main request includes a step of
        "performing, by the terminal, screening on the N images
        in the gallery, wherein the performing screening
        comprises identifying content of each image in the
        gallery". The claim does not specify in what sense the
        content of each image is identified, i.e. what is the
        concrete result of the content identification.
        Moreover, none of the other features of the claim
        refers to the result of the content identification.

4.2   In its letter of 30 September 2024, the appellant
       submitted that identifying content could readily be
       understood as "generally obtaining an information of
       said content of the image" and could relate to a direct
       identification of the objects shown in the image or to
       an intermediate identification, for example based on
       metadata of the image. If an identification of
       displayed objects was used, the concrete result would
       be information concerning the identified objects. If an
       intermediate identification was used, the concrete
       result would be information relating to the metadata.
       The skilled person understood that the content
       identification related to the claimed step of removing
       an invalid image based on an image similarity:

           "removing, by the terminal, an invalid image from
           the N images, to obtain the story album comprising
           M images, wherein the invalid image comprises an
           image with an invalid label, or one or more images
           with an image similarity greater than a threshold".

       The "performing" step of claim 1 was broad but not
       unclear.

4.3   The board notes, however, that the claimed "removing"
       step does not in any way link the step of "identifying
       content" or its result to the "invalid label" or to the
       determination of images "with an image similarity
       greater than a threshold". Claim 1 does not express
       that "screening" an image including "identifying
       content" of the image means, in one alternative,
       retrieving a metadata label of the image. Nor does
       claim 1 express that "image similarity" between one or
       more images is determined on the basis of the
       identification of the content of the images.

Although the skilled reader of claim 1 may understand that some kind of link between "identifying content" and the "removing" step is intended, on the basis of the wording of the claim they can only speculate what that link might be.

The board therefore concludes that claim 1 of the main request is not clear (Article 84 EPC).

4.4   For the sake of completeness, the board notes that the explanations given by the appellant are not supported by the description. Although paragraph [0123] of the translation of the description as filed starts by stating that "the terminal may identify content of each image in the initial story album", this paragraph then explains that, for example, image similarity between two images can be determined as a hamming distance by using the "pHash" perceptual hash algorithm. The application of a perceptual hash algorithm on image data does not, however, result in an identification of objects shown in the image.

First, second and third auxiliary requests

5.   *Clarity*

5.1   Claim 1 of each of the first and second auxiliary requests include the same "performing" and "removing" steps as claim 1 of the main request. These claims are therefore not clear for the same reason as given in point 4. above (Article 84 EPC).

5.2   Claim 1 of the third auxiliary request adds features specifying that the "removing" step further comprises:

-   displaying, by the terminal, X images with a
    similarity greater than the threshold that are
    identified from the N images, wherein X ≥ 2, and
-   in response to a target image selected by a user
    from the X images,
    -   retaining, by the terminal, the target image in
        the story album, and
    -   removing a remaining image from the X images
        other than the target image.

Since these further features do not relate to the
determination of the X images which have image
similarity greater than a threshold, the clarity
objection raised in point 4. above also applies to
claim 1 of the third auxiliary request (Article 84
EPC).

Fourth auxiliary request

6.   *Admission into the appeal proceedings*

6.1   The fourth auxiliary request as filed with the
       statement of grounds of appeal differs from the
       corresponding request considered in the decision under
       appeal only in a minor correction and the deletion of
       the feature which, in point 4. above, was found to
       create a lack of clarity. Therefore, the board admits
       it into the appeal proceedings (Article 12(4) RPBA).

6.2   As a consequence, the fourth auxiliary request as filed
       with the letter of 17 August 2022 need not be
       considered (see point 2. above).

7.   *Inventive step*

7.1   Claim 1 of the fourth auxiliary request is directed to
        a "story album display method". According to claim 1:

        (a) A terminal first selects ("aggregates") N images
            from an image collection on the basis of
            photographing time or photographing location.

        (b) The terminal then removes a number of images that
            are determined to be "invalid" to obtain M
            remaining images, where M < N. An image may be
            determined to be invalid if it has an "invalid
            label" or if its "image similarity" to another
            image is greater than a threshold ("wherein the
            invalid image comprises an image with an invalid
            label, or one or more images with an image
            similarity greater than a threshold"). The
            remaining M images form a "story album".

        (c) On the basis of "an image feature of at least one
            of the M images", the terminal determines a "theme
            associated with the M images". The terminal
            modifies this theme, referred to as "the theme of
            the story album", on the basis of "association
            information that is in a target application and
            that is associated with the theme of the story
            album".

        (d) The terminal then displays an "album cover" of the
            story album.

7.2   As to the term "invalid label" in item (b), in its
        letter of 30 September 2024, the appellant explained
        that "any suitable definition of what labels are
        invalid and what labels are valid may be applied".

According to paragraph [0127] of the translated description, whether a label is invalid may be determined by checking whether the label is in an "invalid label list", and examples of invalid labels are "scissors", "keyboard" and "screenshot".

As to item (c), in the example given in paragraph [0152] of the description, the initially determined theme is "party", which is modified to "mother's birthday party" on the basis of calendar information indicating "mother's birthday".

As to item (d), the appellant explained that "album cover" referred to the first page of the "story album" and that "any suitable album cover" could be chosen. According to paragraph [0160] of the description, the "album cover" may be one of the M images that form the story album.

7.3   Terminals, such as smartphones, on which image collections are stored and which display images selected from the image collection were well known in the art at the filing date of the application (5 December 2017). The board considers such a prior-art terminal to be a suitable starting point for assessing inventive step.

7.4   The subject-matter of claim 1 differs from this prior-art terminal in that the terminal includes software functionality to select a subset of images from the image collection on the basis of criteria involving image similarity and image metadata, where the image metadata includes photographing time, photographing location and image labels or tags (items (a) and (b)). An image of this subset is then selected for display as "album cover" (item (d)).

This software functionality, however, does not make a technical contribution. Indeed, it cannot be seen what specific technical effect is achieved by the selection of a subset of images from a larger set of images on the basis of these criteria or by the selection of an "album cover" image from the selected subset of images.

Although a specific implementation in software or hardware of such non-technical functionality may in certain cases have technical aspects, for example relating to determining image similarity, technical details of such an implementation are not claimed.

7.5   The subject-matter of claim 1 further differs from the prior-art terminal in that a "theme" is determined for the subset of M images on the basis of an "image feature" of one of the M images and "association information" such as calendar information, in accordance with item (c).

A method of classifying (or recognising) images on the basis of features extracted from the visual content of the images may in certain cases be technical, in particular if it is based on technical considerations relating to image processing. However, the claim leaves the kind of "image feature" undefined, and paragraph [0137] of the description explains that the theme may be determined on the basis of "image features" reflected by the textual labels associated with the M images. Hence, the determination of a "theme" in the present case encompasses a mere processing of non-technical textual information, which does not make a technical contribution.

7.6   The appellant argued that the invention achieved
        "improved accuracy for a story album and for the
        displaying of its cover", which allowed a user to
        search and retrieve images more efficiently and faster.

        The board does not consider a more efficient or faster
        search and retrieval to be credible for the reason
        alone that the method of claim 1 merely displays an
        "album cover", which can be a single image.

        Moreover, even if the claimed image selection somehow
        reliably returns what the user is looking for (which is
        unlikely given that the method does not require the
        user to give an indication of what they are looking
        for), improving the accuracy of search results to
        correspond more closely to the user's subjective wishes
        is in principle not a technical effect.

7.7   The appellant considered the present case to be
        directly analogous to the case underlying decision
        T 643/00.

        The board does not see any similarity with the facts
        underlying decision T 643/00, which was concerned with
        a tool which allowed a user to search a collection of
        images in a new (and efficient) way by, *inter alia*,
        displaying thumbnail images side by side. The user
        still had to look at and evaluate each image, but the
        invention provided a user-interface mechanism that
        allowed them to browse through the images more quickly.

        In the present case, claim 1 does not define any user-
        interface mechanism for allowing a user to search an
        image, let alone a new mechanism.

7.8   The appellant also submitted that removing images on
         the basis of similarity, even if the claim did not
         specify that the removed images were physically removed
         from storage, at least reduced working memory usage. In
         this respect, the appellant argued that the claim
         required the actual images to be processed, which had
         to be done in working memory. Fewer images in the story
         album therefore resulted in lower resource consumption.

7.8.1   The board notes that claim 1 requires all the N images
         in the initial image selection to be processed for the
         purpose of determining image similarity, including
         those that are removed. If anything, the "removing"
         step of claim 1 therefore does not decrease but
         increase the use of working memory for processing
         images.

         Claim 1 does not specify in any detail how the "story
         album" image selection of first N images and later
         M < N images is represented in memory. Such an image
         selection can be represented, for example, as a bitmap
         indicating which images of the complete collection of
         images stored on the phone are part of the selection
         and which are not. In this case, the "removal" of an
         image from the selection amounts to flipping the bit
         corresponding to the image from 1 to 0, and no
         reduction of memory usage is achieved by reducing the
         number of images in the selection from N to M.

         It is therefore not credible that a reduction in
         working memory usage is achieved over essentially the
         whole scope of the claim.

7.8.2   Moreover, even if the removal of an image from the
         "story album" selection did reduce memory usage, this
         would merely be the physical consequence of the non-

technical decision to remove certain images. Memory usage could be even further reduced by removing all but one image, or by not creating the selection at all. Such normal physical consequences of non-technical decisions cannot support an inventive step (see decision T 2230/10, Reasons 3.7 and 3.8).

7.9   Hence, the subject-matter of claim 1 lacks an inventive step over a well-known prior-art smartphone.

Fifth auxiliary request

8.   *Admission into the appeal proceedings*

8.1   The fifth auxiliary request is based on the fourth auxiliary request and was filed for the first time with the statement of grounds of appeal.

8.2   The appellant argued that the fifth auxiliary request should be admitted because the amendments served to overcome the inventive-step objection raised in the decision against the fourth auxiliary request, which had not been discussed in detail before, and because it "merely" introduced features taken from a dependent claim and from the description.

The board notes that the fourth auxiliary request was filed in an attempt to overcome the objection of lack of inventive step over document D1, which had already been raised in the European search opinion. The fifth auxiliary request is likewise an attempt to overcome that same objection, and the board is not aware of a reason why it could not have been filed in the first-instance proceedings.

8.3   In its letter of 30 September 2024, the appellant
        further argued that the fifth auxiliary request should
        be admitted because it addressed the clarity objection
        to the feature "the M images are associated with a
        theme of the story album" raised in the board's
        communication.

        However, the board has been able to deal with the
        fourth auxiliary request under Article 56 EPC (see
        point 7. above). The clarity objection raised in the
        board's communication therefore does not represent a
        compelling reason to admit an (allegedly) clarifying
        amendment.

8.4   The board therefore does not admit the fifth auxiliary
        request into the appeal proceedings (Article 12(4)
        RPBA).

Sixth auxiliary request

9.   *Admission into the appeal proceedings*

9.1   The sixth auxiliary request is based on the fourth
        auxiliary request and was filed after notification of
        the board's communication under Article 15(1) RPBA.

9.2   Claim 1 of the sixth auxiliary request adds to claim 1
        of the fourth auxiliary request features specifying
        that the "removing" step further comprises:

        -   displaying, by the terminal, Y labels identified
            from the N images, wherein a label of each image is
            used to reflect an image feature of the image, and
            Y ≥ 2, and
        -   in response to a target label selected by the user
            from the Y labels,

- retaining, by the terminal, an image with the
  target label in the story album, and
- removing an image without the target label.

In addition, it adds:

-     wherein the album cover comprises a title of the
      story album, and the title is associated with at
      least one of the theme of the story album, a
      photographing time of the N images, and a
      photographing location of the N images.

9.3   The appellant argued that the sixth auxiliary request
        should be admitted into the appeal proceedings because
        it addressed the clarity objections to "invalid label"
        and "album cover" raised for the first time in the
        board's communication.

        The board notes that, at least *prima facie*, the
        features added to claim 1 of the sixth auxiliary
        request do not provide a clarification of the
        expression "invalid label", as they do not even refer
        to this expression.

        In any event, since the board has dealt with the fourth
        auxiliary request not under Article 84 EPC but under
        Article 56 EPC (see point 7. above), in the present
        case the board's clarity objections to "invalid label"
        and "album cover" do not represent exceptional
        circumstances which justify the admittance of
        amendments filed after notification of the board's
        communication under Article 15(1) RPBA.

9.4   Hence, the board does not admit the sixth auxiliary
        request into the appeal proceedings (Article 13(2)
        RPBA)

10.   Since none of the requests admitted into the appeal
        proceedings is allowable, the appeal is to be
        dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

B. Brückner   J. Geschwind

Decision electronically authenticated