

**Internal distribution code:**

- (A) [ - ] Publication in OJ
- (B) [ - ] To Chairmen and Members
- (C) [ - ] To Chairmen
- (D) [ X ] No distribution

**Datasheet for the decision  
of 19 May 2020**

**Case Number:** T 2039/14 - 3.4.01

**Application Number:** 07023162.6

**Publication Number:** 1927937

**IPC:** G06K9/66, G07D7/00

**Language of the proceedings:** EN

**Title of invention:**

Certificate stamp identifying system and certificate stamp  
identifying method

**Applicant:**

NEC Corporation

**Headword:**

Certificate-stamp identifying system / NEC

**Relevant legal provisions:**

EPC Art. 84, 123(2)

**Keyword:**

Claims - clarity (no)

Amendments - main request - allowable (no)



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 2039/14 - 3.4.01

**D E C I S I O N**  
**of Technical Board of Appeal 3.4.01**  
**of 19 May 2020**

**Appellant:** NEC Corporation  
(Applicant) 7-1, Shiba 5-chome  
Minato-ku  
Tokyo 108-8001 (JP)

**Representative:** Glawe, Delfs, Moll  
Partnerschaft mbB von  
Patent- und Rechtsanwälten  
Postfach 13 03 91  
20103 Hamburg (DE)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 16 April 2014  
refusing European patent application No.  
07023162.6 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** P. Scriven  
**Members:** T. Zinke  
D. Rogers

## **Summary of Facts and Submissions**

- I. The Examining Division refused European patent application 07 023 162.6 for lack of clarity and for lack of inventive step in the light of documents D3 (US-A-6092059) and D6 (G. Sebestyen, "Decision-Making Processes in Pattern Recognition", The Macmillan Company, 1962, pages 98 to 104).
- II. The applicant appealed the decision.
- III. With the statement setting out the grounds of appeal, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of a newly amended set of claims and amended description pages. Further, the appellant requested oral proceedings.
- IV. The Board arranged to hold oral proceedings. In a communication under Article 15(1) RPBA, the appellant was informed of the Board's preliminary opinion. In particular, the Board expressed its doubts that the amendments has a basis in the original application (Article 123(2) EPC) and stated that the independent claims apparently contained a contradiction so that they seemed to lack clarity (Article 84 EPC).
- V. In reply, the appellant filed amended claims for auxiliary requests 1 and 2. Since the request filed with the statement setting out the grounds of appeal was maintained, in the following it is referred to as the "main request". In addition, the appellant provided arguments with regard to the issues raised in the

Board's communication and the basis, in the original application, for the new requests.

VI. At oral proceedings, the appellant maintained these requests.

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

*A certificate stamp identifying system comprising:  
a template storing means (16) to store templates of various certificate stamps;  
a certificate stamp image obtaining means to obtain an image of each of said certificate stamps affixed to paper sheets;  
a certificate stamp detecting means (15) to detect and identify each of said certificate stamps based on a result of checking matching between each of the obtained images and any one of said templates; and  
a template creating means to store a plurality of images of non-identified certificate stamps, regarding which said certificate stamp detecting means have judged that there is no matching template, in a storage, and create a template candidate for said non-identified certificate stamps based on said plurality of images of non-identified certificate stamps stored in said storage,  
wherein said template creating means comprises a certificate stamp image classifying means (18) to perform a selecting process of selecting as a temporary template one out of said plurality of said images of non-identified certificate*

*stamps which are stored in said storage when said plurality of said images of non-identified certificate stamps stored in said storage exceeds a predetermined count, and a grouping process of extracting and grouping together said temporary template and other images of non-identified certificate stamps each having a same characteristic as said temporary template into one group, wherein said certificate stamp image classifying means repeatedly performs said selecting process and said grouping process for all remaining images of non-identified certificate stamps stored in said storage in order to classify said plurality of said images of non-identified certificate stamps into groups according to characteristic, the certificate stamp identifying system being characterized in that the template creating means comprises:*

*a candidate selecting means (19) to select after completion of the classifying a group having a specified number or more of said images of non-identified certificate stamps, to sequentially use all the images of non-identified certificate stamps belonging to the selected group as trial templates to check matching for every trial template between the trial template and each of the images of non-identified certificate stamps other than the trial template regardless the images other than the trial template belong to the selected group or not, to calculate for every trial template a certificate stamp detection rate showing a rate of images of non-identified certificate stamps matching*

*with the trial template to all images of non-identified certificate stamps, and to subsequently select an image of a non-identified certificate stamp having the highest certificate stamp detection rate in the selected group as said template candidate representing the selected group provided that the highest certificate stamp detection rate is a predetermined value or more.*

VIII. Independent claim 8 is a correspondingly formulated claim for a certificate stamp identifying method.

IX. Independent claim 1 of auxiliary request 1 replaces the definition of the candidate selecting means by (amendments with regard to main request emphasized):

...

*a candidate selecting means (19) to select after completion of the classifying a group having a specified number or more of said images of non-identified certificate stamps, to sequentially use all the images of non-identified certificate stamps belonging to the selected group as trial templates to check matching for every trial template between the trial template and each of the images of non-identified certificate stamps other than the trial template ~~regardless the images other than the trial template belong to the selected group or not~~, to calculate for every trial template a ~~certificate stamp detection rate value~~ showing a rate of images of non-identified certificate stamps*

*matching with the trial template to all images of non-identified certificate stamps, and to subsequently select an image of a non-identified certificate stamp having the highest ~~certificate stamp detection rate~~ one of the values in the selected group as said template candidate representing the selected group provided that the highest ~~certificate stamp detection rate~~ one of the values is a predetermined value or more ...*

X. Independent method claim 8 is correspondingly amended.

XI. In independent claims 1 and 8 of auxiliary request 2, the only amendment as compared to the main request is the removal of the words

*... regardless the images other than the trial template belong to the selected group or not ...*

## **Reasons for the Decision**

### *General remarks*

1. The invention is concerned with a machine that automatically identifies certificate stamps, for example postage stamps, by matching them to templates. It happens that some stamps do not match any of the current templates, and the invention is about what happens to those.

2. Independent claims 1 and 8 of all requests deal with the handling of images of certificate stamps that the system or method did not manage to identify ("non-identified certificate stamps").
3. The claimed systems and methods generate "template candidates" from a plurality of images of non-identified certificate stamps in two steps.
4. In the first step, the images of the non-identified certificate stamps are classified into groups, based on a "temporary template", which is a selected one of the images. All images that have a same characteristic as the "temporary template" are extracted from the plurality of images and form one group. This is repeated until all non-identified images of the plurality have been classified into groups.
5. In the second step - after the classification is finished - each of the images of one selected group are used as a "trial template", which is checked for matching with other images. The "best" "trial template" is then used as a "template candidate" representing the images of the selected group.
6. The "template candidate" is then displayed on a display (cf. page 20, lines 7 to 18) - possibly for an operator to check it and to register it as an additional template for further identifications. What happens to the groups is not specified in the application. It is possible that the additional template is used for the future identification of images of certificate stamps that are similar to the images of the respective groups.



7. The second step might result in a "template candidate" representing the selected group that is different from the "temporary template" that was used to build the group in the first step. Since the "temporary template" must match the members of the group well enough to form the group in the first step, the second step appears redundant unless there is some reason to think the "template candidate" somehow improves on it. None of the requests on file succeeds in giving a motivation or clarification for why the second step is needed.

*Main request*

8. There is no basis for the term "regardless the images other than the trial template belong to the selected group or not". In both independent claims 1 and 8, the term qualifies the images of non-identified certificate stamps with which the trial template is checked for matching in the second step.
9. This wording is used neither in Figure 6, nor in the original description at page 25, line 24 to page 27, line 15, these being the basis provided by the appellant (statement of grounds, page 2, first paragraph).
10. The only passage of the original description describing what happens during the step of determining the detection rate on page 26, lines 4 to 12 (paragraph 64 of the published application) reads:

*Then, the postage stamp template  
registering candidate selecting section 19  
calculates the postage stamp detection rate  
to be obtained when a selected postage*

*stamp area extracting image is additionally registered as a postage stamp template (by dividing the number of detection failed images by the detection of a postage stamp is made possible using the selected postage stamp area extracting image [pattern] by all the number of detection failed images) with respect to detection failed entire images (Step SC14).*

11. The wording "detection rate", however, can be understood as covering both a binary detection (known - unknown) and an identification (i.e. a class specific detection: to which class of known templates does the certificate stamp belong?). It is not clear which of these detection rates is actually meant in the cited passage. Hence, it can not be derived whether the detection rate has to be calculated by checking the match of the trial template with all "detection failed" images or only with the "detection failed" images belonging to the same group.
  
12. According to the appellant's argumentation in section 4. of the statement of grounds, and according to the amendments to independent claims 1 and 8, it was the intention to use - as a newly registered template, or "template candidate" - the image of the clustered group of non-identified certificate stamps as representing the group, so that the "template candidate" would even be able to "detect" images belonging in other groups. This would, seemingly, imply that an image would be chosen as the template candidate that would not necessarily be the best template for identifying the images of the group, but which "detects" any non-identified image of other groups as well. This apparently contradicts the intention of the template

candidate derived from a clustered group of images "representing the selected group", as specified in the penultimate line of both independent claims).

13. Hence, the amendments made to claims 1 and 8 of the main request result in subject-matter extending beyond the content of the application as filed (Article 123(2) EPC).
14. The issue discussed above with regard to the image that is used as the template candidate representing the selected group also gives rise to problems of clarity.
15. Claims 1 and 8 of the main request, therefore, lack clarity (Article 84 EPC).
16. The main request is not allowable.

*Auxiliary request 1*

17. The amendment to claims 1 and 8 removes the problematic term "regardless the images other than the trial template belong to the selected group or not". The objection under Article 123(2) EPC discussed above no longer applies.
18. However, the lack of clarity remains. Even without specifying explicitly that the detection rate is determined "regardless the images other than the trial template belong to the selected group or not", it is still not clear, whether the trial template is compared to all non-identified images or only to the non-identified images of the same group as the trial template.

19. This is also not clear from the original description. For instance, neither in Figure 6 (where, in step SC14, the "detection rate is calculated"), nor in the corresponding description (page 26, lines 4 to 12, i.e. the passage cited above) is there any indication, that the trial template is only compared to the images of the selected group. On the other hand, claims 1 and 8 both state that the template candidate should "represent the selected group". If, however, the "trial template" matches, for some reason, many images of other groups, but not so well the images of the selected group, the result of the detection rate calculation (and, consequently, of the chosen template candidate) depends strongly on the images that the trial template is compared with.
20. It might be possible to avoid the discrepancy mentioned above by performing the grouping in the first step so that there would be no danger of detecting images of other groups with a trial template of the selected group in the second step. However, no details of the grouping process (in particular of the determination of "a same characteristic" ), are defined in the claims. In addition, no details of the matching check of the trial templates and each of the images of non-identified certificate stamps other than the trial template in the second step are defined. Such details, if provided, might have made clear with which images the trial template is compared.
21. During oral proceedings, the appellant argued that the two steps are used in order to classify the images of non-identified certificate stamps (in the first step) by using a "coarse" pattern matching with a "temporary template" that might not necessarily be the best template and then - in the second step - determining

the "best" template ("template candidate") representing the selected group with a "fine" pattern matching. This difference between these two "pattern matchings" could be derived from the wording used in claim 1, i.e. that in the first step it is only checked for "a same characteristic", which would mean less than "matching", which is used in claiming the second step. With this understanding, the skilled person would know that the trial template is only compared with images from the selected group. The skilled person would further know that the trial template which matches best is chosen as the "template candidate".

22. However, there is no basis for any "coarse" or "fine" pattern matching, either in the claims or in the original description. On the contrary, in the description, it is disclosed that, for the process of grouping (the first step) the pattern matching process is performed in the same manner as for the detection of certificate stamps (page 17, lines 13 to 17, page 24, lines 13 to 26). No other pattern matching process is disclosed.
23. Since the determination of the template candidate is ambiguous, depending on the images with which the respective trial template is compared, independent claims 1 and 8 do not define clearly enough the subject-matter for which protection is sought (Article 84 EPC).
24. Hence, auxiliary request 1 is not allowable.

*Auxiliary request 2*

25. The amendment to claims 1 and 8 of auxiliary request 2 do not relate to the clarity problems discussed above with regard to auxiliary request 1. Hence, these claims also lack clarity (Article 84 EPC).
26. Therefore, auxiliary request 2 is not allowable.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



D. Meyfarth

P. Scriven

Decision electronically authenticated