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**Datasheet for the decision  
of 14 January 2014**

**Case Number:** T 0218/11 - 3.5.01

**Application Number:** 07254083.4

**Publication Number:** 1933267

**IPC:** G06Q30/00

**Language of the proceedings:** EN

**Title of invention:**

Personalization of self-checkout security

**Applicant:**

NCR Corporation

**Headword:**

Self-service checkout terminal/NCR

**Relevant legal provisions:**

EPC 1973 Art. 56

**Keyword:**

Inventive step - (no)  
Oral proceedings - non-attendance of party

**Decisions cited:**

T 0641/00, T 1485/06, T 1930/07



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Case Number: T 0218/11 - 3.5.01

**D E C I S I O N  
of Technical Board of Appeal 3.5.01  
of 14 January 2014**

**Appellant:** NCR Corporation  
(Applicant) 3097 Satellite Blvd.  
Duluth, GA 30096 (US)

**Representative:** MacLeod, Roderick William  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 20 September  
2010 refusing European patent application No.  
07254083.4 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman:** S. Wibergh  
**Members:** P. Scriven  
S. Fernández de Córdoba

## **Summary of Facts and Submissions**

- I. The appeal is against the Examining Division's decision to refuse European Patent application 07254083.4 for lack of inventive step.
- II. In the statement setting out its grounds of appeal, the appellant requested that the refusal be set aside and that a patent be granted on the basis of the set of claims the Examining Division had found not to be allowable. As an alternative, the appellant requested that the case be remitted to the first instance for further examination. Finally, the appellant requested that oral proceedings be held before any adverse decision.
- III. The Board arranged oral proceedings. In a communication accompanying the summons, the Board set out its provisional view: the security of retail establishments, and treating people differently depending on how trustworthy or reliable they were perceived to be, were not technical matters; self-service checkout terminals belonged to the prior art; the implementation of non-technical steps in the known terminal would lead directly to the invention, which, for that reason, seemed to lack inventive step.
- IV. The appellant responded, by letter dated 11 October 2013, with further arguments and by filing a main request and three auxiliary requests.
- V. Oral proceedings were held as scheduled. The appellant was not represented. The Board announced its decision on the basis of the four requests filed with the letter dated 11 October 2013.

VI. Claim 1 according to the main request reads as follows.

*A method for personalizing security conditions for a customer using a self-service checkout terminal (10) to conduct a transaction on the terminal, comprising:*  
*maintaining a trust level value assigned to a customer in a database (50) accessible by the terminal (10);*  
*obtaining the trust level value from the database (50) for a customer when that customer commences a transaction at the terminal (10); and*  
*adjusting the manner in which the transaction occurs as a function of the customer's trust level value;*  
*characterised by*  
*determining at the terminal (10) whether an error has occurred in the customer's use of the terminal (10) during the transaction, wherein:*  
*the adjustment of the manner in which the transaction occurs includes adjusting the number of errors by the customer that will be tolerated before the transaction is interrupted.*

VII. Claim 1 according to the first auxiliary request adds the following at the end:

*...;*  
*the method further comprising:*  
*obtaining information about the customer's conduct during the transaction;*

*using that information to determine an increase or decrease in the customer's trust level value; and storing an updated trust level value for the customer in the database.*

VIII. Claim 1 according to the second and third auxiliary requests read, respectively, identically to those according to the main and first auxiliary requests, except that they also define a preliminary step:

...  
*assigning a trust level to the customer;*  
...

together with the concomitant change from a *trust level to the trust level* in the subsequent step of *maintaining*.

IX. The appellant's arguments can be summarized as follows.

The self-service checkout terminal and a computerised database were known, and certain elements of the invention could validly be considered non-technical. However, an invention that consisted of a mixture of technical and non-technical features was patentable.

The Examining Division were correct in regarding the closest prior art to be a network of terminals connected to a database. However, the terminals according to the invention were not "dumb", and not general data-processing devices. They were self-service checkout terminals with a specific structure.

The objective technical problem, as set out in the application, was to improve the interaction between the

customer and the terminal.

The skilled person worked in the field of data processing, and did not have any knowledge of self-service checkout terminals. The number of features that needed to be added to a general terminal, in order to obtain a self-service checkout terminal, was large and there was no incentive for the skilled person to do so.

The invention addressed the problem that applying the same level of security to all customers might lead to unnecessary interruptions of transactions, or might not interrupt a transaction when interruption was necessary. That problem was solved by adjusting the number of errors that are tolerated before interruption, as a function of the level of trust placed in the customer.

The features required by the invention were all technical. In particular, the provision of a method that can meet both security needs of a retail establishment and the needs and desires of a customer was technical.

There was nothing to motivate the skilled person to adjust the number of errors tolerated.

## **Reasons for the Decision**

### *Oral proceedings*

1. The appellant, in the statement setting out its grounds of appeal, requested that oral proceedings be held before any adverse decision be taken. In response to the summons to oral proceedings, the appellant filed four requests with supporting arguments, and stated that it would prefer proceedings to continue in writing.
2. The request that oral proceedings be held before any adverse decision was not withdrawn. As a result, the Board could not take any decision adverse to the appellant in written proceedings. Since there was no clear reason for delay, oral proceedings were held as scheduled.
3. The Board notes that a professional representative has a duty to inform the European Patent Office, as soon as possible, of a party's intention not to be represented at oral proceedings (cf. e.g. T 1485/06, *Electronic virtual certification/CHOQUET*, reasons 2.8, and T 1930/07, *Power saving/SAMSUNG*, reasons 3; neither published in the OJ EPO). In the present case, the appellant was not represented at oral proceedings, and its representative had not informed the Office. The Board considers that discourteous and unbecoming.
4. Amendments were filed before the oral proceedings in an attempt to further clarify the claimed invention. However, fundamental objections communicated to the appellant in preparation of the oral proceedings remained. The appellant forfeited the opportunity of

discussing those objections, by not providing representation at oral proceedings.

*Introduction to the invention*

5. The invention concerns self-service checkout terminals. Those are terminals at which a customer can, in principle, make purchases without human assistance. The description discusses a particular type of such terminals that provides for the weighing of items and a check on the weight of items being placed in a bag. Claim 1 according to none of the requests is by any means limited to terminals of this form, but it is useful to bear it in mind, not least because it is what the application acknowledges as the starting point for the invention. In this form of terminal, if there is a large discrepancy between the weight of the items scanned and the weight of items placed in the bag, then the automatic processing of the transaction is interrupted and some form of human intervention can take place.
  
6. Underlying the invention is a problem with such terminals. Some customers are inexperienced at using them and tend to make a lot of mistakes; some deliberately seek to take (criminal) advantage. If every customer is subject to very stringent controls, so that, say, even a single, minor error ends the transaction, then many transactions will be interrupted, there will be many interventions, and customers will feel frustrated. If customers are subject only to light controls, the risk for the shop can be high. The invention addresses this by treating people differently depending upon how trustworthy (which covers both honesty and competence) they are



seen to be. Highly trusted customers are allowed to make more errors before the transaction is interrupted, while untrusted customers will be allowed fewer.

*The main request*

7. The Appellant and the Examining Division both took, as starting point for their considerations of inventive step, a network of data-processing terminals connected to a database. In the Board's view, that might be a possible starting point but it is not the only one and it is susceptible to the appellant's argument that the skilled person would have had no incentive to modify the terminals, which are general-purpose machines, in such a way as to produce self-service checkout terminals. While that is not necessarily a knock-down argument, it seems more natural to the Board to consider the skilled person starting from a self-service checkout terminal, as set out in the application itself.
8. From that starting point, the invention differs in that it adds a record of a level of trust, kept in a database, and in that it makes the number or tolerated errors variable, depending on the level of trust. It is worth noting that the prior art already determines whether errors have occurred and interrupts the transaction if there are too many (see paragraph [0006] of the published application).
9. Underlying the invention, from this point of view, is the following problem. A retailer wants to intervene quickly where it is necessary (whether because the customer is perhaps dishonest or because he needs help using the machine or for some other reason), but does

not want to intervene too often. He wants to take account of the fact that people are not equally reliable. In the Board's judgment, that is not a technical matter. A shopkeeper, without any technical means at all, may want to treat people differently depending on how much trust he places in them.

10. Thus, the Board disagrees with the appellant's argument that the decision to tolerate different numbers of error is technical in itself. That might possibly be the case if the errors are specific to the way a particular machine operates, but claim 1 places no limitation on the sorts of error involved.
11. As a non-technical aim, it is legitimate to consider it as given to the technically skilled person as a requirement. That is the approach set out in T 0641/00, Two identities/COMVIK, OJ 2003.
12. Thus, in the Board's judgment, the technically skilled person is faced with the task of modifying the self-service checkout terminals so as to keep track of how trusted different customers are, and so as to interrupt transactions earlier for those customers who are less trusted, and later for those that are more trusted.
13. Interruptions occur in the prior art when too many errors have been detected. There was therefore a choice between making the number of errors variable, or introducing some new criterion. That is a choice the shopkeeper might make. Thus, it does not contribute to inventive step.
14. The technically skilled person is obliged to provide means for keeping track of how much trust is placed in an individual customer. Some sort of storage is

inevitable. Claim 1 places no limitation on the database other than its ability to allow a level of trust to be stored and retrieved. In the Board's judgment, whatever storage means the skilled person provided would qualify as a database under such a broad definition.

15. In the Board's view, therefore, the technical features of the invention either belong to the prior art (the self-service checkout terminal), would be inevitable given the technical problem faced by the skilled person (the storage of a trust level in a database), or would not contribute an inventive step (the adjusting of the number of tolerated errors).

16. As a result, the subject matter defined by claim 1 does not involve an inventive step (Article 56 EPC 1973), and the main request cannot be allowed.

*The first auxiliary request*

17. The method defined by claim 1 according to this request comprises some additional steps. Information about customer behaviour is obtained and used to increase or decrease the level of trust, and the new level is stored in the database.

18. The Board notes, firstly, that the "adjustment of the manner in which the transaction occurs" is not based on the new level of trust, but on the level obtained at the beginning. Thus, there is no effect on the transaction during which the information about customer behaviour is obtained. However, when the same customer initiates a later transaction, the new trust level will be used. Thus, the method is part of an adaptive

system, and the effect of the additional steps is to render the method suitable for use in an adaptive system.

19. Claim 1 places no limitation on the way the information about behaviour is obtained, what sorts of behaviour are considered, and what causes an increase and what a decrease in the level of trust. The claim is completely general on those points. In the Board's judgment, it is therefore legitimate to consider the additional steps an automation of what the shopkeeper does: he bases the trust in a customer on observations of how the customer behaves; if he sees a trusted customer stealing, he will not trust that customer if he comes back.
20. Thus, the Board considers that the additional features relate to a modification of the underlying non-technical problem, and therefore do not contribute to inventive step.
21. Consequently, the subject matter defined by claim 1 does not involve an inventive step (Article 56 EPC 1973) and the request cannot be allowed.

*The second and third auxiliary requests*

22. Claim 1 according to these requests adds a preliminary step to the methods defined in claim 1 according to the main and first auxiliary requests. According to that step, a "trust level" is assigned to a customer.
23. The effect of the additional step is to set a value for the trust level. In the methods defined by claim 1 according to the main and first auxiliary requests, it

is assumed that a value is already stored in the database. The second and third auxiliary requests deal with the situation in which that may not be the case. The methods defined in the second and third auxiliary requests do not work well if a trust level is already stored, because the assignment of a new level effectively discards the historical information. However, they do provide an effective method when a customer uses a terminal for the first time.

24. It is implicit in the methods defined by claim 1 according to the main and first auxiliary requests, that a trust level value has, earlier, been placed in the database. The assignment of a value that is a prerequisite of an obvious method does not render the method less obvious.
25. The Board, therefore, concludes that the second and third auxiliary requests are no more allowable than the main and first auxiliary requests.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:



T. Buschek

S. Wibergh

Decision electronically authenticated