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**Datasheet for the decision
of 4 December 2007**

Case Number: T 0152/05 - 3.2.04

Application Number: 96931949.0

Publication Number: 0857079

IPC: A63F 3/06

Language of the proceedings: EN

Title of invention:

Printed document including bar code authentication system

Patentee:

Oberthur Gaming Technologies, Inc.

Opponent:

Pollard banknote Ltd.

Headword:

-

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (no)"

Decisions cited:

T 0465/92, T 0823/96, T 0644/97

Catchword:

-



Case Number: T 0152/05 - 3.2.04

DECISION
of the Technical Board of Appeal 3.2.04
of 4 December 2007

Appellant: Oberthur Gaming Technologies, Inc.
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Respondent: Pollard banknote Ltd.
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Representative: Christopher Heinrich Furlong
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 19 November 2004
revoking European patent No. 0857079 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: M. Ceyte
Members: M. Poock
C. Heath

Summary of Facts and Submissions

I. The Appellant (Patent Proprietor) lodged an appeal on 26 January 2005 against the decision of the Opposition Division posted 19 November 2004 on the revocation of European patent No. 0 857 079 and paid the prescribed fee simultaneously. The statement of grounds of appeal was received on 29 March 2005.

II. The Opposition Division held that the subject-matter of the amended claim 1 did not involve an inventive step having regard to the following documents:

- D1: US-A-5 290 033,
- D3: US-A-4 793 061,
- D5: Documents relating to a prior use in Malaysia,
- D7: US-A-5 074 566,
- D8: US-A-5 247 166.

With the reply to the statement of grounds of appeal, the Respondent (Opponent), referred to the following documents:

- D10*: "Using Bar Code - Why It's Taking Over",
second edition, 1994, pages 10 to 12 and 36
to 40 and
- D13: US-A-5 243 655.

III. Oral proceedings before the Board were held on 4 December 2007 and focused on the discussion of inventive step having regard to the cited documents and the general technical knowledge of the skilled person.

IV. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request, or auxiliary requests 1 or 2, all filed with letter of 5 November 2007.

The Respondent requested that the appeal be dismissed.

V. Claim 1 reads as follows:

(a) Main request

"A printed document (20,30,50) comprising a substrate (24,32,52), game data (34,54) imaged on the substrate (24,32,52) and covered by a scratch-off layer (38,58) adapted to be removed by the user to reveal the game data and thereby determine if a prize has been won, and bar code authentication means (22,36,56) imprinted on the substrate, characterized by the bar code authentication means (22,36,56) being a two dimensional bar code, and by a scratch-off layer (26,40,58) placed over the entire bar code authentication means (22,36,56) and adapted to be removed to reveal the bar code authentication means (22,36,56) so that the printed document (20,32,52) can be validated".

(b) Auxiliary request 1

"A method of authenticating a printed document, said printed document (20,30,50) comprising a substrate (24, 32,52), game data (34,54) imaged on the substrate (24,32,52) and covered by a scratch-off layer (38,58) adapted to be removed by the user to reveal the game data and thereby determine if a prize has been won, and bar code authentication means (22,36,56)

imprinted on the substrate, characterized by the bar code authentication means (22,36,56) being a two dimensional bar code, and by a scratch-off layer (26,40,58) placed over the entire bar code authentication means (22,36,56), said method comprising removing the scratch-off layer (26,40,58) to reveal the entire bar code authentication means (22,36,56), reading the bar code authentication means (22,36,56) and comparing the same with a predetermined list of bar codes such that if the bar code authentication means (22,36,56) appears on the predetermined list, the printed document is authentic".

(c) Auxiliary request 2

"A printed document (50) comprising a substrate (52), game data (54) imaged on the substrate (52) and covered by a scratch-off layer (58) adapted to be removed by the user to reveal the game data and thereby determine if a prize has been won, and bar code authentication means (56) imprinted on the substrate, characterized by the bar code authentication means (56) being a two dimensional bar code, and by the scratch-off layer (58) being placed over the entire bar code authentication means so as to cover both the game data (54) and the bar code authentication means (56), (56) and the scratch-off layer being adapted to be removed to reveal the bar code authentication means (56) so that the printed document (50) can be validated".

VI. The Appellant argued that the subject-matter of claim 1 of all requests involves an inventive step, essentially for the following reasons:

- (a) Document D3 discloses a lottery ticket in which a serial number is covered by a scratch-off layer. If a fraudster tampers with the scratch-off layer (e.g. by a technique known as "pin-holing"), it is possible to read the serial number.

The objective technical problem is to improve the security of the concealed authentication means by reducing its susceptibility to be revealed by scratching-off small portions of the concealing scratch-off layer.

This problem, in which a fraudster seeks to determine the authentication means under the scratch-off layer rather than the game data itself, is not recognised in the prior art. No one had ever thought to address the issue of security by providing the authentication means in bar code form.

The solution is achieved with a two dimensional bar code as authentication means hidden under the scratch-off layer. This provides two further levels of protection. First, the authentication number is encoded in a bar code which, whilst not necessarily a secret code, is intrinsically harder to decipher. Second, the technical nature of bar codes is such that they require a greater amount of scratch-off material to be removed in order to reveal enough of the bar code to determine the number which it represents. Since a fraudster has to remove a large amount of scratch-off material to read the authentication means, the "pin-holing" technique is not effective and this in itself

serves as a deterrent against fraudulent tampering with the scratch-off material. Even if the entire scratch-off layer is removed from the two dimensional bar code, it could be read only by an optical scanner. Thus, the authentication security is increased.

No hint of this solution to the problem specified can be found in the prior art. In document D3 only one embodiment is disclosed in which the validation number is hidden by a scratch-off layer. Nevertheless, the scraper known therefrom is not arranged to remove the scratch-off layer covering the serial number. Therefore, this document teaches away from the claimed subject-matter. In the prior art no disclosure can be found to hide a bar code which is to be used for authentication purposes under a scratch-off layer, or the significant security benefit obtained thereby. Hence, the skilled person is advised to leave the bar code exposed. It must therefore be concluded that the claimed subject-matter is not obvious.

- (b) With the amendments to claim 1 of the auxiliary requests, an additional increase of security is achieved by further reducing the risk of "pin-holing". It was accepted in the oral proceedings that authentication in the common general knowledge involves generally the steps of reading data attributed to a specific characteristic, of comparing this data with a predetermined data and of ascertaining the result of the last step.

(c) In addition, in the decision of the Opposition Division the following procedural errors were made:

- (i) The Opponent had questioned the admissibility of the "representations" of lottery tickets presented in the oral proceedings in the opposition proceedings for the illustration of the effect of pin-holing. This material was accepted only for this purpose. Nevertheless, it is highly likely that the conclusion of the Opposition Division could only have been reached after viewing and considering these objected materials in total and not limited to the above purpose.

- (ii) Moreover, in the decision of the Opposition Division it is stated that "different types of bar codes and their interpretation are readily available to everyone on the Internet". However, since no evidence was provided that this information was known at the priority date, it can only demonstrate that it was known at the time it was on the Internet.

- (iii) In the oral proceedings before the Opposition Division, the Patent Proprietor did not accept that document D5 (relating to an alleged prior use) had been established. The response of the Chairwoman was that detailed arguments regarding the non-establishment of this document were not necessary. However, in the decision the

objection of lack of inventive step was based on this document D5. Therefore, the Patent Proprietor has suffered a loss of instance in relation to the admissibility of document D5.

VII. The Respondent contested essentially as follows:

The claimed subject-matter does not involve an inventive step. The closest prior art lottery ticket is known from document D3. In view of the teaching of document D8 and the skilled person's common general knowledge as evidenced by documents D9, D10 and D13, it is obvious to substitute the ticket's serial number by a two dimensional bar code and to thus arrive at the claimed subject-matter.

Reasons for the Decision

1. The appeal complies with the requirements of Article 106 to 108 and Rules 1(1) and 64 EPC. It is therefore admissible.
2. *Main request - claim 1 - inventive step*
 - 2.1 The closest prior art is known from document D3 as agreed by the parties. It relates to a scraper for removing an opaque coating of removable material from the surface of lottery tickets. A typical lottery ticket is shown in Figures 1 to 3 and described in column 2, lines 3 to 21. In addition to the ordinary lottery numbers or symbols, it is provided with a serial number or other markings for ascertaining its

validity. In the general portion of this document, it is stated in that the serial number may be covered by the removable coating (column 3, lines 16, 17). In the preferred embodiment (column 3, lines 15 to 23), the serial number is covered by a portion of the coating.

The Appellant's argument that the prior art did not disclose bar codes under a scratch-off layer, is not convincing in view of D7, column 5, lines 22 to 24 in connection with lines 56 to 61 and Figure 4 or D1, Figure 4 which disclose hidden bar codes.

Thus this citation discloses, in the wording of claim 1, a printed document T comprising a substrate, game data (lottery numbers or symbols) imaged on the substrate and covered by a scratch-off layer adapted to be removed by the user to reveal the game data and thereby determine if a prize has been won, and authentication means in the form of a serial number or other validation marking imprinted on the substrate. A scratch-off layer is placed over the entire authentication means and adapted to be removed to reveal the authentication means so that the printed document can be validated.

2.2 Derivation of the technical problem

- 2.2.1 It is established case law of the Boards of Appeal that an objective definition of the technical problem to be solved should normally start from the technical problem that is described in the patent in suit. Only if it turns out that an incorrect state of the art was used to define the technical problem or that the technical problem disclosed has in fact not been solved, can an

inquiry be made as to which other technical problem objectively existed (see e.g. T 644/97 of 22 April 1999, point 2.3, not published in the OJ EPO).

The technical problem that can be derived from the introductory portion of the patent (see in particular paragraphs 7 to 10) is based on the document mentioned in paragraph 6 of the patent which discloses a different prior art as document D3. Hence, it is necessary to reformulate the technical problem.

2.2.2 The subject-matter of claim 1 is distinguished from this closest prior art only by the feature that the authentication means is a two dimensional bar code. In the context of this patent, this term should mean a so-called stacked or matrix bar code (see patent, paragraph 8).

2.2.3 The distinguishing feature has the effect of a faster and more accurate authentication, it allows for an increase in the amount of data encoded into a given space (see patent, paragraphs 8, 10, 13) and makes it more difficult to decode the authentication data.

Thus, the technical problem to be solved may be seen in providing a printed document with authentication means which enable a faster and more accurate authentication, provides higher security and saves space on the printed document for purposes other than authentication.

The Appellant's argument of an unrecognised technical problem in the prior art is not convincing, because it is known, see e.g. D7, column 5, lines 65 to 67 in connection with lines 22 to 35, 56 to 65 and, in

addition, because it is not disclosed in the patent at all.

2.2.4 In light of the above problem to be solved, the person skilled in the art is seen as a physicist or engineer with knowledge in the field of authentication of printed documents.

2.3 Obviousness of the solution

2.3.1 Document D10* relates to one and two dimensional bar codes. Bar codes are described of being much more prevalent than optical character recognition because they can be scanned faster and more accurate (see page 10, lines 2 to 6 from the bottom, page 12, third paragraph). For including more data, two dimensional bar codes, such as stacked and matrix bar codes are suggested (see pages 36 to 39).

Document D13 relates to techniques for encoding data into machine readable form for automatic entry into various systems and machinery and in particular to bar codes (see column 1, lines 14 to 59). In order to cope with the need for increasing the amount of data encoded in a given space for quick and easy decoding, two dimensional or stacked bar codes are disclosed (see column 2, lines 12 to 14). These bar codes provide higher security in the transmission of information (see column in, line 16 to 21). Therefore, the Appellant's argument that no one had ever thought of addressing the issue of security by presenting the authentication means in bar code form is not convincing.

2.3.2 The above documents relate to the same technical field as the opposed patent, i.e. the field of document authentication, and address in essence the same technical problem so that it is obvious to the skilled person to consider them for the solution of the problem stated above.

Applying their teaching on the ticket of document D3, the skilled person would substitute the ticket's serial number by the two dimensional bar code known from either D10* or D13 and thus arrive at the subject-matter of claim 1. A skilled person would not deviate from the general concept of D3 to hide the authentication means under a scratch-off layer, because this would reduce the security and is not necessary for solving the problem specified.

Although, as argued by the Appellant, it might be true that the claimed subject-matter requires that a fraudster has to remove a more considerable part of the scratch-off layer, this does not affect the obviousness of the claimed subject-matter.

2.4 In view of the foregoing, the Board concludes that the subject-matter of claim 1 does not involve an inventive step as required by Articles 52(1) and 56 EPC. Consequently, the main request is not allowable.

3. *Auxiliary request 1 - claim 1 - inventive step*

3.1 In the context of the examination of novelty and inventive step requirements of the EPC, it is of importance whether each feature of the claimed subject-matter can be inferred directly and unequivocally from

that disclosure, including features which for the skilled person are implicit in what is explicitly disclosed (see e.g. T 465/92, OJ 1996, 32). In this respect, the Board concurs with the findings in T 823/96 (mentioned in Case Law of the Boards of Appeal, 5th English edition, page 261) that "implicit" matter must be a clear and unambiguous consequence of what is explicitly disclosed for the skilled person.

3.2 As stated above, it is known from document D3 that the serial number or other markings are to assist in ascertaining the validity of the ticket, i.e. they are used for authentication. However, it is not explicitly described how the validity of the ticket is ascertained. Hence, it has to be evaluated whether this is implicitly disclosed in this document.

3.2.1 As appreciated by the Appellant, it is common general knowledge that authentication involves generally the steps of reading data attributed to a specific characteristic, of comparing this data with predetermined data and of ascertaining the result of the last step, see e.g. D7, column 5, lines 22 to 35 and 56 to 67.

3.2.2 Thus, in the wording of claim 1, it is implicitly known from document D3, to remove the scratch-off layer to reveal the entire authentication means (if the scratch-off layer was not removed entirely, the serial number could not accurately be read), reading the (data of the) authentication means and comparing the same with (those in) a predetermined list such that if the authentication means appears on the predetermined list, the printed document is authentic.

3.3 Hence, also the subject-matter of this claim is only distinguished from the method of document D3 by the feature that the authentication means is a two dimensional bar code.

3.4 Since the subject-matter of claim 1 is thus distinguished from the closest prior art by the same feature and the objective technical problem is in essence the same, the same argumentation and conclusions as for the main request apply.

4. *Auxiliary request 2 - claim 1 - inventive step*

4.1 In addition to what is stated above, document D3 also discloses that the scratch-off layer covers both, the game data (column 2, lines 12 to 15) and the authentication means (column 3, lines 16, 17) so that the scratch-off layer is adapted to be removed to reveal the authentication means and the printed document T can be validated.

4.2 Also the subject-matter of this claim is thus only distinguished from the printed document of D3 by the feature that the authentication means is a two dimensional bar code.

4.3 Since the subject matter of claim 1 is thus distinguished from the closest prior art by the same feature and the objective technical problem is the same insofar as it provides a method of authenticating a printed document, the same argumentation and conclusions as for the main request apply.

5. Consequently, also the auxiliary requests 1 and 2 are not allowable.

6. Decision of the Opposition Division
 - 6.1 It does not appear to the Board that the Opposition Division had considered the "representations" of lottery tickets, although the admissibility of this material had been questioned by the Appellant, then Opponent. The Opposition Division is competent in the field of lottery tickets and, thus, can understand the effects of "pinholing" carried out either on numerical codes or on bar codes without this material. Therefore, this material was not necessary for the Opposition Division to reach its conclusions.

 - 6.2 With the statement in the decision that "different types of bar codes and their interpretation are readily available to everyone on the Internet", the Opposition Division tackled an argument of the patent proprietor. Even if it was based on wrong assumptions, it does not affect the substance of the decision.

 - 6.3 From the minutes of the oral proceedings of the Opposition Division it does neither result that the Patent Proprietor did not accept that the prior use according to document D5 had been established nor that he was informed that detailed arguments regarding the non-establishment of this document were not necessary. On the contrary, it is stated on page 1, items 3 and 4 that D5 and D5A-G were in fact discussed. Thus, no loss of instance has occurred.

Moreover, the decision of the Opposition Division sets out two lines of argumentation. The first one is based on the closest prior art as known from document D3, the second one on the closest prior art known from document D5. Even if the mention of document D5 was an error, this error would not have been causal to the decision. In fact, the first line of argumentation fully supports the decision.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Magouliotis

M. Ceyte