Internal distribution code:

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

Datasheet for the decision of 25 July 2019

Case Number: T 0398/14 - 3.5.05

Application Number: 05011740.7

Publication Number: 1619579

IPC: G06F3/06, G06F3/08

Language of the proceedings: EN

Title of invention:
Mobile electronic equipment

Applicant:
Kabushiki Kaisha Toshiba

Headword:
Early response/TOSHIBA

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (no)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

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 0398/14 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 25 July 2019

Appellant: (Applicant)	Kabushiki Kaisha Toshiba 1-1, Shibaura 1-chome, Minato-ku Tokyo 105-8001 (JP)
Representative:	Kramer Barske Schmidtchen Patentanwälte PartG mbB European Patent Attorneys Landsberger Strasse 300 80687 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 26 September 2013 refusing European patent application No. 05011740.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	P. Cretaine
Members:	E. Konak
	G. Weiss

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division to refuse the application for, *inter alia*, lack of an inventive step (Article 56 EPC) with regard to the following document:

D1: JP 2003 085511.

II. In its statement setting out the grounds of appeal, the appellant filed claims 1 to 14 of a main request and claims 1 to 12 of auxiliary requests I and II. The appellant requested that the decision be set aside and a patent be granted on the basis of these requests. It requested oral proceedings as a further auxiliary measure.

III. In its preliminary opinion annexed to the summons to oral proceedings, the board raised objections under Articles 84 and 56 EPC.

IV. In reply to the summons to oral proceedings, the appellant filed claims 1 to 12 of new auxiliary requests I and II to replace the auxiliary requests on file.

V. Oral proceedings were held before the board.

VI. In the present decision, reference is also made to the following document, submitted by the appellant in annex to the statement setting out the grounds of appeal:

Rankl et al., "Smart Card Handbook", 2nd edition, 2000 Chapter 7, pages 327-328 and 333-336.

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

"An IC card (2) comprising:

a communicating section (25) configured to perform communication with respect to an external equipment (1),

a data storage memory (24d) configured to store data,

a buffer memory (24c) in which data to be stored in the data storage memory (24d) is temporarily written, and

a control section (21) configured to transmit response data indicating completion of a data writing process to the external equipment based on completion of a process of writing data which is received from the external equipment (1) via the communicating section (25) and is to be stored in the data storage memory (24d) into the buffer memory (24c), and to write the data which has been written in the buffer memory (24c) into the data storage memory (24d) after the response data has been transmitted to the external equipment (1)."

VIII. Claim 1 of auxiliary request I reads as follows:

"An IC card (2) comprising:

a communicating section (25) configured to perform communication with respect to an external equipment (1),

a data storage memory (24d) configured to store data,

a buffer memory (24c) in which data to be stored in the data storage memory (24d) is temporarily written,

a buffer specifying memory (24a) in which information indicating data required to be written into the buffer memory (24c) among data to be stored in the data storage memory (24d) is stored, and

a control section (21) configured to determine whether a process of temporarily writing data received from the external equipment (1) via the communicating section (25) into the buffer memory (24c) is required based on the information stored in the buffer specifying memory (24a), and directly write data which is determined unnecessary to be written into the buffer memory (24c) in the above determining process into the data storage memory (24d),

wherein the control section (21) is configured to transmit response data indicating completion of a data writing process to the external equipment based on completion of a process of writing data which is determined necessary to be written into the buffer memory (24c) in the above determining process into the buffer memory (24c), and to write the data which has been written in the buffer memory (24c) into the data storage memory (24d) after the response data has been transmitted to the external equipment (1)."

IX. Claim 1 of auxiliary request II differs from claim 1 of auxiliary request I in that the following text is added at the end of the paragraph specifying the "buffer specifying memory (24a)" before ", and":

"as address information indicating an area in the data storage memory".

Reasons for the Decision

1. Main request

1.1 The contested decision considers D1 to represent the closest prior art, which the appellant did not contest. In its preliminary opinion in the annex to the summons to oral proceedings, the board noted that, although D1 is a suitable starting point to assess the inventive step, the conventional IC card, as described on page 1, line 10 to page 2, line 23 of the application (hereinafter referred to as "the conventional IC card") was a more suitable starting point, in view of the fact that D1 does not explicitly disclose sending response data from the IC card to the external equipment. The appellant did not object to this.

1.2 "The conventional IC card" discloses the following features of claim 1 of the main request with the missing features ~~struck through~~ (the passages in parentheses referring to the description of the application in suit):

An IC card comprising
a communicating section configured to perform communication with respect to an external equipment (page 1, lines 12 to 16),
a data storage memory configured to store data (page 1, lines 12 to 16),
a buffer memory in which data to be stored in the data storage memory is temporarily written (page 1, lines 24 to 27), and
a control section configured to transmit response data indicating completion of a data writing process to the external equipment based on completion of a process of writing data which is received from the external

equipment via the communicating section and is to be stored in the data storage memory (page 2, lines 2 to 7) ~~into the buffer memory~~, and to write the data which has been written in the buffer memory into the data storage memory (page 1, line 27 to page 2, line 2) ~~after the response data has been transmitted to the external equipment~~.

1.3 Thus, claim 1 of the main request differs from "the conventional IC card" in that the response data is transmitted to the external equipment once the data is written to the buffer memory, not after the completion of the writing of the data from the buffer memory to the data storage memory.

1.4 The appellant submitted (see the statement setting out the grounds of appeal, page 3, antepenultimate paragraph) that in "the conventional IC card", the external equipment had to wait until the write process was finished to receive the response data, based on which it had to perform further processes. The effect of the distinguishing feature identified above was that the waiting time for the external equipment was reduced (see the statement setting out the grounds of appeal, page 10, lines 1 to 2).

1.5 Based on this technical effect, the board formulated in its preliminary opinion annexed to the summons to oral proceedings the objective technical problem solved by claim 1 of the main request as how to reduce the waiting time of an external equipment in communication with the IC card.

1.6 The appellant argued that the problem as formulated by the board included a pointer to the solution and formulated the objective technical problem as how to

perform the writing of data to the storage memory of the IC card more efficiently, as also mentioned on page 16, lines 4 to 11 of the description. Claim 1 of the main request solved this problem by performing the processes at the external equipment based on the response data from the IC card and the process of writing data to the storage area in the IC card in parallel, thereby achieving an efficient overall process. Furthermore, in view of the fact that prior art acknowledged in the application itself was now used as the closest prior art, it was not appropriate to formulate a different objective technical problem from the one stated in the description. However, these arguments fail to persuade the board since the correct application of the problem and solution approach requires the objective technical problem to be formulated based on the technical effect actually achieved by the alleged invention with respect to the closest prior art. The IC card claimed in claim 1 of the main request is not any faster than the "conventional IC card"; it performs the same method steps but in a different order. Nor does it use its data storage memory or the power supplied by the external equipment more efficiently. The technical effect of claim 1 of the main request lies **only** in the reduction of the waiting time of the external equipment. Therefore, the objective technical problem must be formulated on the basis of this effect. Formulating the objective technical problem on the basis of the efficiency of the overall process would yield an unduly broad problem which is not solved by the claimed invention.

1.7 Claim 1 of the main request solves the problem of reducing the waiting time of the external equipment by sending the response indicating completion of a data

writing process to the external equipment, even though the writing process is indeed not yet complete, at the time when the process of writing into the buffer memory has been completed.

1.8 There are, however, two notoriously known and obvious ways of reducing the waiting time of a party waiting for your response indicating the completion of a task: One is to complete the task itself earlier so that you can send the response earlier, the other is to let the party believe that you have completed the task, although you have not, and hope that nothing goes wrong while completing the task, as there is always a risk that the task cannot be completed for some reason and it might be necessary to inform the party. Claim 1 of the main request follows the latter way and indeed has the same risks: According to page 19, line 31 to page 20, line 13 of the description, there are cases of failure where the IC card cannot complete the writing into the data storage area and has to inform the external equipment, even though it has already sent the external equipment a response that writing into the data storage area is complete. The appellant argued that even if the objective technical problem were defined as formulated by the board, the most obvious solution to this problem would be to increase the speed of the write process performed by the IC card, which corresponds to the first obvious way of reducing the waiting time identified in the beginning of this paragraph. This does not, however, mean that the other way is not obvious. Therefore, sending the response indicating completion of a data writing process to the external equipment, even though the writing process is indeed not yet complete, cannot involve an inventive step.

1.9 The precise time at which such an early but potentially misleading response is sent cannot involve an inventive step either. It is obvious that the earlier the response is sent, the higher the risk of a failure. If the IC card were to send the response as soon as it receives the write command, the waiting time of the external equipment would be even shorter, but the risk of a failure would increase as the data is not yet even written into the buffer memory. Sending the response after completion of the writing into the buffer memory is one obvious alternative chosen as the result of the trade-off between the waiting time and the reliability of the response.

1.10 In the statement setting out the grounds of appeal, the appellant further submitted that the commands used in smart cards are performed in accordance with very simple standard protocols and that deviations from these precisely specified protocols within application processes were not permitted, referring to the "Smart Card Handbook" of which the appellant submitted an excerpt together with the statement setting out the grounds of appeal. In its preliminary opinion annexed to the summons, the board communicated that it doubted the relevance of this excerpt to the present case as the excerpt did not disclose any standard with respect to protocols for use with a smart card with a buffer memory. Furthermore, page 327 of the excerpt, on which the appellant relied, stated in the last paragraph bridging page 328 that "each manufacturer active in this field attempts to tailor his own commands", either "due to necessity", but also "deliberately ... to deny their competitors access to a particular application". Therefore, the board was not convinced that the skilled person in this field would categorically rule out any

modification to the prior art. The appellant did not reply to these observations.

1.11 For these reasons, claim 1 of the main request does not involve an inventive step (Article 56 EPC).

2. Auxiliary request I

2.1 Independent claim 1 of auxiliary request I is unclear (Article 84 EPC) as it does not specify what kind of information the buffer specifying memory has in order to indicate data required to be written into the buffer memory. The term "information indicating data required to be written into the buffer memory" can be construed as a list of criteria or conditions which decide, *inter alia* according to the content of the data, whether the received data should be stored in the buffer memory or not. The appellant confirmed this interpretation in point 2.2 of its letter of reply to the summons to oral proceedings.

2.2 However, according to page 12, line 30 to page 13, line 22 of the description, the information in question is specifically address information indicating an area in the data storage area. In its letter of reply, the appellant referred specifically to page 13, lines 7 to 17. This passage does not, however, define information other than address information, but rather specifies the kind of data required to be written into the buffer memory. The generalisation of the address information of the description to any kind of information in claim 1 of auxiliary request I is therefore clearly not supported by the description, rendering claim 1 of auxiliary request I unclear (Article 84 EPC).

3. Auxiliary request II

3.1 Claim 1 of auxiliary request II further specifies "information indicating data required to be written into the buffer memory" of claim 1 of auxiliary request I "as address information indicating an area in the data storage memory". It thus overcomes the clarity objection regarding claim 1 of auxiliary request I.

3.2 The claim differs from claim 1 of the main request in that it additionally has a buffer specifying memory that stores address information of data storage memory areas for which the data is required to be written into the buffer memory. If the address information of an area in the data storage memory is not stored in the buffer specifying memory, the data for that area is directly written to the data storage memory without being temporarily written into the buffer memory.

3.3 The appellant submitted that this feature had a synergistic effect with the distinguishing features of claim 1 of the main request, contrary to the conclusion of the contested decision, since it further reduces the waiting time of the external equipment. It in particular referred to the case, described on page 11, lines 4 to 36 of the description, in which a conflict occurs between two subsequent write commands: If a new write command is received by the IC card from the external equipment while the data of a previous write command is still being transferred from the buffer memory to the data storage memory, the data transfer has to be stopped, the data of the new write command has to be temporarily stored in a RAM and then the transfer to the data storage memory is resumed. Afterwards, the new data is written to the buffer memory. The external equipment thus has to wait longer for the response indicating the completion of the new

writing process. These submissions fail to convince the board since they rely entirely on a case and features of the IC card's control section which are not reflected in the wording of claim 1 of auxiliary request II. This is also apparent from the appellant's reference to the features of claims 4 and 7 in its letter of reply to the summons to oral proceedings (see page 5, first paragraph) instead of claim 1. Therefore, the board concurs with the contested decision that there is no synergistic effect between the additional features of claim 1 of auxiliary request II and the distinguishing features of claim 1 of the main request.

3.4 The effect of the additional features of claim 1 of auxiliary request II is that some of the received data is not written into the buffer memory. Thus, the integrity of such data cannot be ensured when a problem such as interruption of the power supply occurs during the data writing process (see also the description, page 2, last paragraph). In this regard, the additional features of claim 1 of auxiliary request II represent a disadvantageous modification of "the conventional IC card". According to the case law of the boards of appeal (See "Case Law of the Boards of Appeal of the European Patent Office", 8th edition, 2016, I.D. 9.18.1), if the predictable disadvantages of a modification to the prior art are not compensated by any unexpected technical advantage, the invention does not involve an inventive step. In the present case, there is no such unexpected technical advantage.

3.5 The appellant argued that no disadvantage would occur as critical data is always written into the buffer memory. Only data which is not critical could be lost in case an error occurs when writing data directly to the data storage memory. This argument does not

convince the board. First, claim 1 of auxiliary request II does not differentiate between critical and non-critical data. Second, the appellant submits that some data could indeed be lost, irrespective of its criticality, which confirms that the modification does have certain disadvantages.

3.6 For these reasons, claim 1 of auxiliary request II does not involve an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

K. Götz-Wein P. Cretaine

Decision electronically authenticated