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Datasheet for the decision of 16 January 2015

Case Number: T 1161/11 - 3.5.05

Application Number: 03739703.1

Publication Number: 1474739

IPC: G06F3/033

Language of the proceedings: EN

Title of invention:
CONFIGURABLE INDUSTRIAL INPUT DEVICES THAT USE ELECTRICALLY CONDUCTIVE ELASTOMER

Applicant:
Siemens Corporation

Headword:
INPUT DEVICES THAT USE ELECTRICALLY CONDUCTIVE ELASTOMER/ SIEMENS

Relevant legal provisions:
EPC 1973 Art. 56

Keyword:
Claims - clarity after amendment (yes)
Inventive step - after amendment - (yes)

Decisions cited:

Catchword:

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Case Number: T 1161/11 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 16 January 2015

Appellant: (Applicant)	Siemens Corporation 170 Wood Avenue South Iselin, NJ 08830 (US)
Representative:	Wheatley, Alison Clare Haseltine Lake LLP Redcliff Quay 120 Redcliff Street Bristol BS1 6HU (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 17 January 2011 refusing European patent application No. 03739703.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	A. Ritzka
Members:	M. Höhn
	G. Weiss

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, posted on 17 January 2011, refusing European patent application No. 03739703.1 on the ground of lack of inventive step (Article 56 EPC 1973) with regard to prior-art publications:

D1 US 2001/054647 A1,
D2 WO 01/61633 A2,
D3 US 5995026 A1 and
D4 US 2001/0003041 A1.

II. The notice of appeal was received on 14 March 2011. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 17 May 2011. The appellant requested that the appealed decision be set aside and that a patent be granted on the basis of the main request or of the first to eighth auxiliary requests, all filed with the statement setting out the grounds of appeal. Oral proceedings were requested on an auxiliary basis.

III. With a communication dated 16 September 2014 the board summoned the appellant to oral proceedings on 16 January 2015. In an annex to the summons the board expressed its preliminary opinion that all requests lacked clarity (Article 84 EPC 1973) for the following reasons.

Claim 1 was specified by the feature that each of said plurality of functions was associated with a corresponding one of said plurality of input buttons. This was interpreted such that every function was associated with a dedicated button. On the other hand, claim 1 was further specified by each of said plurality

of functions being associated with a different level of pressure of a touch.

It was considered to be obscure why each function should have a different level of pressure when each function was associated with different buttons. Rather, it appeared that different levels of pressure made sense from a technical point of view only if those functions were associated with a single button. This, however, appeared to be in contrast to the other feature specifying that every function was associated with a dedicated, i.e. different, button.

Furthermore, the last feature of claim 1, which was directed to a control panel apparatus, was formulated in a method-like style. The formulation "wherein said touch ... causes ..." referred to a touch which was not considered to be a structural feature and, hence, not part of the apparatus. It was therefore not clear how the reference to such a "touch" could further specify the apparatus.

Moreover, the main request and the first auxiliary request lacked an inventive step with regard to the disclosure of D1 when combined with the skilled person's common general knowledge or with the teaching of D3(Article 56 EPC 1973), while the second auxiliary request appeared to fulfil the requirements of Article 56 EPC 1973.

IV. By letter dated 20 November 2014 the appellant submitted a set of claims according to an amended main request together with arguments addressing the issue of an antecedent basis for the amendments and that of clarity. The appellant requested that the procedure be continued in writing.

V. With letter dated 23 December 2014 the appellant requested that a patent be granted on the basis of the set of claims submitted with letter dated 20 November 2014.

VI. With a communication dated 15 January 2015 the appellant was informed that the date for oral proceedings had been cancelled.

VII. Independent claim 1 according to the main request reads as follows:

"1. A control panel apparatus having reconfigurable input buttons, said apparatus comprising:
a tactile sensor (10 and 11), said tactile sensor (10 and 11) comprises a conductive foam elastomer;
a plurality of input buttons reconfigurable by a user,
a representation (15) of said plurality of input buttons placed on said tactile sensor (10 and 11);
a flexible protective outer surface (31) over the tactile sensor (10 and 11); and
electronics, coupled to said tactile sensor (10 and 11), for measuring a location of a touch to an input button on said tactile sensor (10 and 11) and an existence of and a level of pressure of said touch and for storing a plurality of functions, wherein each of said plurality of functions is associated with a corresponding location and a different level of pressure of said touch of one of said plurality of input buttons; and
wherein, in response to said touch on one of said plurality of input buttons on said tactile sensor (10 and 11), said electronics measures said location and said level of pressure of said touch, and causes an occurrence of one of said plurality of functions

associated with said location and said level of pressure of said touch."

Independent claims 14, 20 and 23 are directed to a corresponding method, a computer program product and a system.

Reasons for the Decision

1. Admissibility

The appeal complies with Articles 106 to 108 EPC (see Facts and Submissions, point II above). It is therefore admissible.

2. Article 123(2) EPC

2.1 The amendments to claim 1 made during the appeal proceedings are supported by the application as filed on page 18, line 34 to page 19, line 1, in particular with regard to the wording "wherein each of said plurality of functions is associated with a corresponding location and a different level of pressure of said touch of one of said plurality of input buttons".

Claim 1 has been further specified by the feature that the tactile sensor comprises a conductive foam elastomer, which is supported by original claim 14 of the application as filed.

Furthermore, support is provided by original claim 24 disclosing "said electronics are capable of measuring a pressure level and a location from a touch on said representation of input buttons on said foam tactile sensor" for the corresponding feature of claim 1.

The requirements of Article 123(2) EPC are therefore fulfilled.

3. Article 84 EPC 1973

4. In the board's judgement, the objections for a lack of clarity (see point III above) raised in the communication dated 16 September 2014 have been overcome by the following amendments.

4.1 Claim 1 is now specified by the expression "wherein each of said plurality of functions is associated with a corresponding location and a different level of pressure of said touch of one of said plurality of input buttons". Therefore, it is now clear that different levels of pressure are associated with a single button.

4.2 The last feature of claim 1, which is directed to a control panel apparatus, is no longer formulated by referring to a touch as a structural feature. The formulation "wherein said touch ... causes ..." has been replaced by "said electronics are capable of measuring a pressure level and a location from a touch on said representation of input buttons on said foam tactile sensor", thereby further specifying claim 1 with apparatus-like structural features.

4.3 Claim 1 therefore fulfils the requirements of Article 84 EPC 1973.

5. Article 56 EPC 1973 - Inventive step

5.1 In the decision under appeal it was argued (see point 1.3) that the feature of the tactile sensor comprising

a conductive foam elastomer was obvious, since foam sensors were well known by the skilled person in the field of input devices as exemplified by document D2 (see e.g. Figure 2A), and to utilise this component in the system disclosed in D1 for any practical purpose would not involve any inventive activity for the skilled person in the field.

5.2 The board, however, agrees with the appellant's argument to the contrary (see point 15.4.2.1 of the statement setting out the grounds of appeal). The structure of the control panel disclosed in D1 with the tactile sensor membrane 8 overlaying the smart card requires the tactile sensor membrane to be "substantially transparent" (see e.g. [0052] and [0056] of D1). This requirement would prevent the skilled reader of D1 from considering the use of conductive foam elastomers for constructing the tactile sensor, because it was not evident that conductive foam elastomers can be made "substantially transparent".

5.3 There is no hint in D2 for this and for how to achieve such a transparency. In addition, the appellant is correct in arguing that the need for electrodes in the construction of a conductive foam elastomers based tactile sensor is in contrast to the requirement of transparency.

5.4 The board therefore regards the teaching of D1 and D2 to be technically incompatible for being combined and for coming up with the subject-matter of claim 1, which does not require the tactile sensor to be "substantially transparent".

The subject-matter of claim 1 is therefore considered to involve an inventive step over a combination of the disclosures of D1 and D2 (Article 56 EPC 1973).

5.5 None of the further prior art publications on record discloses a conductive foam elastomer tactile membrane, in particular none that is "substantially transparent", which would be compatible with the teaching of D1.

6. The same arguments apply, *mutatis mutandis*, to corresponding independent claims 14, 20 and 23 which therefore also fulfil the requirements of Article 123(2) EPC and Articles 56 and 84 EPC 1973. The dependent claims, which specify further limiting features, also comply with the provisions of Article 56 EPC 1973.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to grant a patent on the basis of claims 1 to 25 and description pages 4 and 4a as submitted with letter dated 20 November 2014, description pages 1 to 3 and 5 to 20 as originally filed, and drawing sheets 1/12 to 12/12 as originally filed.

The Registrar: The Chair:

K. Götz-Wein A. Ritzka

Decision electronically authenticated

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Case Number: T 1161/11 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 20 March 2015 correcting an error in the decision of 16 January 2015

Appellant: (Applicant)	Siemens Corporation 170 Wood Avenue South Iselin, NJ 08830 (US)
Representative:	Wheatley, Alison Clare Haseltine Lake LLP Redcliff Quay 120 Redcliff Street Bristol BS1 6HU (GB)
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Composition of the Board:

Chair	A. Ritzka
Members:	M. Höhn
	G. Weiss

In application of Rule 140 EPC, the decision of the Technical Board of Appeal given on 16 January 2015 is hereby corrected as follows:

on page 8, **Order**, point 2, line 4

"description pages 1 to 3 and 5 to 20"

is replaced by:

"description pages 1 to 3 and 5 to 22".

The Registrar: The Chair

K. Götz-Wein A. Ritzka

Decision electronically authenticated