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Datasheet for the decision of 26 March 2021

Case Number: T 2738/18 - 3.5.05

Application Number: 15702935.6

Publication Number: 3097472

IPC: G06F3/0488, G06F3/048, G06F1/16, G06F3/023

Language of the proceedings: EN

Title of invention:
VIRTUAL COMPUTER KEYBOARD

Applicant:
Apple Inc.

Headword:
Touch screen display adjacent to a physical keyboard

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (yes)

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Case Number: T 2738/18 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 26 March 2021

Appellant: (Applicant)	Apple Inc. One Apple Park Way Cupertino CA 95014 (US)
Representative:	COPA Copenhagen Patents Rosenørns Allé 1, 2nd floor 1970 Frederiksberg C (DK)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 29 June 2018 refusing European patent application No. 15702935.6 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	A. Ritzka
Members:	P. Tabery
	E. Mille

Summary of Facts and Submissions

I. The appeal is directed against the decision of the examining division dated 29 June 2018 to refuse European patent application No. 15702935.

II. The examining division made reference, *inter alia*, to the following document:

D6 US 2011/314405 A1

III. The examining division decided that the application did not meet the requirements of Articles 84 (main request), 123(2) (auxiliary request 1), 54 (auxiliary requests 2 and 3) and 56 (auxiliary request 4) EPC.

IV. In its statement setting out the grounds of appeal, the appellant (applicant) requested that a patent be granted based on the claims in accordance with a new main request or a newly-submitted auxiliary request, both submitted with the statement setting out the grounds of appeal. The claims of the new main request are identical to the claims of the previous auxiliary request 4 underlying the impugned decision.

V. The board issued a summons to oral proceedings. In an annex to the summons, the board set out its provisional view of the case (Article 15(1) RPBA 2020).

The board considered that the **main request** did not meet the requirements of Article 56 EPC, thus confirming the decision of the examining division.

The board indicated that the **auxiliary request** appeared unsuitable for overcoming the objection pursuant to Article 56 EPC due to its broader scope.

VI. In a reply dated 25 February 2021, the appellant provided further arguments regarding the pending main request and submitted a new auxiliary request, replacing the previous auxiliary request.

VII. Oral proceedings were held on 26 March 2021. The appellant requested that the decision under appeal be set aside and that a patent be granted based on the claims of the main request or of the new auxiliary request.

VIII. **Claim 1** of the **main request** comprises the following features (as labelled by the board):

A method of updating a dynamic input and output device, the method comprising:

(1.1) at a computing system comprising one or more processors, a primary display, memory, and a housing at least partially containing a physical input mechanism comprising a plurality of physical keys, the housing containing a touch screen display adjacent to the physical input mechanism, wherein the housing is separate and distinct from the primary display:

(1.2) displaying a first user interface on the primary display, the first user interface comprising one or more user interface elements;

(1.3) identifying a user interface element that is in focus among the one or more user interface elements on the primary display;

(1.4) determining whether the user interface element that is in focus on the primary display is associated with an application executed by the computing system; and,

(1.5) in accordance with a determination that the user interface element that is in focus on the primary display is associated with the application executed by the computing system, displaying a second user interface on the touch screen display, including:

(A) a first set of one or more user interface elements corresponding to the application; and
(B) at least one system-level user interface element corresponding to at least one system-level functionality,

(1.6) wherein a user may select a particular one of the one or more user interface elements corresponding to the application or the at least one system-level user interface element by touching a location on the touch screen display that corresponds to the particular one of the one or more user interface elements corresponding to the application or the at least one system-level user interface element,

wherein the method further comprises:

(1.7) detecting a user input at a new user interface element on the primary display, the new user interface element being associated with the application executed by the computing system and in response maintaining display of the at least one system-level user interface element in the second user interface on the touch screen display and displaying in the second user

interface on the touch screen display a second set of one or more user interface elements corresponding to the application, the second set being distinct from the first set.

Independent claims 18 and 19 are directed to a corresponding computing system and a corresponding computer readable storage medium, respectively.

Claim 1 of the **new auxiliary request** comprises the further limitation that *"the at least one system-level functionality is a system brightness control or a system volume control"*.

Reasons for the Decision

1. The present application concerns a virtual computer keyboard extension, implemented as a touch-sensitive display. The functionality and the aspect of the virtual keyboard can be dynamically updated under software control, triggered by a change in application focus.

2. Main request

2.1 Novelty (Article 54(1) EPC)

Document **D6** discloses the following features of **claim 1** (strike-through is used to mark undisclosed features; the references in parentheses refer to this document):

A method of updating a dynamic input and output device *("dynamic input device may be implemented to provide displayable output", see [0014])*, the method comprising:

(1.1) at a computing system *(see [0014])* comprising one or more processors *(see [0014])*, a primary display *("display monitor 22", see [0014])*, memory *(see [0014])*, and a housing *("26", see Figure 1)* at least partially containing a physical input mechanism comprising a plurality of physical keys *("28", see Figure 1)*, the housing containing a touch screen display *("32", see Figure 1)* adjacent to the physical input mechanism *(see Figure 1)*, wherein the housing is separate and distinct from the primary display *(see Figure 1)*:

(1.2) displaying a first user interface on the primary display, the first user interface comprising one or more user interface elements *(implied by "desktop application 68", see [0033])*;

(1.3) identifying a user interface element that is in focus among the one or more user interface elements on the primary display *("the ACL watches for all focus changes in the operating system so that the ACL is aware of which application has focus", see [0040])*;

(1.4) determining whether the user interface element that is in focus on the primary display is associated with an application executed by the computing system *("the ACL watches for all focus changes in the operating system so that the ACL is aware of which application has focus", see [0040])*;

and,

(1.5) in accordance with a determination that the user interface element that is in focus on the primary display is associated with the application executed by

the computing system, displaying a second user interface on the touch screen display,
("A desktop application [...] may register [...] one or more auxiliary experiences that can control displayable output on the dynamic input device", see [0034]; "On each focus change, the ACL can remove any auxiliary experiences associated with the application that is losing focus. Next the ACL can look up whether the application gaining focus has any registered auxiliary experiences.", see [0040])
including:

(A) a first set of one or more user interface elements corresponding to the application;
("If the application gaining focus has registered auxiliary experiences, then the currently "active" auxiliary experience is loaded, initialized, and primed to be rendered", see [0040])

and

(B) ~~at least one system-level user interface element corresponding to at least one system-level functionality~~,

(1.6) wherein a user may select a particular one of the one or more user interface elements corresponding to the application ~~or the at least one system-level user interface element~~ by touching a location on the touch screen display that corresponds to the particular one of the one or more user interface elements corresponding to the application
(implied, since this is the purpose of a touch screen display)
~~or the at least one system-level user interface element~~,

wherein the method further comprises:

(1.7) detecting a user input at a new user interface element on the primary display, the new user interface element being associated with the application executed by the computing system and in response ~~maintaining display of the at least one system-level user interface element in the second user interface on the touch screen display and~~ displaying in the second user interface on the touch screen display a second set of one or more user interface elements corresponding to the application, the second set being distinct from the first set.
("the dominant application can dynamically specify which of the registered experiences is active based on the current context" may correspond to tasks, e.g., "create new email, look up contact, schedule new meeting", see [0035]; the board notes that these functions are commonly known to be performed in response to conventional user input; see also item 118 in Figure 6)

Hence the differences between the subject-matter of **claim 1** and that of document **D6** lie in the steps of:

- in accordance with a determination that the user interface element that is in focus on the primary display is associated with the application executed by the computing system, *displaying at least one system-level user interface element corresponding to at least one system-level functionality;*

- wherein a user may *select the at least one system-level user interface element;*

- maintaining display of the at least one system-level user interface element in the second user interface on the touch screen display.

The subject-matter of **claim 1** is therefore novel.

2.2 Inventive step (Article 56 EPC)

The distinguishing features achieve the technical effect of *allowing for convenient access to system APIs to access system functionality.*

The objective technical problem may thus be formulated as how to modify what is known from document **D6** to *allow for convenient access to system APIs to access system functionality*.

Document **D6** teaches convenient access to application-level functionality by means of a *"dynamic input device 26" (see Figure 1)*. The dynamic input device allows for display *"provided on or near keys 28"* as well as *"in an area 32 located above [the] keys" (see [0017], Figures 1 and 2 in document **D6**)*. Since document **D6** merely mentions that *"the dynamic input device may utilize [system] APIs 76" (see [0050])*, the skilled person is only taught that a user interface element for accessing system APIs may be provided *on said dynamic input device 26*, without any indication as to its exact location thereon.

When attempting to solve the above problem, the skilled person would not have found any guidance on *when* and *where* said user element should be provided. As to the *where*, they could have selected from among the area 28 and area 32 shown in Figure 2 of document **D6**. As a next step, the skilled person could have contemplated *when*,

i.e., under what circumstances, said user interface element is displayed in either location. Only then could they have implemented said user interface as part of the one or more of the experiences registered for a particular dominant application. Only after deciding in the same way as the inventors in each step would they have arrived at the claimed invention. In the absence of any relevant hint in document **D6**, the board considers that the skilled person would not have been guided towards performing these consecutive steps. Therefore they would not have arrived at the distinguishing features in an obvious manner.

For the sake of completeness, it is noted that the subject-matter of claim 1 is also inventive when considering the objective technical problem ("reducing the number of times the user has to switch input modes") put forward by the appellant in the statement setting out the grounds of appeal. When attempting to solve this problem, the skilled person would have been required to perform even more consecutive steps in exactly the same way as the inventors in order to arrive at the invention as claimed.

2.3 The board thus concludes that, in view of the available prior art, the subject-matter of **claim 1 of the main request** involves an inventive step (Article 56 EPC).

Equally, the computing system and computer readable storage medium claimed in **independent claims 18 and 19** respectively are inventive, because they comprise means which are specifically adapted to perform the method steps of claim 1. Consequently, the same considerations apply *mutatis mutandis*.

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 an order to grant a patent based on:

   - claims 1 to 19 of the main request filed with the statement setting out the grounds of appeal,

   - the description and drawings as published to be adapted.

The Registrar: The Chair:

K. Götz-Wein A. Ritzka

Decision electronically authenticated