

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 October 2017**

Case Number: T 2135/14 - 3.5.06

Application Number: 04007536.8

Publication Number: 1471426

IPC: G06F9/445, H04M1/725

Language of the proceedings: EN

Title of invention:

Communication terminal device and program

Applicant:

NTT DoCoMo, Inc.

Headword:

Upgrading an application program/NTT

Relevant legal provisions:

EPC 1973 Art. 56

Keyword:

Inventive step - after amendment (yes)
Remittal to the department of first instance (yes)

Decisions cited:

T 0410/96, T 0789/07

Catchword:



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 2135/14 - 3.5.06

D E C I S I O N
of Technical Board of Appeal 3.5.06
of 25 October 2017

Appellant: NTT DoCoMo, Inc.
(Applicant) 11-1, Nagatacho 2-chome,
Chiyoda-ku
Tokyo 100-6150 (JP)

Representative: Hoffmann Eitle
Patent- und Rechtsanwälte PartmbB
Arabellastraße 30
81925 München (DE)

Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 3 July 2014
refusing European patent application No.
04007536.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman W. Sekretaruk
Members: M. Müller
S. Krischer

Summary of Facts and Submissions

I. The appeal lies against the decision of the examining division, with reasons dispatched on 3 July 2014, to refuse European patent application No. 040070536.8, because the main request and the first and third auxiliary requests lacked inventive step, Article 56 EPC, over document

D1: JSR 118 Expert Group, "Mobile Information Device Profile, v2.0 (JSR-118)", Java Community Process, 2002, pages iii-vi, 1-22 and 431-452.

The second auxiliary request was not admitted pursuant to Rule 137(3) EPC. The decision mentions several other documents, labelled D2-D7, but does not rely upon them in its reasons.

II. Notice of appeal was filed on 1 September 2014, the appeal fee being paid on the same day. A statement of grounds of appeal was received on 21 October 2014. The appellant requested that the decision under appeal be set aside, and that a patent be granted on the basis of the third auxiliary request filed on 6 June 2014 during the oral proceedings before the examining division, including the following documents:

description, pages

1, 3-17 as originally filed

2, 2a as filed on 17 January 2007

drawings, sheets

1/7-7/7 as originally filed

claims, no.

1-8 as filed on 6 June 2014

III. In an annex to a summons to oral proceedings, the board informed the appellant of its preliminary opinion that the claims were unclear, Article 84 EPC 1973, and did not comply with Article 123(2) EPC. It also raised doubts as to the question whether the claimed invention had a technical effect that was clear enough for inventive step over D1 to be acknowledged.

IV. In response to the summons, by a letter dated 21 September 2017, the appellant filed amended claims 1-8 and requested the grant of a patent on this basis. It also provided arguments.

V. The oral proceedings were then cancelled.

VI. Claim 1 reads as follows:

"A communication terminal device (10) comprising:

communication means for communicating with a provider of an application program via a communication network (20);

execution means for executing an application program, and for executing specified commands contained in said application program;

suspend means for suspending operation of said executed application program when said specified commands are executed by said execution means;

upgrade means for upgrading said application program by communicating, by said communication means, with said provider of an application program whose operation is suspended by said suspend means;

the upgrade means including terminate means for terminating operation of said application program whose operation is suspended by said suspend means; and

resume means for resuming the operation of said application program; **characterized in that**

the execution means is such that, in operation, the upgrade means for upgrading said application program is operated when said specified commands contained in said application program have been executed by said execution means, and when said suspend means has been operated for suspending operation of said application program;

upgrading, by the upgrade means, said application program includes operating the terminate means to terminate said application program and executing a new version of said application program;

determination processing is arranged to be performed to determine whether the radio field intensity is larger than a threshold in a state in which operation of said application program is suspended;

upgrading is arranged to be started if it is determined in the determination processing that the radio field intensity is larger than a threshold; and

the resume means is used if it is determined in the determination processing that the radio field intensity is lower than the threshold, so as to resume the operation of the application program."

Claim 7 reads as follows:

"Method for upgrading an application program stored in a communication terminal device, comprising:

executing, by executing means of the device, an application program, and specified commands contained in said application program;

suspending (SB1), by suspending means of the device, operation of said executed application program in response to the execution of said specified commands;

upgrading (SB4, SB5, SB6, SB7, SB8), by upgrading means of the device, said application program, whose operation is suspended, by communicating with a

provider of said application program via a communication network (30);

wherein upgrading includes terminating the operation of said application program whose operation is suspended by said suspend means;

characterized in that

upgrading (SB4, SB5, SB6, SB7, SB8) said application program occurs when said specified commands contained in said application program have been executed and when the operation of said executed application program has been suspended;

upgrading (SB4, SB5, SB6, SB7, SB8) said application program includes terminating said application program and executing a new version of said application program;

determination processing is performed to determine whether the radio field intensity is larger than a threshold in a state in which operation of said application program is suspended;

upgrading is started if it is determined in the determination processing that the radio field intensity is larger than a threshold; and

if it is determined in the determination processing that the radio field intensity is lower than the threshold, resuming the operation of the application program."

Reasons for the Decision

The invention

1. The application relates to upgrading software on a mobile device, typically a mobile phone, in such a way that bandwidth is not wasted on applications which are

no longer used and the user is saved the bother of having to actively check for upgrades (see paragraph bridging pages 1 and 2, and page 2, penultimate paragraph).

- 1.1 As a solution, the invention proposes that applications are upgraded whilst in use. It is disclosed that upgrades are to take place when "specified commands are executed" (see paragraph bridging pages 2 and 3), but the description does not explain what these "specified commands" are.

- 1.2 The application to be upgraded is first suspended (see figure 8, SB1). It is then determined whether the "upgrade [...] can be completed" (see SB2). It is disclosed that this can be predicted if the "radio field intensity" or the remaining battery power is sufficiently high (i.e. above a "threshold"; see page 13, lines 8-18 *et seq.* and page 15, lines 14-23). Present claim 1 is limited to the former alternative. It is further disclosed that the upgrade may be terminated if the user does not give his confirmation (page 14, lines 5-7). The upgrade is only started if it is expected that it "can be completed" (SB4). If not, or if the upgrade fails for other reasons (SB5), the old program is resumed (SB3).

The prior art

2. D1 discloses the Mobile Information Device Profile MIDP (see page 1), which defines a set of interfaces for mobile Java applications (MIDlets; see page 431 *et seq.*, chapter 12). D1 deals *inter alia* with user-initiated over-the-air provisioning of MIDlets (see page 11 *et seq.*, esp. section 1 of chapter 2). A MIDlet can "start, pause, or destroy itself" (page 431,

penultimate paragraph; pages 439-440, MIDlet states). Before a MIDlet is updated, it "MUST" be stopped; other MIDlets "MAY" have to be stopped, too (see page 15, section "MIDlet Suite Update"; pages 447-448, platformRequest; see esp. page 447, last paragraph). D1 discloses that an upgrade may fail for various reasons (including, for instance, insufficient memory or loss of service) which are reported by means of a "status code" in a status report (see page 16, paragraphs 2, 7 and 8, and the table bridging pages 16 and 17).

The issue to be decided

3. Claims 1 and 7 differ from D1 in two ways:
 - (a) They distinguish between terminating an application program and merely suspending it so that it can be resumed, whereas D1 discloses "stopping" and "destroying" an application program without mentioning the possibility of resuming it, and they require an application program to be suspended before being upgraded.
 - (b) They specify that after suspension it is determined whether the radio field intensity is larger than a threshold. Only if it is indeed larger is the upgrade started; if it is not, the suspended application program is resumed.
- 3.1 This largely corresponds to the differences identified in the decision under appeal (page 5, penultimate paragraph, and page 8), and the appellant has not contradicted this analysis either (see grounds of appeal, point 3.1).
- 3.2 The examining division took the view that these two features were merely juxtaposed and that their

inventive merit could therefore be assessed separately, and found that difference (b) in particular was "an implementation detail consisting of an arbitrary choice of one or more possible failure scenarios out of a large number of readily foreseeable [...] scenarios" (see the decision, page 8, items a) and b)).

3.3 The appellant challenged both findings. It argued that there was a synergy between suspending the application program before the upgrade and the subsequent checking of the radio field intensity (see grounds of appeal, point 3.5), because suspending any potential use of "wireless communication resources" by the application program being upgraded made more reliable the "a priori consideration of the radio field intensity for determining whether the download can be completed" (see point 3.4, last paragraph). And it took the position that claim 1 was inventive over D1 by virtue of the two features, especially because D1, while mentioning several possible "failure scenarios", did not consider any "environmental factors associated with the wireless nature of the communication" or, in particular, "the radio field intensity" (see point 3.6).

3.4 Furthermore, the appellant argued that the examining division had incorrectly construed the claimed "execution means for executing [an] application program" as an execution means merely "suitable for" execution rather than, as it should have done in view of decision T 410/96, as an execution means "adapted for" execution (see the decision, page 3, third paragraph from the bottom, and the grounds of appeal, point 2).

The board's position

4. The board agrees with the appellant in principle that the "execution means for executing" must, following T 410/96 (esp. reasons 6), be construed as being "adapted for" such execution rather than as merely being "suitable for" it, as the examining division stated. In the present case, however, this is not a crucial difference, because the "communication terminal device" according to D1 is clearly not only suitable but also adapted for running a program and thus any of its commands, irrespective of whether the latter are expressly specified or not.
5. In the annex to its summons to oral proceedings, the board expressed the view that claims 1 and 7 were unclear, Article 84 EPC 1973, because the "execution means" (and the corresponding "executing" step) seemed to relate to execution of an application program only "if [...] directed by a user". After amendment, the execution means and steps are now defined to be, unconditionally, "for executing an application program" and "specified commands". The board's objection has thus become moot.
6. The board also raised a clarity objection because claims 1 and 7 failed to specify when the radio field intensity was measured, and an objection under Article 123(2) EPC because they also failed to specify that the upgrading was started if and only if the detected radio field intensity was above the threshold. As claims 1 and 7 now specify both missing features, these objections too have become moot.
7. As regards the alleged synergy between features (a) and (b), the board takes the following view.

- 7.1 Claims 1 and 7 refer to radio field *intensity*, i.e. the strength of the relevant signal.
- 7.2 It is well known that signal strength is related to bandwidth. Reduced signal strength increases the risk of transmission failure and protective measures against failure require some bandwidth.
- 7.3 Obviously, if the application program being upgraded consumes "wireless communication resources" the bandwidth available for other purposes is reduced. However, the signal *strength* is not substantially affected. Therefore, the same radio field intensity will be determined irrespective of whether the application program being upgraded is suspended before such determination or only thereafter.
- 7.4 In its letter of 21 September 2017, the appellant conceded this point (see page 3, point 3, paragraphs 1 and 2), but argued that synergy existed nonetheless, because suspending the application program according to (a) rather than stopping it made it possible to resume it if the upgrade was not initiated due to an insufficient radio field intensity according to (b) (see the same letter, paragraph bridging pages 3 and 4).
- 7.5 The board is not convinced. It notes in particular that anticipation of download failure due to a low radio field intensity would also work without suspension, namely if the application program to be upgraded was not stopped until the radio field intensity could be measured and it was decided to start the upgrade. And, conversely, the advantage that a suspended program can be resumed if necessary is independent of the criterion

relied upon to decide whether an upgrade can be started.

- 7.6 The board therefore agrees with the decision under appeal that there is no non-trivial synergy between features (a) and (b) and that, hence, their inventive merit can be assessed separately.
- 8. On the question of inventive step, the board takes the following view.
 - 8.1 *Re (a)*. In the board's view it is obvious for the skilled person - and also known from D1 (see page 16, paragraph 2) - that upgrades may fail and that, in this situation, execution of a program that has been "stopped" or "terminated" for an upgrade may have to be resumed. Furthermore, the board considers it to be straightforward for the skilled person to provide this option in the context of D1.
 - 8.2 *Re (b)*. The board considers that feature (b) solves the technical problem of avoiding upgrade failure.
 - 8.2.1 The board notes that low radio field intensity does not imply that an upgrade cannot be completed at all. It may just take longer to complete, which may well be acceptable to a user. And radio field intensity might vary in an unpredictable way. Nonetheless, the board accepts that the signal strength allows a reasonable prediction of whether the upgrade will succeed within an acceptable time frame, or at all.
 - 8.2.2 D1 mentions the possibility of upgrade failure for a number of reasons, but does not explicitly mention low signal strength as one of them (see esp. the table

bridging pages 16 and 17). Moreover, it does not discuss any means of dealing with an upgrade failure when it occurs, or of anticipating failure (apart from mentioning that "status reports" may have to be resent; see page 16, paragraphs 2, 7 and 8).

- 8.2.3 In the decision (see page 8), it is suggested that low "radio field intensity" is one of several commonly known parameters that might cause an upgrade to fail. Furthermore, it is stated that these "failure scenarios" were readily foreseeable so that resuming the old program and not carrying out an upgrade was an "arbitrary choice of [...] readily foreseeable [failure] scenarios".
- 8.2.4 It is true in principle that an upgrade may fail for many reasons. However, the board disagrees that they are necessarily foreseeable. While, for instance, it is clear that the download of the new program - and thus the upgrade - must fail if the remaining working memory is too small, it may not be foreseeable when and for how long a server might become unreachable. Also, while it may be obvious *ex post* to determine that an upgrade failure was due to insufficient signal strength, this alone does not, in the board's view suggest that the initial signal strength should be used as an indicator for the likely success of an upgrade.
- 8.2.5 The board concludes that feature (b) would not have been obvious to the skilled person from D1 and common general knowledge alone.

Remittal to the examining division

9. As a consequence, the decision under appeal must be set aside.

- 9.1 The board notes that feature (b) was not specifically contained in the claims as originally filed. However, the feature of determining whether an upgrade "can be completed" was contained in original claim 3. Given that the description is fairly short and discloses only a small number of clearly identifiable instances of that determination, the board considers that feature (b) at least should have been searched (see T 789/07, headnote). The board is not in a position to decide whether it actually was, but notes that the examining division did not question that feature (b) was covered by the search when admitting, considering and deciding on the third auxiliary request.
- 9.2 However, in view of the fact that a number of further documents (D2-D7) were cited during examination but neither discussed with the examining division nor dismissed as irrelevant, the board considers that inventive step has not yet been exhaustively discussed with the examining division.
- 9.3 Therefore, the board exercises its discretion under Article 111(1) EPC and remits the case to the examining division for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division for further prosecution.

The Registrar:

The Chairman:



B. Atienza Vivancos

W. Sekretaruk

Decision electronically authenticated