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Datasheet for the decision of 27 November 2017

Case Number: T 2263/11 - 3.5.01

Application Number: 04255313.1

Publication Number: 1517260

IPC: G06F17/60

Language of the proceedings: EN

Title of invention:
Method and apparatus for providing attributes of a collaboration system in an operating system for a folder-based file system

Applicant:
Microsoft Technology Licensing, LLC

Headword:
Collaboration system / MICROSOFT

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - integrating collaborative interface into the operating system user interface (no) - detecting file changes using a snapshot (no)

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Case Number: T 2263/11 - 3.5.01

D E C I S I O N
of Technical Board of Appeal 3.5.01
of 27 November 2017

Appellant: (Applicant)	Microsoft Technology Licensing, LLC One Microsoft Way Redmond, WA 98052 (US)
Representative:	Goddar, Heinz J. Boehmert & Boehmert Anwaltspartnerschaft mbB Pettenkoferstrasse 22 80336 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 27 June 2011 refusing European patent application No. 04255313.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	W. Chandler
Members:	A. Wahrenberg
	I. Beckedorf

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division to refuse European application No. 04255313.1 for lack of inventive step. The application concerns a computer-based collaboration system.

II. The examining division considered that the subject-matter of the independent claims according to the main and first and second auxiliary requests lacked an inventive step over a notorious data processing system. The differences over that data processing system were considered to be an administrative process, which would have been obvious and straightforward to implement.

III. The following document was cited but not used in the decision under appeal:

D1: GROOVE NETWORKS, INC: "Desktop Collaboration, Product Backgrounder", WWW.D2I.CO.UK, [Online] January 2003 (2003-01, pages 1-17, XP002341260, Retrieved form the Internet: URL: http://www.d2i.co.uk/Papers/backgrounder-product.pdf [retrieved on 2005-08-17].

IV. The appellant appealed and requested that the decision of the examining division be set aside and that a patent be granted on the basis of a main or an auxiliary request (I), both submitted with the statement setting out the grounds of appeal, dated 10 October 2011.

V. In a communication accompanying a summons to oral proceedings, the Board set out its preliminary opinion that the main and first auxiliary requests lacked clarity and support by the description (Article 84 EPC)

and contained added matter (Article 123(2) EPC). The communication also contained a discussion on inventive step, in particular whether the claimed invention would have been obvious over D1 in view of a conventional shared folder and known notification mechanisms.

VI. In a reply dated 23 October 2017, the appellant filed auxiliary request II addressing the Board's objections under Article 84 and 123(2) EPC.

VII. During oral proceedings before the Board on 27 November 2017, the appellant filed auxiliary request III. The appellant's final requests were that the decision under appeal be set aside and that a patent be granted on the basis of the main request or one of auxiliary requests I to III. For the record of the oral proceedings and the matters discussed with the appellant, reference is made to the minutes.

VIII. Claim 1 of the main request reads:

A method for providing information and services of a computer based collaboration system that allows a plurality of members to interact collaboratively via computers in a shared folder in a folder-based file system that is part of an operating system of a computer with a user interface, the method comprising:

(a) including a collaborative interface in the operating system user interface, the collaborative interface showing information and sections devoted to tasks related to at least one synchronized file in the shared folder in the folder-based file system;

(b) using the collaborative interface to display information regarding the members collaborating with

the context of the shared folder through the use of the collaboration system;

(c) automatically determining changes made in the folder-based file system that is part of the operating system through a file system RAMP program of the collaborative system,

(d) including for each synchronized file in the folder-based file system, maintaining a snapshot that contains sufficient information to allow a determination to be made whether a file has changed, and a synchronizer of the collaborative system receiving a notification from the file system RAMP program that changes have been made to the folder-based file system and in response to the notification, examining the file snapshot to determine which synchronized file has changed; and

(e) communicating the changes related to the synchronized file to other members via the collaboration system.

IX. Claim 1 of the auxiliary request I differs from the main request by the addition of:

the text *"by extending the program of the operating system that provides the operating system functionality and the operating system user interface by an extension that receives commands from the program and generates commands to the program"* after the words *"operating system user interface"* in feature (a); and

the text *"including a directory structure and a set of records for the files, each record containing information including at least one of the size of the*

file, the last date on which the file was modified, metadata, non-data forks, inode information, or a hash value computed from the file contents" after the words *"maintaining a snapshot"* in feature (d).

X. Claim 1 of auxiliary request II reads:

A method for providing information and services of a computer based collaboration system comprising collaborative computers connected to each other by a network and allowing a plurality of members to interact collaboratively in a shared folder in a folder-based file system that is part of an operating system on one of the computers of the collaborative computers with a user interface, the method comprising:

(a) including a collaborative interface in the user interface provided by the shell program of the operating system, the collaborative interface showing information and sections devoted to tasks related to at least one synchronized file in the shared folder in the folder-based file system;

(b) using the collaborative interface to display information regarding the members collaborating with the context of the shared folder through the use of the collaboration system;

(c) automatically determining changes made in the folder-based file system that is part of the operating system,

(d) for each synchronized file in the folder-based file system, maintaining a snapshot that contains sufficient information to allow a determination to be made whether the synchronized file has changed but

omits the content of the synchronized file, receiving a notification from the folder-based file system that changes have been made to the folder-based file system and in response to the notification, examining each file snapshot maintained for each synchronized file in the folder-based file system to determine which synchronized file has changed; and

(e) determining changes in the at least one synchronized file which has changed and communicating the changes related to the synchronized file to other computers of the collaboration system via the network.

XI. Claim 1 of auxiliary request III differs from the main request by the addition of the following feature at the end of feature (e):

"providing a stub file to each shared folder member who does not have the contents of the at least one synchronized file and downloading file contents from a source when a user selects the stub file display".

XII. The appellant's arguments are discussed in the reasons below.

Reasons for the Decision

1. *Background*

The invention concerns a computer-based collaboration system that allows a plurality of members to work collaboratively on files in a shared space. The system includes a user interface (a collaborative interface) for displaying information about the members of the shared space and the tasks that can be performed on the shared space. In order to allow effective collaboration, the shared space must be synchronised between the members. That involves determining changes made to the shared files and communicating those changes to the other members.

2. *Main request, claim 1*

2.1 In its preliminary opinion, the Board had doubts about the clarity of claim 1. Nevertheless, during the oral proceedings, it was possible to arrive at a common understanding of the claimed invention, which could be used as a basis for assessing inventive step.

In claim 1, the shared space is defined as "a shared folder in a folder-based file system that is part of an operating system". The appellant explained the meaning of this feature: the shared space in the collaborative interface corresponds to a folder in the file-system hierarchy of the operating system. For example, as shown in figure 5A and 5B, the shared space "Project X" corresponds to the directory "C:\Documents and Settings \George Moromisato\My Documents\Project X". The shared files ("Detail of Kevlar Blades", "Inner Mechanism" and

"Weed Basket Design") are stored in that directory on each member's computer.

The collaborative interface in claim 1 is included in "the operating system user interface" (feature (a)). This simply means that the collaboration system is perceived by the user as being part of the operating system (paragraph [0008]).

Claim 1 furthermore includes "automatically determining changes made in the folder-based file system [...] through a file system RAMP program" (feature (c)). The RAMP program has no significance in itself. As shown in figure 3, the file-system RAMP (304) merely forwards a notification from the file system (302) to a "file synchronizer" (308). This is reflected in feature (d) in claim 1.

The notification indicates that changes have been made in the folder-based file system. However, it does not indicate *what* file was changed. This is determined by examining a "snapshot" of the file system (feature (d)). The snapshot describes the state of each shared file, for example by means of a last-modified date (paragraph [0033]). Thus, the snapshot contains sufficient information to allow a determination to be made whether a file has changed, but omits the actual contents of the file.

2.2 Inventive step over D1

2.2.1 The examining division started from a notorious data processing system. The Board agrees that this is a reasonable starting point for a computer-based collaboration system. However, since D1 is concerned with a collaboration system, and hence closer to the

claimed invention, the Board finds it convenient to start from D1.

2.2.2 D1 describes the "Groove Workspace" application program, which is mentioned in paragraph [0006] of the published application. Groove Workspace is a peer-to-peer, computer-based collaboration system, which allows a plurality of members to share files in a "virtual shared space" (top of page 4). It has a collaborative interface allowing users to save files in a folder-based system (second paragraph on page 7) and to obtain information about members (page 8, "Online awareness") and tasks (the figure on page 9). The shared files are stored locally on each member's computer, and changes made to the files are synchronised automatically (the bottom-right cell in the table on page 4; the bullet heading "Automatic synchronization on page 7). This necessarily involves a detection of changes made to the files in the shared space. Those changes are notified to the members (page 8, "Notification").

2.2.3 The appellant argued that the invention as defined in claim 1 differed from D1 in that:

- the shared space was a folder in the folder-based file system that was part of the operating system;

- the collaborative interface was included in the operating system user interface;

- changes were determined by examining a file snapshot in response to a notification from the file system.

In the following, inventive step is assessed on the basis of those differences.

2.2.4 The appellant argued that the program in D1 provided its own file system, which was different from the file system of the operating system, and it contained copies of the files that were stored in the file system of the operating system. This lead to unnecessary duplication of data. The invention avoided that by integrating the collaboration system into the operating system.

2.2.5 The Board is not persuaded by the appellant's arguments. The effect of avoiding duplication cannot be derived from a comparison between D1 and the subject-matter of claim 1. D1 does not say how the files in the shared space are organised. It does not mention any copying. Furthermore, there is nothing to suggest that the program in D1 provides its own file system in the sense of a system that controls how data is stored on a storage medium. Insofar as the "virtual shared space" can be considered to be a file system on its own, it is in the sense of an alternative view of the file system of the operating system.

The invention provides a different view of the shared space, namely a view that coincides with the file system of the operating system, and it does so by including the collaborative interface in the operating system user interface. The underlying idea is that the user is already familiar with the operating system and does not have to learn a new interface (see paragraph [0007] of the published application). Thus, the problem solved vis-à-vis D1 is user interface integration.

2.2.6 The Board has doubts whether user interface integration in the sense of providing a familiar user environment is actually a technical problem. However, given this problem, the solution to use the view provided by the

operating system would have been obvious to the skilled person.

2.2.7 The skilled person would have had to provide a working implementation of the integrated collaboration system. That would have included a detection of changes made to the shared files. D1 does it automatically, but does not teach how to do it. Thus, the gap would have had to be filled.

2.2.8 At the priority date, the use of notifications was well known. The published application describes one type of notification in the Windows XP Pro operating system (paragraph [0032]), which indicates that changes have been made in the file system of the operating system, but not the file that was changed. The appellant did not dispute that this type of notification was known at the priority date. Indeed, the application describes the notification as a given and not as part of the inventive concept.

The skilled person would have considered using a notification for detecting changes made in the shared folder. One obvious choice would have been the notification in Windows XP Pro, because it is suitable for the purpose.

Since the notification in Windows XP Pro does not indicate the file that was changed, some additional detection is needed in order to achieve the task of detecting changes made to files in the shared folder. In the Board's view, the skilled person would have had to work out what had changed by examining the state of the file system, which is what the snapshot effectively is. Using the last-modified date to determine the state of a file would have been a straightforward option.

Indeed, this is just what the last modified date is for.

2.2.9 Thus, starting from D1, the skilled person would have arrived at the invention as defined in claim 1 without any inventive activity.

2.3 Inventive step over a conventional folder-based file system

2.3.1 The published application sets out the invention against the prior art of a shared folder in the file system of the operating system (see paragraphs [0011], [0012] and figures 1 and 2). The Board considers this, too, to be a reasonable starting point for inventive step. The shared folder is a collaboration tool that is part of the operating system. It comprises a collaborative interface (see figure 2), which provides a view of the shared folder and information about tasks and members (the permissions in figure 2 indicate who has access to the shared folder).

2.3.2 The appellant argued that the subject-matter of claim 1 differed from this prior art by the detection of changes provided by features (c) and (d), and by the communication of the changes to the members (feature (e)). These features allow the members to obtain information about the changes made to the files in the shared folder (paragraph [0012]).

2.3.3 Faced with the problem of providing a notification of changes in the folder-based file system, the skilled person would look at collaboration systems such as D1, which includes the detection and notification of changes. As already mentioned, gaps in the implementation need to be filled. For the reasons set

out in point 2.2.8 above, the implementation of a change detection by means of notifications and a snapshot (feature (d)) would be within the skilled person's routine capabilities.

2.3.4 Thus, the Board comes to the conclusion that the subject-matter of claim 1 would have been obvious also with regard to the conventional shared folder of the operating system file system.

2.4 For the reasons set out above, the subject-matter of claim 1 of the main request lacks an inventive step (Article 56 EPC).

3. *Auxiliary request I, claim 1*

3.1 Claim 1 of auxiliary request I specifies that the collaborative interface is included in the operating system user interface "by extending the program of the operating system that provided the operating system functionality and the operating system user interface by and extension that receives commands from the program and generates commands to the program". During the oral proceedings, the appellant explained that this feature was meant to clarify the main request; it did not provide any further inventive contribution.

Claim 1 of the auxiliary request I also defines the snapshot as "including a directory structure and a set of records for the files, each record containing information including at least one of the size of the file, the last date on which the file was modified, metadata, non-data forks, inode information, or a hash value computed from the file contents".

Since the Board's conclusion on inventive step concerning the main request is based on the snapshot containing last-modified dates, the same conclusion applies to auxiliary request I.

3.2 For these reasons, the subject-matter of claim 1 of auxiliary request I lacks an inventive step (Article 56 EPC).

4. *Auxiliary request II, claim 1*

4.1 According to the appellant, auxiliary request II was aimed at overcoming the clarity objections raised in the Board's communication. The appellant confirmed that it did not contain any features that contributed further to inventive step. The Board exercises its discretion in accordance with Article 13(1) RPBA not to admit auxiliary request II, since it does not *prima facie* provide an inventive step.

5. *Auxiliary request III, claim 1*

5.1 Claim 1 of auxiliary request III differs from the main request by the feature: providing a stub file to each shared folder member who does not have the contents of the at least one synchronized file and downloading file contents from a source when a user selects the stub file display.

5.2 The appellant submitted that this feature had the technical effect of reducing the amount of data to be transmitted between the members. The stub file is a small file that contains information necessary to find the target file. The user can see the file in the

collaborative interface, but the actual contents of the file is downloaded at a later time (see paragraph [0078] of the published application).

5.3 In the main request and auxiliary requests I and II, the technical problems concerned user interface integration and the detection of changes made to shared files. The feature added by auxiliary request III addresses a different problem, namely the reduction of the data to be transmitted between members in the collaboration system. This constitutes a divergence from the previous discussion on inventive step, at a late stage in the procedure. For these reasons, the Board holds auxiliary request III inadmissible (Article 13(1) and (3) RPBA).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

T. Buschek W. Chandler

Decision electronically authenticated