This document includes some recent decisions of the EPO in 2013 with regards to software related inventions and shows relevant extracts from the respective decisions.

T 1654/09 (Video game console/MICROSOFT) of 24.7.2013
System applications in a multimedia console

Inventive step - after amendment (yes)

Applicant name: MICROSOFT CORPORATION
Application number: 05103222.5
IPC Class: G06F 9/46

Board: 3.5.06

http://www.epo.org/law-practice/case-law-appeals/pdf/t091654eu1.pdf

The invention

The application relates to multimedia consoles, especially video game consoles as now claimed, and starts from the observation that the primary application on such a console, in particular a video game, normally has "near total control of the hardware". This is explained to mean that an application developer can rely on the relevant hardware resources (esp. memory and processor) to be consistently available for exclusive use by that application. This guarantee is however in conflict with the need to provide additional services on multimedia consoles which need hardware resources themselves. The application thus addresses the problem of providing additional system services while maintaining the high level of control the multimedia application has over the required hard ware resources (loc. cit.). The invention according to claims 1 and 21 relates to a video game con sole and a method of operating one, arranged to reserve "a predetermined amount of hardware resources", to execute a system application using the re served hardware resources and a video game using the other, non-reserved hardware resources. The system application is specified to provide a service to the video game, specifically one which "provides the video game with network capability".

Claims 1 and 21 of the sole request reads as follows:

"1. A method for operating a video game console (100) having a central processing unit (101), a graphics processing unit (108), and a memory (112), the method comprising:

reserving a predetermined amount of hardware resources of the video game console (100);

executing a system application using the reserved predetermined amount of hardware resources; and

executing a video game using hardware resources that are not reserved;

wherein the system application provides the video game with network capability.

21. A video game console (100), comprising:

a central processing unit (101);

a graphics processing unit (108);

a writable memory in communication with the graphics processing unit; and

a second memory in communication with the central processing unit,

wherein:

the second memory contains executable code that performs reserving a predetermined amount of hardware resources of the video game console (100) to execute a system application that provides a system service using the reserved predetermined amount of hardware resources;

the system application runs concurrently with a video game executing on the video game console, the video game using hardware resources that are not reserved by the executable code; and

the system application provides the video game with network capability."

The prior art

D1 discloses a system running several virtual machines (VM) on the same computer and is concerned with the problem of scheduling their resource requirements in such a way that they can meet real-time deadlines as they arise for instance in multimedia applications. To this end, each VM defines inter alia its computing requirements (X) as a percentage of the computing resources of the bare machine, and a virtual machine monitor (VMM) schedules the VMs "based, at least in part, on" these resource requirements. D1 also refers to prior art embodiments according to which a VMM schedules the VMs in view of "static or predetermined allocation sequences" in such a way that the VMs do not no tice the bare machine resources to be shared.

D2 relates to the problem of running, on a single computer, several operating systems (OS) side by side and proposes a system alternative to - and supposedly simpler than - prior art systems based on virtual machines or on a micro kernel. According to this system, "external I/O devices" to be used by the OSs are registered during an "initialization stage of the first OS" and devices registered for one OS cannot be re served by another one. Likewise, "memory areas" are exclusively allocated to individual OSs.

D5 discloses support for operating systems which are "co-resident" on the same machine. Specifically, D5 proposes to "partition the central processor and other system resources into two virtual machines - a machine running a ... general purpose operating system and a

machine running a real time kernel" RTK. The resources are distributed over the two virtual machines either by means of multiplexing or by partitioning.

Assessment of the invention

While the board concedes that the term "video game con sole" has long been widely used, it disagrees that this term has a clear and established technical meaning in the art. The board therefore concludes that the term "video game console" as used in the claims refers broadly to a computing device running a video game application but does not, per se, imply any further technical features. The board also disagrees with the appellant that the claimed reference to a "video game console" and a "video game" places the invention in a well-defined field of "multimedia" or "video game consoles" which would be sufficient to exclude "the art of virtual machines" or "real-time computing within general purpose operating systems" as relevant prior art.

In the board's view it is obvious within the systems according to D1, D2 and D5 for one VM or OS on a given computer to run a video game. The board notes in this regard that D1 specifically mentions "multimedia applications". Based on a broad interpretation, this configuration qualifies the computer as a "video game console". It is also obvious for the same computer to run, on another VM or OS, a "system application [which] provides ... network capability", say a Web client.

The board however shares the appellant's view that the different VMs or OSs in this scenario do not interact with each other in the claimed manner, namely in that one provides the network capability as a system service to an application running on the other one.

The board moreover considers that the problem of enabling such interaction does not naturally arise in the context of the prior art. **The applications running on different virtual machines or different co-resident stems are not normally aware of each other, nor meant to be aware of or directly communicate with each other**.

Therefore, the board considers that documents D1, D2 and D5 are unsuitable starting points for the assessment of inventive step of the invention as now claimed.

Moreover, the board considers that the skilled person starting from some video game console or, in view of the above discussion, a conventional PC and addressing the **problem** of providing, within that device, system services and an application with a reliable access to hardware resources **would not normally** turn to prior art on **scheduling virtual machines or co-resident operating systems** for help.

Therefore, the reasons in the decision under appeal do not support the finding that the subject-matter of claims 1 and 21 lacks an inventive step over these documents. The decision must thus be set aside.

T 1539/09 (Programmiersystem/RENNER) of 18.7.2013
Programmiersystem

Erfinderische Tätigkeit - beide Anträge (nein)

Name des Anmelders: Renner, Peter
Anmeldenummer: 04014708.4
IPC-Klasse: G06F 9/44
Angeführte Entscheidungen: T 0258/03, G 0003/08

Kammer: 3.5.06

http://www.epo.org/law-practice/case-law-appeals/pdf/t091539du1.pdf

Leitsatz:
Der Tätigkeit des Programmierens - im Sinne des Formulierens von Programmcode - ist ein mentaler Vorgang, wenigstens soweit sie nicht im Rahmen einer konkreten Anwendung oder Umgebung in kausaler Weise der Erzielung einer technischen Wirkung dient. Die Definition und Bereitstellung einer Programmiersprache per se trägt daher nicht zur Lösung eines technischen Problems bei, selbst wenn die Wahl der programmiersprachlichen Ausdrucksmittel dazu dient, den mentalen Aufwand des Programmierers zu reduzieren.

Anspruch 1 des Hauptantrags lautet wie folgt:

"Computergestütztes Verfahren zum Erstellen und/oder Abarbeiten von Programmcode (Softwarecode), mit zumindest einer Visualisierungsoberfläche zur Darstellung von festlegbaren Objekten, über welche bei der Abarbeitung des Programmcodes Information, insbesondere Daten eingegeben und ausgegeben werden, wobei mittels des erstellten Programmcodes schreibend und lesend auf Objekte der Visualisierungsoberfläche zugegriffen wird, und wobei der Programmcode aus einzelnen Programmbausteinen zusammengesetzt wird, und wobei Programmbausteine der Kategorie Ablauf und Funktion zur Auswahl bereitgestellt werden;

dadurch gekennzeichnet, dass die Programmbausteinkategorie Ablauf die Bausteintypen Ablaufbaustein (9), Startbaustein (8, 13), Ereignisbaustein (11) und Endbaustein (10, 17) umfasst, und wobei die Programmbausteinkategorie Funktion den Bausteintyp Funktionsbaustein (12) umfasst, und Vorschriften zum Verknüpfen von Programmbausteinen vorgegeben werden, die den Aufruf der Programmbausteine und deren serielle oder gleichzeitige Abarbeitung regeln,

- so dass Programmbausteine der Kategorie Ablauf immer seriell verknüpft werden wodurch ihre Arbeitsweise chronologisch ist, so dass bei einem Programmablauf zur gleichen Zeit immer nur ein Ablaufbaustein ausgeführt wird,

- so dass bei einer Verzweigung der Programmablauf durch die Festlegung einer Bedingung zu einem von mehreren unterschiedlichen Ablaufbausteinen geführt wird,

- so dass der Start eines Ablaufs durch einen Startbaustein erfolgt und der Startbaustein so eingerichtet ist, dass er einen Ablaufbaustein oder einen Endbaustein aufruft und der Endbaustein den Abschluss eines Ablaufes bildet,

- so dass der Bausteintyp Ereignisbaustein (11) der Kategorie Ablauf durch Ereignisse, die im Programmablauf eintreten, aufgerufen wird, und der Ereignisbaustein seinerseits Ablaufbausteine und Funktionsbausteine aufrufen kann, und

- so dass Funktionsbaustein durch einen Bausteintyp der Kategorie Ablauf aufgerufen wird, und durch den Funktionsbaustein Aufgaben erledigt werden, die parallel zu dem aufrufenden Baustein ausgeführt werden, wobei der Funktionsbaustein selbst keinen Programmbaustein aufrufen kann,

und weiterhin den ausgewählten Programmbausteinen jeweils ein Symbol (8-13) zugeordnet ist, dass [sic] in einem den Programmablauf wiedergebenden Strukturschaubild (4) dargestellt wird und weiterhin die Symbole (8-13) unter Berücksichtigung der vorgegebenen Regeln automatisch mittels Linien zur Darstellung der seriellen und parallelen Abarbeitung miteinander verbunden werden, wodurch die Programmstruktur und der Programmverlauf dargestellt werden."

Die Erfindung

richtet sich auf eine graphische Programmsprache und - umgebung, die es einem Anwender ermöglichen soll, ohne großen Lernaufwand oder besondere Expertise Programmcode zu erzeugen. **Die Wirkung, den mentalen Aufwand des Anwenders bei der Programmerstellung zu reduzieren, ist an sich nach Ansicht der Kammer keine technische**. Das gilt umso mehr, als sie für alle Programme gleichermaßen angestrebt wird, also unabhängig davon, welchem Zweck das entwickelte Programm dienen soll.

Beim Programmieren - im Sinne des Formulierens von Programmcode, des "Kodierens" - muss der Programmierer aus dem Repertoire einer Programmiersprache diejenigen Formulierungen wählen, die bei Ausführung des Programms zum gewünschten Ergebnis führen. Die Programmiersprache definiert dabei zum einen, welche Formulierungen überhaupt als "wohlgeformt" zu lässig sind (Syntax), und zum anderen, welches "Verhalten" einem Programm zugeschrieben wird (operationale Semantik). Die Wahl der Programmiersprache kann im Einzelfall Einfluss da rauf haben, wie leicht (und manchmal ob überhaupt) sich die Lösung eines Problems als ein Programm formulieren lässt.

Die Tätigkeit des Programmierens selbst jedoch ist nach Ansicht der Kammer ein im Wesentlichen mentaler Vorgang - vergleichbar der Verbalisierung eines Gedankens oder der Formulierung eines mathematischen Sachverhalts in einem Kalkül -, der es mit den Worten der Großen Beschwerdekammer aus G 0003/08 (Amtsbl. EPA 2011, 10; Gründe 13.5.1) an "weiteren technischen Überlegungen" fehlt. Das gilt wenigstens dann und insoweit als, wie im vorliegenden Fall, die Tätigkeit des Programmierens nicht im Rahmen einer konkreten Anwendung oder Umgebung in kausaler Weise der Erzielung einer technischen Wirkung dient.

Aus diesem Grund schließt die Kammer, dass die Definition und Bereitstellung einer Programmiersprache oder programmiersprachlicher Mittel per se nicht zur Lösung eines technischen Problems beiträgt.

Die Erfindung umfasst die Definition einer graphischen Programmiersprache, deren Programme Strukturschaubilder aus Symbolen und Linien sind, die entsprechend gewisser Regeln zusammen gefügt sein müssen (Syntax). Teil dieser Definition ist die Festlegung, wie jeder einzelne Baustein auszuführen ist und wie sich daraus das Ablaufverhalten eines gesamten Programms ergibt (operationale Semantik). Insbesondere die Bereitstellung von Funktionsbausteinen zur parallelen Ausführung und die Festlegung, dass diese von Ablaufbausteinen aufgerufen werden aber ihrerseits keine Programmbausteine aufrufen können, ist nach Ansicht der Kammer ein Teil der definierten Programmiersprache.

In den Ansprüchen des Hauptantrags nicht Teil der Programmsprache sind nur die Bereitstellung einer "Visualisierungsoberfläche" sowie dass die "Symbole ... unter Berücksichtigung der vorgegebenen Regeln automatisch mittels Linien zur Darstellung der seriellen oder parallelen Abarbeitung mit einander verbunden werden" (Hervorhebung durch die Kammer). Die Kammer rechnet diese Merkmale der Programmierumgebung zu, die den Anwender dabei unterstützt, konkrete Programme einer gegebenen Programmiersprache zu erzeugen.

Visualisierungsoberflächen sind ein elementarer Bestandteil von Programmierumgebungen aller Art. Darüber hinaus ist es ist eine für den Fachmann allgemein bekannte Tatsache, dass der mechanische Vorgang des Programmierens, also das Erzeugen eines konkreten Programms, aufwändig und fehlerhaft sein kann. Das gilt gleichermaßen für text-basierte wie für graphische Programme, also unabhängig davon, ob ein Programmtext "eingetippt" werden muss oder ob graphische Programmbausteine auf dem Bildschirm angeordnet werden müssen. Die Kammer hält es da her für **naheliegend** - wie im Übrigen auch für **grundsätzlich bekannt** - dass Entwicklungsumgebungen dem Programmierer, soweit möglich, mechanische Aufgaben bei der Programmierung abnehmen sollen. Im konkreten Fall hält es die Kammer somit auch für **naheliegend**, dem Benutzer die manuelle Eingabe von Verbindungslinien zwischen Symbolen abzunehmen und diese automatisch vorzunehmen.

Daher kommt die Kammer zu dem Ergebnis, dass der Gegen stand der Anspruchs 1 gemäß Hauptantrag keine erfinderische Tätigkeit aufweist, Artikel 56 EPÜ 1973.

T 0401/10 (Restricted trading/SAP) of 10.7.2013
RESTRICTED PARTY SCREENING

Inventive step - (no)

Applicant name: SAP AG
Application number: 03789357.5
IPC Class: G06F 17/60
Cited decisions: T 0641/00

Board: 3.5.01

http://www.epo.org/law-practice/case-law-appeals/pdf/t100401eu1.pdf

The invention

concerns trading, and deals with the problem of identifying parties with whom business should not be conducted. That may be because of legal restrictions, but it could be for any reason. The aim of the invention is to flag transactions that involve a party with whom trade is restricted.

To that end, a module monitors transactions and looks for party identifiers. If any are found, they are put into some normal form, and compared with an index of restricted parties which are in the same normal form. If there is a match, the transaction is flagged.

Claim 1 according to the main request reads as follows:

A computer-implemented method of blocking workflow transactions in an enterprise resource planning system (12) residing on one or more servers computers, the method comprising:

monitoring, by a trading party monitor module (80) residing on the same server computer as a part of the enterprise resource planning system (12), the work- flow transactions of the enterprise resource planning system (12) for party identifying information (14) of a potential trading party;

receiving, by a party identification normalizer (84) being part of the trading party monitor module (80), of the identifying information (14);

normalizing, by the party identification normalizer (84), at least a portion of the received identifying information (14) to generate a normalized identifier (16) for the potential trading party as a normalized string, wherein normalizing comprises following a number of conversion steps to reduce the information to be normalized according to a set of conversion rules;

comparing, by the party identification normalizer (84), the normalized identifier (16) with one or more other normalized identifiers (22) corresponding to parties with whom trade should be restricted;

generating, by a party match generator (86, 90) being part of the trading party monitor module (80), a match signal if the normalized identifier (16) for the potential trading party matches one of the normalized identifiers (22) corresponding to parties with whom trade should be restricted based on the comparison; and

placing, by the enterprise resource planning system (12), a block indicator on the workflow transaction based on the match signal to selectively block the workflow transaction with the potential trading party.

Claim 1 according to the auxiliary request read identically, except for the steps of normalizing and comparing , as shown by the added emphasis:

normalizing, by the party identification normalizer (84), at least a portion of the received identifying information (14)to generate a normalized identifier (16) for the potential trading party as a normalized string, wherein normalizing comprises following a number of conversion steps to reduce the information to be normalized to a lowest common denominator according to a set of conversion rules so as to reduce the variability among various pieces of information;

comparing, by the party identification normalizer (84), the normalized identifier (16) with one or more other normalized identifiers (22) corresponding to parties with whom trade should be restricted, the parties being listed in one or more restricted parties sets (20) that correspond to a restricted party list, wherein the comparison is conducted by using the normalized identifier (16) as a search key.

The Board's reasoning

The first issue is the appellant's contention that a "transaction" is technical per se, because it means an operation in a database. Claim 1 according to both requests refers to "workflow transactions in an enterprise resource planning system." That system resides "on one or more server computers." The computers form the technical infrastructure that supports the resource planning system, but resource planning, and systems of doing it, are not inherently technical. It is possible to make plans mentally, or using pencil and paper. In the latter case, the pencil and paper are the technical infrastructure. In the Board's judgment, **resource planning is an administrative or business matter. That is not changed if some technical assistance is used**.

In the present case, a **"workflow transaction"** is something that may involve a party with whom trade is restricted. It might be a proposal to buy a particular product at a particular time from a particular vendor. According to the two versions of claim 1, it resides on one or more server computers. It is stored in a technical manner, but **remains an administrative or business transaction.**

The second issue is the appellant's argument regarding passing messages on a piece of paper. The argument is that, if a method that could be implemented by passing such messages is, by virtue of that fact, non-technical, then no telecommunication method would be patentable. The Board does not accept that. An example might be a comparison of post and telegraph. Any message sent by telegraph could be sent by post. If the appellant's argument were correct, there would be, or would have been, no valid patents for telegraphy. In the Board's view,

telegraphy involved many technological issues: the design of cables, the generation of suitable currents, the encoding of information, the detection of signals, the coupling of one circuit with another are just a few examples. **Each of those presented a technical challenge and a solution would have supported a technical effect** on which a claim of inventive step could be founded. Nevertheless, a method of organising a dinner party, characterised by sending invitations and receiving replies by telegraphy would engage no technical issues other than how to send messages by telegraphy, a problem already solved by the telegraph system itself. In the Board's view, the fact that a method could be implemented by passing messages on pieces of paper might well have consequences for patentability, but in no way precludes patentability when technical issues are engaged.

The third issue to be considered is the appellant's argument that every step in the claimed method (both requests) is technical, because they are all carried out by technical means. That is correct. Nevertheless, **a method step may be technical and, at the same time, implement a non-technical step.** An example might be communication of the word "yes." It could be accomplished non-technically, by speaking or by sign language. It could be done technically, by writing it on a piece of paper, sending it by telegraph, or transmitting it over a computer network. All the technical implementations are technical steps, but they all serve the non-technical end of communicating the word "yes."

The Board sees the following basic method as underlying the invention. Workflow transactions are monitored:

- Any party identifiers are found.
- Any found party identifier is put into some normal form.
- The normalized party identifiers are compared with a list of restricted parties, also in the same normal form.
- Indicating a match, if a match is found.
- Indicating that a transaction should be blocked, if a match has been indicated.

The appellant has argued that normalization is technical. Claim 1 (both requests) does not specify any particular manner of normalization, and the Board's view is that it includes the writing of a name using only upper case letters, or in the form "surname, given name." Indeed, the **concept of normalization is so broad, that it covers even the use of correct, rather than incorrect, spelling. There is, therefore, no technical implication in the term "normalization"** in the present context.

Having rejected the appellant's arguments regarding technicality, the Board concludes that there is indeed a non-technical method underlying the invention defined in the two pending versions of claim 1, and that it is **legitimate to consider inventive step from the point of view of the automation of that method using a conventional computer system**.

The Board must decide whether it would have been obvious to the skilled person, who had the task of automating the method outlined above, to provide the features defined by claim 1.

In order to arrive at the claimed invention, the skilled person would have to implement the invention on a computer, provide a "trading party monitor module" on the same server as (part of) the enterprise planning system, a "party identification normalizer," and a "party match generator." She would also have to arrange for the enterprise resource planning system

to "selectively block the workflow transaction," when that is called for. When implementing the normalization, she would have to do it by "following a number of conversion steps to reduce the information to be normalized according to a set of conversion rules." Computers are good at storing data, processing it, and comparing it. To **implement the method on a computer would have amounted to no more than using a computer to do what computers were good at. That much would have been obvious**.

The non-technical method requires the monitoring of workflow transactions and the finding of any party identifiers. Any device or program module that does that can be termed a "trading party monitor module." The **skilled person, would, therefore, have no choice but to provide such a module**. She would, however, face a choice as to where to position it. Since it has to interact with the enterprise resource planning system, using one of its servers would have been one of the obvious choices.

The non-technical method requires the normalization of party identifiers. Any device which does that can be called a "party identification normalizer." According to claim 1, it must receive the party-identifying information, but that is implicit in the method. It must also be part of the monitoring module, but that is only a matter of nomenclature. If one regards the normalization and comparison as part of the monitoring, then, in the technical implementation, it will be part of the monitor module. The normalizer must make the comparison, but that, again, is a matter of nomenclature. Finally, any normalizer that works must take an identifier and put it into some normal form. That counts as a conversion step in accordance with some conversion rule. Presumably, also, **once an identifier has been normalized, there is then less information (fewer identifiers) in need of normalization. In that sense, there is a reduction in the information to be normalized**. The Board, therefore, considers that any technical implementation of the normalization and comparison steps must involve a "party identification normalizer" as defined in claim 1.

The non-technical method requires that a comparison be made, and that matches be somehow flagged. Whatever does that can be called a "party match generator." Finally, the non-technical method requires that, if a match is found, some indication be given that the corresponding trade should not take place. **The skilled person seems to have a choice as to how that is done, but the Board considers that putting the indication in the enterprise resource planning system would be an obvious one. It would have the evident advantage that the planning system could take account of it.**

In summary, the skilled person has little choice about the provision of the features defined in claim 1, and where there is a choice, it would have been obvious to choose what claim 1 defines. The Board concludes that the main request cannot be allowed, because the subject matter defined by claim 1 **does not involve an inventive step (Article 56 EPC 1973) over a general-purpose computer system. Since such a system is notoriously known, no search was necessary.**

T 1137/09 (Operating system partitions/ORACLE) of 12.7.2013
Method and system for associating resource pools with operating system partitions

Original disclosure (yes)
Inventive step (yes)

Applicant name: Oracle America, Inc.
Application number: 04252689.7
IPC Class: G06F 9/46

Board: 3.5.06

http://www.epo.org/law-practice/case-law-appeals/pdf/t091137eu1.pdf

The application relates to isolating processes in "non-global operating system partitions" (also called "zones"). The partitions reside on top of one single operating system kernel. An isolated process can only use resources from a resource pool associated to its partition. The resource pool can contain file systems, logical network interfaces, as well as processors, memory or any other system resource. The enforcement of the partition boundaries is carried out by the kernel.

Claim 1 reads as follows:

"1. A method performed by an operating system executed on a computer system (500), the method comprising:

establishing, within a global operating system environment (100) provided by the operating system and having a kernel (150), a plurality of non-global operating system partitions(140a, 140b) which serve to isolate processes(170) running within one non-global operating system partition from other non-global operating system partitions within the global operating system environment, wherein enforcement of boundaries between the non-global operating system partitions is carried out by the kernel:

associating, in an association data structure (204), a zone ID for a particular non-global operating system partition with a reference to a first resource pool (202) comprising one or more resources, wherein the resources in the first resource pool are a subset of the total set of resources available on the computer system; and

ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool, including associating each process running within the particular non-global operating system partition with the first resource pool in a data structure associated with the process using the zone ID and the reference to the first resource pool;

receiving an indication that the particular non-global operating system partition is to be associated with a second resource pool instead of the first resource pool, wherein the second

resource pool is different from the first resource pool, and wherein the second resource pool comprises one or more resources;

associating, in the association data structure, the zone ID for the particular non-global operating system partition with a reference to the second resource pool instead of the first resource pool; and

ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the second resource pool including associating each process running within the particular non-global operating system partition with the second resource pool instead of the first resource pool in the data structure associated with the process using the zone ID and the reference to the second resource pool.

Inventiveness of claim 1

The appealed decision identifies as the difference between the refused claim 1 and D1 that in claim 1 the operating system (OS) kernel enforces the boundaries between the partitions instead of the hypervisor as in D1. The examining division agrees that kernel and hypervisor are different, however the "exact functionality of the kernel" is said not to be "defined" with the exception of the functionality that takes care of the enforcement of the partitions/zones. Since a portion of the hypervisor code shares the level of the OS kernel, it was an obvious choice of design to distribute the required functionality over components (i.e. to move the partition enforcement from the hypervisor to the kernel) or "equivalently to rename/relabel said functionality".

The grounds of appeal argue in response that a "kernel" is a very well-known concept in the art, and that the skilled person understands what a kernel is and does, over and above the features specifically recited in the claim. Further, the hypervisor-based system of D1 has one OS kernel booted in each of the partitions, whereas the claimed invention has only one single kernel which creates the partitions on top of itself. This allows a cleaner partition management in the single kernel instead of "having to bolt the hypervisor management ad hoc into one of the OS kernel partitions as in D1" (i.e. the hypervisor code sharing the level of an OS kernel). Therefore, the kernel of the claim is not a relabelled hypervisor; they are different.

The board agrees. According to what would appear to be the normal terminology, the virtualisation technique used by the claimed invention is called "operating system-level virtualisation" (e.g. see http://en.wikipedia.org/wiki/Operating_system-level_virtualization). In that field, a "partition" or "zone" is also called a "container", "virtual private server" or "jail". The expression "jails" is mentioned in the US provisional application US 2003 469558 P from which the current application claims priority. Part 1 "Virtualisation and Namespace Isolation in Solaris", chapter 2 "Related work", page 7, paragraph 2, last sentence of this priority application reads:

"Zones are based on the basic idea of jails, but extend the concept to provide a comprehensive facility that is integrated with core operating system services."

OS-level virtualisation has to be separated from the field of "hardware (HW) virtualisation" where one or more complete computers ("virtual machines") are simulated at the hardware level by a control program, usually called a "hypervisor" or "virtual machine monitor". Each

virtual machine has then to boot its own OS, in contrast to OS-level virtualisation where one kernel simulates one or more running operating systems as containers. Thus, it is not only a question of moving functionality from the hypervisor to the kernel, but a question of different functionalities in the OS-level virtualised kernel and the HW-virtualised hypervisor of D1. It follows that the argumentation of the appealed decision is unable to demonstrate that refused claim 1 lacks an inventive step over D1.

However, the board considers D2 to be the closest prior art document to current claim 1. D2 discloses several (non-global) operating system partitions which serve to isolate processes ("... of a partitioning solution, in which customer processes and storage are isolated from those of other customers", and "The Jail Partitioning Solution"). The kernel enforces the boundaries between the partitions ("Implementation jail in the FreeBSD kernel."). A particular partition is associated with a resource pool comprising several resources ("When a jail is created, it is bound to a particular file system root."; and "Each jail is bound to a single IP address:"). The processes running in a particular partition are allowed to utilise only the resources in the associated resource pool ("Accessing network resources not associated with the jail is prohibited."; "A process in a partition is referred to as 'in jail'."; "Membership in a jail involves a number of restrictions: access to the file name-space is restricted in the style of chroot(2), the ability to bind network resources is limited to a specific IP address,")

The board considers not to be disclosed in D2 those features which relate to:
- changing the association of a partition from a first to a second resource pool,
- an association data structure (204) using a zone ID and a reference to a resource pool, and
- a second data structure associated with each process containing a reference to the resource pool of the respective process.

As to the first point, the appellant argued that changing the resource pool would have the technical effect of increasing the flexibility of managing the resources of a partition. However, firstly the board considers that it is an **obvious wish to make the association of resources to a partition modifiable**. Secondly, the board considers that **"increasing the flexibility" is in general too vague to be considered an appropriate technical effect** for the assessment of an inventive step. Furthermore D2 discloses modifying the file system of a jail (= partition) in the host environment. This can be considered to be changing a resource of a jail. Changing all the resources at once (= changing the resource pool) is **merely a repeated application of this principle**. Therefore, this feature group alone does not establish an inventive step.

As to the second point, at first glance it would seem arguable that it would be an obvious choice of a skilled person implementing the invention to use two designators (e.g. IDs or references; one for the partition and one for the resource pool) to store the association between them in a data structure.

However, one could wonder why after all identifiable (e.g. named) resource pools are used in the invention, since a change of the set of resources available to a partition could be easily effected by de-associating each single resource of the first set of resources from the partition, and associating each resource of the second set of resources with the partition. The explanation is that **resource pools and the redundant storing per process of its association** to a resource pool in a second data structure **serves the purpose of saving time to access the resources available to a process in its partition**.

Without the second data structure and without resource pools, the operating system would have to first look up the zone ID for the process in a table, and then look up the association data structure with this zone ID to control access to any resource associated with the partition and its process. Adding the second data structure alone (without named resource pools), the operating system would have to look up this data structure using the process ID to control access to any resource. The data structure would have to store references to all the resources available in the jail.

But **when one uses named resource pools in addition to the second data structure, then there is only one lookup using the process ID to the reference of the resource pool**, i.e. to all associated resources. And **only one reference for all resources has to be stored**. Taking the number of processes which usually exists, this **reduces the storage requirements, while at the same time the access time is shortened by using the second data structure**.

To summarise, this combination of the second data structure with references to resource pools **solves in a non-obvious way the technical problem of shortening the access time to system resources while being storage efficient**. Thus, claim 1 is inventive in the sense of Article 56 EPC.

T 1705/10 (Anpassung der Menüführung abhängig vom Aufenthaltsort/VODAFONE) of 19.7.2013

Anpassungsverfahren für die Menüführung von Mobilfunkendgeräten

Neuheit und erfinderische Tätigkeit - Hauptantrag (ja - nach Änderung)

Name des Anmelders: Vodafone Holding GmbH
Anmeldenummer: 04722842.4
IPC-Klasse: G06F 3/033

Kammer: 3.5.05

http://www.epo.org/law-practice/case-law-appeals/pdf/t101705du1.pdf

Der unabhängige Anspruch 1 gemäß dem Hauptantrag lautet:

"1. Verfahren zum Individualisieren der Menüführung eines Mobilfunkendgeräts mit einer hierarchischen, menügesteuerten Anzeige, wobei Menüpunkte (20, 20a, 22, 22a, 24, 24a, 26, 26a) nach Auswahlhäufigkeit in der Menühierarchie sortiert werden, wobei die Menüführung zentral in einer computergesteuerten Verwaltungseinheit eines Mobilfunknetzes sortiert wird und mehrere individuelle Menüprofile für die Menüführung angelegt werden, die automatisch nach dem Aufenthaltsort sortiert werden, dadurch gekennzeichnet, dass der Anwender unter den individuellen Menüprofilen für die Menüführung eines manuell auswählen kann."

D5 offenbart ein Individualisieren der Menüführung eines Mobilfunkendgeräts anhand der Auswahlhäufigkeit.

Darüber hinaus offenbart D5 auch, dass die Menüführung zentral in einer computergesteuerten Verwaltungseinheit eines Mobilfunknetzes sortiert wird.

D5 offenbart darüber hinaus auch die Möglichkeit, mehrere individuelle Menüprofile zu erzeugen. Daneben können Menüpunkte automatisch nach dem Aufenthaltsort (des Benutzers des Mobilfunktelefons) sortiert werden.

D5 macht keine explizite Angabe darüber, dass auch Menüprofile nach dem Aufenthaltsort sortiert werden können und unterscheidet sich in diesem Punkt vom Gegenstand von Anspruch 1. Alleine aus diesem Grund ist der beanspruchte Gegenstand neu gegenüber D5.

Der Wortlaut von Anspruch 1 spezifiziert nicht explizit, dass die im Anspruch erwähnte manuelle Auswahl aus den sortierten Menüprofilen erfolgt. Insbesondere ist auch nicht explizit definiert, dass automatisch nach dem Aufenthaltsort sortierte Menüprofile angezeigt werden, um daraus eine manuelle Auswahl zu ermöglichen. Auch die Beschreibung der vorliegenden Anmeldung geht in diesem Punkt nicht über die Informationen des Anspruchs hinaus:

"In einer weiteren Ausgestaltung lassen sich mehrere individuelle Menüprofile erzeugen. Je nach Bedarf kann der Anwender das geeignete Profil aufrufen, welches er gerade benötigt. Auf diese Weise kann beispielsweise ein Menüprofil für die Arbeit und eines für private Zwecke erzeugt werden. Vorteilhafterweise lassen sich auch diese Menüprofile wiederum in der Menühierarchie automatisch beispielsweise entsprechend der aktuellen Tageszeit, dem Datum (Wochentag/Wochenende) und dem Aufenthaltsort sortieren. Darüber hinaus kann der Anwender ein gewünschtes Menüprofil manuell auswählen".

Trotz der sehr knappen Offenbarung der Anmeldung ergibt sich daraus implizit (und der Fachmann liest den Anspruch 1 implizit so), dass die sortierte Auswahl angezeigt wird, weil nur so eine Möglichkeit zur manuellen Auswahl besteht. Bei der im zweiten zitierten Absatz erwähnten manuellen Auswahl eines Menüprofils kann davon ausgegangen werden, dass es sich um eine andere Auswahlmöglichkeit handelt als die im ersten zitierten Absatz erwähnte Auswahlmöglichkeit von Menüprofilen ohne eine Sortierung.

D5 nun beschreibt eine manuelle Eingriffsmöglichkeit durch "user personal preferences". Manuelle Eingaben wirken sich in Form veränderter "user preferences" dahingehend aus, dass ein entsprechendes user profile vom Server zur Erzeugung eines angepassten Menüprofils herangezogen wird. Außerdem können bei der Erzeugung dieses Menüprofils weitere Parameter einbezogen werden, z.B. auch der Aufenthaltsort des Benutzers.

Auch wenn D5 damit ähnliche Parameter zur Anpassung von Menüprofilen offenbart, so besteht ein **wesentlicher Unterschied** zum beanspruchten Gegenstand darin, dass erfindungsgemäß mehrere automatisch nach Aufenthaltsort sortierte Menüprofile angezeigt werden und daraus eine manuelle Auswahl erfolgen kann. Damit wird der **Vorteil** erreicht, dass für verschiedene Aufenthaltsorte unterschiedliche Menüführungen vorgesehen sein können, die je nach aktuellem Aufenthaltsort z.B. auf Basis der Information über die aktuelle Funkzelle automatisch so sortiert werden können, dass die dem aktuellen Aufenthaltsort

entsprechende Menüführung an einer Stelle angezeigt wird und mit einer kurzen Klickdistanz ausgewählt werden kann. Dagegen wird bei D5 jedes Mal ein spezielles Menüprofil eigens erzeugt. Dieser Unterschied ist aus Sicht der Kammer im anspruchsgemäßen Zusammenhang auch nicht durch das allgemeine Fachwissen nahegelegt.

Der Gegenstand von Anspruch 1 unterscheidet sich damit in nicht naheliegender Weise von der Offenbarung von D5 (Artikel 56 EPÜ 1973).

Der weitere Stand der Technik D4 offenbart:

"Die einzelnen anwählbaren Funktionen sind mit einer Priorität belegt. Bei Bedarf werden die in einer Prioritätenliste zusammengestellten Funktionen an das aktivierte Telekommunikationsgerät 1 gesendet und entsprechend ihrer aktuellen Priorität auf der Anzeige 4 des Telekommunikationsgerätes 1 dargestellt. Im Regelfall ist vorgesehen, dass die Funktion mit der höchsten Priorität auf der Anzeige 4 an erster Stelle dargestellt wird. Die weiteren Funktionen der Prioritätenliste werden nach fallender Priorität angezeigt."

Dabei kann ein Benutzer eine individuelle Prioritätenliste für die Menüführung aufstellen. Bei dem Telekommunikationsgerät kann es sich um ein Mobiltelefon.

Darüber hinaus offenbart D4 auch, dass die Menüführung zentral in einer computergesteuerten Verwaltungseinheit sortiert wird.

D4 beschreibt zwar die **Möglichkeit, mehrere verschiedene Menüprofile zu verwalten**, jedoch wird an keiner Stelle ein Hinweis auf eine automatische Sortierung von Menüprofilen nach dem Aufenthaltsort und deren Anzeige zur manuellen Auswahl gegeben.

Der Gegenstand von Anspruch 1 ist somit auch ausgehend von D4 neu und erfinderisch (Artikel 54(2) und 56 EPÜ 1973).

Auch eine Gesamtschau der beiden Druckschriften D4 und D5 führt nicht zum Gegenstand von Anspruch 1.

T 1670/07 (Shopping with mobile device/NOKIA) of 11.7.2013
METHOD AND SYSTEM OF SHOPPING WITH A MOBILE DEVICE TO PURCHASE GOODS AND/OR SERVICES

Inventive step - (no - not technical)

Applicant name: Nokia Siemens Networks Oy
Application number: 00960904.1
IPC Class: G06F 17/60

Board: 3.5.01

Cited decisions: G 0001/04, T 0603/89, T 0026/86, T 0158/88, T 1741/08, T 0362/90, T 0115/85, T 0382/96, R 0011/08

http://www.epo.org/law-practice/case-law-appeals/pdf/t071670eu1.pdf

The invention

The application acknowledges systems that show on a mobile device available products as a shopper moves around in a shop. In addition, D1 describes a system for finding a single vendor in advance that can fulfill a customer's order, possibly including more than one item, based on their relative locations, e.g. the nearest one. The invention is essentially that the shopper enters two or more desired goods/services into the mobile device before going shopping and the device displays a shopping itinerary showing an order (sequence) in which the shopper can visit a group of vendors to obtain them. The itinerary is a function of a user profile, e.g. requiring shortest distance between vendors, or goods at cheapest purchase price.

Claim 1 of the main request reads as follows:

"A method of facilitating shopping with a mobile wireless communications device (12) to obtain a plurality of purchased goods and/or services from a group of vendors (14) located at a shopping location (16) comprising:

communicating from the mobile wireless communications device with at least one server (18) a selection of two or more goods and/or services to be purchased by a user of the mobile wireless communications device on or before the user shops at the shopping location;

the at least one server, in response to information stored therein regarding vendors located at the shopping location and the goods and/or services offered by the vendors and the selection of the plurality of goods and/or services to be purchased by the user, causing at least an identification of the vendors from which available ones of the two or more goods and/or services may be purchased and the available ones of the two or more goods and/or services to be transmitted to the mobile wireless communications device; and

the mobile wireless communications device providing to the user an identification of the available ones of the goods and/or services to be purchased and an itinerary (120) of the user setting forth at least a choice of an order in which the user visits the identified vendors to obtain the goods and/or services to be purchased wherein the itinerary is a function of at least one profile of the user."

The main request differs from D1 in that the user can obtain goods from a plurality of vendors located at the shopping location and in that the user is provided with an itinerary with the choice of an order to visit the identified vendors, the itinerary being a function of a profile of the user.

The examining division considered that **obtaining goods from a plurality of vendors was not technical and was not relevant for assessing inventive step**. The **problem** was seen to

be **how to provide a technical means to optimise an itinerary**. By including the feature of the itinerary in the problem, it appears that the division must have considered that it did not contribute to inventive step, i.e. was also non-technical. The solution of the provision of the choice of an order of visiting vendors and making the itinerary a function of a user profile were considered to be obvious. However, the Board goes further than the examining division and does **not consider that the features of providing a choice of an order of visiting vendors and making the itinerary a function of the user profile have any technical effect either**. In the Board's view, the overall effect of the method, namely **to produce an ordered list of shops, is not technical**.

The appellant considers that the selection of a group of vendors at a shopping location contributes to the technical character of the invention. Decision G 1/04 is referred to as noting that a non-technical feature may interact with technical elements so as to produce a technical effect. This decision refers to T 603/89 - Marker/BEATTIE OJ EPO 1992,230 as the basis for this statement.

This decision in turn cites T 26/86 - X-ray apparatus/KOCH & STERZEL OJ EPO 1988,19 as an example where the mix of technical (X-ray apparatus) and non-technical features (computer program) as a whole produces a technical effect (extending of the life of an X-ray tube). It also gives the counterexample of **T 158/88** Character form/SIEMENS OJ EPO 1991,566 where the **technical features** (displaying characters on a screen) **and non-technical features** (processing data according to the specific selection criteria) **produce an effect** (replacing data representing a specific character form by data representing the same character in a different form) **that differs only in the information displayed, and is not technical**. In T 603/89 itself, the technical features (physical marker that is placed on keyboard of an instrument) and non-technical features (displaying numbers and notes) produce an effect (improvement of a teaching method) that is an improvement of a method for performing a mental act and thus also not technical.

In the present case, the appellant argues that the alleged non-technical feature of the information regarding the group of vendors "interacts with technical elements, in the form of the server 18, to produce a technical effect in the selection of vendors and the transmission of processed information regarding that selection to the mobile wireless communications device". However, in the **Board's view**, this is an **instance of the well-known argument that could be termed the "technical leakage fallacy"**, in which the intrinsic technical nature of the implementation leaks back into the intrinsically non-technical nature of the problem. In this case, the "**selection of vendors" is not a technical effect and the mere "interaction" with technical elements is not enough to make the whole process technical** as required by the jurisprudence. Similarly, the transmission of the selection is no more than the dissemination of information, which is in itself also not technical. These effects are more like those in T 158/88 and T 603/89 than in T 26/86 (supra). **Technical considerations only come into play once the relevant features are implemented**.

The appellant also argued that the difference of identifying a group of vendors rather than a single vendor as in D1 implied a problem of logistics, which was not a business method. However, the **Board** considers that a **logistic or navigation system that actually involves navigation to a particular place might have some technical element, but the present invention does not as it does not involve any physical elements, but simply indicates possible choices**. Moreover, in the Board's view, producing an itinerary is not technical as it

involves only standard human behavioural concepts such as going to the bank and then going to the supermarket. The appellant replied that the physical act of going to the locations conferred technical character on these thoughts.

Here again, the Board sees something of a well known argument that could be termed the "broken technical chain fallacy" after decision **T 1741/08 - GUI layout/SAP.** This decision dealt with the fairly common situation that arises in connection with graphic user interfaces (GUIs) where a technical effect might result from the user's reaction to information. The decision essentially concluded that a chain of effects from providing information to its use in a technical process is broken by the intervention of a user. In other words, **the possible final technical effect brought about by the action of a user cannot be used to establish an overall technical effect because it is conditional on the mental activities of the user.** This applies to the present case because **any possible technical effect depends on the user's reaction to the itinerary**.

The appellant also argued that according to **T 362/90 - Schaltanzeige für eine Gangschaltung/WABCO**, providing a status indication about the state of a system was a technical effect. It is true that T 115/85 - Computer□related invention/IBM OJ EPO 1990,030 states that giving visual indications automatically about conditions prevailing in an apparatus or system is basically a technical problem. In that case the system was the input/output device of a text processor. T 362/90 cites this decision in support of the technical character of a simultaneous optical display of a current and ideal gear selection based on conditions in a gearbox. In the Board's view, the display of **an optimal shopping itinerary is different because there is no comparable technical system since shopping is intrinsically non-technical. The availability of goods in a shop and information on shopping lists are not comparable with the status of a technical system**. Furthermore, although the system of the invention has a server and a mobile device that are undoubtably technical, the invention is not displaying information about the status of these devices themselves, but only non-technical information that they process.

In summary, therefore, the Board is of the opinion that **a technical effect may arise from either the provision of data about a technical process, regardless of the presence of a user or its subsequent use, or from the provision of data (including data that on its own is excluded, e.g. produced by means of an algorithm) that is applied directly in a technical process. In the Board's view, neither applies to the present case.**

Thus, in the Board's view, the appellant's formulation of the problem as **"the provision of a technique which has greater flexibility and can provide results tailored to a user's preferences" is not a technical problem** and is also far too general because it does not correctly take into account non-technical aspects. In the Board's view, the problem is the much more specific one of how to modify the prior art to implement the non-technical aspects, in this case how to plan a shopping trip (itinerary) that includes orders from different vendors.

The appellant stressed that the system of D1 only identified one facility whereas the invention identified a group of vendors and gave navigation information about how to visit them. If the system of D1 were to be used to order several items, it would only return information on a single vendor that could supply all the items. There might be no single vendor capable of doing this, or the vendor might be a long way away from the customer. The invention would

be able to find more than one vendor that together could fulfil the order. Thus the invention solved the problem of reducing the number of failed attempts to fulfil an order. In the Board's view, this is **another example of a standard argument, which could be termed the "non-technical prejudice fallacy"**. The argument essentially invokes non-technical aspects as a reason for not modifying the prior art, whereas these features cannot in fact contribute to inventive step. The question is not whether the skilled person would consider providing these features because that has already been decided in formulating the technical problem. **The question is simply how it would be done.** As mentioned above, in this case, the "how" comprises conventional hardware carrying out the tasks in an obvious way. In particular, there is **no technical reason why the skilled person would not have considered modifying the various parts of the system of D1, at least to the extent claimed**, to solve the problem posed.

It follows from the above, that in the Board's view, the appellant's analysis of why the repeated selection of vendors according to D1 is not equivalent to the claimed solution is moot. Accordingly the Board judges that claim 1 of the main request does not involve an inventive step (Article 56 EPC 1973).

First and second auxiliary requests

The first auxiliary request essentially adds the aspects that it is the mobile device that stores the user profile and determines the itinerary. In the Board's view, these are **routine design choices** that the skilled person would consider, depending on the circumstances, such as reducing data transmission as stated by the examining division. The appellant argued that in D1 the mobile device only functioned as an ordering device and did not perform any calculations so that there was no incentive to provide the features. However, the Board considers that the **skilled person does not need an explicit incentive to consider such limited and routine design choices**. Also the Board notes that the description mentions both possibilities and does not indicate any specific advantage for the claimed one.

Claim 1 of the second auxiliary request differs from claim 1 of the first auxiliary request by the explicit specification of first and second vendors and the deletion of the feature of receiving the user selection on or before shopping. The appellant agreed that this claim essentially **only clarified the fact that there was a plurality of vendors**. Thus the Board agrees with the examining division that this does **not change the assessment of inventive step**.

T 1896/09 (Object position detector/SYNAPTICS) of 14.3.2013
Object position detector with edge motion feature and gesture recognition

Inventive step - yes

Applicant name: SYNAPTICS, INC.
Application number: 02025488.4

IPC Class: G06F 3/033, G06K 11/06

Board: 3.5.05

http://www.epo.org/law-practice/case-law-appeals/pdf/t091896eu1.pdf

At the claimed priority date, the mouse was the most common input device used with so-called WIMP ("Windows, Icons, Menus, Pointer") graphical user interfaces. A mouse is an input device which effectively has two separate input channels:

(a) it is used for performing cursor control operations by means of its movement over a surface; and

(b) it is additionally provided with a plurality of binary switches in the form of buttons which can be used for performing selection operations and similar tasks.

Although the mouse is a convenient input device it also has some drawbacks and this has led to the development of alternative input devices, in particular for portable computers. One known alternative is a combination of a touchpad (or "trackpad") with buttons. A general aim of designers of such touchpad systems is to enable a user to emulate actions typically performed using a mouse. Touchpad and button combinations are, however, not as easy to use as a computer mouse, particularly for novice users.

The present invention addresses the problem of providing a convenient implementation of a drag operation using a touchpad input device. The claimed solution is based on using a single tap gesture executed with a conductive object (e.g. the user's finger) to initiate a "drag" operation followed by a movement of the conductive object to perform the dragging action.

Claim 1 of the main request defines a specific sequence of user interactions and timing constraints for implementing a drag operation using a touchpad input device.

"A method for recognizing a gesture made on a touch pad (10) in a touch-sensing system providing X and Y position information to a host, including:

detecting a first presence of a conductive object (8) on said touch pad;

comparing a duration of said first presence with a first reference amount of time;

initiating a first gesture signal (OUT) to said host if said duration of said first presence is less than said first reference amount of time;

detecting a second presence of said conductive object on said touch pad;

comparing a duration between said first presence and said second presence with a second reference amount of time;

comparing a duration of said second presence with a third reference amount of time;

terminating said first gesture signal if said duration between said first presence and said second presence is greater than said second reference amount of time; and

maintaining said first gesture signal (OUT) and repeatedly sending X and Y position information to said host until an occurrence of a terminating event if said amount of time between said first presence and said second presence is less than said second reference amount of time and if said duration of said second presence is greater than said third reference amount of time."

To perform a drag operation the user taps once, quickly brings the finger back in contact with the touchpad, then moves the finger in a desired direction in the X-Y plane of the touchpad. More specifically, the drag operation is initiated by the user making a single tap gesture according to which a first contact ("presence") of a conductive object with the touchpad for less than a first reference amount of time is detected. The drag action itself is performed by means of a second contact ("presence") of the conductive object with the touch pad which must follow the first contact within a time period less than a second reference amount of time and which must last for a duration greater than a third reference amount of time.

Prior art

D1 relates to a coordinate processor for a computer system having a pointing device such as a touch sensitive display screen. D1 is concerned with enabling the operator of a computer system to issue button click commands via a touch sensitive display screen. A button click command is issued via a touch screen by applying a corresponding sequence of touch stimuli to the touch screen within a predetermined time period. The system of D1 is arranged to distinguish stimuli applied to the touch screen to issue button click commands from stimuli to move the cursor within the display area. An icon within the data display area is used to provide a graphical representation of a push button. A depression of the button is detected by determining that the force imparted to the screen by the touch stimulus increases above a predetermined threshold value. The subsequent release of the button is detected by determining that the force imparted by the touch stimulus decreases below the threshold value within a predefined timeout period. Using this approach, multiple clicks on a button can also be detected. D1 clearly indicates the use of a predefined timeout period in the context of detecting a button click. Nevertheless, the teaching of D1 is essentially limited to detecting button click operations and it uses an approach which relies primarily on detecting changes in the force imparted to the screen. In particular, there is no disclosure or suggestion of implementing any kind of drag operation. For this reason the board judges that D1 is too remote from the subject-matter of claim 1 of the main request to prejudice the inventive step of the claimed invention.

D3a discloses that the touchpad is responsive to single and double tap gestures as an alternative to clicking a button and that it is further responsive to a "double-click and drag motion" to hold and move objects on-screen. Neither D3a nor D3b provide any technical teaching as to how tap gestures are recognised or how the "double-click and drag motion" referred to in D3a is actually implemented. In order to arrive at the claimed invention starting from D3a, the skilled person would have to implement a drag operation using a single click (i.e. tap) action as specified in claim 1.

Although the drag operation of claim 1 can be considered as a simplification of the "double-click and drag motion" of D3a, the skilled person does not appear to have any motivation to contemplate such a simplification because D3a states that the user is able to easily adapt to the "double-click and drag motion". Even if, for the sake of argument, it were to be supposed that the skilled person would contemplate a simplification of the "double-click and drag motion" of D3a, the board judges that the lack of a specific technical teaching concerning its implementation means that the level of technical disclosure in D3a and D3b does not suffice to lead the skilled person to the subject-matter of claim 1 in an obvious manner.

D5 discloses a touchpad input device for emulating a mouse input device. D5 is particularly concerned with supporting pointing and dragging interactions and relies on a mechanical drag switch for activating a "drag mode". According to D5, the user initiates a drag operation by applying sufficient pressure to actuate a mechanical "drag switch" disposed beneath the touchpad. Because the system of D5 is provided with a mechanical switch, there is no apparent need to make any provision for detecting a tap gesture in the context of implementing a drag operation. Even if, for the sake of argument, it were to be supposed that the skilled person would contemplate replacing the mechanical switch of D5 with a gesture-based interaction, there is no evident basis for assuming that he would choose to implement a drag operation in the specific manner defined in claim 1. If the skilled person were to consult D3a in this regard he would find that it merely discloses a drag operation in the form of a "double-click and drag motion" rather than a single click and drag operation as specified in claim 1. In view of the foregoing, the board judges that the subject matter of claim 1 cannot be derived in an obvious manner starting from the prior art of D5.

T 2061/08 (Contract valuation/DEUTSCHE BÖRSE (III)) of 11.7.2013

System and method for unsteadiness compensation in the valuation of futures contracts

Technical character of method claim - no
Inventive step of system claim - no

Applicant name: DEUTSCHE BÖRSE AG
Application number: 04025198.5
IPC Class: G06F 17/60
Cited decisions: T 0641/00, T 0388/04

Board: 3.5.01

http://www.epo.org/law-practice/case-law-appeals/pdf/t082061eu1.pdf

The application

The application relates to data processing systems and methods for valuing a bundle of constructs that may individually fail. A construct may be a hardware or software arrangement

in a computer system or, on an abstract level, a conditional relationship between physical or non-physical entities. In particular, a bundle of constructs may be a futures contract based on a basket of credit default swaps. When valuing a bundle of constructs, a value is to be determined that describes one or more properties of the bundle. Taking the example of a bundle of hardware constructs, the bundle may be valued according to a degree of functionality, completeness, utility, usability, overall response time, data processing capacity, or the like. Taking the example of a bundle of software routines, the value may describe a degree of errorlessness [sic], processing speed, or the like. In the example of a basket of credit default swaps, the value may be the price of the futures contract.

A failing construct may be separated from the bundle resulting in an unsteadiness of the value of the bundle. As such unsteadiness is often undesirable, the application aims at a valuation technique for a bundle of constructs where the observable influence of a separation event is reduced.

According to original claim 1, a data processing system for valuing a bundle of constructs that may individually fail calculates a value of the bundle by summing a present value of the bundle (having separated the failing construct from the bundle) and a static value (which decreases each time a separation event occurs).

System claim 1 reads:

"1. A data processing system (100) for valuing a bundle of constructs that may individually fail, in case of a separation event causing said bundle of constructs to separate a failing construct from the bundle, the system comprising:

a present value determination unit (140) for applying a predefined model to determine a present value of said bundle of constructs after having separated said failing construct from the bundle;

a static value determination unit (140) for determining a static value by reducing a static base number each time a separation event occurs; and

a calculation unit (140) for calculating a value of said bundle of constructs based on the determined present value and the determined static value, said calculation unit being adapted to calculate a sum of the determined present value and the determined static value."

The description exemplifies the static value of a portfolio: "the static nominal represents the nominal of the survived obligors". For instance, if the static base nominal is 100, and one of the obligors (which has a weighting of 1%) defaults, the static nominal is reduced by 1, leading to a new static value of 99. Thus, the static value reflects the nominal reduction of the futures contract in a credit event, and thus reflects the consequences of a credit event.

The bundled constructs to be valued may be technical or non-technical (including financial futures). The bundle valuation is achieved by summing

- a present value of the bundle, determined according to some (mathematical, financial) model, and

- a decreasing static value reflecting the decreasing size of the bundle when a construct is separated from the bundle (because a financial construct has failed, for example).

Inventive step

The **system** according to claim 1 is **defined in such general terms that the claim is not limited to a technical contribution**. The Board does **not see any technical effect in reducing the observable influence of a separation event when valuing a bundle of constructs**. Even if claim 1 were limited to the valuation of technical constructs, the **overall purpose of the claimed system** would still be **commercial or administrative** rather than technical.

Consequently, **calculating the value of a bundle of constructs according to some financial, mathematical, mental or administrative model or algorithm is a non-technical aspect** that does not enter into the examination for an inventive step.

The mere possibility of a technical embodiment is not sufficient to confer a technical character onto a general concept, cf T 388/04-Undeliverable mail/PITNEY BOWES (OJ EPO 2007, 016), Headnote 2: "Subject-matter or activities that are excluded from patentability under Article 52(2) and (3) EPC remain so even where they imply the possibility of making use of unspecified technical means."

On the implementation level, the application does not teach any inventive technical consideration, either. It rather leaves the implementation of the desired data processing system to the skilled reader. In fact, **computers constitute notorious technical means for automatic data processing, and the algorithm claimed does not require any inventive programming or non-obvious hardware** (which is not disclosed anyway).

The Board concludes that claim 1 does not involve an inventive step.

T 0972/07 (Goods collection/RICOH) of 11.7.2013
System and method of assisting goods collection

Inventive step - system for collecting and distributing goods (no Inventive step - non-technical administrative scheme)

Applicant name: Ricoh Company, Ltd., CANON SALES CO., INC., FUJI XEROX CO., LTD, Japan Business Machine Makers Association
Application number: 01130959.8
IPC Class: G06F 17/60

Board: 3.5.01

http://www.epo.org/law-practice/case-law-appeals/pdf/t070972eu1.pdf

The present application addresses the problem of managing goods collection and redistribution, which is an organisational/administrative problem. Such management applies in the context of recycling used goods; basically manufacturers want to retrieve the used goods they produced, dismantle them and reuse parts in the manufacture of new goods.

On an administrative level, the proposed solution is as follows: manufacturers collect used goods from business entities and transport the ones they did not produce to an exchange center. At this exchange center an inventory of the collected goods is maintained and the manufacturers of the goods are periodically notified about goods they manufactured which are stored at the center. The manufacturers can then go to retrieve them at the exchange center. The different transportation phases (from the transporters to the exchange center and vice-versa) are scheduled according to the goods to bring in and to retrieve.

In an alternative embodiment, there may be more than one exchange center and a plurality of collection depots is associated with each exchange center. The manufacturers bring collected goods to a collection depot; the goods are then transferred to the exchange center associated to the collection depot. Retrieval of used goods from an exchange center by a manufacturer is then operated in a manner similar to the single exchange center organisational model. This multiple exchange center based organisation has been introduced for logistic reasons in order to provide a proximity service. Therefore this multiple exchange center organisation is also administrative. Such protocol for collecting and distributing goods is administrative in nature. This protocol is automated by the use of a computer system which allows manufacturers and the exchange center to communicate.

In general the actual process of recycling might be technical in so far as it uses some machine. However, the **present invention is essentially concerned with logistical matters** of collecting and distributing goods prior to the recycling process. It is these logistics that must be examined for technical effect, not the recycling process, which is not claimed. The Board agrees with the examining division that in the present case they are administrative in nature and do not have a technical character.

The appellants argue that the physical entities such as the "business entities" and the exchange centre(s) are actually technical entities. Even if this is true, it is their role in the recycling process that must be determined. Since these entities only collect and distribute goods, the Board agrees with the examining division that this **role is a business or administrative role that does not contribute to the technical character** of the invention.

The appellants consider that the information processing corresponds to a kind of electronic filter of information, which is technical. However, this filter essentially boils down to sending only information that a business entity has previously said that it is interested in. In the Board's view this is purely a matter of user-preference and has **no technical character**. Only its implementation in the form of communication over the network has technical character, but is an obvious measure as stated by the examining division.

Accordingly, claim 1 of the sole request does not involve an inventive step (Article 56 EPC 1973), so that the appeal must be dismissed.

T 0964/12 (Fulfillment coordination/SAP) of 1.7.2013
Supply chain fulfillment coordination

Technical character of invention (yes)
Additional search - necessary (yes)

Applicant name: SAP AG
Application number: 03708182.5
IPC Class: G06F 17/60
Cited decisions: T 1242/04, T 1924/07, T 1411/08

Board: 3.5.01

http://www.epo.org/law-practice/case-law-appeals/pdf/t120964eu1.pdf

The examining division raised various objections on the basis of the assertion that the claimed invention was non-technical in character. The applicant consistently disagreed, referring to technical features in the claims and technical advantages achieved by the invention. The applicant also substantiated why a prior art search had to be carried out on the basis of the claims.

The examining division refused the application on the premise that nothing in claim 1 contributed to the technical character of the method claimed and thus the subject-matter of claim 1 was excluded from patentability under Article 52(2) and (3) EPC. This conclusion was drawn from a broad purposive interpretation of the terms of the claim. An auxiliary request limiting the subject matter of the claim to a computer-implemented method was not admitted. The additional search requested by the applicant was declined as not necessary in view of the non-technical character of the invention.

The examining division refused the application because they considered the subject-matter of claims 1 and 7 to be excluded from patentability and that of claim 6 to lack novelty. The essential reasoning was for all claims that the invention comprised no, or merely notorious, technical features. The Board will therefore examine whether that reasoning was correct. This is also necessary in order to determine whether an additional search must be carried out since no search has as yet been performed.

The jurisprudence has laid out the following **principles for determining when an additional search should be carried out.** In decision T 1242/04 "Provision of product-specific data/MAN", OJ EPO 2007, 421 (see point 9 of the reasons) it is pointed out that the search is an essential element of the grant procedure, being designed to identify prior art relevant to the application. The intention is to make it possible to determine, on the basis of the documents mentioned in the search report, whether and to what extent the invention is patentable. Knowledge of the prior art forms the basis for examination of the application by the examining divisions. However, **if no search report has been drawn up it is not necessary to carry out an additional search in the documented prior art where the objection is based on "notorious knowledge"** (Cf T 1924/07 "FA Information/BRIDGESTONE CORP.", not published in OJ EPO, point 10 of the reasons). The term **"notorious" means prior art which is so well known that its existence at the date of priority cannot be**

reasonably disputed. It may also imply that technical detail is not significant (cf T 1411/08 "Pairing providers with consumers/IN-DEVELOPMENT", not published in OJ EPO, points 4.1 and 4.2 of the reasons).

In the present case the **method and system claims define technical features and technical aspects which cannot be ignored in examining the patentability of the invention**.

The skilled person would infer from the application that the claims are not solely related to a business method mixed with abstract ideas how to exchange messages between business people, somehow using purely non-technical computer programs and bypassing any technical means whatsoever, **but that the claimed invention is a technical information system for processing data**.

Such insights are easily inferred from the various references to computer systems in the introductory Summary (see the international publication, page 2 ff.) and the disclosed embodiments of the invention which are implemented using the integration platform Exchange Infrastructure of SAP that "provides an infrastructure that has a middleware which allows technical integration of SAP as well as non SAP systems by using open standards". The (order) fulfillment coordination engine, an essential feature in the claims, "can be implemented with SAP's Exchange Infrastructure".

The exchange infrastructure includes an integration server 425 and an integration directory 415. The application indicates that "integration server 503 and integration directory 542 provide a transport layer for transmitting of message 515 from the sending application 505 to the receiving application 557" (underlining added). The integration server and the integration directory are implemented by the SAP Exchange Infrastructure. Hence, the integration server, the integration directory, and the transport layer are **technical components of the computer system**.

Also the features relating to routing messages through the transport layer, converting data formats and resolving addresses are **technical, or at least have technical aspects** related to computer-implemented processes.

The **collection of these features cannot reasonably be said to fit the narrow definition of "notorious prior art"**. An additional search must therefore be carried out. The skilled person - a computer scientist - would not interpret the features discussed above in a way that neither takes into consideration that the invention is computer-implemented, nor has support in the description.
