Appendix B: Section 3 of the Law- A Patentable Invention

1. Section 3 of the Patents Law

   1.1. Section 3 stipulates the essential and main requirements for patentability of an invention, as follows:

   "An invention, whether a product or a process in any field of technology, which is new, useful, and susceptible to industrial application, and which involves inventive step - is eligible for patentability".

   1.2. This means that Section 3 places on the examiners the burden of ensuring that the invention meets the following accumulative criteria:

   1.2.1. The invention is a **product*** or a **process;**

   1.2.2. The invention is **in any field of technology**;

   1.2.3. The invention is **new;**

   1.2.4. The invention is **useful;**

   1.2.5. The invention is **susceptible to industrial application;**

   1.2.6. The invention involves **inventive step.**

   Thus, for example, if the examiner holds that the invention lacks novelty or inventive step, then the question of whether it falls in a technological field, (which should be addressed irrespective of the question of novelty or inventive step), becomes secondary.

   1.3. In accordance with Section 2 of the Law, the owner of a patentable invention is entitled to apply for the grant of a patent for it. As noted above, Section 3 deals with the question of a patentable invention. However, notwithstanding the stipulations of Section 2 of the Law, there is subject matter which will not be eligible for a patent, as stipulated in Section 7 of the Law[1], and in this context the examiner should follow the provisions of Appendix C (Section 7 of the Law- Exclusions for granting a patent).

2. Whether the invention has novelty - this will be examined in accordance with the provisions of Annex F (Section 4 of the Law- novelty).

* It should be noted that all emphasis in this translation appears also in the original document.

[1] It should be noted that the matters listed in Section 7 of the Law do not overlap with the list set forth in Section 52(2) of the European Patent Convention that outlines types of inventions which will not be considered there as patentable.

3. Whether the invention involves inventive step - this will be examined in accordance with the provisions of Annex G (Section 5 of the Law- inventive step).

4. Whether the invention is useful

   4.1. The examiner will follow rule 1 in Chapter II of Annex A (guidelines for examination of patent applications).

   4.2. In order to determine whether the invention at issue is useful, the examiner will follow the provisions of Appendix L (Section 12 - description of the invention in the specification).

5. Whether the invention is susceptible to industrial application

   The term "susceptible to industrial application" can be read in the context of its technological field (discussed below) and in light of the invention being useful. Usually, if the invention falls within a technological field, and it meets the usefulness criterion asserted by the applicant, then it can also be susceptible to industrial application.

6. Whether the invention is a product or a process

   6.1. Examination of whether the described invention is a product or a process should be carried out, among others, in light of Registrar's Circular M.N. 30, as detailed in Section 8 of chapter II of Annex A (guidelines for examination of a patent application).

   6.2. A claim for a process should include stages or steps, which, when executed in the manner described, will constitute the claimed process.

7. Whether the invention falls within a technological field

   7.1. Prior to examining the claims defining the invention, in order to assist in preliminary determination of the technological field at issue, the examiner will refer to the specification, as it is addressed to a skilled person versed in the art of the invention.

   7.2. In order to identify whether the invention falls within a technological field, specific tests according to the category of the invention, as described in the application, may be applied in order to assist in identifying whether the invention falls "within any technological field".

   Classifying the invention as relating to a technological field will be determined based on the requirement that for executing the invention, whether claimed as a product, or claimed as a process, a concrete technological process must occur (as discussed in C.A. 23/94 (Jerusalem) **United Technologies Corporation v. The Registrar of Patents,** District Court Decisions, Vol. 26 (8), 729). A concrete technological process means

expression of physical features in an object on which the invention is carried out, or in the nature of the operation carried out by the product or process (see the manner in which these were discussed by the European Enlarged Board of Appeal in the matter of G0003/08, decision dated 12.5.2010). In most cases, it is not difficult to classify the technological field that corresponds to a claim directed to a product as such (that is not claimed as a process). Nevertheless, when it is difficult to classify an invention in a field of technology, a main test in this matter would be the identification of a concrete technological character for the claimed product or process, or for the outcome of the process.

7.3. A discovery, a scientific theory, a mathematical formula[2], rules for playing games, and mental acts, as such[3], will be considered as abstract ideas or processes that are devoid of technical character, irrespective of whether they are performed in a "manual" manner or by a computer. In addition, it was already ruled that business methods *per se* that belong to the economic world, will not be considered as inventions in a technological field (see the matter of Eli Tamir's patent application no. 131733, decision dated 21.9.2006).

This notwithstanding, a technological character may be crystallized by combing the aforementioned ideas or processes with additional technological means. Hence-

7.3.1. In order to examine whether the invention is a product or process in a technological field, the invention should be examined **as a whole**, without dissecting it into components, and without focusing on a single component or a single subgroup of components.

7.3.2. The Examiner should examine whether the invention, as a whole, makes a contribution having a concrete expression in a technological field - that is the concrete technological character.

7.3.3. The contribution of the invention, as a whole, should be examined with respect to the relevant prior art as it essentially arises from the specification (without derogating or exhausting the need of examining inventive step, as required in Section 3 above).

7.4. Applying the guidelines specified in Section 7.3 above may vary on a case-by-case basis. However, in order to demonstrate how to implement the

[2] Miscellaneous Appeal (Tel Aviv) 501/80 **Rosenthal Shunia v. The Registrar of Patents**, District Court Decisions 5744(3) 441 (1984).

[3] C.A. 23/94 (Jerusalem) **United Technologies Corporation v. The Registrar of Patents, Designs and Trademarks,** District Court Decisions, Vol. 26 (8), 729, paragraph e of the decision and likewise section 42 of the decision of the Registrar in the matter of **Eli Tamir, patent Application No. 131733,** decided on 21.9.2006.

guidelines for identifying concrete technological character, below are some rules which may assist in exemplifying how to apply the guidelines with respect to the field of software-implemented inventions, being a field in which such questions are often raised:

7.4.1. Whether carrying out the claimed invention has expression or modification in the physical features beyond the regular operation of an integrated computer system. If in the affirmative, this is an indication that the invention falls within a technological field.

7.4.2. Whether carrying out the claimed invention causes the computer to operate in a new manner, including, but not only, improving the computer's performance (such as speed, reliable performance, improved utilization of data storage capacity), or whether inter-operability is created between components of the computer system in a manner that did not exist beforehand. If in the affirmative, this is an indication that the invention falls within a technological field.

7.5. It should be noted that if the invention is implemented by a computer, and the operation of the computer does not add anything beyond the "regular" technical effect resulting from executing a computer program on a computer, then there would be no concrete technological character. A separate question concerns protection of the code lines by which the computer program is expressed, which is a form of expression whose mere creation constitutes a literary work in accordance with the Copyright Law, 2007. The specified form of expression is not related to the question of concrete technological character which can be expressed thereby. It should be clarified in this context, that a data carrier claim, in which software is an element in a patentable invention as stipulated in these guidelines, will be allowed.

7.6. An invention including an implementation, by means of a computer, of a process which can also be carried out without the assistance of a computer, such as automation of a manual process and processes for optimization and diagnostics, may constitute concrete technological character, by applying the above guidelines. Thus, for example, a contribution **beyond** the obvious and clear efficiency in computerizing an automatic process, indicates that there is a reasonable basis for the existence of concrete technological character. That is to say, where the implementation of the invention using a computer is substantially different from the manual performance thereof, such that it is not practical to perform the process efficiently, using "manual" means, or that such an implementation has no significance apart from the context of the computerized process, indicates of the existence of concrete technological character. The question of whether or not novelty and inventive step are involved in these processes is a separate matter.

7.7. Appendix B-1 provides examples for illustrating the implementation of the guidelines elaborated in this Section 7.

Appendix B-1: Examples for applying the criteria in Appendix B

Hereinafter are examples for applying the guidelines elaborated in Appendix B, in connection with software-related inventions. It should be noted that these examples were selected for the purpose of illustrating and exemplifying the manner of utilizing the criteria only. These examples are not exhaustive and each case will be examined on its merits by the Examiners of the Patent Authority.

The following examples do not describe the whole invention that is claimed in each case. For obtaining a full picture, the exemplary claims are accompanied by the publication number from which they were taken, and the guidelines were applied according to the relevant publication. Obviously, the following does not constitute any stance with respect to the patentability in Israel of applications or patents from other countries, apart from the question of whether they fall within a technological field under Section 3 of the Law.

Example 1: improving Computer Operation (GB 2391348)

A compiler system having optimization integrated in the data processing apparatus. The compiler responds to signals received from a trace unit in order to change, in a consistent manner, the compilation process.

The claim:

A data processing apparatus, comprising:

a processor;

a compiler for compiling application code to generate instructions for execution by the processor;

a non-invasive trace unit coupled to the processor for generating, from input signals received from the processor, trace signals indicative of the instructions being executed by the processor;

the compiler being arranged to control the compilation of the application code dependent on the trace signals.

The contribution of the invention is not the trace unit, but rather in the ability to change the compilation in accordance with the characteristics of the processor during regular operation. Despite the fact that the invention has software aspects, this invention goes beyond a computer program *per se*. The invention performs an additional function, which influences operation of the computer. The outcome of the method defined by the invention is expressed

in improved operation of the processor, which is responsible for executing the compilation, and hence, concrete technological character is achieved.

Example 2: Inter-relationship between System Components (GB 2407655)

This invention concerns accessing to libraries of (DLL) functions which are being simultaneously used by a number of computer programs running in the computer. The invention provides indexing the function libraries such that the computer will continue operating in a reliable manner, even if changes were effected in the functions' library.

The claim:

A method of operating a computing device having an operating system and a dynamic link library containing a plurality of functions accessible by an executable program, each function in the dynamic link library being associated with an ordinal number, the method comprising:

Providing the dynamic link library as a first part and an extension part each containing one or more of the plurality of functions;

Causing the executable program to link to functions in the first part directly by means of the associated ordinal numbers; and

Causing the executable program to link to functions in the extension part indirectly via a further library containing additional functions.

The contribution of the invention is in improving the operation and reliability of the computer. Although the invention is based on software, carrying out the invention involves concrete technological character, as it performs an additional function, reflected in the interface between inner components of the computer and the operating system, such that the invention presents a technical solution relating to a drawback that existed in the manner of operation of hardware means controlled by it *[the operating system]*, which is beyond the regular operation of a computer (see Symbian Limited v Comptroller General of Patents, Symbian Ltd's Application [2008] EWCA Civ 1066).

Example 3: Business Methods (EP 1301912)

The subject of this claim is execution of authorized online transaction, by performing the communication in two different paths.

The claim:

1. A method of operating a transaction processing system enabling users to authorize transactions, said system comprising a central transaction processing system (19) having at least a first data communications interface and a second data communications interface, comprising the following steps carried out by said central transaction processing system (19):

receiving transaction data from an offering party, relating to a specific transaction to be authorized by a user, and receiving a first transaction reference (TRN) relating to and uniquely identifying said specific transaction, via a first data communication path (16), at said first data communications interface;

generating a second transaction reference (TRR) which is different to the first transaction reference (TRN) and which uniquely identifies the transaction within the central transaction processing system (19);

sending said second transaction reference (TRR) to the offering party;

after receiving said transaction data, conducting communications over a second data communication path (22), different to said first data communication path, with said user over said second data communications interface;

using said second path, conducting a secure access procedure in which authentication data is received and said authentication data is verified;

using said second path, receiving said first transaction reference (TRN) relating to and uniquely identifying said specific transaction from said user, said transaction reference not being previously transmitted to said user in said second communication path (22);

using said second path, receiving confirmation from said user; and in response to said confirmation, transmitting an authorization signal to authorize said transaction,

said authorization signal including said second transaction reference (TRR), wherein said second transaction reference (TRR) is not known to said user.

Reviewing this invention as a whole, suggests that, in this case, the essence of the invention does not reside in the business process as such, but rather in the communication means being used. Hence, the contribution of the invention is

brought about in the communication infrastructure, as taught in a unique manner from the features of the invention (such as the type of communication that is required between two defined paths). Accordingly, concrete technological character can be identified in the implementation level of the protocol and the communication architecture of the system.

Example 4: Displaying of Information (GB 2418281)

The invention defines a computerized process of editing a document that is visually displayed, in a manner that renders the division of blank areas more efficient during the editing process.

The claim:

1. A method of creating a document having a displayable area on which information is placed, the method comprising: a. providing a plurality of content-items which contain information that it is possible to display on the displayable area; b. dividing the displayable area into a set of subareas each capable of receiving one or more of the content-items; c. generating at least one set of proposed arrangements in which the content items have been arranged within the set of sub-areas; d. selecting at least one of the proposed arrangements, according to predetermined criteria, as the layout of the content-items within the sub-areas of the displayable area to create the document; and e. causing a printing means to print the created document.

Reviewing the details of the invention, as they arise from the specification, reveals that the essence of the contribution of the invention is in automation of the manual design process, where the contribution of the automation is limited to the obvious improvement obtained from the automation that is known in the field. Namely, the stages defined for the computerized program are not substantially different from the instructions which would have been given to a graphical designer.

In addition, examining the invention as a whole does not reveal any contribution beyond the computer program *per se*, since the manner of executing the program and the execution results do not involve any concrete expression beyond the regular operation of the computer or the system in which it is integrated.

Hence, it can be stated that in this case the claimed process is not a concrete technological process.

Example 5: Displaying of Information (US 2007033615)

The invention defines a visual display of information. This time the user controls the manner of displaying (*of data - e.h.*) in an interface of the program guide.

The claim:

1. A method for transferring programs to a secondary storage device using an interactive television program guide implemented on user television equipment, to cause a first display:

in a display screen of at least one program listing related to at least one program;

using the interactive television program guide to enable a user to select a program listing from at least one displayed program listing;

using the interactive television program guide to cause the program related to the selected program listing to be recorded on a digital storage device;

using the interactive television program guide to cause a second display in the display screen that includes at least one recorded program listing for at least one program recorded on the digital storage device, wherein at least one recorded program listing includes a recorded program listing for the program recorded on the digital storage device;

using the interactive television program guide to enable the user to select the recorded program listing to transfer the recorded program from the digital storage device to a secondary storage device; and

using the interactive television program guide to transfer the recorded program from the digital storage device to the secondary storage device.

2. The method of claim 1 further comprising:

enabling the user to select a sequence of programs recorded on the digital storage device; and

transferring the sequence of programs to the secondary storage device.

The invention concerns displaying information on a screen according to the characteristics selected by a user. On the face of it and similar to example 4 above, it appears that this invention *per se* does not fall within a technological field. However, reviewing the details of the invention reveals that the invention provides additional aspects which involve concrete technological character: the implementation supports the same display of information performed by a combination of various storage devices and associating unique displays to each one of them; and recording from one device to another.

Example 6: Medical Supervision (EP 1062615B1)

The invention concerns a system for performing simultaneous supervision on a plurality of remotely located patients.

The claim:

1. A method of monitoring, diagnosing and treating medical conditions of a plurality of remotely located patients using a central data processing system configured to communicate with and receive data from a plurality of respective patient monitoring systems, wherein each patient monitoring system is capable of receiving and storing patient data, the method comprising the steps of:

obtaining patient data from a plurality of patient monitoring systems at the central data processing system;

analyzing the obtained patient data from each respective patient monitoring system at the central data processing system to identify medical conditions of each respective patient;

displaying identified patient medical conditions for each respective patient in selectable, prioritized order according to medical severity; and

in response to selecting an identified medical condition for a respective patient, displaying treatment options for treating the medical condition.

In this example, it is noted that the computerized diagnostic stage is based, among others, on obtaining data pertinent to the patient's condition.

The stage of obtaining data is implemented as part of the operation of the technological system, which constitutes the contribution of the invention. Not only is this system essential to the mere existence of the invention, but also, by analyzing the invention, as a whole, it can be argued that the manner of implementation of the unique and complex technological process is in fact the essence of the present invention (for example, the inter-relationship between the system performing prioritization of medical treatment and a system for simultaneous obtaining of data from a plurality of remotely located patients). Hence, it can be stated that the contribution of the invention involves concrete technological character.

Example 7: Mathematical Calculation/ Image Processing (WO 2010128511)

This example concerns an invention which, in essence, provides matching score between features appearing in different images, using a mathematical calculation performed on the different groups of points.

1. A method for determining a matching score between a first set of H1 feature points, and a second set of n2 feature points, the method comprising the procedures of: producing a triple-wise affinity tensor, including the affinity score of assignments of triplets of feature points of said first set of feature points and triplets of feature points of said second set of feature points; determining a leading eigenvector of said triple-wise affinity tensor; iteratively producing a binary optimal assignment vector by discretization of said leading eigenvector; and determining a matching score between said first set of feature points and said second set of feature points according to said triple-wise affinity tensor and according to said optimal assignment vector.

The definition of this invention is focused on a calculation process performed on numbers, the outcome of which is likewise a number, without elaborating in the claim an implementation which goes beyond an abstract calculation. The claimed invention lacks concrete expression in a technological implementation, and hence the claim is directed to a mathematical process, which does not fall within a technological field.

Example 8: Mathematical Calculation/ Image Processing (WO 2006082590)

The invention defines filtering of noises in an image composed of pixels.

1. A method for adaptive filtering of at least one pixel having an initial value of an image composed of pixels, the method comprising:

calculating local expected value for the pixel; calculating local signal to noise ratio; calculating local filtration ratio based at least on said local signal to noise ratio; calculating a weighted average of the initial value and local expected value using said local filtration ratio as weight; and assigning the weighted average as a new value for the pixel.

In this example, similarly to example 9, a mathematical process is executed, as a part of the image processing. However, here there is a clear expression of a concrete process that is performed as a part of the signal processing. Even if, seemingly, one can think of a numeric representation for each one of the signals (and the specified pixels), ultimately it is a process which is limited to the manner of operation of a

system for digital processing, as opposed to a pure mathematical process, and hence, it can be regarded as a process having concrete technological character.

In addition, it is noteworthy mentioning, in respect to this particular field (and similar fields of signal encoding), that it would be far-fetched to assert that the manner in which the process of the kind defined above is performed, corresponds to a mental process in which a person would have performed a mental analysis and processing of an image using multiple pixels. Such a "manual" operation is not feasible and it cannot be asserted that the invention is not patentable since it concerns "a trivial automation of a manual process".

Example 9: Classification of Images (WO 01/37131)

This invention concerns classification of an image by computerized analysis of different properties appearing in the image.

1. A method of classifying an image, comprising the steps of segmenting the image into a plurality of regions and, for each of at least one of the regions: quantifying each of a plurality of visual properties of the region on a numeric scale for the property; comparing each quantified property with a plurality of bands of the numeric scale for the property, each band being associated with a computer-readable character; and arranging in a predetermined order the characters associated with the bands in which the quantified properties fall to form a region character string.

The claimed process is a method of processing an image in a manner which is unique to the quantitative analysis that can only be performed using a computer. Since the computational process should be regarded as a part of the invention, as a whole, it can be determined that the claimed process is concrete and technical, both since it can be performed only by using a computer, and further since the processing end result is concrete (classification of images). Hence, the process at issue is technological and has concrete character.

Example 10: Analysis and Presentation of Data (EP1184798)

The invention is directed at building a hierarchical graph for patent publications while referring to various bibliographic information details and the references' relations between different publications. It should be noted that the main claim concerns the dependency relations between claims that belong to a single set of claims.

1. A method of processing and presenting data, comprising the steps of:

(1) identifying claim dependencies of claims in a user-selected patent;

(2) constructing a patent claims hyperbolic tree for said user-selected patent using said identified claim dependencies; and

(3) displaying said patent claims hyperbolic tree.

4. A method of processing and presenting data, comprising the steps of:

(1) retrieving patent citation information pertaining to a user-selected patent, wherein said patent citation information is backward patent citation information or forward patent citation information;

(2) constructing a patent citation hyperbolic tree using said retrieved patent citation information; and

(3) emphasizing nodes of said patent citation hyperbolic tree according to time-based criteria, wherein said time-based criteria includes at least one of filing date, priority date, length of pendency, effective filing date, invention date, critical date, on-sale date, public disclosure date, and public use date.

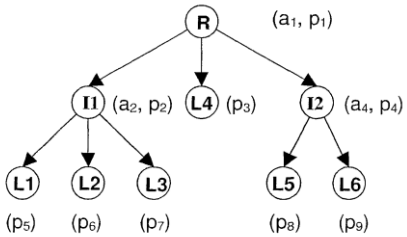
The description of the application discloses different aspects relating to usage of electronic databases. However, the wording of the claim is not linked to the mechanization means. Considering the nature of the field, one can view this claim as a definition of the manner in which it would have been possible for a person operating in the patent domain to implement the invention by means of a mental act. Hence, this invention cannot be considered as falling within a technological field.

Example 11: Analysis of Statistical Data (EP 1618498 B1)

The invention is directed at building a hierarchical graph as a part of the computerized process of text recognition.

1. A method for managing a treelike data structure for text-to-phoneme mapping for automatic speech recognition or text-to-speech, which method comprises steps for creating a decision tree comprising a parent node and at least one leaf node, said method comprising also steps for searching data from said nodes, characterized in that the decision tree is created by storing the nodes sequentially in such a manner that nodes follow the parent node in storage order, wherein the nodes refining the context of the searchable data can be reached without a link from their parent node.

For a better illustration there follows a figure from the patent, in connection with the features recited in claim 1, above:



In this case, as opposed to the previous example, the data analysis technique is specific to the computerized analysis manner that is performed as a part of the process of voice recognition or text to voice conversion using electronic means. Hence, it is not a computer program that is confined to a mental process only. Even if the electronic means are not specifically recited in the claim, it is a process which is implemented in a specific customized hardware system. Hence, the contribution of the invention is considered as having concrete technological character.