

## Chapter 16

### Computer implemented inventions

- 16.01 Scope of this chapter
  - 16.01.01 Complementary forms of Intellectual Property
- 16.02 Correct and full description of the invention
- 16.03 Utility, subject matter and obviousness for computer-implemented inventions
  - 16.03.01 Utility
  - 16.03.02 Subject matter
  - 16.03.03 Obviousness
- 16.04 Claim categories
  - 16.04.01 Artor process claims (method of operation)
  - 16.04.02 Machine claims (programmed computer)
  - 16.04.03 Manufacture claims (computer program)
    - 16.04.03a *Computer program on a record carrier*
    - 16.04.03b *Computer program on a signal medium*
    - 16.04.03c *Data structures*
- 16.05 Examples
  - 16.05.01 Examples involving mathematical formulae
  - 16.05.02 Examples of non-reproducible subject matter
  - 16.05.03 Examples of subject matter not fitting within a category recognized as statutory
  - 16.05.04 Subdividing land
  - 16.05.05 Non-patentable media claims

## **Chapter 16**

### **Computer implemented inventions**

#### **16.01 Scope of this chapter**

This chapter relates to inventions which utilize the processing function of a computer. These inventions are implemented, at least in part, by means of a computer program or computer hardware. A computer-implemented invention is examined in a manner which is equivalent to inventions in other fields of technology and the same principles apply.

Computer programs generally produce tangible results in all fields of industry and commerce, yet not all new computer programs are patentable; this chapter outlines the boundary between patentable and unpatentable software-related subject matter. Although *Schlumberger*<sup>1</sup> was the only Canadian court case that addressed the patentability of a computer-implemented subject matter, a long line of court decisions provides definite guidelines.

##### **16.01.01 Complementary forms of Intellectual Property**

Intellectual property addresses the dual nature of computer programs by providing complementary protection through copyright and patents. While copyright protects the literary form of a computer program, patents protect the active functionality of the computer program.

#### **16.02 Correct and full description of the invention**

The specification must describe the invention in normal language as in other technical fields and not solely as source code. Computer program listings alone do not fully describe the invention, but may be useful in illustrating specific embodiments. The invention should be described in sufficient detail for one skilled in the art to make and work the invention, this may comprise but is not restricted to: a description of hardware, a description of the modules of a computer program, and data structures.

Questions to be asked include:

*Hardware*

Are the important elements of the computer system, e.g. processors, primary and secondary memories, buses, interfaces, displays, peripherals described to the point that a person skilled in the art can make or use the invention? Has the interrelationship between the computer elements and network been described to provide the desired functionality of the invention?

*Computer program*

Is the functional representation of the computer program described? What are the computer program functional modules that are called into play, namely interfaces, the steps to be performed, the sequences, the timing, the location of the modules in the system, processes, algorithms, internal and external logical files and the number and kind of interactive inquiries? Do segments of the program in particular components function separately from the remainder of the computer program?

*Data*

What is the source and the form of input data? What is the form of the output data? What is the format of data when stored or transmitted? What is the flow of the processing? How do the software modules interact with and transform the data? These questions usually should be answered by the description.

Hardware and functional interrelationships between computing processes and data are correlated with claim limitations to ensure that the claimed features are fully disclosed and integrated with the elements of the invention in accordance with subsection 27(3) of the *Patent Act*. The interaction of the three entities determines the configuration of the computing system and the manner in which the desired effect of the method is obtained.

It is not only important that these elements, features, and processing steps be described, but that they be described as being integrated into an inventive combination <sup>2</sup>.

In the absence of a full and correct description of the invention by means of hardware, software and data structure, the application may be considered as describing a mere

scheme or as being directed to calculations. A description is not sufficient if it only teaches that useful information could be extracted by making certain calculations according to certain formulae<sup>3</sup>.

### **16.03 Utility, subject matter and obviousness for computer-implemented inventions**

Sections 16.03.01 to 16.03.03 expand on concepts introduced in chapter 12 herein.

#### **16.03.01 Utility**

The outcome of the claimed method or system must be achievable from the teachings in the description without subjective judgment or interpretation by a person having skill in the art. Subject matter that is not reproducible by a person skilled in the art is not patentable because it is not useful. A claim will thus not be patentable if it contains steps or other subject matter that involve an interpretative or judgmental aspect or are dependent upon the intelligence and reasoning of the human mind for reliable and consistent results<sup>4</sup> (see 12.03.03 and 16.05.02, herein).

In *Lawson*<sup>5</sup>, the reproducibility of the method of dividing land was not an issue, despite the popular assumption to the contrary. The method was considered to be non-statutory subject matter because it was an art belonging to a professional field rather than a manual art or skill<sup>6</sup>; the method did not make a vendible product.

#### **16.03.02 Subject matter**

The claimed subject matter must fall in one of the recognized categories of art, process, machine, manufacture or composition of matter (12.02.01 herein).

Software expressed as lines of code or listings is considered to be a literary work under the *Copyright Act*. Software in the form of a data model or an algorithm is automatically excluded from patentability under subsection 27(8) of the *Patent Act*, in the same manner as a mathematical formula<sup>7</sup>, and is considered to be equivalent to a mere scientific principle or abstract theorem. However, computer-related subject matter is not excluded from patentability if the traditional criteria for patentability are satisfied. Software that has been integrated with statutory subject matter may be patentable.

For a method to be considered an art under section 2 of the *Patent Act*, the method must be:

- a) an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or of condition"; and
- b) it must produce an essentially economic result relating to trade, industry or commerce (see section 12.02.01 herein).

A claim to a method consisting only of making certain calculations according to certain formula is, even if it results in useful information, excluded from patentability under subsection 27(8) of the *Patent Act*. Such a method it does not include an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or of condition. Furthermore, the method does not produce an essentially economic result relating to trade, industry or commerce (see 16.05.01 herein).

In practice, even when claims relate to categories not recognized as statutory subject matter, a search of the closest prior art document is performed, if possible.

### **16.03.03      Obviousness**

Section 28.3 of the *Patent Act* states that the subject matter of a claim shall not be obvious. This shall apply to computer-implemented subject matter as it does to other subject matter, but it should be noted that many methods, schemes, algorithms, etc. can easily be automated or implemented with a computer or software, without employing inventive ingenuity. The presence of a programmed general-purpose computer or a program for such computer does not lend patentability to, nor subtract patentability from, an apparatus or process.

A claim must be examined as a whole. (See also 15.01.02 herein.) Although the claimed subject matter may consist of old elements, the combination as a whole may be inventive. However, to be considered inventive, the combination must lead to a new unitary result that is different from the sum of the results of the elements; there must be some cooperation or interaction between the elements that produces some unexpected advantage, result, or use. As was stated in *Schlumberger*, the mere presence of a

computer (i.e. known technology) does not change the nature of a discovery<sup>8</sup>. Using known or general purpose equipment and technology to automate or implement a non-statutory method fails to comply with section 28.3 of the *Patent Act*. Likewise, the general purpose computer or equipment that has been programmed, in a known manner, to perform the non-statutory method also fails to comply with section 28.3 of the *Patent Act* (For example, a computer which has been programmed to solve an equation).

It is known that executing a computer program reconfigures a computer in a particular way through the program's instructions and commands; this reconfiguration is equivalent to differently wired circuits in the hardware<sup>9</sup>. There is an inventive combination when this reconfiguration:

- a) results in a new and non-analogous use for a known machine (e.g. a general-purpose computer); or
- b) provides an unobvious machine improvement.

A new use has resulted if executing the algorithm in the disclosed combination provides unexpected functional (as opposed to intellectual or aesthetic) results. There is no inventive faculty required in adapting a known system or device to a new purpose if the new purpose is analogous to any purpose to which the system or device has already been applied in an analogous way<sup>10</sup>. For example, general purpose computers are expected to, among other things, perform calculations, solve equations, and output or store results; programmable slot machines are expected to, among other things, perform calculations, output certain results, and dispense winnings in accordance with certain probabilities; etc.

A machine improvement has been provided if executing the algorithm in the disclosed combination provides functional advantages over the prior art that are peculiar to the disclosed integrated combination.

There is no inventive combination when, for example, a system is merely providing, in a known manner, a representation of the results of one or more of the calculations performed during the execution of the algorithm - this result does not provide a non-analogous use for the system, nor does it indicate an inventive machine improvement.

A computer-readable medium containing only subject matter of an abstract or intellectual character, such as music or textual information, is not an inventive

combination. However, a computer-readable medium containing a program or data structure is an inventive combination if that medium, when used in a computer, causes that computer to fulfill a new and non-analogous use.

## **16.04 Claim categories**

Three categories of claims are possible for computer-implemented inventions in accordance with section 2 of the *Patent Act*.

1. Art or process (method) claims;
2. Machine (apparatus and system) claims; and
3. Manufacture (products or computer media, including signals, embodying code or data structures) claims.

### **16.04.01 Art or process claims (method of operation)**

Claims in this category define the series of operations which takes place in the computer when the computer program is run. The claim must describe the appropriate steps as carried out by, or on, the inventive combination of hardware and/or software. The following method claim defines a way of encrypting data for storage on a card.

#### *Example*

Claim 1. A method of enrolling signature information of an authorized user onto an identification card comprising the steps of:

- a) collecting samples of a signal at a rate of at least "n" times a frequency component of said signal which is to be preserved, where "n" is an integer greater than four;
- b) digitally filtering said samples representing said signal to remove high frequencies; and
- c) storing said filtered samples on said card.

### **16.04.02 Machine claims (programmed computer)**

A computer which has been configured with a novel computer program is considered to be a different machine from the same computer when programmed in another way. The

actions performed in the computer are directed by the computer program. The functional steps in the method claim have been replaced by functional components such as “means for” expressions to define the structural elements of the computer.

*Example*

Claim 2. An apparatus for enrolling signature information signals of an authorized user onto an identification card comprising:

- a) means for collecting samples of a signal at a rate of at “n” times a frequency component of said signal which is to be preserved, where “n” is an integer greater than four;
- b) a filter for digitally filtering said samples representing said signal to remove high frequencies;
- c) means for storing said filtered samples on said card.

**16.04.03 Manufacture claims (computer program)**

The third category of claims defines a computer readable memory storing statements and instructions for execution by a data processing system to direct the system to function in a particular manner. This program storage device claim is variously referred to as a computer readable medium claim, software claim, record carrier claim, article of manufacture or computer product. The computer product is understood to be a product which is adapted to cooperate with a data processing system rather than being a product which is produced by the data processing system.

**16.04.03a Computer program on a record carrier**

Claims comprising computer programs must be directed to the medium embodying the program in a material or physical form in order to distinguish the program from an abstract theorem and as an article of manufacture. The medium helps to define the boundaries of the invention by the claim. The medium carrying the program code imparts to the code the attribute of a product or manufacture under section 2 of the *Patent Act*. The claim must recite the material or physical medium in a positive manner, storing or embodying the computer readable code of the computer program for execution in the computer.

*Example*



**Claim 3.** A computer readable memory having recorded thereon statements and instructions for execution by a computer to carry out the method of claim 1.

Claim 3 is an independent claim, but to avoid repetition of the process, claim 3 refers to claim 1. Claim 3 is not a product by process claim as defined in section 11.08.01 herein because it is not a product which has been created by the process for enrolling signature information.

An alternative form of the product claim defines a computer readable medium for use in configuring the computer, where the stored statements and instructions are recited in a code-means-plus-function format as illustrated below.

*Example*

**Claim 4.** A computer program product, comprising:  
a memory having computer readable code embodied therein, for execution by a CPU, for compressing signature information signals of an authorized user onto an identification card, said code comprising:

- a) sampling code means for collecting samples of a signal at a rate of at least “n” times a frequency component of said signal which is to be preserved, where “n” is an integer greater than four;
- b) digital filtering code means for digitally filtering said samples representing said signal to remove high frequencies; and
- c) storing code means for storing the filtered samples on said card.

However, a claimed computer readable medium may not carry information which is not encodable and storable in a memory or carrier as shown in the following example:

**Claim 5.** A computer program for compressing signature information signals of an authorized user onto an identification card comprising:

- a) sampling code means for collecting samples of a signal at a rate of at least “n” times a frequency component of said signal which is to be preserved, where n is an integer greater than four;
- b) digitally filtering code means for digitally filtering said samples representing said first signal to remove high frequencies; and storing code means for storing the filtered samples on said card.

The above claim is not a *manufacture*, since no storage medium has been defined

having the computer program recorded thereon. Furthermore, the claim does not specify or imply that the computer program is computer readable. Examiners will object to this claim for non-compliance with section of the *Patent Act*, and for being informal under subsection 27(4) of the *Patent Act*.

#### **16.04.03b Computer program on a signal medium**

The computer medium may exist in a transitory state of a propagated signal. The carrier of the computer program is a transmissible carrier in the following acceptable example.

##### *Example*

Claim 6. A carrier wave embodying a computer data signal representing sequences of statements and instructions which, when executed by a processor cause the processor to enroll signature information of an authorized user onto an identification card, the statements and instructions comprising the steps of:

- a) collecting samples of a signal at a rate of at least  $n$  times a frequency component of said first signal which is to be preserved, where  $n$  is an integer greater than four;
- b) digitally filtering said samples representing said first signal to remove high frequencies; and
- c) storing the remaining of the filtered samples on said card.

#### **16.04.03c Data structures**

Data structures represent the physical implementation of a data model for organizing and representing information which is used by a computer program. The data structure imposes a physical organization on the data according to attributes of the data as opposed to the content of the data. In the following example the data, which is stored in the table, is functional data because it contains pointers to other data within the data structure.

##### *Example*

Claim 7. A memory for storing data for access by an application program being executed on a data processing system, comprising:

a data structure stored in said memory, said data structure including information

resident in a database used by said application program and including:

- a) compressed video data stored in said memory having a plurality of frames including a plurality of reference frames, said compressed video data representing video footage in compressed form; and
- b) a table stored in said memory associating an identifier for each portion of said video footage to be accessed with a pointer corresponding to the closest reference frame to a first frame of the portion of said video footage to be accessed such that said table may subsequently be displayed to allow a user to select one of the identifiers stored in said table using an input device and thereby to access and view the portion of said video footage corresponding to the selected identifier.

## **16.05 Examples**

The following examples of claims illustrate the principles discussed in this chapter.

### **16.05.01 Examples involving mathematical formulae**

The following two examples show unacceptable claims that involve algorithms or equations.

Claim 8. A method for calculating value “f”, comprising the step of:

calculating  $f=m*a$ .

Formulae, equations, and algorithms (which are merely methods or rules for performing calculations in accordance with formulae, equations, mathematical models, etc.), are all excluded by subsection 27(8) of the *Patent Act* (see section 12.04.03 herein). In addition, the method of claim 8 is not an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or of condition, and it does not produce an essentially economic result in relation to trade, industry or commerce (see sections 12.02.01 and 12.02.01a respectively).

Claim 9. A computer-implemented method for determining the force “f” provided by a moving brick, comprising the steps of:

- a) inputting variable “m”, where “m” is the mass of the moving brick measured in kilograms;
- b) inputting variable “a”, where a is the acceleration of the moving brick measured in meters per second per second;
- c) automatically calculating  $f=m*a$ , where “f” is the force provided by the moving brick in newtons; and
- d) displaying variable “f”.

The method of claim 9 does not appear to be excluded by subsection 27(8) of the *Patent Act*, and is considered a series of steps carried out by a physical agent upon some physical object, because the wording of the claim clearly indicates that the steps involve a computer receiving, processing, and outputting data (see sections 12.04.03 and 12.02.01 herein, respectively). However, the method is still not statutory subject matter because it does not produce an essentially economic result in relation to trade, commerce, or industry (see section 12.02.01 a herein). Furthermore, it is an obvious physical embodiment of a non-statutory method or algorithm, and fails to comply with section 28.3 of the *Patent Act*. The subject matter of claim 8 cannot be made patentable by arbitrarily narrowing the field of use of the equation, or by adding input steps and post-solution steps to the algorithm (see section 16.03.03 herein).

The following two examples show patentable matter that incorporates an algorithm or equation.

Claim 10. A computer-implemented method for evaluating  $f=a^y$  more quickly and efficiently at the expense of a given amount of accuracy, comprising the steps of:

- a) receiving as input, variable “y” and desired base “a”;
- b) automatically calculating a first scaled value using “y”, “a”, and a predetermined base;
- c) automatically generating an approximation value using said first scaled value and a stored predetermined set of values;
- d) automatically determining a first exponential value having said predetermined base;
- e) automatically generating an adjusted error value using said first scaled value and said approximation value; and
- f) automatically determining a correction value using said adjusted error value;
- g) automatically determining a substantially accurate value for “f”, using said first exponential value and said correction value; and
- h) outputting said substantially accurate value for “f”.

The description and drawings show that the disclosed algorithm allows a computer to evaluate the exponential equation more quickly and efficiently at the expense of a given amount of accuracy, yet the algorithm itself does not provide analogous advantages outside of the disclosed computer. For example, in other environments for solving equations (e.g. pencil and paper), following the algorithm actually takes longer, requires more work, and results in a less accurate solution than accepted methods in those environments. While the equation and the algorithm for solving it remain non-statutory, the appropriately programmed computer (or inventive combination), the method as *followed by the computer* (the method of operation of the inventive machine), and the software for making the computer execute the algorithm could all be claimed <sup>11</sup>.

Claim 11. A process for stripping photoresist x from a wafer, comprising the following steps:

carry out the usual steps involved in submersing a wafer in an organic solvent to remove photoresist x from the wafer, wherein acidity a of the organic solvent, temperature "T" of the organic solvent, and duration "t" of the wafer's submersion in the organic solvent are controlled such that the rate of removal of the photoresist "x" is  $T^2 \cdot (t/a)$ .

The description and drawings show that during the stripping of a certain photoresist from a wafer, optimal results occur when an equation relating the acidity of the organic solvent used, the temperature of the solvent, and the duration of the immersion holds true. The claimed process clearly is a series of steps performed by a physical agent upon a physical object producing a change of character and condition in that object. Since the process produces a vendible product (i.e. the stripped wafer), it produces an essentially economic result in relation to trade, commerce and industry (see sections 12.02.01 and 12.02.01a herein). A claimed (new, inventive, and useful) photoresist stripping process in which the acidity of the solvent is given and the temperature and the duration of the immersion are controlled in accordance with the equation would be patentable.

#### **16.05.02 Examples of non-reproducible subject matter**

- a) In *Schlumberger*, the data output parameters were presented in graphical form representative of at least one formation characteristic. The discovery that useful

information could be extracted from the measurements presented in graphical form was not considered to be an invention<sup>12</sup>. The Patent Office considers the extraction of information from the graphics to have depended on subjective judgement and interpretation, and that the claimed invention can therefore not be reproduced (see section 16.03.01 herein).

- b) A method for indicating that certain information associated with a displayed item is accessible. The computer screen displays a symbol adjacent to the item. The nature of the information is indicated by the relative location of the symbol to the displayed item. Since the symbol and its location relative to the item requires subjective interpretative or judgmental considerations by the viewer to know what the information is, this method is not an invention (see section 16.03.01 herein).

**16.05.03 Examples of subject matter not fitting within a category recognized as statutory**

- a) The practice of configuring a building lot belongs to the skill of a surveyor or planner rather than to an art or manufacture within the meaning of those words of section 2 of the *Patent Act*. The preparation of a plan of subdivisions is clearly not a method of operation or use for an inventive machine or substance, nor does it produce a vendible product (see section 12.02.01 a herein). Even if the land were marked and staked in accordance with the plan, the land is not functionally different from what it was originally; its condition is unchanged. Therefore, the preparation of the plan does not produce an essentially economic result in relation to trade, commerce, or industry, and it did not constitute “art” under section 2 of the *Patent Act* (see sections 16.05.04 and 12.02.01, herein).
- b) A computerized online dating service having a database stores subscriber information for searching. The database is inputted with personal characteristics and preference criteria of subscribers. It is part of the skill of a professional matchmaker to know that likes attract and to select the input parameters. Database records are searched in order to match the characteristics and criteria of the subscribers. If no matches are obtained, the database is searched automatically using relaxed criteria until at least one match is returned (It is also within the skill of a professional matchmaker to know that opposites attract). The description of the system for implementing the matchmaking scheme refers to commonplace technology and does not disclose any specific combination of hardware, software and data structures. The scheme of matching subscribers

falls within the skill of a professional matchmaker, and does not constitute a method of operating an inventive machine nor produce a vendible product (see section 12.02.01 a herein). Therefore, the scheme does not produce an essentially economic result in relation to trade, commerce, or industry, and is not an “art” under section 2 of the *Patent Act* (see section 12.02.01 herein). Claiming the method as involving conventional or unspecified computer equipment does not change this, because it is still not a method of operating an inventive machine. By analogy, if the computer programmed to carry out the method was claimed, it would be considered an obvious mechanical embodiment in conventional computing equipment of a non-statutory method and the claim would therefore not comply with section 28.3 of the *Patent Act* (see section 16.03.03 herein).

The example of the online dating service contrasts with the laser eye surgery case <sup>13</sup>. In that case it was held that an inventive apparatus for eye surgery was taught, and that the claims involving the apparatus did not pose a limitation upon the surgeon’s skills. Since it was an inventive apparatus meant to assist the surgeon in the operation on the human eye, the method of operation (of the apparatus) could have been claimed. In the dating service example, the assistance provided by the online dating service system does not extend beyond the advantages that are to be expected from the mere automation of the matchmaking scheme by using conventional equipment; the scheme has not been (and probably cannot be) properly integrated with the rest of the system to form an inventive combination (see also section 16.03.03 herein). No invention is taught in the computer implementation of the scheme, only professional skills.

- c) A further example involving professional skills relates to the implementation of a practical financial strategy or scheme by means of a conventional computer system. The Commissioner held that a computer-based system for operating a financial account was nothing more than a computer which was programmed to carry out a set of calculations <sup>14</sup>.

#### **16.05.04 Subdividing land**

The subject matter of the following claim is directed to economizing the area of building lots by creating lots having a wide frontage and by contouring side lot lines while still permitting a large building site on the building lot.

**Claim 12.** A data processing system for subdividing a parcel of land into building lots having building sites comprising:

- a) data storage means arranged to hold the dimensions of the parcel of land having at least one front line along the length of one side of the parcel of land and a rear line along the opposite side of the parcel of land and a minimum building lot area and a minimum access frontage and a building site area;
- b) processing means arranged to allocate lots on said parcel of land by calculating lot lines such that each lot has a major frontage on one side and a minor frontage on the other side, whereby major and minor frontages alternately coincide with the frontage line and the rear line; and
- c) means for calculating side lot lines wherein each side lot is created by generating a first arc from a circle intersecting the major frontage of the lot and centered on a point on the medial axis of the lot, and a second arc from a circle intersecting the minor frontage of the lot and centered on a point on the medial axis of an adjacent lot, said arcs having a point of conjunction, wherein each side lot line is generally S-shaped, and each lot has the general shape of a champagne glass, the minimum building lot area and a building site having the building site area, said building sites having variable depth from said frontage line; and
- d) means for generating a technical representation of the parcel of land subdivided into building lots on the basis of said allocation.

Although claim 12 describes a statutory “machine” under section 2 of the *Patent Act*, it still would not conform with section 28.3 of the *Patent Act* if the description and drawings merely stated that the method would lend itself to implementation through commonplace computer technology (see section 16.03.03 herein). In *Lawson*, the method of laying out land was considered to be a professional skill or art rather than a manual art<sup>15</sup>. The method did not produce an essentially economic result in relation to trade, commerce or industry (see section 12.02.01a herein). Merely using known computing technology to automate a method in an obvious manner cannot secure a patent for an otherwise non-statutory method.

The exercise of professional skill is not patentable but invention may lie in systems for subdividing land. A complete description of the hardware, software and data structures and the interactions with the data will go a long way to establish patentable subject



matter in a computing application. A full description of the hardware, program and data components in an integrated system, and an amended claim 12 defining the inventive features of the computer implementation of the method, may elevate the subject matter from a mere method belonging to a professional field into an art, process or machine of section 2 of the *Patent Act*.

#### **16.05.05 Non-patentable media claims**

A computer-readable medium storing data may be a statutory “manufacture” under section 2 of the *Patent Act*, but it still will not be patentable if the stored data does not provide inventive functionality. For example, data or information representing a molecular structure or piece of music does not possess processing functionality. Record carriers embodying, in a known or unspecified manner, such non-functional descriptive material, will be considered as obvious physical embodiments of non-statutory subject matter, and as not conforming with section 28.3 of the *Patent Act*.

##### *Example*

Claim 13. A computer readable storage medium having recorded thereon music or a literary work.

The descriptive material on the storage medium has information for presentation on a display or for creating sound. The descriptive material stored on the medium does not provide the functionality for reconfiguring the computer to process input data. So, claim 13 may be describing a statutory “manufacture”, but it is an obvious physical embodiment of non-statutory subject matter, and still does not conform to section 28.3 of the *Patent Act*.

##### *Example*

Claim 14. Computer readable medium having recorded thereon the nucleotide sequence depicted in SEQ ID NO:5, a representative fragment thereof or a nucleotide sequence at least 99% identical to the nucleotide sequence in SEQ ID NO:5.

Processing of the descriptive material in the computer does not alter or reconfigure the function of the computer nor transform the computer into a new machine. Although claim 14 describes a statutory “manufacture”, it would be obvious to store non-functional descriptive material (like the nucleotide sequence) upon it. Claim 14 would therefore be

considered not to conform with section 28.3 of the *Patent Act*.

## Chapter 16 Endnotes

---

1 *Schlumberger Canada Ltd. v. Commissioner of Patents* [1981] 63 C.P.R. (2d) 261 (F.C.A.), dismissing leave to appeal (1981) 56 C.P.R. (2d) 204 (S.C.C.)

2 "Appeal Board Decisions with Respect to Computer Software", T. McDonough, Canadian Intellectual Property Review, August 1985, vol. 2, no. 1, pp. 10-16

3 *Schlumberger*, *supra* note 1

4 Re Application for Patent Containing Claims that Read on Mental Steps Performed by a Human Operator in Deciding to Transmit a Signal (1972) 23 C.P.R. (2<sup>nd</sup>) 93.

5 *Lawson v. Commissioner of Patents* [1970] 62 C.P.R. 101 (Ex. Ct.)

6 There is some confusion on "professional skills", as many believe it to be associated with a method that cannot be reliably reproduced, i.e. it depends upon the skill of the professional performing it. This view originated with the editorial note accompanying the published *Lawson* (62 C.P.R. 101) decision. The reasoning of the editorial was that confusion arose when the Court deemed that requirements for a "manner of new manufacture" under English statutes equated the requirements for an "art, process, machine, manufacture, or composition of matter" under Canadian statutes, and imported reasoning based on English cases. The English "manner of new manufacture" covers the concepts of novelty, utility, and inventive step right along with statutory subject matter, while the requirement for a Canadian "art, process, machine, manufacture, or composition of matter" is considered separate from the requirements for novelty, utility, and inventive step. Thus, the editorial reasoned that professional skills indeed qualified as "arts" under s. 2, but lacked utility because the result following the practice of these arts, no matter how skillfully practised, was not reproducible; the variables arising from the human element make success unpredictable. However, the Court itself did not once refer to reproducibility as an issue, nor did any of the cases that the Court quoted. Furthermore, the method for subdividing land as claimed (and described in the application) was as reproducible as any regularly patented "art" or "process". Although a method must indeed be reliably reproducible to be considered "useful" under s. 2, this requirement is completely separate from any professional skill considerations. Further evidence that this is the case can be found in such subsequent jurisprudence as *Tennessee Eastman* (62 C.P.R. 117 (Ex. Ct.)), *Shell* (67 C.P.R. (2d) 1), and *ICI* (9 C.P.R. (3d) 289).

7 Re: *Mobil Oil*, patent 1,254,297 (1988) 24 C.P.R. (3d) 571 at 576, "the applicant's system is useful and does not relate solely to calculations or algorithms"

8 *Schlumberger*, *supra* note 1 at 205-206; to apply the *ratio* of the Federal Court while still recognizing the formal categories of subject matter under s. 2 of the *Patent Act*, the Patent Office interprets the *Schlumberger* decision as stating that the claimed system was *statutory* subject matter under s. 2, but that it was not *patentable*, and that it was not an *invention*, i.e. it was an obvious mechanical embodiment of non-statutory subject matter.

Computer implemented inventions

---

---

- 9        **Re: *Waldbaum* Patent Application No. 961,392 (1971) 5 C.P.R. (2d) 162 (PAB) at 167-169**
- 10       ***Visx v. Nidek* [1999] 3 C.P.R. (4<sup>th</sup>) 417 (F.C.T.D.) at 454, *aff'd* (2001) 16 C.P.R. (4<sup>th</sup>) 251 (F.C.A.)**
- 11       **Re *Motorola Inc.* Patent Application No. 2,047,731 (1998) 86 C.P.R. (3d) 76 (PAB).**
- 12       ***Schlumberger, supra* note 1**
- 13       ***Visx, supra* note 10**
- 14       **Re Application 564,175 to *Atkins*, 6 C.P.R. (4<sup>th</sup>) 385 1999**
- 15       ***Lawson, supra* note 5 at 110-111**