PATENT EXAMINATION GUIDELINES FOR INFORMATION COMMUNICATIONS TECHNOLOGY AND COMPUTER IMPLEMENTED INVENTIONS

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FOREWORD

Computer programs *per se* have been excluded from being a patentable subject matter in the last two decades. However, there is a shift of paradigm where the IP world has recognized the value of bestowing rights to those who have created inventions that solve social problems using computer algorithms and technologies. Thus, IP offices around the world have delineated those patent applications which relate to computer software and applications relating to technical solutions that utilize both software and the computer.

The examination of computer-related inventions presents new challenges since it requires specific guidelines to ensure the efficient and predictable results in patent examination. The present document is an update to the ICT and CII Examination Guidelines which was put into examination practice in January 2018 and was built upon examination practices that follow international standards.

In applying the present guidelines into examining computer-related and software-related invention claims, Examiners are directed to implement the 5-step claim analysis in determining patent eligibility. This is one of the salient features of this new ICT and CII examination guidelines. This guideline aims to thresh out issues that affect the conclusion as to patentability of software related inventions applications that is often a dispute between Examiners and applicants.

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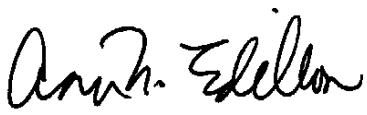

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2022 UPDATED PATENT EXAMINATION GUIDELINES FOR INFORMATION COMMUNICATIONS TECHNOLOGY (ICT) AND COMPUTER IMPLEMENTED INVENTIONS (CII)

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2022 UPDATED PATENT EXAMINATION GUIDELINES FOR INFORMATION COMMUNICATIONS TECHNOLOGY (ICT) AND COMPUTER IMPLEMENTED INVENTIONS (CII)

1. INTRODUCTION

The rapid rate of development in the field of Information and Communications Technology ("ICT"), or in Computer Technology in general, has resulted in the increasing demand for patent protection for innovations under said field. This has resulted in the escalating complexities of handling the examinations of patent applications in this area and increased number of litigations across the globe. The situation is observed to have been aggravated by difficulties in examining patent applications due in part to inconsistent decisions on patent grants and refusals and, in some occasions, to patent examination policies and procedures that fail to adapt to the changing landscape of modern-day computing-based technologies and digital communication-based models of information exchange. This type of framework may curtail the patent system's tenet of promoting innovation and technology advancement in the ICT and Computing realms, a regime so important to modern human life, particularly to the Philippines as a currently developing country. Therefore, there is a need for the formulation and updating of relevant guidelines, procedures, and policies which all adhere to the recent developments in developed countries to ensure the decisiveness, accuracy and quality of patent examination in these dynamic fields.

These "Examination Guidelines for Information and Communications Technology patent applications" ("ICT and CII Guidelines") are to assist Patent Examiners in the examination of patent applications for various inventions in the ICT field such as, but not limited to, information systems, communication systems, telecommunications, radio communications, computer implemented systems, software related systems, data mining systems, computer information networking systems, computer operating systems, embedded systems, data warehousing systems, network and data security systems, multimedia design systems, content delivery systems, digital broadcasting, graphic representation devices, website development platforms, application development platform, system development platforms, cloud computing infrastructure, ubiquitous computing frameworks, mobile computing systems, Internet of Things (IoT) infrastructure, virtual infrastructure, electronic commerce systems, electronic services systems, electronic workflow frameworks, object modelling systems, image or video processing systems, photonics systems, machine learning systems, artificial intelligence systems, distributed systems, robotic systems, sensing devices, and big data modelling systems.

These ICT and CII Guidelines are mainly based on this Office's interpretation and enforcement of the relevant provisions of the Intellectual Property Code ("IP Code") of the Philippines, the revised Implementing Rules and Regulations on Patents, Utility Models, and Industrial Designs ("Revised IRR") of the Philippines, and the decisions of the Supreme Court of the Philippines, if any.

The observations made in various foreign court judgements, relevant provisions of various foreign law, implementing rules and regulations which govern foreign patent grant procedures, and foreign patent examination practices are also considered as suggestive. Although they are

not binding in this territory, relevant teachings which may contribute to the appreciation and understanding of the intentions of the IP Code, the Revised IRR, and the Supreme Court decisions resolving patentability issues, were incorporated.

Notwithstanding their full consistency with the IP Code and the Revised IRR, the ICT and CII Guidelines do not have the force and effect of the law. The guidelines are designed to assist Examiners in analyzing claimed subject matters belonging to the ICT field as to whether these fully comply with the substantive law. Non-compliance with the substantive law shall always result in the refusal of a patent application. The findings of the Examiner resulting in such refusal may still be contested and appealed, subject to the procedures provided by law.

The substantive sense of these ICT and CII Guidelines is no different from that for inventions in other fields (e.g., mechanical and pharmaceutical) to the extent of the provisions of the law and their underlying objectives and principles in granting patents in this jurisdiction. These provisions may relate to considerations involving novelty, inventive step, industrial applicability, sufficiency of disclosure, and unity of invention, among others. Examiners may rely upon the other existing guidelines and examination procedures of this Office when dealing with these provisions.

These ICT and CII Guidelines only differ from the other guidelines of this Office as to the determination of whether a claimed subject matter in the ICT field is patent-eligible in relation to the explicit subject matter exclusions as set forth in Section 22 of the IP Code. It is observed that the determination of whether a claimed subject matter in the ICT and CII fields is drawn to one of the statutorily expressly specified patent-ineligible subject matters requires a particular skill set on the part of the Examiners.

A claimed subject matter, irrespective of the field to which it belongs, shall always be a technical solution to a technical problem as provided for in Section 21 of the IP Code and shall not, within reasonable limits, fall under any one of the exclusions as set forth in Section 22 of the IP Code. It is the specific aim of these Guidelines to enable Examiners to avoid difficulties in the course of determining whether a claimed subject matter is directed to a technical solution and not falling under said exclusions, should they arise. These ICT and CII Guidelines include a flow diagram which illustrates how ICT and computer-implemented patent applications should be examined in this regard.

Overall, the ICT and CII Guidelines generally aim to provide Examiners with the necessary frameworks and standards, as well as enlightening examples of how judicial confusion and inconsistency in the examination of ICT and computer related applications should be taken to strike a better balance between the law and the public interest, to enable them to sharpen their skill sets from different perspectives and positions, in light of the evolving nature of the technology involved.

Note that the current innovations tend to straddle more than one industry or technical field. It is commonplace for ICT/CII innovations to be used or applied in agriculture, biotechnology, chemistry, and the like. In such cases, relevance on guidelines crafted for all involved fields must be practiced.

2. DEFINITION OF TERMS

Abstract shall mean as one relating to or involving general ideas or qualities rather than specific people, objects, or actions *(from online Merriam-Webster Dictionary)*;

Algorithm shall mean a step-by-step procedure for solving a problem or accomplishing some end especially by a computer *(from online Merriam-Webster Dictionary)*;

Article of Manufacture shall mean an article produced from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand labor or by machinery (*Diamond v Chakrabarty, 447 U.S. 303 (1980)*);

Business method shall mean a method of doing business wherein the term "method" in this sense shall mean an "orderly procedure or process . . . regular way or manner of doing anything; hence, a set form of procedure adopted in investigation or instruction" (*from Bilski v. Kappos 561 U.S. 593 (2014) citing Webster's New International Dictionary 1548 (2d ed. 1954)*);

Communication shall mean the transmission of information through ICT media, including voice, video and other forms of data *(from Republic Act No. 10175, otherwise known as Cybercrime Prevention Act of 2012, signed into law in 2012)*;

Computer shall mean an electronic, magnetic, optical, electrochemical, or other data processing or communications device, or grouping of such devices, capable of performing logical, arithmetic, routing, or storage functions and which includes any storage facility or equipment or communications facility or equipment directly related to or operating in conjunction with such device. It covers any type of computer device including devices with data processing capabilities like mobile phones, smart phones, computer networks and other devices connected to the internet *(from the Cybercrime Prevention Act of 2012)*;

Computer data shall mean any representation of facts, information, or concepts in a form suitable for processing in a computer system including a program suitable to cause a computer system to perform a function and includes electronic documents and/or electronic data messages whether stored in local computer systems or online *(from the Cybercrime Prevention Act of 2012)*;

Computer Implemented/Related Inventions shall mean any invention that is implemented, partly or fully, by means of a computer program on a computer, a computer network or any program-controlled devices;

Computer network shall mean the electronic medium in which online communication takes place *(from the Cybercrime Prevention Act of 2012)*;

Computer program shall mean a set of instructions executed by the computer to achieve intended results *(from the Cybercrime Prevention Act of 2012)*;

Computer program listings is the complete listing of a computer program, source code, and all files that make up the software program (*from Computer Hope: computerhope.com*);

Computer-readable medium shall mean forms of non-transitory tangible media and transitory propagating signals per se in view of the ordinary and customary meaning of computer readable media (*from In re Zletz, 893 F.2d 319 (Fed. Cir. 1989)*);

Computer system shall mean any device or group of interconnected or related devices, one or more of which, pursuant to a program, performs automated processing of data. It covers any type of device with data processing capabilities including, but not limited to, computers and mobile phones. The device consisting of hardware and software may include input, output and storage components which may stand alone or be connected in a network or other similar devices. It also includes computer data storage devices or media *(from the Cybercrime Prevention Act of 2012)*;

Database shall mean a representation of information, knowledge, facts, concepts, or instructions which are being prepared, processed, or stored or have been prepared, processed or stored in a formalized manner and which are intended for use in a computer system *(from the Cybercrime Prevention Act of 2012)*;

Data processing shall mean the converting of raw data to machine-readable form and its subsequent processing (such as storing, updating, rearranging, or printing out) by a computer *(from online Merriam-Webster Dictionary)*;

Data structure shall mean any of various methods or formats (such as an array, file, or record) for organizing data in a computer *(from online Merriam-Webster Dictionary)*;

Firmware shall mean computer programs contained permanently in a hardware device *(from online Merriam-Webster Dictionary)*;

Function (in computing) shall mean a computer subroutine, and specifically one that performs a calculation with variables provided by a program and supplies the program with a single result *(from online Merriam-Webster Dictionary)*;

Further Technical Effect shall mean as going beyond the "normal" physical interactions between program (software) and computer (hardware) *(from T 1173/97 (Computer program product/IBM) of 1.7.1998 of the Board of Appeals of the European Patent Office)*;

Hardware shall mean the physical components, such as electronic and electrical devices, of an apparatus such as a computer *(from online Merriam-Webster Dictionary)*;

Information shall mean a signal or character, as in a communication system or computer, representing data *(from online Merriam-Webster Dictionary)*;

Information Communications Technology (ICT) shall mean the totality of electronic means to access, create, collect, store, process, receive, transmit, present, and disseminate information *(from Republic Act No. 10844, otherwise known as the "Department of Information and Communications Technology Act of 2015", signed into law in 2016)*;

Machine shall mean a mechanically, electrically, or electronically operated device for performing a task *(from online Merriam-Webster Dictionary)*;

MPEP shall mean *The Manual for Patent Examination Procedure (2017)* of the Intellectual Property Office of the Philippines;

Object (in computing) shall mean a data structure in object-oriented programming that can contain functions as well as data, variables, and other data structures *(from online Merriam-Webster Dictionary)*;

Per se shall mean by, of, or in itself or oneself or themselves, or as such *(from online Merriam-Webster Dictionary)*;

Platform shall mean the arrangement of computer components that uses a particular operating system or the computer architecture and equipment using a particular operating system *(from online Merriam-Webster Dictionary)*;

Procedure (in computing) shall mean a set of instructions for a computer that has a name by which it can be called into action *(from online Merriam-Webster Dictionary)*;

Process shall mean an act, or a series of acts or steps. "*A process is applicable to all kinds of activities in which the use of some material product for effecting the process is implied; the activity may be exercised upon material products, upon energy, upon other processes (as in control processes) or upon living things*" (*MPEP Sec.3.1*);

Software shall mean the entire set of programs, procedures, and related documentation associated with a system and especially a computer system *(from online Merriam-Webster Dictionary)*;

Technical Character shall mean of the kind that involves a technical teaching, i.e., an instruction addressed to a skilled person as to how to solve a particular technical problem using particular technical means *(from T 0154/04 (Estimating sales activity / Duns Licensing Associates) of 15.11.2006 of the Board of Appeals of the European Patent Office)*;

Technical Effect shall mean of the kind that is achieved by the internal functioning of a computer itself under the influence of a program. *(from T 1173/97 (Computer program product/IBM) of 1.7.1998 of the Board of Appeals of the European Patent Office)*;

Technical Problem (also objective technical problem) shall mean the aim and task of modifying or adapting the closest prior art to provide the technical effects that the invention provides over the closest prior art *(from paragraph 5.2, Chapter VII, Part G, Guidelines for Examination of the European Patent Office)*;

Technology shall mean the practical application of knowledge, especially in a particular area *(from online Merriam-Webster Dictionary)*; and

Telecommunication shall mean any process which enables a telecommunications entity to relay and receive voice, data, electronic messages, written or printed matter, fixed or moving

pictures, words, music or visible or audible signals or any control signals of any design and for any purpose by wire, radio or other electromagnetic, spectral, optical or technological means (*Public Telecommunications Policy Act of the Philippines, R.A. 7925*).

3. SUBJECT MATTER ELIGIBILITY IN THE FIELD OF ICT/CII

3.1. General Guidelines of Subject Matter Eligibility Determination

Policies relating to subject matter eligibility of patent applications involving computers and ICT are found in Sections 21 and 22 of the IP Code as well as in Rules 201 and 202 of the IRR

Section 21 of the IP Code: ***Patentable inventions*** **-** Any **technical solution** of a problem in any field of human activity which is new, involves an inventive step and is industrially applicable. It may be, or may relate to, a **product**, or **process**, or an **improvement of any of the foregoing**.

Section 22 of the IP Code: ***Non-Patentable Inventions*** **- The following shall be excluded from patent protection:**

22.1 Discoveries, scientific theories, and mathematical methods, xxx;

22.2 Schemes, rules, and methods of performing mental acts, playing games, or doing business, and programs for computers.

22.3 xxx;
22.4 xxx;
22.5 xxx;
22.6 xxx;

Rule 201 of the IRR. Statutory Classes of Patentable Inventions - A patentable invention may be or may relate to:

a) A product, such as a machine, a device, an article of manufacture, a composition of matter, a microorganism;
b) A process, such as a method of use, a method of manufacturing, a non-biological process, a microbiological process;
c) Computer-related Inventions; and
d) An Improvement of any of foregoing.

Rule 202 of the IRR. Non-patentable Inventions. – The following shall be excluded from patent protection:

(a) Discoveries, scientific theories, and mathematical methods, a law of nature, a scientific truth, or knowledge as such;
(b) Abstract ideas or theories, fundamental concepts apart from the means or processes for carrying the concept to produce a technical effect;
(c) Schemes, rules, and methods of performing mental acts and playing games;

(d) Method of doing business, such as a method or system for transacting business without the technical means for carrying out the method or system;
(e) Programs for computers;
(f) xxx;
(g) xxx;

To have a meaningful and accurate interpretation of aforesaid provisions of the IP Code, precise judgement should be practiced during substantive examination when assessing eligibility of patent applications involving the fields of information communication technology (ICT) and computer-implemented inventions (CII). Relevance of these guidelines is particularly directed to the eligibility assessment of computer and ICT-related applications pertaining to subject matters with mixtures of technical and non-technical elements which is an emerging trend in innovations involving computer systems and networks including the Internet. Most especially, these guidelines provide examiners with assistance in analyzing the difficult task of whether ICT/CII patent applications involving subject matters such as abstract ideas, mathematical models, business methods, and computer programs are patent eligible.

These examination guidelines are designed to equip examiners with a clear instruction in determining whether the combination of excluded patentable subject matters with technical means or hardware in ICT related patent claims constitutes "*technical character*".

Invention applications that do not involve the field of computing and ICT should be assessed using patentability determination methodology applied for other subject matters. These guidelines may also be used in assessing utility models involving utility models involving ICT/CII.

3.2. Basic Idea of Subject Matter Eligibility in the Field of ICT/CII

3.2.1. Statutory Patentable Subject Matter

In accordance with Section 21 of the IP Code and Rule 201 of the IRR, patentable subject matters eligible for patent protection are limited to a product, process, or improvements thereof.

A claim directed to computer program *per se* is an ineligible subject matter under Section 22 of the IP Code. The expression '*per se*' implies that an invention cannot be claimed for the computer program alone e.g., source codes, data structures, and the likes.

To fall within categories of invention patentable under Section 21 of the IP Code as a product (article of manufacture), a claim directed to a computer program should be drafted in a manner wherein the program instructions are cooperatively working with a programmable device. In short, it cannot be a computer program or software by itself, rather it must exist and work with hardware.

The following non-exhaustive list comprises examples of acceptable claim formulations for claims directed to computer programs:

- A computer readable recording medium which records a program that makes a computer execute a process A, a process B, A process C...
- A computer readable recording medium which records a program that causes the computer to operate as a means A, means B, means C...
- A computer readable medium which records a program that makes a computer implement a function A, a function B, a function C...
- A computer-readable recording medium which records a program that makes the computer carry out step A, step B, step C…
- A non-transitory computer-readable recording medium which records a program that makes the computer carry out step A, step B, step C...

Subject matters that do not fall within the meaning of statutory classes of inventions as set forth in Section 21 of the IP Code are not eligible for patenting.

Illustrative Example 1:

Claim:

A strategy to increase production of agricultural products comprising: government subsidized farmer cooperatives that directly market farm-based products to local markets without paying corresponding taxes for the sale of the products.

Analysis:

The above strategy is an economic plan which does not fall within the meaning of the statutory categories of invention for the following reasons:

- Not a process because it does not recite a series of steps;
- Not a machine because it is not a concrete thing consisting of parts and devices;
- Not composed of matter and therefore clearly not a composition of matter; and
- Not an article of manufacture because it is not produced from raw or prepared materials.

Illustrative Example 2:

Claim:

A signal with embedded supplemental data, the signal being encoded in accordance with a given encoding process and selected samples of the signal representing the supplemental data, and at least one of the samples preceding the selected samples is different from the sample corresponding to the given encoding process.

Analysis:

A transitory, propagating signal like the claim above likewise does not fall within the meaning of the statutory categories of invention for the following reasons:

- Not a process because it does not recite a series of acts;
- Not a machine because it is not a concrete thing consisting of parts and devices;
- Not composed of matter and therefore clearly not a composition of matter; and
- Not an article of manufacture because it is not produced from raw or prepared materials.

The transient electric or electromagnetic transmission is man-made. It exists in the real world and has tangible causes and effects but does not qualify as a product (article of manufacture), or as any of the other statutory categories stipulated in Section 21 of the IP Code. A signal has no physical attributes and, thus, is considered abstract which is not-patentable subject matter for invention. However, machines/devices, processes, and computer programs involved in communicating the signal are eligible subject matters for patent protection. (*In re Nuijten, 500 F.3d 1346, 1354, 84 USPQ2d 1495, 1500 (Fed. Cir. 2007)*).

If a claim falls within at least one of the categories of inventions, proceed to the assessment of whether the claim falls under statutory non-patentable classes of inventions.

3.2.2. Statutory Non-Patentable Subject Matter

Section 22 of the IP Code and Rule 202 of the IRR specifically define non- patentable subject matters that are ineligible for patent protection.

For inventions concerning the field of ICT and CII, special considerations are conferred to the non-patentable subject matters set forth hereunder. In the following chapters "Abstract Ideas" is used under the following definition:

Abstract Ideas - includes fundamental concepts apart from the means or processes for carrying the concept to produce a technical effect; Schemes, rules, and methods of performing mental acts and playing games; method of doing business, such as a method or system for transacting business without the technical means for carrying out the method or system; and mathematical methods.

Computer Program - shall mean a set of instructions executed by the computer to achieve intended results *(from the Cybercrime Prevention Act of 2012)*.

3.2.3. Technical Character

In accordance with the IP Code and its implementing rules and regulations, subject matters falling within the meaning of statutory non-patentable subject matters represent purely concepts devoid of any technical character wherein an invention relates to aforesaid subject matters as such and do not offer anything more than the idea. In other words, the subject matter as claimed, considered as whole, does not provide any technical solution to a technical problem to the art in a field not excluded from patentability under Sec. 22 of the IP Code.

Having technical character is a requirement of the IP Code for a solution to be considered an invention within the meaning of Section 21 of the IP Code. Thus, an invention claimed is within the meaning of Section 21 if, for example, a technical effect is achieved by the invention or if technical considerations are required to carry out the claimed invention.

Further, an apparatus constituting a physical entity or concrete product suitable for performing or supporting an abstract idea to produce technical effect, is an invention within the meaning of Section 21 of the IP Code. However, the feature of using technical means (apparatus) for a purely non-technical purpose, or to respond to a non-technical problem, or for processing purely non-technical information does not necessarily confer technical character to an invention. In fact, any activity in the non-technical branches of human culture involves physical entities and uses, to a greater or lesser extent, technical means.

Hence, apart from the presence of tangible components (apparatus, devices, etc.), an application as claimed must likewise clearly recite feature/s serving the purpose of providing a technical solution to a technical problem in order to fall within the meaning of patentable inventions under Section 21 of the IP Code. In other words, the subject-matter as claimed, considered as a whole, should provide a technical contribution to the art in a field not excluded from patentability.

In considering whether the subject-matter of an application is an invention within the meaning of Section 21 of the IP Code, there are two general points the examiner must bear in mind:

Firstly, any exclusion from patentability under Section 22.1 or Section 22.2 will, in general, apply only to the extent to which the application relates to the excluded

subject-matter as such. Secondly, the examiner should disregard the form or kind of claim and concentrate on its content in order to identify the real contribution which the subject-matter claimed, considered as a whole, adds to the known art. If this contribution is not of a technical character, there is no invention within the meaning of Section 21. Thus, for example, if a computer program is claimed in the form of a physical record, e.g., on a conventional tape or disc, the contribution to the art is still no more than a computer program. In these instances, the claim relates to excluded subject-matter as such and is therefore not allowable. If, on the other hand, a computer program in the form of a physical record in combination with a computer causes the computer to operate in a different way from a technical point of view, the combination might be patentable.

In addition, regarding programs for computers, the basic patentability considerations here are exactly the same as for the other exclusions listed in Section 22. However, a data-processing operation can be implemented either by means of a computer program or by means of special circuits, and the choice may have nothing to do with the inventive concept but be determined purely by factors of economy or practicality. With this point in mind, examination in this area should be guided by the following approach:

A computer program claimed by itself or as a record on a carrier, is not patentable regardless of its content. This does not change when the computer program is loaded into a known computer. In Alice Corp. v CLS Bank Int'l (573 U.S. 208), it was held that "*the implementation of claims directed to an abstract idea on a computer is not enough to transform that abstract idea into a patentable subject matter*".

If, however, the subject-matter as claimed makes a technical contribution to the known art, patentability should not be denied merely on the ground that a computer program is involved in its implementation. This means, for example, that program-controlled machines, program-controlled manufacturing and control processes should normally be regarded as patentable subject-matter. This also means, for example, that a computer program as a record on a carrier can be regarded as patentable subject matter if the computer program is implemented in a computer and has technical character. It follows also that, where the claimed subject-matter is concerned only with the program-controlled internal working of a known computer, the subject-matter could be patentable if it provides a technical effect. In Diamond v Diehr (450 U.S. 175), it was ruled that "*an invention in the form of a process including a non-patentable element is patent-eligible if it meets the criteria of patentability as a whole.*"

It must also be borne in mind that the basic test of whether there is an invention within the meaning of Section 22, is separate and distinct from the questions whether the subject-matter is susceptible of industrial application, is new and involves an inventive step.

"*Technical character*" is expressly stipulated by the following provisions of the IP Code and its implementing rules and regulations:

- Any "technical solution" to a problem (Section 21 and Rule 200)

- Shall contain a clear disclosure of the "technical features" of the invention (Rule 406)
- Specify the "technical field" (Rule 407[a])
- Disclose the invention in such term that the "technical problem" can be understood (Rule 407[c])

In such regard, an invention for which these guidelines relate to is said to be possessing technical character when it explicitly or implicitly manifests technical consideration in providing a solution to a problem. Where a tangible or concrete means is involved, the manner by which the invention operates must show indication that information technology and computer-related technical aspects or considerations are applied in realizing the invention.

In assessing the invention being sought for protection, it is noteworthy that the scope of the invention should be interpreted by the Examiner on the basis of the scope being defined by the claims. Although the description and drawings define the invention whereby cooperation of computer program and hardware is evident, when there is no such definition is stated in the claims, the invention as claimed is considered as lacking technical character and ineligible for patent protection.

Pursuant to Section 36 of the IP Code, it is the claims that define the matter for which protection is sought while the description only provides support for the claims. In Godines vs Court of Appeals (G.R. No. 97343), the test of literal infringement was established: "*…resort must be had, in the first instance, to the words of the claim. If accused matter clearly falls within the claim, infringement is made out and that is the end of it.*" In short, the claims are the vital part of the patent and defines the scope of patent grant for in the contents of the claim infringement could be determined (Complimentary Guidelines on Patent Examination Practice and Procedures).

3.2.4. Broadest Reasonable Interpretation

It is important to bear in mind that a claim relating to ICT/CII needs to be subjected to its broadest reasonable interpretation to establish its boundaries in order to identify whether or not such covers an eligible subject matter (see as well Section 3.3.2).

If a claim, under the broadest reasonable interpretation, covers an invention that falls within the non-patentable classes of inventions as provided by Section 22 of the IP Code, a rejection should be made.

Illustrative Example:

Claim:

In mass spectrographic analysis where, from a given sample of material there is generated a spectrum function having peaks therein spaced along a mass scale with respect to which the relationship between concentration,

contribution factor of each of the m constituents of the mixture and the magnitude of each of the n peaks in said spectrum is represented by a set of m linear algebraic equations and where n is an integer greater than m, ***the method of selecting for analysis a set of m peaks least susceptible to error in concentration determination which comprises dividing each said contributing factor for each peak by a normalizing function, successively generating a determinant function*** *for each said set of peaks,* ***successively generating output indications of the magnitudes of said determinant functions****, and* ***selecting therefrom the determinant function of greatest magnitude*** *for identification of said peaks least susceptible to error.*

Analysis:

The claim relates to a process of analyzing data obtained by mass spectrographic analysis of a gas which further comprises selecting the data to be analyzed through conventional mathematics.

The broadest reasonable interpretation of the claim suggests that the method is readable upon mental process augmented by pencil and paper markings, with the absence of a machine to carry out the process. Thus, the claim falls under non-patentable subject matter. (Prater, 415 F.2d 1393, 1398 (C.C.P.A. 1969).

The court explained that "*reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from 'reading limitations of the specification into a claim,' to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim.*"

3.3. Subject Matter Eligibility Test Determination in the Field of ICT/CII

Subject matter eligibility determination test is carried out under the following inquiry comprising Steps 1 to 5:

Step 1: Is the claim related to the field of ICT/CII?

- No – **Perform eligibility determination using criteria/method applied for other subject matters (General Criteria)**
- Yes – Proceed to Step 2.

A claim is said to be directed to the field of ICT/CII when it involves the following:

ICT - the totality of electronic means to access, create, collect, store, process, receive, transmit, present, and disseminate information.

CII - an invention which includes computers, computer networks or other programmable apparatus whereby *prima facie* one or more of the features of the claimed invention are realized by means of a program or programs.

Eligibility of an invention that is claimed using terms that are not commonly used for an ICT/CII application shall be analyzed using this guideline if it is obvious, by taking into account the common general knowledge as of the filing, that the invention for which a patent is sought concerns the ICT/CII field.

Step 2: Is the claim directed to matter which is against public order or morality?

- No – Proceed to Step 3.
- Yes – **Ineligible Subject Matter**

Step 3: Is the claim directed to a product or process within the meaning of the IP Code?

- No – **Ineligible Subject Matter**
- Yes – Proceed to Step 4.

Step 4: Does the claim involve non-technical matter?

- No – **Eligible Subject Matter**, i.e., the claim has technical character (i.e., directed to technical elements and excludes feature/s relating to non-technical matters)
- Yes – Proceed to Step 5.

Examples of Non-Technical Matters:

- **Methods of Doing Business** [e.g., Concepts relating to economy and commerce; Business relations; Hedging *In re: Bilski v. Kappos,* 561 U.S. 593, 611, 95 USPQ 2d 1001, 1004 (2010); Processing loan information; Managing and insurance policy; and Mitigating settlement risk *In re: Alice Corp. Pty. Ltd. V. CLS Bank Int'l,* 573 U.S. 208, 216, 110 USPQ2d 1976, 1980 (2014)]

- **Idea, Concepts, Plan or Scheme, and Mental Process** [e.g., Collecting and comparing known information; Comparing risk data to determine risk level; Obtaining and comparing intangible data; Comparing new and stored information and using rules; Using categories to organize store and transmit information; Data recognition and storage; Organizing information through mathematical correlations; Inventory management; and Displaying an advertisement in exchange for access to copyrighted media]

- **Method of Organizing Human Activity** [e.g., Arbitration; Meal planning; A mental process that a doctor should follow when testing a patient; Computing a price for the sale of a fixed income asset and generating a financial analysis output; and Managing a game of bingo]

- **Mathematical Methods** [e.g., A mathematical formula for hedging; A formula for computing an alarm limit *In re: Parker v. Flook*, 437 U.S. 584, 588-89, 198 USPQ2d 193, 195 (1978); An algorithm for converting binary coded decimal to pure binary *In re: Gottschalk v. Benson*, 409 U.S. 63, 65, 175 USPQ2d 673, 674 (1972) ; Calculating the difference between actual and average data values; Managing a stable value protected life insurance policy by performing calculations and manipulating the results; An algorithm for determining the optimal number of visits by a business representative to a client; and An algorithm for calculating parameters indicating an abnormal condition]

Step 5: Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?

- No – **Ineligible Subject Matter**
- Yes – Proceed to assessment of novelty, inventive step, and industrial applicability.

*Pointers that indicate Technical Character and Eligibility of a **Product Claim**:*

- A man-made tangible[1] embodiment (*device, apparatus, port, memory, processor, circuit boards, computer etc.*) with a real-world use can be evidence of technical character.
- The tangible embodiment is utilized for a technical purpose and application in such a manner that implementation constitutes a technical solution to a problem.
- Technical solution means that computer-related technical aspects or considerations are applied in realizing the invention whereby tangible features provide substantial contribution in carrying-out the proposed invention.
- If a computer program produces a "further technical effect" when carried out in a computer, a product which involves the computer program shall be regarded as providing technical contribution in carrying out the claimed invention.
    - The normal technical effect like flow of electrical current is not sufficient.
    - Where information processing by a computer program, i.e., software is concretely realized by using hardware resources, the said software is deemed to be exhibiting a "further technical effect". "Information processing by software is concretely realized by using hardware resources" means that, as a result of reading the software into the computer, the information processing equipment (machine etc.) or operational method particularly suited for a use or purpose includes tangible/concrete means whereby software and hardware are working cooperatively and evidently to solve/realize a technical problem which for example include manipulation of information or arithmetic operation.

[1] MPEP - Product includes a substance or compositions (e.g. chemical compound or a mixture of compounds) as well as any physical entity (e.g. object, article, apparatus, machine, or system of co-operating apparatus) which is produced by man's technical skill.

- The information processing equipment which cooperatively works with said software satisfying the above condition, the computer program thereof, and the computer-readable storage medium having said software recorded thereon are also deemed to be exhibiting "further technical effect".

*Pointers that indicate Technical Character and Eligibility of a **Process Claim**:*

Recitation of a machine (either express or inherent).

- Machine implements the claimed steps (performance of process steps are tied to a particular device).
- Machine is used for a technical purpose and application in such a manner that implementation constitutes a technical solution to a problem which meaningfully limits the execution of the steps.
  - **Technical purpose** means that computer and ICT-related technical considerations are applied in realizing the invention whereby tangible features provide substantial contribution in carrying-out the proposed invention.

The claim is more than a mere statement of a concept.

- The claim implements a concept in some tangible way (machine, device, tangible product/article, tangible result etc.) in which a technical solution to a problem to be solved is evident.
- If a computer program produces "further technical effect" when carried out in a computer, the process claim which is implemented by the computer program shall be regarded as providing substantial contribution in carrying out the proposed invention.
  - the operational method of information processing equipment which cooperatively works with said software satisfying the above condition, is also deemed to exhibit "further technical effect".

*Pointers that indicate the **Absence** of Technical Character and Ineligibility of a **Product Claim**:*

The claim is a mere statement of a general concept.

- The claim only states a problem to be solved.

***Example:** A device for extending battery charge of a mobile phone by at least one (1) year.*

- Man-made tangible embodiment does not constitute a technical solution to a problem.
  - The tangible embodiment is not used for a technical purpose or there is no indication that applications of computer and ICT-related technical concepts or considerations are present in carrying out the proposed invention.
  - Skill set required to implement the claimed invention merely resides in knowledge of abstract or non-technical concepts/ideas.

Example: *A computer having a visually appealing color pattern.*
Example: *A computer displaying financial information and calculations.*

Pointers that indicate the ***Absence*** *of Technical Character and Ineligibility of a* ***Process Claim****:*

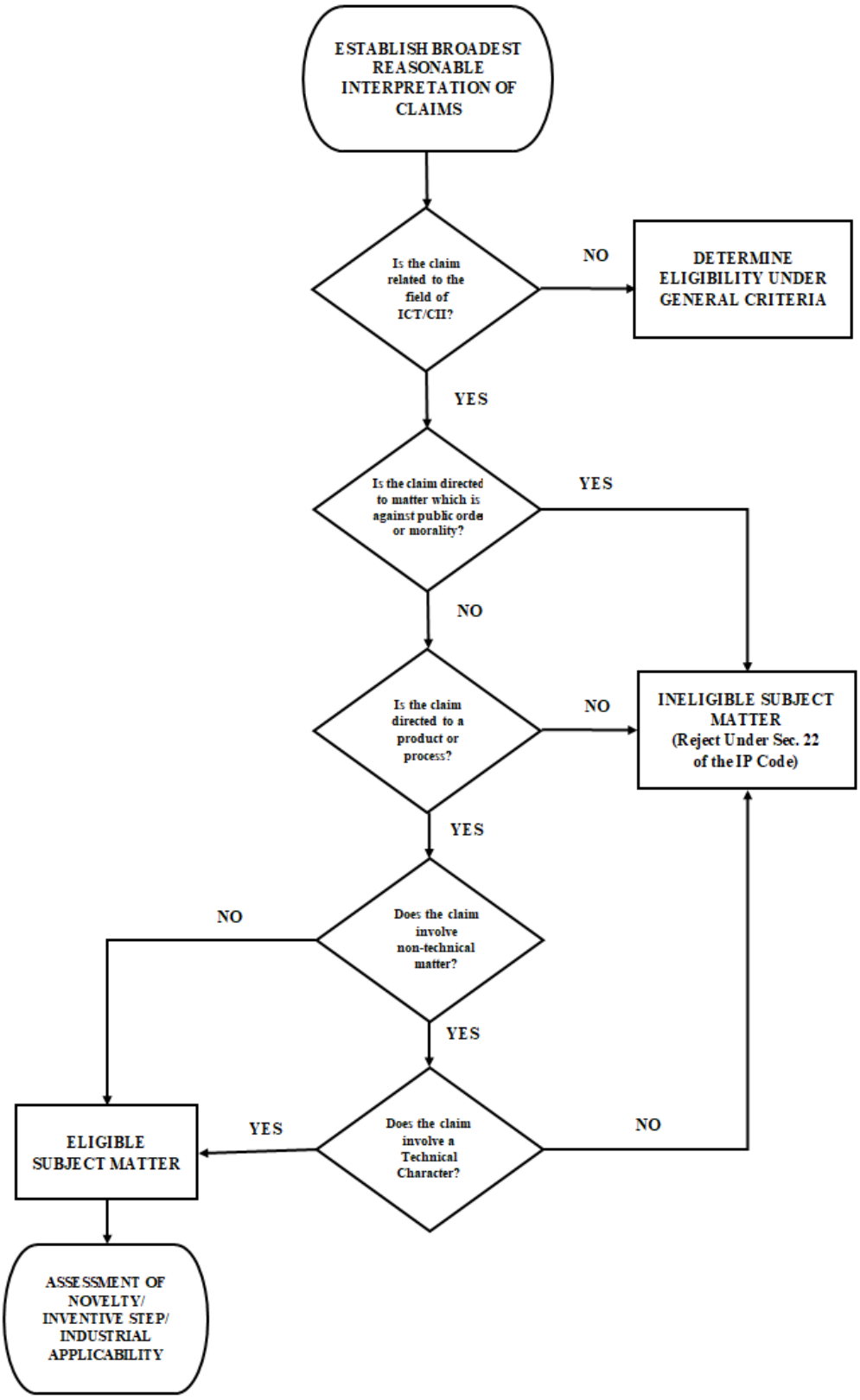
No Involvement of a machine (either express or inherent) or the machine plays an insignificant role in the invention.

- No involvement of a machine (either express or inherent).
- Insufficient recitation of a machine
- Involvement of machine where the steps are merely nominally, insignificantly, or tangentially related to the performance of the steps, e.g., data gathering, or merely recites a field in which the method is intended to be applied.
- Machine is generically recited such that it covers any machine capable of performing the claimed step(s).
- Machine is not used for a technical purpose where application of computer and ICT-related technical concepts and considerations are absent.
- Skill set required to implement the claimed invention merely resides in knowledge of abstract or non-technical concepts/ideas.

The claim is a mere statement of a general concept.

- Use of the concept, as expressed in the method, would effectively grant a monopoly over the concept.
- Both known and unknown uses of the concept are covered, and can be performed through any existing or future-devised machinery, or even without any apparatus.
- The claim only states a problem to be solved.

After weighing all the factors, if the claim is not drawn to an eligible subject matter, reject the claim as being directed to a statutory non-patentable subject matter. If the claim is drawn to an eligible subject matter, proceed to the determination of novelty, inventive step, and industrial applicability.



Flowchart of Subject Matter Eligibility Determination in ICT/CII Inventions

3.4. Examples of Subject Matter Eligibility Determination

3.4.1. Technical Character for Computer Programs

Illustrative Example 1:

Consider the case of a known data-processing system with a small fast working memory and a larger but slower further memory. Suppose that the two memories are organized under program control, in such a way that a process which needs more address space than the capacity of the fast-working memory can be executed at substantially the same speed as if the process data were loaded entirely in that fast memory. The effect of the program in virtually extending the working memory and speed is of a technical character and might therefore support patentability.

Illustrative Example 2: *(Examples of further technical effect)*

Further Technical Effect	No Further Technical Effect
Control of a car braking system. The control being implemented to the braking system of a car ensures driving steerability and stability throughout the braking procedure by means of program-controlled braking components	Aesthetical effects of music or a video
Processing involving physical data parameters of control values of an industrial process.	New rules for an auction scheme
Faster communication speed between mobile devices	Selling and booking sailing cruise packages
Secure communication by encrypting data	Calculation of pension contributions
Improved operations of a computer, such as saving memory, increasing speed, improved security and faster data transfer, efficient resource allocation in an operating system	

3.4.2. Process/Method Claim

Illustrative Example 1 (EPO Case Law T931-95):

Claim 1.

A method of controlling a pension benefits program by administering at least one subscriber employer account on behalf of each subscriber employer's enrolled employees each of whom is to receive periodic benefits payments, said method comprising:

providing to a data processing means information from each said subscriber employer defining the number, earnings, and ages of all enrolled employees of the said subscriber employer;

determining the average age of all enrolled employees by an average age computing means;

determining the periodic cost of life insurance for all enrolled employees of said subscriber employer by life insurance cost computing means; and

estimating all administrative, legal, trustee, and government premium yearly expenses for said subscriber employer by administrative cost computing means; the method producing, in use, information defining each subscriber employer's periodic monetary contribution to a master trust, the face amount of a life insurance policy on each enrolled employee's life to be purchased from a life insurer and assigned to the master trust and to be maintained in full force and effect until the death of the said employee, and periodic benefits to be received by each enrolled employee upon death, disability or retirement.

Claim 2.

A method of controlling a pension benefits program by administering at least one subscriber employer account on behalf of each subscriber employer's enrolled employees each of whom is to receive periodic benefits payments, said method comprising:

providing to a memory of a data processing means of an apparatus information from each said subscriber employer defining the number, earnings, and ages of all enrolled employees of the said subscriber employer;

determining the average age of all enrolled employees by an average age computing means of the data processing means;

determining the periodic cost of life insurance for all enrolled employees of said subscriber employer by life insurance cost computing means of the data processing means; and

estimating all administrative, legal, trustee, and government premium yearly expenses for said subscriber employer by administrative cost computing

means of the data processing means; the method producing, in use, information defining each subscriber employer's periodic monetary contribution to a master trust, the face amount of a life insurance policy on each enrolled employee's life to be purchased from a life insurer and assigned to the master trust and to be maintained in full force and effect until the death of the said employee, and periodic benefits to be received by each enrolled employee upon death, disability or retirement.

Analysis:

Claim 1

Step 1*: Is the claim related to the field of ICT/CII?*

Yes. Even in the absence of explicit recitation of a computer or a computer network, it is apparent that the invention belongs to the ICT/CII field as the mention of terms "information processing" and "computing means" suggest the participation of computing devices and data manipulation in carrying out the claimed method.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3*: Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a process claim as manifested by the recitation of a series of acts or steps for carrying-out the method of controlling pension benefits.

Step 4*: Does the claim involve non-technical matter?*

Yes. The claim embodies a method of controlling pension benefits involving the abstract idea of performing data manipulation and mathematical calculations to manage periodic benefits of enrolled employees in an insurance program.

Step 5*: Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

Skills necessary to understand what is realized by the claim are not of a technical character since the claim dealt with a method of doing business with the apparent absence of technical consideration in the implementation of the claimed method. Apart from the data processing means, the claim merely contains expressions like average age computing means, life insurance cost computing means, and administrative cost computing means.

These expressions are considered as missing any technical definitions required by the IP Code. The broadest reasonable interpretation suggests that said means are considered as hinting only at their purpose, namely to serve for division of labor taking into account commercial or managerial considerations and not defining the technical features of any equipment/machine.

The data processing and computing means defined in the method claim do not confer technical character to the method claimed. The individual steps defining the claimed method amount to no more than the general teaching to use data processing means for processing or providing information of purely administrative, actuarial and/or financial character.

The feature of using technical means for a purely non-technical purpose and/or for processing purely non-technical information does not necessarily confer technical character to any such individual steps or to the method as a whole. In fact, any activity in the non-technical branches of human culture involves physical entities and uses, to a greater or lesser extent, technical means. The mere occurrence of tangible features in a claim for non-technical application, where no ICT and computer-related technical concepts are involved, is not considered a technical solution to a problem and, therefore, does not turn the subject-matter of the claim into an invention within the meaning of Section 21 of the IP Code.

Methods only involving economic concepts and practices of doing business are not inventions within the meaning of Section 21 of the IP Code. A feature of a method which concerns the use of technical means for a purely non-technical purpose and application and/or for processing purely non-technical information does not necessarily confer a technical character to such a method and does not involve any technical solution to a problem.

Hence, the claim is considered as a method of doing business as such and statutory non-patentable subject matter within the meaning of Section 22 of the IP Code. The subject-matter as claimed, considered as a whole, did not provide any contribution to the art in a field not excluded from patentability.

After weighing the factors, the claim is found to be drawn to a business method as such. The claim should be rejected under the IP Code for being directed to a statutory non-patentable subject matter.

Claim 2

Step 1*: Is the claim related to the field of ICT/CII?*

Yes. Even in the absence of explicit recitation of a computer or a computer network, it is apparent that the invention belongs to the ICT/CII field as the mention of terms "information processing" "memory" and "computing means" that are in operational relation suggests, in light of common general knowledge in ICT/CII, the participation of computing devices and data manipulation in carrying out the claimed method.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3*: Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a process claim as manifested by the recitation of a series of acts or steps for carrying-out the method of controlling pension benefits.

***Step 4**: Does the claim involve non-technical matter?*

Yes. The claim embodies a method of controlling pension benefits involving the abstract idea of performing data manipulation and mathematical calculations to manage periodic benefits of enrolled employees in an insurance program.

***Step 5**: Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

The claim relates to a method of controlling pension benefits that is performed by means of an apparatus including a memory and data processing means. A person skilled in the art can deduce that said method involved tangible components under instruction from a particular computer program in carrying-out data manipulation and mathematical calculations.

Thus, the invention claimed is an information processing method in which data manipulation and mathematical calculations by software is concretely realized by using hardware resources. The individual steps of providing to a memory of a data processing means of an apparatus information from each said subscriber employer defining the number, earnings and ages of all enrolled employees of the said subscriber employer; determining the average age of all enrolled employees by an average age computing means of the data processing means; determining the periodic cost of life insurance for all enrolled employees of said subscriber employer by life insurance cost computing means of the data processing means; and estimating all administrative, legal, trustee, and government premium yearly expenses for said subscriber employer by administrative cost computing means of the data processing means suggest involvement of a tangible apparatus comprising programmed controlled devices in operational relationships in which ICT and computer-related technical concepts for (e.g. electronic database, information systems, and programming principles) automating control and administration of pension benefits are applied. As such, although the method recites economic ideals and mathematical calculations, it is evident that the method as whole is not merely a general concept, but a technical solution to a problem, a manifestation of technical effect/character required by the IP Code.

Therefore, it is evident that the invention of claim 2 is considered as constituting a "statutory invention" within the meaning of the sections 21 and 22 of the IP Code.

After weighing the factors, the claim is found to be drawn to an eligible method claim under the IP Code. Examination shall proceed to the determination of other patentability criteria.

Illustrative Example 2 (JPO Software Guidelines Case):

Claim 1

A service method for offering service points depending on an amount of commodity purchased at a shop on the Internet, comprising the steps of:

notifying an amount of service points offered and a name of the person to whom the said service points are offered;

acquiring the e-mail address of the said person from a customer list storage means based on the name of the said person;

adding the said service points to the accumulated points of the said person stored in the said customer list storage means; and

notifying the said person that the said service points have been given by e-mail using the said e-mail address of the said person.

Claim 2

A service method for offering service points depending on an amount of commodity purchased at a shop on the Internet, comprising the steps of:

receiving by a server, an amount of service points offered and a name of the person to whom the said service points are offered via the Internet;

acquiring by the said server, the e-mail address of the said person from a customer list storage means based on the name of the said person;

adding by the said server, the said service points to the accumulated points of the said person stored in the said customer list storage means; and

notifying by the said server, to the said person that the said service points have been given by e-mail using the said e-mail address of the said person.

Analysis:

Claim 1

Step 1*: Is the claim related to the field of ICT/CII?*

Yes. References to the "Internet", "e-mail" and "storage means" show evidence that computers and computer networks are involved in the invention.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3*: Is the claim directed to a product or process within the meaning of the IP Code*

Yes. The claim is a process claim as manifested by the recitation of a series of acts or steps for carrying-out the claimed service method.

***Step 4**: Does the claim involve non-technical matter?*

Yes. The claim is drawn to a service method involving non-technical matters related to offering service points in relation to the amount of commodity purchased by a client on an Internet shop which is a business scheme aimed at attracting clients and increasing sales.

***Step 5**: Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

The claim relates to a method for offering service points commodity purchased at a shop on the Internet. The terms “e-mail” and “storage device” does not necessarily confer technical character to the invention as claimed pursuant to the requirement of the IP Code.

The claim does not explicitly nor inherently suggest involvement of a computer, apparatus, or machine in performing each step of the method. As such, the claimed method is amenable to be interpreted as a purely business method wherein performance of each step is not tied to a machine, let alone involvement of computer-related technical concepts in which computer software is concretely realized by hardware. In other words, skills necessary to put the method into practice requires mere business concepts and mental skills whereby each step of the claimed method is no more than human activities that merely uses email as a communication channel and any storage means for data recording.

Therefore, it follows that the invention of claim is considered as constituting a statutory non-patentable invention within the meaning of Section 22 of the IP Code.

After weighing the factors, the claim is found to be drawn to a method claim that is ineligible for patent protection (method) under the IP Code.

Claim 2

***Step 1**: Is the claim related to the field of ICT/CII?*

Yes. References to the "Internet", "server" and "storage means" evidence involvement of computers and computer networks in the invention.

***Step 2:** Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

***Step 3**: Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a process claim as manifested by the recitation of a series of acts or steps for carrying-out the claimed service method.

***Step 4**: Does the claim involve non-technical matter?*

Yes. The claim is drawn to a service method involving non-technical matters directed to offering service points in relation to the amount of commodity purchased by a client on an Internet shop which is a business scheme aimed at attracting clients and increase sales.

***Step 5**: Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

The claim relates to a method for offering service points commodity purchased at a shop on the Internet that is executed by means of a server. A person skilled in the art can conclude that in said method, information processing is tangibly accomplished with the aid of a server under instruction from a computer program. Particularly, all the steps of the claimed method are being executed by the server.

The invention claimed, therefore, is an information processing method in which information processing by software is concretely realized by using hardware resources, in this case the server. The individual steps wherein the server acquiring the e-mail address of the person to whom service points are offered from a customer list storage means, adding the said service points to the accumulated service points of the said person stored in the said customer list storage means, and notifying the said person of the fact that the said service points have been given not only suggest the involvement of technical facilities and features in the realization in the method, but also suggest that a network of computers, set-up in a client-server network configuration, implement and meaningfully limit execution of the steps in which technical skills in client-server computer networking is applied in carrying-out the method. As such, although the method recites economic and business ideals, it is evident that the method as whole is not merely a general concept, but a technical solution to solve the problem of difficulty in managing and calculating service points accumulated by online shoppers based on the number of items purchased on an Internet shop by means of a server that automatically accesses a database of customers and adds service points to the accumulated points of the person, a manifestation of technical effect/character required by the IP Code.

While method steps of offering service points in Claim 1 can be construed as mere human transactions using email and any storage means as tools which is purely business method as aforementioned, the method steps of offering service points in Claim 2 are executed by machine/server which signifies technical character and eligibility for patent protection.

Therefore, it follows that the invention of claim 2 is considered as constituting a "statutory invention" within the meaning of the sections 21 and 22 of the IP Code.

After weighing the factors, the claim is found to be drawn to a method claim that is eligible for patent protection (method) under the IP Code. Examination shall proceed to the determination of other patentability criteria.

Illustrative Example 3 (PH 1-2012-000222)

Claim 1

A wireless method for counting the kicks of a fighting cock comprising:

sending information on the number of times a glob secured on said fighting cock lands to an opponent during a match using a first mobile device;

receiving said information using a second mobile device;

recording said information in the second mobile device; and

displaying said information using the second mobile device.

Claim 2

A wireless method for counting the kicks of a fighting cock comprising:

sending, by a transmitter secured within a glob of said fighting cock, intermittent signal whenever said glob land to an opponent during a match;

counting and recording, by a receiver, the intermittent signal from the transmitter; and

displaying, by a digital counter in communication with the receiver, the number of times said intermittent signal is detected by the receiver.

Analysis:

Claim 1

Step 1: *Is the claim related to the field of ICT/CII?*

Yes. References to mobile devices as well as to transmission of information suggest involvement of ICT/CII-related devices and technologies.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3: *Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a process claim as manifested by the recitation of a series of acts or steps for carrying-out the claimed wireless method.

Step 4: *Does the claim involve non-technical matter?*

Yes. The claim is drawn to a wireless method of sending, receiving, and counting information that include features involving communication/processing of information which may, per se, relate to non-technical matters. Particularly here, it relates to recording and counting the number of kicks of fighting cock during a match.

Step 5: *Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

The claim relates to a wireless method for counting the kicks of a fighting cock. References to sending and receiving information using a first and a second mobile device as well as to counting, recording, and displaying the number of times is received do not confer technical character within the meaning of the IP Code. Although mobile devices are considered tangible devices, it does not follow, from the way the claim is drafted, that the steps of the claimed method is being carried out by the mobile devices autonomously

The expressions "using the first and second mobile device" does not necessarily imply that the first and second mobile devices are implementing each step of the claimed method. The broadest reasonable interpretation of the said expressions suggests that each step of the claimed method is not implemented by means of machine (mobile phones) but by means of mere manual and mental human activities using mobile devices as a tool and without any technical concepts applied. Consequently, the claimed system lacks the technical character required by IP Code.

Therefore, it follows that the invention of claim 1 is considered as constituting a non-patentable invention within the meaning of Section 22 of the IP Code.

After weighing the factors, the claim is drawn to a method claim that is ineligible for patent protection (method) under the IP Code.

Claim 2

Step 1: *Is the claim related to the field of ICT/CII?*

Yes. References to the "a transmitter", "a receiver" and "digital counter" signifies that telecommunication and computing devices are employed in the claimed invention.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3: *Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a process claim as manifested by the recitation of a series of acts or steps for carrying-out the claimed method.

Step 4: *Does the claim involve non-technical matter?*

Yes. The claim is drawn to a method involving non-technical matters directed to counting and recording of the number of kicks of a fighting cock during a match.

Step 5: *Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

The claim relates to a method for counting the number of kicks of a fighting cock by means of a wireless, transmitter, and digital counter working cooperatively in counting and displaying the said number kick of a fighting cock. It can be said that, in said method, a person skilled in the art can grasp that the claimed method complies with the Technical Character requirement of the IP code for the reason that calculation and information processing are tangibly manifested using both hardware and software resources.

The invention claimed, therefore, is a wireless communication method in which information processing by software is concretely realized by using hardware resources. The individual steps wherein sending, by a transmitter secured within a glob of said fighting cock, intermittent signal whenever said glob land to an opponent during a match; counting and recording, by a receiver, the intermittent signal from the transmitter; and displaying, by a digital counter in communication with the receiver, the number of times said intermittent signal is detected by the receiver not only indicates the involvement of technical facilities and features in accomplishing the method which meaningfully limit execution said wireless method. As such, although the method involves gaming as well as counting, recording, and displaying of information, it is evident that the method, as whole, constitutes a technical solution to a problem, a manifestation of technical effect/character under the IP Code.

While the method steps in Claim 1 can be construed as mere human activities using mobile phones as tools in which the method involves abstract and mental data recording and counting, the method steps in Claim 2 are executed wirelessly by a transmitter, receiver, and digital counter devices that are wireless communicating which signifies technical character and eligibility for patent protection.

Therefore, it follows that the invention of claim 2 is considered as constituting a statutory invention within the meaning of the Sections 21 and 22 of the IP Code.

After weighing the factors, the claim is found to be drawn to a method claim that is eligible for patent protection (method) under the IP Code. Examination shall proceed to the determination of other patentability criteria.

Illustrative Example 4 *(PH 1-2016-501882)*

Claim (Inherent Machine Recitation)

A method for encoding an audio signal, the method comprising:

encoding a first frame of the audio signal using a first domain analysis;

generating, during encoding of the first frame, a baseband signal corresponding to a high band estimate of the audio signal or to a synthesized version of at least a portion of the audio signal; and

encoding a second frame of the audio signal using a second domain analysis by processing first data representing the baseband signal and second data representing a high band portion of the second frame to generate high band parameters associated with the second frame.

Analysis:

Step 1: *Is the claim related to the field of ICT/CII?*

Yes. The claim, as drafted, relates to a method of encoding wireless digital audio signals. It is apparent that the invention belongs to the ICT/CII field due mainly to the fact that digital wireless transmission of voice data involves transmission of information and computer programs.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3: *Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a process claim as manifested by the recitation of a series of acts or steps for carrying-out the method of encoding an audio signal.

Step 4: *Does the claim involve non-technical matter?*

Yes. The claim implicitly involves computer programs and computer data which, per se, are non-technical matters that are ineligible for patent protection pursuant to the IP Code.

Step 5: *Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

Analysis:

The claim relates to a method of encoding wireless digital audio signals. While there is no explicit recitation of machines, a person skilled in the art is fully aware that such type of method may only be executed by means of tangible components such digital encoders/decoders as well as other wireless communication devices that are under instruction from a particular computer program.

Wherefore, the invention claimed is an audio encoding method in which the process involves processing digital audio using combination of software and hardware resources cooperating together. The steps of encoding a first frame of the audio signal using a first domain analysis at a first encoder; generating, during encoding of the first frame, a baseband signal corresponding to a high band estimate of the audio signal or to a synthesized version of at least a portion of the audio signal; and encoding a second frame of the audio signal using a second domain analysis at a second encoder by processing first data representing the baseband signal and second data representing a high band portion of the second frame to generate high band parameters associated with

the second frame clearly suggest that the encoding technique is implemented using programmed controlled communication devices in which wireless communication technical concepts are applied in realizing the claimed invention. In view of such, although the method involves computer software and there is absence of express recitation of hardware components, the claimed method clearly defines technical character wherein, in implementing a technical solution to enhance encoding of digital audio data, software is concretely realized by hardware. In other words, no express recitation of machine in the claimed method of encoding audio signals is necessary for the subject matter of Claim 2 to be considered as patent eligible for the reason that a person skilled in art readily knows that there is no other possible way to carry out the steps of encoding the first frame and second frame of the audio signals as well as generating a baseband signal except by means of digital encoders and decoders.

Therefore, it is evident that the claimed invention defined by the claim is considered as constituting a "statutory invention" within the meaning of the Sections 21 and 22 of the IP Code.

After weighing the factors, the claim is found to be drawn to an eligible method claim under the IP Code. Examination shall proceed to the determination of other patentability criteria.

3.4.3. Product Claim

Illustrative Example 1 (EPO Case Law T931-95):

Claim

An apparatus for controlling a pension benefits system comprising: a data processing means which is arranged to receive information into a memory from each subscriber employer defining the number, earnings and ages of all enrolled employees, said data processing means including a processor which includes:

average age computing means for determining the average age of all enrolled employees;

life insurance cost computing means for determining the periodic cost of said life insurance for all enrolled employees of said subscriber employer; and

administrative cost computing means for estimating all administrative, legal, trustee, and government premium yearly expenses for said subscriber employer; the apparatus being arranged to produce, in use, information defining each subscriber employer's monetary contribution to a master trust; the face amount of each life insurance policy to be issued and made payable to said master trust by a life insurer on the life of each enrolled employee and to be maintained in full force and effect until the death of the said employee; and periodic benefits payable by said

master trust to each enrolled employee upon death, disability, or retirement."

Analysis:

Step 1: *Is the claim related to the field of ICT/CII?*

Yes. Even in the absence of explicit recitation of a computer or a computer network, it is apparent that the invention belongs to the ICT/CII field, as it discloses the features of an apparatus comprising of a "data processing means", "memory", and "processor", which are all operationally related. In light of the common general knowledge in ICT/CII, the claimed apparatus is a type of machine (information system) comprising of computing device/s.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3: *Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a product claim for being drawn to a device/apparatus.

Step 4: *Does the claim involve non-technical matter?*

Yes. The claim is drawn to an apparatus for controlling a pension benefit system that involves economic activities and schemes which are abstract ideas.

Step 5: *Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

The claim seeks protection for an apparatus for controlling a pension benefits system. In view of the pension system to which the application relates the term "apparatus" may well be understood to refer to an organizational structure. In addition, the term "means" as used in the claim does not necessarily refer to hardware elements, or hardware functions or combined hardware/software functions but its scope may include organizational subunits and substructures for performing any particular function having an economic or business character. Therefore, the claim, when read in isolation, is amenable to be construed as claiming a scheme for doing business as such, which, according to Section 22 of the IP Code should not be regarded as an invention.

However, an apparatus consisting of a suitably programmed computer or system of computers for conducting an economic activity may constitute patentable subject matter. This interpretation of the claim and in particular of the term "apparatus" is justifiable, especially, if the description supports that apparatus involves tangible elements configured for a technical purpose, because information processing by a computer program, i.e., software is concretely realized by using hardware resources (apparatus). A computer system suitably programmed for use in a particular field, even if that is the field

of business and economy, has the character of a concrete apparatus in the sense of a physical entity, man-made for a utilitarian purpose and is thus an invention within the meaning of Section 21 of the IP Code.

This distinction with regard to patentable subject matter between a method for doing business and an apparatus suited to perform such a method is justified in the light of the wording of Section 22 of the IP Code which states that only "schemes, rules and methods as such" are non-patentable. The category of "apparatus" in the sense of "physical entity" or product used for the field of economy and business falls within the classes of inventions patentable under Section of the IP Code, particularly if technical considerations are present therein. This means that, if a claim is directed to such an entity, the formal category of such a claim does in fact imply physical entities of the claimed subject-matter which may qualify as technical features of the invention concerned and thus be relevant for its patentability.

Hence, the claim is considered as an apparatus for performing economic activities which is statutorily patentable subject matter within the meaning of sections 21 and 22 of the IP Code. More in particular the subject-matter as claimed is drawn to an apparatus constituting a physical entity or concrete products suitable for performing or supporting an economic activity which an invention under the IP Code.

After weighing the factors, the claim is found to be drawn to a tangible apparatus which is an eligible subject matter (product claim) under the IP Code. Examination shall proceed to the determination of other patentability criteria.

Illustrative Example 2

Claim 1

A system for counting the kicks of a fighting cock comprising:

a means for sending information whenever a glob of said fighting cock lands to an opponent during a match;

a means for recording the information; and

a means for displaying the number of times the information is received.

Claim 2

A wireless apparatus for counting the kicks of a fighting cock comprising:

a transmitter adopted to be secured within a glob of said fighting cock and to send intermittent signals whenever said glob lands to an opponent during a match;

a receiver responsive to the intermittent signals being sent from said transmitter; and

a digital counter in communication with the receiver and responsively displaying the number of intermittent signals detected by the receiver.

Analysis:

Claim 1

Step 1: *Is the claim related to the field of ICT/CII?*

Yes. Even in the absence of explicit recitation of a computer or a computer network, it is apparent that the invention belongs to the ICT/CII field as the mention of terms "means sending and recording information" as well as "means for displaying" suggests, in light of common general knowledge in ICT/CII, the participation of computing activities and data manipulation in carrying out the claimed system.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3: *Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a product claim for being drawn to a system.

Step 4: *Does the claim involve non-technical matter?*

Yes. The claim is drawn to a system that involves sending, recording, and displaying information which, per se, are non-technical matters.

Step 5: *Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

The claim relates to a system of counting kicks of fighting cocks. The terms "system", "means for sending and recording", and "means for displaying" does not imply that technical character is present in the invention as claimed in view of the IP Code.

The interpretation of the claimed system can include an arrangement in which there is either insufficient use or absence of tangible device/machine where computer-related concepts are, consequently, not applied. In short, claimed invention may be construed as a mere human-implemented system of counting kicks of fighting cocks whereby skills necessary to carry out the proposed invention are mainly directed to mental activities, not to mention manual calculations, recording and display of data. The broadest reasonable interpretation of the claimed invention not only suggests that software is not concretely realized by hardware, but likewise that there is either no hardware and software needed in practicing the claimed invention or that devices are merely use as a tool in conducting the human activities of sending, recording, and displaying information. Consequently, the claimed system lacks the technical character required by IP Code.

Therefore, it follows that the invention of claim 1 is considered as constituting a statutory non-patentable invention within the meaning of Section 22 of the IP Code.

After weighing the factors, the claim is found to be drawn to a method claim that is ineligible for patent protection (method) under the IP Code.

Claim 2

Step 1: *Is the claim related to the field of ICT/CII?*

Yes. It is apparent that the invention belongs to the ICT/CII field as the recitation of the terms "transmitter", "receiver", and "digital counter", in light of common general knowledge in ICT/CII, suggests that communication and computing devices are part of the claimed invention.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3: *Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is drawn to a wireless apparatus.

Step 4: *Does the claim involve non-technical matter?*

Yes. The claim is drawn to a system that involves counting, recording, and displaying data (number data) which are, per se, non-technical matters.

Step 5: *Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

The claim seeks protection for a wireless apparatus for counting kicks of a fighting cock that includes a transmitter, receiver, and a digital counter. A person skilled in the art can conclude that the claim complies with the technical character requirement of the IP code for the reason that said apparatus is one in which information processing is tangibly accomplished using wireless communication components.

A wireless apparatus consisting of concrete technical features for counting, recording, processing, and displaying data constitutes eligible subject matter. This is particularly coherent with the technical requirement of the IP Code for the reason that the claimed wireless apparatus comprises programmable transmitters, receivers, and counters working cooperatively to achieve the object of the invention. Therefore, it is clear that the invention is an apparatus in which software is concretely realized by hardware resources. Programmed controlled communication equipment for counting, recording, and processing non-technical matters, even when applied in the field of gaming, has the character of a concrete apparatus in the sense of a physical entity, man-made for a utilitarian purpose and is thus an invention within the meaning of Section 21 of the IP Code.

In view thereof, the claim is considered as an eligible apparatus for processing cockfighting scores which is statutory patentable subject matter pursuant to Sections 21 and 22 of the IP Code.

After weighing the factors, the claim is found to be drawn to a tangible apparatus which is an eligible subject matter (product claim) under the IP Code. Examination shall proceed to the determination of other patentability criteria.

Illustrative Example 3 (JPO Software Guidelines Case):

Claim

An apparatus for controlling rate of fuel injection for an automobile engine by a programmed computer, comprising:

first detector means for detecting the rate of engine revolutions;

second detector means for detecting transition of the rate of engine revolution; and

fuel injection rate decision means for determining the rate of fuel injection by said control program in accordance with the values detected in the first and second detector means.

Analysis:

Step 1: *Is the claim related to the field of ICT/CII?*

Yes. In view of explicit recitation of a programmed computer, it is apparent that the invention belongs to the ICT/CII field.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3*: Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a product claim for being drawn to a device/apparatus.

Step 4*: Does the claim involve non-technical matter?*

No. The claim is drawn to an apparatus for controlling rate of fuel injection for an automobile engine.

The claim seeks protection for an apparatus for controlling rate of fuel inject for an automobile engine using a programmed computer. The apparatus is intended to improve the combustion efficiency and output power of the engine during the transition stages of hard acceleration or deceleration by achieving optimum/air mixture ratio thru the control of the fuel injection rate in accordance with changing conditions so as to improve the combustion efficiency and the power output of the engine.

Therefore, the purpose of the invention as claimed is one that provides solution to the technical problem of improving combustion efficiency and power of the engine in which the instruction of the software is concretely realized by means of a tangible programmed computer comprising first and second detector

means, and fuel injection rate detection means. Hence, it is evident that the subject-matter as claimed exhibits the technical effect of making the engine more fuel efficient. Such manifests that the invention as claimed makes a technical contribution to the known technical of art of manufacturing automotive engines and is thus an invention within the meaning of Section 21 of the IP Code.

The claim is an eligible subject matter (product claim) under the IP Code. Examination shall proceed to the determination of other patentability criteria.

Illustrative Example 4 (JPO Software Guidelines Case)*:*

Claim 1

A service method for offering service points depending on an amount of commodity purchased at a shop on the Internet, comprising the steps of:

receiving by a server, an amount of service points offered and a name of the person to whom the said service points are offered via the Internet;

acquiring by the said server, the e-mail address of the said person from a customer list storage means based on the name of the said person;

adding by the said server, the said service points to the accumulated points of the said person stored in the said customer list storage means; and

notifying by the said server, to the said person that the said service points have been given by e-mail using the said e-mail address of the said person.

Claim 2

A computer program comprising instructions which, when the program is executed by the server, cause the server to carry out the steps of the method of claim 1.

Claim 3

A computer program product comprising instructions which, when the program is executed by the server, cause the server to carry out the steps of the method of claim 1.

Claim 4

A non-transitory computer readable medium which records a program that makes the server execute the steps of the method of claim 1.

Analysis:

Claims 2-4

Claims 2 to 4 will be analyzed hereunder, since claim 1 is an eligible method claim as explained in Illustrative Example 2 of 4.4.2 Process/Method Claim (*see* pp. 33-36).

Step 1: *Is the claim involving the field of ICT/CII?*

Yes. Claims 2 to 4 are claims dependent on claim 1 which involves the field of ICT/CII.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3: *Is the claim directed to a product or process within the meaning of the IP Code?*

No. Claims 2 and 3 are computer program claims drafted in a manner that protection sought for includes a computer program per se which is not a product or a process within the meaning of the IP Code and which is likewise included in the classes of invention that are non-patentable under the IP Code. Hence, claims 2 and 3 are considered ineligible for patent protection in view of Section 22 of the IP Code.

Yes. Claim 4 is a product claim for being drawn to a non-transitory computer readable medium.

Step 4: *Does the claim involve non-technical matter?*

Yes. Claim 1 is drawn to a service method involving the abstract idea of offering service points in relation to the amount of commodity purchased by a client on an Internet shop which is a business scheme aimed at attracting clients and increase sales. Therefore, dependent claim 4 involves an abstract idea.

Step 5: *Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

As explained in Illustrative Example 2 in 4.4.2 Process/Method Claim (*see* pp. 33-36), claim 1 is a method in which information processing by software is concretely realized by using hardware resources.

Claim 4 is directed to a tangible computer readable medium having therein a computer program wherein the program works in cooperation with the computer in performing the method of claim 1 to produce technical effect. As such the computer-readable storage medium having the said software recorded thereon is also deemed to be exhibiting "further technical effect". Hence, claim 4 is eligible for patent protection in view of Section 21 of the IP Code.

After weighing the factors, claim 4 is found to be drawn to product claim that is eligible (product) under the IP Code. Examination of claim 4 shall proceed to the determination of other patentability criteria.

Illustrative Example 5 (JPO Software Guidelines Case):

Claim

A computer for determining a minimum value of y in the range of a<x<b in the mathematical expression y=F(x).

Analysis:

Step 1: *Is the claim related to the field of ICT/CII?*

Yes. In view of explicit recitation of a computer, it is apparent that the invention belongs to the ICT/CII field.

Step 2: *Is the claim directed to matter which is against public order or morality?*

No. The claim is not against public order or morality.

Step 3: *Is the claim directed to a product or process within the meaning of the IP Code?*

Yes. The claim is a product claim for being drawn to a device/apparatus (computer).

Step 4: *Does the claim involve a non-technical matter?*

Yes. The claim is drawn to a computer for carrying out a mathematical method which is an abstract idea as such.

Step 5: *Does the claim constitute technical character wherein a technical solution to a problem is evident after weighing all the factors?*

The claim is a mere statement of a general concept, since the claim only states a problem to be solved, i.e., for determining a minimum value of y in the range of a<x<b in the mathematical expression y=F(x). In the claim, information processing by a computer program is simply the use of a computer software loaded into a computer to execute a mathematical formula.

After weighing the factors, the claim is found to be drawn to an ineligible abstract idea (mathematical method as such). The claim should be rejected under the IP Code for being directed to a non-statutory subject matter.

4. DESCRIPTION & CLAIM REQUIREMENTS

4.1. Description Requirements

As detailed in the Manual, that which applies to ICT and CII, the purpose of the provisions of Section 35.1 and Rule 407 (Contents of the Description) is:

(i) to ensure that the application contains sufficient technical information to enable a skilled person to put the invention as claimed into practice; and
(ii) to enable the reader to understand the contribution to the art which the invention as claimed has made.

Section 35.1 of the IP Code (Rule 405 of the Revised IRR) requires that the application shall disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

The description shall be stated in a manner in which one who has an ordinary ability and creativity in the fields of ICT and CII can carry out the claimed invention based on the disclosure, in light of the common general knowledge, as of the time of filing or the priority date.

Rule 406 of the Revised IRR defines the test for enabling disclosure as whether the person to whom it is addressed could, by following the directions therein, put the invention into practice.

The Test for Enablement or Enabling Disclosure in that when a person in the art, having read the application, can perform or carry out the invention without:

a) Undue experimentation;
b) Undue burden; or
c) Any inventive effort.

Enablement can be shown by disclosing at least one method for making and using the claimed invention. The sufficiency of the disclosure is to be assessed on the basis of the application as a whole, including the claims, description, and drawings, if any (MPEP). However, disclosure may not be required for information which is considered to be conventional or well-known in the art at the time of filing.

Some factors to be considered whether any necessary experimentation is undue:

(1) The amount of direction provided by the inventor

The information in the application, as originally filed, that teaches exactly how to make or use the invention. The more that is known in the prior art

about the nature of the invention, how to make or perform it, how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification. However, if little is known in the prior art about the nature of the invention and the art is unpredictable, the specification would need more detail as to how to make and use the invention in order to be enabling.

(2) The quantity of experimentation needed to make or use the invention based on the content of the disclosure

The disclosure should enable a person skilled in the art to perform or carry out without excessive experimentation or an inordinate amount of trial-and-error. However, a considerable amount of experimentation may be permissible if it is merely routine.

Some cases wherein Enablement may be Lacking:

1. In cases where technical terminologies that are not commonly used in the field are stated in the claims and/or specification in such manner that a person skilled in the art is not provided with enough direction to carry out the invention.

2. In cases where terminologies are not used in their ordinary meaning yet are not properly defined in the specification, yet are stated in the claims and /or specification in such a manner that a person skilled in the art is not provided with enough direction to carry out the invention.

3. In cases where the method or function of the claimed invention is described purely in an abstract or functional manner in the detailed description of the invention, without a clear and detailed discussion or explanation as to how said method or function is implemented by hardware or software, such that a person skilled in the art cannot carry out the invention.

4. In cases where hardware or software that are needed to perform the functions of the claimed invention is not sufficiently disclosed in the detailed description, such that a person skilled in the art cannot carry out the invention.

5. In cases where functional terms are used in defining a claimed invention, but the detailed description only discloses the hardware or software for implementing the said functions using a functional block diagram or flowchart without a clear explanation on how said hardware or software cooperate with each other, such that a person skilled in the art cannot carry out the invention.

6. In cases where the specification does not enable the full scope of the claim by failing to disclose how the claimed invention is made and/or functions, such that a person skilled in the art cannot carry out the invention.

***Illustrative Example Lacking Enablement*:**

(1) ***In re Brown, 477 F.2d at 951, 177 USPQ at 695***

"Where the specification provides in a block diagram disclosure of a complex system that includes a microprocessor and other system components controlled by the microprocessor, a mere reference to a commercially available microprocessor, without any description of the precise operations to be performed by the microprocessor, fails to disclose how such a microprocessor would be properly programmed to (1) either perform any required calculations or (2) coordinate the other system components in the proper timed sequence to perform the functions disclosed and claimed. If a particular program is disclosed in such a system, the program should be carefully reviewed to ensure that its scope is commensurate with the scope of the functions attributed to such a program in the claims.

If (1) the disclosure fails to disclose any program and (2) more than routine experimentation would be required of one skilled in the art to generate such a program, the examiner clearly would have a reasonable basis for challenging the sufficiency of such a disclosure. The amount of experimentation that is considered routine will vary depending on the facts and circumstances of individual cases and should be reviewed on a case-by-case basis."

(2) ***Case D-1 in the Comparative Study on Computer-Implemented Inventions/Software-Related Inventions by EPO/JPO***

Claim

A sugar content estimation system comprising:

a storage means for storing face images of people and sugar contents of vegetables produced by the people;

a model generation means for generating a determination model through machine learning, to which a face image of a person is input and from which a sugar content of a vegetable produced by the person is output, using training data containing the face images of the people stored in the storage means and the sugar contents of the vegetables,

a reception means for receiving an input of a face image; and

a processing means for outputting, using the generated determination model that has been generated by the model generation means, a sugar content of a vegetable produced by a person that is estimated based on the face image of the person inputted to the reception means.

Overview of the Description

It is an object of the present invention to provide a system that estimates the sugar content of a vegetable produced by a person based on their face image, taking advantage of the existence of a certain correlation between a face feature of a person and the sugar content of a vegetable produced by the person. For example, a face figure is characterized by the head length, face width, nose width and lip width as shown in the figure. Here, "sugar content" of a vegetable means the sugar content at the time when a certain period predetermined for each type of vegetable has passed after seeding. With this system, it is possible to estimate which person can produce a vegetable with the highest sugar content in a community.

A sugar content estimation system of the present invention firstly receives an input of a face image of a person by a user. The sugar content of a vegetable produced by a person is obtained using a determination model to which a face image of the person is input and from which the sugar content of the vegetable produced by the person is output. The determination model is generated through supervised machine learning using a known machine learning algorithm such as a convolutional neural network, learning correlation between a face image of a person and the sugar content of a vegetable produced by the person.

Analysis:

The description teaches that a convolutional neural network is trained to learn the correlation between face images of people producing a vegetable and the respective sugar content of a vegetable produced by each of said people. However, a person skilled in the art would have doubts that the face of a person producing a vegetable is correlated with the sugar content of a vegetable produced by said person because sugar content of vegetables is based on the type and nature of vegetables and not on the characteristics of its growers. Since such a correlation is a prerequisite for bringing about the technical effect expressed in the claim, the skilled person would conclude that the claimed sugar content estimation system cannot be reproduced based on the information provided in the description, even when taking into account common general knowledge. Furthermore, there is no performance evaluation result of an actually generated determination model shown in the description to support the claimed correlation between sugar content of vegetable and the grower. Accordingly, it is not possible for a person skilled in the art to derive a sugar content estimation system that outputs an estimation of the sugar content of a vegetable produced by a person based on an input of a face image of the person, even if the disclosure in the description and common general technical knowledge at the time of filing are taken into consideration.

Therefore, the claimed sugar content estimation system is not disclosed in the description in a manner that is sufficiently clear and complete that would enable a person skilled in the art to carry out the invention.

4.2. Claim Requirements

Section 36.1 of the IP Code requires that ICT and CII applications must contain one or more claims that shall be clear, concise, and supported by the description..

Section 75 of the IP Code states that extent and scope of protection conferred by the patent shall be determined by the claims. Thus, it is of utmost importance that the claims are clear and supported when interpreted in light of the description.

The scope of the claims

Often, the applicant will draft claims to be as broad as possible. To assess the scope of the claim, one must:

a) Determine how broad the claim is and if it is broader than the enabling disclosure.
b) Determine if a person skilled in the art is enabled to use the entire scope of the claimed invention without due experimentation.
c) Determine if features taught as critical in the specification are recited in the claims for the claims to be enabled.

4.2.1. Support in Description

As the elements of the claims need to have support in description, there must be a clear basis in the description for the subject-matter of every claim and that the scope of the claims must not be broader than is justified by the extent of the description and drawings (MPEP). Note however, that there is no legal provision prohibiting a claim from being narrower than the description.

A fair statement of claim is one which is not so broad that it goes beyond the invention nor yet so narrow as to deprive the applicant of a just reward for the disclosure of his invention (MPEP).

Example:

Claim: *A word processor comprising a data processing means…*

Description: *A word processor that exclusively and automatically corrects text input.*

Analysis

The claim is not fully supported by the description since it is drafted in a way that covers other or all means of data processing whereas the description is limited to the use of the means for automatic text correction (MPEP, Chapter III Section 6.5). In other words, the claim is drafted in a manner that is broader than the description.

4.2.2. Broadest Reasonable Interpretation

Section 75 of the IP Code provides the Extent of Protection and Interpretation of Claims. It reads:

> 75.1. The extent of protection conferred by the patent shall be determined by the claims, which are to be interpreted in the light of the description and drawings.
>
> 75.2. For the purpose of determining the extent of protection conferred by the patent, due account shall be taken of elements which are equivalent to the elements expressed in the claims, so that a claim shall be considered to cover not only all the elements as expressed therein, but also equivalents.

Claims relating to ICT and CII should not be strictly interpreted as to the literal meaning of its wordings but should be given their broadest reasonable interpretation consistent to what is written in the description. The terms in the claims should be given plain understanding which they normally have in the relevant field, with the exception in cases wherein the description would explicitly define the words through special meaning.

Often, claims in ICT and CII are drafted too broadly (in some cases, may be interpreted to involve non-patentable subject matter, see Section 5.4). Therefore, giving a claim its broadest reasonable interpretation, gives the applicant the opportunity to amend the claim to specifically recite and point out his invention. Moreso, avoiding the possibility of allowing a claim that can be interpreted more broadly than what has been examined.

Illustrative Example:

Claim:

A system for data access in a packet-switched network, comprising: a gateway including an operating unit, a memory and a processor connected to said packet-switched network in such a way that network packets sent between at least two other computers pass through it; a caching computer connected to said gateway through a fast local network, wherein said caching computer includes an operating unit, a first memory, a permanent storage memory and a processor; said caching computer further including

a network cache memory in its permanent storage memory, means for a digital digest and means for comparison between a digital digest on data in its network cache memory and a digital digest received from said packet-switched network through said gateway.

Analysis

In summary, the claim recites a system comprising a gateway, a caching computer, and "two other computers."

It was pointed out that the "two other computers" could be any two computers connected on the network to the gateway, including the caching computer. However, according the plain meaning of the claim, the "two other computers" are recited independently from, and in addition to, the gateway and caching computers, the word "other" denotes a further level of distinction between those two computers and the specific gateway and caching computers recited separately in the claim. Further, the specification confirms that the phrase "two other computers" is limited to the sender/receiver and computer/receiver. (*Microsoft Corp. v. Proxyconn, Inc., 789 F.3d 1292, 1299 (Fed. Cir. 2015)*)

Thus, the broadest reasonable interpretation of the claim was utilized, while the claim may appear vague upon first reading, giving the claim its plain meaning in light of what is disclosed in the description.

5. NOVELTY

Novelty (Sec. 23 of the IP Code)—An invention shall not be considered new if it forms part of a prior art.

All of the general rules and requisites for novelty are applicable for ICT/CII Inventions.

Any distinguishing feature of an invention over the prior art implies presence of novelty. For example, a computer of known type set up to operate according to a new program cannot be considered as forming part of the prior art.

5.1. Invention of Sub-combination

In cases where an invention of overall apparatuses or an invention of method of manufacturing a product (hereunder referred to as "combination") is formed by combining two or more apparatuses or processes, sub-combination is defined as an invention of each apparatus or each process of the combination.

In the field of ICT/CII, an invention of a sub-combination is sometimes filed, since an applicant may wish to acquire a patent right directed not only to a system claim but also to a server or a terminal which is connected to the server via a network (PC, smart phone, machine etc.) respectively.

In view of this possibility, the Examiner should take the following into consideration in examining novelty (or inventive step) concerning claimed inventions in which protection being sought is directed to a particular sub-combination wherein reference to elements/features of other sub-combinations sometimes matters and affects the operation of a claimed sub-combination invention as hereunder described.

The Examiner, in analyzing the claimed sub-combination invention, should consider elements relevant to "another sub-combination" stated in the claim. The Examiner should also seriously look into the role these elements play that impacts the sub-combination invention with respect to aspect of its shape, structure, constituent element, composition, operation, function, property, characteristic, method (an act or action), use, etc. (hereunder referred to as "a structure, function, etc.") when the Examiner evaluates the claimed sub-combination invention. In this regard, the Examiner takes into account the statements of the description and drawings as well as the common general knowledge at the time of filing.

In cases where an element relevant to "another sub-combination" has a **role that affects** a structure and/or function of the claimed sub-combination invention, the Examiner should take account of said role that affects such structure and/or function in the claimed sub-combination invention. If the difference between a sub-combination invention and a cited prior art lies in said structure and/or function, the Examiner should consider that the sub-combination invention involves novelty.

In cases where an element relevant to "another sub-combination" **merely refers** to "another sub-combination" and **does not affect** a structure and/or function of the claimed sub-combination invention at all, the Examiner should construe the invention on the premise that the said element is only relevant to said "another sub-combination" and does not play any role in the operation of the claimed sub-combination invention.

If the claimed sub-combination and prior art differs only with regards to said elements that are only relevant or present to the "another sub-combination", no difference exists between the claimed sub-combination invention and the cited prior art in terms of structure and/or function. Therefore, the Examiner should decide that the sub-combination invention does not involve novelty. In other words, if the elements of the claimed sub-combination are not affected by the elements, in either structure and/or function, by the elements of the "another sub-combination", a prior art having all the elements of claimed sub-combination is novelty destroying with regards to the claimed sub-combination invention.

5.2. Example of Invention of Sub-combination (*JPO Examination Handbook/Guidelines on IoT Related Technologies*)

***Illustrative Example 1**:*

Claim 1

A robot apparatus which acts on an object comprising:
at least one kind of sensor for detecting the object;
a transmission section for transmitting a query to a server in order to acquire information on the object based on an output of the sensor;
a reception section for receiving response information answering the query from the server; and
a control section storing a program which controls the operation of the robot apparatus on the basis of the received response information;
wherein the response information is the information on a type of the said object specified by the said server ***on the basis of information received via a network from a production facility of the said object.***

Claim 2

A robot apparatus which acts on an object comprising:
at least one kind of sensor for detecting the object;
a transmission section for transmitting a query to a server in order to acquire information on the object based on an output of the sensor;
a reception section for receiving response information answering the query from the server; and

a control section storing a program which controls the operation of the robot apparatus on the basis of the received response information;

wherein the response information contains ***the attribute information and the unique identification information of each of the said object specified by the said server.***

Prior art

A robot apparatus which acts on an object comprising:

at least one kind of sensor for detecting the object;

a transmission section for transmitting a query to a server in order to acquire information on the object based on an output of the sensor;

a reception section for receiving response information answering the query from the server; and

a control section storing a program which controls the operation of the robot apparatus on the basis of the received response information;

wherein the response information is the information on a type of the said object specified by the said server.

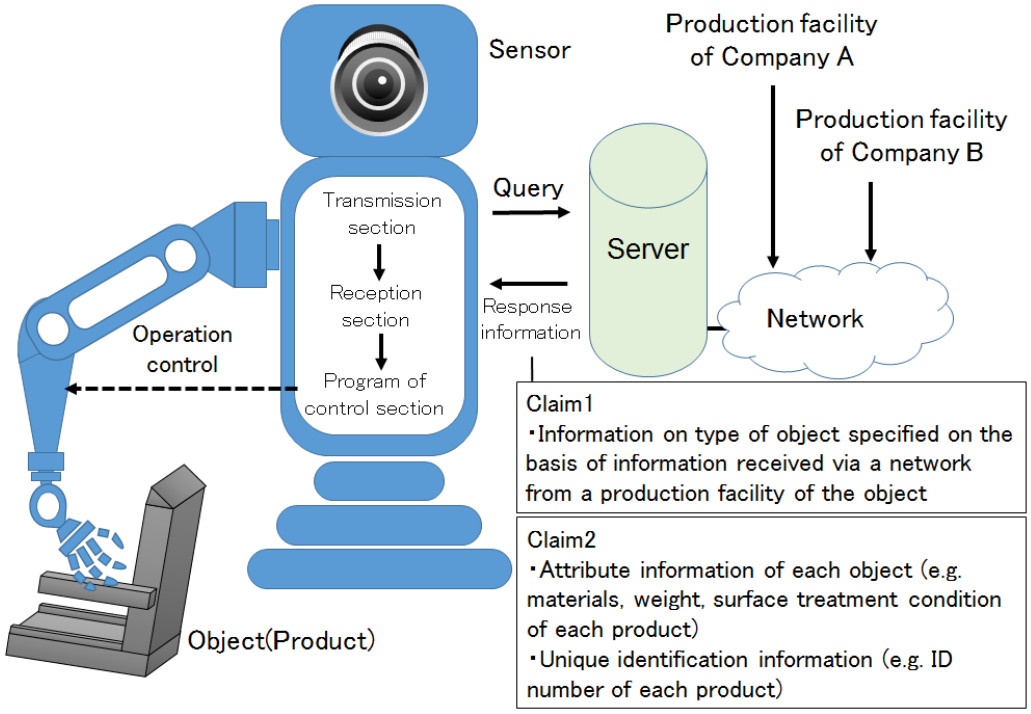


Figure of the claimed invention

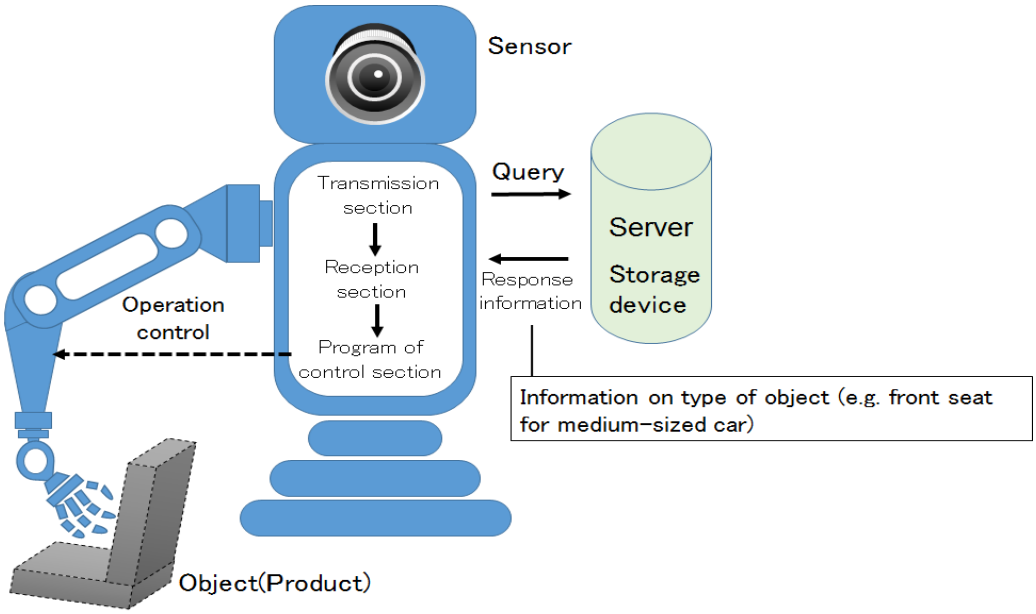


Figure of the prior art

Analysis:

Claim 1:

The robot apparatus is a sub-combination, which is a part of a combination (system) of the robot apparatus and the server.

Claim 1 is directed to the robot apparatus that recites a feature related to the server (the other sub-combination), where "the response information is the information on a type of the said object specified by the said server on the basis of information received via a network from a production facility of the said object".

The portion of "on the basis of information received via a network from a production facility of the said object" only describes the source from which the server, separate from the robot apparatus, obtains information for specifying response information. This does not make any difference in the program itself of the robot apparatus, and therefore does not alter a structure nor a function of the robot apparatus. Identical response information, regardless of whether the said response information is received from the manufacturing facility through the server or from the server itself, does not make the control section change the operation of the robot apparatus. In simple word, the robot apparatus in Claim 1 cannot be considered patently distinct from the prior art by merely configuring that the response information is received by the control section from the manufacturing facility via server given that the features of the claimed robot apparatus remain unaltered by such configuration and is still anticipated by the prior art.

Consequently, there is no difference between claim 1 and the prior art. As a result, claim 1 lacks novelty.

Claim 2:

The robot apparatus is a sub-combination, which is a part of a combination (system) of the robot apparatus and the server.

Claim 2 directed to a robot apparatus that recites a feature related to the server (the other sub-combination), where "the response information contains the attribute information and the unique identification information of each of the said object specified by the said server". With respect to the response information, claim 2 also specifies that the robot apparatus has "a control section storing a program which controls the operation of the robot apparatus on the basis of the received response information". Therefore, the robot apparatus of claim 2 has a control section storing a program which controls the operation of the robot apparatus on the basis of the attribute information and the unique identification information of each of the object, and performs the operation, through the control section, in response to the attribute information and the unique identification information of each of the object.

In contrast, the prior art states the feature "the response information is the information on a type of the said object specified by the said server." Therefore, the robot apparatus only has a control section with a program which controls the operation of the robot apparatus on the basis of the information on a type of the said object, vis-à-vis the response information, and does not perform operation in response and to the attribute information and the unique identification information of each of the object. In view of such, the control section in claim 2 controls operation of the claimed robot apparatus differently compared with the prior art since response information contains specific instruction to perform operations on the basis of the attribute information and the unique identification information of each of the said object specified by the said server. Therefore, the technical features of the robot apparatus in Claim 2 can be considered patently distinct from the prior art due to such specific instruction which makes the control section alters the operation of the robot apparatus in a manner different from the prior art

Accordingly, there is a difference between claim 2 and the prior art. As a result, claim 2 has novelty.

6. INVENTIVE STEP

Inventive Step (Sec. 26 of the IP Code) – An invention involves an inventive step if, having regard to prior art, it is not obvious to a person skilled in the art at the time of the filing or priority date of the application claiming the invention.

The invention at bar must provide a non-obvious technical contribution (i.e., a non-obvious solution to a problem defined in terms of technical features) over the prior art.

To recall, the test of obviousness is whether a person skilled in the art in possession of the prior art, with ordinary skills and knowledge would arrive at the invention after regarding the prior art

Problem Solution Approach

1. Identify the closest prior art.
2. Determine differentiating features and their technical effects.
3. Formulate an objective technical problem based on the differences.
4. Decide whether the proposed solution is not obvious to a person skilled in the art.

6.1. Examples of a Person Skilled in the Art Exercising Expected Ordinary Skills and Creativity

A. Application to other fields

There are a lot of cases in which procedure or means for realizing the function used in software-related inventions are often common in function or operation, regardless of the applied field to which the invention belongs. In such cases, it is within the ordinary creative activity expected of a person skilled in the art to apply such procedure or means of software-related inventions used in certain applied fields to other fields to realize the same function or operation.

Illustrative Example:

(1) Where there exists the cited invention of "file retrieval system". To merely apply the concrete means for retrieving in said "file retrieval system" to other fields such as to a "medical file retrieval system" as the means for retrieving is deemed to be within the ordinary creative activity expected of a person skilled in the art, since the function of the means for retrieving is common to both systems.

(2) Where there exists the cited invention of "medical information retrieval system". To apply the concrete means for retrieving in said "medical information retrieval

system" to a "commodity information retrieval system" is deemed to be within the ordinary creative activity expected of a person skilled in the art, since the function of the means for retrieving is common to both systems.

B. Addition of a commonly known means or replacement by equivalent

It is within the ordinary creative activity expected of a person skilled in the art to add a commonly known means for systematization as a constituent element or to replace part of constituent elements of the system with a well-known means equivalent thereof.

Illustrative Example:

In addition to a keyboard as an input means, to add a means for inputting numerical codes by selecting items displayed on the screen with a mouse or by bar code is deemed to be within the ordinary creative activity expected of a person skilled in the art.

C. Implementation by software of functions which are otherwise performed by hardware

It is within the ordinary creative activity expected of a person skilled in the art to try to realize functions that has been so far performed by hardware (e.g. circuits) by means of software.

Illustrative Example:

To realize the function of code comparison performed by circuit by software implementation.

D. Automation of human transactions

Where the cited prior art describes human transactions but does not describe how to automate them. It is within the ordinary creative activity expected of a person skilled in the art to change existing human transactions in an applied field in order to realize on a computer, if the said change can be realized by a routine activity of usual system analysis method and system design methods.

Illustrative Example:

(1) Merely replacing a telephone or a fax previously used in order to receive orders from customers with a home page on the Internet is within the ordinary creative activity of a person skilled in the art.

(2) Merely changing the way of managing a classified section in a magazine into a way of managing such information via the home page on the Internet is within the ordinary creative activity of a person skilled in the art.

E. Reproduction of a known event in computerized virtual space

It is within the ordinary creative activity of a person skilled in the art to reproduce a known event in a computerized virtual space, provided that the said reproduction would have been made by a routine work by using usual system analysis and system design methods.

Illustrative Example:

(1) In a tennis game machine, merely setting the speed of a tennis ball after bouncing on a hard court faster than the speed on a clay court is within the ordinary creative activity of a person skilled in the art.

(2) In a racing game machine, merely changing the probability of spinning depending on the condition of the surface on the road is within the ordinary creative activity of a person skilled in the art.

(3) Merely regenerating graphically on the computer screen the known I/O interface conditions (forms of buttons and display, and their positional relationship) of a calculator or copying machine is within the ordinary creative activity of a person skilled in the art.

F. Design modification on the basis of known facts or customs

When different features between the claimed invention and the cited invention are based on known facts or customs, and as a result of considering other publicly known cited inventions and the common general knowledge (including "evident facts"), the said different feature is of the nature to be decided at the discretion of a person skilled in the art, and there is no hindering factor for coming up with the combination, the difference is no more than a design modification that is an obvious choice depending on the need of a person skilled in the art. Therefore, it is within the ordinary creative activity expected of a person skilled in the art.

Illustrative Example:

(1) It is common general knowledge to express one's feeling of gratitude when a contract for sale is concluded. It is mere addition of commonly known means to provide a message-outputting means to an electronic transaction machine in such a way that said feeling of gratitude is displayed. Therefore, in an electronic transaction machine having a display means, to add a message-outputting means saying "Thank you!" after receiving purchase orders is within the ordinary creative activity expected of a person skilled in the art.

(2) It is commonly known that there is a return period (the buyer can retract the purchase order in a certain period of time, even after placing the purchase order) in non-electronic business transactions. It is also commonly known that adding a return period for electronic transactions as well as non-electronic transactions is beneficial from the view point of consumer protection. To add such a return period to an electronic transaction machine is therefore within the ordinary creative activity expected of a person skilled in the art.

6.2. Example of Inventive Step Analysis

Illustrative Example (JPO Examination Handbook/Guidelines on IoT Related Technologies):

Claim 1

A running supporting system comprising a wrist watch type device having a screen interface and a GPS function, and an information distributing server communicative with the wrist watch type device through a network,

wherein the wrist watch type device has:

course information receiving means for receiving specification of course information from a user through the screen interface; and

transmitting means for transmitting the course information to the information distributing server, and continuously transmitting running information including position information and time information which are acquired by the GPS function to the information distributing server while the user performs running,

displaying means for receiving running support information from the information distributing server and displaying the running support information on the screen interface;

wherein the information distributing server has:

recording means for producing first lap time information corresponding to the course information based on the course information and the running information which are received from the wrist watch type device, and recording the resulting first lap time information in a running history database within the information distributing server;

acquiring means for acquiring a plurality of second lap time information previously recorded in the running history database, and corresponding to the course information; and

transmitting means for producing the running support information which supports the running of the user based on comparison of the first lap time information with a plurality of second lap time information, and transmitting the resulting running support information to the wrist watch type device.

Claim 2

A running supporting system according to claim 1,

wherein the plurality of second lap time information is lap time information which is produced based on the newest running information transmitted from the wrist watch type devices of other users apart from the device of the user.

Prior art

A wrist watch type device having a screen interface and a GPS function, having:

course information receiving means for receiving specification of course information from a user through the screen interface;

recording means for producing first time information corresponding to the course information based on running information including position information and time information which are acquired by the GPS function while the user performs running, and recording the resulting first lap time information in a running history database within the wrist watch type device;

acquiring means for acquiring a plurality of second lap time information which is previously recorded in the running history database, and corresponds to the course information; and

displaying means for producing running support information which supports the running of the user by comparing the first lap time information with the second lap time information, and displaying the resulting running support information on the screen interface.

Problem to be solved in the prior art

By presenting the information obtained based on the current lap time information, and the past lap time information recorded in the wrist watch type device as the running support information, the user can perform running while he/she refers to the information on the comparison with the past lap time information of himself/herself.

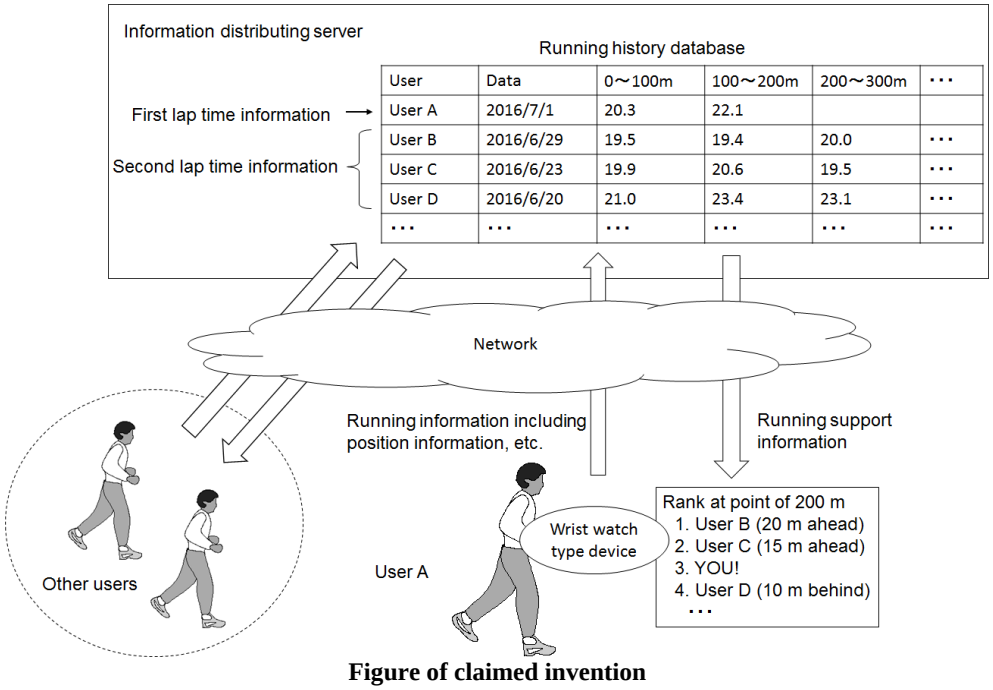


Figure of claimed invention

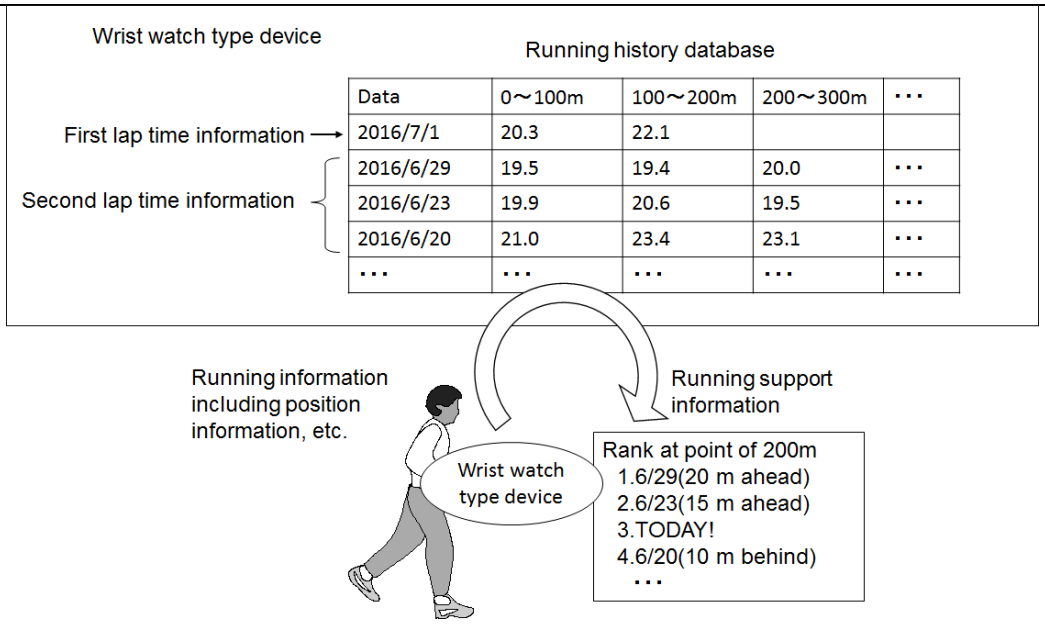


Figure of prior art

Analysis:

Claim 1:

Problem Solution Approach

- *Identify the closest prior art*

  The wrist watch-type device having a screen interface and a GPS function as illustrated above is considered as the prior art closest to the subject matter of claim 1 considering both the said prior art and the invention in claim 1 have the same technical problem and relate to the same technical field.

- *Determine differentiating features and their technical effects*

  The difference between claim 1 and the prior art is as follows:

  Claim 1 is a system comprising a wrist watch type device and an information distributing server, wherein the running information acquired in the wrist watch type device is transmitted to the information distributing server, and wherein in the information distributing server, the running support information is produced by comparing the first lap time information with a plurality of second lap time information, and transmitted to the wrist watch type device. Whereas the prior art is a wrist type device, wherein the comparison of the first lap time information with a plurality of lap time information, and the production of the running support information are performed in the wrist watch type device.

- *Formulate an objective technical problem based on the difference*

The effect of implementing of transmitting course and running information to a server, in lieu of user side (wrist watch) processing of information, is increased throughput and storage capacity of the running support system. Hence, the objective technical problem that the invention in claim 1 intends to solve is to provide a wrist watched-based running system with improved computing and storage capacity.

- *Decide whether the proposed solution is not obvious to a person skilled in the art*

  However, the solution proposed in claim 1 in solving the underlying problem of throughput and storage capacity in the closest prior art is well-known in the field of ICT/CII. The technique that the system is configured whereby the server and the terminal can communicate with each other, due to the storage capacity, and the processing burden reduction on the terminal side, in which the data required at the terminal is transmitted to the server, the processing is executed based on the data concerned in the server, and the processing result is transmitted from the server to the terminal.

  From a viewpoint of the storage capacity and the processing load, a person skilled in the art could have easily apply the above well-known technique to the prior art to thereby arrive at the scheme of managing the running history database of the wrist watch type device on the server side instead of the user side by means of transmitting the running information acquired in the wrist watch type device to the information distributing server, producing the running support information by comparing the first lap time information with a plurality of second lap time information in the information distributing server and transmitting the running support information to the wrist watch type device.

  Therefore, claim 1 does not have inventive step.

Claim 2:

Problem Solution Approach

- *Identify the closest prior art*

  The prior wristwatch-type device having a screen interface and a GPS function as illustrated above is considered as the prior art closest to the subject matter of claim 2 considering both the said prior art and the invention in claim 2 concern the same technical problem and relate to the same technical field.

- *Determine differentiating features and their technical effects*

  The difference between claim 2 and the prior art is as follows:

  Claim 2 is a system comprising a wrist watch type device and an information distributing server, wherein the running information acquired in the wrist watch

type device is transmitted to the information distributing server, and wherein in the information distributing server, the running support information is produced by comparing the first lap time information with a plurality of second lap time information, and transmitted to the wrist watch type device. Claim 2 further differs from the closest prior art in that the second lap time information is produced based on the newest running information transmitted from the wrist watch type devices of other users apart from the device of the user.

Whereas the prior art is a wrist type device, wherein the comparison of the first lap time information with a plurality of lap time information, and the production of the running support information are performed in the wrist watch type device. Likewise, the second lap time information is produced based on running history database recorded in the wrist watch type device.

- *Formulate an objective technical problem based on the difference*

  The problem to be solved by the prior art is to enable the user to perform running while he/she refers to the information indicating comparison with the past lap time information of himself/herself.

  Apart from enhanced throughput and storage capacity, Claim 2 has an advantageous technical effect, relative to the prior art, that even when the user performs running alone, he/she can experience the sense of competition with other users by producing the running support information based on the comparison with the lap time information of the different users. An advantageous effect is thereby achieved by utilizing information obtained by connecting "things" to the server via a network, i.e. IoT [Internet of Things]. The objective technical problem that the invention in claim 2 intends to solve, therefore, is to provide a running system with increased throughput and storage capacity as well as to create a more engaging running experience

- *Decide whether the proposed solution is not obvious to a person skilled in the art*

  The state of the art and the knowledge available to a skilled person do not disclose nor suggest the technical problem relating to the comparison with the lap time information of other users.

  Therefore, claim 2 has inventive step.

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