

Points of Revision of the Examination Guidelines and Examination Handbook for Computer Software-Related Inventions

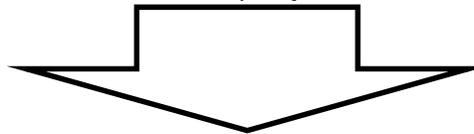


March 2018

Examination Standards Office,
Administrative Affairs Division

Background of Revision of the Examination Guidelines and Examination Handbook for Computer Software-Related Inventions

- Intellectual Property Strategic Program 2017
“Reviewing the Examination Guidelines, etc. for software-related inventions closely related to IoT-related inventions for further clarification, and make such information available to international and domestic users.”
- Review on the Examination Guidelines etc. for computer software-related inventions in FY2017 at the JPO
- 12th meeting of the Working Group on the Patent Examination Standards on January 16, 2018 was held.
* Visit the URL below for the details.
http://www.jpo.go.jp/shiryou/toushin/shingikai/shinsakijyun_menu.htm (Japanese only)
- Public comment was invited between January 24 and February 23, 2018.
* Visit the URL below for the details.
<https://www.jpo.go.jp/english/publiccomments/index.html> (JPO website)
<http://search.e-gov.go.jp/servlet/Public> (e-Gov) (Japanese only)



March 2018	The revised Examination Guidelines and Examination Handbook were released
April 2018	Examination in accordance with the revised Examination Guidelines and Examination Handbook was started

The Examination Guidelines for Patent and Utility Model

Part III Chapter 1 Eligibility for Patent and Industrial Applicability
2.2 Points to consider in examination on an invention utilizing computer software

⇒ To explain the case in which eligibility of patent needs to be considered from the viewpoint of computer software, and the case in which eligibility of patent does not need to be considered from the viewpoint of computer software

The Examination Handbook for Patent and Utility Model

Annex B Chapter 1 Computer Software-Related Inventions

⇒ To explain the application of the examination guidelines to the applications for software-related inventions

*Case studies on software-related inventions are described also in the followings:
Appendix A: Case examples of “Examination Guidelines for Patent and Utility Model”
Appendix D: Court precedents of “Examination Guidelines for Patent and Utility Model”

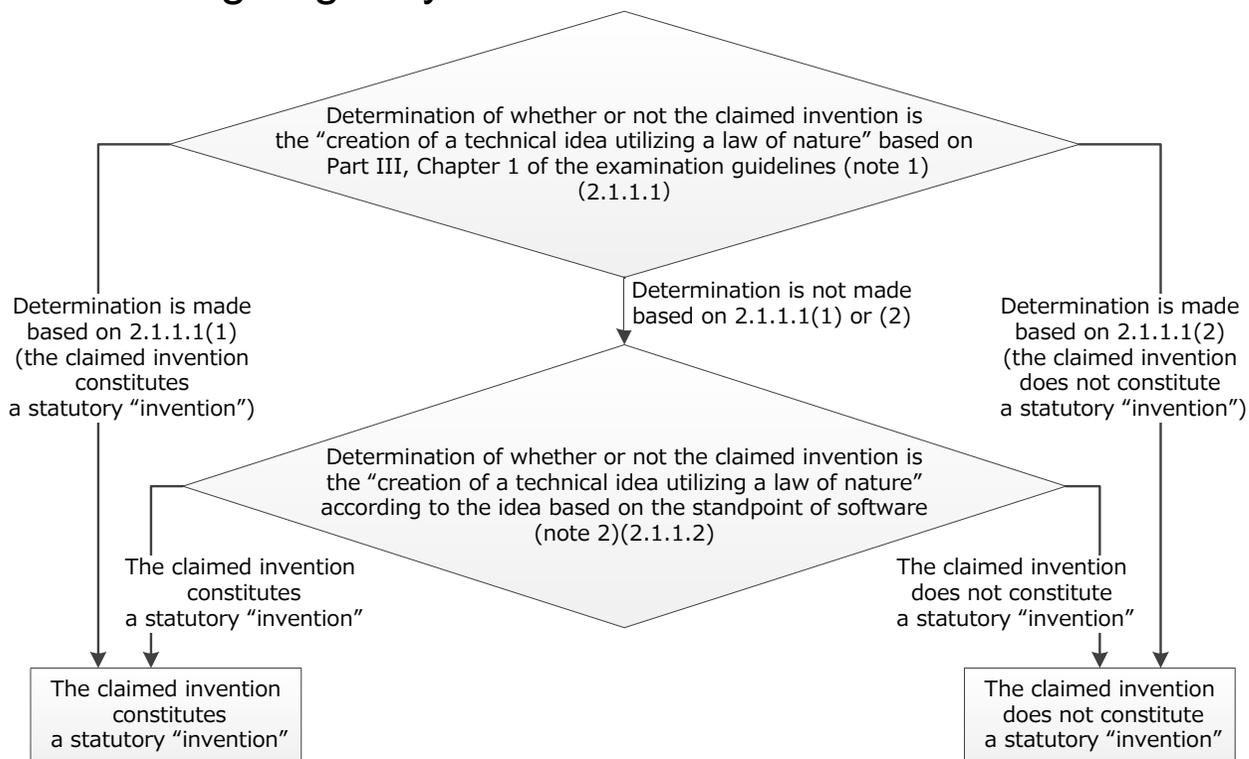
- With the emergence of new technologies such as IoT-related technology and AI, software-related inventions are created in many technical fields, so that it is desired that the basic concept concerning eligibility for patent and inventive step is clearly understandable for examiners and users in various technical fields.
- Based on these circumstances, the contents of eligibility for patent have been clarified without changing basic concept of the Examination Guidelines related to software-related inventions.

Part III Chapter 1 Eligibility for Patent and Industrial Applicability (main paragraph of Article 29(1) of Patent Act)

	Revised	Present
1	<p>2.2 Points to consider in examination on an invention utilizing computer software</p> <p><u>(1) Those utilizing the laws of nature as a whole and being considered as a "creation of a technical idea utilizing the laws of nature" (e.g., (i) or (ii) shown below) constitute a statutory "invention" without being examined from a viewpoint of computer software, <u>even though they utilize computer software (Note).</u></u></p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p><i>The order of description was amended so as to match with the actual process of examination.</i></p> </div> <p>(i) Those concretely performing control of an apparatus (e.g., rice cooker, washing machine, engine, hard disk drive, chemical reaction apparatus, nucleic acid amplifier), or processing with respect to the control</p> <p>(ii) Those concretely performing information processing based on the technical properties such as physical, chemical, biological or electric properties of an object (e.g., rotation rate of engine, rolling temperature, relation between gene sequence and expression of a trait in a living body, physical or chemical relation of bound substances)</p> <p><u>(Note) "Computer software" means a program related to the operation of a computer or any other information that is to be processed by a computer equivalent to a program (same as "program etc." in Article 2(4), and hereinafter also referred to as "software").</u></p>	<p>2.2 Points to consider in examination on an invention utilizing computer software</p> <p><u>(2) Those utilizing a law of nature as a whole and being considered as a "creation of a technical idea utilizing a law of nature" <u>irrespective of whether computer software is utilized</u> (e.g., (i) or (ii) shown below) constitute a statutory "invention" without being examined from a viewpoint of computer software.</u></p> <p>Computer software for causing a computer to execute a method, which is a "creation of a technical idea utilizing a law of nature" and thus constitutes a statutory "invention", or a computer or system for executing such <u>method</u> is normally a creation of a technical idea utilizing a law of nature as a whole, and thus, it constitutes a statutory "invention".</p> <p>(i) Those concretely performing control of an apparatus (e.g., rice cooker, washing machine, engine, hard disk drive, chemical reaction apparatus, nucleic acid amplifier), or processing with respect to the control</p> <p>(ii) Those concretely performing information processing based on the technical properties such as physical, chemical, biological or electric properties of an object (e.g., rotation rate of engine, rolling temperature, relation between gene sequence and expression of a trait in a living body, physical or chemical relation of bound substances)</p>

	Revised	Present
1	<p>A "program" means a set of instructions given to a computer which are combined in order to produce a specific result (Article 2(4)). Those "equivalent to programs" mean those which are not direct instructions to computers and thus cannot be called programs, but have similar properties to programs in terms of prescribing computer processing. For example, "data structure" (a logical structure of data that is expressed by correlations between data elements) can be equivalent to a program.</p> <p>Computer software for causing a computer to execute <u>a procedure</u> of a method, which is a "creation of a technical idea utilizing the laws of nature" and thus constitutes a statutory "invention", or a computer or system for executing such <u>a procedure</u> is normally a creation of a technical idea utilizing the laws of nature as a whole, and thus, it constitutes a statutory "invention".</p> <p><u>(2)</u> There is possibility for an invention to be considered as a "creation of a technical idea utilizing the laws of nature" where the invention is made having an intention of utilizing computer software as a whole such as software used in doing business, in playing a game or in calculating a mathematical formula, even though the invention is made related to a method for doing business, playing a game or calculating a mathematical formula, <u>which is not determined to correspond to (i) or (ii) stated above.</u></p> <p>An examiner shall examine whether such an invention is to be considered as a "creation of a technical idea utilizing the laws of nature" from a viewpoint of computer software. <u>In other word, an examiner shall examine from this viewpoint, because those utilizing computer software are "creation of a technical idea utilizing the laws of nature" if "information processing by the software is concretely realized by using hardware resources (Note) "</u>.</p> <p>For inventions relating to a method for doing business, playing a game or calculating a mathematical formula, since there are cases in which the claimed invention a part of which utilizes a computer software is determined as not utilizing the laws of nature when considered as a whole, whether they are "creation of a technical idea utilizing the laws of nature" shall be carefully examined (see Examples 5 and 6 of "2.1.4 Those in which the laws of nature are not utilized").</p> <p><u>(Note) Hardware resources include a physical device or physical element that is used in processing, operation, or implementation of a function. For example, they include a computer as a physical device, and a CPU, memory, input device, output device, or physical device connected to a computer, which are components thereof.</u></p>	<p><i>Term definitions were added.</i></p> <p><u>(1)</u> For inventions relating to a method for doing business, playing a game or calculating a mathematical formula, since there are cases in which the claimed invention a part of which utilizes <u>an article, apparatus, device, system, computer software, etc.,</u> is determined as not utilizing the laws of nature when considered as a whole, whether they are "creation of a technical idea utilizing the laws of nature" shall be carefully examined. <u>On the other hand,</u> there is possibility for an invention to be considered as a "creation of a technical idea utilizing the laws of nature" where the invention is made having an intention of utilizing computer software as a whole such as software used in doing business, in playing a game or in calculating a mathematical formula, even though the invention is made related to a method for doing business, playing a game or calculating a mathematical formula.</p> <p><i>The meaning to consider eligibility for a patent from the viewpoint of computer software was added.</i></p>

● Process of Determining Eligibility for Patent for Software-Related Inventions



(note 1)

(1) Whether the claimed invention as a whole utilizes a law of nature, like those stated in (i) or (ii) below

(i) Those concretely performing control of an apparatus, or processing with respect to the control.

(ii) Those concretely performing information processing based on the technical properties of an object.

(2) Whether the claimed invention falls under any type that does not constitute a statutory "invention," such as mere presentation of information, arbitrary arrangements, and mathematical formulae.

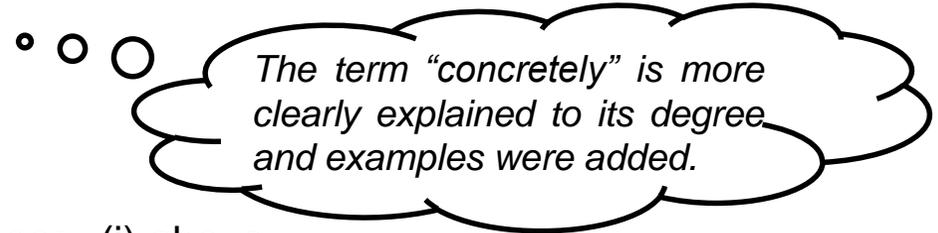
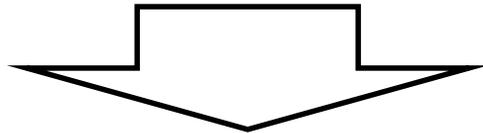
(note 2)

Whether or not information processing by the software is concretely realized by using hardware resources in the claimed invention.

■ (i) and (ii) are eligible for a patent without being examined from a viewpoint of computer software.

(i) Those concretely performing control of an apparatus, or processing with respect to the control (e.g., engine control).

(ii) Those concretely performing information processing based on the technical properties of an object (e.g., image processing).



■ Those described below normally fall under the category (i) above.

(i-1) Those performing control of a target apparatus based on a structure, system component, composition, action, function, nature, property, operation, etc. of the control target apparatus or any other apparatus related to the control target apparatus.

(i-2) Those performing control in a way that realizes operations according to the purpose of an apparatus.

(i-3) Those performing integrated control of a whole system comprising multiple related apparatuses.

■ Those described below normally fall under the category (ii) above.

(ii-1) Those obtaining intended numerical values, images, etc. by calculation or processing of numerical values, images, etc. showing the technical properties of an object, which is performed according to said technical properties.

(ii-2) Those performing information processing by utilizing a technical correlation between a state of an object and a phenomenon corresponding thereto.

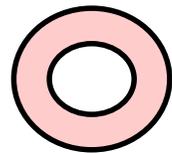
Example 1:

A server comprising:

- a means for receiving users' schedule information stored on users' terminals from multiple users' terminals;
- a means for making estimations for the time of the users' return home based on said schedule information;
- a means for setting the time to start cooking rice so that cooking is done right before the earliest estimated time of the users' return home, which is determined based on said multiple estimated time of the user's return home ; and
- a means for giving an instruction to a rice cooker to start cooking rice and causing said rice cooker to start cooking rice at said time set.

(Explanation)

The claimed invention performs control based on a function, etc. of the control target apparatus (rice cooker) (a rice cooking function to complete rice cooking after a specific amount of time).



Recognized as an "invention"

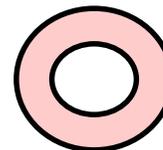
Example 4:

A delivery method for a delivery system comprising a transport vehicle with a cargo supply mechanism and a drone capable of autonomous flight, wherein:

- said transport vehicle has in its ceiling part a cargo supply mechanism that automatically supplies cargo to said drone and space for takeoff and landing located immediately above said cargo supply mechanism;
- said cargo supply mechanism and said drone are capable of communicating with a control server; and
- the following steps are carried out once or more based on an instruction sent from said control server:
 - (a) a step in which said cargo supply mechanism supplies cargo to said drone that lands on the takeoff and landing space;
 - (b) a step in which said drone flies to the destination and releases said cargo; and
 - (c) a step in which said drone flies to said transport vehicle and lands on said takeoff and landing space.

(Explanation)

When the claimed invention is studied as a whole, the delivery of cargo is accomplished by the coordinated operation of the apparatuses, namely the cargo supply mechanism and drone, based on an instruction from the control server. The claimed invention performs integrated control of a whole system (the delivery system) comprising multiple related apparatuses (the cargo supply mechanism and drone).



Recognized as an "invention"

Example 2:

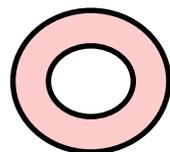
An electricity control system related to (a) sale of electricity through the transmission of electricity generated by a power generation apparatus to a commercial power system, (b) purchasing of electricity through the transmission of the system power of said commercial power system to a battery and electric equipment, (c) storage of electricity through the transmission of power generated by said power generation apparatus to said battery, and (d) discharge of electricity through the transmission of power stored in said battery to said electric equipment, comprising:

a server with an electricity value calculation part that estimates an electricity value for each time slot by adding (a) a value calculated by multiplying the unit price for sold electricity by the amount of electricity generated by said power generation apparatus, which ... is vendible when using power stored in said battery as the electricity consumed by the load of said electric equipment, to (b) a value calculated by multiplying the amount of the system power not necessary to be purchased by the unit price for sold electricity; and

an electricity control apparatus, which is connected with said server through a network, comprising an electricity control part that performs said sale, storage and discharge of electricity and refrains from performing said purchasing during a time slot in which the electricity value calculated by said electricity value calculation part is higher than the prescribed value.

(Explanation)

The claimed invention performs control in a way that realizes operations according to the purpose of apparatuses (the power generation apparatus and battery) (that performs said sale, storage and discharge of electricity and refrains from performing said purchasing during a time slot in which the electricity value ... is higher than the prescribed value).



Recognized as an “invention”

Example 3:

An electricity control system that controls sale of electricity generated by a power generation apparatus to an electric power company, purchasing of electricity from said electric power company, and discharge of electricity stored in the battery to cover electricity consumed by electric equipment, in a way that increases economic benefit for a consumer based on the purchase and sale prices of electricity.

(Explanation)

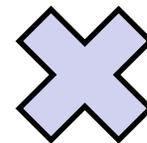
(Reasons why the claimed invention does not fall under (i-2) above)

In the claimed invention, it is only specified that the sale, purchasing and discharge of electricity are controlled "in a way that increases economic benefit for a consumer based on the purchase and sale prices of electricity."

Even if the description, drawings and common general knowledge at the time of filing are taken into consideration in interpreting the meanings of words in the claims , the application does not specify anything about the operation of the apparatuses (the power generation apparatus and battery), although it successfully specifies the purpose of the apparatuses. Therefore, it cannot be said that the claimed invention falls under the category of those performing control in a way that realizes operations according to the purpose of an apparatus.

(Reasons why the claimed invention does not fall under a "creation of a technical idea utilizing the laws of nature")

It cannot be said that the claimed invention as a whole concretely performs control of an apparatus or processing with respect to the control, nor can it be said that it concretely performs information processing based on the technical properties ... of an object. In the claimed invention, it cannot be said either that information processing by the software is concretely realized by using hardware resources ...



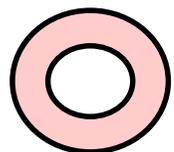
NOT recognized as an “invention”

Example 5:

A secondary accident prevention program for causing a computer to implement (a) a function to confirm the fact that a shock has occurred to a vehicle and said vehicle has stopped based on the acceleration rate and velocity of said vehicle transmitted from the terminal on said vehicle, (b) a function to analyze the velocity of other vehicles located near said vehicle after said confirmation, and determine whether an accident has occurred by studying whether the velocity of other vehicles located near said vehicle has decreased, and (c) a function to transfer information on the occurrence of the accident to other vehicles located near said vehicle.

(Explanation)

The claimed invention performs information processing by utilizing technical correlations (a correlation between the occurrence of an accident and the velocity and acceleration rate of a vehicle and the velocity of vehicles located nearby) with respect to the secondary accident prevention program.



Recognized as an “invention”

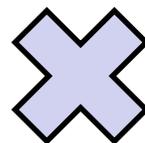
Example 6:

A secondary accident prevention program for causing a computer to implement a function to determine whether an accident has occurred based on information concerning multiple vehicles.

(Explanation)

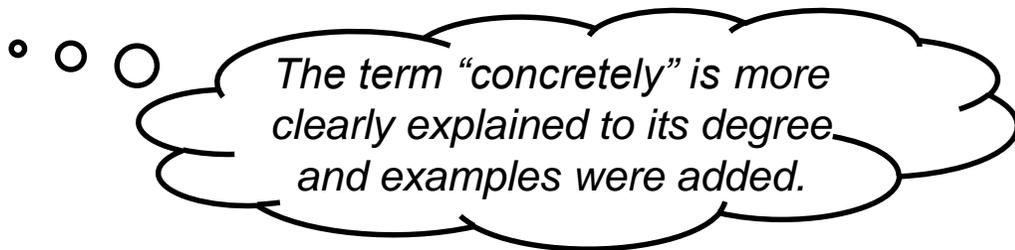
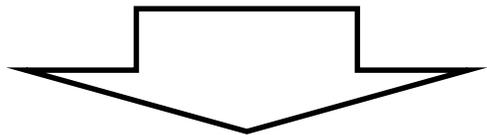
(Reasons why the claimed invention does not fall under (ii-2) above)
In the claimed invention, it is only specified that the secondary accident prevention program "determines whether an accident has occurred based on information concerning multiple vehicles." Even if the description, drawings and common general knowledge at the time of filing are taken into consideration in interpreting the meanings of words in the claims, it cannot be said that the claimed invention performs information processing utilizing a technical correlation (a correlation between the occurrence of an accident and information concerning multiple vehicles).

(Reasons why the claimed invention does not fall under the "creation of a technical idea utilizing the laws of nature")
It cannot be said that the claimed invention as a whole concretely performs information processing based on the technical properties ... of an object, nor can it be said that it concretely performs control of an apparatus or processing with respect to the control. In the claimed invention, it cannot be said either that information processing by the software is concretely realized by using hardware resources ...



NOT recognized as an “invention”

- Eligibility for patent of a software-related invention is determined as follows:
 - When “information processing by the software is **concretely** realized by using hardware resources*,” said software-related invention complies with the requirements of eligibility for a patent.
 - * Specifically, the examiner should determine whether or not the claimed invention implements specific calculation or processing of information depending on the intended use by **concrete** means or procedures on which software and hardware resources cooperate.



- Claims **do not always require specific statement as to what the hardware resources are.**
 - **Even if the "computer (information processor)" is the only hardware resource stated in the claims,** in cases where the claims state specific calculation or processing of information depending on the intended use, **it may be obvious that specific calculation or processing of information depending on the intended use is implemented by concrete means or procedures in which the software cooperates with the hardware resources that a "computer (information processor)" usually comprises, such as a "CPU (calculation means)" and "memory (storage means)"** in the claimed invention, if the common general knowledge at the time of filing of the application is taken into account.

Example 2:

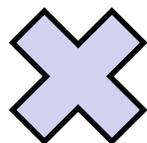
A computer receiving an input of the prediction date and subject product for which sales are to be predicted and predicting sales for said subject product on said prediction date based on past sales data for said subject product on the same day of the week as said prediction day during a specific period in the past.

Example 3:

A computer comprising input means configured to input document data, processing means configured to process the inputted document data, and output means configured to output the processed document data, the computer for creating a summary of the document inputted by the processing means.

(Explanation)

The claim states the intended use. However, only with the statement, it cannot be stated that concrete means or procedures for implementing specific calculation or processing depending on the intended use of creation of a summary is stated. Even if the description, drawings and common general knowledge at the time of filing are taken into consideration in interpreting the meanings of words in the claims and the entire statement of the claim are considered, the claimed invention does not state concrete means or procedures for implementing specific calculation or processing of information for creation of a summary is stated even considering the entire statement of the claim.



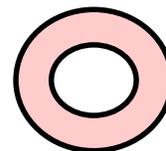
NOT recognized as an "invention"

Example 4:

A computer for creating a summary for a specific subject document contained in a group of documents w herein:
through analysis of said subject document, one or more sentences comprising said document are extracted and one or more words contained in each sentence are extracted;
a TF-IDF value for each of said extracted words is calculated based on the frequency of the word's appearance in said subject document (TF) and the reciprocal of the frequency of the word's appearance in all documents contained in said group of documents (IDF); and
the total of said TF-IDF values for multiple words contained in each sentence is calculated as the sentence's importance index for each sentence, a certain number of sentences are selected from said subject document in the descending order of the sentence's importance index, and a summary is created by arranging the selected sentences.

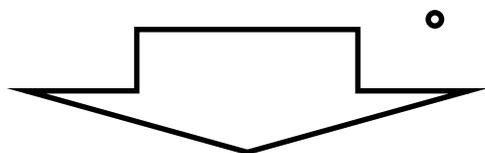
(Explanation)

The claim concretely states specific calculation or processing of information for creating a summary of the input document data. Moreover, although the only hardware resource stated in the claims is the "computer," it is obvious to a person ordinarily skilled in the art that the specific calculation or processing of information depending on the intended use is implemented by concrete means or procedures on which the software and hardware resources that a "computer" usually comprises, such as a CPU ... cooperate, if the common general knowledge at the time of filing of the application is taken into account. Therefore, it is determined that specific calculation or processing of information depending on the intended use, namely creation of a summary, is implemented by a concrete means or procedure on which the software and hardware resources cooperate. Thus, it can be said that the claimed computer constructs an information processor apparatus depending on the intended use on which the software and hardware resources cooperate.



Recognized as an "invention"

- The examiner should be careful not to determine whether or not the claimed software-related invention is a "creation of a technical idea utilizing the laws of nature" based on the sole fact that the category of the claimed invention has been formally changed.



An example in which eligibility for a patent is determined regardless of its category was added.

Example:

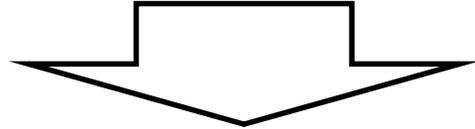
A computer program causing a computer to implement a method for playing Shogi between players remote from each other, the method comprising: a step of transmitting a move of one player to the other player through a chat system in the one player's turn; and a step of transmitting a move of the other player to the one player through the chat system in the other player's turn, the steps being repeated alternately.

(Explanation)

Since a "method of playing Shogi (Japanese chess) between players remote from each other, the method comprising: a step of transmitting a move of one player to the other player through a chat system in the one player's turn; and a step of transmitting a move of the other player to the one player through the chat system in the other player's turn, the steps being repeated alternately" as a whole is only a method using arbitrary arrangements, the claimed invention does not constitute a statutory "invention" Moreover, even if the category is formally changed from "method" to "product (program)," it cannot be said that information processing by the software is concretely realized by using hardware resources and thus it still cannot be said that the claimed invention is a "creation of a technical idea utilizing the laws of nature," nor can it be said that it constitutes a statutory "invention."

In addition to the case of category change from "method" to "product (program)," in the case of formal category change from "method" to "product (system)," too, the claimed invention is still not found to be a "creation of a technical idea utilizing the laws of nature" or a statutory "invention" as long as the claimed invention is merely a system that is an arbitrary arrangement.

- The examiner shall determine whether or not the "structured data" and "data structure" are equivalent to programs, or, in other words, whether or not they have similar properties to programs in that the structure of data prescribes computer processing.



Examples concerning those NOT equivalent to programs were added.

Example 1:

A virtual space character created by a computer through the implementation of special information processing.

(Explanation)

The claimed invention ... is a virtual space character ... Although it is stated as a "character" in the claimed subject matter, it is obvious that the claimed invention is data. However, even though this data is created through the implementation of special information processing, its "structure" as "structured data" is not specified and thus the structure that this data has does not prescribe computer processing. Therefore, this virtual space character does not have similar properties to programs and thus is not equivalent to programs.

(Note) According to Patent Act Article 2,

- A "product" includes a "computer program, etc." (Article 2 (3) (i))
- A "computer program, etc." includes a "computer program" and "any other information that is to be processed by an electronic computer equivalent to a computer program" (hereinafter, referred to as "those equivalent to a computer program"). (Article 2 (4))

Example 2:

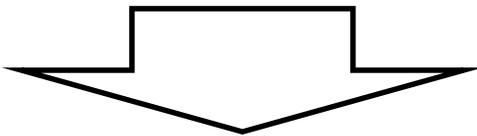
A data structure of a telephone book in which data elements comprising name, address, and telephone number are stored and managed as a set of records, which is used by a computer to search for a telephone number using a name as a key.

(Explanation)

Looking at the data structure of the claimed invention, the claims only specify that multiple data elements comprising name, address, and telephone number are stored and managed as a set of records, and they do not specify any other relationships among the data elements. As such, since it cannot be said that the relationship among the data elements leads to the same result that a computer searches for a telephone number using a name as a key, said telephone number search cannot be said to be computer processing prescribed by the data structure (it is not the data structure but the program installed on the computer that prescribes the computer processing, namely said telephone number search). Since the claimed data structure does not prescribe computer processing, it does not have similar properties to programs and thus is not equivalent to programs.

- If the claimed invention simply applies a procedure, means, or the like of a computer technology applied in a specific field to another specific field, without demonstrating any other technical feature, and if the advantageous effect obtained through this application does not exceed what is predictable based on the state of the art at the time of filing, there is a factor in support of the non-existence of the inventive step.

mere an application of a neural network model



A clear explanation and examples were added on a factor in support of the non-existence of the inventive step

Example 1:
A method for predicting the welding characteristics of a steel plate, ... , wherein:
components of the steel and values of manufacturing conditions are used as input values for said neural network model; and
learning of said neural network model is done so that it can predict the welding characteristics of a steel plate using components of the steel and values of manufacturing conditions as input values.
[Primary cited invention]
A method for predicting the welding characteristics of a steel plate using a computer, wherein a prediction of the welding characteristics of a steel plate, which ... , is made using a mathematical model that uses components of the steel and values of manufacturing conditions as input values.
[Secondary cited invention]
A method for predicting the quality of glass that uses a neural network model which has learned to estimate the quality of glass using specific input values.

(Explanation)
As the primary cited invention is a technology for predicting the welding characteristics of a steel plate and the secondary cited invention is a method for predicting the quality of glass, the specific fields of these two inventions are different. However, these inventions share a common function or operation, that is, to predict the quality of a material using a specific model. Moreover, they also share a common problem, which is to make a highly accurate prediction of the quality of a material. In addition, there are no other factors in support of the non-existence of an inventive step and there are no factors in support of the existence of an inventive step such as the advantageous effect and obstructive factor, in the primary cited invention and secondary cited invention. When these factors are assessed comprehensively, it is determined that, ... , the reasoning is possible by applying the secondary cited invention to the primary cited invention. Therefore, it can be concluded that a person ordinarily skilled in the art would easily conceive of the idea to apply the secondary cited invention to the primary cited invention, which uses a mathematical model ..., and would easily conceived of the idea of using a neural network model ...

Points of Revision of the Examination Handbook

Inventive Step (a factor in support of the non-existence of the inventive step)

Appendix B Chapter 1, 2.2.3.1, 2.2.3.3



mere an application of a neural network model

Example 2:

A system for capturing a cross-section image of a patient's cardiac muscle and identifying necrotic cardiac muscle tissues, comprising (a) a magnetic resonance imaging apparatus for obtaining an image of the cardiac muscle, (b) a processor that divides the myocardial wall into small sections, obtains images of the small sections of the myocardial wall, and determines based on the images of the small sections whether or not each small section contains any necrotic cardiac muscle tissue utilizing artificial intelligence, and (c) a display to show the image for each small section of the myocardial wall and a survivability index thereof, wherein:

said artificial intelligence is a neural network that has learned to determine whether or not an image of a small section that has been input contains any necrotic cardiac muscle tissue.

[Primary cited invention]

A system for capturing a cross-section image of a patient's cardiac muscle and identifying necrotic cardiac muscle tissue, comprising (a) a magnetic resonance imaging apparatus for obtaining an image of the cardiac muscle, (b) a processor that divides the myocardial wall into small sections, obtains images of the small sections of the myocardial wall, and determines whether or not each small section contains any necrotic cardiac muscle tissue based on the average concentration of the images of the small sections, and (d) a display to show the image for each small section of the myocardial wall and a survivability index thereof.

[Secondary cited invention]

A method for dividing an image into small sections and analyzing the characteristics of the image using artificial intelligence comprising a neural network that has learned to determine the presence or absence of specific characteristics of said small sections.

(Explanation)

Meanwhile, the neural network of the secondary cited invention improves the accuracy of analysis ... Since sophistication of a determination by utilizing artificial intelligence is a general issue common to the computer technology field, it is obvious that the primary cited invention also addresses such a problem. The primary cited invention and the secondary cited invention share a common problem when focused on the improvement of the accuracy of image analysis through utilization of artificial intelligence. Moreover, the primary cited invention ... and the secondary cited invention ... share a common function or operation when focused on analyzing the presence or absence of characteristics based on an image of a small section. In addition, ... there are no factors in support of the existence of an inventive step such as the advantageous effect and obstructive factor, in the primary cited invention and secondary cited invention. When these factors are assessed comprehensively, it is determined that ... the reasoning is possible by applying the secondary cited invention to the primary cited invention. Therefore, it can be concluded that a person ordinarily skilled in the art would easily conceive of the idea to apply the analysis technology ... of the secondary cited invention instead of determining ... based on the average concentration of an image of a small section in the primary cited invention, and would easily conceived of the idea to determine whether or not each small section contains any necrotic cardio muscle tissue by utilizing artificial intelligence, which is a neural network ...

Mere a replacement of “things” connected to the network in an IoT-related technology

Example 3:

A rice cooker system comprising:

a means for receiving users' schedule information stored on users' terminals from multiple users' terminals to a server;
a means for making estimations for the time of the user's return home based on said schedule information in the server;
a means for setting the time to start cooking rice in the server so that cooking is done right before the earliest estimated time of the users' return home, which is determined based on said multiple estimations for the time of the users' return home; and
a means for giving an instruction from the server to a rice cooker to start cooking rice and causing said rice cooker to start cooking rice at said time set.

[Primary cited invention]

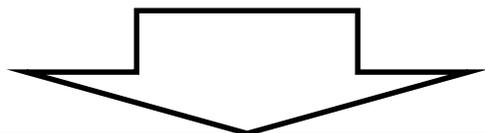
A water heater system comprising:

a means for receiving a users' schedule information stored on the user terminals, from multiple user terminals to a server;
a means for making estimations for the time of the user's return home based on said schedule information in the server;
a means for setting the time to start supplying hot water to the bathtub in the server so that the bathtub is filled right before the earliest estimated time of the users' return home, which is determined based on said multiple estimations for the time of the users' return home; and
a means for giving an instruction from the sever to the water heater to start supply hot water to the bathtub and causing said water heater to start supplying hot water to the bathtub at said time set.

(Explanation)

A rice cooker system to set the time to start cooking rice so that cooking is done at a desired time is well known. Although the primary cited invention and such a well-known system have different specific fields in that the subject equipment for the former is a rice cooker and that for the latter is a water heater, they share a common function or operation in that they both set the time to start supplying hot water to the bathtub or cooking rice so that the supplying of hot water to the bathtub or rice cooking is completed at a desired time. In addition, ... there are no factors in support of the existence of an inventive step such as the advantageous effect and obstructive factor, in the primary cited invention and secondary cited invention. When these factors are assessed comprehensively, it is determined that, ... , the reasoning is possible by applying the secondary cited invention to the primary cited invention. Therefore, it can be concluded that a person ordinarily skilled in the art would easily conceive of the idea to apply a rice cooker instead of a water heater in the primary cited invention, and would easily conceive of the idea to send an instruction from a server to a rice cooker and have it start cooking rice.

- While service or a method for doing business performed by humans in a specific field is disclosed as the cited invention, how to systemize the service is not disclosed as the cited invention.
- Even in such a case, if systemizing the service or method for doing business performed by humans in the specific field and implementing it by a computer are to such an extent that they are possible by daily work using a normal system analysis method and a system design method, they fall under exhibition of ordinary creativity of a person skilled in the art.



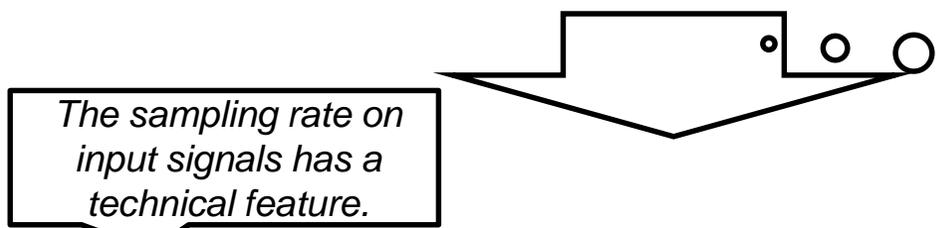
An example concerning an IoT-related technology was added.

Example 7:

To simply build a system, in which (a) the server receives information on the estimated time of returning home concerning multiple family members, (b) the server calculates the estimated time of returning home for the family member that comes home earliest, and (c) the timer is set so that rice cooking in the rice cooker is completed by the estimated time of returning home for the family member that comes home earliest, falls under exhibition of normal creation activities of a person skilled in the art, if it is disclosed as the cited invention that one of the family members used to receive contact regarding the estimated time of returning home from multiple family members and set the timer so that rice cooking in the rice cooker is completed by the estimated time of returning home for the family member that comes home earliest.

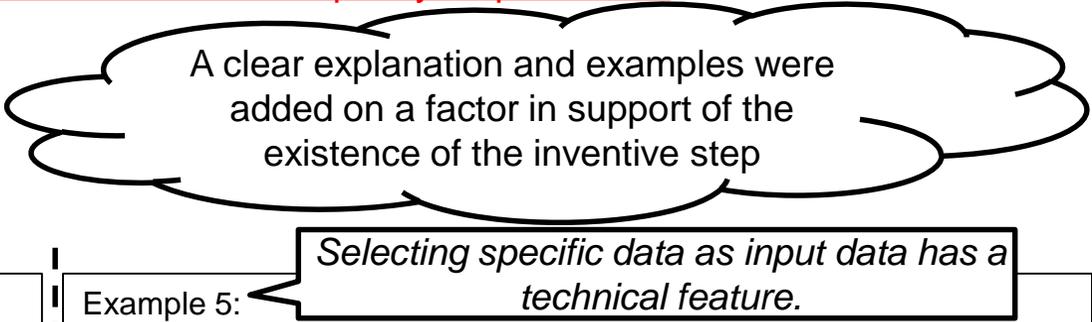
- Selection of a primary cited invention
- Regarding a software-related invention related to a business method, it may be appropriate to choose a cited invention as the primary cited invention, whose technical field or problem to be solved has a relationship or commonality in relation to the claimed invention, even if the business method is different.
- Moreover, regarding a software-related invention concerning an IoT-related technology, it may be appropriate to choose a cited invention as the primary cited invention, whose technical field or problem to be solved has a relationship or commonality in relation to the claimed invention, even if the thing that is connected to the network is different.

- An attempt to simply apply a procedure, means, or the like of a computer technology applied in a specific field to another specific field is considered as an exhibition of ordinary creativity of a person skilled in the art. However, in some cases where advantageous effects obtained by setting specific technical conditions exceed what is predictable based on the state of the art at the time of filing, the existence of an inventive step may be presumed.



The sampling rate on input signals has a technical feature.

Example 4:
While the claimed invention is an internal pressure detection method that deems the cylinder's internal pressure estimation signals, which are output from the neural network when vibration detection signals detected by the vibration sensor of the internal-combustion engine are input value, as cylinder's internal pressure, wherein the sampling rate of input value during and after learning is adjusted according to the rotation speed of the internal-combustion engine, while the cited invention specifies the sampling rate during and after learning is matched, but does not specify the sampling rate during and after learning is adjusted according to the rotation speed of the internal-combustion engine. Through this, the claimed invention makes it possible to use the neural network efficiently, which is an effect of the different nature from that of the cited invention. Said effect of the claimed invention is not a matter that can be derived from the common general knowledge at the time of filing. Therefore, this effect exceeds what is predictable based on the state of the art at the time of filing, this effect are factors in support of the existence of an inventive step.



Selecting specific data as input data has a technical feature.

Example 5:
While the claimed invention is a method for measuring the NO_x concentration of smoke generated from combustion inside a furnace, which can make a highly accurate measurement of NO_x concentration by estimating NO_x concentration of smoke using data on pressure inside the furnace, data on smoke temperature, and data on CO₂ concentration and O₂ concentration as input data for a neural network, while the cited invention specifies using data on smoke temperature, and data on CO₂ concentration and O₂ concentration as input data, but does not specify using data on pressure inside the furnace as input data. While it is common that noises are generated when a great amount of data is used as input data, the claimed invention can restrict such noises by using specific data as input data, which is an effect of the different nature from that of the cited invention. In addition, said effect of the claimed invention is not a matter that can be derived from the common general knowledge at the time of filing. Therefore, this effect exceeds what is predictable based on the state of the art at the time of filing, this effect are factors in support of the existence of an inventive step.

- Points to be noted when the claimed invention does not comply with the requirements of eligibility for a patent but may comply with those by an amendment
 - ✓ When conducting prior art search, the examiner should take into consideration the matters reasonably expected to be added to claims by an amendment in order for the claimed invention to become a "creation of a technical idea utilizing the laws of nature" as the subject of search in view of the efficiency of the procedures until the final decision.
 - ✓ In principle, the examiner should give notice of all of the reasons for refusal which have been found in the first notice of reasons for refusal. However, where notification of only a reason for refusal is likely to lead to amendments by which not only the notified reason for refusal but also another reason for refusal will be overcome at the same time, multiple reasons for refusal should not be always notified redundantly. For instance, where notification of only a reason for refusal in terms of lack of inventive step is likely to lead to amendments by which not only the reason for refusal in terms of lack of inventive step but also a reason for refusal in terms of non-compliance with description requirements will be overcome, the reason for refusal in terms of non-compliance with description requirements should not be always notified.

- Prior Art Search

When conducting prior art search for a software-related invention, since it is a common attempt in the field of software-related invention to apply a procedure, means, or the like of a computer technology which are utilized in a specific field to another specific field for a certain purpose, ... , the examiner should note that it is common to expand the scope of prior art search to other specific fields or computer technology fields, beyond the specific field.