Case Examples for AI-Related Technologies

Japan Patent Office

Requirement for Description

Enablement Requirement （Act. 36(4)(i)）

The statement in the description must be clear and sufficient to enable a person skilled in the art to carry out the claimed invention based on the statements in the description and drawings in light of the common general knowledge at the time of filing.

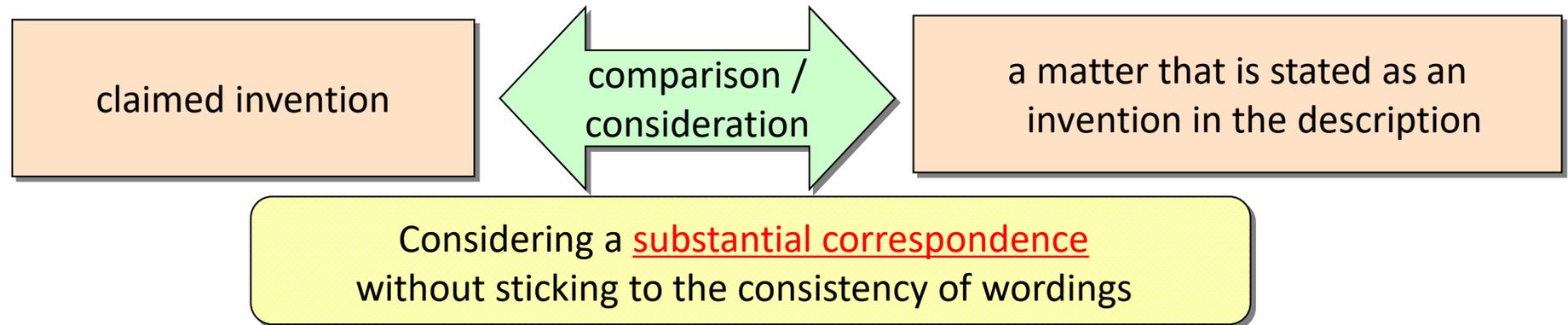| Invention of a product	→	・ Capability of making the product ・ Capability of using the product
Invention of a process	→	・ Capability of using the process
Invention of a process for producing a product	→	・ Capability of making the product by using the process
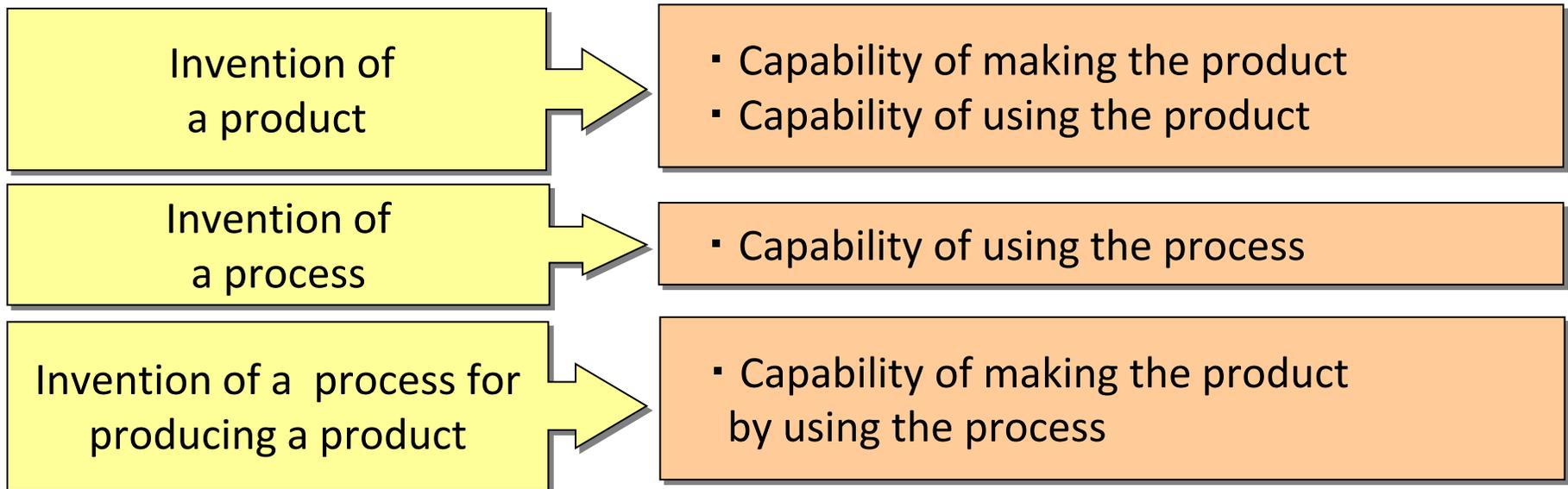
A determination on the enablement requirement in Computer software (CS) Inventions shall be made according to "Part II Chapter 1 Section 1 Enablement Requirement" of the Examination Guidelines.

✓ See Annex B "CS Inventions" of the Examination Handbook as a supplement.
https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/handbook_shinsa/index.html
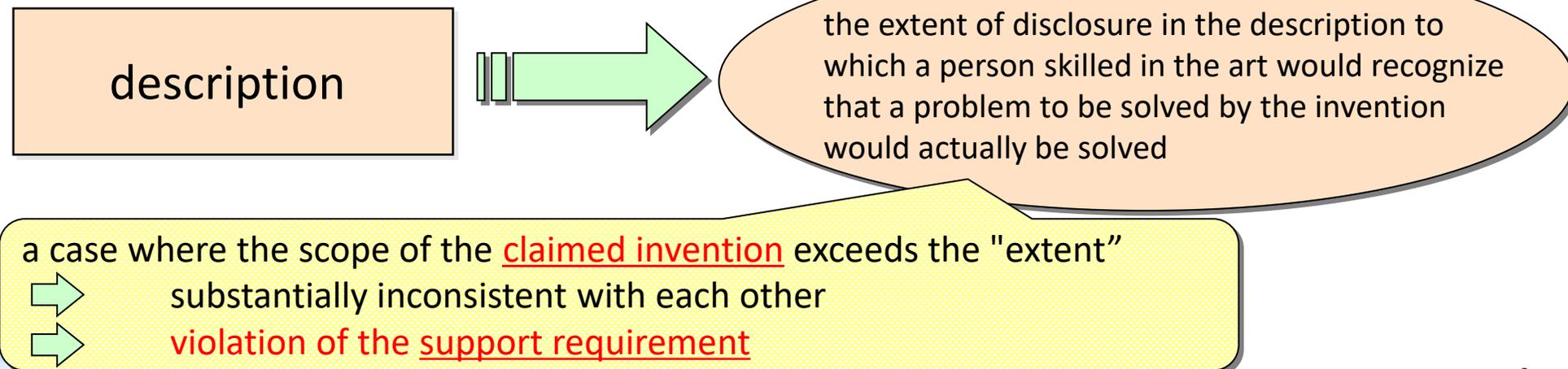
Requirement for Claims

Support Requirement （Act. 36(6)(i)）

The scope of a claimed invention should <u>not exceed</u> the extent of disclosure in <u>the description</u>.

claimed invention	comparison / consideration	a matter that is stated as an invention in the description

Considering a <u>substantial correspondence</u> without sticking to the consistency of wordings

Examination on Substantial Correspondence

description	→	the extent of disclosure in the description to which a person skilled in the art would recognize that a problem to be solved by the invention would actually be solved

a case where the scope of the <u>claimed invention</u> exceeds the "extent"
- substantially inconsistent with each other
- violation of the <u>support requirement</u>

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Overview of Enablement Requirement or Support Requirement (After addition)

	Case that satisfies the requirement	Case that does not satisfy the requirement
Inventions of a product that are presumed to have a certain function by AI	[Reference] The fact that the invention is presumed to have a particular function by AI does not necessarily mean that the description requirement is not satisfied. Any of (1)-(3) on the right can satisfy the description requirement. See claim 2 of Additional Case 5 for an example that satisfies the description requirement based on (1).	Additional Case 5 (Claims 1 and 3) Case 51 Case in which a product is claimed which is presumed to have a certain function by AI, but the description requirement is not satisfied because it does not apply to any of the following: (1) the evaluation of the product actually manufactured is stated in the description, etc., (2) the estimation accuracy of the predicted value indicated by AI is verified in the description, etc., (3) the common general technical knowledge that the AI estimation result can replace the evaluation of the product actually manufactured was available at the time of filing.
Those that create training data	Additional Case 6 (Claim 3) (Support Requirement) Case in which, with respect to the training data to be created, the AI subject to machine learning and the content of the training data for machine learning are sufficiently specified in the claims, and the means for solving the problem of the invention stated in the detailed description of the invention is reflected.	Additional Case 6 (Claims 1-2) (Support Requirement) Case in which, with respect to the training data to be created, the AI subject to machine learning and the content of the training data for machine learning are not sufficiently specified in the claims, and the means for solving the problem of the invention stated in the detailed description of the invention is not reflected.

Inventions that apply AI to various technical fields

	Case that satisfies the requirement	Case that does not satisfy the requirement
Those in which it can be presumed that there is a correlation between multiple types of data included in a training data in view of a common general technical knowledge at the time of filing.	Additional Case 7 (Claim 2) (Support Requirement) Case 47, Case 48 Cases in which a specific correlation between multiple types of data included in the training data is not stated in the description, etc., but it can be presumed that there is a correlation between them in view of a common general technical knowledge at the time of filing.	Case 46 Case in which the fact that there is a correlation between multiple types of data included in the training data is not supported in the description, etc., and it cannot be presumed that there is a correlation between them even in view of a common general technical knowledge at the time of filing. Additional Case 7 (Claim 1) (Support Requirement) Case in which the input-output relationship of each data included in the training data is not specified in the claims, and thus the invention that cannot solve the problem of the invention is included in the claims, and the support requirement is not satisfied.
Those in which a correlation between multiple types of data included in a training data is supported by explanations and statistical information stated in the description, etc.	Case 49 (Claim 2) Case in which the fact that there is a correlation between multiple types of data included in the training data is supported by explanations and statistical information stated in the description, etc.	Case 49 (Claim 1) Case in which the fact that there is a correlation between multiple types of data included in the training data stated in the generic concept is not supported in the description, etc., and it cannot be presumed that there is a correlation between them even in view of a common general technical knowledge at the time of filing.
Those in which a correlation between multiple types of data included in a training data is supported by the performance evaluation of the artificial intelligence model actually created.	Case 50 (Claim 2) Case in which the fact that there is a correlation between multiple types of data included in the training data is supported by the results of performance evaluation of the artificial intelligence model actually created.	Case 50 (Claim 1) Case in which the fact that there is a correlation between multiple types of data included in the training data stated in the generic concept is not supported in the description, etc., and it cannot be presumed that there is a correlation between them even in view of a common general technical knowledge at the time of filing.

*Cases marks as (Support Requirement) are for support requirement only.

[Claim 1]
A body weight estimation system comprising:

a model generation means for generating an estimation model that estimates a body weight of a person based on a feature value representing a face shape and a body height of the person, through machine learning using training data containing feature values representing face images as well as actual measured values of body heights and body weights of people;
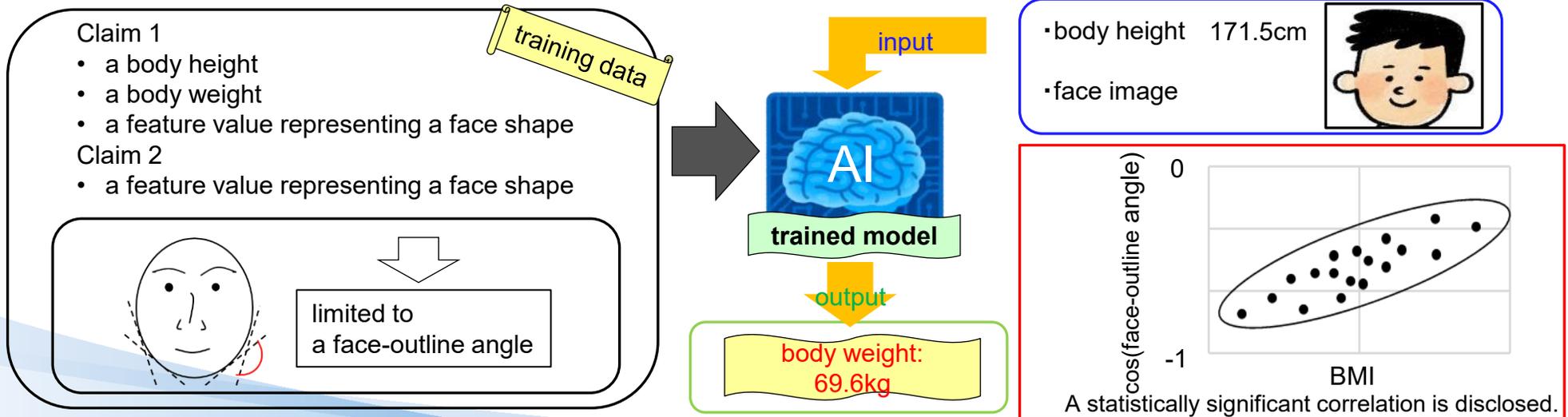
a reception means for receiving an input of a face image and body height of a person;

a feature value obtainment means for obtaining a feature value representing a face shape of the person through analysis of the face image of the person that has been received by the reception means; and

a processing means for outputting an estimated value of a body weight of the person based on the feature value representing the face shape of the person that has been received by the feature value obtainment means and the body height of the person that has been received by the reception means, using the generated estimation model by the model generation means.

[Claim 2]
The body weight estimation system as in Claim 1, wherein the feature value representing a face shape is a face-outline angle.

Claim 1
- a body height
- a body weight
- a feature value representing a face shape

Claim 2
- a feature value representing a face shape

training data

limited to a face-outline angle

input

AI

trained model

output

body weight: 69.6kg

- body height   171.5cm
- face image

cos(face-outline angle)

0

-1

BMI

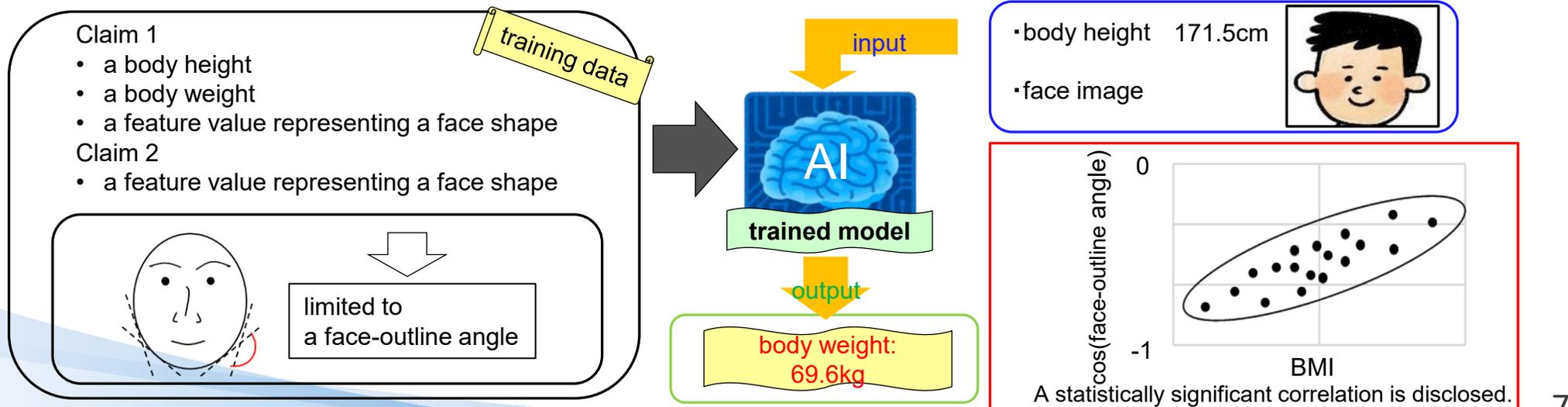A statistically significant correlation is disclosed.

Case Example: *Body Weight Estimation System (2)*
In case that Existence of correlation between input and output data is evident from the statistical data

[Overview of the Description]

There is a certain degree of correlation between a face feature and physical size of a person. …, the inventor found a statistically significant correlation between a cosine of a face-outline angle and BMI (defined as a body weight divided by the square of a body height) of a person. The face-outline angle here means an angle defined between a tangent line to a jaw and a tangent line to a cheek. …. This suggests a certain degree of correlation between a body height and weight used for BMI calculation and a face-outline angle. Accordingly, an estimation model with a highly accurate output can be generated through machine learning, using a known machine learning algorithm such as a neural network with a training data. The training data contains actual measured values of face-outline angles, body heights, and body weights. The face-outline angles are obtained through analysis on face images of people. A feature value representing a face shape of a person is a face-outline angle in this embodiment, but it is not limited to this. Any feature value representing a face shape may be obtained from a face image and used.

(Note) In this case, it is assumed that, even in view of a common general technical knowledge at the time of filing, a person skilled in the art can presume a certain relation such as a correlation between (i) a body height, weight, and the like of a person and BMI based on these and (ii) a feature representing a face shape such as a face-outline angle is not a common general technical knowledge at the time of filing here.

Claim 1
- a body height
- a body weight
- a feature value representing a face shape

Claim 2
- a feature value representing a face shape

limited to a face-outline angle

training data

input

AI

trained model

output

body weight: 69.6kg

・body height　171.5cm

・face image

cos(face-outline angle)

0

-1

BMI

A statistically significant correlation is disclosed.

❌ **Claim 1: Violation of the support/enablement requirements**
A certain correlation among each data in a training data disclosed in a generic concept is not supported by the description and is not a common general technical knowledge at the time of filing. Therefore, the support/enablement requirement is not satisfied.

⭕ **Claim 2: No reason for refusal**
A certain correlation among each data in a training data is supported by the statistics in the description. Therefore, the support/enablement requirement is satisfied.
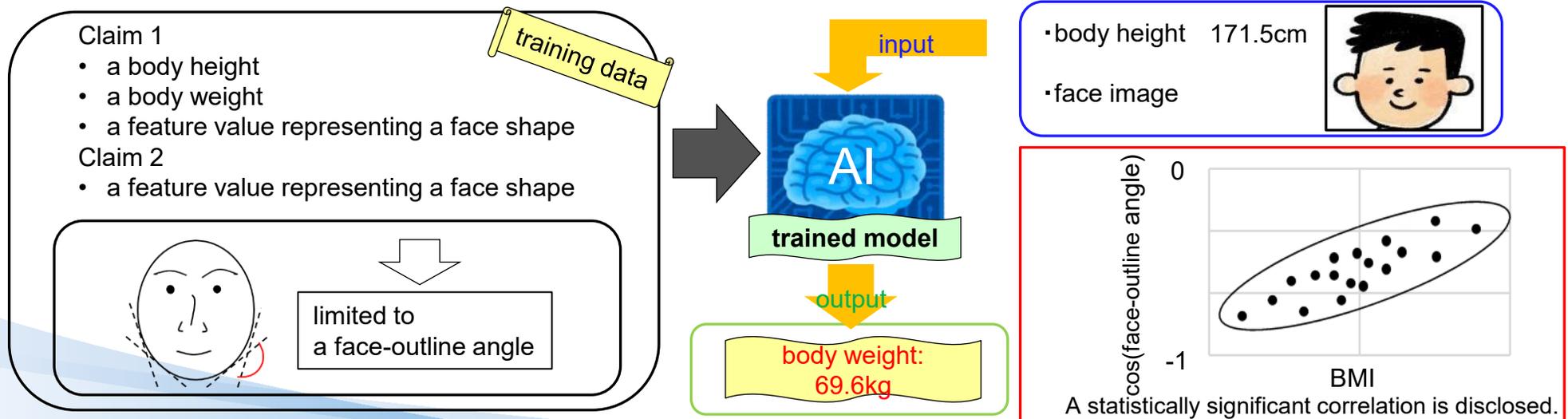
Claim 1
- a body height
- a body weight
- a feature value representing a face shape

Claim 2
- a feature value representing a face shape

limited to
a face-outline angle

training data

input

AI
trained model

output

body weight:
69.6kg

・body height   171.5cm

・face image

0

cos(face-outline angle)

-1

BMI

A statistically significant correlation is disclosed.

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Novelty

Act. 29(1)

Inventions are novel, except when:

(i) inventions that were publicly known;

(ii) inventions that were were publicly worked; or

(iii) inventions that were described in a distributed publication or were
made publicly available through an electric telecommunications line

in Japan or a foreign country prior to the filing.

invention of respective items ＝prior art

Inventions deserving patents should be novel.

The purpose of the patent system is to grant an exclusive right in exchange for the publication of an invention.

Determination of novelty

Compare the claimed invention and the prior art (the cited invention)

Existence of any differences ➡ The claimed invention is novel.

Non-existence of differences ➡ The claimed invention lacks novelty.

Novelty (sub-combination inventions)

- IoT related technologies are generally realized as a system where several devices and terminals are connected through a network, and therefore a part of the system may be applied for a patent as a sub-combination invention $^{(*)}$.
- Novelty of sub-combination inventions of IoT related technologies is determined in the same way as that of sub-combination inventions in other technical fields.

$^{(*)}$ In the case of an invention of the overall apparatus made of a combination of two or more devices, or an invention of a manufacturing method formed of a combination of two or more processes (combination), a sub-combination invention refers to an invention of each device combined to form the overall apparatus or an invention of each process.

Specifying the sub-combination invention in the determination on novelty

<u>Examination Guidelines</u> (Part III, Chapter 2, Novelty and Inventive Step)

- When specifying the claimed invention, the examiner should consider elements relevant to "another sub-combination" stated in the claim and not ignore them in specifying the claimed invention.

- The examiner should also understand the role which the elements have in specifying the sub-combination invention from the aspect of its structure, function, etc. when he/ she specifies the claimed sub-combination invention.

- In this regard, the examiner should take into account the statements in the description and drawings as well as the common general knowledge at the time of filing.

(Part III, Chapter 2, Section 4 4. Cases where an element relevant to "another sub-combination" has a role in specifying the claimed sub-combination invention. "4.1 Specifying the claimed invention")
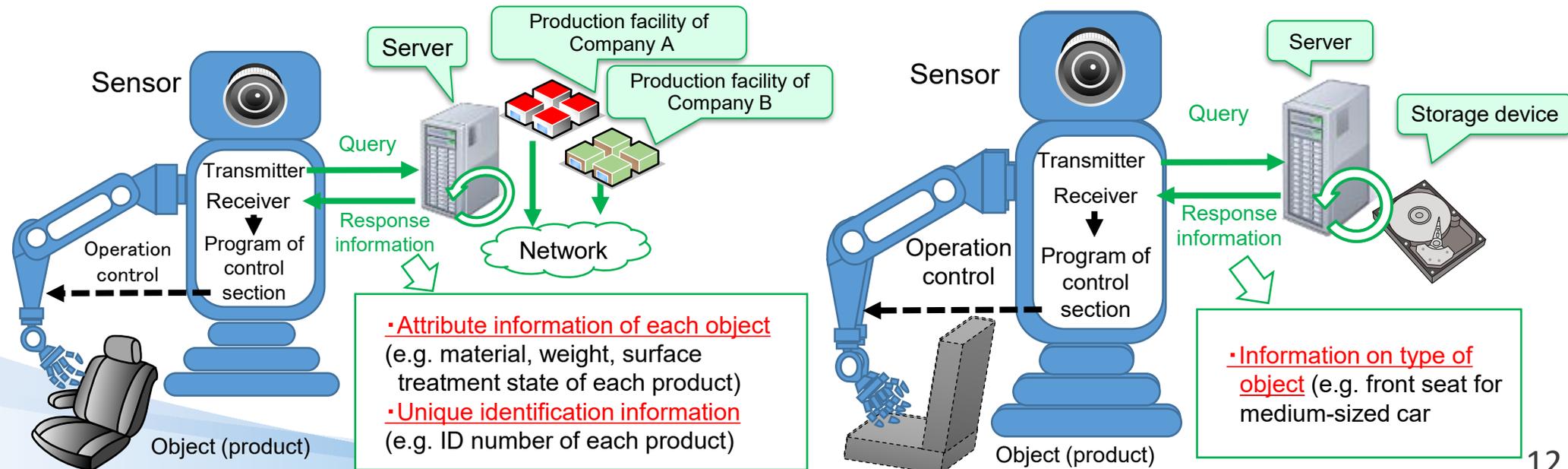
Case Example: Robot apparatus (1)

[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 contains the attribute information and the unique identification information of each of the said object specified by the said server.

[Cited invention]
 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.

Sensor

Server

Production facility of Company A

Production facility of Company B

Query

Response information

Network

Transmitter
Receiver
Program of control section

Operation control

Object (product)

・Attribute information of each object
(e.g. material, weight, surface treatment state of each product)
・Unique identification information
(e.g. ID number of each product)

Sensor

Server

Storage device

Query

Response information

Transmitter
Receiver
Program of control section

Operation control

Object (product)

・Information on type of object (e.g. front seat for medium-sized car

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Case Example: Robot apparatus (1)

[**Conclusion**]

　　　⭕ <u>Involve novelty</u>

[**Explanation**]

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

　Claim 1 on the robot apparatus recites a feature related to the server (the other sub-combination), namely, "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 1 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, <u>the robot apparatus of the present invention</u> <u>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.</u>

　<u>In contrast, the robot apparatus of the cited invention only has</u> <u>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,</u> <u>vis-à-vis the response information, and does not perform operation in response to the attribute inormation and the unique identification information of the object.</u>

　Thus, <u>the robot apparatus of the present invention</u> <u>includes a different program and performs different operation from the robot apparatus of the cited invention.</u>
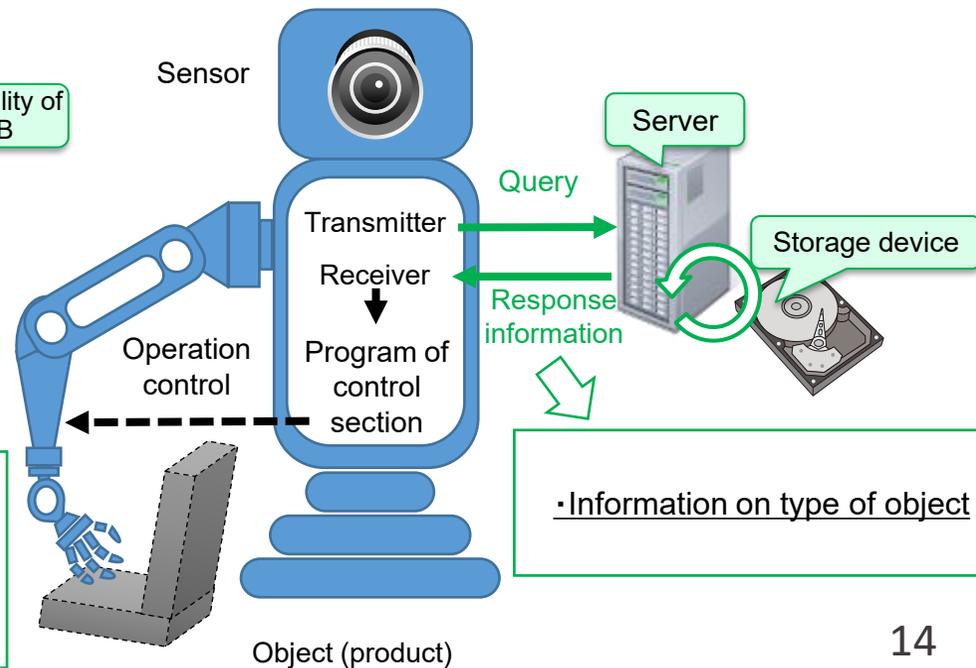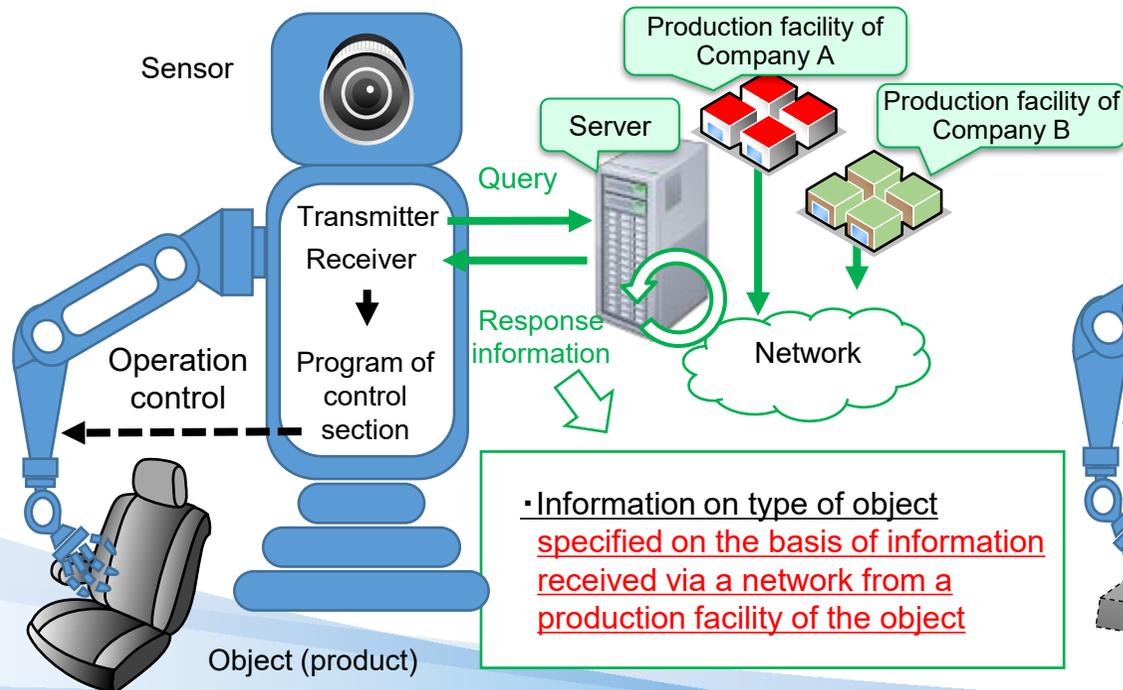
Case Example: Robot apparatus (2)

[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.

[Cited invention]
 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.

Sensor

Production facility of Company A

Production facility of Company B

Server

Transmitter
Receiver

Query

Response information

Operation control

Program of control section

Network

Object (product)

·Information on type of object
 specified on the basis of information received via a network from a production facility of the object

Sensor

Server

Storage device

Transmitter
Receiver

Query

Response information

Operation control

Program of control section

Object (product)

·Information on type of object

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Case Example: Robot apparatus (2)

【**Conclusion**】

❌ <u>Lack Novelty</u>

【**Explanation**】

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

   Claim 1 on the robot apparatus recites a feature related to the server (the other sub-combination), namely, "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 objet."

   <u>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.</u> <u>This does not make any difference in the program itself of the robot apparatus, and does not serve to specify a structure, a function etc. of the robot apparatus.</u>

   Consequently, there is no difference between the present invention and the cited invention. As a result, the invention at issue lacks novelty.

Inventive Step

Act. 29(2)
  a patent shall not be granted for an invention where a person skilled in the art would have been easily able to make the invention based on the prior art.

Subject matter which a person skilled in the art could have easily invent

Excluded from the subject to be patent granted

Granting patent rights for those inventions does not promote the progress of the technology but rather prevents it.

In some cases, it may be appropriate to consider to be a "team of experts."

"A person ordinarily skilled in the art of the invention"＝"A person skilled in the art"
means a hypothetical person who meets all the following conditions (i) to (iv).
  ✓ (i) having the common general knowledge in the technical field of the claimed invention at the time of filing.
  ✓ (ii) being able to use ordinary technical means for research and development.
  ✓ (iii) being able to exercise ordinary creativity in selecting materials and modifying designs.
  ✓ (iv) being able to comprehend all the matter in the state of the art in the technical field of the claimed invention at the time of filing, and comprehend all technical matters in the field relevant to problems to be solved by the invention.

Determination of Inventive Step

The examiner determines whether it is possible to **<u>reason</u>** that a person skilled in the art would easily arrive at the claimed invention from the primary prior art.

Reasoning = Considering whether or not it could be reasoned that a person skilled in the art easily arrives at the claimed invention based on the prior art.

After having got knowledge of the claimed invention
⇒The examiner should take note of the avoidance of hindsight as below.

➢ assuming that a person skilled in the art would have easily arrived at the claimed invention
➢ understanding that a cited invention is approximate to the claimed invention

Claimed invention

Is it possible to reason?

Primary prior art

The examiner should not regard the combination of two or more independent pieces of prior art as the primary prior art.

◆ Primary prior art: generally, an art which is same as or close to the claimed invention from the aspect of technical field or problem to be solved.
◆ Selecting the primary prior art of which technical field or problem to be solved is considerably different from that of the claimed invention → being likely to make the reasoning difficult
➢ The fact that the problem to be solved is novel and inconceivable by a person skilled in the art → being able to be a factor in support of the existence of an inventive step

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Factors for reasoning

Reasoning in Determination of Inventive Step

Factors in support of the non-existence of an inventive step

Factors in support of the existence of an inventive step
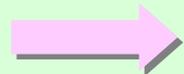
➡ Comprehensively assessed

Multi-Factor Reasoning (MFR)

Factors in support of the non-existence of an inventive step

1. **Motivation for applying secondary prior art to primary prior art**
   (1) Relation of technical fields
   (2) Similarity of problems to be solved
   (3) Similarity of operations or functions
   (4) Suggestions shown in the content of prior art
2. **Design variation of primary prior art**
3. **Mere aggregation of prior art**

Factors in support of the existence of an inventive step

1. **Advantageous effects**

2. **Obstructive factors**
   Example: where It is contrary to the purpose of the primary prior art to apply the secondary prior art thereto.

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Inventive Step　Overview of Cases (After addition)

	Involving Inventive Step	**Lacking Inventive Step**
Those related to AI application		
Those related to generative AI application	**Additional Case 2 (Claim 2)** 　Case where inventive step is affirmed based on features in the application of generative AI * Claim 1 is an example where inventive step is denied.	**Additional Case 1** 　Case where inventive step is denied because it is a simple systematization of human tasks using generative AI
Those related to simple systematization of human tasks	**Additional Case 4 (Claim 2)** 　Case where inventive step is affirmed based on new features added to a simple systematization of human tasks using artificial intelligence	**Additional Case 4 (Claim 1)**　Case 33 　Case where inventive step is denied because it is a simple systematization of human tasks using artificial intelligence
Those related to change in the means of estimation	**Additional Case 3** 　Case where inventive step is affirmed based on a difference in the learning method of a trained model that estimates output data from input data	Case 34 (Claim 1) 　Case where inventive step is denied because it is a simple change in the estimation method for estimating output data from input data
Those related to modification of training data	Case 34 (Claim 2) 　Case where inventive step is affirmed based on a difference in training data used for learning	Case 35 　Case where inventive step is denied because the modification of the training data used for learning is a combination of known data and no advantageous effect is recognized
Those for preprocessing of training data	Case 36 　Case where inventive step is affirmed based on preprocessing of training data used for learning	

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Case Example: Automatic Response Generator for Customer Service Centers (1)

Claim 1: Case where inventive step is denied because it is a simple systematization of human tasks using generative AI

[Claim 1]
   An automatic response generator for a customer service center for receiving a question text of an inquiry about a financial product from an inquirer and automatically generating a response text to the question text;
   wherein a response text is generated by inputting the question text into large language models.

[Cited invention 1]
   A method of preparing a response text for receiving a question text of an inquiry about a financial product from an inquirer and preparing a response text to the question text by a customer service center employee;
   wherein a response text is prepared by searching a database of accumulated examples of past inquiries and referring to examples matching the question text.

Generative AI

large language models

an inquirer

receive input

a question text

generate → a response text

an automatic response generator for a customer service center

an inquirer

a question text

receive

database
(accumulated examples of past inquiries)

search

generate → a response text

a customer service center employee

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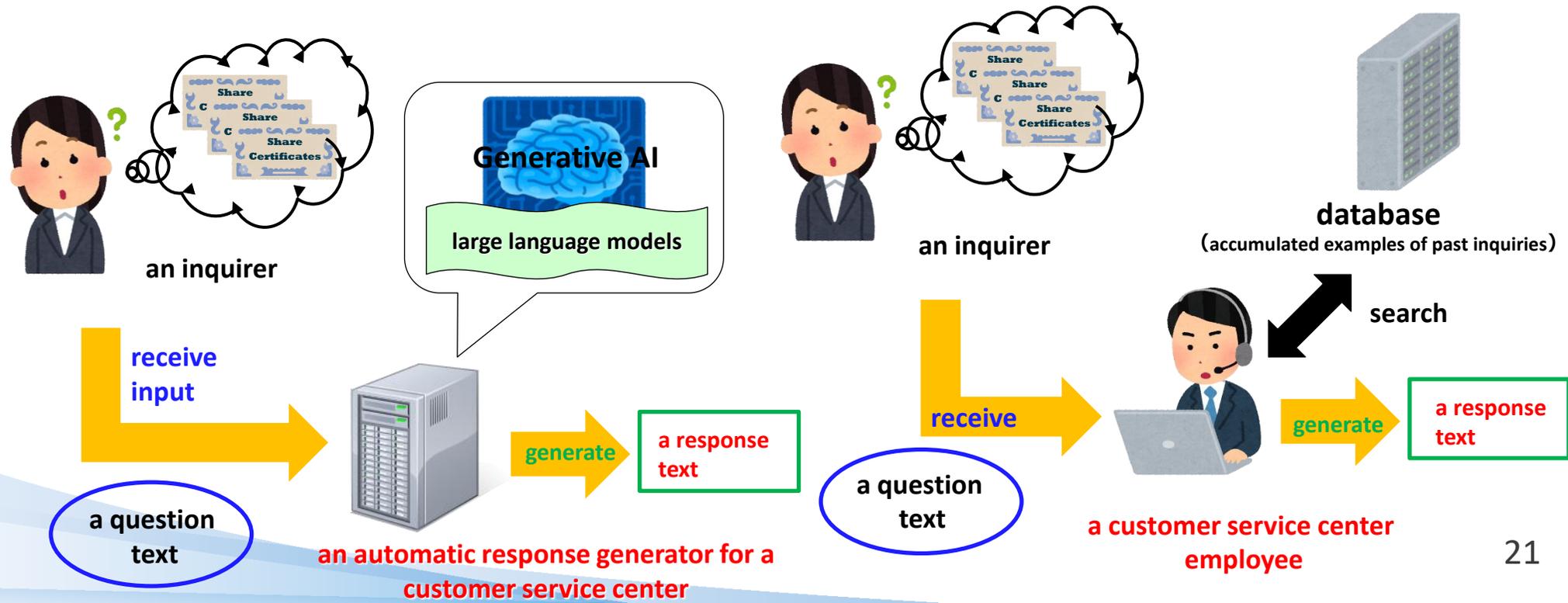
Case Example: Automatic Response Generator for Customer Service Centers (2)

[Commonly Used Art]
   In the technical field of information processing, the process of inputting question texts into large language models to obtain response texts is commonly used to improve the efficiency of human tasks.

✖ The invention of claim 1 lacks an inventive step.

[Overview of Reason for Refusal]
   The invention of claim 1 differs from the cited invention 1 in the following aspects.

(Difference)
   While the invention of claim 1 is an automatic response generator for a customer service center that receives a question text of an inquiry about a financial product from an inquirer and automatically generates a response text by inputting the question text into large language models, the cited invention 1 is a method for preparing a response text, in which a customer service center employee receives an inquiry about a financial product from an inquirer, searches a database of accumulated examples of past inquiries, and refers to examples that match the question text to prepare a response text.

   The above difference will be examined.
   In many business fields, including customer service, it is a self-evident problem that a person skilled in the art normally takes into consideration to improve efficiency by automating human tasks with computers, and it would also be taken into consideration in the cited invention 1.

   In addition, in the technical field of information processing, the process of inputting question texts into large language models to obtain response texts is commonly used to improve the efficiency of human tasks.

   Therefore, it has been easily conceivable for a person skilled in the art to provide an "automatic response generator for a customer service center for automatically generating a response text to a question text by inputting the question text into large language models" by applying the commonly used art of "inputting question texts into large language models to obtain response texts," which is the solution for this problem, to the cited invention 1 in order to solve the problem of improving efficiency by automating human tasks with a computer for automatically generating response texts in the cited invention 1.
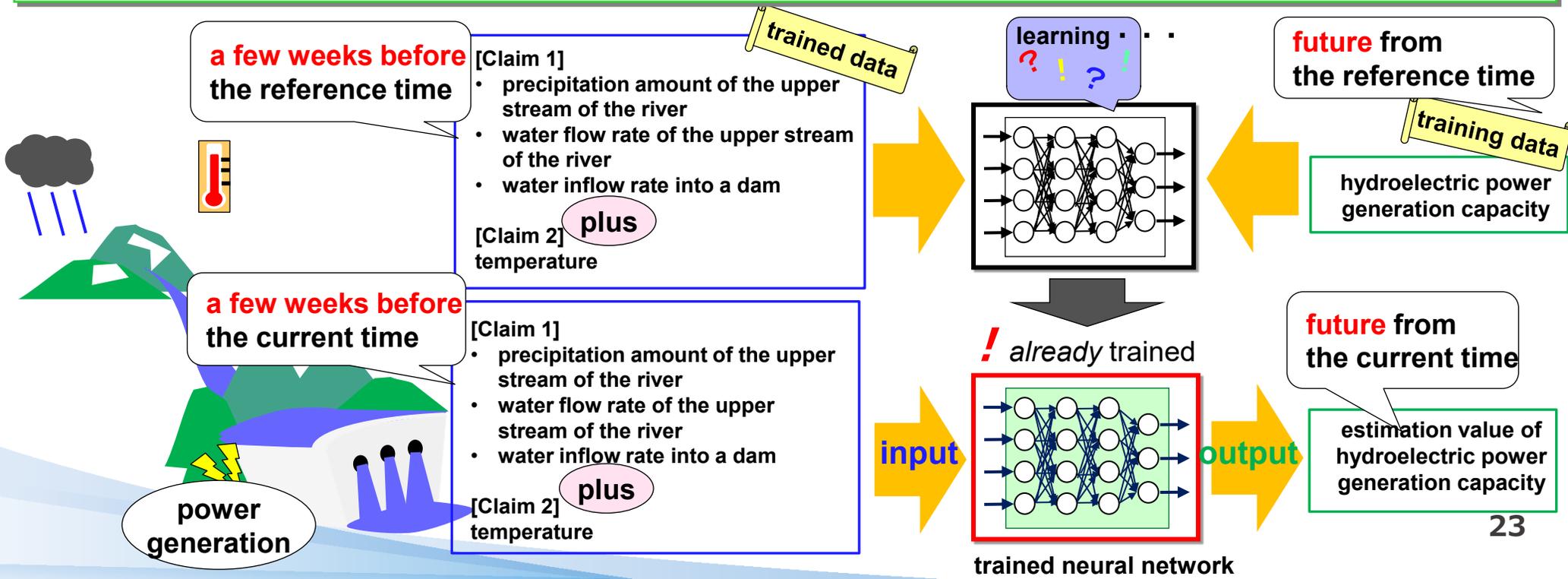   In addition, with respect to the task of an automatic response generator receiving inquiries about a financial product from an inquirer, automating such a task by using the automatic response generator is an ordinary creative activity of a person skilled in the art and it could have been appropriately performed by a person skilled in the art.

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[Claim 1]   An estimation system of a hydroelectric power generating capacity of a dam comprising:

a neural network that is built by means of an information processor, the neural network having an input layer and an output layer, in which an input data to the input layer containing a precipitation amount of the upper stream of a river, a water flow rate of the upper stream of the river, and a water inflow rate into a dam during a predetermined period between a reference time and a predetermined time before the reference time, and an output data from the output layer containing a hydroelectric power generating capacity in the future after the reference time;

a machine learning unit that trains the neural network using a training data corresponding to actual values of the input data and the output data; and

an estimation unit that inputs the input data to the neural network that has been trained by the machine learning unit with setting a current time as the reference time, and then calculates an estimated value of a future hydroelectric power generating capacity based on the output data of which reference time is the current time.

[Claim 2]   The estimation system of a hydroelectric power generating capacity as in Claim 1, wherein the input data to the input layer further contains a temperature of the upper stream of the river during the predetermined period between the reference time and the predetermined time before the reference time.

a few weeks before the reference time

[Claim 1]
- **precipitation amount of the upper stream of the river**
- **water flow rate of the upper stream of the river**
- **water inflow rate into a dam**

[Claim 2] **plus**
temperature

a few weeks before the current time

[Claim 1]
- **precipitation amount of the upper stream of the river**
- **water flow rate of the upper stream of the river**
- **water inflow rate into a dam**

[Claim 2] **plus**
temperature

power generation

trained data

learning · · ·

future from the reference time

training data

hydroelectric power generation capacity

! *already* **trained**

input   **output**

future from the current time

estimation value of hydroelectric power generation capacity
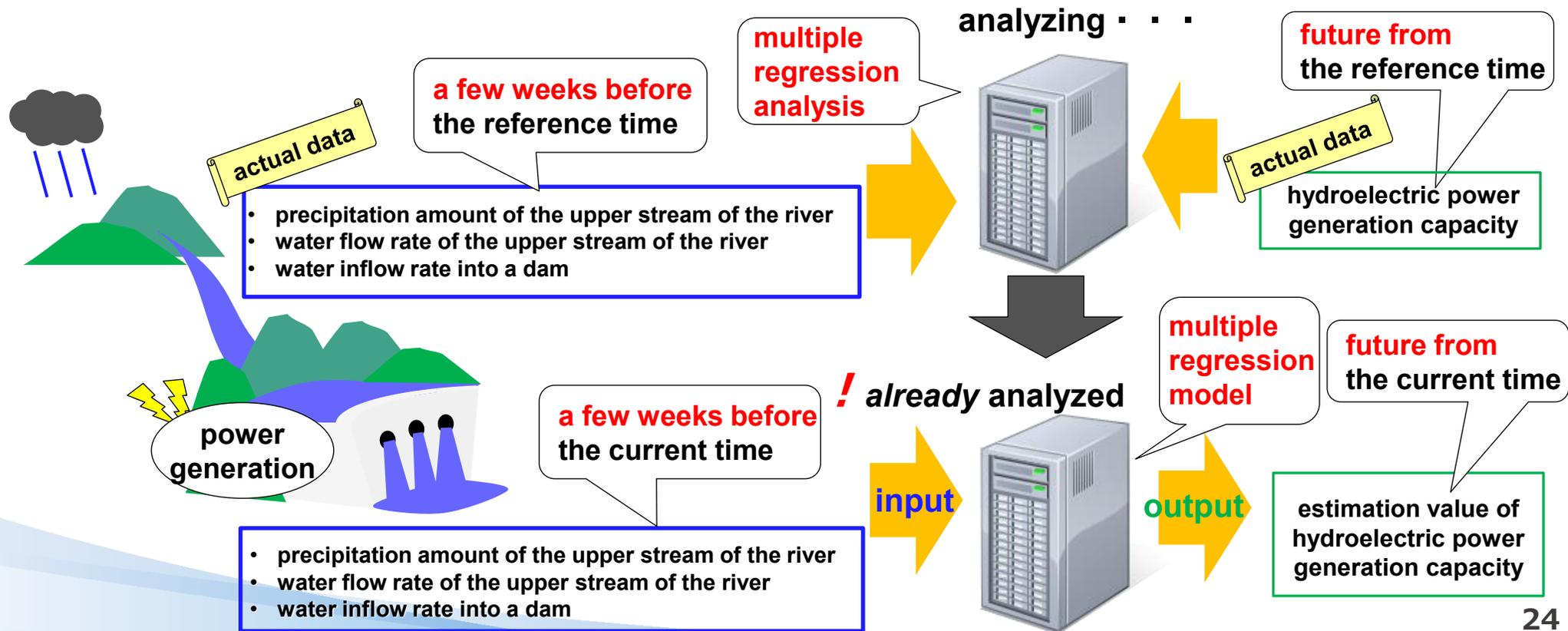
trained neural network

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Case Example: Estimation System of Hydroelectric Generating Capacity (2)

[Cited Invention 1] An estimation system of a hydroelectric power generating capacity that carries out a multiple regression analysis by an information processor, comprising:

a regression equation model, in which explanatory variables are a precipitation amount of the upper stream of a river, a water flow rate of the upper stream of the river, and a water inflow rate into a dam during a predetermined period between a reference time and a predetermined time before the reference time, and an objective variable is a hydroelectric power generating capacity in the future after the reference time;

an analysis unit that calculates a partial regression coefficient of the regression equation model based on actual values corresponding to the explanatory variables and the objective variable; and

an estimation unit that, into the regression equation model to which the partial regression coefficient that has been calculated by the analysis unit is set, inputs data of the explanatory variables with setting a current time as the reference time, and then, calculates an estimated value of a future hydroelectric power generating capacity based on an output data from the objective variable setting a current time as the reference time.

Case Example: Estimation System of Hydroelectric Generating Capacity (3)

The invention of Claim 1 <u>realizes an estimation of a hydroelectric power generating capacity by means of a neural network</u> having an input layer and output layer. Meanwhile, Cited Invention 1 <u>realizes an estimation of a hydroelectric power generating capacity by means of a regression equation model</u>.

❌ **The invention of Claim 1 lacks an inventive step.**

Claim 1 is mere a modification of estimation method to estimate output data based on input data, and considered to be lack of inventive step

The invention of Claim 2 <u>contains, in an input data into an input layer, a temperature of the upperstream of the river during a predetermined period between a reference time and a predetermined time before the reference time</u>. Meanwhile, Cited Invention 1 <u>does not have such a configuration</u>.

⭕ **The invention of Claim 2 has an inventive step.**

Claim 2 has a significant effect because of addition of training data for machine learning, and is considered to have inventive step

1 Requirement for Description and Claims

2 Novelty

3 Inventive Step
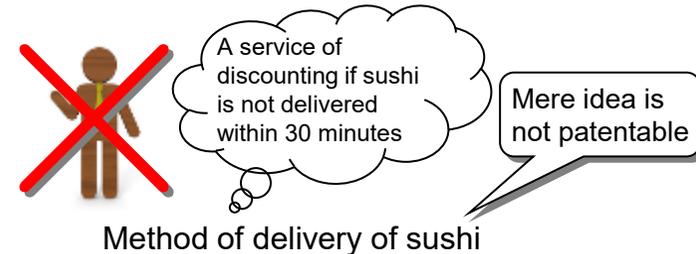
4 Eligibility for Patent

Eligibility for Patent

> **"Invention" shall be a statutory invention**

"Invention" is a highly advanced creation of technical ideas utilizing a law of nature.
(Patent Law, Article 2(1))

Utilizing a law of nature	✕ Those contrary to a law of nature ✕ Arbitrary arrangements not utilizing a law of nature

A service of discounting if sushi is not delivered within 30 minutes

Mere idea is not patentable

Method of delivery of sushi

Technical ideas	✕ Personal skill Those are acquired through personal experience and cannot be shared with others as a knowledge due to lack of objectivity.

Mere presentation of Information is not patentable

Image data taken by a digital camera
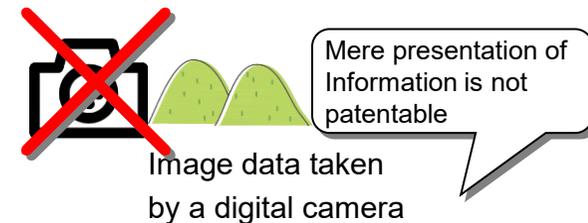
Creation	*Creation: to create a new thing ✕ Mere discoveries of microorganisms in nature ◯ Microorganisms which are isolated from their surroundings

Mere discovery of x-ray is not patentable

Discovery of x-ray
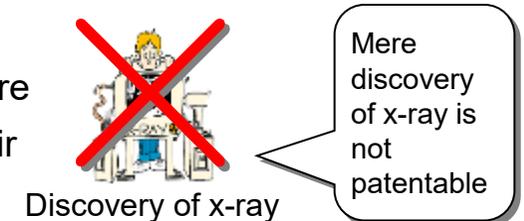
Highly advanced	*Highly advanced: it is considered mainly to identify the invention from a utility model under Utility Model Act, and thus it is not necessary to consider it to determine whether the application falls under "the invention."

Process of determining Eligibility for Patent for CS Inventions (Flow of Determination)

Step 1

Examination Guidelines

Determination of whether or not the claimed invention is the "creation of a technical idea utilizing a law of nature" based on Part III, Chapter 1 of the examination guidelines

constitute a statutory "invention"

does not constitute a statutory "invention"

determination is not made under Examination Guidelines

Step 2

Examination Handbook (Annex B)

Determination of whether or not the claimed invention is the "creation of a technical idea utilizing a law of nature" according to the idea based on the standpoint of software

constitute a statutory "invention"

does not constitute a statutory "invention"

constitute a statutory "invention"

does not constitute a statutory "invention"

Idea based on the standpoint of software (requirement of cooperation of the software and the hardware resources)

When for Software of a CS invention, "information processing by the software is concretely realized by using hardware resources," said software is a "creation of a technical idea utilizing the laws of nature."
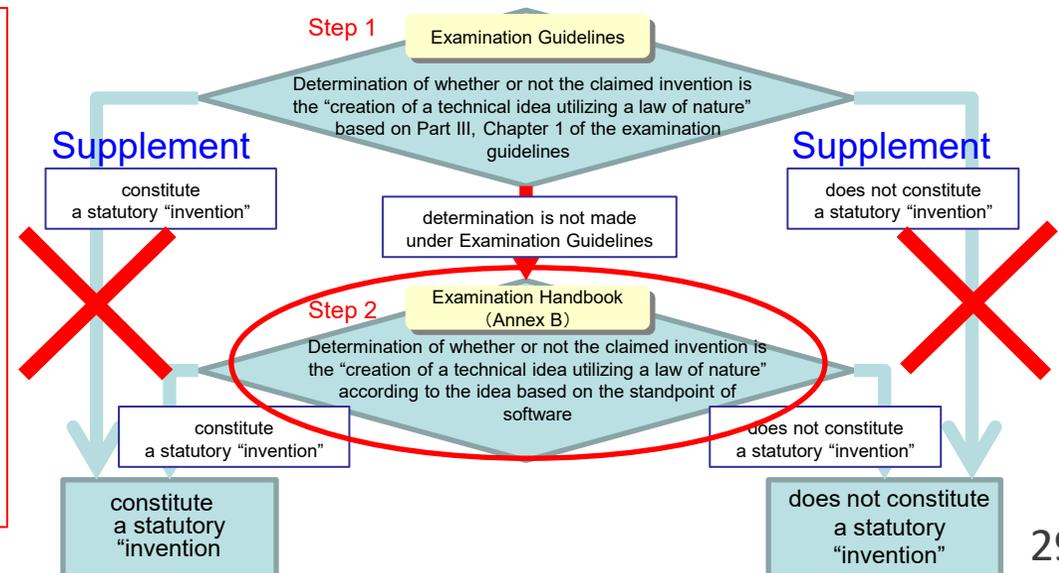
- ✓ "Information processing by the software is concretely realized by using hardware resources" means that "a specific information processor or an operation method thereof depending on intended use is constructed through cooperation of the software and the hardware resources."
- ✓ The claims do not require the hardware resources to be specified in detail.

For an information processor which operates in cooperation with software and an operation method thereof, as well as a computer readable recording medium in which the software is recorded, if said software satisfies the requirement of cooperation above, it is a "creation of a technical idea utilizing the laws of nature."

＜Supplement＞
Points to note when referring to the case examples provided in the Examination Handbook.
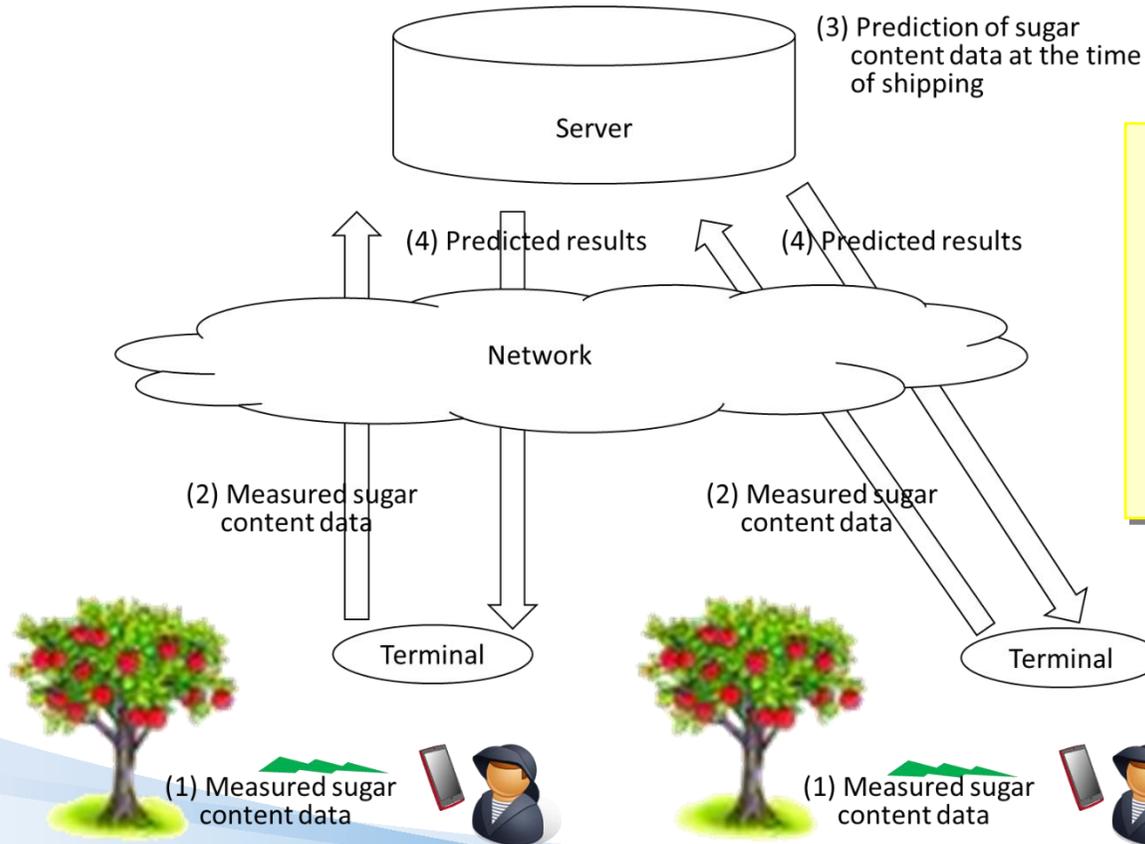- ✓ There have cases that only the determination of the requirement of cooperation is mentioned.
- ✓ Actually, prior to the determination of the requirement thereof, a determination whether or not it is "a creation of a technical idea utilizing the law of nature" in Part III Chapter 1 of the Examination Guidelines has been performed.

Step 1
Examination Guidelines
Determination of whether or not the claimed invention is the "creation of a technical idea utilizing a law of nature" based on Part III, Chapter 1 of the examination guidelines

Supplement
constitute a statutory "invention"

Supplement
does not constitute a statutory "invention"

determination is not made under Examination Guidelines

Step 2
Examination Handbook
（Annex B）
Determination of whether or not the claimed invention is the "creation of a technical idea utilizing a law of nature" according to the idea based on the standpoint of software

constitute a statutory "invention"

does not constitute a statutory "invention"

constitute a statutory "invention"

does not constitute a statutory "invention"

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Case Example: Method for Predicting Sugar Content Data of Apples (1)

[Claim 1] Sugar content data of preharvest apples on trees measured by a portable sugar content sensor for apples which performs reflective near-infrared spectroscopic analyses.

[Claim 2] The sugar content data of apples as described in Claim 1 received by a receiving unit of a server and stored in a memory unit of the said server.

(3) Prediction of sugar content data at the time of shipping

Server

(4) Predicted results   (4) Predicted results

Network

(2) Measured sugar content data   (2) Measured sugar content data

Terminal   Terminal

(1) Measured sugar content data   (1) Measured sugar content data
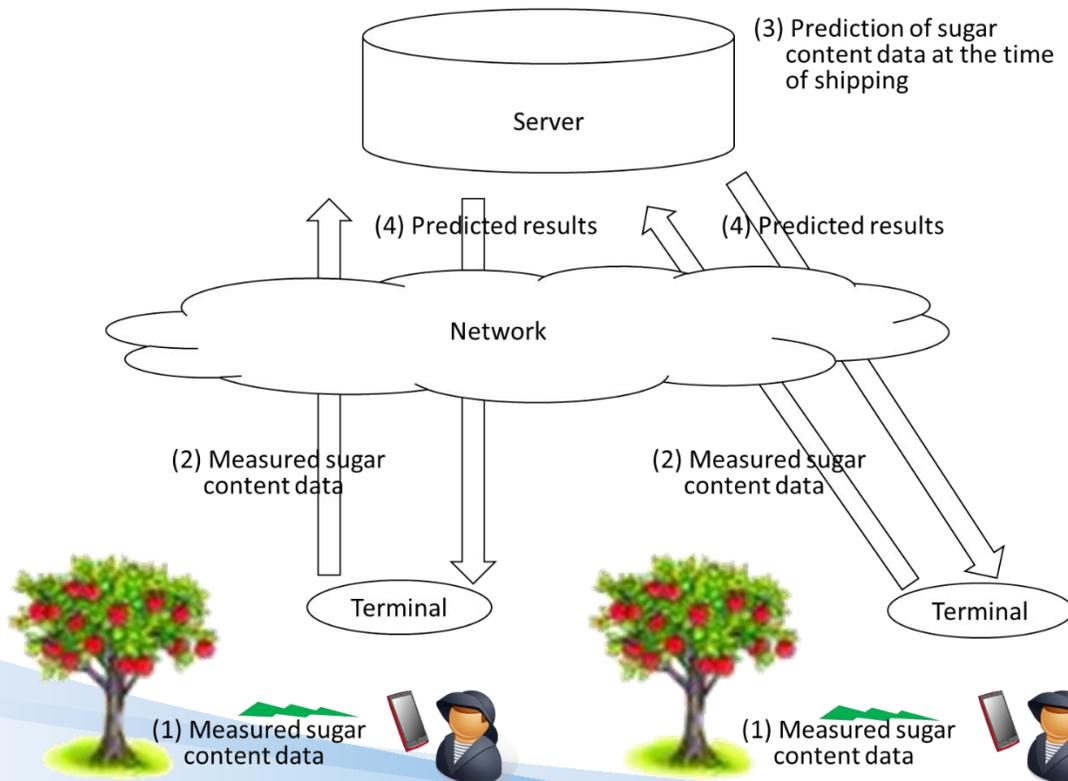
❌ **The invention of Claim 1 & 2 does not fall under "invention."**

Mere presentation of information (where the feature resides solely in the content of the information, and the main object is to present information)

Case Example: Method for Predicting Sugar Content Data of Apples (2)

[Claim 3]   A method for predicting sugar content data of apples comprising;
a step in which an analyzing unit of the server analyzes the relationship between sugar content data of preharvest apples for specified periods and data on meteorological conditions, and sugar content data of apples at the time of their shipping, based on past performance;
a step in which the receiving unit of the said server receives the sugar content data of apples for specified periods as described in Claim 1; and
a step in which a prediction unit of the said server predicts and outputs sugar content data of apples at the time of future shipping using the said received sugar content data of apples for specified periods and data on past and future meteorological conditions as inputs, based on the said analyzed relationships.

(3) Prediction of sugar content data at the time of shipping

Server

(4) Predicted results   (4) Predicted results

Network

(2) Measured sugar content data

(2) Measured sugar content data

Terminal

Terminal

(1) Measured sugar content data

(1) Measured sugar content data

The invention of Claim 3 falls under "invention."

The invention of Claim 3 is what concretely performs information processing based on the technical properties such as chemical or biological properties of apples.

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